2025
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2027

TESTING INSTRUMENTS

CATALOGUE NO. 108B

INSIZE

MEASUREMENT SOLUTION PROVIDER

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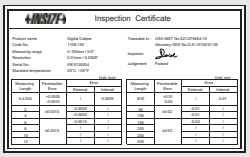
Inspection Certificate

How to search:
1. Search for products according to category in PRODUCT INDEX (next 3 pages)
2. Search for products in CODE NO. INDEX (page 503-505)

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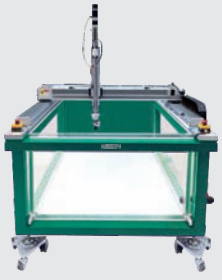

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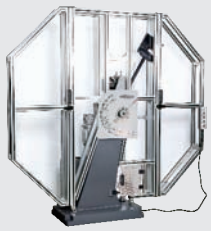

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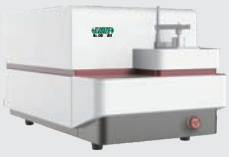
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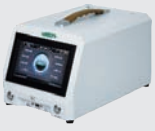
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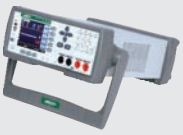
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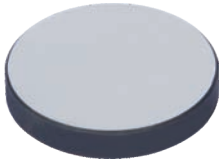

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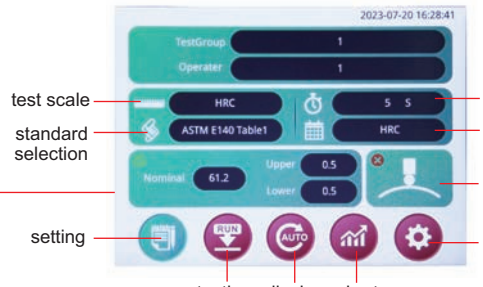
AUTOMATIC DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTER (ADVANCED TYPE) CODE HDT-CRS200

BUILT-IN BLUETOOTH | AUTOMATIC TEST | FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS) | TOUCH SCREEN | HIGH ACCURACY | HIGH EFFICIENCY

INSPECTION CERTIFICATE

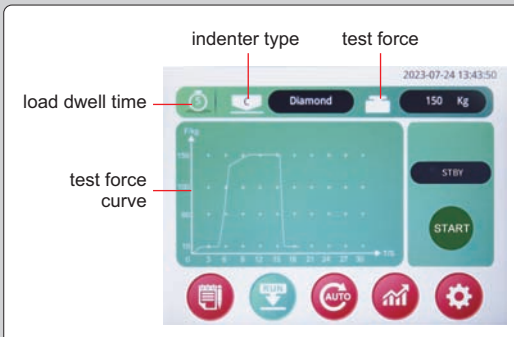
VIDEO

8" touch screen



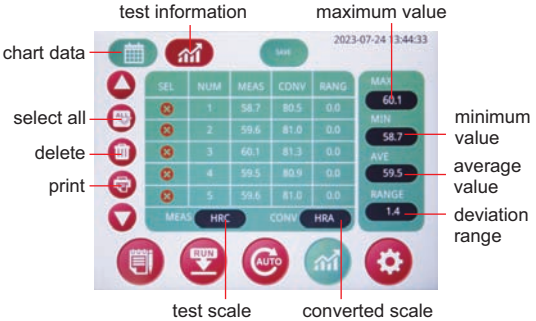
- One click operation can obtain measurement results, enabling large-scale hardness measurement of workpieces
- CNC system, close-loop electronic control system applies test force
- Touch screen operation and display
- Cantilevered structure, achieving full automation of hardness measurement
- The big flat stage is convenient for testing and can work in conjunction with robotic arms and automation equipment to step up online hardness testing and achieve completely unmanned testing
- Bluetooth, RS232 data transmission to computer, data management using hardness management software
- According to ISO 6508, ASTM E18, JIS Z2245

test interface



test result display interface

chart interface



To be continued

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Ø58mm flat anvil
(included)

V-type anvil
(included)

bluetooth printer
(included)

SPECIFICATION

Measurement range		Rockwell: 20~88HRA, 20~100HRB, 20~70HRC Superficial RockWell: 70~91HR15N, 42~80HR30N, 42~70HR45N, 73~93HR15T, 43~82HR30T, 12~72HR45T
Hardness scale	**with indenter included**	HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
	with optional indenter	HRE, HRH, HRK, HRL, HRM, HRP,HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y
Preliminary test force		Superficial Rockwell: 29.4N (3kgf) Rockwell: 98N (10kgf)
Test force		Superficial Rockwell: 147N (15kg), 294N (30kg),441N (45kg) Rockwell: 588N (60kg), 980N (100kg),1471N (150kg)
Test force accuracy		±1%
Operational mode		automatic
Load control		automatic (load/dwell/unload)
Resolution		0.05HR
Load dwell time		0~99 second
Max. workpiece height		300mm
Max. testing width		200mm (from the center of indenter to the wall of main body)
Output		bluetooth printer, RS232
Power supply		220V, 50/60Hz
Dimension		555×400×1250mm
Weight		130kg

STANDARD DELIVERY

Main unit	1 pc
Diamond indenter	1 pc
Ø1.588mm carbide ball indenter	1 pc
Ø58mm flat anvil	1 pc
V-type anvil	1 pc
Hardness test block HRB20~30	1 pc
Hardness test block HRC60~70	1 pc
Hardness test block HRBW80~100	1 pc
Hardness test block HR30N60~85	1 pc
Hardness test block HR30TW70~85	1 pc
Bluetooth printer	1 pc

OPTIONAL ACCESSORY

Hardness test block HRC20~30	**HDT-B-HRC1**
Hardness test block HRC60~70	**HDT-B-HRC3**
Hardness test block HRB80~100	**HDT-B-HRB**
Hardness test block HR15N78~88	**HDT-B-HR15N2**
Hardness test block HR30N55~73	**HDT-B-HR30N2**
Hardness test block HR30T73~82	**HDT-B-HR30T**
Desk	**HDT-DESK1**

MOTORIZED DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTERS (DOLPHIN-NOSE TYPE)

FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)

TOUCH SCREEN

INSPECTION CERTIFICATE

VIDEO

workpiece demonstration

can test rings, tubes, internal surfaces of frame parts, etc.

HDT-DM310

Ø150mm flat anvil (included)

V-type anvil (included)

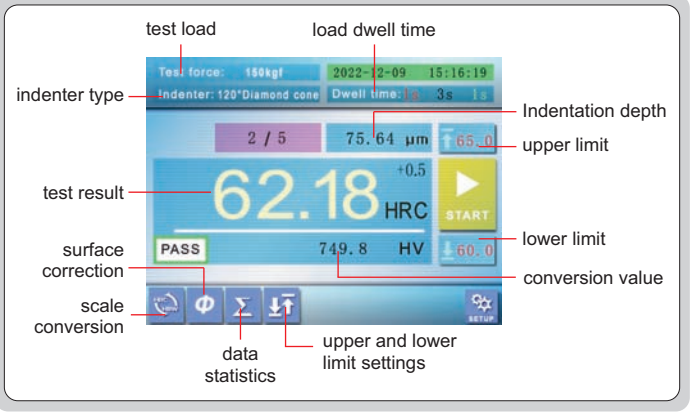
- Full closed-loop precise control, real-time monitoring of test force, greatly increase the accuracy
- Dolphin-nose structure indenter, more measuring space
- Measurements on 30 Rockwell and Superficial Rockwell scales
- Convertible to various hardness standards such as HB, HV, HLD, HK and tensile strength
- 250 sets of data are stored independently in the mainframe, which can be accessed at any time
- Mean, variance, maximum and minimum statistics are available
- USB communication port, can be connected to an external computer, measurement data Excel output
- Correction function automatically corrects the measurement results of curved parts
- Conforms to ASTM E-18, ISO 6508

4mm high Rockwell indenter (**optional**)

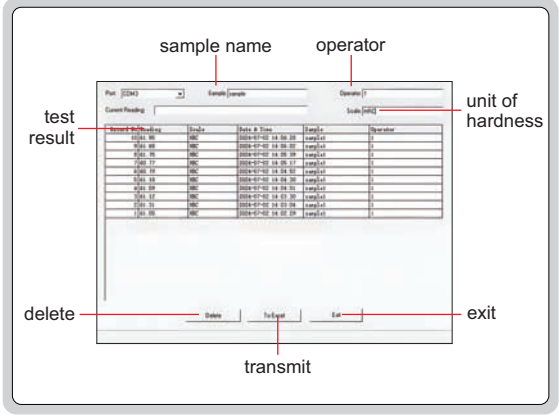
14mm high Rockwell indenter (included)

integrated printer (**optional**)

test interface



computer software (included)



To be continued

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SPECIFICATION

Code		HDT-DM290	HDT-DM300	HDT-DM310
Type		Rockwell	Superficial Rockwell	Rockwell and Superficial Rockwell
Hardness scale	with indenter included	HRA, HRB, HRC, HRD, HRF, HRG	HR15N, HR30N, HR45N, HR15T, HR30T, HR45T	HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
	with optional indenter	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV	HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y
Preliminary test force		98N/10kgf for Rockwell	29.4N/3kgf for superficial Rockwell	98N/10kgf for Rockwell 29.4N/3kgf for superficial Rockwell
Test force		588N (60kg), 980N (100kg), 1471N (150kg)	147N (15kg), 294N (30kg), 441N (45kg)	147N (15kg), 294N (30kg), 441N (45kg), 588N (60kg), 980N (100kg), 1471N (150kg)
Stage elevation		manual		
Load control		automatic (load/dwell/unload)		
Load dwell time		2~250 seconds, can be set		
Resolution		0.01HR		
Max. workpiece height		290mm		
Max. testing width		220mm		
Max. bore depth		130mm		
Min. testing inner diameter		35mm		
Power supply		220V, 50/60Hz		
Dimension		700×290×880mm		
Weight		85kg		

STANDARD DELIVERY

Code	HDT-DM290	HDT-DM300	HDT-DM310
Main unit	1 pc	1 pc	1 pc
14mm high diamond Rockwell indenter (HDT-DM-14MM)	1 pc	1 pc	1 pc
Ø1.5875mm carbide ball indenter (HDT-DM-BALL)	1 pc	1 pc	1 pc
Ø150mm flat anvil	1 pc	1 pc	1 pc
V-type anvil	1 pc	1 pc	1 pc
Hardness test block HRC20~30	1 pc	—	1 pc
Hardness test block HRC35~55	1 pc	—	1 pc
Hardness test block HRC60~70	1 pc	—	1 pc
Hardness test block HRB85~100	1 pc	—	1 pc
Hardness test block HRA80~88	1 pc	—	1 pc
Hardness test block HR15N89~91	—	1 pc	1 pc
Hardness test block HR15T88~93	—	1 pc	1 pc
Hardness test block HR30N74~80	—	1 pc	1 pc
Hardness test block HR30T70~82	—	1 pc	1 pc
Computer software and USB cable	1 pc	1 pc	1 pc
Anti-dust cover	1 pc	1 pc	1 pc

OPTIONAL ACCESSORY

Hardness test block HRC20~30	HDT-B-HRC1
Hardness test block HRC35~55	HDT-B-HRC2
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRA80~84	HDT-B-HRA
Hardness test block HR15N78~88	HDT-B-HR15N2
Hardness test block HR15T88~93	HDT-B-HR15T

Hardness test block HR30N55~73	HDT-B-HR30N2
Hardness test block HR30T73~82	HDT-B-HR30T
4mm high diamond Rockwell indenter *	HDT-DM-4MM
Ø90mm flat anvil	HDT-DM290-FA
Ø230mm flat anvil	HDT-DM290-FB
Integrated printer (require pre-installation)	HDT-DM290-PT

* The minimum testing inner diameter is 25mm

MOTORIZED DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTERS

POPULAR MODEL

VIDEO

INSPECTION CERTIFICATE

FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)

TOUCH SCREEN

Ø58mm flat anvil
(included)

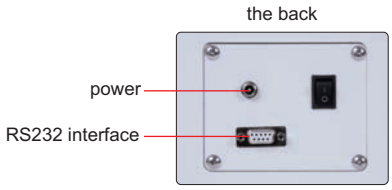
Ø150mm flat anvil
(included)

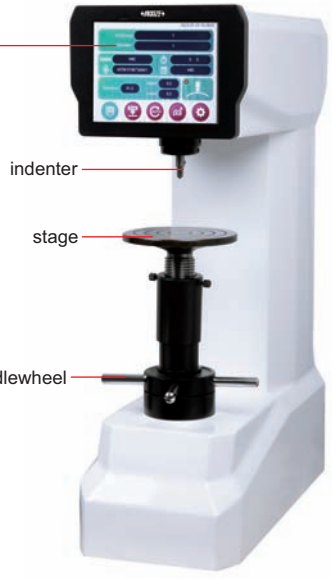
V-type anvil
(included)

printer
(included)

8" touch screen

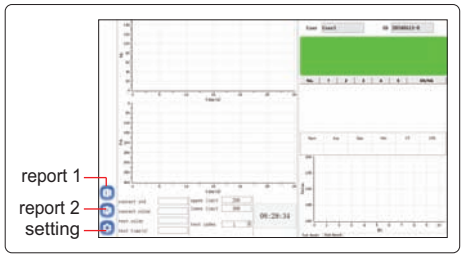
the back



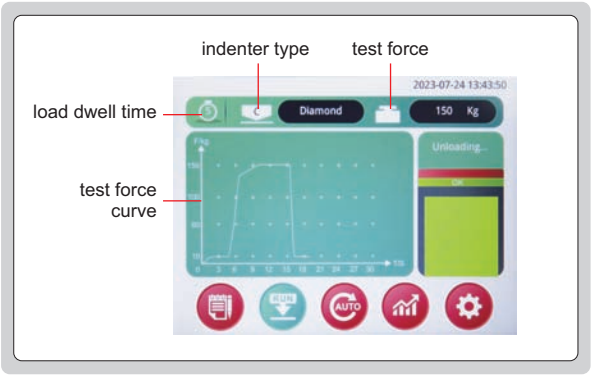


HDT-RT151

computer software (included)



test interface



test result display interface

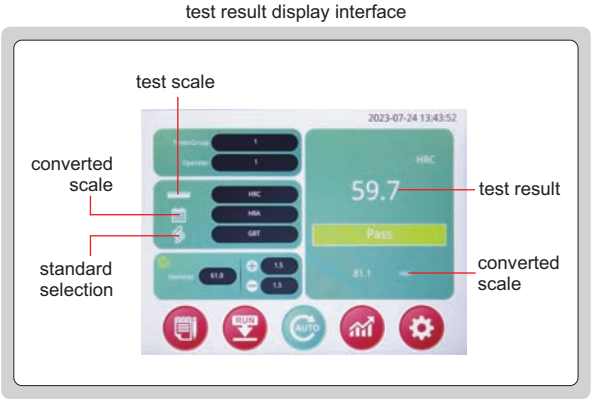
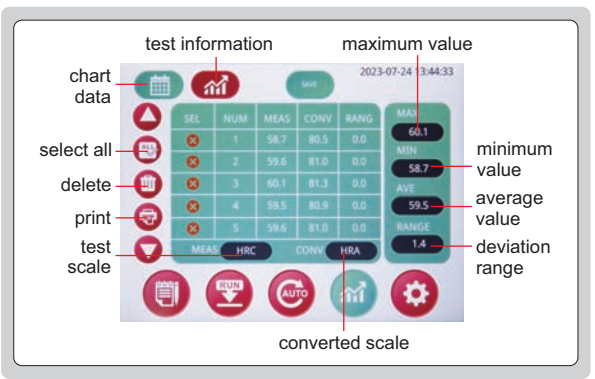


chart interface



To be continued

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- Electronic loading test force, high accuracy of force value, and stable measurement value
- Touch screen operation and display, simple operation interface
- 15 types of Rockwell hardness scales can be tested
- Convertible to various hardness standards such as HB and HV
- 500 sets of storage
- With correction function, the hardness value can be corrected based on the size of the cylinders
- According to ISO 6508

SPECIFICATION

Code		HDT-RT151	HDT-RT152	HDT-RT153
Type		Rockwell	Superficial Rockwell	Rockwell and Superficial Rockwell
Measurement range		20~88HRA, 20~100HRB, 20~70HRC	70~91HR15N, 42~80HR30N, 42~70HR45N, 73~93HR15T, 43~82HR30T, 12~72HR45T	Rockwell: 20~88HRA, 20~100HRB, 20~70HRC; Superficial RockWell: 70~91HR15N, 42~80HR30N, 42~70HR45N, 73~93HR15T, 43~82HR30T, 12~72HR45T
Hardness scale	with indenter included	HRA, HRB, HRC, HRD, HRF, HRG	HR15N, HR30N, HR45N, HR15T, HR30T, HR45T	HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
	with optional indenter	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV	HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y
Preliminary test force		98N/10kgf for Rockwell	29.4N/3kgf for Superficial Rockwell	98N/10kgf for Rockwell 29.4N/3kgf for Superficial Rockwell
Test force		588N (60kg), 980N (100kg), 1471N (150kg)	147N (15kg), 294N (30kg), 441N (45kg)	147N (15kg), 294N (30kg), 441N (45kg), 588N (60kg), 980N (100kg), 1471N (150kg)
Stage elevation		manual		
Load control		automatic (load/dwell/unload)		
Load dwell time		2~60 second		
Resolution		0.1HR		
Max. workpiece height		230mm		
Max. testing width		170mm		
Power supply		100~240V, 50/60Hz		
Dimension		475×200×700mm		
Weight		70kg		

STANDARD DELIVERY

Code	HDT-RT151	HDT-RT152	HDT-RT153
Main unit	1 pc	1 pc	1 pc
Diamond indenter	1 pc	1 pc	1 pc
Ø1.5875mm carbide ball indenter	1 pc	1 pc	1 pc
Ø58mm flat anvil	1 pc	1 pc	1 pc
Ø150mm flat anvil	1 pc	1 pc	1 pc
V-type anvil	1 pc	1 pc	1 pc
Hardness test block HRC20~30	1 pc	—	1 pc
Hardness test block HRC40~50	1 pc	—	—
Hardness test block HRC60~70	1 pc	—	1 pc
Hardness test block HRBW80~100	1 pc	—	1 pc
Hardness test block HRA80~90	1 pc	—	—
Hardness test block HR15N80~90	—	1 pc	—
Hardness test block HR30N60~85	—	1 pc	1 pc
Hardness test block HR30TW70~85	—	1 pc	1 pc
Software	1 pc	1 pc	1 pc
Printer	1 pc	1 pc	1 pc
Anti-dust cover	1 pc	1 pc	1 pc

OPTIONAL ACCESSORY

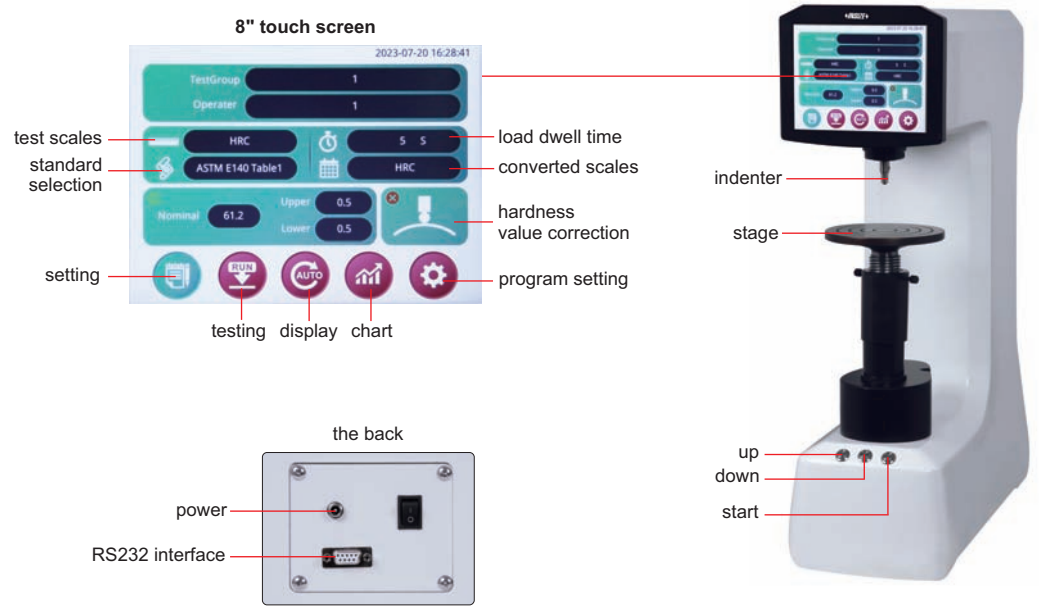
Hardness test block HRC20~30	HDT-B-HRC1
Hardness test block HRC35~55	HDT-B-HRC2
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRA80~84	HDT-B-HRA
Hardness test block HR15N78~88	HDT-B-HR15N2

Hardness test block HR30N55~73	HDT-B-HR30N2
Hardness test block HR30T73~82	HDT-B-HR30T
Ø12.7mm carbide ball indenter	HDT-RT15-INDENTER1
Ø6.35mm carbide ball indenter	HDT-RT15-INDENTER2
Ø3.175mm carbide ball indenter	HDT-RT15-INDENTER3

AUTOMATIC DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTERS

INSPECTION CERTIFICATE | LARGE RANGE | AUTOMATIC LIFTING/ LOADING/UNLOADING | TOUCH SCREEN

VIDEO



HDT-ST300

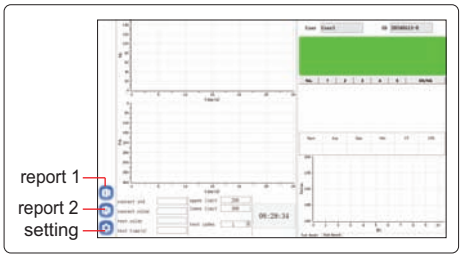
- Comply with the test standards of GB/T 230, ISO 6508, ASTM E18, JIS Z2245
- Implement the scale conversion standards such as ISO, ASTM, and GB
- 8 inch touch screen for operation and display
- Capable of testing 15 Rockwell hardness scales and surface Rockwell scales
- The main unit can independently store 500 groups of data, and the data will not be lost in case of power failure
- With correction function, the hardness value can be corrected based on the size of the cylinders

Ø58mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included)

printer (included)



computer software (included)

test result display interface

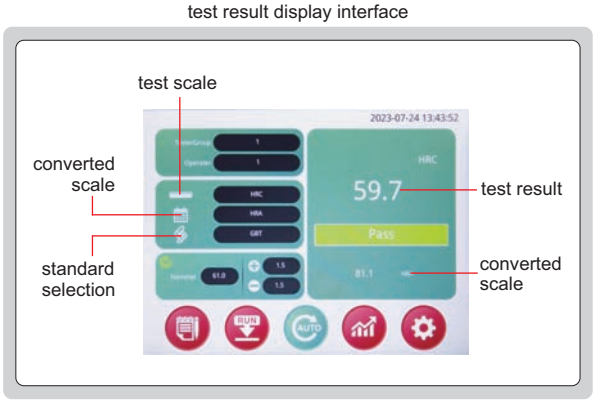
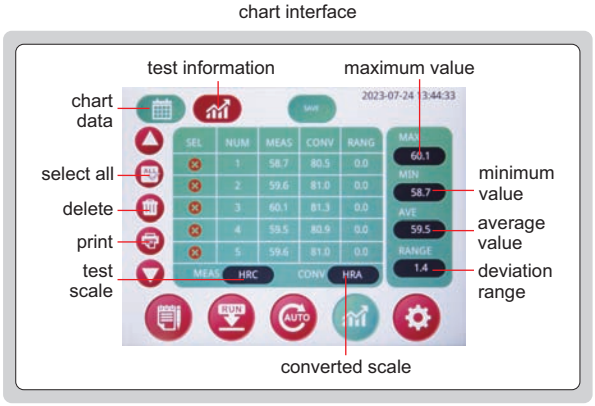


chart interface



To be continued

Continued from previous page

SPECIFICATION

Code		HDT-ST300	HDT-ST310	HDT-ST320
Type		Rockwell	Superficial Rockwell	Rockwell and Superficial Rockwell
Measurement range		20~95HRA, 10~100HRB, 10~70HRC	70~94HR15N, 42~86HR30N, 20~77HR45N, 67~93HR15T, 29~82HR30T, 10~72HR45T	Rockwell: 20~95HRA, 10~100HRB, 10~70HRC; Superficial RockWell: 70~94HR15N, 42~86HR30N, 20~77HR45N, 67~93HR15T, 29~82HR30T, 10~72HR45T
Hardness scale	with indenter included	HRA, HRB, HRC, HRD, HRF, HRG	HR15N, HR30N, HR45N, HR15T, HR30T, HR45T	HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
	with optional indenter	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV	HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y
Preliminary test force		98N/10kgf for Rockwell	29.4N/3kgf for Superficial Rockwell	98N/10kgf for Rockwell 29.4N/3kgf for Superficial Rockwell
Test force		588N (60kg), 980N (100kg), 1471N (150kg)	147N (15kg), 294N (30kg), 441N (45kg)	147N (15kg), 294N (30kg), 441N (45kg), 588N (60kg), 980N (100kg), 1471N (150kg)
Stage elevation		automatic up, down and return		
Load control		automatic (initial test force, main test force loading/holding/unloading)		
Load dwell time		2~60second		
Resolution		0.1HR		
Max. workpiece height		230mm		
Max. testing width		170mm		
Power supply		100~240V, 50/60Hz		
Dimension		475×200×700mm		
Weight		70kg		

STANDARD DELIVERY

Code	HDT-ST300	HDT-ST310	HDT-ST320
Main unit	1 pc	1 pc	1 pc
Diamond indenter	1 pc	1 pc	1 pc
Ø1.5875mm carbide ball indenter	1 pc	1 pc	1 pc
Ø58mm flat anvil	1 pc	1 pc	1 pc
Ø150mm flat anvil	1 pc	1 pc	1 pc
V-type anvil	1 pc	1 pc	1 pc
Hardness test block HRC20~30	1 pc	—	1 pc
Hardness test block HRC40~50	1 pc	—	—
Hardness test block HRC60~70	1 pc	—	1 pc
Hardness test block HRBW80~100	1 pc	1 pc	1 pc
Hardness test block HRA80~90	1 pc	—	—
Hardness test block HR15N80~90	—	1 pc	—
Hardness test block HR30N60~85	—	1 pc	1 pc
Hardness test block HR30TW70~85	—	1 pc	1 pc
Software	1 pc	1 pc	1 pc
Printer	1 pc	1 pc	1 pc
Anti-dust cover	1 pc	1 pc	1 pc

OPTIONAL ACCESSORY

Hardness test block HRC20~30	HDT-B-HRC1
Hardness test block HRC35~55	HDT-B-HRC2
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRA80~84	HDT-B-HRA
Hardness test block HR15N78~88	HDT-B-HR15N2

Hardness test block HR30N55~73	HDT-B-HR30N2
Hardness test block HR30T73~82	HDT-B-HR30T
Ø12.7mm carbide ball indenter	HDT-RT15-INDENTER1
Ø6.35mm carbide ball indenter	HDT-RT15-INDENTER2
Ø3.175mm carbide ball indenter	HDT-RT15-INDENTER3

INSPECTION CERTIFICATE

MOTORIZED ROCKWELL HARDNESS TESTER (BASIC TYPE)
CODE HDT-RA151

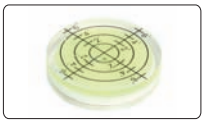
VIDEO

- According to ISO 6508

Ø58mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included) for cylinders with diameter Ø4~60mm


level (included)

small V-type anvil (**optional**) for cylinders with diameter Ø2~4mm

desk (**optional**)

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N
Test force	588N, 980N, 1471N
Display	analogue
Stage elevation	manual
Load control	automatic (load/dwell/unload)
Load dwell time	1~60 second
Min. reading	0.5HR
Max. workpiece height	170mm
Max. testing width	128mm (from the center of indenter to the wall of main body)
Power supply	220V, 50/60Hz
Dimension	500×225×640mm
Weight	65kg

STANDARD DELIVERY

Main unit	1 pc
Ø58mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm steel ball indenter	1 pc
Level	1 pc
Hardness test block HRA80~88	1 pc
Hardness test block HRB85~95	1 pc
Hardness test block HRC20~30	1 pc
Hardness test block HRC35~55	1 pc
Hardness test block HRC60~70	1 pc
Anti-dust cover	1 pc

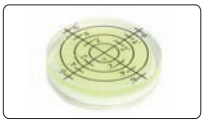
OPTIONAL ACCESSORY

Hardness test block HRA80~84	**HDT-B-HRA**
Hardness test block HRB88~100	**HDT-B-HRB**
Hardness test block HRC20~30	**HDT-B-HRC1**
Hardness test block HRC35~55	**HDT-B-HRC2**
Hardness test block HRC60~70	**HDT-B-HRC3**
Small V-type anvil	**HDT-RW160-SV**
Desk	**HDT-DESK**

MOTORIZED HIGH ROCKWELL HARDNESS TESTER
CODE HDT-RM421

INSPECTION CERTIFICATE

VIDEO


level (included)

V-type anvil (included) for cylinders with diameter Ø4~60mm

Ø150mm flat anvil (included)

- According to ISO 6508

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N (10kg)
Test force	588N (60kg), 980N (100kg), 1471N (150kg)
Display	analogue
Stage elevation	manual
Load control	automatic (load/dwell/unload)
Load dwell time	1~60 second
Min. reading	0.5HR
Max. workpiece height	400mm
Max. testing width	160mm (form the center of indenter to the wall of main body)
Power supply	220V, 50/60Hz
Dimension	540×300×1030mm
Weight	140kg

Ø58mm flat anvil (included)

small V-type anvil (**optional**) for cylinders with diameter Ø2~4mm

STANDARD DELIVERY

Main unit	1 pc
Ø58mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm steel ball indenter	1 pc
Ø1.5875mm steel ball	5 pcs
Level	1 pc
Hardness test block HRA80~84	1 pc
Hardness test block HRB88~100	1 pc
Hardness test block HRC20~30	1 pc
Hardness test block HRC35~55	1 pc
Hardness test block HRC60~70	1 pc
Anti-dust cover	1 pc

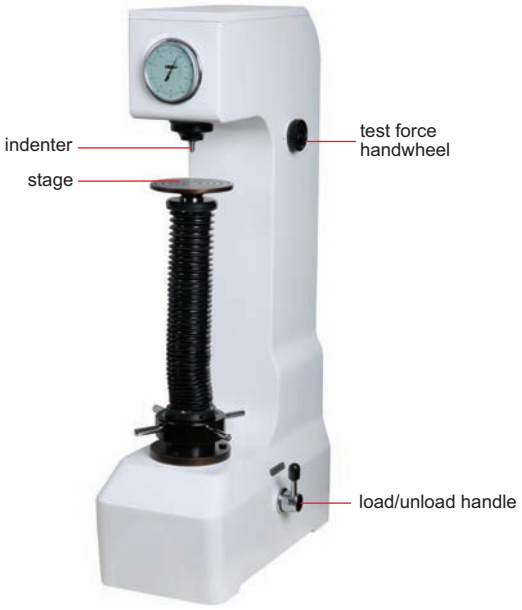
OPTIONAL ACCESSORY

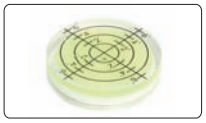
Hardness test block HRA80~84	**HDT-B-HRA**
Hardness test block HRB88~100	**HDT-B-HRB**
Hardness test block HRC20~30	**HDT-B-HRC1**
Hardness test block HRC35~55	**HDT-B-HRC2**
Hardness test block HRC60~70	**HDT-B-HRC3**
Small V-type anvil	**HDT-RW160-SV**

VIDEO

INSPECTION CERTIFICATE

MANUAL HIGH ROCKWELL HARDNESS TESTER
CODE HDT-RH411




level (included)

V-type anvil (included) for cylinders with diameter Ø4~60mm

Ø150mm flat anvil (included)

Ø58mm flat anvil (included)

small V-type anvil (**optional**) for cylinders with diameter Ø2~4mm

- According to ISO 6508

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N (10kg)
Test force	588N (60kg), 980N (100kg), 1471N (150kg)
Display	analogue
Stage elevation	manual
Load control	manual
Min. reading	0.5HR
Max. workpiece height	400mm
Max. testing width	160mm (form the center of indenter to the wall of main body)
Dimension	540×300×1030mm
Weight	140kg

STANDARD DELIVERY

Main unit	1 pc
Ø58mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm steel ball indenter	1 pc
Ø1.5875mm steel ball	5 pcs
Level	1 pc
Hardness test block HRA80~84	1 pc
Hardness test block HRB88~100	1 pc
Hardness test block HRC20~30	1 pc
Hardness test block HRC35~55	1 pc
Hardness test block HRC60~70	1 pc
Anti-dust cover	1 pc

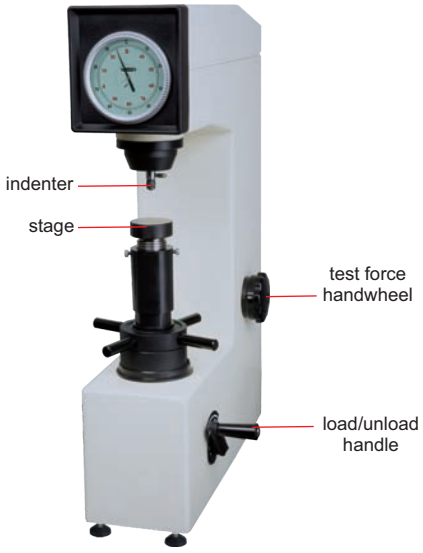
OPTIONAL ACCESSORY

Hardness test block HRA80~84	**HDT-B-HRA**
Hardness test block HRB88~100	**HDT-B-HRB**
Hardness test block HRC20~30	**HDT-B-HRC1**
Hardness test block HRC35~55	**HDT-B-HRC2**
Hardness test block HRC60~70	**HDT-B-HRC3**
Small V-type anvil	**HDT-RW160-SV**

MANUAL ROCKWELL HARDNESS TESTER
CODE ISH-R150

INSPECTION CERTIFICATE

VIDEO



- According to ISO 6508

Ø60mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included) for cylinders with diameter Ø4~60mm

small V-type anvil (**optional**) for cylinders with diameter Ø2~4mm

desk (**optional**)

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N
Test force	588N, 980N, 1471N
Display	analogue
Stage elevation	manual
Load control	manual
Min. reading	0.5HR
Max. workpiece height	170mm
Max. testing width	165mm (from the center of indenter to the wall of main body)
Dimension	520×160×700mm
Weight	60kg

STANDARD DELIVERY

Main unit	1 pc
Ø60mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	1 pc
Hardness test block HRB88~95	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block HRC20~30	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

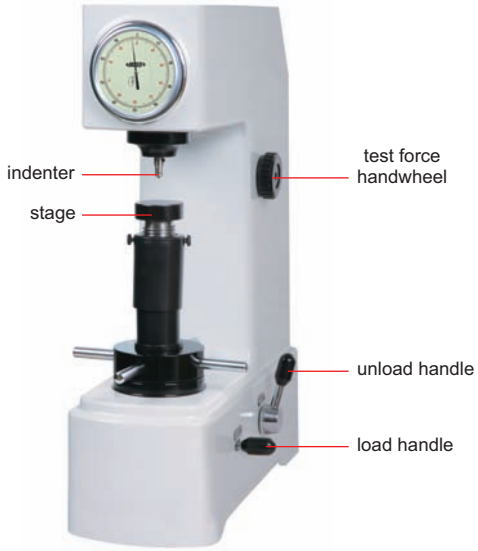
Hardness test block HRB88~100	**HDT-B-HRB**
Hardness test block HRC60~70	**HDT-B-HRC3**
Hardness test block HRC20~30	**HDT-B-HRC1**
Small V-type anvil	**ISH-SMALLANVIL**
Desk	**HDT-DESK**

INSPECTION CERTIFICATE

MANUAL ROCKWELL HARDNESS TESTER (BASIC TYPE)
CODE HDT-RW160

VIDEO

POPULAR MODEL

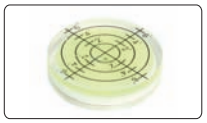


- According to ISO 6508

Ø58mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included) for cylinders with diameter Ø4~60mm


level (included)

small V-type anvil (**optional**) for cylinders with diameter Ø2~4mm

desk (**optional**)

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N (10kg)
Test force	588N (60kg), 980N (100kg), 1471N (150kg)
Display	analogue
Stage elevation	manual
Load control	manual
Min. reading	0.5HR
Max. workpiece height	170mm
Max. testing width	135mm (from the center of indenter to the wall of main body)
Dimension	466×238×630mm
Weight	70kg

STANDARD DELIVERY

Main unit	1 pc
Ø58mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm steel ball indenter	1 pc
Ø1.5875mm steel ball	5 pcs
Level	1 pc
Hardness test block HRA80~88	1 pc
Hardness test block HRB85~95	1 pc
Hardness test block HRC20~30	1 pc
Hardness test block HRC35~55	1 pc
Hardness test block HRC60~70	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Hardness test block HRA80~84	**HDT-B-HRA**
Hardness test block HRB88~100	**HDT-B-HRB**
Hardness test block HRC20~30	**HDT-B-HRC1**
Hardness test block HRC35~55	**HDT-B-HRC2**
Hardness test block HRC60~70	**HDT-B-HRC3**
Small V-type anvil	**HDT-RW160-SV**
Desk	**HDT-DESK**

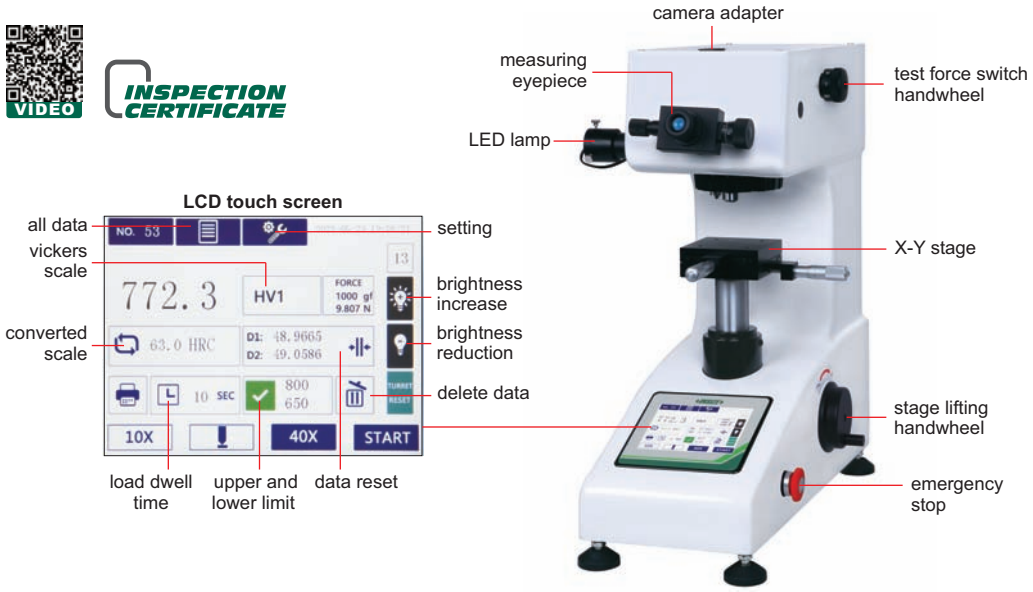
DIGITAL MICRO-VICKERS HARDNESS TESTER (BASIC TYPE)
CODE HDT-MVE1300

MOTOR DRIVEN TURRET

TOUCH SCREEN

VIDEO

INSPECTION CERTIFICATE



step: 1

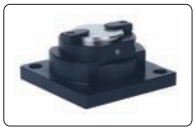
measure indentation diagonal lengthes by measuring microscope

step: 2

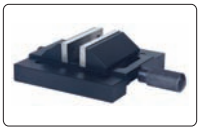
input the indentation diagonal lengthes, the hardness value is shown on screen automatically

- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507

cylinder holder (included)



slice holder (included)



vice (included)

desk (**optional**)

camera and measuring software (**optional**)

SPECIFICATION

Test force	0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf)
Vickers scales	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Converted scales	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Range	5~3000HV
Length measurement resolution	0.5μm
Objective/indenter switch	motor driven turret
Stage lifting	manual
Load control	automatic (load/dwell/unload)
Load dwell time	1~60 second
Objective	10X, 40X
Eyepiece	10X
Total magnification	100X (for measurement or observation), 400X (for measurement)
Max. workpiece height	90mm
Max. testing width	95mm (from the center of indenter to the wall of main body)
X-Y stage	dimension: 100×100mm, travel range: 25×25mm
Power supply	220V, 50/60Hz
Dimension	510×290×570mm
Weight	40kg

STANDARD DELIVERY

Main unit	1 pc
10X, 40X objective	1 pc of each
Micro vickers indenter	1 pc
Hardness test block 400~500HV0.2	1 pc
Hardness test block 700~750HV1	1 pc
Slice holder	1 pc
Vice	1 pc
Cylinder holder	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Hardness test block 400~500HV0.2	**HDT-B-HV02C**
Hardness test block 700~750HV1	**HDT-B-HV1F**
Knoop indenter	**HDT-MV-KNOOP**
Measuring system (manual)*	**HDT-CM-SW**
Measuring system (automatic)*	**HDT-CM-AW**
Desk	**HDT-DESK**

*Measuring system includes camera and measuring software

INSPECTION CERTIFICATE

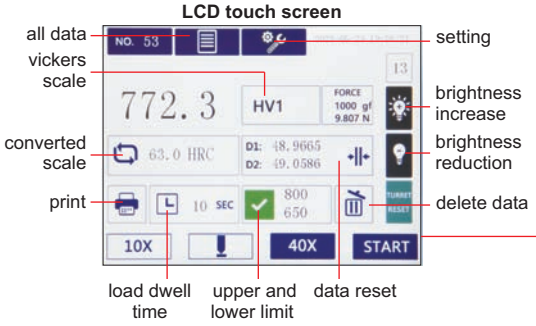
DIGITAL MICRO-VICKERS HARDNESS TESTER (STANDARD TYPE)
CODE HDT-MVH1100

PRESS INPUT BUTTON TO HAVE DIRECT READING OF HARDNESS

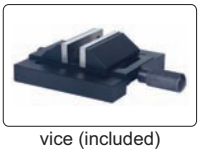
TOUCH SCREEN

MOTOR DRIVEN TURRET

VIDEO



cylinder holder (included)


vice (included)

slice holder (included)

- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507

camera and measuring software (**optional**)

SPECIFICATION

Test force	0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf)
Vickers scales	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Converted scales	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Range	5~3000HV
Length measurement resolution	0.025μm
Objective/indenter switch	motor driven turret
Stage lifting	manual
Load control	automatic (load/dwell/unload)
Load dwell time	1~60 second
Objective	10X, 40X
Eyepiece	10X
Total magnification	10X (for measurement or observation), 400X (for measurement)
Max. workpiece height	90mm
Max. testing width	95mm (from the center of indenter to the wall of main body)
X-Y stage	dimension: 100×100mm, travel range: 25×25mm
Data output	built-in printer
Power supply	220V, 50/60Hz
Dimension	510×290×570mm
Weight	40kg

STANDARD DELIVERY

Main unit	1 pc
10X, 40X objective	1 pc of each
Micro vickers indenter	1 pc
Hardness test block 400~500HV0.2	1 pc
Hardness test block 700~750HV1	1 pc
Slice holder	1 pc
Vice	1 pc
Cylinder holder	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Hardness test block 400~500HV0.2	**HDT-B-HV02C**
Hardness test block 700~750HV1	**HDT-B-HV1F**
Knoop indenter	**HDT-MV-KNOOP**
Measuring software (manual)*	**HDT-CM-SW**
Measuring software (automatic)*	**HDT-CM-AW**

*Measuring system includes camera and measuring software

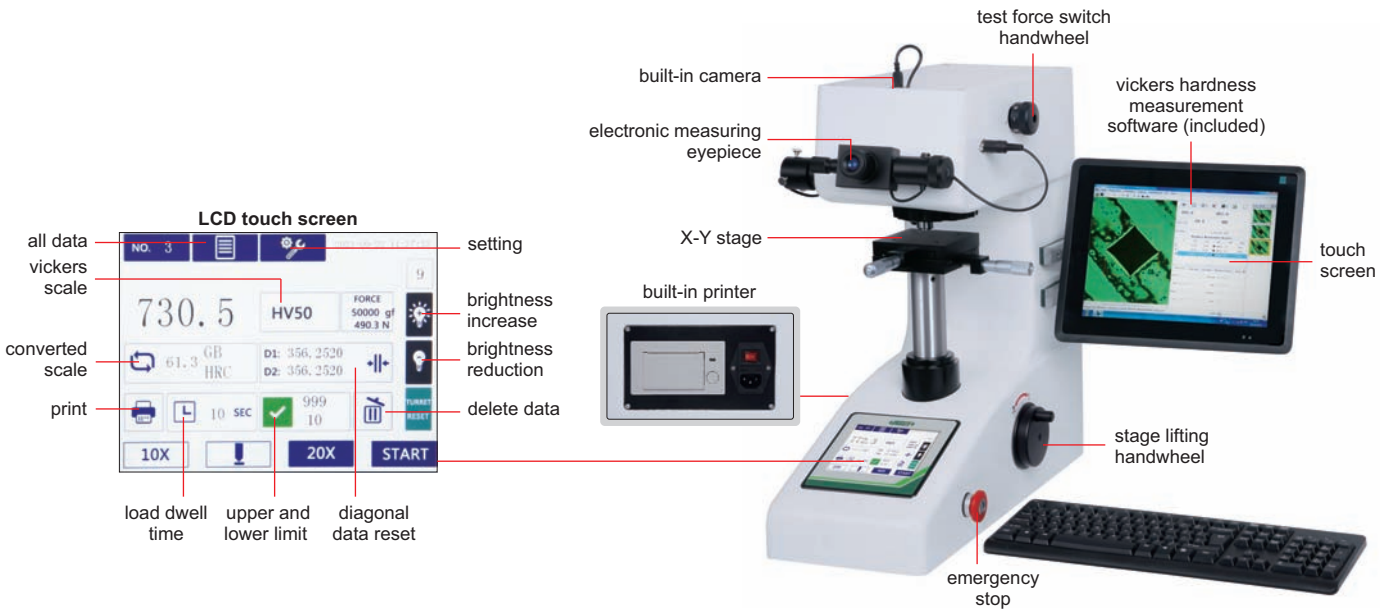
DUAL TOUCH SCREEN DIGITAL MICRO-VICKERS HARDNESS TESTER (ADVANCED TYPE)
CODE HDT-DMV90

INSPECTION CERTIFICATE

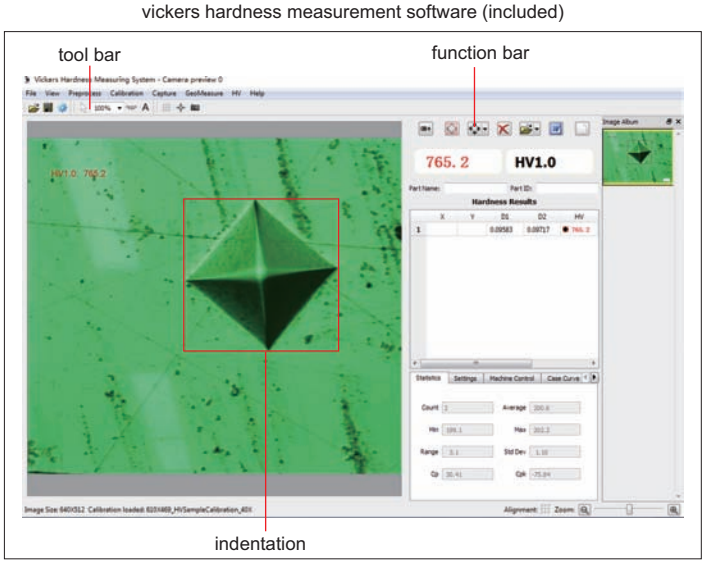
MOTOR DRIVEN TURRET

AUTOMATIC TEST

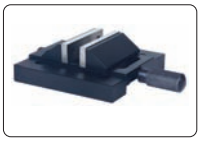
VIDEO



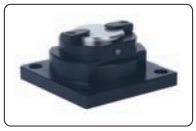
vickers hardness measurement software (included)



cylinder holder (included)



vice (included)



slice holder (included)

desk (**optional**)

- Dual touch screen control, high-definition image measurement and analysis
- One click start, automatic pressing and automatic measurement
- The host and vickers hardness measurement software can be operated independently
- Automatic switch between the indenter and objective lens
- Data storage and average value calculation
- Can connect with wired and wireless networks to transmit data
- According to ISO 6507

To be continued

SPECIFICATION

Test force	0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf)
Vickers scales	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Converted scales	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Range	5~3000HV
Length measurement resolution	0.01μm
Objective/indenter switch	motor driven turret
Stage lifting	manual
Load control	automatic (load/dwell/unload)
Load dwell time	1~60 second
Objective	10X, 40X
Eyepiece	10X
Total magnification	100X (for measurement or observation), 400X (for measurement)
Max. workpiece height	90mm
Max. testing width	95mm (from the center of indenter to the wall of main body)
X-Y stage	dimensions: 100×100mm, travel range: 25×25mm
Data output	built-in printer, USB
Power supply	220V, 50/60Hz
Dimension	500×420×480mm
Weight	42kg

STANDARD DELIVERY

Main unit	1 pc
Vickers hardness measurement software	1 pc
10X, 40X objective	1 pc of each
Micro vickers indenter	1 pc
Hardness test block 400~500HV0.2	1 pc
Hardness test block 700~750HV1	1 pc
Wireless keyboard	1 pc
Wireless mouse	1 pc
Vice	1 pc
Slice holder	1 pc
Cylinder holder	1 pc
Auti-dust cover	1 pc

OPTIONAL ACCESSORY

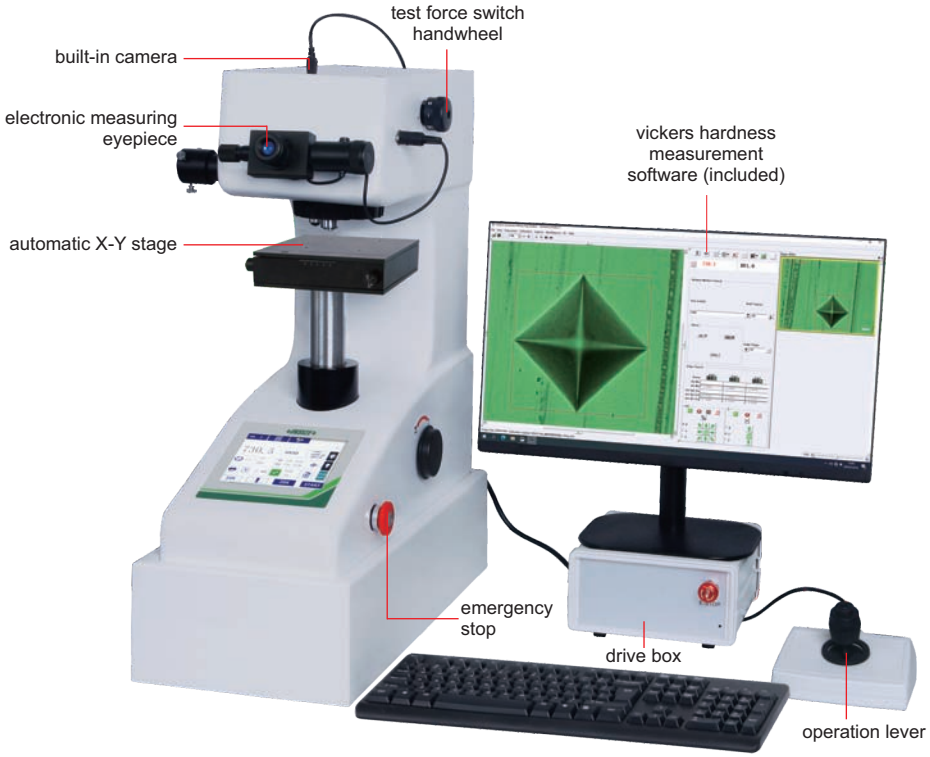
Hardness test block 400~500HV0.2	**HDT-B-HV02C**
Hardness test block 700~750HV1	**HDT-B-HV1F**
Knoop indenter	**HDT-MV-KNOOP**
Desk	**HDT-DESK**
OFFICE software	**7313-OFFICE**

AUTOMATIC MICRO-VICKERS HARDNESS TESTER
CODE HDT-AMV338

MOTOR DRIVEN TURRET | AUTOMATIC TEST | Z-AXIS AUTOFOCUS

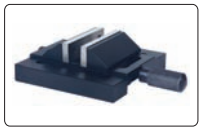
INSPECTION CERTIFICATE

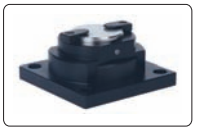
VIDEO



automatic X-Y stage

cylinder holder (included)

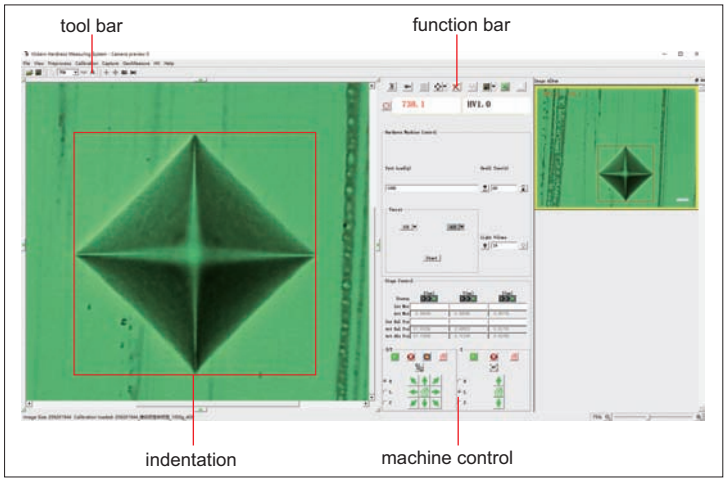

vice (included)


slice holder (included)

desk (**optional**)

- Suitable for micro-hardness determination of various metals and non-metal materials, effective depth and heat affected area measurement, especially suitable for measuring workpieces hardness gradient distribution curve and surface hardness after heat treatment, effective hardening layer depth
- Automatic switch between the indenter and objective lens
- Z-axis automatic focus, X, Y axis automatic movement, can be for multi-point continuous measurement
- Automatic moving table by built-in step motor, high positioning accuracy, good repeatability, fast moving speed, high efficiency
- Automatic moving table bidirectional movement, equipped with safety devices to avoid misoperation
- The software can control the hardness tester hardware operation, two-way communication with each other
- The image acquisition device has fast reaction speed, high automatic measurement accuracy and good repeatability
- The system can automatically generate Word or Excel test report, and the report template can be modified
- According to ISO 6507

vickers hardness measurement software (included)



To be continued

Continued from previous page

AUTOMATIC TEST CONTROL SYSTEM

Hardness tester control	1. automatic turret, automatic loading, automatic measurement 2. automatic display of test force, load dwell time, illumination brightness
Automatic control of X-Y stage	software system automatic control of X-Y stage movement
Measurement mode	1. automatic mode: automatic loading, automatic measurement, automatic display of measurement results 2. manual measurement mode can be selected
Automatic measurement	about 0.3sec of one indentation
Measurement repeatability	±1% (700HV/500gf)
The smallest indentation that can be measured	about 5μm (automatic measurement)
Data output format/ edit functions	1. inspection reports can be customized according to customer requirements 2. the depth of hardened layer is shown in table form 3. output various measurement data, hardness table, hardening layer depth, maximum value, average value, minimum value, image with hardness value

AUTOMATIC X-Y STAGE

Drive motor	step motor
Drive control	movement control by software, speed is adjustable
Dimension	110×110mm
Max. travel distance	50×50mm
Min. travel distance	1μm
Movement speed	1~10mm/sec, speed can be adjusted
Displacement repetition accuracy	within 1μm

SPECIFICATION

Test force	0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf)
Vickers scales	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Converted scales	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Range	5~3000HV
Length measurement resolution	0.01μm
Objective/indenter switch	motor driven turret
Stage lifting	manual/electric
Focus mode	Z-axis autofocus
Load control	automatic (load/dwell/unload)
Load dwell time	1~60 second
Objective	10X, 40X
Eyepiece	10X
Total magnification	100X (for measurement or observation), 400X (for measurement)
Max. workpiece height	80mm
Max. testing width	110mm (from the center of indenter to the wall of main body)
Pixel	5M
Communication interface	RS232
Power supply	220V, 50/60Hz
Dimension	520×290×680mm
Weight	42kg

STANDARD DELIVERY

Main unit	1 pc
10X, 40X objective	1 pc of each
Micro vickers indenter	1 pc
Hardness test block 400~500HV0.2	1 pc
Hardness test block 700~750HV1	1 pc
Automatic X-Y stage drive box	1 pc
Vickers hardness measurement software	1 pc
Computer	1 pc
Vice	1 pc
Slice holder	1 pc
Cylinder holder	1 pc
Auti-dust cover	1 pc

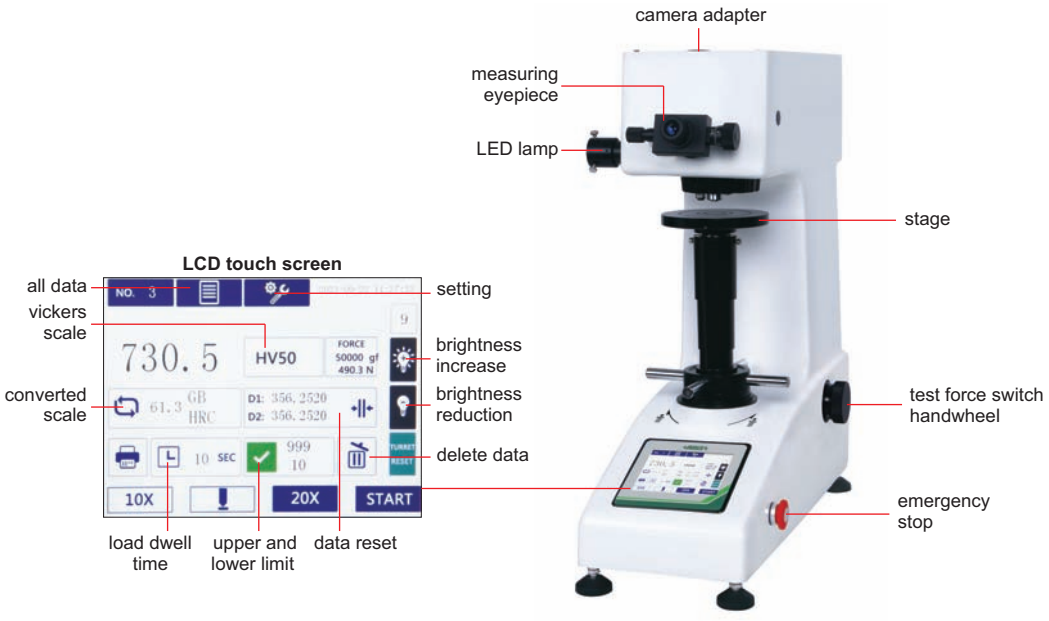
OPTIONAL ACCESSORY

Hardness test block 400~500HV0.2	**HDT-B-HV02C**
Hardness test block 700~750HV1	**HDT-B-HV1F**
Knoop indenter	**HDT-MV-KNOOP**
Desk	**HDT-DESK**
OFFICE software	**7313-OFFICE**

DIGITAL VICKERS HARDNESS TESTERS (BASIC TYPE)

INSPECTION CERTIFICATE | MOTOR DRIVEN TURRET | TOUCH SCREEN

VIDEO



HDT-VE56

- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507

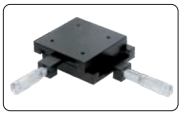
step: 1	step: 2
measure indentation diagonal lengthes by measuring microscope	input the indentation diagonal lengthes, the hardness value is shown on screen automatically

camera and measuring software (**optional**)

Ø58mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included)



XY platform (**optional**)

desk (**optional**)

To be continued

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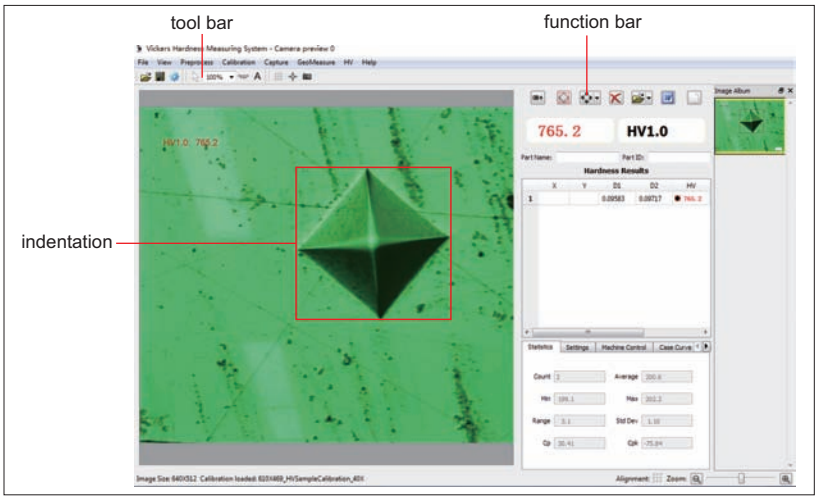
vickers hardness measurement software (**optional**)



SPECIFICATION

Code	HDT-VE03	HDT-VE14	HDT-VE35	HDT-VE56
Test force	0.3kgf, 0.5kgf, 1kgf, 2kgf, 3kgf, 5kgf	0.3kgf, 0.5kgf, 1kgf, 3kgf, 5kgf, 10kgf	1kgf, 3kgf, 5kgf, 10kgf, 20kgf, 30kgf	1kgf, 5kgf, 10kgf, 20kgf, 30kgf, 50kgf
Vickers scales	HV0.3, HV0.5, HV1, HV2, HV3, HV5	HV0.3, HV0.5, HV1, HV3, HV5, HV10	HV1, HV3, HV5, HV10, HV20, HV30	HV1, HV5, HV10, HV20, HV30, HV50
Converted scales	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T			
Range	8~3000HV			
Length measurement resolution	0.5μm			
Objective/indenter switch	motor driven turret			
Stage lifting	manual			
Load control	automatic (load/dwell/unload)			
Load dwell time	1~60 second			
Objective	10X, 20X			
Eyepiece	10X			
Total magnification	100X (for measurement or observation), 200X (for measurement)			
Max. workpiece height	175mm			
Max. testing width	135mm (form the center of indenter to the wall of main body)			
Power supply	220V, 50/60Hz			
Dimension	580×320×660mm			
Weight	55kg			

STANDARD DELIVERY

Main unit	1 pc
10X, 20X objective	1 pc of each
Vickers indenter	1 pc
Hardness test block 400~500HV10	1 pc
Hardness test block 700~750HV50	1 pc
Ø58mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Hardness test block 400~500HV10	HDT-B-HV10D
Hardness test block 700~750HV50	HDT-B-HV50G
Desk	HDT-DESK
Measuring system (manual, for 5kg and 10kg)*	HDT-CM1-SW
Measuring system (automatic, for 5kg and 10kg)*	HDT-CM1-AW
Measuring system (manual, for 30kg and 50kg)*	HDT-CM2-SW
Measuring system (automatic, for 30kg and 50kg)*	HDT-CM2-AW
XY working platform	HDT-VEH-ST

*Measuring system includes camera and measuring software

DIGITAL VICKERS HARDNESS TESTERS (STANDARD TYPE)

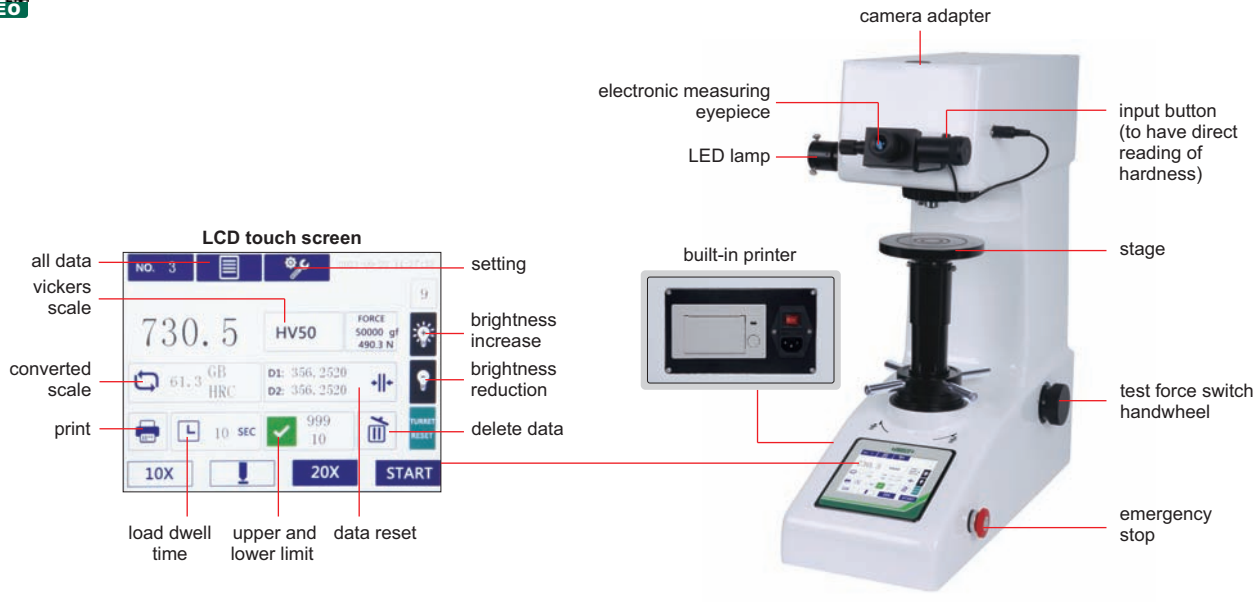
INSPECTION CERTIFICATE

MOTOR DRIVEN TURRET

PRESS INPUT BUTTON TO HAVE DIRECT READING OF HARDNESS

TOUCH SCREEN

VIDEO

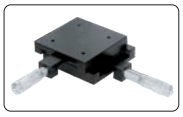


HDT-VH51

- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507

Ø58mm flat anvil (included)

Ø150mm flat anvil (included)



XY platform (**optional**)

V-type anvil (included)

desk (**optional**)

camera and measuring software (**optional**)

To be continued

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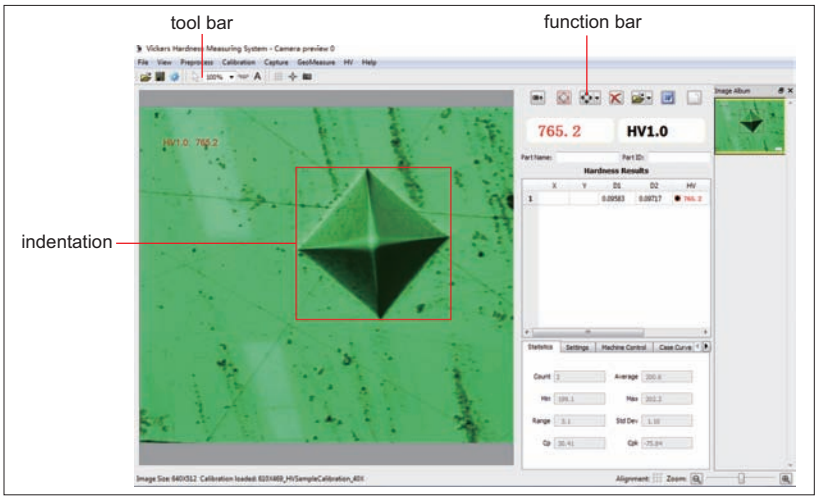
vickers hardness measurement software (**optional**)



SPECIFICATION

Code	HDT-VH05	HDT-VH11	HDT-VH31	HDT-VH51
Test force	0.3kgf, 0.5kgf, 1kgf, 2kgf, 3kgf, 5kgf	0.3kgf, 0.5kgf, 1kgf, 3kgf, 5kgf, 10kgf	1kgf, 3kgf, 5kgf, 10kgf, 20kgf, 30kgf	1kgf, 5kgf, 10kgf, 20kgf, 30kgf, 50kgf
Vickers scales	HV0.3, HV0.5, HV1, HV2, HV3, HV5	HV0.3, HV0.5, HV1, HV3, HV5, HV10	HV1, HV3, HV5, HV10, HV20, HV30	HV1, HV5, HV10, HV20, HV30, HV50
Converted scales	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T			
Range	8~3000HV			
Length measurement resolution	0.125μm			
Objective/indenter switch	motor driven turret			
Stage lifting	manual			
Load control	automatic (load/dwell/unload)			
Load dwell time	1~60 second			
Objective	10X, 20X			
Eyepiece	10X			
Total magnification	100X (for measurement or observation), 200X (for measurement)			
Max. workpiece height	175mm			
Max. testing width	135mm (form the center of indenter to the wall of main body)			
Output	built-in printer			
Power supply	220V, 50/60Hz			
Dimension	580×320×660mm			
Weight	55kg			

STANDARD DELIVERY

Main unit	1 pc
10X, 20X objective	1 pc of each
Vickers indenter	1 pc
Hardness test block	2 pcs
Ø58mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

Hardness test block	page 61~62
Desk	HDT-DESK
Measuring system (manual, for 5kg and 10kg)*	HDT-CM1-SW
Measuring system (automatic, for 5kg and 10kg)*	HDT-CM1-AW
Measuring system (manual, for 30kg and 50kg)*	HDT-CM2-SW
Measuring system (automatic, for 30kg and 50kg)*	HDT-CM2-AW
XY working platform	HDT-VEH-ST

*Measuring system includes camera and measuring software

AUTOMATIC VICKERS HARDNESS TESTERS

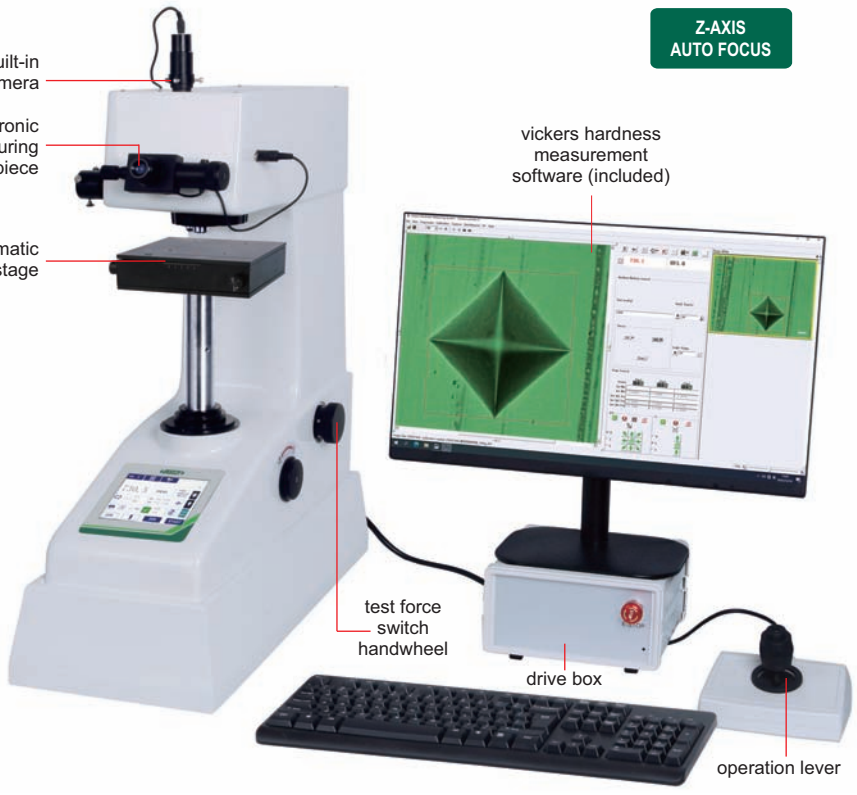
MOTOR DRIVEN TURRET

AUTOMATIC TEST

Z-AXIS AUTO FOCUS

VIDEO

INSPECTION CERTIFICATE



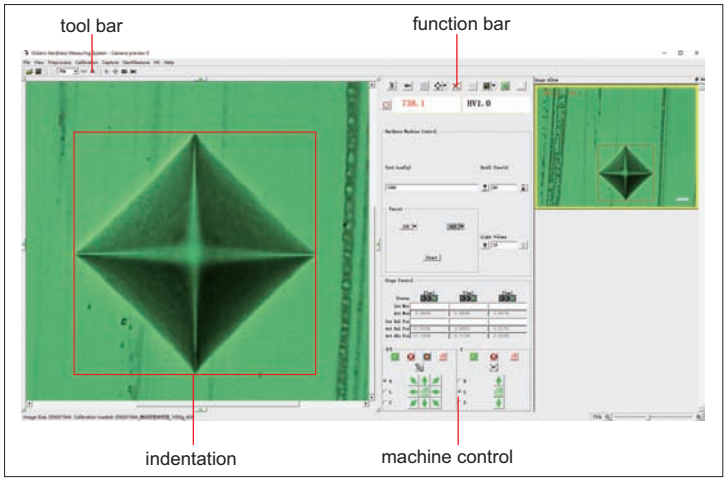
HDT-AVH50

automatic X-Y stage

desk (**optional**)

- Suitable for vickers hardness determination of various metals and non-metal materials, effective depth and heat affected area measurement, especially suitable for measuring workpieces hardness gradient distribution curve and surface hardness after heat treatment, effective hardening layer depth
- Automatic switch between the indenter and objective lens
- Z-axis automatic focus, X, Y axis automatic movement, can be for multi-point continuous measurement
- Automatic moving table by built-in step motor, high positioning accuracy, good repeatability, fast moving speed, high efficiency
- Automatic moving table bidirectional movement, equipped with safety devices to avoid misoperation
- The software can control the hardness tester hardware operation, two-way communication with each other
- The image acquisition device has fast reaction speed, high automatic measurement accuracy and good repeatability
- The system can automatically generate Word or Excel test report, and the report template can be modified
- According to ISO 6507

vickers hardness measurement software (included)



STANDARD DELIVERY

Main unit	1 pc
10X, 20X objective	1 pc of each
Vickers indenter	1 pc
Hardness test block	2 pcs
Automatic X-Y stage drive box	1 pc
Vickers hardness measurement software	1 pc
Computer	1 pc
Auti-dust cover	1 pc

To be continued

Continued from previous page

AUTOMATIC TEST CONTROL SYSTEM

Hardness tester control	1.automatic turret, automatic loading, automatic measurement 2.automatic display of test force, load dwell time, illumination brightness
Automatic control of X-Y stage	software system automatic control of X-Y stage movement
Measurement mode	1.automatic mode: automatic loading, automatic measurement, automatic display of measurement results 2.manual measurement mode can be selected
Automatic measurement	about 0.3sec of one indentation
Measurement repeatability	±1% (700HV/5kgf)
The smallest indentation that can be measured	about 10μm (automatic measurement)
Data output format/ edit functions	1.inspection reports can be customized according to customer requirements 2.the depth of hardened layer is shown in table form 3.output various measurement data, hardness table, hardening layer depth, maximum value, average value, minimum value, image with hardness value

AUTOMATIC X-Y STAGE

Drive motor	step motor
Drive control	movement control by software, speed is adjustable
Dimension	110×110mm
Max. travel distance	50×50mm
Min. travel distance	1μm
Movement speed	1~10mm/sec, speed can be adjusted
Displacement repetition accuracy	within 1μm

SPECIFICATION

Code	**HDT-AVH05**	**HDT-AVH10**	**HDT-AVH30**	**HDT-AVH50**
Test force	0.3kgf, 0.5kgf, 1kgf, 2kgf, 3kgf, 5kgf	0.3kgf, 0.5kgf, 1kgf, 3kgf, 5kgf, 10kgf	1kgf, 3kgf, 5kgf, 10kgf, 20kgf, 30kgf	1kgf, 5kgf, 10kgf, 20kgf, 30kgf, 50kgf
Vickers scales	HV0.3, HV0.5, HV1, HV2, HV3, HV5	HV0.3, HV0.5, HV1, HV3, HV5, HV10	HV1, HV3, HV5, HV10, HV20, HV30	HV1, HV5, HV10, HV20, HV30, HV50
Converted scales	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T			
Range	5~3000HV			
Length measurement resolution	0.01μm			
Objective/indenter switch	motor driven turret			
Stage lifting	manual/electric			
Focus mode	Z-axis autofocus			
Load control	automatic (load/dwell/unload)			
Load dwell time	1~60 second			
Objective	10x, 20X			
Eyepiece	10X			
Total magnification	100X (for measurement or observation), 200X (for measurement)			
Max.workpiece height	160mm			
Max. testing width	130mm (from the center of indenter to the wall of main body)			
Pixel	5M			
Communication interface	RS232			
Power supply	220V, 50/60Hz			
Dimension	630x300x800mm			
Weight	75kg			

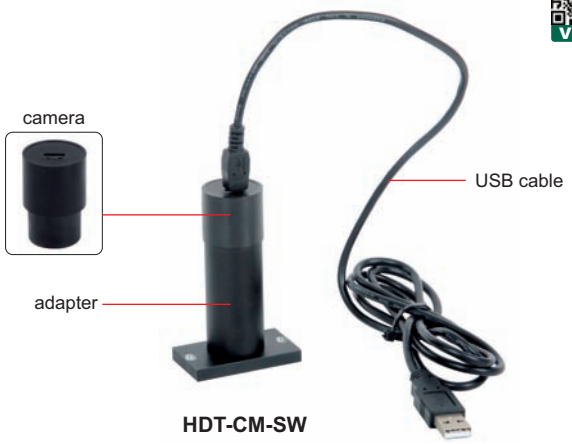
OPTIONAL ACCESSORY

Hardness test block	page 61~62
Desk	**HDT-DESK**
OFFICE software	**7313-OFFICE**

VICKERS HARDNESS MEASURING SYSTEMS

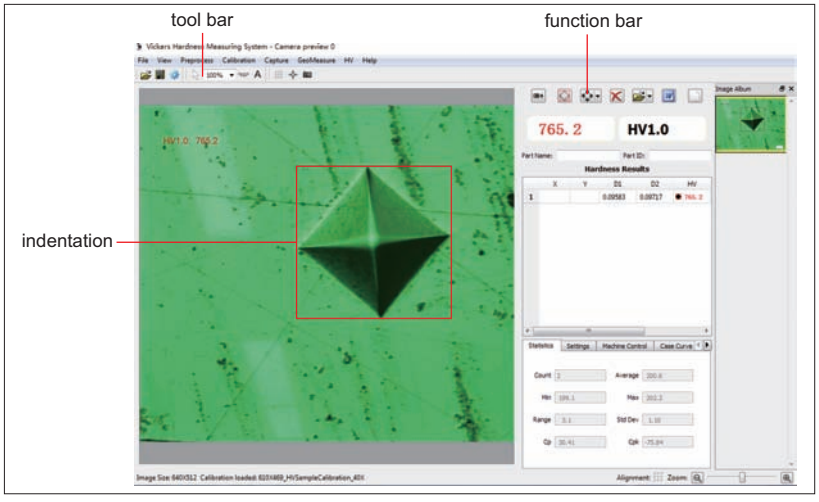
VIDEO

- Connected to computer USB port
- Measurement results can be automatically generated including average, maximum and minimum values, standard deviation, Cp, Cpk, etc.
- Upper and lower limits can be set, and values exceeding the upper and lower limits are automatically marked
- Measurement results can be converted to HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, etc.
- Can be calibrated with standard hardness blocks
- Measurement result can be sent to Word or Excel



HDT-CM-SW

measurement software (included)



application

SPECIFICATION

Code	HDT-CM1-SW	HDT-CM1-AW	HDT-CM2-SW	HDT-CM2-AW	HDT-CM-SW	HDT-CM-AW
Measurement method of indentation	manual	automatic	manual	automatic	manual	automatic
Applicable hardness testers	small force Vickers hardness testers		large force Vickers hardness testers		micro Vickers hardness testers	
Code of applicable hardness testers	**HDT-VE03**, **HDT-VE14**, **HDT-VH05**, **HDT-VH11**		**HDT-VE35**, **HDT-VE56**, **HDT-VH31**, **HDT-VH51**		**HDT-MVH1100**, **HDT-MVE1300**	
Pixel	5.1M					
Resolution	hardness measurement: 0.1HV; indentation measurement: 0.1μm					
Accuracy	±3%					

STANDARD DELIVERY

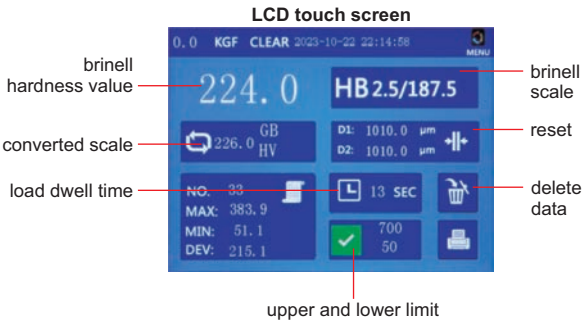
Code	HDT-CM1-SW	HDT-CM1-AW	HDT-CM2-SW	HDT-CM2-AW	HDT-CM-SW	HDT-CM-AW
Camera	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Extension tube	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Adapter	1 pc	1 pc	1 pc	1 pc	—	—
USB cable	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Software	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc

INSPECTION CERTIFICATE

MOTORIZED DIGITAL BRINELL HARDNESS TESTER (BASIC TYPE)
CODE HDT-MBE320

TOUCH SCREEN | FORCE LOADING BY ELECTRIC MOTOR (WITHUOT WEIGHT) | VIDEO

LCD touch screen



step: 1

measure indentation diameter by measuring microscope

step: 2

input the diameters, the hardness value is shown on screen automatically

- Touch screen color LCD display
- Measure indentation diameter by measuring microscope, then input the diameters, the hardness value is shown on screen automatically
- Electric loading test force, without weights
- Casting case, structurally stable and not deformed
- According to ISO 6506

Ø78mm flat anvil (included)

Ø200mm flat anvil (included)

V-type anvil (included)

desk (**optional**)

measuring microscope (included)

SPECIFICATION

Test force		62.5kgf, 100kgf, 125kgf, 187.5kgf, 250kgf, 500kgf, 750kgf, 1000kgf, 1500kgf, 3000kgf
Brinell scale		HBW2.5/62.5, HBW2.5/187.5, HBW5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000
Range		8~650HBW
Hardness resolution		0.1HBW
Stage elevation		manual
Load control		automatic (load/dwell/unload)
Load dwell time		0~60 second
Measuring microscope	**magnification**	20X
	resolution	0.01mm
Max. workpiece height		230mm
Max. testing width		140mm (form the center of indenter to the wall of main body)
Power supply		220V, 50/60Hz
Dimension		510×210×750mm
Weight		130kg

STANDARD DELIVERY

Main unit	1 pc
Ø78mm flat anvil	1 pc
Ø200mm flat anvil	1 pc
V-type anvil	1 pc
Ø2.5mm carbide ball indenter	1 pc
Ø5mm carbide ball indenter	1 pc
Ø10mm carbide ball indenter	1 pc
Hardness test block 100~200HBW2.5/187.5	1 pc
Hardness test block 90~200HBW10/1000	1 pc
Hardness test block 100~200HBW10/3000	1 pc
Measuring microscope	1 pc

OPTIONAL ACCESSORY

Hardness test block 100~200HBW2.5/187.5	**HDT-B-HB25A1**
Hardness test block 90~200HBW10/1000	**HDT-B-HB10C1**
Hardness test block 100~200HBW10/3000	**HDT-B-HB10A1**
Desk	**HDT-DESK**
Measuring software	**HDT-MB□□□**

MOTORIZED DIGITAL BRINELL HARDNESS TESTERS (STANDARD TYPE)

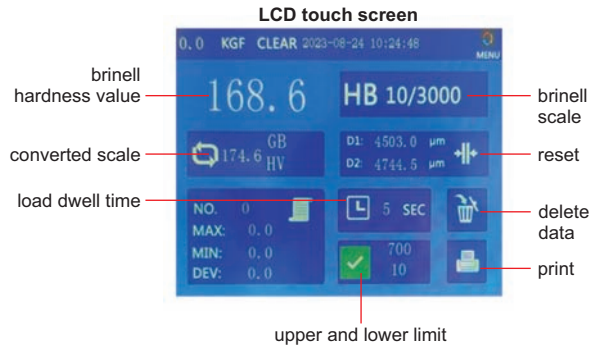
VIDEO

TOUCH SCREEN

FORCE LOADING BY ELECTRIC MOTOR (WITHUOT WEIGHT)

INSPECTION CERTIFICATE

LCD touch screen



Ø78mm flat anvil (included)

Ø200mm flat anvil (included)

V-type anvil (included)

desk (**optional**)

- Touch screen color LCD display
- Measure the indentation with microscope, automatically calculate the hardness value and display it on the screen
- Electric loading test force, without weights
- Casting case, structurally stable and not deformed
- According to ISO 6506

SPECIFICATION

Code		HDT-MB610	HDT-MB710
Turret rotation		manual	automatic
Test force		62.5kgf, 100kgf, 125kgf, 187.5kgf, 250kgf, 500kgf, 750kgf, 1000kgf, 1500kgf, 3000kgf	
Brinell scale		HBW2.5/62.5, HBW2.5/187.5, HBW5/125, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000	
Range		8~650HBW	
Hardness resolution		0.1HBW	
Stage elevation		manual	
Load control		automatic (load/dwell/unload)	
Load dwell time		0~60 second	
Measuring microscope	magnification	20X	
	resolution	0.1μm	
Max. workpiece height		200mm	
Max. testing width		135mm (form the center of indenter to the wall of main body)	
Data output		built-in printer, RS232	
Power supply		220V, 50/60Hz	
Dimension		510×210×750mm	
Weight		130kg	

STANDARD DELIVERY

Main unit	1 pc
Ø78mm flat anvil	1 pc
Ø200mm flat anvil	1 pc
V-type anvil	1 pc
Ø2.5mm carbide ball indenter	1 pc
Ø5mm carbide ball indenter	1 pc
Ø10mm carbide ball indenter	1 pc
Hardness test block 100~200HBW2.5/187.5	1 pc
Hardness test block 90~200HBW10/1000	1 pc
Hardness test block 100~200HBW10/3000	1 pc

OPTIONAL ACCESSORY

Hardness test block 100~200HBW2.5/187.5	HDT-B-HB25A1
Hardness test block 90~200HBW10/1000	HDT-B-HB10C1
Hardness test block 100~200HBW10/3000	HDT-B-HB10A1
Desk	HDT-DESK
Measuring software	HDT-MB□□□

TOUCH SCREEN

MOTORIZED DIGITAL ROCKWELL/BRINELL/VICKERS HARDNESS TESTER
CODE HDT-BRV330

FORCE LOADING BY ELECTRIC MOTOR (WITHUOT WEIGHT)

INSPECTION CERTIFICATE

VIDEO

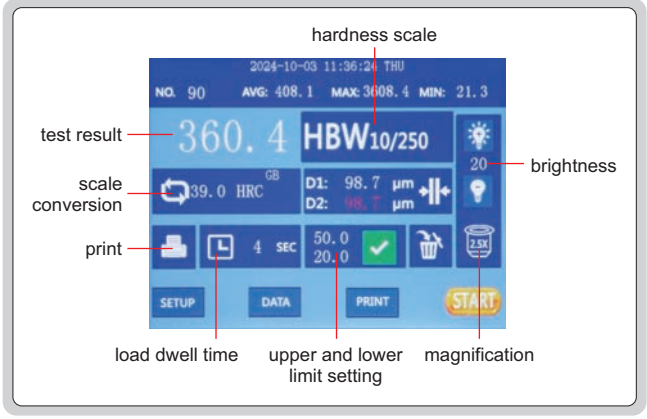
Ø60mm flat anvil (included)

Ø150mm flat anvil (included)

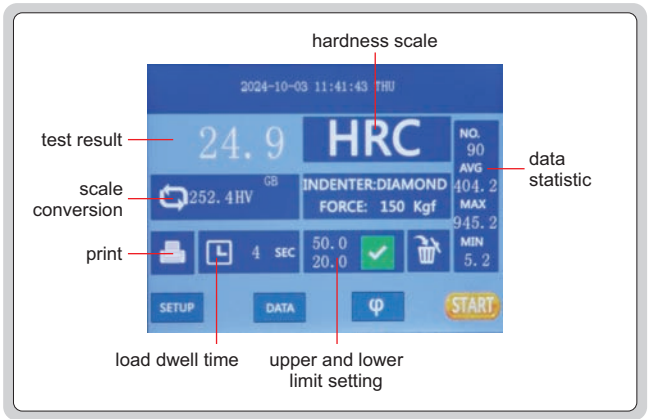
V-type anvil (included)

- 5.6" color touch LCD display
- Electronic closed-loop control of the applied test force, easy to use, stable display value
- Total of 21 measurement scales, including Brinell, Rockwell and Vickers test method
- Convertible to various hardness standards such as HB, HV, HRC, HK, etc.
- Two types of internal and external illumination are available, and different illumination is used according to the size of the indentation to make the indentation clearer
- Average, maximum and minimum value statistic are available
- Data storage and query function, can be printed out by the printer
- According to ISO 6506, ISO 6507, ISO 6508, ASTM E-10, ASTM E-18, ASTM E-92

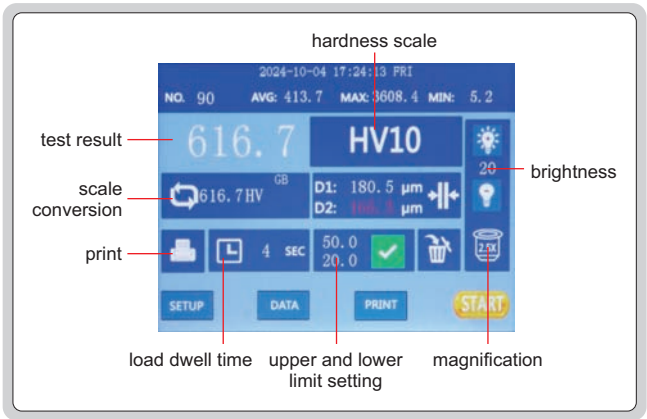
Brinell measurement interface



Rockwell measurement interface



Vickers measurement interface



To be continued

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SPECIFICATION

Type	Brinell	Rockwell	Vickers
Test force	306.5N (31.25kg), 612.9N (62.5kg), 1226N (125kg), 1839N (187.5kg), 980.8N (100kg), 2451.6N (250kg)	588N (60kg), 980N (100kg), 1471N (150kg)	49.03N (5kg), 98.07N (10kg), 196.1N (20kg), 294.2N (30kg), 490.3N (50kg), 980.7N (100kg)
Hardness scale	HBW2.5/31.25, HBW2.5/62.5, HBW2.5/187.5, HBW5/62.5, HBW5/125, HBW5/250, HBW10/100, HBW10/250	HRA, HRB, HRC, HRD, HRF, HRG	HV3, HV5, HV10, HV20, HV30, HV50, HV100
Conversion scale	HRA, HRB, HRC, HRD,HRF, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HB, HV, HK		
Range	5-650HBW	20-88HRA, 20-100HRB, 20-70HRC	10-2900HV
Stage lifting	manual		
Load control	automatic (load/dwell/unload)		
Eyepiece	10X		
Objective	2.5X (included, for Brinell), 5X (included, for Vickers), 10X (**optional**, for Vickers)		
Resolution	0.1HB	0.1HR	0.1HV
Load dwell time	0~99 seconds, can be set		
Max. testing width	160mm		
Max. workpiece height	165mm	180mm	165mm
Power supply	220V, 50/60Hz		
Dimension	550×235×720mm		
Weight	80kg		

STANDARD DELIVERY

Main unit	1 pc
Diamond Rockwell indenter	1 pc
Diamond Vickers indenter	1 pc
Ø2.5mm ball indenter	1 pc
Ø5mm ball indenter	1 pc
Ø1.5875 carbide ball indenter	1 pc
Ø150mm flat anvil	1 pc
Ø60mm flat anvil	1 pc
V-type anvil	1 pc
Skateboard stage	1 pc
Internal lighting bulb	1 pc
External lighting bulb	1 pc
Hardness test block HRC20~30	1 pc
Hardness test block HRC60~70	1 pc
Hardness test block HRB85~100	1 pc
Hardness test block HBW2.5/187.5	1 pc
Hardness test block HV30	1 pc
Anti-dust cover	1 pc

OPTIONAL ACCESSORY

10X objective	HDT-OB-10
Ø10mm ball indenter	HDT-BRV-INDENTER10
Hardness test block 20~30HRC	HDT-B-HRC1
Hardness test block 35~55HRC	HDT-B-HRC2
Hardness test block 60~70HRC	HDT-B-HRC3
Hardness test block 88~100HRB	HDT-B-HRB
Hardness test block 80~84HRA	HDT-B-HRA
Hardness test block 400~500HBW2.5/187.5	HDT-B-HB25A4
Hardness test block 400~500HV5	HDT-B-HV5D

AUTOMATIC MEASURMENT

INSPECTION CERTIFICATE

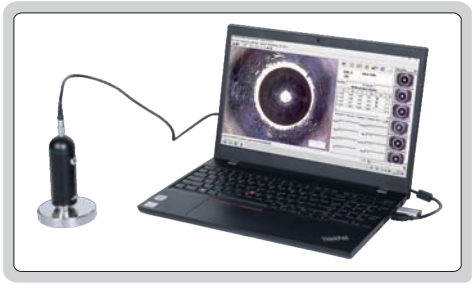
BRINELL INDENTATION AUTOMATIC MEASURING SYSTEMS

VIDEO

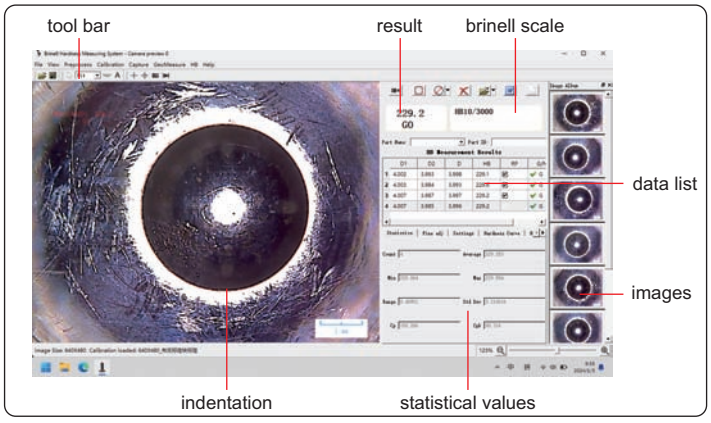
- Automatic or manual measurement of the indentation diameter and calculation of the corresponding Brinell hardness value
- Automatically calculates statistical values such as mean and variance of measured hardness
- Automatic labeling of abnormal values, automatic alarm when hardness exceeds the specified value
- Measurement data including indentation images can be stored on file
- The system can automatically generate reports in Word or Excel format

HDT-MB325

application



software (included)



SPECIFICATION

Code	HDT-MB325	HDT-MB326
Range of indentation diameter	Ø1~2mm, Ø2~4mm	Ø0.5~1.6mm, Ø3~6mm
Appliable Brinell indenter	Ø2.5mm, Ø5mm, Ø10mm	Ø1mm, Ø2.5mm, Ø5mm, Ø10mm
Diameter measuring accuracy	±0.5%	
Hardness range	15~650HBW	
Camera pixel	2M	
Dimension	44×40×120mm	
Weight	275g	

STANDARD DELIVERY

Main unit	1 pc
Software	1 pc

OPTIONAL ACCESSORY

OFFICE software	7313-OFFICE

BALANCING BRACKET
CODE ISH-BL01

application

- Suitable for hardness measurement of long strip specimens
- By adjusting the counterweight, to ensure that the indenter is perpendicular to the specimen

SPECIFICATION

Sample diameter	<50mm
Test bench type	V-type anvil
Dimension	600×100×100mm
Weight	5kg

JACK LIFTING BRACKET
CODE ISH-ST02

application

- No need to hold the sample, fixing the sample can reduce measurement error

SPECIFICATION

Sample diameter	<50mm
Test bench type	V-type anvil
Adjusting the height	200mm (customizable)
Dimension	250×250×400mm
Weight	11kg

ULTRASONIC HARDNESS TESTERS

ATTENTION: NEED TO CONFIRM IF THE WORKPIECES ARE SUITABLE BEFORE PURCHASE

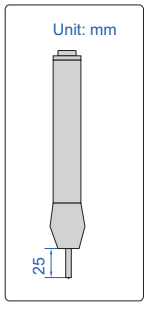
SMALL TEST INDENTATION

ATTENTION: HARDNESS BLOCKS FOR CALIBRATION ARE OPTIONAL

INSPECTION CERTIFICATE

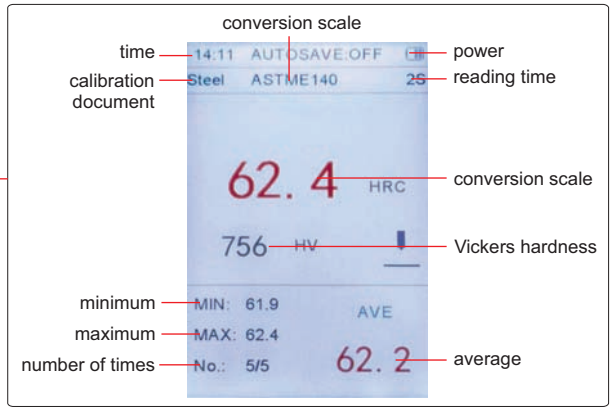
POPULAR MODEL

VIDEO



extended probe (**optional**)

9646-300



bluetooth printer (included in **9646-301**)

stand (**optional**), suitable for measuring small workpieces, fast and stable

- Small size, light weight, portable, convenient for on-line measurement and can be used to measure large workpieces
- Support 360°measurement, fast test speed, the fastest results in 1 second
- Standard Vickers indentation, small test indentation and low damage to the workpiece
- 100 measurement data sets and 10 calibration data sets can be stored
- Large display, directly shows the current measured value, maximum value, minimum value, average value and unit conversion value
- For unspecified conversion tables and unknown materials, multi-point calibration on any hardness scale you can choose to eliminate of systematic errors due to conversion tables
- According to DIN 50159, ASTM A1038 standards

Applications:
1. Hardness measurement of flange edges and gear root stampings, gears and gear grooves with surface hardening of lamina, taper sections
2. Hardness measurement of shafts and thin-walled pipes and container
3. Hardness measurement of thin plating, wheels, turbine rotors and welded parts
4. Measurement of the depth of a certain diameter deep holes, dents of the larger curvature and convex marks, irregular planes
5. Covering the majority of hardness measurement of industrial production of ferrous metals, non-ferrous metals and their alloys

To be continued

Continued from previous page

SPECIFICATION

Code	9646-300	9646-301
Data printout	without printer	with bluetooth printer
Main test parameter	HV	
Convertible parameters	HRA, HRB, HRC, HBW, HS, MPa	
Measurement range	50-1599HV, 20-68HRC, 85-650HB, 41-100HRB, 61-85.6HRA, 34.2-97.3HS, 255-2180MPa	
Resolution	1HV, 0.1HRA, 0.1HRB, 0.1HRC, 1HB, 0.1HS, 1MPa	
Accuracy	±4%HV, ±4%HB, ±1.5HR	
Calibration method	normal material: one-point calibration special material: multi-point calibration	
Operation temperature	-10°C~40°C	
Power supply	built-in rechargeable lithium battery (for 10 hours working)	
Dimension of main unit	190×82×30mm	
Dimension of probe	150×Ø22mm	
Weight	540g	

STANDARD DELIVERY

Code	9646-300	9646-301
Main unit	1 pc	1 pc
19.6N manual probe	1 pc	1 pc
Bluetooth printer	—	1 pc
Charger	1 pc	1 pc
USB cable	1 pc	1 pc
Hardness test block HRC60~70	1 pc	1 pc

OPTIONAL ACCESSORY

9.8N manual probe	9646-300-10
29.4N manual probe	9646-300-30
49N manual probe	9646-300-50
98N manual probe	9646-300-98
9.8N manual extended probe	9646-300-10L
19.6N manual extended probe	9646-300-20L
29.4N manual extended probe	9646-300-30L
49N manual extended probe	9646-300-50L
Hardness test block HRC20~30	HDT-B-HRCU1
Hardness test block HRC35~55	HDT-B-HRCU2
Hardness test block HRC60~70	HDT-B-HRCU3
Hardness test block 200~300HV2	HDT-B-HV2U8
Hardness test block 400~500HV2	HDT-B-HV2U9
Hardness test block 700~750HV2	HDT-B-HV2U10
Hardness test block 90~200HBW10/1000	HDT-B-HB10U1
Hardness test block 200~300HBW10/3000	HDT-B-HB10U2
Hardness test block 400~500HBW10/3000	HDT-B-HB10U3
Stand	9646-300-STAND

SPECIFICATION OF PROBE

Probe type	9.8N (**optional**)	19.6N (included)	29.4N (**optional**)	49N (**optional**)	98N (**optional**)**
Diameter	22mm	22mm	22mm	22mm	22mm
Length	150mm	150mm	150mm	150mm	150mm
Maximum roughness of measuring surface	Ra<3.2μm	Ra<5μm	Ra<5μm	Ra<10μm	Ra<15μm
Minimum workpiece weight	0.3kg*	0.3kg*	0.3kg*	0.3kg*	0.3kg*
Minimum thickness of workpiece	2mm	2mm	2mm	2mm	2mm
Application	mold shells, fixtures, thin-walled parts, bearings, tooth sides and pipe interiors			measurement of grooves, gear flanks and gear roots	workpieces with low roughness requirement

*If the weight or thickness of workpieces is less than required, the workpieces should be fixed or coupled on solid support

**For large test force, it is recommended to use the probe with a stand

PORTABLE LEEB HARDNESS TESTER
APPLICABLE MATERIAL AND HARDNESS RANGE OF IMPACT DEVICE D

Material	HLD	HV	HB	HRC	HRB	HS	Tensile strength (MPa)
Steel & cast steel	300-900	81-955	81-654	20-68	38-100	32-100	375-2639
Tool steel	300-840	80-898		20-67			
Stainless steel	300-800	85-802	85-655		46-101		
Cast iron	360-650		93-334				
Cast aluminum alloy	170-570		19-164		23-84		
Brass	200-550		40-173		13-95		
Bronze	300-700		60-290				
Copper	200-690		45-315				

BLUETOOTH DATA OUTPUT

INSPECTION CERTIFICATE

PORTABLE LEEB HARDNESS TESTERS

VIDEO

HDT-CB320
(wired probe is included)

HDT-WL320
(wireless probe is included)

- Can use wired probes or wireless probes
- Dual-coil probe for high accuracy
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (σb)
- Dual value display, shows both Leeb and converted hardness
- Large 2.4" LCD display with backlight
- With a magnet on the back, the main unit can be attached on steel surfaces
- According to ASTM A956 and DIN 50156

To be continued

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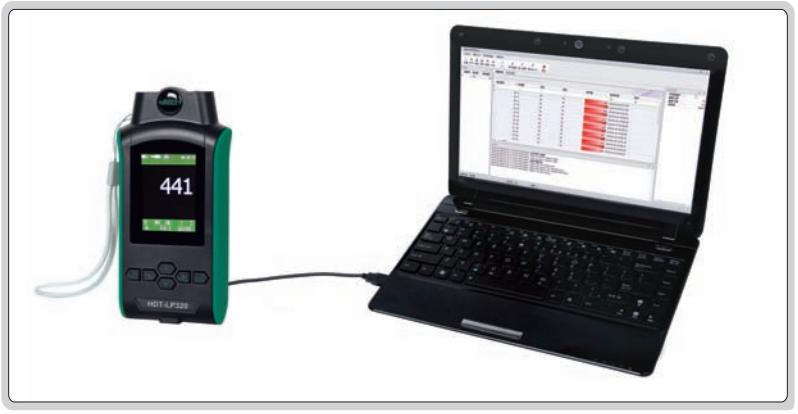
connect to PC, upload the data to PC, print and send to Excel (software is included)



connect to
bluetooth printer (**optional**)

SPECIFICATION

Code	HDT-CB320	HDT-WL320
Probe included	wired probe D	wireless probe D
Optional probes	wired (DC/C/D/D+15/DL/E/G), wireless (DC/C/D/DL/G)	
Resolution	1HLD/1HV/1HB/0.1HRC/0.1HRB/0.1HRA/0.1HS/1MPa	
Accuracy	±6HLD (when HLD=800)	
Output	USB	
Measuring range	HL 170-960/HRC 1.3-74.7/HRB 1.2-139.7/HB 28-1027/HV 45-1221 HS 4.0-112.1/HRA 1.3-88.5/MPa 118-3315N/mm²	
Applicable materials	1. steel/cast steel 2. alloy steel 3. stainless steel 4. gray pig iron 5. nodular cast iron 6. cast aluminum 7. brass 8. bronze 9. copper 10. forging steel 11. rolling steel	
Statistics	average/max./min./s.value	
Memory	999 data	
Working environment	-10°C~45°C	
Power supply	2×AA batteries	
Dimension	145×68×28mm	
Weight	158g	

hardness test
block D (included)

small support ring
(included)

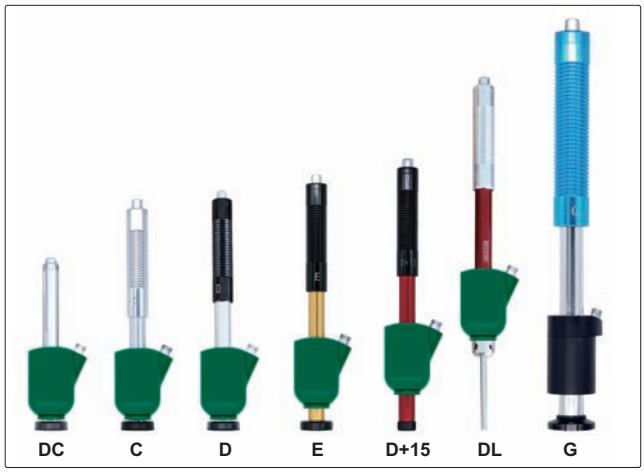
STANDARD DELIVERY

Code	HDT-CB320	HDT-WL320
Main unit	1 pc	1 pc
Wired probe D	1 pc	—
Wireless probe D	—	1 pc
Hardness test block D	1 pc	1 pc
Small support ring	1 pc	1 pc
Cleaning brush	1 pc	1 pc

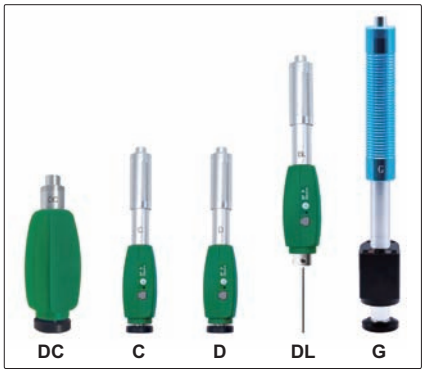
To be continued

Continued from previous page

wired probes (**optional**)



wireless probes (**optional**)



OPTIONAL ACCESSORY

Wired probe	**DC**	**HDT-CB320-DC**
	C	**HDT-CB320-C**
	D	**HDT-CB320-D**
	D+15	**HDT-CB320-D15**
	DL	**HDT-CB320-DL**
	E	**HDT-CB320-E**
	G	**HDT-CB320-G**
Wireless probe	**DC**	**HDT-WL320-DCW**
	C	**HDT-WL320-CW**
	D	**HDT-WL320-DW**
	DL	**HDT-WL320-DLW**
	G	**HDT-WL320-GW**
Hardness test block D **		**HDT-B-HLD3**
Hardness test block G *		**HDT-B-HLG2**
Printer		**ISH-LP200-PRINTER**
Support rings		page 47

* Hardness test block G (**HDT-B-HLG2**) is for probe G (**HDT-CB320-G** or **HDT-WL320-GW**)
** Hardness test block D (**HDT-B-HLD3**) is for all other probes

APPLICABLE WORKPIECE

Probes		**DC**	**C**	**D**	**D+15**	**DL**	**E**	**G**
Application		inner wall of small space	small or thin workpiece, coating layer	general use	deep groove	narrow slot or small hole	very hard material	casting or forging workpiece
Maximum roughness of workpiece (Ra)		2μm	0.4μm	2μm	2μm	2μm	2μm	7μm
Minimum weight of workpiece	**direct measurement**	5kg	1.5kg	5kg	5kg	5kg	5kg	15kg
	on solid support	2.5kg	0.5kg	2kg	2kg	2kg	2.5kg	5kg
	coupled on plate	0.05-2kg	0.02kg	0.05-2kg	0.1kg	0.1kg	0.1-2kg	0.5kg
Minimum thickness of workpiece		3mm	1mm	3mm	3mm	3mm	3mm	10mm

PORTABLE LEEB HARDNESS TESTER (BUILT-IN BLUETOOTH)
CODE ISH-PHB-B

BUILT-IN BLUETOOTH | DATA OUTPUT

VIDEO | INSPECTION CERTIFICATE

- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Memory of 99 measurement values for browsing
- Set measurement times (1~9) to have average value
- Connected with printer via wireless module
- Automatic power off
- According to ASTM A 956
- Wired data transmission (keyboard signal):
  USB cable connect to computer, press transmission button to send data
- Wireless data transmission (keyboard signal):
  built-in Bluetooth module connect to computer or mobile phone, press transmission button to send data

hardness test block D (included)

small support ring (included)

wireless printer (**optional**)

transmission button

SPECIFICATION

Min. reading	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa	
Accuracy	±6HLD (when HLD=800)	
Display	Leeb (HLD), converted hardness, material, impact direction, test times, average value, date	
Output	bluetooth, USB	
Applicable workpiece	minimum weight	5kg
		2kg (on solid support)
		0.1kg (coupled on plate)
	minimum thickness: 5mm	
	minimum radius of curved surface: 30mm	
	maximum roughness (Ra): 1.6μm	
Power supply	3×AAA batteries	
Dimension	150×84×28mm	
Weight	200g	

STANDARD DELIVERY

Main unit	1 pc
Impact device D	1 pc
Hardness test block D	1 pc
USB cable	1 pc
Small support ring	1 pc
Cleaning brush	1 pc

OPTIONAL ACCESSORY

Wireless printer	**ISH-DS-PRINTER**
Couplant	**ISH-COUPLANT**
Support rings	page 47
Hardness test block D	**HDT-B-HLD3**

connected to computer by USB cable, upload the data in real time

connected to computer by bluetooth module, upload the data in real time

INSPECTION CERTIFICATE

VIDEO

PORTABLE LEEB HARDNESS TESTER WITH WIRELESS PROBE
CODE HDT-WP201

- Bluetooth digital probe
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRB), Shore (HSD) and tensile strength (σb)
- Dual value display, shows both Leeb and converted hardness
- Large LCD display with backlight
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value
- Save 300 data
- Operation temperature: -10°C~45°C
- According to ASTM A956, DIN 50156 GB/T 17394

hardness test block D (included)

small support ring (included)

bluetooth printer (**optional**)

SPECIFICATION

Resolution	1HLD/1HV/1HB/0.1HRC/0.1HRB/ 0.1HSD/1σb
Accuracy	±6HLD (when HLD=800)
Measuring range	HL 170-960/HRC 17-69/HRB 13-101.7/ HB 20-655/HV 80-940/HSD 32-99.5/ σb (rm) 255-2180N/mm²
Power supply	2×AA batteries
Dimension	135×77×32mm
Weight	240g

large font display

statistics display

STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
Impact device D	1 pc

OPTIONAL ACCESSORY

Impact device DC	**HDT-WL320-DCW**
Impact device C	**HDT-WL320-CW**
Impact device DL	**HDT-WL320-DLW**
Impact device G	**HDT-WL320-GW**
Hardness test block D**	**HDT-B-HLD3**
Hardness test block G*	**HDT-B-HLG2**
Bluetooth printer	**ISH-LP200-PRINTER**
Support rings	page 47

* Hardness test block G (**HDT-B-HLG2**) is for probe G (**HDT-WL320-GW**)
** Hardness test block D (**HDT-B-HLD3**) is for all others probes

DC **(optional)** C **(optional)** D (included) DL **(optional)** G **(optional)**

APPLICABLE WORKPIECE

Impact device		**DC**	**C**	**D**	**DL**	**G**
Application		inner wall of small space	small or thin workpiece, coating layer	general use	narrow slot or small hole	casting or forging workpiece
Maximum roughness of workpiece (Ra)		2μm	0.4μm	2μm	2μm	7μm
Minimum weight of workpiece	**direct measurement**	5kg	1.5kg	5kg	5kg	15kg
	on solid support	2kg	0.5kg	2kg	2kg	5kg
	coupled on plate	0.05kg	0.02kg	0.05kg	0.05kg	0.5kg
Minimum thickness of workpiece		3mm	1mm	3mm	3mm	10mm

PORTABLE LEEB HARDNESS TESTERS (BASIC TYPE)

INSPECTION CERTIFICATE

VIDEO

POPULAR MODEL

- Can change probes
- Dual-coil probe for high accuracy
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRB), Shore (HSD) and tensile strength (σb)
- Dual value display, shows both Leeb and converted hardness
- Large LCD display with backlight
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value
- Save 300 data
- Upload the memory to PC software via USB cable and send to EXCEL
- Operation temperature: -10°C~45°C
- According to ASTM A956, GB/T 17394

HDT-LP200

hardness test block D (included)

small support ring (included)

bluetooth printer (included in **HDT-LP200B**)

SPECIFICATION

Code	HDT-LP200	HDT-LP200B
Printer	not included	included
Resolution	1HLD/1HV/1HB/0.1HRC/0.1HRB/ 0.1HSD/1σb	
Accuracy	±6HLD (when HLD=800)	
Measuring range	HL 170-960/HRC 17-70/HRB 13-109/ HB 20-655/HV 80-940/HSD 32-99.5/ σb(rm) 255-2639N/mm²	
Power supply	2×AA batteries	main unit: 2×AA batteries printer: rechargeable lithium battery
Dimension	135×77×32mm	
Weight	240g	

large font display

statistics display

STANDARD DELIVERY

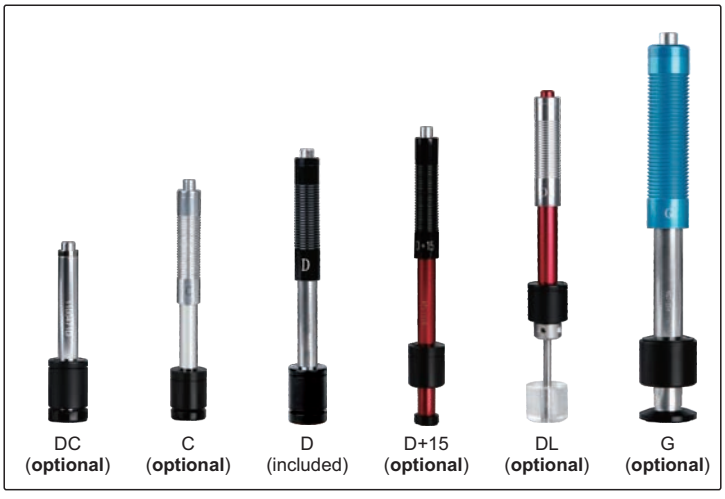
Main unit	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
Impact device D	1 pc
USB cable and software	1 pc
Bluetooth printer (included in HDT-LP200B)	1 pc

OPTIONAL ACCESSORY

Impact device DC	HDT-LP200-DC
Impact device C	HDT-LP200-C
Impact device D+15	HDT-LP200-D15
Impact device DL	HDT-LP200-DL
Impact device G	HDT-LP200-G
Hardness test block D**	HDT-B-HLD3
Hardness test block G*	HDT-B-HLG2
Support rings	page 47

* Hardness test block G (**HDT-B-HLG2**) is for impact device G (**HDT-LP200-G**)

** Hardness test block D (**HDT-B-HLD3**) is for all other impact devices



DC (**optional**) C (**optional**) D (included) D+15 (**optional**) DL (**optional**) G (**optional**)

APPLICABLE WORKPIECE

Impact device		DC	C	D	D+15	DL	G
Application		inner wall of small space	small or thin workpiece, coating layer	general use	deep groove	narrow slot or small hole	casting or forging workpiece
Maximum roughness of workpiece (Ra)		2μm	0.4μm	2μm	2μm	2μm	7μm
Minimum weight of workpiece	direct measurement	5kg	1.5kg	5kg	5kg	5kg	15kg
	on solid support	2kg	0.5kg	2kg	2kg	2kg	5kg
	coupled on plate	0.05kg	0.02kg	0.05kg	0.1kg	0.05kg	0.5kg
Minimum thickness of workpiece		3mm	1mm	3mm	3mm	3mm	10mm

DATA OUTPUT | HIGH ACCURACY | DL PROBE IS OPTIONAL

PEN-TYPE LEEB HARDNESS TESTER (ADVANCED TYPE) CODE HDT-L410

INSPECTION CERTIFICATE

VIDEO

software flash disk (included)

hardness test block D (included)

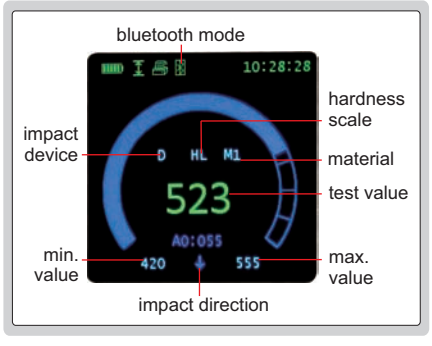
wireless printer (**optional**)

small support ring (included)

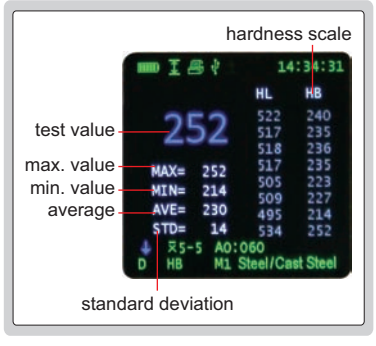
DL probe can be installed (**optional**)

- Metal housing
- HD TFT 320×320 display
- Impact device D
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Four display modes
- Automatic direction correction
- Tolerance testing
- Automatic power off, automatic calculation of statistics
- Dual value display, shows both Leeb and other conversion values
- 31 files can be saved, each containing 100 measurement data
- Connected to PC software via USB or Bluetooth 2.0
- Connected with printer via Bluetooth
- Operation temperature: -20°C~70°C
- According to ASTM A956, DIN 50156, GB/T 17394

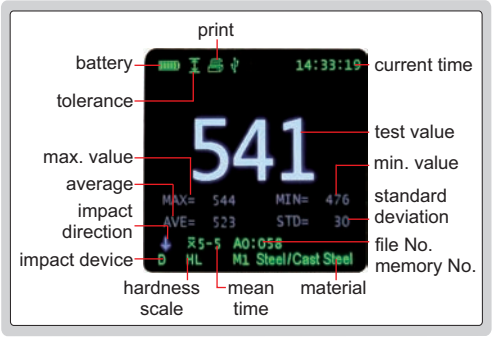
dynamic ring display



statistic display

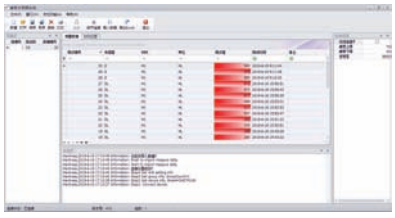


can choose large font display

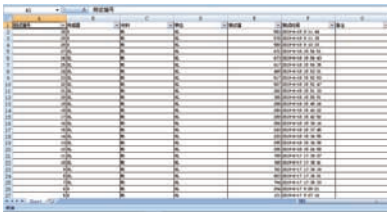


software (included), upload the memory to PC, print and send to EXCEL

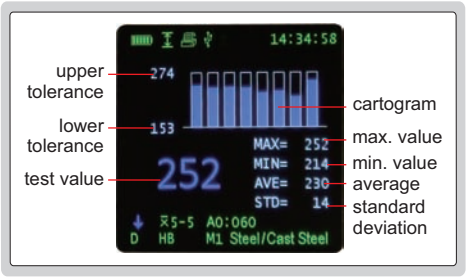
upload the memory to PC software via USB cable or Bluetooth



send the stored data to EXCEL



histogram display



SPECIFICATION

Resolution	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM	
Accuracy	±4HLD (when HLD=800)	
Output	USB and bluetooth	
Applicable workpiece	minimum weight	5kg (direct measurement)
		2kg (on solid support)
		0.05kg (coupled on plate)
	minimum thickness: 5mm	
	minimum radius of curved surface: 30mm	
	maximum roughness (Ra): 2μm	
Power supply	built-in 3.7V rechargeable battery	
Dimension	148×44×22mm	
Weight	115g	

STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
AC/DC adapter	1 pc
Software flash disk and USB cable	1 pc

OPTIONAL ACCESSORY

Printer	**HDT-L410-PRINTER**
Support rings	page 47
Hardness test block D	**HDT-B-HLD3**
DL probe	**HDT-L410-DL**

PEN-TYPE LEEB HARDNESS TESTER (STANDARD TYPE)
CODE HDT-B430

DATA OUTPUT | DL PROBE IS OPTIONAL | INSPECTION CERTIFICATE

software flash disk (included)

hardness test block D (included)

small support ring (included)

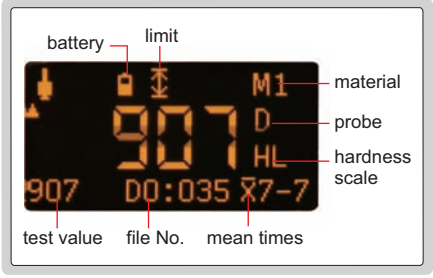
wireless printer (**optional**)

VIDEO

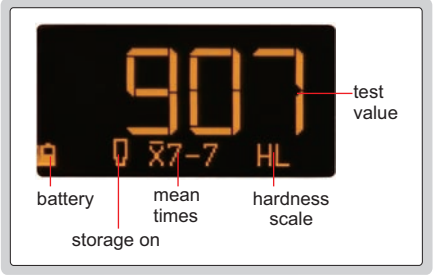
DL probe can be installed (**optional**)

- Impact device D is included
- High contrast OLED display
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (σb)
- Dual value display, shows both Leeb and other conversion values
- No need to set the testing direction
- 31 files can be saved, each containing 100 measurement data
- Automatically calculate maximum, minimum, average value
- Connected to PC software via USB or Bluetooth
- Connected with printer via Bluetooth
- Operation temperature: -20°C~45°C
- According to ASTM A956, DIN 50156 GB/T, 17394

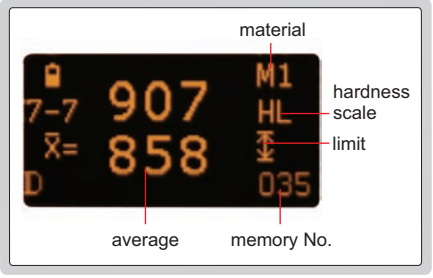
standard display



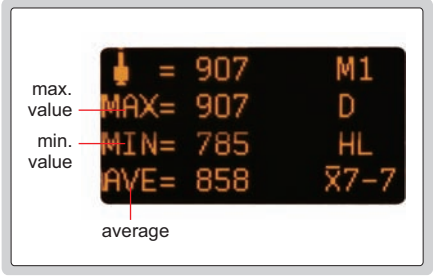
big character display



average display

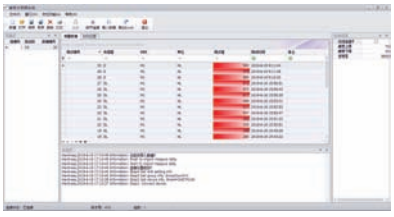


statistical parameter display

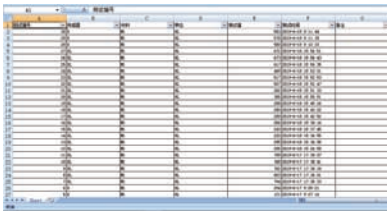


software (included), upload the memory to PC, print and send to EXCEL

upload the memory to PC software via USB cable or Bluetooth



send the stored data to EXCEL



SPECIFICATION

Resolution	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HSD, 16b	
Accuracy	±6HLD (when HLD=800)	
Measuring range	HLD170-960, HRC17-70, HRB13-109, HB20-655, HV80-940 HSD32-99.5, HRA30-88, σb (rm) 255-2180N/mm²	
Applicable workpiece	minimum weight	5kg (direct measurement)
		2kg (on solid support)
		0.05kg (coupled on plate)
	minimum thickness: 5mm	
	minimum radius of curved surface: 30mm	
	maximum roughness (Ra): 2μm	
Output	USB and bluetooth	
Power supply	built-in 3.7V rechargeable battery	
Dimension	148×44×28mm	
Weight	110g	

STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
AC/DC adapter	1 pc
Software flash disk and USB cable	1 pc

OPTIONAL ACCESSORY

Printer	**ISH-LP200-PRINTER**
Support rings	page 47
Hardness test block D	**HDT-B-HLD3**
DL probe	**HDT-L410-DL**

DATA OUTPUT

INSPECTION CERTIFICATE

VIDEO

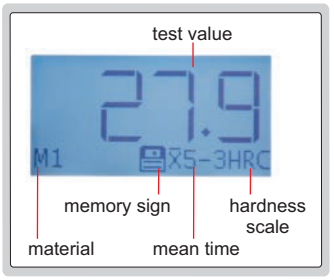
PEN-TYPE LEEB HARDNESS TESTER (BASIC TYPE)
CODE HDT-L411

software flash disk (included)

hardness test block D (included)

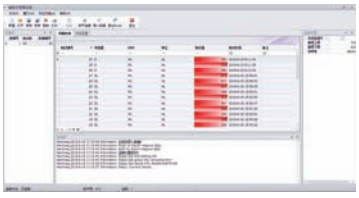
small support ring (included)

can choose large font display

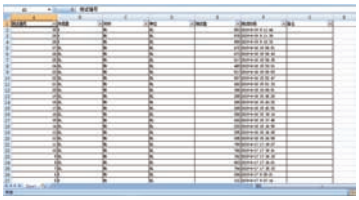


software (included), upload the memory to PC, print and send to EXCEL

upload the memory to PC software via USB cable



send the stored data to EXCEL



- Impact device D
- Universal testing angle, no need to set impact direction
- Dual-coil probe, high accuracy
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Dual value display, shows both Leeb and converted hardness
- High contrast digital LCD display
- Can choose large font display
- Automatically calculate maximum, minimum, average value
- Connected to PC via USB
- Save 999 data
- Operation temperature: -20°C~45°C
- According to ASTM A956, DIN 50156, GB/T 17394

SPECIFICATION

Resolution	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM	
Accuracy	±6HLD (when HLD=800)	
Output	USB	
Measuring range	HL100-960, HRC1-74.7, HRB1.2-140, HB28-1027, HV45-1230, HS4-112, HRA7-88.5, SGM (rm) 118-3315N/mm²	
Applicable workpiece	minimum weight	5kg (direct measurement)
		2kg (on solid support)
		0.05kg (coupled on plate)
	minimum thickness: 5mm	
	minimum radius of curved surface: 30mm	
	maximum roughness (Ra): 2μm	
Power supply	1×AAA battery	
Dimension	148×45×21mm	
Weight	105g	

STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Cleaning brush	1 pc
AAA battery	1 pc
Small support ring	1 pc
Software flash disk and USB cable	1 pc

OPTIONAL ACCESSORY

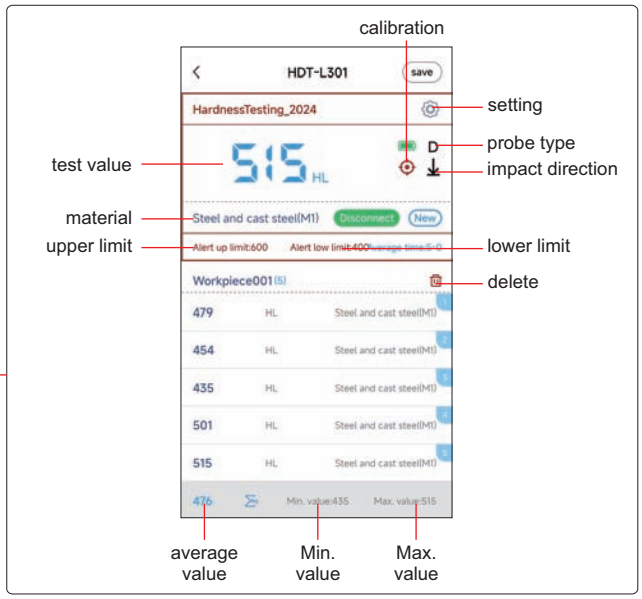
Support rings	page 47
Hardness test block D	**HDT-B-HLD3**

MINI LEEB HARDNESS TESTER
CODE HDT-L301

BUILT-IN BLUETOOTH | DATA OUTPUT | INSPECTION CERTIFICATE

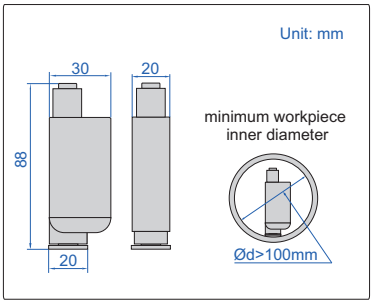
VIDEO

Mobile App (included)



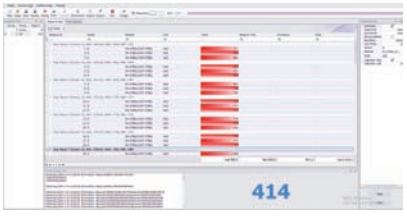
- One-handed operation is possible, making test easier and faster
- Suitable for testing hardness in small space
- All directions test, do not need to set impact direction
- The hardness value can be displayed on hardness tester and the cell phone App at the same time. It can also be connected by computer
- Automatic shutdown
- Support unlimited storage and sharing of test reports
- According to DIN 50156, EN ISO 16859, ASTM A956 standards

dimension of main unit

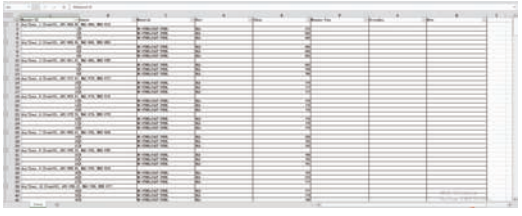


computer software (included)

upload the memory to PC software
via USB cable or bluetooth



send the stored data to EXCEL



SPECIFICATION

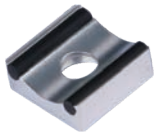
Accuracy	±6HLD (when HLD=800)
Impact device	D
Hardness scale	HLD, HRA, HRB, HRC, HB, HS, HV, MPa
Measurement range	170-960HLD, 7-88.5HRA, 1.2-140HRB, 1-74HRC, 18-1027HB, 3.9-112HS, 42-1220HV, 89-3300MPa
Resolution	1HV, 0.1HRA, 0.1HRB, 0.1HRC, 1HB, 0.1HS, 1MPa
Applicable material	1. steel/cast steel 2. alloy tool steel 3. stainless steel 4. grey cast iron 5. nodular cast iron 6. cast aluminium 7. brass 8. bronze 9. copper 10. forged steel
Output	USB and bluetooth
Operation temperature	-20°C~45°C
Power supply	3.7V Li-ion rechargeable battery
Dimension	88×30×20mm
Weight	45g

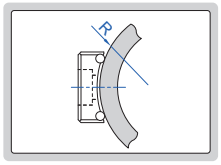
STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Support ring	1 pc
Cleaning brush	1 pc
Loading rod	1 pc
Software and USB cable	1 pc

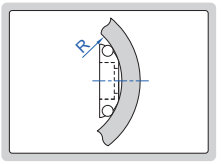
SUPPORT RING SET FOR PORTABLE LEEB HARDNESS TESTER
CODE ISH-PH-SP9

type A

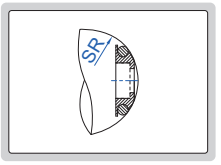




type B



type C

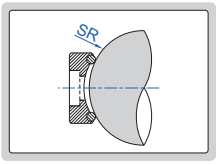


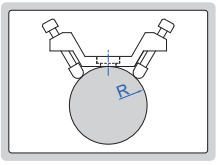
SPECIFICATION

Type	Applicable workpieces	Range (mm)	Quantity
A	cylindrical outside surface	R10-15	3 pcs
		R14.5-30	
		R25-50	
B	cylindrical inside surface	R11-13	3 pcs
		R12.5-17	
		R16.5-30	
C	spherical inside surface	SR11-13	3 pcs
		SR12.5-17	
		SR16.5-30	
D	spherical outside surface	SR10-15	2 pcs
		SR14.5-30	
E	cylindrical outside surface	R>10	1 pc

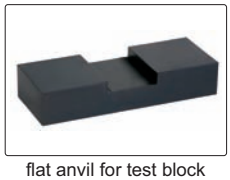
type D

type E





DIGITAL MAGNETIC ROCKWELL HARDNESS TESTER
CODE ISHR-D121



flat anvil for test block
(included)

- Apply to large and heavy steel or iron workpieces
- With statistic function, display average, maximum and minimum values
- Convert to HV, HB and tensile strength
- According to ISO 6508, ASTM E18

SPECIFICATION

Hardness scale	HRA, HRB, HRC
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	0.1HR
Flat workpiece requirement	length>190mm, width>60mm, thickness>5mm
Cylinder or tube workpiece requirement	length>200mm, diameter>Ø50mm, wall thickness>8mm
Power supply	3×AA batteries
Dimension	245×105×230mm
Weight	5.3kg

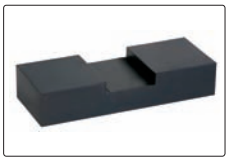
STANDARD DELIVERY

Main unit	1 pc
Flat anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	1 pc
Hardness test block HRB85~95	1 pc
Hardness test block HRC60~70	1 pc
Hardness test block HRC20~30	1 pc

MAGNETIC ROCKWELL HARDNESS TESTER
CODE ISHR-M111

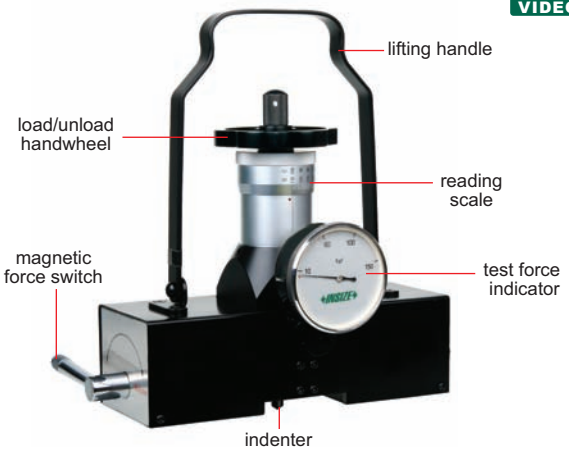
VIDEO

- Apply to large and heavy steel or iron workpieces
- According to ISO 6508, ASTM E18


flat anvil for test block (included)

supports for cylinder or tube workpieces (included)

magnifier with LED (included)



SPECIFICATION

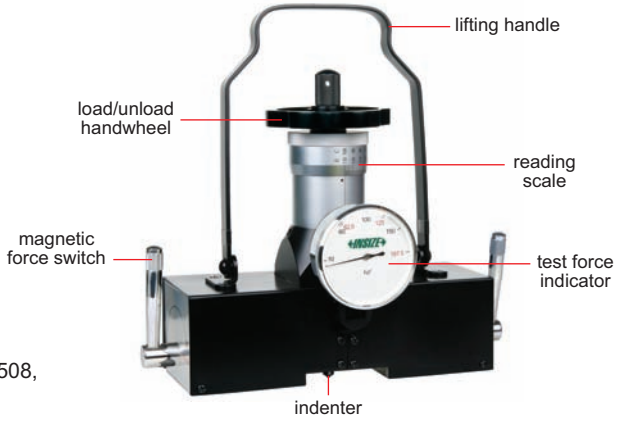
Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	1HR
Flat workpiece requirement	length>180mm, width>60mm, thickness>5mm
Cylinder or tube workpiece requirement	length>180mm, diameter>Ø50mm, wall thickness>8mm
Dimension	220×70×220mm
Weight	4.7kg

STANDARD DELIVERY

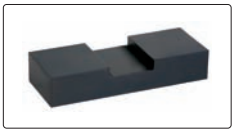
Main unit	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	2 pcs
Hardness test block HRB85~95	1 pc
Hardness test block HRC60~70	1 pc
Hardness test block HRC20~30	1 pc
Flat anvil	1 pc
Support	4 pcs
Magnifier with LED	1 pc

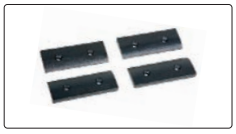
MAGNETIC BRINELL/ROCKWELL HARDNESS TESTER
CODE ISHR-B141

VIDEO



- Apply to large steel or iron workpieces
- According to ISO 6508, ASTM E18


flat anvil for test block (included)


supports for cylinder or tube workpieces (included)

magnifier with LED (included)

measuring microscope (included)

SPECIFICATION

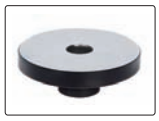
Rockwell scale	HRA, HRB, HRC, HRD, HRF, HRG
Brinell measuring range	20~650HBW
Rockwell test force	10kg preload, 60kg, 100kg, 150kg total load
Brinell test force	62.5kg, 125kg, 187.5kg
Load control	manual
Min. Rockwell reading	1HR
Measuring microscope	40X, graduation 0.01mm
Flat workpiece requirement	length>180mm, width>60mm, thickness>5mm
Cylinder and tube workpiece requirement	length>180mm, diameter>Ø50mm, thickness>8mm
Dimension	220×70×220mm
Weight	4.7kg

STANDARD DELIVERY

Main unit	1 pc
Flat anvil	1 pc
Support	4 pcs
Diamond Rockwell indenter	1 pc
Ø1.5875mm carbide ball indenter	1 pc
Ø2.5mm Brinell indenter	1 pc
Hardness test block HRB85~95	1 pc
Hardness test block HRC60~70	1 pc
Hardness test block HRC20~30	1 pc
Brinell test block	1 pc
Measuring microscope	1 pc
Magnifier with LED	1 pc

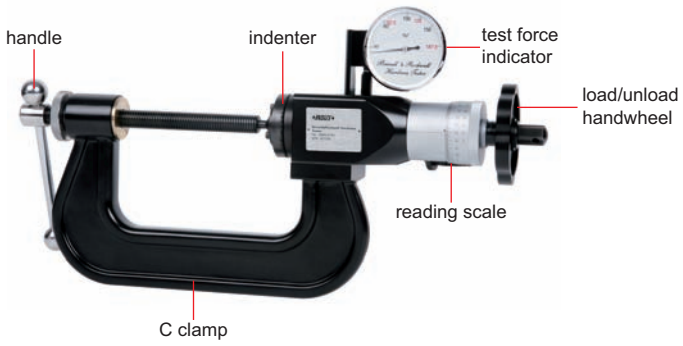
PORTABLE BRINELL AND ROCKWELL HARDNESS TESTER CODE ISBR-H181

- Apply to huge or medium-size workpieces
- According to ISO 6506, ISO 6508, ASTM E10, ASTM E18


flat anvil (included)

V-type anvil (included)

measuring microscope (included)



SPECIFICATION

Rockwell hardness scale	HRA, HRB, HRC
Brinell test range	16~650HBW
Rockwell preliminary test force	10kgf
Rockwell total test force	60kgf, 100kgf, 150kgf
Brinell test force	62.5kgf, 125kgf, 187.5kgf
Load control	manual
Min. reading	rockwell 0.5HR brinell 0.005mm (indentation diameter)
Max. workpiece thickness	75mm
Max. testing width	100mm (from the center of indenter to the main body)
Dimension	510×380×180mm
Weight	2.3kg

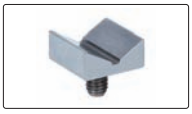
STANDARD DELIVERY

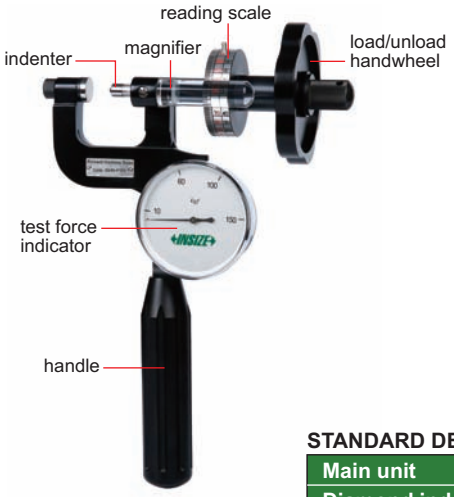
Main unit	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	1 pc
Ø2.5mm carbide ball indenter	1 pc
Ø5mm carbide ball indenter	1 pc
Hardness test block HRBW88~95	1 pc
Hardness test block HRC20~30	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block 200~300HBW2.5/187.5	1 pc
Flat anvil	1 pc
V-type anvil	1 pc
Measuring microscope	1 pc

PORTABLE ROCKWELL HARDNESS TESTER CODE ISHR-P151

anvil extension for thin workpieces (included)

flat anvil (included)


V-type anvil (included)



- According to ISO 6508, ASTM E18

SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	1HR
Max. workpiece thickness	25mm
Max. testing width	25mm (from the center of indenter to the main body)
Dimension	240×70×160mm
Weight (with base)	2.5kg

STANDARD DELIVERY

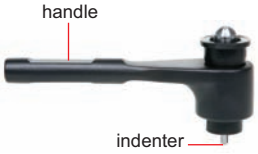
Main unit	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	2 pcs
Hardness test block HRB88~95	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block HRC20~30	1 pc
Flat anvil	1 pc
V-type anvil	1 pc
Base	1 pc
Anvil extension	1 pc
Magnifier	2 pcs

PIN BRINELL HARDNESS TESTER
CODE ISHB-P101

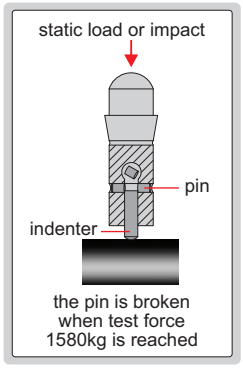
VIDEO

- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and Ø7.26mm ball indenter, equal to 3000kg test force and Ø10mm ball indenter
- Static and impact test modes
- According to ISO and ASTM standard

static test clamp



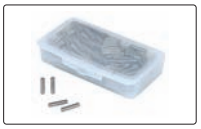
impact test handle



static test

impact test

measuring microscope (included)



pins (included)

V-type anvil (included)

SPECIFICATION

Measuring range	100~350HBW (with Ø7.26mm indenter, included) 350~650HBW (with Ø4mm indenter, **optional**)
Test force	1580kg
Accuracy	static test: ±3% impact test: ±5%
Measuring microscope	20X, graduation 0.01mm
Max. workpiece height of static test	150mm
Max. testing width of static test	80mm (from the center of indenter to the clamp)
Dimension	195×60×350mm
Weight	4.2kg

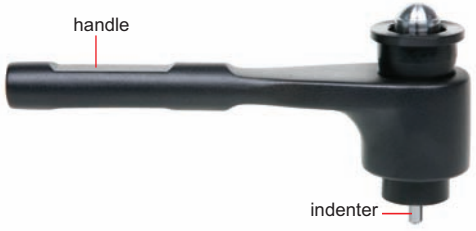
STANDARD DELIVERY

Static test clamp	1 pc
Impact test handle	1 pc
Flat anvil	1 pc
V-type anvil	1 pc
Ø7.26mm indenter	1 pc
Hardness test block	1 pc
Pin	250 pcs
Measuring microscope	1 pc

OPTIONAL ACCESSORY

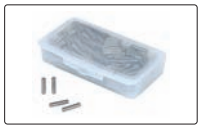
Ø4mm indenter	**ISHB-P101-INDENTER**
Pin (250 pcs)	**ISHB-P101-PIN**

HAMMER IMPACT BRINELL HARDNESS TESTER
CODE HDT-PB350



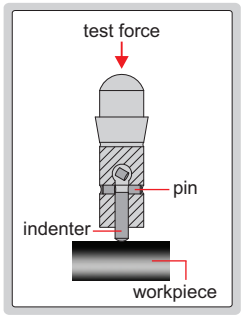
VIDEO

hammer impact to apply test force



pins (included)

measuring microscope (included)



the pin is broken when test force 1580kg is reached

- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and Ø7.26mm ball indenter, equal to 3000kg test force and Ø10mm ball indenter

SPECIFICATION

Measuring range	100~350HBW (with Ø7.26mm indenter, included) 350~650HBW (with Ø4mm indenter, **optional**)
Test force	1580kg
Accuracy	±5%HBW
Repeatability	±5%HBW
Measuring microscope	20X, graduation 0.01mm
Dimension	200×50×100mm
Weight	0.8kg

STANDARD DELIVERY

Main unit	1 pc
Ø7.26mm indenter	1 pc
Hardness test block	1 pc
Pin	250 pcs
Pin removal tool	1 pc
Measuring microscope	1 pc

OPTIONAL ACCESSORY

Ø4mm indenter	**ISHB-P101-INDENTER**
Pin (250 pcs)	**ISHB-P101-PIN**

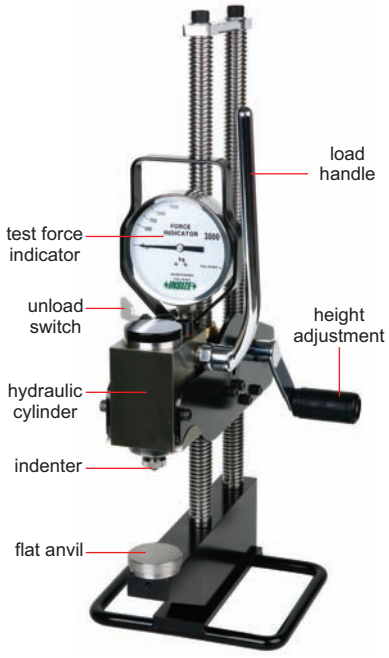
HYDRAULIC BRINELL HARDNESS TESTER
CODE ISHB-H131

V-type anvil (included)

spherical anvil (included)

measuring microscope (included)

- According to ISO 6506, ASTM E10



SPECIFICATION

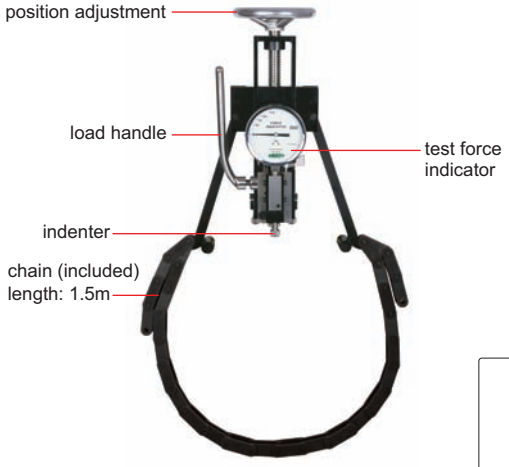
Measuring range	16~650HBW
Test force	3000kg
Indenter	Ø10mm carbide ball
Measuring microscope	20X, graduation 0.01mm
Max. workpiece height	350mm
Max. testing width	90mm (from the center of indenter to the column)
Dimension	270×225×570mm
Weight	13.8kg

STANDARD DELIVERY

Main unit	1 pc
Flat anvil	1 pc
V-type anvil	1 pc
Spherical anvil	1 pc
Ø10mm carbide ball	2 pcs
Brinell test block	2 pcs
Measuring microscope	1 pc

CHAIN TYPE HYDRAULIC BRINELL HARDNESS TESTER
CODE ISHB-C161

- To measure the hardness of cylinders or tubes
- According to ISO 6506, ASTM E10



measuring microscope (included)

SPECIFICATION

Measuring range	32~650HBW
Workpiece diameter range	Ø150~Ø500mm
Test force	3000kg
Indenter	Ø10mm carbide ball
Measuring microscope	20X, graduation 0.01mm
Dimension	270×225×570mm
Weight	14.5kg

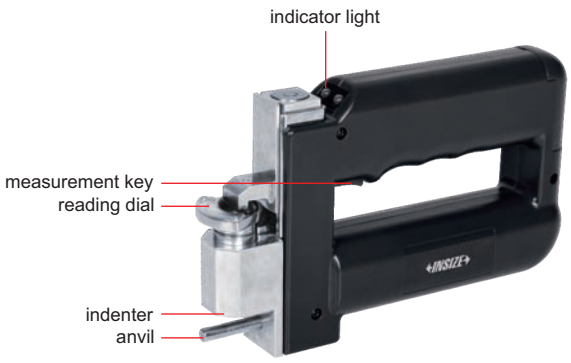
STANDARD DELIVERY

Main unit	1 pc
1.5m chain	1 pc
Ø10mm carbide ball	2 pcs
Brinell test block	2 pcs
Measuring microscope	1 pc

ELECTRIC ALUMINUM HARDNESS TESTERS

ONE-BUTTON MEASUREMENT

VIDEO



ISHW-EH30

ISHW-ED31

- According to ASTM B647
- To measure the hardness of soft metal such as aluminum profiles, tubes, plates, aluminum parts, copper alloy and other soft metals
- Easy to carry and read
- Using one-button measurement, micro servo motor as the power, accurate control of the applied force, improve the stability of the measurement
- The needle is made of special material for long life

SPECIFICATION

Code	ISHW-EH20	ISHW-EH30	ISHW-ED21	ISHW-ED31
Display mode	pointer		digital	
Conversion scale	/		934-1 (Barcol), HRE, HRF, HV, HBS*	
Thickness requirement of flat workpieces	1~5mm	1~5mm	1~5mm	1~5mm
Pipe workpiece inner diameter requirement	>Ø10mm	>Ø6.5mm	>Ø10mm	>Ø6.5mm
Pipe workpiece wall thickness requirement	1~5mm	1~5mm	1~5mm	1~5mm
Hardness range	0~20HW			
Resolution	1HW		0.1HW	
Accuracy	±0.5HW (at 5~18HW)			
Power supply	rechargeable lithium battery			
Dimension (L×W×H)	187×38×118mm		187×38×131mm	
Weight	906g		934g	

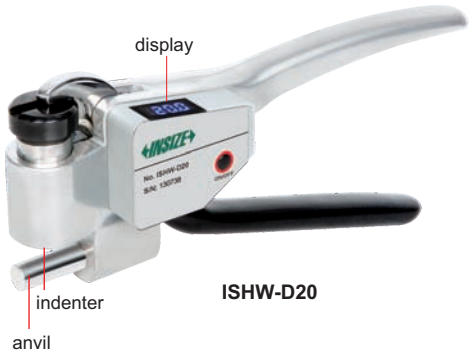
*Conversion scale values are only for reference, there is no direct conversion standard

STANDARD DELIVERY

Code	ISHW-EH20	ISHW-EH30	ISHW-ED21	ISHW-ED31
Main unit	1 pc	1 pc	1 pc	1 pc
Hardness test block	1 pc	1 pc	1 pc	1 pc
Spare indenter	1 pc	1 pc	1 pc	1 pc
Hex wrench	1 pc	1 pc	–	–
Calibration wrench	1 pc	1 pc	1 pc	1 pc
Lithium battery	1 pc	1 pc	1 pc	1 pc
Lithium battery charger	1 pc	1 pc	1 pc	1 pc

DIGITAL ALUMINUM HARDNESS TESTERS

- To measure the hardness of soft metals such as aluminum profiles, tubes, plates, aluminum parts and other soft metals
- Easy to read, with peak hold function
- According to ASTM B647-2023



ISHW-D20

SPECIFICATION

Code	ISHW-D20	ISHW-D21	ISHW-D22
Application	for aluminum alloy general use	for aluminum alloy thick workpieces	for aluminum alloy small tubes
Thickness requirement of flat workpieces	1~6mm	1~13mm	1~6mm
Internal diameter requirement of tube workpieces	>Ø10mm	>Ø10mm	>Ø6mm
Wall thickness requirement of tube workpieces	1~6mm	6~13mm (internal diameter Ø10mm~24mm) 1~6mm (internal diameter >Ø24mm)	1~6mm
Hardness range	0~20HW		
Min. reading	0.1HW		
Accuracy	±0.5HW (at 5~18HW)		
Dimension	203×44×105mm		
Weight	500g		

STANDARD DELIVERY

Main unit	1 pc
Spare indenter	1 pc
Hardness test block	1 pc
Wrench	1 pc
Lithium battery	2 pcs
Lithium battery charger	1 pc

ALUMINUM HARDNESS TESTERS (BASIC TYPE)

- To measure the hardness of soft metals such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-10 (2016)

ISHW-H10

STANDARD DELIVERY

Main unit	1 pc
Spare indenter	1 pc
Hardness test block	1 pc
Wrench	1 pc

SPECIFICATION

Code	ISHW-H10	ISHW-H11	ISHW-H12	ISHW-H13	ISHW-H14	ISHW-H15
Application	for aluminum alloy general use	for aluminum alloy thick workpiece	for aluminum alloy small tube	for hard aluminum alloy and hard brass	for soft brass and copper	for soft steel and cold-rolled steel
Thickness requirement of flat workpiece	0.6~6mm	0.6~13mm	0.6~8mm	0.6~6mm	0.6~6mm	0.6~6mm
Internal diameter requirement of tube workpiece	>Ø10mm	>Ø10mm	>Ø6mm	>Ø10mm	>Ø10mm	>Ø10mm
Wall thickness requirement of tube workpiece	0.6~6mm	6~13mm (internal diameter Ø10~23.3mm) 0.6~6mm (internal diameter>Ø23.3mm)	0.6~8mm	0.6~6mm	0.6~6mm	0.6~6mm
Hardness range	0~20HW					
Min. reading	1HW					
Accuracy	±0.5HW (at 5~17HW)					
Dimension	205×30×95mm					
Weight	500g					

ALUMINUM HARDNESS TESTERS

VIDEO

ISHW-L20B

- To measure the hardness of soft metals such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-84 (2000)

SPECIFICATION

Code	ISHW-L20	ISHW-L20A	ISHW-L20B	ISHW-B70	ISHW-B75	ISHW-B92
Application	for aluminum alloy general use	for aluminum alloy thick workpiece	for aluminum alloy small tube	for hard aluminum alloy and hard brass	for soft brass and copper	for soft steel and cold-rolled steel
Thickness requirement of flat workpiece	0.6~6mm	0.6~13mm	0.6~8mm	0.6~6mm	0.6~6mm	0.6~6mm
Internal diameter requirement of tube workpiece	>Ø10mm	>Ø10mm	>Ø6mm	>Ø10mm	>Ø10mm	>Ø10mm
Wall thickness requirement of tube workpiece	0.6~6mm	6~13mm (internal diameter Ø10~23.3mm) 0.6~6mm (internal diameter >Ø23.3mm)	0.6~8mm	0.6~6mm	0.6~6mm	0.6~6mm
Hardness range	0~20HW					
Min. reading	1HW					
Accuracy	±0.5HW (at 5~17HW)					
Dimension	205×30×85mm					
Weight	500g					

STANDARD DELIVERY

Main unit	1 pc
Spare indenter	1 pc
Hardness test block	1 pc
Wrench	1 pc

ALUMINUM HARDNESS TESTER
CODE ISHB-B300

- To measure the hardness of workpieces made of pure aluminum, aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- According to ASTM B648-00, ASTM D2853-07

SPECIFICATION

Hardness range	0~100HBa
Effective range	35~90HBa (equal to 25~150HBW)
Min. reading	1HBa
Accuracy	±2HBa (at 42~52HBa) ±1HBa (at 84~88HBa)
Min. workpiece thickness	0.8mm
Dimension	142×65×90mm
Weight	500g

STANDARD DELIVERY

Main unit	1 pc
Spare indenter	2 pcs
Hardness test block	2 pcs
Wrench	1 pc

INSPECTION CERTIFICATE

DIGITAL ALUMINUM HARDNESS TESTER
CODE HDT-DB337

- To measure the hardness of workpieces made of pure aluminum, aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- The support can be rotated, no need to disassemble
- Can be converted to HW, HRE, HRF, HV, HB values
- Full scale one key reset, no need to disassemble for external calibration
- According to ASTM B648, ASTM HD2583-2007

SPECIFICATION

Hardness range	0~100HBa
Effective range	40~90HBa (equal to 25~135HBW)
Min. reading	0.1HBa
Accuracy	±2HBa (at 42~52HBa) ±1HBa (at 84~88HBa)
Repeatability	±2.5HBa (at 42~52HBa) ±1.5HBa (at 84~88HBa)
Min. workpiece thickness	1.5mm
Dimension	143×40×87mm
Weight	260g

STANDARD DELIVERY

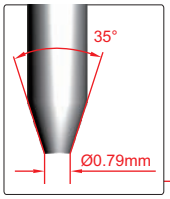
Main unit	1 pc
Full scale calibration block	1 pc
Hardness test block	2 pcs
Spare pin	1 pc
Wrench	1 pc
Power adapter	1 pc

DIGITAL SHORE DUROMETERS

INSPECTION CERTIFICATE

VIDEO

- With time hold function, the time can be set from 0 to 30 seconds
- 1.5 inch OLED display
- Meet the requirements of force measurement forward and reverse in the verification regulations
- Digital displacement sensor, high test accuracy
- Zero point calibration function, calibration block is not required
- With average function, to have average values from 0 to 9 times
- Can be used with test stand (**optional**) for high accuracy and stable measurement
- According to ISO 48, ISO 7619, ISO 21509



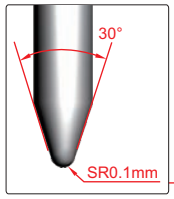
blunt taper indenter

HDT-ESA

SPECIFICATION

Code	HDT-ESA	HDT-ESD
Unit	shore A	shore D
Test material	medium hardness vulcanized rubber and thermoplastic rubber, etc.	high hardness vulcanized rubber and thermoplastic rubber, etc.
Measuring range	0~100HA *	0~100HD *
Resolution	0.2HA	0.2HD
Accuracy	±1HA	±1HD
Indenter protrusion	2.5mm	
Output	USB	
Power supply	built-in rechargeable battery	
Dimension	150×60×50mm	
Weight	300g	

* Use **HDT-ESD** when measuring result is higher than 90HA
Use **HDT-ESA** when measuring result is lower than 20HD



sharp point indenter

HDT-ESD

STANDARD DELIVERY

Main unit	1 pc
Software and USB cable	1 pc
Power adapter	1 pc

OPTIONAL ACCESSORY

Test stand for digital shore durometers	HDT-ES-STD

TEST STAND FOR DIGITAL SHORE DUROMETERS CODE HDT-ES-STD

INSPECTION CERTIFICATE

VIDEO

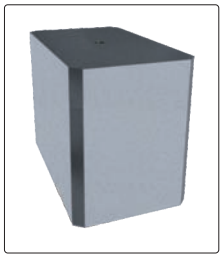
- For digital shore durometers **HDT-ESA** and **HDT-ESD**
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- Weight block A (included) is for **HDT-ESA** weight block D (**optional**) is for **HDT-ESD**

SPECIFICATION

Stage diameter	Ø95mm
Max. workpiece height	90mm
Max. testing width	55mm (from test point to the column)
Dimension	200×160×440mm
Weight	13kg

STANDARD DELIVERY

Test stand	1 pc
Weight block A (for HDT-ESA)	1 pc



weight block D (**optional**) for **HDT-ESD**

OPTIONAL ACCESSORY

Weight block D (for HDT-ESD)	HDT-ES-W5

VIDEO

blunt taper indenter

ISH-DSA

sharp point indenter

ISH-DSD

ball indenter

ISH-DSOO

- According to ISO868, ISO7619, ASTM D 2240
- Average and peak (max.) mode
- Dwell time is adjustable
- Tolerance testing
- 500 memories
- Wireless connection to printer
- Handhold use or work with test stand (code **ISH-DS-STANDA**)
- Automatic power off

software flash disk (included)

calibration block (included)

printer (**optional**)

SPECIFICATION

Code	ISH-DSA	ISH-DSD	ISH-DSOO
Unit	Shore A	Shore D	Shore OO
Test material	soft plastic, soft rubber, etc.	hard plastic, hard rubber, etc.	very soft plastic, rubber, sponge, textile, etc.
Measuring range	0~100HA*	0~100HD*	0~100HOO
Resolution	0.1HA	0.1HD	0.1HOO
Accuracy	±1HA	±1HD	±1HOO
Indenter protrusion	2.5mm		
Output	wireless and USB		
Power supply	built-in rechargeable battery		
Dimension	153×50×29mm		
Weight	170g		

* Use **ISH-DSD** when measuring result is higher than 90HA
Use **ISH-DSA** when measuring result is lower than 20HD

STANDARD DELIVERY

Main unit	1 pc
Calibration block	1 pc
Software and USB cable	1 pc
AC/DC adapter	1 pc

OPTIONAL ACCESSORY

Printer	ISH-DS-PRINTER
Test stand	ISH-DS-STANDA

TEST STAND FOR DIGITAL SHORE DUROMETERS
CODE ISH-DS-STANDA

VIDEO

- For digital shore durometers (code **ISH-DSA**, **ISH-DSD** and **ISH-DSOO**)
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- Weight block A (included) is for **ISH-DSA**, weight block D (**optional**) is for **ISH-DSD**, remove weight block for **ISH-DSOO**

weight block D
(**optional**)
for **ISH-DSD**

SPECIFICATION

Stage diameter	Ø115mm
Max. workpiece height	45mm
Max. testing width	63mm (from test point to the column)
Dimension	Ø195×370mm
Weight	5.61kg

STANDARD DELIVERY

Test stand	1 pc
Weight block A (for ISH-DSA)	1 pc

OPTIONAL ACCESSORY

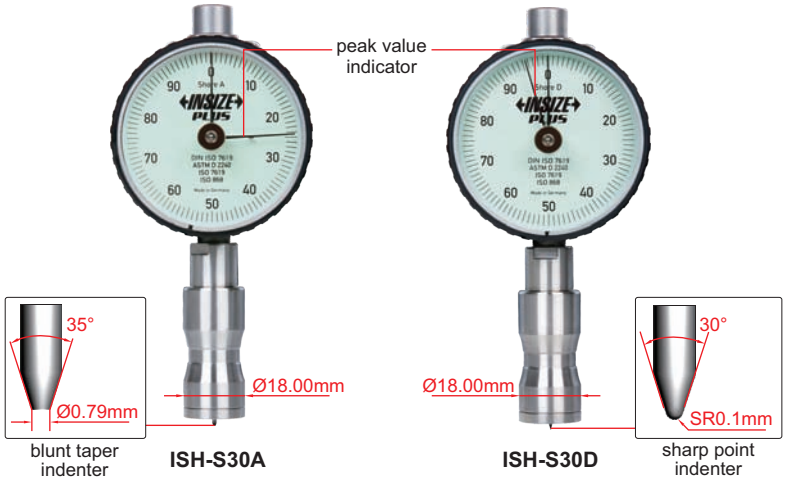
Weight block D (for ISH-DSD)	**ISH-DS-W4**

SHORE DUROMETERS

INSIZE PLUS

VIDEO

- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Handhold use or work with test stand (code **ISH-OS2**)



SPECIFICATION

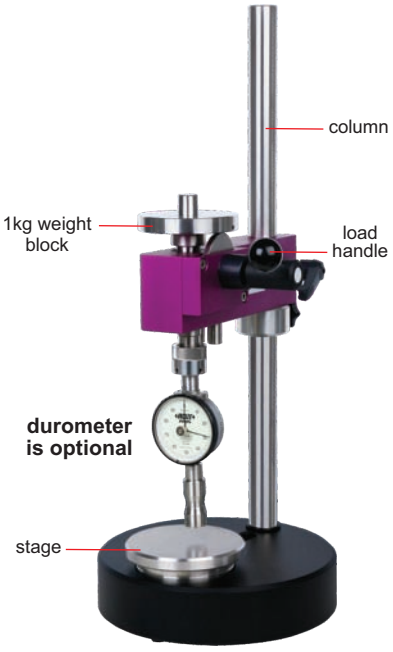
Code	**ISH-S30A**	**ISH-S30D**
Scale	Shore A	Shore D
Test material	soft plastic, soft rubber, etc.	hard plastic, hard rubber, etc.
Measuring range*	0~100HA	0~100HD
Graduation	1HA	1HD
Accuracy	±0.5HA	±0.5HD
Indenter protrusion	2.5mm	
Weight	184g	

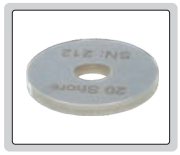
* Use **ISH-S30D** when measuring result is higher than 90HA
Use **ISH-S30A** when measuring result is lower than 20HD

TEST STAND FOR SHORE DUROMETERS
CODE ISH-OS2

INSIZE PLUS

- For shore durometers (code **ISH-S30A** and **ISH-S30D**)
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- 1kg weight block (included) is for **ISH-S30A**, 4kg weight block **(optional)** is for **ISH-S30D**




calibration block (included)

4kg weight block (**optional**) for **ISH-S30D**

SPECIFICATION

Stage diameter	Ø98mm
Max. workpiece height	180mm
Max. testing width	115mm (from test point to the column)
Dimension	Ø200×500mm
Weight	18kg

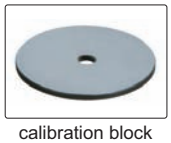
STANDARD DELIVERY

Test stand	1 pc
1kg weight block (for ISH-S30A)	1 pc
Calibration block	1 pc

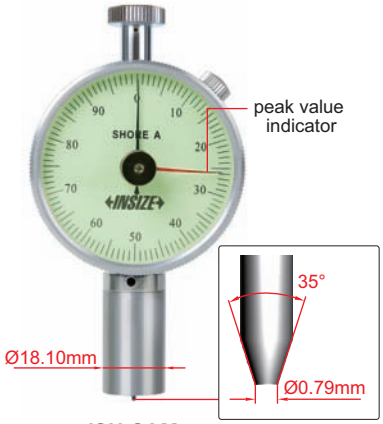
OPTIONAL ACCESSORY

4kg weight block (for ISH-S30D)	**ISH-OS2-W4**

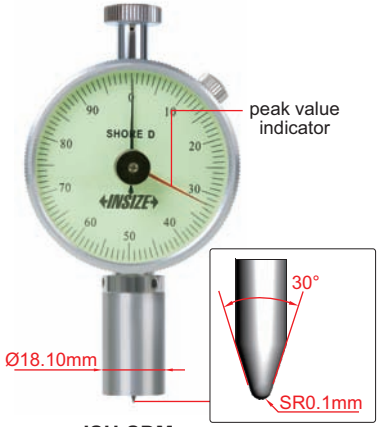
SHORE DUROMETERS


calibration block (**optional**)

- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Optional accessory: test stand **ISH-STAC** and **ISH-STD**



ISH-SAM
blunt taper indenter



ISH-SDM
sharp point indenter

SPECIFICATION

Code	**ISH-SAM**	**ISH-SDM**
Scale	Shore A	Shore D
Application	nature rubber, soft elastomer, etc.	hard rubber, plastic, hard elastomer, etc.
Measuring range *	10~90HA	20~90HD
Graduation	1HA	1HD
Indenter protrusion	2.5mm	
Dimension	115×60×25mm	
Weight	160g	

* Use **ISH-SDM** when measuring result is higher than 90HA
Use **ISH-SAM** when measuring result is lower than 20HD

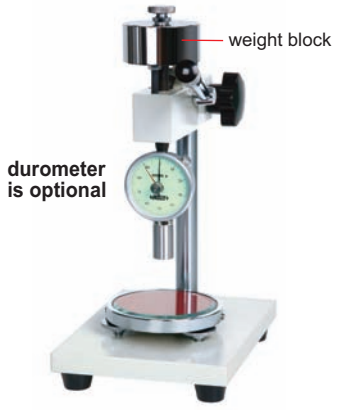
OPTIONAL ACCESSORY

Calibration block	**ISH-DS-BLOCK**

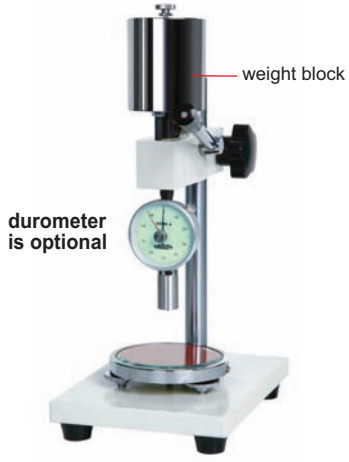
TEST STANDS FOR SHORE DUROMETERS

VIDEO

- For shore durometers (code **ISH-SAM** and **ISH-SDM**)
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations



ISH-STAC



ISH-STD

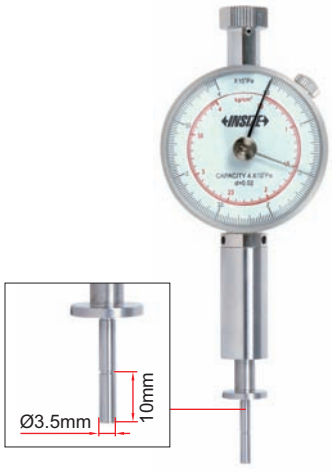
SPECIFICATION

Code	ISH-STAC	ISH-STD
Applicable durometer	ISH-SAM	ISH-SDM
Stage diameter	Ø100mm	Ø100mm
Max. workpiece height	75mm	75mm
Max. testing width	65mm (from test point to the column)	65mm (from test point to the column)
Weight block	1kg	5kg

FRUIT HARDNESS TESTER

VIDEO

- Measure the hardness of apples, pears, strawberries and grapes, etc.
- The degree of ripeness can be judged by measuring the hardness of the fruit



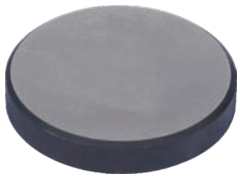
9643-4

SPECIFICATION

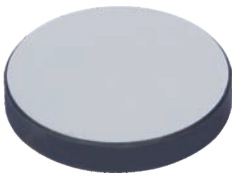
Code	Range	Graduation	Accuracy	Probe diameter	Probe depth	Dimension	Weight
9643-4	0.5-4kg/cm² (0.5-4×10⁵Pa)	0.02kg/cm² (0.02×10⁵Pa)	±2%	Ø3.5mm	10mm	151×55×30mm	0.2kg

INSPECTION CERTIFICATE

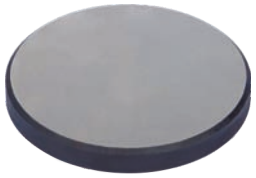
HARDNESS TEST BLOCKS



Rockwell



Vickers



Brinell

Leeb

Micro-Vickers

Knoop

Ultrasonic

Shore

- Supplied with manufacturer inspection certificate

Rockwell hardness test blocks

Code	Type	Hardness	Dimension*
HDT-B-HRA	HRA	80-84	diameter: (60±1)mm thickness: (11±1)mm
HDT-B-HRB	HRB	88-100	
HDT-B-HRC1	HRC	20-30	
HDT-B-HRC2	HRC	35-55	
HDT-B-HRC3	HRC	60-70	
HDT-B-HRD1	HRD	40-47	
HDT-B-HRD2	HRD	55-63	
HDT-B-HRD3	HRD	70-75	
HDT-B-HRE	HRE	107-114	
HDT-B-HRF	HRF	105-114	
HDT-B-HRG1	HRG	57-82	
HDT-B-HRG2	HRG	80-94	

Rockwell superficial hardness test blocks

Code	Type	Hardness	Dimension*
HDT-B-HR15N1	HR15N	70-77	diameter: (60±1)mm thickness: (11±1)mm
HDT-B-HR15N2	HR15N	78-88	
HDT-B-HR15N3	HR15N	89-91	
HDT-B-HR30N1	HR30N	42-54	
HDT-B-HR30N2	HR30N	55-73	
HDT-B-HR30N3	HR30N	74-80	
HDT-B-HR45N1	HR45N	20-31	
HDT-B-HR45N2	HR45N	32-61	
HDT-B-HR45N3	HR45N	63-70	
HDT-B-HR15T	HR15T	88-93	
HDT-B-HR30T	HR30T	73-82	
HDT-B-HR45T	HR45T	58-72	

Leeb hardness test blocks

Code	Type	Hardness	Dimension*
HDT-B-HLD1	HLD	490-570	diameter: (90±1)mm thickness: (55±1)mm
HDT-B-HLD2	HLD	590-670	
HDT-B-HLD3	HLD	750-830	
HDT-B-HLG1	HLG	460-540	diameter: (120±1)mm thickness: (70±1)mm
HDT-B-HLG2	HLG	550-630	

Shore hardness test blocks

Code	Type	Hardness	Dimension*
HDT-B-SA	SA	6pcs/set (30, 40, 50, 60, 70, 80)	Ø50×7mm
HDT-B-SD	SD	3pcs/set (15, 30, 90)	50×50×7mm

Vickers hardness test blocks

Code	Type	Hardness	Dimension*
HDT-B-HV5A	HV5	175-200	diameter: (60±1)mm thickness: (11±1)mm
HDT-B-HV5B	HV5	200-300	
HDT-B-HV5C	HV5	300-400	
HDT-B-HV5D	HV5	400-500	
HDT-B-HV5E	HV5	500-600	
HDT-B-HV5F	HV5	600-700	
HDT-B-HV5G	HV5	700-750	
HDT-B-HV10A	HV10	175-200	
HDT-B-HV10B	HV10	200-300	
HDT-B-HV10C	HV10	300-400	
HDT-B-HV10D	HV10	400-500	
HDT-B-HV10E	HV10	500-600	
HDT-B-HV10F	HV10	600-700	
HDT-B-HV10G	HV10	700-750	
HDT-B-HV30A	HV30	175-200	
HDT-B-HV30B	HV30	200-300	
HDT-B-HV30C	HV30	300-400	
HDT-B-HV30D	HV30	400-500	
HDT-B-HV30E	HV30	500-600	
HDT-B-HV30F	HV30	600-700	
HDT-B-HV30G	HV30	700-750	
HDT-B-HV50A	HV50	175-200	
HDT-B-HV50B	HV50	200-300	
HDT-B-HV50C	HV50	300-400	
HDT-B-HV50D	HV50	400-500	
HDT-B-HV50E	HV50	500-600	
HDT-B-HV50F	HV50	600-700	
HDT-B-HV50G	HV50	700-750	
HDT-B-HV100A	HV100	175-200	
HDT-B-HV100B	HV100	200-300	
HDT-B-HV100C	HV100	300-400	
HDT-B-HV100D	HV100	400-500	
HDT-B-HV100E	HV100	500-600	
HDT-B-HV100F	HV100	600-700	
HDT-B-HV100G	HV100	700-750	

To be continued

Continued from previous page

Micro-Vickers hardness test blocks

Code	Type	Hardness	Dimension*
HDT-B-HV005A	HV0.05	200-300	diameter: (25±1)mm thickness: (6±2)mm
HDT-B-HV005B	HV0.05	300-400	
HDT-B-HV005C	HV0.05	400-500	
HDT-B-HV005D	HV0.05	500-600	
HDT-B-HV005E	HV0.05	600-700	
HDT-B-HV005F	HV0.05	700-750	
HDT-B-HV01A	HV0.1	200-300	
HDT-B-HV01B	HV0.1	300-400	
HDT-B-HV01C	HV0.1	400-500	
HDT-B-HV01D	HV0.1	500-600	
HDT-B-HV01E	HV0.1	600-700	
HDT-B-HV01F	HV0.1	700-750	
HDT-B-HV02A	HV0.2	200-300	
HDT-B-HV02B	HV0.2	300-400	
HDT-B-HV02C	HV0.2	400-500	
HDT-B-HV02D	HV0.2	500-600	
HDT-B-HV02E	HV0.2	600-700	
HDT-B-HV02F	HV0.2	700-750	
HDT-B-HV03A	HV0.3	200-300	
HDT-B-HV03B	HV0.3	300-400	
HDT-B-HV03C	HV0.3	400-500	
HDT-B-HV03D	HV0.3	500-600	
HDT-B-HV03E	HV0.3	600-700	
HDT-B-HV03F	HV0.3	700-750	
HDT-B-HV05A	HV0.5	200-300	
HDT-B-HV05B	HV0.5	300-400	
HDT-B-HV05C	HV0.5	400-500	
HDT-B-HV05D	HV0.5	500-600	
HDT-B-HV05E	HV0.5	600-700	
HDT-B-HV05F	HV0.5	700-750	
HDT-B-HV1A	HV1	200-300	
HDT-B-HV1B	HV1	300-400	
HDT-B-HV1C	HV1	400-500	
HDT-B-HV1D	HV1	500-600	
HDT-B-HV1E	HV1	600-700	
HDT-B-HV1F	HV1	700-750	

Knoop hardness test blocks

Code	Type	Hardness	Dimension*
HDT-B-HK005A	HK0.05	200-300	diameter: (25±1)mm thickness: (6±2)mm
HDT-B-HK005B	HK0.05	400-500	
HDT-B-HK005C	HK0.05	700-800	
HDT-B-HK01A	HK0.1	200-300	
HDT-B-HK01B	HK0.1	400-500	
HDT-B-HK01C	HK0.1	700-800	
HDT-B-HK02A	HK0.2	200-300	
HDT-B-HK02B	HK0.2	400-500	
HDT-B-HK02C	HK0.2	700-800	
HDT-B-HK03A	HK0.3	200-300	
HDT-B-HK03B	HK0.3	400-500	
HDT-B-HK03C	HK0.3	700-800	
HDT-B-HK05A	HK0.5	200-300	
HDT-B-HK05B	HK0.5	400-500	
HDT-B-HK05C	HK0.5	700-800	
HDT-B-HK1A	HK1	200-300	
HDT-B-HK1B	HK1	400-500	
HDT-B-HK1C	HK1	700-800	

*The above dimensions are for reference only, subject to actual supply

Brinell hardness test blocks

Code	Type	Hardness	Dimension*
HDT-B-HB10A1	HBW10/3000	100-200	diameter: (100±1)mm thickness: >16mm
HDT-B-HB10A2	HBW10/3000	200-300	
HDT-B-HB10A3	HBW10/3000	300-400	
HDT-B-HB10A4	HBW10/3000	400-500	
HDT-B-HB10A5	HBW10/3000	500-600	
HDT-B-HB10A6	HBW10/3000	600-650	
HDT-B-HB10B1	HBW10/1500	100-200	
HDT-B-HB10B2	HBW10/1500	200-300	
HDT-B-HB10B3	HBW10/1500	300-400	
HDT-B-HB10B4	HBW10/1500	400-500	
HDT-B-HB10B5	HBW10/1500	500-600	
HDT-B-HB10B6	HBW10/1500	600-650	
HDT-B-HB10C1	HBW10/1000	90-200	
HDT-B-HB10C2	HBW10/1000	200-300	
HDT-B-HB10C3	HBW10/1000	300-400	
HDT-B-HB10C4	HBW10/1000	400-450	
HDT-B-HB10D1	HBW10/500	90-200	
HDT-B-HB10D2	HBW10/500	200-300	
HDT-B-HB10D3	HBW10/500	300-400	
HDT-B-HB10D4	HBW10/500	400-450	
HDT-B-HB25A1	HBW2.5/187.5	100-200	diameter: (64±1)mm thickness: >6mm
HDT-B-HB25A2	HBW2.5/187.5	200-300	
HDT-B-HB25A3	HBW2.5/187.5	300-400	
HDT-B-HB25A4	HBW2.5/187.5	400-500	
HDT-B-HB25A5	HBW2.5/187.5	500-600	
HDT-B-HB25A6	HBW2.5/187.5	600-650	
HDT-B-HB25B1	HBW2.5/62.5	90-200	
HDT-B-HB25B2	HBW2.5/62.5	200-300	
HDT-B-HB25B3	HBW2.5/62.5	300-400	
HDT-B-HB25B4	HBW2.5/62.5	400-450	
HDT-B-HB5A1	HBW5/750	100-200	diameter: (100±1)mm thickness: >12mm
HDT-B-HB5A2	HBW5/750	200-300	
HDT-B-HB5A3	HBW5/750	300-400	
HDT-B-HB5A4	HBW5/750	400-500	
HDT-B-HB5A5	HBW5/750	500-600	
HDT-B-HB5A6	HBW5/750	600-650	
HDT-B-HB5B1	HBW5/250	90-200	diameter: (64±1)mm thickness: >6mm
HDT-B-HB5B2	HBW5/250	200-300	
HDT-B-HB5B3	HBW5/250	300-400	
HDT-B-HB5B4	HBW5/250	400-450	

Ultrasonic hardness test blocks

Code	Type	Hardness	Dimension*
HDT-B-HRCU1	HRC	20-30	diameter: (90±1)mm thickness: >16mm
HDT-B-HRCU2	HRC	35-55	
HDT-B-HRCU3	HRC	60-70	
HDT-B-HV2U8	HV2	200-300	
HDT-B-HV2U9	HV2	400-500	
HDT-B-HV2U10	HV2	700-750	
HDT-B-HV5U1	HV5	200-300	
HDT-B-HV5U2	HV5	400-500	
HDT-B-HV5U3	HV5	700-750	
HDT-B-HB10U1	HBW10/1000	90-200	
HDT-B-HB10U2	HBW10/3000	200-300	
HDT-B-HB10U3	HBW10/3000	300-400	
HDT-B-HB10U4	HBW10/3000	400-500	

Hammer impact brinell hardness bar

Code	Type	Hardness	Dimension*
HDT-B-HB5C1	HBS5/750	177-217	12×12×150mm

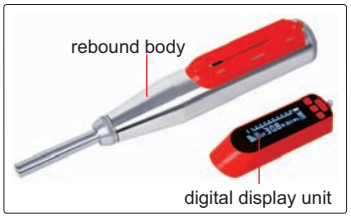
VIDEO

DATA OUTPUT

CONCRETE STRENGTH TESTERS

CST-D101

CST-D102



CST-D102 seperable

- Measure the strength of general building components, bridges and various concrete components (slabs, beams, columns, bridges, etc.)
- Angle, test surface, pumping, carbonization depth and other parameters can be customized according to the requirements
- The rebound body can be used for 2000 times
- USB data transmission
- The software can automatically generate the test report, and the strength curve can be customized and stored in the tester
- Storage and reading of 1000 test data

SPECIFICATION

Code	CST-D101	CST-D102
Display	OLED display	
Range	10~60N/mm²	
Rebound value on anvil	80±2	
Parameter	MPa, N/mm², Kgf/mm²	
Impact energy	2.207J, for testing common buildings or bridge structures	
Output	USB	
Structure	one body, non-seperable	separable, the digital display unit can be reused
Memory	1000 data	
Operation temperature	-40°C~40°C	
Power supply	built-in rechargeable battery	
Dimension	280×75×60mm	
Weight	1.1kg	

software flash disk (included)

abrasive stone (included)

reference anvil (**optional**)

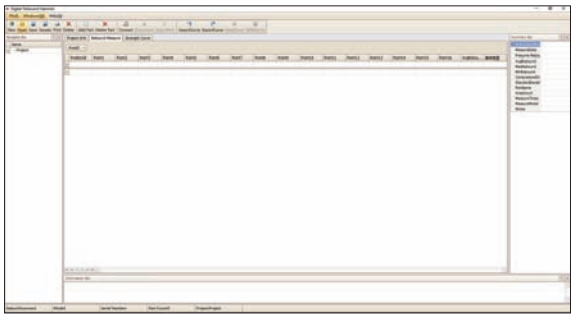
STANDARD DELIVERY

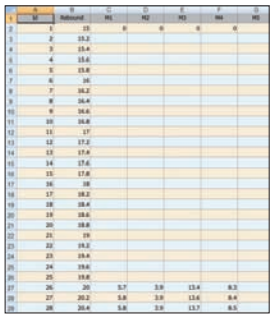
Main unit	1 pc
Abrasive stone	1 pc
Power adapter	1 pc
Software and USB cable	1 pc

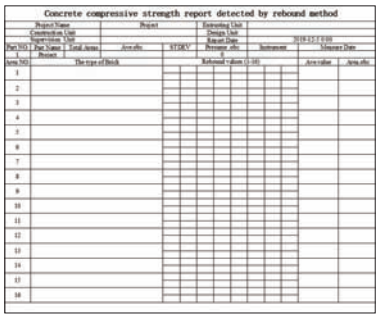
OPTIONAL ACCESSORY

Rebound body (for CST-D102)	CST-D102-REBOUND
Digital display unit (for CST-D102)	CST-D102-DISPLAY
Reference anvil	CST-D-BLOCK

software (included) for uploading and storing data, printing and importing/exporting strength curves







02 METALLOGRAPHY PREPARATION

Cutting Machines
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Precision Cutting Machines
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Mounting Presses
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Grinders And Polishers
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Automatic Liquid Droppers
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Metallurgical Microscopes
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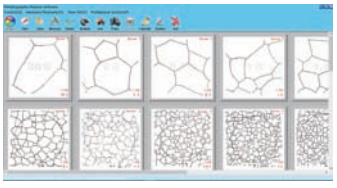

Metallurgical Analysis Softwares
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Mounting Press Accessories
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Grinder And Polisher Accessories
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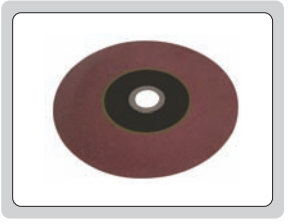
VIDEO

TOUCH SCREEN OPERATION

CUSTOMIZED CUTTING PROGRAM

AUTOMATIC SPECIMEN CUTTING MACHINE (ADVANCED TYPE) CODE MLP-ACM160

diamond blade
(**optional**)



cutting blade
(included)

cutting coolant
(**optional**)

- Touch screen operation, high precision stepper motor control
- Suitable for cutting all kinds of metal and non-metallic materials, in order to observe the metallographic and petrographic organization of materials
- Automated cutting process, low noise, easy to operate, safe and reliable

SPECIFICATION

Maximum cutting diameter	Ø160mm
Cutting speed	0.03~1mm/s
Maximum travel	Z-axis: 0~220mm, Y-axis: 0~200mm, X-axis: 0~240mm
Feed method	continuous feed, pulse feed
Rotation speed range	500~2300r/min
Cutting method	chopping cutting, flat push cutting
Cutting chamber size	1240×780mm
Cutting power	7.5kW
Power supply	AC 380V, 50Hz
Dimension (L×W×H)	1300×1560×1880mm

STANDARD DELIVERY

Main unit	1 pc
Cutting blade	5 pcs, Ø450×3.2×Ø32mm
Cutting blade chuck	1 set, 2 pcs
Cutting coolant	1 barrel, 6L
Tank assembly	1 set
Clamping station	1 pc

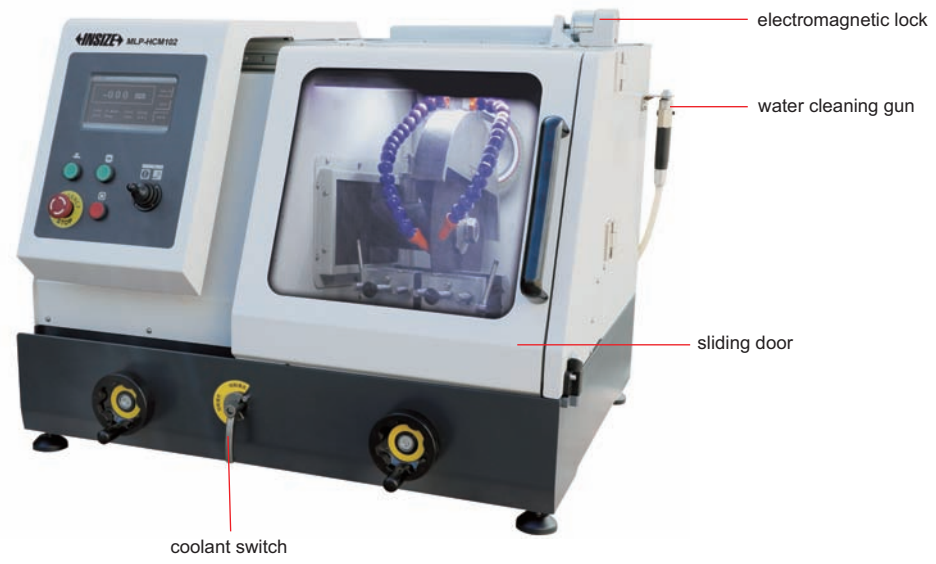
OPTIONAL ACCESSORY

Cutting coolant	**MLP-OL4**
Cutting blade	**MLP-10R** series*
Diamond blade	**MLP-DP9**

*Optionally available with a cutting blade with an inner diameter of Ø32mm

AUTOMATIC CUTTING MACHINE (ADVANCED TYPE)
CODE MLP-HCM102

VIDEO



- Suitable for cylinder workpieces (diameter≤100mm) and rectangular samples (height≤70mm, width≤100mm)
- Cooling system avoids overheating and destroying sample structure
- Three cutting modes (manual, pulse, continuous cutting), the cutting feed speed and cutting stroke can be programed

SPECIFICATION

Maximum cutting diameter	Ø100mm
Cutting blade	Ø350×2.5×Ø32mm
Rotation speed	2200r/min
Spindle travel	145mm
Table travel	300mm
Illumination	LED ceiling light
Noise	≤85dB
Cooling tank	60L
Removable baffle	contain
Table dimension	330×280mm
Power	3kW
Power supply	AC 380V, 50Hz
Dimension	900×860×620mm
Weight	285kg

STANDARD DELIVERY

Main unit	1 pc
Cutting blade	5 pcs
Cutting blade chuck	2 pcs
Cutting coolant	1 barrel (4L)
Water tank	1 pc

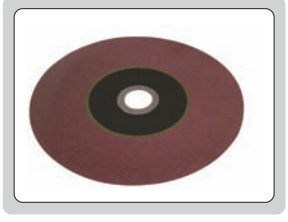
OPTIONAL ACCESSORY

Cutting coolant (4L, 1:20 diluted with water)	**MLP-OL3**
Cutting blade (Ø350×2.5×Ø32mm, 40 pcs/box)	**MLP-50Z4**
	MLP-60Y4*
Cutting blade chuck (for Ø32mm cutting blade)	**MLP-HCM102-CHUCK**

* Special cutting blade for high hardness

cutting coolant (included)

cutting blade **MLP-50Z4** (included)


cutting blade **MLP-60Y4** (**optional**)

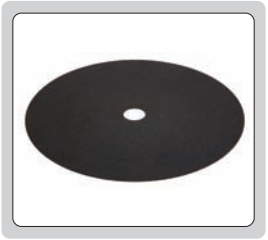
CUTTING MACHINE (STANDARD TYPE)
CODE MLP-CM60

water tank

- For metal and non-metal materials
- Cooling device avoids overheating and destroying sample structure
- With safety switch, the machine will automatically stop when the cover is opened

SPECIFICATION

Maximum cutting diameter	Ø60mm
Cutting blade	Ø250×1.5×Ø25.4mm
Rotation speed	2800r/min
Motor power	2.2kW
Power supply	AC 380V, 50Hz
Dimension	830×620×450mm
Weight	82kg



cutting blade **MLP-CM60-CUT2** (included)

STANDARD DELIVERY

Main unit	1 pc
Cutting blade	2 pcs
Cutting coolant	1 barrel (4L)
Water tank	1 pc

OPTIONAL ACCESSORY

Cutting coolant (4L, 1:20 diluted with water)	**MLP-OL3**
Cutting blade (Ø250×1.5×Ø25.4mm, 60 pcs/box)	**MLP-CM60-CUT2**
Cutting blade (Ø250×2×Ø32mm, 50 pcs/box)	**MLP-50Z2** *
Cutting blade chuck (for Ø32mm cutting blade)	**MLP-CM60-CHUCK**

* When use **MLP-50Z2**, please purchase **MLP-CM60-CHUCK**

cutting coolant (**optional**)

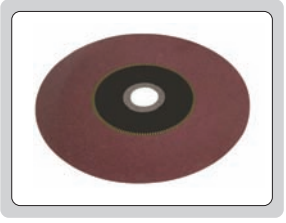
CUTTING MACHINE (BASIC TYPE)
CODE MLP-CM86

VIDEO

- For metal and non-metal materials
- Cooling device avoids overheating and destroying sample structure

cutting coolant (included)

cutting blade **MLP-50Z2** (included)



cutting blade **MLP-60Y2** (**optional**)

SPECIFICATION

Maximum cutting diameter	Ø80mm
Cutting blade	Ø250×2×Ø32mm
Rotation speed	2800r/min
Power	3kW
Power supply	AC 380V, 50Hz
Dimension	690×790×670mm

STANDARD DELIVERY

Main unit	1 pc
Cutting blade	2 pcs
Cutting coolant	1 barrel (4L)
Water tank	1 pc

OPTIONAL ACCESSORY

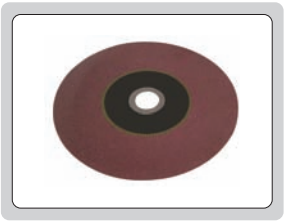
Cutting coolant (4L, 1:20 diluted with water)	**MLP-OL3**
Cutting blade (Ø250×2×Ø32mm, 50 pcs/box)	**MLP-60Y2***
	MLP-50Z2
Cutting blade chuck (for Ø32mm cutting blade)	**MLP-CM86-CHUCK**

*Special cutting blade for high hardness

VIDEO

MANUAL PRECISION CUTTING MACHINE
CODE MLP-PCM100

diamond blade
(**optional**)



cutting blade
(**optional**)

cutting coolant
(**optional**)

- Equipped with a high-torque DC motor and stepless speed control system, boasting strong power and high efficiency
- The rotation speed is digitally displayed for simple operation
- With a magnetic safety switch, the motor automatically stops when the protective cover is opened, ensuring safety performance
- Integrally formed high-strength composite material shell, anti-corrosive and rust-proof
- Panoramic transparent observation window, facilitating the observation of the sample cutting process
- With circulating cooling water tank, lightweight in volume

SPECIFICATION

Maximum cutting diameter	Ø40mm
Maximum travel	190mm
Diamond blade	Ø200×0.8×Ø12.7mm
Cutting method	manual cutting, Y-axis
Rotation speed	500~3000r/min
Table dimension	368×424mm
Motor power	600W
Power supply	220V, 50Hz
Dimension (L×W×H)	550×475×360mm
Weight	35kg

STANDARD DELIVERY

Main unit	1 pc
Diamond blade	1 pc
Fixed fixture	1 set
Cutting coolant	1 barrel, 2L
Tool package	1 set

OPTIONAL ACCESSORY

Cutting coolant	**MLP-OL2**
Cutting blade	**MLP-10R** series*
Diamond blade	**MLP-DQ** series

*Select the cutting blade with an inner hole of Ø12.7mm and a diameter not exceeding 230mm

MOUNTING PRESSES (ADVANCED TYPE)

VIDEO

MLP-MP43

MLP-MP53

- Built-in heating and cooling structure reduces the mounting time to 6 minutes
- The programmed control system reserves 10 customized preparation schemes to meet different mounting requirements
- The thickness of the middle mold is up to 15mm, and 2 samples can be mounted at the same time at one station
- Can accurately control the pressure size, adjustment range: 1~20MPa

hot mounting resin (**optional**)

SPECIFICATION

Code	MLP-MP43	MLP-MP53
Station number	1	2
Power	1100W+heating power *	1200W+heating power×2
Mounting diameter	Ø30mm (customizable Ø25, Ø40, Ø50mm)	
System pressure	1~20MPa, optional increase or decrease 1MPa	
Pressure mode	automatic electro-hydraulic	
Cooling mode	automatic water cooling **	
Heating range	90~200°C	
Holding time	0~10min	
Cooling temperature/time	40~90°C/0~10min	
Power supply	AC 220V, 50Hz	
Dimension	530×485×463mm	671×485×463mm
Weight	44kg	77kg

*Heating power of mounting sleeve: 1800W (mounting diameter≤31.8mm), 2400W (mounting diameter≥38.1mm)

**Cooling water pressure should not be higher than 1MPa, must be filtered through 40μm filter

STANDARD DELIVERY

Main unit	1 pc
Hot mounting resin	1 bottle (250g)
Funnel	1 pc
Filter	1 pc
Vacuum cleaner tip	1 pc

OPTIONAL ACCESSORY

Hot mounting resin (black, 4kg)	MLP-DR3

MOUNTING PRESS (STANDARD TYPE) CODE MLP-MP30

hot mounting resin (**optional**)

- Automatic heating, pressuring, cooling and pressure relief
- Water cooling system

SPECIFICATION

Diameter of workpiece	Ø30mm
Heating temperature range	100~200°C
Delay range	0~999s
Hold time	0~999s
Cooling temperature	20~90°C
Heating power	600W
Power supply	AC 220V, 50Hz
Dimension	350×450×470mm
Weight	45kg

STANDARD DELIVERY

Main unit	1 pc
Hot mounting resin	1 bottle (250g)
Funnel	1 pc

OPTIONAL ACCESSORY

Hot mounting resin (black, 4kg)	MLP-DR3

MOUNTING PRESS (BASIC TYPE) CODE MLP-MP62

- Suitable for tiny, difficult to handle or irregular metallographic and petrographic samples
- The sample preparation program has three modes: bakelite powder, electric jade powder and user-defined
- The sample preparation program controls the sample preparation time and realizes unattended sample preparation

hot mounting resin (**optional**)

SPECIFICATION

Mounting diameter	Ø30mm (customizable Ø22mm, Ø45mm)
Heating range	room temperature~200°C
Timing range	0~30min
Power	≤800W
Power supply	AC220V, 50Hz
Dimension	440×253×310mm
Weight	32kg

STANDARD DELIVERY

Main unit	1 pc
Hot mounting resin	1 bottle (60g)
Funnel	1 pc

OPTIONAL ACCESSORY

Hot mounting resin (black, 4kg)	MLP-DR3

VACUUM MOUNTING PRESS
CODE MLP-MP25

VIDEO

- Suitable for epoxy resins and cold mosaic compound of polyester castable
- High efficiency, simple and reliable

cold mounting compound
(**optional**)

SPECIFICATION

Maximum vacuum	-58kPa
Vacuum chamber size	Ø260×125mm
Transposition speed	5r/min
Input power	6W
Power supply	220V
Dimension	460×400×403mm
Weight	30kg

STANDARD DELIVERY

Main unit	1 pc
Vacuum pump	1 pc
Ø25mm mold	1 pc
Ø30mm mold	1 pc
Ø40mm mold	1 pc
Ø50mm mold	1 pc
Epoxy resin (400g)	1 pc
Curing agent (200g)	1 pc
Waxed paper tray	10 pcs

OPTIONAL ACCESSORY

Cold mounting compound	**MLP-CM1, MLP-CM6**
Epoxy resin	**MLP-CM3, MLP-CM4**

VIDEO

AUTOMATIC DISPENSING OF ABRASIVES

CUSTOMIZED GRINDING AND POLISHING PROGRAMS

TOUCHSCREEN OPERATION

AUTOMATIC GRINDER AND POLISHER (ADVANCED TYPE) CODE MLP-GP406

- ABS shell and stainless steel parts, anti-corrosion, easy to clean
- Can hold up to 6 samples (4 holes are optional)
- Smooth rotation, low noise
- Adjustable speed
- Intuitive pressure and time setting, 256 sets of grinding and polishing programs can be stored
- Water cooling device and abrasive cleaning nozzle prevent samples from overheating and destroying structure
- Replaceable platen, platen rotation direction can be selected
- Centre loading and single point loading, automatic abrasive distribution

polishing cloth (included)

anti-stick disc (included)

magnetic pad (included)

silicon carbide paper (included)

dripping system (**optional**)

SPECIFICATION

Wheel diameter		Ø250mm (customizable)
Wheel rotation speed		0~1000r/min (adjustment step 20rpm), 150r/min, 300r/min, 600r/min, 1000r/min (four fixed speeds)
Wheel rotation direction		clockwise or counterclockwise
Grinding head speed		50~150r/min (stepless adjustable)
Pressure range		5~60N (single point loading), 20~200N (centre loading)
Operation	**number**	6
	time	0~12h
Sample diameter		Ø30mm (customizable)
Air pressure		>0.35MPa
Programmable quantity		256 sets of grinding programs can be stored
Power supply		AC 220V, 50Hz, 3.1kW
Dimension (L×W×H)		760×706×717mm
Weight		126kg

STANDARD DELIVERY

Main unit	1 pc
Silicon carbide paper	20 pcs each (240, 400, 800, 1200), 80 pcs in total
Polishing cloth	3 pcs each (velvet silk, woolen fabric), 6 pcs in total
Polishing agent	1 pc (W2.5, 500ml)
Spray polish agent	1 pc (W2.5, 500ml)
Anti-stick disc	2 pcs (Ø250mm)
Magnetic pad	5 pcs (Ø250mm)

OPTIONAL ACCESSORY

Silicon carbide paper	**MLP-SZ□□***	diameter: Ø250mm 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000, 2500, 3000
Polishing cloth	**MLP-CT□□***	Ø250mm
Diamond polishing liquid	**MLP-DLA□□***	500ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Diamond spray polish agent	**MLP-DSA□□***	350ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Magnetic pad	**MLP-AD2**	Ø250mm
Anti-stick disc	**MLP-DC2**	Ø250mm

*□□ is granularity specification, for example, code **MLP-DLA40** stands for 40μm

AUTOMATIC GRINDER AND POLISHER (ADVANCED TYPE)
CODE MLP-GP505

TOUCHSCREEN OPERATION

AUTOMATIC DISPENSING OF ABRASIVES

CUSTOMIZED GRINDING AND POLISHING PROGRAMS

VIDEO

- ABS shell and stainless steel parts, anti-corrosion, easy to clean
- Can hold up to 6 samples (4 holes are optional)
- Smooth rotation, low noise
- Adjustable speed
- Intuitive pressure and time setting, 256 sets of grinding and polishing programs can be stored
- Water cooling device and abrasive cleaning nozzle prevent samples from overheating and destroying structure
- Replaceable platen, platen rotation direction can be selected
- Centre loading and single point loading, automatic abrasive distribution

polishing cloth (included)

anti-stick disc (included)

magnetic pad (included)

silicon carbide paper (included)

dripping system (**optional**)

SPECIFICATION

Wheel diameter		Ø250mm (customizable)
Wheel rotation speed		0~1000r/min (adjustment step 20rpm), 150r/min, 300r/min, 600r/min, 1000r/min (four fixed speeds)
Wheel rotation direction		clockwise or counterclockwise
Grinding head speed		50~150r/min (stepless adjustable)
Pressure range		5~60N (single point loading), 20~200N (centre loading)
Operation	**number**	6
	time	0~12h
Sample diameter		Ø30mm (customizable)
Air pressure		>0.35MPa
Programmable quantity		256 sets of grinding programs can be stored
Power supply		AC 220V, 50Hz, 2.1kW
Dimension (L×W×H)		596×714×707mm
Weight		102kg

STANDARD DELIVERY

Main unit	1 pc
Silicon carbide paper	20 pcs each (240, 400, 800, 1200), 80 pcs in total
Polishing cloth	3 pcs each (velvet silk, woolen fabric), 6 pcs in total
Polishing agent	1 pc (W2.5, 500ml)
Spray polish agent	1 pc (W2.5, 500ml)
Anti-stick disc	1 pc (Ø250mm)
Magnetic pad	5 pcs (Ø250mm)

OPTIONAL ACCESSORY

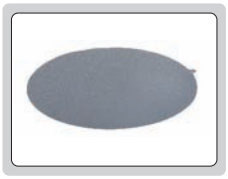
Silicon carbide paper	**MLP-SZ□□***	diameter: Ø250mm 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000, 2500, 3000
Polishing cloth	**MLP-CT□□***	Ø250mm
Diamond polishing liquid	**MLP-DLA□□***	500ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Diamond spray polish agent	**MLP-DSA□□***	350ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Magnetic pad	**MLP-AD2**	Ø250mm
Anti-stick disc	**MLP-DC2**	Ø250mm

*□□ is granularity specification, for example, code **MLP-DLA40** stands for 40μm

AUTOMATIC GRINDER AND POLISHER (STANDARD TYPE) CODE MLP-GP305

VIDEO

- Replaceable double wheels, rotation direction can be selected
- Multi sample holder, pneumatic single point loading, automatic abrasive distribution
- Adjustable speed
- Water cooling device and abrasive cleaning nozzle prevent samples from overheating and destroying structure
- ABS case and stainless steel parts, anti-corrosion, easy to clean
- Metallographic samples can be roughly ground, finely ground, roughly polished and finely polished


silicon carbide paper (included)

polishing cloth (included)

anti-stick disc (included)

magnetic pad (included)

SPECIFICATION

Wheel diameter	Ø250mm (customizable Ø300mm)
Wheel rotation speed	50~1000r/min (stepless adjustable), 150r/min, 300r/min (two fixed speeds)
Wheel rotation direction	clockwise or counterclockwise
Grinding head speed	50~150r/min (stepless adjustable)
Pressure range	5~60N
Operation number	6
Operation time	0~995s
Sample diameter	Ø30mm (customizable Ø22mm, Ø25mm, Ø30mm, Ø40mm, Ø45mm, Ø50mm)
Air pressure	0.6~0.9MPa
Power supply	AC220V, 50Hz
Input power	1.1kW
Dimension	758×785×680mm
Weight	125kg

STANDARD DELIVERY

Main unit	1 pc
Silicon carbide paper	20 pcs each (240, 250, 400, 800, 1200), 100 pcs in total
Polishing cloth	3 pcs each (velvet silk, woolen fabric), 6 pcs in total
Polishing agent	1 pc (W2.5, 500ml)
Spray polish agent	1 pc (W2.5, 350ml)
Magnetic pad	2 pcs (Ø250mm)
Anti-stick disc	3 pcs (Ø250mm)

OPTIONAL ACCESSORY

Silicon carbide paper	**MLP-SZ□□***	diameter: Ø250mm 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000, 2500, 3000
Polishing cloth	**MLP-CT□□***	Ø250mm
Diamond polishing liquid	**MLP-DLA□□***	500ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Diamond spray polish agent	**MLP-DSA□□***	350ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Magnetic pad	**MLP-AD2**	Ø250mm
Anti-stick disc	**MLP-DC2**	Ø250mm

*□□ is granularity specification, for example, code **MLP-DLA40** stands for 40μm

AUTOMATIC GRINDER AND POLISHER (STANDARD TYPE) CODE MLP-GP260

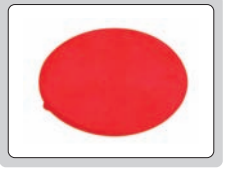
VIDEO

- ABS case and stainless steel parts, anti-corrosion, easy to clean
- Can hold up to 4 samples (6 holes are optional and can hold up to 6 samples)
- Smooth rotation, low noise
- Adjustable speed
- Water cooling device and abrasive cleaning nozzle prevent samples from overheating and destroying structure
- Wheel rotation direction can be selected
- Replaceable wheel

anti-stick disc (included)

magnetic pad (included)

silicon carbide paper (included)


polishing cloth (included)

SPECIFICATION

Wheel diameter	Ø250mm
Wheel rotation speed	50~999r/min (stepless adjustable), 150 or 300r/min (two fixed speeds)
Wheel rotation direction	clockwise or counterclockwise
Grinding head speed	50~150r/min (stepless adjustable)
Pressure range	5~60N
Operation time	5~995s
Sample diameter	Ø30mm (can be customized)
Air pressure	0.6~0.9MPa
Power supply	AC 220V, 50Hz
Input power	1.1kW
Dimension	594×795×687mm
Weight	98kg

STANDARD DELIVERY

Main unit	1 pc
Silicon carbide paper	20 pcs each (240, 400, 800, 1200), 80 pcs in total
Polishing cloth	3 pcs each (velvet silk, woolen fabric), 6 pcs in total
Polishing agent	1 pc (W2.5, 500ml)
Spray polish agent	1 pc (W2.5, 500ml)
Anti-stick disc	1 pc (Ø250mm)
Magnetic pad	5 pcs (Ø250mm)

OPTIONAL ACCESSORY

Silicon carbide paper	**MLP-SZ□□***	diameter: Ø250mm 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000, 2500, 3000
Polishing cloth	**MLP-CT□□***	Ø250mm
Diamond polishing liquid	**MLP-DLA□□***	500ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Diamond spray polish agent	**MLP-DSA□□***	350ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Magnetic pad	**MLP-AD2**	Ø250mm
Anti-stick disc	**MLP-DC2**	Ø250mm

*□□ is granularity specification, for example, code **MLP-DLA40** stands for 40μm

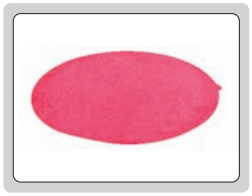
MANUAL GRINDERS AND POLISHERS (STANDARD TYPE)

VIDEO

- ABS case and stainless steel parts, anti-corrosion, easy to clean
- Replaceable double wheel, wheel can be controlled independently, rotation direction can be selected
- Smooth rotation, low noise
- Four fixed speeds/stepless adjustable speed
- Water cooling device, prevent samples from overheating and destroying structure
- Metallographic samples can be roughly ground, finely ground, roughly polished and finely polished

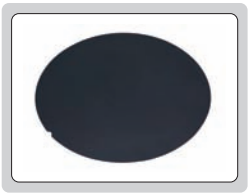
MLP-GP280

silicon carbide paper (included)



polishing cloth (included)

magnetic pad (**optional**)



anti-stick disc (**optional**)

SPECIFICATION

Code	MLP-GP270	MLP-GP280
Wheel diameter	Ø203mm	Ø250mm
Wheel rotation speed	0-1400r/min (stepless adjustable)	0-1000r/min (stepless adjustable)
Wheel rotation direction	clockwise or counterclockwise	
Fixed speed	150r/min, 300r/min, 600r/min, 1000r/min	
Power supply	AC 220V, 50Hz	
Input power	1.5kW	
Dimension	758×785×310mm	
Weight	50kg	

STANDARD DELIVERY

Main unit	1 pc
Silicon carbide paper	5 pcs each (240, 400, 800, 1200), 20 pcs in total
Polishing cloth	3 pcs
Polishing agent	1 pc

OPTIONAL ACCESSORY

Silicon carbide paper	**MLP-SZ**□□* (for **MLP-GP270**)	diameter: Ø200mm 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000, 3000
	MLP-SZ□□* (for **MLP-GP280**)	diameter: Ø250mm 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000, 3000
Polishing cloth	**MLP-CT**□□* (for **MLP-GP270**)	diameter: Ø200mm
	MLP-CT□□* (for **MLP-GP280**)	diameter: Ø250mm
Diamond polishing liquid	**MLP-DLA**□□*	500ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Diamond spray polish agent	**MLP-DSA**□□*	350ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Magentic pad	**MLP-AD1** (for **MLP-GP270**)	Ø203mm
	MLP-AD2 (for **MLP-GP280**)	Ø250mm
Anti-stick disc	**MLP-DC1** (for **MLP-GP270**)	Ø203mm
	MLP-DC2 (for **MLP-GP280**)	Ø250mm

* □□ is granularity specification, for example, code **MLP-SZB120** indicates 120 grit Ø200mm sandpaper without adhesive backing

MANUAL GRINDER AND POLISHER (BASIC TYPE)
CODE MLP-GP314

VIDEO

- Double wheels, rotation direction can be selected
- Smooth rotation, low noise
- Water cooling device, prevent samples from overheating and destroying structure
- Replaceable silicon carbide paper and polishing cloth for grinding and polishing process

silicon carbide paper (included)

polishing cloth (included)

anti-stick disc (**optional**)

magnetic pad (**optional**)

SPECIFICATION

Wheel diameter	Ø203mm
Wheel rotation speed	0~1400r/min (stepless adjustable)
Wheel rotation direction	clockwise or counterclockwise
Power supply	AC 220V, 50Hz
Input power	0.75kW
Dimension	755×700×310mm
Weight	50kg

STANDARD DELIVERY

Main unit	1 pc
Silicon carbide paper	5 pcs each (240, 400, 800, 1200), 20 pcs in total
Polishing cloth	4 pcs
Polishing agent	1 pc (W2.5, 500ml)

OPTIONAL ACCESSORY

Silicon carbide paper	**MLP-SZ□□***	diameter: Ø200mm 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000, 2500, 3000
Polishing cloth	**MLP-CT□□***	Ø200mm
Diamond polishing liquid	**MLP-DLA□□***	500ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Diamond spray polish agent	**MLP-DSA□□***	350ml, select granularity (μm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25
Magnetic pad	**MLP-AD1**	Ø203mm
Anti-stick disc	**MLP-DC1**	Ø203mm

* □□ is granularity specification, for example, code **MLP-SZB120** indicates 120 grit Ø200mm sandpaper without adhesive backing

AUTOMATIC LIQUID DROPPERS

VIDEO

MLP-PLD101

MLP-PLD101S

- Adopting advanced micro-controller, compact structure, reliable operation, strong anti-interference ability
- Suitable for various types of grinding and polishing machines, the polishing liquid is automatically dripped between the abrasive disk and the sample tray to achieve the purpose of polishing
- Reduced polishing time, increased polishing efficiency

polishing fluid (**optional**)

SPECIFICATION

Code	**MLP-PLD101** (single type)	**MLP-PLD101S** (combination type)
Dropping rate	0.3~10ml/min	
Number of steps	10-speed	
Tank volume	750ml	
Power supply	AC 220V, 50Hz	
Dimension (L×W×H)	144×231×197mm	580×235×212mm
Weight	2.95kg	19.5kg

STANDARD DELIVERY

Main unit	1 pc
Diamond polishing liquid	1 pc (W2.5, 500ml)

OPTIONAL ACCESSORY

Diamond polishing liquid	**MLP-DLA□□***, **MLP-DLB□□***, **MLP-DLC□□***, **MLP-DLD□□***, **MLP-DLE□□***, **MLP-DLF□□***
Aluminum oxide polishing liquid	**MLP-LXA□□***, **MLP-LXB□□***
Silicon dioxide polishing liquid	**MLP-GF1**, **MLP-GF2**, **MLP-GF3**
Polishing lubricant	**MLP-RH1**, **MLP-RH2**, **MLP-RH3**

*□□ is granularity specification, for example, code **MLP-DLA40** stands for 40μm

METALLURGICAL MICROSCOPES

REFER TO PAGE 817-822 OF "DIMENSIONAL METROLOGY" CATALOGUE FOR DETAILS

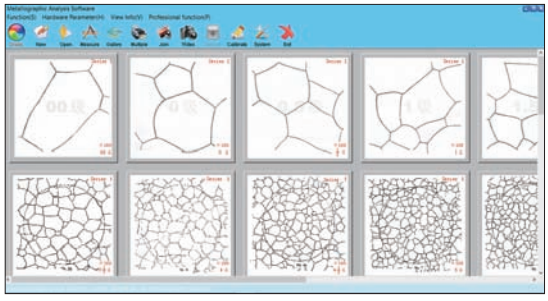
5110-M900

5108-M3000

5103-M1000

METALLURGICAL ANALYSIS SOFTWARE AND CAMERA

REFER TO PAGE 845-846 OF "DIMENSIONAL METROLOGY" CATALOGUE FOR DETAILS



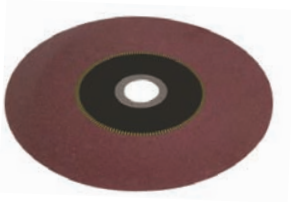
ISM-MAS100

DIAMOND BLADES

- Made by edge electroplating or edge sintering processes, with higher precision and longer lifespan than ordinary cutting discs
- Used for precision cutting of cemented carbide, ceramic materials, optical glass and other brittle materials

Code	Description	Size (outer diameter × thickness × inner diameter mm)
MLP-DQ1	1. saw blade is made of edge electroplating 2. used for small workpieces made of crystal, ceramic, glass and alloy materials	Ø100×0.4×Ø12.7
MLP-DQ2		Ø150×0.5×Ø12.7
MLP-DP1	1. with a metal base sintered at the edge, featuring greater cutting force, higher cutting precision and a longer service life 2. used for hard and brittle materials, ferrous metals, cemented carbides, ceramics, composite materials, carbides, etc.	Ø125×0.5×Ø12.7
MLP-DP2		Ø150×0.6×Ø12.7
MLP-DP3		Ø200×0.8×Ø12.7
MLP-DP4		Ø230×1.0×Ø12.7
MLP-DP5		Ø200×1.0×Ø32
MLP-DP6		Ø250×1.2×Ø32
MLP-DP7		Ø300×1.8×Ø32
MLP-DP8		Ø350×2.0×Ø32
MLP-DP9		Ø400×2.5×Ø32
MLP-DP10		Ø100×0.5×Ø20
MLP-DM1	1. with a resin base sintered at the edge, having a fast cutting speed, high cutting precision and a long service life 2. used for hard and brittle materials, like ores, precious metals, ceramics, glass, etc.	Ø125×0.5×Ø12.7
MLP-DM2		Ø150×0.6×Ø12.7
MLP-DM3		Ø200×0.8×Ø12.7
MLP-DM4		Ø230×1.0×Ø12.7
MLP-DM5		Ø250×1.2×Ø32
MLP-DM6		Ø300×1.8×Ø32
MLP-DM7		Ø350×2.0×Ø32
MLP-DM8		Ø400×2.5×Ø32

MLP-50Z1



MLP-60Y1

- Suitable for various models of metallographic cutting machines
- Cutting surfaces are bright andsmooth without burning

Code	Application	Size (outer diameter × thickness × inner diameter mm)	Package (pcs/box)
MLP-10R1	1. light non-ferrous metal 2. high toughness metal (Ti) 3. HV hardness value: 0-250	Ø250×1.5×Ø32	60
MLP-10R2		Ø250×2.0×Ø32	50
MLP-10R3		Ø300×2.0×Ø32	50
MLP-10R4		Ø350×2.5×Ø32	40
MLP-20R1	1. soft ferrous metal 2. HV hardness value: 50~300	Ø250×1.5×Ø32	60
MLP-20R2		Ø250×2.0×Ø32	50
MLP-20R3		Ø300×2.0×Ø32	50
MLP-20R4		Ø350×2.5×Ø32	40
MLP-30R1	1. medium soft ferrous metal 2. HV hardness value: 120~500	Ø250×1.5×Ø32	60
MLP-30R2		Ø250×2.0×Ø32	50
MLP-30R3		Ø300×2.0×Ø32	50
MLP-30R4		Ø350×2.5×Ø32	40
MLP-30R5		Ø150×0.6×Ø12.7	100
MLP-30R6		Ø200×1.0×Ø12.7	100
MLP-30R7		Ø230×1.2×Ø12.7	50
MLP-40Z1	1. medium hardness ferrous metal 2. HV hardness value: 180~600	Ø250×1.5×Ø32	60
MLP-40Z2		Ø250×2.0×Ø32	50
MLP-40Z3		Ø300×2.0×Ø32	50
MLP-40Z4		Ø350×2.5×Ø32	40
MLP-40Z5		Ø150×0.6×Ø12.7	100
MLP-40Z6		Ø200×1.0×Ø12.7	100
MLP-40Z7		Ø230×1.2×Ø12.7	50
MLP-50Z1	1. hard ferrous metal 2. HV harndess value: 180~700	Ø250×1.5×Ø32	60
MLP-50Z2		Ø250×2.0×Ø32	50
MLP-50Z3		Ø300×2.0×Ø32	50
MLP-50Z4		Ø350×2.5×Ø32	40
MLP-50Z5		Ø400×3.0×Ø32	25
MLP-50Z6		Ø450×3.2×Ø32	25
MLP-50Z7		Ø509×4.0×Ø38.1	10
MLP-50Z8		Ø610×4.0×Ø38.1	10
MLP-60Y1	1. high hardness ferrous metal 2. HV harndess value: 250~900	Ø250×1.5×Ø32	60
MLP-60Y2		Ø250×2.0×Ø32	50
MLP-60Y3		Ø300×2.0×Ø32	50
MLP-60Y4		Ø350×2.5×Ø32	40
MLP-60Y5		Ø150×0.6×Ø12.7	100
MLP-60Y6		Ø200×1.0×Ø12.7	100
MLP-60Y7		Ø230×1.2×Ø12.7	50

CUTTING COOLANT

- Free of mineral oil and sodium nitrite, suitable for all kinds of metallographic cutting machines
- Harmless to human health and environment

Code	Description	Specification
MLP-OL1	1. fully synthetic concentrate, used for various types of cutting machines, specially for built-in cooling circulatory system models 2. concentrate, dilute 1:20 with water 3. replace regularly, recommended once a month	1L
MLP-OL2		2L
MLP-OL3		4L
MLP-OL4		6L
MLP-OL5		10L
MLP-OL6	1. oily mixture, use directly 2. cut water sensitive materials at low speed (high speed cutting machine is prohibited) 3. replace regularly, recommended once a month	1L
MLP-OL7		4L

HOT MOUNTING RESIN

- Suitable for small sample preparation

Code	Color	Description	Package
MLP-DR1	black	1. for common sample preparation, fast grinding speed 2. usage: 135±5°C, 5~8min	0.5kg
MLP-DR2			1kg
MLP-DR3			4kg
MLP-DR4	black	1. edge protection type, sample binding, high hardness, slow grinding speed 2. usage: 140±5°C, 8~15min	0.5kg
MLP-DR5			1kg
MLP-DR6			4kg
MLP-DR7	black	1. carbon phenolic polymer, high electrical conductivity, used in fields such as SEM and TEM 2. usage: 140±5°C, 8~15min	0.5kg
MLP-DR8			1kg
MLP-DR9	red	1. for common sample preparation, fast grinding speed 2. usage: 135±5°C, 5~8min	0.5kg
MLP-DR10			1kg
MLP-DR11	white	1. for common sample preparation, fast grinding speed 2. usage: 135±5°C, 5~8min	0.5kg
MLP-DR12			1kg
MLP-DR13			4kg
MLP-DR14	green	1. for common sample preparation, fast grinding speed 2. usage: 135±5°C, 5~8min	0.5kg
MLP-DR15			1kg
MLP-DR16			4kg
MLP-DR17	transparent	1. transparent, soluble, for sample with size, position, depth and other requirements 2. usage: 150±5°C, 15~20min	0.5kg
MLP-DR18			1kg
MLP-DR19			4kg

COLD MOUNTING CONSUMABLES

MLP-CM1

Code	Description	Package
MLP-CM1	1. fast curing speed, good transparency, low viscosity, high strength 2. for metallographic samples without heating, pressure and mounting 3. curing time: 25°C, 25min 4. usage: mix cold mounting resin and curing liquid at 10:8	cold mounting resin: 1000g curing agent: 800ml
MLP-CM3	1. fast curing speed, good transparency 2. for samples which can not be heated, like PCB, SMT and other micro-slice samples 3. curing time: 25°C, 1h 4. usage: mix resin liquid and curing liquid at 2:1	resin liquid: 1000ml curing agent: 500ml
MLP-CM4	1. low viscosity, good permeability, high transparency 2. for samples which can not be heated, like PCB, SMT and other micro-slice samples 3. curing time: 25°C, 3~4h 4. usage: mix resin liquid and curing liquid at 2:1	resin liquid: 1000ml curing agent: 500ml
MLP-CM5	1. low heat generation, low shrinkage, high permeability, high transparency 2. for temperature-sensitive samples, like PCB, SMT and other micro-slice samples 3. curing time: 25°C, 20~24h 4. usage: mix resin liquid and curing liquid at 3:1	resin liquid: 1000ml curing agent: 300ml
MLP-CM7	1. UV curing adhesive, high transparency, good fluidity 2. for scenarios that require rapid embedding, like PCB, SMT and other micro-slice samples 3. curing time: used with light curing machine, curing time less than 10min 4. usage: use directly	UV adhesive: 1000ml

MOUNTING DISCHARGING AGENT

Code	Description	Specifications
MLP-RA	for hot mounting press and cold mounting mold discharging	200ml/bottle

SLICE CLIPS

Code	Description	Specifications
MLP-QP1	stainless steel roll slice clip, for hot and cold mounting fixing	100 pieces/pack
MLP-QP2	PET roll slice clip, for hot and cold mounting fixing	100 pieces/pack

MLP-QP1

MLP-QP2

COLD MOUNTING MOLDS

Code	Description	Specification (mm)
MLP-QM1	round soft mold, for cold embedding of epoxy resin, cold mounting resin on metallographic slice specimens	Ø20×18
MLP-QM2		Ø25×18
MLP-QM3		Ø30×18
MLP-QM4		Ø40×23
MLP-QM5		Ø50×23
MLP-QM6	square soft mold, for cold embedding of epoxy resin, cold mounting resin on metallographic slice specimens	55×20×22
MLP-QM7		70×40×22
MLP-QM8	round hard mold, for cold embedding of epoxy resin, cold mounting resin on metallographic slice specimens	Ø25×23
MLP-QM9		Ø30×27
MLP-QM10		Ø32×27
MLP-QM11		Ø40×29

DIAMOND POLISHING LIQUID

- For surface grinding and polishing of metallographic, lithographic, ferrous and non-ferrous metals, ceramics, composite materials, gems, instruments, optical glass of high finish
- Compared with ordinary polishing agent, under the same grinding and polishing quality, consumption is saved 30%, time is saved 60%

Code	Description	Granularity (μm)	Package
MLP-DLA□□*	1. single crystal, water-based, ethylene glycol-based polishing lubricant formulation 2. for general metallographic preparation	40, 30, 28, 20, 14, 10, 9, 7, 6, 5, 3.5, 3, 2.5, 1.5, 1.0, 0.5, 0.25	500ml
MLP-DLB□□*	1. single crystal, water-based, propylene glycol-based polishing lubricant formulation 2. for grinding and polishing of soft and ductile materials	30, 20, 15, 14, 9, 7, 6, 5, 3, 2.5, 1.5, 1.0, 0.5, 0.25	500ml
MLP-DLC□□*	1. single crystal, water-based, propylene glycol-based polishing lubricant formulation 2. for ultra-precision polishing	0.05	500ml
MLP-DLD□□*	1. single crystal, oil-based, solvent-based polishing lubricant formulation 2. for grinding and polishing of soft materials and materials which cannot touch water	20, 14, 9, 7, 5, 3.5, 2.5, 1.5, 1.0, 0.5, 0.25	500ml
MLP-DLE□□*	1. polycrystalline, water-based, propylene glycol based polishing lubricant formula 2. for grinding and polishing of different materials and hardness components	9, 6, 3, 1.0, 0.5, 0.25	500ml
MLP-DLF□□*	1. polycrystalline, water-based, denatured ethanol based polishing lubricant formula 2. for grinding and polishing of materials which cannot touch water	9, 6, 3, 1.0, 0.5, 0.25	500ml

*□□ is granularity specification, for example, code **MLP-DLA40** stands for 40μm

DIAMOND SPRAY POLISH AGENT

- Contains multiple types of diamonds and special grinding media. For the grinding and polishing of metals, ceramics, composite materials, glass, gemstones, etc.
- No freon is contained and it is environmentally friendly

Code	Description	Granularity (μm)	Package
MLP-DSA□□*	1. formula of polishing lubricant based on single crystal and absolute ethanol 2. used for the grinding and polishing of samples of various materials, as well as parts such as instruments and meters	40, 28, 20, 14, 10, 7, 5, 3.5, 2.5, 1.5, 1.0, 0.5, 0.25	350ml

*□□ is granularity specification, for example, code **MLP-DSA40** stands for 40μm

ALUMINUM OXIDE POLISHING LIQUID

- With high hardness, often applied to the polishing of ordinary steel, metals, ceramics, glass, etc.
- Can eliminate defects such as stains and scratches, and a high degree of smoothness can be achieved

Code	Description	Granularity (μm)	Package
MLP-LXA□□*	1. made from high-purity aluminum oxide powder, with high hardness and strong grinding force, applied to the precision polishing of materials like steel, cast iron, refractory metals, carbides, and high-temperature alloys 2. usage: use directly	40, 28, 20, 14, 10, 7, 5, 3, 1.5, 0.5	500ml
MLP-LXB□□*		0.05	500ml

*□□ is granularity specification, for example, code **MLP-LXA40** stands for 40μm

POLISHING LUBRICANT

- Used for lubrication and cooling during the fine grinding and polishing of metallographic specimens
- Has a remarkable effect on the grinding and polishing of softer metals
- Can be used in combination with metallographic polishing and grinding machines of various specifications, and is especially suitable for fully automatic metallographic polishing and grinding machines

Code	Description	Package
MLP-RH1	blue, alcohol based used as a cooling lubricant for the fine grinding of most materials and polishing	1000ml
MLP-RH2	red, alcohol based used in combination with diamond polishing agent for the final polishing of softer materials	1000ml
MLP-RH3	yellow, oil based used for the final polishing of soft materials such as lead and tin, as well as materials that react with water	1000ml

ANTI-STICK DISCS

- Improve the utilization rate of sandpaper and polishing cloth, make the replacement more convenient
- Perfectly match all kinds of adhesive backed consumables

Code	Size
MLP-DC1	Ø203mm
MLP-DC2	Ø250mm
MLP-DC3	Ø300mm

MAGNETIC PADS

- Improve the utilization rate of sandpaper and polishing cloth, make the replacement more convenient
- Match with the anti-stick disc to quickly replace the grinding papers/polishing cloths

Code	Size
MLP-AD1	Ø203mm
MLP-AD2	Ø250mm
MLP-AD3	Ø300mm

SILICON CARBIDE GRINDING PAPERSERS

- Suitable for rough grinding and fine grinding of various metallographic specimens. Can be used for dry grinding or wet grinding
- Made of silicon carbide abrasive, manufactured by the electrostatic sand coating process, good waterproof, with evenly distributed abrasive grains, sharp in grinding, and durable

Code	Girt	Size	Package (pcs/box)
MLP-SZA□□*	120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000	230×280mm (square)	100 pcs
MLP-SZB□□*	120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000	Ø200mm	100 pcs
MLP-SZC□□*	2500, 3000	Ø200mm	100 pcs
MLP-SZD□□*	120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000	Ø200mm (PSA)	50 pcs
MLP-SZE□□*	2500, 3000	Ø200mm (PSA)	50 pcs
MLP-SZF□□*	120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000	Ø250mm	100 pcs
MLP-SZG□□*	120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000	Ø250mm (PSA)	50 pcs
MLP-SZH□□*	2500, 3000	Ø250mm (PSA)	50 pcs
MLP-SZI□□*	120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000	Ø300mm	100 pcs
MLP-SZJ□□*	120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000	Ø300mm (PSA)	50 pcs

* □□ is grits specification, for example, code **MLP-SZA120** stands for 120 grits

POLISHING CLOTHS

- Used for rough and fine polishing during metallographic sample preparation
- Applicable to metallographic polishing machines of all models and specifications

Code	Material	Description	Size	Package (pcs/box)
MLP-CT1	velvet	1. chemical fiber material, with 7μm~2.5μm diamond oxide abrasives selected 2. for common polishing of steel materials	Ø200mm (PSA)	15 pcs
MLP-CT2			Ø250mm (PSA)	15 pcs
MLP-CT3			Ø300mm (PSA)	15 pcs
MLP-CT4			Ø250mm	15 pcs
MLP-CT5			Ø300mm	15 pcs
MLP-CT6	velvet	1. silk material, with 3.5μm~0.5μm diamond abrasives selected, or 1μm~0.05μm oxide abrasives 2. for polishing steel, hard metals, metal alloys, metallographic slices of metals, or high precision materials	Ø200mm (PSA)	15 pcs
MLP-CT7			Ø250mm (PSA)	15 pcs
MLP-CT8			Ø300mm (PSA)	15 pcs
MLP-CT9			Ø250mm	15 pcs
MLP-CT10			Ø300mm	15 pcs
MLP-CT11	velveteen	1. short - pile material, with 10μm~5μm diamond and oxide abrasives selected 2. for polishing steel materials or materials such as electronic circuit boards, copper, aluminum, and magnesium	Ø200mm (PSA)	15 pcs
MLP-CT12			Ø250mm (PSA)	15 pcs
MLP-CT13			Ø300mm (PSA)	15 pcs
MLP-CT14			Ø250mm	15 pcs
MLP-CT15			Ø300mm	15 pcs
MLP-CT16	flocking	1. short-pile material, with 7μm~2.5μm diamond and oxide abrasives selected 2. for polishing materials such as steel, metal alloys, non metals, polymers, ceramics, electronic components, heat-treated surfaces, and metallographic slices of metals	Ø200mm (PSA)	15 pcs
MLP-CT17			Ø250mm (PSA)	15 pcs
MLP-CT18			Ø300mm (PSA)	15 pcs
MLP-CT19			Ø250mm	15 pcs
MLP-CT20			Ø300mm	15 pcs
MLP-CT21	silk	1. silk material, with 1μm~0.05μm diamond and oxide abrasives selected 2. for precision mirror polishing of ferrous metals, non-ferrous metals, coatings, plastics, polymers and all materials of medium hardness	Ø200mm (PSA)	15 pcs
MLP-CT22			Ø250mm (PSA)	15 pcs
MLP-CT23			Ø300mm (PSA)	15 pcs
MLP-CT24			Ø250mm	15 pcs
MLP-CT25			Ø300mm	15 pcs
MLP-CT26	wool fabric	1. wool material, with 5μm~3μm diamond and oxide abrasives selected 2. for fine polishing of soft non-ferrous metal materials or polishing of steel materials	Ø200mm (PSA)	15 pcs
MLP-CT27			Ø250mm (PSA)	15 pcs
MLP-CT28			Ø300mm (PSA)	15 pcs
MLP-CT29			Ø250mm	15 pcs
MLP-CT30			Ø300mm	15 pcs
MLP-CT31	nylon	1. chemical fiber material, with 10μm~5μm diamond and oxide abrasives selected 2. for polishing of glass electrodes, carbides, non-metallic metallographic slice materials and general polishing of steel materials	Ø200mm (PSA)	15 pcs
MLP-CT32			Ø250mm (PSA)	15 pcs
MLP-CT33			Ø300mm (PSA)	15 pcs
MLP-CT34			Ø250mm	15 pcs
MLP-CT35			Ø300mm	15 pcs
MLP-CT36	canvas	1. pure cotton material, with 14μm~7μm diamond, oxide and other abrasives selected 2. for primary rough polishing of steel materials, non-ferrous metals and cemented carbides	Ø200mm(PSA)	15 pcs
MLP-CT37			Ø250mm(PSA)	15 pcs
MLP-CT38			Ø300mm(PSA)	15 pcs
MLP-CT39			Ø250mm	15 pcs
MLP-CT40			Ø300mm	15 pcs
MLP-CT41	rubber	1. rubber material, with 1μm~0.05μm oxide abrasives selected 2. for polishing materials such as non-ferrous metals, optical fibers, gemstones and crystals, and optical glass	Ø200mm(PSA)	10 pcs
MLP-CT42			Ø250mm(PSA)	10 pcs
MLP-CT43	polyurethane	1. polyurethane material, with 9μm~2μm diamond and oxide abrasives selected 2. for polishing materials such as glass, silicon wafers, and crystals	Ø200mm(PSA)	10 pcs
MLP-CT44			Ø250mm(PSA)	10 pcs

03 FLAW DETECTORS

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Ultrasonic Water Immersion Detection Systems
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Ultrasonic Flaw Detector For Concretes
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Portable Magnetic Powder Flaw Detectors
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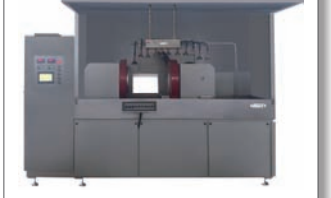

Fluorescent Magnetic Powder Flaw Detectors
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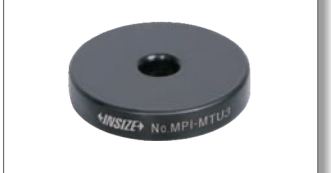

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Wire Rope Flaw Detectors
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VIDEO

PORTABLE EDDY CURRENT FLAW DETECTOR
CODE ECT-S610

- Real-time impedance plane and time base sweep display modes available
- Easy to operate menu interface, with universal knob operation is more convenient and fast
- Analyzes the signal waveform of the entire detection process, automatically measuring phase and amplitude
- With amplitude and phase alarms and settable boundaries
- 5.7" industrial-grade TFT display, can work in outdoor and direct sunlight environment
- 500 sets of data, 500 sets of parameters, or 40 minutes of video storage
- Applicable to all kinds of metal materials and parts, such as weld cracks, copper pipe, seamless steel pipe, stainless steel pipe, folding, scars, pits, cracks, delamination and other defects, with high sensitivity

SPECIFICATION

Detection channel	channel 1 (X1-Y1), channel 2 (X2-Y2), mixing channel
Detection frequency	2
Transmission frequency	50Hz~10MHz
Driving voltage	8 adjustable steps
Phase adjustment	360° (1° step)
Gain adjustment	0~90dB (step 0.1dB)
Sampling frequency	40MHz, 12-bit data acquisition
Digital filtering	high pass: 1Hz-1950Hz, low pass: 3Hz-2000Hz
Alarm mode	amplitude and phase alarm
Alarm box	alarm frame modes: off, amplitude phase, half-amplitude phase, square box
Probe type	bridge
Display	time base, impedance plane
Auxiliary measurements	automatic/manual measurement of amplitude and phase
Balance mode	digital balance
Display modes	dot, line, fade mode
Interface	Q9 interface, USB HOST, Mini HDMI
Environmental temperature	-10~50°C
Relative humidity	20~95%RH
Power supply	rechargeable lithium battery, working time 6~8h
Dimensions (L×W×H)	251×171×52mm
Weight	1.5kg

right angle probe (included)

pen probe (included)

aluminum alloy flat test block (included)

stainless steel plate test block (included)

STANDARD DELIVERY

Main unit	1 pc
Pen probe 50K~500KHz	1 pc
Pen probe 500K~3MHz	1 pc
Right angle probe 50K~500KHz	1 pc
Right angle probe 500K~3MHz	1 pc
Aluminum alloy flat test block	1 pc
Stainless steel plate test block	1 pc
Hexagon bar wrench	1 pc
Probe connecting cable	1 pc
Mainframe backpack	1 pc
USB disk	1 pc
Power adapter	1 pc

DIGITAL ULTRASONIC FLAW DETECTOR (ADVANCED TYPE)
CODE UFD-P710

VIDEO

external wireless phased array module (**optional**)

- With fast, accurate display and analysis of defective echo signals, a variety of weak signal changes and details can respond in a timely manner, the real-time echo signal and authenticity can be effectively guaranteed
- For the detection of high attenuation materials or thick workpiece has excellent penetration and letter ratio; sharp wave excitation technology and adjustable pulse width, pulse voltage, emission anisotropic square wave technology in the detection of thin workpiece and composite materials have a high resolution
- FIR digital filtering technology better signal-to-noise ratio; probe frequency harmonic analysis, can better analyze the probe performance information
- Automatic calibration of material speed of sound, probe delay, probe K value; convenient DAC, AVG curve creation and application
- USB HOST interface, can be connected to an external U disk to achieve data transmission; can be connected to an external WIFI module to achieve communication with other wireless devices
- HDMI video output for flaw detection and teaching presentations
- Ultra-large capacity storage space for continuous dynamic recording data storage
- Wireless phased array module can be connected, so that the conventional ultrasonic flaw detector has the same detection function as phased array instrument

single-element straight probe (included)

single-element angle probe (included)

wireless phased array module (**optional**)

phased array probe (**optional**)

FUNCTIONS

Flaw detection standard	built-in common flaw detection standards, direct call, convenient and fast
Auto calibration	automatic calibration of probe zero offset, probe angle (K value) and material velocity
Peak hold	compare frozen peak waveforms to live A-Scans to easily interpret test results
Flaw locating	live display sound-path, projection (surface distance), depth, amplitude
Flaw discrimination	automatic flaw sizing using AVG or DAC, speeds reporting of defect acceptance or rejection
Flaw sizing	the equivalent dB value of defects or equivalent size of defects are displayed in real time
Curved surface correction	used for flaw detection of curved workpiece, it can display the circumferential position of defects in real time
DAC/AVG	the curve is automatically generated, and the sampling points can be compensated and corrected. The curve automatically floats with the gain, automatically expands with the detection distance, and automatically moves with the delay time. It can display the AVG curve of any aperture
AWS D1.1/1.5	choosing this standard can reduce manual calculations and improve detection efficiency
Automatic rating	select different AWS standards, automatically calculate the rating of defects and display
Crack height	the crack height is measured and calculated automatically by the diffracted wave at the end
Gate magnify	spreading of the gate range over the entire screen width
Continuous record	video recording and playback
Echo coding	display 1~9 echo display area in different colors, used to analyze the defect position
Scan freeze	display freeze holds waveform and test distance data
Peak mark	capture and mark the peak in real time
B scan	intuitively display the defect shape of the workpiece and the detection result is more intuitive

To be continued

Continued from previous page

SPECIFICATION

Measuring range	0~10000mm
Working frequency	0.5~20MHz
Material velocity	1000~15000m/s, adjustable in continuity; 30 pre-set nominated velocities for common materials
Repetition frequency	25~1600Hz
Dynamic range	≥32dB
Gain range	0.0~110dB (steps: 0.1dB, 1.0dB, 2.0dB, 6.0dB)
Vertical linearity	≤3.0%
Horizontal linearity	≤0.4%
Resolving power	>26dB (2.5P20)
Sensitivity leavings	>62dB (200Ø2 flat bottom hole, narrow band)
Attenuator	12dB±1dB
Suppression	0~99%
Noise	≤10%
Display screen	5.7"TFT color LCD, resolution 640x480
Pulse type	sharp wave, negative square wave, bipolar square wave; transmit voltage 50~250V adjustable, step 50V
Pulse shift	-7.5~3000us
Probe zeroing	0~200us
Rectification	positive, negative, full-play, RF
Gates and alarms	two-way gate, optional: into the wave alarm, lost wave alarm, DAV curve alarm, alarm signal for sound and light alarms measurement mode: peak, frontal
Interface	Q9 (BNC), USB HOST, Mini HDMI
Damping	400Ω, 80Ω
Power supply	rechargeable lithium-ion battery, working time 6~8h
Storage temperature	-30~50°C
Relative humidity	20~95%RH
Dimensions (L×W×H)	246×166×50mm
Weight	1.3kg

STANDARD DELIVERY

Main unit	1 pc
Single-element straight probe UFD-P70	1 pc
Single-element angle probe UFD-P71	1 pc
Probe connecting cable	2 pcs
Mainframe backpack	1 pc
USB disk	1 pc
Power adapter	1 pc

OPTIONAL ACCESSORY

Probe	refer to specification of transducers
Wireless phased array module	**UFD-PA11**
Phased array probe	**UFD-PA06**

SPECIFICATION OF PROBE

Code	Frequency	Size	Probe type	Probe transducer angle
UFD-P70 (included)	2.5MHz	Ø20mm	single-element straight probe	90°
UFD-P71 (included)	2.5MHz	13×13mm	single-element angle probe	45°
UFD-P72 (optional)	2.5MHz	Ø14mm	dual-element straight probe	90°
UFD-P73 (optional)	5.0MHz	Ø20mm	single-element straight probe	90°
UFD-P74 (optional)	2.5MHz	13×13mm	single-element angle probe	63.4°
UFD-P75 (optional)	5.0MHz	8×12mm	single-element angle probe	68.2°

Note: other probes can be customized according to customer requirements

SPECIFICATION OF PHASED ARRAY PROBE (OPTIONAL)

Code	Frequency	E-Nos	Pitch (mm)	Elev (mm)	Ptd. angle	Ptd. material
UFD-PA06 (optional)	2.5MHz	16	1.0	10	55°	plexiglass

DIGITAL ULTRASONIC FLAW DETECTOR (EXCELLENT TYPE)
CODE UFD-C870

VIDEO

- Small size, light weight, long battery standby time
- High sensitivity, accurate defect positioning, super anti-interference ability, stable and reliable performance
- Resistive touch screen, dust and oil resistant, sensitive touch
- The performance of instrument and probe combinations can be tested automatically
- Unique square wave excitation signal processing technology
- Launch voltage, probe damping, pulse width, filter band adjustable, suitable for different materials, different thickness of the workpiece accurate detection
- The background color and brightness can be freely adjusted to adapt to strong or low light environments to ensure a clear display
- Full course, continuous, dynamic high-capacity recording of test echoes and data, support for data playback, through the U disk export
- Built-in wifi, can realize the flaw detector and computer synchronization real-time display

single-element straight probe (included)

single-element angle probe (included)

FUNCTIONS

Flaw detection standard	built-in common flaw detection standards, direct call, convenient and fast
Auto calibration	automatic calibration of probe zero offset, probe angle (K value) and material velocity
Peak hold	compare frozen peak waveforms to live A-Scans to easily interpret test results
Flaw locating	real-time display of defect level, depth (vertical), sound range projection
Flaw discrimination	automatic flaw sizing using AVG or DAC, speeds reporting of defect acceptance or rejection
Flaw sizing	the equivalent dB value of defects or equivalent size of defects are displayed in real time
Curved surface correction	used for flaw detection of curved workpiece, it can display the circumferential position of defects in real time
DAC/AVG	the curve is automatically generated, and the sampling points can be compensated and corrected. The curve automatically floats with the gain, automatically expands with the detection distance, and automatically moves with the delay time. It can display the AVG curve of any aperture
AWS D1.1	choosing this standard can reduce manual calculations and improve detection efficiency
Weld diagram	support V type, T type, X type and other weld types, acoustic path navigation real-time display, weld and defect location real-time display, scaling, easy to locate defects
Automatic rating	select different AWS standards, automatically calculate the rating of defects and display
Gate magnify	spreading of the gate range over the entire screen width
Continuous record	real-time waveform recording, storage and playback
Echo coding	distinguish between odd/even wave colors only
Scan freeze	display freeze holds waveform and test distance data
Peak mark	capture and mark the peak in real time
B scan	intuitively display the defect shape of the workpiece and the detection result is more intuitive

To be continued

Continued from previous page

SPECIFICATION

Measuring range	0~20000mm
Working frequency	0.4~20MHz
Material velocity	20~20000m/s
Repetition frequency	60~1000Hz
Dynamic range	≥32dB
Gain range	0~110dB (steps: 0.1dB, 1.0dB, 2.0dB, 6.0dB, 12dB)
Vertical linearity	≤2.0%
Horizontal linearity	≤0.1%
Resolving power	>36dB
Sensitivity leavings	>62dB (200Ø2 flat bottom hole, narrow band)
Attenuator	20dB±1dB
Suppression	0~90%
Noise	≤10%
Displsy screen	5.0"TFT color LCD touch screen, resolution 800×480
Pulse voltage	50V/100V/200V/400V four adjustable steps
Pulse width	50ns~1000ns adjustable
Rectification	positive, negstive, full-paiy, RF
Gates and alarms	two-way gate optional: into the wave alarm, lost wave alarm, DAV curve alarm, alarm signal for sound and light alarms measurement mode: peak, frontal
Interface	C5 (BNC), USB (type C), VGA
Damping	50Ω/500Ω adjustable in two steps
Operating temperature	-20~50°C
Relative humidity	20~95%
Power	rechargeable lithium-ion battery, working time>8h
Dimensions (L×W×H)	180×110×45mm
Weight	0.68kg

STANDARD DELIVERY

Main unit	1 pc
Single-element straight probe UFD-C80	1 pc
Single-element angle probe UFD-C81	1 pc
Probe connecting cable	2 pcs
USB cable	1 pc
USB disk	1 pc
Power adapter	1 pc

SPECIFICATION OF PROBE

Code	Frenquency	Size	Probe type	Probe sensor angle
UFD-C80 (included)	2.5MHz	Ø20mm	single-element straight probe	90°
UFD-C81 (included)	2.5MHz	13×13mm	single-element angle probe	63.4°
UFD-C82 (optional)	5.0MHz	Ø10mm	dual-element straight probe	90°
UFD-C83 (optional)	5.0MHz	Ø10mm	single-element straight probe	90°
UFD-C84 (optional)	2.5MHz	9×9mm	single-element angle probe	45°
UFD-C85 (optional)	2.5MHz	9×9mm	single-element angle probe	71.6°

Note: other probes can be customized according to customer requirements

DIGITAL ULTRASONIC FLAW DETECTOR (STANDARD TYPE)
CODE UFD-F720

VIDEO

- Compact and lightweight, easy to carry
- High sensitivity, accurate defect positioning, super anti-interference ability, stable and reliable performance
- Built-in automatic performance test function
- Unique square wave excitation signal processing technology
- The background color and brightness can be freely adjusted to adapt to strong or low light environments to ensure a clear display
- Real-time dynamic recording of detection waveforms, data, rapid export via U disk

straight-beam probe
(included)

angle-beam probe
(included)

FUNCTIONS

Flaw detection standard	built-in common flaw detection standards, direct call, convenient and fast
Auto calibration	automatic calibration of probe zero offset, probe angle (K value) and material velocity
Peak hold	compare frozen peak waveforms to live A-Scans to easily interpret test results
Flaw locating	real-time display of defect level, depth (vertical), sound range projection
Flaw discrimination	automatic flaw sizing using AVG or DAC, speeds reporting of defect acceptance or rejection
Flaw sizing	the equivalent dB value of defects or equivalent size of defects are displayed in real time
DAC/AVG	the curve is automatically generated, and the sampling points can be compensated and corrected. The curve automatically floats with the gain, automatically expands with the detection distance, and automatically moves with the delay time. It can display the AVG curve of any aperture
AWS D1.1	choosing this standard can reduce manual calculations and improve detection efficiency
Automatic rating	select different AWS standards, automatically calculate the rating of defects and display
Gate magnify	spreading of the gate range over the entire screen width
Continuous record	real-time waveform recording, storage and playback
Scan freeze	display freeze holds waveform and test distance data
Peak mark	capture and mark the peak in real time

To be continued

Continued from previous page

SPECIFICATION

Measuring range	0~15000mm
Working frequency	0.4~20MHz
Material velocity	0~10000m/s
Dynamic range	≥36dB
Gain range	0~110dB (steps:0.1dB, 1.0dB, 2.0dB, 6.0dB, 12dB)
Vertical linearity	≤3.0%
Horizontal linearity	≤0.1%
Resolving power	>36dB
Sensitivity leavings	>62dB (200Ø2 flat bottom hole, narrow band)
Attenuator	20dB±1dB
Suppression	0~90%
Pulse energy	400V
Noise	≤10%
Pulse front	≤10ns
Displsy screen	5.7"TFT color LCD, resolution 640×480
Probe selection	straight probe, angle probe, penetrating probe, climbing probe
Gates	incoming wave gate, lost wave gate, single gate reading, double gate reading
Alarms	incoming wave alarm, lost wave alarm, double gate alarm, buzzer alarm, LED light alarm
Interface	Q9 (BNC), USB 2.0, VGA
Operating temperature	-20~50°C
Relative humidity	20~95%
Power	rechargeable lithium-ion battery
Dimensions (L×W×H)	228×140×42mm
Weight	1.0kg

STANDARD DELIVERY

Main unit	1 pc
Single-element straight probe UFD-F70	1 pc
Single-element angle probe UFD-F71	1 pc
Probe connecting cable	2 pcs
USB cable	1 pc
Mainframe backpack	1 pc
USB disk	1 pc
Power adapter	1 pc

SPECIFICATION OF PROBE

Code	Frenquency	Size	Probe type	Probe sensor angle
UFD-F70 (included)	2.5MHz	Ø20mm	single-element straight probe	90°
UFD-F71 (included)	2.5MHz	13×13mm	single-element angle probe	63.4°
UFD-F72 (optional)	5.0MHz	Ø10mm	dual-element straight probe	90°
UFD-F73 (optional)	5.0MHz	Ø10mm	single-element straight probe	90°
UFD-F74 (optional)	2.5MHz	9×9mm	single-element angle probe	45°
UFD-F75 (optional)	2.5MHz	9×9mm	single-element angle probe	71.6°

Note: other probes can be customized according to customer requirements

DIGITAL ULTRASONIC FLAW DETECTOR (BASIC TYPE)
CODE UFD-B450

VIDEO

- Full plastic housing with tempered glass panel, extremely hard, wear-resistant and scratch-resistant
- Full-digital multi-color high resolution (640×480 pixels) TFT LCD display
- The operation interface style can be selected according to the working environment, and the brightness of LCD can be set freely
- Selectable frequency ranges (automatically set by the instrument) to match probe for optimum performance
- Can choose to set the incoming wave alarm or lost wave alarm, accompanied by LED light display
- Real-time screenshots of all pages and flaw detection reports, and save them as BMP pictures to U disk
- Export the flaw detection report as a PDF file
- Unique Fn multifunction key design
- There is no limit of the number and duration of video recording through U disk
- Memory of 500 channel files to store calibration setups and probe parameter
- Memory of 1000 wave report files to store A-Scan wave and setting

straight-beam probe (included)

angle-beam probe (included)

couplant (included)

FUNCTIONS

Flaw detection standard	built-in common flaw detection standards, direct call, convenient and fast
Auto calibration	automatic calibration of probe zero offset, probe angle (K value) and material velocity
Peak hold	compare frozen peak waveforms to live A-Scans to easily interpret test results
Flaw locating	live display sound-path, projection (surface distance), depth, amplitude
Flaw discrimination	automatic flaw sizing using AVG or DAC, speeds reporting of defect acceptance or rejection
Flaw sizing	the equivalent dB value of defects or equivalent size of defects are displayed in real time
Curved surface correction	used for flaw detection of curved workpiece, it can display the circumferential position of defects in real time
DAC/AVG	the curve is automatically generated, and the sampling points can be compensated and corrected; the curve automatically floats with the gain, automatically expands with the detection distance, and automatically moves with the delay time; it can display the AVG curve of any aperture
AWS D1.1	choosing this standard can reduce manual calculations and improve detection efficiency
Weld diagram	support V type, T type, L type and other weld types, acoustic path navigation real-time display, weld and defect location real-time display, scaling, easy to locate defects
Automatic rating	select different AWS standards, automatically calculate the rating of defects and display
Crack height	the crack height is measured and calculated automatically by the diffracted wave at the end
Gate magnify	spreading of the gate range over the entire screen width
Continuous record	video recording and playback
Echo coding	display 1~9 echo display area in different colors, used to analyze the defect position
Scan freeze	display freeze holds waveform and test distance data
Peak mark	capture and mark the peak in real time
B scan	intuitively display the defect shape of the workpiece and the detection result is more intuitive

To be continued

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SPECIFICATION

Measuring range	0~15000mm
Working frequency	1~20MHz
Material velocity	100~20000m/s
Repetition frequency	20~2000Hz
Dynamic range	≥26dB
Vertical linearity	≤5.0%
Horizontal linearity	≤0.5%
Resolving power	>32dB
Sensitivity leavings	>54dB
Suppression	0~80%
Noise	≤10%
Probe selection	single crystal probe, dual crystal probe, penetrating probe, climbing probe
Pulse energy	100V, 200V, 250V, 300V, 350V, 400V, 450V, 500V (selectable)
Probe damping	50Ω, 150Ω, 250Ω, 500Ω (selectable)
Rectification	positive half wave, negative half wave, full wave, RF
Gates	two independent gates controllable over entire sweep range
Trigger	peak trigger, edge trigger
Alarms	threshold positive/negative with LED flash
Interface	USB 2.0
Operating temperature	-10~50°C
Relative humidity	20~95%RH
Power	build-in rechargeable battery
Dimensions (L×W×H)	230×157×52mm
Weight	1.13kg

STANDARD DELIVERY

Main unit	1 pc
Single-element straight probe UFD-T40	1 pc
Single-element angle probe UFD-T41	1 pc
USB cable	1 pc
Couplant	1 bottle
Probe connecting cable	2 pcs
USB disk	1 pc
Power adapter	1 pc

SPECIFICATION OF PROBE

Code	Frenquency	Size	Probe type	Transducer sensor angle
UFD-T40 (included)	2.5MHz	Ø20mm	single-element straight probe	90°
UFD-T41 (included)	4.0MHz	8×9mm	single-element angle probe	60°
UFD-T42 (optional)	5.0MHz	Ø10mm	dual-element straight probe	90°
UFD-T43 (optional)	5.0MHz	Ø10mm	single-element straight probe	90°
UFD-T44 (optional)	4.0MHz	8×9mm	single-element angle probe	45°
UFD-T45 (optional)	4.0MHz	8×9mm	single-element angle probe	70°

Note: other probes can be customized according to customer requirements

DIGITAL ULTRASONIC FLAW DETECTOR (BASIC TYPE)
CODE UFD-T680

VIDEO

- The all-aluminum metal shell is strong and durable, and the electromagnetic shielding performance is very good
- Tempered glass panel, extremely hard, wear-resistant and scratch-resistant
- Full-digital multi-color high resolution (640×480 pixels) TFT LCD display
- 4 operating interface styles can be selected according to the environment
- Real-time screenshots of all pages and flaw detection reports, and save them as BMP pictures to U disk
- Export the flaw detection report as a PDF file
- Unique Fn multifunction key design
- There is no limit of the number and duration of video recording through U disk
- Memory of 500 channel files to store calibration setups and probe parameter
- Memory of 1000 wave report files to store A-Scan wave and settings
- Two fully independent gates offer a range of measurement options for signal height or distance using peak triggering
- Can choose to set the incoming wave alarm or lost wave alarm, accompanied by LED light display
- Selectable frequency ranges (automatically set by the instrument) to match probe for optimum performance
- The unique automatic gain adjustment and gain scanning function make flaw detection fast and accurate

straight-beam probe (included)

angle-beam probe (included)

USB disk (included)

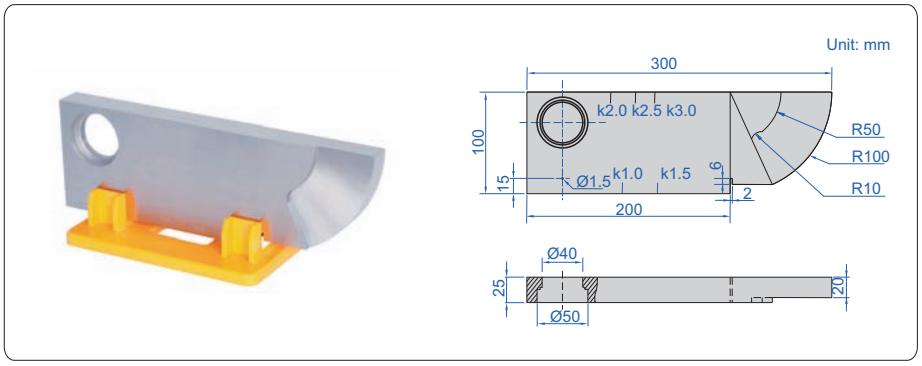
couplant (included)

FUNCTIONS

Flaw detection standard	built-in common flaw detection standards, direct call, convenient and fast
Auto calibration	automatic calibration of probe zero offset, probe angle (K value) and material velocity
Peak hold	compare frozen peak waveforms to live A-Scans to easily interpret test result
Flaw locating	live display sound-path, projection (surface distance), depth, amplitude
Flaw discrimination	automatic flaw sizing using AVG or DAC, speeds reporting of defect acceptance or rejection
Flaw sizing	the equivalent dB value of defects or equivalent size of defects are displayed in real time
Curved surface correction	used for flaw detection of curved workpiece, it can display the circumferential position of defects in real time
DAC/AVG	the curve is automatically generated, and the sampling points can be compensated and corrected. The curve automatically floats with the gain, automatically expands with the detection distance, and automatically moves with the delay time. It can display the AVG curve of any aperture
AWS D1.1	choosing this standard can reduce manual calculations and improve detection efficiency
Weld diagram	support V type, T type, L type and other weld types, acoustic path navigation real-time display, weld and defect location real-time display, scaling, easy to locate defects
Automatic rating	select different AWS standards, automatically calculate the rating of defects and display
Crack height	the crack height is measured and calculated automatically by the diffracted wave at the end
Gate magnify	spreading of the gate range over the entire screen width
Continuous record	video recording and playback
Echo coding	display 1~9 echo display area in different colors, used to analyze the defect position
Scan freeze	display freeze holds waveform and test distance data
Peak mark	capture and mark the peak in real time
B scan	intuitively display the defect shape of the workpiece and the detection result is more intuitive

To be continued

Continued from previous page



calibration block (**optional**)

SPECIFICATION

Measuring range	0~15000mm
Working frequency	0.2~20MHz
Material velocity	100~20000m/s
Repetition frequency	20~2000Hz
Dynamic range	≥36dB
Vertical linearity	≤3.0%
Horizontal linearity	≤1.0%
Resolving power	>42dB
Sensitivity leavings	>65dB
Suppression	0~80%
Noise	≤10%
Probe selection	single crystal probe, dual crystal probe, penetrating probe, climbing probe
Pulse energy	100V, 200V, 250V, 300V, 350V, 400V, 450V, 500V (selectable)
Pulse width	30ns-510ns
Probe damping	50Ω, 150Ω, 250Ω, 500Ω (selectable)
Rectification	positive half wave, negative half wave, full wave, RF
Gates	two independent gates controllable over entire sweep range
Interface	USB 2.0
Operation temperature	-10~50°C
Relative humidity	20~95%RH
Power supply	build-in rechargeable battery
Dimensions (L×W×H)	263×170×61mm
Weight	1.92kg

STANDARD DELIVERY

Main unit	1 pc
Single-element straight probe UFD-T60	1 pc
Single-element angle probe UFD-T61	1 pc
USB cable	1 pc
Couplant	1 bottle
Probe connecting cable	1 pc
USB disk	1 pc
Power adapter	1 pc

OPTIONAL ACCESSORY

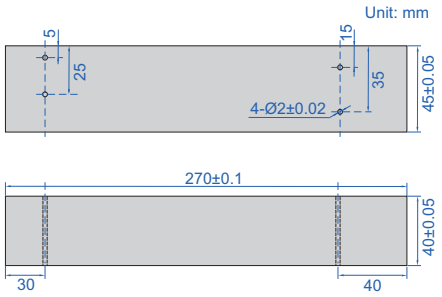
Calibration block	**UFD-CSK1**

SPECIFICATION OF PROBE

Code	Frequency	Size	Probe type	Transducer sensor angle
UFD-T60 (included)	2.5MHz	Ø20mm	single-element straight probe	90°
UFD-T61 (included)	4.0MHz	8×9mm	single-element angle probe	63.4°
UFD-T62 (optional)	5.0MHz	Ø10mm	dual-element straight probe	90°
UFD-T63 (optional)	5.0MHz	Ø10mm	single-element straight probe	90°
UFD-T64 (optional)	4.0MHz	8×9mm	single-element angle probe	45°
UFD-T65 (optional)	4.0MHz	8×9mm	single-element angle probe	71.6°

Note: other types of the probes are available

STANDARD TEST BLOCK FOR ULTRASONIC FLAW DETECTION



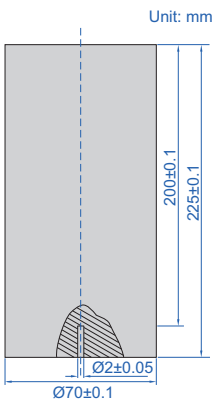
- Conforms to standard NB/T47013
- The test block is designed according to ultrasonic testing requirements on pressure-bearing welded joints (Type I)
- Applicable to tests on welded joints (Type I) by oblique probe and straight probe with work piece thickness range from 6mm to 40mm

SPECIFICATION **(mm)**

Code	Material	Measuring range	Transverse hole depth (transverse wave detection)	Transverse hole depth (longitudinal wave detection)
UFD-CSK-2A	20#	≥6~40	5、10、15、25、35	5、10、15、20、30、40

STANDARD TEST BLOCK FOR ULTRASONIC FLAW DETECTION

- The test block is used to determine sensitivity margins of straight probe and instrument's comprehensive performances, to adjust sensitivity of flaw detection, to determine sizes of defects and to determine performances indicators and their shapes, e. g. vertical linearity of instrument



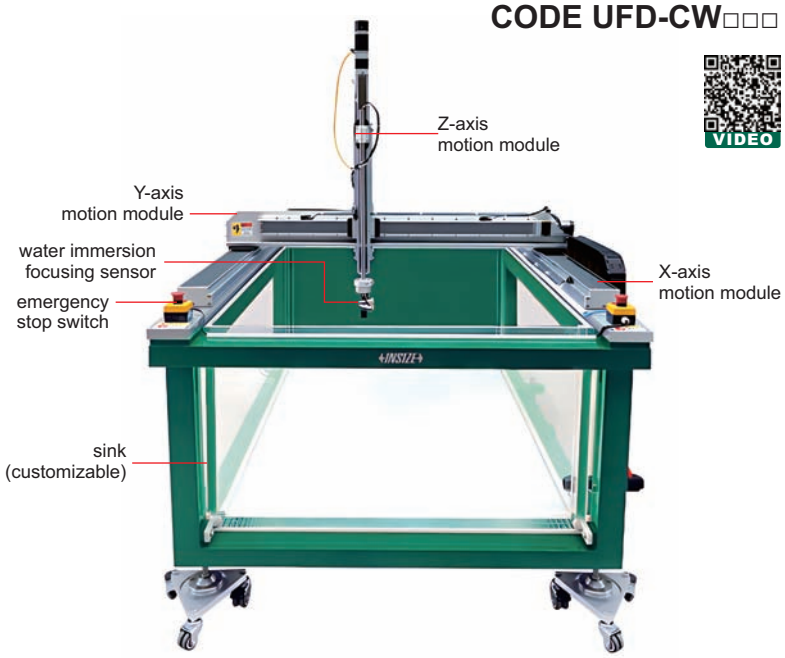
SPECIFICATION **(mm)**

Code	Material	Diameter	Length	Aperture (hole depth)
UFD-CS1-5	45#	Ø70	225	Ø2 (25)

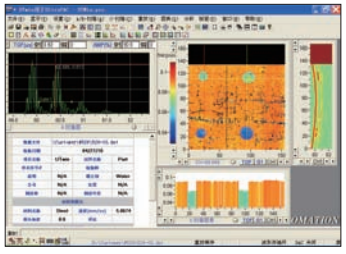
CUSTOMIZED ACCORDING TO WORKPIECES

ULTRASONIC WATER IMMERSION DETECTION SYSTEM
CODE UFD-CW□□□

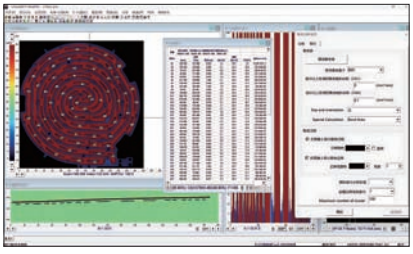
- Suitable for automatic scanning of inclusions, cracks, porosity, delamination and other defects in metal and composite parts
- High-speed ultrasonic acquisition module based on PCIE architecture
- Highly integrated ultrasonic A, B, C all-in-one scanning software, all functions in a single interface operation, easy to use
- Automatic localization, quantification, and statistical calculation of defects
- Automatically adapted to the wall thickness, each threshold can be set as an intelligent threshold, which automatically adjusts the width, height and other parameters of the threshold as the position changes, parameters with positional changes, so that a single scan of a workpiece with a variable cross-section thickness can be realized
- Powerful software and intelligent algorithms, automatically statistics defects



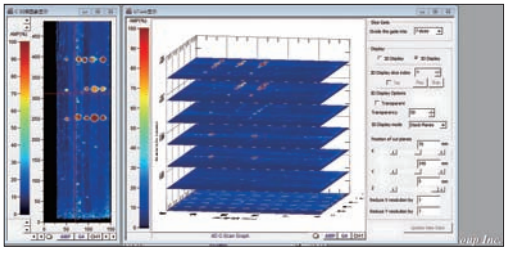
VIDEO



A, B, C, scanning integrated image interface



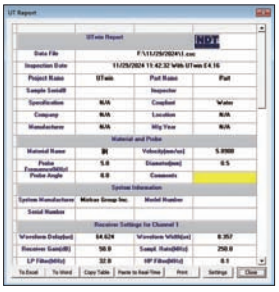
defect automatic measurement function interface



ultrasonic tomography (CT) interface

FUNCTIONS

Scanning mode	real-time A,B,C scanning and image display
Defect localization	automatic tracking and localization of defects
Analysis of defects	quantitative analysis of material defects-Cluster function
Intelligent threshold	automatically generate each corresponding image as well as difference and ratio images between gates
Automated statistics	function to automatically find the maximum and minimum points
Full waveform storage	full-wave RF record analysis and C-scan result reconstruction function



UT reporting interface

SPECIFICATION

Working gate	4 (different gate delays, width control, transient thresholds and detection thresholds)
Working frequency	0.1~32MHz
Material velocity	20~99999m/s
Repetition frequency	1~14000Hz (non-time-shared sampling)
Sampling frequency	Max. 250M
Gain	110dB, step 0.1dB
Detection accuracy	meets the AAA level detection accuracy in the standard (e.g. detection sensitivity Ø0.4mm-15dB in 20# mold steel)
Vertical linearity error	≤±2% (within 5~95%)
Horizontal linearity error	≤±1% (within the range of 0~90%)
Ultrasonic pulse wave modes	sharp wave, square wave, linear fm pulse, group pulse group pulse
Trigger mode	software control, external Input, signal threshold
Threshold control	program can control 1~100% full screen
A/D converter	14 bits
Valid itinerary	1200×900×500mm
Operation environmtement	temperature: -10~45°C, relative humidity: ≤85%
Power supply	220V, 50Hz
Dimension	1480×1190×1720mm (customizable)

ULTRASONIC FLAW DETECTOR FOR CONCRETE
CODE UFD-Q390

VIDEO

application

- Ultrasonic rebound synthesis method to measure the strength, defects, depth and width of the 4 major functions in one
- Automatically read the sound time and wave amplitude of a wave, without manual judgment operation, and directly display the test results
- Manually adjustable sound time line, data correction for more accurate detection results
- During the test process, you can arbitrarily playback, overwrite, and delete the waveform of the stored measurement points
- 10" high brightness touch screen, intelligent interaction interface, easy to learn and use convenient operation
- 4cm thin body, light weight and easy to carry
- Computer dedicated analysis software is powerful, data analysis and processing, print reports easily
- Suitable for: concrete strength testing, internal defect testing, surface crack depth testing, crack width testing in the construction industry; acoustic parameter testing of rock and non-metallic concrete materials, etc.

planar probe (included)

crack width calibration template (included)

miniature camera (included)

crack ranging scale (included)

hand torch (included)

SPECIFICATION

Detection channel	2
Depth measurement range	5~500mm
Width measurement range	0.01~10mm
Sound time measurement range	0~4096000μs
Wave amplitude measurement range	0~170dB
Sampling interval	0.025μs~2000μs multi-speed selectable
Sampling length	512points~2048points multi-speed selectable
Acceptance sensitivity	≤10μV
Transmit pulse width	0.1μs~100μs
Emission voltage	125V , 250V, 500V, 1000V selectable
Trigger method	automatic
Storage	built-in16GB
Data output	USB, WIFI
Operating temperature	-20~60°C
Power supply	rechargeable lithium battery, working time>8 hours
Dimensions (L×W×H)	283×216×41mm
Weight	1.8kg

STANDARD DELIVERY

Main unit	1 pc
Planar probe	2 pcs
Miniature camera	1 pc
Crack ranging scale	2 pcs
Crack width calibration template	1 pc
Hand torch	1 pc
Probe connection cables	2 pcs
USB disk	1 pc
Power adapter	1 pc

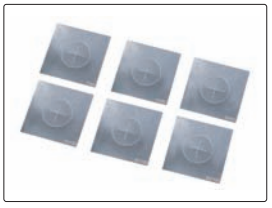
PORTABLE MAGNETIC POWDER FLAW DETECTORS

- Conformity to standards JB/T7411-2012 ASTM E1444-05 ASTM E709 EN10228-1:1999 ISO 9934 ASTM E3024
- Multiple power supply modes available

MPI-P110

DC battery pack 4400mAh **(optional)**

AC battery pack 6600mAh **(optional)**

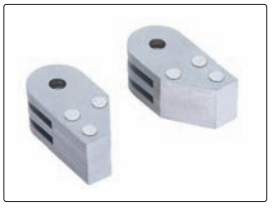


A1 standard sensitivity test piece **(optional)**

45N lifting force test block **(optional)**

177N lifting force test block **(optional)**

magnetic pole slope angle A **(optional)**



magnetic pole slope angle B **(optional)**

bag **(optional)**

SPECIFICATION

Code		MPI-P110	MPI-P220	MPI-P330
Magnetic field strength		>2KA/m		
Sensitivity		15/50 engraved groove clearly displayed on A1 standard sensitivity test piece		
Illumination		—	white light ≥2320Lux	UV lamp ≥5220μW/cm²
Duty cycle		>50% maximum excitation time 90 seconds		>30%
Lifting power	AC	≥4.5kg (44N)		
	DC	≥18.1kg (177N)		
Magnetic pole spacing		0-230mm		
Magnetic pole size		22×22mm		
Power supply		AC220V, 50/60Hz (DC battery pack or AC battery pack are optional)		
Power cord		european power cord		
Operation temperature		-10~40°C		
Relative humidity		<80% (no condensation)		
Dimension (L×W×H)		235×50×195mm		
Weight		2.3kg		

STANDARD DELIVERY

Main unit	1 pc

OPTIONAL ACCESSORY

DC battery pack 4400mAh	MPI-PDC440
AC battery pack 6600mAh	MPI-PAC660
A1 standard sensitivity test piece	MPI-PA1
45N lifting force test block	MPI-P45N
177N lifting force test block	MPI-P177N
Magnetic pole slope angle A	MPI-PMA
Magnetic pole slope angle B	MPI-PMB
Bag	MPI-PBG
British power cord	MPI-POWER-K
Brazilian power cord	MPI-POWER-B

PORTABLE AC MAGNETIC POWDER FLAW DETECTORS (ADVANCED TYPE)

VIDEO

IP54 WATERPROOF

- Conformity to standards JB/T7411-2012 ASTM E709-08 ASTM E1444 EN10228-1:1999 ISO 9934
- Light weight ergonomic design reduces operator muscle fatigue
- Magnetic pole feet of the movable joints can make good contact with any shape of parts

SPECIFICATION

Code	MPI-M510-P	MPI-M510-K	MPI-M510-B
Amps	AC 2.5A		
Sensitivity	15/100 engraved groove clearly displayed on A1 standard sensitivity test piece		
Duty cycle	>50% maximum excitation time 30 seconds		
Lifting Power	≥4.5kg (44N)		
Magnetic pole spacing	50-195mm		
Power supply	AC220V, 50Hz		
Power cord	european type	british type	brazilian type
Operation temperature	-10-40°C		
Dimension (L×W×H)	220×42×175mm		
Weight	2.3kg		

STANDARD DELIVERY

Main unit	1 pc

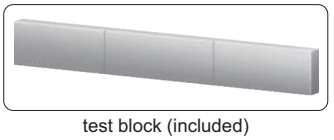
ADJUSTABLE FREQUENCY MAGNETIC POWDER FLAW DETECTOR CODE MPI-CX50

VIDEO

- Deep penetration of the magnetic field, which allows the detection of artificial cracks from the surface up to a depth of about 8 mm from the surface
- For workpieces made of ferromagnetic materials with thin paint, plating, or other coverings on the surface, flaw detection can be performed without any treatment
- Magnetization current using digital MCU to regulate phase inverter current, no demagnetization is required after flaw detection
- Low standby energy consumption, high efficiency, adjustable frequency
- Compact size, light weight, portable type

SPECIFICATION

Frequency		3Hz, 10Hz, 20Hz (adjustable)
Sensitivity		15/100 clearly displayed on A1 sensitivity test piece (20Hz)
Lifting power		≥44N (20Hz)
White light power		2W
Magnetic pole spacing		40~180mm
Lithium battery	voltage	12V
	current	1~2.4A
	capacity	10000mAh
	life	4~6h
	charging time	<6h
Operation temperature		-10~40°C
Dimension (L×W×H)		200×45×160mm
Weight		2kg



test block (included)

STANDARD DELIVERY

Main unit	1 pc
Lithium battery	1 pc
Power adapter	1 pc
Test block	1 pc
Fuse	2 pcs

CAN BE CUSTOMIZED ACCORDING TO CUSTOMER NEEDS

FLUORESCENT MAGNETIC POWDER FLAW DETECTOR
CODE MPI-FX□□□

VIDEO

- Conform to standards GB/T15822.1~3 GB3721-83, JB/T8290-2011 ASTM E1444-2016
- Specialized in non-destructive testing of the whole surface of ferrous materials
- With automatic program, it can realize a series of semi-automatic actions such as workpiece clamping, spraying, 360°rotation, compound magnetization, demagnetization, and releasing
- It has high inspection efficiency, low labor intensity of operators, and reliable practicality
- Touch screen
- With magnetization abnormality alarm, to prevent the leakage of detection
- With independent stirring pump, to ensure that the magnetic powder does not precipitate
- Suitable for non-destructive testing of various parts in aviation, aerospace, military, railroad, automobile, metallurgy, petrochemical, shipbuilding, pressure vessel and other industries

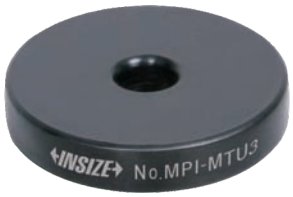
SPECIFICATION

Circumferential magnetizing current	AC: 0~2000A
Longitudinal magnetization potential	AC: 0~12000AT
Electrode spacing	100~600mm adjustable (manual)
Magnetization sensitivity	15/50 clearly displayed on A sensitivity test piece
Duty cycle	≥25%, continuous magnetization time maximium 3s
Magnetization method	circumferential magnetization, longitudinal magnetization, compound magnetization
Clamping method	pneumatic clamping
Running mode	pneumatic/manual
Electrode plate	Ø160mm
Magnetizing coil	coil inner diameter Ø200mm two, coil turns 6 turns
Demagnetization	automatic attenuating demagnetization, residual magnetism≤0.3mT
UV (light) Lux	≥2000uW/cm² (calibration at a distance of 381mm)
Power supply	380V three-phase alternating current, 50Hz
Air supply	0.4~0.7MPa
Operation environment	temperature:-5~45°C, relative humidity: ≤90%
Dimension (L×W×H)	main unit: 2600×850×1700mm including darkroom dimension: 2800×1600×2200mm
Weight	700kg

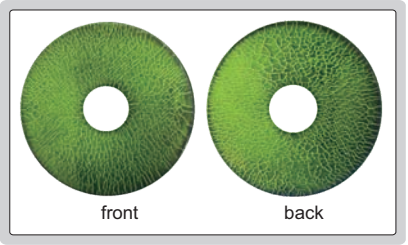
STANDARD DELIVERY

Electrical control system	1 pc
Magnetized power system	2 pcs
Spray system	1 pc
Magnetic suspension recovery device	1 pc
Ultraviolet flaw detection lamp	1 pc
Demagnetization system	1 pc

MAGNETIC POWDER TYPE I TEST BLOCK
CODE MPI-MTU3



- Conform to standard ISO 9934-2: 2002
- The test block is a disc with natural cracks in the surface, it contains coarse cracks and fine cracks produced by grinding and stress corrosion
- The test block is permanently magnetized by a central conductor through the hole, evaluation of a detection media is made by visual or other methods



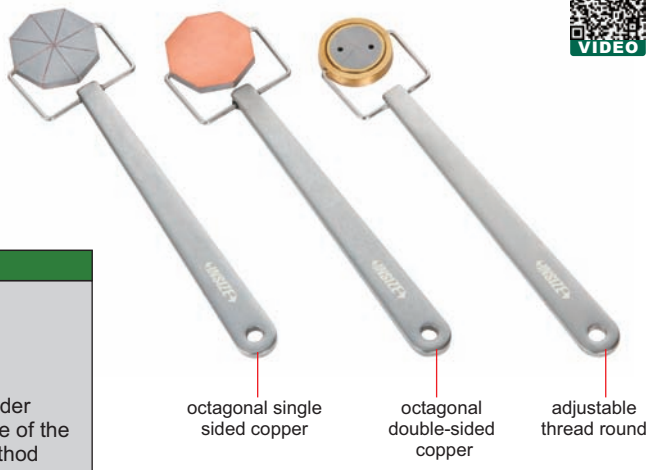
SPECIFICATION

Material	90MnCrV8
Magnetization method	1000A magnetization of DC center conductor

MAGNETIC FIELD INDICATOR SET

- Conformity to standards JB4730-94, ASTME709, ASTMA275, JB3965-85
- Used to check the magnetic powder flaw detection equipment, the comprehensive performance of the magnetic powder magnetic suspension, and whether the operation method is correct, and reflect the strength and direction of the magnetic field in the magnetized area

Code	Include
MPI-FT261	1. octagonal single sided copper: for pressure vessels and general mechanical products 2. octagonal double-sided copper: forged steel parts and general mechanical products 3. adjustable thread round: used to check the magnetic powder flaw detection equipment, the comprehensive performance of the magnetic powder magnetic suspension and operation method



UV FLAW DETECTION LIGHT
CODE MPI-HD130

- UV-B content is 0
- No need to wait, instantly reaches 100% power
- Supplied with glass filter
- External surface temperature increase <5K (5°C) for continuous working

SPECIFICATION

UV (light) Lux	6000~11000μW/cm²
UV light power	UV LED-3W
FLUX error	±10% (at 0°C~40°C)
Lighting characteristics	center lighting
Wavelength	365nm±3nm (UVA), at temperature 25°C
Power supply	3.7V rechargeable lithium battery
Battery capacity	2600mAh
Charging time	2h~3h
Battery life	UV LED 3h~4h
Dimension	180×47mm
Weight	260g (including battery)

STANDARD DELIVERY

Main unit	1 pc
Battery	2 pcs
Charger	1 pc

RECHARGEABLE UV FLAW DETECTION LIGHT CODE MPI-HF360

goggles (included)

- UV-B content is 0
- Without preheating, instant start, instant on/off, no need to wait
- Supplied with glass filter
- External surface temperature increase <8K (8°C) for continuous working

SPECIFICATION

UV (light) Lux	about 6000μW/cm²
UV light power	UV LED-12VA
Covering area	diameter approximately 300mm (calibrated at 381mm distance)
FLUX error	±10% (at 0°C~40°C)
White light content	≤20LUX
Lighting characteristics	center lighting
Wavelength	365nm±3nm (UVA), at temperature 25°C
Power supply	10.8V rechargeable lithium battery
Battery capacity	3200mAh
Charging time	3~4h
Battery life	UV LED 5~6h
Dimension	175×75×170mm
Weight	750g (including battery)

STANDARD DELIVERY

Main unit	1 pc
Battery	2 pcs
Charger	1 pc
Goggles	1 pc

RECHARGEABLE UV/WHITE LIGHT FLAW DETECTION LIGHT CODE MPI-HW369

goggles (included)

- UV-B content is 0
- With UV and white light dual function, one hand switching
- Without preheating, instant start, instant on/off, no need to wait
- Supplied with glass filter
- External surface temperature increase <8K (8°C) for continuous working

SPECIFICATION

UV (light) Lux	>6000μW/cm²
White light brightness	>1000LUX
Lamp power	UV LED-9VA, white light-3VA
Covering area	300mm (at 381mm distance)
FLUX error	±10% (at 0°C~40°C)
White light content	≤20LUX
Lighting characteristics	center lighting
Wavelength	365nm±3nm (UVA), at temperature 25°C
Power supply	10.8V rechargeable lithium battery
Battery capacity	3200mAh
Charging time	3h~4h
Battery life	UV LED 5h~6h, white light 7h
Dimension	175×75×170mm
Weight	750g (including battery)

STANDARD DELIVERY

Main unit	1 pc
Battery	2 pcs
Charger	1 pc
Goggles	1 pc

INTELLIGENT IMAGE UV FLAW DETECTION LIGHT
CODE MPI-SC608

VIDEO

- UV-B/C content is 0
- Without preheating, instant start, instant on/off, no need to wait
- Continuous irradiation surface spot uniform, no dark areas, no point-like strong light source
- 13M UV-resistant specialized lens for high-definition photos and videos
- Precise measurement of small defects
- High-definition defects can be freely magnified up to 12 times (3 times optical magnification, 4 times electronic magnification)
- Android system, free to download applications
- Support WIFI, USB, Bluetooth data transmission function, and can realize real-time synchronization between light interface and computer screen
- Languages: Chinese, English, French, German, Japanese

measuring camera **(optional)**

goggles (included)

imaging

SPECIFICATION

UV (light) Lux	about 4000μW/cm²
Light source	3 UV LED's, 1 white LED
Covering area	Ø180mm (at 381mm distance)
White light content	<5LUX
Minimum working distance	≤13cm
Camera pixels	13M
Display	3" touch LCD
Display resolution	720×720
Camera focus	auto focus or manual focus
White balance	adjust white balance automatically
Internal storage	32GB
Data transmission	USB, WIFI, Bluetooth
Operation system	Android 6.0
Power supply	rechargeable lithium battery ≥4hours, power adapter (for continuous use)
Dimension	175×80×180mm
Weight	880g (including battery)

STANDARD DELIVERY

Main unit	1 pc
Battery	2 pcs
Charger	1 pc
Power adapter	1 pc
Data cable	1 pc
Goggles	1 pc
4G USB flash disk	1 pc
Screwdriver	1 pc

OPTIONAL ACCESSORY

Measuring camera	**MPI-SC608-AW**

SPECIFICATION (OPTIONAL)

Product	Code	Defect measurement range	Camera pixels	UV light	White light
measuring camera	**MPI-SC608-AW**	0.01-7mm	2M	about 14000μW/cm²	about 2200LUX

PENETRATION STANDARD TEST BLOCK CODE ISU-PB3

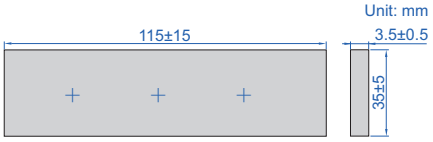
- Comply with ASME standard requirements
- The test block shows the number and clarity of lines of radiating cracks to determine the sensitivity level
- Suitable for verifying the sensitivity and operational accuracy of penetrants, as well as for testing the corrosion of stainless steel materials by penetrants

SPECIFICATION

Type	JB/T6064 B3 type
Surface treatment	chrome plating
Material	stainless steel

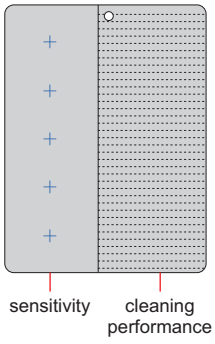
STANDARD DELIVERY

B3 test block	1 pc
B3 test block display image	1 pc



PENETRATION STANDARD TEST BLOCK CODE ISU-PB5

- Meets NB/47013.5 and ASME standards
- This test block is a means of verifying the sensitivity and operational accuracy of the penetrant, and has a rough surface in the sandblasting area to verify the cleaning performance of the penetrant and the accuracy of the cleaning method. Its sensitivity is determined by the number of defects displayed and the diameter of each point in the radial domain. It is a functional standard test block



SPECIFICATION

Type	JB/T6064 B5 type
Surface treatment	chrome plating
Material	stainless steel

STANDARD DELIVERY

B5 test block	1 pc
B5 test block display image	1 pc

FLUORESCENT PENETRANT FLUID

- Conformity to standards AMS 2644, ASTM E1417
- Level 3 sensitivity, washable, high brightness, high contrast defect indication
- High water tolerance, high thermal stability, high UV stability
- High flash point, low toxicity, low volatility, low odor
- Low biological and environmental load

Code	Description	Sensitivity	Package/barrel
IPT-ZP1300	1. Fast drying, no residue, not easy to cause over-cleaning 2. Suitable for aerospace parts, turbine blades, welded parts and ceramics, glass, plastic and other surface defects inspection 3. Can be used in conjunction with imaging agents	Level 3	18L

FLUORESCENT MAGNETIC POWDER CONCENTRATE

- Good storage stability, can be used immediately after slight shaking
- Dilution with water is all that is needed to prepare the magnetic suspension, no additional dispersant is required
- Good wettability, even dispersion of the suspension, high inspection accuracy
- Good dispersion stability, small change in the concentration of the suspension, can reduce the amount of use

Code	Description	Package/bottle
MPI-CC20	1.Suitable for surface and near-surface inspection of magnetizable parts (especially for on-line automatic inspection) 2.Usage: dilute the suspension to the recommended concentration (0.5~1.0g/L) to formulate a high-performance magnetic suspension	500ml

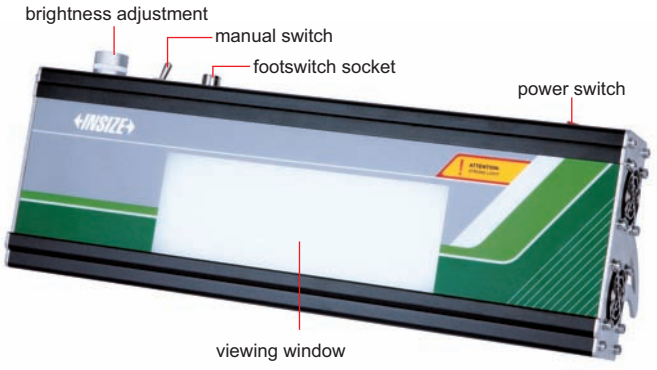
COMPOSITE MAGNETIC POWDER

- High sensitivity
- Composite magnetic particle eliminates the need for additional rust inhibitors, defoamers, and dispersants
- Clear, visible defect indication under UV light
- Excellent powder flowability
- Good dispersion stability
- Excellent surface wettability

Code	Description	Package/cans
MPI-CP30	1. Suitable for surface and near-surface inspection of magnetizable parts 2. Usage: simply mix and dilute the magnetic powder to the recommended concentration (3-7g/L) to form a high performance magnetic suspension	1kg

INDUSTRIAL VIEWING LAMP CODE RXT-F290

- LED light source, high brightness, uniform light emission, long life use
- Stepless adjustable brightness, 2%-100% wide range dimming
- Aluminum alloy case, good heat dissipation, low heat generation without damaging the film
- Bearing fan, high RPM, low noise, fast heat discharge
- No need to warm up, suitable for frequent switching of the occasions for film evaluation



SPECIFICATION

Brightness	170000cd/m² (500000LUX)
LED quantity	280pcs
Observable blackness	4.2D
Maximum area of viewing window	220×75mm
Power consumption	100W
Power supply	100~240V, 50/60Hz
Dimension	456×154×68mm
Weight	3.5kg

STANDARD DELIVERY

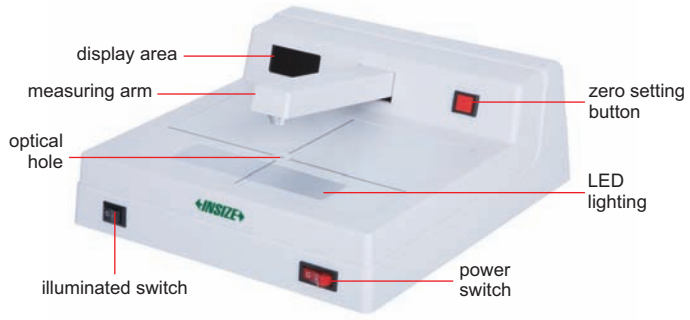
Main unit	1 pc
Light barrier	1 pc
Fuse	2 pcs
Wired footswitch	1 pc

OPTIONAL ACCESSORY

Wireless footswitch	RXT-F290-WF

wireless footswitch (**optional**)

BLACK AND WHITE DENSITOMETER
CODE RXT-BM301



- With accurate reading, good stability, easy to operate
- Small size, light weight, 27 LED lighting source, good shock resistance
- Comes with calibration software and standard black and white density film, allowing self calibration of instruments
- Suitable for industries such as non-destructive testing, photosensitive materials, printing, etc.

black and white density film (0.0~5.0, included)

SPECIFICATION

Blackness range	D=0.00~5.00
Reading stability	±0.02
Accuracy	±0.02 (0.0<D≤2.0) ±1% (2.0<D≤4.0) ±0.05 (4.0<D≤5.0)
Optical aperture	Ø2mm
Sampling time	0.8s
Display form	three-digit display
Interface	RS232 (optional accessory USB cable)
Operation environment	0°C~40°C, relative humidity≤85%
Power supply	220V, 50/60Hz
Dimension	260×265×110mm
Weight	2.1kg

STANDARD DELIVERY

Main unit	1 pc
Black and white density film (0.0~5.0)	1 pc
USB flash disk	1 pc
RS232 cable	1 pc

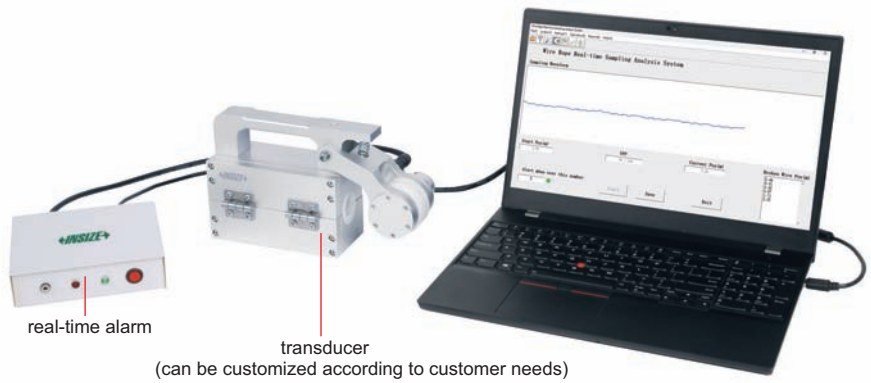
OPTIONAL ACCESSORY

USB cable	RXT-BM301-CA

CAN BE CUSTOMIZED ACCORDING TO CUSTOMER NEEDS

WIRE ROPE FLAW DETECTOR
CODE EST

computer is not included

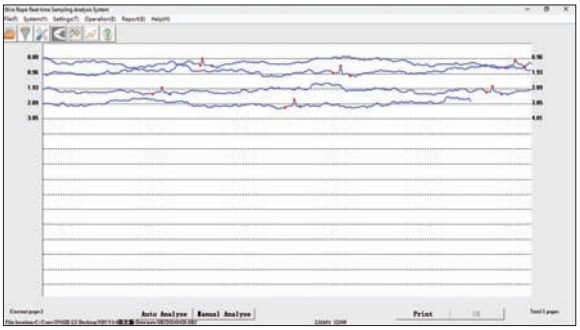


To be continued

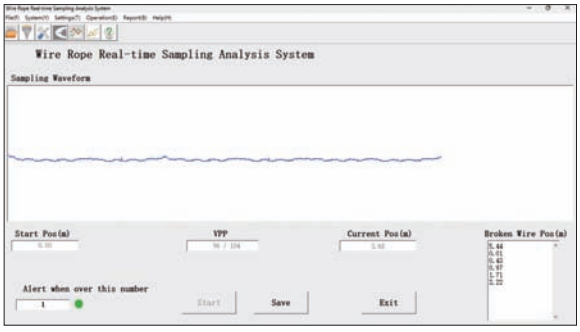
Continued from previous page

- On-line detection of wire rope internal and external wire breakage, abrasion, corrosion, deformation, loose strands, jumping wire, material changes and other defects
- The test results report can meet the standards of different industries at the same time with the number of broken wires and broken wires broken area and the ratio of the total area of broken wires in the form of display
- The use of computer USB interface direct sampling processing analysis, with online sound and light alarms and real-time display of the results of the function
- The sensor's circular structure, circumferential encirclement, and axial magnetization instantly magnetize the wire rope to saturation
- Stable work, reliable performance, high detection precision, strong anti-interference performance, accurate data
- Suitable for use in mines, ropeways, lifting equipment, elevators, port machinery, cable-stayed bridges, etc.

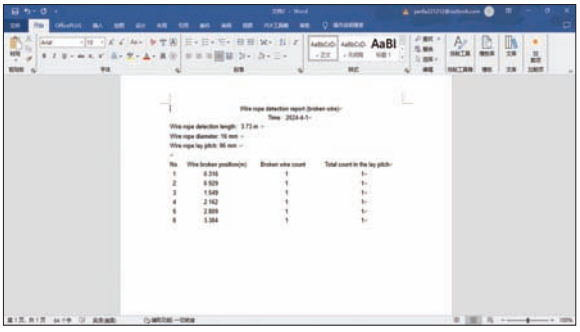
parameter setting



sampling analysis



real-time detection alarm



test report

SPECIFICATION

Detection range	Ø1.5~300mm (can be customized according to customer needs)
Detection efficiency	0.0~6.0m/s (relative speed between sensor and wire rope)
Optimal detection efficiency	0.3~1.0m/s
Allowable interval	0~15mm (allowable interval between guide sleeve and wire rope)
Optimal interval	2~6mm
Qualitative accuracy of wire breakage	99.99%
Tolerance on the number of broken wires	allow one root or one equivalent of algorithmic differences
Sensitivity error	±0.055%
Accuracy error	±0.2%
Length error	±0.2%
Power supply	power adapter
Operation condition	temperature: -20~50°C humidity: ≤85% pressure: 86kPa~106kPa
Weight	<10kg

STANDARD DELIVERY

Main unit (transducer)	1 pc
Real-time alarm	1 pc
9355 signal connection line	1 pc
USB transmission cable	1 pc
Flexible traction safety rope	1 pc
Software USB flash disk	1 pc

TESTING MACHINES, FORCE GAUGES, TENSION METERS

04

Electronic Universal Testing Machines
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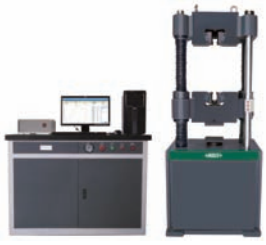
Electronic Universal Testing Machines
Page 118-122

High And Low Temperature Test Chambers For Electronic Universal Testing Machines
Page 120



Hydraulic Universal Testing Machines
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Extensometers
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Electro-Hydraulic Servo Flexural And Compressive Testing Machines
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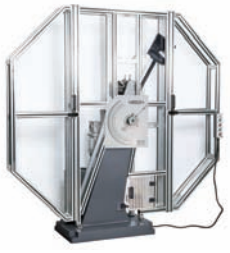
Servohydraulic Fatigue Testing Machines
Page 126-130

Video Extensometers
Page 131-132



Impact Testing Machines
Page 135-138

Impact Standard Samples
Page 139

Impact Specimen Notch Projectors
Page 140

Impact Specimen Notch Broaching Machines
Page 140

04 TESTING MACHINES, FORCE GAUGES, TENSION METERS

Impact Broaches
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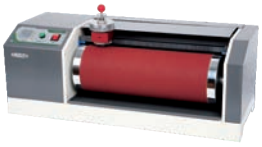
Gauge Marking Instruments
(Marking Point)
Page 141

Gauge Marking Instruments
(Marking Line)
Page 142

Bending Testing Machines
Page 143-145

Friction And Wear Testing Machines
Page 146

Friction/Peel Testers
Page 147



Din Abrasion Testers
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Pneumatic Key Life Testers
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Bond Force Testers
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Tensile And Compression
Testing Machines
Page 151

Automatic Spring Testing Machines
Page 152-153

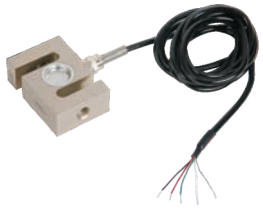
Digital Spring Testers
Page 154

TESTING MACHINES, FORCE GAUGES, TENSION METERS

04

Force Gauges
Page 155-158

Test Stands For Force Gauges
Page 157-161



Tensile/Compression Sensors
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Tube Force Gauges
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Dial Tension Gauges
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Wire Tension Meters
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Infrared Belt Tension Meters
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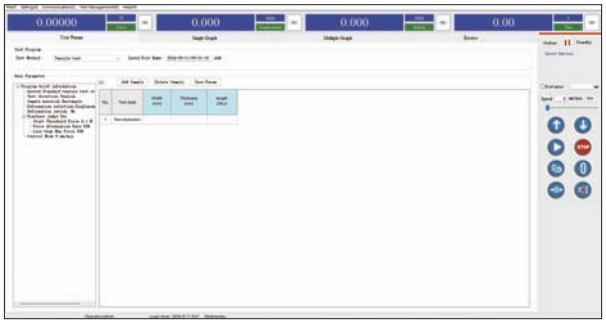
Sonic Belt Tension Meters
Page 167

Spindle Tension Meters
Page 168-169

ELECTRONIC UNIVERSAL TESTING MACHINES

VIDEO

computer and software (included)



UTM-Z500

- Applicable to metal, non-metal and composite materials for tensile, compression, bending and other mechanical properties test analysis and analytical research
- Automatically obtain the maximum force, breaking force, yield strength, upper and lower yield strength, tensile strength, compressive strength, elongation at break, tensile modulus of elasticity, bending modulus of elasticity and other test data
- Test standards and test parameters can be managed and imported or exported test standards
- Overload emergency shutdown protection device, up and down travel limit protection device
- Crossbeam movement collision mitigation function

SPECIFICATION

Code	UTM-Z50	UTM-Z500	UTM-Z1000	UTM-Z2000	UTM-Z5000
Max. test force*	50N	500N	1000N	2000N	5000N
Accuracy class	class 0.5				
Range of test force	0.4%~100%FS				
Accuracy of test force	±0.5% of indicating value				
Resolution of test force	1/300000FS				
Accuracy of displacement	±0.5% of indicating value				
Resolution of displacement	0.2μm				
Range of crossbeam speed	0.001~1000mm/min				
Accuracy of crossbeam speed	±0.5% of indicating value				
Range of force control speed	0.05%~10%FS/s				
Accuracy of force control speed	±0.5% of indicating value				
Effective tensile travel*	450mm				
Effective compression travel*	700mm				
Dimension (L×W×H)	500×380×1150mm				
Power supply	AC 220V, 50Hz				
Weight	100kg				

STANDARD DELIVERY

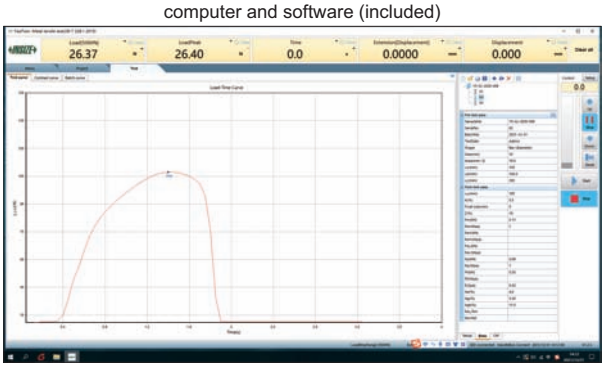
Main unit	1 pc
Computer	1 set
Software	1 set
Control box	1 pc
Tensile fixture	1 set

OPTIONAL ACCESSORY

Fixture*	customized
Extensometer*	
Large deformation extensometer*	
Security cover*	

*Can be customized according to test requirements

computer and software (included)



UTM-S5KA

- For testing and researching the mechanical properties of metals, ceramics, plastics, rubber and composite materials
- For research and quality control of mechanical properties of materials for a wide range of products such as mechanical components, electronic components, food packaging materials, chemical fibres, films and new energy batteries

SPECIFICATION

Code	UTM-S200A	UTM-S500A	UTM-S1KA	UTM-S2KA	UTM-S5KA
Max. test force	200N	500N	1kN	2kN	5kN
Accuracy class	class 0.5				
Accuracy of test force	±0.5% of indicated value				
Range of test force	0.2%~100%FS				
Resolution of test force	1/500000FS				
Crossbeam displacement accuracy	±0.5% of indicated value				
Crossbeam displacement resolution	0.025μm				
Range of speed adjustment	0.001~500mm/min				
Accuracy of crossbeam speed	±1% of the set value (speed<0.5mm/min) ±0.1% of the set value (speed≥0.5mm/min)				
Range of force control speed	0.005~5%FS/s				
Accuracy of constant load force	±1% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s)				
Vertical test space*	1120mm				
Effective compression height *	800mm				
Dimension (L×W×H)	510×510×1580mm				
Weight	150kg				
Power supply	AC220V, 50Hz, 0.4kW				

*Can be customized according to test requirements

STANDARD DELIVERY

Main unit	1 pc
Control box	1 pc
Measuring software	1 pc
Computer	1 pc
Printer	1 pc
Compression fixture (except UTM-S200A)	1 set
Tension fixture	1 set

OPTIONAL ACCESSORY

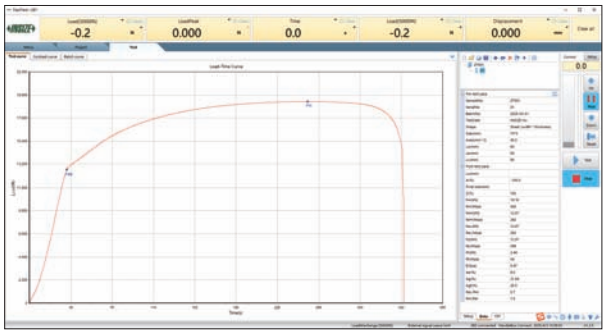
Fixture	**UTM-F** series (customized, selection of specifications according to test requirements)
Extensometer	**UTM-EX** series (customizable)
Video extensometer	**UTM-M** series
Large deformation extensometer	**UTM-EY** series (customizable, page 119)
Security door	customized

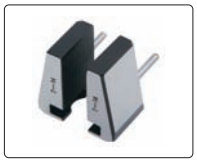
ELECTRONIC UNIVERSAL TESTING MACHINES

INSPECTION CERTIFICATE

VIDEO

computer and software (included)





flat jaws (included)

V-shaped jaws (included)

UTM-E50

- For testing and researching the mechanical properties of metals, ceramics, plastics, rubber and composite materials
- For research and quality control of mechanical properties of materials for a wide range of products such as mechanical components, electronic components, food packaging materials, chemical fibres, films and new energy batteries

SPECIFICATION

Code	UTM-E10	UTM-E20	UTM-E30	UTM-E50
Max. test force	10kN	20kN	30kN	50kN
Accuracy class	class 0.5			
Accuracy of test force	±0.5% of indicated value			
Range of test force	0.2%~100%FS			
Resolution of test force	1/500000FS			
Crossbeam displacement accuracy	±0.5% of indicated value			
Crossbeam displacement resolution	0.025μm			
Range of speed adjustment	0.001~500mm/min			
Accuracy of crossbeam speed	±1% of the set value (speed<0.5mm/min) ±0.2% of the set value (speed≥0.5mm/min)			
Range of force control speed	0.005~5%FS/s			
Accuracy of constant load force	±2% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s)			
Compression fixture	Ø100mm	Ø100mm	Ø100mm	Ø100mm
Wedge tension fixture	flat jaw: 0~7mm	flat jaw: 0~7mm V-jaw: Ø4~Ø9mm	flat jaw: 0~7mm V-jaw: Ø4~Ø9mm	flat jaw: 0~14mm V-jaw: Ø4~Ø14mm
Effective test width*	400mm	440mm	440mm	440mm
Vertical test space*	1030mm	970mm	970mm	970mm
Effective compression height*	800mm	700mm	700mm	700mm
Dimension (L×W×H)	715×500×1680mm	820×620×1880mm	820×620×1880mm	820×620×1880mm
Weight	230kg	350kg	350kg	350kg
Power supply	AC 220V, 50Hz, 0.4kW~1kW			

*Can be customized according to test requirements

To be continued

Continued from previous page

SPECIFICATION

Code	UTM-E100	UTM-E200	UTM-E300	UTM-E600
Max. test force	100kN	200kN	300kN	600kN
Accuracy class	class 0.5			
Accuracy of test force	±0.5% of indicated value			
Range of test force	0.2%~100%FS			
Resolution of test force	1/500000FS			
Crossbeam displacement accuracy	±0.5% of indicated value			
Crossbeam displacement resolution	0.025μm			
Range of speed adjustment	0.001~500mm/min			0.001~250mm/min
Accuracy of crossbeam speed	±1% of the set value (speed<0.5mm/min) ±0.2% of the set value (speed≥0.5mm/min)			
Range of force control speed	0.005~5%FS/s			
Accuracy of constant load force	±2% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s)			
Compression fixture	Ø160mm	Ø150mm	Ø150mm	Ø200mm
Wedge tension fixture	flat jaw: 0~20mm V-jaw: Ø8~Ø26mm	flat jaw: 0~30mm V-jaw: Ø8~Ø36mm	flat jaw: 0~30mm V-jaw: Ø8~Ø36mm	flat jaw: 0~30mm V-jaw: Ø8~Ø46mm
Effective test width *	600mm	600mm	600mm	750mm
Vertical test space *	1250mm	1000mm	1000mm	1100mm
Effective compression height *	700mm	600mm	600mm	650mm
Dimension (L×W×H)	1070×855×2180mm	1070×920×2550mm	1070×920×2550mm	1580×1140×2980mm
Weight	1000kg	1500kg	1500kg	5000kg
Power supply	AC380V, 3Ø, 50Hz, 2kW~5kW			

*Can be customized according to test requirements

SPECIFICATION OF LARGE DEFORMATION EXTENSOMETER (OPTIONAL)

Code	UTM-EY1	UTM-EY2
Range of deformation	10~800mm	
Accuracy of deformation	±1%	
Resolution of deformation	0.01mm	0.004mm
Type of blade	flat blade	
Range of clamp	thicknesses<10mm, width<30mm	

large deformation extensometer (**optional**)

STANDARD DELIVERY

Main unit	1 pc
Control box	1 pc
Measuring software	1 pc
Computer	1 pc
Printer	1 pc
Compression fixture	1 set
Wedge tension fixture	1 set

OPTIONAL ACCESSORY

Fixture	**UTM-F** series (customized, selection of specifications according to test requirements)
Extensometer	**UTM-EX** series (customizable)
Video extensometer	**UTM-M** series
Large deformation extensometer	**UTM-EY** series (customizable)
Security door	customized, available in plexiglass or wire mesh

HIGH AND LOW TEMPERATURE TEST CHAMBERS FOR ELECTRONIC UNIVERSAL TESTING MACHINES

VIDEO

electronic universal testing machine is optional

UTT-M63-E50

- For **UTM-E□□□** electronic universal testing machines
- For tensile, compression, bend, shear tests in high and low temperature environment

SPECIFICATION

Code	**for UTM-E10**	**UTT-M03-E10**	**UTT-M33-E10**	**UTT-M63-E10**
	for UTM-E50	**UTT-M03-E50**	**UTT-M33-E50**	**UTT-M63-E50**
	for UTM-E100	**UTT-M03-E100**	**UTT-M33-E100**	**UTT-M63-E100**
Temperature range		(room temperature+10)~300°C	-30~300°C	-60~300°C
Temperature accuracy*		±1°C		
Temperature fluctuation*		±0.5°C		
Temperature uniformity*		≤2°C		
Temperature resolution		0.1°C		
Cooling system		no	compressor or liquid nitrogen	
Cooling time (room temperature@25°C)			1~2°C/min (no-load)	
Warming up time		1~3°C/min (no-load)		
Temperature control		PID automatic temperature control		
Heating system		magnesium powder heating tube		
Aperture size		Ø50mm		
Chamber dimension**		240×430×530mm (suitable for electronic universal testing machines with column spacing of 400mm and above)		
Power supply		AC 220V, 50Hz		
Total power		1.8kW	2.2kW	2.8kW

*The applicable range of temperature accuracy, uniformity and fluctuation is Ø100×200mm

Customized according to **UTM-E□□□ electronic universal testing machine and customer requirements

ATTENTION:
FIXTURE (OPTIONAL)

ELECTRONIC UNIVERSAL TESTING MACHINES (ADVANCED TYPE)

VIDEO

UTM-X010

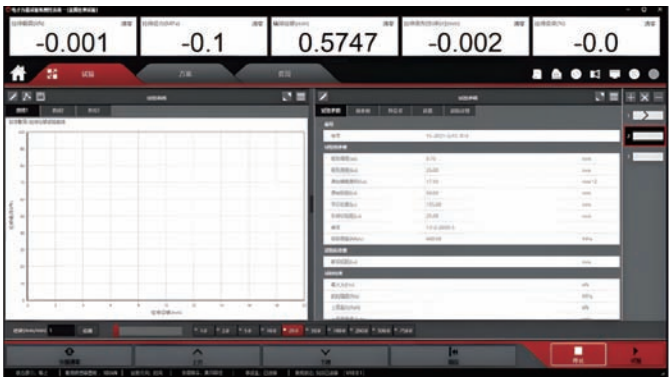
wired hand control box
(included)

UTM-X100

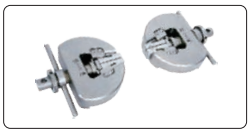
- Equipped with a variety of test standards, can be for metal, ceramics, plastics, rubber and composite materials and other related mechanical properties of the test and research
- Can be used for research and quality control of mechanical properties of various products such as mechanical parts, electronic parts, food packaging materials, chemical fibres, films, new energy batteries and so on
- The rigidity of the host, loading speed and load, deformation measurement accuracy, data reliability, adoption rate and closed-loop control rate are excellent

fully automatic extensometer (**optional**) (class 0.5 high-precision fully-automatic extensometer with a wide measuring range for automatic testing and full strain measurement)

test interface



compression fixture (**optional**)



tensile fixture (**optional**)

To be continued

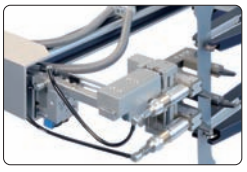
Continued from previous page

high and low temperature environment box (**optional**)

constant temperature and humidity box (**optional**)

high temperature furnace (**optional**)

high precision axial extensometer (**optional**) (a variety of scales can be selected to fully meet the requirements of variety of materials, the accuracy meets class 0.5)



width gauge (**optional**) (widely used for r-value and poisson's ratio measurements, meets the requirements of ASTM E517 and IS010113)

SPECIFICATION

Code		UTM-X001	UTM-X005	UTM-X010	UTM-X050	UTM-X100	UTM-X300
Max. test force		1kN	5kN	10kN	50kN	100kN	300kN
Accuracy class		class 0.5					
Accuracy of test force		±0.5% of indicated value					
Range of test force		0.2%~100%FS					
Test force resolution		0.002N	0.02N	0.02N	0.2N	0.2N	0.5N
Crossbeam displacement accuracy		±0.1% of indicated value					
Crossbeam displacement resolution		0.1μm					
Velocity accuracy		±0.1% of indicated value					
Range of speed adjustment		0.001~1000mm/min			0.001~800mm/min		0.001~500mm/min
Effective test width		420mm			600mm		
Vertical test space	standard model	1200mm			1255mm		1450mm
	heightened 250mm (optional)	1450mm			1505mm		1700mm
	heightened 500mm (optional)	1700mm			—		
Dimension (L×W×H)	standard model	748×582×1600mm			1100×724×2160mm		1180×756×2440mm
	heightened 250mm (optional)	748×582×1850mm			1100×724×2410mm		1180×756×2690mm
	heightened 500mm (optional)	748×582×2100mm			—		
Weight	standard model	160kg			610kg		965kg
	heightened 250mm (optional)	185kg			660kg		1015kg
	heightened 500mm (optional)	210kg			—		
Power supply		AC220V, 50Hz, 1kW			AC380V, 3Ø, 50Hz, 4kW	AC380V, 3Ø, 50Hz, 4.5kW	AC380V, 3Ø, 50Hz, 6kW
Environment requirements		temp: 5~40°C, humidity level: 5~85%RH, non-condensing no vibration					

STANDARD DELIVERY

Main unit	1 pc
Control box	1 pc
Computer	1 pc
Software	1 pc
Printer	1 pc

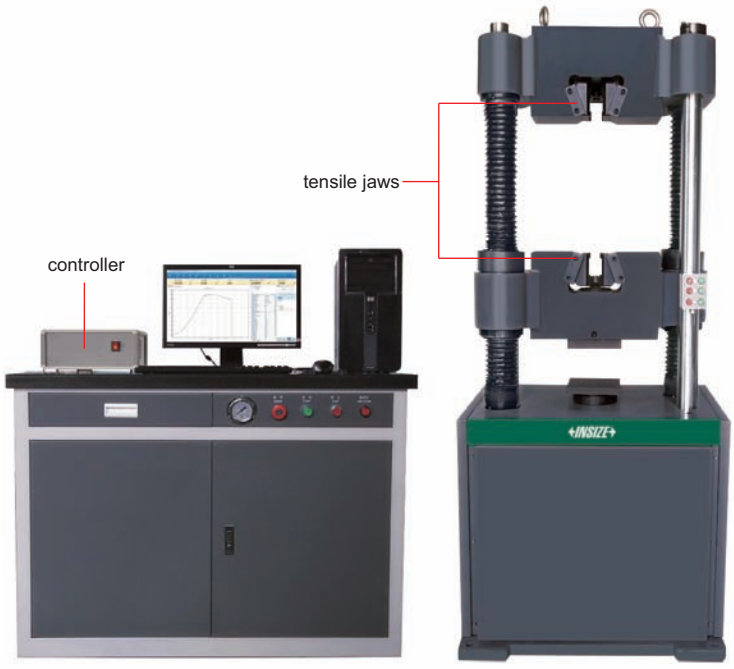
OPTIONAL ACCESSORY

Security door *	customizable
Fixture *	
Extensometer *	
Width gauge *	
High temperature furnace *	
Constant temperature and humidity box *	
High and low temperature environment box *	

*Selection of specifications according to test requirements

HYDRAULIC UNIVERSAL TESTING MACHINES

VIDEO



UTM-H300B

- For tensile, compression, bend, shear tests of metal and non-metal materials

SPECIFICATION

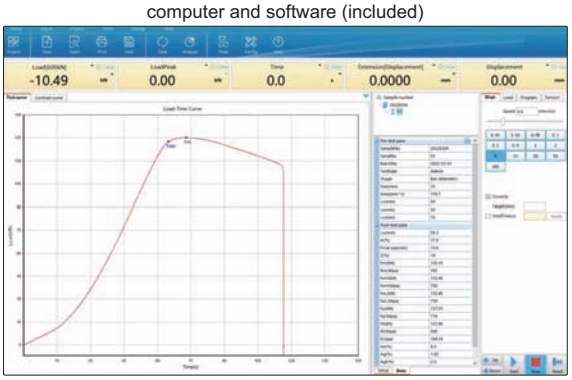
Code		UTM-H300B	UTM-H600B	UTM-H1000B	UTM-H2000B	UTM-H3000B
Max. test force		300kN	600kN	1000kN	2000kN	3000kN
Accuracy		±1%				
Test force measurement range		2%~100%FS				
Resolution of test force measurement		1/300000 of Max. test force (same resolution all the way)				
Deformation measurement device		extensomeent				
Deformation measurement range		1%~100%FS				
Deformation measurement accuracy		±1%				
Deformation measurement resolution		1/300000				
Displacement accuracy		±1%				
Displacement resolution		0.01mm				
Displacement travel		200mm				
Max tensile space (including piston stroke)		600mm	600mm	680mm	600mm	900mm
Max compression space (including piston stroke)		500mm	500mm	560mm	500mm	800mm
Transmission mode		chain drive				
Safety protection device		software protection and mechanical limit protection				
Control function		special software, closed-loop of stress, strain and velocity				
Clamping range of round sample		Ø10~32mm	Ø13~40mm	Ø13~60mm	Ø20~70mm	Ø25~80mm
Clamping range of flat sample		0~15mm	0~15mm*	0~20mm**	0~40mm	0~80mm
Upper and lower pressure plate size		Ø188mm	Ø188mm	Ø208mm	Ø208mm	Ø208mm
Bending branch roll width		140mm				
Total power		2.5kW	3.0kW	3.0kW	3.75kW	5.5kW
Power supply		380V, 50Hz				
Dimension (mm)	host	800×620×1900	820×650×2000	940×780×2250	1100×760×3000	1250×930×3550
	oil source	1140×600×855				
Weight		2T	2.2T	3T	7.5T	12.6T

*Customizable 0~30mm **Customizable 0~40mm

To be continued

Continued from previous page

computer and software (included)



acrylic safety shield (**optional**)

steel wire safety shield (**optional**)

STANDARD DELIVERY

Main unit	1 pc
Electro hydraulic servo oil source	1 pc
Electro hydraulic servo valve	1 pc
High pressure oil pump	1 pc
Oil pressure sensor	1 pc
Control box	1 pc
Extensometer	1 pc
Computer	1 pc
Measuring software	1 set
Printer	1 pc
Tensile fixture	1 set
Compression fixture	1 set

OPTIONAL ACCESSORY

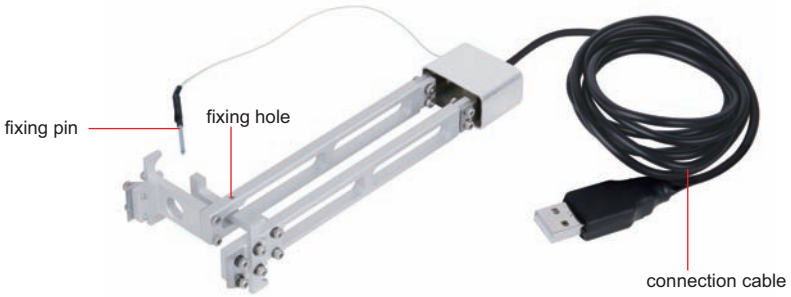
Acrylic safety shield	**UTM-H-COVER1**
Steel wire safety shield	**UTM-H-COVER2**

EXTENSOMETERS

- For universal testing machines

SPECIFICATION

Code	Gauge length	Deformation
UTM-EX25-5	25mm	5mm
UTM-EX25-10	25mm	10mm
UTM-EX25-25	25mm	25mm
UTM-EX50-5	50mm	5mm
UTM-EX50-10	50mm	10mm
UTM-EX50-25	50mm	25mm
UTM-EX100-5	100mm	5mm
UTM-EX100-10	100mm	10mm
UTM-EX100-25	100mm	25mm
UTM-EX200-5	200mm	5mm
UTM-EX200-10	200mm	10mm
UTM-EX200-25	200mm	25mm
UTM-EX-B	large deformation, customized according to the workpieces	



UTM-EX50-10

ELECTRO-HYDRAULIC SERVO FLEXURAL AND COMPRESSIVE TESTING MACHINE
CODE UTM-RA10300

VIDEO

cementitious sand flexural fixture (included)

cementitious sand compression fixture (included)

- According to ISO 679
- Suitable for cementitious sand flexural test, cementitious sand compressive test and concrete flexural test
- With constant stress control and load holding function

SPECIFICATION

Application	flexural	compression
Max. test force	10kN	300kN
Accuracy class	0.5 class	
Accuracy of test force	±0.5% of indicated value	
Range of test force	1%~100%FS	
Resolution of test force	1/300000FS	
Frequency	50Hz	
Distance between upper and lower platen	180mm	240mm
Stroke of piston	60mm	80mm
Diameter of column	Ø30mm	Ø50mm
Distance between columns	180mm	210mm
Size of platen	Ø155mm	
Power supply	AC380V, 3Ø, 50Hz, 0.75kW	
Dimension (L×W×H)	1420×475×1350mm	
Weight	450kg	

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Printer	1 pc
Cementitious sand flexural fixture	1 set
Cementitious sand compression fixture	1 set

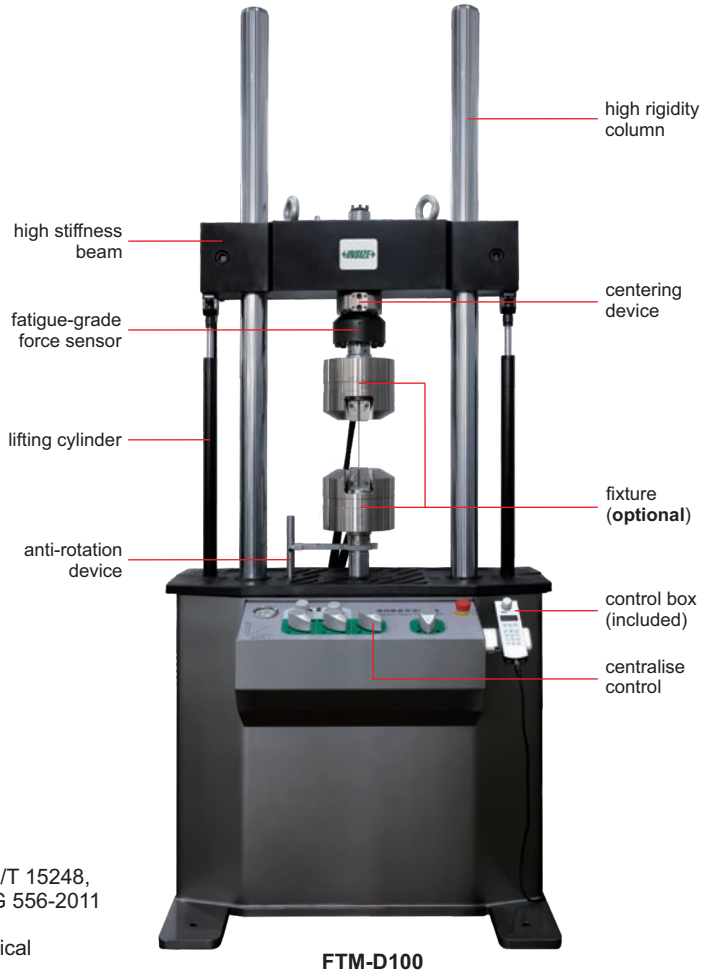
SERVOHYDRAULIC FATIGUE TESTING MACHINES (CYLINDER DOWN-MOUNTED)

ATTENTION: CUSTOMIZED ACCORDING TO TEST METHOD

VIDEO

4

software (included)



FTM-D100

- According to ASTM D3479, ASTM D7615, GB/T 3075, HB5287, GB/T 15248, GB/T 6398, GB/T 4161, GB/T 21143, ASTM 1290, ASTM-E399, JJG 556-2011
- Suitable for tensile, compression, bending, tension-tension, compression-compression, tension-compression and other mechanical properties of the test
- Suitable for fatigue testing of composite materials, steel, aluminium alloys, super alloys, etc.

SPECIFICATION

Code	FTM-D50	FTM-D100	FTM-D250	FTM-D500
Max. test force	50kN	100kN	250kN	500kN
Accuracy of static force measurement	±0.5% of indicated value			
Accuracy of dynamic force measurement	±2% of indicated value			
Range of test force	0.5%~100%FS			
Actuator stroke*	±75mm			
Accuracy of displacement measurement	linearity error<40μm, repeatability<0.001%FS			
Range of frequency	0~100Hz			
Concentricity	≤5%			
Vertical test space*	1120mm	1200mm	1235mm	2000mm
Effective test width*	540mm	540mm	650mm	780mm
Test waveform	sine wave, square wave, triangle wave, ramp wave, random wave, spectral loading, sweep srequency, etc.			
Stiffness	5×10^8N/m			
Dimension (L×W×H)	1040×730×3000mm	1040×730×3000mm	1265×900×3800mm	1500×980×4200mm
Weight	1050kg	1150kg	1650kg	2400kg
Power supply	AC 380V, 3Ø, 50Hz			

*Can be customized according to test requirements

To be continued

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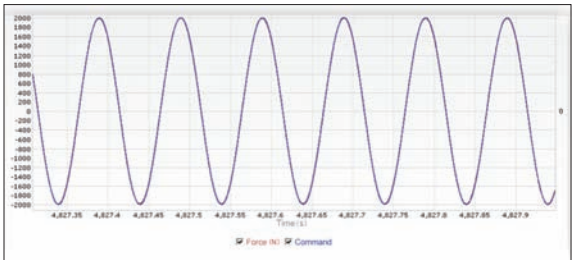
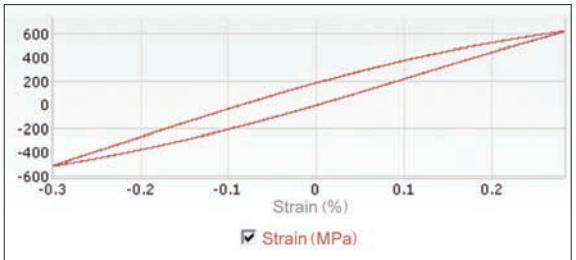
WAVEFORM OF WORKING CONDITION



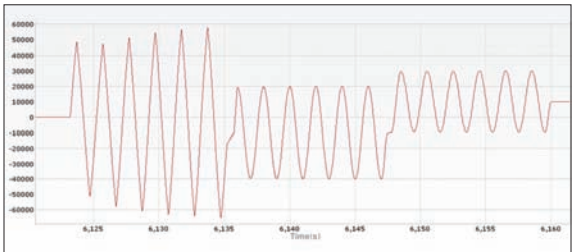
high cycle fatigue test

- Cyclic testing of specimens or components until failure, for fatigue, pre-cracked fracture mechanical specimens



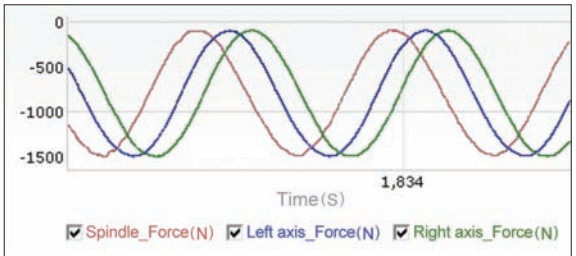
low cycle fatigue test

- Perform strain-controlled or load-controlled fatigue tests with simultaneous acquisition of force and strain hysteresis loop data



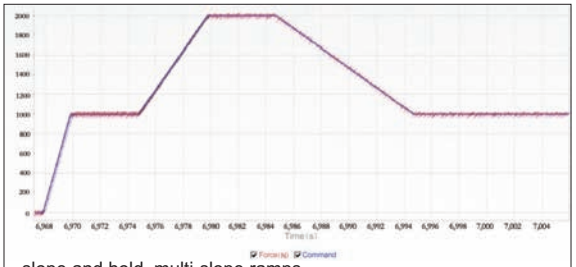
block-wave loading

- Build a block cycle wave to load the part
- Collect peak/valley data and monitor component failure



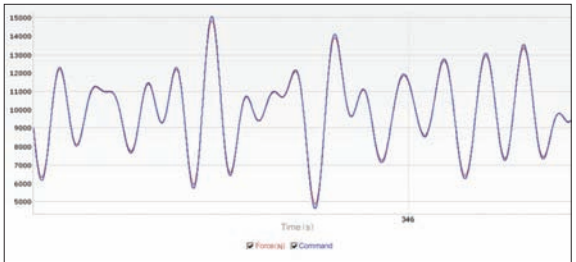
multi-axis test

- Run multiple in-phase or out-of-phase control channels to create multi-degree-of-freedom loading states such as bi-axial, tri-axial, multi-axial and axial-torsion tests



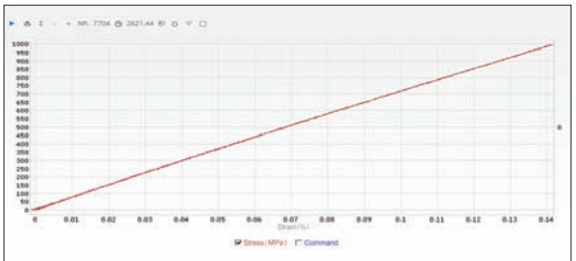
slope and hold, multi-slope ramps

- Use of ramp and hold sequences to assess creep fatigue or to establish thermal fatigue effects, to simulate real strain rate loading or to assess strain rate sensitivity in the presence of multi-slope ramp waves



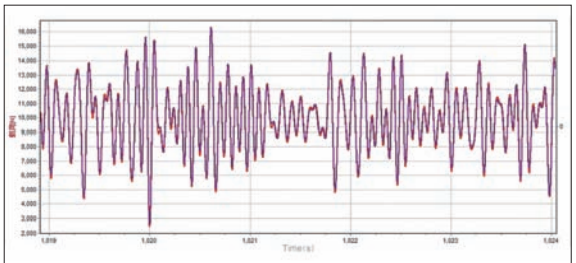
spectral block playback test

- Use the spectrum playback function to play back frequency data and value data defining the operating history



tensile, compression or bending test

- Fast or slow ramp wave commands set by speed or time to simultaneously collect stress, strain and displacement data for modulus, stiffness, yield or ultimate strength analysis



double frequency superposition wave

- Two signals of different frequencies and amplitudes are superimposed to generate a new waveform

To be continued

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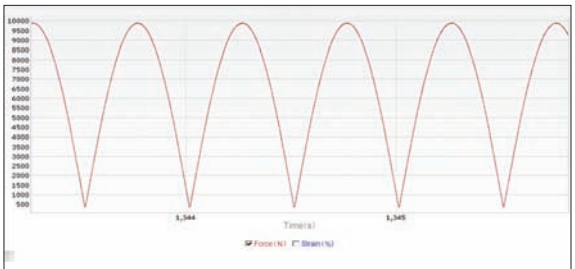
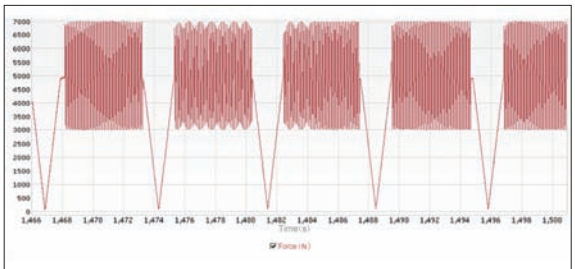
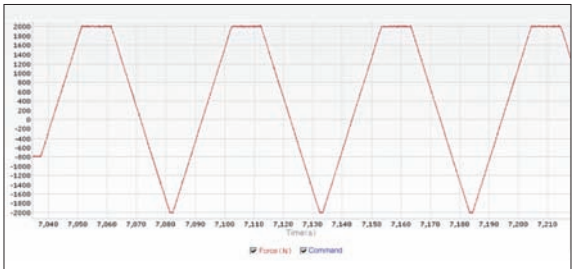


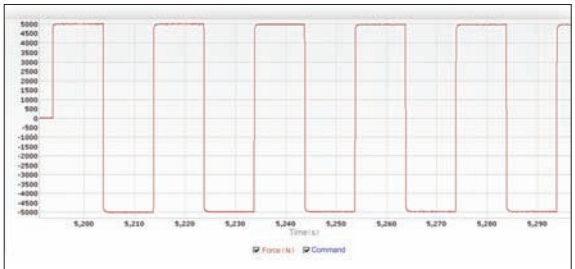
half-sine wave



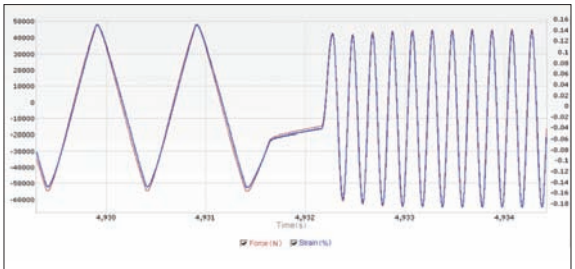
waveforms superimposed on sine and trapezoidal waveforms



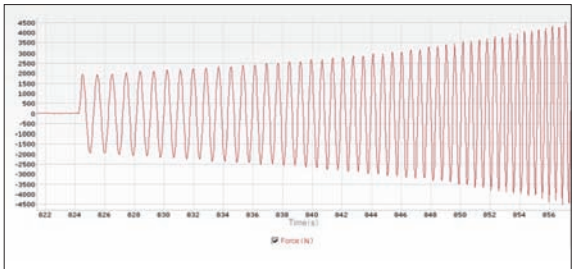
stress, strain maintenance



square wave



cycle life trigger control mode, control waveform switching



sweep frequency, sweep amplitude

STANDARD DELIVERY

Main unit	1 pc
Hydraulic oil source	1 set
Main circulating cooling water system	1 set
Control box	1 pc
Measuring software	1 set
Computer	1 pc
Printer	1 pc

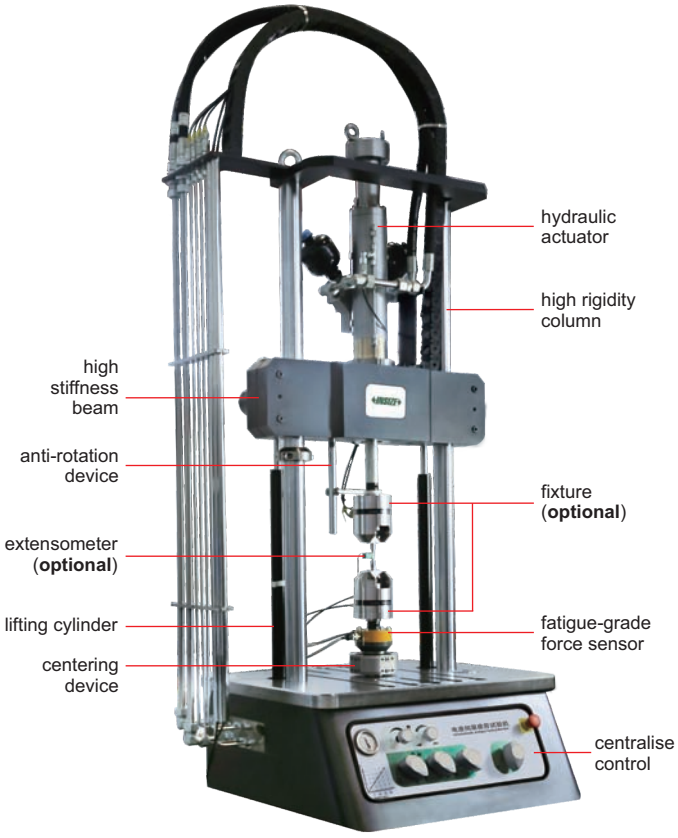
OPTIONAL ACCESSORY

Fixture	customized
Extensometer	
High-temperature extensometer	
High and low temperature test chamber	
Temperature and humidity test chamber	
High-temperature furnace	
Security door	
Video extensometer	**UTM-M** series

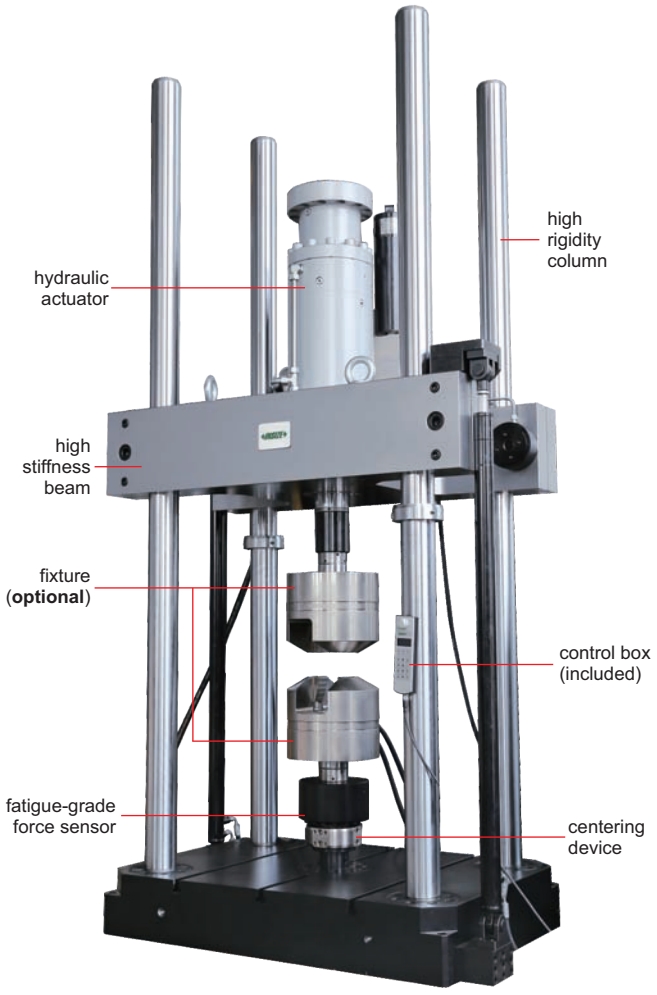
SERVOHYDRAULIC FATIGUE TESTING MACHINES (CYLINDER UP-MOUNTED)

VIDEO

ATTENTION: CUSTOMIZED ACCORDING TO TEST METHOD



FTM-U25



FTM-U250

software (included)

- According to ASTM D3479, ASTM D7615, GB/T 3075, HB5287, GB/T 15248, GB/T 6398, GB/T 4161, GB/T 21143, ASTM 1290, ASTM-E399, JJG 556-2011
- Suitable for tensile, compression, bending, tension-tension, compression-compression, tension-compression and other mechanical properties of the test
- Suitable for fatigue testing of composite materials, steel, aluminium alloys, super alloys, etc.

To be continued

Continued from previous page

SPECIFICATION

Code	FTM-U10	FTM-U25	FTM-U50	FTM-U100
Max. test force	10kN	25kN	50kN	100kN
Accuracy of static force measurement	±0.5% of indicated value			
Accuracy of dynamic force measurement	±2% of indicated value			
Range of test force	0.5%~100%FS			
Actuator stroke*	±75mm			
Accuracy of displacement measurement	linearity error<40μm, repeatability<0.001%FS			
Range of frequency	0~100Hz			
Concentricity	≤5%			
Vertical test space*	1100mm	1100mm	1120mm	1120mm
Effective test width*	460mm	460mm	540mm	540mm
Test waveform	sine wave, square wave, triangle wave, ramp wave, random wave, spectral loading, sweep srequency, etc.			
Stiffness	1.25×10^8N/m		5×10^8N/m	
Dimension (L×W×H)	800×500×2500mm	800×500×2500mm	870×550×2000mm	870×550×2000mm
Weight	150kg	150kg	1100kg	1350kg
Power supply	AC 380V, 3Ø, 50Hz			

Code	FTM-U250	FTM-U500	FTM-U1000	FTM-U2500
Max. test force	250kN	500kN	1000kN	2500kN
Accuracy of static force measurement	±0.5% of indicated value			
Accuracy of dynamic force measurement	±2% of indicated value			
Range of test force	0.5%~100%FS			
Actuator stroke*	±75mm			
Accuracy of displacement measurement	linearity error<40μm, repeatability<0.001%FS			
Range of frequency	0~100Hz			
Concentricity	≤5%			
Vertical test space*	1235mm	2000mm	2600mm	3000mm
Effective test width*	650mm	780mm	600mm	850mm
Test waveform	sine wave, square wave, triangle wave, ramp wave, random wave, spectral loading, sweep srequency, etc.			
Stiffness	6.5×10^8N/m	8×10^8N/m	2.1×10^9N/m	4.2×10^9N/m
Dimension (L×W×H)	1000×640×3200mm	1000×640×3700mm	1100×650×5800mm	1500×850×6500mm
Weight	2050kg	6200kg	8500kg	12500kg
Power supply	AC 380V, 3Ø, 50Hz			

*Can be customized according to test requirements

WAVEFORM OF WORKING CONDITION
(page 127-128)

STANDARD DELIVERY

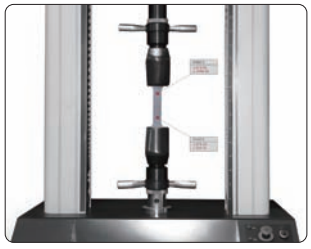
Main unit	1 pc
Hydraulic oil source	1 set
Main circulating cooling water system	1 set
Control box	1 pc
Measuring software	1 set
Computer	1 pc
Printer	1 pc

OPTIONAL ACCESSORY

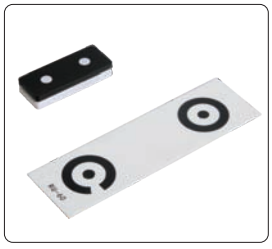
Fixture	customized
Extensometer	
High-temperature extensometer	
High and low temperature test chamber	
Temperature and humidity test chamber	
High-temperature furnace	
Security door	
Video extensometer	**UTM-M** series

VIDEO EXTENSOMETERS

software (included)



application



calibration card (included)

UTM-MB1

- Video extensometer is a non-contact, high-precision real-time measurement system, based on vision and image-related algorithms, which realizes real-time measurement of displacement and strain by photographing and analyzing the changes in the image characteristics of the specimen during the loading process. It has the advantages of high precision, wide measurement range, and visualization of the results
- It is used for testing and analyzing the performance of specimens in tension, compression, bending, creep, fatigue, etc. It includes strain (elongation) measurement, tensile/compressive strength measurement, modulus of elasticity measurement and Poisson's ratio measurement
- According to ISO 9513

SPECIFICATION

Code	UTM-MA1	UTM-MA2	UTM-MA3	UTM-MB1	UTM-MB2	UTM-MB3	UTM-MC1	UTM-MC2	UTM-MC3
Accuracy	±1.5μm or ±0.5% of indicated value			±1.0μm or ±0.5% of indicated value			±0.5μm or ±0.5% of indicated value		
Resolution	0.1μm								
Range of deformation	standard: 60~100mm extensions: 100~500mm (±1%)			standard: 60~150mm extensions: 150~1000mm (±1%)			standard: 60~240mm extensions: 240~1500mm (±1%)		
Range of scale	≤500mm			≤1000mm			≤1500mm		
Number of scales	≤2	≤10	≤10	≤2	≤10	≤10	≤2	≤10	≤10
Frame rate	≤100fps			≤200fps					

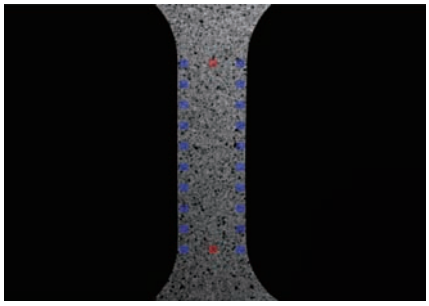
STANDARD DELIVERY

Code	UTM-MA1	UTM-MA2	UTM-MA3	UTM-MB1	UTM-MB2	UTM-MB3	UTM-MC1	UTM-MC2	UTM-MC3
Main unit	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Computer	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Control box	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Tripod	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Box	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc	1 pc
Video extensometer module	√	√	√	√	√	√	√	√	√
2D-DIC module		√	√		√	√		√	√
Video strain module			√			√			√
Video displacement module			√			√			√
Video angle module			√			√			√
Fatigue extensometer module			√			√			√

To be continued

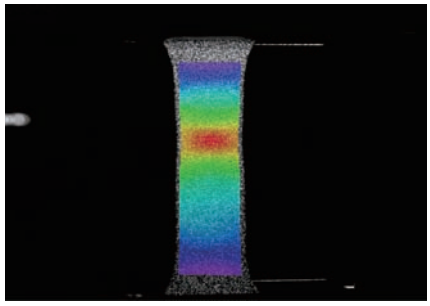
Continued from previous page

video extensometer module



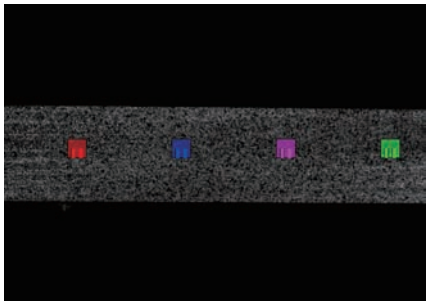
- It is suitable for a wide range of samples, including specimens, parts and machine deformations.
- It can measure different sizes of specimens, customizable from microns to around ten metres.
- It has a wide strain range, customizable from 0.002% to 1000%.
- It has high measurement accuracy and its core algorithms are accurate to sub-pixel level (0.01 pixels).
- Its distance can be customized, it has a wide range of distances to choose from, and the distance within the field of view can be set arbitrarily.
- It enables full-process tracking without downtime and without damaging the measuring device when the sample breaks.
- Its environment is very versatile. It can customize high and low temperature, high pressure, radiation and other scenarios.

2D-DIC module



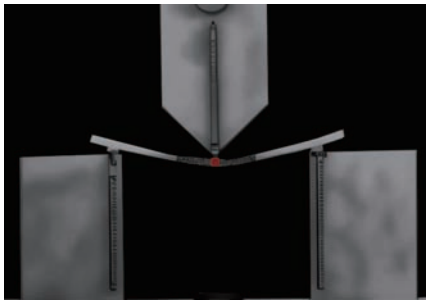
- It can measure over the entire area, which is equivalent to hundreds of virtual strain gauges.
- It is a single-phase frame, which can effectively save the hardware cost.
- It offers high measurement accuracy, with a maximum strain accuracy of better than 0.002%.
- It can measure specimens of different sizes, from a few millimeters to several meters.
- Its processes are traceable and it is possible to analyse the measurement process repeatedly.
- It is possible to select any measurement area for specific analysis of different areas.

video strain module



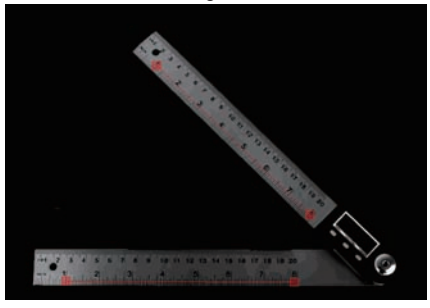
- It is a virtual strain gauge, it is non-contact measurement, it does not require a high material surface.
- It is adjustable in size, it can be set to adjust the size of different strain gauges.
- It has a large measuring range, its strain range is 0.002%~1000%.
- It can be used to measure small samples to solve the problem of conventional strain gauges pasting small samples.
- It can measure multiple data, strain X/Y/XY, maximum/small principal strain, etc.
- It can be used in high and low temperatures to replace the traditional strain gauge testing.
- It is very easy to use, no sanding, gluing, processing to use, it does not need to be set up.
- Its test procedure is traceable, and the measurement process can be repeated and analyzed retrospectively.

video displacement module



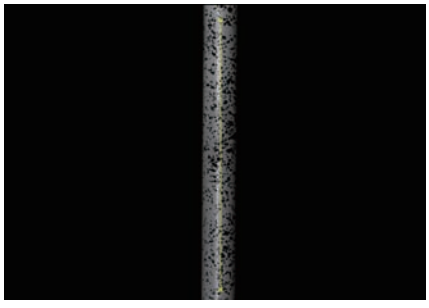
- It is a video sensor that can be adapted to non-contact displacement measurement and monitoring scenarios.
- It is a deflection meter, it can meet the various environments and various scales of deflection testing.
- It is a motion sensor, it can meet the needs of speed and acceleration testing.
- It can test deformable bodies. It is suitable for both rigid and deformable body testing.
- There is no limit to the number of test scenarios it can cover from microns to meters.
- It can perform high-precision testing, it can realize sub-pixel calculation accuracy, it is better than traditional vision.
- It can realize multiple data acquisition, it supports multiple measurement points and displacement X/Y/E test.

video angle module



- It allows for non-contact measurements, it requires no hardware connection to the measuring device, and it is easy to use.
- It can perform dynamic angle measurement, it can provide real-time feedback on the change of angle during dynamic testing.
- It can perform single line angle measurement, it can realize the angle measurement in the dynamic change of single line mechanism.
- It can carry out double line angle measurement, it can realize the angle measurement in the dynamic change of double line angle.
- It can perform linearity measurements, which is used to characterize the linearity of the motion of the mechanism in the dynamic test.

fatigue extensometer module



- It can perform non-contact measurements, it can avoid slipping of the jaws and so on.
- It can perform full-cycle testing, it can be a key to deal with low-week fatigue.
- It can run at high frame rates, and it can collect dozens of times the fatigue cycle.
- It can transmit for a long time, and it can realize stable output of large data.
- It can participate in the control, it can through the data on the test machine for the control of related actions.

CUSTOM-MADE

FIXTURES FOR ELECTRONIC UNIVERSAL TESTING MACHINES

- For **UTM-E** series and **UTM-S** series electronic universal testing machines

UTM-F001

- Wedge tensile fixture
- For tensile testing of non-metallic materials and thin metal specimens

UTM-F002

- Hydraulic tensile fixture
- For tensile testing of metallic materials, round bar specimens

UTM-F003

- 10kN wedge tensile fixture
- For tensile testing of metal specimens

UTM-F004

- Pneumatic tensile fixture
- For tensile testing of non-metallic material specimens

UTM-F005

- Insulation profile longitudinal shearing fixture
- Longitudinal shear test for insulation type materials

UTM-F006

- Insulation profile transverse tensile fixture
- For transverse tensile testing of insulation-type materials

UTM-F007

- Filament winding fixture
- For tensile testing of data wires, textile fabric wires, plastic wires

UTM-F008

- Filament opposite fixture
- For tensile testing of wire specimens

UTM-F009

- Pneumatic threadlet tensile fixture
- For tensile testing of non-metallic wire specimens

UTM-F010

- Steel wire tensile fixture
- For tensile testing of fine steel wires and iron wires

UTM-F011

- Threadlet winding fixture
- For tensile testing of filamentary metal specimens

UTM-F012

- Fabric belt winding tensile fixture
- For tensile testing of non-metallic material specimens

UTM-F013

- Film tensile fixture
- For tensile testing of paper, film and non-metallic materials

UTM-F014

- Film tensile fixture
- For tensile testing of paper, film and non-metallic materials

UTM-F015

- Thin film opposite fixture
- For tensile testing of paper, film and non-metallic materials

To be continued

Continued from previous page

UTM-F016

- Thin plate opposite fixture
- For tensile testing of thin plates of non-metallic materials

UTM-F017

- Annule tensile fixture
- For tensile testing of non-metallic annular material specimens

UTM-F018

- Adhesive tensile shearing fixture
- For tensile shear testing of different adhesive specimens

UTM-F019

- Surface bonding strength fixture
- Tensile testing for adhesive properties

UTM-F020

- Leverage tensile fixture
- For tensile testing of rubber, silicone and other elastomers

UTM-F021

- Rubber tensile fixture
- Specialized for tensile testing of rubber material specimens

UTM-F022

- 90° rubber peel fixture
- Peel test for adhesion of rubber materials

UTM-F023

- PCB plate 90° peel fixture
- Peel-off test for adhesion of sticky materials on PCBs

UTM-F024

- Plastic bending fixture
- Specialized for flexural testing of plastic specimens

UTM-F025

- Three-point bending fixture
- For bending test of various material specimens

UTM-F026

- Waving fxiture
- For tensile testing of non-metallic specimens

UTM-F027

- Butt fixture
- For tensile testing of different materials

UTM-F028

- Shear fixture
- For shear testing of different materials

UTM-F029

- Ceramic shearing fixture
- Specialized for shear testing of ceramic materials

UTM-F030

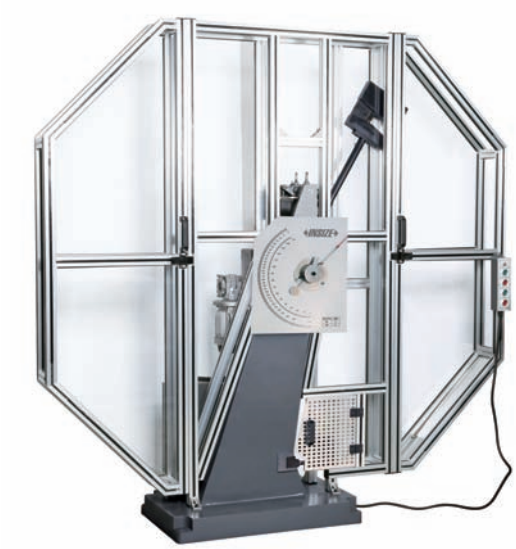
- Compressive fixture
- For compression testing of different materials

UTM-F031

- Puncture fixture
- For film puncture testing

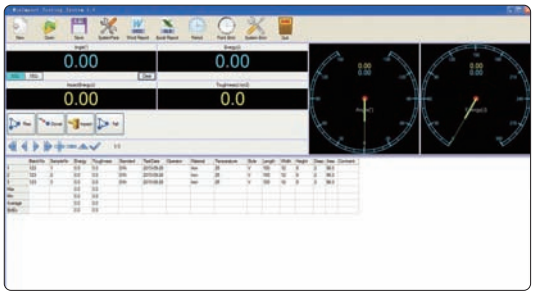
IMPACT TESTING MACHINES

VIDEO



ITM-S300J

low-temperature chamber (**optional**)



software (included)

- According to GB/T 3808, GB/T 229, JJG 145, ASTM E23 (with American standard blade), ISO 148.1, ISO 148.2, ISO 148.3, ISO R83
- For testing the anti-impact performance of metal materials under dynamic load
- Capable of performing metal impact tests in large quantities on a continuous basis

SPECIFICATION

Code	ITM-S150J	ITM-S300J	ITM-S450J	ITM-S600J	ITM-S750J
Impact energy	150J	300J	450J	600J	750J
Dial range	0~150J	0~300J	0~450J	0~600J	0~750J
Dial graduation	1J	2J	3J	4J	5J
Pendulum moment	M=80.3848N·m	M=160.7695N·m	M=241.1543N·m	M=321.5390N·m	M=401.9238N·m
Pendulum preparing angle	150°				
Distance between pendulum shaft center and specimen center	750mm				
Impact speed	5.24m/s				
Span of specimen seat	40mm				
End face radius of specimen seat	R (1.0~1.5)mm				
Radius of impact blade	R (2.0~2.5)mm				
Inclination angle of support surface of specimen seat	11°±1°				
Angle of impact blade	30°±1°				
Thickness of impact blade	16mm				
Range of measuring angle	0~360°				
Angle resolution	≤0.06°				
Specimen size	10×10×55mm				
Base size	800×500mm		960×650mm		
Dimension of main body	2050×690×2015mm		2100×835×2200mm		
Weight	450kg		900kg		
Power supply	AC 380V, 3Ø, 50Hz				
Power	400W		1.5kW		

To be continued

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SPECIFICATION OF LOW-TEMPERATURE CHAMBER (OPTIONAL)

Code	ITM-S-40	ITM-S-60	ITM-S-80	ITM-S-80S	ITM-S-100	ITM-S-196*
Range of temperature	room temperature ~-40°C	room temperature ~-60°C	room temperature ~-80°C	room temperature ~-80°C	room temperature ~-100°C	-20°C~-196°C
Accuracy of temperature control	±0.5°C					±2°C
Evenness	≤1.0°C					≤2.0°C
Resolution	0.1°C					0.1°C
Method of refrigeration	compressor refrigeration					liquid nitrogen refrigeration
Cooling medium	ethanol or other unfrozen liquid					liquid nitrogen
Number of specimen	≥60 pcs					
Cooling speed	+25°C~0°C about 1.5°C/min, 0°C~-20°C about 1.2°C/min, -20°C~-40°C about 1.0°C/min	+25°C~0°C about 1.8°C/min, 0°C~-20°C about 1.5°C/min, -20°C~-40°C about 1.3˚C/min, -40°C~-60°C about 1.0°C/min	+25°C~0°C about 1.5°C/min, 0°C~-20°C about 1.3°C/min, -20°C~-60°C about 1.0°C/min, -60°C~-80°C about 0.8°C/min		+25°C~0°C about 2.0°C/min, 0°C~-40°C about 1.5°C/min, -40°C~-80°C about 1.3°C/min, -80°C~-100°C about 0.8°C/min	1°C~-3°C
Heating speed	3°C/min					
Timekeeping device	1min~9999min, resolution: 1min					
Volume of refrigeration room (L×W×H)	275×160×120mm					
Effective volume of refrigeration room (L×W×H)	150×140×110mm					
External dimension (L×W×H)	910×510×920mm			755×555 ×950mm	1105×705 ×1110mm	710×600 ×740mm
Material of the case	Iron shell spraying moulding			stainless steels	Iron shell spraying moulding	stainless steels
Power supply	AC220V, 3Ø, 50Hz, 1.8kW	AC220V,3Ø, 50Hz, 2.3kW	AC220V, 3Ø, 50Hz, 2.5kW	AC220V, 3Ø, 50Hz, 2.5kW	AC 220V, 3Ø, 50Hz, 3.0kW	AC 220V, 3Ø, 50Hz, 100W

*For test >-20°C, **ITM-S-80** is recommended

STANDARD DELIVERY

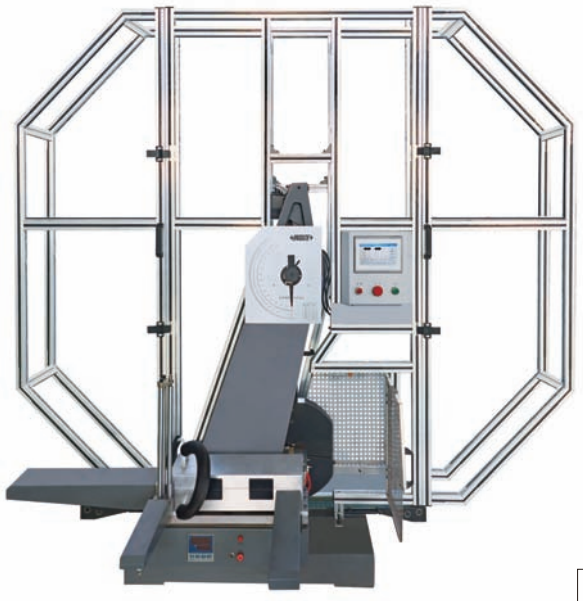
Main unit		1 pc
Control cabinet		1 pc
Simply supported beam fixture (including jaws, anvil)		1 set
Pendulum	ITM-S150J	150J pendulum
	ITM-S300J	300J pendulum and 150J pendulum
	ITM-S450J	450J pendulum and 150J pendulum
	ITM-S600J	600J pendulum and 150J pendulum
	ITM-S750J	750J pendulum and 150J pendulum
Span aligner		1 pc
Tongs		1 pc
Safety cover		1 set
Software		1 set
Computer		1 pc
Printer		1 pc

OPTIONAL ACCESSORY

Workbench	7911-15
150J pendulum	ITM-S-PE150J
300J pendulum	ITM-S-PE300J
450J pendulum	ITM-S-PE450J
600J pendulum	ITM-S-PE600J
750J pendulum	ITM-S-PE750J
ASTM standard impact blade	ITM-S-ASTM-IB
Sample recovery device	ITM-S-RD
Digital display screen	ITM-S-DDS
Impact specimen notch projector (GB/T 229, ASTM E23)	ISP-Z2
Low-temperature chamber	ITM-S-40
	ITM-S-60
	ITM-S-80
	ITM-S-80S
	ITM-S-100
	ITM-S-196
Impact specimen notch broaching machine (double broaches)	ITM-U32
Impact standard sample	ITM-BR series

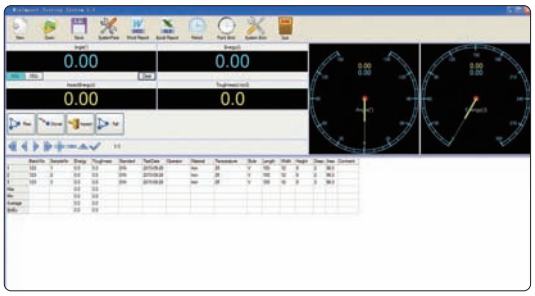
LOW TEMPERATURE AUTOMATIC IMPACT TESTING MACHINES

VIDEO

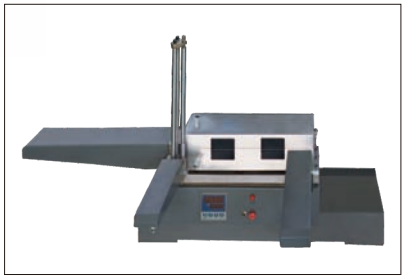


ITM-T300J

software (included)



- According to GB/T 3808, GB/T 229, JJG 145, ASTM E23 (with American standard blade), ISO 148.1, ISO 148.2, ISO 148.3, ISO R83
- For testing the anti-impact performance of metal materials under dynamic load
- Capable of performing metal impact tests in large quantities on a continuous basis
- Automatic sample feeding and positioning



sample feeding and positioning device (included)

low-temperature chamber (**optional**)

SPECIFICATION

Code	ITM-T150J	ITM-T300J	ITM-T450J	ITM-T600J	ITM-T750J
Impact energy	150J	300J	450J	600J	750J
Dial range	0~150J	0~300J	0~450J	0~600J	0~750J
Dial graduation	1J	2J	3J	4J	5J
Pendulum moment	M=80.3848N·m	M=160.7695N·m	M=241.1543N·m	M=321.5390N·m	M=401.9238N·m
Pendulum preparing angle	150°				
Distance between pendulum shaft center and specimen center	750mm				
Impact speed	5.24m/s				
Span of specimen seat	40mm				
End face radius of specimen seat	R (1.0~1.5)mm				
Radius of impact blade	R (2.0~2.5)mm				
Inclination angle of support surface of specimen seat	11°±1°				
Angle of impact blade	30°±1°				
Thickness of impact blade	16mm				
Range of measuring angle	0~360°				
Angle resolution	≤0.06°				
Specimen size	10×10×55mm				
Base size	960×650mm				
Dimension of main body	2100×835×2200mm				
Weight	900kg				
Power supply	AC380V, 3Ø, 50Hz				
Power	1.5kW				

To be continued

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SPECIFICATION OF LOW-TEMPERATURE CHAMBER (OPTIONAL)

Code	ITM-T-60	ITM-T-180	ITM-T-196
Range of temperature	room temperature~-60°C	-20°C~-180°C	room temperature~-196°C
Accuracy of temperature control	±0.5°C	±2°C	room temperature~-80°C: ±0.5°C, -80°C~-196°C: ±2°C
Evenness	≤1.0°C	≤2.0°C	room temperature~-80°C: ≤1.0°C, -80°C~-196°C: ≤2.0°C
Resolution	0.1°C	0.1°C	room temperature~-80°C: 0.1°C, -80°C~-196°C: 0.1°C
Method of refrigeration	compressor refrigeration	liquid nitrogen refrigeration	room temperature~-80°C: compressor refrigeration -80°C~-196°C: liquid nitrogen refrigeration
Cooling medium	ethanol or other unfrozen liquid	liquid nitrogen	room temperature~-80°C: compressor refrigeration -80°C~-196°C: liquid nitrogen refrigeration
Cooling speed	+25°C~0°C, about 1.8°C/min 0°C~-20°C, about 1.5°C/min -20°C~-40°C, about 1.3°C/min -40°C~-60°C, about 1.0°C/min	1°C~-3°C	+25°C~0°C, about 2.0°C/min 0°C~-40°C, about 1.5°C/min -40°C~-80°C, about 1.3°C/min -80°C~-196°C, 1°C~-3°C
Heating speed	3°C/min		
Timekeeping device	1min~999min, resolution: 1min		

STANDARD DELIVERY

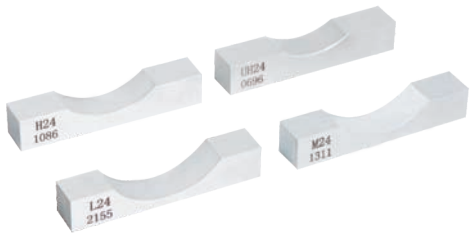
Main unit		1 pc
Control cabinet		1 pc
Digital display screen		1 pc
Sample feeding and positioning device		1 pc
Sample recovery device		1 pc
Simply supported beam fixture (including jaws, anvil)		1 set
Pendulum	ITM-T150J	150J pendulum
	ITM-T300J	300J pendulum and 150J pendulum
	ITM-T450J	450J pendulum and 150J pendulum
	ITM-T600J	600J pendulum and 150J pendulum
	ITM-T750J	750J pendulum and 150J pendulum
Span aligner		1 pc
Tongs		1 pc
Safety cover		1 set
Software		1 set
Computer		1 pc
Printer		1 pc

OPTIONAL ACCESSORY

150J pendulum	ITM-T-PE150J
300J pendulum	ITM-T-PE300J
450J pendulum	ITM-T-PE450J
600J pendulum	ITM-T-PE600J
750J pendulum	ITM-T-PE750J
ASTM standard impact blade	ITM-T-1
Impact specimen notch projector (GB/T 229, ASTM E23)	ISP-Z2
Low-temperature chamber	ITM-T-60, ITM-T-180, ITM-T-196
Workbench	7911-15
Impact specimen notch broaching machine (double broaches)	ITM-U32
Impact standard sample	ITM-BR series

INSPECTION CERTIFICATE

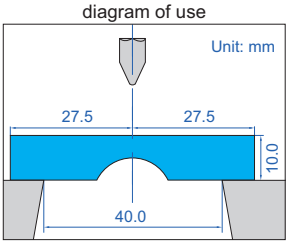
IMPACT STANDARD SAMPLES



arc standard samples

- It can avoid the defects of the direct test method that cannot accurately evaluate the measurement accuracy of the impact testing machine
- It can comprehensively verify the measurement characteristics of the impact test machine
- It can quantitatively verify the accuracy of the measured value of the impact testing machine
- Ability to evaluate the uncertainty of the test machine
- It has two specifications, national standard R2 and American standard R8, with a size of 55×10×10mm
- Supplied with manufacturer inspection certificate

diagram of use



SPECIFICATION

Code	Type of notch	Energy level	Impact blade (mm)	Impact value*	Application temperature
ITM-BR1	arc notch	low: L	R2	28.6J	normal temperature
ITM-BR2	arc notch	medium: M	R2	81.9J	normal temperature
ITM-BR3	arc notch	high: H	R2	127J	normal temperature
ITM-BR5	arc notch	ultra-high: UH	R2	232J	normal temperature
ITM-BR6	arc notch	low: L	R8	29.6J	normal temperature
ITM-BR7	arc notch	medium: M	R8	93J	normal temperature
ITM-BR8	arc notch	high: H	R8	142J	normal temperature
ITM-BR10	arc notch	ultra-high: UH	R8	266J	normal temperature
ITM-BR11	V-notch	low: L	R2	20.7J	normal temperature
ITM-BR12	V-notch	medium: M	R2	107.8J	normal temperature
ITM-BR13	V-notch	high: H	R2	155.9J	normal temperature
ITM-BR14	V-notch	low: L	R8	13.6J	normal temperature
ITM-BR15	V-notch	medium: M	R8	106.1J	normal temperature
ITM-BR16	V-notch	high: H	R8	160J	normal temperature
ITM-BR17	V-notch	low: L	R2	28.6J	-30°C±1°C
ITM-BR18	V-notch	medium: M	R2	81.9J	-30°C±1°C
ITM-BR19	V-notch	high: H	R2	127J	-30°C±1°C
ITM-BR20	V-notch	low: L	R8	29.6J	-30°C±1°C
ITM-BR21	V-notch	medium: M	R8	93J	-30°C±1°C
ITM-BR22	V-notch	high: H	R8	142J	-30°C±1°C

*The actual value may be slightly different when delivered, please refer to the manufacturer inspection certificate

IMPACT SPECIMEN NOTCH PROJECTORS

CAN BE CUSTOMIZED

VIDEO

- Suitable for inspecting the notching quality of impact specimens of Charpy V-notch (depth of 2mm) and U-notch (depth of 2mm)
- Standard sample drawings with tolerances, angle values and depth lines on the screen for intuitive and efficient comparison

ISP-Z1

SPECIFICATION

Code	ISP-Z1	ISP-Z2
Corresponding standard	GB/T 229	GB/T 229, ASTM E23, ISO 148, ISO 83, EN 10045
Magnification	50X	
Magnification of lens	2.5X	
Magnification of projector lens	20X	
Diameter of projector screen	Ø200mm	
Size of square stage	110×125mm	
Size of round stage	Ø90mm	
Diameter of glass on stage	Ø70mm	
Stroke of stage (X axis)	±10mm	
Stroke of stage (Y axis)	±10mm	
Stroke of stage (Z axis)	±12mm	
Range of stage rotation	0°~360°	
Illumination (tungsten halogen lamp)	12V 100W	
Power supply	AC 220V, 50Hz 150W	
Dimension (L×W×H)	510×220×600mm	
Weight	20kg	

STANDARD DELIVERY

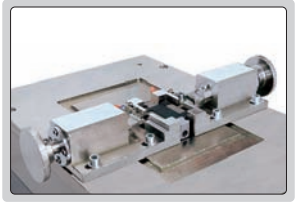
Main unit	1 pc

IMPACT SPECIMEN NOTCH BROACHING MACHINE (DOUBLE BROACHES) CODE ITM-U32

VIDEO

- Conforms with ISO 148, ISO 83 and EN 10045 standards
- One-time broaching forming, hydraulic transmission, special internal lubrication device to avoid damage of the broaches
- Dual-station broach, two specimen notches can be processed at the same time

raised broaches



lowered broaches

ITM-U32

SPECIFICATION

Broach stroke	350mm (V2, U2, U3 broaches) 400mm (U5 broach)
Specimen size (T×W×L)	10×10×55mm
Broaching speed	0.35-2.5m/min
Driving method	hydraulic
Power supply	380V, 50Hz, 0.4kW
Dimension	660×400×1200mm
Weight	200kg

STANDARD DELIVERY

Main unit	1 pc
Broach	U2 and V2

OPTIONAL ACCESSORY

U3 broach	ITM-U32-U3
U5 broach	ITM-U32-U5

IMPACT BROACHES

- The broach is made of special material and special process, with high hardness, good wear resistance and long service life
- The processed V-notch and U-notch (2mm) can meet the relevant national standards of GB/T229-2007
- The processing consistency is excellent, which can ensure that the sample is qualified

ITM-UV2

VIDEO

SPECIFICATION

Code	Type of blade	Depth of notch	Radius of bottom	Material	Hardness of material to be cutted
ITM-UV1*	V-shaped	2mm	0.25mm	$W_{18}Cr_4V$	below 42HRC
ITM-UV2*	U-shaped	2mm	1mm	$W_{18}Cr_4V$	below 42HRC
ITM-UV3**	U-shaped	3mm	1mm	–	–
ITM-UV4**	U-shaped	5mm	1mm	–	–

*Hardness of **ITM-UV1** and **ITM-UV2** blade can be customized for special requirements

Hardness of **ITM-UV3 and **ITM-UV4** need to be customized

4

GAUGE MARKING INSTRUMENTS (MARKING POINT)

VIDEO

STM-G1

- According to ISO6892-1
- Suitable for marking tensile specimen of metal bar
- The percentage elongation after franture of a material can be accurately measured by uniformly distributed markers on the specimen to assess the mechanical property of the material

STM-G4

SPECIFICATION

Code	STM-G1	STM-G2	STM-G3	STM-G4
Marking method	manual	electric		pneumatic
Spacing of markers	10mm	5/10mm	10mm	5/10mm
Number of markers	30 points	1 point	40 points	1 point
Max. gauge	300mm	300mm	400mm	500mm
Accuracy	±0.1mm	±0.05mm	±0.05mm	±0.05mm
Specificity	multipoint quick and easy	high-accuracy highly efficient easy operation	high-accuracy highly efficient easy operation	high-accuracy highly efficient marking force can be adjusted
Power supply	–	AC 220V, 50Hz		
Dimension (L×W×H)	490×200×300mm	460×315×450mm	710×315×450mm	810×350×520mm
Weight	22kg	25kg	30kg	60kg

STANDARD DELIVERY

Main unit	1 pc

OPTIONAL ACCESSORY

Air pump*	**STM-G-1**

*For **STM-G4**

GAUGE MARKING INSTRUMENTS (MARKING LINE)

VIDEO

STM-H2

- According to ISO 6892-1
- Suitable for marking tensile specimen of metal sheet
- The percentage elongation after franture of a material can be accurately measured by uniformly distributed markers on the specimen to assess the mechanical property of the material

SPECIFICATION

Code	STM-H1	STM-H2	STM-H3
Marking method	electric	laser	
Spacing of markers	5/10mm	settable	
Number of markers	1 point	settable	
Max. gauge	300mm	300mm	400mm
Accuracy	±0.05mm	±0.02mm	
Specificity	high-accuracy highly efficient easy operation	marking speed: ≤3000mm/s marking depth: ≤0.3mm minimum line width: 0.004mm scope of marking: 100×100mm connector for communication: USB2.0	
Power supply	AC 220V, 50Hz		
Dimension (L×W×H)	560×400×450mm	1100×740×1460mm	
Weight	40kg	230kg	

STANDARD DELIVERY

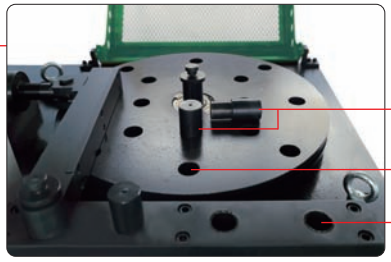
Main unit	1 pc

STEEL BAR BENDING TESTING MACHINES

ATTENTION: STANDARD TEST BEND CORES ARE NEEDED FOR TESTING

VIDEO

STM-D40



worktable

control panel

- According to GB/T 1499.2, GB/T 28900, YB/T 5126, ISO 10065
- Cold bending test and plane rebending test of steel bars can be carried out

SPECIFICATION

Code	STM-D40	STM-D50
Range of steel bar diameter (hot-rolled ribbed-steel bar)	Ø6~Ø40mm	Ø6~Ø50mm
Angle of bend	0~180°	
Angle of rebend	0~180°	
Diameter of worktable	Ø560mm	Ø860mm
Rotate speed of worktable	≤1.4r/min	
Distance of roll center	245mm	366mm
Dimension	1000×750×1200mm	1320×1185×1380mm
Weight	750kg	2000kg
Power supply	AC 380V, 3Ø, 50Hz 1.5kW	AC 380V, 3Ø, 50Hz 3kW

STANDARD DELIVERY

Main unit	1 pc
Work axis	7 pcs

OPTIONAL ACCESSORY

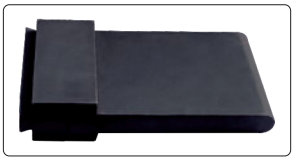
Standard test bend core*	customized

*Selection of specifications according to test requirements

VERTICAL BENDING TESTING MACHINE
CODE STM-E1

ATTENTION: STANDARD TEST BEND CORES ARE NEEDED FOR TESTING

VIDEO



standard test bent core (**optional**)

- Suitable for metal and non-metal bending test, such as steel bar, steel plate, etc.
- Easy core replacement with support roller bending device

SPECIFICATION

Angle of bend	0~180°
Length of bending indenter	≥150mm
Size of support roller	Ø40×140m
Max. system pressure*	25MPa
Max. test force for longitudinal bending*	500kN
Working stroke of longitudinal piston*	270mm
Max. clamping force*	250kN
Stroke of single piston*	150mm
Resolution of displacement	0.01mm
Dimension (L×W×H)	1520×650×1920mm
Weight	1000kg
Power supply	AC 380V, 3Ø, 50Hz 1.5kW

*Can be customized according to test requirements

STANDARD DELIVERY

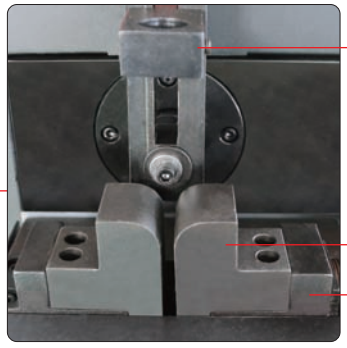
Main unit	1 pc

OPTIONAL ACCESSORY

Microcomputer control system	**STM-E-1**
Standard test bend core**	customized

** Selection of specifications according to test requirements

METALLIC MATERIAL REVERSE BENDING TESTING MACHINE
CODE STM-F1



wire fixture (included)

- Suitable for reverse bending test of metal wire and sheet
- Used to test the plastic deformation resistance and reveal the defects of metal materials during reverse bending

SPECIFICATION

Diameter of wire	Ø(0.3-10)mm
Length of wire	≥200mm
Thickness of sheet	0.3~3mm
Length of sheet	≥200mm
Angle of reverse bending	90°±1°
Frequency of bending	≤60 times/minute
Range of count	1~99999 times
Dimension (L×W×H)	600×350×670mm
Weight	230kg
Power supply	AC 380V, 3Ø, 50Hz 1.5kW

STANDARD DELIVERY

Main unit	1 pc
Tensioning device	1 set
Jaws of wire	1 set
Guide bush of wire	1 set

OPTIONAL ACCESSORY

Jaws of sheet	**STM-F-1**
Guide bush of sheet	**STM-F-2**

FRICTION AND WEAR TESTING MACHINE
CODE STM-C1

VIDEO

4

- According to NB/SH/T 0189, ASTM D3702, ASTM G99
- The friction simulation test between different friction parts can be realised under various conditions such as changing temperature, load, speed, friction part material, friction part surface roughness, hardness and lubrication status (oil-free lubrication, oil-drip lubrication or oil-immersion lubrication)
- The machine can simulate rolling, sliding and rolling-sliding compound motion friction form, with a variety of friction sub, such as pin disc (with a large disc and small disc, single needle and three needle) friction sub, four ball friction sub, thrust ring, ball disc and so on
- The machine can complete a variety of point, line and surface friction simulation experiments, can be used to evaluate the lubricant, metal, paint, coatings, rubber, ceramics and other materials friction and wear performance

STM-C1

SPECIFICATION

Maximum axial test force	1000N
Accuracy of axial force	±1%
Load rate of axial test force	400N/min
Retention capacity of axial test force	±1%
Range of friction sensor	200N
Length of friction arm	50mm
Maximum friction torque	2.5N·m
Accuracy friction torque	±2%
Range of spindle speed	5~2000r/min
Accuracy of spindle speed	±1%
Taper of tester spindle	1:7
Maximum distance between spindle and lower sub-disc	>75mm
Timekeeping device	10s~9999min
Range of RPM counter	(1~99)×10^5 times
Dimension of main body	860×740×1560mm
Weight	550kg
Power supply	AC 220V, 50Hz

STANDARD DELIVERY

Main unit	1 pc
Pin and disc friction vice	1 set
Computer	1 pc
Printer	1 pc

OPTIONAL ACCESSORY

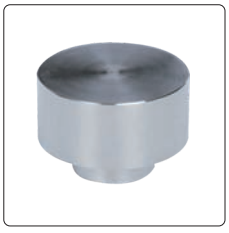
Ball and disc friction vice	STM-CF1
Disc and disc friction vice	STM-CF2
Tube heater	STM-CF3
Special accessories	customized

STM-A10

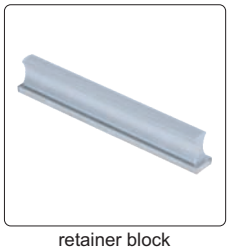
- According to GB/T 10006, GB/T 2790, GB/T 2791, GB/T 2792, ISO 8295, ISO 8510-2, ASTM D1894, ASTM D4917
- Suitable for plastic film, foil, paper, cardboard, fabrics, communication cables and cables with metal materials composite belt, conveyor belt, paper and other related materials, dynamic and static coefficient of friction and adhesive composite products, medical patches, paper, protective film and other products, peel strength determination
- Seven-inch industrial touch screen, man-machine interface stylish, convenient
- Wide-range, high-precision temperature control device easily realises testing of specimens at different temperatures
- Infinitely variable speed, multi-speed adjustable, to meet the different needs of customers
- The standard test bench and test slider are demagnetised and tested for residual magnetism, effectively reducing systematic testing errors
- The system is controlled by a computer and a microprocessor, making it easy for the user to carry out the test quickly
- Equipped with USB interface, professional measurement and control software, you can control the instrument through the software to complete the test

slider (200g) (included)

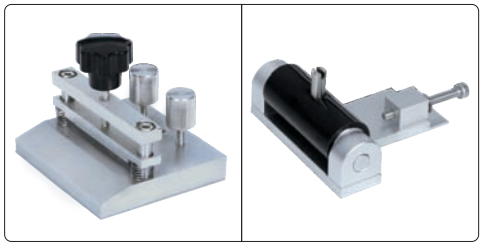
connector (included)



weight (300g) (included)



retainer block (included)



peel fixture (included)

SPECIFICATION

Code	STM-A05	STM-A10	STM-A30
Max. test force	5N	10N	30N
Accuracy of test force	±0.5%		
Resolution of test force	0.001N		
Range of test force	0.5%~100%FS		
Range of speed adjustment	1~600mm/min		
Weight of slider	200g		
Dimension (L×W×H)	850×350×290mm		
Weight	30kg		
Power supply	AC 220V, 50Hz		

STANDARD DELIVERY

Main unit	1 pc
Slider (200g)	1 pc
Connector	1 pc
Weight (300g)	1 pc
Retainer block	1 pc
Peel fixture	1 set
Ø6 polyurethane tube (5m)	1 pc
Fuse	3 pcs
Test board (50×125mm)	3 pcs

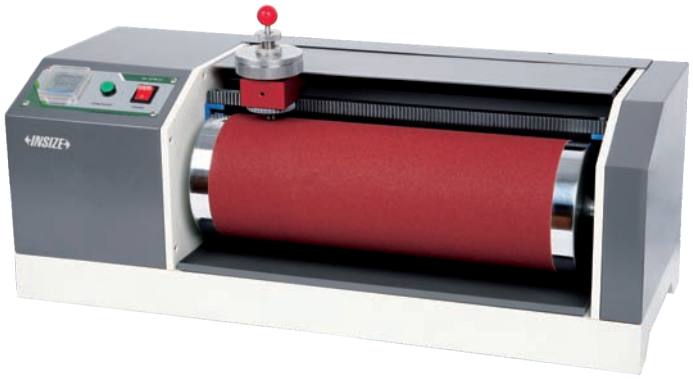
OPTIONAL ACCESSORY

Professional software*		STM-AF1
Communication cable		STM-AF2
Standard press roller		STM-AF3
Slider (100g)		STM-AF4
Weight (800g)		STM-AF5
Weight (1614g)		STM-AF6
Weight (1800g)		STM-AF7
Test board (40×180mm)		STM-AF8
Stainless steel sampling knives	10mm	STM-AF9
	15mm	STM-AF10
	20mm	STM-AF11
	25mm	STM-AF12
	25.4mm	STM-AF13
Stainless steel sampling blade (10pcs)		STM-AF14
Non-standard fixture		customized, selection of specifications according to test requirements

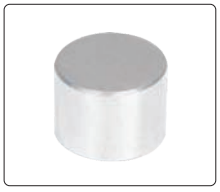
*STM-AF2 is required when purchasing STM-AF1

DIN ABRASION TESTER
CODE QTM-A1

VIDEO



sample cutter (included)



grinding block (included)

- Implementation standards: DIN 53516, ISO/DIS 4649, GB 9867
- Suitable for abrasion testing of elastic materials, rubber, tyres, conveyor belts, conveyor belts, shoe soles, soft synthetic leather, leather, etc.

metal pad (included)

SPECIFICATION

Diameter of roller	Ø(150±0.2)mm
Length of roller	460mm
Speed of roller	40±1rpm
Abrasion stroke	40m
Abrasion speed	0.32m/sec
Angle of inclination	3°
Diameter of specimen	Ø16mm
Thickness of specimen	6~15mm
Test load	5N, 10N
Displacement of fixture	4.2mm/per revolution of roller
Dimension (L×W×H)	760×300×280mm
Weight	61kg
Power supply	AC 220V, 50Hz

weight (2.5N) (included)

STANDARD DELIVERY

Main unit	1 pc
Weight (2.5N)	1 pc
Weight (5N)	1 pc
Sample cutter	1 pc
Standard rubber (Ø16×8mm)	3 pcs
Sandpaper	2 pcs
Grinding block	1 pc
Metal pad	1 pc

VIDEO

PNEUMATIC KEY LIFE TESTER
CODE STM-B1

STM-B1

- Suitable for the life fatigue test of different types of keys such as computer keyboards, mice, mobile phones, calculators, e-books, electronic dictionaries, gamepads, remote controls, conductive rubber keys, and so on
- Multiple products can be tested at the same time, and each product can be tested with multiple points
- Individual switch for each probe
- Alarm at end of test and conductive failure

SPECIFICATION

Test stroke*	30mm
Lifting range of working table*	0~300mm
Number of probes*	40pcs
Pressure*	100~1000g (controlled by adjusting air pressure)
Minimum distance between two probes of X axis*	15mm
Minimum distance between two probes of Y axis*	40mm
Duration of upward stay	0.1~99.9s
Duration of downward stay	0.1~99.9s
Number of tests	999999999 times
Dimension of main body	600×530×1200mm
Weight	110kg
Power supply	AC 110~220V, 50/60Hz

*Customizable

STANDARD DELIVERY

Main unit	1 pc
Plastic air tube	1 pc

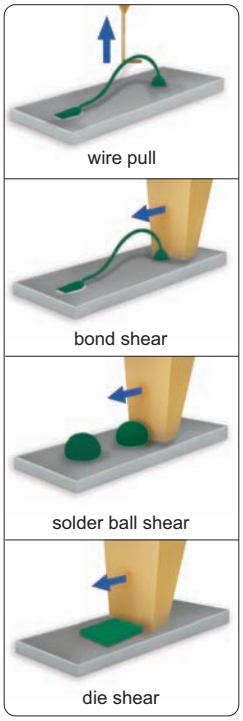
BOND FORCE TESTERS

ATTENTION: THE TEST MODULES MUST BE CONFIGURED

VIDEO

DTM-A140

measurement schematic



- Suitable for testing the strength of microelectronic after bonding, and adhesion testing between solder and substrate surfaces, and failure analysis
- Suitable for wire pull, bond shear, ball shear, die shear test
- The corresponding test module can be replaced according to the need, and the system automatically identifies the module parameter information
- With landing protection function to prevent damage to the test probe by misoperation
- The equipment adopts air suspension bearings, which provide extremely low touchdown force and won't damage the substrate
- Fast, accurate and widely applicable
- Powerful software, easy to operate, support for custom path editing
- Perfect data analysis function, support MES interface interconnection

SPECIFICATION

Code	DTM-A140	DTM-A160	DTM-A200	DTM-A320
Max. load capacity	200kg	200kg	200kg	50kg
Axis travel (X×Y×Z)	140×140×65mm	160×160×75mm	200×200×100mm	320×320×75mm
Speed	0.1~200mm/min	0.1~500mm/min	0.1~500mm/min	0.1~1000mm/min
Min. travel distance of Z-axis	0.25μm	0.1μm	0.1μm	0.1μm
Plate dimension	230×230mm	290×290mm	330×330mm	Ø320mm
Accuracy of force	±0.1%FS			
Resolution of ADC	24bit			
Sampling frequency	5000Hz			
Vacuum supply	0.4~0.6MPa, flow rate: ≤15L/min			
Power supply	AC220V 50Hz, 2kW			
Dimension (L×W×H)	680×617×685mm	680×604×781mm	680×644×814mm	680×762×790mm
Weight	100kg	100kg	100kg	120kg

STANDARD DELIVERY

Main unit	1 pc
Control box	1 set
Computer	1 set
Software	1 set
Microscope	1 set
Mechanical clamping fixture	1 set

SPECIFICATION OF TEST MODULES (OPTIONAL)

Code	Application	Selectable load sub-ranges			
DTM-AWP100G	wire pull test	100g	50g	25g	10g
DTM-AWP1KG		1kg	500g	250g	100g
DTM-AWP5KG		5kg	2.5kg	1kg	500g
DTM-AWP10KG		10kg	5kg	2.5kg	1kg
DTM-AWP20KG*		20kg	10kg	5kg	2.5kg
DTM-ABS250G	shear test	250g	100g	50g	25g
DTM-ABS5KG		5kg	2.5kg	1kg	500g
DTM-ADS50KG		50kg	20kg	10kg	4kg
DTM-ADS100KG		100kg	50kg	20kg	10kg
DTM-ADS200KG*		200kg	100kg	40kg	20kg

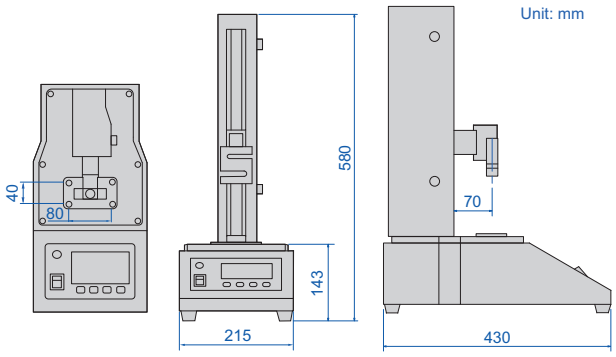
OPTIONAL ACCESSORY

Shear calibration fixture (1: 1)	DTM-A-J1
Shear calibration fixture (1: 2)	DTM-A-J2
Shear calibration fixture (1: 40)	DTM-A-J40
Pull calibration fixture	DTM-A-JP
Camera	DTM-A-P1
Calibration weight	customized*
Pull hook	
Shear fixture	
Vacuum adsorption test fixture	
Vacuum pump	

*Can be customized according to test requirements

ELECTRONIC TENSILE AND COMPRESSION TESTING MACHINES

VIDEO



UTM-SC1000

compression fixture (included)

tensile fixture (included)

- Suitable for tensile, peeling and tearing tests of metal wires, metal foils, plastics, food packaging, textile fibres, wires and cables, adhesives, connectors and other industries
- Fixed force test, fixed displacement test, fixed deformation test and cycle test can be realised
- Automatically obtain the maximum force, tensile strength, compressive strength, elongation at break, average peeling strength, average peeling force and other test data
- Overload emergency shutdown protection device, up and down travel limit protection device
- Leakage automatic power-off system, automatic breakpoint stop function

test interface

SPECIFICATION

Code	UTM-SC100	UTM-SC200	UTM-SC500	UTM-SC1000
Max. test force	100N	200N	500N	1000N
Accuracy class	class 0.5			
Test force measurement range	0.4%~100%FS			
Test force measurement accuracy	±0.5% of indicating value			
Test force measurement resolution	0.01N			
Deformation measurement range	0.2%~100%FS			
Deformation measurement accuracy	±0.5% of indicating value			
Deformation measurement resolution	0.001mm			
Displacement range *	0~300mm			
Displacement accuracy	±0.5% of indicating value			
Displacement resolution	0.001mm			
Displacement speed adjustment range	0.1~500mm/min			
Effective tensile travel *	150mm			
Power supply	AC110~220V, 50/60Hz			
Dimension	430×215×580mm			
Weight	15kg			

*Can be customized according to test requirements

STANDARD DELIVERY

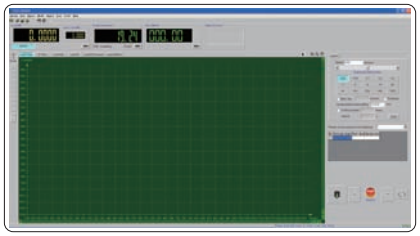
Main unit	1 pc
Tensile fixture	1 set
Compression fixture	1 set

OPTIONAL ACCESSORY

Fixture	customized, selection of specifications according to test requirements

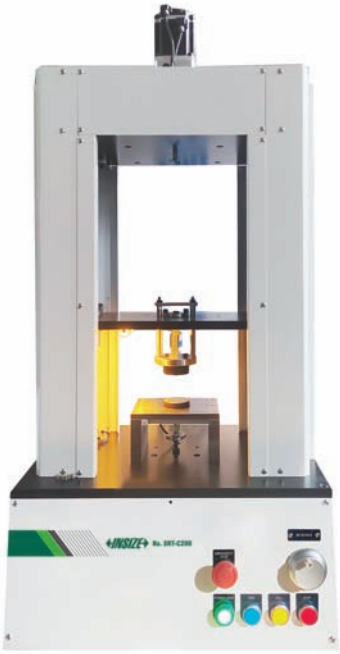
AUTOMATIC SPRING TESTING MACHINES

VIDEO



computer and software (included)

- Applicable to all types of springs tension, compression tests
- Utilize high-strength load frame structure equipped with four lead screws and two guide columns to ensure stable and reliable loading
- Automatic zero seeking function
- Force unit: N, kg, lb, displacement unit: mm, in
- Test data and curve can be stored automatically, test report can be generated automatically
- With force overload protection, beam limit position protection, overload protection



SRT-C200

SRT-C10K

SPECIFICATION

Code	SRT-C10	SRT-C50	SRT-C100	SRT-C200	SRT-C500	SRT-C1K	SRT-C2K
Max. test force	10N	50N	100N	200N	500N	1kN	2kN
Range of test force	1%-100%FS						
Resolution of test force	1/100000FS						
Accuracy class	class 0.5						
Accuracy of test force	±0.5% of indicating value						
Range of displacement speed	0.01~500mm/min						
Resolution of displacement	0.01mm						
Accuracy of displacement	±(50+0.15L)μm (note: L is the distance between two compression fixtures, mm)						
Max. compression spring height	350mm						
Max. tension space	350mm						
Diameter of compression fixture	Ø50mm				Ø120mm		
Power supply	AC 220V, 50Hz, 300W				AC 220V, 50Hz, 600W		
Dimension (L×W×H)	700×330×830mm				700×330×830mm		
Weight	70kg				170kg		

Code	SRT-C5K	SRT-C10K	SRT-C20K	SRT-C50K
Max. test force	5kN	10kN	20kN	50kN
Range of test force	1%-100%FS			
Resolution of test force	1/100000FS			
Accuracy class	0.5 class			
Accuracy of test force	±0.5% of indicating value			
Range of displacement speed	0.01~500mm/min			
Resolution of displacement	0.01mm			
Accuracy of displacement	±(50+0.15L)μm (note: L is the distance between two compression fixtures, mm)			
Max. compression spring height	750mm			
Max. tension space	750mm			
Diameter of compression fixture	Ø200mm			
Power supply	AC 220V, 50Hz, 1200W			
Dimension (L×W×H)	750×830×1500mm			
Weight	250kg			

STANDARD DELIVERY

Main unit	1 pc
Computer	1 set
Software	1 set
Printer	1 pc
Pull clamp	1 set
Compression fixture	1 set

AUTOMATIC SPRING TESTING MACHINES

extension spring test

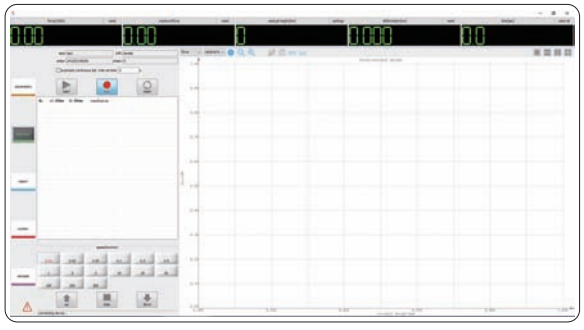
compression spring test

slender spring test

arbor fixture (**optional**)

SRT-W20

- Applicable to all kinds of springs for tension and compression tests
- Preloading function, can set the times of preload, residual height, deformation, force value
- Automatic merging function
- Automatic continuous test, test method can be set up
- With specimen fracture stop, force value overload protection, beam limit position protection
- With overload, overcurrent, leakage protection functions


computer and software (included)

SPECIFICATION

Code	SRT-W1	SRT-W2	SRT-W5	SRT-W10	SRT-W20	SRT-W50	SRT-W100
Max. test force	1N	2N	5N	10N	20N	50N	100N
Resolution of test force	0.001N	0.001N	0.001N	0.001N	0.001N	0.003N	0.01N
Accuracy class	class 0.5						
Accuracy of test force	±0.5% of indicating value						
Range of displacement speed	0.01~300mm/min						
Resolution of displacement	0.001mm						
Accuracy of displacement	±(50+0.15L)μm (note: L is the distance between the compression fixtures, mm)						
Test travel	100mm						
Power supply	AC 220V, 50Hz						
Dimension	200×280×510mm						
Weight	20kg						

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Software	1 set
Printer	1 pc
Pull clamp	1 set
Compression fixture	1 set

OPTIONAL ACCESSORY

Arbor fixture	customized, selection of specifications according to test requirements
Fixture	

DIGITAL SPRING TESTERS

VIDEO

DATA OUTPUT

- Peak hold and automatic release function
- Set upper and lower limits, red and green indicator and buzzer alarm
- Automatic conversion of three units: N, kgf, lbf
- Built in printer
- Automatic power off

ISF-S10 ISF-S500 ISF-S1000

SPECIFICATION

Code	ISF-S10	ISF-S20	ISF-S30	ISF-S50	ISF-S100	ISF-S200
Maximum load	10N	20N	30N	50N	100N	200N
Resolution	0.001N	0.002N	0.01N	0.01N	0.02N	0.05N
Range of digital scale	65mm	65mm	65mm	95mm	95mm	95mm
Resolution of digital scale	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm
Disk diameter	Ø30mm	Ø30mm	Ø30mm	Ø49mm	Ø49mm	Ø49mm
Maximum free length of spring	65mm	65mm	65mm	95mm	95mm	95mm
Measuring range of force	5%~100% (maximum load)					
Accuracy of force	±1% (maximum load)					
Data output	RS232					
Power supply	220V, 50/60Hz					
Dimension	300×235×600mm	300×235×600mm	300×235×600mm	300×235×620mm	300×235×620mm	300×235×620mm
Weight	13.2kg	13.2kg	13.2kg	17.3kg	19.1kg	19.1kg

Code	ISF-S300	ISF-S500	ISF-S1000	ISF-S2000	ISF-S5000
Maximum load	300N	500N	1000N	2000N	5000N
Resolution	0.1N	0.1N	0.2N	0.5N	1N
Range of digital scale	95mm	95mm	150mm	150mm	150mm
Resolution of digital scale	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm
Disk diameter	Ø49mm	Ø49mm	Ø108mm	Ø108mm	Ø108mm
Maximum free length of spring	95mm	95mm	200mm	200mm	200mm
Measuring range of force	5%~100% (maximum load)				
Accuracy of force	±1% (maximum load)				
Data output	RS232				
Power supply	220V, 50/60Hz				
Dimension	300×235×620mm	300×235×620mm	490×300×920mm	490×300×920mm	490×300×920mm
Weight	19.1kg	20.8kg	47.5kg	47.5kg	47.5kg

STANDARD DELIVERY

Main unit	1 pc

DATA OUTPUT

INSPECTION CERTIFICATE

VIDEO

DIGITAL FORCE GAUGES (HIGH ACCURACY)

software flash disk (included)

printer (**optional**)

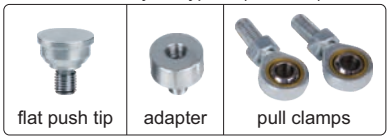
ISF-DF100A type A

ISF-DF5KA type B

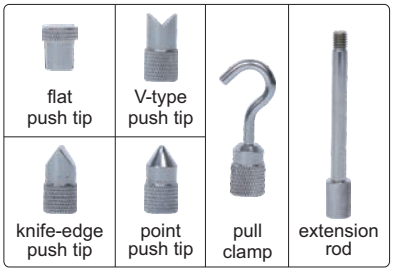
ISF-DF10KC type C

- Type A and B can be used for tension and pressure tests, type C is only used for pressure tests
- Peak (max.) and tracking mode
- Units for type A: mN, N, gf, kgf, ozf, lbf,
  type B: N, kgf, lbf, kN, MPa,
  type C: N, kgf, lbf, kN, tf, MPa
- Tolerance testing
- 1000 memories
- Automatic power off
- Metal case, touch buttons
- LCD display with backlight
- The display flips over when the bottom faces up
- Overload alarm
- Keyboard signal, can be transmitted to Excel

accessory for type B (included)



accessory for type A (included)



SPECIFICATION

Code	ISF-DF5A	ISF-DF10A	ISF-DF20A	ISF-DF50A	ISF-DF100A	ISF-DF200A	ISF-DF500A	ISF-DF1KA
Type	A (internal sensor)							
Load capacity (N)	5	10	20	50	100	200	500	1000
Resolution (N)	0.0005	0.001	0.005	0.005	0.01	0.05	0.05	0.1
Accuracy	±0.2% (of load capacity)							
Power supply	built-in rechargeable battery							

Code	ISF-DF1KB	ISF-DF2KA	ISF-DF5KA	ISF-DF10KA	ISF-DF20KA
Type	B (external sensor)				
Load capacity (N)	1000	2000	5000	10000	20000
Resolution (N)	0.1	0.5	0.5	1	5
Accuracy	±0.2% (of load capacity)				
Power supply	built-in rechargeable battery				

Code	ISF-DF10KC	ISF-DF20KC	ISF-DF50KC	ISF-DF100KC	ISF-DF200KC
Type	C (external sensor)				
Load capacity (kN)	10	20	50	100	200
Resolution (kN)	0.001	0.005	0.005	0.01	0.05
Accuracy	±0.2% (of load capacity)				
Power supply	built-in rechargeable battery				

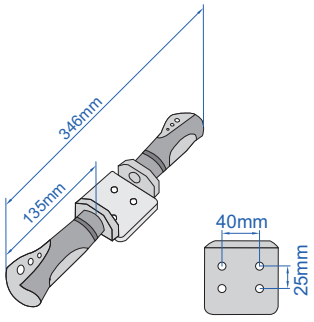
STANDARD DELIVERY

Main unit		1 pc
AC/DC adapter		1 pc
Software and USB cable		1 pc
Push/pull accessory	type A	6 pcs (flat push tip, V-type push tip, knife-edge push tip, point push tip, pull clamp, extension rod)
	type B	4 pcs (flat push tip, adapter, pull clamps)

OPTIONAL ACCESSORY

Printer	ISF-DF-PRINTER
Test stand	ISF-MT1K
Wireless transmitter (receiver is needed)	7315-ISF-D

FORCE GAUGE HANDLES
CODE ISF-DFAT1



- For digital force gauges (code **ISF-DF□□□**)
- Push and pull test
- Maximum range 1000N

push test with single handle

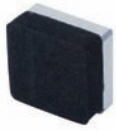
pull test with two handles

STANDARD DELIVERY

Handle	2 pcs
Base	1 pc

SOFT PROBES FOR HUMAN BODY

ISF-DFAT2-C1



ISF-DFAT2-C2

ISF-DFAT2-C3

ISF-DFAT2-C4

- To measure muscle force
- For press test with digital force gauges (code **ISF-DF□□□**) and force gauge handles (code **ISF-DFAT1**)
- Maximum range 1000N

application

Code	Specification
ISF-DFAT2-C1	rectangle, 90×25mm, M6
ISF-DFAT2-C2	square, 25×25mm, M6
ISF-DFAT2-C3	arc-shaped, 90×25mm, R80mm, M6
ISF-DFAT2-C4	M6

VIDEO DATA OUTPUT INSPECTION CERTIFICATE

DIGITAL FORCE GAUGES

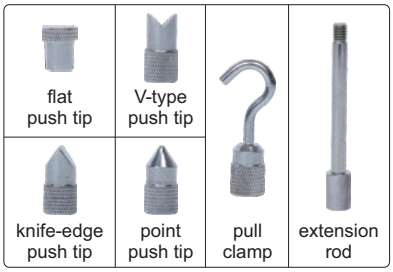
software flash disk (included)

ISF-1DF100

POPULAR MODEL

printer (**optional**)

accessory (included)



- Push and pull test
- Units: N, gf, kgf, ozf, lbf
- 500 memories
- Automatic power off
- Metal case
- LCD display with backlight
- The display flips over when the bottom faces up
- Overload alarm

4

SPECIFICATION

Code	ISF-1DF10	ISF-1DF50	ISF-1DF100	ISF-1DF500	ISF-1DF1000
Load capacity (N)	10	50	100	500	1000
Resolution (N)	0.01	0.01	0.1	0.1	1
Accuracy	±0.3% (of load capacity)				
Measuring mode	tracking, peak (max.), tolerance testing				
Power supply	built-in rechargeable battery				
Dimension	150×73×33mm				
Weight	450g				

STANDARD DELIVERY

Main unit	1 pc
AC/DC adapter	1 pc
Software and USB cable	1 pc
Push/pull accessory	6 pcs (flat push tip, V-type push tip, knife-edge push tip, point push tip, pull clamp, extension rod)

OPTIONAL ACCESSORY

Printer	ISF-DF-PRINTER
Test stand	ISF-MT1K
Wireless transmitter (receiver is needed)	7315-ISF-D

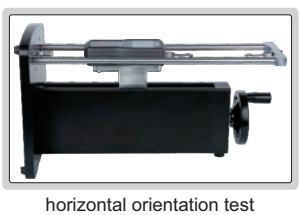
VIDEO

TEST STAND FOR DIGITAL FORCE GAUGES CODE ISF-MT1K

- For digital force gauges (code **ISF-1DF□□□** and **ISF-DF□□□**)
- To be used in vertical and horizontal orientation

force gauge is optional

digital scale (**optional**)


horizontal orientation test

SPECIFICATION

Load capacity	1000N
Travel	200mm (3mm vertical movement per revolution of handwheel)
Dimension	196×250×446mm
Weight	13kg

OPTIONAL ACCESSORY

Digital scale (range: 200mm, resolution: 0.01mm/0.0005")	ISF-MT1K-SCALE

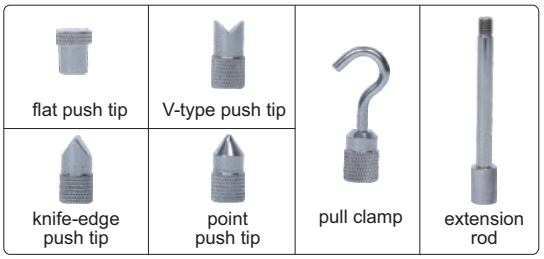
FORCE GAUGES

VIDEO

- Push and pull test
- Peak (max.) or tracking mode

ISF-F500

accessory (included)



SPECIFICATION

Code		ISF-F10	ISF-F20	ISF-F30	ISF-F50	ISF-F100	ISF-F200	ISF-F300	ISF-F500
Capacity	(N)	10	20	30	50	100	200	300	500
	(kgf)	1	2	3	5	10	20	30	50
Graduation	(N)	0.05	0.1	0.2	0.25	0.5	1	2	2.5
	(kgf)	0.01	0.02	0.02	0.05	0.1	0.2	0.2	0.5
Accuracy		±1% (of load capacity)							

STANDARD DELIVERY

Main unit	1 pc
Push tip	4 pcs (flat, V-type, knife-edge, point)
Pull clamp	1 pc
Extension rod	1 pc

OPTIONAL ACCESSORY

Test stand	ISF-MT500

TEST STAND FOR FORCE GAUGES CODE ISF-MT500

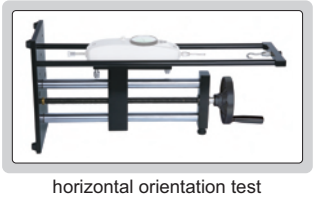
VIDEO

- For force gauges (code **ISF-F□□□**)
- To be used in vertical and horizontal orientation

SPECIFICATION

Load capacity	500N
Travel	150mm (3mm vertical movement per revolution of handwheel)
Dimension	160×240×460mm
Weight	12kg

force gauge is optional



horizontal orientation test

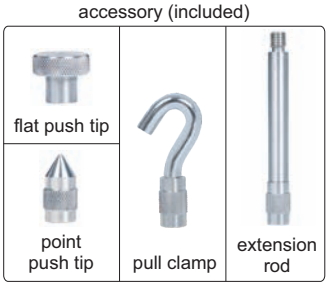
FORCE GAUGES

VIDEO

- Push and pull test
- Peak (max.) or tracking mode

ISF-KF5

accessory (included)



SPECIFICATION

Code		ISF-KF1	ISF-KF2	ISF-KF3	ISF-KF5
Capacity	(N)	1000	2000	3000	5000
	(kgf)	100	200	300	500
Graduation	(N)	5	10	20	20
	(kgf)	1	2	2	5
Accuracy		±2%FS			
Dimension (L×W×H)		100×70×290mm			
Weight		3.2kg			

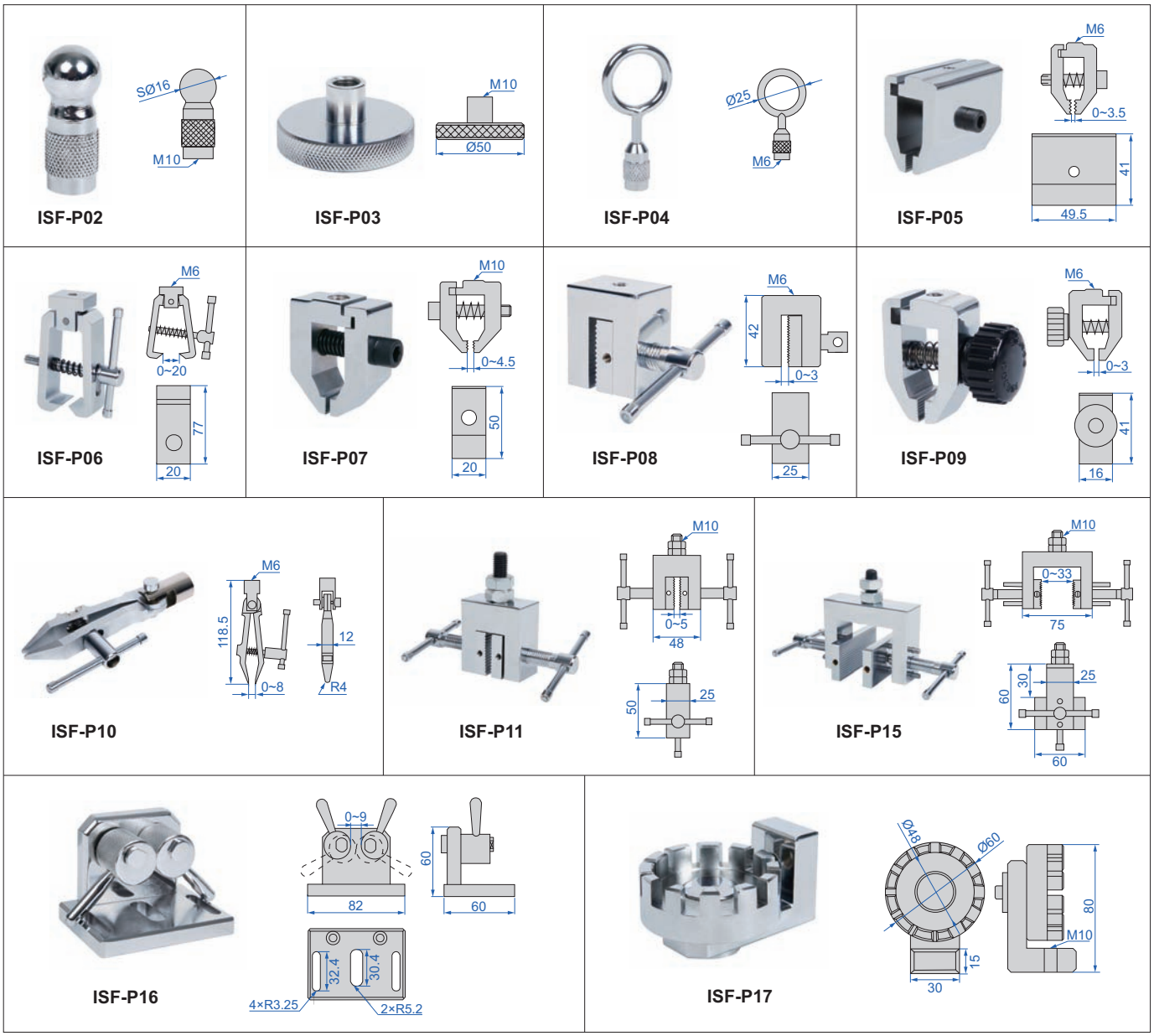
STANDARD DELIVERY

Main unit	1 pc
Flat push tip	1 pc
Point push tip	1 pc
Pull clamp	1 pc
Extension rod	1 pc

PUSH TIPS AND PULL CLAMPS FOR FORCE GAUGES

- For force gauges (code **ISF-DF□□□**, **ISF-1DF□□□**, **ISF-F□□□** and **ISF-KF□□□**)

Unit: mm



Push tips

Code	Max. load	Diameter	Weight
ISF-P02	5000N	16mm	33g
ISF-P03	3000N	50mm	17g

Pull ring

Code	Max. load	Diameter	Weight
ISF-P04	500N	25mm	158g

Pull clamps

Code	Max. load	Jaw opening	Jaw width	Weight
ISF-P05	1100N	0~3.5mm	49.5mm	241g
ISF-P06	1000N	0~20mm	20mm	217g
ISF-P07	500N	0~4.5mm	20mm	190g
ISF-P08	500N	0~3mm	25mm	274g
ISF-P09	140N	0~3mm	16mm	87g
ISF-P10	230N	0~8mm	4mm	173g
ISF-P11	1500N	0~5mm	25mm	484g
ISF-P15	2000N	0~33mm	60mm	742g

Special pull clamps

Code	Max. load	Opening size	Application	Weight
ISF-P16	2400N	0~9mm	for wire pull test	803g
ISF-P17	5000N	1.8~8.4mm	for wire terminal pull test	620g

MANUAL VERTICAL TEST STANDS FOR FORCE GAUGES

VIDEO

ATTENTION:
ONLY FOR PRESS TEST

force gauge
is optional

ISF-V10A

- For press test with force gauges

SPECIFICATION

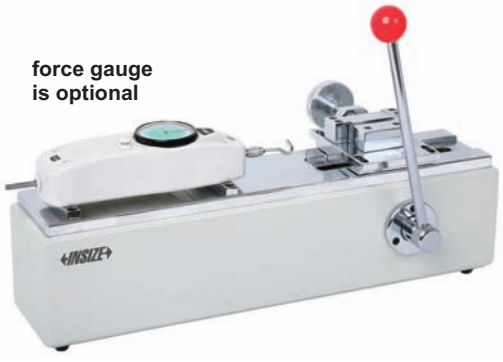
Code	ISF-V10A	ISF-V10D
Apply to	dial force gauges (code **ISF-F□□□**)	digital force gauges (code **ISF-1DF□□□** and **ISF-DF□□□**)
Load capacity	500N	
Maximum workpiece height	280mm	
Travel	70mm	
Dimension	152×235×425mm	
Weight	10.7kg	

MANUAL HORIZONTAL TEST STANDS FOR FORCE GAUGES

VIDEO

ATTENTION:
ONLY FOR PULL TEST

force gauge
is optional



ISF-H20A

- For pull test with force gauges

SPECIFICATION

Code	ISF-H20A	ISF-H20D
Apply to	dial force gauges (code **ISF-F□□□**)	digital force gauges (code **ISF-1DF□□□** and **ISF-DF□□□**)
Load capacity	500N	
Travel	60mm	
Dimension	450×185×170mm	
Weight	9kg	

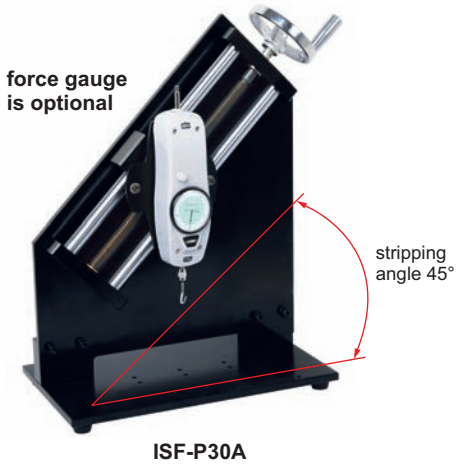
MANUAL HORIZONTAL TEST STAND FOR FORCE GAUGES CODE ISF-MH2

- For force gauges (code **ISF-F□□□**, **ISF-DF□□□** and **ISF-1DF□□□**)
- Push and pull test

SPECIFICATION

Load capacity	1000N
Travel	250mm (1.5mm horizontal movement per revolution of handwheel)
Dimension	542×189×278mm
Weight	21.5kg

MANUAL STRIPPING FORCE TEST STANDS



ISF-P30A

- For stripping force test with force gauges

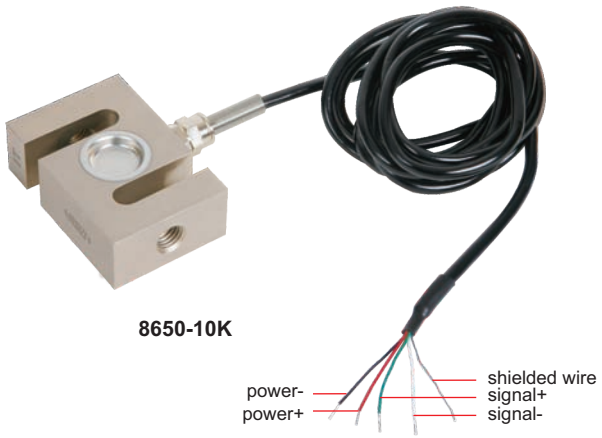
SPECIFICATION

Code	**ISF-P30A**	**ISF-P30D**
Apply to	dial force gauges (code **ISF-F□□□**)	digital force gauges (code **ISF-1DF□□□** and **ISF-DF□□□**)
Load capacity	500N	
Horizontal travel	170mm	
Dimension	420×215×480mm	
Weight	22kg	

S-TYPE TENSILE/COMPRESSION SENSORS

VIDEO

IF ONE INDICATOR IS USED FOR MULTIPLE SENSORS, CUSTOMIZATION IS REQUIRED



8650-10K

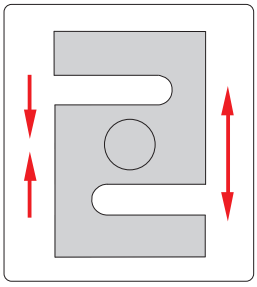
4

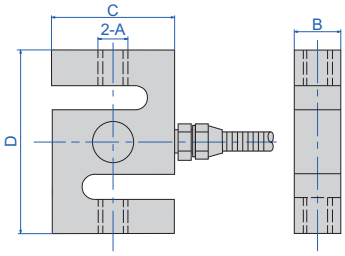
- Characteristic: bi-directional tension and compression, compact structure, high comprehensive precision, good long-term stability and nickel plating on the surface of high-quality alloy steel
- Application fields: universal material testing machines, hopper scales, hook scales, packaging scales, belt scales, plug-in force testers and other tension and pressure testing instruments as well as automation equipments

SPECIFICATION

Output sensitivity	2.0±10%mV/V
Zero output	±2%FS
Accuracy	0.15%FS
Response frequency	10kHz
Material	alloy steel
Electrical impedance	350Ω
Insulation impedance	≥5000MΩ/100VDC
Operating voltage	5~15V
Working temperature	-15~65°C
Safety overload	120%
Extreme overload	150%
Cable specification	Ø5mm: ≤1T, 2m; >1T, 5m
Extreme cable pulling force	10kg

force diagram of sensor





(mm)

Code	Maximum range	A	B	C	D
8650-50	50N/5kg	M18×1.25	12.7	50.8	63.5
8650-100	100N/10kg				
8650-200	200N/20kg				
8650-300	300N/30kg				
8650-500A	500N/50kg				
8650-500B	500N/50kg	M12×1.75	19	50.8	76.2
8650-1K	1000N/100kg				
8650-2K	2000N/200kg				
8650-3K	3000N/300kg				
8650-5K	5000N/500kg	M12×1.75	25.4	50.8	76.2
8650-10K	10kN/1T				
8650-15K	15kN/1.5T				
8650-20K	20kN/2T	M18×1.5	25.4	76.2	108
8650-30K	30kN/3T				
8650-50K	50kN/5T				

connected with handheld indicator (**optional**)

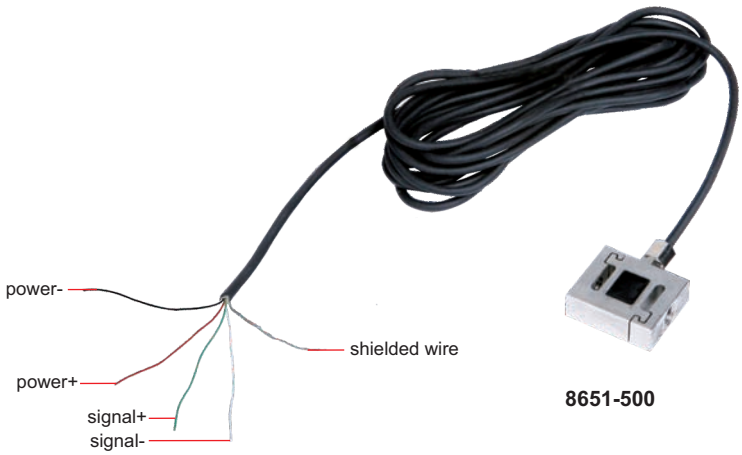
OPTIONAL ACCESSORY

Handheld force/torque indicator	**ISF-DG3**

IF ONE INDICATOR IS USED FOR MULTIPLE SENSORS, CUSTOMIZATION IS REQUIRED

S-TYPE TENSILE/COMPRESSION SENSORS (COMPACT TYPE)

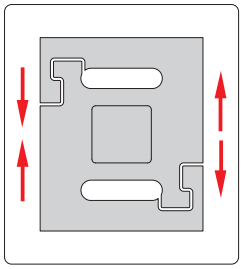
VIDEO



8651-500

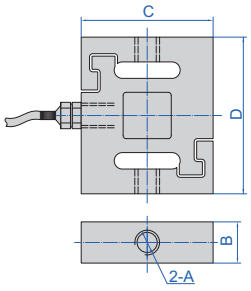
- Characteristic: bi-directional tension and compression, small size, high comprehensive precision, good long-term stability, nickel plating on the surface of stainless steel
- Application fields: automotive press-fit, automatic assembly, 3C industry test, hand grip force for robot, keyboard feel test, etc.

force diagram of sensor



SPECIFICATION

Output sensitivity	1.0~2.0mV/V
Zero output	±2%FS
Accuracy	0.15%FS
Response frequency	10kHz
Material	stainless steel
Electrical impedance	350Ω
Insulation impedance	≥5000MΩ/100VDC
Operating voltage	5~15V
Working temperature	-15~65°C
Safety overload	120%
Extreme overload	150%
Cable specification	≤1000N: Ø2mm×2m >1000N: Ø3mm×2m
Extreme cable pulling force	5kg



(mm)

Code	Maximum range	A	B	C	D
8651-5	5N/0.5kg	M3	5	16	19.1
8651-10	10N/1kg				
8651-20	20N/2kg				
8651-30	30N/3kg				
8651-50	50N/5kg				
8651-100	100N/10kg				
8651-200	200N/20kg	M4	6	16	19.1
8651-300	300N/30kg				
8651-500	500N/50kg				
8651-1000	1000N/100kg	M8	14	26	40
8651-2000	2000N/200kg				

connected with handheld indicator (**optional**)

OPTIONAL ACCESSORY

Handheld force/torque indicator	ISF-DG3

SPOKE TYPE FORCE SENSORS

VIDEO

IF ONE INDICATOR IS USED FOR MULTIPLE SENSORS, CUSTOMIZATION IS REQUIRED

connected with handheld indicator (**optional**)

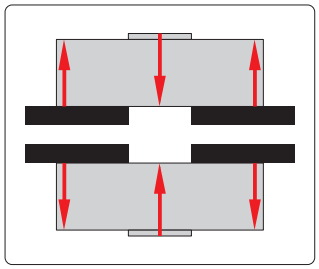
8652-30T

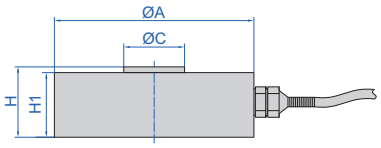
- Characteristic: low height, good linearity, easy installation, high resistance to partial load and lateral force
- Application fields: universal material testing machines, hopper scales, vehicle scales, rail scales, packaging scales, belt scales and other tension and pressure testing instruments, as well as in the field of automation and test equipments

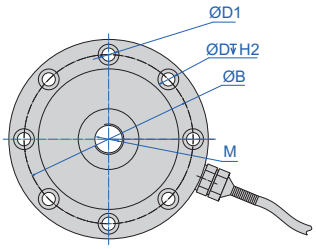
SPECIFICATION

Output sensitivity	2.0±10%mV/V
Zero output	±2%FS
Response frequency	10kHz
Material	alloy steel
Electrical impedance	700/1400Ω
Insulation impedance	≥5000MΩ/100VDC
Operating voltage	5~15V
Working temperature	-15~65°C
Safety overload	120%
Extreme overload	150%
Cable specification	<1T: Ø5.5mm×3m 1T~30T: Ø5.5mm×5m >30T: Ø6.5mm×5m
Extreme cable pulling force	10kg

force diagram of sensor







OPTIONAL ACCESSORY

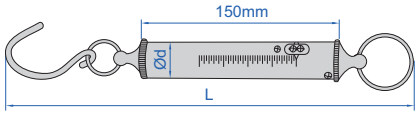
Handheld force/torque indicator	**ISF-DG3**

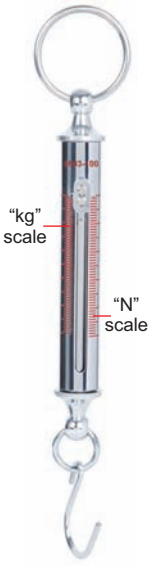
(mm)

Code	Maximum range	Accuracy	ØA	ØC	H	H1	M	ØB	ØD1	ØD	ØH2
8652-1K	1kN/100kg	0.15%FS	74	24	34	30	M16×1.5	63	8×Ø6	8×Ø9	7.2
8652-2K	2kN/200kg										
8652-3K	3kN/300kg										
8652-5K	5kN/500kg										
8652-1T	10kN/1T		105	29	37	34	M16×1.5	89	8×Ø7	8×Ø11	7.2
8652-2T	20kN/2T										
8652-3T	30kN/3T										
8652-5T	50kN/5T										
8652-10T	100kN/10T	0.2%FS	120.6	39	53.5	41	M32×1.5	101.8	8×Ø9	8×Ø14	10.5
8652-20T	200kN/20T										
8652-30T	300kN/30T		141	50.4	57.2	50.8	M40×1.5	116.8	8×Ø11	8×Ø18	11
8652-50T	500kN/50T		208	95	70	/	M64×3	174	16×Ø13	16×Ø20	15
8652-80T	800kN/80T										
8652-100T	1000kN/100T	0.25%FS	280	136	90	/	M76×3	230	16×Ø17	16×Ø26	20
8652-200T	2000kN/200T										
8652-300T	3000kN/300T		360	190	110	/	M100×3	300	20×Ø25	20×Ø40	25
8652-500T	5000kN/500T		420	266	140	/	M130×4	370	20×Ø28	20×Ø42	30
8652-800T	8000kN/800T		500	330	170	/	M200×4	440	12×Ø28	12×Ø42	30
8652-1000T	10000kN/1000T										

TUBE FORCE GAUGES

- Suitable for measuring weight and tensile forces





8603-100

SPECIFICATION

Code	8603-10	8603-20	8603-30	8603-50	8603-100	8603-200	8603-500	8603-1000
Max. test force	10N/1kg	20N/2kg	30N/3kg	50N/5kg	100N/10kg	200N/20kg	500N/50kg	1000N/100kg
Resolution	0.2N/0.02kg	0.4N/0.04kg	0.5N/0.05kg	1N/0.1kg	2N/0.2kg	4N/0.4kg	10N/1kg	20N/2kg
Unit	kg, N							
Accuracy	±2%FS							
Tube diameter (Ød)	22mm	22mm	22mm	22mm	25mm	32mm	50mm	50mm
Overall length (L)	280mm	280mm	280mm	280mm	340mm	340mm	455mm	455mm
Weight	280g	280g	280g	280g	480g	700g	2400g	2400g
Operation temperature	-10~40°C							
Operation humidity	30%~90%RH							
Maximum safe load	120%FS							
Limited overload	240%FS							

HANG SCALES

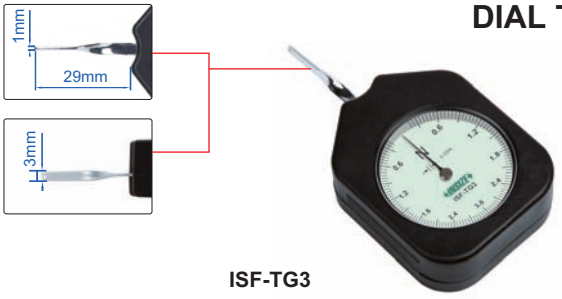
8206-3T

8207-3T

REFER TO PAGE 411-412 FOR DETAILS

DIAL TENSION GAUGES

- Clockwise and counter-clockwise use
- For electronic and precision mechanical industry, such as test the contact pressure of relay, adjust the tension or compression of spring



ISF-TG3

VIDEO

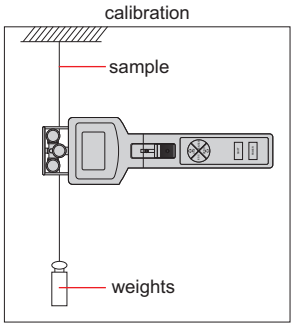
SPECIFICATION (Unit: N)

Code	ISF-TGD1	ISF-TGD3	ISF-TGD5	ISF-TG1	ISF-TG1D5	ISF-TG3	ISF-TG5
Range (N)	0.01~0.1	0.03~0.3	0.05~0.5	0.1~1	0.15~1.5	0.3~3	0.5~5
Graduation (N)	0.002	0.005	0.01	0.02	0.025	0.05	0.1
Accuracy	±2% (full scale)						
Dimension (L×W×H)	90×47×19mm						
Weight	60g						

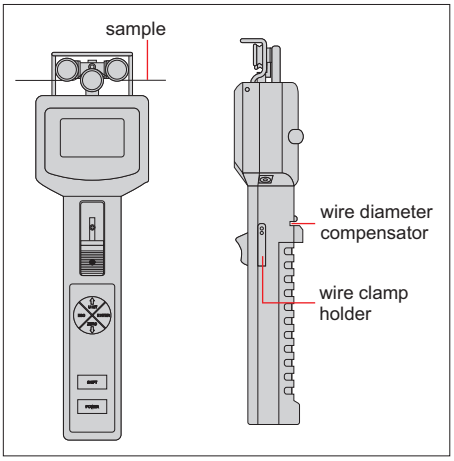
SPECIFICATION (Unit: gf)

Code	ISF-TG10	ISF-TG30	ISF-TG50	ISF-TG100	ISF-TG150	ISF-TG300	ISF-TG500
Range (gf)	1~10	3~30	5~50	10~100	15~150	30~300	50~500
Graduation (gf)	0.2	0.5	1	2	2.5	5	10
Accuracy	±2% (full scale)						
Dimension (L×W×H)	90×47×19mm						
Weight	60g						

WIRE TENSION METERS



ISF-DT1000



- Suitable for testing the tension of stranding machines, winding machines, wire cutting machines, carbon fibre winding equipments, fibre optic winding equipments, fibre optic cable production equipments, glass fibre winding equipments, steel cord production equipments, steel wire rope production equipments and so on
- Automatic zeroing, manual zeroing also possible
- Memory function for recording the current real-time value (up to 200 data), for recording phase data (max., min., average)
- 10 calibration channels, 6 groups of calibration points to choose from
- Fine-tunable compensation, compensation value range ±10%FS, 1% for one component
- Six units g, cN, N, lb, daN, kg are automatically converted
- 3 min no operation auto shutdown
- With wire diameter compensation, high measurement accuracy

STANDARD DELIVERY

Main unit	1 pc

SPECIFICATION

Code	ISF-DT200	ISF-DT500	ISF-DT1000	ISF-DT2000	ISF-DT2500	ISF-DT5000	ISF-DT10K	ISF-DT20K
Accuracy class	±2%FS							
Range of test force	2.0~200.0cN	5.0~500.0cN	10~1000cN	20~2000cN	25~2500cN	50~5000cN	1.0~100.0N	2.0~200.0N
Test force resolution	0.1cN	0.1cN	1cN	1cN	1cN	1cN	0.1N	0.1N
Width of measuring head	65mm	65mm	65mm	116mm	116mm	116mm	116mm	216mm
Factory calibrated wire diameter	Ø0.2mm	Ø0.2mm	Ø0.4mm	Ø0.4mm	Ø0.4mm	Ø1.2mm	Ø1.2mm	Ø1.8mm
Range of diameter	0.05~0.3mm	0.05~0.3mm	0.1~0.5mm	0.3~0.7mm	0.3~0.7mm	0.4~1.0mm	0.7~1.2mm	1.0~1.8mm
Frequency of display update	2times/sec							
Maximum line speed	2000m/min							
Power supply	built-in rechargeable battery							
Environmental requirement	temp: 10~45°C humidity: ≤90%RH							

Code	ISF-DT30K	ISF-DT50K	ISF-DT60K	ISF-DT100K	ISF-DT200K
Accuracy class	±2%FS				
Range of test force	3.0~300.0N	5.0~500.0N	6.0~600.0N	10~1000N	20~2000N
Test force resolution	0.1N	0.1N	0.1N	1N	1N
Width of measuring head	216mm	216mm	216mm	216mm	280mm
Factory calibrated wire diameter	Ø2mm wire rope	Ø2mm wire rope	Ø2mm wire rope	Ø2mm wire rope	Ø2mm wire rope
Range of diameter	≤3mm	≤3mm	≤3mm	≤3mm	≤3mm
Frequency of display update	2times/sec				
Maximum line speed	2000m/min				
Power supply	built-in rechargeable battery				
Environmental requirement	temp: 10~45°C humidity: ≤90%RH				

INFRARED BELT TENSION METER
CODE 5900-HZ18

- Infrared sensor, direct measurement, easy to use
- Two sensors: internal and external, external sensor is suitable for measurement in narrow spaces
- Automatic power off

VIDEO

external sensor

internal sensor

SPECIFICATION

Measuring range		10~800Hz
Input parameter range		maximum free belt length: 99.99m maximum belt weight: 9.999kg/m
Accuracy		±5%
Unit		N, lbf
Measuring distance		3~20mm
Operation temperature		10~50°C
Power supply		4×1.5V AAA batteries
Dimension	main unit	178×72×34mm
	external sensor	124×21×12mm
Weight		180g

STANDARD DELIVERY

Main unit	1 pc
External sensor	1 pc

SONIC BELT TENSION METER
CODE 5910-HZ5K

VIDEO

- The sonic belt tension meter uses a microphone probe to capture the sound waves generated by the belt vibration, and can measure the waveform period, and then calculate the tension value by the frequency of the weekly wave
- Can store 500 sets of measurement data, comes with 48 sets of belt data, no need to manually input every time
- Automatic filtering of noise interference, suitable for measurement in small spaces
- Easy operation, one-handed operation
- Lightweight and portable

hammer (included)

SPECIFICATION

Frequency range	10~5000Hz
Tension range	0.01~99900N
Input parameter range	belt mass: 0~999.9g/m
	belt width: 0~999.9mm/R
	belt span: 0~9999mm
Unit	N
Accuracy	±1%
Operation temperature	10~50°C
Dimension	160×59×27mm
Power supply	2×1.5V AAA batteries
Weight	150g

STANDARD DELIVERY

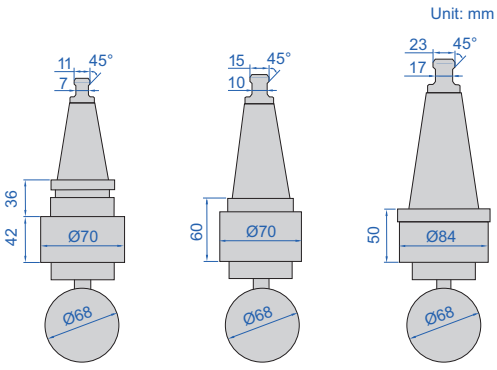
Main unit	1 pc
Standard sensor	1 pc
Hammer	1 pc

SPINDLE TENSION METERS

VIDEO

RFS-BT40

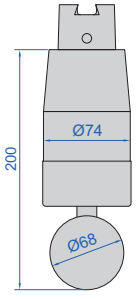
Unit: mm



RFS-BT30 RFS-BT40 RFS-BT50

RFS-HSK63A

Unit: mm



RFS-HSK□□□

- Hydraulic mechanical structure, high stability
- To detect the tension of locking device

RFS-BT□□□ SPECIFICATION

Code	Taper	Dial range*	Accuracy	Applicable tension of spindle	Rivet angle**
RFS-BT30	BT30	0~100kg/cm²	±1.6kg/cm²	200~500kgf	45°
RFS-BT40	BT40	0~160kg/cm²	±2.6kg/cm²	500~1100kgf	
RFS-BT50	BT50	0~250kg/cm²	±4kg/cm²	1500~2200kgf	

RFS-SK□□□ SPECIFICATION

Code	Taper	Dial range*	Accuracy	Applicable tension of spindle
RFS-SK30	SK30/JT30	0~100kg/cm²	±1.6kg/cm²	200~500kgf
RFS-SK40	SK40/JT40	0~160kg/cm²	±2.6kg/cm²	500~1100kgf
RFS-SK50	SK50/JT50	0~250kg/cm²	±4kg/cm²	1500~2200kgf

To be continued

Continued from previous page

RFS-CAT□□□ SPECIFICATION

Code	Taper	Dial range*	Accuracy	Applicable tension of spindle
RFS-CAT30	CAT30	0~100kg/cm²	±1.6kg/cm²	200~500kgf
RFS-CAT40	CAT40	0~160kg/cm²	±2.6kg/cm²	500~1100kgf
RFS-CAT50	CAT50	0~250kg/cm²	±4kg/cm²	1500~2200kgf

RFS-HSK□□□ SPECIFICATION

Code	Taper	Dial range*	Accuracy	Applicable tension of spindle
RFS-HSK20A	HSK20A	0~100kg/cm²	±1.6kg/cm²	50~100kgf
RFS-HSK20C	HSK20C			
RFS-HSK20E	HSK20E			
RFS-HSK25A	HSK25A	0~100kg/cm²	±1.6kg/cm²	250~500kgf
RFS-HSK25C	HSK25C			
RFS-HSK25E	HSK25E			
RFS-HSK32A	HSK32A	0~100kg/cm²	±1.6kg/cm²	300~600kgf
RFS-HSK32B	HSK32B			
RFS-HSK32C	HSK32C			
RFS-HSK32D	HSK32D			
RFS-HSK32E	HSK32E			
RFS-HSK32F	HSK32F			
RFS-HSK40A	HSK40A	0~250kg/cm²	±4.0kg/cm²	750~1500kgf
RFS-HSK40B	HSK40B			
RFS-HSK40C	HSK40C			
RFS-HSK40D	HSK40D			
RFS-HSK40E	HSK40E			
RFS-HSK40F	HSK40F			
RFS-HSK50A	HSK50A	0~350kg/cm²	±5.6kg/cm²	1000~2000kgf
RFS-HSK50B	HSK50B			
RFS-HSK50C	HSK50C			
RFS-HSK50D	HSK50D			
RFS-HSK50E	HSK50E			
RFS-HSK50F	HSK50F			
RFS-HSK63A	HSK63A	0~350kg/cm²	±5.6kg/cm²	1500~3000kgf
RFS-HSK63B	HSK63B			
RFS-HSK63C	HSK63C			
RFS-HSK63D	HSK63D			
RFS-HSK63E	HSK63E			
RFS-HSK63F	HSK63F			
RFS-HSK80A	HSK80A	0~600kg/cm²	±9.6kg/cm²	2000~4000kgf
RFS-HSK80B	HSK80B			
RFS-HSK80C	HSK80C			
RFS-HSK80D	HSK80D			
RFS-HSK80E	HSK80E			
RFS-HSK80F	HSK80F			
RFS-HSK100A	HSK100A	0~600kg/cm²	±9.6kg/cm²	4000~5500kgf
RFS-HSK100B	HSK100B			
RFS-HSK100C	HSK100C			
RFS-HSK100D	HSK100D			
RFS-HSK100E	HSK100E			
RFS-HSK100F	HSK100F			

*The actual tension of spindle (kgf) is 10X of dial reading

**Can be customized for 60° and 90°

05 TORQUE TESTERS, TORQUE WRENCHES

Torsion Testing Machines
Page 171-172

Workpiece Torsion Fatigue Testing Machines
Page 173

Torque Testers
Page 174

Torque Testers
Page 175-177

Torque Wrench Test Stands
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Dynamic Torque Sensors
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Static Torque Sensors
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Handheld Force/Torque Indicators
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Torque Screwdrivers
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Desktop Automatic Tightening Machines
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Electric Screwdrivers
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Digital Torque Wrenches
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Torque Wrenches
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Dial Torque Wrenches
Page 229

Torque Adapters
Page 231

Torque Multipliers
Page 232-234

ELECTRONIC TORSION TESTING MACHINES

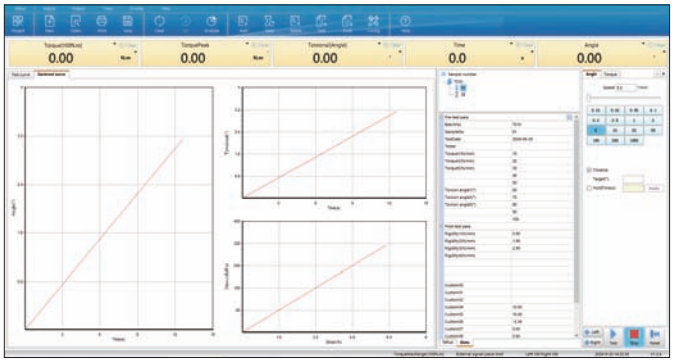
OPTIONAL ACCURACY CLASS:
CLASS 0.5

VIDEO

UTM-TT5
Type A

UTM-TT500
Type B

computer and software (included)



- Suitable for torsion testing of metallic and non-metallic materials, composite materials and components
- Servomotor drive for constant torsion speed
- Cycloid reducer drive for high efficiency and smoothness of transmission
- Electrical control system for high stability, smooth and reliable operation, fast response and low noise
- High-precision linear guide for the coaxiality and parallelism of the equipment
- Automatic torque and torsion angle tracking measurement, load rate indication, peak hold, etc.
- Efficient and professional control software
- Powerful data and curve analysis

To be continued

Continued from previous page

SPECIFICATION

Code	UTM-TT2	UTM-TT5	UTM-TT10	UTM-TT30	UTM-TT50
Max. test torque	2N.m	5N.m	10N.m	30N.m	50N.m
Type	A				
Accuracy class	class 1				
Accuracy of test torque	±1% of indicated value				
Range of test torque	2%~100%FS				
Min. resolution of test torque	0.0001N.m	0.0001N.m	0.001N.m	0.001N.m	0.001N.m
Accuracy of torsion angle	±1% of indicated value				
Range of torsion angle	0~9999°				
Resolution of torsion angle	0.01°				
Rated speed of torsion angle	2160°/min				
Accuracy of torsion angle speed	±1% of the set value				
Accuracy of constant load torque	±1% of the set value				
Direction of torsion test	clockwise and count-clockwise operation				
Height of spindle center *	108mm				
Max. distance between collets *	300mm				
Dimension (L×W×H) *	1100×330×450mm				
Weight *	130kg				
Power supply	AC 220V, 50Hz				

Code	UTM-TT200	UTM-TT500	UTM-TT1000	UTM-TT3000	UTM-TT5000
Max. test torque	200N.m	500N.m	1000N.m	3000N.m	5000N.m
Type	B				
Accuracy class	class 1				
Accuracy of test torque	±1% of indicated value				
Range of test torque	2%~100%FS				
Min. resolution of test torque	0.01N.m	0.01N.m	0.1N.m	0.1N.m	0.1N.m
Accuracy of torsion angle	±1% of indicated value				
Range of torsion angle	0~9999°				
Resolution of torsion angle	0.01°				
Rated speed of torsion angle	1080°/min				
Accuracy of torsion angle speed	±1% of the set value				
Accuracy of constant load torque	±1% of the set value				
Direction of torsion test	clockwise and count-clockwise operation				
Height of spindle center *	146mm			203mm	
Max. distance between collets *	500mm				
Dimension (L×W×H) *	1620×400×1020mm			2350×740×1390mm	
Weight *	260kg			680kg	
Power supply	AC 220V, 50Hz, 0.4kW~1kW			AC 380V, 3Ø, 50Hz, 2kW~4kW	

*Can be customized according to test requirements

STANDARD DELIVERY

Main unit	1 pc
Measuring software	1 set
Computer	1 pc
Printer	1 pc
Security cover	1 pc

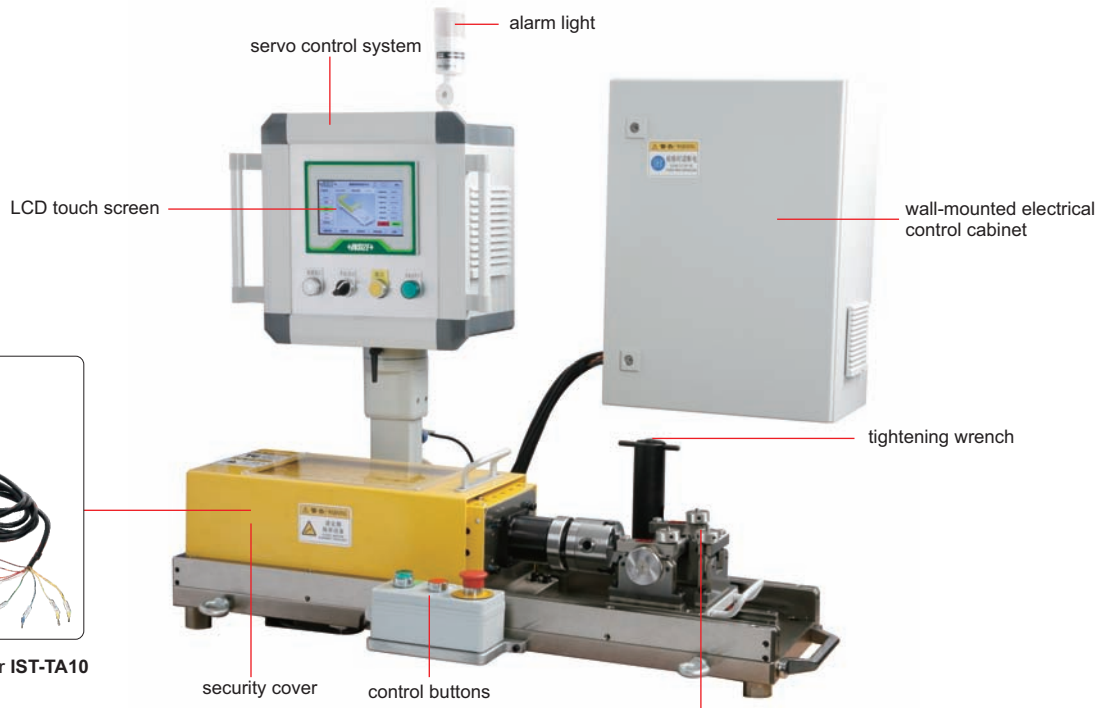
OPTIONAL ACCESSORY

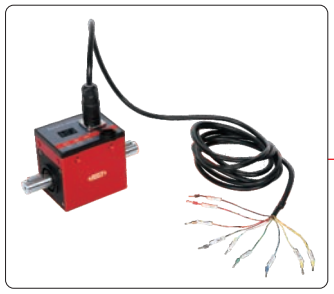
Torsion fixture	customized according to test requirements

CUSTOMIZED ACCORDING TO WORKPIECES

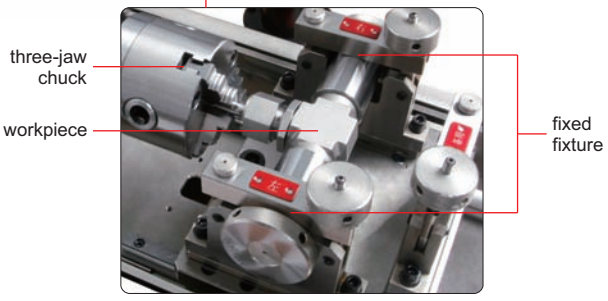
WORKPIECE TORSION FATIGUE TESTING MACHINE CODE ITU-A102

VIDEO





built-in dynamic torque sensor **IST-TA10**



workpiece fixture

- Main unit is equipped with servo motor, with excellent control precision and low friction resistance, ensuring stable operation for a long time
- Non-contact dynamic torque sensor, no mechanical wear to ensure continuous operation, support for multiple data transfer protocols and fast communication rate
- Triple safety with emergency stop button, security cover and programmed safety alarm

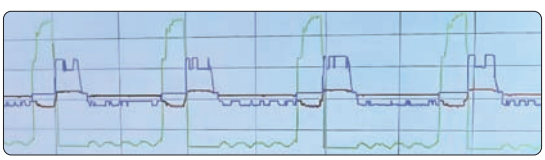
SPECIFICATION

Main unit	servo control mode	torque, angle and speed
	range of test torque	20%~100%FS
	range of torsion angle	0~9999°
	max. test RPM	100rpm
	direction of torsion test	clockwise and counter-clockwis reciprocating test
	number of preset test programs	99
	continuous working time	15 days
	storage of test data	export in CSV format
Dynamic torque sensor*	torque capacity	10N.m
	torque signal	±5V transformed voltage output
	RPM signal	120/60/10 pulses/rev.
	accuracy	0.1%FS
	hysteresis	0.5%FS
	annual stability	0.3%/year
	extreme overload	200%
Power supply		AC 220V, 50Hz
Weight		230kg

*Dynamic torque sensors with different codes for different workpieces

steps

Step 1: place the workpiece on fixed fixture and lock it in place
Step 2: select the workpiece test program and set the number of fatigue test
Step 3: close the security cover
Step 4: press the start button and perform reciprocating fatigue test according to the test program



test waveform

DIGITAL TORQUE TESTERS

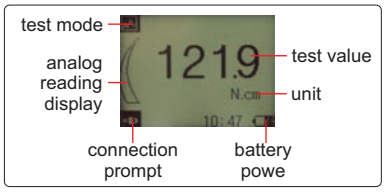
DATA OUTPUT

VIDEO

IST-DTT5
type A

IST-DTT5S
type B

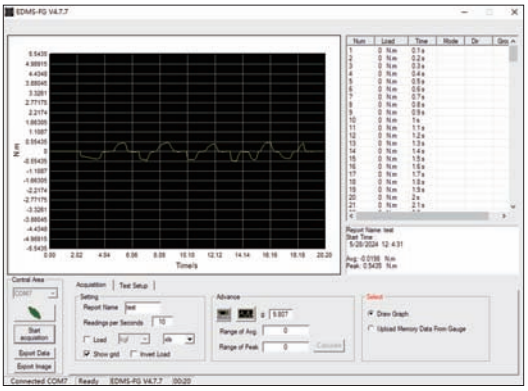
digit mode



graph mode

printer (**optional**)

software (included)



- External sensor
- Metal case, touch buttons
- Clockwise and counter-clockwise operation
- Test mode: track, peak, first peak, preset tolerance
- Unit: lbf.in, lbf.ft, N.m, N.cm, kgf.cm
- Set tolerance with judgement
- 1000 memories
- LCD display with backlight, can automatically turn 180°
- Overload alarm
- Automatic power off

SPECIFICATION

Code	IST-DTT1	IST-DTT5	IST-DTT10	IST-DTT1S	IST-DTT5S	IST-DTT10S
Load capacity	0.05~1N.m	0.25~5N.m	0.5~10N.m	0.05-1N.m	0.25-5N.m	0.5-10N.m
Resolution	0.0001N.m	0.0005N.m	0.001N.m	0.0001N.m	0.0005N.m	0.001N.m
Max. clamping diameter	Ø10mm	Ø10mm	Ø13mm	Ø50mm	Ø50mm	Ø50mm
Type	A			B		
Sampling frequency	2000Hz					
Accuracy	±0.3% (of load capacity)					
Output	USB, RS232, alarm signal					
Power supply	built-in rechargeable battery					
Dimension	145×73×34mm					
Weight	1.4kg					

STANDARD DELIVERY

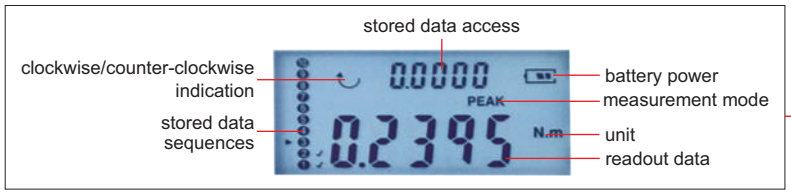
Main unit	1 pc
External sensor	1 pc
AC/DC adapter	1 pc
Transmission cable (keyboard signal)	1 pc
Software and USB cable	1 set

OPTIONAL ACCESSORY

Printer	ISF-DF-PRINTER
RS232 cable	IST-DTT-CABLE
Wireless transmitter (receiver is needed)	7315-ISF-D

VIDEO

INSPECTION CERTIFICATE

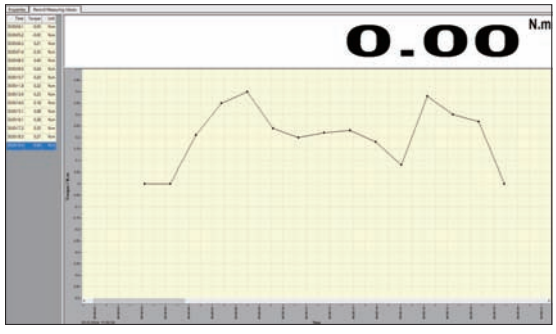


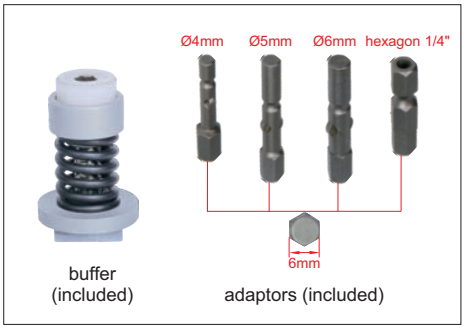
IST-HP1

- For testing electric, pneumatic and manual torque screwdrivers and torque wrenches and other torque tools
- Clockwise and counter-clockwise operation
- Peak and track working modes
- High-definition display, backlighting available
- High sampling frequency for accurate peak capture
- Unit: N.m, lb.in, kgf.cm
- Upper and lower limits can be set, automatic audible and visual alarm with red and green indicator lights and buzzer
- Store 10 sets of data and calculate the average value
- Serial RS232 output, connect to PC to view torque curves by test software
- Automatic zero setting, automatic shutdown

5

software (included)





buffer (included)

adaptors (included)

buffer test example

SPECIFICATION

Code	IST-HP1	IST-HP2	IST-HP5	IST-HP10	IST-HP20
Maximum range	1N.m	2N.m	5N.m	10N.m	20N.m
Resolution	0.0005N.m	0.001N.m	0.002N.m	0.005N.m	0.01N.m
Accuracy	±1%				
Maximum test speed	3000rpm				
Number of memory	10 groups				
Power supply	built-in rechargeable battery				
Dimension	230×110×50mm				
Weight	2.4kg				

STANDARD DELIVERY

Main unit	1 pc
Buffer	1 pc
Adaptor	4 pcs
Power adapter	1 pc
Software and RS232 cable	1 pc

DIGITAL TORQUE TESTERS

ATTENTION: NOT SUITABLE FOR HIGH SPEED SHOCK TORQUE MEASUREMENT

INSPECTION CERTIFICATE

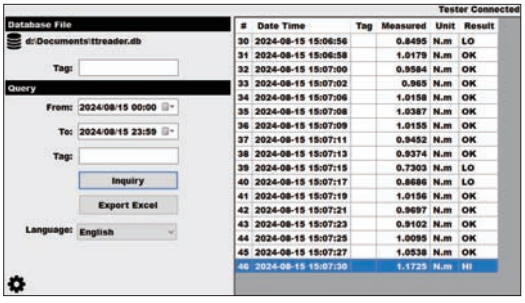
VIDEO

IST-04TT350
type A

adaptor
(type A included)

IST-04TT815
type B

- Test torque wrenches, torque screwdrivers and other torque tools
- Clockwise operation
- Peak, track and first peak working modes
- Tolerance testing
- LED indicator for target torque alarm:
  – Green LED light on when the value is within tolerance;
  – Red LED light on when the value is above the high tolerance
- Ability to upload data in real time, save data and export data to EXCEL
- Power off automatically in 2 minutes without any operations
- Supplied with manufacturer inspection certificate



software (included)

SPECIFICATION

Code	IST-04TT5	IST-04TT28	IST-04TT68	IST-04TT350	IST-04TT815	IST-04TT1000	IST-04TT2000
Type	A				B		
Range	0.5~5N.m	2.8~28N.m	6.8~68N.m	35~350N.m	81.5~815N.m	100~1000N.m	200~2000N.m
Accuracy	±1% (clockwise)						
Resolution	0.001N.m	0.01N.m	0.01N.m	0.1N.m	0.1N.m	1N.m	1N.m
Unit	N.m, in.lb, ft.lb, kg.cm				N.m, ft.lb		
Square socket/hex driver	1/4"	3/8"	3/8"	1/2"	27mm	27mm	27mm
Adaptor	no	3/8" to 1/4"	3/8" to 1/4"	1/2" to 3/8" 3/8" to 1/4"	no		
Power supply	AC 100~240V, 50/60Hz						
Weight	0.75kg	0.75kg	1.1kg	1.1kg	5.1kg	5.1kg	5.1kg

STANDARD DELIVERY

Main unit	1 pc
Software and transmission cable	1 pc
AC/DC adapter	1 pc
Adaptor	refer to details

DIGITAL TORQUE TESTERS

VIDEO

ATTENTION: NOT SUITABLE FOR HIGH SPEED SHOCK TORQUE MEASUREMENT

INSPECTION CERTIFICATE

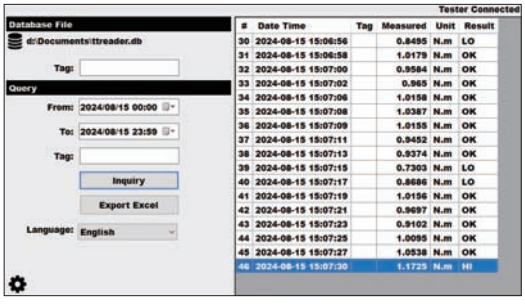
IST-TT550

extension cable (included)

adaptor (included)

with 3 mounting holes on the bottom

- With external sensor, to test torque wrenches, torque screwdrivers and other torque tools
- Clockwise and counter-clockwise operation
- Peak, track and first peak working modes
- Tolerance testing
- LED indicator for target torque alarm:
  – Yellow LED light on when the value is below the low tolerance; green LED light on when the value is within tolerance; red LED light on when the value is above the high tolerance
  – The buzzer alarms when the maximum torque value is captured in the first peak mode
- Ability to upload data in real time, save data and export data to EXCEL
- Automatic power off
- Supplied with manufacturer inspection certificate



software (included)

SPECIFICATION

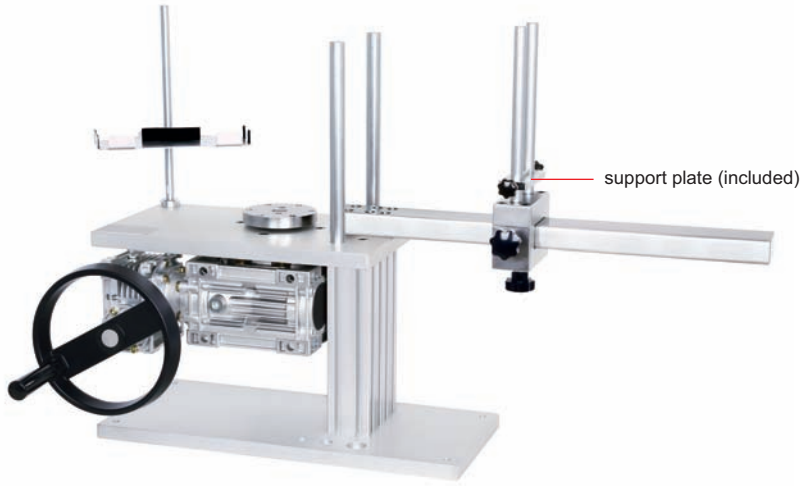
Code	IST-TT05	IST-TT5	IST-TT30	IST-TT50	IST-TT220	IST-TT550	IST-TT1000	IST-TT2200	IST-TT3000
Range	0.1~0.5N.m	0.5~5N.m	3~30N.m	5~50N.m	22~220N.m	55~550N.m	100~1000N.m	220~2200N.m	300~3000N.m
Accuracy	±1% (two-way)	±0.5% (two-way)							
Resolution	0.0001N.m	0.0001N.m	0.001N.m	0.001N.m	0.01N.m	0.01N.m	0.1N.m	0.1N.m	0.1N.m
Unit	in.lb, ft.lb, kg.cm, N.m						N.m, ft.lb		
Square socket (L)	1/4"	1/4"	3/8"	3/8"	1/2"	3/4"	1"	1"	1"
Power supply	AC 100~240V, 50/60Hz								
Adaptor	no	no	3/8" to 1/4"	3/8" to 1/4"	1/2" to 3/8" 3/8" to 1/4"	3/4" to 1/2" 1/2" to 3/8"	1" to 3/4" 3/4" to 1/2" 1/2" to 3/8"	1" to 3/4" 3/4" to 1/2"	1" to 3/4" 3/4" to 1/2"
Transducer dimension	63×63 ×65mm	63×63 ×65mm	89×89 ×75mm	89×89 ×75mm	109×109 ×83mm	140×140 ×107mm	160×160 ×126mm	160×160 ×126mm	160×160 ×126mm
Weight	0.75kg	0.75kg	1.1kg	1.1kg	1.4kg	2.9kg	5.0kg	5.1kg	5.2kg

STANDARD DELIVERY

Main unit	1 pc
Transducer with 1.5m cable	1 pc
Software and transmission cable	1 pc
Extension cable (1.2m)	1 pc
AC/DC adapter	1 pc
Adaptor	refer to details

TORQUE WRENCH TEST STANDS

VIDEO



IST-06TS350

5

digital torque tester (**optional**)

support plate (**optional**)
suitable for short wrenches

application

- Rotate the wheel to apply force, rotary speed is adjustable
- Easy operation due to the gear box
- Used with digital torque testers (**IST-TT** series)

SPECIFICATION

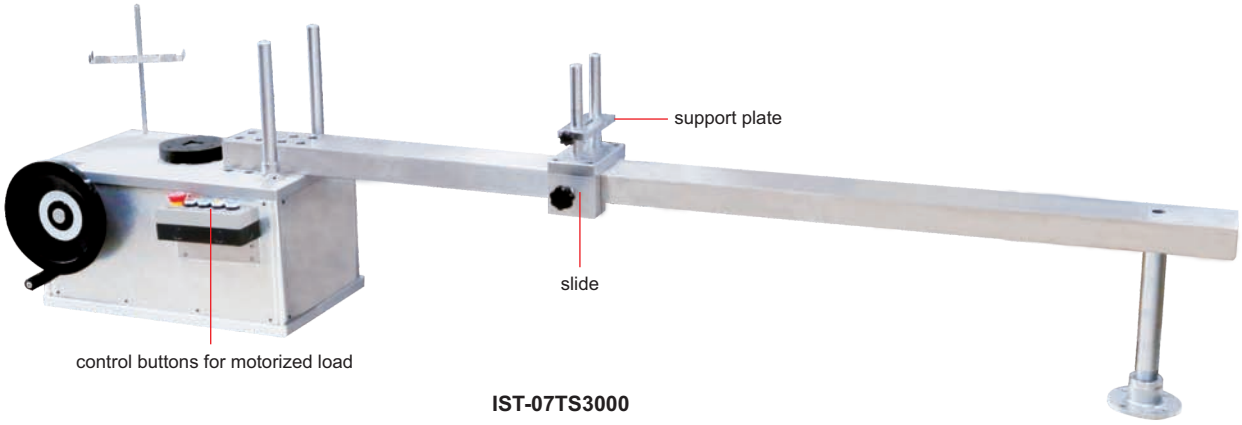
Code	IST-06TS350	IST-06TS550	IST-06TS1100	IST-06TS2000
Max. torque value	350N.m	550N.m	1100N.m	2000N.m
Arm length	195~620mm	195~800mm	380~1350mm	420~1690mm
Dimension	860×290×590mm	1040×290×590mm	1760×350×590mm	2090×350×590mm
Weight	32.5kg	36.5kg	76kg	80kg

Can be customized according to test requirements

OPTIONAL ACCESSORY

Digital torque tester	**IST-TT** series
Adaptor	**IST-06TS-BLOCK1** (suitable for **IST-06TS350**, **IST-06TS550**, necessary for **IST-TT** series, connectable for **IST-TT05**, **IST-TT5**, **IST-TT30**, **IST-TT50**, **IST-TT220**, **IST-TT550**)
	IST-06TS-BLOCK2 (suitable for **IST-06TS1100**, **IST-06TS2000**, necessary for **IST-TT** series, connectable for **IST-TT550**, **IST-TT1000**, **IST-TT2200**)
Support plate	**IST-06TS-PLATE** (suitable for **IST-06TS350, IST-06TS550**)

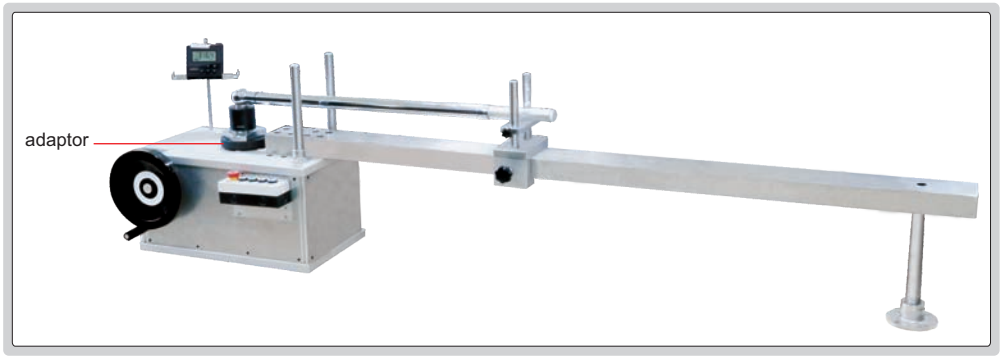
SEMI-AUTOMATIC TORQUE WRENCH TEST STAND
CODE IST-07TS3000



IST-07TS3000

- Motorized load (constant speed of applied torque): maximum torque up to 1000N.m for testing torque wrenches and reducing test time
- Manual load (adjustable speed of applied torque): maximum torque up to 3000N.m for testing torque wrenches
- Easy operation due to the gear box
- The slide can be moved to adjust different length of torque wrenches and the support plate can be adjusted to keep the wrench level
- Used with digital torque testers **IST-TT** series (**optional**)

application



SPECIFICATION

Max. torquevalue (manual load)	3000N.m
Arm length	420~2050mm
Power supply	220V, 50Hz
Dimension	2400×480×630mm
Weight	135kg

Can be customized according to test requirements

digital torque tester (**optional**)

OPTIONAL ACCESSORY

Digital torque tester	**IST-TT550, IST-TT1000, IST-TT2200, IST-TT3000**
Adaptor	**IST-07TS-BLOCK** (necessary for **IST-TT550, IST-TT1000, IST-TT2200** and **IST-TT3000**)

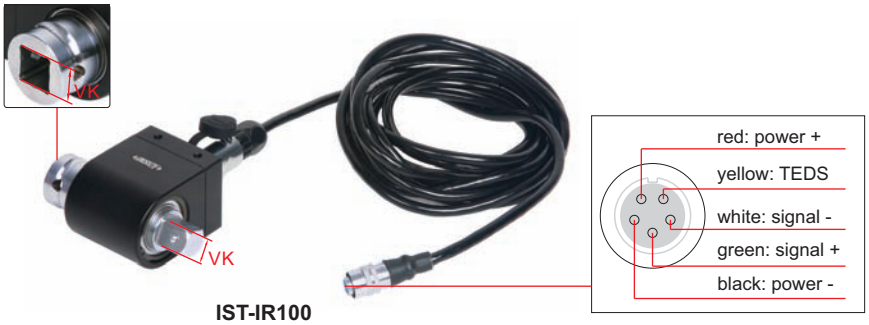
DYNAMIC TORQUE SENSORS (COMPACT TYPE)

VIDEO

INSPECTION CERTIFICATE

ANGLE ENCODER CAN BE CUSTOMIZED

ATTENTION: NOT SUITABLE FOR HIGH SPEED SHOCK TORQUE MEASUREMENT



IST-IR100

example of torque test

- Applications for testing electric, pneumatic and manual torque screwdrivers and torque wrenches and other torque tools and torque monitoring
- Clockwise and counter-clockwise operation
- High overall accuracy, good long-term stability

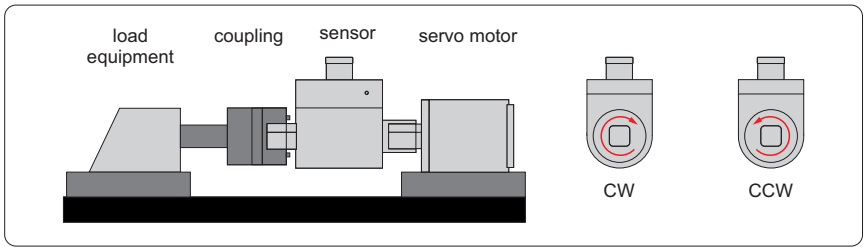
SPECIFICATION

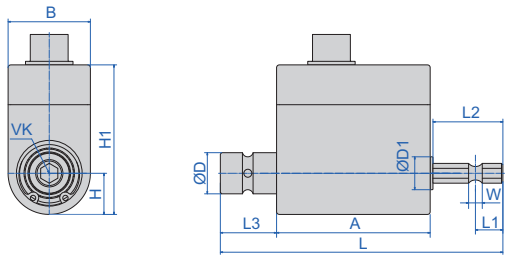
RPM range	≤3000rpm
Torque signal	0.8~1.5mV/V
Zero output	±2%FS
Accuracy	±0.2%FS
Response time	1.0ms (50% response)
Response frequency	1kHz
Max. torsion angle	2.6×10rad (0.149°)
Inertial torque	0.38kg.cm
Intrinsic frequency of rotor vibration	19.4kHz
Torque constant	3.85×10N.m/rad
Material	alloy steel
Annual stability	0.3%/year
load resistance	>2kΩ
Power supply	DC5~15V
Working environment	-10~50°C ≤85%RH
Safety overload	150%
Extreme overload	200%
Cable specification	Ø5mm×3m
Extreme cable pulling force	10kg

To be continued

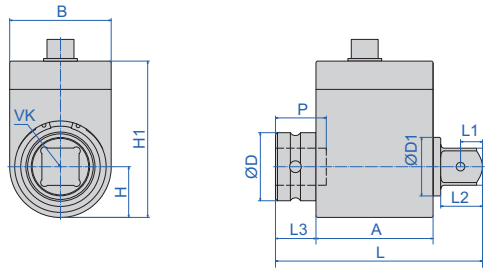
Continued from previous page

example of torque monitoring





dimension drawing
type A (hexagonal)



dimension drawing
type B (square)

(mm)

Code	Type	Maximum range	VK	A	B	L	L1	L2	L3	H	H1	ØD	ØD1	W	P
IST-IR05S	type A (hexagonal)	0.5N.m	1/4"	56	30	103	10	25.5	20.5	15	54.5	15	12	5	/
IST-IR1S		1N.m													
IST-IR2S		2N.m													
IST-IR5S		5N.m													
IST-IR10S		10N.m													
IST-IR20S		20N.m													
IST-IR05	type B (square)	0.5N.m	1/4"	56	30	71.5	3.3	7.3	5.2	15	54.5	15	10	/	10.5
IST-IR1		1N.m													
IST-IR2		2N.m													
IST-IR5		5N.m													
IST-IR10		10N.m													
IST-IR20		20N.m													
IST-IR30		30N.m	3/8"	56	30	77	5	10.5	8.1	15	58.6	17	17	/	13
IST-IR50		50N.m													
IST-IR100		100N.m	1/2"	58	42	87	6.7	14.7	12	21	69.5	24.9	20	/	17
IST-IR200		200N.m		60	52	106	11.2	21.4	20.7	26	80.1	34.9	30	/	26
IST-IR300		300N.m	3/4"												
IST-IR500		500N.m		64.5	63	125	11	26	28.7	32	91.6	44.9	40	/	31
IST-IR1000		1000N.m	1"												
IST-IR2000		2000N.m		86.5	102	181	23.2	39.3	50.7	51	136	74.5	65	/	42
IST-IR3000		3000N.m	1 1/2"												
IST-IR5000		5000N.m													

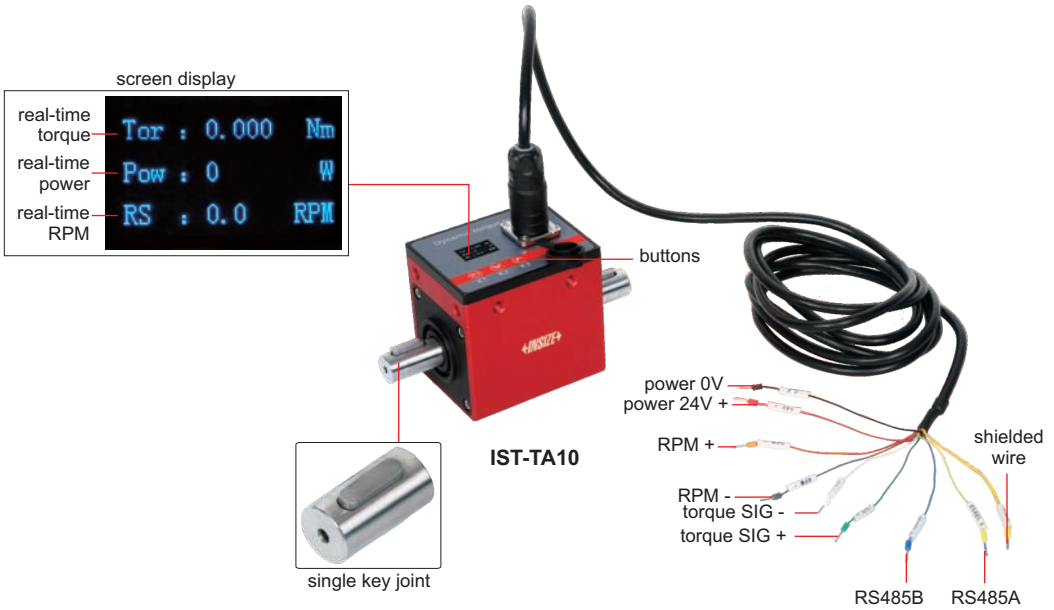
OPTIONAL ACCESSORY

Handheld force/torque indicator	ISF-DG4

DYNAMIC TORQUE SENSORS

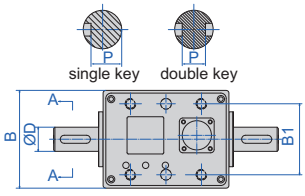
ATTENTION: CUSTOMIZATION IS REQUIRED FOR RPM EXCEEDING THE RATED RPM

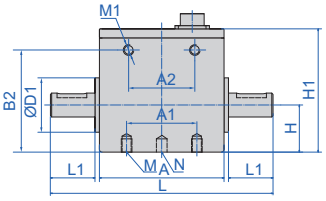
VIDEO

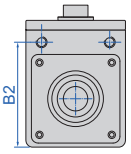


5

- Real-time display of torque, RPM and power values
- Support RS485 communication, support active uploading protocols
- Communication rate up to 1000 Hz
- Torque signal is ±5V transformed voltage output
- OLED display, resolution 128*64
- Simple calibration, zeroing, filtering, etc. can be performed



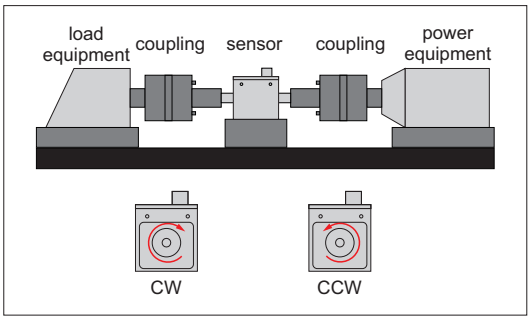




SPECIFICATION

RPM signal	120/60/10 pulses/rev.
Zero output	±0.1%FS
Accuracy	0.1%FS
Hysteresis	0.5%FS
Repeatability	0.1%FS
Creep (30 minutes)	0.05%FS
Temperature sensitivity drift	0.05%FS/10°C
Zero temperature drift	0.05%FS/10°C
Response time	0.6ms (50% response)
Response frequency	1kHz
Max. torsion angle	2.6×10rad (0.149°)
Inertial torque	0.38kg.cm
Intrinsic frequency of rotor vibration	19.4kHz
Torque constant	3.85×10N.m/rad
Material	stainless steel
Annual stability	0.3%/year
load resistance	>2kΩ
Power supply	DC24V 0.2A
Working environment	-10~50°C, ≤85%RH
Safety overload	150%
Extreme overload	200%
Cable specification	Ø5mm×3m
Extreme cable pulling force	10kg

example of sensor usage



To be continued

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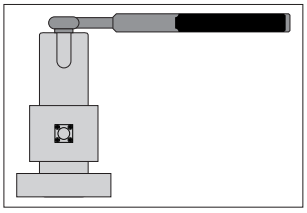
(mm)

Code	Maximum range	Rated RPM	ØD	B	L	L1	H	H1	A1	A2	B1	B2	ØD1	M	M1	N	Key size (L×W)	P
IST-TA1S	1N.m	8000rpm	10	51	108	18	25.5	68	58	/	43	/	12	4-M3 depth 6	/	/	single key 15×3	8.2
IST-TA2S	2N.m																	
IST-TA3S	3N.m																	
IST-TA5S	5N.m																	
IST-TA1L	1N.m	8000rpm	10	73	148	23.6	35.5	93	53	50	53	77	41	4-M8 depth 10	8-M8 depth 6	2-Ø8 depth 10	single key 10×3	8.2
IST-TA2L	2N.m																	
IST-TA3L	3N.m																	
IST-TA5L	5N.m																	
IST-TA10	10N.m	8000rpm	18	73	168	33.6	35.5	93	53	50	53	77	41	4-M8 depth 10	8-M8 depth 6	2-Ø8 depth 10	single key 22×6	14.5
IST-TA20	20N.m																	
IST-TA30	30N.m																	
IST-TA50	50N.m																	
IST-TA100	100N.m																	
IST-TA200	200N.m	7000rpm	28	73	208	53.5	35.5	93	53	50	53	77	51	4-M8 depth 10	8-M8 depth 6	2-Ø8 depth 10	single key 28×8	24
IST-TA300	300N.m																	
IST-TA500	500N.m	6000rpm	38	90	238	65.5	44	107.5	60	60	60	91	61	4-M8 depth 12	8-M8 depth 12	2-Ø8 depth 10	double key 45×10	28
IST-TA800	800N.m																	
IST-TA1000	1000N.m	4000rpm	60	120	258	75.5	60	138.5	60	70	75	122.5	93	4-M10 depth 15	8-M8 depth 15	2-Ø10 depth 15	double key 60×18	46
IST-TA2000	2000N.m																	
IST-TA3000	3000N.m																	
IST-TA5000	5000N.m																	
IST-TA10000	10000N.m	3000rpm	98	160	356	100.5	80	191.6	80	80	120	157	129	4-M12 depth 25	4-M12 depth 25	/	double key 90×28	78
IST-TA20000	20000N.m																	

VIDEO

application

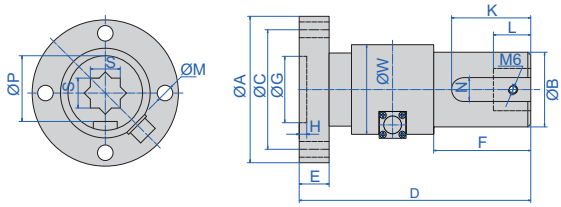


STATIC TORQUE SENSORS

- Wide range of applications: for testing electric, pneumatic and manual torque screwdrivers and torque wrenches and other torque tools and torque monitoring
- Clockwise and counter-clockwise operation
- High overall accuracy, good long-term stability

SPECIFICATION

Output sensitivity	1.0~2.0mV/V
Zero output	±1%FS
Accuracy	±0.2%FS
Repeatability	±0.2%FS
Hysteresis	±0.5%FS
Creep (30 minutes)	±0.1%FS
Temperature sensitivity drift	±0.1%FS/10°C
Zero temperature drift	±0.1%FS/10°C
Response frequency	10kHz
Material	alloy steel/stainless steel
Electrical impedance	350±5/700±5Ω
Insulation impedance	≥5000MΩ/100VDC
Operation voltage	5~15V
Working temperature	-20~80°C
Safety overload	120%
Extreme overload	150%
Cable specification	Ø5mm×3m
Extreme cable pulling force	10kg



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(mm)

Code	Maximum range	ØA	ØB	ØC	ØW	D	E	F	K	L	N	S	ØP	ØM	ØG	H
IST-NJ10S	10N.m	98	50	80	58	90	15	33	33	25	16	20	44	4×Ø10.5	/	/
IST-NJ20S	20N.m															
IST-NJ30S	30N.m															
IST-NJ50S	50N.m															
IST-NJ100S	100N.m															
IST-NJ200S	200N.m															
IST-NJ300S	300N.m															
IST-NJ500S	500N.m															
IST-NJ1000S	1000N.m															
IST-NJ10L	10N.m	98	50	80	58	155	20	65	53	25	16	20	44	4×Ø10.5	/	/
IST-NJ20L	20N.m															
IST-NJ30L	30N.m															
IST-NJ50L	50N.m															
IST-NJ100L	100N.m															
IST-NJ200L	200N.m															
IST-NJ300L	300N.m															
IST-NJ500L	500N.m															
IST-NJ1000L	1000N.m															
IST-NJ2000*	2000N.m	125	75	105	83	150	20	65	60	30	20	25.5	67.5	8×Ø12	60	6
IST-NJ3000*	3000N.m											40.5				
IST-NJ5000*	5000N.m															

* Without M6 hole

buffer (**optional**)
IST-NJ-BF5

forward stacking of disc springs
(low torque rate)

reverse stacking of disc springs
(high torque rate)

buffer test example

handheld indicator
(**optional**)

BUFFER (OPTIONAL) SPECIFICATION

Code	Screw diameter	Torque capacity	Dimension	Weight
IST-NJ-BF1*	6mm	5N.m	20×20×63mm	135g
IST-NJ-BF2*	8mm	20N.m	20×20×67mm	150g
IST-NJ-BF3*	10mm	50N.m	20×20×70mm	170g
IST-NJ-BF4*	12mm	100N.m	40×40×125mm	920g
IST-NJ-BF5*	16mm	350N.m	40×40×133mm	1000g
IST-NJ-BF6*	20mm	700N.m	40×40×145mm	1185g

* Not suitable for **IST-NJ2000**, **IST-NJ3000**, **IST-NJ5000**

OPTIONAL ACCESSORY

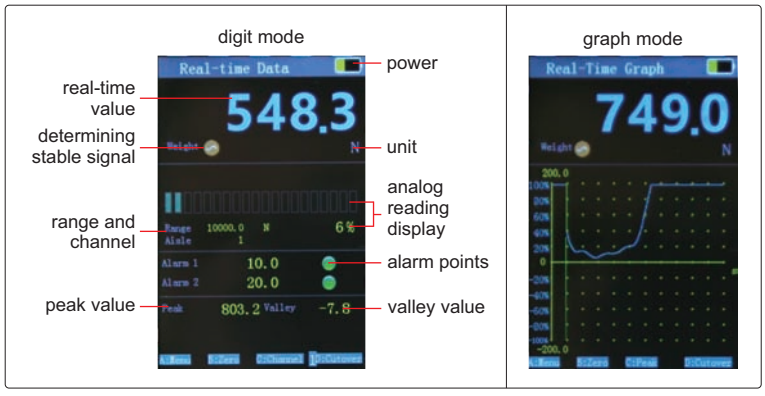
Handheld force/torque Indicator	**ISF-DG4**

HANDHELD FORCE/TORQUE INDICATORS

VIDEO

- For use with force sensors and torque sensors
- Three modes of real-time value display, peak value display and valley value display
- Force unit: N, kN, kg, lb, t
- Torque unit: N.m, kg.cm, in.lb, ft.lb
- High sampling rate captures peak value accurately
- Select to display the real-time curve and the last historical curve
- Real-time automatic capture of peak value and valley value
- Parameter backup and restoration, even if the parameters are messed up, you can restore them with a single click
- Weightless calibration, just enter the sensor parameters and you are ready for calibration
- A variety of alarm options: upper limit alarm, lower limit alarm, peak and valley alarm, over 1.2 times of the range alarm
- Supply voltage 3.5V, analog signal input range -15~15mV

ISF-DG1



SPECIFICATION

Code	ISF-DG1	ISF-DG2	ISF-DG3	ISF-DG4
Number of channels	7 channels		single channel	
Max. sampling frequency	3200Hz	12800Hz	3200Hz	3200Hz
Type	force+torque		force	torque
Unit switch	switching units requires recalibration		units can be switched in real time	
Accuracy	±0.1% (of load capacity)			
Output	TYPE-C			
Number of memory	200 groups			
Power supply	built-in rechargeable battery, can be used for 15 hours			
Dimension	132×76×20mm			
Weight	300g			

STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc

DIGITAL TORQUE SCREWDRIVERS

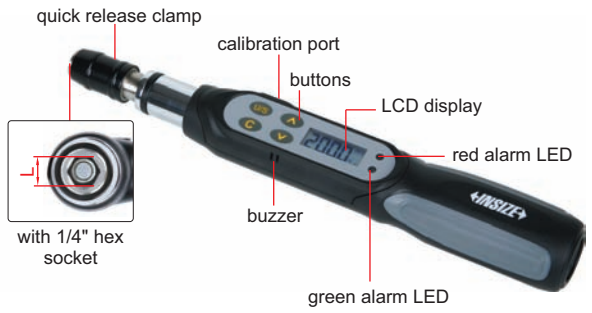
INSPECTION CERTIFICATE

VIDEO

phillips screwdriver bits (included)

hex screwdriver bits (included)

- Clockwise and counter-clockwise operation
- Unit: cN.m, in.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
  – Red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations



IST-SD200

SPECIFICATION

Code		IST-SD50	IST-SD200	IST-SD400
Range		10~50cN.m	40~200cN.m	80~400cN.m
Accuracy	clockwise	±3%	±2.5%	±2.5%
	counter-clockwise	±4%	±3.5%	±3.5%
Resolution		0.1cN.m	0.1cN.m	0.1cN.m
Size of hex socket (L)		1/4"	1/4"	1/4"
Power supply		1×AAA battery		
Length		193mm	203mm	203mm
Weight		190g	200g	200g

STANDARD DELIVERY

Torque screwdriver	1 pc
Phillips screwdriver bits	1 pc
Hex screwdriver bits	1 pc

OPTIONAL ACCESSORY

Calibration cable	IST-SD-CABLE

BLUETOOTH DIGITAL TORQUE SCREWDRIVERS (KEYBOARD SIGNAL)

VIDEO

INSPECTION CERTIFICATE

BUILT-IN BLUETOOTH

IST-3SD200

phillips screwdriver bits (included)

hex screwdriver bits (included)

Torque screwdrivers:

- Clockwise and counter-clockwise operation
- Unit: cN.m, in.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
  – Red and green LED lights on and buzzer sounds when target torque value is reached
- Auto power off

Data transmission:

- Built-in Bluetooth module, which can be connected with computers (with Bluetooth function), mobile phones, tablets and other devices
- Keyboard signal, can be transmitted to Excel
- Transmission distance is 10 meters (no obstacles, no electromagnetic interference)
- Bluetooth connection and disconnection are respectively shown by indicator lights

SPECIFICATION

Code		IST-3SD50	IST-3SD200	IST-3SD400	IST-3SD600
Range		10~50cN.m	40~200cN.m	80~400cN.m	120~600cN.m
Accuracy	clockwise	±2%			
	counter-clockwise	±3%			
Resolution		0.1cN.m			
Size of hex socket (L)		1/4"			
Power supply		1×3.7V replaceable lithium battery			
Length		203mm			
Weight		190g			

STANDARD DELIVERY

Torque screwdriver	1 pc
Phillips screwdriver bits	1 pc
Hex screwdriver bits	1 pc

OPTIONAL ACCESSORY

Calibration cable	IST-SD-CABLE

DATA TRANSMISSION

INSPECTION CERTIFICATE

WIRED TRANSMISSION DIGITAL TORQUE SCREWDRIVERS (KEYBOARD SIGNAL)

phillips screwdriver bits (included)

hex screwdriver bits (included)

VIDEO

with 1/4" hex socket

IST-2SD200

Torque screwdrivers:

- Clockwise and counter-clockwise operation
- Unit: cN.m, in.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
  – Red and green LED lights on and buzzer sounds when target torque value is reached
- Auto power off

Data transmission:

- Keyboard signal through a cable, can be transmitted to Excel, Word, Txt, etc.

SPECIFICATION

Code		IST-2SD50	IST-2SD200	IST-2SD400	IST-2SD600
Range		10~50cN.m	40~200cN.m	80~400cN.m	120~600cN.m
Accuracy	clockwise	±2%			
	counter-clockwise	±3%			
Resolution		0.1cN.m			
Size of hex socket (L)		1/4"			
Power supply		1×3.7V replaceable lithium battery			
Length		203mm			
Weight		190g			

STANDARD DELIVERY

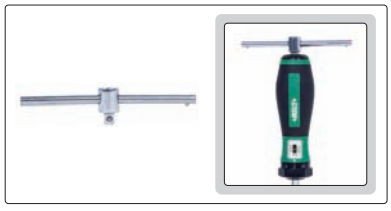
Torque screwdriver	1 pc
Phillips screwdriver bits	1 pc
Hex screwdriver bits	1 pc

OPTIONAL ACCESSORY

Calibration cable	IST-SD-CABLE
Transmission cable	IST-HID-CABLE

ATTENTION: CLOCKWISE OPERATION ONLY

TORQUE SCREWDRIVERS



T-bar wrench (for **IST-MG250**, **IST-MG360**, **IST-MG600**)

IST-MG100

SPECIFICATION

Code	IST-MG100	IST-MG250	IST-MG360	IST-MG600
Range (clockwise)	20~100cN.m	50~250cN.m	60~360cN.m	1.0~6.0N.m
Graduation	2cN.m	5cN.m	5cN.m	0.1N.m
Head	1/4" hex socket			
Accuracy	±6%			
Length	172mm			
Weight	0.26kg			

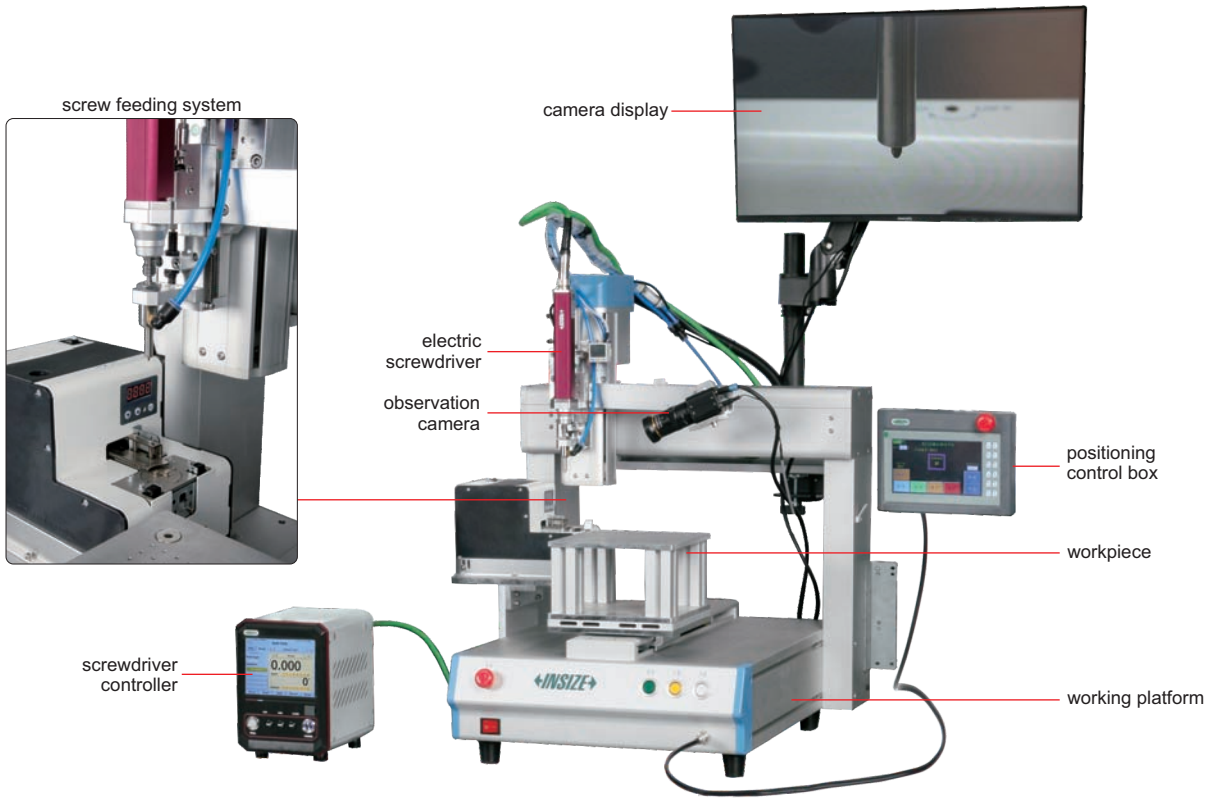
STANDARD DELIVERY

Torque screwdriver	1 pc
T-bar wrench (for IST-MG250, IST-MG360, IST-MG600)	1 pc

DESKTOP AUTOMATIC TIGHTENING MACHINE
CODE ATM

CUSTOMIZED ACCORDING TO WORKPIECES

VIDEO



5

SPECIFICATION

Working platform	working direction		vertically down
	max. operation speed	XY-axis	800mm/s
		Z-axis	400mm/s
	max. load	XY-axis	10kg
		Z-axis	5kg
	positioning repeatability		±0.05mm
	control axis		XYZ axis
	number of preset positioning programs		80
	number of positioning points for one program		350
	number of I/O ports		4 input, 4 output
Intelligent electric screwdriver*	applicable torque range		0.01~7.50N.m
	applicable screw outside diameter		1.0~7.0mm
	torque accuracy		±5% at 30%~80% of maximum output torque, ±8% in other range
	resolution of angle		1°
	number of preset tightening programs		12
	number of preset callable parameters		8
	number of I/O ports		8 input, 8 output
Power supply			AC 220V, 50Hz
Pressure supply			0.5~0.7MPa
Environmental requirement			temperature: 0~40°C, relative humidity: 20~85%

* Intelligent screwdrivers with different torque ranges for different tightening screws

- Working platform is equipped with servo motor for fast working speed and high positioning accuracy
- Intelligent screwdriver with precise control of torque, angle and speed
- Blow or suction automatic screw feeding system is efficient and stable
- Camera-assisted positioning for more convenient and accurate

steps

Step 1: place the workpiece on positioning fixture and fix it firmly
Step 2: press the reset button to return the platform and cylinder to the initial position
Step 3: press the start button, according to the set program to complete tightening of all screws on the workpiece
Step 4: replace workpiece

STANDARD DELIVERY

Working platform	main unit
	positioning control box
	positioning fixture
Intelligent electric screwdriver	electric screwdriver
	controller
	suitable screwdriver head
Screw feeding system	1 set
Camera-assisted positioning system	1 set
Control program	1 set

ATTENTION: TORQUE TESTERS ARE NEEDED FOR CALIBRATION

INTELLIGENT ELECTRIC SCREWDRIVERS (CURRENT CONTROL)

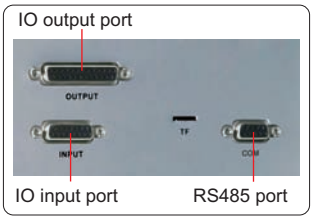
ATTENTION: SPEED SHOULD BE BELOW 100RPM WHEN TIGHTENING IS ENDED

VIDEO

HES-E152 HES-E403 HES-E901A

controller **type A**

controller **type B**

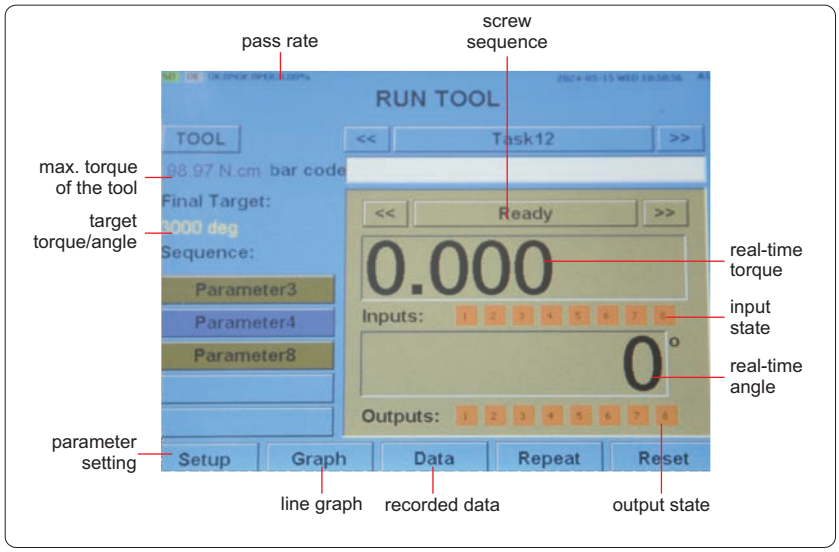


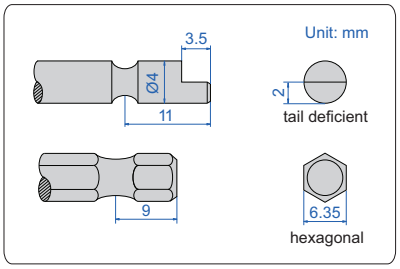
communication port (included)

- Highly efficient heat dissipation setting, ultra-low noise handling
- Permanent magnet synchronous servo motor and high-precision reducer power transmission mechanism
- High-precision angle sensor (resolution 1°) and two-color LED indication of locking status
- The safety level conforms to the relevant provisions of GB3883/IEC60745 and other standards
- 12 task modes, each task can be configured with 8 different torque parameters
- Locked data is stored in EXCEL on the hard disk for 600 days
- Built-in servo drive for precise control of torque, angle and speed
- Provide graphical tool for process optimization and diagnostic
- Provide programmable IO and RS485 communication port for process control and data transmission
- Physical buttons for assisted operation and they are monitored by LED lights

balance arm (**optional**)

controller (included)





screwdriver head (**optional**)
(can be customized: cross, flathead, hexagonal, star-shaped)

To be continued

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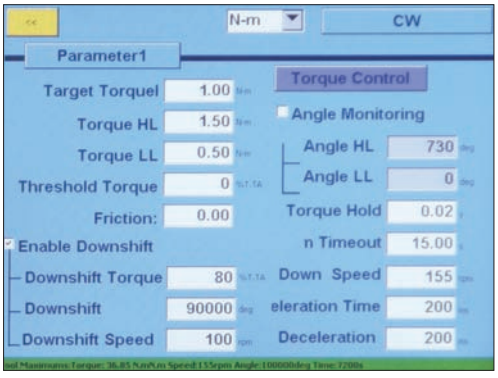
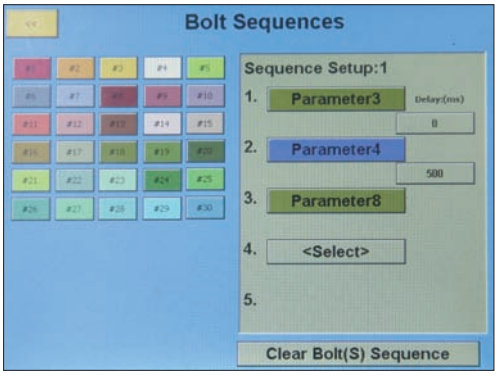
interface of tightening parameter setting



interface of screw sequence matching parameters



5

SPECIFICATION

Code		HES-E151	HES-E152	HES-E401	HES-E402	HES-E403	HES-E404
Torque range		0.01~0.13N.m	0.06~0.55N.m	0.02~0.23N.m	0.15~0.90N.m	0.20~1.20N.m	0.50~1.60N.m
Motor power		DC15W		DC40W			
Max. speed		5000rpm	1200rpm	5000rpm	1200rpm	1000rpm	800rpm
Applicable screw outside diameter		1.0~1.7mm	1.4~2.5mm	1.0~2.0mm	2.0~3.0mm	2.0~3.5mm	2.5~4.0mm
Applicable screwdriver head		Ø4mm tail deficient				6.35mm hexagonal	
Controller		type A					
Power supply		AC 85~264V, 47~63Hz					
Display operation interface		touch screen menu operation mode, 3 function buttons+3 LED indicators					
Torque accuracy		±5% at 30%~80% of maximum output torque, ±8% in other range					
Dimension	electric screwdriver	242×53×35mm		214×64.4×38mm	231×64.4×38mm		
	controller	151.5×185.8×221mm					
Weight	electric screwdriver	300g		400g	500g		600g
	controller	3500g					

Code		HES-E901A	HES-E902A	HES-E903A	HES-E901B	HES-E902B	HES-E903B
Torque range		0.10~0.70N.m	0.60~2.40N.m	0.60~3.00N.m	0.20~1.20N.m	0.80~4.30N.m	1.00~5.50N.m
Motor power		DC90W			AC90W		
Max. speed		5000rpm	1200rpm	1000rpm	5000rpm	1500rpm	1200rpm
Applicable screw outside diameter		2.0~2.5mm	3.5~4.5mm	3.5~5.0mm	2.0~3.5mm	3.5~5.5mm	4.0~6.0mm
Applicable screwdriver head		6.35mm hexagonal					
Controller		type B					
Power supply		AC 200~230V±10%, 50~60Hz					
Display operation interface		touch screen menu operation mode, 3 function buttons+3 LED indicators					
Torque accuracy		±5% at 30%~80% of maximum output torque, ±8% in other range					
Dimension	electric screwdriver	317×59.5×47.5mm					
	controller	210×160×345mm			235×160×345mm		
Weight	electric screwdriver	900g	1060g		900g	1060g	
	controller	5500g					

STANDARD DELIVERY

Electric screwdriver	1 pc
Controller	1 pc
Cross screwdriver head	1 pc
Tool connection cable	1 pc
USB transmission cable	1 pc

OPTIONAL ACCESSORY

Ø4mm tail deficient screwdriver head	
6.35mm hexagonal screwdriver head	
Balance arm	HES-E-X*
QR code scanner	7328-SCAN

* Not suitable for **HES-E151**, **HES-E152**

ATTENTION: TORQUE TESTERS (OPTIONAL) ARE NEEDED FOR CALIBRATION BEFORE USE

ATTENTION: USED WITH BALANCE ARMS OR MOUNTED ON MACHINES

ATTENTION: SPEED SHOULD BE BELOW 100RPM WHEN TIGHTENING IS ENDED

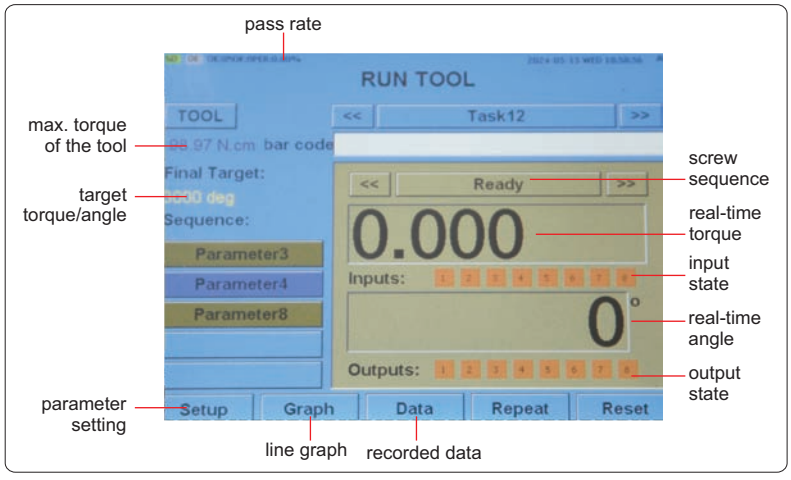
INTELLIGENT ELECTRIC TIGHTENING WRENCHES (CURRENT CONTROL)

HES-L230A
type A

HES-L230B
type B

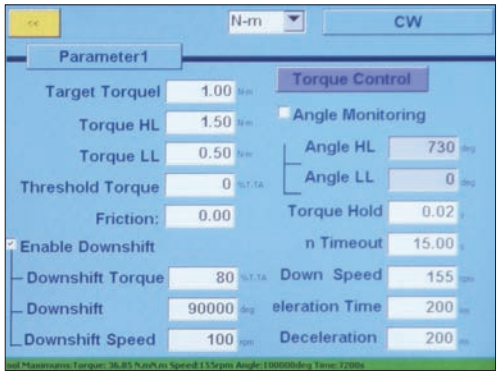
- Highly efficient heat dissipation setting, low noise handling and long service life
- 90W permanent magnet synchronous servo motor and high-precision reducer power transmission mechanism
- High-precision angle sensor (resolution 1°) and built-in servo drive
- Provide precise control of torque, angle, speed and etc.
- 12 task modes, each task can be configured with 8 different parameters
- Provide graphical tool for process optimization and diagnostic
- Provide programmable IO for process control and RS485 communication for data transmission, can connect to MES system
- Locked data is stored in EXCEL on the hard disk for 600 days
- Controller is equipped with physical buttons for assisted operation and LED light and buzzer for dual alarms

main operation interface

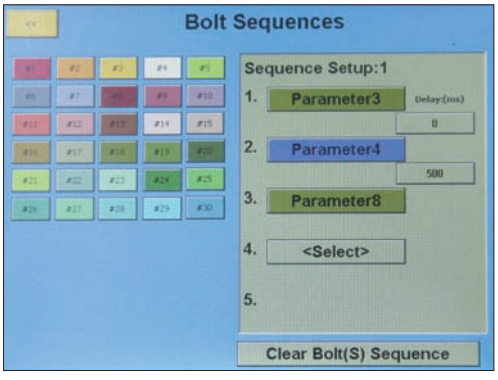


controller (included)

interface of tightening parameter setting



interface of screw sequence matching parameters



To be continued

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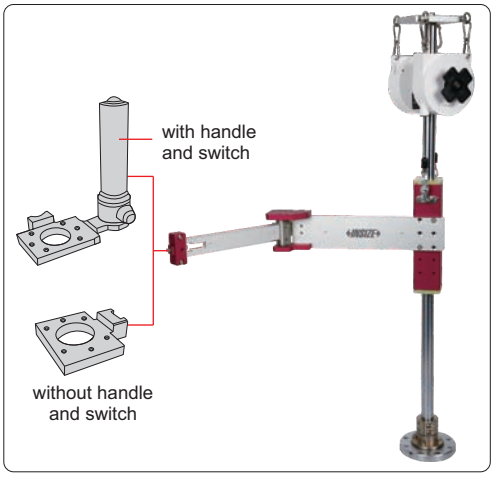
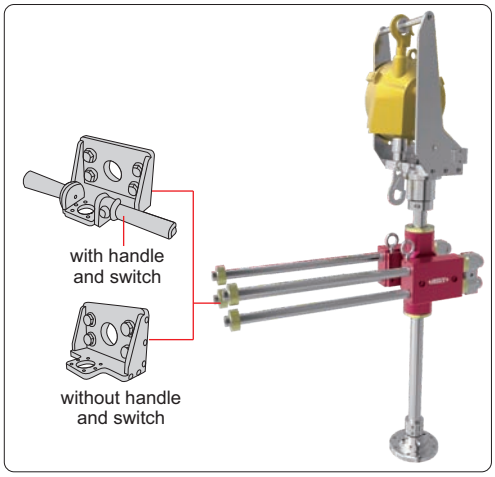
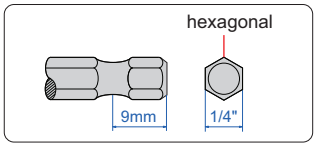


light load balance arm (**optional**)



heavy load balance arm (**optional**)



hexagonal screwdriver head (**optional**) (can be customized: cross, flathead, hexagonal, star-shaped)

square wrench socket (**optional**)

5

SPECIFICATION

Code		HES-L700A	HES-L120A	HES-L230A	HES-L420A	HES-L120B	HES-L230B	HES-L420B
Torque range		2.00~7.00N.m	4.00~12.0N.m	7.00~23.0N.m	12.0~42.0N.m	4.00~12.0N.m	7.00~23.0N.m	12.0~42.0N.m
Type		type A				type B		
Max. speed		900rpm	400rpm	220rpm	130rpm	400rpm	220rpm	130rpm
Applicable screw outside diameter		4.0~7.0mm	5.5~8.0mm	6.0~10.0mm	7.0~12.0mm	5.5~8.0mm	6.0~10.0mm	7.0~12.0mm
Applicable wrench head		1/4" hexagonal		3/8" square	1/2" square	1/4" square	3/8" square	1/2" square
Activation mode		additional start switch is required				with start switch		
Torque accuracy		±5% at 30%~80% of maximum output torque, ±8% in other range						
Display operation interface		touch screen menu operation mode, 3 function buttons+3 LED indicators						
Power supply		AC 200~230V±10%, 50/60Hz						
Dimension	electric wrench	266.5×73×42.5mm	283.5×73×42.5mm	333×58×58mm	340×58×58mm	465×73×47.5mm	494×58×58mm	501×58×58mm
	controller	235×160×345mm						
Weight	electric wrench	1100g	1100g	1920g	1980g	2600g	2600g	2600g
	controller	5500g						

STANDARD DELIVERY

Electric tightening wrench	1 pc
Controller	1 pc
USB transmission cable	1 pc

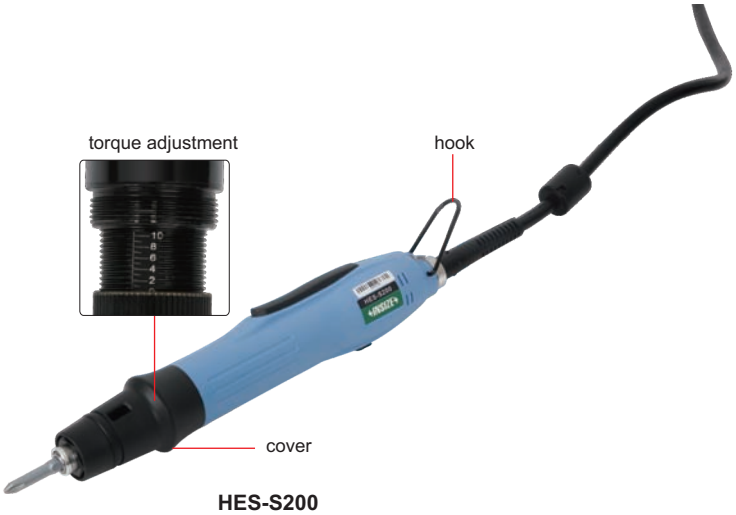
OPTIONAL ACCESSORY

1/4" hexagonal screwdriver head	
Square wrench socket	**IST-S** series
Light load balance arm (with handle and switch)	**HES-L-X1** (suitable for **HES-L700A**, **HES-L120A**, **HES-L230A**)
Heavy load balance arm (with handle and switch)	**HES-L-X2** (suitable for **HES-L420A**)
Light load balance arm (without handle and switch)	**HES-L-X3** (suitable for **HES-L120B**, **HES-L230B**)
Heavy load balance arm (without handle and switch)	**HES-L-X4** (suitable for **HES-L420B**)
QR code scanner	**7328-SCAN**
Static torque sensor (for calibration before use)	**IST-NJ** series
Handheld torque indicator (for calibration before use)	**ISF-DG4** (necessary for **IST-NJ** series)
Buffer (for calibration before use)	**IST-NJ-BF** series

ATTENTION: TORQUE TESTERS ARE NEEDED TO SET TORQUE

INVERTER BRUSHLESS ELECTRIC SCREWDRIVERS

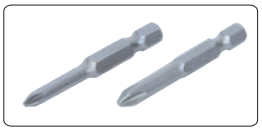
VIDEO



HES-S200

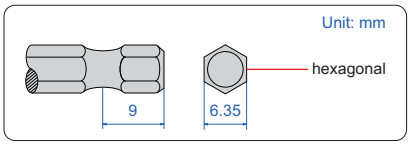
spring loaded balancer (**optional**)

cross screwdriver head (included)



- Adopting high performance, low inertia, low loosening, low power consumption, low impact brushless servo motor components, with ultra-long life and durability
- Frequency conversion and constant voltage function for stable torque, temperature and speed, low temperature rise
- Ergonomic design, small size and light weight, wider range torque, can be applied to a variety of screw locking requirements, reduce procurement cost
- The safety and durability of low-voltage frequency conversion and the convenience and stability of high-voltage direct plug-in, more flexible and economical in operation
- No toner spillage design, meets the requirements of the 3C industry and environmental protection

screwdriver head (**optional**) (can be customized: cross, flathead, hexagonal, star-shaped)



SPECIFICATION

Code		HES-S020	HES-S050	HES-S120	HES-S160	HES-S200	HES-S250
Torque range		0.03~0.20N.m	0.05~0.50N.m	0.20~1.20N.m	0.20~1.60N.m	0.40~2.00N.m	0.50~2.50N.m
		0.3~2.0kgf.cm	0.5~5.0kgf.cm	2.0~12.0kgf.cm	2.0~16.0kgf.cm	4.0~20.0kgf.cm	5.0~25.0kgf.cm
Torque repeatability		5% (at 30%~80% of maximum output torque)					
Rated power		DC60W					DC75W
Speed range		700~1000rpm	700~1000rpm	1400~2000rpm	700~1000rpm	700~1000rpm	500~750rpm
Applicable screw outside diameter	mechanical	1.0~2.2mm	1.0~2.6mm	1.4~3.0mm	2.2~4.2mm	2.6~4.5mm	3.0~5.0mm
	self-tapping	1.0~2.0mm	1.0~2.3mm	1.4~2.6mm	2.0~3.2mm	2.3~3.5mm	2.6~4.0mm
Applicable screwdriver head		6.35mm hexagonal					
Power supply		AC100~240V, 50/60Hz					
Electric screwdriver dimension		238×45×40mm					
Electric screwdriver weight		450g					

STANDARD DELIVERY

Electric screwdriver	1 pc
AC adapter	1 pc
Cross screwdriver head	2 pcs

OPTIONAL ACCESSORY

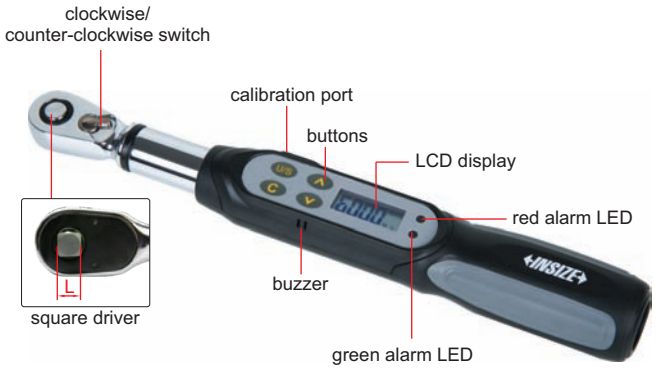
6.35mm hexagonal screwdriver head	
Spring loaded balancer	HES-S-X

SMALL RANGE DIGITAL TORQUE WRENCHES

INSPECTION CERTIFICATE

VIDEO

- Ratchet head
- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
  – Red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With overload record
  (once the torque reaches 110% of the maximum range)



IST-WP6

SPECIFICATION

Code		IST-WP6	IST-WP12	IST-WP20
Range		1.2~6N.m	2.4~12N.m	4~20N.m
Accuracy	clockwise	±3%		
	counter-clockwise	±4%		
Resolution		0.001N.m	0.01N.m	0.01N.m
Square driver (L)		1/4"		
Power supply		1×AAA battery		
Length		260mm		
Weight		430g		

OPTIONAL ACCESSORY

Calibration cable	IST-SD-CABLE

SHORT HANDLE DIGITAL TORQUE WRENCHES

INSPECTION CERTIFICATE

VIDEO

- Ratchet head
- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
  – Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off in 5 minutes automatically
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)

IST-WS60

SPECIFICATION

Code		IST-WS12	IST-WS20	IST-WS30	IST-WS30A	IST-WS60	IST-WS85
Range		2.4~12N.m	4~20N.m	6~30N.m	6~30N.m	12~60N.m	17~85N.m
Accuracy	clockwise	±3%					
	counter-clockwise	±4%					
Resolution		0.01N.m	0.01N.m	0.01N.m	0.01N.m	0.01N.m	0.1N.m
Square driver (L)		1/4"	1/4"	1/4"	3/8"	3/8"	3/8"
Power supply		2×AAA batteries					
Length		215mm	215mm	215mm	215mm	225mm	271mm
Weight		750g	750g	750g	830g	917g	1000g

OPTIONAL ACCESSORY

Calibration cable	IST-SD-CABLE

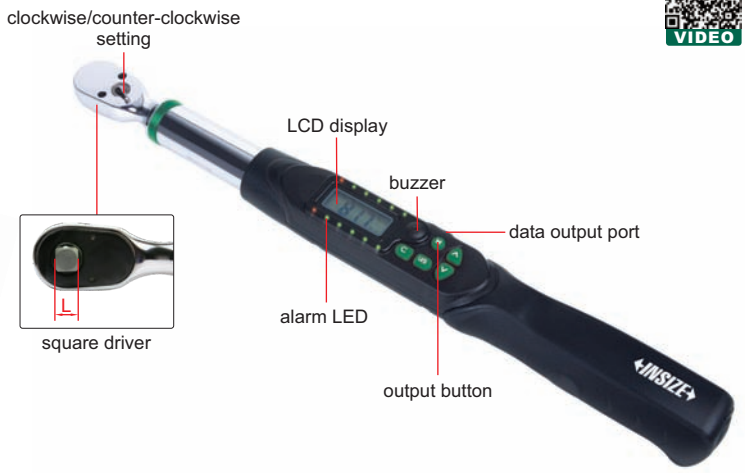
TYPE B OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%

INSPECTION CERTIFICATE

WIRED TRANSMISSION DIGITAL TORQUE WRENCHES (KEYBOARD SIGNAL)

VIDEO

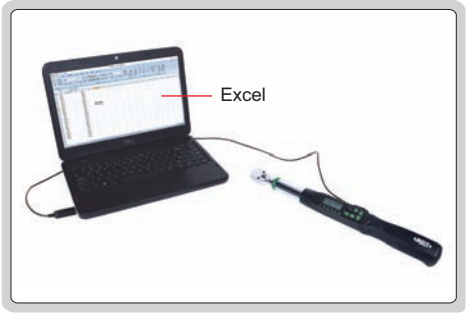
IST-17W12A
type A



IST-17W135A
type B

Torque wrench:

- Ratchet head
- Unit: N.m, in.lb, ft.lb, kg.cm
- Clockwise and counter-clockwise operation
- Peak and track working mode
- Can set tolerance with judgement in peak working mode
- 9 target torque values can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when torque value is 80%~99.5% of target torque
  – Both green and red LED light on and buzzer sounds when torque value is over 99.5% of target torque
- Power off in 2 minutes automatically
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)



transmission cable (**optional**)
keyboard signal output via transmission cable

Data transmission:

- Keyboard signal through a cable, can be transmitted to Excel, Word, Txt, etc.
- Press the output button once to output a value

SPECIFICATION

Code	IST-17W06A	IST-17W12A	IST-17W20A	IST-17W30A	IST-17W135A	IST-17W200A	IST-17W340A
Type	type A (short handle)			type B (long handle)			
Range	1.2~6N.m	2.4~12N.m	4~20N.m	6~30N.m	27~135N.m	40~200N.m	68~340N.m
Accuracy	clockwise: ±2%						
	counter-clockwise: ±3%						
Tolerance setting range	-20%~+20% (target torque value)						
Resolution	0.001N.m	0.01N.m	0.01N.m	0.01N.m	0.1N.m	0.1N.m	0.1N.m
Square driver (L)	1/4"	1/4"	1/4"	1/4"	3/8"	1/2"	1/2"
Power supply	2×AAA batteries			2×AA batteries			
Length	215mm	215mm	215mm	390mm	415mm	530mm	650mm
Weight	750g	750g	750g	760g	940g	1340g	1540g

OPTIONAL ACCESSORY

Calibration cable	IST-SD-CABLE
Transmission cable (keyboard signal)	IST-HID-CABLE*
Transmission cable (serial port signal)	7305-IST *

*Torque wrench must be equipped with an optional transmission cable to enable data transmission

BLUETOOTH DIGITAL TORQUE WRENCHES (KEYBOARD SIGNAL)

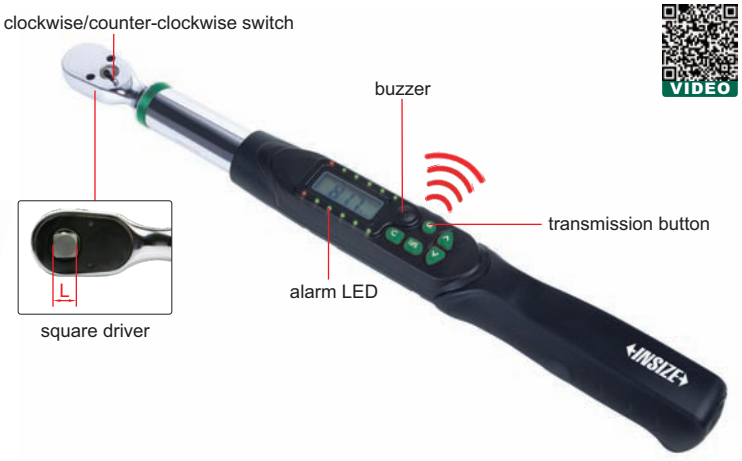
TYPE B OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%

INSPECTION CERTIFICATE

BUILT-IN BLUETOOTH

VIDEO

IST-15W12A
type A



IST-15W135A
type B

Torque wrenches:

- Ratchet head
- Unit: in.lb, ft.lb, N.m, kg.cm
- Clockwise and counter-clockwise operation
- Peak and track working mode
- Can set tolerance with judgement in peak working mode
- 9 target torque values can be set, with audible and visible alarm: LED lights up in sequence, and the buzzer gets louder and louder when torque value is 80%~99.5% of target torque
- Power off in 2 minutes automatically
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)

Data transmission:

- Built-in Bluetooth 4.0 module, which can be connected with computers (with Bluetooth function), mobile phones, tablets and other devices
- Keyboard signal, can be transmitted to Excel, Word, TXT
- Transmission distance is 10 meters (no obstacles, no electromagnetic interference)
- Bluetooth connection and disconnection are respectively shown by indicator lights

transmission distance is 10 meters
(no obstacles, no electromagnetic interference)

SPECIFICATION

Code		IST-15W06A	IST-15W12A	IST-15W20A	IST-15W30A	IST-15W135A	IST-15W200A	IST-15W340A
Type		type A (short handle)			type B (long handle)			
Range		1.2~6N.m	2.4~12N.m	4~20N.m	6~30N.m	27~135N.m	40~200N.m	68~340N.m
Accuracy	clockwise	±2%						
	counter-clockwise	±3%						
Tolerance setting range		-20%~+20% (target torque value)						
Resolution		0.001N.m	0.01N.m	0.01N.m	0.01N.m	0.1N.m	0.1N.m	0.1N.m
Square driver (L)		1/4"	1/4"	1/4"	1/4"	3/8"	1/2"	1/2"
Power supply		2×AAA batteries			2xAA batteries			
Length		215mm	215mm	215mm	390mm	415mm	530mm	650mm
Weight		750g	750g	750g	760g	940g	1340g	1540g

OPTIONAL ACCESSORY

Calibration cable	IST-SD-CABLE

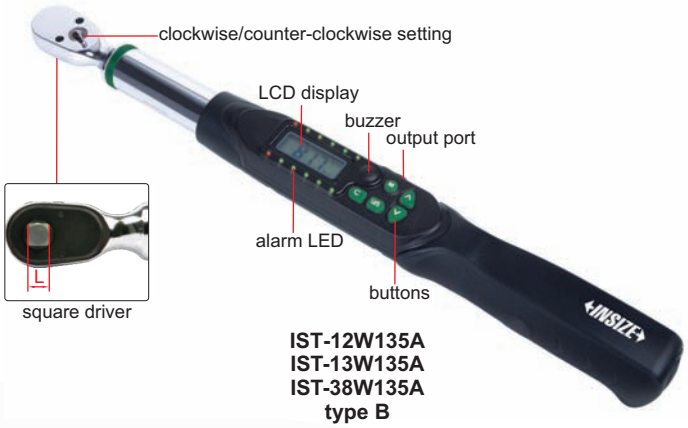
DATA OUTPUT

RANGE 6~340N.m OPTIONAL ACCURACY: CLOCKWISE: ±1%, COUNTER-CLOCKWISE: ±2%

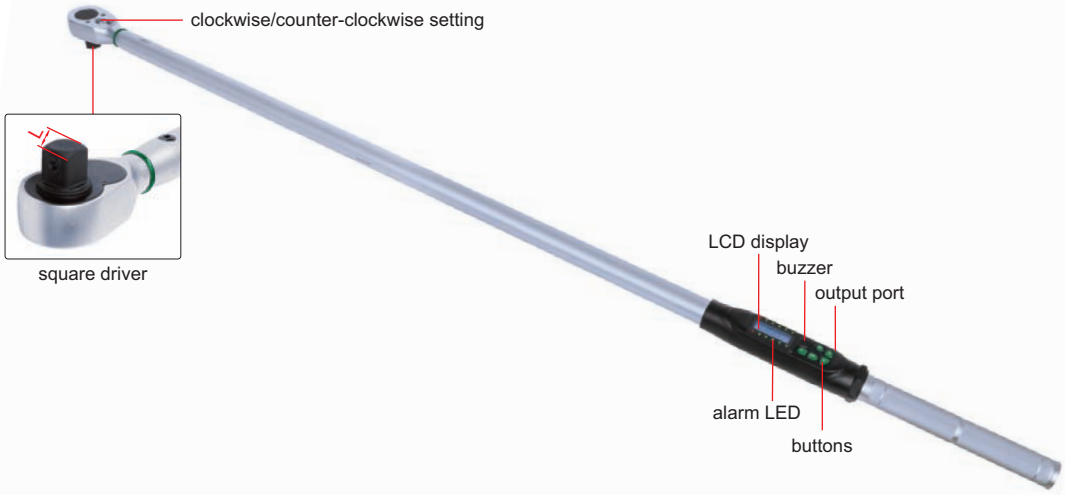
TWO-WAY WIRELESS DIGITAL TORQUE WRENCHES

INSPECTION CERTIFICATE

IST-12W12A
IST-13W12A
IST-38W12A
type A



IST-12W135A
IST-13W135A
IST-38W135A
type B



IST-12W1200A
IST-13W1200A
IST-38W1200A
type C

Torque wrench:

- Ratchet head
- Clockwise and counter-clockwise operation
- Peak and track working mode
- Upper and lower tolerance limits can be set to determine pass or fail by LED lights
- 10 preset target torque values and usage modes, parameters can be locked to prevent change
- With audible and visible alarm:
  – Green LED light on in sequence and buzzer sounds louder and louder when torque value is 80%~99.5% of target torque
  – Both green and red LED light on and buzzer sounds long-lasting alarm when torque value is over 99.5% of target torque
- Measurement results automatically calculate % difference from target value
- With storage and browsing on the wrench
- Measurement results can be sent manually by pressing M button or automatically
- Counting function, over 20% of the range counts once
- Power off in 2 minutes automatically
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)

To be continued

Continued from previous page

Bluetooth transmission:

- Built-in Bluetooth 4.0 module in Windows10 system version 1709 or above, maximum transmission distance is 10m (no obstacles, no electromagnetic interference)

Radio transmission:

- Radio communication, using the 433MHz radio channel, maximum transmission distance is 100m (no obstacles)

WIFI transmission:

- A good wireless WIFI network (4G/5G) is required, and the communication status depends on the network

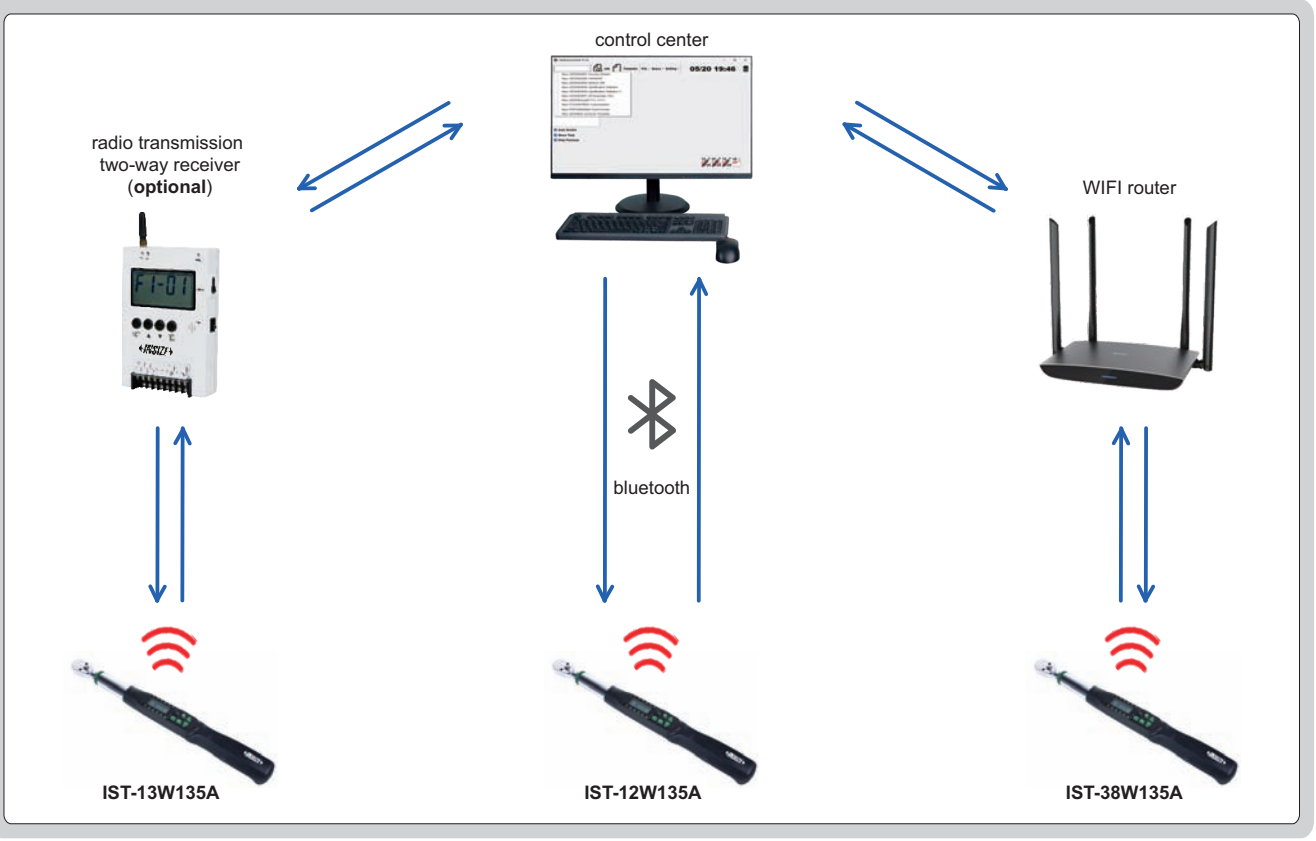
RADIO TWO-WAY RECEIVER (OPTIONAL) SPECIFICATION

Signal output to	computer or PLC
Working frequency	432.0~434.8MHz, adjustable
No. of connections	10 wrenches
Power supply	power adapter, 24V, 0.5A
Dimension	200×108×31mm
Weight	500g

*Suitable for **IST-13W** series, necessary for **IST-13W** series

radio transmission two-way receiver (optional)
IST-13WREC-PLC*

application



To be continued

Continued from previous page

SPECIFICATION

Code	Bluetooth	IST-12W06A	IST-12W12A	IST-12W20A	IST-12W30A	IST-12W60A
	Radio	IST-13W06A	IST-13W12A	IST-13W20A	IST-13W30A	IST-13W60A
	WIFI	IST-38W06A	IST-38W12A	IST-38W20A	IST-38W30A	IST-38W60A
Type		type A			type B	
Range		1.2~6N.m	2.4~12N.m	4~20N.m	6~30N.m	12~60N.m
Accuracy	clockwise	±2%				
	counter-clock wise	±3%				
Resolution		0.001N.m	0.01N.m	0.01N.m	0.01N.m	0.01N.m
Unit		N.m, in.lb, ft.lb, kg.cm				
Square driver (L)		1/4"	1/4"	1/4"	1/4"	3/8"
Power supply		2×AAA batteries			2×AA batteries	
Length		215mm	215mm	215mm	390mm	415mm
Weight		380g	380g	380g	760g	940g

Code	Bluetooth	IST-12W135A	IST-12W200A	IST-12W340A	IST-12W500A	IST-12W850A
	Radio	IST-13W135A	IST-13W200A	IST-13W340A	IST-13W500A	IST-13W850A
	WIFI	IST-38W135A	IST-38W200A	IST-38W340A	IST-38W500A	IST-38W850A
Type		type B				
Range		27~135N.m	40~200N.m	68~340N.m	100~500N.m	170~850N.m
Accuracy	clockwise	±2%			±2.5%	
	counter-clock wise	±3%			±3.5%	
Resolution		0.1N.m	0.1N.m	0.1N.m	0.1N.m	0.1N.m
Unit		N.m, in.lb, ft.lb, kg.cm				
Square driver (L)		3/8"	1/2"	1/2"	3/4"	3/4"
Power supply		2×AA batteries				
Length		415mm	530mm	650mm	950mm	1220mm
Weight		940g	1340g	1540g	2950g	4260g

Code	Bluetooth	IST-12W1000A	IST-12W1200A	IST-12W1500A	IST-12W2000A
	Radio	IST-13W1000A	IST-13W1200A	IST-13W1500A	IST-13W2000A
	WIFI	IST-38W1000A	IST-38W1200A	IST-38W1500A	IST-38W2000A
Type		type C			
Range		200~1000N.m	240~1200N.m	300~1500N.m	400~2000N.m
Accuracy	clockwise	±2.5%			
	counter-clock wise	±3.5%			
Resolution		1N.m	1N.m	1N.m	1N.m
Unit		N.m, ft.lb			
Square driver (L)		1"	1"	1"	1"
Power supply		2×AA batteries			
Length		1785mm	1785mm	1785mm	1785mm
Weight		9000g	9000g	9000g	10000g

To be continued

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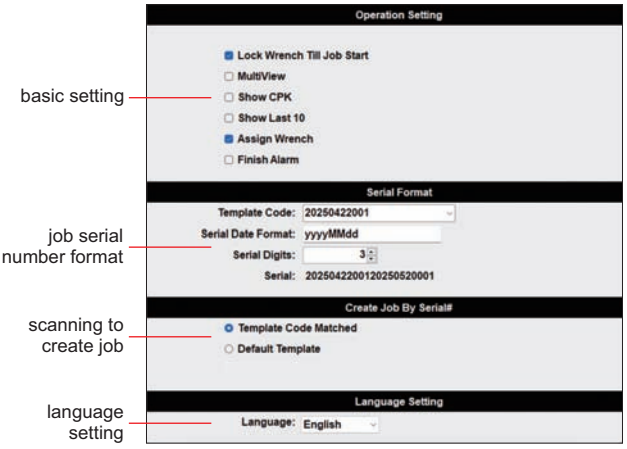
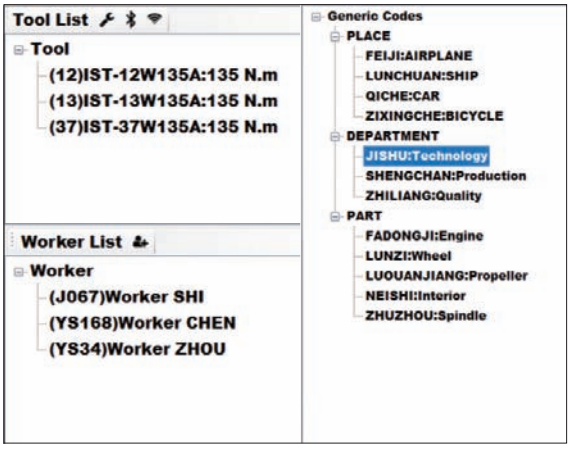
Tightening system test software (included)

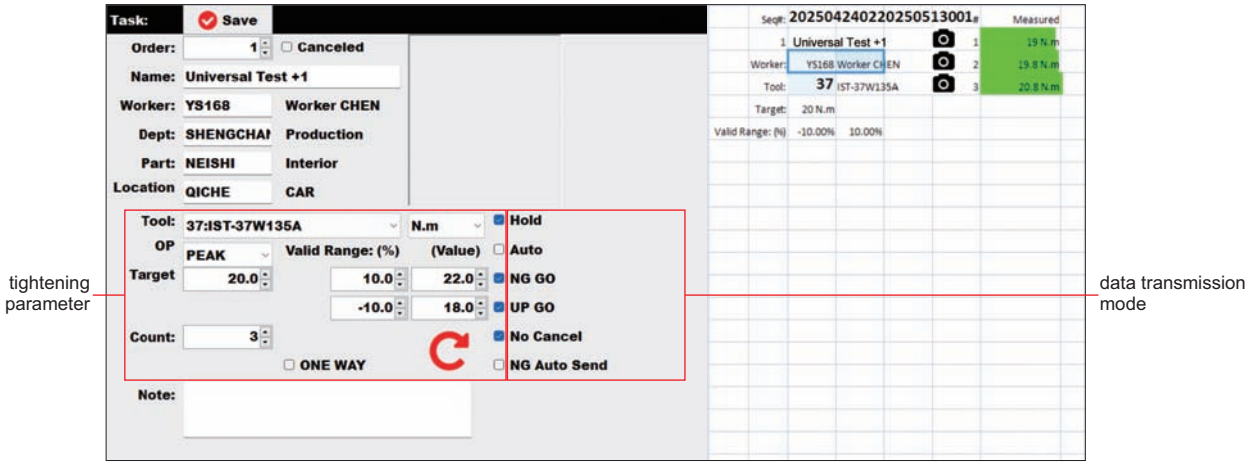
- Setting interface



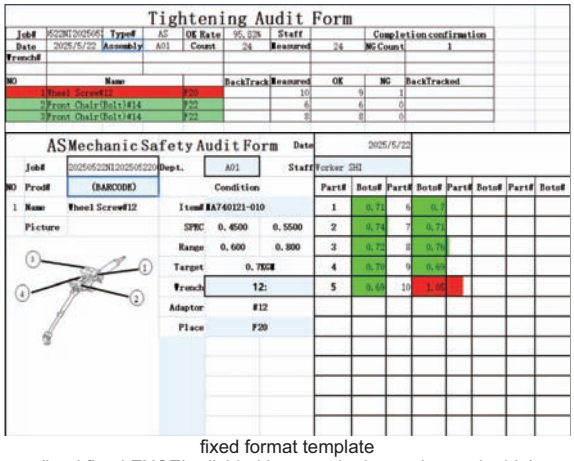
- Serialization management (tool, worker, place, department, part)



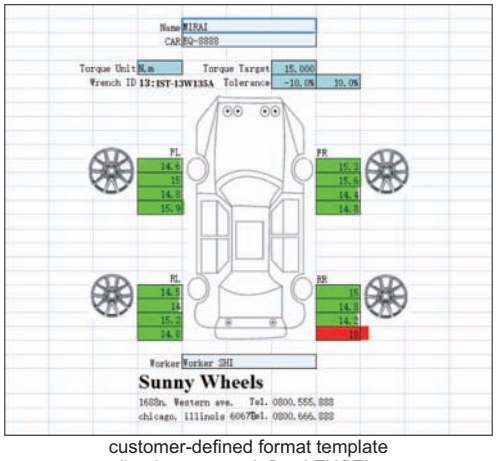
- Make job template



basic template (easy-to-use format without loading EXCEL)



fixed format template
(load fixed EXCEL, divided into monitoring and record table)

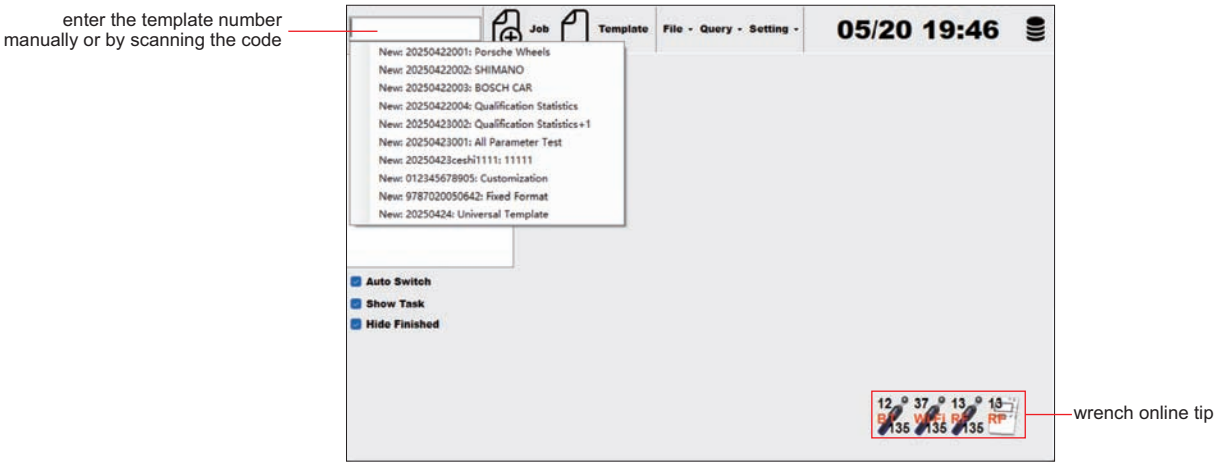


customer-defined format template
(load customer-defined EXCEL,
associated tightening parameters through excel function)

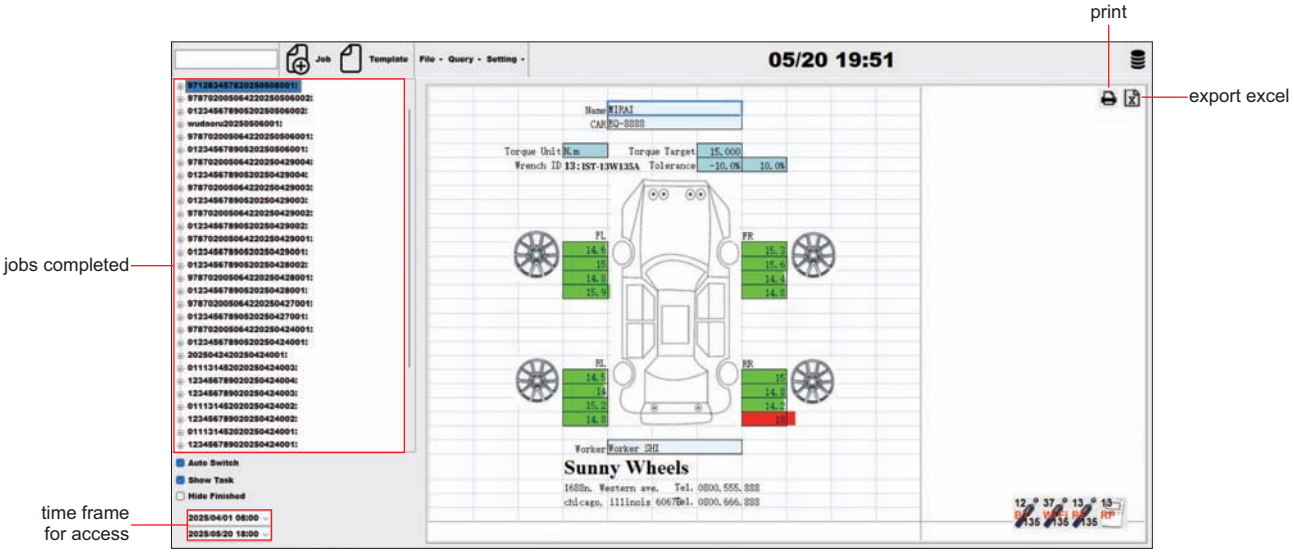
To be continued

Continued from previous page

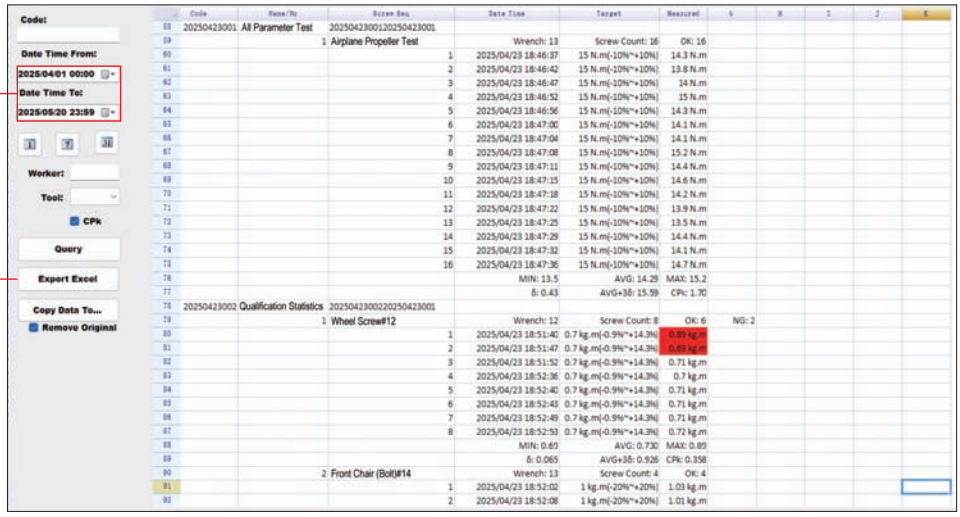
- Access job template to create work orders and issue job assignments



- Work orderized job data storage, access, printing and exporting



original job template format

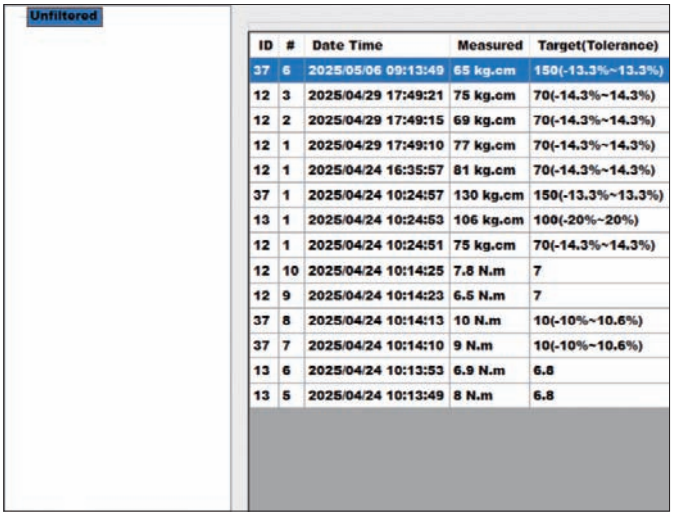


data processing format

To be continued

Continued from previous page

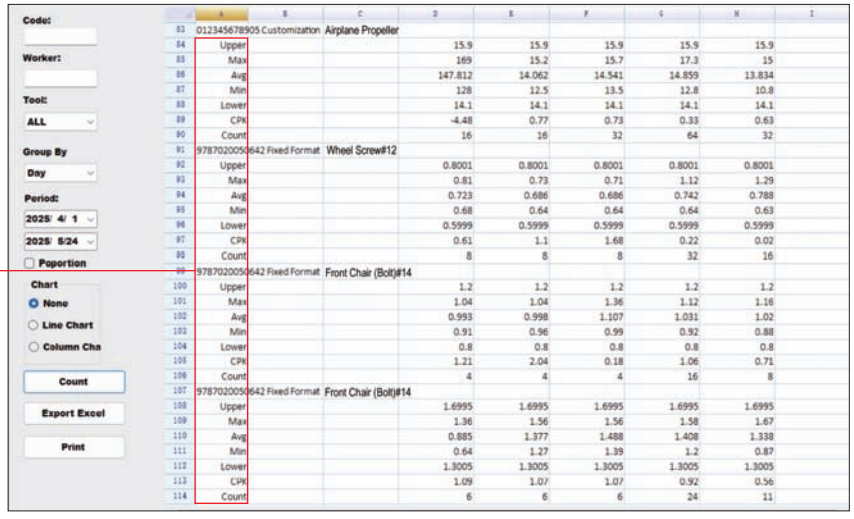
- Data outside of job template



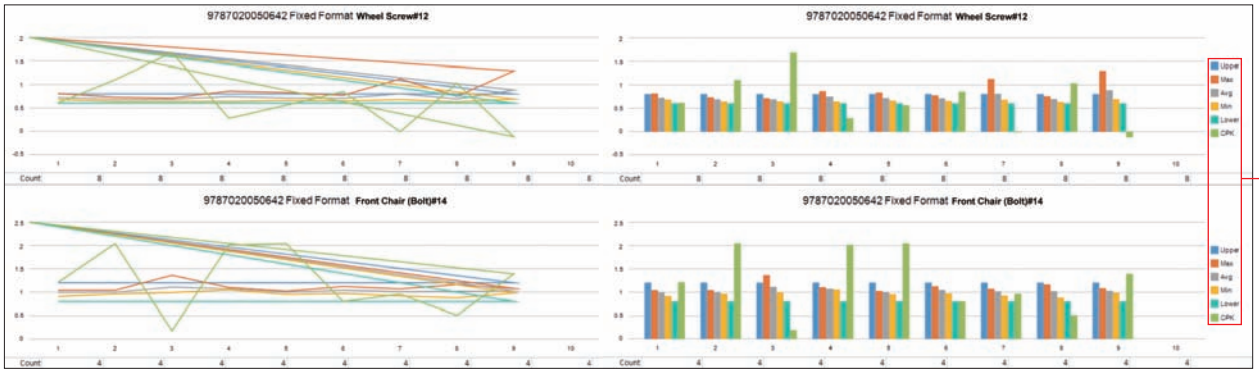
ID	#	Date Time	Measured	Target(Tolerance)
37	6	2025/05/06 09:13:49	65 kg.cm	150(-13.3%~13.3%)
12	3	2025/04/29 17:49:21	75 kg.cm	70(-14.3%~14.3%)
12	2	2025/04/29 17:49:15	69 kg.cm	70(-14.3%~14.3%)
12	1	2025/04/29 17:49:10	77 kg.cm	70(-14.3%~14.3%)
12	1	2025/04/24 16:35:57	81 kg.cm	70(-14.3%~14.3%)
37	1	2025/04/24 10:24:57	130 kg.cm	150(-13.3%~13.3%)
13	1	2025/04/24 10:24:53	106 kg.cm	100(-20%~20%)
12	1	2025/04/24 10:24:51	75 kg.cm	70(-14.3%~14.3%)
12	10	2025/04/24 10:14:25	7.8 N.m	7
12	9	2025/04/24 10:14:23	6.5 N.m	7
37	8	2025/04/24 10:14:13	10 N.m	10(-10%~10.6%)
37	7	2025/04/24 10:14:10	9 N.m	10(-10%~10.6%)
13	6	2025/04/24 10:13:53	6.9 N.m	6.8
13	5	2025/04/24 10:13:49	8 N.m	6.8

data outside of job template placed in unfiltered area

- Data stability statistic



numerical statistic

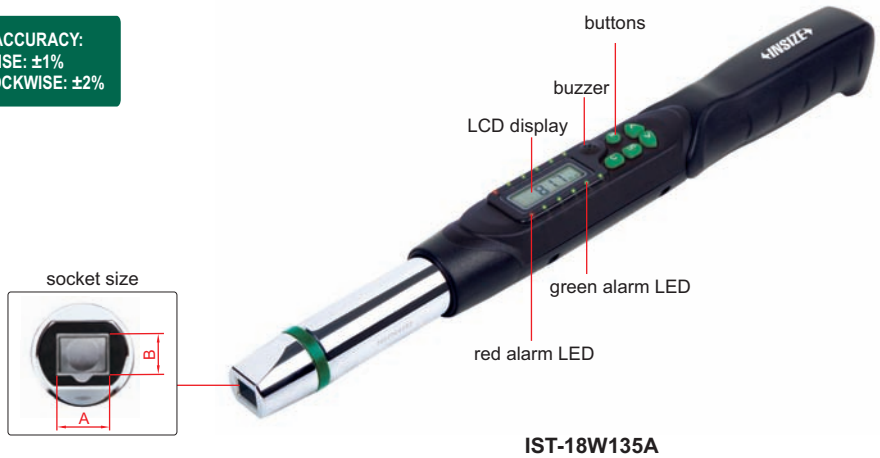


line chart and bar chart statistic

INTERCHANGEABLE HEAD BLUETOOTH DIGITAL TORQUE WRENCHES (KEYBOARD SIGNAL)

INSPECTION CERTIFICATE

OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%



IST-18W135A

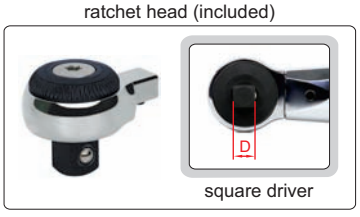
VIDEO

5

Torque wrenches:

- Unit: N.m, in.lb, ft.lb, kg.cm
- Clockwise and counter-clockwise operation
- Peak and track working modes
- Can set tolerance with judgement in peak working mode
- 9 target torque values can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when torque value is 80%~99.5% of target torque
  – Both green and red LED light on and buzzer sounds when torque value is over 99.5% of target torque
- Power off in 2 minutes automatically without any operations
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)

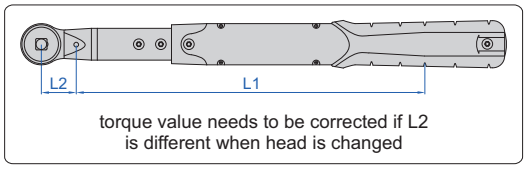
ratchet head (included)



Data transmission:

- Built-in Bluetooth 4.0 module, which can be connected with computers (with Bluetooth function), mobile phones, tablets and other devices
- Keyboard signal, can be transmitted to Excel, Word, TXT
- Transmission distance is 10 meters (no obstacles, no electromagnetic interference)
- Bluetooth connection and disconnection are respectively shown by indicator lights

torque correction



torque value needs to be corrected if L2 is different when head is changed

SPECIFICATION

Code		IST-18W30A	IST-18W135A	IST-18W200A	IST-18W340A
Range		6~30N.m	27~135N.m	40~200N.m	68~340N.m
Accuracy	clockwise	±2%			
	counter-clockwise	±3%			
Resolution		0.01N.m	0.1N.m	0.1N.m	0.1N.m
Socket size (A×B)		12×9mm	12×9mm	18×14mm	18×14mm
Arm length (L1)		272.7mm	287.7mm	381.2mm	501.2mm
Power supply		2×AA batteries, for 110 hours working			
Weight		1400g	1570g	2170g	2320g

RATCHET HEAD (INCLUDED) SPECIFICATION

For torque wrench	IST-18W30A	IST-18W135A	IST-18W200A	IST-18W340A
Square driver (D)	1/4"	3/8"	1/2"	1/2"
Length (L2)	29mm	29mm	40mm	40mm

To be continued

Continued from previous page

STANDARD DELIVERY

Torque wrench	1 pc
Ratchet head	1 pc

OPTIONAL ACCESSORY

Calibration cable	IST-W-CABLE
Interchangeable head	refer to details

RATCHET HEAD (optional)

Code	Square driver (D)	Applicable wrenches
IST-2W-R1	1/4"	IST-18W30A
IST-2W-R2	3/8"	IST-18W135A
IST-2W-R3	1/2"	IST-18W135A
IST-2W-R4	1/2"	IST-18W200A IST-18W340A

ADJUSTABLE SPANNER HEAD (optional)

Code	Open size	Applicable wrenches
IST-2W-A1	5~27mm	IST-18W30A IST-18W135A
IST-2W-A2	5-30mm	IST-18W200A
IST-2W-A3	10-41mm	IST-18W340A

OPEN END HEAD (optional)

Code	Open size	Applicable wrenches
IST-2W-K7	7mm	IST-18W30A IST-18W135A
IST-2W-K8	8mm	
IST-2W-K9	9mm	
IST-2W-K10	10mm	
IST-2W-K11	11mm	
IST-2W-K12	12mm	
IST-2W-K13	13mm	
IST-2W-K14	14mm	
IST-2W-K15	15mm	
IST-2W-K16	16mm	
IST-2W-K17	17mm	
IST-2W-K18	18mm	
IST-2W-K19	19mm	
IST-2W-K13A	13mm	IST-18W200A IST-18W340A
IST-2W-K14A	14mm	
IST-2W-K15A	15mm	
IST-2W-K16A	16mm	
IST-2W-K17A	17mm	
IST-2W-K18A	18mm	
IST-2W-K19A	19mm	
IST-2W-K21A	21mm	
IST-2W-K22A	22mm	
IST-2W-K24A	24mm	
IST-2W-K27A	27mm	

BOX END HEAD (optional)

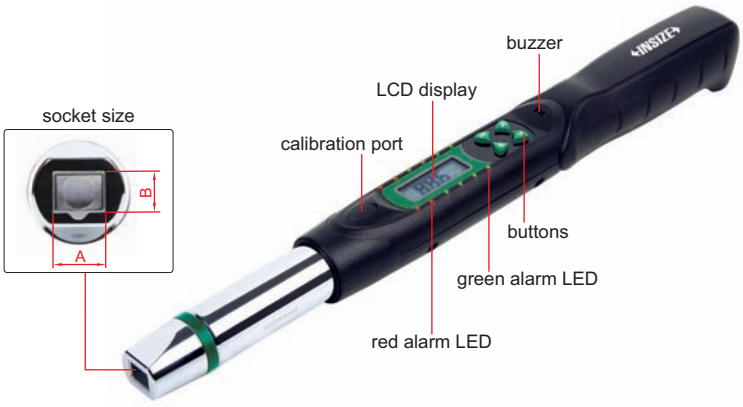
Code	Open size	Applicable wrenches
IST-2W-M7	7mm	IST-18W30A IST-18W135A
IST-2W-M8	8mm	
IST-2W-M10	10mm	
IST-2W-M11	11mm	
IST-2W-M12	12mm	
IST-2W-M13	13mm	
IST-2W-M14	14mm	
IST-2W-M15	15mm	
IST-2W-M16	16mm	
IST-2W-M17	17mm	
IST-2W-M18	18mm	
IST-2W-M19	19mm	
IST-2W-M21	21mm	
IST-2W-M22	22mm	
IST-2W-M13A	13mm	IST-18W200A IST-18W340A
IST-2W-M14A	14mm	
IST-2W-M15A	15mm	
IST-2W-M16A	16mm	
IST-2W-M17A	17mm	
IST-2W-M18A	18mm	
IST-2W-M19A	19mm	
IST-2W-M21A	21mm	

INTERCHANGEABLE HEAD DIGITAL TORQUE WRENCHES

OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%

INSPECTION CERTIFICATE

VIDEO

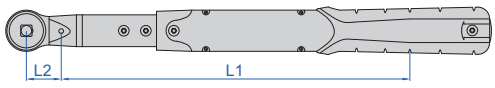


IST-2W135A

ratchet head (included)

- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm, degree
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
  - Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
  - Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off in 5 minutes automatically without any operations
- Non-slip grip handle
- With damp record
- With overload record
  (once the torque reaches 110% of the maximum range)

torque correction



torque value needs to be corrected if L2 is different when head is changed

SPECIFICATION

Code		IST-2W30A	IST-2W135A	IST-2W200A	IST-2W340A	IST-2W410A
Range		6~30N.m	27~135N.m	40~200N.m	68~340N.m	82~410N.m
Accuracy	clockwise	±2%				
	counter-clockwise	±3%				
Resolution		0.01N.m	0.1N.m	0.1N.m	0.1N.m	0.1N.m
Socket size (A×B)		12×9mm	12×9mm	18×14mm	18×14mm	18×14mm
Arm length (L1)		272.7mm	287.7mm	381.2mm	501.2mm	501.2mm
Power supply		2xAA batteries, for 110 hours working				
Weight		1400g	1570g	2170g	2320g	2320g

STANDARD DELIVERY

Torque wrench	1 pc
Ratchet head	1 pc

OPTIONAL ACCESSORY

Calibration cable	IST-W-CABLE
Interchangeable head	refer to details

To be continued

Continued from previous page

RATCHET HEAD (INCLUDED) SPECIFICATION

For torque wrench	IST-2W30A	IST-2W135A	IST-2W200A	IST-2W340A	IST-2W410A
Square driver (D)	1/4"	3/8"	1/2"	1/2"	3/4"
Length (L2)	29mm	29mm	40mm	40mm	40mm

RATCHET HEAD (optional)

Code	Square driver (D)	Applicable wrenches
IST-2W-R1	1/4"	IST-2W30A
IST-2W-R2	3/8"	IST-2W135A
IST-2W-R3	1/2"	IST-2W135A
IST-2W-R4	1/2"	IST-2W200A IST-2W340A IST-2W410A

ADJUSTABLE SPANNER HEAD (optional)

Code	Open size	Applicable wrenches
IST-2W-A1	5~27mm	IST-2W30A IST-2W135A
IST-2W-A2	5-30mm	IST-2W200A IST-2W410A
IST-2W-A3	10-41mm	IST-2W340A IST-2W410A

OPEN END HEAD (optional)

Code	Open size	Applicable wrenches
IST-2W-K7	7mm	IST-2W30A IST-2W135A
IST-2W-K8	8mm	
IST-2W-K9	9mm	
IST-2W-K10	10mm	
IST-2W-K11	11mm	
IST-2W-K12	12mm	
IST-2W-K13	13mm	
IST-2W-K14	14mm	
IST-2W-K15	15mm	
IST-2W-K16	16mm	
IST-2W-K17	17mm	
IST-2W-K18	18mm	
IST-2W-K19	19mm	
IST-2W-K13A	13mm	IST-2W200A IST-2W340A IST-2W410A
IST-2W-K14A	14mm	
IST-2W-K15A	15mm	
IST-2W-K16A	16mm	
IST-2W-K17A	17mm	
IST-2W-K18A	18mm	
IST-2W-K19A	19mm	
IST-2W-K21A	21mm	
IST-2W-K22A	22mm	
IST-2W-K24A	24mm	
IST-2W-K27A	27mm	

BOX END HEAD (optional)

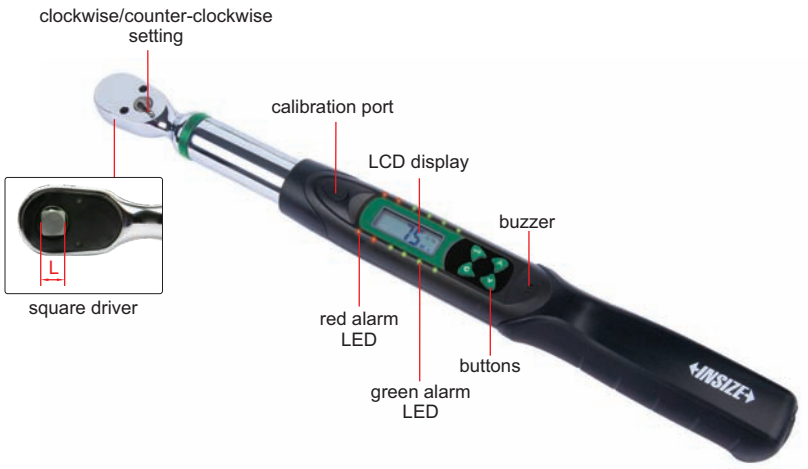
Code	Open size	Applicable wrenches
IST-2W-M7	7mm	IST-2W30A IST-2W135A
IST-2W-M8	8mm	
IST-2W-M10	10mm	
IST-2W-M11	11mm	
IST-2W-M12	12mm	
IST-2W-M13	13mm	
IST-2W-M14	14mm	
IST-2W-M15	15mm	
IST-2W-M16	16mm	
IST-2W-M17	17mm	
IST-2W-M18	18mm	
IST-2W-M19	19mm	
IST-2W-M21	21mm	
IST-2W-M22	22mm	
IST-2W-M13A	13mm	IST-2W200A IST-2W340A
IST-2W-M14A	14mm	
IST-2W-M15A	15mm	
IST-2W-M16A	16mm	
IST-2W-M17A	17mm	
IST-2W-M18A	18mm	
IST-2W-M19A	19mm	
IST-2W-M21A	21mm	

DIGITAL ANGLE TORQUE WRENCHES

VIDEO

INSPECTION CERTIFICATE

OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%
ONLY FOR RANGE 6~340N.m



IST-1W135A

- Ratchet head
- Clockwise and counter-clockwise operation
- Set the desired torque first, after reaching the desired torque, set the angle and turn the wrench at this angle to apply extra torque
- Unit: N.m, in.lb, ft.lb, kg.cm, degree
- Peak and track working mode
- Target torque or angle value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when torque or angle value is 90%~100% of target torque or angle
  – Both green and red LED light on and buzzer sounds when target torque or angle value is reached
- Power off in 5 minutes automatically
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)

set the desired torque first, after reaching the desired torque, set the angle and turn the wrench at this angle to apply extra torque

SPECIFICATION

Code	Range		Accuracy	Resolution		Square driver (L)	Power supply	Length	Weight
	torque	angle		torque	angle				
IST-1W30A	6~30N.m	0~999°	clockwise: ±2% counter-clockwise: ±3% ±2° (rotate 90°)	0.01N.m	1°	1/4"	2×AA batteries	390mm	830g
IST-1W135A	27~135N.m			0.1N.m		3/8"		415mm	950g
IST-1W200A	40~200N.m			0.1N.m		1/2"		530mm	1.4kg
IST-1W340A	68~340N.m			0.1N.m		1/2"		650mm	1.6kg
IST-1W500A	100~500N.m			0.1N.m		3/4"		950mm	5kg
IST-1W850A	170~850N.m		clockwise: ±2.5% counter-clockwise: ±3.5% ±2° (rotate 90°)	0.1N.m		3/4"		1220mm	6kg
IST-1W1200A	240~1200N.m			1N.m		1"		1800mm	9.1kg
IST-1W1500A	300~1500N.m			1N.m		1"		1800mm	9.1kg
IST-1W2000A	400~2000N.m			1N.m		1"		1800mm	10.5kg

OPTIONAL ACCESSORY

Calibration cable	**IST-W-CABLE**

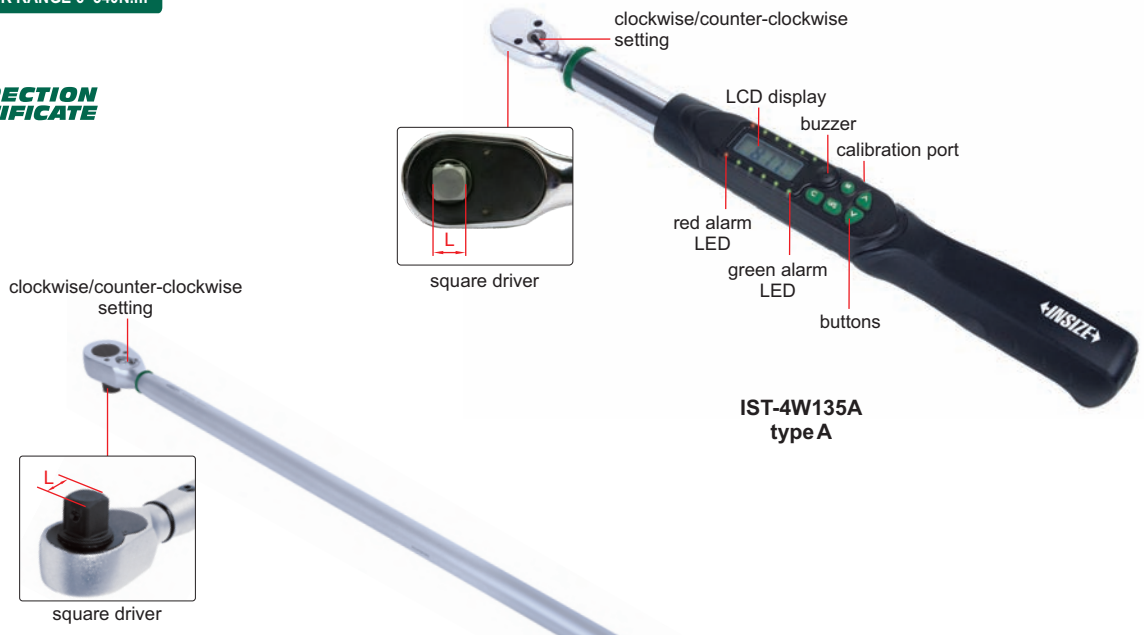
QUALITY INSPECTION TORQUE WRENCHES

VIDEO

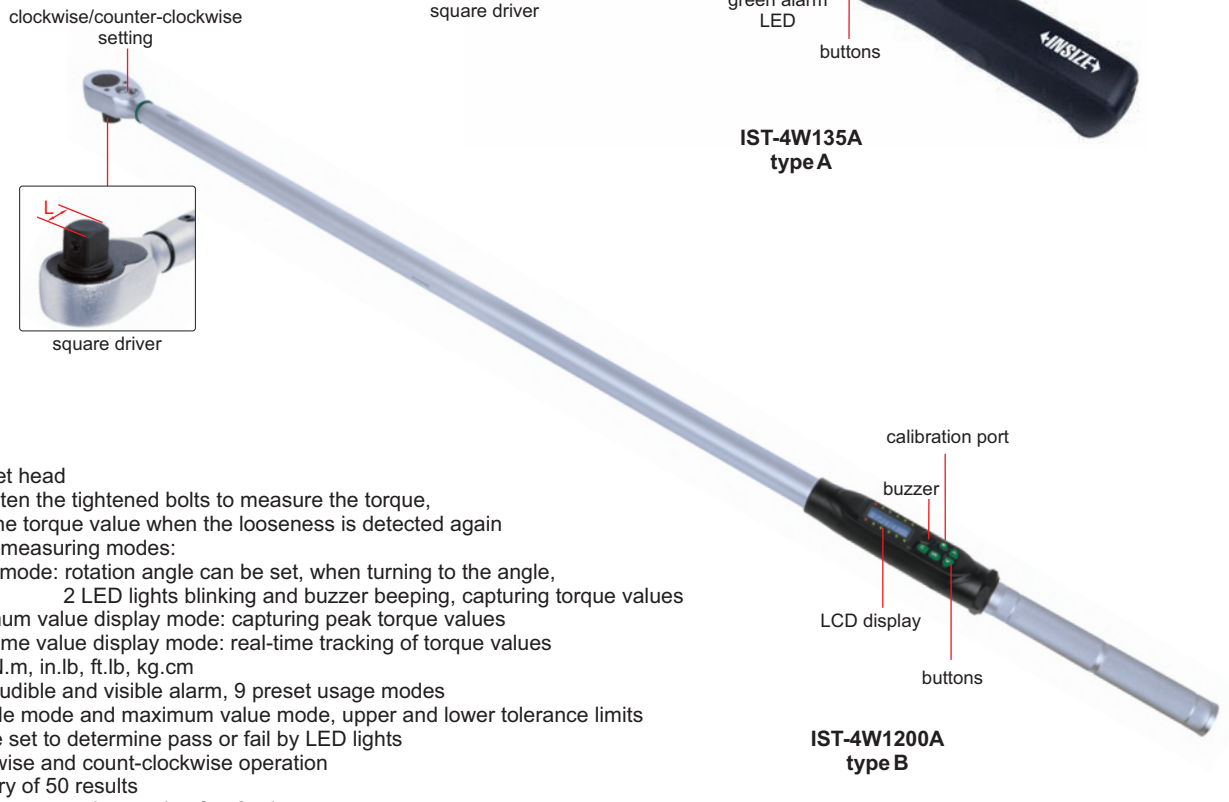
OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%
ONLY FOR RANGE 6~340N.m

MEASURE THE TORQUE OF TIGHTENED BOLTS

INSPECTION CERTIFICATE



IST-4W135A
type A



IST-4W1200A
type B

- Ratchet head
- Retighten the tightened bolts to measure the torque, read the torque value when the looseness is detected again
- Three measuring modes:
  Angle mode: rotation angle can be set, when turning to the angle, 2 LED lights blinking and buzzer beeping, capturing torque values
  Maximum value display mode: capturing peak torque values
  Real-time value display mode: real-time tracking of torque values
- Unit: N.m, in.lb, ft.lb, kg.cm
- With audible and visible alarm, 9 preset usage modes
- In angle mode and maximum value mode, upper and lower tolerance limits can be set to determine pass or fail by LED lights
- Clockwise and count-clockwise operation
- Memory of 50 results
- Enter power saving mode after 2 minutes
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)

SPECIFICATION

Code	Type	Range	Accuracy	Resolution	Square driver (L)	Power supply	Length	Weight
IST-4W30A	A	6~30N.m	clockwise: ±2% counter-clock wise: ±3%	0.01N.m	1/4"	2×AA batteries, for 110 hours working	390mm	760g
IST-4W135A		27~135N.m		0.1N.m	3/8"		415mm	940g
IST-4W200A		40~200N.m		0.1N.m	1/2"		530mm	1340g
IST-4W340A		68~340N.m		0.1N.m	1/2"		650mm	1540g
IST-4W850A	B	170~850N.m	clockwise: ±2.5% counter-clock wise: ±3.5%	0.1N.m	3/4"		1220mm	6000g
IST-4W1200A		240~1200N.m		1N.m	1"		1800mm	9100g
IST-4W1500A		300~1500N.m		1N.m	1"		1800mm	9100g
IST-4W2000A		400~2000N.m		1N.m	1"		1800mm	10500g

OPTIONAL ACCESSORY

Calibration cable	**IST-W-CABLE**

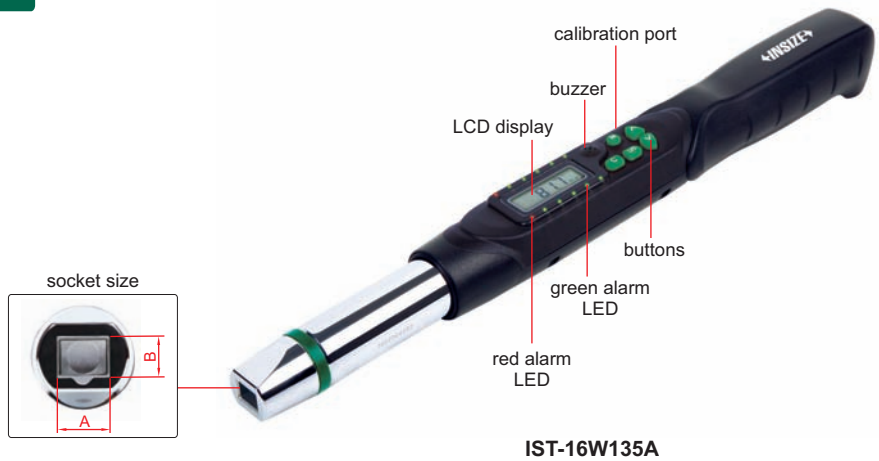
MEASURE THE TORQUE OF TIGHTENED BOLTS

OPTIONAL ACCURACY: CLOCKWISE: ±1% COUNTER-CLOCKWISE: ±2%

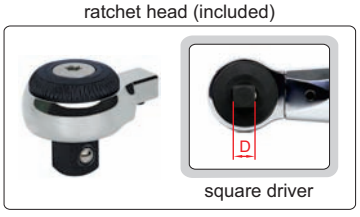
INTERCHANGEABLE HEAD QUALITY INSPECTION TORQUE WRENCHES

INSPECTION CERTIFICATE

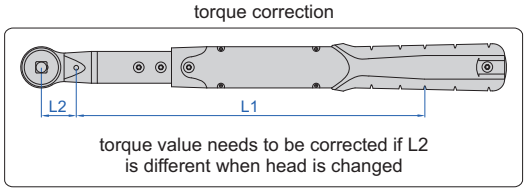
VIDEO



IST-16W135A



- Retighten the tightened bolt to measure the torque, the torque value can be displayed when the bolt is turned again
- Three measuring modes:
  Angle mode: rotation angle can be set, when turning to the angle, 2 LED lights blinking and buzzer beeping, capturing torque values
  Maximum value display mode: capturing peak torque values
  Real-time value display mode: real-time tracking of torque values
- Unit: N.m, in.lb, ft.lb, kg.cm
- With audible and visible alarm, 9 preset usage modes
- In angle mode and maximum value mode, upper and lower tolerance limits can be set to determine pass or fail by LED lights
- Clockwise and count-clockwise operation
- Memory of 50 results
- Enter power saving mode after 2 minutes
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)



SPECIFICATION

Code		IST-16W30A	IST-16W135A	IST-16W200A	IST-16W340A
Range		6~30N.m	27~135N.m	40~200N.m	68~340N.m
Accuracy	clockwise	±2%			
	counter-clockwise	±3%			
Resolution		0.01N.m	0.1N.m	0.1N.m	0.1N.m
Socket size (A×B)		12×9mm	12×9mm	18×14mm	18×14mm
Arm length (L1)		272.7mm	287.7mm	381.2mm	501.2mm
Power supply		2×AA batteries			
Weight		1400g	1570g	2170g	2320g

RATCHET HEAD (INCLUDED) SPECIFICATION

For torque wrench	IST-16W30A	IST-16W135A	IST-16W200A	IST-16W340A
Square driver (D)	1/4"	3/8"	1/2"	1/2"
Length (L2)	29mm	29mm	40mm	40mm

To be continued

Continued from previous page

STANDARD DELIVERY

Torque wrench	1 pc
Ratchet head	1 pc

OPTIONAL ACCESSORY

Calibration cable	IST-W-CABLE
Interchangeable head	refer to details

RATCHET HEAD (optional)

Code	Square driver (D)	Applicable wrenches
IST-2W-R1	1/4"	IST-16W30A
IST-2W-R2	3/8"	IST-16W135A
IST-2W-R3	1/2"	IST-16W135A
IST-2W-R4	1/2"	IST-16W200A IST-16W340A

ADJUSTABLE SPANNER HEAD (optional)

Code	Open size	Applicable wrenches
IST-2W-A1	5~27mm	IST-16W135A
IST-2W-A2	5-30mm	IST-16W200A
IST-2W-A3	10-41mm	IST-16W340A

OPEN END HEAD (optional)

Code	Open size	Applicable wrenches
IST-2W-K7	7mm	IST-16W30A IST-16W135A
IST-2W-K8	8mm	
IST-2W-K9	9mm	
IST-2W-K10	10mm	
IST-2W-K11	11mm	
IST-2W-K12	12mm	
IST-2W-K13	13mm	
IST-2W-K14	14mm	
IST-2W-K15	15mm	
IST-2W-K16	16mm	
IST-2W-K17	17mm	
IST-2W-K18	18mm	
IST-2W-K19	19mm	
IST-2W-K13A	13mm	IST-16W200A IST-16W340A
IST-2W-K14A	14mm	
IST-2W-K15A	15mm	
IST-2W-K16A	16mm	
IST-2W-K17A	17mm	
IST-2W-K18A	18mm	
IST-2W-K19A	19mm	
IST-2W-K21A	21mm	
IST-2W-K22A	22mm	
IST-2W-K24A	24mm	
IST-2W-K27A	27mm	

BOX END HEAD (optional)

Code	Open size	Applicable wrenches
IST-2W-M7	7mm	IST-16W30A IST-16W135A
IST-2W-M8	8mm	
IST-2W-M10	10mm	
IST-2W-M11	11mm	
IST-2W-M12	12mm	
IST-2W-M13	13mm	
IST-2W-M14	14mm	
IST-2W-M15	15mm	
IST-2W-M16	16mm	
IST-2W-M17	17mm	
IST-2W-M18	18mm	
IST-2W-M19	19mm	
IST-2W-M21	21mm	
IST-2W-M22	22mm	
IST-2W-M13A	13mm	IST-16W200A IST-16W340A
IST-2W-M14A	14mm	
IST-2W-M15A	15mm	
IST-2W-M16A	16mm	
IST-2W-M17A	17mm	
IST-2W-M18A	18mm	
IST-2W-M19A	19mm	
IST-2W-M21A	21mm	

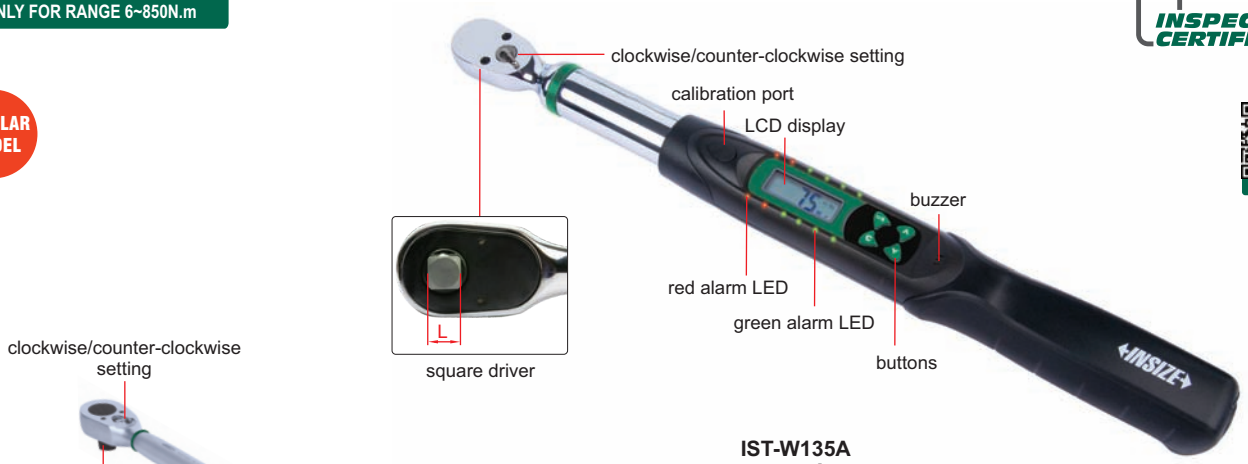
DIGITAL TORQUE WRENCHES

OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%
ONLY FOR RANGE 6~850N.m

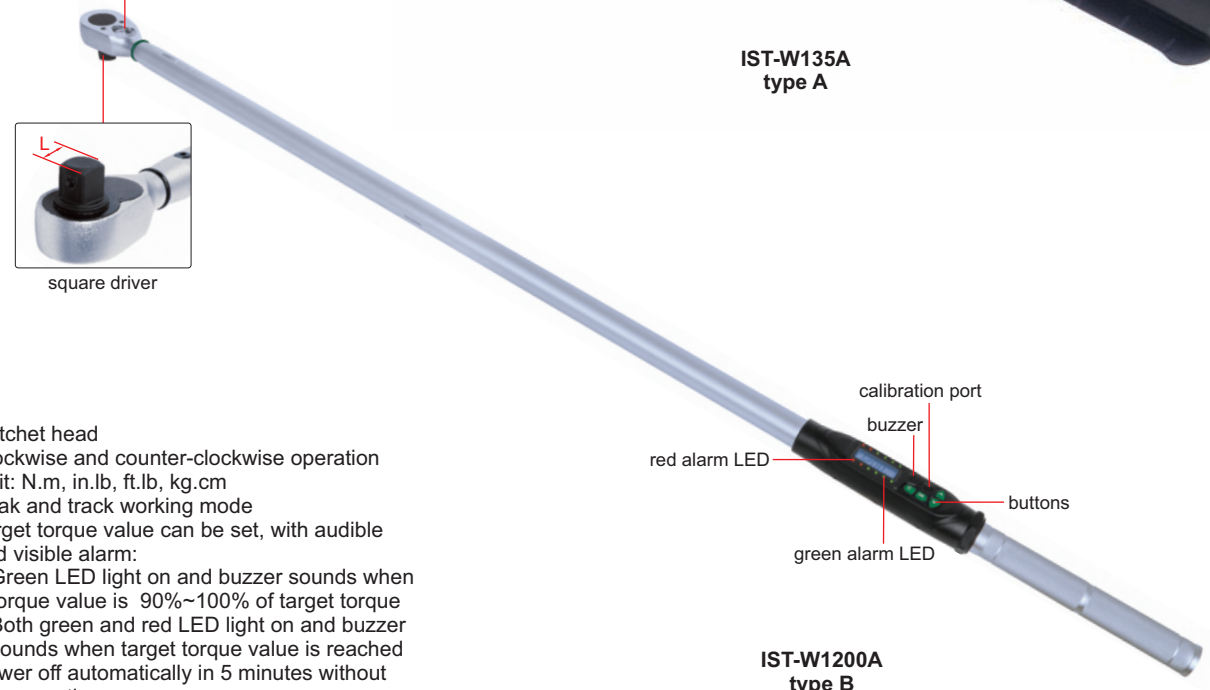
INSPECTION CERTIFICATE

POPULAR MODEL

VIDEO



IST-W135A
type A



IST-W1200A
type B

- Ratchet head
- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
  – Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)

SPECIFICATION

Code	Type	Range	Accuracy	Resolution	Square driver (L)	Power supply	Length	Weight
IST-W30A	A	6~30N.m	clockwise: ±2% counter-clock wise: ±3%	0.01N.m	1/4"	2×AA batteries, for 110 hours working	390mm	830g
IST-W135A		27~135N.m		0.1N.m	3/8"		415mm	950g
IST-W200A		40~200N.m		0.1N.m	1/2"		530mm	1.4kg
IST-W340A		68~340N.m		0.1N.m	1/2"		650mm	1.6kg
IST-W500A*	B	100~500N.m	clockwise: ±2.5% counter-clock wise: ±3.5%	0.1N.m	3/4"		1285mm	7kg
IST-W850A		170~850N.m		0.1N.m	3/4"		1295mm	6kg
IST-W1200A		240~1200N.m		1N.m	1"		1920mm	13kg
IST-W1500A		300~1500N.m		1N.m	1"		1920mm	13kg
IST-W2000A		400~2000N.m		1N.m	1"		1920mm	14kg

OPTIONAL ACCESSORY

Calibration cable	IST-W-CABLE

* The accuracy of this code is not optional

SWING-HEAD DIGITAL TORQUE WRENCHES

VIDEO

OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%

INSPECTION CERTIFICATE

- Ratchet head
- Unit: N.m, in.lb, ft.lb, kg.cm
- Clockwise and count-clockwise operation
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
  – Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)

IST-21W135A

OPTIONAL ACCESSORY

Calibration cable	IST-W-CABLE

5

SPECIFICATION

Code	IST-21W30A	IST-21W135A	IST-21W200A	IST-21W340A
Range	6~30N.m	27~135N.m	40~200N.m	68~340N.m
Accuracy	clockwise: ±2% (when ratchet head is flush with grip)			
	counter-clockwise: ±3% (when ratchet head is flush with grip)			
Resolution	0.01N.m	0.1N.m	0.1N.m	0.1N.m
Square driver (L)	1/4"	3/8"	1/2"	1/2"
Power supply	2×AA batteries			
Length	390mm	415mm	530mm	650mm
Weight	760g	940g	1340g	1540g

swing-head ratchet head

ADJUSTABLE OPEN HEAD DIGITAL TORQUE WRENCHES

ATTENTION: CLOCKWISE OPERATION ONLY

INSPECTION CERTIFICATE

VIDEO

- The movable jaw of the adjustable open head has a protruding positioning design to ensure accuracy
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
  – Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)

IST-24W135A26

OPTIONAL ACCESSORY

Calibration cable	IST-W-CABLE

SPECIFICATION

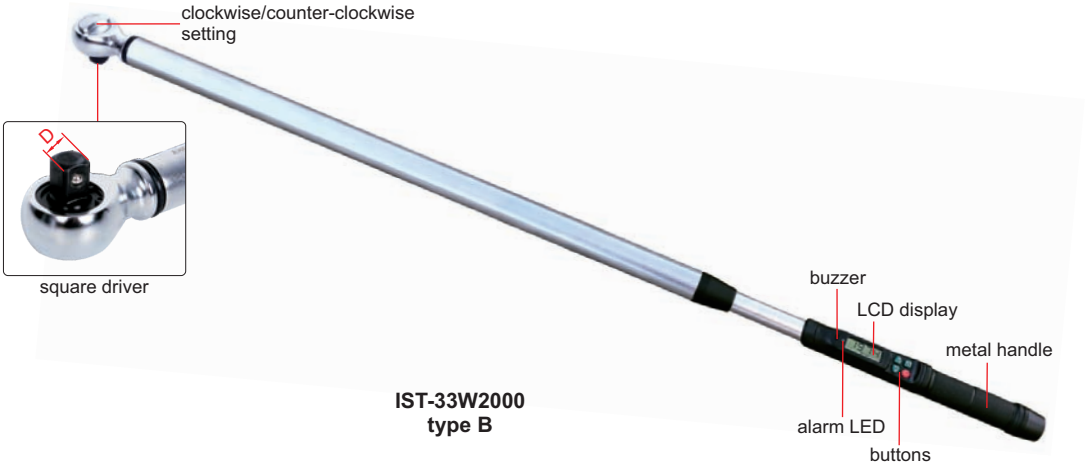
Code	IST-24W60A26	IST-24W85A26	IST-24W135A26	IST-24W135A30	IST-24W200A30	IST-24W200A41	IST-24W340A41
Range	12~60N.m	17~85N.m	27~135N.m	27~135N.m	40~200N.m	40~200N.m	68~340N.m
Adjustable open range	5~26mm	5~26mm	5~26mm	5~30mm	5~30mm	10~41mm	10~41mm
Accuracy	clockwise: ±3%						
Resolution	0.01N.m	0.1N.m	0.1N.m	0.1N.m	0.1N.m	0.1N.m	0.1N.m
Power supply	2×AA batteries						
Length	428mm	428mm	428mm	525mm	525mm	650mm	650mm
Weight	1190g	1190g	1190g	1400g	1400g	1600g	1600g

DIGITAL TORQUE WRENCHES (BASIC TYPE)

VIDEO

INSPECTION CERTIFICATE

IST-33W200
type A



IST-33W2000
type B

- Clockwise and count-clockwise operation
- Unit: N.m, lb.in, lb.ft
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm (alarm LED and buzzer):
  – Yellow LED light on when approaching target value, green LED light on when reaching target value, red LED light on when exceeding target value
  – Intermittent alarm when approaching target value, rapid alarm when reaching target value, long-lasting alarm when exceeding target value
- Real-time display of % difference from target value when approaching
- Power off automatically in 2 minutes without any operations

SPECIFICATION

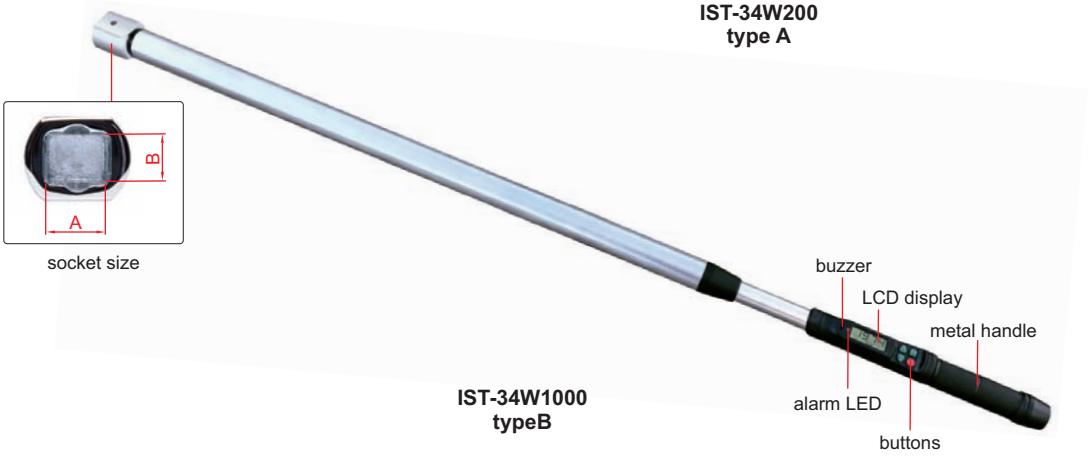
Code	Type	Range	Accuracy	Resolution	Square driver (D)	Power supply	Length	Weight
IST-33W20	A	2~20N.m	clockwise: ±2% counter-clockwise: ±3%	0.01N.m	1/4"	3×AAA batteries	393mm	800g
IST-33W30		3~30N.m		0.01N.m	3/8"		405mm	830g
IST-33W50		5~50N.m		0.01N.m	3/8"		445mm	920g
IST-33W100		10~100N.m		0.1N.m	3/8"		475mm	980g
IST-33W200		20~200N.m		0.1N.m	1/2"		515mm	1100g
IST-33W300		30~300N.m		0.1N.m	1/2"		583mm	1250g
IST-33W400	B	40~400N.m		0.1N.m	3/4"		800mm	3300g
IST-33W600		60~600N.m		0.1N.m	3/4"		1050mm	4600g
IST-33W800		80~800N.m		0.1N.m	3/4"		1250mm	5200g
IST-33W1000		100~1000N.m		0.1N.m	3/4"		1250mm	5200g
IST-33W1500		150~1500N.m		1N.m	1"		1265mm	6100g
IST-33W2000		200~2000N.m		1N.m	1"		1265mm	6500g

INTERCHANGEABLE HEAD DIGITAL TORQUE WRENCHES (BASIC TYPE)

INSPECTION CERTIFICATE

VIDEO

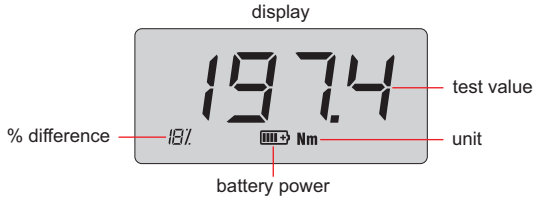
IST-34W200
type A

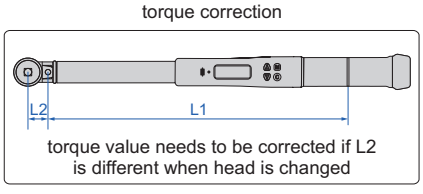


IST-34W1000
typeB

5

- Clockwise and count-clockwise operation
- Unit: N.m, lb.in, lb.ft
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm (alarm LED and buzzer):
  – Yellow LED light on when approaching target value, green LED light on when reaching target value, red LED light on when exceeding target value
  – Intermittent alarm when approaching target value, rapid alarm when reaching target value, long-lasting alarm when exceeding target value
- Real-time display of % difference from target value when approaching
- Power off automatically in 2 minutes without any operations





SPECIFICATION

Code	Type	Range	Accuracy	Resolution	Socket size (A×B)	Power supply	Length	Weight
IST-34W20	A	2~20N.m	clockwise: ±2% counter-clockwise: ±3%	0.01N.m	12×9mm	3×AAA batteries	377mm	770g
IST-34W30		3~30N.m		0.01N.m	12×9mm		377mm	770g
IST-34W50		5~50N.m		0.01N.m	12×9mm		417mm	850g
IST-34W100		10~100N.m		0.1N.m	12×9mm		447mm	920g
IST-34W200		20~200N.m		0.1N.m	18×14mm		493mm	1050g
IST-34W300		30~300N.m		0.1N.m	18×14mm		561mm	1220g
IST-34W400	B	40~400N.m		0.1N.m	18×14mm		780mm	3000g
IST-34W600		60~600N.m		0.1N.m	32×24mm		1050mm	4500g
IST-34W800		80~800N.m		0.1N.m	32×24mm		1250mm	5000g
IST-34W1000		100~1000N.m		0.1N.m	32×24mm		1250mm	5100g

To be continued

Continued from previous page

type C (**optional**)

RATCHET HEAD (optional)

Code	Square driver	Applicable wrenches
IST-11WM-R1	1/4"	IST-34W20, IST-34W30
IST-11WM-R2	3/8"	IST-34W20, IST-34W30, IST-34W50, IST-34W100
IST-11WM-R3	1/2"	IST-34W200, IST-34W300, IST-34W400
IST-11WM-R4	3/4"	IST-34W200, IST-34W300, IST-34W400
IST-11WM-R5	3/4"	IST-34W600, IST-34W800, IST-34W1000

type UM (**optional**)

type M (**optional**)

OPEN END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-K8	8mm	IST-34W20 IST-34W30 IST-34W50 IST-34W100
IST-11WM-K10	10mm	
IST-11WM-K13	13mm	
IST-11WM-K14	14mm	
IST-11WM-K15	15mm	
IST-11WM-K17	17mm	
IST-11WM-K19*	19mm	
IST-11WM-K13A	13mm	IST-34W200 IST-34W300 IST-34W400
IST-11WM-K14A	14mm	
IST-11WM-K15A	15mm	
IST-11WM-K17A	17mm	
IST-11WM-K19A	19mm	
IST-11WM-K22A	22mm	
IST-11WM-K24A	24mm	
IST-11WM-K27A*	27mm	
IST-11WM-K30A*	30mm	
IST-11WM-K32A*	32mm	
IST-11WM-K22B	22mm	IST-34W600 IST-34W800 IST-34W1000
IST-11WM-K24B	24mm	
IST-11WM-K27B	27mm	
IST-11WM-K28B	28mm	
IST-11WM-K30B	30mm	
IST-11WM-K32B	32mm	
IST-11WM-K33B*	33mm	
IST-11WM-K36B*	36mm	
IST-11WM-K38B*	38mm	
IST-11WM-K40B*	40mm	

BOX END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-M8	8mm	IST-34W20 IST-34W30 IST-34W50 IST-34W100
IST-11WM-M10	10mm	
IST-11WM-M13	13mm	
IST-11WM-M14	14mm	
IST-11WM-M15	15mm	
IST-11WM-M17	17mm	
IST-11WM-M19	19mm	
IST-11WM-M13A	13mm	IST-34W200 IST-34W300 IST-34W400
IST-11WM-M14A	14mm	
IST-11WM-M15A	15mm	
IST-11WM-M17A	17mm	
IST-11WM-M19A	19mm	
IST-11WM-M22A	22mm	
IST-11WM-M24A	24mm	
IST-11WM-M27A*	27mm	
IST-11WM-M30A*	30mm	
IST-11WM-M32A*	32mm	
IST-11WM-M22B	22mm	IST-34W600 IST-34W800 IST-34W1000
IST-11WM-M24B	24mm	
IST-11WM-K27B	27mm	
IST-11WM-M28B	28mm	
IST-11WM-M30B	30mm	
IST-11WM-M32B	32mm	
IST-11WM-M33B	33mm	
IST-11WM-M36B*	36mm	
IST-11WM-M38B*	38mm	
IST-11WM-M40B*	40mm	

type O (**optional**)

type A (**optional**)

ER WRENCH HEAD (optional)

Type C*	customized according to customer requirements
Type UM*	
Type M*	
Type O*	
Type A*	

*Torque value needs to be corrected for these heads

INTERCHANGEABLE HEAD DIGITAL “CLICK” TORQUE WRENCHES (WIFI LAN)

INSPECTION CERTIFICATE

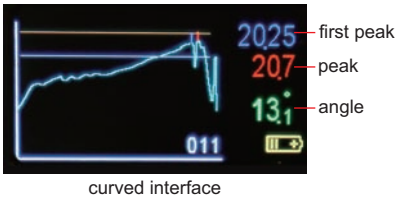
VIDEO

DATA OUTPUT

ratchet head (included)

torque adjustment tool (included)

IST-35W100

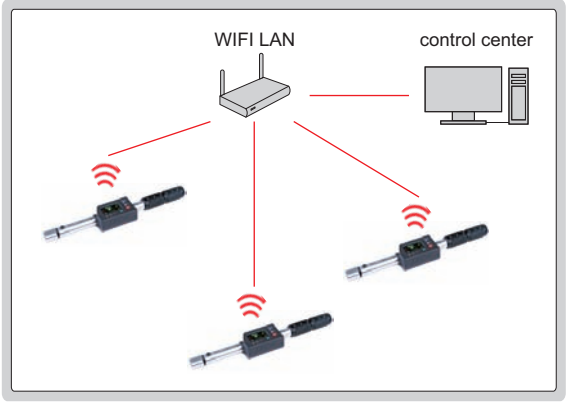


curved interface

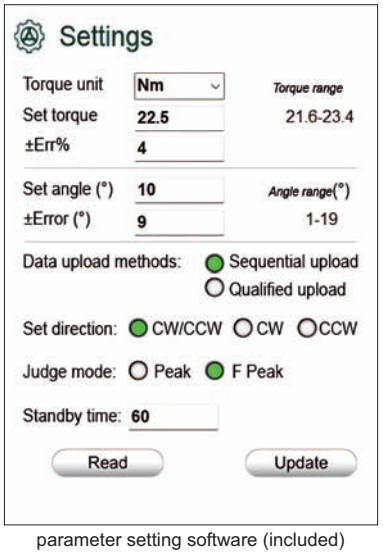
main interface

Torque wrench:

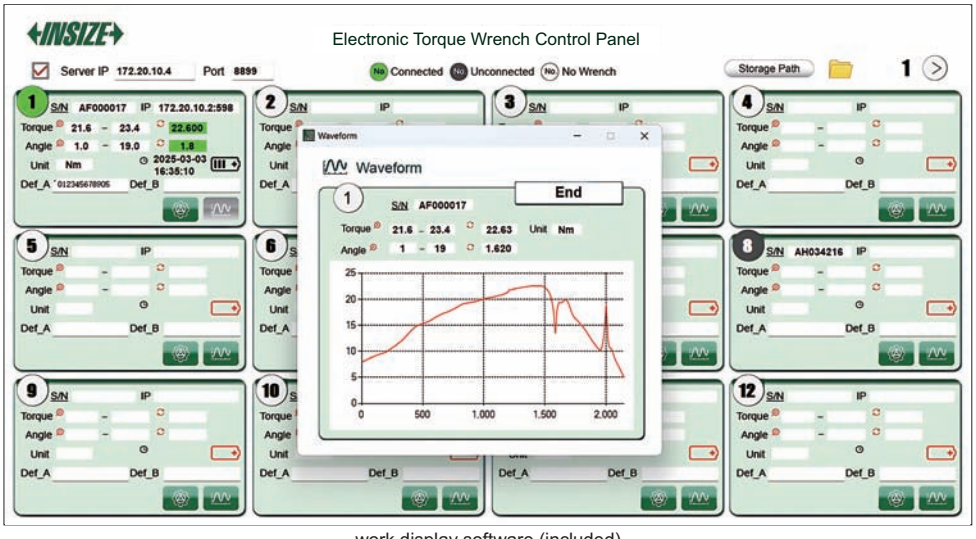
- Clockwise and counter-clockwise operation
- Unit: N.m, cN.m, lb.in, lb.ft, kg.cm, kg.m, oz.in
- Peak and first peak working modes
- Maintain the click audible alarm feature of mechanical wrench
- Mechanical structure adjusts torque value, digital sensor displays real torque value, wrench can be used without torque tester
- Set the angle range to strictly monitor angle of the screw from fitting surface to tightening
- Interval display of curved interface and main interface after unloading, upper and lower tolerance limits can be set to determine pass or fail by LED lights
- Provide torque graph for analyzing and adjusting the tightening strategy
- Scanning module and scanning windows to match corresponding screws
- Open communication protocols for users to develop and interface with factory MES, PLC and other systems
- Automatic zeroing during continuous operation
- Memory of 1000 results and 100 historical review curves
- Auto power off time can be set
- 2 high capacity rechargeable lithium batteries for alternate use



application



parameter setting software (included)



work display software (included)

To be continued

Continued from previous page

Software:

- WIFI LAN real-time communication can receive and monitor 24 wrenches at the same time, data can be automatically sent to the centralized control center software
- Parameters can be set and matched directly to the wrench via USB connection to the software
- Can select whether the wrench only sends qualified data after operation (in accordance with the tolerance)
- The data is stored in the wrench when the wrench is disconnected, and the data is automatically uploaded to the computer after wireless connection, or can be uploaded manually through USB connection
- The data in the software is stored in a file with Txt and can be copied and exported to Excel

SPECIFICATION

Code	Range	Accuracy		Resolution	Socket size (A×B)	Square driver (D)	Standard effective length (L)	Length	Weight
		Torque	Angle						
IST-35W10	2~10N.m	±3%	±1% of indicated value + ±1° (speed 10°~180°/s) + ±1° (clamping error)	0.001N.m	12×9mm	1/4"	210mm	234mm	520g
IST-35W20	4~20N.m			0.01N.m	12×9mm	1/4"	225mm	249mm	550g
IST-35W30	6~30N.m			0.01N.m	12×9mm	1/4"	225mm	249mm	550g
IST-35W60	10~60N.m			0.01N.m	12×9mm	3/8"	280mm	318mm	880g
IST-35W100	20~100N.m			0.01N.m	12×9mm	3/8"	324mm	363mm	1000g
IST-35W200	40~200N.m			0.1N.m	18×14mm	1/2"	453mm	485mm	1340g
IST-35W300	60~300N.m			0.1N.m	18×14mm	1/2"	588mm	620mm	1700g
IST-35W400	80~400N.m			0.1N.m	18×14mm	1/2"	668mm	700mm	1850g

OPEN END HEAD (optional)

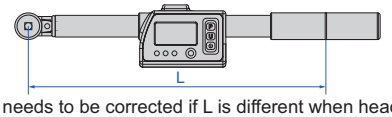
Code	Open size	Applicable wrenches	Code	Open size	Applicable wrenches
IST-11WM-K6	6mm	IST-35W10 IST-35W20 IST-35W30 IST-35W60 IST-35W100	IST-11WM-K13A	13mm	IST-35W200 IST-35W300 IST-35W400
IST-11WM-K7	7mm		IST-11WM-K14A	14mm	
IST-11WM-K8	8mm		IST-11WM-K15A	15mm	
IST-11WM-K9	9mm		IST-11WM-K16A	16mm	
IST-11WM-K10	10mm		IST-11WM-K17A	17mm	
IST-11WM-K11	11mm		IST-11WM-K18A	18mm	
IST-11WM-K12	12mm		IST-11WM-K19A	19mm	
IST-11WM-K13	13mm		IST-11WM-K20A	20mm	
IST-11WM-K14	14mm		IST-11WM-K21A	21mm	
IST-11WM-K15	15mm		IST-11WM-K22A	22mm	
IST-11WM-K16	16mm		IST-11WM-K23A	23mm	
IST-11WM-K17	17mm		IST-11WM-K24A	24mm	
IST-11WM-K18*	18mm		IST-11WM-K27A*	27mm	
IST-11WM-K19*	19mm		IST-11WM-K30A*	30mm	
IST-11WM-K20*	20mm		IST-11WM-K32A*	32mm	

*Torque value needs to be corrected for these heads

BOX END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-M8	8mm	IST-35W10 IST-35W20 IST-35W30 IST-35W60 IST-35W100
IST-11WM-M10	10mm	
IST-11WM-M13	13mm	
IST-11WM-M14	14mm	
IST-11WM-M15	15mm	
IST-11WM-M17	17mm	
IST-11WM-M19	19mm	
IST-11WM-M13A	13mm	IST-35W200 IST-35W300 IST-35W400
IST-11WM-M14A	14mm	
IST-11WM-M15A	15mm	
IST-11WM-M17A	17mm	
IST-11WM-M19A	19mm	
IST-11WM-M22A	22mm	
IST-11WM-M24A	24mm	
IST-11WM-M27A*	27mm	
IST-11WM-M30A*	30mm	
IST-11WM-M32A*	32mm	

torque correction



torque value needs to be corrected if L is different when head is changed, correction factor is the ratio of standard effective length to actual effective length

STANDARD DELIVERY

Digital torque wrench	1 pc
Ratchet head	1 pc
Torque adjustment tool	1 pc
Type-C transmission cable	1 pc
Centralized control center software	1 set
Rechargeable lithium battery	2 pcs
Lithium battery charger	1 pc

OPTIONAL ACCESSORY

Non-standard wrench heads	customized according to customer requirements
Web framework extension software system	

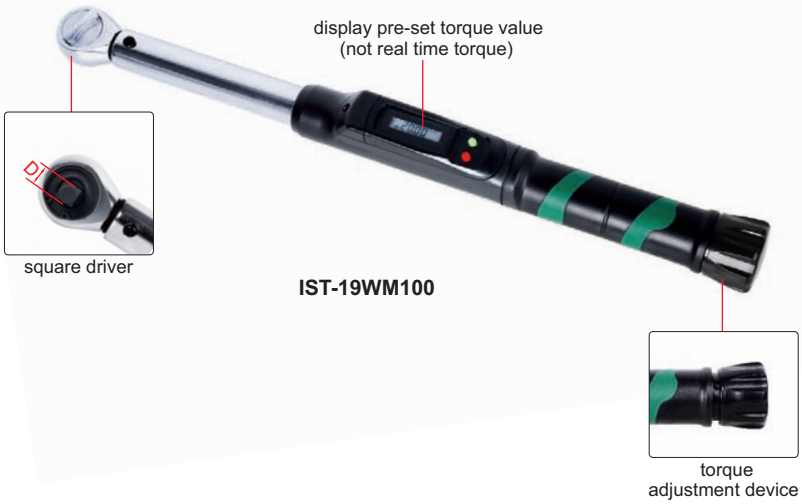
MECHANICAL TORQUE WRENCHES (DIGITAL SETTING)

VIDEO

ATTENTION: DISPLAY PRE-SET TORQUE VALUE (NOT REAL TIME TORQUE)

ATTENTION: CLOCKWISE OPERATION ONLY

INSPECTION CERTIFICATE



IST-19WM100

- Ratchet head
- Unit: N.m, in.lb, ft.lb, kg.cm
- Mechanical “click” torque wrench, the pre-set torque value is shown on the display

5

SPECIFICATION

Code	IST-19WM60	IST-19WM100	IST-19WM140	IST-19WM200	IST-19WM300
Range (clockwise)	12~60N.m	20~100N.m	28~140N.m	40~200N.m	60~300N.m
Accuracy	±3%	±3%	±3%	±3%	±3%
Resolution	0.1N.m	0.1N.m	0.1N.m	0.1N.m	0.1N.m
Square driver (D)	3/8"	3/8"	1/2"	1/2"	1/2"
Length	382mm	450mm	481mm	520mm	585mm
Weight	1.3kg	1.4kg	1.45kg	1.6kg	1.8kg

INTERCHANGEABLE HEAD MECHANICAL TORQUE WRENCHES (DIGITAL SETTING)

VIDEO

ATTENTION: DISPLAY PRE-SET TORQUE VALUE (NOT REAL TIME TORQUE)

ATTENTION: CLOCKWISE OPERATION ONLY

INSPECTION CERTIFICATE

IST-25WM60

- Unit: N.m, in.lb, ft.lb, kg.cm
- Mechanical “click” torque wrench, the pre-set torque value is shown on the display

SPECIFICATION

Code	IST-25WM60	IST-25WM100	IST-25WM140	IST-25WM200	IST-25WM300
Range (clockwise)	12~60N.m	20~100N.m	28~140N.m	40~200N.m	60~300N.m
Accuracy	±3%	±3%	±3%	±3%	±3%
Resolution	0.1N.m	0.1N.m	0.1N.m	0.1N.m	0.1N.m
Socket size (A×B)	12×9mm	12×9mm	18×14mm	18×14mm	18×14mm
Length	408mm	431mm	492mm	510mm	568mm
Weight	1.3kg	1.4kg	1.45kg	1.5kg	1.7kg

To be continued

Continued from previous page

RATCHET HEAD (optional)

Code	Square driver	Applicable wrenches
IST-11WM-R1	1/4"	IST-25WM60 IST-25WM100
IST-11WM-R2	3/8"	IST-25WM60 IST-25WM100
IST-11WM-R3	1/2"	IST-25WM140 IST-25WM200 IST-25WM300
IST-11WM-R4	3/4"	IST-25WM140 IST-25WM200 IST-25WM300

BOX END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-M8	8mm	IST-25WM60 IST-25WM100
IST-11WM-M10	10mm	
IST-11WM-M13	13mm	
IST-11WM-M14	14mm	
IST-11WM-M15	15mm	
IST-11WM-M17	17mm	
IST-11WM-M19	19mm	
IST-11WM-M13A	13mm	IST-25WM140 IST-25WM200
IST-11WM-M14A	14mm	
IST-11WM-M15A	15mm	
IST-11WM-M17A	17mm	
IST-11WM-M19A	19mm	
IST-11WM-M22A	22mm	
IST-11WM-M24A	24mm	
IST-11WM-M27A	27mm	
IST-11WM-M30A	30mm	
IST-11WM-M32A	32mm	

HOOK HEAD (optional)

Hook head	customized according to customer requirements

OPEN END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-K6	6mm	IST-25WM60 IST-25WM100
IST-11WM-K7	7mm	
IST-11WM-K8	8mm	
IST-11WM-K9	9mm	
IST-11WM-K10	10mm	
IST-11WM-K11	11mm	
IST-11WM-K12	12mm	
IST-11WM-K13	13mm	
IST-11WM-K14	14mm	
IST-11WM-K15	15mm	
IST-11WM-K16	16mm	
IST-11WM-K17	17mm	
IST-11WM-K18*	18mm	
IST-11WM-K19*	19mm	
IST-11WM-K13A	13mm	IST-25WM140 IST-25WM200 IST-25WM300
IST-11WM-K14A	14mm	
IST-11WM-K15A	15mm	
IST-11WM-K16A	16mm	
IST-11WM-K17A	17mm	
IST-11WM-K18A	18mm	
IST-11WM-K19A	19mm	
IST-11WM-K20A	20mm	
IST-11WM-K21A	21mm	
IST-11WM-K22A	22mm	
IST-11WM-K23A	23mm	
IST-11WM-K24A	24mm	
IST-11WM-K27A*	27mm	
IST-11WM-K30A*	30mm	
IST-11WM-K32A*	32mm	

*Torque value needs to be corrected for these heads

TORQUE WRENCHES

ATTENTION: CLOCKWISE OPERATION ONLY

INSPECTION CERTIFICATE

VIDEO

POPULAR MODEL

IST-28WM200

- According to DIN ISO 6789, ASME B107.300
- Ratchet head
- Dual window design with clear scale
- Non-slip grip handle
- Push-pull locking device, easy to operate

SPECIFICATION

Code	IST-28WM25	IST-28WM50	IST-28WM60	IST-28WM100	IST-28WM150
Range (clockwise)	5~25N.m	10~50N.m	10~60N.m	20~100N.m	30~150N.m
Accuracy	±3%	±3%	±3%	±3%	±3%
Graduation	0.2N.m	0.5N.m	0.5N.m	0.5N.m	1N.m
Square driver (D)	1/4"	3/8"	3/8"	1/2"	1/2"
Length	321mm	387mm	387mm	433mm	463mm
Weight	820g	1000g	1000g	1100g	1200g

Code	IST-28WM200	IST-28WM300	IST-28WM340	IST-28WM400
Range (clockwise)	40~200N.m	60~300N.m	60~340N.m	80~400N.m
Accuracy	±3%	±3%	±3%	±3%
Graduation	1N.m	1.5N.m	2N.m	2N.m
Square driver (D)	1/2"	1/2"	1/2"	1/2"
Length	491mm	551mm	551mm	700mm
Weight	1250g	1400g	1400g	1650g

Code	IST-28WM550	IST-28WM750	IST-28WM1000	IST-28WM1500
Range (clockwise)	100~550N.m	150~750N.m	200~1000N.m	300~1500N.m
Accuracy	±3% (≤500N.m) ±4% (>500N.m)	±3% (≤500N.m) ±4% (>500N.m)	±3% (≤500N.m) ±4% (>500N.m)	±3% (≤500N.m) ±4% (>500N.m)
Graduation	3N.m	5N.m	5N.m	10N.m
Square driver (D)	3/4"	3/4"	3/4"	1"
Length	807mm	1105mm	1105mm	1260mm
Weight	3100g	4000g	4000g	4500g

INTERCHANGEABLE HEAD TORQUE WRENCHES

ATTENTION: CLOCKWISE OPERATION ONLY

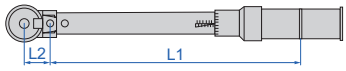
INSPECTION CERTIFICATE

VIDEO

IST-29WM200

- According to DIN ISO 6789, ASME B107.300
- Non-slip grip handle
- Push-pull locking device, easy to operate
- Dual window design with clear scale

torque correction



torque value needs to be corrected if L2 is different when head is changed

SPECIFICATION

Code	Range (clockwise)	Accuracy	Graduation	Socket Size (A×B)	Length	Weight
IST-29WM25	5~25N.m	±3%	0.2N.m	12×9mm	315mm	700g
IST-29WM50	10~50N.m	±3%	0.5N.m	12×9mm	376mm	820g
IST-29WM60	10~60N.m	±3%	0.5N.m	12×9mm	376mm	820g
IST-29WM100	20~100N.m	±3%	0.5N.m	12×9mm	417mm	900g
IST-29WM150	30~150N.m	±3%	1N.m	18×14mm	460mm	1150g
IST-29WM200	40~200N.m	±3%	1N.m	18×14mm	478mm	1200g
IST-29WM300	60~300N.m	±3%	1.5N.m	18×14mm	538mm	1200g
IST-29WM400	80~400N.m	±3%	2N.m	18×14mm	694mm	1600g
IST-29WM550	100~550N.m	±3% (≤500N.m) ±4% (>500N.m)	3N.m	32×24mm	919mm	2000g
IST-29WM750	150~750N.m	±3% (≤500N.m) ±4% (>500N.m)	5N.m	32×24mm	1070mm	4000g
IST-29WM850	200~850N.m	±3% (≤500N.m) ±4% (>500N.m)	5N.m	32×24mm	1137mm	4200g

RATCHET HEAD (optional)

Code	Square driver	Applicable wrenches
IST-11WM-R1	1/4"	**IST-29WM25**
IST-11WM-R2	3/8"	**IST-29WM25, IST-29WM50, IST-29WM60, IST-29WM100**
IST-11WM-R3	1/2"	**IST-29WM150, IST-29WM200, IST-29WM300, IST-29WM400**
IST-11WM-R4	3/4"	**IST-29WM150, IST-29WM200, IST-29WM300, IST-29WM400**
IST-11WM-R5	3/4"	**IST-29WM550, IST-29WM750, IST-29WM850**

To be continued

Continued from previous page

type A (**optional**)

type C (**optional**)

type O (**optional**)

ER WRENCH HEAD (optional)

Type C*	customized according to customer requirements
Type UM*	
Type M*	
Type O*	
Type A*	

type UM (**optional**)

type M (**optional**)

OPEN END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-K8	8mm	**IST-29WM25 IST-29WM50 IST-29WM60 IST-29WM100**
IST-11WM-K10	10mm	
IST-11WM-K13	13mm	
IST-11WM-K14	14mm	
IST-11WM-K15	15mm	
IST-11WM-K17	17mm	
IST-11WM-K19*	19mm	
IST-11WM-K13A	13mm	**IST-29WM150 IST-29WM200 IST-29WM300 IST-29WM400**
IST-11WM-K14A	14mm	
IST-11WM-K15A	15mm	
IST-11WM-K17A	17mm	
IST-11WM-K19A	19mm	
IST-11WM-K22A	22mm	
IST-11WM-K24A	24mm	
IST-11WM-K27A*	27mm	
IST-11WM-K30A*	30mm	
IST-11WM-K32A*	32mm	
IST-11WM-K22B	22mm	**IST-29WM550 IST-29WM750 IST-29WM850**
IST-11WM-K24B	24mm	
IST-11WM-K27B	27mm	
IST-11WM-K28B	28mm	
IST-11WM-K30B	30mm	
IST-11WM-K32B	32mm	
IST-11WM-K33B*	33mm	
IST-11WM-K36B*	36mm	
IST-11WM-K38B*	38mm	
IST-11WM-K40B*	40mm	

BOX END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-M8	8mm	**IST-29WM25 IST-29WM50 IST-29WM60 IST-29WM100**
IST-11WM-M10	10mm	
IST-11WM-M13	13mm	
IST-11WM-M14	14mm	
IST-11WM-M15	15mm	
IST-11WM-M17	17mm	
IST-11WM-M19	19mm	
IST-11WM-M13A	13mm	**IST-29WM150 IST-29WM200 IST-29WM300 IST-29WM400**
IST-11WM-M14A	14mm	
IST-11WM-M15A	15mm	
IST-11WM-M17A	17mm	
IST-11WM-M19A	19mm	
IST-11WM-M22A	22mm	
IST-11WM-M24A	24mm	
IST-11WM-M27A*	27mm	
IST-11WM-M30A*	30mm	
IST-11WM-M32A*	32mm	
IST-11WM-M22B	22mm	**IST-29WM550 IST-29WM750 IST-29WM850**
IST-11WM-M24B	24mm	
IST-11WM-K27B	27mm	
IST-11WM-M28B	28mm	
IST-11WM-M30B	30mm	
IST-11WM-M32B	32mm	
IST-11WM-M33B	33mm	
IST-11WM-M36B*	36mm	
IST-11WM-M38B*	38mm	
IST-11WM-M40B*	40mm	

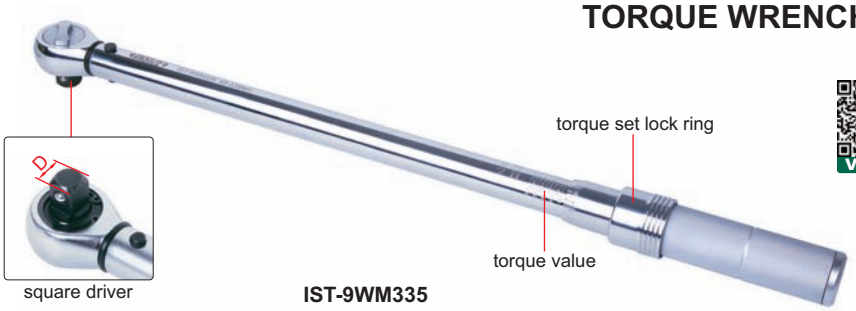
*Torque value needs to be corrected for these heads

ATTENTION: CLOCKWISE OPERATION ONLY

INSPECTION CERTIFICATE

TORQUE WRENCHES

- Ratchet head
- According to DIN ISO 6789, ASME B107.300
- All-metal construction, sturdy and durable



IST-9WM335

VIDEO

5

SPECIFICATION

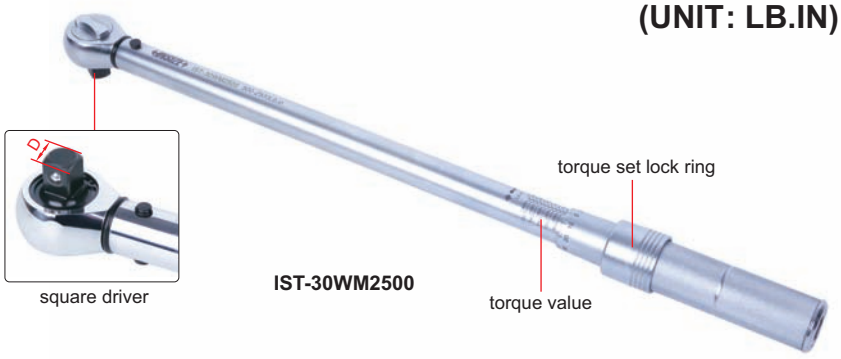
Code	Range (clockwise)	Accuracy	Graduation	Square driver (D)	Length	Weight
IST-9WM5S	1~5N.m	±3%	0.05N.m	1/4"	183mm	300g
IST-9WM10S	2~10N.m		0.1N.m	1/4"	195mm	320g
IST-9WM12	2.5~12N.m		0.05N.m	1/4"	290mm	680g
IST-9WM20	4~20N.m		0.1N.m	1/4"	290mm	680g
IST-9WM30	6~30N.m		0.2N.m	3/8"	318mm	820g
IST-9WM60	10~60N.m		0.5N.m	3/8"	388mm	960g
IST-9WM100	20~100N.m		0.5N.m	1/2"	443mm	1040g
IST-9WM125	25~125N.m		0.5N.m	1/2"	443mm	1040g
IST-9WM200	40~200N.m		1N.m	1/2"	468mm	1160g
IST-9WM335	65~335N.m		1N.m	1/2"	528mm	1300g
IST-9WM500	100~500N.m		2.5N.m	3/4"	855mm	5000g
IST-9WM800	160~800N.m	±3% (≤500N.m) ±4% (>500N.m)	4N.m	3/4"	1055mm	5900g
IST-9WM1000	200~1000N.m		5N.m	3/4"	1055mm	5900g
IST-9WM1500	300~1500N.m	±3% (≤500N.m) ±4% (>500N.m)	5N.m	1"	1260mm	9200g
IST-9WM2000	400~2000N.m		10N.m	1"	1260mm	9200g
IST-9WM3000	600~3000N.m	±4%	15N.m	1"	1260mm	10500g
IST-9WM1500L	300~1500N.m	±3% (≤500N.m) ±4% (>500N.m)	5N.m	1"	1600mm	13000g
IST-9WM2000L	400~2000N.m		10N.m	1"	1600mm	13000g
IST-9WM3000L	600~3000N.m	±4%	15N.m	1"	1840mm	15200g

ATTENTION: CLOCKWISE OPERATION ONLY

INSPECTION CERTIFICATE

TORQUE WRENCHES (UNIT: LB.IN)

VIDEO



IST-30WM2500

- Ratchet head
- According to DIN ISO 6789, ASME B107.300
- All-metal construction, sturdy and durable

SPECIFICATION

Code	Range (clockwise)	Accuracy	Graduation	Square driver (D)	Length	Weight
IST-30WM50	10~50lb.in	±4%	0.5lb.in	1/4"	183mm	320g
IST-30WM100	20~100lb.in		1lb.in	1/4"	195mm	340g
IST-30WM150	30~150lb.in		1.5lb.in	1/4"	207mm	360g
IST-30WM200	40~200lb.in		1lb.in	1/4"	280mm	680g
IST-30WM250	50~250lb.in		1lb.in	3/8"	315mm	820g
IST-30WM500	100~500lb.in		1lb.in	3/8"	390mm	940g
IST-30WM750	150~750lb.in		1.5lb.in	3/8"	428mm	1040g
IST-30WM1000	200~1000lb.in		2.5lb.in	3/8"	441mm	1130g
IST-30WM2500	500~2500lb.in		10lb.in	1/2"	525mm	1300g

INTERCHANGEABLE HEAD TORQUE WRENCHES

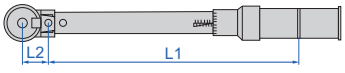
ATTENTION: CLOCKWISE OPERATION ONLY

INSPECTION CERTIFICATE

VIDEO

IST-11WM200

torque correction



torque value needs to be corrected if L2 is different when head is changed

5

- According to DIN ISO 6789, ASME B107.300
- All-metal construction, sturdy and durable

SPECIFICATION

Code	Range (clockwise)	Accuracy	Graduation	Socket size (A×B)	Arm length (L1)	Length (L2)	Weight
IST-11WM12	2.5~12N.m	±3%	0.05N.m	12×9mm	225mm	28.42mm	580g
IST-11WM30	6.0~30N.m	±3%	0.1N.m	12×9mm	243mm	28.42mm	720g
IST-11WM60	10~60N.m	±3%	0.5N.m	12×9mm	314mm	28.42mm	860g
IST-11WM125	25~125N.m	±3%	0.5N.m	12×9mm	367mm	28.42mm	940g
IST-11WM200	40~200N.m	±3%	1N.m	18×14mm	402mm	38.97mm	1060g
IST-11WM335	65~335N.m	±3%	1N.m	18×14mm	458mm	38.97mm	1200g
IST-11WM500	100~500N.m	±3%	2.5N.m	32×24mm	734mm	59mm	5000g
IST-11WM800	160~800N.m	±3% (≤500N.m) ±4% (>500N.m)	4N.m	32×24mm	934mm	59mm	5900g
IST-11WM1000	200~1000N.m	±3% (≤500N.m) ±4% (>500N.m)	5N.m	32×24mm	934mm	59mm	5900g
IST-11WM1500	300~1500N.m	±3% (≤500N.m) ±4% (>500N.m)	5N.m	36×27mm	1128mm	74mm	9000g
IST-11WM2000	400~2000N.m	±3% (≤500N.m) ±4% (>500N.m)	10N.m	36×27mm	1128mm	74mm	9000g
IST-11WM3000	600~3000N.m	±4%	15N.m	36×27mm	1136mm	74mm	10300g

type A (**optional**)

type C (**optional**)

type O (**optional**)

ER WRENCH HEAD (optional)

Type C*	customized according to customer requirements
Type UM*	
Type M*	
Type O*	
Type A*	

type UM (**optional**)

type M (**optional**)

To be continued

Continued from previous page

RATCHET HEAD (optional)

Code	Square driver	Applicable wrenches
IST-11WM-R1	1/4"	IST-11WM12, IST-11WM30
IST-11WM-R2	3/8"	IST-11WM12, IST-11WM30, IST-11WM60, IST-11WM125
IST-11WM-R3	1/2"	IST-11WM200, IST-11WM335
IST-11WM-R4	3/4"	IST-11WM200, IST-11WM335
IST-11WM-R5	3/4"	IST-11WM500, IST-11WM800, IST-11WM1000
IST-11WM-R6	1"	IST-11WM1500, IST-11WM2000, IST-11WM3000

OPEN END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-K8	8mm	IST-11WM12 IST-11WM30 IST-11WM60 IST-11WM125
IST-11WM-K10	10mm	
IST-11WM-K13	13mm	
IST-11WM-K14	14mm	
IST-11WM-K15	15mm	
IST-11WM-K17	17mm	
IST-11WM-K19*	19mm	
IST-11WM-K13A	13mm	IST-11WM200 IST-11WM335
IST-11WM-K14A	14mm	
IST-11WM-K15A	15mm	
IST-11WM-K17A	17mm	
IST-11WM-K19A	19mm	
IST-11WM-K22A	22mm	
IST-11WM-K24A	24mm	
IST-11WM-K27A*	27mm	
IST-11WM-K30A*	30mm	
IST-11WM-K32A*	32mm	
IST-11WM-K22B	22mm	IST-11WM500 IST-11WM800 IST-11WM1000
IST-11WM-K24B	24mm	
IST-11WM-K27B	27mm	
IST-11WM-K28B	28mm	
IST-11WM-K30B	30mm	
IST-11WM-K32B	32mm	
IST-11WM-K33B*	33mm	
IST-11WM-K36B*	36mm	
IST-11WM-K38B*	38mm	
IST-11WM-K40B*	40mm	
IST-11WM-K30C	30mm	IST-11WM1500 IST-11WM2000 IST-11WM3000
IST-11WM-K32C	32mm	
IST-11WM-K34C	34mm	
IST-11WM-K36C	36mm	
IST-11WM-K38C	38mm	
IST-11WM-K41C	41mm	
IST-11WM-K45C	45mm	
IST-11WM-K50C*	50mm	
IST-11WM-K55C*	55mm	
IST-11WM-K60C*	60mm	

BOX END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-M8	8mm	IST-11WM12 IST-11WM30 IST-11WM60 IST-11WM125
IST-11WM-M10	10mm	
IST-11WM-M13	13mm	
IST-11WM-M14	14mm	
IST-11WM-M15	15mm	
IST-11WM-M17	17mm	
IST-11WM-M19	19mm	
IST-11WM-M13A	13mm	IST-11WM200 IST-11WM335
IST-11WM-M14A	14mm	
IST-11WM-M15A	15mm	
IST-11WM-M17A	17mm	
IST-11WM-M19A	19mm	
IST-11WM-M22A	22mm	
IST-11WM-M24A	24mm	
IST-11WM-M27A*	27mm	
IST-11WM-M30A*	30mm	
IST-11WM-M32A*	32mm	
IST-11WM-M22B	22mm	IST-11WM500 IST-11WM800 IST-11WM1000
IST-11WM-M24B	24mm	
IST-11WM-K27B	27mm	
IST-11WM-M28B	28mm	
IST-11WM-M30B	30mm	
IST-11WM-M32B	32mm	
IST-11WM-M33B	33mm	
IST-11WM-M36B*	36mm	
IST-11WM-M38B*	38mm	
IST-11WM-M40B*	40mm	
IST-11WM-M30C	30mm	IST-11WM1500 IST-11WM2000 IST-11WM3000
IST-11WM-M32C	32mm	
IST-11WM-M34C	34mm	
IST-11WM-M36C	36mm	
IST-11WM-M38C	38mm	
IST-11WM-M41C	41mm	
IST-11WM-M45C	45mm	
IST-11WM-M50C	50mm	
IST-11WM-M55C*	55mm	
IST-11WM-M60C*	60mm	

*Torque value needs to be corrected for these heads

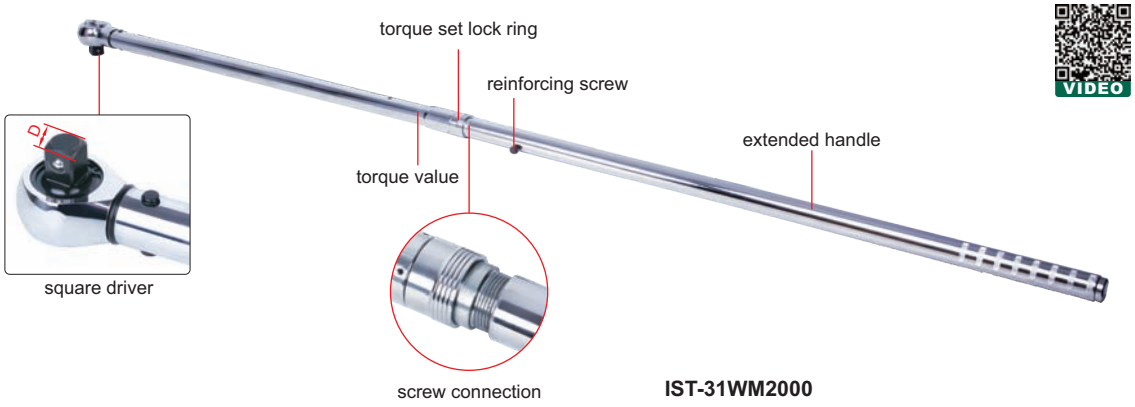
EXTENDED HANDLE TORQUE WRENCHES

ATTENTION: CLOCKWISE OPERATION ONLY

ATTENTION: MUST BE USED WITH EXTENDED HANDLE

INSPECTION CERTIFICATE

VIDEO



IST-31WM2000

- Ratchet head
- According to DIN ISO 6789, ASME B107.300
- All-metal construction, sturdy and durable
- Extended handle for less force

SPECIFICATION

Code	Range (clockwise)	Accuracy	Graduation	Square driver (D)	Length	Weight
IST-31WM1500	300~1500N.m	±4%	5N.m	1"	2200mm	12100g
IST-31WM2000	400~2000N.m		10N.m	1"	2200mm	12100g
IST-31WM3000	600~3000N.m		15N.m	1"	2780mm	15500g

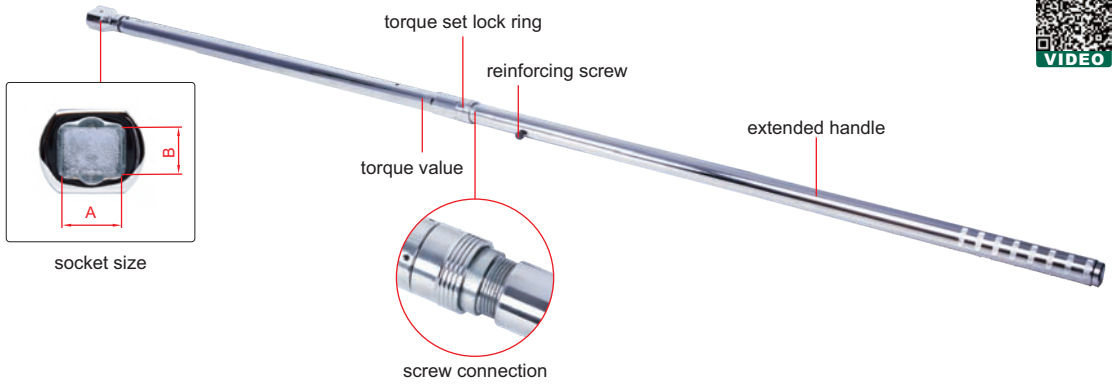
EXTENDED HANDLE INTERCHANGEABLE HEAD TORQUE WRENCHES

ATTENTION: CLOCKWISE OPERATION ONLY

ATTENTION: MUST BE USED WITH EXTENDED HANDLE

INSPECTION CERTIFICATE

VIDEO



IST-32WM2000

- According to DIN ISO 6789, ASME B107.300
- All-metal construction, sturdy and durable
- Extended handle for less force

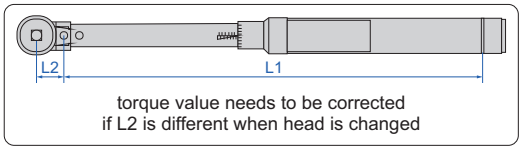
SPECIFICATION

Code	Range (clockwise)	Accuracy	Graduation	Socket size (A×B)	Length	Weight
IST-32WM1500	300~1500N.m	±4%	5N.m	36×27mm	2200mm	12500g
IST-32WM2000	400~2000N.m		10N.m	36×27mm	2200mm	12500g
IST-32WM3000	600~3000N.m		15N.m	36×27mm	2780mm	15300g

To be continued

Continued from previous page

torque correction



torque value needs to be corrected
if L2 is different when head is changed

type A (**optional**)

type C (**optional**)

type O (**optional**)

ER WRENCH HEAD (optional)

Type C*	customized according to customer requirements
Type UM*	
Type M*	
Type O*	
Type A*	

type UM (**optional**)

type M (**optional**)

RATCHET HEAD (optional)

Code	Square driver	Applicable wrenches
IST-11WM-R6	1"	**IST-32WM1500, IST-32WM2000, IST-32WM3000**

OPEN END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-K30C	30mm	**IST-32WM1500 IST-32WM2000 IST-32WM3000**
IST-11WM-K32C	32mm	
IST-11WM-K34C	34mm	
IST-11WM-K36C	36mm	
IST-11WM-K38C	38mm	
IST-11WM-K41C	41mm	
IST-11WM-K45C	45mm	
IST-11WM-K50C*	50mm	
IST-11WM-K55C*	55mm	
IST-11WM-K60C*	60mm	

BOX END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-M30C	30mm	**IST-32WM1500 IST-32WM2000 IST-32WM3000**
IST-11WM-M32C	32mm	
IST-11WM-M34C	34mm	
IST-11WM-M36C	36mm	
IST-11WM-M38C	38mm	
IST-11WM-M41C	41mm	
IST-11WM-M45C	45mm	
IST-11WM-M50C	50mm	
IST-11WM-M55C*	55mm	
IST-11WM-M60C*	60mm	

*Torque value needs to be corrected for these heads

PRESET TORQUE WRENCHES

ATTENTION: CLOCKWISE OPERATION ONLY

- Ratchet head
- Torque is preset, to prevent adjustment by mistake during use
- The torque is set at the factory before delivery. Customers can also set the torque with torque adjustment tool (**IST-PW-TOOL**, **optional**) and digital torque testers (**IST-TT□□□**, **optional**)
- Clockwise operation only

square driver

IST-PW20

torque adjustment tool (**optional**)

SPECIFICATION

Code	IST-PW12	IST-PW20	IST-PW30	IST-PW60	IST-PW125	IST-PW200
Adjustable range*	2.5~12N.m 22~105in.lb	4~20N.m 36~175in.lb	6~30N.m 55~265in.lb	10~60N.m 8~44ft.lb	25~125N.m 20~90ft.lb	40~200N.m 30~145ft.lb
Accuracy	±3%	±3%	±3%	±3%	±3%	±3%
Square driver (D)	1/4"	1/4"	3/8"	3/8"	3/8"	1/2"
Length	184mm	184mm	214mm	255mm	366mm	457mm
Weight	450g	450g	500g	560g	790g	1200g

Code	IST-PW340	IST-PW500	IST-PW650	IST-PW800	IST-PW1000A	IST-PW1000B
Adjustable range*	65~340N.m 50~250ft.lb	100~500N.m 75~365ft.lb	150~650N.m 110~475ft.lb	160~800N.m 120~585ft.lb	200~1000N.m 150~735ft.lb	200~1000N.m 150~735ft.lb
Accuracy	±3%	±3%	±4%	±4%	±4%	±4%
Square driver (D)	1/2"	3/4"	3/4"	3/4"	3/4"	1"
Length	691mm	910mm	910mm	1037mm	1265mm	1265mm
Weight	1960g	2800g	2800g	5000g	6000g	6000g

OPTIONAL ACCESSORY

Torque adjustment tool	IST-PW-TOOL

*Adjust to a fixed torque value according to customer requirements before delivery

SLIP TYPE PRESET TORQUE WRENCHES

INSPECTION CERTIFICATE

ATTENTION: CLOCKWISE OPERATION ONLY

- Ratchet head
- Once set torque is achieved, even if more force is applied, wrench does not add additional torque and prevent over-torque
- Torque is preset, to prevent adjustment by mistake during use
- The torque is set at the factory before delivery, customers can also set the torque with torque adjustment tool

ratchet slide square driver

IST-36WM60

SPECIFICATION

Code	IST-36WM6	IST-36WM25	IST-36WM60	IST-36WM100
Adjustable range*	1~6N.m	5~25N.m	10~60N.m	20~100N.m
Accuracy	±6%			
Square driver (D)	1/4"	1/4"	3/8"	1/2"
Length	200mm	220mm	330mm	460mm
Weight	410g	510g	820g	1060g

OPTIONAL ACCESSORY

Torque adjustment tool	**IST-36WM-TOOL1** (suitable for **IST-36WM6**)
	IST-36WM-TOOL2 (suitable for **IST-36WM25**)
	IST-PW-TOOL (suitable for **IST-36WM60**, **IST-36WM100**)

*Adjust to a fixed torque value according to customer requirements before delivery

torque adjustment tool (**optional**)

INSPECTION CERTIFICATE

DIAL TORQUE WRENCHES

VIDEO

IST-DW70

- Clockwise and counter-clockwise operation
- According to DIN ISO 6789, ASME B107.300

5

SPECIFICATION

Code	IST-DW1D8	IST-DW3D5	IST-DW9	IST-DW18	IST-DW35
Range	0.36~1.8N.m 3~16in.lb	0.7~3.5N.m 6~30in.lb	1.8~9N.m 15~75in.lb	3.6~18N.m 30~150in.lb	7~35N.m 60~300in.lb
Accuracy	±4%	±4%	±4%	±4%	±4%
Graduation	0.02N.m 0.2in.lb	0.05N.m 0.5in.lb	0.1N.m 1in.lb	0.2N.m 2in.lb	0.5N.m 5in.lb
Square driver (D)	1/4"	1/4"	1/4"	3/8"	3/8"
Length	254mm	254mm	254mm	254mm	254mm
Weight	480g	480g	480g	480g	480g

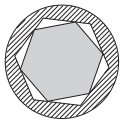
Code	IST-DW70	IST-DW140	IST-DW240	IST-DW350	IST-DW480
Range	14~70N.m 120~600in.lb	28~140N.m 20~100ft.lb	48~240N.m 35~175ft.lb	70~350N.m 50~250ft.lb	96~480N.m 70~350ft.lb
Accuracy	±4%	±4%	±4%	±4%	±4%
Graduation	1N.m 10in.lb	2N.m 1ft.lb	3N.m 2.5ft.lb	2.5N.m 2.5ft.lb	6N.m 5ft.lb
Square driver (D)	3/8"	1/2"	1/2"	1/2"	3/4"
Length	378mm	546mm	546mm	546mm	708mm
Weight	820g	1300g	1300g	1300g	4030g

WRENCH SOCKETS

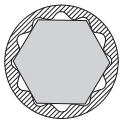
hexagonal rotary socket

12-point short socket

12-point long socket



contact state of common hexagonal socket and hexagonal bolt



contact state of 12-point socket and hexagonal bolt

- Cold extrusion molding of 6150# Cr-V steel, withstand 25%-50% more torque than carbon steel socket
- 12-point socket, arc inner corner design, so that the socket and bolt contact surface for edge contact, do not damage the bolt, improve the life of the bolt

To be continued

Continued from previous page

1/4" 12-POINT SHORT SOCKET

Code	Capacity	Length
IST-S-A4	4mm	24.5mm
IST-S-A4D5	4.5mm	24.5mm
IST-S-A5	5mm	24.5mm
IST-S-A5D5	5.5mm	24.5mm
IST-S-A6	6mm	24.5mm
IST-S-A7	7mm	24.5mm
IST-S-A8	8mm	24.5mm
IST-S-A9	9mm	24.5mm
IST-S-A10	10mm	24.5mm
IST-S-A11	11mm	24.5mm
IST-S-A12	12mm	24.5mm
IST-S-A13	13mm	24.5mm
IST-S-A14	14mm	24.5mm

3/8" 12-POINT SHORT SOCKET

Code	Capacity	Length
IST-S-D6	6mm	25mm
IST-S-D7	7mm	25mm
IST-S-D8	8mm	25mm
IST-S-D9	9mm	25mm
IST-S-D10	10mm	25mm
IST-S-D11	11mm	25mm
IST-S-D12	12mm	25mm
IST-S-D13	13mm	25mm
IST-S-D14	14mm	25mm
IST-S-D15	15mm	25mm
IST-S-D16	16mm	25mm
IST-S-D17	17mm	25mm
IST-S-D18	18mm	25mm
IST-S-D19	19mm	28mm
IST-S-D20	20mm	28mm
IST-S-D21	21mm	28mm
IST-S-D22	22mm	31.5mm
IST-S-D24	24mm	31.5mm

1/2" 12-POINT SHORT SOCKET

Code	Capacity	Length
IST-S-G8	8mm	37.8mm
IST-S-G9	9mm	37.8mm
IST-S-G10	10mm	37.8mm
IST-S-G11	11mm	37.8mm
IST-S-G12	12mm	37.8mm
IST-S-G13	13mm	37.8mm
IST-S-G14	14mm	37.8mm
IST-S-G15	15mm	37.8mm
IST-S-G16	16mm	37.8mm
IST-S-G17	17mm	37.8mm
IST-S-G18	18mm	37.8mm
IST-S-G19	19mm	37.8mm
IST-S-G20	20mm	37.8mm
IST-S-G21	21mm	37.8mm
IST-S-G22	22mm	40mm
IST-S-G23	23mm	40mm
IST-S-G24	24mm	40mm
IST-S-G27	27mm	43mm
IST-S-G30	30mm	43mm
IST-S-G32	32mm	43mm

1/4" 12-POINT LONG SOCKET

Code	Capacity	Length
IST-S-B4	4mm	49mm
IST-S-B5	5mm	49mm
IST-S-B6	6mm	49mm
IST-S-B7	7mm	49mm
IST-S-B8	8mm	49mm
IST-S-B9	9mm	49mm
IST-S-B10	10mm	49mm
IST-S-B11	11mm	49mm
IST-S-B12	12mm	49mm
IST-S-B13	13mm	49mm

3/8" 12-POINT LONG SOCKET

Code	Capacity	Length
IST-S-E8	8mm	63.5mm
IST-S-E9	9mm	63.5mm
IST-S-E10	10mm	63.5mm
IST-S-E11	11mm	63.5mm
IST-S-E12	12mm	63.5mm
IST-S-E13	13mm	63.5mm
IST-S-E14	14mm	63.5mm
IST-S-E15	15mm	63.5mm
IST-S-E16	16mm	63.5mm
IST-S-E17	17mm	63.5mm
IST-S-E18	18mm	63.5mm
IST-S-E19	19mm	63.5mm
IST-S-E20	20mm	63.5mm
IST-S-E21	21mm	63.5mm
IST-S-E22	22mm	63.5mm

1/2" 12-POINT LONG SOCKET

Code	Capacity	Length
IST-S-H8	8mm	77mm
IST-S-H9	9mm	77mm
IST-S-H10	10mm	77mm
IST-S-H11	11mm	77mm
IST-S-H12	12mm	77mm
IST-S-H13	13mm	77mm
IST-S-H14	14mm	77mm
IST-S-H15	15mm	77mm
IST-S-H16	16mm	77mm
IST-S-H17	17mm	77mm
IST-S-H18	18mm	77mm
IST-S-H19	19mm	77mm
IST-S-H20	20mm	77mm
IST-S-H21	21mm	77mm
IST-S-H22	22mm	77mm
IST-S-H23	23mm	77mm
IST-S-H24	24mm	77mm
IST-S-H25	25mm	77mm
IST-S-H26	26mm	77mm
IST-S-H27	27mm	77mm
IST-S-H28	28mm	77mm
IST-S-H29	29mm	77mm
IST-S-H30	30mm	77mm
IST-S-H32	32mm	77mm

1/4" HEXAGONAL ROYARY SOCKET

Code	Capacity	Length
IST-S-C3	3mm	37mm
IST-S-C4	4mm	37mm
IST-S-C5	5mm	37mm
IST-S-C6	6mm	37mm
IST-S-C8	8mm	37mm

3/8" HEXAGONAL ROYARY SOCKET

Code	Capacity	Length
IST-S-F3	3mm	50mm
IST-S-F4	4mm	50mm
IST-S-F5	5mm	50mm
IST-S-F6	6mm	50mm
IST-S-F7	7mm	50mm
IST-S-F8	8mm	50mm
IST-S-F10	10mm	50mm

1/2" HEXAGONAL ROYARY SOCKET

Code	Capacity	Length
IST-S-I5	5mm	180mm
IST-S-I6S	6mm	70mm
IST-S-I6	6mm	140mm
IST-S-I6L	6mm	250mm
IST-S-I7	7mm	100mm
IST-S-I8	8mm	120mm
IST-S-I10	10mm	140mm
IST-S-I17	17mm	50mm

3/4" 12-POINT SOCKET

Code	Capacity	Length
IST-S-J19	19mm	50mm
IST-S-J21	21mm	50mm
IST-S-J22	22mm	50mm
IST-S-J23	23mm	50mm
IST-S-J24	24mm	51mm
IST-S-J25	25mm	52mm
IST-S-J26	26mm	52mm
IST-S-J27	27mm	52mm
IST-S-J28	28mm	52mm
IST-S-J29	29mm	54mm
IST-S-J30	30mm	56mm
IST-S-J32	32mm	56mm
IST-S-J33	33mm	56mm
IST-S-J34	34mm	56mm
IST-S-J35	35mm	58mm
IST-S-J36	36mm	58mm
IST-S-J38	38mm	60mm
IST-S-J41	41mm	64mm
IST-S-J46	46mm	68mm
IST-S-J50	50mm	72mm
IST-S-J55	55mm	76mm
IST-S-J60	60mm	78mm

VIDEO

INSPECTION CERTIFICATE

DIGITAL TORQUE ADAPTERS (WITH ANGLE DETECTION)

working with mechanical wrenches

IST-5W135A

- Clockwise and counter-clockwise operation
- After reaching the desired torque, turn the wrench at a angle to apply extra torque
- Unit: N.m, in.lb, ft.lb, kg.cm, degree
- Peak and track working modes
- Target torque or angle value can be set, with audible and visible alarm:
  – Green LED light on and buzzer sounds when torque or angle value is 80%~100% of target torque or angle
  – Both green and red LED light on and buzzer sounds when target torque or angle value is reached
- Power off in 2 minutes automatically
- Memory 50 measurement values for browsing
- With overload record (once the torque reaches 110% of the maximum range)

SPECIFICATION

Code		IST-5W30A	IST-5W135A	IST-5W200A	IST-5W340A
Range	torque	6~30N.m	27~135N.m	40~200N.m	68~340N.m
	angle	0~999°			
Accuracy	clockwise	±3%			
	counter-clockwise	±4%			
	angle	±2° (rotate at 90°)			
Resolution	torque	0.01N.m	0.1N.m	0.1N.m	0.1N.m
	angle	1°			
Square driver (L)		1/4"	3/8"	1/2"	1/2"
Power supply		2xAAA batteries			
Dimension		Ø85×60mm	Ø85×75mm	Ø85×80mm	Ø85×80mm
Weight		150g	220g	240g	240g

OPTIONAL ACCESSORY

Calibration cable	IST-SD-CABLE

REFER TO PAGE 461 OF "DIMENSIONAL METROLOGY" CATALOGUE FOR DETAILS

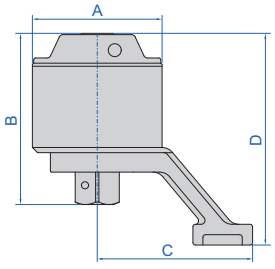
DIGITAL ANGLE METER CODE 2177-121

TORQUE MULTIPLIERS

VIDEO

IST-TM2000

IST-TM3500P



bevel type

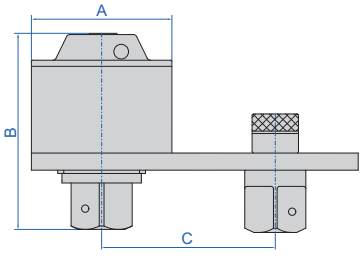
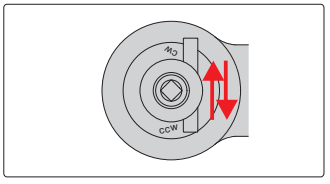


plate type

application



after tightening, toggle the anti-bounce reversing dowel, turn the wrench in the anticlockwise direction, then remove the wrench from torque multiplier

- Input to output accuracy: ±5%

Z TYPE (BEVEL TYPE) TORQUE MULTIPLIER

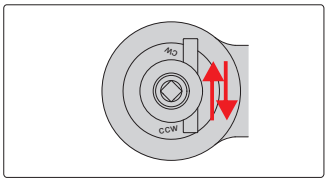
Code	Capacity	Torque ratio	Square socket	Square driver	Dimension (A×B×C×D)	For bolt	For nut	Weight
IST-TM1000	1000N.m	1:4.5	1/2"	1"	82×91×98×123mm	M20~30	S30~46	2.1kg
IST-TM2000	2000N.m	1:12	1/2"	1"	82×120×98×147mm	M22~35	S32~55	3.15kg
IST-TM3500	3500N.m	1:15	1/2"	1"	98×128×120×163mm	M30~45	S46~70	4.9kg
IST-TM5500	5500N.m	1:18.5	1/2"	1 1/2"	115×157×137×199mm	M38~52	S55~80	8.1kg
IST-TM7500	7500N.m	1:20	1/2"	1 1/2"	127×168×146×215mm	M42~60	S65~90	10.6kg
IST-TM10000	10000N.m	1:28.5	1/2"	1 1/2"	141×186×164×238mm	M52~72	S80~105	14kg

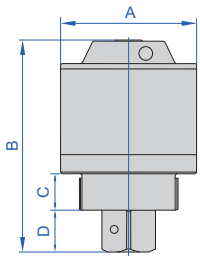
L TYPE (PLATE TYPE) TORQUE MULTIPLIER

Code	Capacity	Torque ratio	Square socket	Square driver	Dimension (A×B×C)	For bolt	For nut	Weight
IST-TM1000P	1000N.m	1:5	1/2"	1"	82×91×(72~132)mm	M20~30	S30~46	2.4kg
IST-TM2000P	2000N.m	1:13.3	1/2"	1"	82×120×(80~142)mm	M22~35	S32~55	3.5kg
IST-TM3500P	3500N.m	1:16	1/2"	1"	98×128×(90~158)mm	M30~45	S46~70	5.0kg
IST-TM5500P	5500N.m	1:21.5	1/2"	1 1/2"	115×157×(115~185)mm	M38~52	S55~80	8.7kg
IST-TM7500P	7500N.m	1:24	1/2"	1 1/2"	127×168×(120~210)mm	M42~60	S65~90	11.7kg
IST-TM10000P	10000N.m	1:32	1/2"	1 1/2"	141×186×(125~235)mm	M52~72	S80~105	15.2kg
IST-TM15000P	15000N.m	1:50	1/2"	2 1/2"	156×246×(140~260)mm	M60~85	S80~120	24.1kg
IST-TM20000P	20000N.m	1:72	1/2"	2 1/2"	170×264×(150~290)mm	M72~100	S105~145	27.8kg

SPLINE-TYPE TORQUE MULTIPLIERS

after tightening, toggle the anti-bounce reversing dowel, turn the wrench in the anticlockwise direction, then remove the wrench from torque multiplier





VIDEO

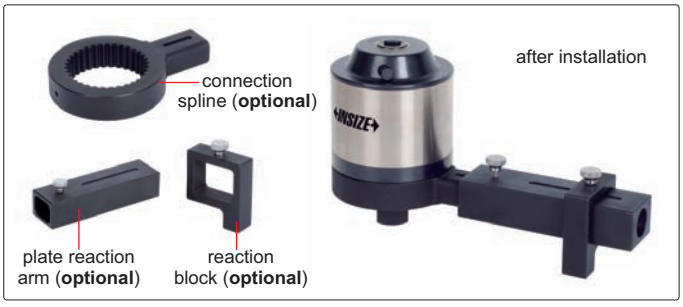
IST-ST2000

application

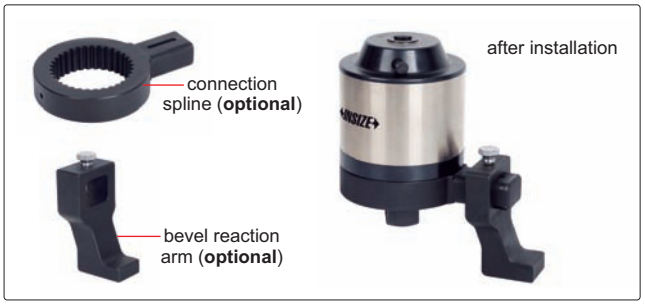
- High efficiency gear set with small input torque and large output torque
- Can be installed directly on the workpieces or through different options to form different installation types

5

plate type

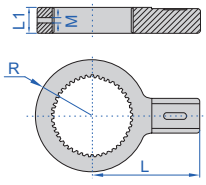


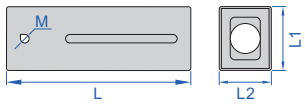
bevel type



SPECIFICATION

Code	Capacity	Accuracy	Torque ratio	Square socket	Square driver	Dimension (A×B×C×D)	For bolt	For nut	Weight
IST-ST2000	2000N.m	±5%	1:13.3 (plate)	1/2"	1"	82×135×18×26mm	M22~35	S32~55	3.2kg
			1:12 (bevel)						
IST-ST3500	3500N.m		1:16 (plate)	1/2"	1"	98×150×25×26mm	M30~45	S46~70	4.8kg
			1:15 (bevel)						
IST-ST5500	5500N.m		1:21.5 (plate)	1/2"	1 1/2"	115×180×29×39mm	M38~52	S55~80	7.8kg
			1:18.5 (bevel)						
IST-ST7500	7500N.m		1:24 (plate)	1/2"	1 1/2"	127×198×34×39mm	M42~60	S65~90	10.8kg
			1:20 (bevel)						





CONNECTION SPLINE (optional)

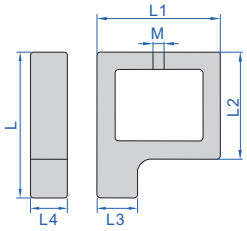
Code	Dimension (mm)			
	R	L	L1	M
IST-ST2000-C1	41	78	18	5
IST-ST3500-C2	49	95	23	5
IST-ST5500-C3	58	112	28.5	6
IST-ST7500-C4	63.5	123.5	29	6

PLATE REACTION ARM (optional)

Code	Dimension (mm)			
	L	L1	L2	M
IST-ST2000-P1	120	38	25.5	4
IST-ST3500-P2	145	42	32	5
IST-ST5500-P3	150	53	45	6
IST-ST7500-P4	175	60	49	8

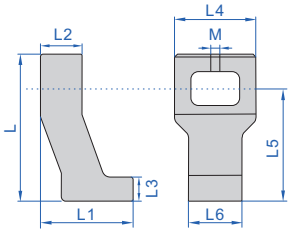
To be continued

Continued from previous page



REACTION BLOCK (optional)

Code	Dimension (mm)					
	L	L1	L2	L3	L4	M
IST-ST2000-R1	53.5	52	39.5	15	18	4
IST-ST3500-R2	66	58	48	18	20	5
IST-ST5500-R3	94.5	73	65	22	25	6
IST-ST7500-R4	98	83	72	28	25	8



BEVEL REACTION ARM (optional)

Code	Dimension (mm)							
	L	L1	L2	L3	L4	L5	L6	M
IST-ST2000-B1	85	51	18	14	44	60	25	4
IST-ST3500-B2	87.5	52	20	15	50	67	30	5
IST-ST5500-B3	110	70	30	16	59	86	35	6
IST-ST7500-B4	123	78	35	20	68	94	45	6

5

TWO-USE TORQUE MULTIPLIERS

IST-DT2000

VIDEO

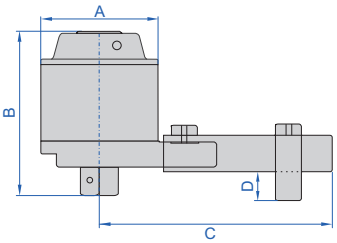
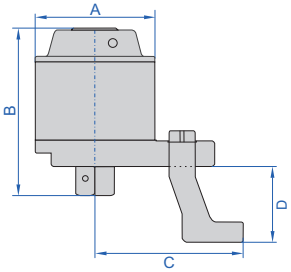
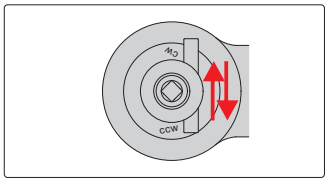


plate type



bevel type

after tightening, toggle the anti-bounce reversing dowel, turn the wrench in the anticlockwise direction, then remove the wrench from torque multiplier



application

- High efficiency gear set with small input torque and large output torque
- The reaction arm can adjust the position of the applied force according to the operation conditions
- Plate reaction arm and bevel reaction arm are included

plate type

bevel type

SPECIFICATION

Code	Capacity	Accuracy	Torque ratio	Square socket	Square driver	Dimension (A×B×C×D)	For bolt	For nut	Weight
IST-DT2000	2000N.m	±5%	1:13.3 (plate)	1/2"	1"	82×120×160×21mm	M22~35	S32~55	4.1kg
			1:12 (bevel)			82×120×93×52mm			
IST-DT3500	3500N.m		1:16 (plate)	1/2"	1"	98×133×152×26mm	M30~45	S46~70	6.4kg
			1:15 (bevel)			98×133×117×56mm			
IST-DT5500	5500N.m		1:21.5 (plate)	1/2"	1 1/2"	115×165×210×39.5mm	M38~52	S55~80	11.4kg
			1:18.5 (bevel)			115×165×134×72mm			
IST-DT7500	7500N.m		1:24 (plate)	1/2"	1 1/2"	127×174×243×38mm	M42~60	S65~90	16kg
			1:20 (bevel)			127×174×146×80mm			

COMPONENT ANALYSIS 06

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XRF Spectrometers
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Spark Direct Reading Spectrometers
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Standard Samples For Spectral Analysis
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Spectral Sample Grinders
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Fourier Transform Infrared Spectrometers
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Carbon And Sulfur Analyzers
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Gas Chromatographies
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Liquid Chromatographies
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Ion Chromatographies
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INSTRUMENT SELECTION TABLE

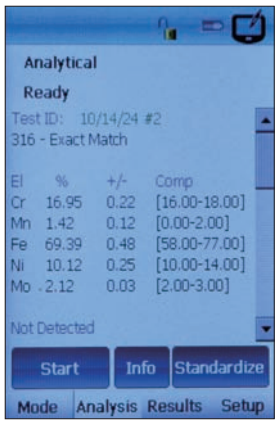
Application	Name	Code	Analysis material	Analysis range	Non-destructive	Desktop	Handhold
Component analysis	spark direct reading spectrometer	**OES-T350**	metal	content of Li to U element		√	
		OES-R420				√	
		OES-R530				√	
		OES-P200				√	
	LIBS spectrometer	**HLS-B410**		content of Mg to U element			√
	XRF spectrometer	**HSM-A310**		content of Ti to U element	√		√
	carbon and sulfur analyzer	**CSA-R300**	solid materials	content of C and S in metal, ore, ceramic, etc		√	
	Oxygen/Nitrogen /Hydrogen analyzer	**ELA-ONH35**		content of O, N and H in metal, ore, ceramic, etc.		√	
	atomic absorption spectrometer	**AAS-R304**	liquid	content of Li to U element		√	
Plating measurement	XRF spectrometer	**XRF-B210**	metal plating	thickness of Ti to U metal plating on metal or non-metal substrates	√	√	
		XRF-PT230		thickness of Li to U metal plating on metal or non-metal substrates	√	√	
		XRF-VF300			√	√	
		XRF-FA350			√	√	
Compound qualitative analysis	Raman spectrometer	**HHL-R240**	solid materials and liquid	content of drug, compound, biomolecule, jewellery, etc.	√		√
		HHL-S360		content of plastics, drug, compound, biomolecule	√		√
	infrared spectrometer	**FTI-A170**		content of compound, biomolecule, polymer, etc.	√	√	
Compound quantitative analysis	gas chromatography	**GCT-2400**	organic materials	4 o-benzenes in RoHS 2.0 (DEBP, BBP, DBP, DIBP)		√	
		GCT-3600	liquid and gas	compound of small molecule, volatile, good thermal stability		√	
	liquid chromatography	**HLC-3000**	liquid	compound of macromolecule, non-volatile, poor thermal stability		√	
	ion chromatography	**HLZ-1000**		cation: Li^+, Na^+, etc. anion: NO_{3^-}, Cl^-, etc.		√	

VIDEO

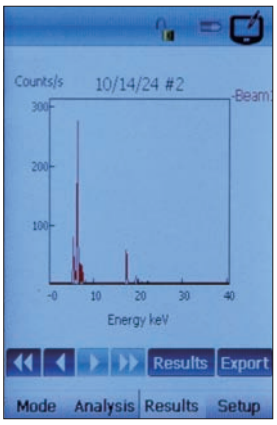
POPULAR MODEL

HANDHELD XRF ALLOY ANALYZER (BASIC TYPE)
CODE HSM-A310

test interface



spectral analysis



- Fast and non-destructive test to identify alloy grade and composition
- For iron-based alloys (stainless steels, chromium/molybdenum alloys, low alloy steels, tool steels, seamless steels), nickel-based alloys, cobalt-based alloys, titanium-based alloys, copper-based alloys, high-temperature alloys (molybdenum/tungsten alloys), aluminium-based alloys

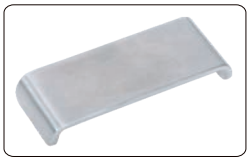
6

SPECIFICATION

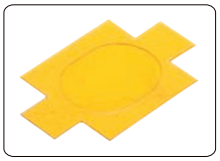
Excitation source	35kV/200μA, Ag target, integrated end window, micro X-ray tube and high voltage, power supply matching power ≥4W
Detector	Si-PIN, window area 25mm²
Elemental analysis range	K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Rb, Sr, Zr, Nb, Mo, Ru, Rh, Pd, Ag, Cd, Sn, Sb, Ba, Ta, Hf, W, Re, Ir, Pt, Au, Hg, Pb, Bi
Alloy analysis mode	1. iron-based alloys (stainless steels, chromium/molybdenum alloys, low alloy steels, tool steels, seamless steels), nickel-based alloys, cobalt-based alloys, titanium-based alloys, copper-based alloys, molybdenum/tungsten-based alloys, aluminium-based alloys 2. comes with 288 commonly used alloy grades 3. can create your own grade database
Display	3.5-inch LCD touch screen, clearly visible in all light conditions
Memory	built-in 8G, storage data, >40000 groups
Data transmission	data transmission via mobile phone shared WIFI with mobile phone app
Battery	6600mAh lithium battery, for 4 hours working time
System	Windows
Security protection	air-test protection against untargeted operation
Work environment	temperature: -20~40°C, relative humidity: 10%~80%
Dimension (L×W×H)	250×265×85mm
Weight	1.3kg

STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc
Charger	1 pc
Battery	2 pcs
Window protection film (HSM-A310-FILM)	5 pcs
316 stainless steel standard block	1 pc



316 stainless steel standard block (included)



window protection film (included)

HANDHELD LIBS SPECTROMETER
CODE HLS-B410

POPULAR MODEL

EYE SAFE LASER

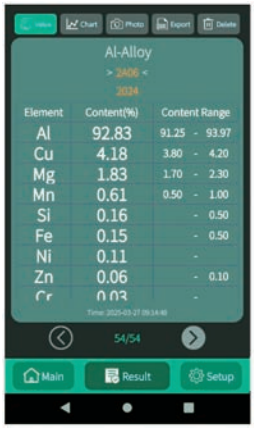
LASER CLASS CLASS I

NO RADIATION

IP54 WATERPROOF

VIDEO

test interface



- Widely used in metallurgy, casting, steel, non-ferrous metals and scrap metal recycling, etc.
- LIBS is a technique that uses laser light on the sample's surface to excite outer electrons and generate a plasma, analyzing its elemental composition
- Ability to quickly analyze the metal elements of materials for quantitative characterization and grade differentiation
- Ability to accurately analyse light elements such as Al, Si, Mg, etc.
- No radiation, faster, more accurate, eye-safe handheld spectrometer
- The instrument includes standard metal grade database, ability to create user-owned metal grade database
- Compact size, lightweight, replaceable batteries, long battery life
- IP54 dust/waterproof

SPECIFICATION

Application	**alloy analysis**	can be used for almost all alloys, including scrap metal, high temperature alloys, alloy steel, stainless steel, tool steel, chromium molybdenum steel, aluminum alloys, nickel alloys, titanium alloys, cobalt alloys, copper alloys, precious metals, zinc alloys, anomalous alloys, zirconium alloys, mixed alloys, etc.
	material properties identification (PMI)	can be used for quality control in the metal fabrication and processing industry to analyze material composition and identify alloy grades for a wide range of materials including critical components, raw materials, and welded seams
Operative system		android
Touch panel		5", 720×1280, multi-touch, adjustable brightness
Light source		pulsed laser
Wavelength		1535nm
Laser life		1 billion times
Laser class		class I
Detection limit		0.05%
Repeatability		major element RSD<1%, nonmajor element RSD<5%
Analysis time		<5s
Work distance		fit to probe plane
Analysis environment		no protective gas required, direct analysis in ambient air
View window material		sapphire
Memory		16G
Data export format		PDF, xlsx (photos available, can add report content: company information, material information, etc.)
Data transmission		USB, flash drive (type C)
Protection class		IP54
Battery		3300mAh lithium battery
Work time		8h
Operation temperature		0~40°C
Dimension (L×W×H)		290×300×90mm
Weight		1750g

To be continued

Continued from previous page

STANDARD DELIVERY

Main unit	1 pc
Battery	2 pcs
Charger	1 pc
Sanding paper (HLS-B410-SP30)	20 pcs
Iron base calibration foil	2 pcs
Aluminum base calibration foil	2 pcs
Copper base calibration foil	2 pcs
Wavelength base calibration foil	1 pc

STANDARD DATABASE

Alloy type	Elemental range
Iron Alloy	Fe, Cr, Ni, Mn, Cu, V, Mo, Si, Ti, Co, etc.
Aluminum Alloy	Al, Cr, Ni, Si, Mg, Ti, Fe, Cu, Sn, Pb, Zn, Zr, Be, Sr, Sc, etc.
Copper Alloy	Cu, Fe, Al, Mn, Sn, Pb, Zn, Ni, etc.

OPTIONAL DATABASE

Alloy type	Database number	Elemental range
Nickel Alloy	**A1**	Ni, Cr, Fe, Nb, Mo, Ti, Al, Mn, Cu, etc.
Titanium Alloy	**A2**	Ti, Al, V, Fe, Cr, Mo, Sn, Mn, Zr, Nb, Si, Cu, etc.
Magnesium Alloy	**A3**	Mg, Si, Cu, Mn, Zn, Zr, Al, Y, Be, Ni, Fe, etc.
Au	**A4**	Au, Ag, Zn, Ni, Pd, Cu, Co, In, etc.
Ag	**A5**	Ag, Cu, Zn, Cd, Ni, etc.
Pt	**A6**	Pt, Pd, Ag, Cu, Ni, Zn, Co, Ru, Pb, Cr, Au, etc.
Pd	**A7**	Pd, Cu, Ni, Zn, Fe, Co, Ag, As, Pb, Cr, etc.

wavelength calibration foil (included)

iron base calibration foils (included)

aluminum base calibration foils (included)

copper base calibration foils (included)

COMPARISON TABLE

HANDHELD XRF ALLOY ANALYZER HSM-A310	HANDHELD LIBS SPECTROMETER HLS-B410
non-destructive testing	microdestructive testing, generates a spark point of 1mm²
suitable for detection of high atomic number elements such as Mn, Fe, Cu, Mo, etc.	suitable for detection of low atomic number elements such as Mg, Al, Si, etc.
suitable for detection of stainless steels, high-temperature alloy steels, nickel-based alloys, cobalt-based alloys and special alloys made of zirconium, tungsten or tantalum	suitable for detection of aluminium alloys, magnesium alloys and low alloy steels
samples can be analyzed directly	samples need to be grinded to remove the oxide layer
meets radiation safety standards	without radiation

XRF PLATING THICKNESS INSTRUMENT
CODE XRF-PT230

VIDEO

MANUAL ZOOM

- According to DIN ISO 3497, DIN 50987, and ASTM B568
- Application fields: electroplating plating thickness analysis, inspection of electronic components such as connectors, fastener industry, automotive parts, hardware industry (household equipment and accessories, such as Cr/Ni/CuZn(ABS)), new energy industry (photovoltaic welding wire, etc.), thickness analysis of accessories, Ni/Cu/Ni/NdFeB on rubidium iron boron magnets, metal cation detection in electroplating solution, etc.
- It can detect 90 plating elements
- Equipped with a micro-focus X-ray generator and an advanced light path conversion focusing system, the minimum measurable area is up to 0.03mm²
- It has non-destructive manual zoom detection technology, which can perform non-destructive testing on various shaped and irregular grooved parts from 0 to 30mm
- Equipped with Si-PIN semiconductor detector, high resolution, fast testing speed,stable data, equipped with micro-light focusing technology, ranging spot diffusion less than 10%
- The core EFP algorithm allows for the simultaneous analysis of 23 plating and 24 elements. It can quickly, accurately, and stably analyze multiple layers and multiple elements, including the same element in different layers
- User-friendly closed software, automatically identifies faults, provides calibration and operation steps, and avoids misoperations

6

SPECIFICATION

Plating analysis	elemental analysis range	Li(3)-U(92)
	detection limit	0.005μm
	analysis thickness	0.01-80μm
EFP alaorithm		standard configuration
Measuring time		5~300s
Detector		Si-PIN semiconductor detector
X-ray source		micro-focusing X-ray tube
Collimator		standard: Ø0.3mm (optional: Ø0.5mm, Ø0.2mm, 0.1×0.3mm)
Nearest ranging spot diffusion		<10%
Camera		1/2.7" color CCD, zoom function
Measuring distance		zoom lens 0~30mm
Focus method		high-sensitivity lens, manual focus
Max. sample height		180mm
XY stage		manual high-precision XY stage
Available moving range		45mm×45mm
Operation environment		15~30°C, <70%RH
Power supply		AC110/220V, 50/60Hz, 95W
Dimension (L×W×H)		380×545×435mm
Weight		41kg

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Printer	1 pc
Accessory box	1 pc
Twelve element plate	1 set
Ni standard tablet	1 pc
Ag standard tablet	1 pc

OPTIONAL ACCESSORY

Plating solution measuring cup	XRF-PT230-MC
Solution test membrane	XRF-PT230-SF
Au standard tablet	MSS-P01
Cr standard tablet	MSS-P02
Cu standard tablet	MSS-P03
Zn standard tablet	MSS-P04

AUTOMATIC MOBILE PLATFORM

AUTOMATIC XRF PLATING THICKNESS INSTRUMENT
CODE XRF-FA350

VIDEO

- According to DIN ISO 3497, DIN 50987, and ASTM B568
- For large parts, irregularly shaped parts, and multi-point testing of tiny parts
- Equipped with zoom technology, it allows non-destructive testing of irregular components with depth from 0 to 70mm
- Equipped with AI image recognition function, it enables automatic, intelligent, and online detection
- Equipped with an automatic programmable mobile platform, it allows automatic detection of large batches of samples
- Core EFP algorithm for the simultaneous analysis of 23 types of plating and 24 elements

6

SPECIFICATION

Plating analysis	range of elemental analysis	Li(3)-U(92)
	detection limit	0.01μm
	range of plating thickness	0.01~80μm
Analysis time		0~40s
Detector		high-efficiency proportional detector
X-ray device		microfocus enhanced ray tube
Collimator		Ø0.2mm
Spot spread at the nearest measurement distance		<10%
Distance to zoom		0~70mm
Sample observation		1/2.7" color CCD with zoom functionality
Focusing method		high-sensitivity probe featuring imperceptible auto-focusing
Movement mode of sample stage		automatic high-precision XY platform
Movement range of XY-axis		210×230mm
Movement range of Z-axis		145mm
Working environment		15°C~30°C, <70%RH
Power supply		AC110/220V, 50/60Hz, 150W
Dimension (L×W×H)		535×760×635mm
Weight		120kg

STANDARD DELIVERY

Main unit	1 pc
Computer	1 set
Printer	1 pc
Accessory case	1 pc
12 elemental tablets	1 set
Ni standard sheet	1 pc
Ag standard sheet	1 pc

OPTIONAL ACCESSORY

Plating solution measuring cup	XRF-PT230-MC
Solution test membrane	XRF-PT230-SF
Au standard sheet	MSS-P01
Cr standard sheet	MSS-P02
Cu standard sheet	MSS-P03
Zn standard sheet	MSS-P04

VACUUM XRF PLATING THICKNESS INSTRUMENT/RoHS ANALYZER
CODE XRF-VF300

VACUUM SYSTEM
MANUAL ZOOM

VIDEO

- According to DIN ISO 3497, DIN 50987, and ASTM B568
- Used for RoHS analysis, electroplating/electrophoretic plating analysis
- Minimum measurement area of 0.2mm² with micro-focus X-ray generator and advanced optical switching focusing system
- Equipped with manual zoom technology, it allows for non-destructive testing of irregular components with depths from 0 to 30mm
- Core EFP algorithm for simultaneous analysis of 23 plating layers, 24 elements
- Equipped with an intelligent vacuum system, it enhances the precision of analysis for platings of light elements, resulting in more stable data

6

SPECIFICATION

RoHS analysis	range of elemental analysis	Cd, Pb, Hg, Br, Cr, Cl, As, Sb
	detection limit	2ppm
	content range	2ppm~99%
Plating analysis	range of elemental analysis	Li(3)-U(92)
	detection limit	0.005μm
	range of plating thickness	0.01~80μm
Algorithm		EFP
Analysis time		5~300s
Detector		SDD (silicon drift detector)
X-ray device		microfocus enhanced ray tube
Collimator		automatic switching of 4 types of collimators: Ø0.5mm, Ø1.5mm, Ø3mm, Ø8mm
Spot spread at the nearest measurement distance		<10%
Sample observation		1/2.7" color CCD with zoom functionality
Distance to zoom		0~30mm
Focusing method		highly sensitive lenses with manual focusing
Vacuum system		intelligent vacuum system
Height of vacuum cavity		80mm
Working environment		15~30°C, <70%RH
Power supply		AC220V, 50Hz, 95W
Dimension (L×W×H)		550×410×370mm
Weight		50kg

STANDARD DELIVERY

Main unit	1 pc
Computer	1 set
Software	1 set
Printer	1 pc
Vacuum pump	1 pc
Accessory case	1 pc
12 elemental tablets	1 set
Ni standard sheet	1 pc
Ag standard sheet	1 pc
ERM-EC681m standard sheet	1 pc

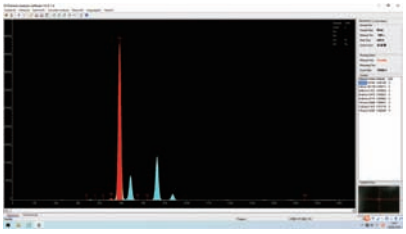
OPTIONAL ACCESSORY

Plating solution measuring cup	XRF-PT230-MC
Solution test membrane	XRF-PT230-SF
Au standard sheet	MSS-P01
Cr standard sheet	MSS-P02
Cu standard sheet	MSS-P03
Zn standard sheet	MSS-P04

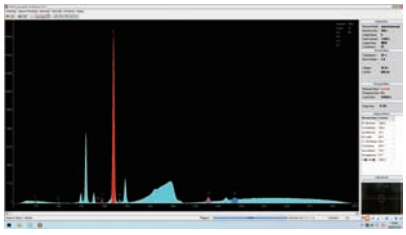
XRF PLATING THICKNESS INSTRUMENT/RoHS ANALYZER/ALLOY ANALYZER
CODE XRF-B210

VIDEO

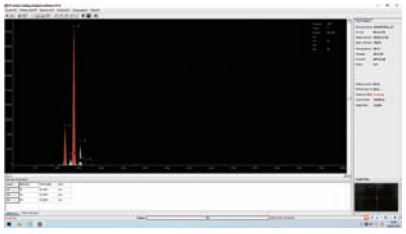
CALIBRATION CURVE CAN BE CUSTOMIZED ACCORDING TO CUSTOMER REQUIREMENTS



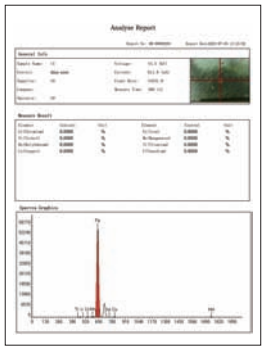
alloy composition analysis software (included)



RoHS test software (included)

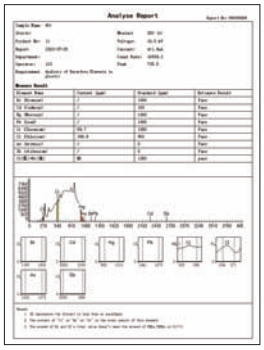


plating thickness detection software (included)



alloy composition analysis report (included)

plating thickness test report (included)



RoHS test report (included)

- Used for RoHS detection, alloy analysis, plating analysis
- Using Si-PIN detector with electric cooling, small size, accurate data analysis and low maintenance cost
- Seven optical path correction and collimation system, automatically switch according to different samples
- Multiple radiation leakage prevention design
- The temperature monitoring technology ensures the safe and reliable operation of the X-ray source
- Dedicated software, standard window design, friendly interface, easy to operate
- Can display multiple spectrograms at the same time and print multiple report forms
- USB3.0 interface to ensure accurate, high-speed and efficient data transmission

To be continued

Continued from previous page

SPECIFICATION

Detector	type	Si-PIN electrical refrigeration semiconductor detector
	resolution	149±5eV
	amplifier circuit module	detect the sample characteristic X-ray, further enlarge the information collected by detection
X-ray excitation device	maximum output current	1mA
	power	50W, air cooling
High and low voltage power	maximum output voltage	50kV, built-in voltage overload protection
	minimum output voltage	5kV
Multi-channel pulse amplitude analyzer		maximum channel number: 4096
Optical path filter module		reduce interference light path in the process of sending x-rays, guarantee the accuracy of the detector signal
		integrate the collimator with the filter
Collimator automatic switching module		7 kinds, Ø0.5~Ø8mm
Filter automatic switching module		5 kinds (free to choose and switch)
RoHS analysis	harmful element analysis	Cd, Pb, Hg, Br, Cr, Cl, As, Sb
	test time	60~200s
	detection limit	2PPM
	content analysis range	2PPM~99.9%
Alloy analysis	elemental analysis range	Ti~U
	detection limit	100PPM
	content analysis range	100PPM~99.9%
	repeatability	0.1%
	stability	0.1%
Plating analysis	elemental analysis range	Ti~U
	detection limit	0.01μm
	analysis thickness	single layer thickness 0.01~30μm
		3 layer thickness≤10μm
	repeatability	0.1μm (for outside coating less than 1μm)
	stability	0.1μm (for outside coating less than 1μm)
	light spot	within 0.2mm
Operation temperature		10~30°C
Relative humidity		10%~90%
Power supply		AC 220V±5V
Dimension (L×W×H)		460×700×370mm
Weight		49kg

STANDARD DELIVERY

Main unit	1 pc
Standard sample	1 pc
Silver calibration	1 pc
Sample cup	2 pcs
Test film	50 pcs
Computer	1 pc
Printer	1 pc
Collimator (built-in)	7 pcs
Softerware	RoHS test software, alloy composition analysis software, plating thickness detection software

CAN BE CUSTOMIZED

STANDARD SHEETS FOR XRF PLATING THICKNESS INSTRUMENTS

INSPECTION CERTIFICATE

MSS-P01

MSS-P08

MSS-P14

- Can be used for standardised calibration of XRF plating thickness instruments
- Can be used to create plating measurement curves of XRF plating thickness instruments
- Supplied with manufacturer inspection certificate

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STANDARD SHEETS (WITHOUT SUBSTRATE)

Code	Material	Thickness*
MSS-P01	Au	0.04-6μm
MSS-P02	Ni	0.1-20μm
MSS-P03	Cu	1-18μm
MSS-P04	Zn	1-18μm
MSS-P05	Al	10-75μm
MSS-P06	Cr	0.05-7.5μm
MSS-P07	Ag	0.2-20μm

* The thickness of the product is shown in the inspection certificate

SINGLE PLATING STANDARD SHEETS (WITH SUBSTRATE)

Code	Plating/Substrate	Plating thickness**
MSS-P08	Ni/Fe	2-18μm
MSS-P09	Cu/Fe	1-6.5μm
MSS-P10	Cu/Zn	12-24μm
MSS-P11	Ni/Cu	2-11μm
MSS-P12	Zn/Fe	1-40μm

MULTI-PLATING STANDARD SHEETS (WITH SUBSTRATE)

Code	Plating/Plating/Substrate	Plating thickness**
MSS-P13	Cu/Ni/Fe	3-8μm/2-6μm
MSS-P14	Sn/Ni/Cu	2-10μm/0.8-4μm
MSS-P15	Sn/Cu/Fe	2-6.5μm/0.6-4.5μm
MSS-P16	Sn/Ni/Al	4-6μm/0.1-10μm
MSS-P17	Sn/Ni/Fe	4-11μm/0.1-10μm

** The plating thickness of the product is shown in the inspection certificate

SPARK DIRECT READING SPECTROMETERS (STANDARD TYPE)

VIDEO

OES-R420

6

- Widely used in metallurgy, casting, machinery, iron and steel and non-ferrous metal industries, etc.
- Can be used for sample analysis of metals and their alloys such as Fe, Al, Cu, Ni, Co, Mg, Ti, Zn, Pb, Sn, Mn, etc.
- It can automatically calibrate the pixel drift to ensure the stability of the optical system
- Fractional exposure is used to lower the detection limit of trace elements
- Equipped with a coaxial spinning air excitation stage, pressurized self-purge, excitation for thousands of times without cleaning
- Supports intelligent grade recognition, automatic carbon equivalent calculation, etc.
- The software is available in multiple languages (Chinese, English, German, Spanish)

SPECIFICATION

Code		OES-R420	OES-R530
Optical system	spectral range	160~500nm	130~800nm*
	lightroom material	cast aluminum	cast iron
	detector	multiple CCD detectors, unlimited maximum number of detection channels	
	optical system construction	paschen-runge construction, grating focal length 500mm, roland circle diameter: 500mm	
	raster scribing	2700 lines/mm	
	resolution	better than 0.01nm (line resolution 0.7407nm/mm, pixel resolution 0.005926nm)	
	pixel dimension	8μm	
	dispersion	class I: 0.74nm/mm, class II: 0.37nm/mm	
Curve	standard curve	carbon steel/low and medium alloy steel (**A1**), plain stainless steel (**A2**), Al-Si-Cu alloy (**B1**)	
	customized curve	curves can be added or customized for special base materials (Mg, Ti, Pb, Sn, Mn, etc.)	
Excitation source	excitation frequency	20~1000Hz	
	excitation current	90A	
	excitation voltage	190V	
Spark stand	discharge parameter	inductance: 120μH, resistance: 3.5Ω, capacitance: 5μF, voltage: 380V	
	dimension	125×95mm, max. load 50kg	
	lens	one-piece lens isolation valve	
	excitation electrode	tungsten electrode	
Gas supply	argon quality	purity: 99.999%, pressure: ≥0.6MPa	
	flow rate	tidal flushing mode, excitation: 8L/min, standby: 60ml/min	
General analysis time		<40s	
Data processing		after instrument excitation, acquisition and countback to independently control the integration exposure time of different CCDs	
Work environment		20~25°C, <70%RH	
Power supply		AC220V, 50Hz, 1Ø, 16A, 2.5KW, ground resistance <4Ω	
Dimension (L×W×H)		470×872×435mm	
Weight		80kg	100kg

*The instrument can be optionally equipped to analyze elements N, Li, Na, and K

To be continued

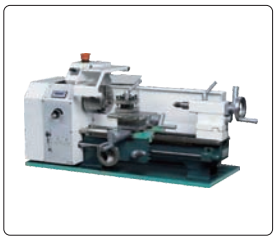
Continued from previous page

STANDARD DELIVERY

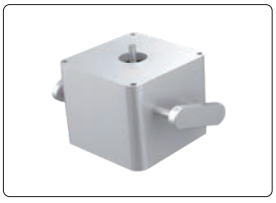
Main unit	1 pc
Computer	1 set
Printer	1 pc
Voltage regulator	1 pc
Calibration sample	1 set
Electrode brush (OES-T350-BR)	1 set
Analysis and calibration software	1 set
Consumable and spare parts	1 set *

* Including polarimeter, pressure reducing valve, electrode brush and other consumable and spare parts

spectral sample grinder (**optional**)



lathe (**optional**)



small sample fixture (**optional**)

gasket (**optional**)

OPTIONAL ACCESSORY

Spectral standard sample	**MSS** series	select standard sample based on the test material
Spectral sample grinder	**OES-MY100**	Ø350mm, 380V
Lathe	**OES-R420-LATHE**	220×300mm, 220V
Small sample fixture	**OES-R420-RODLIKE**	Ø3.1~7mm regular bar sample
	OES-R420-FILIFORM	Ø0.5~3mm filament sample
Gasket	**OES-R420-GASKET1**	copper, ID6mm
	OES-R420-GASKET2	copper, ID8mm
	OES-R420-GASKET3	boron nitride, ID4mm
	OES-R420-GASKET4	boron nitride, ID6mm
N analysis module	**OES-R530-MC-N**	the measurement range can be customized, used with **OES-R530**
Na analysis module	**OES-R530-MC-NA**	
K analysis module	**OES-R530-MC-K**	
Li analysis module	**OES-R530-MC-LI**	

IRON BASE CURVES

Curve number	**A1**	**A2**	**A3**	**A4**	**A5**
Elemental content (%)	Medium and low alloy steel *	Plain stainless steel	High speed tool steel	Cr-Mn stainless steel	Nodular iron **
C	0.0015-1.5	0.005-2.0	0.08-2.5	0.006-2.0	0.9-4.5
Si	0.005-2.0	0.005-2.0	0.005-2.0	0.003-2.0	0.1-5.5
Mn	0.005-2.5	0.002-2.5	0.005-2.0	2.0-25	0.005-2.5
P	0.001-0.1	0.002-0.1	0.003-0.1	0.003-0.2	0.003-1.0
S	0.001-0.1	0.001-0.1	0.001-0.1	0.003-0.1	0.003-0.2
Cr	0.001-5.0	5-35	0.01-7.9	0.005-30	0.005-5.0
Ni	0.002-5.0	0.004-30***	0.005-2.5	0.005-7	0.002-5.0
Mo	0.003-2.0	0.005-4.0	0.01-10.0	0.006-2.5	0.003-2.0
Cu	0.002-1.5	0.005-4.0	0.005-1.5	0.006-2.0	0.005-2.0
W	0.001-2.0	0.002-1.0	1.0-20.0	0.006-0.5	0.006-1.0
V	0.002-1.5	0.002-0.5	0.01-6.0	0.006-1.5	0.001-1.0
Ti	0.001-1.0	0.003-1.0	0.004-0.5	0.003-1.0	0.001-0.5
Nb	0.001-0.5	0.005-3.0	0.002-1.0	0.006-3.0	0.002-1.0
Al	0.001-1.5	0.004-1.5	0.005-0.2	0.004-0.5	0.001-0.4
Mg	–	–	–	–	0.001-0.1
Ce	–	–	–	–	0.001-0.1
Zr	0.004-0.5	–	–	–	0.003-0.1
Co	0.001-0.5	0.003-0.5	0.006-10	0.003-0.5	0.001-0.2
B	0.0008-0.02	0.002-0.02	–	0.002-0.02	0.003-0.2
Fe	REF	REF	REF	REF	REF
Description	La, As, Pb, Sn, Sb, Bi, Ca, Zn, Se, etc. in iron base can be customized				

* Including carbon steel curve
** Nodular iron samples are required to be whitening treated samples
*** Stainless steel in the nickel content of the standard configuration for the 0.004-30%, can be extended up to 40% according to requirements

To be continued

Continued from previous page

ALUMINUM BASE CURVES

Curve number	B1	B2	B3	B4
Elemental content (%)	Al-Si-Cu	Low-Al	Al-Mg-Si	Al-Zn
Cd	0.002-0.25	0.001-0.2	0.002-0.2	0.002-0.2
Cr	0.002-0.5	0.002-0.4	0.002-0.5	0.005-0.5
Cu	0.5-8.0	0.002-1.0	0.002-2.0	0.01-3.0
Fe	0.005-2.0	0.002-1.5	0.005-1.5	0.03-1.5
Mg	0.005-2.0	0.002-1.5	0.005-15.0	0.01-4.5
Mn	0.005-1.0	0.001-0.5	0.005-1.0	0.01-1.0
Ni	0.005-1.5	0.003-0.5	0.005-1.0	0.01-1.0
P	0.005-0.02	0.005-0.02	0.005-0.02	0.005-0.02
Pb	0.005-0.4	0.002-0.2	0.005-0.5	0.005-0.2
Si	1.0-16.0	0.005-1.5	0.01-25.0	0.01-1.0
Sn	0.0005-1.0	0.003-0.2	0.005-0.5	0.005-0.2
Ti	0.003-0.5	0.003-0.3	0.003-0.5	0.003-0.5
Zn	0.005-3.0	0.005-1.5	0.01-3.0	0.01-10.0
Al	REF	REF	REF	REF
Description	Sb, Sr, V, Zr, Ag, As, B, Be, Ca, Ce,Ga, Co, etc. in aluminum base can be customized			

NICKEL BASE CURVES

Curve number	D1	D2	D3	D4
Elemental content (%)	Nimonic alloy	Inconel alloy	Monel alloy	Hartz alloy
Al	0.005-6.0	0.005-6.0	0.005-4.5	0.005-1.0
C	0.005-0.3	0.005-0.2	0.005-0.5	0.005-0.25
Co	0.01-20.0	0.005-1.0	0.005-0.5	0.005-3.0
Cr	8.0-25.0	10.0-25.0	0.005-0.5	15.0-25.0
Cu	0.005-0.5	0.005-0.5	20.0-32.0	0.005-1.5
Fe	0.015-3.5	0.01-20.0	0.005-4.0	0.5-20.0
Mg	0.005-0.05	0.005-0.05	0.005-0.1	–
Mn	0.005-1.2	0.005-1.2	0.005-3.0	0.005-1.5
Mo	0.01-10.0	0.01-10.0	0.005-0.1	5.0-23.0
Nb	0.005-0.5	0.005-7.0	0.005-0.5	–
Si	0.005-1.0	0.005-0.5	0.005-4.5	0.005-1.3
Ti	0.005-6.0	0.005-3.0	0.005-1.5	0.005-0.5
V	0.005-0.6	0.005-0.5	–	0.005-0.5
W	0.002-4.5	0.005-0.5	–	0.5-6.0
Zr	0.005-0.15	0.005-0.05	0.005-0.1	–
Ni	REF	REF	REF	REF
Description	P, S, Pb, Ce, B, etc. in nickel base can be customized			

COPPER BASE CURVES

Curve number	C1	C2	C3	C4	C5	C6	C7
Elemental content (%)	Zn-Brass	Pb-Brass	Sn-Bronze	P-Bronze	Al-Bronze	Cu-Ni alloy	Cu-Ni-Zn alloy
Al	0.001-0.5	0.05-1.0	0.001-0.2	0.001-0.1	0.5-12.0	0.001-0.5	0.001-0.1
As	0.003-0.2	0.003-0.3	0.003-0.2	0.003-0.2	0.003-0.1	0.003-0.05	0.003-0.1
Bi	0.002-0.01	0.002-0.01	0.002-0.1	–	–	0.001-0.02	0.001-0.01
Cd	0.001-0.15	–	0.001-0.01	–	–	–	–
Co	–	–	0.003-0.15	–	–	0.006-0.2	0.006-0.25
Fe	0.003-0.5	0.003-1.0	0.003-0.35	0.003-0.35	0.005-6.5	0.03-1.0	0.03-1.0
Mg	–	–	–	0.005-0.01	0.005-0.1	0.003-0.15	0.003-0.15
Mn	–	0.001-0.2	0.003-0.2	0.005-0.5	0.005-3.0	0.005-1.5	0.005-1.0
Ni	0.005-0.5	0.01-1.0	0.005-2.0	0.005-1.5	0.01-7.0	0.5-35.0	5.0-20.0
P	0.003-0.05	0.003-0.1	0.003-0.6	0.01-1.0	0.003-0.05	0.003-0.05	0.01-0.1
Pb	0.005-0.5	0.2-5.0	0.005-10.0	0.005-1.5	0.002-0.2	0.002-0.05	0.002-2.0
S	0.001-0.01	0.001-0.01	–	0.002-0.1	–	0.002-0.1	0.002-0.1
Sb	0.001-0.1	0.001-0.1	0.001-0.6	0.001-0.5	–	0.001-0.02	0.001-0.02
Si	0.001-0.2	0.001-0.2	0.004-0.15	0.004-0.15	0.004-0.5	0.002-0.2	0.002-1.0
Sn	0.005-0.1	0.005-1.0	0.01-12.0	0.1-12.0	0.005-0.3	0.005-0.1	0.005-0.2
Zn	0.5-42.0	0.5-42.0	0.005-12.0	0.002-1.5	0.003-2.0	0.005-1.0	10.0-35.0
Cr	–	–	–	–	0.001-0.1	–	–
Cu	REF	REF	REF	REF	REF	REF	REF
Description	Be, Ti, Te, Se, C, B, Au, Ag, etc. in copper base can be customized						

COBALT BASE CURVES

Curve number	E1	E2	E3	E4
Elemental content (%)	Co-Cr-W alloy	Co-Cr-Ni-W alloy	Co-Ni-Cr-Mo alloy	Co-Cr-Mo alloy
Al	0.005-0.48	0.005-0.48	0.005-0.48	0.005-0.48
C	0.005-1.0	0.005-1.0	0.005-0.5	0.005-0.5
Cr	18.0-31.0	18.0-31.0	18.0-31.0	18.0-31.0
Cu	0.005-0.3	0.005-0.3	0.005-0.05	0.005-0.05
Fe	0.005-9.0	0.005-3.0	0.03-1.0	0.005-3.0
Mn	0.005-2.0	0.005-2.0	0.005-0.3	0.005-1.0
Mo	0.005-1.5	0.005-1.0	1.0-10.0	1.0-8.5
Nb	0.005-4.2	0.005-0.5	0.005-0.5	0.005-0.5
Ni	0.005-3.0	8.0-25.0	10.0-36.0	0.005-5.0
Si	0.005-1.0	0.005-1.0	0.005-1.0	0.005-1.0
Ti	0.005-3.0	0.005-0.05	–	0.005-0.05
W	3.0-16.0	3.0-16.0	0.005-0.1	0.005-0.1
Co	REF	REF	REF	REF
Description	V, P, S, Ta, Sn, B, etc. in cobalt base can be customized			

ZINC BASE CURVES

Curve number	F1	F2
Elemental content (%)	Die-casting zinc alloy	Zinc-Aluminum alloy
Al	0.05-6.0	6.0-30.0
Cd	0.005-0.04	0.005-0.04
Cu	0.005-3.0	0.005-3.0
Fe	0.005-0.1	0.005-0.1
Mg	0.005-0.1	0.005-0.1
Ni	0.005-0.05	0.005-0.05
Pb	0.005-0.03	0.005-0.03
Si	0.005-0.05	0.005-0.05
Sn	0.005-0.01	0.005-0.02
Ti	0.005-0.3	0.005-0.3
Zn	REF	REF
Description	Sb, etc. in zinc base can be customized	

VIDEO

SPARK DIRECT READING SPECTROMETER (BASIC TYPE)
CODE OES-T350

printer (included)

filter element (included)

AC voltage regulator (included)

calibration sample (included)

electrode brush (included)

pressure valve (included)

spectral sample grinder (**optional**)

argon purifier (**optional**)

- Widely used in metallurgy, casting, scientific research, commodity inspection, automobile, shipbuilding, aviation, nuclear power, etc.
- Ability to analyze trace elements such as carbon (C), phosphorus (P), sulfur (S), etc.
- The analysis speed is fast, and the element composition of all channels is measured within 20 seconds
- Paschen-Runge structure with full wavelength coverage, the most concise and stable optical system structure
- Perfect aberration correction, so that the spectrometer has excellent resolution, minimize the cross interference of different elements
- Argon-filled optical chamber, effectively reducing the attenuation of P and S rays in the far ultraviolet region
- The software has automatic spectrum correction technology, can store database, trace historical data, output and print reports
- Report format can be customized, data can be sent out

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Software	1 pc
Printer	1 pc
Calibration sample	1 pc
Electrode brush (OES-T350-BR)	2 pcs
Filter element	2 pcs
AC voltage regulator	1 pc
Pressure valve	1 pc

OPTIONAL ACCESSORY

Spectral standard sample	**MSS** series	select standard sample based on the test material
Spectral sample grinder	**OES-MY100**	Ø350mm, 380V
Argon purifier	**OES-T350-PURIFIER**	220V

To be continued

Continued from previous page

SPECIFICATION

Curves	**standard curve**	low alloy steel (**A1**), cast iron (**A2**), plain stainless steel (**A3**)
	customized curve	curves can be added or customized for special base materials (Ti, Pb, Sn, Co, etc.)
Optical system	**optical structure**	paschen-runge structure
	rowland circle of diameter	350mm
	wavelength range	160~510nm
	detector	multi high resolution CCD detectors
	pixel resolution	20pm
	full spectrum	cover the full range of element analysis
	light room temperature	34±0.5°C (be controlled automatically)
Spark source	**type**	digital arc and spark source/new plasma generator
	spark frequency	100~1000Hz
	plasma current	1~80A
	Ignition voltage	>7000V
Spark stand		spray discharge electrode technology reduces argon consumption and improves argon use efficiency
		good heat dissipation, continuous excitation for 100 times, the temperature of the excitation table does not rise more than 5°C
Operation temperature		10~30°C, 23±2°C is recommended
Argon quality		99.999% high purity argon, argon pressure≥4MPa
Argon consumption		5L/min during spark mode
Operation humidity		20%~80%RH
Power supply		AC220V, 50Hz
Power consumption		excitation: 300W, stand by: 40W
Dimension (L×W×H)		700×660×340mm
Weight		30kg

IRON BASE CURVES

Curve number	A1	A2	A3	A4	A5	A6	A7
Elemental content (%)	Low alloy steel	Cast iron*	stainless steels	High Mn steel	High Cr * cast iron	High speed tool steel	High Ni * cast iron
C	0.006-1.19	1.75-4.04	0.0035-1.0	0.0085-2.38	1.16-3.43	0.003-2.94	1.75-4.04
Si	0.013-3.86	0.2-3.88	0.095-2.41	0.091-1.69	0.055-2.48	0.014-0.967	0.2-3.88
Mn	0.034-2.2	0.08-1.67	0.131-16.13	5.3-22.96	0.201-1.95	0.018-0.846	0.08-6.72
P	0.0019-0.13	0.021-0.699	0.0057-0.065	0.0064-0.188	0.024-0.369	0.0038-0.098	0.0067-0.699
S	0.0009-0.364	0.003-0.22	0.0006-0.095	0.0047-0.108	0.0047-0.123	0.0005-0.076	0.003-0.22
Cr	0.016-4.83	0.021-2.48	6.8-32.58	0.084-29.22	1.17-33.9	0.023-14.16	0.021-2.56
Ni	0.0082-4.4	0.013-1.89	0.09-32.3	0.045-15.34	0.129-2.57	0.07-0.436	0.013-21.26
Mo	0.004-4.19	0.0018-1.08	0.026-6.09	0.0095-3.15	0.086-3.53	0.022-8	0.0011-1.08
Al	0.0021-1.27	0.0073-0.214	0.0057-0.403	0.009-0.403	-	0.032-0.128	0.0073-0.214
Cu	0.0032-0.8	0.018-1.83	0.014-4.22	0.025-1.9	0.154-1.57	0.018-0.364	0.018-7.46
Co	0.004-0.504	0.008-0.034	0.0067-0.69	0.007-0.107	-	0.014-12.3	0.0063-0.034
Ti	0.001-1.18	0.024-0.51	0.002-2.11	0.0041-0.545	0.08-0.3	0.003-1.47	0.024-0.51
Nb	0.004-1.04	0.023-0.576	0.024-2.41	0.0006-0.613	0.01-0.686	0.003-2.33	0.0006-0.576
V	0.0082-0.9	0.014-0.701	0.015-1.4	0.024-0.837	0.059-1.01	0.01-7.54	0.0085-0.701
W	0.005-2.07	0.023-0.574	0.0065-2.2	0.002-1.45	0.015-1.99	0.01-18.68	0.0002-0.574
Pb	0.003-0.26	0.002-0.105	0.0001-0.0037	0.0005-0.002	-	-	0.0022-0.105
Mg	-	0.0006-0.104	-	-	-	-	0.0006-0.104
B	0.0003-0.019	0.012-0.086	0.0007-0.016	0.0007-0.017	0.015-0.177	-	0.012-0.086
Sn	0.0016-0.039	0.0018-0.3	0.0007-0.054	0.0007-0.023	-	0.001-0.005	0.0003-0.3
Zn	-	0.0009-0.0045	0.0011-0.0084	-	-	-	0.0009-0.0045
As	0.007-0.174	0.0021-0.035	0.0013-0.03	0.0013-0.0116	-	-	0.0021-0.035
Bi	0.0019-0.021	-	0.00004-0.0029	0.0013-0.0029	-	-	-
Zr	0.004-0.57	-	-	-	-	0.003-0.01	-
Ca	0.0004-0.0015	-	0.0004-0.0010	0.0004-0.001	-	-	0.00035-0.2
Fe	REF	REF	REF	REF	REF	REF	REF

*Cast iron samples need to be whitened samples

To be continued

Continued from previous page

ALUMINUM BASE CURVES

Curve number	B1	B2	B3	B4	B5
Elemental content (%)	Al low alloy	Al-Si alloy	Al-Zn alloy	Al-Cu alloy	Al-Mg alloy
Si	0.0084-1.58	3.69-20.5	0.027-8.23	0.029-1.57	0.021-0.885
Fe	0.0066-1.26	0.026-1.9	0.049-0.749	0.066-1.61	0.074-0.718
Cu	0.0041-0.99	0.01-8.04	0.005-2.71	0.465-6.57	0.0078-0.308
Mn	0.011-2.38	0.019-0.967	0.047-0.821	0.05-1.5	0.0085-0.865
Mg	0.004-1.5	0.049-1.8	0.01-3.96	0.0079-2.68	0.624-10.32
Cr	0.043-0.36	0.004-0.28	0.087-0.349	0.0099-0.272	0.0093-0.349
Ni	0.0084-0.152	0.0051-1.77	0.012-0.188	0.0084-1.55	0.0015-0.239
Zn	0.003-0.367	0.0064-2.93	0.955-16.5	0.0028-0.728	0.0071-0.571
Ti	0.0021-0.175	0.0071-0.31	0.0059-0.205	0.006-0.415	0.006-0.3
Pb	0.0011-0.0192	0.0025-0.31	-	-	-
Bi	-	-	-	-	-
Ca	-	0.0006-0.034	-	-	-
Cd	-	0.0013-0.12	0.003-0.04	0.062-0.245	-
Co	-	0.003-0.043	-	-	-
Ga	0.012-0.045	0.0054-0.2	-	-	-
Sn	-	0.0024-0.5	-	-	-
Sr	-	0.0002-0.167	-	-	-
V	-	0.005-0.175	-	0.017-0.253	-
Zr	-	0.0043-0.193	0.0084-0.241	0.0058-0.301	-
Ag	-	-	-	-	-
Be	-	0.0047-0.21	-	-	0.00056-0.013
In	-	-	0.014-0.084	-	-
p	-	0.0018-0.0074	-	-	-
B	-	-	-	0.0076-0.056	-
Al	REF	REF	REF	REF	REF

COBALT BASE CURVES

Curve number	C1	C2	C3	C4	C5	C6	C7	C8
Elemental content (%)	Brass	Aluminum Bronze	Sn-Pb-Cu Alloy	Red Copper/ Pure Copper	Chromium Bronze	Beryllium Bronze	Silicon Bronze	Mn Brass
Zn	3.06-41.76	0.18-1.46	0.064-13.79	0.0006-0.0138	0.0068-0.111	0.0068-0.111	0.04-2.2	25.97-41.06
Pb	0.0082-4.48	0.013-0.094	0.159-21.42	0.0005-0.0426	0.0046-0.0718	0.0016-0.0718	0.01-0.2	0.054-0.51
Sn	0.032-1.02	0.025-0.22	2.33-18.96	0.00026-0.133	0.0072-0.0324	0.0072-0.0324	0.086-2.45	-
Mn	0.0046-0.464	0.31-1.8	0.001-0.067	0.001-0.0056	-	-	0.086-2.45	0.33-3.08
Fe	0.016-0.579	0.62-5.62	0.0014-0.467	0.0017-0.0782	0.033-0.124	0.014-0.124	0.065-0.51	0.69-3.28
Ni	0.0019-0.421	0.56-5.95	0.061-1.931	0.0011-0.05	0.014-0.192	0.0066-0.314	0.1-3.96	-
Si	0.0012-0.0938	0.032-0.26	0.0008-0.04	0.00088-0.0272	0.0066-0.153	0.0066-0.153	0.25-4.21	-
Mg	-	-	-	-	0.0014-0.126	0.0014-0.126	-	-
Cr	-	-	-	0.74-0.79	0.424-1.5	0.0074-1.5	0.021-0.37	-
As	0.0053-0.1	-	0.0111-1.07	0.0003-0.0376	0.0048-0.066	0.0048-0.066	-	-
Sb	0.0017-0.029	-	0.001-0.589	0.0001-0.0182	-	-	-	-
Cd	-	-	-	0.001-0.0272	-	-	-	-
Bi	0.00076-0.0122	-	0.0119-0.13	0.001-0.0095	-	-	-	-
Ag	-	-	0.0016-0.495	0.003-0.199	-	-	-	-
Co	-	-	0.0051-0.443	-	-	0.01-2.36	-	-
Al	0.015-0.81	7.8-11.88	0.001-0.052	0.0009-0.0023	0.0017-0.0223	0.0017-0.093	0.003-0.1	-
P	0.0018-0.044	0.011-0.1	0.002-1.208	0.00092-0.0695	-	-	-	-
S	-	-	0.0012-0.091	0.0034-0.127	-	-	-	-
Zr	-	-	-	0.113-0.203	-	-	-	-
Be	-	-	-	-	-	0.583-2	-	-
Cu	REF	REF	REF	REF	REF	REF	REF	REF

To be continued

Continued from previous page

NICKEL BASE CURVES

Curve number	D1	D2	D3	D4	D5	D6
Elemental content (%)	Monel Alloy	Inconel Alloy	Hastelloy Alloy	GH30 Alloy	GH4169 Alloy	DZ125 Alloy
C	0.0494-0.13	0.01-0.169	0.01-0.169	0.137-0.241	-	0.0322-0.152
Si	0.146-2.52	0.036-0.85	0.2-0.85	0.311-0.895	-	0.016-0.042
Mn	0.993-1.437	0.05-1.19	0.249-1.19	0.156-0.777	-	0.0022-0.024
P	0.0106-0.019	0.0004-0.038	0.007-0.038	0.001-0.0152	-	0.0023-0.0024
S	0.0006-0.023	0.0002-0.034	0.0086-0.034	0.0034-0.0145	-	0.0005-0.0006
Cr	0.0057-0.2	14.86-29.5	15.42-19.71	16.81-20.56	14.87-22.21	6.57-19.62
Mo	0.0024-0.102	0.0025-20.91	15.59-20.91	-	2.29-4.03	0.63-4.32
Fe	1.053-2	1.2-18.51	2.6-7.3	0.229-1.780	-	0.022-1.023
W	-	0.0011-12.7	0.09-0.498	-	-	0.041-8.8
V	-	0.005-0.498	0.03-0.72	-	-	-
Al	0.0231-1.399	0.03-0.72	0.159-2.6	0.065-0.267	0.14-0.68	1.476-6.13
Co	0.032-0.156	0.0056-2.6	0.046-0.642	-	1.02-1.04	0.024-14.79
Cu	21.53-33	0.0072-0.642	-	0.082-0.245	0.0015-0.002	-
Nb	-	0.0039-5.16	-	-	3.85-6.79	0.028-2.04
Sn	-	-	-	-	-	-
Ta	-	-	-	-	-	2.74-4.82
Ti	0.064-1.005	0.017-0.93	0.06-0.264	-	0.59-1.42	0.62-5.1
B	-	0.0001-0.01	-	-	-	0.0062-0.0242
Mg	0.0026-0.0217	0.0021-0.022	-	-	-	-
Zr	-	0.0018-0.004	-	-	-	0.014-0.06
Pb	0.0004-0.02	-	-	-	-	-
Ni	REF	REF	REF	REF	43.89-60	REF

ZINC BASE CURVES

Curve number	E1	E2
Elemental content (%)	Pure Zn	Zn-Al Alloy
Al	0.00036-0.007	0.00036-27.4
Cd	0.00044-0.0132	0.00044-0.3
Cu	0.00012-0.004	0.00012-6.05
Fe	0.00012-0.004	0.00053-0.1
Mg	-	0.0014-0.179
Mn	-	0.001-1.39
Ni	-	0.0019-0.06
Pb	0.00045-0.0152	0.00045-2.87
Sb	-	0.0012-0.309
Sn	0.0004-0.0033	0.0004-2.38
Ti	-	0.0008-0.278
Si	-	0.0013-0.0191
Cr	-	0.0007-0.142
Ag	-	-
Bi	-	0.0027-0.027
Fe	REF	REF

MAGNESIUM BASE CURVES

Curve number	F1	F2
Elemental content (%)	Pure Mg	Mg/Al/Mn/ Zn Alloy
Al	0.005-1.06	1.09-11.02
Zn	0.00044-0.0132	0.0068-4.1
Mn	0.017-0.148	0.02-0.61
Si	0.012-0.062	0.019-1.83
Fe	0.0069-0.027	0.0012-0.033
Cu	0.00097-0.025	0.00072-0.291
Ni	0.00026-0.0052	0.00042-0.02
Be	-	0.00011-0.0029
Ti	0.0001-0.0025	-
Pb	0.0011-0.037	-
Mg	REF	REF

PORTABLE SPARK DIRECT READING SPECTROMETER
CODE OES-P200

- Widely used in metallurgy, foundry, machining, automobile manufacturing, metal processing, furnace testing, etc.
- Ability to accurately analyze the elemental content of metallic materials such as C, P, S, B, etc.
- Automatically eliminates spectral drift due to temperature and pressure changes for accurate measurements
- Ability to add desired measurement curves without adding hardware
- Unique jet electrode technology, can save the use of argon gas, reduce the use of costs
- Replaceable lithium batteries, long battery life, hundreds of consecutive excitation times, to ensure the integrity of the field work
- The instrument is easy to carry, analysis is not limited, more convenient to complete outdoor work

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Analysis software	1 pc
Battery	2 pcs
Electrode brush (OES-T350-BR)	2 pcs
Pressure valve	1 pc
Mobile cart	1 pc
Charger	1 pc
Consumable and spare parts	1 set *

* Including quartz mirror, mirror paper, wrench, air connection line and other common consumables

spectral sample grinder
(**optional**)

OPTIONAL ACCESSORY

Spectral standard sample	**MSS** series	select standard sample based on the test material
Spectral sample grinder	**OES-MY100**	Ø350mm, 380V

To be continued

Continued from previous page

SPECIFICATION

Curves	**standard curve**	low and medium alloy steel (**A1**), chrome/nickel stainless steel (**A2**)
	customized curve	curves can be added or customized for special base materials (Ni, Mg, Zn, etc.)
Optical system	**detector**	high performance CMOS
	optical system construction	paschen-runge double optical chamber structure
	visible room temperature	34°C±0.5°C
	UV room temperature	34°C±0.5°C
	raster scribing	3600 lines/mm
	spectral range	165~580nm
	average resolution	≤10pm/pixel
	visible focal length	300mm
	ultraviolet focal length	298mm
Excitation source	**light source**	high energy excitation light source
	frequency	100~1000Hz
	excitation voltage	300V
	excitation current	400A
Excitation stand	**gas supply**	argon (purity≥99.9995%, pressure: ≥0.3MPa)
	flow rate	excitation: 3L/min, standby: 0.3L/min
	electrode	tungsten electrode
	purge	automatic cleaning
	design	self-compensating thermal deformation design
	analysis interval	2.8mm
Analysis software		1. automatic calibration control according to the given deviation and number of excitations 2. the analyzed results show the percentage, light intensity values, intensity ratios 3. electrode cleaning according to set data, display and corresponding deviation 4. ability to store and print test element results
Transmission		DM9000A-based ethernet data transmission
Work hours		standby: 10h, continuous excitation: 160~180 times
Work environment		5~35°C
Power supply		replaceable lithium battery, 24V
Dimension (L×W×H)		840×700×1050mm
Weight		50kg

IRON BASE CURVES

Curve number	A1	A2	A3	A4	A5	A6	A7
Elemental content (%)	Low alloy steel	Cr/Ni stainless steel	High speed tool steel	High Mn steel	High Cr cast** iron	High Ni cast** iron	Cast iron**
C	0.006-1.3	0.008-2.5	0.08-2.2	0.5-2.4	0.9-3.4	1.2-3.8	1.8-4.5
Si	0.01-2.9	0.09-4.0	0.04-1.5	0.3-1.7	0.2-2.5	0.04-3.5	0.2-4.2
Mn	0.03-14	0.12-16	0.04-1.7	5.3-23	0.1-2.4	0.001-6.8	0.06-4.7
P	0.002-0.12	0.003-0.3	0.004-0.007	0.01-0.2	0.01-0.3	0.0015-0.56	0.02-0.8
S	0.002-0.46	0.001-0.4	0.001-0.06	0.006-0.11	0.01-0.15	0.0015-0.24	0.003-0.2
Cr	0.01-12.5	7.4-32	1.8-8.1	0.08-3.8	0.4-34	0.0015-9.1	0.03-2.8
Ni	0.004-4.4	0.8-40	0.07-0.55	0.04-3.5	0.05-2.75	0.9-36.6	0.05-5.1
Mo	0.004-1.76	0.08-4.2	0.02-9.4	0.1-2.0	0.1-4	0.0015-1.5	0.01-2.1
Al	0.003-0.5	0.005-1.7	0.005-1.6	0.008-0.12	–	–	0.002-0.25
Cu	0.002-0.7	0.05-4.5	0.04-0.5	0.02-0.6	0.06-1.5	0.005-0.3	0.06-2.0
Co	0.001-0.5	0.008-0.62	0.008-16	0.007-0.1	–	–	0.008-0.03
Ti	0.002-0.5	0.005-1.1	–	0.004-0.4	0.01-0.14	–	0.007-0.7
Nb	0.002-0.53	0.02-2.0	–	0.08-0.42	0.1-0.7	0.003-0.38	0.002-0.7
V	0.003-0.9	0.02-0.58	0.03-2.5	0.01-0.84	0.02-1.2	–	0.01-0.7
Ca	–	–	–	–	–	–	–
B	0.006-0.02	0.007-0.02	–	–	–	–	0.002-0.3
Sn	0.001-0.09	0.003-0.05	–	–	–	–	0.003-0.3
As	0.001-0.1	0.004-0.04	–	–	–	–	0.008-0.09
Sb	0.002-0.02	–	–	–	–	–	0.004-0.2
Fe	REF	REF	REF	REF	REF	REF	REF

**Cast iron samples need to be whitened samples

To be continued

Continued from previous page

ALUMINUM BASE CURVES

Curve number	B1	B2	B3	B4	B5
Elemental content (%)	Al low alloy	Al-Si alloy	Al-Zn alloy	Al-Cu alloy	Al-Mg-Si alloy
Si	0.01-1.63	0.02-24	0.02-9.4	0.02-7	0.02-2.3
Fe	0.01-1.65	0.02-4	0.03-1	0.05-1.9	0.07-0.80
Cu	0.002-1	0.005-6	0.01-4.3	0.01-13	0.07-1
Mn	0.001-1	0.005-1	0.02-1	0.05-1	0.03-2.4
Mg	0.002-1	0.01-1.5	0.01-4	0.01-2.7	0.006-10.2
Cr	0.001-0.15	0.005-0.5	0.01-0.4	0.01-0.14	0.01-0.4
Ni	0.001-0.16	0.02-2.5	0.01-0.2	0.01-2.3	0.005-0.25
Zn	0.002-0.5	0.005-3.5	0.01-12	0.05-3.5	0.01-1
Ti	0.001-0.15	0.005-0.4	0.005-0.3	0.001-0.2	0.007-0.3
Ca	–	0.002-0.03	–	–	–
Cd	0.01-0.3	0.001-0.3	0.002-0.3	0.01-0.3	0.01-0.3
Ga	0.002-0.06	0.005-0.2	–	–	0.009-0.02
Pb	0.02-0.5	0.005-0.5	0.005-0.5	0.01-0.5	0.001-0.5
Sb	–	0.005-0.4	–	–	–
Sn	0.01-0.2	0.003-0.5	0.005-0.2	0.02-0.3	0.007-0.2
V	0.004-0.05	0.005-0.2	0.005-0.03	0.01-0.03	0.002-0.03
Zr	0.001-0.12	0.005-0.2	0.01-0.3	0.001-0.2	0.003-0.12
P	–	0.002-0.005	–	–	–
Al	REF	REF	REF	REF	REF

COBALT BASE CURVES

Curve number	C1	C2	C3	C4	C5	C6	C7
Elemental content (%)	Brass	Copper	Al-Cu alloy	Beryllium bronze	Sn-Pb-Cu alloy	Pure copper	Si-Bronze
Zn	0.5-43.0	0.01-23.0	0.04-2.2	0.005-0.23	0.003-0.7	0.001-0.3	0.2-6.0
Pb	0.01-6.0	0.002-0.13	0.002-0.068	0.005-0.3	0.001-21	0.001-1.5	0.01-0.8
Sn	0.009-4.8	0.009-0.13	0.003-0.35	0.005-0.18	0.005-11.2	0.001-0.3	0.05-0.7
P	0.002-0.14	0.003-0.07	–	–	0.001-0.42	0.001-0.078	0.005-0.08
Mn	0.001-5.3	0.009-1.1	0.001-3.1	–	0.001-0.4	0.001-0.1	0.2-1.8
Fe	0.02-3.0	0.03-1.03	0.005-6.0	0.02-0.28	0.003-0.028	0.001-0.2	0.1-1.7
Ni	0.009-1.8	5.5-32.5	0.005-6.0	0.005-0.35	0.001-1.0	0.001-0.5	0.05-1.0
Si	0.001-4.6	0.009-0.46	0.004-0.3	0.02-0.3	0.002-0.009	0.001-0.055	1.5-5.0
Mg	0.001-0.01	0.003-0.14	–	0.003-0.7	–	0.001-0.01	–
Cr	0.001-0.2	–	–	–	–	0.001-0.081	–
As	0.001-0.2	0.003-0.05	–	–	0.004-0.2	0.005-0.3	–
Sb	0.001-0.4	0.001-0.012	–	–	0.001-0.6	0.005-0.35	0.005-0.07
Ag	–	–	–	–	0.001-0.14	0.006-0.13	–
Co	0.004-0.1	–	–	–	0.001-0.1	–	–
Al	0.001-6.7	–	3.0-12.9	0.02-0.2	0.01-0.1	–	–
S	0.001-0.15	0.004-0.06	–	–	0.001-0.14	0.001-0.05	–
Cu	REF	REF	REF	REF	REF	REF	REF

STANDARD SAMPLES FOR SPECTRAL ANALYSIS

CAN BE CUSTOMIZED

INSPECTION CERTIFICATE

MSS-FE01

MSS-AL01

MSS-CU01

- Can be used for calibration and quality control of spectrograph measurement curves
- Can be customized based on the required range of element content
- Supplied with manufacturer inspection certificate

IRON-BASED STANDARD

(ELEMENTAL CONTENT*: %)

Alloy type	Carbon steel	Low alloy steel	Medium alloy steel	Stainless steel	High Cr cast iron	Cast iron	Pig iron
Code	MSS-FE01	MSS-FE02	MSS-FE03	MSS-FE04	MSS-FE05	MSS-FE06	MSS-FE07
C	0.066	0.436	0.322	0.044	1.63	3.59	0.0025
Si	0.136	0.208	0.613	0.392	1.76	3.01	0.021
Mn	0.464	0.495	0.83	1.24	0.722	0.622	0.143
P	0.032	0.016	0.018	0.032	0.041	0.075	0.0084
S	0.017	0.026	0.017	0.0018	0.076	0.0094	0.006
Cr	0.013	1.51	8.63	18.15	33.9	0.213	0.019
Ni	0.0075	0.127	0.148	8.21	0.366	0.204	0.009
Mo	–	0.182	0.016	0.043	0.332	–	0.002
V	–	0.0037	0.014	0.122	0.417	0.102	0.001
Als	–	1.06	0.023	0.014	–	–	–
Alt	–	1.1	0.027	0.016	–	–	–
Cu	0.001	0.096	0.47	0.197	0.223	0.246	0.0041
Co	–	0.0085	0.019	0.222	–	–	0.0016
W	–	0.0026	0.004	0.0091	–	–	0.0019
Ti	–	0.0023	0.076	0.0023	0.055	0.036	0.0005
As	–	–	0.0054	–	–	0.0025	0.0024
B	–	–	0.0002	–	–	–	0.001
Sn	–	–	0.0037	–	–	–	–
Sb	0.0013	–	0.0018	–	–	–	–
Zn	–	–	0.0034	–	–	–	–
Nb	–	–	–	0.002	0.161	–	0.001

ALUMINUM-BASED STANDARD

(ELEMENTAL CONTENT*: %)

Alloy type	Pure aluminum	Al-Cu alloy	Al-Mn alloy	Al-Si alloy	Al-Mg alloy	Al-Mg-Si alloy	Al-Zn-Mg-Cu alloy
Code	MSS-AL01	MSS-AL02	MSS-AL03	MSS-AL04	MSS-AL05	MSS-AL06	MSS-AL07
Si	0.09	0.036	0.224	7.29	0.102	1.09	0.03
Fe	0.119	0.052	0.395	0.123	0.282	0.206	0.068
Cu	0.0029	4.2	0.19	0.039	0.052	0.045	1.62
Mn	0.0023	0.589	1.04	0.045	0.371	0.775	0.034
Mg	0.012	1.34	1.16	0.414	4.68	1.07	1.39
Cr	–	0.034	–	0.039	0.041	0.114	–
Ni	–	0.032	0.044	0.035	0.028	0.055	0.031
Zn	0.0063	0.115	0.106	0.041	0.142	0.123	7.26
Ti	0.0044	0.086	0.036	0.147	0.019	0.05	0.035
Zr	–	–	–	–	–	–	0.117
Pb	0.0013	–	–	0.039	–	–	–

To be continued

Continued from previous page

COPPER-BASED STANDARD (ELEMENTAL CONTENT*: %)

Alloy type	Pure copper	Brass	Beryllium bronze	Cu-Sn alloy	Cu-Zn-Si alloy	Cu-Al alloy
Code	MSS-CU01	MSS-CU02	MSS-CU03	MSS-CU04	MSS-CU05	MSS-CU06
Cu	99.97	61.88	97.27	92.69	80.34	81.47
Pb	0.0002	0.108	0.012	0.01	0.0005	0.0003
Zn	0.0002	37.53	0.034	0.44	15.94	0.014
P	0.00003	0.039	0.013	0.109	0.005	0.0014
Fe	0.0009	0.116	0.096	0.071	0.022	3.82
Sn	0.0002	0.0051	0.059	6.00	0.0011	0.0012
Sb	0.00002	0.0046	–	0.0016	0.0002	0.0002
As	0.00011	0.0038	–	–	0.00014	0.0003
Ni	0.00016	0.0032	0.108	0.475	0.0011	4.48
Si	0.0002	0.0029	0.086	0.0008	3.56	0.081
Bi	0.00004	0.0028	–	0.0009	0.0003	–
S	0.0013	–	–	0.0065	–	0.0009
Al	0.0003	–	0.071	0.0001	0.001	9.82
Ag	–	–	–	0.0073	0.001	0.067
Be	–	–	1.94	–	–	–
Mn	–	–	0.003	–	0.0005	–
Co	–	–	0.292	–	0.0003	–
Cd	–	–	–	–	0.0001	–

*The actual value of the content may be slightly different when delivered, it is detailed in the inspection certificate

aluminum oxide sanding disc (included)

silicon carbide sanding disc (included)

SPECTRAL SAMPLE GRINDER
CODE OES-MY100

VIDEO

- Widely used for making specimens for spectral analysis and grinding of metal, ceramic, glass and other devices
- Compact machine structure, single disc with two speeds, can be equipped with different grits and hardnesses of grinding wheels for grinding
- The machine has smooth rotation, low noise, convenient operation and high working efficiency, and is suitable for factories and laboratories of scientific research units

SPECIFICATION

Disc diameter	350mm
Rotation speed	level 1: 1400r/min, level 2: 2800r/min (two fixed speed)
Power supply	AC380V, 50Hz, 2kW
Dimensions (L×W×H)	480×450×900mm
Weight	77kg

STANDARD DELIVERY

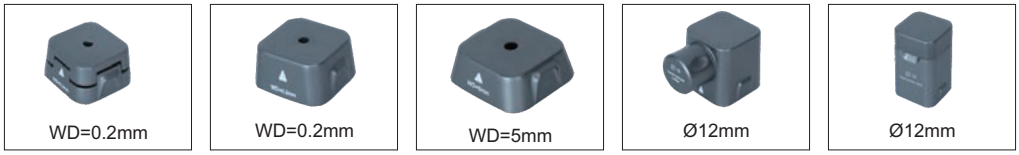
Main unit	1 set
Silicon carbide sanding disc	1 pc (60mesh)
Aluminum oxide sanding disc	1 pc (30mesh)

OPTIONAL ACCESSORY

Code	Material	Application	Granularity (mesh)	Diameter	Package (pcs/box)
OES-SCG60	silicon carbide	cast iron and non-ferrous metals	60	350mm	25
OES-ALG30	aluminium oxide	ferrous metals (non-cast iron)	30	350mm	30

HANDHELD RAMAN SPECTROMETER (ADVANCED TYPE)
CODE HHL-S360

VIDEO



- Widely used in industry, medicine, environmental protection, food, public security, defense, etc.
- For the qualitative identification of inorganic and organic substances in various forms
- The 1064nm wavelength has the unique advantage of avoiding fluorescence interference
- Plastic types can be clearly distinguished, with the ability to create user-owned database
- Different sizes of probes and lenses to meet the testing of various samples
- Account privileges can be set to prevent unauthorized disclosure of data
- Compact size, lightweight, replaceable batteries, long battery life

6

SPECIFICATION

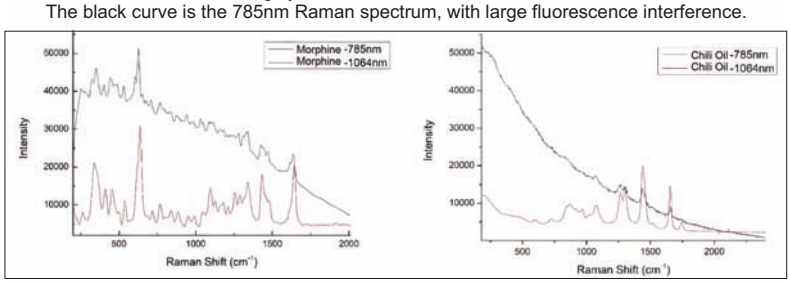
Operative system	android
Wavelength	1064nm
Wavenumber range	200~2500cm^{-1}
Laser power	0~500mW adjustable
Resolution	14cm^{-1}
Focus length	f=10mm*
Touch panel	6.5", 1600×720, multi-touch
Laser class	class 3B
Fields of application	plastics: PP, PS, PVC, PA, ABS, etc.
	drugs: heroin, methamphetamine, cocaine, ketamine, fentanyl, alprazolam, etc.
	food safety: food additives, pesticide and veterinary drug residues, illegal additives, etc.
	gemstones and minerals: authenticity of gemstones, color identification, inclusions analysis, etc.
	petrochemicals: oil quality analysis, chemical raw materials, intermediate by-products, etc.
	pharmaceutical industry: identification of raw materials and excipients, identification of Chinese medicine additives, qualitative identification of drugs, etc.
	others: scientific archaeology, biomedical diagnostics, environmental protection, etc.
Report output	supports export of multi-information test reports (test results, mapping information, photo forensics, etc.)
Communication Interface	bluetooth, WIFI
Battery	5800mAh lithium battery
Work hours	4-6h
Operation temperature	0~40°C
Dimension (L×W×H)	209×95×55mm
Weight	1350g

*Interchangeable focus lens with a focal length of 15mm

STANDARD DELIVERY

Main unit	1 pc
Battery	2 pcs
Charger	1 pc
Sample spoon	1 pc
Disposable droppers	5 pcs
Focus lens (f=15mm)	1 pc
Vertical liquid cuvette (Ø12mm)	1 pc
Horizontal liquid cuvette (Ø12mm)	1 pc
Push probe (WD=0.2mm)	1 pc
Probe for solid material (WD=0.2mm)	1 pc
Probe for solid material (WD=5mm)	1 pc

The red curve is the 1064nm Raman spectrum, the peaks are clearly visible, and it is highly resistant to fluorescence interference.
The black curve is the 785nm Raman spectrum, with large fluorescence interference.



HANDHELD RAMAN SPECTROMETER (BASIC TYPE)
CODE HHL-R240

VIDEO

- One-touch operation, non-destructive, fast detection and identification
- Equipped with raman spectral recognition algorithms, including standard spectra of up to 10,000 kinds of substances
- Supports analysis of pure substances and mixtures, with the ability to create user-owned database
- 5.5" screen and dual cameras to record the inspection site at all times
- Test results support export PDF reports
- Ultra-light weight, suitable for one-handed operation, easy to carry, built-in lithium battery
- 4-6 hours of long battery life

6

SPECIFICATION

Operative system	Android
Excitation wavelength	785±0.5nm
Wavenumber range	200~4000cm^{-1}
Resolution	10cm^{-1}
Touch panel	5.5", 1920×1080, Multi-Touch
Communication Interface	USB type-C
Fields of application	drugs: heroin, methamphetamine, cocaine, ketamine, etc.
	predisposition to manufacture: ephedrine, trichloromethane, ether, etc.
	explosives: TNT, RDX, TATP, ammonium nitrate, etc.
	hazardous chemicals: sulphuric acid, petrol, nitric acid, toluene, etc.
	food and drugs: illegal additives, pharmaceutical excipients, etc.
Report output	supports export of multi-information test reports (test results, mapping information, photo forensics, etc.)
Work hours	4-6h
Battery	5200mAh lithium battery
Operation temperature	-20~50°C
Dimension (L×W×H)	172×85×30mm
Weight	500g

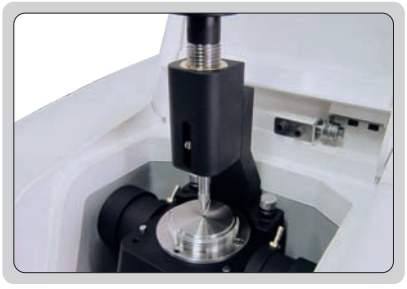
STANDARD DELIVERY

Main unit	1 pc
Power cable	1 pc
Solid probe	1 pc
Liquid cuvette	1 pc

FOURIER TRANSFORM INFRARED SPECTROMETER
CODE FTI-A170

NO SAMPLE PREPARATION REQUIRED

VIDEO



ZnSe crystals ATR attachment
(included)

- Widely used in medicine, chemical industry, petroleum, environmental protection, food industry, materials, public security, national defense, semiconductor, optical and other fields
- Qualitative identification of human and veterinary drugs, polymer materials, adhesives and binders, rubber, polyurethane, acrylic resins, concrete admixtures and so on
- Quantitative testing of mineral insulating oils, structural groups in lubricating oils, trans fatty acids in food and grease, atypical additives in petrol, petroleum hydrocarbons in solid waste, oils in water, etc.
- Versatile accessory options, easy replacement and installation, large sample compartment for easy expansion of other infrared accessories, such as ATR accessories, liquid test set, etc.
- With over 200,000 standard infrared spectra

6

SPECIFICATION

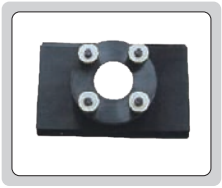
Spectral range	7800~350cm^{-1}
Resolution	better than 1.0cm^{-1}
Signal-to-noise ratio	better than 30000:1
Detector	infrared detector
Beam splitter	multi-coated potassium bromide, with humidity resistant coating
Scanning speed	microcomputer control and selection of different scanning speeds, gear continuously adjustable
Source of infrared light	long-life, high-intensity air-cooled infrared light source
Wavenumber precise	0.01cm^{-1}
Software function	1. with spectrum annotation function 2. with spectrum search and comparison function 3. spectrogram self-addition function, spectrogram matching analysis function 4. with tools for peak labeling/differential spectra (quadratic operation of spectra)/smoothing, etc. 5. with peak height/peak area measurement tools 6. export report 7. provide at least 200,000 infrared spectra of commonly used compounds
Working environment	20%~50%RH
Weight	14kg
Dimension (L×W×H)	450×350×210mm
Power supply	AC220V, 50Hz

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Software	1 pc
ZnSe crystals ATR attachment	1 pc

OPTIONAL ACCESSORY

Diamond crystal ATR attachment	**FTI-A170-ATRND**
Solid powder tablet press machine	**FTI-A170-TPM-1**
Tablet press moulds	**FTI-A170-TPM-2**
KBr (SP grade)	**FTI-A170-KBR-1**
KBr mortar	**FTI-A170-KBR-2**
Removable liquid test set	**FTI-A170-FLU**
Electronic moisture-proof box	**FTI-A170-MPB**



removable liquid test set
(**optional**)

electronic moisture-proof box
(**optional**)

CAN BE CUSTOMIZED FOR HIGH SULPHUR CHANNEL ACCORDING TO REQUIREMENTS

CARBON AND SULFUR ANALYZER
CODE CSA-R300

VIDEO

- Widely used in iron and steel metallurgy, powder metallurgy, magnetic materials, new energy, third-party testing, research institutes, etc.
- Analysis of carbon and sulfur in steel, cast iron, alloys, cement, sand, glass, lime, rubber, catalysts, soil, semiconductors, electronic materials, metal ores, ceramics and other solid materials
- Adoption of high-end infrared detection system and the core components of the air circuit system ensures the stability and accuracy of detection
- The high-frequency heating system adopts special high-frequency capacitors to ensure the long-term reliability of high-frequency work
- Adopt German imported special external metal dust filter, easy to dismantle, easy to clean
- Electronic balance for accurate weighing, auto-matic tare of crucible mass, auto-matic input of sample weight
- The software can monitor solenoid status, signal acquisition status, high frequency status, baseline status, etc.
- With data management and storage, query and statistics, printing projects, generating reports

6

SPECIFICATION

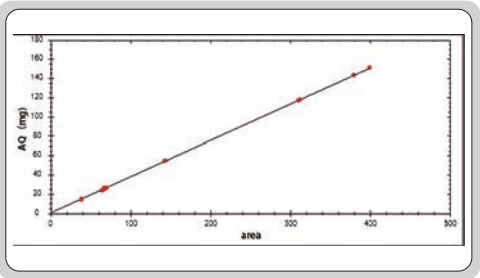
Detector	pyroelectric solid state infrared detectors
Light source	infrared light source
Channel configuration	standard with high carbon, low carbon, low sulfur
Thermostatic	gas chamber thermostat control
Analysis range	low carbon: 0.6ppm~0.1%, high carbon: 0.1%~50%, low sulfur: 0.6ppm~0.3%*
Analysis accuracy	carbon: 1ppm or RSD≤0.5%, Sulfur: 1ppm or RSD≤1.0%
Sensitivity	0.01ppm
Analysis time	30s~40s
Sample weighing	recommended range 0.1g~0.5g, can be changed according to the sample content
Combustion furnace	18MHz, 2.7kVA
Carrier gas	oxygen concentration ≥99.5%
Motive gas	nitrogen concentration ≥99.5%
Power supply	AC220V±10%, 50Hz, 16A
Dimensions (L×W×H)	550×760×770mm
Weight	100kg

*Changing the weighing volume can extend the analysis range up to 100%, can be customized for high sulfur channel with 0.3-30% analysis range

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Software	1 pc
Dust catcher	1 pc
Electronic balance (8310-120M)	1 pc
Printer	1 pc
Pressure valve	1 pc
Standard sample	3 pcs
Soda lime (CSA-R300-SL)	1 pc
Tungsten flux (CSA-R300-TF)	1 pc
Desiccant (CSA-R300-DE)	1 pc
Crucible (CSA-R300-CR)	1000 pcs
Tool	1 set

ANALYSIS CURVE



To be continued

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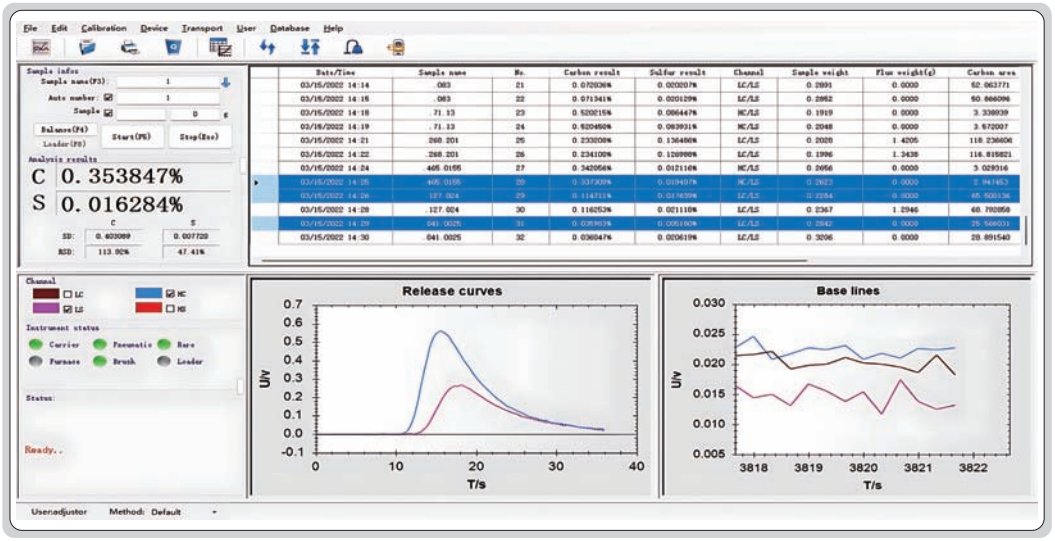
ANALYSIS SOFTWARE (INCLUDED)



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OXYGEN/NITROGEN/HYDROGEN ANALYZERS (STANDARD TYPE)

VIDEO

ELA-ONH35

- Widely used in iron, non-ferrous metals, new materials, magnetic materials, new energy, research institution, etc.
- Can analyze oxygen, nitrogen, and hydrogen in alloys, lithium battery materials, powders, rare earths, neodymium-iron-boron materials, etc.
- Can analyze the oxygen in various oxide and the nitrogen in various nitride
- Test method can be established for different types of sample
- Thermal extraction is used to analyze the content of residual hydrogen in the sample
- Featured software with linearization and self-diagnostic function
- Automatic switching of channel from low to high content

To be continued

Continued from previous page

SPECIFICATION

Code	ELA-O35	ELA-N35	ELA-ON35	ELA-ONH35	ELA-H35	ELA-OH35
Analysis element	O	N	O, N	O, N, H	H	O, H
Analysis range**	O: 0.1ppm~0.5%*	N: 0.1ppm~50%	O: 0.1ppm~0.5%* N: 0.1ppm~50%	O: 0.1ppm~0.5%* N: 0.1ppm~50% H: 0.1ppm~0.5%	H: 0.1ppm~0.5%	O: 0.1ppm~0.5% H: 0.1ppm~0.5%
Carrier gas	Ar (≥99.9995%)	He (≥99.9995%)			N_2 (≥99.9995%)	
Motive gas	N_2 (≥99.9995%)					
Accuracy	O: 1ppm or RSD≤1%, N: 1ppm or RSD≤1%, H: 0.2ppm or RSD≤2%					
Sensitivity	0.01ppm					
Pulse furnace	current: 0~1500A, the maximum temperature can reach 3000°C					
Analysis time	3 minutes					
Sample weighing	recommended 1g, can be changed according to the sample content					
Work environment	18~29°C, ≤80%RH					
Power supply	AC 220V, 50Hz/60Hz					
Dimensions (L×W×H)	700×1100×680mm					
Weight	180kg					

*Can be customized to extend the analysis range of oxygen: 0.1ppm~20%

**The analysis range can be expanded by changing the weight

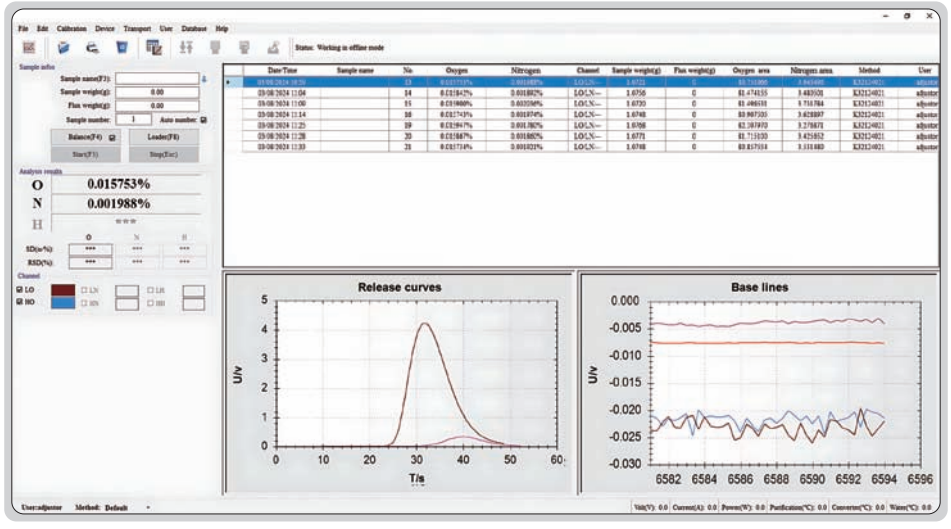
STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Analysis software	1 pc
Water circulate chiller	1 pc
Electronic analytical balance (8310-120M)	1 pc
Standard sample (ELA-ONH35-BYST)	1 pc
Electrode brush (ELA-ONH35-BR)	1 pc
Copper brush (ELA-ONH35-CR)	1 pc
Single crucible (ELA-ONH35-DCB25)	100 pcs
Reusable crucible (ELA-ONH35-FCB14)	50 sets
Tin sheet (ELA-ONH35-TS100)	1 pc
Copper oxide (ELA-ONH35-CU50)	1 pc
Soda lime (ELA-ONH35-SL)	1 pc
Printer	1 pc
Voltage regulator	1 pc
Tool	1 set

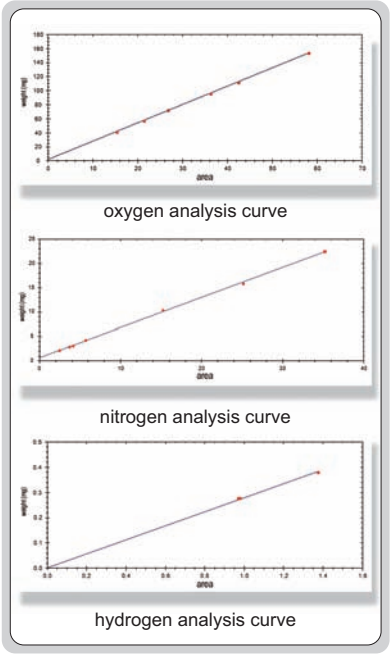
OPTIONAL ACCESSORY

Quartz tube (Ø15mm×207mm)	ELA-ONH35-QT25
Nickel basket (200 pcs)	ELA-ONH35-NB200
Nickel foil (100g)	ELA-ONH35-NF100
Ultrasonic cleaner	ELA-ONH35-UC150

ANALYSIS SOFTWARE (INCLUDED)



ANALYSIS CURVE



oxygen analysis curve

nitrogen analysis curve

hydrogen analysis curve

ATOMIC ABSORPTION SPECTROMETERS (BASIC TYPE)

GRAPHITE FURNACE CAN BE CUSTOMIZED

LIQUID ANALYSIS

VIDEO

AAS-R304

- Widely used in metallurgy, mining, petroleum, light industry, agriculture, medicine, food and environmental monitoring, etc.
- Concentration analysis of major and microtrace element
- Equipped with intelligent software for rights management and audit trail
- Automatic setting of work lamp, warm-up lamp and analysis condition
- System with deuterium background deduction for complex sample
- The protection system can monitor flame, pressure and acetylene leakage in real time

Cu hollow cathode lamp (included)

hydride generator **(optional)**

flame auto-sampler (**optional**)

ANALYSIS ELEMENT

Regular element	**Li**	**Na**	**K**	**Al**	**Ga**	**Ca**	**Mg**	**Sr**	**Ba**	**Mn**	**V**	**Mo**	**Rh**
	Cu	**Zn**	**Fe**	**Co**	**Ni**	**Cr**	**Zr**	**Au**	**Ag**	**Pt**	**Si**	**Ti**	**W**
Special element*	**As**	**Se**	**Sb**	**Bi**	**Sn**	**Pb**	**Te**	**Ge**	**Cd**	**Hg**			

*Special element requires hydride generator **AAS-R304-HDG**

To be continued

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SPECIFICATION

Code	AAS-R304	AAS-R308
Lamp position	4 positions**	8 positions**
Static baseline drift (Cu)	±0.004A/30min	±0.003A/30min
Dynamic baseline drift (Cu)	±0.006A/15min	±0.005A/15min
Characteristic concentration (Cu)	≤0.04μg/mL	≤0.035μg/mL
Detection limit (Cu)	≤0.008μg/mL	≤0.006μg/mL
Background calibration	deuterium lamp ≥30 times (1Abs)	deuterium lamp ≥40 times (1Abs)
Repeatability	RSD≤1%	RSD≤0.6%
Wavelength error	0.3nm	0.2nm
Wavelength repeatability	≤0.1nm	
Wavelength range	185~900nm	
Display data	transmittance, absorbance, concentration	
Photometric range	0~125%, -0.1~3.00A	
Beam type	single beam	
Monochromator	C-T type, focal length 350mm	
Dispersive element	raster scribing 1800 lines/mm, scintillation wavelength	
Spectral bandwidth	six levels auto-matic switching (0.1, 0.2, 0.4, 0.7, 1.4, 2nm)	
Spectral bandwidth deviation	±0.02nm	
Natural gas	C_2H_2 (≥99.9%)	
C_2H_2 flow adjustment	automatic 12 levels	
Air flow adjustment	automatic 4 levels	
Burner	titanium metal burner (auto-matic lifting and lowering)	
Atomizer	glass atomizer	
Atomization chamber	corrosion resistant atomization chamber	
Safety measure	gas pressure protection	
Measurement method	flame method, hydride generation-atomic absorption method, flame emission method	
Concentration calculation	standard curve method, standard addition method, interpolation method	
Measurement data	mean values of absorbance and concentration, standard deviation and relative standard deviation data	
Work environment	10~30°C, 40~80%RH	
Power supply	AC220V, 50Hz	
Dimensions (L×W×H)	830×50×60mm	
Weight	90kg	

**Only Cu hollow cathode lamp included and other element lamps need to be optioned

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Software	1 pc
Air compressor	1 pc
Cu hollow cathode lamp (AAS-R304-CU)	1 pc
Standard sample (AAS-R304-BY)	1 pc
Tool	1 set

OPTIONAL ACCESSORY

Flame auto-sampler (100 positions)	AAS-R304-HAS
Hydride generator	AAS-R304-HDG
Hollow cathode lamp	AAS-R304-□□***

*** □□ is analysis element, for example, code **AAS-R304-ZN** stands for the hollow cathode lamp used to analyze the element Zn

ATOMIC ABSORPTION SPECTROMETER (STANDARD TYPE)
CODE AAS-D506

LIQUID ANALYSIS

VIDEO

6

- Widely used in metallurgy, petrochemical industry, geology, medicine, environmental protection, scientific research, agriculture, disease control, food industry, materials science, commodity inspection, etc.
- It can analyse more than 70 elements, enabling trace and sub-trace elemental component analysis
- The design of optical system suspension effectively nullifies the impact of vibrations and environmental variations on the optical system
- The flame atomizer, graphite furnace and graphite furnace power supply are ingeniously integrated
- It takes only 2 seconds to automatically switching between flame and graphite furnace
- Overcurrent protection for hollow cathode lamps, low pressure or gas leakage alarm for fuel gas/protection gas, overheating protection for graphite furnace, abnormal flame condition protection

Cu hollow cathode lamp (included)

circulating water chiller (included)

hydride generator (**optional**)

flame auto-sampler (**optional**)

graphite furnace auto-sampler (**optional**)

flame/graphite furnace auto-sampler (**optional**)

To be continued

Continued from previous page

SPECIFICATION

Optical system	lamp position	6 positions*
	wavelength range	190~900nm
	wavelength repeatability	≤0.05nm
	wavelength accuracy	±0.1nm
	shining wavelength	250nm
	resolution	better than 0.1nm
	monochromator	C-T type
	raster line	1800 lines/mm
	spectral bandwidth	five levels auto-matic switching (0.1, 0.2, 0.4, 1.0, 2.0)nm
	baseline stability	≤0.003A/30min (dynamic), ≤0.002A/30min (static)
Flame system	characteristic concentration (Cu)	≤0.02μg/mL/1%
	detection limit	≤0.003μg/mL
	precision	RSD≤0.6%
	burner	interchangeable single seam 100mm titanium burner and 50mm stainless steel burner the position and rotation Angle of the front and back of the combustion head are adjustable optional burner automatic lifting function (**AAS-D506-AUTO**)
Graphite furnace system	characteristic quantity (Cd)	≤0.3×10^{-12}g/1%
	detection limit	≤0.2×10^{-12}g
	precision	RSD≤2%
	temperature control range	room temperature~3000ºC
	temperature control program	maximum 20 steps of heating procedures, ladder, slope, maintain three heating methods
	warming model	light-controlled heating rate: ≥3000ºC/s, power heating rate: ≥2000ºC/s
Background correction	correction mode	deuterium lamp, optional self absorption background correction (**AAS-D506-SPBC**)
	correction capability	when background absorption approaches 1.0 Abs, the instrument is capable of a background correction of 60 times or more
Acetylene (C_2H_2)		≥99.9%
Argon (Ar)		≥99.9%
Work environment		15~35°C, ≤85%RH
Power supply		AC220V, 50Hz, main unit power: 500W, graphite furnace power: 5kW
Dimension (L×W×H)		880×540×450mm
Weight		125kg

*Only Cu hollow cathode lamp included and other element lamps need to be optioned

ANALYSIS ELEMENT

Black metal element		Fe, Cr, Mn
Non-ferrous metal element	light metal element	Al, Mg, Na, K, Ca, Sr, Ba
	heavy metal element	Cu, Pb, Zn, Ni, Cd, Hg*, Sn, Sb, Bi
	precious metal element	Au, Ag, Pt, Pd, Rh, Ir, Os, Ru
	metamaterial element	B, Si, As*, Sb, Te
	rare metal element	Li, Rb, Cs, Ti, Zr, Nb, Mo, Ta, W, Ga, In, Ge, Tl, La, Ce, Nd, Y, Sc, etc.

*Analysis of this element requires the selection and configuration of a hydride generator **AAS-D506-HG15**

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Software	1 pc
Air generator	1 pc
Circulating water chiller	1 pc
Cu hollow cathode lamp (AAS-D506-CU)	1 pc
Standard sample (AAS-D506-BY)	1 pc
Tool	1 set

OPTIONAL ACCESSORY

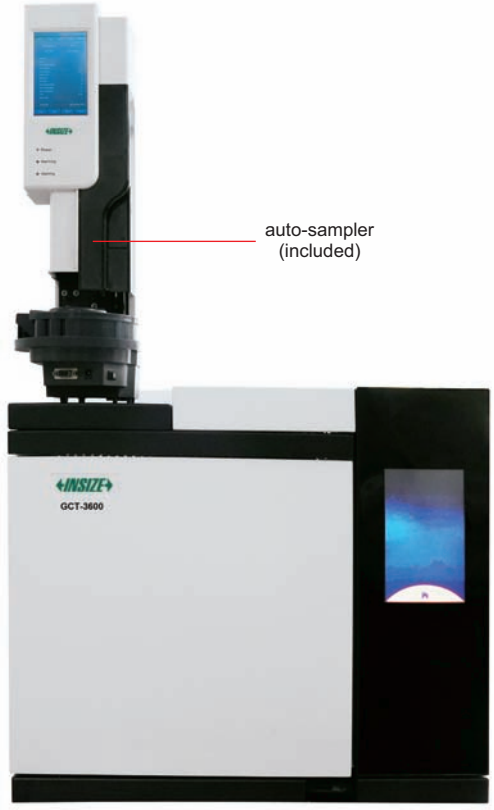
Flame auto-sampler	AAS-D506-FG10
Graphite furnace auto-sampler	AAS-D506-GF20
Flame/graphite furnace auto-sampler	AAS-D506-FGF600
Hydride generator	AAS-D506-HG15
Hollow cathode lamp	AAS-D506-□□*

*□□ is analysis element, for example, code **AAS-R304-ZN** stands for the hollow cathode lamp used to analyze the element Zn

GAS CHROMATOGRAPHY (ADVANCED TYPE)
CODE GCT-3600

ANALYSIS METHODS AND CONFIGURATIONS CAN BE CUSTOMIZED ACCORDING TO INSPECTION REQUIREMENTS

VIDEO



hydrogen generator
(included)

air generator
(included)

DETECTORS

Thermal conductivity detector (TCD)	**code**	**GCT-D-TCD**
	sensitivity	≥10000mv · mL/mg (Benzene/Toluene)
	baseline noise	≤20μv
	baseline drift	≤20μv/30min
	TC bridge road	air break protection: protects the tungsten filament from damage
	analysis material	purity of industrial gases such as oxygen, nitrogen, helium, etc. and VOCs
Flame photometric detector (FPD)	**code**	**GCT-D-FPD**
	detection limit	(S) ≤5×10^{-11}g/s (Thiophene/Ethanol), (P) ≤1×10^{-12}g/s (Methyl Parathion/Ethanol)
	baseline noise	≤3×10^{-13}A
	baseline drift	≤2×10^{-12}A/30min
	linear range	S≥10^2, P≥10^3
	analysis material	sulfur and phosphorus containing compounds
Electron capture detector (ECD)	**code**	**GCT-D-ECD**
	detection limit	≤1×10^{-14}g/mL (Propyl Hexahydroxy/Isooctane)
	baseline noise	≤0.03mV
	baseline drift	≤0.2mV/30min
	radiation source	Ni^{63}
	analysis material	halogenated compounds, peroxides, nitro compounds, metal-organic compounds, steroidal compounds, polycyclic aromatic compounds, etc.
Nitrogen phosphorus detector (NPD)	**code**	**GCT-D-NPD**
	detection limit	(P) ≤5×10^{-13}g/s (Malathion/Isooctane), (N) ≤7×10^{-13}g/s (Azobenzene/Isooctane)
	baseline noise	≤3×10^{-13}A
	baseline drift	≤2×10^{-12}A/30min
	linear range	≥10^3
	analysis material	organic compounds containing nitrogen and phosphorus

To be continued

Continued from previous page

- Widely used in petrochemical, environmental analysis, food analysis, drug analysis, polymer analysis, etc.
- The instrument is equipped with a 7" screen, supports hot-swappable, can be used as a handheld controller
- The instrument adopts a microcomputer system to control temperature with high precision, high reliability, and anti-interference
- The instrument is equipped with an electronic flow control unit (EFC) and an electronic pressure control unit (EPC) to improve stability and repeatability
- Chromatography microcomputer system with MODBUS/TCP standard protocol, can be interfaced with DCS system

SPECIFICATION

Analysis material		hydrocarbons, carbonaceous organic matter (COC), volatile organic compound (VOCs), etc.
Control system	**temperature control area**	8 signals
	temperature control range	above room temperature 4-450°C, incremental 1°C, accurate: ±0.1°C
	program temperature rise rate	0.1-120ºC/min
	air circuit control	full electronic pressure flow control
	measurement range	0-100Psi (pressure), 0-1000mL/min (flow rate)
	resolution	0-0.1Psi (pressure), 0-1mL/min (flow rate)
	external control	8 signals, auxiliary control output 2 signals
	program temperature rise step	16 steps
Detector	**type**	hydrogen flame ionization detector (FID)
	detection limit	≤3×10^{-12}g/S (n-hexadecane)
	baseline noise	≤1×10^{-14}A (after 2 hours of instrument stabilization)
	baseline drift	≤1×10^{-13}A/30min (after 2 hours of instrument stabilization)
Auto-sampler	**syringe specifications**	1, 5, 10, 25, 50, 100, 250, 500 (μL)
	vial position	24 bits (customizable expansion to 160 bits)
	solvent bottle position	2 bits (customizable expansion to 11 bits)
	vial volume	2mL
	injection volume	0.1-250μL
	feed rate	fast, slow, user-defined
	feed mode	general, continuous, PTV, user-defined
Gas supply	**carrier gas**	N_2≥99.999%
	natural gas	H_2≥99.999%
	combustion gas	dry oil-free air
Data processing		1. can simultaneously process data from up to 5000 chromatographies 2. can automatically generate chromatography files 3. can name chromatography folders by time and shift sequence
Communication interface		ethernet: IEEE802.3
Working environment		15~30°C, ≤85%RH
Power supply		AC220V, 50Hz, 3kW
Dimension (L×W×H)		560×530×480mm
Weight		60kg

STANDARD DELIVERY

Main unit	1 pc
Auto-sampler	1 pc
Computer	1 pc
Software	1 pc
Detector (FID)	1 pc
Hydrogen generator	1 pc
Air generator	1 pc
Gas purifier	1 pc
Column (SE-54)	1 pc
Consumable and spare parts	1 set*

* Including injection needles, injection pads, graphite pads, gas connection lines and other common consumables and tools

OPTIONAL ACCESSORY

Electronic balance	**8304-220**
Thermal conductivity detector**	**GCT-D-TCD**
Flame photometric detector**	**GCT-D-FPD**
Electron capture detector**	**GCT-D-ECD**
Nitrogen phosphorus detector**	**GCT-D-NPD**

** The detector needs to be ordered with the main unit together, up to two detectors can be ordered

GAS CHROMATOGRAPHY
(RoHS2.0 O-BENZENE FAST SIFTER)
CODE GCT-2400

VIDEO

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Thermal cracker	1 pc
Software	1 pc
Standard sample	2 pcs
Air generator	1 set
Hydrogen generator	1 set
Consumable and spare parts	1 set *

* Including injection needles, injection pads, graphite pads, gas connection lines and other common consumables and tools

thermal cracker (included)

6

- Easy to operate and requires just 20 minutes for sample analysis
- No need to handle samples during use, no chemical reagents are used, and no waste liquid or gas is generated
- The instrument adopts a microcomputer system to control temperature with high precision, high reliability, and anti-interference
- The instrument has a network remote control function with ethernet communication interface to analyze the data

SPECIFICATION

Analysis material	Di (2-ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (DBP), Dibutyl phthalate (BBP), Diisobutyl phthalate (DIBP)
Temperature control area	8 signals
Temperature control range	above room temperature 4-450°C, incremental 1°C, accurate: ±0.1°C
Program temperature rise step	20th step
Program temperature rise rate	0.1-60°C/min
Measurement range	0-0.25MPa (pressure), 0-1000ml/min (flow rate)
Injection valve	automation
Sampler type	capillary injection
Capillary column	Ø0.53mm×30m×0.50μm (shunt)
Detector	hydrogen flame Ionization detector (FID)
Detection limit	≤3×10^{-12}g/S (n-hexadecane)
Baseline noise	≤1×10^{-14}A (after 2 hours of instrument stabilization)
Baseline drift	≤1×10^{-13}A/30min (after 2 hours of instrument stabilization)
Linear range	≥10^{6}
Carrier gas	N_2≥99.9995%
Natural gas	H_2≥99.9995%
Combustion gas	dry oil-free air
Data processing	1. can simultaneously process data from up to 5000 chromatographys 2. can automatically generate chromatograph files 3. can name chromatograph folders by time and shift sequence
Communication interface	ethernet: IEEE802.3
Working environment	5~35°C, 0~85%RH
Power supply	AC220V±10%, 50Hz (±0.5Hz), 3kW
Dimension (L×W×H)	600×560×500mm
Weight	55kg

hydrogen generator (included)

air generator (included)

OPTIONAL ACCESSORY

Electronic balance	8304-120	maximum weighing capacity 120g, resolution 0.1mg
	8304-220	maximum weighing capacity 220g, resolution 0.1mg
Capillary column	GCT-2400-CC	Ø0.53mm×30m×0.50μm
Standard sample	GCT-2400-BY	mixed standard of 4 phthalates (1000μg/mL)

VIDEO

ANALYSIS METHODS AND CONFIGURATIONS CAN BE CUSTOMIZED ACCORDING TO INSPECTION REQUIREMENTS

LIQUID CHROMATOGRAPHY
CODE HLC-3000

column oven (included)

Ultraviolet-Visible detector (included)

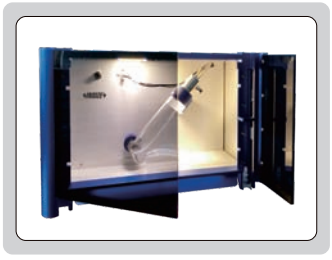
- Highly accurate, self-calibrating analog-to-digital converter and optical path system improves the signal-to-noise ratio of the detector
- With automatic wavelength calibration and the ability to optimize the deuterium lamp energy
- Digital and analog signal output at the same time, more practical
- Dual wavelength simultaneous detection for more accurate results

Auto-sampler (included)

- The patented inlet design and unique cleaning method ensure ultra-low sample residue
- The cooling function of the sample tray makes the sample analysis process more stable
- Support high-speed sampling mode, the fastest can be realized within 1s

High pressure pump (included)

- Patented low-pulsation, high-precision, tandem, dual-plunger, high-pressure, constant-current pump designed to minimize pulsation
- The special seal design makes the maximum pressure resistance of the pump up to 90 MPa, which meets the requirements of many kinds of analytical experiments
- Multi-stage microporous mixing with labyrinth design mixer for more uniform mixing and lower pulsation



evaporative light-scattering detector (**optional**)

fluorescence detector (**optional**)

photo-diode array detector (**optional**)

refractive index detector (**optional**)

- Widely used in drug discovery, food safety, environmental testing, life sciences, etc.
- Various temperature control modes of the column temperature chamber make the temperature more accurate
- The auto-sampler has a high-speed injection mode that makes the analysis process faster
- The cooling function ensures the stability of the analysis process even for biological samples
- EMC electromagnetic compatibility function can avoid other electromagnetic interference, and makes the instrument more stable

To be continued

Continued from previous page

SPECIFICATION

Detector	analysis material	organic compounds, inorganic ions, biomolecules (such as DNA, proteins) with UV-visible absorption properties
	type	Ultraviolet-Visible detector
	wavelength range	190~800nm
	baseline noise	≤1.5×10^{-5}AU
	baseline drift	≤2.0×10^{-4}AU/h
	light source	deuterium lamp, tungsten lamp
	bandwidth	8nm
	minimum detection concentration	≤1.0×10^{-9}g/mL
	linear range	≥2.5AU
	wavelength accuracy	±1nm
	wavelength repeatability	≤±0.2nm
	detection cell temperature contro	5-55°C, setting step 0.1°C
	detection cell optical range	10nm
	detection cell pressure	≤0.1MPa
High pressure pump	pump type	binary high pressure constant current pump
	gradient mixing accuracy	±0.5%
	gradient mixing precision	≤0.1%
	flow range	0.001~10.000mL/min
	maximum working pressure	90MPa
	flow stability	≤0.06%
	gradient composition ratio	0~100%, programmable range
	pressure pulsation	≤0.1MPa
Auto-sampler	temperature control range	4~40°C
	special function	empty bottle detection and false tie alarm
	injection method	full loop injection, lossy injection, lossless injection
	input range	0~100μL
	vial quantity and specification	210th (1mL vial) 120th (2mL vial) 72th (4mL vial) double 96-well plate (support base magnetic plate option)
	input residue	<0.002%
	sample repeatability	<0.03%
	feed rate	support high-speed sampling mode, the fastest can realize 1s sampling
Column oven	temperature range	heating mode: 10~85°C cooling mode: 4~35°C smart mode: 4~85°C
	heating method	pall paste element plus air circulation for temperature control
	temperature accuracy	±0.1°C
	optional valves	optional 2 six-position seven-way valves or 2-position 6-way valve or 2-position 10-way valve
	temperature control accuracy	≤0.1°C
Power supply		110~220V, 50/60Hz, 1400W
Dimensions (L×W×H)		600×540×540mm
Weight		75kg

STANDARD DELIVERY

High pressure pump	1 pc
Auto-sampler	1 pc
Column oven	1 pc
Ultraviolet-Visible detector	1 pc
Solvent bottle tray	1 pc
Sample cell	1 pc
Chromatography data workstation	1 set
Column (5μm 4.6×250mm)	1 pc
Mobile phase solvent bottles	2 pcs
Computer	1 pc
Consumables and spare parts	1 set*

* Including common consumable tools such as connecting pipes and pipe joints

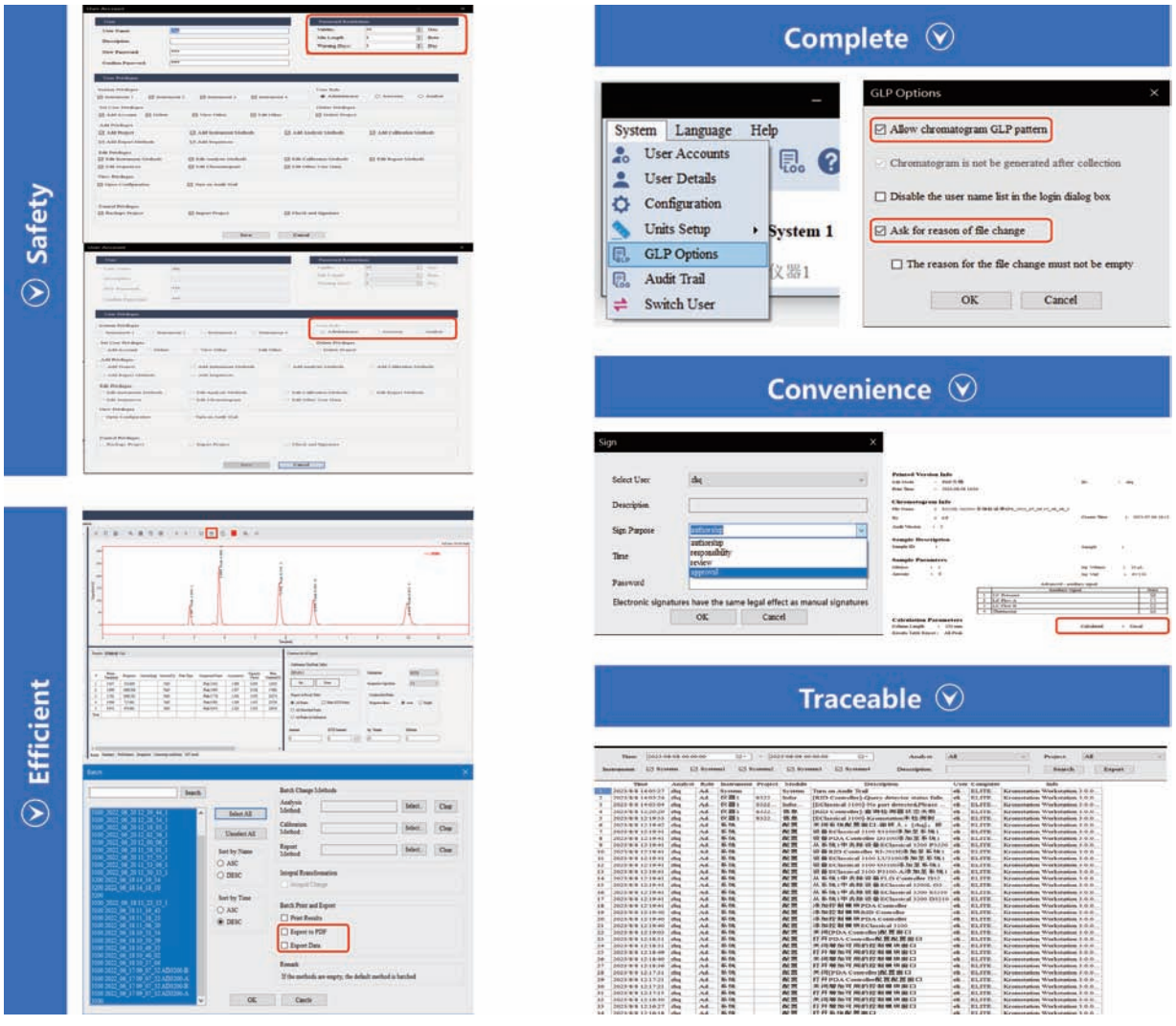
To be continued

Continued from previous page

OPTIONAL ACCESSORY

Name	Code	Analysis material
Evaporative light-scattering detector (ELSD)	HLC-D-ELSD	sugars, alcohols, amino acids, etc.
Fluorescence detector (FLD)	HLC-D-FLD	analysis of compounds with fluorescent properties, such as pesticide residues, veterinary drug residues, certain biomolecules, etc.
Photo-diode array detector (PDA)	HLC-D-PDA	proteins, nucleic acids and other biomolecules
Refractive index detector (RID)	HLC-D-RID	sugars, polymers, etc.

SOFTWARE (INCLUDED)



ION CHROMATOGRAPHY
CODE HLZ-1000

LIQUID ANALYSIS

ANALYSIS METHODS AND CONFIGURATIONS CAN BE CUSTOMIZED ACCORDING TO INSPECTION REQUIREMENTS

VIDEO

- Widely used in medicine, environment, food, chemistry, geology, research laboratories, etc.
- Can analyze anions, cations, and other polar substances in diverse matrix samples
- Auto-range conductivity detector, concentration signal can be switched from ppb to ppm
- On-line leakage monitoring, alarm and shutdown when leakage
- Intelligent switch on/off
- Gas-liquid separation, balances system pressure, ensures a smooth baseline

STANDARD DELIVERY

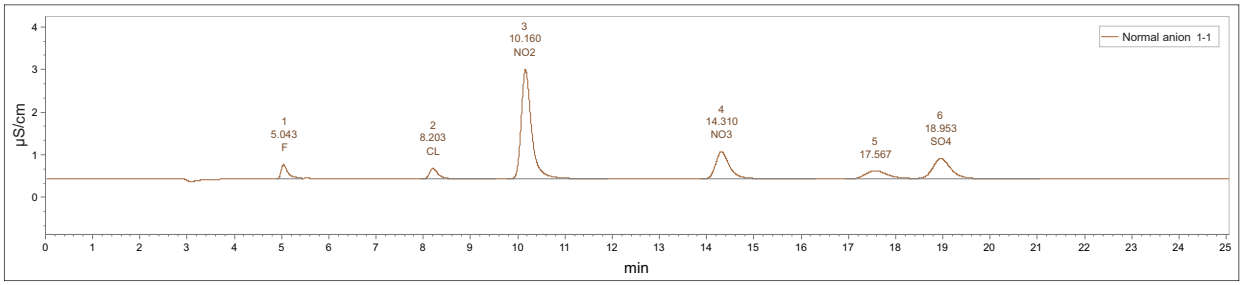
Main unit	1 pc
Infusion pump	1 pc
Conductivity detector	1 pc
Auto-sampler	1 pc
Anion chromatography column	1 pc
Anion protection column	1 pc
Anion suppressor	1 pc
Cation chromatography column	1 pc
Cation protection column	1 pc
Cation suppressor	1 pc
Analysis software	1 pc
Computer	1 pc
Column oven	1 pc
Gas-liquid separator	1 pc
Needle filter (0.22μm)	200 pcs
Consumable and spare parts	1 set*

*Including common consumable tools such as connecting pipes and pipe joints

eluent generator
(**optional**)

application

drinking water analysis



Name	Retention time (min)	Concentration (mg/L)	Peak area (μS/cm)×min	Peak height (μS/cm)
Fluoride	5.043	0.1	0.057520	0.332568
Chloride	8.203	0.15	0.058278	0.250672
Nitrite	10.160	2	0.663449	2.573802
Nitrate	14.310	1	0.224313	0.647586
Sulfate	18.953	0.75	0.222333	0.479444

To be continued

Continued from previous page

SPECIFICATION

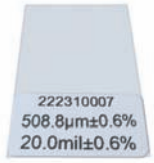
Analysis material	**cation**	1. can analyse cations such as Li^+, Na^+, NH_4^+, K^+, Mg_2^+, Ca_2^+, etc. 2. can analyse betaine and choline chloride
	anion	1. can analyse anions such as F^-, Cl^-, Br^-, NO_2^-, PO_4^{3-}, NO_2^-, SO_4^{2-}, ClO_2^-, BrO_3^-, ClO_3^-, etc. 2. can analyse organic acids
Detector	**type**	thermostatic auto-range conductivity fetector
	concentration range signal	adaptive signal switching for ppb~ppm concentration range
	temperature control	control the temperature of the conductivity pool by software
	pool volume	≤0.8μL
	detection range	0~35000μS/cm
	detection resolution	0.0020nS/cm
	baseline noise	0.001μS/cm
	baseline drift	≤0.002μS/30min
	maximum pressure	10MPa
	minimum detection limit	Cl^-≤0.0005μg/mL, Li^+≤0.0005μg/mL
	instrument linearity	≥0.999
	qualitative repeatability	≤0.5%
	quantitative repeatability	≤1%
Infusion pump	**type**	high-pressure, low-pulse double-plunger tandem pump
	applicable solution	suitable for pH 0~14 eluents and reversed-phase organic solvents
	maximum pressure	42MPa (material PEEK)
	flow range	0.001~9.999mL/min
	allowable error	≤0.25%
	flow stability	≤0.3%
Suppressor	**suppression technology**	continuous self-regenerating micro-membrane electrical suppression technology
	flow path	parallel regenerative flow path
	high rejection capacity	200μeq/min (anion), 100μeq/min (cation)
	pressure resistance	2MPa (no leakage up to 6MPa)
	dead volume	≤40μL
Thermostatic system	**temperature range**	ambient temperature +5°C to 60°C
	allowable error	±1°C
	stability	≤0.1°C/h
Auto-sampler	**type**	triaxial auto-sampler
	number of vial	120 positions (2mL capacity)
	maximum Input volume	1000μL
	input method	full quantitative loop/partial quantitative loop/nondestructive sampling
	injection precision	full loop injection: RSD ≤ 0.3%
Power supply		110~220V, 50/60Hz, 150W
Dimension (L×W×H)		310×400×530mm
Weight		22kg

OPTIONAL ACCESSORY

Eluent generator	**HLZ-EG120**
Pretreatment column C18	**HLZ-SPE-C18**
Amperometric detector	**HLC-AD150**

07 COATING INSPECTION

Coating Thickness Gauges
Page 277-284



Calibration Foils For Coating Thickness Gauges
Page 285

XRF Plating Thickness Instruments
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Surface Profile Gauges
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Wet Film Gauges
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Gloss Meters
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Spectrophotometers
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Holiday Detectors
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Digital Adhesion Testers
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Pencil Hardness Testers
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Rotational Abrasion Testers
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Cross Cut Adhesion Testers
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Conical Mandrel Test Apparatus
Page 307

Paint Film Flexibility Testers
Page 307

Impact Testers
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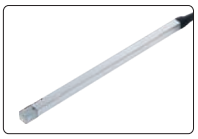
Flow Cups
Page 309-310

BLUETOOTH | FOR MAGNETIC AND NON-MAGNETIC SUBSTRATES | DATA OUTPUT

COATING THICKNESS GAUGES (STANDARD TYPE)

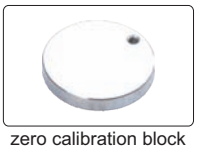
eddy current probe **NFE** with zero calibration block (**9501-1200N** included)


magnetic induction probe **FE90** for bores and grooves (**optional**)

calibration foils (included)

VIDEO

magnetic induction probe **FE10** for large range (**optional**)


zero calibration block (included)

receiver (**optional**)

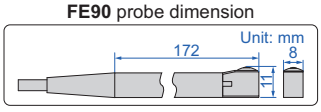
INSPECTION CERTIFICATE

POPULAR MODEL

9501-1200

- Magnetic induction probe (FE) measures the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate.
  Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
  Coating: zinc, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Eddy current probe (NFE) measures the thickness of non-conductive coating on non-magnetic metal substrate.
  Substrate: copper, aluminum, zinc, non-magnetic stainless steel
  Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- Tolerance measurement
- Data statistic, including average, variance, maximum and minimum values
- Data can be sent to Excel by connecting to computers via bluetooth or cable of receiver
- Support bluetooth printer
- Automatic power off

FE90 probe dimension



SPECIFICATION

Code	9501-1200	9501-1200N
Probe	magnetic induction probe	eddy current probe
Measuring range	refer to the specification of probes	
Accuracy	±(3%L+1)μm (range≤1250μm) ±(3%L+10)μm (range>1250μm) L is measuring thickness in μm	
Resolution	0.1μm (range<100μm) 1μm (range≥100μm)	
Measuring mode	continuous and single	
Storage capacity	600	
Output	Type-C	
Power supply	2×1.5V AA batteries	
Dimension	135×77×32mm	
Weight	172g	

STANDARD DELIVERY

Code	9501-1200	9501-1200N
Magnetic induction probe (9501-1200-FE)	1 pc	—
Zero calibration block for FE probe	1 pc	—
Eddy current probe (9501-1200-NFE)	—	1 pc
Zero calibration block for NFE probe	—	1 pc
Main unit	1 pc	1 pc
Software and USB cable	1 pc	1 pc
Calibration foils (50/100/250/500/1000μm)	1 set	1 set
1.5V AA battery	2 pcs	2 pcs

OPTIONAL ACCESSORY

Code	9501-1200	9501-1200N
Probe	9501-1200-NFE, 9501-1200-FE90, 9501-1200-FE10	9501-1200-FE, 9501-1200-FE90, 9501-1200-FE10
Receiver	ISR-C300-RECEIVER	
Cable of receiver	9501-1200-CABLE	
Bluetooth printer	ISR-C002-PRINTER	

SPECIFICATION OF PROBES

Code	Range	Minimum substrate thickness	Minimum measuring area	Minimum curvature radius of convex workpiece	Probe type
9501-1200-FE	0~1250μm	0.5mm	Ø7mm	1.5mm	magnetic induction probe (**FE**)
9501-1200-NFE	0~1250μm	0.3mm	Ø15mm	3mm	eddy current probe (**NFE**)
9501-1200-FE90	0~1250μm	0.5mm	Ø7mm	—	magnetic induction probe (**FE90**) for bores and grooves
9501-1200-FE10	500μm~10000μm	2mm	Ø40mm	10mm	magnetic induction probe (**FE10**) for large range

COATING THICKNESS GAUGE
CODE ISO-8000FN

SUITABLE FOR THIN COATING BELOW 10μm

FOR MAGNETIC AND NON-MAGNETIC SUBSTRATES

calibration foils (included)

stand (**optional**)

eddy current probe **N2000** (**optional**)

zero calibration plate (included)

eddy current probe **N1500** (**optional**)

VIDEO

magnetic induction probe **F500** (included)

- Can measure thickness of thin coating below 10μm
- High repeatability
- Magnetic induction probe measures the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate
  Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
  Coating: zinc, aluminum, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Eddy current probe measures the thickness of non-conductive coating on non-magnetic metal substrate
  Substrate: copper, aluminum, zinc, non-magnetic stainless steel
  Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- Maximum, minimum, average and variance values can be calculated automatically

7

SPECIFICATION

Probe		**F500** (included) magnetic induction probe	**N1500 (optional)** eddy current probe	**N2000 (optional)** eddy current probe
Measuring range		0~500μm	0~1500μm	0~2000μm
Resolution		0.1μm (range<100μm) 1μm (100μm≤range≤500μm)	0.1μm (range<100μm) 1μm (100μm≤range<1000μm) 0.01mm (1.00mm≤range≤1.50mm)	0.1μm (range<100μm) 1μm (100μm≤range<1000μm) 0.01mm (1.00mm≤range≤2.00mm)
Accuracy*		±(0.5μm+2%L)		
Repeatability*		≤(0.2μm+0.8%L)		≤(0.2μm+1%L)
Measuring mode		single and continuous		
Measuring interval	single mode	1.5s	0.8s	
	continuous mode	0.4s	0.4s	
Calibration mode		zero calibration and multi-points calibration (1~5 points)		
Minimum substrate thickness		0.1mm	0.05mm	
Minimum measuring area		Ø7mm		Ø25mm
Minimum radius of curvature workpieces	convex surface	1.5mm		
	concave surface	10mm		
Unit		μm/mil		
Power supply		4×1.5V AAA batteries		
Dimension		148×76×26mm		
Weight		148g		

*L is measuring thickness in μm

STANDARD DELIVERY

Main unit	1 pc
Magnetic induction probe	1 pc
Zero calibration plate	1 pc
Calibration foils (5.6μm, 11.6μm, 24.6μm, 50.0μm,100μm, 252μm, 390μm)	1 set
1.5V AAA battery	4 pcs

OPTIONAL ACCESSORY

Eddy current probe (with zero calibration plate and standard foil)	ISO-8000FN-N1500**
	ISO-8000FN-N2000
Stand	ISO-8000FN-STAND

**For precision measurement of thin coating below 10μm, please use the stand for eddy current probe

VIDEO

TEMPERATURE COMPENSATION

DATA OUTPUT

COATING THICKNESS GAUGE (HIGH ACCURACY)
CODE 5401-TC11

eddy current probe
NM (**optional**)

magnetic induction probe
FM (included)

- Magnetic induction probe (FM) measures the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate.
  Substrate: steel, iron, alloy, hard magnetic steel, etc.
  Coating: zinc, aluminum, chrome, copper, rubber, paint, etc.
- Eddy current probe (NM) measures the thickness of non-conductive coating on non-magnetic metal substrate.
  Substrate: copper, aluminum, zinc, tin, etc.
  Coating: rubber, paint, plastic, anodized film, etc.
- Real-time temperature compensation guarantees high accuracy, thin plating and oxide layer less than 20μm can be measured accurately
- Reduces the effects of electromagnetic interference and hand-held operation
- Probe can be re-matched after abrasion
- Tolerance measurement with adjustable alarm threshold
- USB interface for data transmission
- Coupling status indication
- Support cable printer

7

SPECIFICATION

Probe		**FM** (included) magnetic induction probe	**NM (optional)** eddy current probe
Range		0~1500μm	0~1500μm (chrome plating on copper: 0~40μm)
Resolution		0.1μm (<100μm) 1μm (100μm~1500μm)	
Accuracy*	**zero calibration**	±(1μm+2%L)	
	one-point calibration	±(1μm+2%L)	
	two-point calibration	±[1μm+(1~2)%L]	
	multi-point calibration	±(1μm+1%L)	
Measuring mode		single point measurement, scan mode, differential mode, average mode	
Calibration mode		zero calibration, one-point calibration, two-point calibration, multi-point calibration	
Test frequency		3 times per second	
Minimum substrate thickness		0.5mm	0.3mm
Minimum measuring area		Ø7mm	Ø5mm
Minimum curvature radius of convex workpiece		1.5mm	3mm
Data storage		500 groups	
Interface		USB	
Operation temperature		-10°C~50°C	
Power supply		3×1.5V AAA batteries	
Dimension		150×70×30mm	
Weight		160g	

*L is measuring thickness in μm

STANDARD DELIVERY

Main unit	1 pc
Magnetic induction probe (FM)	1 pc
Zero calibration block for FM probe	1 pc
Calibration foils(12/50/100/250/500/1000μm)	6 pcs
AAA battery	3 pcs
Software and USB cable	1 pc

OPTIONAL ACCESSORY

Eddy current probe (NM) (with zero calibration block for NM probe)	**5401-TC11-NM**
Cable printer	**5401-TC11-PRINTER**

COATING THICKNESS GAUGE (ADVANCED TYPE)
CODE 5402-TC21

VIDEO

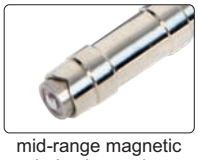
TEMPERATURE COMPENSATION

ONLINE MEASUREMENT IN REAL TIME

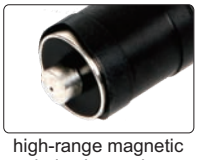
BLUETOOTH

- Magnetic induction probe (FM) measures the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate.
  Substrate: steel, iron, alloy, hard magnetic steel, etc.
  Coating: zinc, aluminum, chrome, copper, rubber, paint, etc.
- Eddy current probe (NM) measures the thickness of non-conductive coating on non-magnetic metal substrate.
  Substrate: copper, aluminum, zinc, tin, etc.
  Coating: rubber, paint, plastic, anodized film, etc.
- Real-time temperature compensation guarantees high accuracy, thin plating and oxide layer less than 20μm can be measured accurately
- Reduces the effects of electromagnetic interference and hand-held operation
- Probe can be re-matched after abrasion
- Tolerance measurement with adjustable alarm threshold
- USB and bluetooth interface for data transmission and online measurement in real-time
- Coupling status indication
- Support cable printer

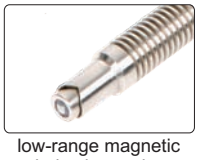
magnetic induction probe **FM** (included)



mid-range magnetic induction probe **FL** (**optional**)



high-range magnetic induction probe **FX** (**optional**)



low-range magnetic induction probe **FS** (**optional**)

high-temp magnetic induction probe **FH** (**optional**)

eddy current probe **NM** (**optional**)

7

SPECIFICATION

Probe		**FM** (included) magnetic induction probe	**FL** (**optional**) mid-range magnetic induction probe	**FX** (**optional**) high-range magnetic induction probe	**FS** (**optional**) low-range magnetic induction probe	**FH** (**optional**) high-temp magnetic induction probe	**NM** (**optional**) eddy current probe
Range		0~1500μm	0~3000μm	0~10000μm	0~500μm	0~3000μm	0~1500μm
Resolution		0.1μm (<100μm) 1μm (100μm~10000μm)					
Accuracy *	**zero calibration**	±(1μm+2%L)	±(1μm+3%L)	±(2μm+5%L)	±(1μm+2%L)	±(1μm+3%L)	±(1μm+2%L)
	multi-point calibration	±(1μm+1%L)	±(1μm+2%L)	±(1μm+3%L)	±(1μm+1%L)	±(1μm+2%L)	±(1μm+1%L)
Measuring mode		single point measurement, scan mode, differential mode, average mode					
Calibration mode		zero calibration, one-point calibration, two-point calibration, multi-point calibration					
Minimum substrate thickness		0.5mm	0.5mm	2mm	0.2mm	0.5mm	0.3mm
Minimum measuring area		Ø7mm	Ø7mm	Ø40mm	Ø3mm	Ø7mm	Ø5mm
Minimum curvature radius of convex workpiece		1.5mm	1.5mm	10mm	1mm	1.5mm	3mm
Data storage		500 groups					
Interface		USB, bluetooth					
Operation temperature		-10°C~50°C					
Power supply		3×1.5V AAA batteries					
Dimension		150×70×30mm					
Weight		160g					

*L is measuring thickness in μm

To be continued

Continued from previous page

STANDARD DELIVERY

Main unit	1 pc
Magnetic induction probe (FM)	1 pc
Zero calibration block for FM probe	1 pc
Calibration foils (12/50/100/250/500/1000μm)	6 pcs
AAA battery	3 pcs
Software and USB cable	1 pc

OPTIONAL ACCESSORY

Eddy current probe (NM) (with zero calibration block for NM probe)	5401-TC11-NM
Mid-range magnetic induction probe (FL)	5402-TC21-FL
High-range magnetic induction probe (FX)	5402-TC21-FX
Low-range magnetic induction probe (FS)	5402-TC21-FS
High-temp magnetic induction probe (FH)	5402-TC21-FH
Cable printer	5401-TC11-PRINTER

VIDEO

FOR MAGNETIC AND NON-MAGNETIC SUBSTRATES

COATING THICKNESS GAUGE (BASIC TYPE) CODE ISO-1000FN

- Probe is suitable for both magnetic and non-magnetic metal substrates
- Can measure the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate
  Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
  Coating: zinc, aluminum, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Can measure the thickness of non-conductive coating on non-magnetic metal substrate
  Substrate: copper, aluminum, zinc, non-magnetic stainless steel
  Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- 3 measuring modes: Fe, NFe, Fe/NFe
- Store 9 measuring records
- Small and portable, easy for operation

ruby contact point

SPECIFICATION

Measuring range		0~5000μm
Resolution		0.1μm (range<100μm) 1μm (100μm≤range<1000μm) 0.01mm (1mm≤range≤5mm)
Accuracy*		<2000μm: ±(2μm+3%L) 2000μm~5000μm: ±(2μm+5%L)
Measure interval		0.5s
Calibration mode		zero calibration
Measuring mode		Fe, NFe, Fe/NFe
Minimum substrate thickness	Fe	0.2mm
	NFe	0.05mm
Minimum measuring area		Ø25mm
Minimum radius of curvature workpieces	convex surface	5mm
	concave surface	25mm
Unit		μm/mil
Power supply		2×1.5V AAA batteries
Dimension		101×62×28mm
Weight		79g

*L is measuring thickness in μm

standard foil (included)

Fe zero calibration plate (included)

STANDARD DELIVERY

Main unit	1 pc
Fe zero calibration plate	1 pc
NFe zero calibration plate	1 pc
Standard foil (100μm)	1 pc
1.5V AAA battery	2 pcs

NFe zero calibration plate (included)

COATING THICKNESS GAUGE (BASIC TYPE)
CODE ISO-1200FN

FOR MAGNETIC AND NON-MAGNETIC SUBSTRATES

VIDEO

- Probe is suitable for both magnetic and non-magnetic metal substrates
- Can measure the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate
  Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
  Coating: zinc, aluminum, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Can measure the thickness of non-conductive coating on non-magnetic metal substrate
  Substrate: copper, aluminum, zinc, non-magnetic stainless steel
  Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- 3 measuring modes: Fe, NFe, Fe/NFe
- Store 9 measuring records
- Small and portable, easy for operation

ruby contact point

SPECIFICATION

Measuring range		0~5000μm
Resolution		0.1μm (range<100μm) 1μm (100μm≤range<1000μm) 0.01mm (1mm≤range≤5mm)
Accuracy *		<2000μm: ±(2μm+3%L) 2000μm~5000μm: ±(2μm+5%L)
Measure interval		0.5s
Calibration mode		zero calibration
Measuring mode		Fe, NFe, Fe/NFe
Minimum substrate thickness	Fe	0.2mm
	NFe	0.05mm
Minimum measuring area		Ø25mm
Minimum radius of curvature workpieces	convex surface	5mm
	concave surface	25mm
Unit		μm/mil
Power supply		2×1.5V AAA batteries
Main unit dimension		101×62×28mm
Probe dimension		71×26×22mm
Weight		114g

*L is measuring thickness in μm

Fe zero calibration plate (included)

NFe zero calibration plate (included)

STANDARD DELIVERY

Main unit	1 pc
Fe zero calibration plate	1 pc
NFe zero calibration plate	1 pc
Standard foil (100μm)	1 pc
1.5V AAA battery	2 pcs

standard foil (included)

COATING THICKNESS GAUGE
CODE 5403-QM32

VIDEO

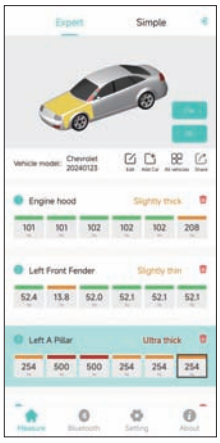
FOR INDOOR OR OUTDOOR LOW TEMPERATURE USE

BLUETOOTH

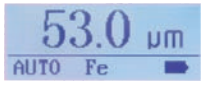
ruby probe

- Suitable for both magnetic and non-magnetic metal substrates
- Can measure the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate
  Substrate: iron, steel, magnetic stainless steel
  Coating: zinc, aluminum, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Can measure the thickness of non-conductive coating on non-magnetic metal substrate
  Substrate: copper, aluminum, zinc, non-magnetic stainless steel
  Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- Can quickly detect the paint thickness of iron and aluminum body of car, three colors of backlight indication, can identify non-metal shell and iron powder putty layer
- Can connect to mobile APP, measure and generate test reports in real time, and save or share the report
- Built-in multiple languages
- Store 9 measuring records
- Small and portable, easy for operation

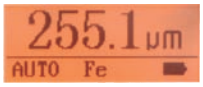
mobile APP



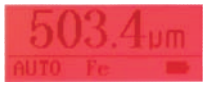
car body paint thickness detection



paint thickness<170μm, blue backlight indicates "normal thick"



paint thickness between 170μm and 350μm, yellow backlight indicates "slightly thick"



paint thickness>350μm, red backlight indicates "ultra thick"

SPECIFICATION

Measuring range	0~5000μm
Resolution	0.1μm (range<1000μm) 1μm (1000μm≤range<5000μm)
Accuracy*	<3000μm: ±(2μm+3%L) 3000μm~5000μm: ±(2μm+5%L)
Measure interval	0.5s
Calibration mode	zero calibration
Display	LCD
Working temperature	-20°C~50°C
Unit	μm/mil
Language	English, Chinese, Russian, Turkish, Ukrainian
Power supply	2×1.5V AAA batteries
Dimension (L×W×H)	100×60×24mm
Weight	80g

*L is measuring thickness in μm

standard foil (included)

Fe zero calibration plate (included)

NFe zero calibration plate (included)

STANDARD DELIVERY

Main unit	1 pc
Fe zero calibration plate	1 pc
NFe zero calibration plate	1 pc
Standard foil (100μm)	1 pc
1.5V AAA battery	2 pcs

DOUBLE SCREEN COATING THICKNESS GAUGE
CODE 5404-QM42

FOR INDOOR OR OUTDOOR LOW TEMPERATURE USE

BLUETOOTH

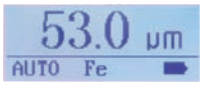
VIDEO

ruby probe

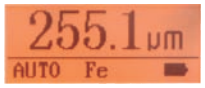
- Probe is suitable for both magnetic and non-magnetic metal substrates
- Can measure the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate
  Substrate: iron, steel, magnetic stainless steel
  Coating: zinc, aluminum, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Can measure the thickness of non-conductive coating on non-magnetic metal substrate
  Substrate: copper, aluminum, zinc, non-magnetic stainless steel
  Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- Can quickly detect the paint thickness of iron and aluminum body of car, three colors of backlight indication, can identify non-metal shell and iron powder putty layer
- Can connect to mobile APP, measure and generate test reports in real time, and save or share reports
- Double screen, easy reading and normal use at -40°C low temperature
- Built-in multiple languages
- Store 9 measuring records
- Small and portable, easy for operation

mobile APP

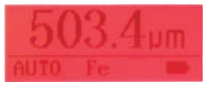
car body paint thickness detection



paint thickness<170μm, blue backlight indicates "normal thick"



paint thickness between 170μm and 350μm, yellow backlight indicates "slightly thick"



paint thickness>350μm, red backlight indicates "ultra thick"

OLED screen

SPECIFICATION

Measuring range	0~5000μm
Resolution	0.1μm (range<1000μm) 1μm (1000μm≤range<5000μm)
Accuracy*	<3000μm: ±(2μm+3%L) 3000μm~5000μm: ±(2μm+5%L)
Measure interval	0.5s
Calibration mode	zero calibration
Display	front screen LCD, top screen OLED
Working temperature	-20°C~50°C (LCD screen), -40°C~50°C (OLED screen)
Unit	μm/mil
Language	English, Chinese, Russian, Turkish, Ukrainian
Power supply	2×1.5V AAA batteries
Dimension (L×W×H)	100×60×24mm
Weight	80g

*L is measuring thickness in μm

standard foil (included)

Fe zero calibration plate (included)

STANDARD DELIVERY

Main unit	1 pc
Fe zero calibration plate	1 pc
NFe zero calibration plate	1 pc
Standard foil (100μm)	1 pc
1.5V AAA battery	2 pcs

NFe zero calibration plate (included)

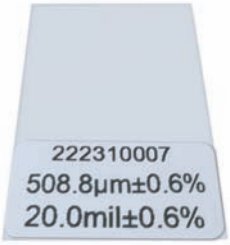
CALIBRATION FOILS FOR COATING THICKNESS GAUGES

INSPECTION CERTIFICATE

- To calibrate or check the accuracy of coating thickness gauges
- Increase the measurement accuracy after foil calibration
- Uniformity: ±0.3μm (≤50μm), ±0.6% (>50μm)
- Dimension: 45×30mm (thickness≤2000μm), 50×30mm (thickness>2000μm)
- Supplied with manufacturer inspection certificate

Code	Thickness	Deviation*	Uniformity
9503-FL1	11.5μm	±5%	±0.3μm
9503-FL2	23μm	±5%	±0.3μm
9503-FL3	50.5μm	±5%	±0.6%
9503-FL4	102μm	±5%	±0.6%
9503-FL5	250μm	±5%	±0.6%
9503-FL6	495μm	±3%	±0.6%
9503-FL7	995μm	±2%	±0.6%
9503-FL8	1780μm	±5%	±0.6%
9503-FL9	3725μm	±4%	±0.6%
9503-FL10	7650μm	±2%	±0.6%
9503-FL11	780μm	±5%	±0.6%
9503-FL12	1400μm	±3%	±0.6%

* Deviation between the ordered thickness and the thickness marked on the calibration foils when supplied



9503-FL6

REFER TO PAGE 240-244 FOR DETAILS

XRF PLATING THICKNESS INSTRUMENTS

XRF-PT230

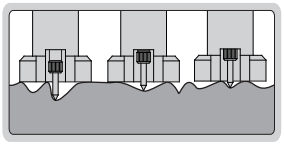
XRF-FA350

XRF-VF300

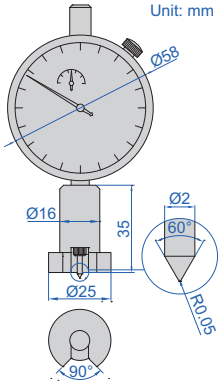
XRF-B210

SURFACE PROFILE GAUGE

measure peak-to-valley height
of blast cleaned surfaces



2344-1



VIDEO

- Measure peak-to-valley height of blast cleaned surface.
  If the profile is too low, the adhesion of the coating to the surface will be reduced.
  If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Stainless steel base

set zero

zero set block
(included)

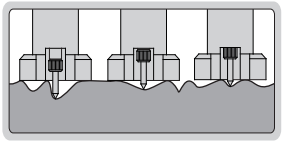
Code	Range	Dial indicator stroke	Dial indicator graduation	Accuracy
2344-1	0-1mm	1mm	0.001mm	±0.005mm

7

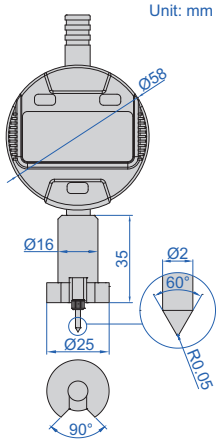
DIGITAL SURFACE PROFILE GAUGE

DATA OUTPUT

measure peak-to-valley height
of blast cleaned surfaces



2843-10



VIDEO

- Measure peak-to-valley height of blast cleaned surface.
  If the profile is too low, the adhesion of the coating to the surface will be reduced.
  If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Button function: on/off, zero, mm/inch, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Optional accessory:
  wireless transmitter code **7315-50M** (receiver is needed)

set zero

zero set block
(included)

Code	Range	Digital indicator stroke	Digital indicator resolution	Accuracy
2843-10	0-12.7mm/0-0.5"	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm

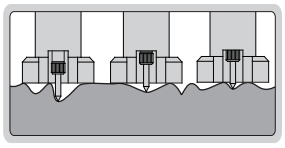
DATA OUTPUT

DISPLAY MAXIMUM, MINIMUM, DIFFERENCE VALUE BETWEEN MAXIMUM AND MINIMUM

DIGITAL SURFACE PROFILE GAUGE

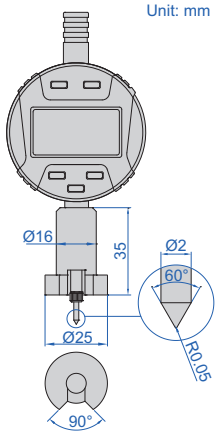
VIDEO

measure peak-to-valley height of blast cleaned surfaces



2844-10

Unit: mm



- Measure peak-to-valley height of blast cleaned surface.
  If the profile is too low, the adhesion of the coating to the surface will be reduced.
  If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery
- Automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Optional accessory:
  wireless transmitter code **7315-50M** (receiver is needed)

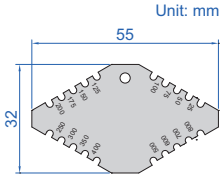
set zero

Code	Range	Digital indicator stroke	Digital indicator resolution	Accuracy
2844-10	0-12.7mm/0-0.5"	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm

WET FILM GAUGES

4845-1

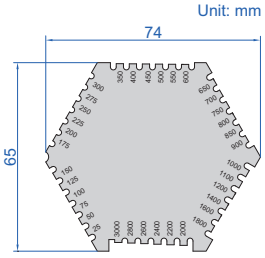
Unit: mm



4845-1

4845-2

Unit: mm



4845-2

- Made of stainless steel

Code	Range	Accuracy	Thickness
4845-1	25-800μm	±5μm	1.8mm
4845-2	25-3000μm	25-100μm: ±5μm 100μm-3000μm: ±5%	1mm

GLOSS METERS

DATA OUTPUT

VIDEO

- According to JJG 696, ISO 2813, ASTM D2457, ASTM D523, GB/T 9754
- To measure the gloss level of material surfaces such as paint, wood, stone, plastic, paper, leather, metal, etc.
- Automatic judgement after setting high and low limits
- Automatic power off

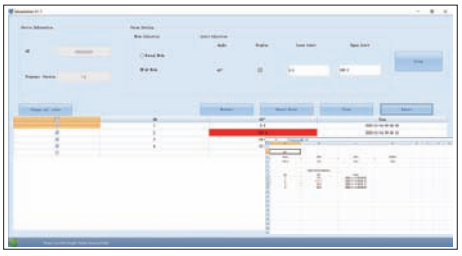
SPECIFICATION

Code	5702-DG6	5702-DG8
Measuring angle	60°	20°, 60°, 85°
Measuring range	0~200GU	20°: 0~2000GU, 60°: 0~1000GU, 85°: 0~160GU
Measuring spot	9mm×15mm	20°: 9mm×9mm, 60°: 9mm×15mm, 85°: 5mm×38mm
Minimum measurement size	20mm×10mm	57mm×10mm
Accuracy	0~100GU: ±1.5GU 100~200GU: ±1.5%	0~100GU: ±1.5GU 100~2000GU: ±1.5%
Repeatability	0~100GU: 0.2GU 100~200GU: 0.2%	0~100GU: 0.2GU 100~2000GU: 0.2%
Resolution	0.1GU	
Zero value error	0.1GU	
Data port	USB (type-C)	
Power supply	3.7V rechargeable Li-ion battery	
Dimension	135×45×75mm	
Weight	237g	

5702-DG8

base with calibration block (included)

software (included), test can be controlled from the software, display test data and report



STANDARD DELIVERY

Main unit	1 pc
Base with calibration block	1 pc
USB flash disk	1 pc
AC/DC adapter	1 pc
USB data cable	1 pc

7

60° GLOSS METER CODE ISQ-DG6

VIDEO

- To test the gloss of coating, such as painting, varnish, printing ink, etc.
- To test the material surfaces, such as metal, granite, ceramic, plastic, paper, etc.
- According to ISO 2813, ASTM D2457, ASTM D523
- Automatic power off

SPECIFICATION

Incidence angle	60°
Measuring range	0~150GU
Resolution	0.1GU
Accuracy	±1.2GU
Repeatability	0.4GU
Zero set error	0.2GU
Measuring area	20×10mm
Output	bluetooth
Power supply	1×1.5V AA battery
Dimension	123×38×65mm
Weight	300g

base with calibration block (included)

connect mobile phone via bluetooth (only Android system)

operate and output data by mobile phone

STANDARD DELIVERY

Main unit	1 pc
Base with calibration block	1 pc
Spare calibration block	1 pc

CAN BE OPERATED BY COMPUTERS OR MOBILE PHONES

DATA OUTPUT | BLUETOOTH | SPOT SIZE 1.5×3mm

MICROPOROUS GLOSS METER (BASIC TYPE)
CODE 5712-SG60

VIDEO

microporous

base with calibration block (included)

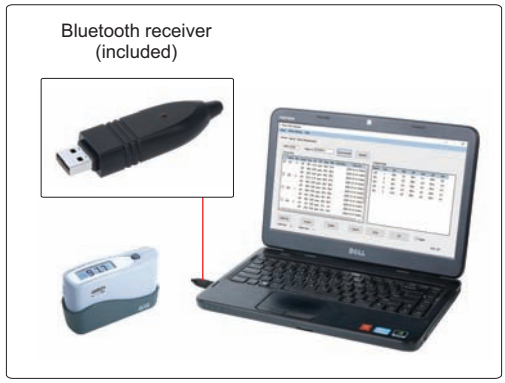
connect to mobile phone via Bluetooth (only Android system)

operate and output data by mobile phone

- According to ISO 2813, ASTM D2457, ASTM D523, GB/T 9754
- For measuring the gloss level of small and curved surfaces
- To measure the gloss level of material surfaces such as paint, wood, stone, plastic, paper, leather, metal, etc.
- Automatic power off

connect to computer via Bluetooth

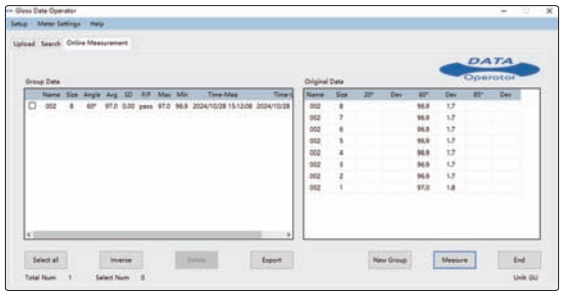
Bluetooth receiver (included)



SPECIFICATION

Measuring angle	60°
Measuring range	0~199.9GU
Resolution	0.1GU
Accuracy	±1.5GU
Zero value error	±0.2GU
Repeatability	±0.4GU
Measuring spot	1.5mm×3mm
Minimum measurement size	2mm×4mm
Data output	Bluetooth
Software support	Windows, Android
Power supply	1×1.5AA battery
Dimension	123×65×38mm
Weight	300g

software (included), test can be controlled from the software



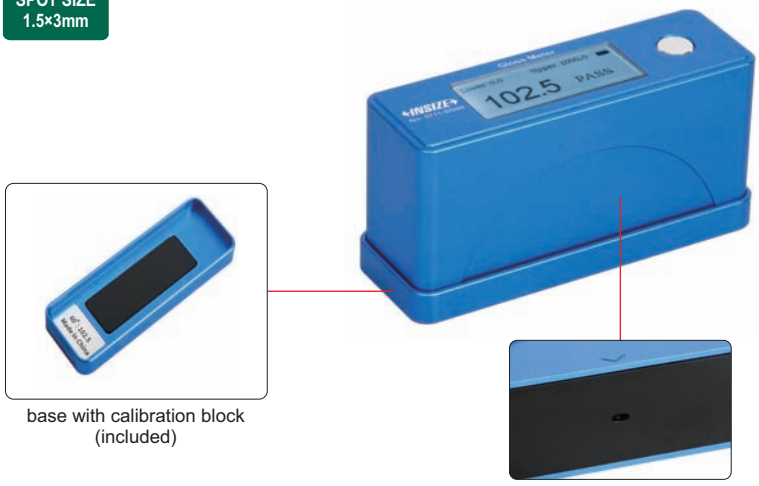
STANDARD DELIVERY

Main unit	1 pc
Base with calibration block	1 pc
USB flash disk	1 pc
Bluetooth receiver	1 pc

MICROPOROUS GLOSS METER (ADVANCED TYPE)
CODE 5711-SG60

VIDEO

DATA OUTPUT | QUALITY INSPECTION | SPOT SIZE 1.5×3mm



base with calibration block (included)

microporous

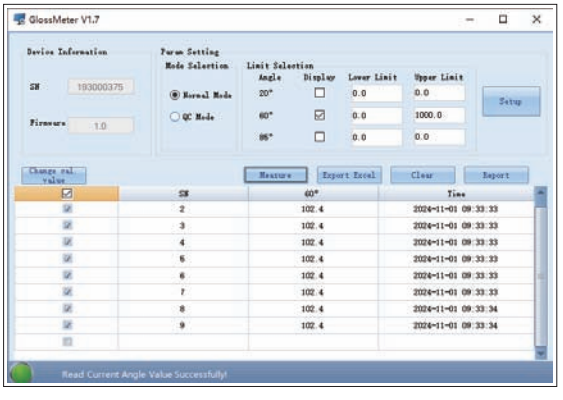
- According to ISO 2813, ASTM D2457, ASTM D523, GB/T 9754
- For measuring the gloss level of small and curved surfaces up to 1000GU
- To measure the gloss level of material surfaces such as paint, wood, stone, plastic, paper, leather, metal, etc.
- The normal mode is for immediate measurement and fast readings, the quality control mode with customizable upper and lower limits is for rapid incoming inspection
- Self-contained calibration board with freely definable calibration values

connect to computer via USB cable

SPECIFICATION

Measuring angle	60°
Measuring range	0~1000GU
Resolution	0.1GU
Accuracy	0~100GU: ±1.5GU 100~1000GU: ±1.5%
Zero value error	±0.2GU
Repeatability	0~100GU: ±0.2GU 100~1000GU: ±0.2%
Measuring spot	1.5mm×3mm
Minimum measurement size	3mm×6mm
Data output	USB (Type-C)
Software support	Windows
Power supply	Li-ion battery, 3.7V
Dimension	102×35×51mm
Weight	300g

software (included), test can be controlled from the software



STANDARD DELIVERY

Main unit	1 pc
Base with calibration block	1 pc
USB flash disk	1 pc
Data cable	1 pc

20°/60°/85° GLOSS METER
CODE ISQ-DG8

CAN BE OPERATED BY COMPUTERS OR MOBILE PHONES

BLUETOOTH

connect to mobile phone via bluetooth
(only Android system)

operate and output data by mobile phone

software flash disk
(included)

connect to computer via bluetooth or USB cable

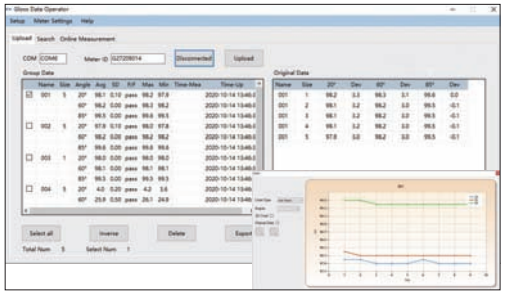
bluetooth receiver
(included)

VIDEO

DATA OUTPUT

base with calibration block
(included)

- To test the gloss of coating, such as painting, varnish, printing ink, etc.
- To test the material surfaces, such as metal, granite, ceramic, plastic, paper, etc.
- According to ISO 2813, ASTM D2457, ASTM D523
- Memory of 10000 measurement results for browsing and output
- Automatic power off



software (included), test can be controlled from the software, display test data, output to Excel

SPECIFICATION

Incidence angle	20°	60°	85°
Measuring range	0~2000GU	0~1000GU	0~160GU
Resolution	0.1GU (range≤119.9GU)		
	1GU (range>119.9GU)		
Accuracy	±1.5GU (range≤119.9GU)		
	±1.5% (range>119.9GU)		
Repeatability	0.2GU (range≤119.9GU)		
	0.2% (range>119.9GU)		
Zero set error	0.2GU		
Measuring area	10×9mm	16×9mm	39×5mm
Output	USB and bluetooth		
Power supply	1×1.5V AA battery		
Dimension	155×48×75mm		
Weight	400g		

STANDARD DELIVERY

Main unit	1 pc
Base with calibration block	1 pc
Software and USB cable	1 pc
Bluetooth receiver	1 pc

7

GLOSS PLATES

CUSTOMIZED

- Used to calibrate work gloss meters
- The high gloss plates are made of polished black glass or other materials. The medium and low glossplates are made of ceramic

SPECIFICATION

Code	**5721-LGU**	**5721-MGU**	**5721-HGU**
Gloss range	low gloss	medium gloss	high gloss
Incidence angle*	20°, 45°, 60°, 75°, 85°		
Material	polished black glass, ceramic, mirror reflective glass etc.		
Flatness (black glass plate)	interference aperture ≤15, partial aperture ≤3		
Spectrum reflection neutral error (ceramic plate)	±12%		
Annual variation	±1GU		
Environment	temperature 5~45°C, relative humidity <85%RH		
Dimension	80×50×11mm		
Weight	according to different materials		

5721-LGU

* Different incidence angles are available according to customer requirements

SPECTROPHOTOMETER SELECTION TABLE

Code	5700-LS35	5701-D40	9710-30	5707-DS78	5701-D45	5705-MS45	5706-DS01
Optical geometry *	d/8	d/8	d/8	d/8	45/0	15°, 25°, 45°, 75°, 110°	d/8
Observer angle	2°	2°/10°	2°/10°	2°/10°	2°/10°	2°/10°	2°/10°
Minimum measurement size	Ø8mm	1×3mm	Ø4mm	Ø3mm	1×3mm	Ø12mm	Ø3mm
Repeatability (ΔE*ab)	≤0.03	≤0.025	≤0.03	≤0.01	≤0.025	≤0.03	≤0.015
Portable	√	√	√	√	√	√	
Apertures switching		√	√	√	√		√
Multi illuminantion		√	√	√	√	√	√
Specular component include	√	√	√	√			√
Specular component exclude		√	√	√			√
Data output		USB Bluetooth	USB	USB Bluetooth	USB Bluetooth	USB	USB

* d/8 the sample is diffusely illuminated by the integrating sphere, receive reflected light at 8° to the sample normal
45/0 illuminate the sample with the light source at 45° to the sample normal, receive reflected light in the normal direction

COLORIMETER (BASIC TYPE)
CODE 5700-LS35

VIDEO

- Conforms with CIE 15, CIE S 005, ISO 7724-1 and ISO 13655 standards
- 3.5-inch IPS display and capacity touch panel
- Contains multiple color cards and can match the closest color code quickly
- QC testing function, can set color difference threshold
- Able to store 1000 colors and 1000 color comparison
- 3.7V/4000mAh battery, 10000 continuous measurements

SPECIFICATION

Illumination geometry	D/8, specular component include (SCI)
Illumination light source	full spectrum LED light source
Measurement conditions	light source D65, field of view 10°
Measuring time	about 1s
Color space	CIE Lab, Luv, LCh, Yxy, CMYK, RGB, Hex
Color difference formula	ΔE*ab, ΔE*uv, ΔE*94, ΔE*cmc (2:1), ΔE*cmc (1:1), ΔE*00
Repeatability	standard deviation ΔE*ab is within 0.03 (measurement condition: the average value of 30 measurements on the whiteboard at an interval of 3s after calibration)
Charging interface	USB (Type-C)
Dimension	86×63×158mm
Weight	245g

white calibration cavity
(included)

STANDARD DELIVERY

Main unit	1 pc
White calibration cavity	1 pc
USB cable	1 pc
AC/DC adapter	1 pc
Cleaning cloth	1 pc
Locating plate	1 pc

FOUR KINDS OF APERTURE

DATA OUTPUT

VIDEO

GRATING SPECTROPHOTOMETRIC

MATCHING COLOR CARD QUICKLY

HANDHELD SPECTROPHOTOMETERS (STANDARD TYPE)

- Conforms with CIE No.15, ISO7724-1, ASTM E1164 and DIN5033 Teil7 standards
- Grating spectrophotometric, 3.5" IPS full color screen, dual optical path high precise CMOS array sensor
- Use long life and low power consumption combined LED light source, include UV and exclude UV measurement
- Camera locating function, switchable four apertures
- Large capacity storage space, over 20000 measurement data
- Two standard observer angles, a variety of illuminant, a variety of color indexes, conforms with a variety of standard colorimetric data
- Measure sample spectra, accurate Lab data, can be used in color matching and accurate color transmission

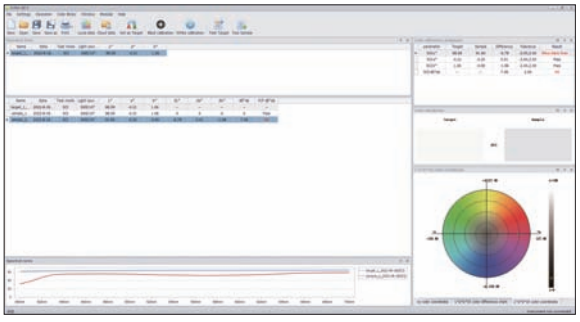
5701-D40

white calibration cavity (included)

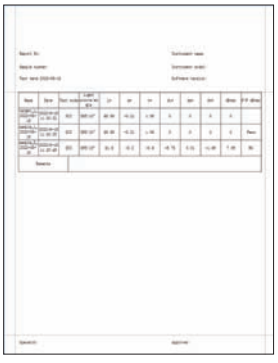
connect to computer

computer is optional

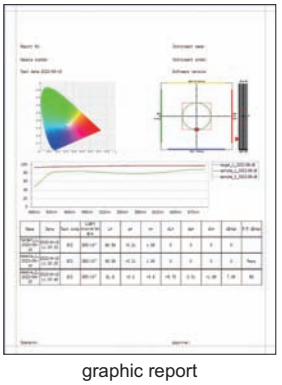
software (included), test can be controlled from the software, display test data, report



software



pure data report



graphic report

To be continued

Continued from previous page

SPECIFICATION

Code		5701-D40	5701-D45
Optical geometry		D/8 (diffused illumination/8° direction reception), SCI+SCE (specular component included+specular component excluded)	45/0 (45° illumination/vertical reception)
Integrating sphere size		Ø40mm	ring lighting strips
Light source		LED (full band balanced LED)+UV	LED (full band balanced LED)
Spectrophotometric mode		grating	
Sensor		dual optical path high precise CMOS array sensor	
Wavelength range		400~700nm	
Wavelength interval		10nm	
Reflectance measurement range		0~200%	
Reflectance resolution		0.01%	
Display resolution		0.01	
Illumination area/aperture		MAV: Ø11mm; SAV: Ø6mm, Ø3mm; MINI: 1×3mm	
Color space		CIE-Lab, CIE-LCh, HunterLab, CIE Luv, XYZ, Yxy, RGB	
Color difference formula		ΔE*ab, ΔE*cmc, ΔE*94, ΔE*00, ΔE*ch, ΔE*uv, ΔEab	
Other colorimetric index		whiteness (ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, hunter, taube berger stensby), yellowness (ASTM D1925, ASTM 313-00, ASTM E313-73), blackness (My, dM), color fastness, tint (ASTM E313-73) color density CMYK (A, T, E, M), milm, munsell, opacity, color strength	
Observer angle		2°/10°	
Illumination		A, B, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, U35, DLF, NBF, TI83, TI84, ID50, ID65, LED-B1, LED-B2, LED-B3, LED-B4, LED-B5, LED-BH1, LED-RGB1, LED-V1, LED-V2	
Measuring time		about 1.5s	
Repeatability	spectral reflectance	within 0.08% of standard deviation	
	colorimetric values	ΔE*ab≤0.025 (after whiteboard correction, measuring the whiteboard 30 times at 5s interval)	
Inter-instrument error		ΔE*ab≤0.25 (BCRA series II, average value of 12 color plates)	
Data port		USB, bluetooth	
Light source lifetime		10 years, more than 1 million times measurements	
Power supply		3.7V/3000mAh, rechargeable 8000 times continuous tests	
Dimension		95×129×231mm	
Weight		750g	

STANDARD DELIVERY

Main unit	1 pc
White calibration cavity	1 pc
Measuring aperture	9 pcs
USB cable	1 pc
USB disk	1 pc
AC/DC adapter	1 pc
Black light trap	1 pc

DATA OUTPUT | BLUETOOTH

Ø8/4mm DUAL APERTURE

CONCAVE GRATING SPECTROPHOTOMETRIC

VIDEO

PORTABLE SPECTROPHOTOMETER (ADVANCED TYPE)
CODE 9710-30

measurement

software flash disk (included)

white and black calibration cavity (included)

printer (**optional**)

reflectivity

- Concave grating spectrophotometric
- 3.5 inch TFT color LCD, capacitive touch screen, 256 image element double arrays CMOS image sensor
- D/8 geometrical optics, conforms with CIE No.15, ISO7724/1, ASTM E1164, DIN5033 Teil 7
- Use long life and low power consumption combined LED light source
- Camera locating function, switchable 8mm/4mm aperture, support both SCI and SCE at the same time
- Large capacity storage space, over 20,000 measurement data
- USB port and Bluetooth 4.0
- Two standard observer angles, a variety of illuminant, a variety of color indexes, conforms with a variety of standard colorimetric data
- Measure sample spectra, accurate Lab data, can be used in color matching and accurate color transmission

STANDARD DELIVERY

Main unit	1 pc
White and black calibration cavity	1 pc
Software and USB cable	1 pc
AC/DC adapter	1 pc

OPTIONAL ACCESSORY

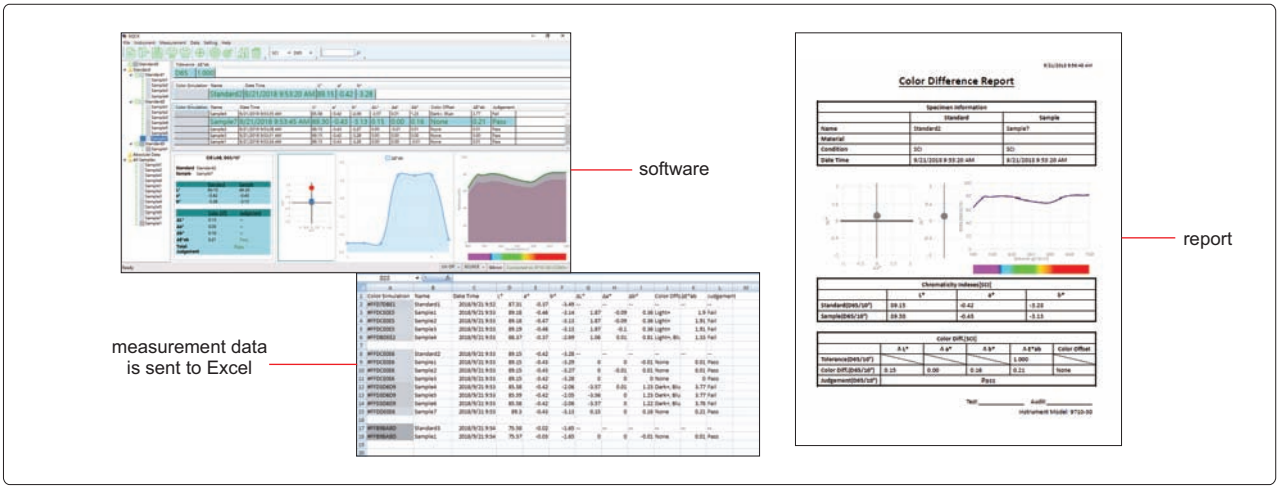
Printer	**9710-PRINTER**
Powder test box	**9710-POWDERBOX**
Universal test kit	**9710-TESTKIT**

To be continued

Continued from previous page

SPECIFICATION

Optical geometry		reflect: di: 8°, de: 8° (diffused illumination, 8-degree viewing angle)
Integrating sphere size		Ø48mm
Light source		combined LED light, UV light
Spectrophotometric mode		concave grating
Sensor		256 image element double array CMOS image sensor
Wavelength range		400~700nm
Wavelength interval		10nm
Semiband width		10nm
Measured reflectance range		0~200%
Measuring aperture		dual aperture: MAV: Ø8mm; SAV: Ø4mm
Specular component		SCI&SCE
Color space		CIE LAB, XYZ, Yxy, LCh, CIE LUV, hunter LAB
Color difference formula		ΔE*ab, ΔE*uv, ΔE*94, ΔE*cmc (2:1), ΔE*cmc (1:1), ΔE*00v, ΔE (Hunter)
Other colorimetric index		WI (ASTM E313, CIE/ISO, AATCC, hunter), YI (ASTM D1925, ASTM 313), metamerism index MI, staining fastness, color fastness, colorstrength, opacity
Observer angle		2°/10°
Illumination		A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, TI83, TI84, U35
Displayed data		spectrogram/values, samples chromaticity values, color difference values/graph, PASS/FAIL result, color offset
Measuring time		2.6s
Repeatability	**spectral reflectance**	MAV/SCI, within 0.08% of standard deviation (400~700nm: 0.18%)
	colorimetric values	MAV/SCI: ΔE*≤0.03
Inter-instrument error		MAV/SCI: ΔE*≤0.15
Measurement mode		single measurement, average measurement
Data port		USB, bluetooth 4.0
Data storage		standard 1000 pcs, sample 28000 pcs
Illuminant life span		5 years, more than 3 million times measurements
Power supply		Li-ion battery, 5000 measurements within 8 hours
Dimension		184×77×105mm
Weight		600g



software (included), test can be controlled from the software, display test data, report

FOUR APERTURES SWITCHING

BLUETOOTH

DATA OUTPUT

VIDEO

PORTABLE SPECTROPHOTOMETER (EXCELLENT TYPE) CODE 5707-DS78

- The wavelength range of conventional spectrophotometer is 400~700nm, for more accurate colour measurement, the wavelength of this spectrophotometer is extended to 360~780nm
- Xenon lamp and LED light system for longer than expected life
- Four aperture sizes can be switched at will, allowing for easy measurement of even the smallest objects or curved samples
- Automatic wavelength accuracy correction using reference grade BCRA green boards
- No need to manually calibrate, just put it on the calibration base, the instrument will be automatically calibrated according to its own state and environmental factors, to ensure that the instrument is always in a stable state
- Built-in colour camera to take the view of the positioning, accurate determination of the object to be measured part
- Single measurement, continuous uninterrupted measurement, averaging possible

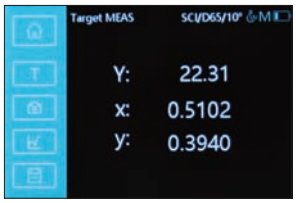
calibration cavity (included)

SPECIFICATION

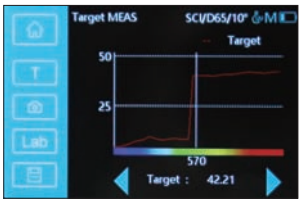
Optical geometry	D/8 (diffused illumination/8° direction reception) SCI+SCE (specular component included+specular component excluded)
Integrating sphere size	Ø40mm
Lighting source	full-band balanced LED + xenon lamp
Sensor	dual-row high-precision CMOS image sensor
Calibration mode	BCRA certifed black and white board energy calibration, green board wavelength accuracy calibration
Spectrophotometric mode	grating
Display accuracy	0.01
Light source lifetime	10 million times measurements
Wavelength range	360nm~780nm
Wavelength interval	10nm
Measurement range	0-200%
Reflectance resolution	0.01%
Measuring aperture	Ø11mm, Ø10mm, Ø6mm, Ø3mm
Repeatability	0.01 ΔE*ab (after instrument calibration, the white board was measured 30 times at 5s intervals with the MAV calibre)
Inter-instrument error	0.2 ΔE*ab (BCRA series II 12 colour plates MAV calibre measurement average)
Observer angle	2°/10°
Colorimetric index	spectral reflectivity, CIE-Lab, CIE-LCh, HunterLab, CIE-Luv, XYZ, Yxy, RGB (ΔE*ab, ΔE*cmc, ΔE*94, ΔE*00), Whiteness (ASTM E313-00, ASTM E313-73, CIE, ISO2470/R457, AATCC, Hunter, Taube Berger Stensby), Yellowness (ASTM D1925, ASTM E313-00, ASTM E313-73), Blackness (My, dM), Strength, Fastness, Tint (ASTM E313-00), CMYK (A, T, E, M), Milm, Munsell, Opacity, Color strength
Illumination	A, B, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, U35, DLF, NBF, TL83, TL84, ID50, ID65, LED-B1, LED-B2, LED-B3, LED-B4, LED-B5, LED-BH1, LED-RGB1, LED-V1, LED-V2
Measuring time	1s
Data storage	instrument: 10000pcs, app: mass storage
Locating method	color camera preview
Display screen	3.5-inch full-colour screen, capacitive touch screen
Interface	USB, bluetooth
Calibration	automatic intelligent calibration
Software support	Andriod, iOS, Windows
Power supply	Li-ion battery, 7.2V, 3000mAh, fully charged continuous test 8000 times
Dimension	233×77×93mm
Weight	600g

To be continued

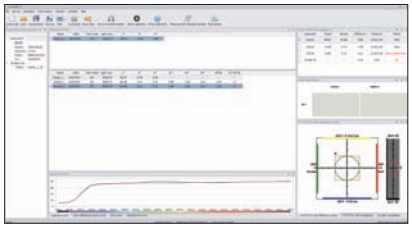
Continued from previous page



specimen measurement interface



specimen reflectance measurement interface


software (included), test can be controlled from the software, display test data

STANDARD DELIVERY

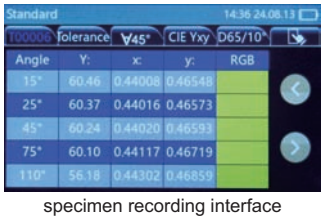
Main unit	1 pc
Calibration cavity	1 pc
Software and USB cable	1 pc
Measuring aperture	4 pcs
Power adapter	1 pc

MULTI-ANGLE SPECTROPHOTOMETER CODE 5705-MS45

CONCAVE GRATING SPECTROPHPTOMETRIC | DATA OUTPUT | BLUETOOTH

VIDEO

specimen reflectance recording interface



specimen recording interface

- Adopt 5 illumination sources, 1 receiver to measure 5 measurement angles at the same time
- Touch screen can display all angle measurement results, more intuitive view of the comprehensive data
- Full spectrum illumination measurement is more professional to avoid spectrum loss
- Provide 6 color spaces, multiple observation light sources
- Using concave grating spectrophotometric technology, with higher resolution, makes color measurement more accurate
- Built-in color camera positioning, can accurately judge the object measured position, and improve the measurement efficiency and accuracy
- Multiple functions, the screen can display various data intuitively

To be continued

Continued from previous page

black light trap
(included)

white board
(included)

bluetooth receiver
(included)

wireless printer
(**optional**)

wired printer
(**optional**)

SPECIFICATION

Measurement geometry	5 measurement angles (5 illumination sources, 1 receiver)
Measuring angle	45° receiver: 45as15°, 45as25°, 45as45°, 45as75°, 45as110°
Lighting source	full spectrum LED light source with blue enhancement
Lamp life	5 years, 3 million times measurements
Spectrophotometric mode	concave grating
Sensor	256 image element double array CMOS image sensor
Wavelength range	400nm~700nm
Wavelength interval	10nm
Measurement range	0~600%
Semiband width	10nm
Measuring aperture	illuminant Ø23mm/sampling Ø12mm
Color space	CIE LAB, XYZ, Yxy, Lch, βxy, DIN Lab99
Color difference formula	ΔE*ab, ΔE*94, ΔE*cmc (2: 1), ΔE*cmc (1: 1), ΔE*00, DINΔE99, ΔE DIN6175
Other colorimetric index	flop index
Observer angle	2°/10°
Illuminant	D65, A, C, D50, D55, D75, F1, F2 (CWF), F3, F4, F5, F6, F7 (DLF), F8, F9, F10 (TPL5), F11 (TL84), F12 (TL83/U30)
Measuring time	approx, 1 second for one angle, approx, 5 seconds for all angles
Repeatability	spectral reflectance: standard deviation within 0.08% chromaticity value: ΔE*ab 0.03 (when a white calibration plate is measured 30 times at 5 second intervals after white calibration)
Reproducibility	ΔE*<0.10, avg on the gray tile of BCRA tile set, ΔE*<0.25, avg on the color BCRA tile set
Spectrophotometric mode	0.2ΔE*00 (avg on reference series II BCRA tile set)
Trigger mode	pressure sensing, trigger, key trigger, software trigger
Measuring mode	single measurement, average measurement (1~99), continuous measurement (1~99)
Locating method	color camera preview
Power supply	Li-ion battery, 3.7V, 3200mAh, continuous test 6000 times within 8 hours of full charge
Display screen	3.5-inch TFT color LCD, capacitive touch screen
Interface	USB, bluetooth 5.0
Data storage	standard 1000 pcs, sample 4000 pcs
Calibration	built-in white board parameters, external white board, black light trap
Calibration interval	4 hours, 8 hours, 24 hours, startup calibration
Dimension	195×83×128mm
Weight	1kg

STANDARD DELIVERY

Main unit	1 pc
Black light trap	1 pc
White board	1 pc
Software and USB cable	1 pc
Power adapter	1 pc
Bluetooth receiver	1 pc

OPTIONAL ACCESSORY

Wired printer	**5705-MS45-PRINTER-A**
Wireless printer	**5705-MS45-PRINTER-B**

SPECTROPHOTOMETER
CODE 5706-DS01

VIDEO

- Highly stable UV source for stable fluorescence measurements
- Grating spectroscopy, 7" IPS touch screen
- Two types of light sources: pulsed lamp and LED, can measure SCI and SCE simultaneously and quickly
- 24 standard light sources, more than 40 measurement indicators
- Temperature and humidity compensation function

7

SPECIFICATION

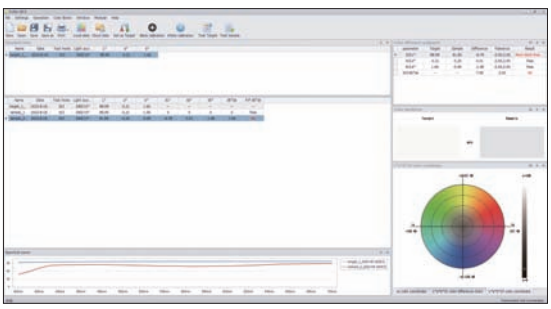
Optical geometry	reflect: D/8 (diffused illumination, 8°direction reception), transmission: D/0 (diffused illumination, vertical reception), SCI (specular reflective light included), SCE (specular reflective light not included)
Integrating sphere diameter	Ø152mm
Light source	pulsed xenon lamp and LED
Spectrophotometric mode	concave grating
Sensor	double array CMOS image sensor
Wavelength range	360nm~780nm
Wavelength interval	10nm
Reflectance measuring range	0~200%
Reflectance resolution	0.01%
Transmission measurement	width and height unlimited, thickness≤50mm
Measuring aperture	reflect: XLAV Ø25.4mm/Ø30mm, LAV Ø15mm/Ø18mm, MAV Ø8mm/Ø11mm, SAV Ø3mm/Ø6mm transmission: Ø17mm/Ø25mm
Color space	L*a*b, L*C*h, Hunter Lab, Yxy, XYZ
Color difference formula	ΔE*ab, ΔE*CH, ΔE*uv, ΔE*cmc, ΔE*94, ΔE*00, ΔEab (Hunter), 555 color classification
Colorimetric index	WI (ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, Hunter, Taube, Berger Stensby), YI (ASTM D1925, ASTM E313-00, ASTM E313-73), Tint (ASTM E313-00), metamerism index Milm, staining fastness, color fastness, ISO luminance, R457, A density, Tdensity, Edensity, M density, APHA/Hazen/Pt-Co, Gardner, Saybolt, Astm color, haze, total transmittance, coverage, power, strength
Observer angle	2°/10°
Illuminant	A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, DLF, NBF, TL83, TL84
Measuring time	SCI or SCE <2 seconds, SCI and SCE simultaneous measuring <4 seconds
Repeatability*	ΔE*ab≤0.015; reflect / transmittance≤0.1%
Inter-instrument error	XLAV ΔE*ab≤0.25 (based on average of 12 swatches of BCRA series at 23°C)
Data port	RS232, USB, USB-B
Power supply	power adapter (24V/2.5A)
Dimension	465×240×260mm
Weight	10.8kg

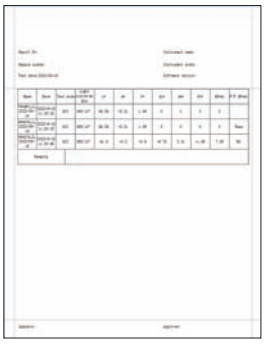
*After calibration, measure the white plate for 30 times at 5-second intervals with XLAV aperture, the standard deviation of the measurement results.

To be continued

Continued from previous page

software (included), can control the test by software, display test data and generate reports


software interface


data report

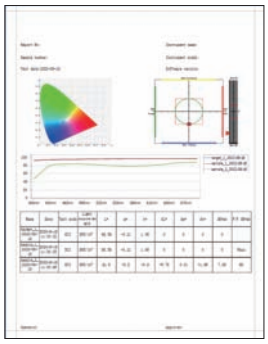
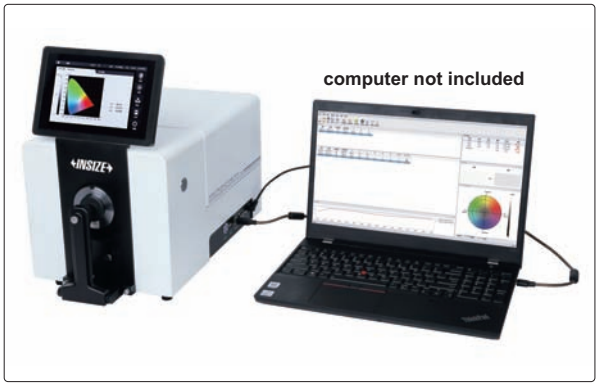
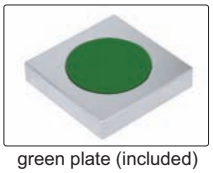


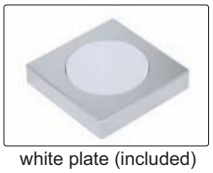
illustration report

connect to computer

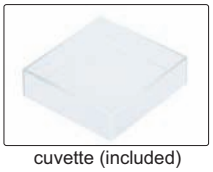


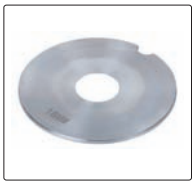
upward measurement

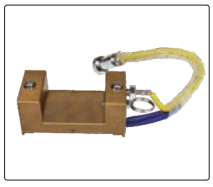

green plate (included)


white plate (included)

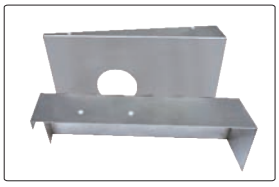
black cavity (included)


cuvette (included)


measuring aperture (included)


heated transmission clamp (**optional**)

small sample fixture (**optional**)

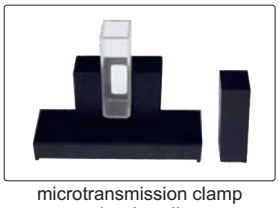

protective plate (**optional**)

vertical stand (**optional**)

cuvette support (**optional**)

fiber test holder (**optional**)

film test clamp (**optional**)


microtransmission clamp (**optional**)

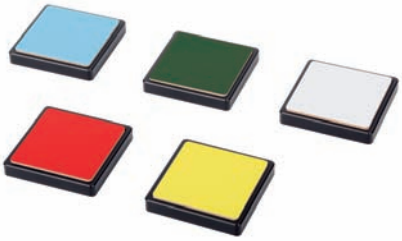
STANDARD DELIVERY

Main unit	1 pc
Black cavity	1 pc
White plate	1 pc
Green plate	1 pc
Measuring aperture	4 pcs
Cuvette	1 pc
USB flash disk	1 pc
Data cable	2 pcs
Damping handle	1 pc
Support platform	1 pc
Transmission fixture	1 pc
Power adapter	1 pc

OPTIONAL ACCESSORY

Heated transmission clamp	**5706-DS01-CLAMP1**
Small sample fixture	**5706-DS01-FIXTURE**
Cuvette support	**5706-DS01-SUPPORT**
Vertical stand	**5706-DS01-STAND**
Protective plate	**5706-DS01-PLATE**
Fiber test holder	**5706-DS01-HOLDER**
Microtransmission clamp	**5706-DS01-CLAMP2**
Film test clamp	**5706-DS01-CLAMP3**

COLOR STANDARD PLATES



5704-CP01

- To calibrate color measuring instruments
- Made of ceramic
- Wear resistance, corrosion resistance, high optical stability
- Supplied with ISO17025 calibration certificate from National Institute of Metrology, China

calibration certificate (included)

SPECIFICATION

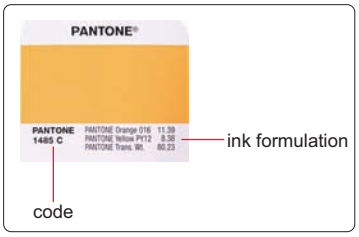
Code	5704-CP01	5704-CPB	5704-CPG	5704-CPW	5704-CPR	5704-CPY
Color	blue, green, white, red, yellow (full set)	blue	green	white	red	yellow
Spectral reflectance factor	spectral reflectance factor in the wavelength range of 380 nm to 780 nm					
Standard illuminant	D65, A, etc.					
Viewing angle	2°, 10°					
Color space	CIE-Lab, XYZ, etc.					
Annual variation	Δx, Δy≤0.005					
Dimension	50×50mm					

STANDARD DELIVERY

Calibration certificate	1 pc

PANTONE FORMULA GUIDE
CODE 5708-PT22

- For graphic design, digital design, product design and printing
- Standard coated card and uncoated card
- Solid coated glossy paper and solid uncoated matte offset paper in 2,390 Pantone colors
- Coated card dimension: 23.6×4.3×5.3cm, uncoated card dimension: 23.6×4.3×6cm
- Portable, handheld fan decks provide easy on-the-go reference, 7color codes per page, 4.3×2cm color block, each color shows the code and ink formulation



color example

HOLIDAY DETECTOR
CODE 9511-HA30

strip brush (included)

headphone (included)

- Inspect anti-corrosion coating status of different thickness with adjustable pulse high-voltage, coating includes insulating paint, glass lining, rubber lining, glass fiber reinforced plastic, coal tar epoxy, etc.
- When the brush with pulse high-voltage moves near the crack, pinhole or thin area on the coating surface, which results in gap gas breakdown and discharge spark, sound and light alarm will appear on the probe and the alarm sound can be heard with the headphone
- LCD display with light-control backlight
- Built-in rechargeable battery, easy to carry and suitable for outdoor inspection
- Automatic power off

flat brush (included)

SPECIFICATION

Measuring range	0.05~10mm (customization for inspecting coating thicker than 10mm is available)
Output voltage	0.6~30.0kV (stepless adjustable)
Resolution	0.1kV
Power	≤5W
Power supply	12V rechargeable Ni-MH battery
Dimension	240×135×115mm
Weight	2.5kg

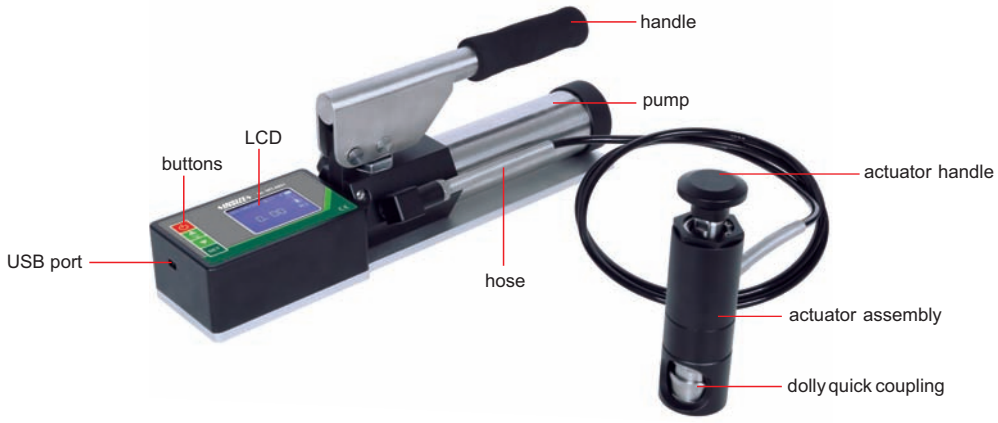
STANDARD DELIVERY

Main unit	1 pc
Probe	1 pc
Strip brush*	1 pc
Flat brush	1 pc
Ground wire	1 pc
Ground rod	1 pc
Headphone	1 pc
AC/DC adapter	1 pc

*Arc brush and circular probe can be customized

DIGITAL ADHESION TESTER
CODE SPT-AD21

VIDEO



Ø20mm dolly (included)

glue gun and glue (included)

cutting tool (included) for Ø10mm, Ø14mm, Ø20mm dolly

- Pull-off test
- Built-in rechargeable lithium battery, no need external power source
- Portable design, can be used anywhere
- Standard USB interface, can directly transmit the stored data to computer, no need to install software
- Conforms to GB/T 5210, ASTM D4541/D7234, ISO 4624/16276-1
- Store all test results, includes maximum pull-off force, pull-off rate, dolly size and time
- Built in real-time clock, all saved data have corresponding date and time
- Selectable four different sizes dolly for different resolution and testing range
- No need conversion, the instrument can calculate pull-off force according to the dolly size
- Get the testing results from LCD directly
- Two units MPa and psi for selection and can be converted automatically

7

SPECIFICATION

Range	0~20MPa
Dolly diameter	Ø20mm
Resolution	0.01MPa (1psi)
Accuracy	±1% full scale
Pull-off force	0.7~20MPa
Power supply	built-in rechargeable lithium battery
Dimension (L×W×H)	360×75×115mm
Weight	3kg

STANDARD DELIVERY

Main unit	1 pc
Ø20mm dolly	20 pcs
Cutting tool	1 pc
Charger	1 pc
USB cable	1 pc
Glue gun	1 pc
3M glue	1 pc

OPTIONAL ACCESSORY

Ø10mm dolly	**SPT-AD21-10**	10 pcs/package pull-off force: 2.8~80MPa
Ø14mm dolly	**SPT-AD21-14**	10 pcs/package pull-off force: 1.4~40MPa
Ø20mm dolly	**SPT-AD21-20**	10 pcs/package pull-off force: 0.7~20MPa
Ø50mm dolly	**SPT-AD21-50***	10 pcs/package pull-off force: 0.4~3.5MPa
Cutting tool	**SPT-AD21-CUTTER1**	for Ø10mm, Ø14mm, Ø20mm dolly
Cutting tool	**SPT-AD21-CUTTER2***	for Ø50mm dolly
Sleeve	**SPT-AD21-SLEEVE***	for Ø50mm dolly
Glue	**SPT-AD21-GLUE**	3M DP420 epoxy glue/50ml

*Ø50mm dolly requires corresponding cutter and sleeve

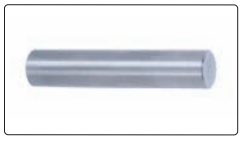
PENCIL HARDNESS TESTER
CODE PHT-C751

- For flat coating surfaces
- Conform to ASTM D3363, ISO 15184, BS3900-E19 and ECCA-T4/1

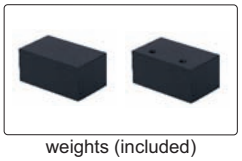
in use

level (included)

pencils (included)



leveling rod (included)



weights (included)

SPECIFICATION

Pressure of pencil on coating	500g, 750g, 1000g (main unit is 500g, one weight is 750g, two weights are 1000g)
Angle between pencil and measured surface	45°
Dimension (L×W×H)	95×80×110mm
Weight	2kg

STANDARD DELIVERY

Main unit	1 pc
Weights	2 pcs
Leveling rod	1 pc
Level	1 pc
Pencil	12 pcs (4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H)
Pencil sharpener	1 pc

OPTIONAL ACCESSORY

Pencil (12 pcs: 4B-6H)	**PHT-C751-P**
400 grade abrasive paper	**PHT-C751-S**

ROTATIONAL ABRASION TESTER
CODE QMY-AP32

- To test flat paint film
- Comply with ISO 7784-2, ISO 9352, GB/T1768, ASTM D3884, ASTM D1175 standards

SPECIFICATION

Plateform rotary speed	60±2 r/min, 72±2 r/min (selectable)
Load weight	500g, 750g, 1000g
Sample size	Ø100mm
Grinding wheel	external diameter (51.6±0.1)mm, thickness (12.7±0.1)mm
Counting range of plateform rotation	0~9999 times
Motor power	25W
Power supply	220V, 50Hz
Dimension	260×410×280mm
Weight	14kg

STANDARD DELIVERY

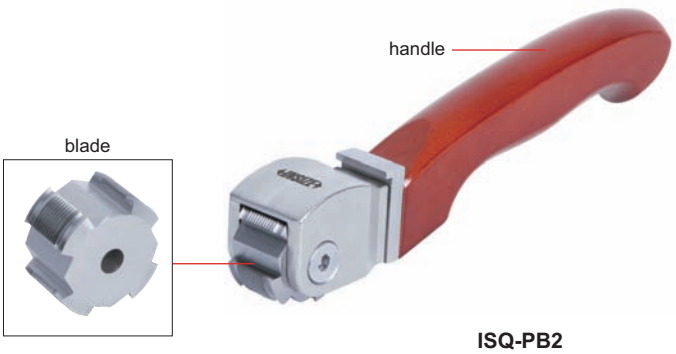
Main unit	1 pc
Vacuum cleaner	1 pc
1000g weight	2 pcs
750g weight	2 pcs
500g weight	2 pcs
TABER CS-10 grinding wheel	1 pair
Sandpaper	10 pcs
Glass plate	5 pcs

OPTIONAL ACCESSORY

TABER CS17 grinding wheel (1 pair)	**QMY-AP32-CS17**
Glass plate (Ø100mm with a 9mm center hole, 100 pcs/box)	**QMY-AP32-GP**
Aluminum plate (Ø100mm with a 9mm center hole, 100 pcs/box)	**QMY-AP32-AP**
180# emery cloth strip (100 pcs/box)	**QMY-AP32-EC**

CROSS CUT ADHESION TESTERS

VIDEO



ISQ-PB2

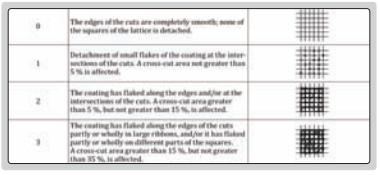
test tape (included)

2X magnifier (included)

brush (included)

step 1: make grid cutting on surface

step 2: paste and remove the tape



step 3: according to the shedding status, judge the adhesion grade

- To test the adhesion of paint coating on metal, wood, plastic, etc.
- According to ASTM D3359, BS 3900E6, BS/EN ISO 2409

SPECIFICATION

Code		ISQ-PB1	ISQ-PB2	ISQ-PB3	ISQ-PB4	ISQ-PB5
Type		octahedral blade				
Number of blade teeth		6	11	6	11	6
Blade pitch		1mm		2mm		3mm
Applied paint thickness	on hard substrate (like metal)	0~60μm		61~120μm		121~250μm
	on soft substrate (like wood, plaster)	—		0~120μm		121~250μm
Minimum substrate thickness	hard substrate (like metal)	0.25mm				
	soft substrate (like wood, plaster)	—		10mm		
Minimum size of test sample		150×100mm				
Dimension	handle	180×28×40mm			180×30×40mm	180×28×40mm
	blade	Ø30×18mm			Ø30×21mm	Ø30×18mm
Weight		277g				

STANDARD DELIVERY

Handle	1 pc
Blade	1 pc
Test tape	1 pc
2X magnifier	1 pc
Brush	1 pc

OPTIONAL ACCESSORY

Code	Description	Applicable codes
ISQ-PBV	25mm wide test tape, consumable	all codes
ISQ-PB1-A	octahedral blade with 6 teeth and 1mm pitch	ISQ-PB1, ISQ-PB2 ISQ-PB3, ISQ-PB5
ISQ-PB2-A	octahedral blade with 11 teeth and 1mm pitch	
ISQ-PB3-A	octahedral blade with 6 teeth and 2mm pitch	
ISQ-PB4-A	octahedral blade with 11 teeth and 2mm pitch	ISQ-PB4
ISQ-PB5-A	octahedral blade with 6 teeth and 3mm pitch	ISQ-PB1, ISQ-PB2 ISQ-PB3, ISQ-PB5

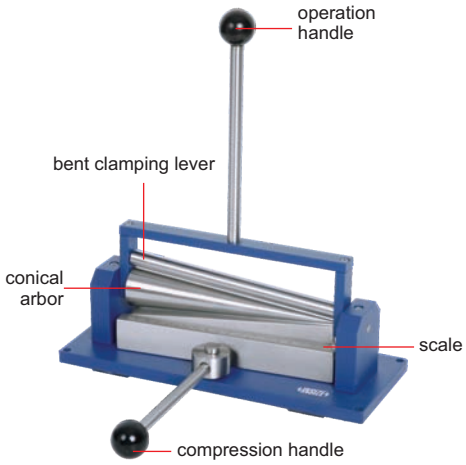
CONICAL MANDREL TEST APPARATUS
CODE PPS-A203

step 1: place specimen

step 2: compress specimen

step 3: start the experiment

step 4: record the results



specimens (**optional**)

- To test the cracking resistance and elongation of color paints and varnishes
- According to ASTM D 522, ISO 6860

SPECIFICATION

Conical arbor	small end diameter	3.1±0.1mm
	large end diameter	38±0.1mm
	length	203±3mm
Dimension		300×120×80mm
Weight		8kg

OPTIONAL ACCESSORY

Name	Code	Description
specimens	PPS-A203-1	material: burnished tinplate dimension: 150×75×0.28mm
	PPS-A203-2	material: burnished tinplate dimension: 150×100×0.28mm
	PPS-A203-3	material: cold-rolled steel dimension: 150×100×0.8mm

7

PAINT FILM FLEXIBILITY TESTER
CODE PPF-BF62

- To test the flexibility of paint and varnish
- Bend the coated test plates on the shaft rods with different diameter, the minimum shaft rod diameter that does not cause damage to the film is the film flexibility

SPECIFICATION

Shaft rod length	35mm
Shaft rod 1	Ø15mm
Shaft rod 2	Ø10mm
Shaft rod 3	Ø5mm
Shaft rod 4	Ø4mm
Shaft rod 5	cross section 3×10mm, radius of curved surface 1.5mm
Shaft rod 6	cross section 2×10mm, radius of curved surface 1.0mm
Shaft rod 7	cross section 1×10mm, radius of curved surface 0.5mm
Dimension	450×75×100mm
Weight	3.1kg

STANDARD DELIVERY

Main unit	1 pc
Test plate	1 box (500 pcs)
4X magnifier	1 pc

OPTIONAL ACCESSORY

Test plate (dimension: 120×25×0.28mm, 500 pcs/box)	PPF-BF62-TP

IMPACT TESTER
CODE THD-PF34

VIDEO

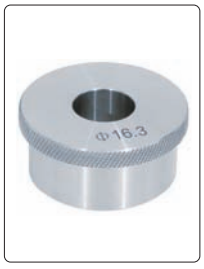
300g main weight
(included)

1000g main weight
(included)

2lb main weight
(included)

2lb additional
weight (included)

1000g additional
weight (included)



Ø16.3mm die base
(included)

Ø12.7mm indenter
(included)

Ø15.9mm indenter
(included)

- For paint and varnish dry coating. To test the ability to resist cracking or peeling from the substrate when deformation is caused by weights impact under standard conditions
- Indenter, base and weight can be replaced quickly
- Conform to ISO 6272-2:2002, ASTM D 2794

SPECIFICATION

Impact height range	0-100cm (0-40inch)
Graduation	1cm
Impact depth	2.5cm
Weight	1000g (2pcs), 300g (1pc), 2lb (2pcs)
Indenter diameter	Ø12.7mm (1/2 inch DIA), Ø15.9mm (5/8 inch DIA)
Die base diameter	Ø16.3mm

OPTIONAL ACCESSORY

Base plate (120×70×0.5mm, 180pcs/box)*	**THD-PF34-T**

*Can be customized according to the needs of different thickness, size and processing

STANDARD DELIVERY

Main unit	1 pc
1000g main weight	1 pc
300g main weight	1 pc
2lb main weight	1 pc
1000g additional weight	1 pc
2lb additional weight	1 pc
Ø12.7mm indenter	1 pc
Ø15.9mm indenter	1 pc
Ø16.3mm die base	1 pc

ISO FLOW CUPS

triangular stand
(optional)

desktop stand
(optional)

FCV-S06

- According to ISO 2431, ASTM D5125
- Aluminum body, stainless steel orifice, interior polished
- Suitable for measuring the flow time of Newtonian or near-Newtonian liquids, such as coatings, paints, inks, etc.

SPECIFICATION

Code	FCV-S03	FCV-S04	FCV-S05	FCV-S06
Cup No.	3#	4#	5#	6#
Orifice (mm)	3	4	5	6
Range (cSt)*	7~42	34~135	91~326	188~684
Efflux (s)	30~100	30~100	30~100	30~100

*1cSt=10^{-6}m²/s=1mm²/s

OPTIONAL ACCESSORY

Triangular stand	FCV-TB01
Desktop stand	FCV-DB01
Digital stopwatch	DSW-A010

7

FORD VISCOSITY CUPS

triangular stand
(optional)

desktop stand
(optional)

FCV-F04

- According to ASTM D1200
- Aluminum body, copper alloy orifice, interior polished
- Suitable for measuring the flow time of Newtonian or near-Newtonian paints, varnishes, lacquers, etc.

SPECIFICATION

Code	FCV-F01	FCV-F02	FCV-F03	FCV-F04	FCV-F05
Cup No.	1#	2#	3#	4#	5#
Orifice (mm)	2.10	2.53	3.40	4.12	5.20
Range (cSt)*	10~35	25~120	49~220	70~370	200~1200
Efflux (s)	55~100	40~100	25~105	20~105	20~105

*1cSt=10^{-6}m²/s=1mm²/s

OPTIONAL ACCESSORY

Triangular stand	FCV-TB01
Desktop stand	FCV-DB01
Digital stopwatch	DSW-A010

DIN CUPS

triangular stand
(optional)

desktop stand
(optional)

FCV-D04 **FCV-D05**

- According to DIN 53211
- Aluminum body, stainless steel orifice, interior polished
- Suitable for measuring low-viscosity fluids, such as glue, solvents, etc.
- Optional stainless steel handle for quick measurements in workshops

SPECIFICATION

Code	FCV-D04	FCV-D05
Orifice (mm)	4±0.02	
Range (cSt)*	96~683	
Efflux (s)	20~110	
Capacity (mL)	100	

*1cSt=10^{-6}m²/s=1mm²/s

OPTIONAL ACCESSORY

Triangular stand	FCV-TB01
Desktop stand	FCV-DB01
Digital stopwatch	DSW-A010

Zahn CUPS

- According to ASTM D4212
- Suitable for workshops, factories, laboratories etc.
- Suitable for measuring the viscosity of Newtonian or near-Newtonian inks

FCV-Z04

SPECIFICATION

Code	FCV-Z01	FCV-Z02	FCV-Z03	FCV-Z04	FCV-Z05
Cup No.	1#	2#	3#	4#	5#
Orifice (mm)	1.98	2.74	3.76	4.27	5.28
Range (cSt)*	5~60	20~250	100~800	200~1200	400~1800
Efflux (s)	35~80	20~80	20~80	20~80	20~80

*1cSt=10^{-6}m²/s=1mm²/s

OPTIONAL ACCESSORY

Digital stopwatch	DSW-A010

ENVIRONMENT TESTING 08

Infrared Thermal Imaging Cameras
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Infrared Thermometers
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Multi-Channel Temperature Loggers
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Thermocouple Thermometers
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08 ENVIRONMENT TESTING

Differential Pressure Manometers
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Anemometers
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Hot Wire Anemometers
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Light Meters
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UV Light Meters
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DATA OUTPUT

IP54 WATERPROOF

INFRARED THERMAL IMAGING CAMERA (BASIC TYPE)
CODE 9132-T400

- Suitable for electric power, mechanical and electrical, heating ventilation and air conditioning, intelligent manufacturing, etc.
- High-sensitive infrared detector, resolution 256x192
- Support real-time super resolution technology, 4 times better image quality
- -20°C~550°C wide temperature measurement range, automatic switch
- Software is included: support file management, thermal image analysis, video analysis, report editing, etc.
- Mobile APP is included: support real-time data and video transmission

STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc
TYPE-C data cable	1 pc
4G USB flash disk	1 pc
Software	1 pc

OPTIONAL ACCESSORY

Tripod	0701-TR175

VIDEO

SPECIFICATION

Imaging and optics	detector type	unrefrigerated vanadium oxide, 7.5μm~14μm
	infrared resolution	256×192@12μm
	super resolution	upgrade to 512×384
	thermal sensitivity/NETD	45mK
	infrared frame rate	25Hz/9Hz
	focal length	3.2mm
	field of view	56°×48°
	spatial resolution/IFOV	3.75mrad
	minimum object distance	0.1m
	distance to spot size/D:S	266:1
	focusing mode	focus-free
Measurement and analysis	measurement range	support auto-switching: -20°C~150°C, 0°C~550°C
	measurement accuracy	±2°C or ±2%, whichever is greater
	analyzed target	center spot, fixed temperature measurement areas: small/medium/large
	temperature alarm	full screen temperature alarm with image and flash
	temperature measuring parameter	emissivity, reflected temperature, target distance
Image display	display screen	2.4" LCD
	image mode	IR, VIS, MIF, PIP
	color palette	6: iron red, white hot, arctic, rainbow 1, rainbow 2, hot iron
	image adjustment	level span mode: automatic, semi-automatic, manual
	digital camera	2MP
Function	laser	laser indication
	recording function	photo and video
Storage and transmission	storage	built-in 16GB
	image storage	JPG with temperature information
	video storage	support real-time video transmission, IRGD with temperature information
	external interface	TYPE-C, 1/4" tripod interface
	WIFI	can be connected to the mobile terminal for image and real-time video transmission
Power supply	battery type	rechargeable lithium-ion battery, non-removable
	operation time	11 hours
	charging mode	TYPE-C charging, capable of charging while using
	charging time	90% of full charge in 2.5 hours
Environmental parameter	operation temperature	-15°C~50°C
	protection	IP54, 2m drop test
	certification	CE, ROHS
Physical parameter	weight	375g
	dimension	194×61.5×76mm

front view

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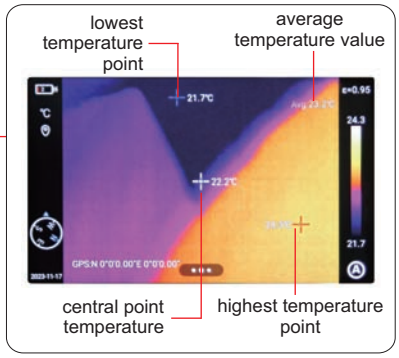
INFRARED THERMAL IMAGING CAMERA (STANDARD TYPE)
CODE 0231-IC650

DATA OUTPUT

IP54 WATERPROOF

VIDEO



- Suitable for electric power, metallurgy, petrochemical, scientific research and teaching, manufacturing, rail transit, building testing, electronic equipment overhaul, mechanical equipment maintenance, etc.
- Four image presentation: IR, VIS, MIF, PIP
- Real-time image can be photographed and video recorded
- Software is included: image browsing, image parameter editing, infrared image analysis, batch report generation, video editing, etc.
- WIFI real-time sharing, one-click connection to mobile device

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SPECIFICATION

Imaging and optics	**detector type**	unrefrigerated vanadium oxide/7.5μm~14μm
	infrared resolution	256×192@12μm
	super resolution	upgrade to 512×384
	thermal sensitivity/NETD	<45mK
	infrared frame rate	30Hz/9Hz
	focal length	10.5mm
	field of view	25°×19°
	spatial resolution (IFOV)	1.7mrad
	minimum object distance	0.1m
	distance to spot size (D:S)	588:1
	focusing mode	manual/automatic/continuous autofocus
	digital zoom	1.1X~8X
	shot recognition	auto
	laser ranging	indication/ranging: 0.1m~40m
Measurement and analysis	**measurement range**	support auto-switching: -40°C~150°C, 0°C~650°C
	measurement accuracy	±2°C or ±2%, whichever is greater
	analyzed target	spot×5, line×5, area×5
	tracking/alarm	full screen maximum, minimum and average temperature tracking; the maxium, minimum and average temperature tracking of analyzed target; full screen temperature threshold alarm (image, voice and flash)
	temperature measuring parameter	emissivity, reflected temperature, target distance, humidity, atmospheric transmittance, optical transmittance, dew point
	other	isothermals, smart stroke, intelligently calculate the area

To be continued

Continued from previous page

Image display	display screen	4.3", 800×480 pixel touch screen LCD
	digital camera	5MP
	image mode	IR, VIS, MIF, PIP
	image adjustment	level span mode: automatic, semi-automatic, manual
	color palettes	white hot, iron red, arctic, rainbow 2, hot iron, rainbow 1, fulgurite, medical, tint, black hot, blue hot, sepia, green hot, ice and fire, amber, customized
Function	recording function	photo and video (infrared & visible light)
	cloud service	available
	other	customized physical button, intelligent diagnosis, OTA update
Storage and transmission	storage	local storage (64GB) and external 64GB SD
	image storage	JPG with temperature information
	video storage	MP4 (without temperature information), can be used to record audio synchronously; irgd (with temperature information), up to 30Hz for temperature analysis
	external interface	TYPE-C, SD card slot
	WIFI	can be connected to the mobile terminal for image and real-time video transmission
	bluetooth	bluetooth 5.0, support image transmission (only for Android)
Power system	battery type	lithium-ion rechargeable battery, working time≥5 hours
	charging mode	TYPE-C charging; PC/portable charger; capable of charging while using
	charging time	90% of full charge in 2.5 hours
Environmental parameter	operation temperature	-20°C~50°C
	storage temperature	-40°C~60°C
	protection	IP54, 2-meter drop test
	certification	CE, FCC, ROHS
Physical parameter	hardware	illuminator, microphone, speaker, electronic compass, GPS
	dimension	292×125×125mm
	weight	1.15kg

STANDARD DELIVERY

Main unit	1 pc
64G SD card	1 pc
Lithium-ion battery	2 pcs
Power adapter	1 pc
Software	1 pc

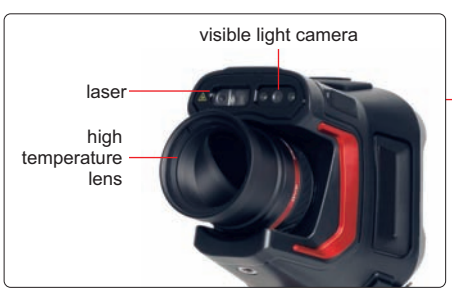
OPTIONAL ACCESSORY

Tripod	0701-TR175

IP54 WATERPROOF

DATA OUTPUT

INFRARED THERMAL IMAGING CAMERAS (ADVANCED TYPE)



VIDEO

0234-TC850B

- Suitable for electric power, oil and petrochemical, heating ventilation and air conditioning, electronic information, etc.
- 4 image modes: IR, VL, MIF and PIP
- Software is included: support file management, thermal image analysis, video analysis, report editing, etc.
- Mobile APP is included: support real-time data and video transmission

To be continued

Continued from previous page

SPECIFICATION

Code		0234-TC850A	0234-TC850B
Measurement and analysis	measurement range	support auto-switching: -40°C~150°C, 0°C~650°C	support auto-switching: -40°C~150°C, 0°C~650°C, 500°C~2000°C (high temperature lens is required, included)
	measurement accuracy	±2°C or ±2%, whichever is greater	
	analyzed target	12 in total (spot/line/area)	
	temperature alarm	full screen temperature alarm with image, voice and flash	
	temperature measuring parameter	emissivity, reflected temperature, target distance, humidity, atmospheric temperature, optical transmittance, dew point	
	others	isothermals, smart stroke, intelligently calculate the area	
Image display	display screen	4.3" touchscreen LCD, 800×480 pixel	
	digital camera	8MP	
	image mode	IR, VIS, MIF, PIP	
	image adjustment	level span mode: automatic, semi-automatic, manual	
	color palettes	15: white hot, iron red, arctic, rainbow 2, hot iron, rainbow 1, fulgurite, medical, tint, black hot, blue hot, sepia, green hot, ice and fire, amber; customized	
Imaging and optics	detector type	unrefrigerated vanadium oxide, 7.5μm~14μm	
	infrared resolution	480×360@12μm	
	super resolution	upgrade to 960×720	
	thermal sensitivity/NETD	45mK	
	infrared frame rate	30Hz/9Hz	
	focal length	17.7mm	
	field of view	25°×19°	
	spatial resolution/IFOV	0.91mrad	
	minimum object distance	0.15m	
	distance to spot size/D:S	1099:1	
	focusing mode	manual, automatic, touch autofocus, continuous autofocus	
	digital zoom	1.1x~16x	
Function	laser	indication/ranging: 0.1m~40m	
	recording function	photo (image stitching) and video (infrared and visible light)	
	cloud service	available	
Storage and transmission	storage	built-in 64GB and external SD card (64GB and up to 256GB)	
	image storage	JPG (with temperature information)	
	video storage	MP4 (without temperature information) can be used to record audio synchronously; IRGD (with temperature information), up to 30Hz for temperature analysis	
	external interface	TYPE-C, SD card slot, 1/4" tripod mounting	
	WIFI	can be connected to the mobile terminal for image and real-time video transmission	
	bluetooth	bluetooth 5.0, support image transmission (only for Android)	
Power supply	battery type	lithium-ion rechargeable battery, operating time≥4 hours	
	charging mode	TYPE-C charging; PC/portable charger; capable of charging while using; desktop charger	
	charging time	90% of full charge in 2.5 hours	
Environmental parameter	operating temperature	-20°C~50°C	
	protection	IP54, 2m drop test	
	certification	CE, ROHS	
Physical parameter	hardware	illuminator, microphone, speaker, electronic compass, GPS	
	dimension	292×125×125mm	
	weight	1.2kg	

STANDARD DELIVERY

Code	0234-TC850A	0234-TC850B
Infrared lens	1 pc (standard lens)	2 pcs (standard lens+high temperature lens)
Main unit	1 pc	
64G SD card	1 pc	
Lithium-ion battery	2 pcs	
Desktop charger	1 pc	
Power adapter	1 pc	
Software	1 pc	

OPTIONAL ACCESSORY

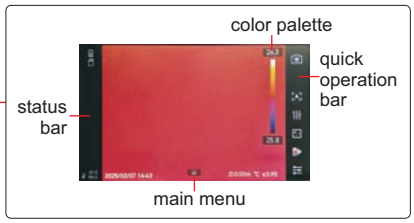
Tripod	0701-TR175

IP54 WATERPROOF

VIDEO

DATA OUTPUT

INFRARED THERMAL IMAGING CAMERA (HIGH TEMPERATURE TYPE)
CODE 0235-HT480



- Suitable for electric power, construction, electrical, mechanical, scientific research, etc.
- -20°C~650°C temperature measurement range, automatic switch, up to 2000°C with high temperature lens
- 4 hours operation time with interchangeable and rechargeable lithium-ion battery
- Software is included: support file management, thermal image analysis, video analysis, report editing, etc.
- Mobile APP is included: support real-time data and video transmission

STANDARD DELIVERY

Main unit	1 pc
High temperature lens	1 pc
64G SD card	1 pc
Lithium-ion battery	2 pcs
Desktop charger	1 pc
Power adapter	1 pc
Software	1 pc

OPTIONAL ACCESSORY

Tripod	0701-TR175

SPECIFICATION

Infrared image	detector type	unrefrigerated detector, 7.5μm~14μm
	infrared resolution	480×360
	super resolution	upgrade to 960×720
	thermal sensitivity/NETD	<30mK
	infrared frame rate	50Hz
	spatial resolution/IFOV	0.68mrad
	aperture value	F1.0
	field of view	19°×14°
	minimum object distance	0.3m
	focusing mode	AF/continuous AF/laser assisted AF/touch AF/manual focus
	digital zoom	1.0x~8.0x
Image display	display screen	4.3" touchscreen LCD, 800×480 pixel
	visual camera	3264×2448
	image mode	infrared, visual, fusion, pip, blending
	color palettes	white hot, black hot, rainbow, ironbow, red hot, fusion, rain, blue red
	color highlight	above, below, interval, insulation, condensation
Measurement and analysis	measurement range	support auto-switching: -20°C~150°C, 100°C~650°C, 300°C~2000°C (high temperature lens is required, included)
	measurement accuracy	±2°C or ±2%, whichever is greater
	measurement tools	center spot, hot spot, cold spot, user-definable: delta T, 10 spots, 5 rectangles, 5 circle, 1 line
Function	laser	indication: class 2, wavelength: 635nm, power: <1mW ranging: indoor 50m, outdoor 15m; accuracy: 0.1m
	storage	64G Micro SD card
	image storage	JPG (with temperature information)
	video storage	MP4 (without temperature information) and HRV (with temperature information)
	WIFI	802.11 b/g/n (2.4GHz and 5GHz)
	bluetooth	bluetooth 4.2
	GPS and compass	available
	external interface	TYPE-C, HDMI, SD card slot, 1/4" tripod mounting
	battery type	interchangeable and rechargeable lithium-ion battery, operating time 4 hours
	charging time	approximate 4 hours fully charged
Physical parameter	operating environment	-20°C~50°C, ≤95%RH
	protection	IP54, 2m drop test
	dimension	285×120×125mm
	weight	1.1kg

POCKET-SIZED THERMAL CAMERA
CODE 0232-PC550

VIDEO | DATA OUTPUT | IP54 WATERPROOF

- The 256×192 infrared detector produces crisp image
- The IR, VIS, PIP and MIF reveal temperature details
- -20°C to 550°C temperature range with auto-switching capability
- Software is included

SPECIFICATION

Imaging and optics	detector type	unrefrigerated vanadium oxide/7.5μm~14μm
	infrared resolution	256×192@12μm
	thermal sensitivity/NETD	≤45mK
	infrared frame rate	25Hz/9HZ
	focal length	3.2mm
	field of view	56°×48°
	spatial resolution (IFOV)	3.75mrad
	minimum object distance	0.3m
	distance to spot size (D:S)	266:1
	focusing mode	focus-free
	digital zoom	1.1x~8x
	laser ranging	≤8m
Measurement and analysis	measurement range	support auto-switching: -20°C~150°C, 100°C~550°C
	measurement accuracy	±2°C or ±2%, whichever is greater
	analyzed target	spot×2 (include center spot), area×3
	tracking/alarm	full screen maximum/minimum temperature tracking; the maxium or minimum temperature tracking of analyzed target; full screen temperature threshold alarm (image and flash)
	temperature measuring parameter	emissivity, reflected temperature, target distance
	other	intelligently calculate the area
Image display	display screen	3.5" LCD
	digital camera	5MP
	image mode	IR, VIS, MIF, PIP
	image adjustment	level span mode: automatic, semi-automatic, manual
	color palettes	white hot, black hot, iron red, hot iron, rainbow, arctic
Function	recording function	photo
	cloud service	available
	other	customized physical buttonx2
Storage and transmission	storage media	local storage (16GB)
	image storage	JPG with temperature information
	external interface	TYPE-C
	WIFI	can be connected to the mobile terminal for image transmission
Power system	battery type	rechargeable lithium-ion battery, working time≥4 hours
	charging mode	TYPE-C charging; PC/portable charger; capable of charging while using
	charging time	90% of full charge in 2.5 hours
Environmental parameter	operation temperature	-10°C~50°C
	storage temperature	-40°C~70°C
	protection	IP54, 1m drop test
	certification	CE, FCC, ROHS
Physical parameter	hardware	illuminator, Laser (indication, ranging)
	dimension	138×89×35mm
	weight	296g

STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc
Software	1 pc

OPTIONAL ACCESSORY

Tripod	0701-TR175

INFRARED THERMAL IMAGING CAMERA FOR MOBILE PHONE
CODE 0236-MC150

VIDEO

connect to Android mobile phone

- Suitable for intelligent farming, electrical industry, mechanical industry, construction, heating ventilation and air conditioning, etc.
- Clearly identify people and animals hundreds of meters away in the darkness field
- Automatically focus on subjects by touching the screen to quickly produce clear thermal images
- Up to 3 spots, 1 line and 2 areas of subjects to be analyzed
- Mobile App is included (only for Android system)

SPECIFICATION

Infrared detector	**detector type**	unrefrigerated vanadium oxide, 7.5μm~14μm
	infrared resolution	256×192@12μm
	infrared frame rate	25Hz
Lens	**focal length**	7mm
	field of view	25°
	focusing mode	automatic/electric
	detection range	100m
Temperature measurement	**measurement range**	-20°C~150°C
	measurement accuracy	±2°C or ±2%, whichever is greater
	analyzed target	spot, line, area
Function	**photo and video**	available
	color palettes	9: white hot, fulgurite, iron red, hot iron, medical, north pole, rainbow 1, rainbow 2, black hot; 1 customized
	instant sharing	images, videos
Power supply	**voltage**	4.5V~5.5V
	power	500mW
Environmental parameter	**operating temperature**	0°C~45°C
	protection	IP43, 1m drop test
	certification	CE, RoHS
Physical parameter	**external interface**	USB TYPE-C
	dimension (L×W×H)	59×20×24mm
	weight	40g

STANDARD DELIVERY

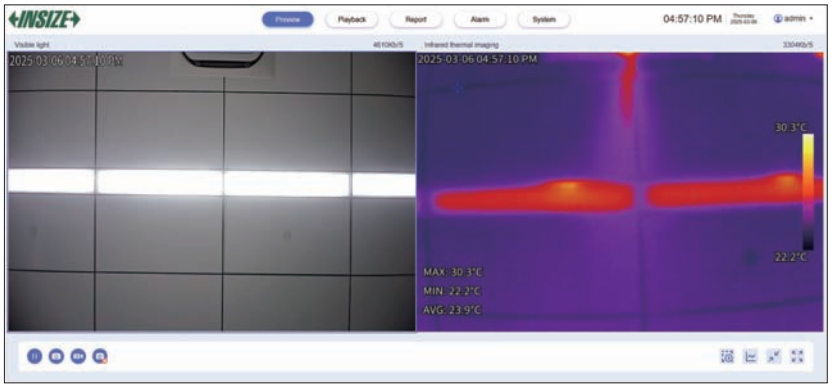
Main unit	1 pc
USB flash disk	1 pc

ONLINE INFRARED THERMAL IMAGING CAMERA
CODE 0237-LC550

- Suitable for electric power, electrical industry, mechanical industry, etc.
- Adopt 256×192 infrared detector, together with 1920×1080 visible light sensor
- Support real-time temperature measurement analysis, alarm setting, historical information query and export reports
- Support various installation methods such as magnetic mounting, wall mounting, vertical mounting, hanging mounting and tripod mounting
- Web-side control, no need other App or software

IP67 WATERPROOF

VIDEO



web-side real-time image

STANDARD DELIVERY

Main unit	1 pc
Adapter cable	1 pc
Back panel	1 pc

SPECIFICATION

Infrared image	detector type	unrefrigerated vanadium oxide, 7.5μm~14μm
	infrared resolution	256×192@12μm
	thermal sensitivity/NETD	45mK@30°C
	lens	3.2mm, 56°×42°
	focusing mode	focus-free
	color palettes	26: white hot, black hot, rainbow and so on
	featured function	detail enhancement, 2D/3D noise reduction, image flip, dual light fusion
Temperature measurement	measurement range	low: -20°C~150°C, high: 100°C~550°C
	measurement accuracy	±2°C or ±2%, whichever is greater
	measurement target	up to 21 targets (spot, line, rectangle, polygon and circle) can be simultaneously measured
	measurement function	cold/hot spot tracking, full-screen point temperature measuring, query and export of information
Visible light	sensor type	1/2.7" CMOS
	max. resolution	1920×1080
	min. illuminance	color: 0.005lux
	lens	2.8mm, 65°×49°
	fill light	white light
	featured function	visible light gain control, 2D/3D noise reduction, backlight compensation, wide dynamic, strong-light photoinhibition, image flip, exposure compensation
Image	video compression	H.264
	image format	JPEG
Protocol and storage	network protocol	IPv4/IPv6, HTTP, SMTP, RTSP, TCP, DHCP, ONVIF (automatic search device, RTSP video stream and device control), GB/T28181, MQTT
	local storage	4G EMMC
System function	language	Chinese/English
	user management	max. 20 users with three levels of user accounts (root, admin and user)
	fault detection	network interrupt detection, IP conflict detection, illegal access, storage exception
	intelligent function	sound and light alarm
Interface	power interface	DC12V±25%
	network interface	100M/1000M ethernet port, POE (802.3 at)
	alarm interface	1 input and 1 output
	other interface	RS485
Environmental parameter	operating environment	-30°C~60°C, ≤95%RH (non-condensing)
	protection	IP67, TVS 6000V lightning protection and surge protection
Physical parameter	power	3.5W
	dimension (L×W×H)	71×30×105mm
	weight	300g

INFRARED THERMOMETER (BASIC TYPE)
CODE 0222-C520

VIDEO

POPULAR MODEL

- Unit: °C, °F
- Automatic data hold
- MAX/MIN/AVG/DIF mode
- High and low alarm
- Adjustable emissivity
- Low battery display
- Over range indicator
- Automatic power off

SPECIFICATION

Temperature range	-50°C~500°C/-58°F~932°F
Temperature accuracy	±(2°C+0.1°C/°C) (at -50°C~0°C), ±2.0°C or ±2% (at 0°C~500°C)
	±(4.0°F+0.1°F/°F) (at -58°F~32°F), ±4.0°F or ±2% (at 32°F~932°F)
Temperature resolution	0.1°C/0.2°F
Distance to spot size (D:S)	12:1
Emissivity	0.10~1.00 (adjustable)
Repeatability	±0.5°C or ±0.5%; ±1.0°F or ±0.5%
Response time	≤500ms (95% of reading)
Spectral response	8μm~14μm
Positioning laser	single-spot, class 2 laser product, output<1mW, wavelength 630nm~670nm
Power supply	2×AAA batteries, working time≥6h
Automatic power off	about in 15 seconds
Operation environment	temperature: 0°C~50°C/32°F~122°F; humidity: <90%RH (non-condensing)
Storage environment	temperature: -20°C~60°C/-4°F~140°F; humidity: <90%RH (non-condensing)
Dimension	148×85×46mm
Weight	160g

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	2 pcs

INFRARED THERMOMETER (STANDARD TYPE)
CODE 0213-A500

VIDEO

- Unit: °C, °F
- Dual-spot laser sighting
- Negativity display
- Automatic power off
- Automatic data hold
- Over range indicator
- Max/Min display

SPECIFICATION

Temperature range	-20°C~380°C/-4°F~716°F
Temperature accuracy	±2.5°C (at -20°C~20°C), ±2% or ±2.0°C (at 20°C~380°C)
	±4.5°F (at -4°F~68°F), ±2% or ±3.6°F (at 68°F~716°F)
Temperature resolution	0.1°C/0.1°F
Distance to spot size (D:S)	12:1
Emissivity	0.95 (fixed)
Repeatability	±1°C/1.8°F
Response time	150ms
Spectral response	8μm~14μm
Positioning laser	dual-spot, class 2 laser product, output<1mW, wavelength 630nm~670nm
Operation temperature	0°C~50°C/32°F~122°F
Operation humidity	10%RH~90%RH
Storage temperature	-10°C~60°C/14°F~140°F
Storage humidity	<80%RH
Power supply	1×9V battery
Dimension	137×73×38mm
Weight	135g

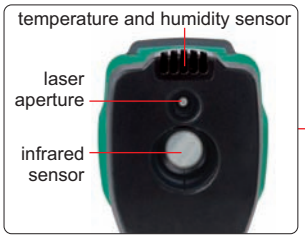
STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc

INFRARED THERMOMETER (MEDIUM TEMPERATURE TYPE)
CODE 0215-A900

- Ambient temperature, dew point temperature and humidity detection
- Unit: °C, °F
- Circular laser sighting
- Display backlight
- Automatic power off
- Automatic data hold
- Adjustable emissivity
- High and low alarm

VIDEO



SPECIFICATION

Infrared sensor	temperature range	-30°C~800°C/-22°F~1472°F
	temperature resolution	0.1°C
		0.1°F (-22°F~1000°F), other range 1°F
	temperature accuracy	±3.0°C (at -30°C~20°C) ±(1% of reading +1)°C (at 20°C~450°C) ±(2% of reading)°C (at 450°C~800°C)
	distance to spot size (D:S)	20:1
	emissivity	0.10~1.00 (adjustable)
	response time	<150ms
	spectral response	8μm~14μm
	positioning laser	circular, class 2 laser product, output<1mW, wavelength 630nm~670nm
Temperature and humidity sensor	ambient temperature range	0°C~50°C/32°F~122°F
	dew point temperature range	0°C~50°C/32°F~122°F
	temperature resolution	0.1°C/0.1°F
	temperature accuracy	±1.0°C/±1.8°F
	humidity range	0%RH~100%RH
	humidity resolution	0.1%RH
	humidity accuracy	±5%RH (20%RH~80%RH), other range ±7%RH
Automatic power off		about in 10 seconds
Power supply		1×9V battery
Dimension		170×45×85mm
Weight		196g

STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc

INFRARED THERMOMETER (MEDIUM-HIGH TEMPERATURE TYPE)
CODE 0216-B210

- Unit: °C, °F
- Circular laser sighting
- Over range indicator with LED and buzzer
- 99 data storage
- Auto interval measurement
- MAX/MIN/AVG/DIF display

VIDEO

SPECIFICATION

Temperature range	-32°C~1300°C
Temperature accuracy	±(1.5+0.1·|t|)°C (<0°C), ±1.5°C or ±1.5% (≥0°C)
Temperature resolution	0.1°C (<1000°C), 1°C (≥1000°C)
Distance to spot size (D:S)	30:1
Emissivity	0.10~1.00 (adjustable)
Repeatability	0.7°C or 0.7%
Response time	≤250ms (95% of reading)
Spectral response	8μm~14μm
Positioning laser	circular, class 3R laser product, output 1mW≤P<3mW, wavelength 630nm~670nm
Operation temperature	0°C~50°C
Operation humidity	<90%RH (non-condensing)
Storage temperature	-20°C~60°C
Power supply	1×9V battery
Dimension	190×127×54mm
Weight	310g

STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc

OPTIONAL ACCESSORY

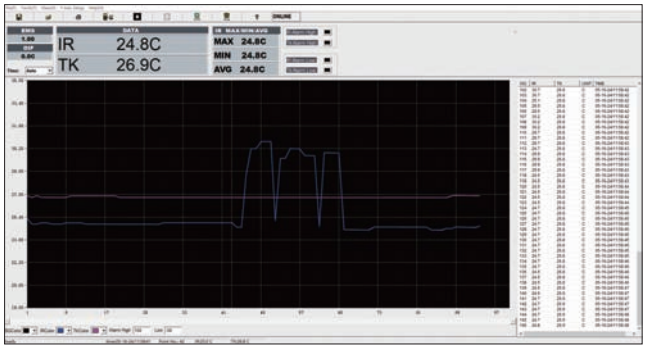
Tripod	0701-TR175

VIDEO

DATA OUTPUT

INFRARED THERMOMETER (HIGH TEMPERATURE TYPE)
CODE 0218-B610

computer software (included):
connect to software via USB cable to collect, display and stored data



tripod (included)

K-type thermocouple (included)

- Unit: °C/°F
- MAX/MIN/AVG/DIF mode
- Trigger lock continuous measurement function
- Adjustable emissivity: 0.10~1.00
- 100 data storage
- High and low alarm
- Automatic data hold
- Low battery display
- Automatic power off
- Computer software is included

SPECIFICATION

Infrared system	temperature range	-50°C~1850°C/-58°F~3362°F
	temperature accuracy	±(2%·|t|+3.0°C) (at-50°C~20°C); ±(1%·t+1.0°C) (at 20°C~500°C); ±1.5% (at 500°C~1000°C); ±2.0% (at 1000°C~1850°C)
	temperature resolution	0.1°C/°F (<1000°C/°F), 1°C/°F (≥1000°C/°F)
	distance to spot size (D:S)	50:1
	emissivity	0.10~1.00 (adjustable)
	repeatability	±1.5°C (at -50°C~20°C), ±0.5% or ±0.5°C (at 20°C~1850°C)
	response time	150ms
	spectral response	8μm~14μm
	positioning laser	dual-spot, class 2 laser product, output<1mW, wavelength 630nm~670nm
K-Type thermocouple system (electrical signal)	temperature range	-50°C~1370°C/-58°F~2498°F
	temperature accuracy	±(1.5%·|t|+3°C) (at -50°C~1000°C) ±(1.5%·t+2°C) (at 1000°C~1370°C)
	temperature resolution	0.1°C/°F (<1000°C/°F), 1°C/°F (≥1000°C/°F)
	repeatability	±1.5%
Power supply		1×9V battery
Operation environment		temperature: 0°C~50°C humidity: 10%RH~90%RH (non-condensing)
Storage environment		temperature: -10°C~60°C humidity: <80%RH (non-condensing)
Dimension		204×155×52mm
Weight		315g

STANDARD DELIVERY

Main unit	1 pc
9V battery	1 pc
USB cable	1 pc
K-type thermocouple	1 pc
Tripod	1 pc

SPECIFICATION OF K-TYPE THERMOCOUPLE

Temperature range	-40°C~250°C
Temperature accuracy	±2.5°C
Length	1m

DUAL-CAVITY BLACKBODY RADIATION SOURCE
CODE PIC-D155

VIDEO

SPECIFICATION

Temperature range	low range: -15°C~100°C; high range: 50°C~500°C
Resolution	0.01°C (at -15°C~100°C), 0.1°C (at 100°C~500°C)
Stability	≤(0.1°C or 0.1%|t|, whichever is greater)/10min*
Uniformity	≤(0.15°C or 0.15%|t|, whichever is greater)*
Emissivity	>0.995
Cavity size	low range: Ø65mm; high range: Ø50mm
Cavity depth	low range: 110mm; high range: 160mm
Cool down time	30 minutes from ambient to -15°C
Heat up time	60 minutes from ambient to 500°C
Power supply	220V/50Hz
Power	850W
Dimension	380×295×320mm
Weight	17.1kg

*|t| is the absolute temperature value of blackbody radiation source

- Large target sizes of 50mm and 65mm for calibrating of infrared thermometers and infrared thermal imagers
- Contain two independent blackbody cavities
- The emissivity of blackbody radiation is better than 0.995
- 0.1 level temperature control meter with high accuracy
- Multi-point temperature correction function

STANDARD DELIVERY

Main unit	1 pc

8

INFRARED AND PENETRATION THERMOMETER
CODE 0321-IT42

IP65 WATERPROOF

VIDEO

SPECIFICATION

Infrared system	temperature range	-15°C~280°C/5°F~536°F
	temperature resolution	0.1°C/0.1°F
	temperature accuracy	±3.0°C (at -15°C~20°C), other range ±(1%+1.0)°C
		±5.4°F (at 5°F~68°F), other range ±(1%+1.8)°F
	distance to spot size (D:S)	4:1
	emissivity	0.95 (fixed)
	spectral response	8~14μm
Penetration system	temperature range	-40°C~200°C/-40°F~392°F
	temperature resolution	0.1°C/0.1°F
	temperature accuracy	±2.0°C (at -40°C~0°C), other range ±(1%+1.0)°C
		±3.6°F (at -40°F~32°F), other range ±(1%+1.8)°F
Repeatability		<1.0°C
Measurement response time		<500ms
Power supply		2×1.5V AAA batteries
Dimension		140×39×24mm
Weight		140g

- Can measure the surface and inside temperature of objects
- Low battery display
- Display backlight
- High and low alarm
- Automatic data hold (infrared system)
- Automatic power off (infrared system)
- Unit: °C/°F

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	2 pcs

MULTI-CHANNEL TEMPERATURE LOGGERS

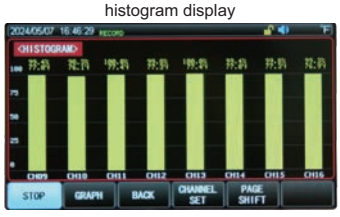
VIDEO

DATA OUTPUT

numerical display

graphical display

histogram display



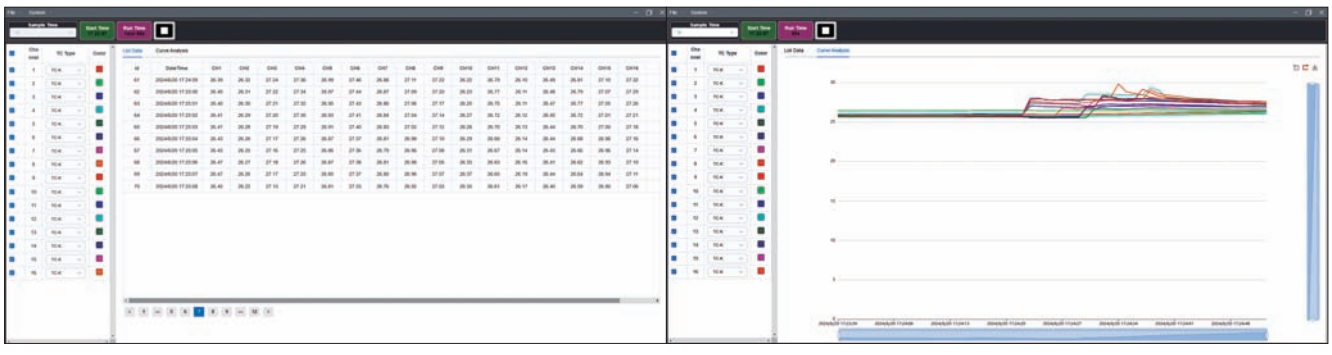
0350-MC16

K-type thermocouples (included)

8

- Suitable for home appliances, motors, electric heating appliances, thermostats, transformers, ovens, thermal protectors, power supplies, lighting, electric power, LED and other industries
- Unit: °C/°F/K
- Channels are compatible with thermocouple types K/N/E/J/T/R/S/B
- 4.3 inch true color LCD
- Direct numerical value reading, histogram and graphical display mode
- Upper and lower limit overrun alarm
- Independent correction per channel
- Automatic detection of open-circuit thermocouple
- Standard U disk interface, support real-time data storage
- Computer software is included

computer software (included): connect to PC software via RS232 cable or network cable to collect, display and save data as .csv format



To be continued

Continued from previous page

SPECIFICATION

Code		0350-MC08	0350-MC16	0350-MC32	0350-MC48
Channel number		8	16	32	48
Weight		3.5kg	3.6kg	3.7kg	3.8kg
Thermocouple type		K/J/T/E/N/S/R/B			
Temperature range (electrical signal)	type K	-100°C~1350°C			
	type J	-100°C~1200°C			
	type T	-150°C~400°C			
	type E	-100°C~850°C			
	type N	-100°C~1300°C			
	type S	0°C~1750°C			
	type R	0°C~1750°C			
	type B	600°C~1800°C			
Temperature accuracy* (electrical signal)	type K	±1.2°C (at -100°C~0°C); ±0.8°C (at 0°C~1350°C)			
	type J	±1.0°C (at -100°C~0°C); ±0.7°C (at 0°C~1200°C)			
	type T	±1.0°C (at -150°C~0°C); ±0.8°C (at 0°C~400°C)			
	type E	±0.9°C (at -100°C~0°C); ±0.7°C (at 0°C~850°C)			
	type N	±1.5°C (at -100°C~0°C); ±0.9°C (at 0°C~1300°C)			
	type S	±4.5°C (at 0°C~100°C); ±3.0°C (at 100°C~300°C); ±2.2°C (at 300°C~1750°C)			
	type R	±4.5°C (at 0°C~100°C); ±3.0°C (at 100°C~300°C); ±2.2°C (at 300°C~1750°C)			
	type B	±5.5°C (at 600°C~800°C); ±3.8°C (at 800°C~1000°C); ±2.5°C (at 1000°C~1800°C)			
Temperature resolution		0.01°C			
Test speed		fast: 500ms, slow: 1s			
Cold junction		accuracy: 0.5°C			
Interface		communication interface: RS232C/LAN			
		storage interface: USB (only U disk)			
Remote control		baud rate supports up to 115200bps, compatiable with SCPI protocol and ASCII transmission			
Power supply		AC: 100V~240V, 50/60Hz AC/DC adapter: 24V/1A (**optional**)			
Operation environment		temperature: 10°C~40°C humidity: 10%RH~90%RH (non-condensing)			
Storage environment		temperature: 0°C~50°C humidity: 10%RH~90%RH (non-condensing)			
Dimension		370×260×100mm			

*Accuracy is specified for main unit in the ambient temperature between 15ºC and 35ºC, the above specification does not include thermocouple probe error

STANDARD DELIVERY

Main unit	1 pc
K-type thermocouple (0350-K01)**	8/16/32/48 pcs
RS232 cable	1 pc
Network cable	1 pc
Software	1 pc

**Number of thermocouples corresponding to the number of channels

SPECIFICATION OF K-TYPE THERMOCOUPLE ***

Code	Range	Accuracy	Length
0350-K01	-20°C~200°C	±1.5°C	2m

***Other models, temperature range and length of thermocouples can be customized

OPTIONAL ACCESSORY

AC/DC adapter	0350-ADAPTER

VIDEO

DATA OUTPUT

BUILT-IN BLUETOOTH

THERMOCOUPLE THERMOMETER (FOUR CHANNELS)
CODE 0323-CT47

- Unit: °C/°F/K
- Channels are compatible with 7 types of thermocouples K, J, T, E, R, S and N
- MAX/MIN/AVG/DIF mode
- 72000 data storage
- Offset value compensation
- Data hold function
- Display backlight
- Over range indicator
- Battery level display
- Automatic power off
- Built-in Bluetooth, mobile APP is included
- Computer software is included

SPECIFICATION

Thermocouple type	J/K/T/E/R/S/N
Temperature range (electrical signal)	K: -200°C~1372°C
	J: -210°C~1200°C
	T: -250°C~400°C
	E: -150°C~1000°C
	R: 0°C~1767°C
	S: 0°C~1767°C
	N: -200°C~1300°C
Temperature accuracy* (electrical signal)	±(0.2%·|t|+0.5°C) (at -10°C~1767°C); ±(0.2%·|t|+1.0°C) (at -200°C~-10°C); ±(0.2%·|t|+2.5°C) (at -250°C~-200°C)
Temperature resolution	0.1°C (<1000°C); 1°C (≥1000°C)
Repeatability	±(0.1%·|t|+0.3°C)
Response time	500ms
Logging interval	1s~24h (adjustable)
Memory capacity	72000
Data transmission	TYPE-C USB, Bluetooth
Power frequency anti-interference	50/60Hz
Input protection	60Vmax
Drop proof	1m
Power supply	3×AAA alkaline batteries, working time>30h; TYPE-C USB (only be connected to a PC power)
Operation environment	temperature: -10°C~50°C
	humidity: <90%RH (non-condensing)
Storage environment	temperature: -20°C~60°C
	humidity: <90%RH (non-condensing)
Dimension	180×63×38mm
Weight	250g (including batteries)

*Accuracy is specified for ambient temperature between 18ºC and 28ºC, the above specification does not include thermocouple probe error

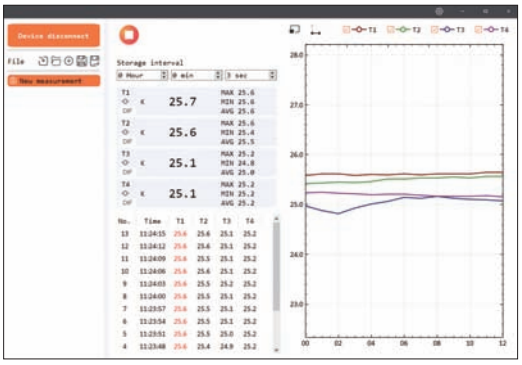
STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs
USB cable	1 pc
K-type thermocouple (0323-K01)	4 pcs

OPTIONAL ACCESSORY

Tripod	**0701-TR175**

computer software (included): connect to PC software via USB cable to collect, display and stored data



mobile APP (included): connect to mobile APP via Bluetooth to collect, display and stored data, and can export the data stored on the device

SPECIFICATION OF K-TYPE THERMOCOUPLE**

Code	Range	Accuracy	Length
0323-K01	-40°C~260°C	±0.75%	900mm

**Other models, temperature range and length of thermocouples can be customized

THERMOCOUPLE THERMOMETERS (STANDARD TYPE)

IP52 WATERPROOF

VIDEO

- Unit: °C/°F
- Support thermocouple type K/J/T
- MAX/MIN/AVG mode
- Temperature upper and lower limit alarm function
- Graphical display
- Multi-point calibration function
- Display backlight
- Data hold function
- Battery level display
- Automatic power off

0326-CT31

SPECIFICATION

Code		0326-CT31	0326-CT32
Channel number		1	2
Weight		233g	248g
Thermocouple type		K/J/T	
Temperature range	type K	-200°C~1370°C	
	type J	-200°C~1200°C	
	type T	-200°C~400°C	
Temperature accuracy*		±(0.3%·|t|+0.40)°C	
Temperature resolution		0.01°C	
Sampling rate		2 times/sec	
Display		dot matrix LCD display with backlight	
Operation temperature		-10°C~+50°C (non-condensing)	
Storage temperature		-20°C~+60°C (without battery)	
Power supply		3×AAA alkaline batteries	
Dimension		174×73×40mm	

*Temperature accuracy does not include thermocouple error

SPECIFICATION OF K-TYPE THERMOCOUPLE *

Code	Range	Accuracy	Length
0326-K01	-40°C~300°C	±1.5°C	1.5m

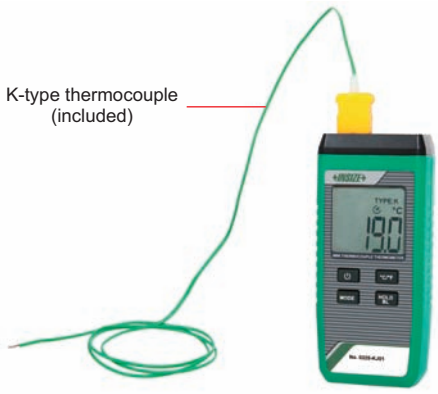
*Other types, temperature range and length of thermocouples can be customized

STANDARD DELIVERY

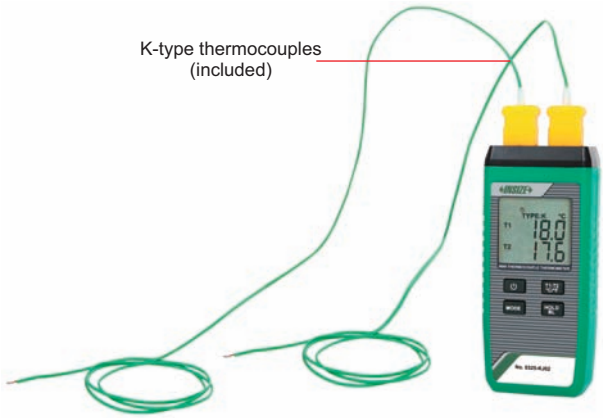
Main unit	1 pc
Battery (AAA)	3 pcs
K-type thermocouple (0326-K01)*	1/2 pcs

*Number of thermocouples is corresponding to the number of channels

MINI THERMOCOUPLE THERMOMETERS (ECONOMIC TYPE)



0325-KJ01



0325-KJ02

- Unit: °C/°F
- MAX/MIN/AVG mode
- Display backlight
- Data hold function
- Low battery display
- Automatic power off

SPECIFICATION

Code		0325-KJ01	0325-KJ02
Channel number		1	2
Weight		113g	116g
Thermocouple type		K/J	
Temperature range	type K	-50°C~1300°C	
	type J	-50°C~1200°C	
Temperature accuracy *		±1.8°C (at -50°C~0°C); ±(0.5%+1°C) (at 0°C~1000°C); ±(0.8%+1°C) (at 1000°C~1300°C)	
Temperature resolution		0.1°C (<1000°C); 1°C (≥1000°C)	
Operation environment		temperature: 0°C~40°C	
		humidity: ≤80%RH	
Power		3×AAA alkaline batteries	
Dimension		120×55×30mm	

*Temperature accuracy does not include thermocouple error

SPECIFICATION OF K-TYPE THERMOCOUPLE*

Code	Range	Accuracy	Length
0325-K01	-40°C~260°C	±2.0°C	900mm

* Other types, temperature range and length of thermocouples can be customized

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs
K-type thermocouple (0325-K01)*	1/2 pcs

*Number of thermocouples is corresponding to the number of channels

K-TYPE THERMOCOUPLE THERMOMETER (ECONOMIC TYPE)
CODE 0320-K230

- Contact K-type thermocouple
- Unit: °C/°F
- Data hold function
- Low battery display
- Display backlight

SPECIFICATION

Temperature range	-50°C~200°C/-58°F~392°F
Temperature accuracy	±2.0°C/±3.6°F
Temperature resolution	0.1°C (at -50°C~199.9°C), 1°C (at -50°C~200°C)
	0.1°F (at -58°F~199.9°F), 1°F (at -58°F~392°F)
Sampling rate	2.5 times/sec
Power supply	3×3V CR2450 batteries (for 300 hours working)
Operation voltage	6.8V~10V
Dimension	149×76×34mm
Weight	220g

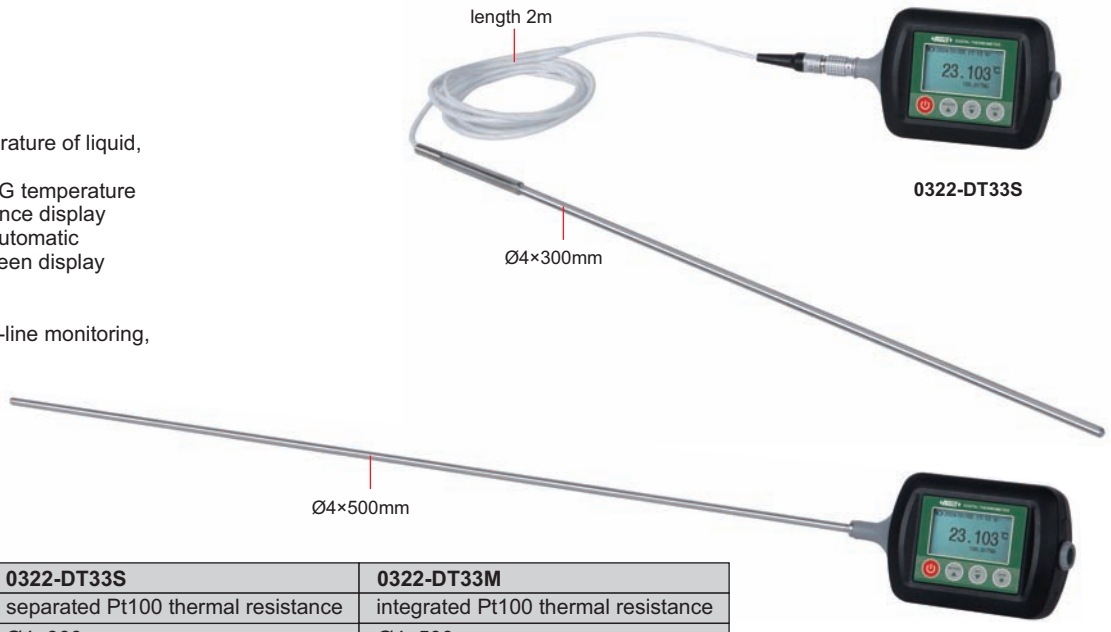
STANDARD DELIVERY

Main unit	1 pc
Thermocouple (K-type)	1 pc
CR2450 battery	3 pcs

HIGH PRECISION DIGITAL THERMOMETERS

VIDEO

- Can measure the temperature of liquid, steam and gas
- Real time/MAX/MIN/AVG temperature display, real time resistance display
- Built-in gravity sensor, automatic horizontal or vertical screen display
- Display backlight
- Automatic power off
- Software is included: on-line monitoring, data storage



0322-DT33S

0322-DT33M

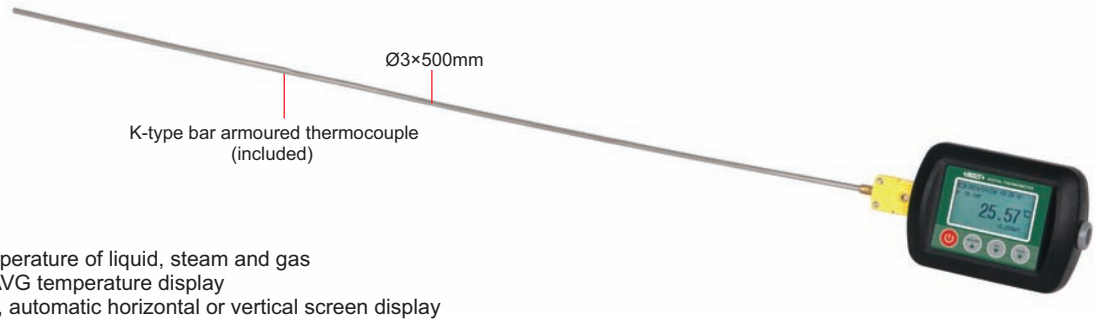
SPECIFICATION

Code	**0322-DT33S**	**0322-DT33M**
Sensor type	separated Pt100 thermal resistance	integrated Pt100 thermal resistance
Sensor dimension	Ø4×300mm	Ø4×500mm
Weight	147g	115g
Measuring range	-30°C~300°C/-22°F~572°F	
Resolution	0.1°C/0.01°C/0.001°C (adjustable) 0.1°F/0.01°F/0.001°F (adjustable)	
Accuracy	±0.5°C/±0.9°F	
Annual stability	±0.2°C/±0.36°F	
Response time	<60s	
Memory capacity	100,000	
Logging interval	1s~99s	
Power supply	rechargeable lithium battery, working time≥40h	
Operation environment	temperature: -10°C~50°C/14°F~122°F humidity: 0%RH~95%RH (non-condensing)	

STANDARD DELIVERY

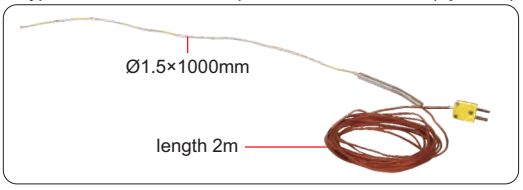
Main unit	1 pc
Software	1 pc
Power adapter	1 pc

DIGITAL THERMOMETER (HIGH TEMPERATURE TYPE)
CODE 0324-DT11

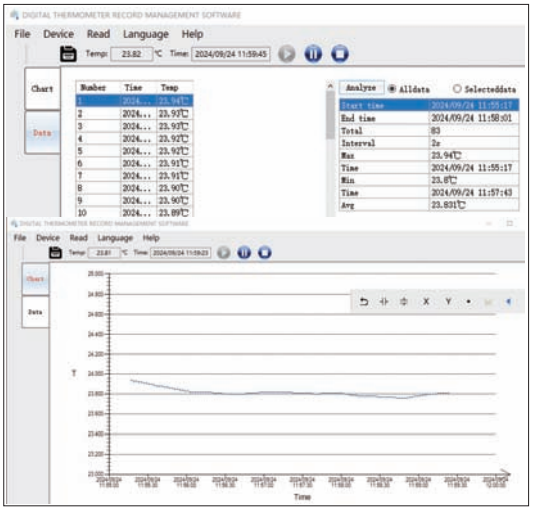


- Can measure the temperature of liquid, steam and gas
- Real time/MAX/MIN/AVG temperature display
- Built-in gravity sensor, automatic horizontal or vertical screen display
- Display backlight
- Automatic power off
- Software is included: on-line monitoring, data storage

K-type armoured thermocouple with extension wire (**optional**)



computer software (included): connect to PC software via data cable to collect, display and stored data



SPECIFICATION OF MAIN UNIT

Thermocouple type	K/E/N/T/S
Temperature range	K: -200°C~1372°C
	E: -200°C~1000°C
	N: -200°C~1300°C
	T: -200°C~400°C
	S: -50°C~1768°C
Temperature accuracy *	K: ±0.8°C (at -200°C~0°C); ±0.6°C (at 0°C~1372°C)
	E: ±0.7°C (at -200°C~0°C); ±0.5°C (at 0°C~1000°C)
	N: ±0.8°C (at -200°C~0°C); ±0.6°C (at 0°C~1300°C)
	T: ±0.8°C (at -200°C~0°C); ±0.6°C (at 0°C~400°C)
	S: ±1.5°C (at -50°C~0°C); ±1.2°C (at 0°C~1768°C)
Temperature resolution	0.1°C/0.01°C (adjustable)
Annual stability	±8μV
Memory capacity	100,000
Logging interval	2s~99s
Power supply	rechargeable lithium battery, working time≥40h
Operation environment	temperature: -10°C~50°C
	humidity: 0%RH~95%RH (non-condensing)
Dimension	60×63×83mm
Weight	88g

*Accuracy is specified for ambient temperature between 18ºC and 28ºC, the above specification includes the error of the cold junction compensation and does not include the error of thermocouple sensor

SPECIFICATION OF SENSOR**

Code	Product	Range***	Accuracy	Dimension	Extension cord
0324-KB1	K-type bar armoured thermocouple	-40°C~1100°C	class 1: ±1.5°C or ±0.4%·t	Ø3×500mm	/
0324-KE2	K-type armoured thermocouple with extension wire	-40°C~1100°C	class 1: ±1.5°C or ±0.4%·t	Ø1.5×1000mm	2m

**Other models, temperature ranges and dimensions of thermocouples can be customized

***Sensors are consumables and are recommended to be used within 1000°C, beyond that the service life will be reduced

STANDARD DELIVERY

Main unit	1 pc
K-type bar armoured thermocouple (0324-KB1)	1 pc
Software	1 pc
Power adapter	1 pc

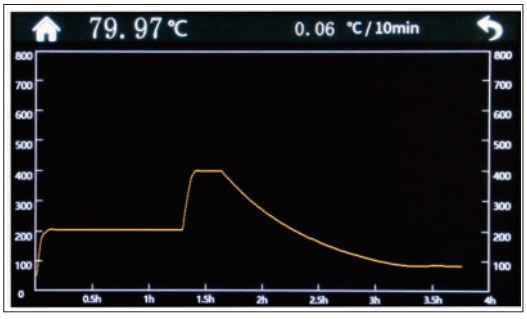
OPTIONAL ACCESSORY

K-type armoured thermocouple with extension wire	**0324-KE2**

PORTABLE MEDIUM TEMPERATURE DRY BLOCK CALIBRATOR
CODE DBC-M660

VIDEO

real-time display of curve



- Used for temperature calibration in industrial or laboratory
- Unit: °C, °F
- Language: English, Chinese
- Overheat protection
- Multi-point temperature correction function
- Automatic tuning of temperature control parameters
- Segmented PID control, one-button heating, full-automatic temperature control

8

SPECIFICATION

Temperature range	50°C~660°C	
Horizontal temperature field	≤0.2°C	
Vertical temperature field	within 40mm from the bottom of the well	≤0.5°C (at 50°C~300°C)
		≤1.0°C (at 300°C~660°C)
Temperature fluctuation	±0.15°C	
Temperature resolution	0.01°C	
Control method	touch screen	
Soaking block	insertion aperture: Ø4.5mm, Ø6.5mm, Ø8mm, Ø10mm (can be customized)	
Well depth	170mm	
Power	600W	
Power supply	220V/50Hz	
Dimension	285×170×335mm	
Weight	9.4kg	

STANDARD DELIVERY

Main unit	1 pc
Soaking block	1 pc

DATA OUTPUT

DATA LOGGERS FOR TEMPERATURE AND HUMIDITY (BASIC TYPE)

- Built-in high-precision sensor
- 260,000 memory for long-term logging
- Unit: °C/°F
- Temperature and humidity upper and lower limit alarm
- Temperature and humidity linear correction function
- Battery level display
- Computer software is included

VIDEO

0318-TH26B

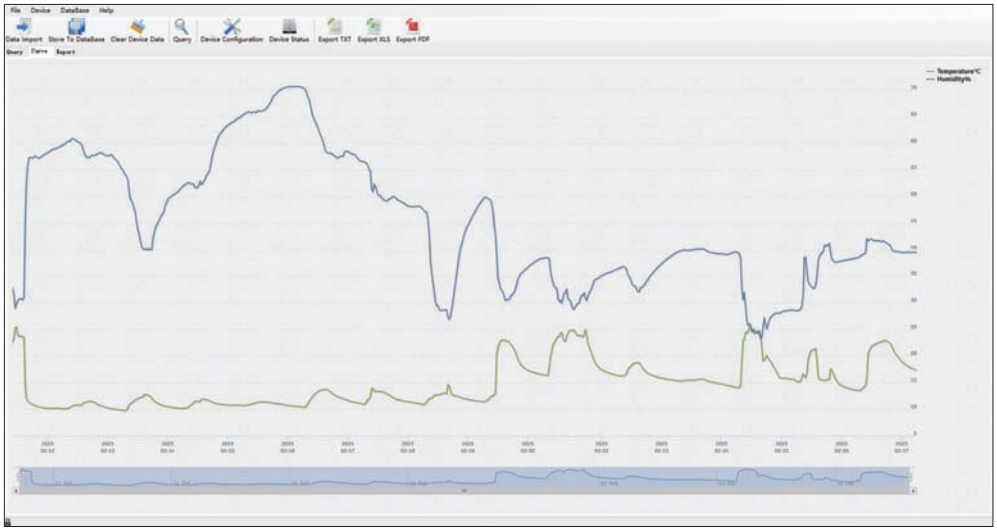
STANDARD DELIVERY

Main unit	1 pc
Software and USB cable	1 pc
4G USB flash disk	1 pc

SPECIFICATION

Code	**0318-TH26A**	**0318-TH26B**
Temperature range	-20°C~60°C/-4°F~140°F	
Temperature accuracy	±0.5°C (at 0°C~60°C), other range ±0.8°C ±0.9°F (at 32°F~140°F), other range ±1.4°F	±0.3°C/±0.6°F
Temperature resolution	0.1°C/0.1°F	
Humidity range	0%RH~100%RH	
Humidity accuracy	±5%RH (at 10%RH~90%RH), other range ±7%RH	±3%RH
Humidity resolution	0.1%RH	
Memory size	260,000	
Sampling interval	2s~255s (adjustable)	
Logging interval	5s~18h (adjustable)	
Logging start mode	key operation/time-lapse start/timing start	
Logging end mode	key operation/Full/timing end	
Interface	Micro USB	
Power supply	3.7V rechargeable lithium battery, working time: 1 year (with logging interval of 10min) 5V DC	
Dimension (L×W×H)	120×33×113mm	
Weight	209g	

software (included), download data to PC software via USB cable and save the data as XLS, TXT, PDF format (cannot display data in real time)



MINI DATA LOGGER FOR TEMPERATURE AND HUMIDITY (STANDARD TYPE) CODE 0317-TH37

VIDEO

DATA OUTPUT

IP64 WATERPROOF

- Built-in high-precision sensor
- 15000 memory for long-term logging
- Unit: °C/°F
- Display backlight
- Over range indicator
- Battery level display
- Computer software is included

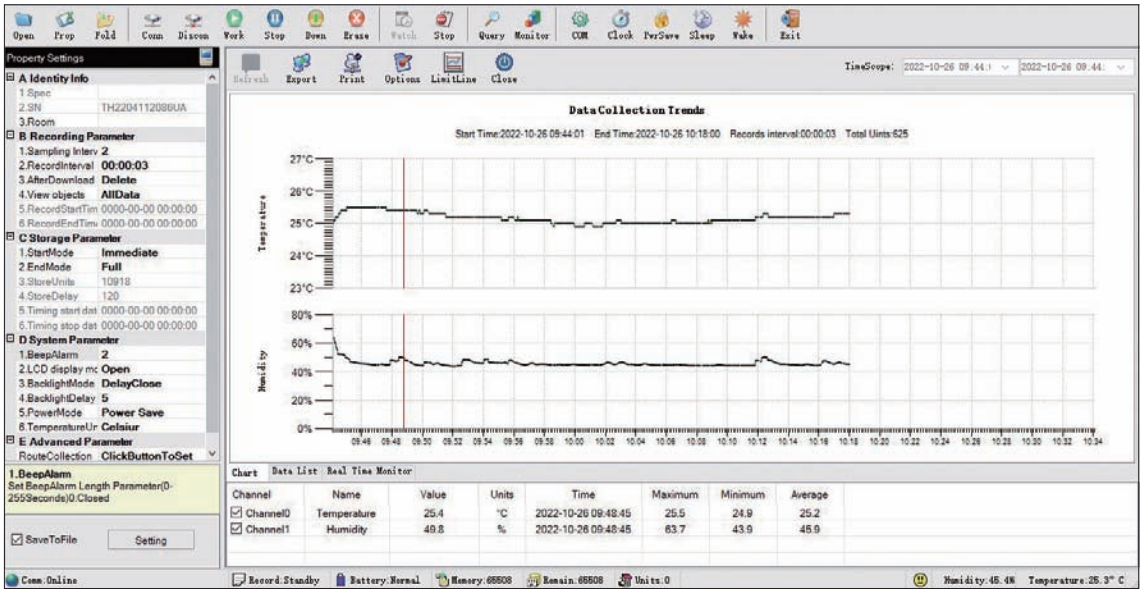
STANDARD DELIVERY

Main unit	1 pc
USB cable	1 pc
Software	1 pc
4G USB flash disk	1 pc

SPECIFICATION

Temperature range	-30°C~70°C/-22°F~158°F
Temperature accuracy	±0.5°C/±0.9°F
Temperature resolution	0.1°C/0.2°F
Humidity range	0%RH~100%RH
Humidity accuracy	±3%RH (at 10%RH~85%RH, testing temperature: 23°C±2°C); ±5%RH (at 0%RH~10%RH and 85%RH~100%RH, testing temperature: 23°C±2°C)
Humidity resolution	0.1%RH
Memory size	15,000
Alarm	function: alarm when over high or low limit method: display+backlight
Sampling interval	2s, 5s, 10s, 30s, 60s, 255s
Logging interval	2s~24h (adjustable)
Start with delay time	1s~120s (adjustable)
Logging start mode	key operation/start immediately/time-lapse start/timing start
Logging end mode	key operation/Full/FIFO/presetting units/timing end
Interface	Mini USB
Power supply	3.6V rechargeable lithium battery, working time: 1 year (with sample rate of 60s)
Storage temperature	-50°C~90°C
Dimension (L×W×H)	86.2×64.2×25.4mm
Weight	81g

software (included), connect to PC via USB cable, download and display in real time, collect, store and analyze data



IP54
WATERPROOF

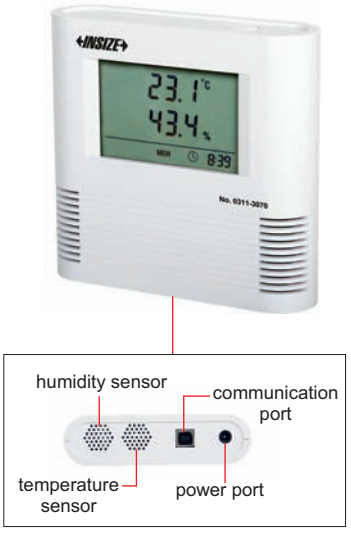
DATA
OUTPUT

DATA LOGGER FOR TEMPERATURE AND HUMIDITY (ADVANCED TYPE)
CODE 0311-3070

VIDEO

- Signal acquisition, display, storage, analysis function
- Low power consumption
- Built-in high-precision temperature and humidity sensor
- Software is included

stand (included)



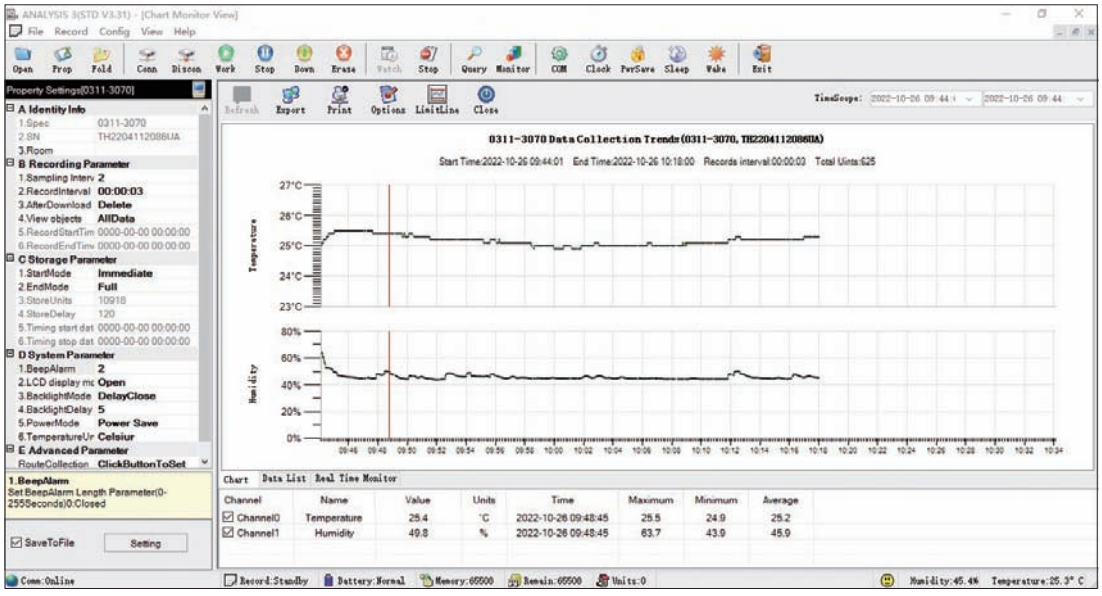
SPECIFICATION

Temperature range	-30°C~70°C/-22°F~158°F
Temperature accuracy	±0.3°C (at 23°C±2°C), other range ±0.5°C
	±0.6°F (at 73.4°F±3.6°F), other range ±0.9°F
Temperature resolution	0.1°C/0.2°F
Humidity range	0%RH~100%RH
Humidity accuracy	±3%RH (at 10%RH~85%RH), other range ±5%RH
Humidity resolution	0.1%RH
Memory capacity	10918
Alarm	function: alarm when over high or low limit method: display+buzz+backlight
Sampling interval	2s, 5s, 10s, 30s, 60s, 255s (adjustable)
Logging interval	2 seconds~24 hours (adjustable)
Start with delay	1~120 seconds (adjustable)
Logging start mode	start immediately/delay start/timing start
Logging end mode	Full/FIFO/preset/timing end
Timing start/end	random start/end with format YYMMDD HHMMSS
Interface	USB
Time battery	CR2032
Power supply	3.6V lithium battery (ER14505) or 5~24V DC
Dimension (L×W×H)	123×117×33mm
Weight	260g

STANDARD DELIVERY

Main unit	1 pc
Software and USB cable	1 pc
Power adapter	1 pc
Time battery	1 pc
Lithium battery	1 pc

software (included), connect to PC via USB cable, download and display in real time, collect, store and analyze data



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MINI TEMPERATURE AND HUMIDITY METER (ECONOMIC TYPE)
CODE 0319-TH60

VIDEO

POPULAR MODEL

- 3.5" LCD screen
- Temperature/humidity/time/comfort display
- Highest/lowest temperature and humidity memory function
- Unit: °C/°F

SPECIFICATION

Temperature range	0°C~55°C/32°F~131°F
Temperature resolution	0.1°C/0.1°F
Temperature accuracy	±0.5°C/±0.9°F
Humidity range	0%RH~99%RH (non-condensing)
Humidity resolution	1%RH
Humidity accuracy	±5%RH (at 10%RH~90%RH), other range ±7%RH
Power supply	2×3V CR2032 batteries
Dimension	88×70×12mm
Weight	62g

STANDARD DELIVERY

Main unit	1 pc
Battery (CR2032)	2 pcs

TEMPERATURE AND HUMIDITY METER (ECONOMIC TYPE)
CODE 0312-TH50

VIDEO

- Environment comfort display: COMFORT, WET, DRY
- Time/temperature/humidity display
- Highest/lowest temperature and humidity memory function
- Alarm clock function
- Unit: °C, °F

SPECIFICATION

Temperature range	0°C~50°C/32°F~122°F
Temperature accuracy	±1.0°C (at 5°C~40°C), other range ±1.5°C
	±1.8°F (at 41°F~104°F), other range ±2.7°F
Temperature resolution	0.1°C/0.1°F
Humidity range	10%RH~90%RH
Humidity accuracy	±5%RH (at 40%RH~80%RH), other range ±8%RH
Humidity resolution	1%RH
Power supply	1×AAA 1.5V battery
Dimension	108×60×15mm
Weight	74g

STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc

THERMOHYGROMETER (BASIC TYPE)
CODE 0316-TH62

- Temperature/humidity/time display
- High and low alarm
- Low battery display
- Display backlight
- Environment comfort display

SPECIFICATION

Temperature range	-20°C~60°C
Temperature accuracy	±0.5°C (at 26°C~42°C), other range ±1.0°C
Temperature resolution	0.1°C
Humidity range	10%RH~99%RH (non-condensing)
Humidity accuracy	±5%RH (45%RH~79%RH), other range ±7%RH
Humidity resolution	0.1%RH
Sampling interval	3s
Power supply	2×AAA batteries
Dimension	117×94×23mm
Weight	149g

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	2 pcs

IP50
DUSTPROOF

DIGITAL THERMOHYGROMETER (ADVANCED TYPE)
CODE 9362-TH27

- Measure humidity, ambient temperature and dew-point temperature
- Max/Min/Average mode
- Alarm function
- IP50 protection grade

SPECIFICATION

Sensor model	NTC thermistor/humidity capacitance/digital sensor
Temperature range	-20°C~70°C/-4°F~158°F
Temperature accuracy	±0.5°C/±0.9°F
Temperature resolution	0.1°C/0.2°F (minimum adjustable unit is 0.2°F in setting mode)
Humidity range	0~100%RH
Humidity accuracy	±5%RH
Humidity resolution	0.1%RH
Sampling interval	5s
Power supply	1.5V AAA battery
Dimension	95×107×18mm
Weight	105g

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	1 pc

THERMOHYGROMETER (BASIC TYPE)
CODE 0313-TH48

- External sensor, 3m cable
- Time/temperature/humidity display
- Temperature and humidity upper and lower limit alarm function
- Unit: °C/°F
- Low battery alarm

SPECIFICATION

Temperature range	-40°C~80°C/-40°F~176°F
Temperature accuracy	±0.5°C (at -20°C~60°C), ±1.0°C (at 60°C~80°C), ±2°C (at -40°C~-20°C),
	±2°F(at -20°F~176°F), ±3°F (at -40°F~-20°F)
Temperature resolution	0.1°C (at -20°C~80°C), other range 1°C
	0.1°F (at -20°F~100°F), other range 1°F
Humidity range	0%RH~99.9%RH
Humidity accuracy	±5%RH (at 10°C~60°C), other range ±7% ±5%RH (at 50°F~140°F), other range ±7%
Humidity resolution	0.1%RH
Sensitivity attenuation value	temperature: <0.1°C/year (<0.2°F/year) humidity: <1%RH/year
Sampling interval	5 seconds
Power supply	built-in rechargeable lithium battery (USB 5V charging) working time at least one month
Dimension	88×88×21mm
Weight	174g

STANDARD DELIVERY

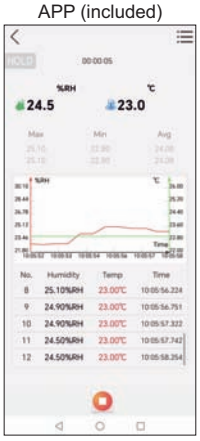
Main unit	1 pc
USB charging cable	1 pc

THERMOHYGROMETER (BASIC TYPE)
CODE 0315-HT164

BUILT-IN BLUETOOTH

- Real-time value/maximum/minimum display
- Unit: °C/°F
- Display backlight
- Automatic power off
- Low battery display
- Over range indicator
- Built-in bluetooth, mobile APP is included

APP (included)



SPECIFICATION

Temperature range	-10°C~60°C
Temperature accuracy	±1.0°C
Temperature resolution	0.1°C
Humidity range	0%RH~99.9%RH
Humidity accuracy	±5.0%RH
Humidity resolution	0.1%RH
Sampling interval	1s
Power supply	3×AAA batteries, working time≥12h
Operation environment	temperature: 0°C~40°C
	humidity: <90%RH (non-condensing)
Storage environment	temperature: -20°C~60°C
	humidity: <75%RH (non-condensing)
Dimension	137×55×28mm
Weight	102g

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs

OPTIONAL ACCESSORY

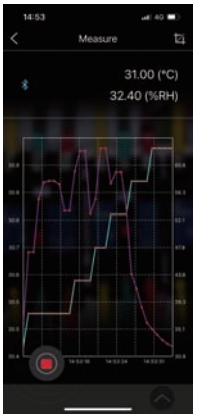
Tripod	0701-TR175

THERMOHYGROMETER (STANDARD TYPE)
CODE 0310-H26

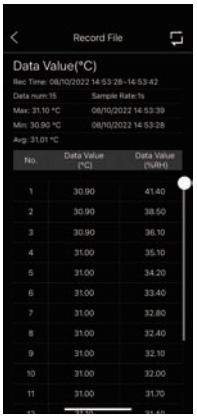
VIDEO

- Measure humidity, ambient temperature, dew point temperature and wet dulb temperature
- Min/Max, data hold function
- Bluetooth 4.0
- Auto power off
- Supplied with APP for Apple and Android

App measurement



App record



SPECIFICATION

Function	Measuring range	Resolution	Accuracy
Ambient temperature	0°C~50°C 32°F~122°F	0.1°C/0.1°F	±1.0°C/±1.8°F
Wet dulb temperature	0°C~50°C 32°F~122°F		
Dew point temperature	0°C~50°C 32°F~122°F		
Humidity	0%RH~80%RH	0.1%RH	±5.0%RH
Auto power off	30 minutes		
Data port	Bluetooth 4.0		
Power supply	9V battery		
Dimension	204×54×36mm		
Weight	172g		

STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc

OPTIONAL ACCESSORY

Tripod	0701-TR175

LARGE SCREEN TEMPERATURE AND HUMIDITY METERS

0314-H533A

0314-H533B

- High definition LED large screen display: temperature, humidity, time
- Exceeding limit alarm: buzzer alarm, digit/light flash alarm
- Installation method: wall mounted or ring type

STANDARD DELIVERY

Main unit (including sensor)	1 pc

8

SPECIFICATION

Code	**0314-H323A**	**0314-H323B**	**0314-H423A**	**0314-H423B**	**0314-H533A**	**0314-H533B**	**0314-H643A**	**0314-H643B**
Dimension	300×200×36mm		400×265×36mm		500×330×36mm		600×400×36mm	
Sensor type	integrated	separated	integrated	separated	integrated	separated	integrated	separated
Power consumption	5W		5W		9W		10W	
Weight	1.3kg		2kg		3kg		4kg	
Sensor	integrated: plastic probe case (not dustproof, not waterproof) separated: metal probe case (dustproof, waterproof), cable length 1m (can be customized, within 20m)							
Temperature range	integrated: -20°C~60°C; separated: -40°C~85°C							
Temperature resolution	integrated: 0.1°C (at 0°C~60°C), other range 1°C separated: 0.1°C (at 0°C~85°C), other range 1°C							
Temperature accuracy	integrated: ±0.5°C (at 0°C~60°C), other range ±2°C separated: ±0.5°C (at 0°C~85°C), other range ±2°C							
Humidity range	5%RH~95%RH							
Humidity resolution	0.1%RH							
Humidity accuracy	±3%RH (@25°C)							
Long-term stability	temperature≤0.1°C/year; humidity≤1%RH/year							
Repeatability	temperature≤0.1°C; humidity≤0.5%RH							
Sampling speed	1s							
Response time	3 minutes to reach 90% of the final value							
Time accuracy	±15s/month (@25°C±2°C)							
Power supply	AC100~240V (50/60Hz)							
Power cable length	1.8m							
Operation condition	temperature: -20°C~60°C; humidity: 5%~95% (non-condensing)							

DIFFERENTIAL PRESSURE MANOMETER
CODE 0140-DP05

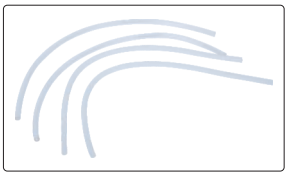
DATA OUTPUT

VIDEO

- Offset and differential measurement
- Record maximum/minimum/average value with relative timestamp
- Built-in USB interface for data transmission
- Unit: kPa, psi, inH_2O, bar, mbar, inHg, mmHg, oz/in^2, ftH_2O, cmH_2O, kg/cm^2
- Zero adjust
- Data hold
- Display with backlight
- Low battery indication
- Automatic power off
- Safety rating: CAT III 600V

SPECIFICATION

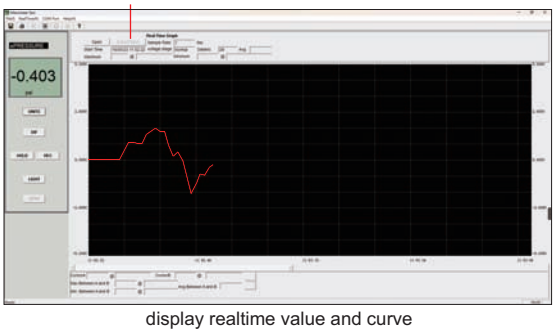
Measurement range	-34.47kPa~34.47kPa
Maximum pressure	137.9kPa
Unit	kPa
Resolution	0.01
Accuracy	±0.3%FSO (25°C)
Repeatability	±0.2% (Max. ±0.5%FSO)
Linearity/hysteresis	±0.29%FSO
Response time	0.5s typical
Operation temperature	0°C~50°C
Power supply	1×9V 6F22 battery or AC/DC adapter
Dimension	165×90×40mm
Weight	350g



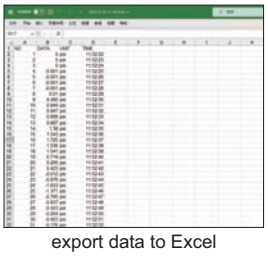
soft tubes (included)

software (included), connect to PC via USB cable

export data



display realtime value and curve



export data to Excel

STANDARD DELIVERY

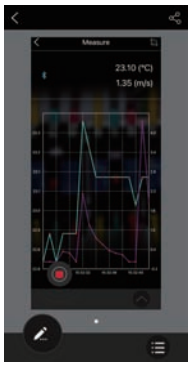
Main unit	1 pc
AC/DC adapter	1 pc
9V battery	1 pc
Software and USB cable	1 pc
Soft tubes	4 pcs

OPTIONAL ACCESSORY

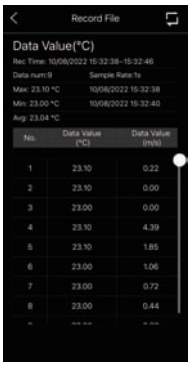
Tripod	0701-TR175

ANEMOMETER
CODE 0110-1125

App measurement



App record



- Measure air velocity and temperature
- Min/Max, data hold function
- Bluetooth 4.0
- Auto power off
- Supplied with APP for Apple and Android

8

SPECIFICATION

	Unit	Measuring range	Resolution	Accuracy
Air velocity	m/s	1.1~25.0	0.01	±(3%+0.3)
	km/h	4~90	0.1	±(3%+1)
	ft/min	220~4920	1	±(3%+40)
	MPH	2.5~56.0	0.1	±(3%+0.4)
	knots	2.2~48.0	0.1	
Air temperature	°C	0~50	0.1	±2
	°F	32~122	0.1	±4
Sensors	air velocity sensor, NTC-type precision thermistor			
Sampling time	0.5s			
Operation altitude	max 2000m			
Operation environment	0~50°C, 0~80%RH			
Storage environment	-10~60°C, 0~80%RH			
Auto power off	10 minutes			
Data port	bluetooth 4.0			
Power supply	9V battery			
Dimension	213×54×36mm			
Weight	172g			

STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc

OPTIONAL ACCESSORY

Tripod	0701-TR175

HOT WIRE ANEMOMETER
CODE 0111-HW30

VIDEO

sensor

- Measure with platinum resistance sensor, high accuracy and stability
- Retractable aluminum alloy rod with slim probe, split design for convenient operation
- Maximum/minimum/average mode
- Over-range indication
- Display with backlight
- Low battery indication
- Automatic power off

8

SPECIFICATION

Function	Range	Accuracy		Resolution
Wind velocity	0~30m/s	±(4%+0.1m/s)	specified environment temperature: 15°C~30°C	0.01 (0~9.99) 0.1 (10.0~999.9) 1 (1000~9999)
	0~108km/h	±(4%+0.4km/h)		
	0~58.3kn	±(4%+0.2kn)		
	0~5906fpm	±(4%+20fpm)		
	0~67.1mph	±(4%+0.3mph)		
	0~11bft	±1bft		1
Wind temperature	0°C~40°C	±0.5°C	specified wind velocity: ≥1.5m/s	0.1
	-20°C~0°C, 40°C~70°C	±0.8°C		0.1
Wind flow	maximum range: 9999×10²			
	unit: m³/min, CFM, L/s			
	area setting: area, circle (set radius), rectangle (set length and width)			
Retractable rod length	1.2m			
Storage capacity	99 groups			
Operation environment	temperature: 0°C~40°C, humidity: ≤80%RH (no condensation)			
Storage environment	temperature: -20°C~60°C, humidity: ≤80%RH (no condensation)			
Power supply	3×AAA battery			
Dimension	181×63×40mm			
Weight	350g			

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs

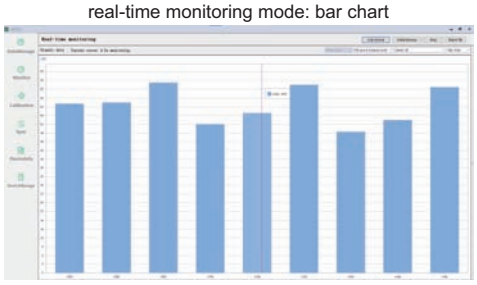
OPTIONAL ACCESSORY

Tripod	0701-TR175

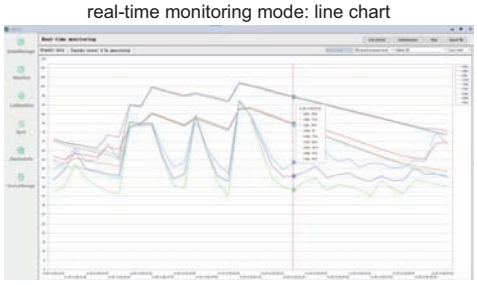
SOUND LEVEL METER (ADVANCED TYPE)
CODE 0011-FA25

software (included), monitor and collect data to PC software via USB cable, data can sent to Excel

real-time monitoring mode: bar chart



real-time monitoring mode: line chart



- Integral function: 1s~24h (adjustable)
- Wide frequency range, large dynamic range, low background noise
- Parallel time weight and frequency weight
- Single range without shifting
- Software is included: on-line monitoring, data storage

SPECIFICATION

Accuracy	IEC 61672-1:2013 class 2
Microphone	1/2 inch prepolarized condenser microphone
Measuring range	25dB (A)~141dB (A); 35dB (C)~141dB (C); 50dB (Z)~141dB (Z) other frequency linear ranges: 31.5Hz: 26dB (A)~101dB (A); 12.5kHz: 25dB (A)~136dB (A)
Frequency	20Hz~12.5kHz
Self-generated electrical noise	<17dB (A), <23dB (C), <33dB (Z)
Frequency weighting	parallel A, C, Z weightings
Time weighting	parallel F (Fast), S (Slow), I (Impulse) weightings
Measuring function	Lp, Leq,t, Leq,T, Lmax, Lmin, Lpeak, SEL
Integral time	1s-24h (adjustable)
Start mode	button/clock/limit/interval
Power setting	power on or off regularly
Data storage	4MB FLash RAM 4 sets of parameter templates, 128 measurement point names; 64 calibration records
Language	Chinese, English, Portuguese
Power	<80mA/5V
Power supply	4×AAA batteries (for 10 hours working) AC/DC adapter: 5V/2A
Operation condition	temperature: -10°C~50°C humidity: 25%RH~90%RH, non-condensing pressure: 65kPa~108kPa
Dimension	230×69×26mm
Weight	180g

STANDARD DELIVERY

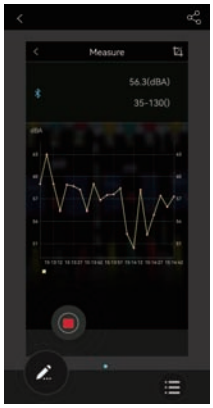
Main unit	1 pc
Software	1 pc
Windscreen	1 pc
Battery (AAA)	4 pcs
AC/DC adapter	1 pc

OPTIONAL ACCESSORY

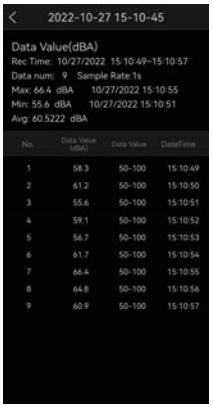
Tripod	**0701-TR175**

SOUND LEVEL METER (BASIC TYPE)
CODE 0010-A35

App measurement



App record



- Auto range selection
- Over range indication
- Display backlight
- Min/Max, data hold function
- Bluetooth 4.0
- Auto power off
- Supplied with APP for Apple and Android

SPECIFICATION

Frequency	31.5Hz~8kHz
Measuring range	35dB~130dB
Accuracy	±3.0dB (ref 94dB@1kHz)
Resolution	0.1dB
Frequency weighting	A and C
Display update	2 times/sec
Microphone	1/2 inch electret condenser microphone
Power supply	9V battery
Operation temperature and humidity	0°C~40°C/32°F~104°F, 10%RH~90%RH
Dimension	185×54×36mm
Weight	184g

STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc
Windscreen	1 pc

OPTIONAL ACCESSORY

Tripod	0701-TR175

8

DIGITAL SOUND LEVEL METER (ADVANCED TYPE)
CODE 9353-413

- Automatic range conversion
- Over range indicator
- Maximum mode
- Data hold
- AC signal output: 0.707Vrms, impedance approx.100Ω
  DC signal output: 20mV/dB, impedance approx.1kΩ

SPECIFICATION

Measuring range	40dB~130dB (ref.20μPa)
Frequency	20Hz~12.5kHz
Resolution	0.1dB
Accuracy	IEC 61672-1:2013 class 2
Frequency weighting	A weighting
Response time	fast (125ms), slow (1s)
Microphone	pre polarization condenser microphone
Refercner direction	axial direction of condenser microphone
Power supply	4×1.5V AAA batteries
Dimension	210×68×27mm
Weight	240g

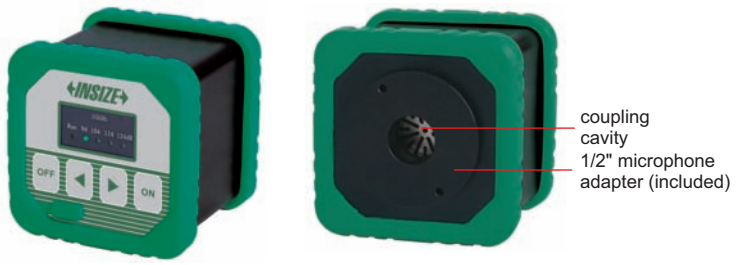
STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	4 pcs
Precision screwdriver	1 pc

OPTIONAL ACCESSORY

Tripod	0701-TR175

SOUND CALIBRATOR
CODE 0012-SC20



- According to IEC 60942:2017
- Calibrate and test the sound pressure sensitivity of class 2 sound level meter, check and adjust the overall sensitivity of acoustic measuring device or system
- Single frequency, multiple sound pressure levels: 1000Hz, 94dB/104dB/114dB/124dB

1/4" microphone adapter (included)

wrench (included)

8

SPECIFICATION

Accuracy	IEC 60942:2017 class 2
Nominal sound pressure level	94dB,104dB,114dB,124dB
Acceptance limit for sound pressure level	0.4dB
Nominal frequency	1000Hz
Acceptance limit for frequency	1.7%
Total distortion+noise	3.0%
Warm-up time	<15s
Operation environment	temperature: -10°C~50°C humidity: 25%RH~90%RH pressure: 65kPa~108kPa
Power supply	rechargeable lithium battery, working time≥5h
Dimension	58×58×58mm
Weight	170g

STANDARD DELIVERY

Main unit (including 1/2" microphone adapter)	1 pc
1/4" microphone adapter	1 pc
Wrench	1 pc
Power adapter	1 pc

LIGHT METER (ECONOMIC TYPE)
CODE 0131-A120

VIDEO

- Photosensor can rotate 90° clockwise and 180° counterclockwise
- Build-in calibration filters ensure the accuracy when working in different colors
- Data hold function
- Lux/FC unit switch
- Low battery alarm

8

SPECIFICATION

Measuring range	0.1~199.9Lux	1~1999Lux	10~19990Lux	100~199900Lux
Resolution	0.1Lux	1Lux	10Lux	100Lux
Measuring range	0.01~19.99FC	0.1~199.9FC	1~1999FC	10~19990FC
Resolution	0.01FC	0.1FC	1FC	10FC
Accuracy	±(4%+10d), range<20000Lux/2000FC ±(5%+10d), range≥20000Lux/2000FC (d is resolution, calibrated with standard incandescent lamp at color temperature 2856K)			
Repeatability	±2%			
Sampling time	0.5s			
Operation environment	0~40°C, 0~70%RH			
Storage environment	-10~50°C, 0~80%RH			
Power supply	9V battery			
Dimension	185×68×38mm			
Weight	130g			

STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc

OPTIONAL ACCESSORY

Tripod	**0701-TR175**

LIGHT METER (ECONOMIC TYPE)
CODE 0130-L110

VIDEO

- Suitable for measuring illuminance in various occasions
- Data hold function
- Fast switching of measuring range, easy to operate

SPECIFICATION

Measuring range	1~1999Lux	10~19990Lux	100~100000Lux
Resolution	1Lux	10Lux	100Lux
Accuracy	±(4%+10d), range<10000Lux ±(5%+10d), range≥10000Lux (d is resolution, calibrated with standard incandescent lamp at color temperature 2856K)		
Repeatability	±2%		
Sampling time	0.5s		
Operation environment	0~40°C, 0~70%RH		
Storage environment	-10~50°C, 0~80%RH		
Power supply	9V battery		
Photodetector dimension	105×58×28mm		
Main unit dimension	130×72×30mm		
Weight	170g		

STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc

UV LIGHT METER
CODE 0132-UV199

VIDEO DATA OUTPUT

- Self-recognize probes
- Real-time value, maximum value, minimum value, average value, time, energy value are displayed at the same time
- USB interface for data transmission

probe
0132-UVA1
(included)

PROBE SPECIFICATION

Probe code	**0132-UVA1** (included)	**0132-UVC0 (optional)**	**0132-UVCWP1 (optional)**
Application	general purpose low power UVA intensity and energy measurement	intensity and energy measurement of 254nm UV sterilization mercury lamp	intensity and energy measurement of 254nm UV sterilization mercury lamp
Spectral response	λp=365nm 315nm-400nm	λp=254nm 230nm-280nm	
Power measuring range	0~200000μW/cm²		
Resolution	0.1μW/cm²		
Energy measuring range	0-9999999μJ/cm²		
Measuring accuracy	±10%		
Record time	0-99999s		
Sampling speed	6 times/second		
Measuring unit	μW/cm² (default), mW/cm², W/m²		
Test hole diameter	Ø10mm		
Probe size	39×32×15mm	Ø39×15mm	Ø50×20mm
Waterproof depth	—	—	1m

To be continued

Continued from previous page

Probe code	0132-UVCLED0 (optional)	0132-UVB0 (optional)	0132-UVA0 (optional)
Application	measurement of 260nm-285nm UV LED sterilization lamp	general purpose UVB intensity and energy measurement	intensity and energy measurement of light source of high pressure mercury lamp in UV curing industry
Spectral response	280nm-315nm *	λp=310nm ** 280nm-315nm	λp=365nm 315nm-400nm
Power measuring range	0~200000μW/cm²		0~2000mW/cm²
Resolution	0.1μW/cm²		0.1mW/cm²
Energy measuring range	0-9999999μJ/cm²		
Measuring accuracy	±10%		
Record time	0-99999s		
Sampling speed	6 times/second		2048 times/second
Measuring unit	μW/cm² (default), mW/cm², W/m²		mW/cm² (default), W/m²
Test hole diameter	Ø10mm		
Probe size	Ø39×15mm		39×32×15mm

*Wide spectral range, avoid using in strong light

**Suitable for measuring UVB light source with wavelength 297nm, 308nm, and 313nm

Probe code	0132-UVALED0 (optional)	0132-UVALED1 (optional)	0132-UVALED3 (optional)
Application	intensity and energy measurement of area light source of UV LED in UV curing industry	intensity and energy measurement of point light source of UV LED in UV curing industry	general purpose UVA+UVV LED intensity and energy measurement, low power measuring range
Spectral response	calibrated with 395nm UV LED 340nm-420nm		
Power measuring range	0~20000mW/cm²		0~200000μW/cm²
Resolution	1mW/cm²		0.1μW/cm²
Energy measuring range	0-9999999μJ/cm²		
Measuring accuracy	±10%		
Record time	0-99999s		
Sampling speed	2048 times/second		6 times/second
Measuring unit	mW/cm² (default), W/cm², W/m²		μW/cm² (default), mW/cm², W/m²
Test hole diameter	Ø10mm	Ø1mm	Ø10mm
Probe size	39×32×15mm		

MAIN UNIT SPECIFICATION

Display	240×160 LCD
Power supply	4 AAA alkaline batteries
Output	USB
Dimension	148×76×26mm
Weight	194g

STANDARD DELIVERY

Main unit	1 pc
Probe (0132-UVA1)	1 pc
Software and USB cable	1 pc
Battery	4 pcs

OTHER INSTRUMENTS 09

Tachometers
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Stroboscopes
Page 351

Vibration Meters
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Stroke Counters
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Digital Stopwatches
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Digital Moisture Meters
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Radiation Detectors
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Eddy Current Conductivity Testers
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Teslameters
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Light Transmittance Meters
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Lens Transmission Meters
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Tripods
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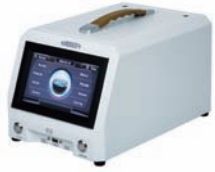

Air Leakage Testers
Page 364

Industrial Acoustic Imagers
Page 365

Automatic Cleanliness Analysis Systems
Page 366-368

CONTACT/NON-CONTACT TACHOMETER
CODE 9225-405

- 2 measuring methods, contact and non-contact
- Can measure rotary speed and line speed
- Automatically save the maximum value, minimum value and the last value, 500 data can be stored during continuous measurement
- Automatic power off

cone head (included)

cone cavity head (included)

reflection sticker (included)

wheel with 0.1m perimeter (included)

small cone head (included)

clamping sleeve (included)

SPECIFICATION

Measuring method		Non-contact	Contact
Measuring range	rotary speed	2.5~99999RPM	0.5~19999RPM
	line speed	—	0.05~500m/min
Resolution	rotary speed	0.1RPM (range 2.5~999.9RPM) 1RPM (range 1000~99999RPM)	0.1RPM (range 0.5~999.9RPM) 1RPM (range 1000~19999RPM)
	line speed	—	0.01m/min (range 0.05~99.99m/min) 0.1m/min (range 100~500m/min)
Accuracy	rotary speed	±(0.05%n+1d)RPM n is rotary speed, d is resolution	±(0.4%n+1d)RPM (n<300RPM) ±(0.05%n+1d)RPM (n≥300RPM) n is rotary speed, d is resolution
	line speed	—	±(1%+1d)m/min d is resolution
Laser power		class 3R, 3mW~4mW	—
Sampling time		0.6s (above 100RPM)	
Measuring distance		50~500mm	—
Operation temperature		0~40°C	
Power supply		3×AA batteries	
Dimension		206×71×36mm	
Weight		170g	

STANDARD DELIVERY

Main unit	1 pc
Reflection sticker (9220-RS)	3 pcs
Wheel with 0.1m perimeter	1 pc
Clamping sleeve	1 pc
Cone head	1 pc
Small cone head	1 pc
Cone cavity head	1 pc
Battery (AA)	3 pcs

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NON-CONTACT TACHOMETER
CODE 9223-120

- Accurately measure the rotary speed without contact
- Automatically save the maximum value, minimum value and the last value, 500 data can be stored during continuous measurement

reflection sticker (included)

SPECIFICATION

Measuring range	2.5~99999RPM
Resolution	0.1RPM (range 2.5~999.9RPM) 1RPM (range 1000~99999RPM)
Accuracy	±(0.05%n+1d)RPM n is rotary speed, d is resolution
Laser power	class 3R, 3mW~4mW
Sampling time	0.6 second (above 100RPM)
Measuring distance	50~500mm
Operation temperature	0~40°C
Power supply	3×AA batteries
Dimension	180×71×29.9mm
Weight	145g

STANDARD DELIVERY

Main unit	1 pc
Reflection sticker (9220-RS)	3 pcs
Battery (AA)	3 pcs

CONTACT TACHOMETER
CODE 9224-213

- Can measure rotary speed, line speed and line length
- Automatically save the maximum value, minimum value and the last value, 96 data can be stored during continuous measurement
- With backlight display

cone cavity head (included)

clamping sleeve (included)

cone head (included)

small cone head (included)

SPECIFICATION

Measuring range	rotary speed	0.5~19999RPM
	line speed	0.05~500m/min
	line length	0.05~99999m
Resolution	rotary speed	0.1RPM (range 0.5~999.9RPM) 1RPM (range 1000~19999RPM)
	line speed	0.01m/min (range 0.05~99.99m/min) 0.1m/min (range 100~500m/min)
	line length	0.02m
Accuracy	rotary speed	±(0.4%n+1d)RPM (n<300RPM) ±(0.05%n+1d)RPM (n≥300RPM) n is rotary speed, d is resolution
	line speed	±(1%+1d)m/min d is resolution
	line length	±(1%+1d)m d is resolution
Sampling time		0.8s (above 60RPM)
Operation temperature		0~40°C
Power supply		3×AA batteries
Dimension		171×71×35mm
Weight		162g

STANDARD DELIVERY

Main unit	1 pc
Wheel with 0.1m perimeter	1 pc
Clamping sleeve	1 pc
Cone head	1 pc
Small cone head	1 pc
Cone cavity head	1 pc
Battery (AA)	3 pcs

wheel with 0.1m perimeter (included)

DIGITAL LED TACHOMETER/STROBOSCOPE
CODE ISQ-TS120K

- Make cyclical motion (rotation, vibration, etc.) objects to appear slow-moving or stationary
- On-line inspection or observation for moving objects
- Measure the rotation or vibration speed and frequency
- Can be triggered from outside by moving objects, make LED flash frequency same as the rotation or vibration

SPECIFICATION

Flash frequency range		60~120000FPM (flash per minute), 1~2000Hz
Resolution	FPM	0.1FPM (<100000FPM), 1FPM (≥100000FPM)
	HZ	0.01Hz (<200Hz), 0.1Hz (≥200Hz)
Setting accuracy		±0.01%
Phase shift increment		3°
Flash pulse duration time		0.1~2.5°
LED light		3 pcs CREE 10W lamp
LED life		3~5 years
Trigger mode		internal and external
Power supply		built-in rechargeable battery or AC/DC adapter
Dimension		208×70×60mm
Weight		380g

STANDARD DELIVERY

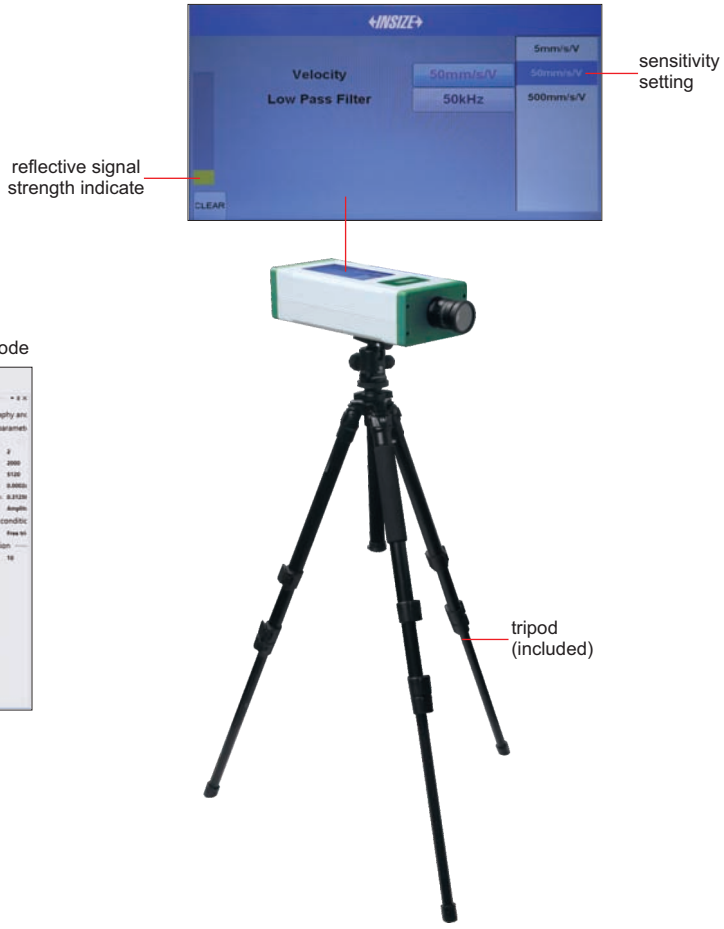
Main unit	1 pc
AC/DC adapter	1 pc
Proximity trigger	1 pc

proximity trigger (included)

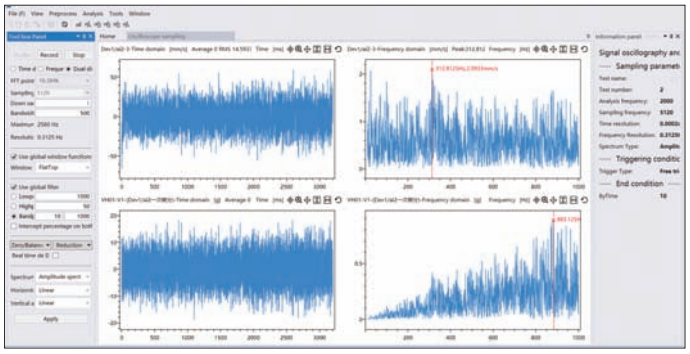
make LED flash frequency same as the rotation or vibration (power supply from AC/DC adapter when external trigger is used)

LASER VIBROMETER
CODE 0030-LM15

VIDEO



computer software (included): time-domain, frequency-domain, dual-display mode



- Non-contact measurement, no additional mass influence
- All-in-one design, integrated optical and electrical systems
- Manual focusing
- Computer software is included

SPECIFICATION

Laser		output<4mW, wavelength 632.8nm, class 3A laser product
Working distance		0.35mm~10m (depending on surface)
Speed decoder	**bandwidth**	DC~20kHz
	range	±50mm/s, ±500mm/s, ±5000mm/s (adjustable)
	maximum speed resolution*	0.1μm/s/√Hz
Maximum linearity error		±1%
Output voltage range		±10V
Output	**digital signal**	ethernet port
	analogue signal	BNC port
Low-pass filter		500Hz, 2kHz, 20kHz
Gear control and display		7-inch colour touchscreen with interactive menu-guided setting
Power supply		power adapter
Operation temperature		5°C~45°C
Storage temperature		-10°C~65°C
Dimension		382×160×94mm
Weight		5.2kg

* Maximum speed resolution is defined as the signal amplitude (RMS) measured at 10Hz with a signal-to-noise ratio of 0dB when a reflective film is applied at a distance of 2 meters

STANDARD DELIVERY

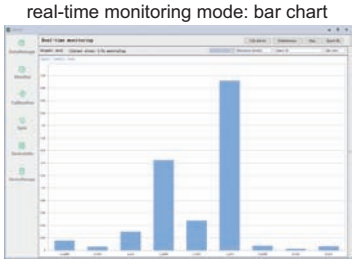
Main unit (including speed decoder)	1 pc
Tripod	1 pc
Power adapter	1 pc
Software	1 pc

OPTIONAL ACCESSORY

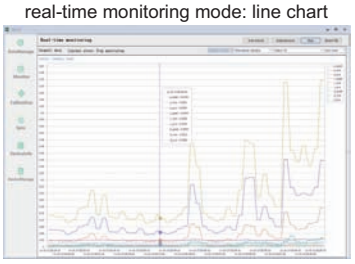
Laptop computer	**0030-COMPUTER-E**

VIBRATION METER
CODE 0022-VM20

real-time monitoring mode: bar chart



real-time monitoring mode: line chart



software (included), monitor and collect data to PC software via USB cable, data can sent to Excel

- Can measure vibration frequency
- Can measure virtual value/peak value/peak-peak value of acceleration, velocity and displacement
- Suitable for factory inspection, status monitoring and fault diagnosis of mechanical equipments such as motors, pumps, fans, household appliances, compressors, smoke machines, generators, gearboxes, etc.
- Software is included: on-line monitoring, data storage

SPECIFICATION

Measuring parameter	acceleration (virtual/peak/peak-peak value) $a_{RMS,1}$, $a_{Peak,1}$, $a_{P-P,1}$, a_{Peak}', a_{P-P}'	velocity (virtual/peak/peak-peak value) $V_{RMS,1}$, $V_{Peak,1}$, $V_{P-P,1}$, V_{Peak}', V_{P-P}'	displacement (virtual/peak/peak-peak value) $d_{RMS,1}$, $d_{Peak,1}$, $d_{P-P,1}$, d_{Peak}', d_{P-P}'
Measuring range	0.01~200m/s² (peak value)	0.1~200mm/s (virtual value)	0.01~2mm (peak-peak value)
Frequency range	10Hz~5kHz	10Hz~1kHz	10Hz~500Hz
Amplitude frequency reponse	±5%		
Amplitude linearity	±5%		
Frequency accuracy	±0.5%		
Cut-off frequency (second-order high-pass filtering)	8kHz sampling frequency: 3.16Hz、10.00Hz、31.60Hz、N/A (adjustable) 32kHz sampling frequency: 12.64Hz、40.00Hz、126.4Hz、N/A (adjustable)		
Display	1.96" 128×64 dot matrix OLED screen		
Language	Chinese, English, Portuguese		
Power	<80mA/5V		
Power supply	4×AAA batteries: 6.0V/1000mAh; AC/DC adapter: 5V/2A		
Operation condition	temperature: -10°C~50°C; humidity: 25%RH~90%RH, non-condensing; pressure: 65kPa~108kPa		
Dimension	172×69×26mm		
Weight	240g		

STANDARD DELIVERY

Main unit	1 pc
Software	1 pc
Accelerometer (including cable)	1 pc
Magnetic base	1 pc
M5 screw	1 pc
Battery (AAA)	4 pcs
AC/DC adapter	1 pc

OPTIONAL ACCESSORY

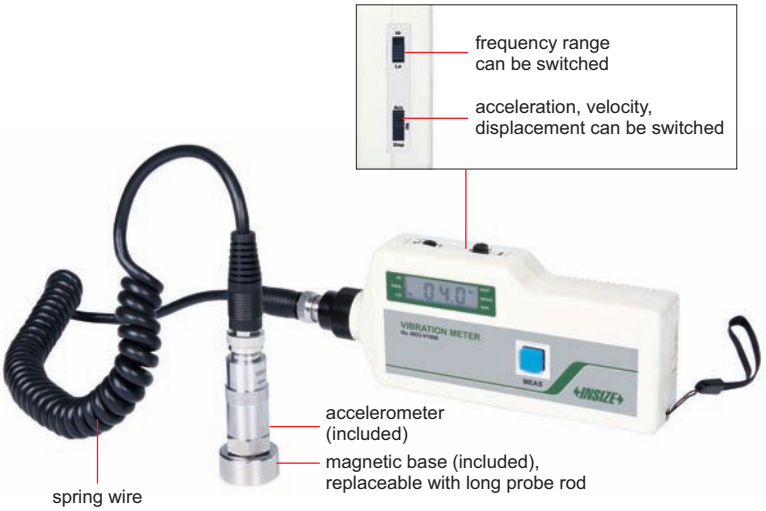
Tripod	0701-TR175

VIBRATION METERS (BASIC TYPE)

VIDEO

short probe rod (included), replaceable with long probe rod

0023-V199A



0023-V199B

- Applied to the environment, machinery manufacturing, electric power, chemical industry and other fields of all kinds of rotating machinery and equipment condition monitoring and fault diagnosis
- Acceleration, velocity and displacement can be tested
- Data hold function
- Automatic power off

long probe rod (included)

SPECIFICATION

Code		0023-V199A	0023-V199B
Sensor type		integrated	separated
Weight		228g	395g
Measuring range	acceleration	0.1~199.9m/s² (peak value)	
	velocity	0.1~199.9mm/s (virtual value)	
	displacement	0.001~1.999mm (peak-peak value)	
Frequency	acceleration	10Hz~1kHz (Lo) 1kHz~5kHz (Hi)	
	velocity	10Hz~1kHz (Lo)	
	displacement	10Hz~500Hz (Lo)	
Frequency response		±(5%+2dgts) (≥20Hz) -20%~+10% (<20Hz)	±(5%+2dgts)
Linearity		±(5%+2dgts)	
Display		3 ½ count display	
Sampling time		1s	
Automatic power off		60s	
Operation environment		temperature: 0°C~50°C humidity: <90%RH	
Power supply		1×9V battery (for 25 hours working)	
Dimension (L×W×H)		174×73×35mm	

STANDARD DELIVERY

Code	0023-V199A	0023-V199B
Probe rod	2 pcs (short probe rod+long probe rod)	1 pc (long probe rod)
Magnetic base	—	1 pc
Main unit (including accelerometer)	1 pc	
9V battery	1 pc	

VIBRATION PEN (THREE PARAMETERS)
CODE 0020-A199

- Acceleration, velocity and displacement can be tested
- Automatic power off

VIDEO

SPECIFICATION

Parameter	acceleration	velocity	displacement
Measuring range	0.01~199.9m/s² (peak value)	0.01~199.9mm/s (virtual value)	0.001~1.999mm (peak~peak value)
Frequency	10Hz~1kHz	10Hz~1kHz	10Hz~500Hz
Frequency response	±5% (≥20Hz) -20%~+10% (<20Hz)		
Linearity	±(5%+2unit)		
Indeterminacy of sensitivity	≤3%		
Operation temperature	0°C~40°C/32°F~104°F		
Operation humidity	<85%		
Power supply	2×LR44 battery (for 10 hours working)		
Dimension	150x22x18mm		
Weight	55g		

STANDARD DELIVERY

Main unit	1 pc
LR44 battery	2 pcs

VIBRATION PEN
CODE 9720-199

- Measure vibration of motors, fans, pumps, compressors and machine tools to prevent mechanical failure
- Small size, light weight, low energy consumption, easy operation, easy to carry
- One key control
- Automatic power off

VIDEO

SPECIFICATION

Measured parameter	speed
Measuring range	0.1~199.9mm/s
Frequency	10Hz~1kHz
Accuracy	±(5%±2)mm/s
Operation temperature	0°C~40°C
Operation humidity	<85%
Power supply	2×LR44 batteries (for 10 hours wroking)
Dimension	150x22x18mm
Weight	55g

STANDARD DELIVERY

Main unit	1 pc
LR44 battery	2 pcs

PORTABLE VIBRATION CALIBRATOR
CODE 0021-AS159

- Quick, easy calibration and checking of vibration measurement, monitoring and recording system

VIDEO

SPECIFICATION

Frequency	159.2Hz±1%
Acceleration	10m/s²±3% (RMS)
Distortion	<5%
Transverse vibration	<5%
Warm-up time	<20s
Maximum load	70g
Mounting thread	M5×0.8mm
Operation temperature	0°C~40°C
Operation humidity	10%RH~90%RH, non-condensing
Power supply	rechargeable lithium battery, working time≥5h
Dimension	Ø54.5×147mm
Weight	620g

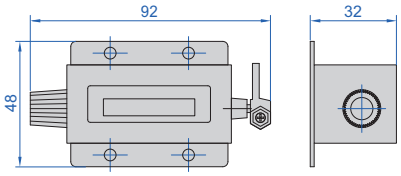
STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc

STROKE COUNTER
CODE 7600-6

- Accumulate and record the number of mechanical movements
- Rotate back to zero

Unit: mm



SPECIFICATION

Code	Number of digits	Range
7600-6	6	0-999999

WATERPROOF DIGITAL STOPWATCH
CODE DSW-B024

WATERPROOF

VIDEO

- Single row display with backlight
- Count up to 23 hours 59 minutes and 59 seconds
- 2 recallable memory
- Time and calendar display with hour, minute, second, month, date and day

SPECIFICATION

Chronograph	range	0~23 hours 59 minutes and 59 seconds
	resolution	0.01s (<30mins) 1s (>30mins)
	accuracy	±1.5s (day error)
Clock	display	12/24 hour format
	function	alarm and hourly chime
Waterproof level		3bar (30meters)
Operation environment *		0°C~50°C
Power supply		CR2032 battery
Dimension		76×64×22mm
Weight		62g

*Underwater button operation is not supported

STANDARD DELIVERY

Main unit	1 pc
String	1 pc

DIGITAL STOPWATCH
CODE DSW-A010

- Split time, total time and continuous time can be displayed
- 10 groups of results can be read out from memory after resetting
- Scroll back and forth to read out the memory digits
- The fastest, slowest and average time can be displayed
- Able to record the split times (00-199)

VIDEO

SPECIFICATION

Measuring range		0~9 hours, 59 minutes, 59.99 seconds
Resolution		0.01s
Accuracy		±0.5s
Function	memory	10 groups
	timer	up to 10 hours
	time	12-hour or 24-hour time display, alarm can be set
Power supply		CR2032 battery
Screen dimension		33.6×13.6mm
Dimension		76×63×16mm (metal case)

STANDARD DELIVERY

Main unit	1 pc
String	1 pc

DIGITAL MOISTURE METER
CODE 9341-50

VIDEO

- Suitable for wood, smooth cement, hard gypsum, mixed mortar, brick, etc.
- Measure moisture, temperature and relative humidity
- Temperature type: ambient, dew point, wet bulb
- Maximum and minimum modes
- Automatic power off

SPECIFICATION

Measuring depth		0~50mm
Measuring range	moisture	0~60%
	temperature	-10~50°C/14~122°F
	relative humidity	0~100%RH
Accuracy	moisture	±2%
	temperature	±2%/±3.6°F
	relative humidity	±5%RH
Resolution	moisture	0.1%
	temperature	0.1°C/0.1°F
	relative humidity	0.1%RH
Sampling time		0.5s for moisture
		1s for temperature and relative humidity
Power supply		2×AAA batteries
Dimension		130×56×29mm
Weight		206g

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	2 pcs

INDUCTIVE MOISTURE METER
CODE 0120-IM24

VIDEO

- Suitable for wood, gypsum and cement
- MAX/MIN/HOLD mode
- Alarm function
- Low battery indication
- Auto power off

SPECIFICATION

Measuring range	0~100%
Resolution	1%
Accuracy	±4%
Detection depth	20~40mm
Sampling time	0.5s
Power supply	9V battery
Dimension	185×55×38mm
Weight	193g

STANDARD DELIVERY

Main unit	1 pc
Battery	1 pc

RADIATION DETECTOR
CODE 0522-RF10

VIDEO

- Detect X ray,* β ray, γ ray radiation
- Measure radiation dose rate in real-time and record cumulative dose at the same time, display real-time dose rate curve
- Adjustable dose rate alarm and dose alarm threshold
- Data stored in built-in memory will not lose after power off
- Particle sound switch
- LCD display with backlight
- Battery level display and low battery indication
- Language: English, Chinese

SPECIFICATION

Sensor	glass Geiger counter tube
Dose rate range	0.1μSv/h~10mSv/h
Dose range	0.00μSv~10Sv
Relative error	<10% (at 1mSv/h)
Sensitivity	>1cps/μSv/h (relative to ^{60}Co)
Energy response	48keV~1.5MeV
Working environment	-10°C~50°C
Power supply	3×1.5V AAA batteries or USB-C
Power	<60mW
Dimension	116×60×33mm
Weight	145g

*X ray radiation measurement is for reference only, cannot meet the energy response requirement

STANDARD DELIVERY

Main unit	1 pc

VIDEO

DATA OUTPUT

INSPECTION CERTIFICATE

EDDY CURRENT CONDUCTIVITY TESTER
CODE 0420-EL60

- Measure conductivity (MS/m, %IACS) and resistivity (Ω·mm²/m) of non-ferromagnetic metals or alloys with eddy current phase detection
- With temperature compensation, even when the temperature of the calibration block and the material are different, test results can be automatically compensated
- Lift-off compensation function ensures accurate results when there are non-conductive layers such as coatings, dust, rough surfaces, etc., and reduces measurement error caused by operation as well
- Measure with high speed and efficiency, results show on screen after probe touch with the material in 1 second
- Data can be saved manually or automatically and exported to Excel with computer software
- Wear-resistant and heat-resistant probe
- Unit switch
- Display with backlight
- Language: English, Chinese, Japanese

SPECIFICATION

Conductivity	range	0.3MS/m~65MS/m or 0.51%IACS~112%IACS
	unit	MS/m, %IACS
	resolution	0.01 (<30MS/m or <30%IACS) 0.1 (30MS/m~65MS/m or 30%IACS~112%IACS)
	accuracy*	20°C: ±0.5%: 4.00MS/m~65.0MS/m or 6.90%IACS~112.0%IACS 0°C~40°C: ±(1.0%+1d): 0.30MS/m~4.00MS/m ±(1.0%+2d): 0.51%IACS~6.90%IACS ±1.0%: 4.00MS/m~65.0MS/m or 6.90%IACS~112.0%IACS
Resistivity	range	0.01538Ω·mm²/m~3.3333Ω·mm²/m
	unit	Ω·mm²/m
	resolution	0.00001 (<1.0000Ω·mm²/m) 0.0001 (1.0000~3.3333Ω·mm²/m)
Temperature	range	0°C~50°C
	resolution	0.1°C
	accuracy	±1.0°C
Test frequency		60kHz sinewave
Probe diameter		Ø14mm
Lift-off compensation		maximum 500μm
Storage capacity		16000 groups
Interface		USB, RS232 protocol
Calibration block		about 0.60MS/m, 4.10MS/m, 58.0MS/m refer to values marked on the supplied blocks
Operation environment		temperature: 5°C~45°C humidity: <95%RH, no condensation
Power supply		3.7V rechargeable Li-ion battery
Dimension		230×97×60mm
Weight		370g

*d is resolution

calibration blocks
(included)

USB cable (included)

STANDARD DELIVERY

Main unit	1 pc
Probe (0420-TP01)	1 pc
Calibration block (0420-CB01)	3 pcs
USB cable	1 pc
AC/DC adapter	1 pc

DC TESLAMETERS

VIDEO

DATA OUTPUT

0501-MA01

standard magnet
(**optional**)

magnetic shielding cavity
(**optional**)

axial probe (**optional**)

- Measure magnetic induction of DC magnetic field
- Directly display the N/S polarity of the measured magnetic field
- One-key zero function: eliminate the influence of zero drift before measurement
- Maximum value hold: record the maximum value of the changing magnetic field
- Unit switch between mT or G (1mT=10G)
- Auto ranging
- Built-in USB interface for data transmission
- Display with backlight
- Auto power off

9

SPECIFICATION

Code	0501-MA01	0501-MA05
Range	2000mT	
Resolution	0.01mT (0~200mT) 0.1mT (200mT~2000mT)	
Accuracy	±1.0%	±2.0% (≤1000mT) ±5.0% (1000mT~2000mT)
Temperature coefficient	±0.1%/K	
Zero drift	±0.5mT/h	
Interface	USB	
Power supply	3×1.5V AA batteries or USB	
Dimension (L×W×H)	165×90×40mm	
Weight	350g	

STANDARD DELIVERY

Main unit	1 pc
Radial probe (0501-PR)	1 pc
Battery (AA)	3 pcs

OPTIONAL ACCESSORY

Axial probe	**0501-PA**
Magnetic shielding cavity	**0501-SHIELD**
Standard magnet	**0501-CT**□□□, for verifying accuracy, not for calibration (□□□ is DC magnetic field specification, 100~600mT customizable)

AC/DC TESLAMETERS

VIDEO

DATA OUTPUT

axial probe (**optional**)

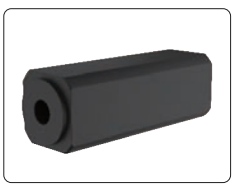
radial probe (included)

0502-MC01

- Switch between DC or AC measurement mode
- Display N/S polarity of DC magnetic field
- Zero function: eliminate the influence of zero drift before measurement
- Maximum value hold: record the maximum value of the changing magnetic field
- Auto ranging
- Relative measurement mode
- Set upper and lower alarm limit
- Built-in USB interface for data transmission
- Display with backlight
- Auto power off

SPECIFICATION

Code	0502-MC01	0502-MC02
Range	2500mT	
Resolution	0.001mT (<30mT) 0.01mT (30~300mT) 0.1mT (300~2500mT)	
Unit	mT, G, Oe, kA/m (1mT=10G=10Oe=0.8kA/m)	
Accuracy	DC: ±1.0% AC: ±5.0%	DC: ±2.0% AC: ±5.0%
Frequency range	DC, 40~500Hz	
Temperature coefficient	±0.1%/K	
Zero drift	±0.1mT/h	
Interface	USB	
Operation environment	temperature: 0°C~45°C; humidity: 20%~80%RH, non-condensing	
Storage environment	temperature: -20°C~70°C; humidity: <85%RH, non-condensing	
Power supply	3×1.5V AA batteries or USB	
Dimension (L×W×H)	165×90×40mm	
Weight	350g	



magnetic shielding cavity (**optional**)

standard magnet (**optional**)

STANDARD DELIVERY

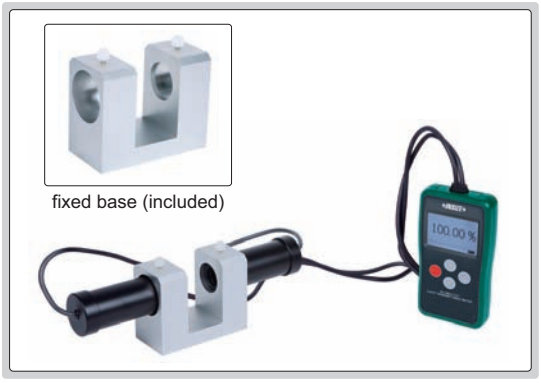
Main unit	1 pc
Radial probe (0502-PR)	1 pc
Battery (AA)	3 pcs

OPTIONAL ACCESSORY

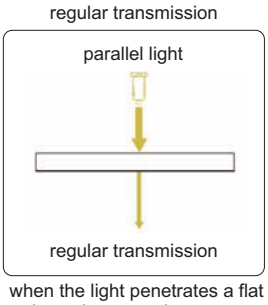
Axial probe	**0502-PA**
Magnetic shielding cavity	**0501-SHIELD**
Standard magnet	**0501-CT**□□□, for verifying accuracy, not for calibration (□□□ is DC magnetic field specification, 100~600mT customizable)

LIGHT TRANSMITTANCE METER
CODE 5804-LT21

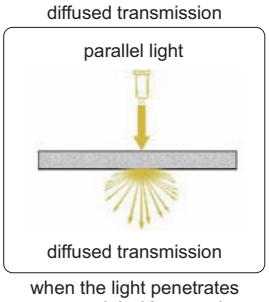
VIDEO



- Suitable for light transmittance testing of various “regular transmission materials”, such as building glasses, auto glasses, transparent films, plastic products, etc.
- With the design of parallel optical path of the light source and condensed light of the receiver, it can measure up to 100mm thickness
- Can measure the high transparent materials such as K9 glasses
- Two measuring modes, fixed base and handheld
- Conforming to CIE photopic luminosity function



when the light penetrates a flat and evenly textured transparent material, the light does not change its direction



when the light penetrates a material with a rough surface or uneven texture, the light spreads out

9

SPECIFICATION

Optical source	380nm~760nm, conforming to CIE photopic luminosity function
Measuring range	0.001%~99.8%
Accuracy	±1%
Resolution	0.001% (0%~10%) , 0.01% (10%~100%)
Thickness to be measured	<100mm
Diameter to be measured	>10mm
Power supply	4×1.5V AAA batteries
Dimension	75×140×25mm
Weight	634g

STANDARD DELIVERY

Main unit	1 pc
Transmitter	1 pc (connect to main unit)
Receiver	1 pc (connect to main unit)
Fixed base	1 pc
1.5V AAA battery	4 pcs

VIDEO

DATA OUTPUT

LENS TRANSMISSION METERS

- Used for measuring infrared transmittance, such as IR ink holes in cell phone lenses, remote control windows, IR-CUT, etc.
- Measures transmittance of visible 550nm, infrared 850nm/940nm
- With a three-in-one optical path, it can measure three data at a time
- Automatic judgement after setting high and low limits
- Batch testing can export Excel reports
- Real-time dynamic self-calibration of the lens transmission meter

5824-LT03

SPECIFICATION

Code	5824-LT01	5824-LT03
Measuring aperture	Ø1mm	Ø0.5mm
Visible light	peak wavelength 550nm	
Infrared	peak wavelength 850nm/940nm	
Resolution	0.1%	
Accuracy	±2% (colorless uniform transparent material, 0~90% transmittance)	
Display	3.5" LCD	
Power supply	DC 5V/1A	
Dimension (L×W×H)	170×180×144mm	
Weight	1570g	

STANDARD DELIVERY

Main unit	1 pc
Software	1 set
L-shaped positioning plate	1 pc
Power adapter	1 pc

9

TRIPOD
CODE 0701-TR175

VIDEO

- Detachable three-dimensional gimbal
- Adjustable height

SPECIFICATION

Height	47cm~175cm (adjustable)
Load	3kg
Material of foot tube	aluminum alloy
Dimension	500×130×130mm
Weight	1.23kg

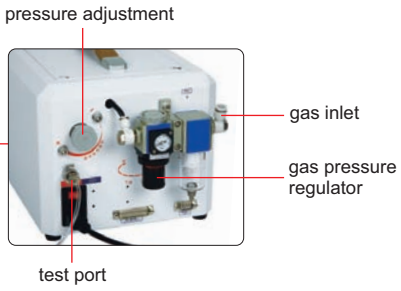
STANDARD DELIVERY

Main unit	1 pc

AIR LEAKAGE TESTER
CODE ALT-P150

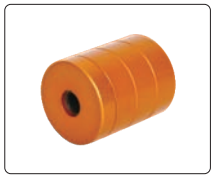
DATA OUTPUT

VIDEO



- Smart operation system with touch screen, operation UI based on testing procedure
- High sensitivity pressure sensor and adjustment unit with software algorithm ensure high accuracy and stability
- Test pressure range: -100kPa~1000kPa, positive and negative pressure mode with 8 basic test mode
- Up to 100 groups of subprogram, each can be edited separately, for individual or combination testing
- Built-in communication interface, MODBUS and TCP/IP communication protocol supported
- Pressure curve screenshot and history data can export to flash disk
- Accessories such as testing tooling and fixture, inflatable bypass, fast connector, standard leak can be customized for different products; optional electronic regulator enables multiple sets of pressure sequence testing
- Language: English, Chinese

standard leak (**optional**)



quick connector (**optional**)

scanner (**optional**)

tooling and fixture (**optional**)

9

SPECIFICATION

Device type	direct pressure
Channel	single-channel (customizable dual-channel)
Pressure mode	positive and negative pressure
Range*	-60kPa~150kPa
Resolution	0.1Pa
Accuracy	±0.2%FS
Pressure unit	kPa, Pa, kgf/cm², psi, mmH_2O, bar, mbar, mmHg
Flow unit	SCCM
Test medium	compressed air or specified gas, 0.4MPa~0.8MPa
Tube caliber	gas inlet: Ø8mm, test port: Ø4mm
Pressure regulation	mechanical pressure regulator
Interface	USB, RS232, 25 PIN I/O interface, RJ45 (**optional**)
Operation environment	temperature: 0°C~50°C, humidity: ≤95%RH, no condensation
Power supply	AC 220V, 50Hz
Dimension (L×W×H)	340×225×187mm
Weight	7.3kg

* Available range: -80kPa~0kPa, -80kPa~600kPa, 0Pa~200kPa, 10kPa~700kPa; other ranges customizable

STANDARD DELIVERY

Main unit	1 pc
Gas pressure regulator	1 pc

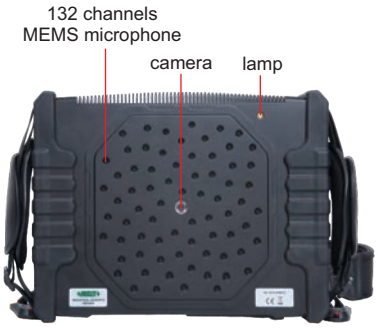
OPTIONAL ACCESSORY

Software	**ALT-P150-SW**
Scanner (with scan software)	**ALT-P150-SC**
Standard leak	customizable
Quick connector	
Tooling and fixture	

VIDEO

IP56
WATERPROOF

INDUSTRIAL ACOUSTIC IMAGER
CODE SCX-DMM72



application

- Suitable for gas leakage detection under the pressure or vacuum conditions, equipment noise localization, partial discharge localization and other scenarios
- Partial discharge pattern display function: real-time display of pulse emission pattern
- Leakage assessment function: adjustable measuring distance, more accurate assessment of the leakage rate
- Intelligent noise reduction function: automatically filter sound signals outside the focus frame
- Adjustable decibel threshold function: used to filter background noise
- Support photo and video recording of fault location
- Language: Chinese, English

SPECIFICATION

Microphone array	microphone	132 channels MEMS microphone
	frequency band	2kHz~65kHz
	sound image field of view	62°×45°
	sound image frame rate	25FPS
	test sound pressure level range	30dB~120dB
	detect distance	0.5m~100m
	position accuracy	±1cm
Camera	camera focal length	3.04mm
	focusing mode	automatic
Display screen	resolution	1024×600
	size	10"
	touch screen	capacitive
	backlight	adjustable
Storage	data interface	TF memory card/USB 3.0/TYPE-C
	data storage format	.jpg (picture), .mp4 (video)
Power system	battery type	rechargeable lithium-ion battery, working time about 3.5h
	charging mode	TYPE-C charging; portable charger, capable of charging while using
Environment parameter	switch-on temperature	-10°C~40°C
	operation temperature	-25°C~50°C
	storage temperature	-20°C~40°C
	relative humidity	10%RH~95%RH (non-condensing)
Physical parameter	lamp	1w
	shell material	aluminium alloy, drop-proof design
	protection	IP56
	dimension	272mm×200mm×50mm
	weight	2.1kg (including handle and shoulder strap)

STANDARD DELIVERY

Main unit	1 pc
128G TF card	1 pc
Reader	1 pc
Power adapter	1 pc

PARTS CLEANLINESS TESTING CABINET
CODE OPP-GZ01

CUSTOMIZABLE TESTING CABINET SIZES

COMPLY WITH VDA19.1, ISO16232 STANDARDIZED TESTING PROCESS

VIDEO

- High-efficiency air filtration system on the top, effectively improving the reliability of environmental testing and eliminating cross-contamination
- 10" color touch screen operation, easy to operate, can store the test process, more automated
- An exhaust port is located at the top of the wash tank to remove aerosol emissions from the inspection process, improving product and user safety
- Three-layer membrane holder for three different membrane sizes

SPECIFICATION

Control panel	10" touch screen (can store cleaning programs)
Analysis area	304 stainless steel
Temperature monitoring	liquid temperature monitoring
Flushing pressure	0~6bar
Airbrush flow rate	0~6Lmin
Flow setting range	0~999L
Control method	airbrush+footswitch control
System filter	multi-stage precision filtration system, accuracy 0.2μm
Hepa purification	high efficiency filtration precision 0.3μm, 99.995% filtration efficiency
Ultrasound	28kHz/40kHz
Cleaning tank size	700×600×800mm
Power supply	AC 220V, 50/60Hz, 1.5kW
Dimension (L×W×H)	1300×900×2000mm
Weight	350kg

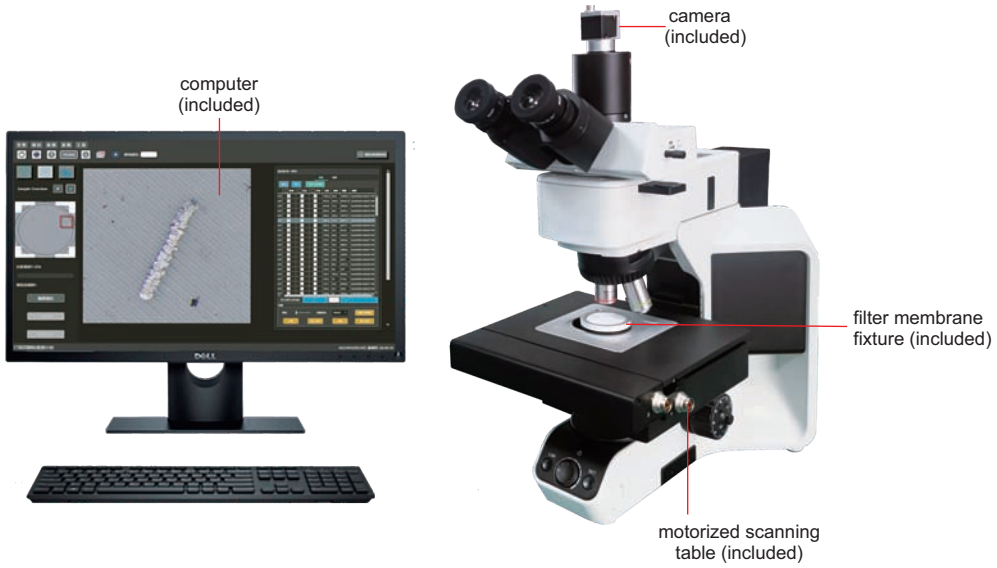
STANDARD DELIVERY

Main unit	1 pc
Rack	1 pc
Membrane	1 box
Air filter	1 set
Cleaning cartridge	1 set
Maintenance tool	1 set
Power line	1 pc

OPTIONAL ACCESSORY

Perfusion module	OPP-GZ01-PERFUSION
Shaker	OPP-GZ01-SHAKERS
Heating module	OPP-GZ01-HEATING

AUTOMATIC CLEANLINESS ANALYSIS SYSTEM (ADVANCED TYPE) CODE OPP-OM53



- According to VDA19.1, ISO16232, ISO4406, NAS1638
- High resolution metallographic optics
- Automatically detects and distinguishes particle types
- One scan, one click report
- High reliability, high accuracy
- Parameters such as length, width, area, maximum fiber length, total length, etc. can be evaluated

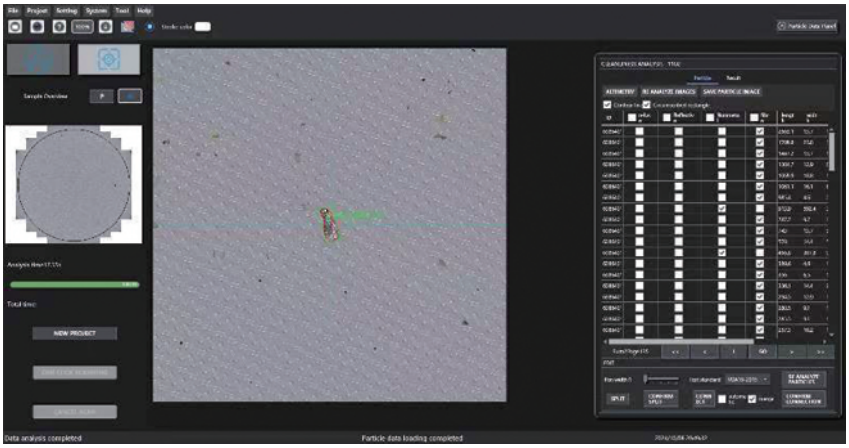
SPECIFICATION

Microscopy	**objective**	5X, 20X
	polarized light	anti reflective coating polarizer, automatic polarized light
	light source control	LED cold light source, gray value automatically adjusted in the range of 0-255
	focus display	automatic adjustment, real-time display
Motorized scanning table	**control mode**	XYZ three-axis high-precision control
	travel	80×60mm
	motion accuracy	1μm
	repeatability	≤2μm
Camera	**sensor**	1/1.2" CMOS
	single pixel size	5.86×5.86μm
	pixel	2.3M
Software	**distinguish between particle types**	metals, non-metals, fibers
	testing items	particle type, size, quantity, etc.
	detecting particle size	≥2μm
	height detection	included, 3D fusion achievable
	testing method	automatic scanning, automatic detection
	testing accuracy	repeatedly scan the filter membrane 10 times, with the deviation of the total number of particles less than 2%
		scan the calibration film, with the deviation less than 2 pixels
	testing result	automatically rate, WORD/EXCEL reports can be exported
	scanning time	<5min
Power supply		AC 220V, 50Hz
Dimensions (L×W×H)		1200×600×650mm
Weight		25kg

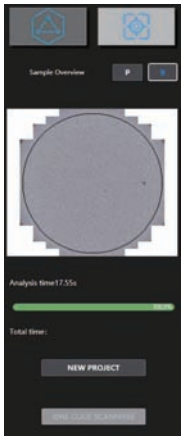
To be continued

Continued from previous page

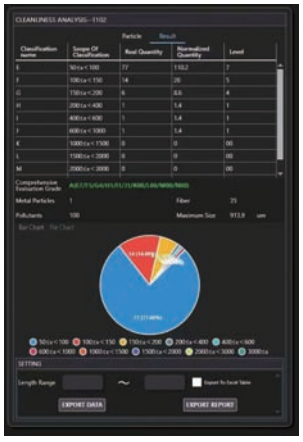
cleanliness analysis software (included)



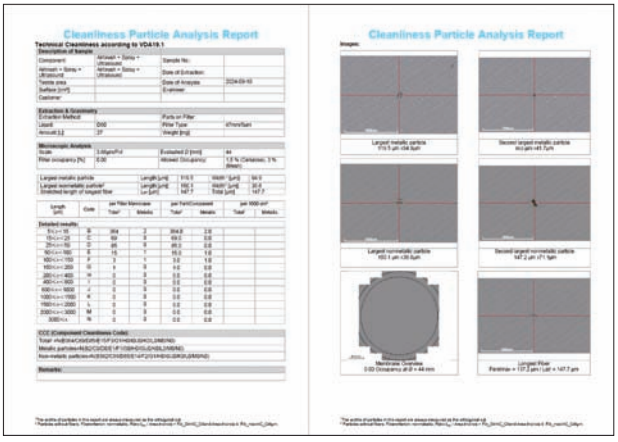
scanning image stitching



test result statistics



example of cleanliness report analysis



STANDARD DELIVERY

Microscopy	1 pc
Analysis software	1 pc
Camera	1 pc
Computer	1 pc
Filter membrane fixture	1 pc
Motorized scanning station	1 pc
Calibration film	1 pc

OPTIONAL ACCESSORY

Metallographic analysis software	**ISM-MAS100C-SOFTWARE**
Objective lens 10x	**OPP-OM53-PLO10X**
Objective lens 50x	**OPP-OM53-PLO50X**
Objective lens 100x	**OPP-OM53-PLO100X**
Filter membrane	**OPP-FP47**

RELIABILITY TESTING 10

Salt Spray Test Chambers
Page 370

Cyclic Corrosion Salt Spray
Test Chambers
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Temperature And Humidity Chambers
Page 372-374

Rapid-Rate Temperature And
Humidity Chambers
Page 375

Thermal Shock Test Chambers
(Two-Zone Type)
Page 376

UV Aging Test Chambers
Page 377

Electrodynamic Vibration Systems
Page 378-379

SALT SPRAY TEST CHAMBERS

CUSTOMIZABLE CHAMBER SIZE

COMPLY WITH ISO STANDARD SALT SPRAY TEST REQUIREMENT

VIDEO

SFT-T350

- Adopting plastic precision nozzle and cone spraying device, even mist falling, fast, long nozzle life, no crystallisation
- Spraying time can be controlled internally without the need for an external time relay
- Adjustment of brine flow and compressed air pressure by means of a flow meter and a high-pressure valve to ensure uniform salt spray deposition
- Adopt manual water filling system, water level is insufficient to automatically replenish the function, to ensure that the test is not interrupted
- USB port for download curves and historical data

SPECIFICATION

Advanced type	Code	SFT-T350	SFT-U680	SFT-E305	SFT-S410
	test condition	suitable for NSS (Neutral), AASS (Acid), CASS (Copper Accelerated) test			
Basic type	Code	SFT-S210R	SFT-G550	SFT-L965	SFT-V125
	test condition	NSS (Neutral), AASS (Acid) test only			
Chamber dimension (L×W×H)		900×600×500mm	1200×850×500mm	1600×850×550mm	2000×950×600mm
Chamber volume		270L	480L	740L	1440L
Saline tank volume		25L	90L	90L	120L
Chamber temperature		(NSS, AASS) test temperature: 35°C±1°C/(CASS) test temperature: 50°C±1°C			
Saturated barrel temperature		(NSS, AASS) test temperature: 47°C±1°C/(CASS) test temperature: 63°C±1°C			
Saline temperature		(NSS, AASS) test temperature: 35°C±1°C/(CASS) test temperature: 50°C±1°C			
Heat type		advanced type: thermal radiation heat/basic type: steam heat			
Test fluid		NSS: pure water+NaCl (pH 6.5~7.2), AASS: pure water+NaCl+CH_3COOH (pH 3.0~3.3) CASS: pure water+NaCl+$CuCl_2$ (pH 3.0~3.3)			
Compressed air pressure		0.2MPa	0.6MPa	0.6MPa	0.6MPa
Power		2kW	3kW	4kW	4.5kW
Power supply		AC 220V, 1Ø, 50Hz			
External dimension (L×W×H)		1460×910×1280mm	1900×1150×1500mm	2300×1150×1550mm	2700×1350×1600mm
Weight (basic type)		108kg	485kg	585kg	760kg
Weight (advanced type)		105kg	385kg	480kg	580kg

STANDARD DELIVERY

Main unit	1 pc
Sample holder	1 group
Sodium chloride NaCl	2 bottles
10L salt water preparation cup	1 pc
80cm² collection cup	2 pcs
50ml glass measure cylinder	2 pcs

OPTIONAL ACCESSORY

Nozzle	SFT-S210R-NOZZLE
Brine filter	SFT-S210R-FILTER

CYCLIC CORROSION SALT SPRAY TEST CHAMBERS

SFT-M235

- Suitable for automotive industry, marine, electronic industry, paint and coating, construction, material, etc.
- Titanium plate for better corrosion resistance
- Advanced spraying system ensures the uniformity of the salt spray sedimentation in the chamber
- Multiple safety protections, such as leakage protection, overload protection, over-temperature protection, etc.
- Software is included: support remote control and data exporting

SPECIFICATION

Code	SFT-M235	SFT-W312	SFT-U423
Chamber dimension (L×W×H)	1200×1000×800mm	1600×1000×800mm	2000×1000×800mm
Chamber volume	960L	1280L	1600L
Temperature range	20°C~70°C		
Saturated barrel temperature	RT~70°C		
Humidity range	20%RH~98%RH		
Salt spray sedimentation rate	(1~2)mL/(h·80cm²)		
Spray pressure	70kPa~170kPa		
Sample placement angle	20°±5°		
Temperature deviation	±2°C		
Temperature fluctuation	±0.5°C		
Temperature uniformity	≤2°C		
Humidity deviation	±3%RH (≥75%RH), ±5%RH (<75%RH)		
Humidity fluctuation	±2%RH		
Humidity uniformity	≤3%RH (≥75%RH), ≤5%RH (<75%RH)		
Function	salt spray, humidity, drying, condensation		
Material	inside: titanium plate, outside: stainless steel plate with baking lacquer		
Cooling system	air-cooled		
Saline tank	Ø700×930mm, volume 300L		
Operating environment	temperature: 5°C~30°C, humidity: ≤85%RH		
Power supply	AC380V, 3Ø, 50Hz		
Power	20.6kW	20.6kW	23.6kW
External dimension (L×W×H)	2550×1220×1720mm	2950×1220×1720mm	3550×1220×1900mm
Weight	650kg	700kg	750kg

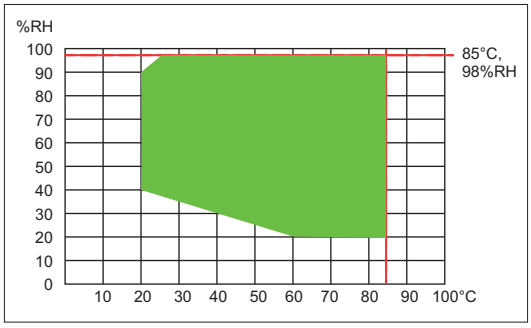
STANDARD DELIVERY

Main unit	1 pc
Sample holder	1 set
Sodium chloride NaCl	2 bottles
Measuring cylinder	2 pcs
Collection cup	2 pcs
Saline tank	1 pc
Atomizing nozzle	1 set

DESKTOP TEMPERATURE AND HUMIDITY CHAMBER
CODE THT-Z158

VIDEO

temperature and humidity control range chart



- Table design, quiet and small
- Equipped with operation system with 7 inch touch screen controller
- Intelligent refrigeration and dehumidification system, it can save 30~45% of electricity compared with traditional machines
- Output excel data report through USB port

SPECIFICATION

Chamber dimension (L×W×H)		300×300×350mm
Chamber volume		30L
Temperature range		-40~120°C
Humidity range		20%RH~98%RH
Temperature deviation		±2.0°C
Temperature fluctuation		±0.5°C
Temperature uniformity		≤2.0°C
Humidity deviation		±3.0%RH (at 75%RH~98%RH), ±5.0%RH (at 20%RH~75%RH)
Humidity fluctuation		±3.0%RH
Humidity uniformity		≤5.0%RH (at 75%RH~98%RH), ≤7.0%RH (at 20%RH~75%RH)
Heating rate		1°C/min~3°C/min
Cooling rate		0.7°C/min~1°C/min
Operation environment	temperature	5~35°C
	humidity	≤85%RH
Material	case material	cold rolled steel plate+varnish
	chamber material	SUS#304 stainless steel
	thermal insulation material	polyurethane foam
Cooling system		air-cold compressor
Protector		compressor overload protection switch, refrigerant high pressure protection switch, ceramic fuse, water plate of water shortage protection switch, electromagnetic switch, air burn protection switch, alarm
Power supply		AC220V, 50/60Hz, 2kW
External dimension (L×W×H)		550×1050×850mm
Weight		125kg

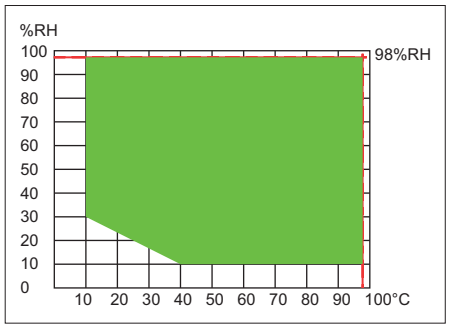
STANDARD DELIVERY

Main unit	1 pc
Test hole	1 pc
Shelf	2 pcs

TEMPERATURE AND HUMIDITY CHAMBERS

VIDEO

temperature and humidity control range chart



THT-A101T

- The chamber is equipped with an independent operation system with 7-inch or 10.1-inch touch screen controller
- Intelligent refrigeration and dehumidification system, combined with energy-saving control algorithm, can adjust the refrigeration level and save energy. Compared with traditional machines, it can save 30~45% of electricity
- It can output excel data report through USB port

SPECIFICATION

Code		THT-A101T	THT-A102T	THT-A103T	THT-A104T	THT-A105T
Chamber dimension (L×W×H)		500×500×600mm	500×400×500mm	500×600×750mm	700×700×850mm	1000×1000×1000mm
Chamber volume		150L	100L	225L	416L	1000L
Temperature range		-40~150°C				
Humidity range		10~98%RH				
Temperature/humidity fluctuation		±0.5°C, ±2.5%RH				
Temperature/humidity uniformity		<2°C, 5%RH				
Temperature/humidity stability		0.2°C, 2%RH				
Temperature/humidity deviation		±2°C, 3%RH				
Warm up time		about 3°C/min				
Cooling time		about 1°C/min				
Material	case material	cold rolled steel plate+varnish				
	chamber material	SUS#304 stainless steel				
	thermal insulation material	rigid polyurethane foam				
Cooling system		compressor				
Protector		no fuse switch, compressor overpressure, overheat protection, overtemperature protection, overload protection, dry burning protection, water shortage protection, etc.				
Power supply		AC220V, 50Hz, 4.5kW	AC220V, 50Hz, 2kW	AC380V, 3Ø, 50Hz, 4kW	AC380V, 3Ø, 50Hz, 3.5kW	AC380V, 3Ø, 50Hz, 3.5kW
Dimension (L×W×H)		800×1400 ×1660mm	750×1170 ×1550mm	850×1200 ×1750mm	950×1400 ×1850mm	1300×1850 ×1950mm
Weight		365kg	285kg	385kg	510kg	950kg

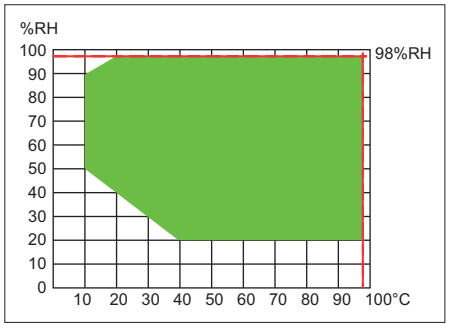
STANDARD DELIVERY

Main unit	1 pc
Test hole	1 pc
Shelf	2 pcs

PROGRAMMABLE TEMPERATURE AND HUMIDITY CHAMBER (ADVANCED TYPE) CODE HTT-A150

VIDEO

temperature and humidity control range diagram



- The chamber is equipped with a standalone operation system and uses a 7-inch human-machine interface touch screen programmable controller
- Adopt advanced balanced temperature and humidity control system, dynamic PID and steam partial pressure control, HFC environmental refrigerant
- Remote control and data acquisition can be performed through the RS232 interface, and CSV data files can be directly exported to a USB flash drive

SPECIFICATION

Chamber dimension (L×W×H)		500×500×600mm
Chamber volume		150L
Temperature range		-40~150°C
Humidity range		20~98%RH
Temperature/humidity deviation		±2.0°C, ±2.5%RH
Temperature/humidity fluctuation		±0.5°C, ±2.0%RH
Temperature/humidity uniformity		±2.0°C, ±3.0%RH
Warm up time		2.0~3.0°C/min (empty)
Cooling time		1.0~1.5°C/min (empty)
Cooling system		compressor
Material	**case material**	double-sided galvanized steel plate+spray treatment
	chamber material	SUS#304 stainless steel
	thermal insulation	rigid polyurethane foam
Protector		total power supply phase sequence and out-of-phase protection, leakage protection, load short-circuit protection, adjustable over-temperature protection, humidification system water-deficit protection, compressor over-pressure protection, etc.
Power supply		AC380V, 50Hz, 5kW
Dimension (L×W×H)		765×1575×1670mm
Weight		370kg

STANDARD DELIVERY

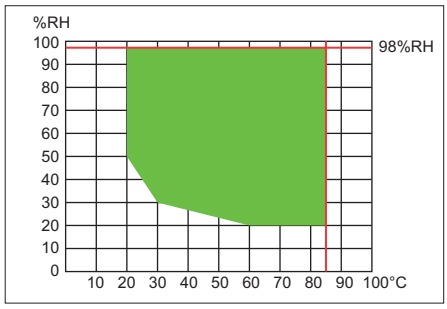
Main unit	1 pc
Test hole	1 pc
Shelf	2 pcs

RAPID-RATE TEMPERATURE AND HUMIDITY CHAMBERS

VIDEO

CUSTOMIZABLE

humidity control range diagram



THT-S365

- Suitable for automotive industry, electronic industry, scientific research, aerospace, communication, etc.
- More energy-saving refrigeration system, can adaptively adjust the cooling capacity
- Advanced humidification with boiler, faster humidity stabilization, less fluctuation and less water consumption
- Multiple safety protections, such as leakage protection, overload protection, over-temperature protection, etc.
- Software is included: support remote control and data exporting

SPECIFICATION

Code	THT-T256	THT-S365	THT-M458
Chamber dimension (L×W×H)	600×500×750mm	800×600×850mm	1000×1000×1000mm
Chamber volume	225L	408L	1000L
Temperature range *	-40°C~150°C		
Humidity range	20%RH~98%RH		
Temperature deviation	±2°C		
Temperature fluctuation	±0.5°C		
Temperature uniformity	≤2°C		
Humidity deviation	±3%RH (>75%RH), ±5%RH (≤75%RH)		
Humidity fluctuation	±3%RH		
Humidity uniformity	≤5%RH (>75%RH), ≤7%RH (≤75%RH)		
Heating and cooling rate **	average rate 5°C/min		
Material	inside: stainless steel plate, outside: galvanized steel plate with powder coating		
Cooling system	water-cooled		
Operating environment	temperature: 5°C~35°C, humidity: ≤85%RH		
Power supply	AC380V, 3Ø, 50Hz		
Power	12kW	14kW	24kW
External dimension (L×W×H)	800×2213×2200mm	1000×2363×2300mm	1200×2913×2450mm
Weight	1000kg	1200kg	1400kg

*Other temperature range can be customized
**Other heating and cooling rate can be customized, up to 15°C/min

STANDARD DELIVERY

Main unit	1 pc
Sample holder	1 set

THERMAL SHOCK TEST CHAMBERS (TWO-ZONE TYPE)

VIDEO

CUSTOMIZABLE

TST-A202

- Suitable for automotive industry, electronic industry, material, aerospace, communication, etc.
- Two-zone structure, can be quickly switched between high and low temperature zones
- Water-cooled system ensures superior cooling performance, adaptable to complex environments
- Multiple safety protections, such as leakage protection, overload protection, over-temperature protection, etc.
- Equipped with a touchscreen for simplified operation and flexible adjustment of testing parameters
- Software is included: support remote control and data exporting

SPECIFICATION

Code		TST-A201	TST-A202	TST-A203	TST-A204	TST-A205
Test area	dimension (L×W×H)	400×300×350mm	500×400×400mm	650×500×460mm	650×670×460mm	800×670×560mm
	volume	42L	80L	150L	200L	300L
	temperature range*	low temperature: -40°C~0°C, high temperature: 60°C~150°C				
	temperature deviation	±2°C				
	temperature fluctuation	±0.5°C				
	temperature uniformity	≤2°C				
Heating time (high temperature zone)		about 40min (RT~200°C)				
Cooling time (low temperature zone)		about 60min (RT~55°C)				
Temperature recovery time		≤5min				
Basket transfer time		≤10s				
Basket moving mechanism		pneumatic drive				
Material		inside: stainless steel plate, outside: stainless steel plate with baking lacquer				
Cooling system		water-cooled				
Operating environment		temperature: 5°C~35°C, humidity: ≤85%RH				
Power supply		AC380V, 3Ø, 50Hz				
Power		22kW	25kW	30kW	35kW	39kW
External dimension (L×W×H)		1220×1570 ×1800mm	1320×1920 ×1900mm	1470×2170 ×2020mm	1470×2490 ×2020mm	1620×2540 ×2220mm
Weight		700kg	800kg	1300kg	1500kg	1700kg

*Other temperature range can be customized

STANDARD DELIVERY

Main unit	1 pc
Sample holder	1 set

UV AGING TEST CHAMBERS

VIDEO

UVT-A340

- Suitable for paint and coating, automobile industry, plastic and rubber, construction material, etc.
- Optional irradiance calibrator for calibration of irradiance
- Support exporting test data with USB flash drive

SPECIFICATION

Code	UVT-A340	UVT-A313
UV lamp	UVA (340nm), 40W×8	UVB (313nm), 40W×8
Lamp lifetime	6000 hours for normal use	
Irradiance range	0.3W/m²~1.55W/m²	
Black panel temperature range	RT+10°C~80°C	
Irradiance deviation	±10%	
Black panel temperature deviation	±3°C	
Insolating area	5175cm²	
Sample holder	24pcs, capacity for 48 sample panels (150×70mm)	
Material	stainless steel with powder coating	
Mode	irradiation, condensation, spray	
Water consumption	7L/day (for condensation), 3L/min (for spray)	
Power supply	AC220V, 50Hz	
Power	2kW	
External dimension (L×W×H)	1360×560×1290mm	
Weight	161kg	

STANDARD DELIVERY

Main unit	1 pc
UV lamp	8 pcs
Sample holder	24 pcs

OPTIONAL ACCESSORY

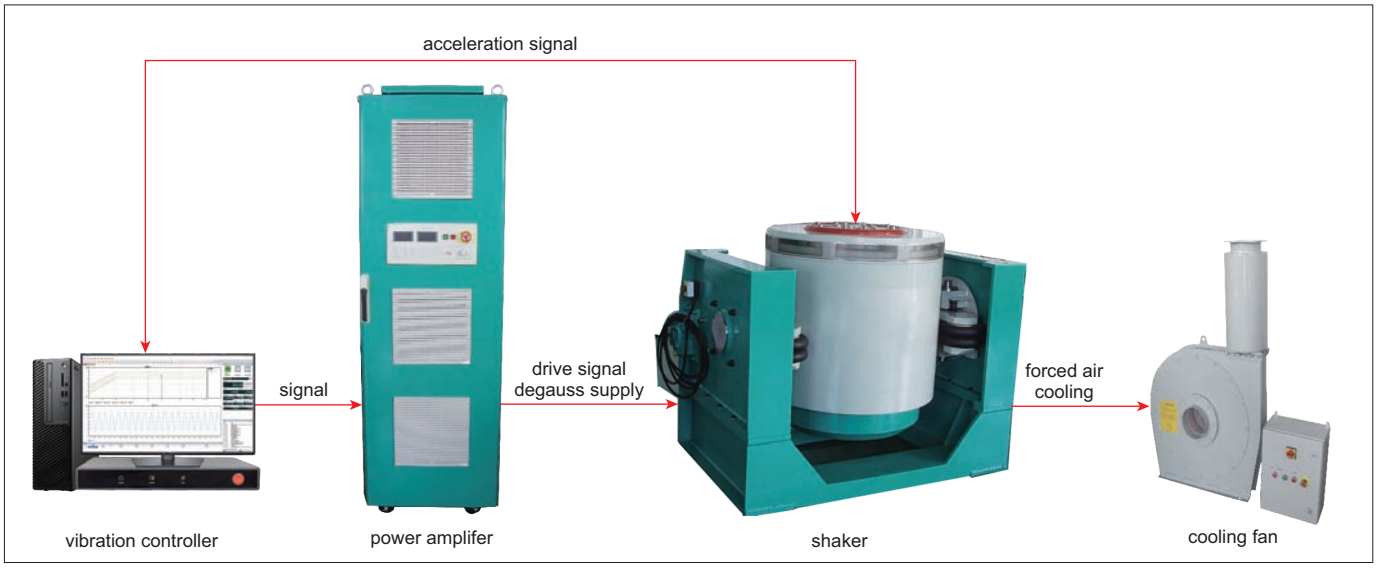
Irradiance calibrator	UVT-CAL
UV irradiance probe	UVT-CAL-UV
UVA lamp	UVT-A340-LAMP
UVB lamp	UVT-A313-LAMP

ELECTRODYNAMIC VIBRATION SYSTEMS

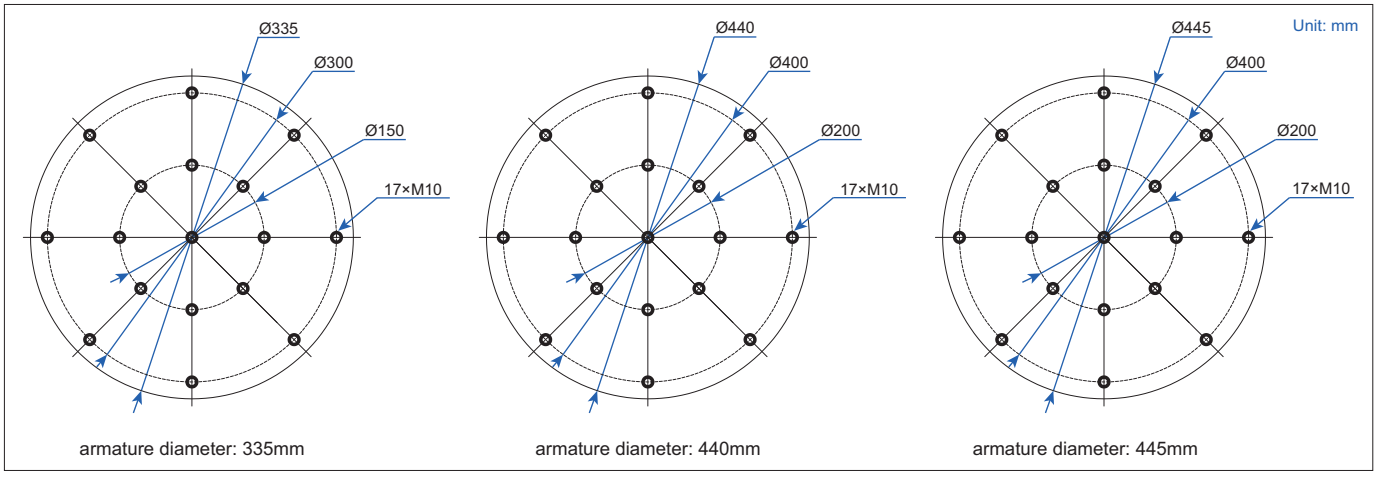
- According to ISO 5344
- Suitable for a variety of typical vibration and simulated transport tests for small and medium-sized automotive part, electronic component, household appliance and so on
- Light weight and good rigidity, high first-order resonant frequency
- High-efficiency, low-noise fan cooling, long-time continuous operation
- Power amplifier modular design, complete system interlocking protection function

EDV-AC2400

working principle



armature insert pattern



To be continued

Continued from previous page

SPECIFICATION*

Code		EDV-AC1100	EDV-AC2400	EDV-AC3000	EDV-AC4000	EDV-AC5000
System parameter	rated sine/random force	1100kgf	2400/2200kgf	3000kgf	4000kgf	5000kgf
	shock force	3300kgf	4800kgf	6000kgf	8000kgf	10000kgf
	frequency range	5Hz~3500Hz	5Hz~3000Hz			5Hz~2800Hz
	Max. acceleration	85g	100g			
	Max. velocity	2.0m/s				
	Max. displacement (P-P)	51mm				
	Max. load	300kg		500kg		1000kg
Shaker	armature diameter	335mm		440mm		445mm
	armature resonance	3000Hz±5%	2600Hz±5%	2500Hz±5%		2400Hz±5%
	effective armature mass	13kg	24kg	30kg		50kg
	inserts size	M10				
	load attachment points	17				
	natural frequency	<3Hz (thrust axis)				
	stray magnetic field	≤1mT (at 152mm above table)				
	dimension	940×715×780mm	1160×880×1050mm	1270×980×1135mm		1650×1130×1280mm
	weight	1000kg	1700kg	2500kg		4500kg
Power amplifier	rated output capacity	10KVA	20KVA	30KVA	40KVA	50KVA
	signal to noise ratio	≥75dB	≥65dB			
	amplifier efficiency	≥90%				
	system protection	multiple				
	dimension	610×900×1550mm	610×900×2000mm			
	weight	400kg	460kg	500kg	520kg	560kg
Cooling fan	power	4KVA	7.5KVA		15KVA	
	air flow	0.33m^3/s	0.46m^3/s		1.1m^3/s	
	air pressure	0.0035 (MPa)	0.0088 (MPa)		0.0077 (MPa)	
	air duct diameter/length	Ø120×4000mm	Ø200×4500mm			
	dimension	610×750×1450mm	700×950×1500mm		1050×897×1970mm	
	weight	120kg	180kg		320kg	
Operation temperature		temperature: 0°C~40°C				
Operation humidity		humidity: 0%RH~90%RH (non-condensing)				
System power supply		3Ø AC 400V±10%, 50/60Hz				
System power		22KVA	42KVA	56KVA	76KVA	95KVA
Compressed air requirement		0.6MPa				

*Can be customized according to test requirements

STANDARD DELIVERY

Main unit	shaker	1 pc
	amplifier	1 pc
	cooling fan	1 pc

OPTIONAL ACCESSORY **

Vibration controller	customizable
Accelerometer	
Head expander	
Slip table	
Automatic reversing device	
Fixture	
Heat insulation board	
Temperature and humidity chamber	

**Can be customized according to test requirements

11 SCALES

Balances
Page 381-389

Density Balances
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Moisture Analyzers
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Weighing Scales
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Multi-Function Scales
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Weights
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GSM Cutters
Page 417

DATA OUTPUT

ELECTRONIC ANALYTICAL BALANCES (BASIC TYPE)

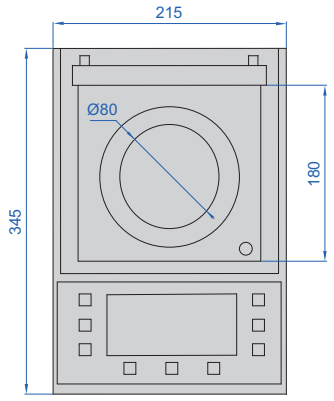
printer (**optional**)

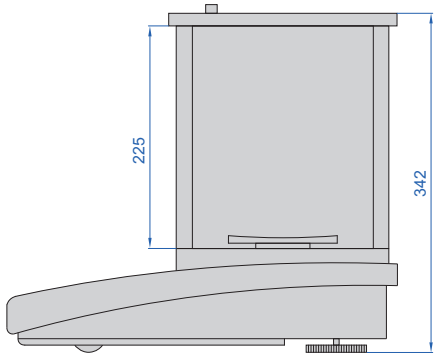
class F1 calibration weight (included)

8311-220

- Downward-mounted electromagnetic sensor
- All aluminum alloy base, wind shield, three side glass sliding doors
- Weighing, simple counting, taring
- LCD display, with backlight
- Data output
- Unit: g, ct, oz, ozt
- With a hook at the bottom

Unit: mm





SPECIFICATION

Code	8311-60	8311-120	8311-220
Maximum weighing	60g	120g	220g
Minimum weighing	10mg	10mg	10mg
Resolution (d)	0.1mg	0.1mg	0.1mg
Verification interval (e)	1mg	1mg	1mg
Repeatability	±0.5mg		
Linearity	±0.5mg		
Stabilization time	2.5s		
Output	RS232		
Weighing pan size (Ød)	Ø80mm		
Operation temperature	10~30°C		
Operation humidity	20~85%RH		
Power supply	power adapter (12V/1A)		
Dimension (L×W×H)	345×215×342mm		

OPTIONAL ACCESSORY

RS232 cable	8311-CABLE
Printer	8311-PRINTER

ELECTRONIC PRECISION BALANCES

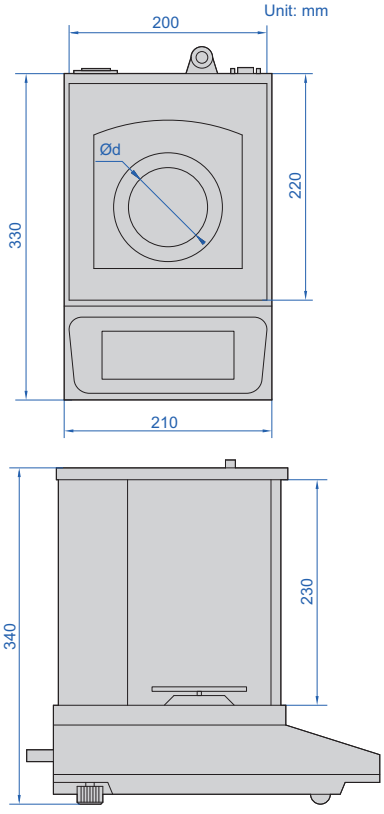
DATA OUTPUT | TOUCH SCREEN | INTERNAL CALIBRATION

VIDEO

class F1 calibration weight (included)

printer (**optional**)

8319-320



- Built-in calibration weights, automatic internal calibration
- Large touchscreen display
- Weighing, counting, taring, percentage display, density detection
- Aluminium alloy shell, wind shield, three side glass sliding doors
- Unit: g, ct, ozt, oz, gn, dwt, mg
- Electromagnetic balanced sensor
- With a hook at the bottom
- Data output

SPECIFICATION

Code	8319-220	8319-320	8319-520	8319-620	8319-1020	8319-1520
Maximum weighing	220g	320g	520g	620g	1020g	1520g
Minimum weighing	20mg	20mg	100mg	100mg	100mg	100mg
Resolution (d)	1mg	1mg	1mg	1mg	1mg	1mg
Verification interval (e)	10mg	10mg	10mg	10mg	10mg	10mg
Accuracy (m is load)	m≤50g: ±5mg 50g<m≤200g: ±10mg m>200g: ±15mg		m≤500g: ±5mg m>500g: ±10mg			
Weighing pan size (Ød)	Ø80mm				Ø120mm	
Operation temperature	15~30°C		18~23°C			
Operation humidity	40~80%RH		50~70%RH			
Power supply	220V, 50/60Hz					
Dimension (L×W×H)	330×210×340mm					

STANDARD DELIVERY

Main unit	1 pc
Calibration weight	1 pc

OPTIONAL ACCESSORY

RS232 cable	8301-CABLE*
Printer	8303-PRINTER
Data output cable (keyboard format)	7302-8001
Wireless transmitter (receiver is needed)	7315-8301

*Used to connect with computers

DATA OUTPUT

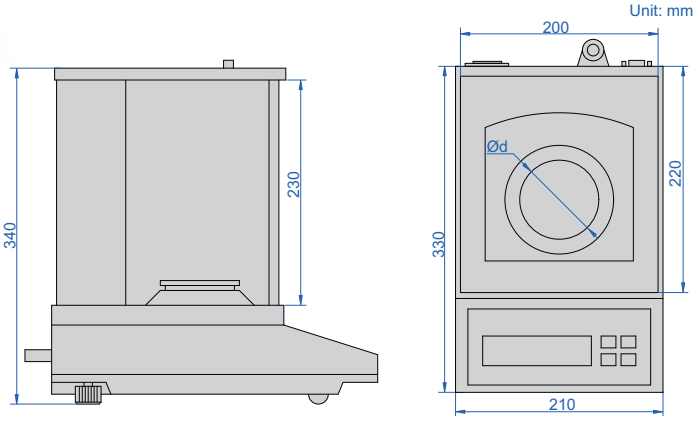
ELECTRONIC PRECISION BALANCES

8303-520

class F1 calibration weight (included)

printer (**optional**)

- Aluminum alloy shell, wind shield, three side glass sliding doors
- Electromagnetic balance sensor
- Unit: g, ct, ozt, oz, gn, dwt, mg
- Weighing, counting, taring
- Data output
- With a hook at the bottom



SPECIFICATION

Code	8303-220	8303-320	8303-520	8303-620	8303-1020	8303-1520	8303-2020
Maximum weighing	220g	320g	520g	620g	1020g	1520g	2020g
Minimum weighing	20mg	20mg	100mg	100mg	100mg	100mg	100mg
Resolution (d)	1mg	1mg	1mg	1mg	1mg	1mg	1mg
Verification interval (e)	10mg	10mg	10mg	10mg	10mg	10mg	10mg
Accuracy (m is load)	m≤50g: ±5mg 50g<m≤200g: ±10mg m>200g: ±15mg		m≤500g: ±5mg m>500g: ±10mg				m≤500g: ±5mg 500g<m≤2000g: ±10mg m>2000g: ±15mg
Weighing pan size (Ød)	Ø80mm				Ø120mm		
Operation temperature	15~30°C		18~23°C				
Operation humidity	40~80%RH		50~70%RH				
Power supply	220V, 50/60Hz						
Dimension (L×W×H)	330×210×340mm						

OPTIONAL ACCESSORY

RS232 cable	8301-CABLE *
Printer	8303-PRINTER
Data output cable (keyboard format)	7302-8001
Wireless transmitter (receiver is needed)	7315-8301

*Used to connect with computers

ELECTRONIC BALANCES (STANDARD TYPE)

DATA OUTPUT

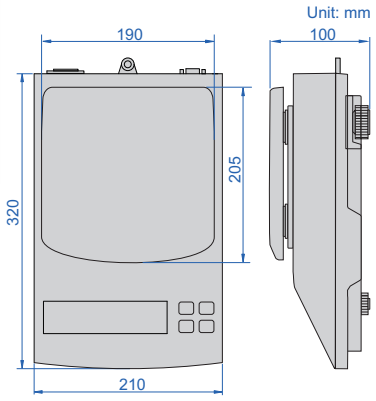
VIDEO

calibration weight
(included in **8305-2000** and **8305-3000**)

printer (**optional**)

8305-5000

- LCD with back light
- Unit: g, ct, ozt, oz, GN, dwt, lb, kg
- Weighing, counting, taring
- With a hook at the bottom
- Data output



SPECIFICATION

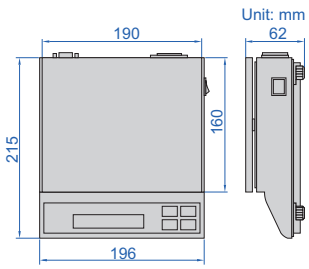
Code	8305-2000	8305-3000	8305-5000	8305-6000
Maximum weighing	2kg	3kg	5kg	6kg
Minimum weighing	0.5g	0.5g	0.5g	0.5g
Resolution (d)	0.01g	0.01g	0.01g	0.01g
Verification interval (e)	0.1g	0.1g	0.1g	0.1g
Accuracy (m is load)	m≤0.5kg: ±0.05g; 0.5kg<m≤2kg: ±0.1g	m≤0.5kg: ±0.05g; 0.5kg<m≤2kg: ±0.1g m>2kg: ±0.15g		
Weighing pan size	190×205mm			
Output	RS232			
Operation temperature	0~40°C			
Operation humidity	≤80%RH			
Power supply	220V, 50/60Hz			
Dimension (L×W×H)	320×210×100mm			

OPTIONAL ACCESSORY

RS232 cable	8301-CABLE*
Printer	8303-PRINTER
Data output cable (keyboard format)	7302-8001
Wireless transmitter (receiver is needed)	7315-8301

*Used to connect with computers

ELECTRONIC BALANCES



DATA OUTPUT

8301-3000

- Automatic zero when power on
- Unit: g (gram), ct (carat), ozt (troy ounce)
- Weighing, counting, taring
- Overload alarm
- Data output

SPECIFICATION

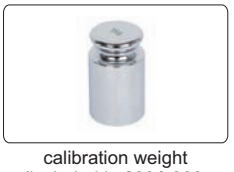
Code	8301-300	8301-600	8301-1200	8301-3000	8301-6000
Maximum weighing	300g	600g	1200g	3000g	6000g
Minimum weighing	0.2g	0.2g	0.2g	2g	2g
Resolution (d)	0.01g	0.01g	0.01g	0.1g	0.1g
Verification interval (e)	0.1g	0.1g	0.1g	1g	1g
Accuracy (m is load)	m≤50g: ±0.05g; 50g<m≤200g: ±0.1g; m>200g: ±0.15g		m≤500g: ±0.05g; m>500g: ±0.1g	m≤500g: ±0.5g; 500g<m≤2000g: ±1g; m>2000g: ±1.5g	
Weighing pan size	Ø135mm			190×160mm	
Operation temperature	0~40°C				
Operation humidity	≤80%RH				
Power supply	220V, 50/60Hz				
Dimension (L×W×H)	215×196×62mm				

OPTIONAL ACCESSORY

RS232 cable	8301-CABLE*
Data output cable (keyboard format)	7302-8001
Wireless transmitter (receiver is needed)	7315-8301

*Used to connect with computers

windshield
(included in **8301-300**, **8301-600** and **8301-1200**)



calibration weight
(included in **8301-300**, **8301-600** and **8301-1200**)

INDUSTRIAL ELECTRONIC BALANCES (BASIC TYPE)

POPULAR MODEL

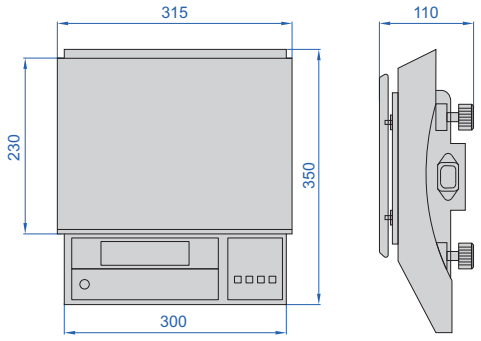
VIDEO

printer (**optional**)

8306-20AD

- Double weighing pan in stainless steel and plastic
- Weighing, simple counting, taring
- Strain balance sensor
- LCD display, with backlight
- Unit: g, lb, ct, oz
- Overload alarm

Unit: mm



SPECIFICATION

Operation temperature	-10~40°C
Operation humidity	≤85%RH
Dimension of pan	315×230mm
Power supply	rechargeable lead acid battery (6V/4Ah)
Stabilization time	≤2s

Code	Maximum weighing	Resolution (d)	Minimum weighing	Verification interval (e)	Number of verification interval (n)	Accuracy (m is load)	Output
8306-10	10kg	1g	20g	10g	1000	m≤5kg: ±5g; m>5kg: ±10g	no
8306-15	15kg	1g	20g	10g	1500	m≤5kg: ±5g; m>5kg: ±10g	
8306-20	20kg	1g	20g	10g	2000	m≤5kg: ±5g; m>5kg: ±10g	
8306-30	30kg	1g	20g	10g	3000	m≤5kg: ±5g; 5kg<m≤20kg: ±10g; m>20kg: ±15g	
8306-5A	5kg	0.1g	5g	1g	5000	±0.5g	
8306-10A	10kg	0.1g	5g	1g	10000	m≤5kg: ±0.5g; m>5kg: ±1g	
8306-15A	15kg	0.1g	5g	1g	15000	m≤5kg: ±0.5g; m>5kg: ±1g	
8306-20A	20kg	0.1g	5g	1g	20000	m≤5kg: ±0.5g; m>5kg: ±1g	
8306-10D	10kg	1g	20g	10g	1000	m≤5kg: ±5g; m>5kg: ±10g	RS232
8306-15D	15kg	1g	20g	10g	1500	m≤5kg: ±5g; m>5kg: ±10g	
8306-20D	20kg	1g	20g	10g	2000	m≤5kg: ±5g; m>5kg: ±10g	
8306-30D	30kg	1g	20g	10g	3000	m≤5kg: ±5g; 5kg<m≤20kg: ±10g; m>20kg: ±15g	
8306-5AD	5kg	0.1g	5g	1g	5000	±0.5g	
8306-10AD	10kg	0.1g	5g	1g	10000	m≤5kg: ±0.5g; m>5kg: ±1g	
8306-15AD	15kg	0.1g	5g	1g	15000	m≤5kg: ±0.5g; m>5kg: ±1g	
8306-20AD	20kg	0.1g	5g	1g	20000	m≤5kg: ±0.5g; m>5kg: ±1g	

OPTIONAL ACCESSORY

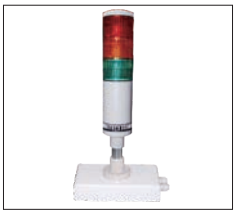
RS232 cable	**8306-CABLE** *
Printer	**8306-PRINTER**

*Used to connect with computers

INDUSTRIAL ELECTRONIC BALANCES

DATA OUTPUT

VIDEO



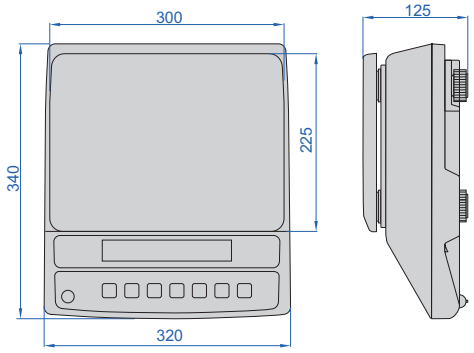
alarm light (**optional**)

printer (**optional**)

8307-15K

- Zero-setting, weighing, counting, checking alarm
- Subtracting tare value, accumulation, percentage display
- Overload alarm
- LCD display, with backlight
- Automatic power off
- Data output
- Unit: kg, lb, g, oz, t(ola)

Unit: mm



SPECIFICATION

Operation temperature	-10~40°C
Operation humidity	30~80%RH
Dimension of pan	300×225mm
Power supply	rechargeable lead acid battery (6V/4Ah)
Output	RS232

Code	Maximum weighing	Resolution (d)	Minimum weighing	Verification interval (e)	Number of verification interval (n)	Accuracy (m is load)
8307-15K	15kg	0.1g	5g	1g	15000	m≤5kg: ±0.5g; m>5kg: ±1g
8307-30K	30kg	0.2g	10g	1g	30000	m≤5kg: ±0.5g; 5kg<m≤20kg: ±1g; m>20kg: ±1.5g
8307-6KA	6kg	0.1g	5g	1g	6000	m≤5kg: ±0.5g; m>5kg: ±1g
8307-15KA	15kg	0.2g	10g	1g	15000	m≤5kg: ±0.5g; m>5kg: ±1g
8307-3KB	3kg	0.1g	2g	1g	3000	m≤500g: ±0.5g; 500g<m≤2kg: ±1g; m>2kg: ±1.5g
8307-6KB	6kg	0.2g	10g	1g	6000	m≤5kg: ±0.5g; m>5kg: ±1g
8307-30KB	30kg	1g	20g	10g	3000	m≤5kg: ±5g; 5kg<m≤20kg: ±10g; m>20kg: ±15g

OPTIONAL ACCESSORY

Alarm light	**8001-ALARM**
Printer	**8001-PRINTER**
Data output cable (keyboard format)	**7302-8001**
Wireless transmitter (receiver is needed)	**7315-8001**

VIDEO

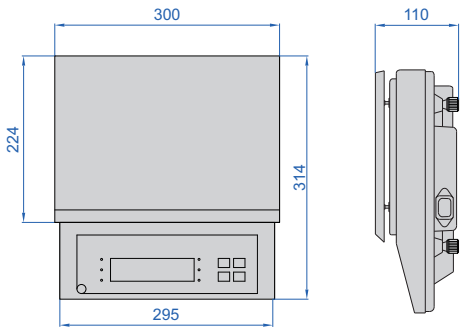
DATA OUTPUT

INDUSTRIAL ELECTRONIC BALANCES

- Double weighing pan in stainless steel and plastic
- Automatic calibration, zero tracking, weighing, counting, taring
- Aluminium alloy base
- Strain balance sensor
- Data output
- Unit: kg, lb

8308-30KB

Unit: mm



SPECIFICATION

Operation temperature	0~40°C
Operation humidity	≤80%RH
Dimension of pan	300×224mm
Power supply	input voltage: 220V, rechargeable lead acid battery (6V/4Ah)
Output	RS232

Code	Maximum weighing	Resolution (d)	Minimum weighing	Verification interval (e)	Number of verification interval (n)	Accuracy (m is load)
8308-3K	3kg	0.1g	2g	1g	3000	m≤500g: ±0.5g; 500g<m≤2kg: ±1g; m>2kg: ±1.5g
8308-6K	6kg	0.1g	2g	1g	6000	m≤500g: ±0.5g; 500g<m≤2kg: ±1g; m>2kg: ±1.5g
8308-10K	10kg	1g	20g	10g	1000	m≤5kg: ±5g; m>5kg: ±10g
8308-15K	15kg	0.5g	25g	1g	15000	m≤5kg: ±0.5g; m>5kg: ±1g
8308-20K	20kg	1g	20g	10g	2000	m≤5kg: ±5g; m>5kg: ±10g
8308-30K	30kg	1g	20g	10g	3000	m≤5kg: ±5g; 5kg<m≤20kg: ±10g; m>20kg: ±15g
8308-3KA	3kg	0.5g	10g	1g	3000	m≤500g: ±0.5g; 500g<m≤2kg: ±1g; m>2kg: ±1.5g
8308-6KA	6kg	0.5g	10g	1g	6000	m≤500g: ±0.5g; 500g<m≤2kg: ±1g; m>2kg: ±1.5g
8308-15KA	15kg	1g	20g	10g	1500	m≤5kg: ±5g; m>5kg: ±10g
8308-30KA	30kg	5g	100g	10g	3000	m≤5kg: ±5g; 5kg<m≤20kg: ±10g; m>20kg: ±15g
8308-10KB	10kg	0.1g	5g	1g	10000	m≤5kg: ±0.5g; m>5kg: ±1g
8308-20KB	20kg	0.1g	5g	1g	15000	m≤5kg: ±0.5g; m>5kg: ±1g
8308-30KB	30kg	0.1g	5g	1g	30000	m≤5kg: ±0.5g; 5kg<m≤20kg: ±1g; m>20kg: ±1.5g

OPTIONAL ACCESSORY

RS232 cable	**8301-CABLE***
Printer	**8303-PRINTER**
Data output cable (keyboard format)	**7302-8001**
Wireless transmitter (receiver is needed)	**7315-8301**

*Used to connect with computers

printer (**optional**)

INDUSTRIAL ELECTRONIC BALANCES (ADVANCED TYPE)

CAN BE CUSTOMIZED | TOUCH SCREEN | HIGH ACCURACY | DATA OUTPUT

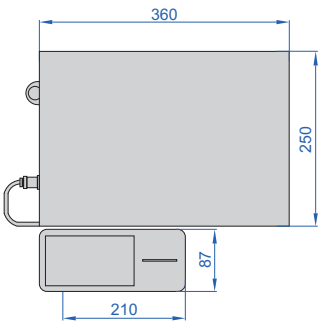
VIDEO

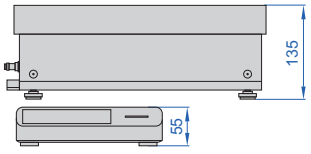
8309-35

printer (**optional**)

charge pal (**optional**)

Unit: mm





- Electromagnetic balanced sensor
- Compensates for zero stability and weighing accuracy by loading accurately at multiple temperature points
- Stainless steel weighing pan, acid and corrosion resistant
- Manual screen off, screen saver
- Weighing, counting, taring
- Overload alarm
- Unit: g, kg, lb, ct, oz
- Password protection
- Data output

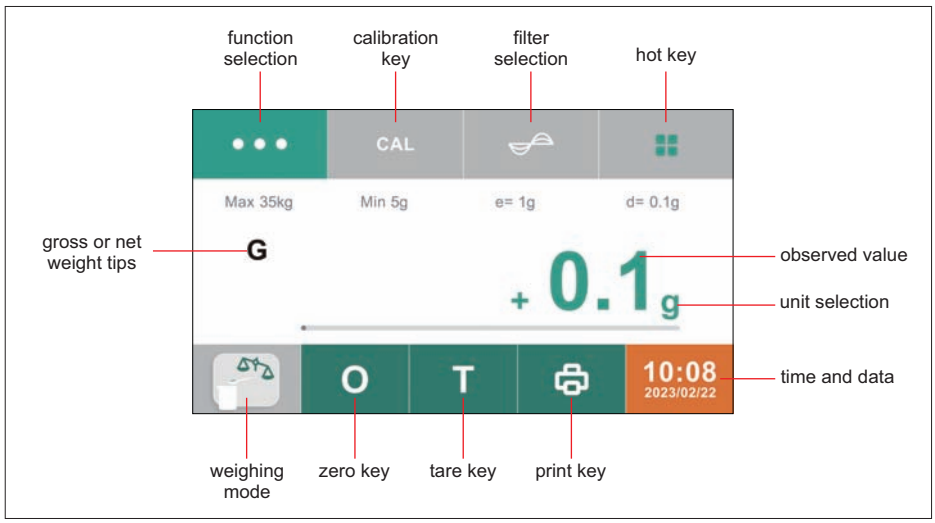
SPECIFICATION

Code	8309-16	8309-20	8309-30	8309-35	8309-16A	8309-20A	8309-30A	8309-35A
Maximum weighing	16kg	20kg	30kg	35kg	16kg	20kg	30kg	35kg
Resolution (d)	0.1g				0.05g			
Verification interval (e)	1g				0.1g			
Accuracy	±0.1g		±0.2g		±0.05g		±0.1g	
Repeatability	±0.1g				±0.05g			
Linearity	±0.1g				±0.05g			
Weight of calibration	10kg		20kg		10kg		20kg	
Calibration method	external calibration							
Minimum weighing	5g							
Stabilization time	≤1.5s							
Operation temperature	10~30°C							
Operation humidity	30~80%RH							
Weighing pan size	360×250mm							
Power supply	power adapter (5V/2A)							
Data interface	DB9, Type-C, RS485							
Communication protocols	compatible with SBI (RS232) and SICS communication protocols							

To be continued

Continued from previous page

weighing test interface



Measurement functions:

Weighing
This application determines the weight of the object to be weighed within the specific weighing range of the device

Mixing
The application allows up to 99 ingredients for a mixture or recipe to be placed sequentially in a container. After each placement of an ingredient, the balance will automatically tare the weight and can display the individual or total weight of the ingredients

Statistic
The application can save up to 99 weighing values and calculated values, and perform statistical evaluations

Component
The application can sum up to 99 weighing values, can weigh components in different containers, and can tare each container before weighing each component

Density
The application can determine the density of solid materials based on the buoyancy method (**powder density cannot be tested, no density components are supplied as standard**)

Percentage
This application allows the determination of the percentage or percentage difference of the weighed object based on a reference weight

Transition
The application can multiply the weighing value with a customizable coefficient to obtain a converted measurement, the last entered coefficient is saved when the power supply is interrupted

Animal weighing
The application is suitable for moving weights (e.g. live animals) and for weighing in unstable environments, where a measuring cycle with a defined number of measurements is performed automatically for each object to be weighed, the average value is determined from the individual measurements and displayed as a result

Check weighing
The application checks that the weighing value is within the specified upper and lower limits and determines the test result, allowing weighing of a specific rated weight

Peak holding
This application determines the maximum weighing value (peak value) of a sample and displays the value for up to 5 seconds after the balance has been unloaded

Counting
The application counts almost identical piece weights by comparing them to a reference sample

STANDARD DELIVERY

Main unit	1 pc
RS232 cable*	1 pc
Touch screen indicator	1 pc

*Used to connect with computers

OPTIONAL ACCESSORY

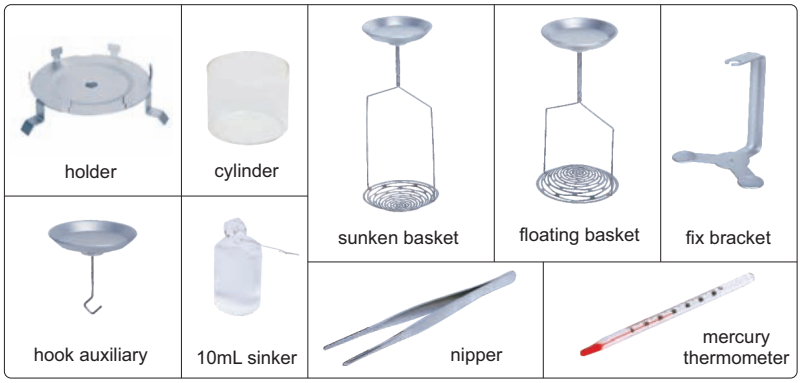
Printer	**8309-PRINTER**
Charge pal	**1155-5-POB**

ELECTRONIC DENSITY BALANCES

DATA OUTPUT

VIDEO

density accessories (included)



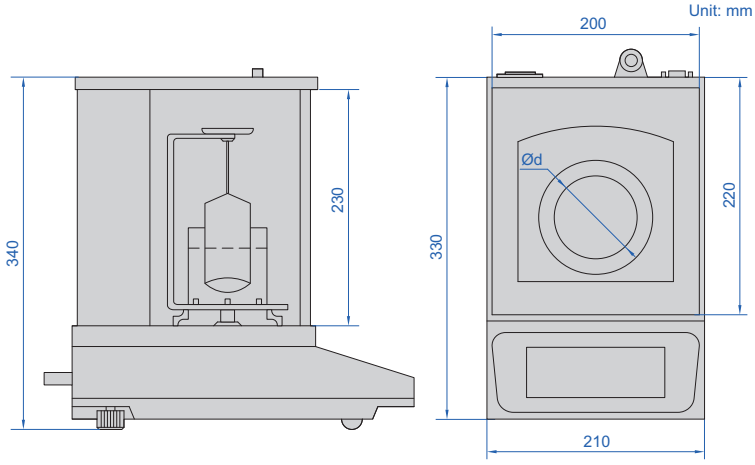
8102-320

- Suitable for measuring the density of solids and liquids
- Aluminium alloy shell, wind shield, three side glass sliding doors
- With a hook at the bottom
- Weighing, counting, taring, percentage display
- Built-in calibration weights, automatic internal calibration
- Unit: g, ct, ozt, oz, gn, dwt, mg
- Electromagnetic balanced sensor
- Large touchscreen display
- Data output

class F1 calibration weight (included)

printer (**optional**)

Unit: mm



SPECIFICATION

Code	8102-220	8102-320	8102-520	8102-620	8102-1020	8102-1520
Maximum weighing	220g	320g	520g	620g	1020g	1520g
Minimum weighing	20mg	20mg	100mg	100mg	100mg	100mg
Resolution (d)	1mg	1mg	1mg	1mg	1mg	1mg
Verification interval (e)	10mg	10mg	10mg	10mg	10mg	10mg
Accuracy (m is load)	m≤50g: ±5mg; 50g<m≤200g: ±10mg; m>200g: ±15mg		m≤500g: ±5mg; m>500g: ±10mg			
Weighing pan size (Ød)	Ø80mm				Ø120mm	
Operation temperature	15~30°C		18~23°C			
Operation humidity	40~80%RH		50~70%RH			
Power supply	220V, 50/60Hz					
Dimension (L×W×H)	330×210×340mm					

STANDARD DELIVERY

Main unit	1 pc
Calibration weight	1 pc
Density accessories	1 set

OPTIONAL ACCESSORY

RS232 cable	8301-CABLE*
Printer	8303-PRINTER
Data output cable (keyboard format)	7302-8001
Wireless transmitter (receiver is needed)	7315-8301
Infrared and penetration thermometer	0321-IT42

*Used to connect with computers

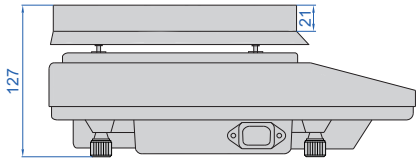
DATA OUTPUT

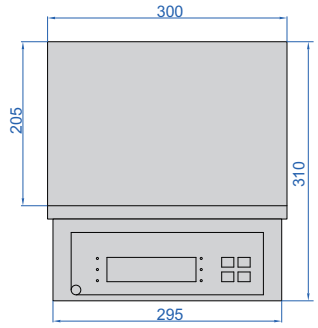
ELECTRONIC ANTIMAGNETIC BALANCES

8106-30KG

- Automatic calibration, zero tracking, weighing, counting, taring
- Aluminium alloy base, wooden pallet
- Data output
- Strain balance Sensor
- Unit: kg, lb

Unit: mm





SPECIFICATION

Code	8106-3KG	8106-6KG	8106-10KG	8106-20KG	8106-30KG
Maximum weighing	3kg	6kg	10kg	20kg	30kg
Minimum weighing	2g	2g	20g	20g	20g
Resolution (d)	0.1g	0.1g	1g	1g	1g
Verification interval (e)	1g	1g	10g	10g	10g
Accuracy (m is load)	m≤500g: ±0.5g; 500g<m≤2kg: ±1g; m>2kg: ±1.5g		m≤5kg: ±5g; m>5kg: ±10g		m≤5kg: ±5g; 5kg<m≤20kg: ±10g m>20kg: ±15g
Operation temperature	0~40°C				
Operation humidity	≤80%RH				
Power supply	220V, 50/60Hz				
Dimension of pan	205×300mm				

OPTIONAL ACCESSORY

RS232 cable	8301-CABLE*
Printer	8303-PRINTER
Data output cable (keyboard format)	7302-8001
Wireless transmitter (receiver is needed)	7315-8301

*Used to connect with computers

printer (**optional**)

11

MOISTURE ANALYZERS

DATA OUTPUT

VIDEO

calibration weight
(included)

8701-RM40

- LCD screen
- High sensitivity temperature and humidity sensor
- Ring halogen lamp heating evenly, shorten drying time

SPECIFICATION

Code		8701-RM20	8701-RM30	8701-RM40
Maximum weighing		120g	120g	120g
Resolution (d)		5mg	1mg	0.1mg
Accuracy for moisture	sample<10g	±10%	±0.5%	±0.2%
	sample≥10g	±5%	±0.3%	±0.1%
Operation temperature		13~25°C		
Verification interval		2.5s		
Warm-up time		20~30 minutes		
Weighing pan size		Ø90mm		
Heating source		halogen lamp (450W)		
Range for heating temperature		60~200°C		
Heating time setting		0~99 minutes		
Heating mode		standard heating, step heating, rapid heating		
Shutdown mode		automatic shutdown, manual shutdown, timed shutdown		
Output		RS232C		
Power supply		220V, 50/60Hz		
Dimension (L×W×H)		330×210×340mm		

STANDARD DELIVERY

Main unit	1 pc
Weight	1 pc

OPTIONAL ACCESSORY

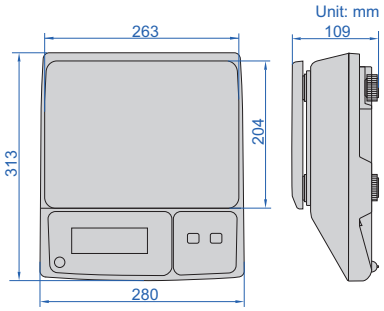
RS232 cable	8304-CABLE*
Printer	8303-PRINTER

*Used to connect with computers

WEIGHING SCALES (OIML CERTIFICATE)

- LCD display, with backlight
- Zero-setting, subtracting tare value
- Overload alarm
- Automatic power off
- OIML certificate (No. 0200-NAWI-04601)

8002-30M



SPECIFICATION

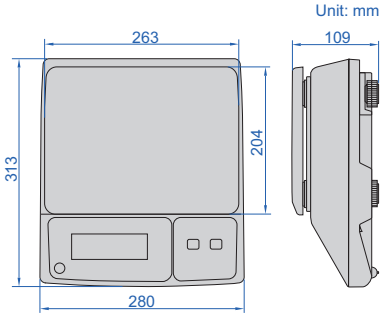
Code	8002-6M	8002-15M	8002-30M	8002-6MD	8002-15MD	8002-30MD
Maximum weighing	3/6kg	6/15kg	15/30kg	3/6kg	6/15kg	15/30kg
Minimum weighing	20g	40g	100g	20g	40g	100g
Resolution (d)	1/2g	2/5g	5/10g	1/2g	2/5g	5/10g
Verification interval (e)	2g	5g	10g	2g	5g	10g
Accuracy (m is load)	m≤3kg: ±1g 3kg<m≤6kg: ±2g	m≤6kg: ±2g 6kg<m≤15kg: ±5g	m≤15kg: ±5g 15kg<m≤30kg: ±10g	m≤3kg: ±1g 3kg<m≤6kg: ±2g	m≤6kg: ±2g 6kg<m≤15kg: ±5g	m≤15kg: ±5g 15kg<m≤30kg: ±10g
Output	no			RS232		
Operation temperature	-10~40°C					
Power supply	rechargeable battery (6V/3.2Ah), power adapter (12V/500mA)					
Dimensions of pan	263×204mm					

WEIGHING SCALES (HIGH ACCURACY)

printer (**optional**)

- LCD display, with backlight
- Zero-setting, subtracting tare value
- Overload alarm
- Automatic power off

8001-6



SPECIFICATION

Code	8001-6	8001-15	8001-30	8001-6D	8001-15D	8001-30D
Maximum weighing	6kg	15kg	30kg	6kg	15kg	30kg
Minimum weighing	4g	10g	20g	4g	10g	20g
Resolution (d)	0.2g	0.5g	1g	0.2g	0.5g	1g
Accuracy (m is load)	m≤1kg: ±1g 1kg<m≤4kg: ±2g m>4kg: ±3g	m≤2.5kg: ±2.5g 2.5kg<m≤10kg: ±5g m>10kg: ±7.5g	m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g	m≤1kg: ±1g 1kg<m≤4kg: ±2g m>4kg: ±3g	m≤2.5kg: ±2.5g 2.5kg<m≤10kg: ±5g m>10kg: ±7.5g	m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g
Units	kg, lb			kg		
Output	no			RS232		
Operation temperature	-10~40°C					
Power supply	rechargeable lead acid battery (6V/3.2Ah)					
Dimensions of pan	263×204mm					

OPTIONAL ACCESSORY (for scales with RS232)

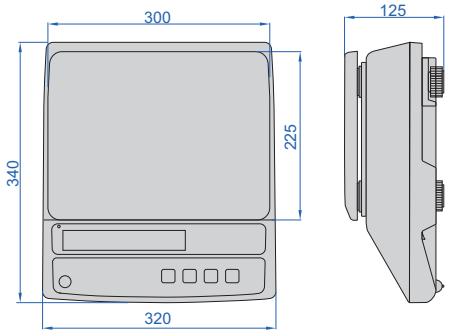
Printer	8001-PRINTER
Data output cable (keyboard format)	7302-8001
Wireless transmitter (receiver is needed)	7315-8001

CHECKING WEIGHT SCALES

printer (**optional**)

8004-6

Unit: mm



- LCD display, with backlight
- Zero-setting, subtracting tare value
- Checking alarm, overload alarm
- Automatic power off
- Double weighing pan in stainless steel and plastic
- Unit: kg, g, tj, Hj, t (ola), lb, oz, lb-oz

OPTIONAL ACCESSORY (for scales with RS232)

Printer	**8001-PRINTER**

SPECIFICATION

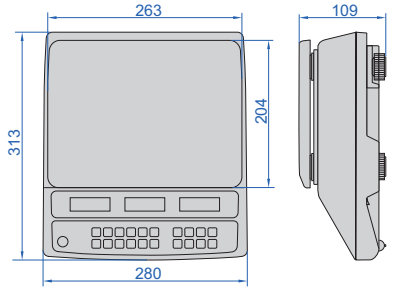
Code	8004-6	8004-15	8004-30	8004-6D	8004-15D	8004-30D
Maximum weighing	6kg	15kg	30kg	6kg	15kg	30kg
Minimum weighing	10g	20g	40g	10g	20g	40g
Resolution (d)	0.5g	1g	2g	0.5g	1g	2g
Accuracy (m is load)	m≤2.5kg: ±2.5g m>2.5kg: ±5g	m≤5kg: ±5g m>5kg: ±10g	m≤10kg: ±10g m>10kg: ±20g	m≤2.5kg: ±2.5g m>2.5kg: ±5g	m≤5kg: ±5g m>5kg: ±10g	m≤10kg: ±10g m>10kg: ±20g
Output	no			RS232		
Operation temperature	0~40°C					
Power	rechargeable lead acid battery (6V/4Ah)					
Dimensions of pan	300×225mm					

COUNTING SCALES

printer (**optional**)

8101-30

Unit: mm



- LCD display, with backlight
- Zero-setting, subtracting tare value, counting, accumulation, checking alarm
- Overload alarm
- Units: kg, g, lb, tj, hj, lb-oz

OPTIONAL ACCESSORY (for scales with RS232)

Printer	**8001-PRINTER**

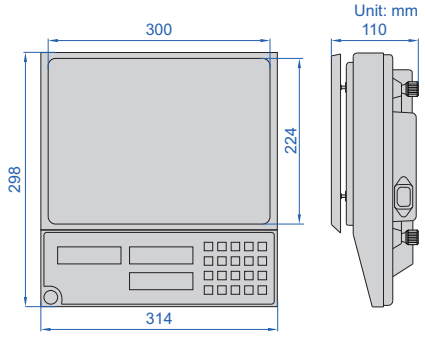
SPECIFICATION

Code	8101-6	8101-15	8101-30	8101-6D	8101-15D	8101-30D
Maximum weighing	6kg	15kg	30kg	6kg	15kg	30kg
Minimum weighing	4g	10g	20g	4g	10g	20g
Resolution (d)	0.2g	0.5g	1g	0.2g	0.5g	1g
Accuracy (m is load)	m≤1kg: ±1g 1kg<m≤4kg: ±2g m>4kg: ±3g	m≤2.5kg: ±2.5g 2.5kg<m≤10kg: ±5g m>10kg: ±7.5g	m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g	m≤1kg: ±1g 1kg<m≤4kg: ±2g m>4kg: ±3g	m≤2.5kg: ±2.5g 2.5kg<m≤10kg: ±5g m>10kg: ±7.5g	m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g
Output	no			RS232		
Operation temperature	-10~40°C					
Power supply	rechargeable battery (6V/3.2Ah), power adapter (12V/500mA)					
Dimensions of pan	263×204mm					

DATA OUTPUT

VIDEO

8107-3



- Double weighing pan in stainless steel and plastic
- Counting, quantity setting, single weight setting
- Zero-setting, checking alarm, accumulation, taring
- Aluminium alloy base
- Strain balance sensor
- Data output
- Unit: kg, lb

printer (**optional**)

SPECIFICATION

Code	8107-3	8107-6	8107-15	8107-30
Maximum weighing	3kg	6kg	15kg	30kg
Minimum weighing	2g	4g	25g	20g
Resolution (d)	0.1g	0.2g	0.5g	1g
Verification interval (e)	1g	1g	1g	10g
Accuracy (m is load)	m≤500g: ±0.5g 500g<m≤2kg: ±1g m>2kg: ±1.5g	m≤500g: ±0.5g 500g<m≤2kg: ±1g m>2kg: ±1.5g	m≤5kg: ±0.5g m>5kg: ±1g	m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g
Output	RS232			
Operation temperature	0~40°C			
Operation humidity	≤80%RH			
Power supply	input voltage: 220V, rechargeable lead acid battery (6V/4Ah)			
Dimension of pan	300×224mm			

OPTIONAL ACCESSORY

RS232 cable	8301-CABLE*
Printer	8303-PRINTER
Data output cable (keyboard format)	7302-8001
Wireless transmitter (receiver is needed)	7315-8301

*Used to connect with computers

MULTI-FUNCTIONAL SCALES

DATA OUTPUT

TOUCH SCREEN

VIDEO

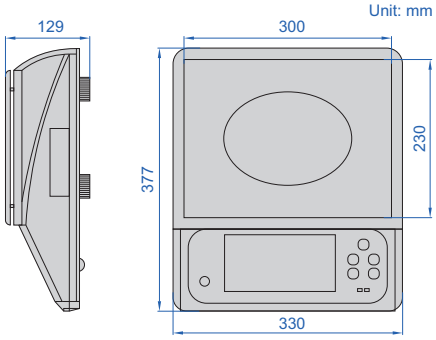
- 7-inch resistive touch color screen
- Upper and lower limit alarms: quantity, percentage, weight
- Zero-setting, weighing, subtracting tare value
- Counting, accumulation, percentage display
- Peak (max.) and tracking mode
- Subtractive weighing, accumulation
- Overload alarm
- Data output
- Unit: kg, g, lb, oz, t

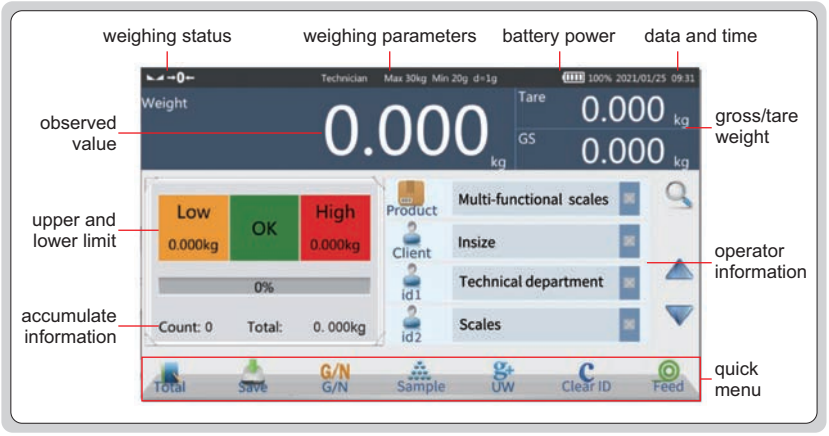
8005-30

alarm light **(optional)**

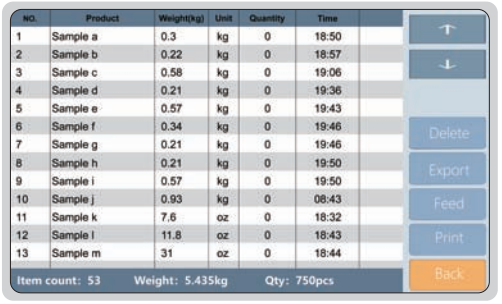
scanner (**optional**)

printer (**optional**)





records search



SPECIFICATION

Code	8005-3	8005-6	8005-15	8005-30
Maximum weighing	3kg	6kg	15kg	30kg
Minimum weighing	2g	4g	10g	20g
Resolution (d)	0.1g	0.2g	0.5g	1g
Accuracy (m is load)	m≤500g: ±0.5g 500g<m≤2kg: ±1g m>2kg: ±1.5g	m≤1kg: ±1g 1kg<m≤4kg: ±2g m>4kg: ±3g	m≤2.5kg: ±2.5g 2.5kg<m≤10kg: ±5g m>10kg: ±7.5g	m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g
Operation temperature	0~40°C			
Operation humidity	≤80%RH			
Power supply	7.4V rechargeable Li-ion battery			
Weighing pan size	230×300mm			

OPTIONAL ACCESSORY

Printer	8303-PRINTER
Scanner	7328-SCAN
Alarm light	8001-ALARM

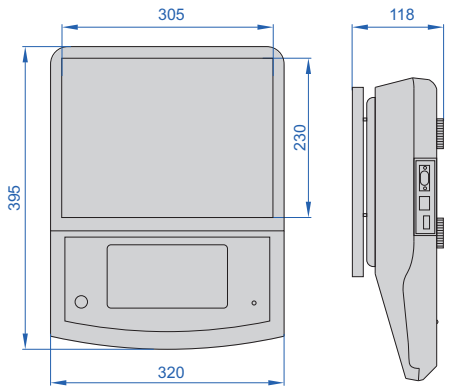
MULTI-FUNCTION SCALES

DATA OUTPUT | TOUCH SCREEN | INTERNAL CALIBRATION

VIDEO

8006-10

Unit: mm



- Zero-setting, weighing, subtracting tare value
- Counting, accumulation, percentage display, checking alarm
- Built-in calibration weights, automatic internal calibration
- 7-inch resistive touch color screen
- With a hook at the bottom
- Unit: g, ct, GSM, oz, kg, lb, mg
- 304 stainless steel weighing pan
- Overload alarm
- Data output

printer **(optional)**

GSM cutter **(optional)**

scanner **(optional)**

hydrostatic stand (**optional**, for **8006-5**, **8006-10**, **8006-5A**, **8006-10A**)

Calibration methods

- Internal calibration
- Linear calibration
- Fixed value calibration

Measurement functions

- Weighing
- Counting
- Checking alarm
- Density **(applicable for measuring solid density with ρ>1g/cm³, density accessories are not included)**
- Percentage

SPECIFICATION

Operation temperature	15~30°C
Operation humidity	≤85%RH
Weighing pan size	305×230mm
Power supply	rechargeable lead acid battery (9V/3Ah)
Stable reading time	≤2s
Output	RS232, USB (data export, unable to communicate)

OPTIONAL ACCESSORY

RS232 cable	**8306-CABLE***
Printer	**8306-PRINTER**
Hydrostatic stand	**8006-HWS**
Scanner	**8006-SCAN** (RS232 port)
GSM cutter	**8390-100**

*Used to connect with computers

Code	Maximum weighing	Resolution (d)	Minimum weighing	Accuracy (m is load)	Linearity	Repeatability	Verification interval (e)
8006-5	5kg	1g	20g	±5g	±5g	±3g	10g
8006-10	10kg	1g	20g	m≤5kg: ±5g; m>5kg: ±10g	±5g	±3g	10g
8006-20	20kg	1g	20g	m≤5kg: ±5g; m>5kg: ±10g	±5g	±4g	10g
8006-30	30kg	1g	20g	m≤5kg: ±5g; 5kg<m≤20kg: ±10g; m>20kg: ±15g	±5g	±4g	10g
8006-5A	5kg	0.1g	5g	±0.5g	±0.5g	±0.3g	1g
8006-10A	10kg	0.1g	5g	m≤5kg: ±0.5g; m>5kg: ±1g	±0.5g	±0.3g	1g
8006-20A	20kg	0.1g	5g	m≤5kg: ±0.5g; m>5kg: ±1g	±0.5g	±0.4g	1g
8006-30A	30kg	0.1g	5g	m≤5kg: ±0.5g; 5kg<m≤20kg: ±1g; m>20kg: ±1.5g	±0.5g	±0.5g	1g

WEIGHING SCALES (ECONOMIC TYPE)

VIDEO

8003-3

- Unit: g, oz, lb, tl

SPECIFICATION

Code	8003-3	8003-6	8003-10
Maximum weighing	3kg	6kg	10kg
Minimum weighing	2g	10g	20g
Resolution (d)	0.1g	0.5g	1g
Accuracy	±0.5g	±2.5g	±5g
Weighing pan size	157×157mm		
Operation temperature	5~35°C		
Power supply	2×AAA batteries, power adapter		
Dimension (L×W)	160×225mm		

ELECTRONIC POCKET SCALE (ECONOMIC TYPE)

ATTENTION:
LOW ACCURACY

8602-200

- LCD display, with backlight
- Zero-setting, subtracting tare value, counting
- Overload alarm
- Automatic power off

SPECIFICATION

Code	8602-200
Maximum weighing	200g
Minimum weighing	0.2g
Resolution (d)	0.02g
Accuracy (m is load)	0.2g≤m≤2g: ±0.06g; 2g<m≤60g: ±0.1g 60g<m≤100g: ±0.14g; m>100g: ±0.28g
Units	g, oz, dwt, ozt
Dimension of pan	55×64mm
Dimension (L×W×H)	120×70×17mm
Operation temperature	-10~40°C
Power supply	2×CR2032 batteries

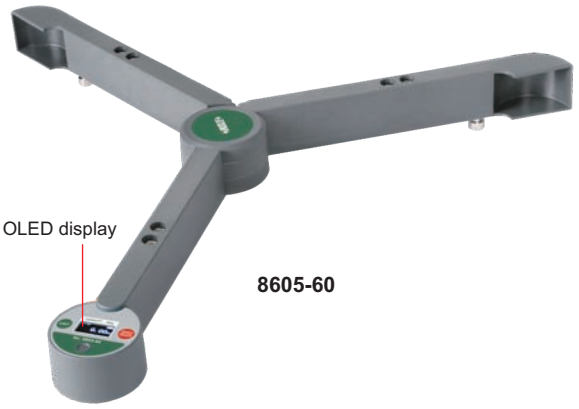
use of pan

DATA OUTPUT | BUILT-IN BLUETOOTH

ATTENTION: LOW ACCURACY

BLUETOOTH FOLDING SCALE
CODE 8605-60

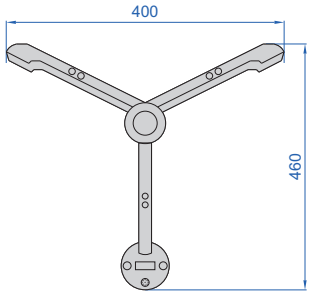
VIDEO



8605-60

- Zero-setting, weighing, subtracting tare value
- Voice to report the result
- Unit: kg, g
- Overload alarm

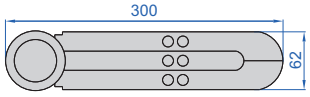
Unit: mm



SPECIFICATION

Maximum weighing	60kg
Minimum weighing	400g
Resolution (d)	20g
Accuracy (m is load)	±40g
Operation temperature	-10~40°C
Operation humidity	20~90%RH
Power supply	3.7V rechargeable Li-ion battery
Output	bluetooth

foldable and portable

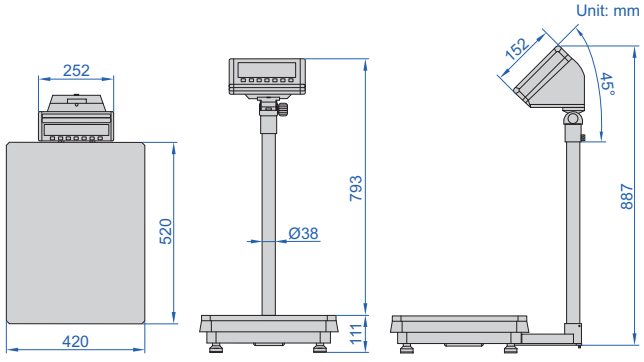


DATA OUTPUT | CAN BE CUSTOMIZED

PLATFORM SCALES

alarm light (**optional**)

Unit: mm



VIDEO

8501-AL150

- LCD large screen display with LED backlight
- Weighing, overweight alarm, counting, keyboard lock, accumulating, auto zero and animal scale
- Unit: kg, g, lb, oz

printer (**optional**)

SPECIFICATION

Code	8501-AL60	8501-AL150	8501-AL300
Maximum weighing	60kg	150kg	300kg
Minimum weighing	100g	200g	400g
Resolution (d)	5g	10g	20g
Accuracy	±10g	±20g	±30g
Operation temperature	-10~40°C		
Material	platform: stainless steel, base: die-cast aluminum		
Dimension of platform	420×520mm		
Power supply	rechargeable lead acid battery (6V/4Ah)		
Output	RS232		
Weight	18.3kg		

OPTIONAL ACCESSORY

Printer	8001-PRINTER
Alarm light	8001-ALARM
Data output cable (keyboard format)	7302-8001
Wireless transmitter (receiver is needed)	7315-8001

11

PLATFORM SCALES (BASIC TYPE)

DATA OUTPUT

CAN BE CUSTOMIZED

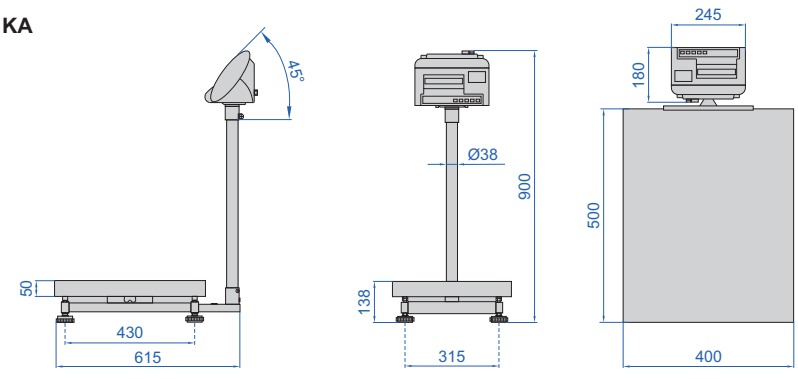
VIDEO

8508-61KA

printer (**optional**)

- Zero-setting, simple counting
- Weighing, subtracting tare value
- Overload alarm
- Automatic power off
- Low voltage indication
- Unit: kg, lb
- Data output

Unit: mm



Code	Maximum weighing	Resolution (d)	Minimum weighing	Repeatability	Accuracy	Verification interval (e)	Number of verification interval (n)
8508-61KA	61kg	1g	20g	±2g	±3g	10g	6100
8508-110KA	110kg	1g	50g	±2g	±3g	10g	11000
8508-160KA	160kg	1g	50g	±3g	±5g	10g	16000
8508-61K	61kg	10g	200g	±20g	±30g	100g	610
8508-110K	110kg	10g	200g	±20g	±30g	100g	1100
8508-160K	160kg	10g	200g	±20g	±30g	100g	1600
8508-210K	210kg	10g	200g	±20g	±30g	100g	2100
8508-310K	310kg	10g	200g	±30g	±50g	100g	3100

SPECIFICATION

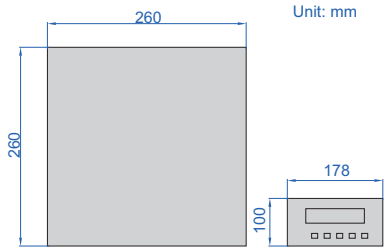
Output	RS232
Operation temperature	-10~40°C
Operation humidity	30~80%RH
Power supply	rechargeable lead acid battery (6V/4Ah)
Stabilization time	≤2s
Material	platform: stainless steel, base: carbon steel
Dimension of platform	400×500mm
Weight	14kg

OPTIONAL ACCESSORY

RS232 cable	**8306-CABLE***
Printer	**8306-PRINTER**

* Used to connect with computers

PARCEL SCALES



8502-30

- Weighting, counting, subtracting tare value
- LED display, adjustable brightness
- Low voltage indication
- Automatic power off
- Overload indication
- Unit: kg, lb

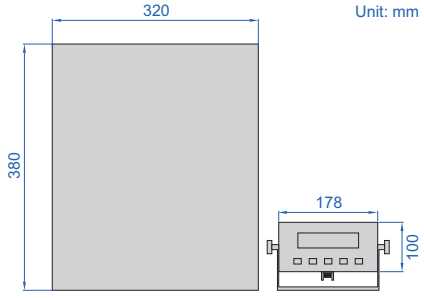
OPTIONAL ACCESSORY

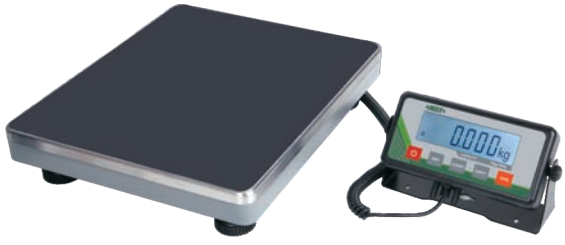
Cast iron weights	8913

SPECIFICATION

Code	8502-30	8502-50	8502-60	8502-75
Maximum weighing	30kg	50kg	60kg	75kg
Minimum weighing	2g	20g	20g	20g
Resolution (d)	m≤3kg: 0.1g; 3kg<m≤30kg: 1g	1g	1g	1g
Accuracy (m is load)	m≤3kg: ±0.3g; 3kg<m≤30kg: ±3g	±3g	±3g	±3g
Weight of calibration	20kg	50kg	50kg	50kg
Weighing pan size	260×260mm			
Material	platform: ABS plastic, base: die-cast aluminum			
Operation temperature	5~35°C			
Operation humidity	30~80%RH			
Power supply	power adapter (6V/300mA) or 4×1.5V AA batteries			

PARCEL SCALES





8503-30

- Weighting, counting, subtracting tare value
- LCD display, with backlight
- Overload indication
- Automatic power off
- Low voltage indication
- Unit: kg, lb

OPTIONAL ACCESSORY

Cast iron weights	8913

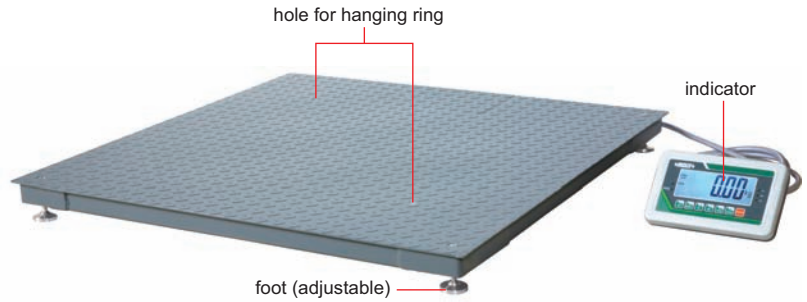
SPECIFICATION

Code	8503-30	8503-60	8503-120	8503-200
Maximum weighing	30kg	60kg	120kg	200kg
Minimum weighing	20g	100g	200g	400g
Resolution (d)	1g	5g	10g	20g
Accuracy	±3g	±15g	±30g	±60g
Weight of calibration	20kg	50kg	100kg	200kg
Weighing pan size	320×380mm			
Material	platform: stainless steel, base: die-cast aluminum			
Operation temperature	5~35°C			
Operation humidity	30~80%RH			
Power supply	power adapter (6V/300mA) or 4×1.5V AA batteries			

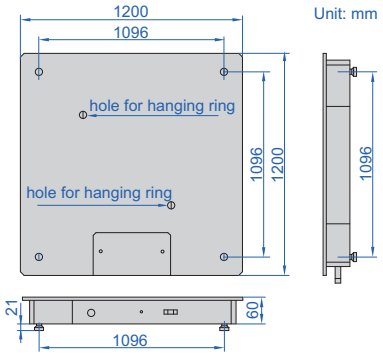
FLOOR SCALES

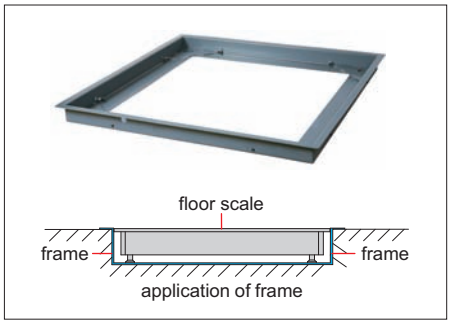
CAN BE CUSTOMIZED | DATA OUTPUT

VIDEO



8401-1T1212



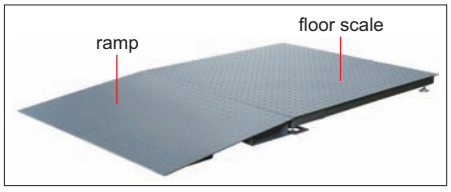


frame (**optional**)

stand (**optional**)

alarm light (**optional**)

printer (**optional**)



ramp (**optional**)

- LCD large screen display with automatic backlight
- Zero, overweight alarm, deduction, unit conversion, accumulating, animal scale, etc.
- Unit: kg, g, lb, oz
- OIML approved load cell

STANDARD DELIVERY

Main unit	1 pc
Indicator	1 pc
AC/DC adapter	1 pc
Stainless steel foot	4 pcs
Hanging ring	2 pcs

SPECIFICATION

Code	**8401-1T1212**	**8401-2T1212**	**8401-3T1212**
Maximum weighing	1t	2t	3t
Minimum weighing	10kg	20kg	20kg
Resolution (d)	0.5kg	1kg	1kg
Verification interval (e)	0.5kg	1kg	1kg
Accuracy (m is load)	m≤250kg: ±0.25kg; 250kg<m≤1000kg: ±0.5kg	m≤500kg: ±0.5kg; 500kg<m≤2000kg: ±1kg; m>2000kg: ±1.5kg	
Load cell	4 pcs 350Ω		
Operation temperature	-10~40°C		
Material	mild steel		
Dimension of platform	1200×1200mm		
Power supply	rechargeable lead acid battery (6V/4Ah)		
Output	RS232		
Weight	140kg		

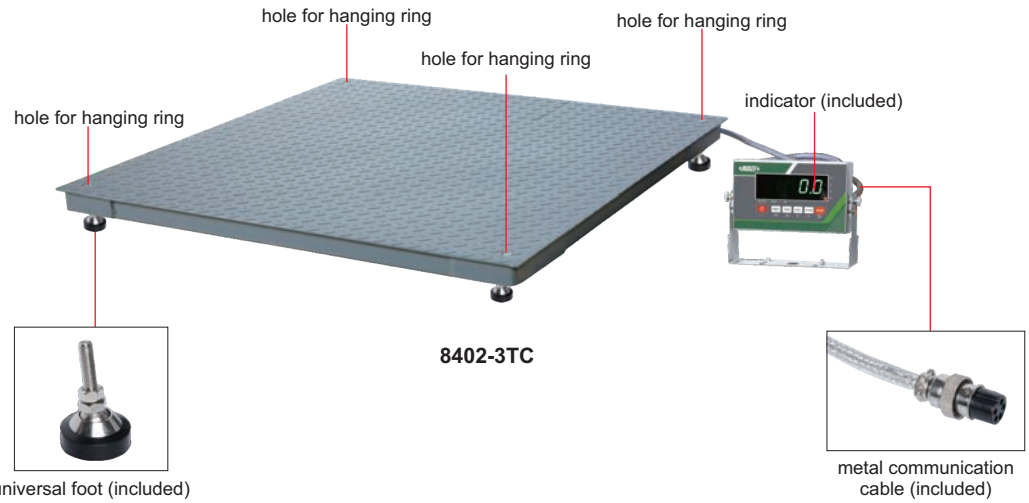
OPTIONAL ACCESSORY

Ramp	**8401-1212-1**
Frame	**8401-1212-2**
Stand	**8401-STAND**
Printer	**8001-PRINTER**
Alarm light	**8001-ALARM**
Data output cable (keyboard format)	**7302-8001**
Wireless transmitter (receiver is needed)	**7315-8001**

CAN BE CUSTOMIZED | HIGH ACCURACY | DATA OUTPUT | BUILT-IN BLUETOOTH

HIGH PRECISION FLOOR SCALES

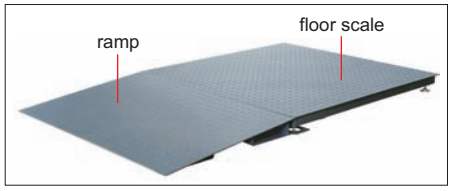
VIDEO



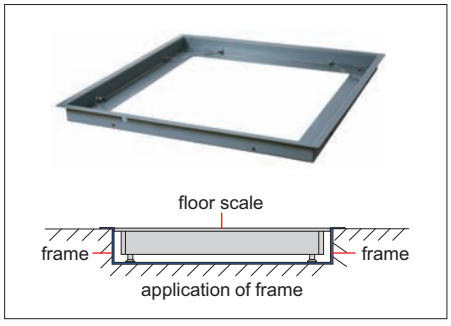
8402-3TC

universal foot (included)

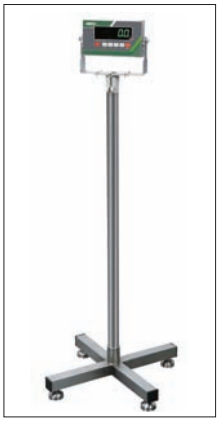
metal communication cable (included)



ramp (**optional**)



frame (**optional**)



stainless steel stand (**optional**)

- Simple counting, animal scale, checking alarm
- Peak (max.) and tracking mode
- Zero-setting, weighing, subtracting tare value
- Overload alarm
- Automatic power off
- Data output
- Unit: kg, lb

printer (**optional**)

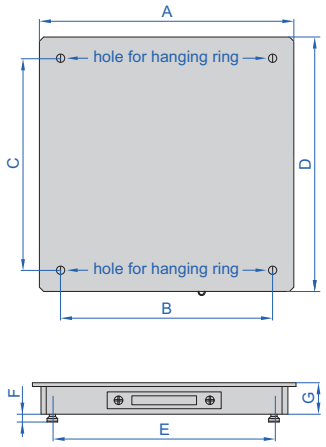
SPECIFICATION

Material of platform	carbon steel
Material of indicator	304 stainless steel
Output	RS232
Operation temperature	-10~40°C
Operation humidity	30~80%RH
Power	3.7V rechargeable Li-ion battery

To be continued

Continued from previous page

Code	Maximum weighing	Minimum weighing	Resolution (d)	Accuracy	Dimension of platform
8402-1TA	1t	4kg	0.2kg	±0.2kg	800×800mm
8402-2TA	2t	4kg	0.2kg	±0.3kg	
8402-3TA	3t	4kg	0.2kg	±0.5kg	
8402-4TA	4t	10kg	0.5kg	±0.6kg	
8402-5TA	5t	10kg	0.5kg	±1kg	
8402-1TB	1t	4kg	0.2kg	±0.2kg	1000×1000mm
8402-2TB	2t	4kg	0.2kg	±0.3kg	
8402-3TB	3t	4kg	0.2kg	±0.5kg	
8402-4TB	4t	10kg	0.5kg	±0.6kg	
8402-5TB	5t	10kg	0.5kg	±1kg	
8402-1TC	1t	4kg	0.2kg	±0.2kg	1200×1200mm
8402-2TC	2t	4kg	0.2kg	±0.3kg	
8402-3TC	3t	4kg	0.2kg	±0.5kg	
8402-4TC	4t	10kg	0.5kg	±0.6kg	
8402-5TC	5t	10kg	0.5kg	±1kg	
8402-1TD	1t	4kg	0.2kg	±0.2kg	1200×1500mm
8402-2TD	2t	4kg	0.2kg	±0.3kg	
8402-3TD	3t	4kg	0.2kg	±0.5kg	
8402-4TD	4t	10kg	0.5kg	±0.6kg	
8402-5TD	5t	10kg	0.5kg	±1kg	
8402-1TE	1t	4kg	0.2kg	±0.2kg	1500×1500mm
8402-2TE	2t	4kg	0.2kg	±0.3kg	
8402-3TE	3t	4kg	0.2kg	±0.5kg	
8402-4TE	4t	10kg	0.5kg	±0.6kg	
8402-5TE	5t	10kg	0.5kg	±1kg	
8402-1TF	1t	10kg	0.5kg	±0.5kg	2000×2000mm
8402-2TF	2t	10kg	0.5kg	±1kg	
8402-3TF	3t	10kg	0.5kg	±1kg	
8402-4TF	4t	20kg	1kg	±2kg	
8402-5TF	5t	20kg	1kg	±2kg	



(mm)

Code	A	B	C	D	E	F	G
8402-1TA	800	640	640	800	640	40	81
8402-2TA	800	640	640	800	640	40	81
8402-3TA	800	640	640	800	640	40	81
8402-4TA	800	640	640	800	640	38	83
8402-5TA	800	640	640	800	640	38	83
8402-1TB	1000	840	840	1000	840	40	81
8402-2TB	1000	840	840	1000	840	40	81
8402-3TB	1000	840	840	1000	840	40	81
8402-4TB	1000	840	840	1000	840	38	83
8402-5TB	1000	840	840	1000	840	38	83
8402-1TC	1200	1040	1040	1200	1040	40	81
8402-2TC	1200	1040	1040	1200	1040	40	81
8402-3TC	1200	1040	1040	1200	1040	40	81
8402-4TC	1200	1040	1040	1200	1040	38	83
8402-5TC	1200	1040	1040	1200	1040	38	83

(mm)

Code	A	B	C	D	E	F	G
8402-1TD	1200	1040	1340	1500	1040	40	81
8402-2TD	1200	1040	1340	1500	1040	40	81
8402-3TD	1200	1040	1340	1500	1040	40	81
8402-4TD	1200	1040	1340	1500	1040	38	83
8402-5TD	1200	1040	1340	1500	1040	38	83
8402-1TE	1500	1340	1340	1500	1340	40	81
8402-2TE	1500	1340	1340	1500	1340	40	81
8402-3TE	1500	1340	1340	1500	1340	40	81
8402-4TE	1500	1340	1340	1500	1340	38	83
8402-5TE	1500	1340	1340	1500	1340	38	83
8402-1TF	2000	1840	1840	2000	1840	40	81
8402-2TF	2000	1840	1840	2000	1840	40	81
8402-3TF	2000	1840	1840	2000	1840	40	81
8402-4TF	2000	1840	1840	2000	1840	38	83
8402-5TF	2000	1840	1840	2000	1840	38	83

STANDARD DELIVERY

Main unit	1 pc
Indicator	1 pc
Power adapter	1 pc
Universal foot	4 pcs
Hanging ring	4 pcs

OPTIONAL ACCESSORY

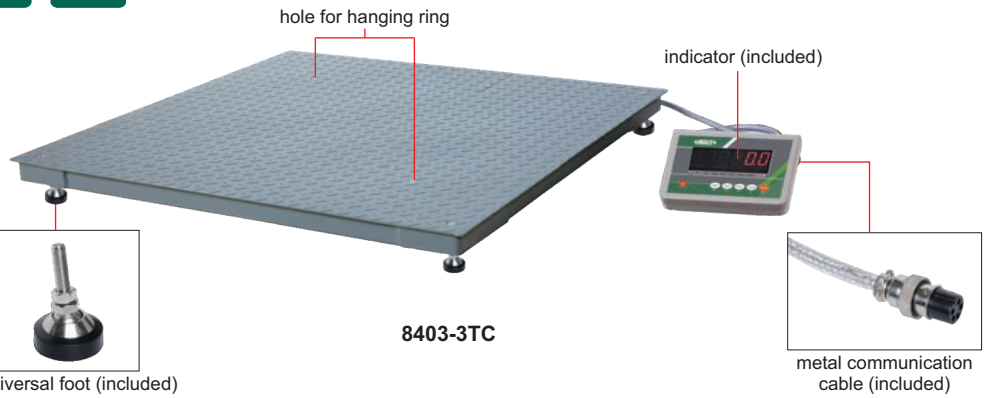
Ramp	can be customized
Frame	can be customized
Alarm light	**8402-ALARM** (must be supplied with scales together)
Stainless steel stand	**8402-STAND**
Printer	**8402-PRINTER**

FLOOR SCALES (STANDARD TYPE)

CAN BE CUSTOMIZED | DATA OUTPUT

VIDEO

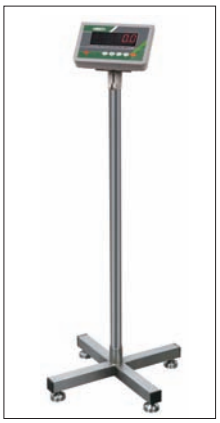
BUILT-IN BLUETOOTH



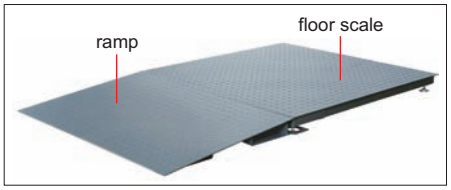
8403-3TC

universal foot (included)

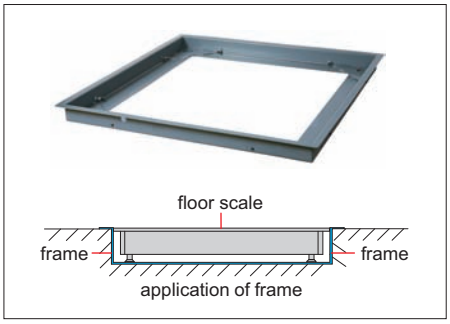
metal communication cable (included)



stainless steel stand (**optional**)



ramp (**optional**)



frame (**optional**)

printer (**optional**)

- Simple counting, animal scale, checking alarm
- Peak (max.) and tracking mode
- Zero-setting, weighing, subtracting tare value
- Overload alarm
- Automatic power off
- Data output
- Unit: kg, lb

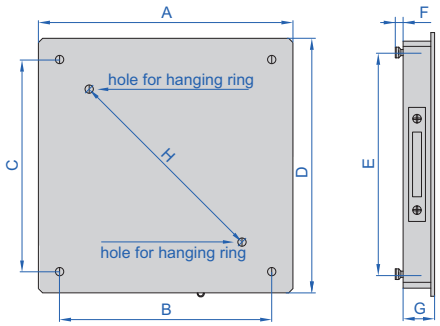
SPECIFICATION

Material of platform	carbon steel
Material of indicator	ABS plastic
Output	RS232
Operation temperature	-10~40°C
Operation humidity	30~80%RH
Power	3.7V rechargeable Li-ion battery

STANDARD DELIVERY

Main unit	1 pc
Indicator	1 pc
Power adapter	1 pc
Universal foot	4 pcs
Hanging ring	2 pcs

Code	Maximum weighing	Minimum weighing	Resolution (d)	Accuracy	Dimension of platform
8403-1TA	1t	10kg	0.5kg	±0.5kg	800×800mm
8403-2TA	2t	10kg	0.5kg	±0.5kg	
8403-3TA	3t	10kg	0.5kg	±1kg	
8403-1TB	1t	10kg	0.5kg	±0.5kg	1000×1000mm
8403-2TB	2t	10kg	0.5kg	±0.5kg	
8403-3TB	3t	10kg	0.5kg	±1kg	
8403-1TC	1t	10kg	0.5kg	±0.5kg	1200×1200mm
8403-2TC	2t	10kg	0.5kg	±0.5kg	
8403-3TC	3t	10kg	0.5kg	±1kg	
8403-1TD	1t	10kg	0.5kg	±0.5kg	1500×1500mm
8403-2TD	2t	10kg	0.5kg	±0.5kg	
8403-3TD	3t	10kg	0.5kg	±1kg	



OPTIONAL ACCESSORY

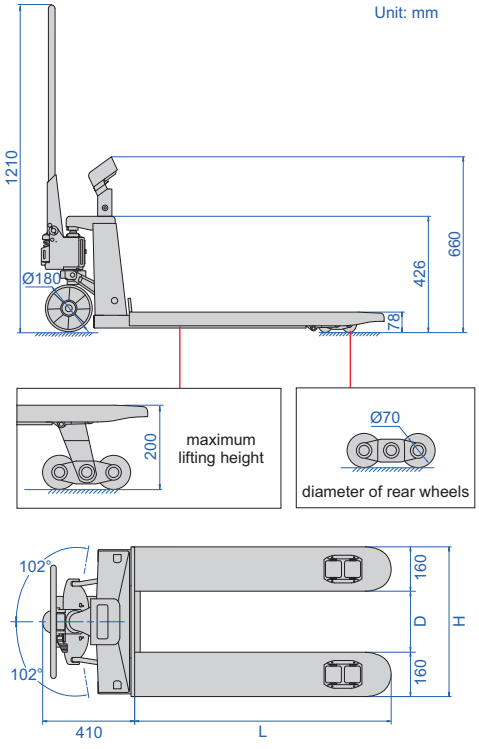
Ramp	can be customized
Frame	can be customized
Alarm light	**8403-ALARM** (must be supplied with scales together)
Stainless steel stand	**8403-STAND**
Printer	**8403-PRINTER**

(mm)

Dimension of platform	A	B	C	D	E	F	G	H
800×800	800	640	640	800	640	45	76	640
1000×1000	1000	840	840	1000	840	45	76	848
1200×1200	1200	1040	1040	1200	1040	45	76	1131
1500×1500	1500	1340	1340	1500	1340	45	76	1555

FORKLIFT SCALES

8801-A20



- Zero-setting, subtracting tare value, counting, check weighing
- Automatic screen off, automatic power off
- Low voltage indication, overload indication
- Weight hold, accumulation, percentage display
- LED large screen display
- Unit: kg, lb

11

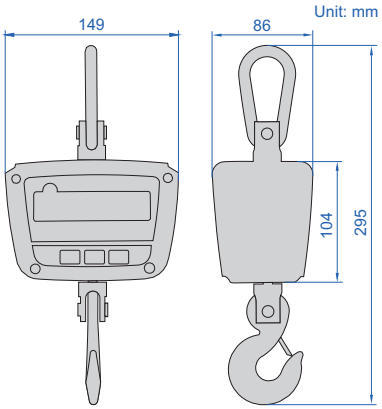
SPECIFICATION

Code	8801-A15	8801-A20	8801-A25	8801-B15	8801-B20	8801-B25
Maximum weighting	1500kg	2000kg	2500kg	1500kg	2000kg	2500kg
Minimum weighting	10kg	20kg	20kg	10kg	20kg	20kg
Resolution	0.5kg	1kg	1kg	0.5kg	1kg	1kg
Accuracy	±1kg	±1kg	±2kg	±1kg	±1kg	±2kg
Forklift arm length (L)	1150mm			1220mm		
Forklift arm distance (D)	220mm			360mm		
Overall forklift width (H)	540mm			680mm		
Weight	98kg			105kg		
Material	mild steel					
Indicator power supply	rechargeable lead acid battery (6V/4Ah)					
Operation temperature	-10~50°C					
Operation humidity	30~90%RH					
Limited load	2500kg	3000kg	3000kg	2500kg	3000kg	3000kg

DIRECT VIEW ELECTRONIC CRANE SCALES

IP65 WATERPROOF

- Dust/waterproof level: IP65
- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Automatic power off
- Overload alarm
- 360° safe rotary hook and shackle
- Aluminum alloy die casting case with high strength



remote controller (included)

8201-150KG

SPECIFICATION

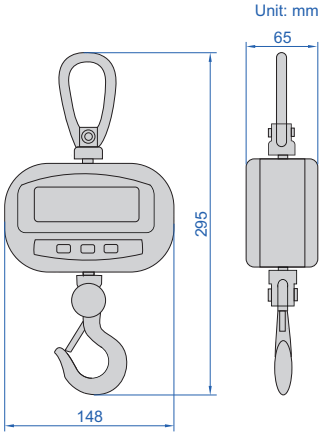
Code	8201-50KG	8201-150KG	8201-300KG
Maximum weighing	50kg	150kg	300kg
Minimum weighing	0.4kg	1.0kg	2.0kg
Resolution (d)	0.02kg/0.01kg	0.05kg/0.02kg	0.10kg/0.05kg
Verification interval (e)	0.02kg	0.05kg	0.10kg
Accuracy	±0.02kg	±0.05kg	±0.10kg
Operation temperature	-10~40°C		
Operation humidity	30~90%RH		
Overload alarm	100%FS+9e		
Maximum safe load	125%FS		
Limited overload	400%FS		
Power supply	rechargeable battery 6V/3Ah (for 40 hours working)		
Stable reading time	≤8s		

STANDARD DELIVERY

Main unit	1 pc
Remote controller	1 pc
Battery charger	1 pc

DIRECT VIEW ELECTRONIC CRANE SCALES (BASIC TYPE)

- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Automatic power off
- Overload alarm
- 360° safe rotary hook and shackle
- Plastic case



remote controller (included)

8202-150KG

SPECIFICATION

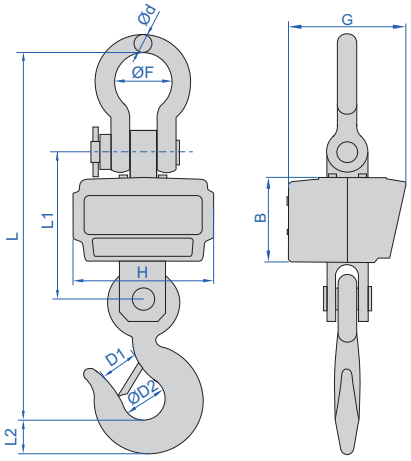
Code	8202-50KG	8202-150KG	8202-300KG
Maximum weighing	50kg	150kg	300kg
Minimum weighing	0.4kg	1.0kg	2.0kg
Resolution (d)	0.02kg/0.01kg	0.05kg/0.02kg	0.10kg/0.05kg
Verification interval (e)	0.02kg	0.05kg	0.10kg
Accuracy	±0.02kg	±0.05kg	±0.10kg
Operation temperature	-10~40°C		
Operation humidity	30~90%RH		
Overload alarm	100%FS+9e		
Maximum safe load	125%FS		
Limited overload	400%FS		
Power supply	4×1.5V AA batteries (for 40 hours working)		
Stable reading time	≤8s		

STANDARD DELIVERY

Main unit	1 pc
Remote controller	1 pc

ELECTRONIC CRANE SCALES

- Zeroing, taring, weighing
- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Overload alarm
- Automatic power off
- Aluminum alloy die casting case with high strength



8204-CS3T

remote controller (included)

(mm)

Code	B	G	H	L	L1	L2	D1	ØD2	Ød	ØF
8204-CS06T	120	163	198	420	190	33	40	47	21	76
8204-CS1T	120	163	198	420	190	33	40	47	21	76
8204-CS2T	120	163	198	420	190	33	50	47	21	76
8204-CS3T	120	163	198	462	196	40	50	50	23	76
8204-CS5T	120	163	198	511	204	47	52	60	26	80
8204-CS10T	135	181	206	589	239	66	52	70	36	90
8204-CS15T	135	181	206	727	257	77	60	85	47	135

SPECIFICATION

Overload alarm	100%FS+9e
Maximum safe load	150%FS
Limited overload	400%FS
Stable reading time	≤8s
Power supply	rechargeable battery 6V/4Ah (for 40 hours working)
Operation temperature	-10~40°C
Operation humidity	≤85%RH

Code	8204-CS06T	8204-CS1T	8204-CS2T	8204-CS3T
Maximum weighing	600kg	1000kg	2000kg	3000kg
Minimum weighing	5kg	10kg	20kg	30kg
Resolution (d)	0.2kg/0.1kg	0.5kg/0.2kg	1kg/0.5kg	1kg/0.5kg
Verification interval (e)	0.2kg	0.5kg	1kg	1kg
Accuracy (m is load)	m≤100kg: ±0.1kg; 50kg<m≤200kg: ±0.2kg; m>200kg: ±0.3kg	m≤250kg: ±0.25kg; 250kg<m≤1000kg: ±0.5kg	m≤500kg: ±0.5kg; 500kg<m≤2000kg: ±1kg	m≤500kg: ±0.5kg; 500kg<m≤2000kg: ±1kg; m>2000kg: ±1.5kg

Code	8204-CS5T	8204-CS10T	8204-CS15T
Maximum weighing	5000kg	10000kg	15000kg
Minimum weighing	50kg	100kg	100kg
Resolution (d)	2kg/1kg	5kg/2kg	5kg/2kg
Verification interval (e)	2kg	5kg	5kg
Accuracy (m is load)	m≤1000kg: ±1kg; 1000kg<m≤4000kg: ±2kg; m>4000kg: ±3kg	m≤2500kg: ±2.5kg; 2500kg<m≤10000kg: ±5kg	m≤2500kg: ±2.5kg; 2500kg<m≤10000kg: ±5kg; m>10000kg: ±7.5kg

To be continued

Continued from previous page

handheld display (**optional**)

large display (**optional**)

STANDARD DELIVERY

Main unit	1 pc
Remote controller	1 pc
Battery charger	1 pc

OPTIONAL ACCESSORY

Handheld display	**8204-INDICATOR** (must be supplied with scales together)
Large display	**8204-SCREEN** (must be supplied with scales together)

VIDEO

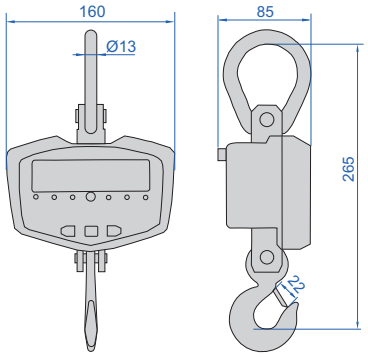
ELECTRONIC CRANE SCALES (BASIC TYPE)

- Zeroing, taring, weighing
- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Overload alarm
- Automatic power off
- Aluminum alloy die casting case with high strength

8203-CW05T

remote controller (included)

Unit: mm



SPECIFICATION

Code	8203-CW03T	8203-CW05T	8203-CW1T
Maximum weighing	300kg	500kg	1000kg
Minimum weighing	2kg	4kg	10kg
Resolution (d)	0.1kg/0.05kg	0.2kg/0.1kg	0.5kg/0.2kg
Verification interval (e)	0.1kg	0.2kg	0.5kg
Accuracy (m is load)	m≤50kg: ±0.05kg; 50kg<m≤200kg: ±0.1kg; m>200kg: ±0.15kg	m≤100kg: ±0.1kg; 100kg<m≤400kg: ±0.2kg; m>400kg: ±0.3kg	m≤250kg: ±0.25kg; 250kg<m≤1000kg: ±0.5kg
Overload alarm	100%FS+9e		
Maximum safe load	150%FS		
Limited overload	400%FS		
Stable reading time	≤8s		
Power supply	3×1.5V AA batteries		
Operation temperature	-10~40°C		
Operation humidity	30~90%RH		

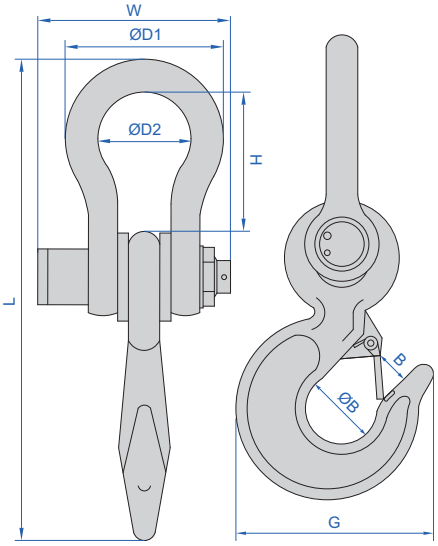
STANDARD DELIVERY

Main unit	1 pc
Remote controller	1 pc

WIRELESS ELECTRONIC CRANE SCALES

VIDEO

IP65 WATERPROOF



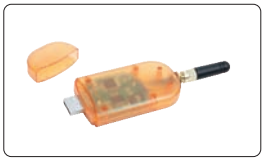
remote controller (included)

8205-3T

wireless printer (**optional**)

- Wireless zero-setting, subtracting tare value, totalization
- Remote reading
- Wireless transmission distance up to 100 meters
- Low voltage indication, overload alarm
- Unit: kg, lb
- Automatic power off

large display (**optional**)



wireless receiver (**optional**)

SPECIFICATION

Overload alarm	100%FS+9e
Maximum safe load	150%FS
Limited overload	400%FS
Stable reading time	≤8s
Power supply	rechargeable battery 4.2V/1A (for 40 hours working)
Operation temperature	-10~40°C
Operation humidity	≤85%RH

(mm)

Code	L	H	ØD1	ØD2	W	G	B	ØB
8205-2T	319	88	132	72	198	126	34	48
8205-3T	319	88	132	72	198	126	34	48
8205-5T	407	105	160	88	219	161	42	57
8205-10T	465	105	170	95	246	202	46	65
8205-15T	520	130	215	120	263	203	60	77
8205-20T	621	135	251	142	294	284	75	105
8205-30T	770	205	325	180	356	305	85	125
8205-50T	1020	340	360	200	436	470	135	170

Code	8205-2T	8205-3T	8205-5T	8205-10T
Maximum weighing	2t	3t	5t	10t
Minimum weighing	10kg	20kg	40kg	100kg
Resolution (d)	1kg/0.5kg	1kg/0.5kg	2kg/1kg	5kg
Accuracy (m is load)	m≤0.5t: ±0.5kg; m>0.5t: ±1kg	m≤0.5t: ±0.5kg; 0.5t<m≤2t: ±1kg; m>2t: ±1.5kg	m≤1t: ±1kg; 1t<m≤4t: ±2kg; m>4t: ±3kg	m≤2.5t: ±2.5kg; m>2.5t: ±5kg

Code	8205-15T	8205-20T	8205-30T	8205-50T
Maximum weighing	15t	20t	30t	50t
Minimum weighing	100kg	200kg	200kg	400kg
Resolution (d)	5kg	10kg	10kg	20kg
Accuracy (m is load)	m≤2.5t: ±2.5kg; 2.5t<m≤10t: ±5kg; m>10t: ±7.5kg	m≤5t: ±5kg; m>5t: ±10kg	m≤5t: ±5kg; 5t<m≤20t: ±10kg; m>20t: ±15kg	m≤10t: ±10kg; 10t<m≤40t: ±20kg; m>40t: ±30kg

To be continued

Continued from previous page

STANDARD DELIVERY

Main unit	1 pc
Remote controller	1 pc

OPTIONAL ACCESSORY

Wireless printer	**8205-PRINTER** (must be supplied with scales together)
Large display	**8205-SCREEN** (must be supplied with scales together)
Wireless receiver (serial port signal, connect to computers)	**8205-RECEIVER** (must be supplied with scales together)

VIDEO

CAN BE CUSTOMIZED

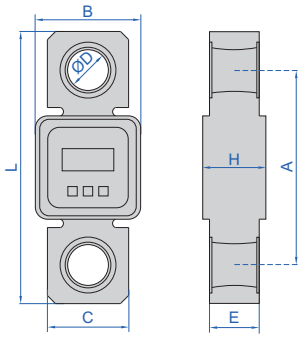
HANG SCALES

hang scale pull rings (**optional**)

- Unit: kg, N
- LED display, remote control
- Zeroing, taring, weighing, accumulation
- Peak (max.) and tracking mode
- Low voltage indicator
- Built-in buzzer
- Automatic power off
- Overload alarm

remote controller (included)

8206-3T



SPECIFICATION

Operation temperature	-10~55°C
Operation humidity	≤85%RH
Material	alloy steel
Power supply	3×1.5V AA batteries
Stable reading time	≤8s
Limited overload	300%FS
Maximum safe load	150%FS
Overload alarm	100%FS+9e

Code	Dimension (mm)						
	L	B	C	H	E	A	ØD
8206-05T	204	99	46	50	30	158	26
8206-1T	204	99	46	50	30	158	26
8206-2T	204	99	46	50	30	158	26
8206-3T	204	99	46	54	30	158	26
8206-5T	222	99	60	58	35	162	31
8206-10T	268	104	80	62	49	192	41
8206-15T	304	110	92	66	58	212	46.5
8206-20T	344	120	120	66	66	232	56.5
8206-30T	394	132	132	73	73	264	66
8206-50T	500	150	150	100	100	340	80

Code	Maximum weighing		Minimum weighing		Resolution (d)		Verification interval (e)	Accuracy		Weight
	mass values	force values	mass values	force values	mass values	force values		mass values	force values	
8206-05T	0.5t	5kN	4kg	40N	0.2kg/0.1kg	2N/1N	0.2kg	±0.2kg	±1%	1.6kg
8206-1T	1t	10kN	10kg	100N	0.5kg/0.2kg	5N/2N	0.5kg	±0.5kg		2kg
8206-2T	2t	20kN	20kg	200N	1kg/0.5kg	10N/5N	1kg	±1kg		2.1kg
8206-3T	3t	30kN	20kg	200N	1kg/0.5kg	10N/5N	1kg	±1.5kg		2.3kg
8206-5T	5t	50kN	40kg	400N	2kg/1kg	20N/10N	2kg	±2kg		3.6kg
8206-10T	10t	100kN	100kg	1kN	5kg/2kg	50N/20N	5kg	±5kg		6.2kg
8206-15T	15t	150kN	100kg	1kN	5kg/2kg	50N/20N	5kg	±7.5kg		9.5kg
8206-20T	20t	200kN	200kg	2kN	10kg/5kg	100N/50N	10kg	±10kg		15kg
8206-30T	30t	300kN	200kg	2kN	10kg/5kg	100N/50N	10kg	±15kg		21.9kg
8206-50T	50t	500kN	400kg	4kN	20kg/10kg	200N/100N	20kg	±20kg		45.5kg

STANDARD DELIVERY

Main unit	1 pc
Remote controller	1 pc

OPTIONAL ACCESSORY

Hang scale pull rings	page 413

WIRELESS HANG SCALES

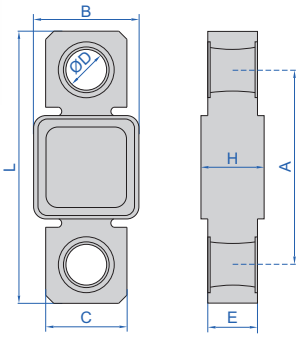
CAN BE CUSTOMIZED

VIDEO

hang scale pull rings (**optional**)

8207-3T

LCD remote controller (included)



- Unit: kg, N
- LCD handheld display, remote control
- Wireless zero-setting, subtracting tare value, accumulation
- Peak (max.) and tracking mode
- Wireless transmission distance up to 100 meters
- Low voltage indicator
- Built-in buzzer
- Automatic power off
- Overload alarm

SPECIFICATION

Operation temperature	-10~55°C
Operation humidity	≤85%RH
Material	alloy steel
Power supply	3×1.5V AA batteries
Stable reading time	≤8s
Limited overload	300%FS
Maximum safe load	150%FS
Overload alarm	100%FS+9e

Code	Dimension (mm)						
	L	B	C	H	E	A	ØD
8207-05T	204	99	46	50	30	158	26
8207-1T	204	99	46	50	30	158	26
8207-2T	204	99	46	50	30	158	26
8207-3T	204	99	46	54	30	158	26
8207-5T	222	99	60	58	35	162	31
8207-10T	268	104	80	62	49	192	41
8207-15T	304	110	92	66	58	212	46.5
8207-20T	344	120	120	66	66	232	56.5
8207-30T	394	132	132	73	73	264	66
8207-50T	500	150	150	100	100	340	80

Code	Maximum weighing		Minimum weighing		Resolution (d)		Verification interval (e)	Accuracy		Weight
	mass values	force values	mass values	force values	mass values	force values		mass values	force values	
8207-05T	0.5t	5kN	4kg	40N	0.2kg/0.1kg	2N/1N	0.2kg	±0.2kg	±1%	1.6kg
8207-1T	1t	10kN	10kg	100N	0.5kg/0.2kg	5N/2N	0.5kg	±0.5kg		2kg
8207-2T	2t	20kN	20kg	200N	1kg/0.5kg	10N/5N	1kg	±1kg		2.1kg
8207-3T	3t	30kN	20kg	200N	1kg/0.5kg	10N/5N	1kg	±1.5kg		2.3kg
8207-5T	5t	50kN	40kg	400N	2kg/1kg	20N/10N	2kg	±2kg		3.6kg
8207-10T	10t	100kN	100kg	1kN	5kg/2kg	50N/20N	5kg	±5kg		6.2kg
8207-15T	15t	150kN	100kg	1kN	5kg/2kg	50N/20N	5kg	±7.5kg		9.5kg
8207-20T	20t	200kN	200kg	2kN	10kg/5kg	100N/50N	10kg	±10kg		15kg
8207-30T	30t	300kN	200kg	2kN	10kg/5kg	100N/50N	10kg	±15kg		21.9kg
8207-50T	50t	500kN	400kg	4kN	20kg/10kg	200N/100N	20kg	±20kg		45.5kg

STANDARD DELIVERY

Main unit	1 pc
LCD remote controller	1 pc

OPTIONAL ACCESSORY

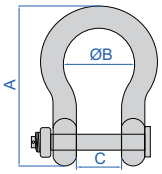
Hang scale pull rings	page 413

HANG SCALE PULL RINGS

- Used with **8206** series and **8207** series hang scales

8290-1

application



SPECIFICATION

Code	Material	Dimension (mm)			Adapted products
		A	ØB	C	
8290-1	alloy steel	76	169	107	**8207-05T**, **8207-1T**, **8207-2T**, **8207-3T**, **8206-05T**, **8206-1T**, **8206-2T**, **8206-3T**
8290-2		80	192	122	**8206-5T**, **8207-5T**
8290-3		90	241	145	**8206-10T**, **8207-10T**
8290-4		135	318	202	**8206-15T**, **8207-15T**
8290-5		150	355	220	**8206-20T**, **8207-20T**
8290-6		150	448	279	**8206-30T**, **8207-30T**
8290-7		214	504	313	**8206-50T**, **8207-50T**

STANDARD DELIVERY

Main unit	1 pair

PORTABLE CRANE SCALE CODE 8604-40

- Zero-setting, subtracting tare value
- Automatic power off
- LCD display, with backlight
- Unit: kg
- Overload indication

ATTENTION: LOW ACCURACY

SPECIFICATION

Maximum weighing	40kg
Minimum weighing	1kg
Resolution (d)	50g
Accuracy	±50g
Operation temperature	-10~45°C
Operation humidity	30~90%RH
Limited load	50kg
Power supply	2×AAA batteries

built-in measuring tape (included)

TUBE FORCE GAUGES

8603-100

REFER TO PAGE 165 FOR DETAILS

WEIGHTS

INSPECTION CERTIFICATE

1kg 200g 500mg 200mg 100mg

- Supplied with manufacturer inspection certificate

CLASS SELECTION

Resolution of the weighing instruments	Required class of weights
0.001mg	E1
0.01mg	E2
0.1mg	E2/F1
1mg	F2
0.01g/0.1g	M1

OIML R111-2004 TOLERANCE

Weight	E2	F1	F2	M1
1mg	0.006mg	0.020mg	0.06mg	0.20mg
2mg	0.006mg	0.020mg	0.06mg	0.20mg
5mg	0.006mg	0.020mg	0.06mg	0.20mg
10mg	0.008mg	0.025mg	0.08mg	0.25mg
20mg	0.010mg	0.03mg	0.10mg	0.3mg
50mg	0.012mg	0.04mg	0.12mg	0.4mg
100mg	0.016mg	0.05mg	0.16mg	0.5mg
200mg	0.020mg	0.06mg	0.20mg	0.6mg
500mg	0.025mg	0.08mg	0.25mg	0.8mg
1g	0.03mg	0.10mg	0.3mg	1.0mg
2g	0.04mg	0.12mg	0.4mg	1.2mg
5g	0.05mg	0.16mg	0.5mg	1.6mg
10g	0.06mg	0.20mg	0.6mg	2.0mg
20g	0.08mg	0.25mg	0.8mg	2.5mg
50g	0.10mg	0.3mg	1.0mg	3.0mg
100g	0.16mg	0.5mg	1.6mg	5.0mg
200g	0.3mg	1.0mg	3.0mg	10mg
500g	0.8mg	2.5mg	8.0mg	25mg
1kg	1.6mg	5.0mg	16mg	50mg
2kg	3.0mg	10mg	30mg	100mg
5kg	8.0mg	25mg	80mg	250mg
10kg	16mg	50mg	160mg	500mg
20kg	30mg	100mg	300mg	1000mg

Weight	Class and material						Shape
	E2 (non-magnetic stainless steel)	F1 (non-magnetic stainless steel)	F1 (304 stainless steel)	F2 (304 stainless steel)	M1 (304 stainless steel)	M1 (2Cr13 stainless steel)	
1mg	8911-1MGE2	8911-1MGF1	8911-1MGF1S	8911-1MGF2	8911-1MGM1	8911-1MGM1C	sheet
2mg	8911-2MGE2	8911-2MGF1	8911-2MGF1S	8911-2MGF2	8911-2MGM1	8911-2MGM1C	
5mg	8911-5MGE2	8911-5MGF1	8911-5MGF1S	8911-5MGF2	8911-5MGM1	8911-5MGM1C	
10mg	8911-10MGE2	8911-10MGF1	8911-10MGF1S	8911-10MGF2	8911-10MGM1	8911-10MGM1C	
20mg	8911-20MGE2	8911-20MGF1	8911-20MGF1S	8911-20MGF2	8911-20MGM1	8911-20MGM1C	
50mg	8911-50MGE2	8911-50MGF1	8911-50MGF1S	8911-50MGF2	8911-50MGM1	8911-50MGM1C	
100mg	8911-100MGE2	8911-100MGF1	8911-100MGF1S	8911-100MGF2	8911-100MGM1	8911-100MGM1C	
200mg	8911-200MGE2	8911-200MGF1	8911-200MGF1S	8911-200MGF2	8911-200MGM1	8911-200MGM1C	
500mg	8911-500MGE2	8911-500MGF1	8911-500MGF1S	8911-500MGF2	8911-500MGM1	8911-500MGM1C	
1g	8911-1GE2	8911-1GF1	8911-1GF1S	8911-1GF2	8911-1GM1	8911-1GM1C	cylinder
2g	8911-2GE2	8911-2GF1	8911-2GF1S	8911-2GF2	8911-2GM1	8911-2GM1C	
5g	8911-5GE2	8911-5GF1	8911-5GF1S	8911-5GF2	8911-5GM1	8911-5GM1C	
10g	8911-10GE2	8911-10GF1	8911-10GF1S	8911-10GF2	8911-10GM1	8911-10GM1C	
20g	8911-20GE2	8911-20GF1	8911-20GF1S	8911-20GF2	8911-20GM1	8911-20GM1C	
50g	8911-50GE2	8911-50GF1	8911-50GF1S	8911-50GF2	8911-50GM1	8911-50GM1C	
100g	8911-100GE2	8911-100GF1	8911-100GF1S	8911-100GF2	8911-100GM1	8911-100GM1C	
200g	8911-200GE2	8911-200GF1	8911-200GF1S	8911-200GF2	8911-200GM1	8911-200GM1C	
500g	8911-500GE2	8911-500GF1	8911-500GF1S	8911-500GF2	8911-500GM1	8911-500GM1C	
1kg	8911-1KGE2	8911-1KGF1	8911-1KGF1S	8911-1KGF2	8911-1KGM1	8911-1KGM1C	
2kg	8911-2KGE2	8911-2KGF1	8911-2KGF1S	8911-2KGF2	8911-2KGM1	8911-2KGM1C	
5kg	8911-5KGE2	8911-5KGF1	8911-5KGF1S	8911-5KGF2	8911-5KGM1	8911-5KGM1C	
10kg	8911-10KGE2	8911-10KGF1	8911-10KGF1S	8911-10KGF2	8911-10KGM1	8911-10KGM1C	
20kg	8911-20KGE2	8911-20KGF1	8911-20KGF1S	8911-20KGF2	8911-20KGM1	8911-20KGM1C	
25kg	8911-25KGE2	8911-25KGF1	8911-25KGF1S	8911-25KGF2	8911-25KGM1	8911-25KGM1C	

WEIGHT SETS

INSPECTION CERTIFICATE

- Supplied with manufacturer inspection certificate

8910-5KGF1

CLASS AND MATERIAL

Specification	Code				
	E2 (non-magnetic stainless steel)	F1 (non-magnetic stainless steel)	F1 (304 stainless steel)	F2 (304 stainless steel)	M1 (304 stainless steel)
1mg~100g	8910-100GE2	8910-100GF1	8910-100GF1S	8910-100GF2	8910-100GM1
1mg~200g	8910-200GE2	8910-200GF1	8910-200GF1S	8910-200GF2	8910-200GM1
1mg~500g	8910-500GE2	8910-500GF1	8910-500GF1S	8910-500GF2	8910-500GM1
1mg~1kg	8910-1KGE2	8910-1KGF1	8910-1KGF1S	8910-1KGF2	8910-1KGM1
1mg~2kg	8910-2KGE2	8910-2KGF1	8910-2KGF1S	8910-2KGF2	8910-2KGM1
1mg~5kg	8910-5KGE2	8910-5KGF1	8910-5KGF1S	8910-5KGF2	8910-5KGM1

SPECIFICATION AND SHAPE

Weight	Specification					
	1mg~100g	1mg~200g	1mg~500g	1mg~1kg	1mg~2kg	1mg~5kg
1mg	⬟	⬟	⬟	⬟	⬟	⬟
2mg	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*
5mg	⬟	⬟	⬟	⬟	⬟	⬟
10mg	⬟	⬟	⬟	⬟	⬟	⬟
20mg	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*
50mg	⬟	⬟	⬟	⬟	⬟	⬟
100mg	⬟	⬟	⬟	⬟	⬟	⬟
200mg	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*	⬟ ⬟*
500mg	⬟	⬟	⬟	⬟	⬟	⬟
1g	▮	▮	▮	▮	▮	▮
2g	▮ ▮*	▮ ▮*	▮ ▮*	▮ ▮*	▮ ▮*	▮ ▮*
5g	▮	▮	▮	▮	▮	▮
10g	▮	▮	▮	▮	▮	▮
20g	▮ ▮*	▮ ▮*	▮ ▮*	▮ ▮*	▮ ▮*	▮ ▮*
50g	▮	▮	▮	▮	▮	▮
100g	▮	▮	▮	▮	▮	▮
200g		▮ ▮*	▮ ▮*	▮ ▮*	▮ ▮*	▮ ▮*
500g			▮	▮	▮	▮
1kg				▮	▮	▮
2kg					▮ ▮*	▮ ▮*
5kg						▮
Quantity	21 pcs	23 pcs	24 pcs	25 pcs	27 pcs	28 pcs
Total range	1mg~211.11g	1mg~611.11g	1mg~1111.11g	1mg~2111.11g	1mg~6111.11g	1mg~11111.11g

⬟ sheet ▮ cylinder

⬟* sheet, with mark ▮* cylinder, with mark

STAINLESS STEEL WEIGHTS

INSPECTION CERTIFICATE

aluminum box (included)

8912-10KM1

- Supplied with manufacturer inspection certificate

SPECIFICATION

Weight	Class		
	F1	F2	M1
500g	8912-500F1	8912-500F2	8912-500M1
1kg	8912-1KF1	8912-1KF2	8912-1KM1
2kg	8912-2KF1	8912-2KF2	8912-2KM1
5kg	8912-5KF1	8912-5KF2	8912-5KM1
10kg	8912-10KF1	8912-10KF2	8912-10KM1
15kg	8912-15KF1	8912-15KF2	8912-15KM1
20kg	8912-20KF1	8912-20KF2	8912-20KM1
25kg	8912-25KF1	8912-25KF2	8912-25KM1

OIML R111-2004 TOLERANCE

Weight	F1	F2	M1
500g	2.5mg	8.0mg	25mg
1kg	5.0mg	16mg	50mg
2kg	10mg	30mg	100mg
5kg	25mg	80mg	250mg
10kg	50mg	160mg	500mg
20kg	100mg	300mg	1000mg

CLASS SELECTION

Resolution of the weighing instruments	Required class of weights
0.1mg	F1
1mg	F2
0.01g/0.1g	M1

CAST IRON WEIGHTS

INSPECTION CERTIFICATE

8913-10M2

- Supplied with manufacturer inspection certificate

SPECIFICATION

Weight	Class	
	M1	M2
1kg	8913-1M1	8913-1M2
2kg	8913-2M1	8913-2M2
5kg	8913-5M1	8913-5M2
10kg	8913-10M1	8913-10M2
20kg	8913-20M1	8913-20M2
25kg	8913-25M1	8913-25M2
50kg	8913-50M1	8913-50M2
100kg	8913-100M1	8913-100M2
200kg	8913-200M1	8913-200M2
500kg	8913-500M1	8913-500M2
1000kg	8913-1000M1	8913-1000M2

OIML R111-2004 TOLERANCE

Weight	M1	M2
1kg	50mg	160mg
2kg	100mg	300mg
5kg	250mg	800mg
10kg	500mg	1600mg
20kg	1000mg	3000mg
50kg	2500mg	8000mg
100kg	5000mg	16000mg
200kg	10000mg	30000mg
500kg	25000mg	80000mg
1000kg	50000mg	160000mg

CLASS SELECTION

Resolution of the weighing instruments	Required class of weights
0.01g/0.1g	M1
0.1g	M2

CAN BE CUSTOMIZED

ATTENTION: THE GRAVITATIONAL ACCELERATION G OF THE FORCE WEIGHTS IS TAKEN AS 9.8m/s²

SINGLE HOOK WEIGHTS

INSPECTION CERTIFICATE

- Supplied with manufacturer inspection certificate

8914-1KF2

8914-2KF2

SINGLE HOOK WEIGHTS FOR MASS VALUES

Weight	Class and material		
	F1 (304 stainless steel)	F2 (304 stainless steel)	M1 (2Cr13 stainless steel)
1g	8914-1GF1	8914-1GF2	8914-1GM1
2g	8914-2GF1	8914-2GF2	8914-2GM1
5g	8914-5GF1	8914-5GF2	8914-5GM1
10g	8914-10GF1	8914-10GF2	8914-10GM1
20g	8914-20GF1	8914-20GF2	8914-20GM1
50g	8914-50GF1	8914-50GF2	8914-50GM1
100g	8914-100GF1	8914-100GF2	8914-100GM1
200g	8914-200GF1	8914-200GF2	8914-200GM1
500g	8914-500GF1	8914-500GF2	8914-500GM1
1kg	8914-1KGF1	8914-1KGF2	8914-1KGM1
2kg	8914-2KGF1	8914-2KGF2	8914-2KGM1
5kg	8914-5KGF1	8914-5KGF2	8914-5KGM1
10kg	8914-10KGF1	8914-10KGF2	8914-10KGM1
15kg	8914-15KGF1	8914-15KGF2	8914-15KGM1
20kg	8914-20KGF1	8914-20KGF2	8914-20KGM1

SINGLE HOOK WEIGHTS FOR FORCE VALUES

Weight	Class and material		
	F1 (304 stainless steel)	F2 (304 stainless steel)	M1 (2Cr13 stainless steel)
1N	8914-1NF1	8914-1NF2	8914-1NM1
2N	8914-2NF1	8914-2NF2	8914-2NM1
5N	8914-5NF1	8914-5NF2	8914-5NM1
10N	8914-10NF1	8914-10NF2	8914-10NM1
20N	8914-20NF1	8914-20NF2	8914-20NM1
50N	8914-50NF1	8914-50NF2	8914-50NM1
100N	8914-100NF1	8914-100NF2	8914-100NM1
200N	8914-200NF1	8914-200NF2	8914-200NM1

OIML R111-2004 TOLERANCE

Weight	F1	F2	M1
1g	0.10mg	0.3mg	1.0mg
2g	0.12mg	0.4mg	1.2mg
5g	0.16mg	0.5mg	1.6mg
10g	0.20mg	0.6mg	2.0mg
20g	0.25mg	0.8mg	2.5mg
50g	0.3mg	1.0mg	3.0mg
100g	0.5mg	1.6mg	5.0mg
200g	1.0mg	3.0mg	10mg
500g	2.5mg	8.0mg	25mg
1kg	5.0mg	16mg	50mg
2kg	10mg	30mg	100mg
5kg	25mg	80mg	250mg
10kg	50mg	160mg	500mg
20kg	100mg	300mg	1000mg

CLASS SELECTION

Resolution of the weighing instruments	Required class of weights
0.1mg	F1
1mg	F2
0.01g/0.1g	M1

GSM (GRAMS PER SQUARE METER) CUTTER CODE 8390-100

11

- Suitable for cutting round samples of woolen, cotton, knitted fabrics, etc.

SPECIFICATION

Area	100cm²
Thickness	4mm
Blade	4 pcs
Material	aluminum
Mat	rubber mat
Dimension (L×W×H)	160×160×115mm
Weight	2kg

12 LIQUID AND GAS TESTING

Conductivity/TDS/Salinity Testers
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pH Testers
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Water Quality Testers
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Density Meters
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Dry Laser Particle Size Analyzers
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Oil Particle Counters
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PEN-TYPE CONDUCTIVITY TESTER (BASIC TYPE)
CODE 0416-EB01

- Suitable for water quality testing, aquaculture, food processing, scientific research, etc.
- Mini design with an electrode diameter of 10mm
- Manual temperature compensation
- With reading stabilization reminder function
- Replaceable electrodes
- Low voltage alarm
- CR2032 battery, automatic power off
- Probe protection level: IP54

SPECIFICATION

Measuring range	(0~99.9)μS/cm, (100~999)μS/cm, (1.00~9.99) mS/cm, (10.00~99.99)mS/cm, (100~199.9)mS/cm
Resolution	0.01μS/cm, 0.1μS/cm, 1μS/cm, 0.01mS/cm
Accuracy	±1.5%FS
Temperature compensation range	0~99.9°C (manual)
Calibration mode	1 point (automatic recognition), electrode constant calibration
Standard solution	1413μS/cm
Power supply	CR2032 battery
Dimension (L×W×H)	50×188×17mm
Weight	60g

STANDARD DELIVERY

Main unit	1 pc
Conductivity electrode (0416-EB01-E)	1 pc
Calibration powder (0416-EB01-S)*	2 pcs

*Dissolve in distilled water to 50mL

PEN-TYPE CONDUCTIVITY/TDS/SALINITY TESTER
CODE 0412-EB32

- Can measure the conductivity, TDS and salinity
- Suitable for water quality testing, aquaculture, food processing, scientific research, etc.
- The same series of electrodes can be replaced with each other
- Automatic temperature compensation
- With the stabilizing and locking functions of the reading
- Can be used normally in any environment with the background light
- Automatic power off
- Probe protection level: IP67
- Lightweight, easy to carry and operate

electrodes can be replaced

"platinum black needle" electrode (included)

SPECIFICATION

Measuring range	conductivity 0~200.0μS/cm, 0~2000μS/cm, 0~20.00mS/cm
	TDS 0~100.0ppm, 0~1000ppm, 0~10.00ppt
	salinity 0~10.00ppt
	temperature 0~50°C
Resolution	conductivity 0.1μS/cm, 1μS/cm, 0.01mS/cm
	TDS 0.1ppm, 1ppm, 0.01ppt
	salinity 0.01ppt
	temperature 0.1°C
Accuracy	conductivity ±1%FS
	temperature ±0.5°C
Calibration mode	1~3 points
Power supply	4×1.5V AAA batteries
Dimension (L×W×H)	178×40×40mm
Weight	133g

STANDARD DELIVERY

Main unit	1 pc
Standard solution	2 bottles
Test cup	2 pcs
1.5V AAA battery	4 pcs
Platinum black needle electrode	1 pc

PORTABLE CONDUCTIVITY METER
CODE 0413-EC33

VIDEO

standard solution (included)

glass conductivity electrode (**optional**)

high conductivity electrode (**optional**)

plastic conductivity elctrode (included)

- 1~4 points automatic calibration, with calibration guidance and automatic inspection function
- The meter can recognize conductivity standard solutions automatically
- Manual and automatic temperature compensation functions for more accurate measurement
- The meter can be switched between conductivity and TDS
- 50 sets of data storage
- Featuring a foldable stand, suitable for multi scenario applications
- Probe protection level: IP57

SPECIFICATION

Conductivity	**range**	0~200mS/cm, divided into five ranges (0.00~19.99)μS/cm, (20.0~199.9)μS/cm, (200~1999)μS/cm, (2.00~19.99)mS/cm, (20.0~199.9)mS/cm
	resolution	0.01/0.1/1μS/cm, 0.01/0.1mS/cm
	accuracy *	±(1.0%FS+1d)
	temperature compensation	0°C~100°C (manual or automatic)
	calibration mode	1~4 points
	electrode constant	0.1/1/10cm^{-1}
TDS	**range**	(0~100)g/L
	resolution	0.01/0.1/1mg/L, 0.01/0.1g/L
	accuracy *	±(1.0%FS+1d)
	TDS conversion factor	0.40~1.00
Temperature	**range**	0°C~100°C
	resolution	0.1°C
	accuracy *	±(0.5°C+1d)
Standard solution		84μS/cm, 1413μS/cm, 12.88mS/cm
Power supply		3×1.5V AA batteries
Dimension (L×W×H)		86×196×33mm
Weight		286g

*d is the resolution

STANDARD DELIVERY

Main unit	1 pc
Standard solution	3 bottles
1.5V AA battery	3 pcs
Plastic conductivity electrode	1 pc

OPTIONAL ACCESSORY

Glass conductivity electrode	**0413-EC33-01**
High conductivity electrode	**0413-EC33-10**

IP65
WATERPROOF

PORTABLE CONDUCTIVITY/TDS METER
CODE 0411-0200

VIDEO

- Reading mode: auto-read and continuous-read
- Automatic/manual temperature compensation
- Auto-hold feature senses and locks the measurement endpoint
- Cell constant is settable
- 1 point calibration with standard recognition
- Data capacity up to 200 sets for each parameter
- IP65 dust/waterproof
- Automatic power off

standard solution (included)

wristband (included)

SPECIFICATION

Conductivity	range	0.00μS/cm~200mS/cm
	resolution	0.01μS/cm minimum
	electronic unit accuracy	±1.0%FS
	measurement accuracy	±1.5%FS
	reference temperature	25°C/77°F
	calibration point	1
	standard recognition	84μS/cm, 1413μS/cm, 12.88mS/cm
TDS	range	0.00mg/L~300g/L
	resolution	0.01mg/L minimum
	accuracy	±1.0%FS
Temperature	range	-5~110°C/23~230°F
	resolution	0.1°C/0.2°F
	accuracy	±0.4°C/±0.7°F
Input		electrode with 5-pin aviation connector
Power supply		rechargeable battery
Dimension (L×W×H)		80×225×35mm
Weight		400g

STANDARD DELIVERY

Main unit	1 pc
Electrode	1 pc
Electrode holder	2 pcs
Wristband	1 pc
Silicone rubber case	1 pc
AC/DC adapter and charging cable	1 pc
Standard solution	1 bottle

CONDUCTIVITY METER
CODE 0414-ED34

DATA OUTPUT

VIDEO

- Equipped with rugged platinum-black conductivity electrode (K=1), rugged platinum-black coating, not only increases the surface area of the electrode and reduces the polarisation effect, but also improves the adhesion of the platinum-black to the metal, corrosion-resistant POM housing, built-in thermistor, automatic temperature compensation
- GLP data storage and management, USB data output
- 1~4 points automatic calibration, with calibration guidance and automatic inspection function
- The meter can recognize conductivity standard solutions automatically
- Manual and automatic temperature compensation functions for more accurate measurement
- The meter can switch conductivity, TDS, salinity
- Equipped with flexible electrode holder, easy to operate with one hand

standard solution (included)

SPECIFICATION

Conductivity	range	(0.00~19.99)μS/cm, (20.0~199.9)μS/cm (200~1999)μS/cm, (2.00~19.99)mS/cm, (20.0~199.9)mS/cm
	resolution	0.01/0.1/1μS/cm, 0.01/0.1mS/cm
	accuracy *	±(1.0%FS+1d)
	temperature compensation	0°C~50°C (manual or automatic)
	calibration mode	1~4 points
	electrode constant	0.1/1/10cm^{-1}
TDS	range	(0~100)g/L
	resolution	0.01/0.1/1mg/L, 0.01/0.1g/L
	accuracy *	±(1.0%FS+1d)
	TDS conversion factor	0.40~1.00
Temperature	range	0°C~100°C
	resolution	0.1°C
	accuracy *	±(0.5°C+1d)
Salinity	range	(0~100)ppt
Data storage		200 groups of USB data
Standard solution		84μS/cm, 1413μS/cm, 12.88mS/cm
Power supply		AC/DC adapter (9V)
Dimension (L×W×H)		195×215×100mm
Weight		950g

*d is the resolution

STANDARD DELIVERY

Main unit	1 pc
Standard solution	3 bottles
Power adapter	1 pc
Plastic conductivity electrode	1 pc
Flexible electrode holder	1 pc
USB flash disk	1 pc
USB cable	1 pc

IP65 WATERPROOF

CAN BE CUSTOMIZED

VIDEO

ON-LINE CONDUCTIVITY METER
CODE 0415-EZ41

conductivity electrode (**optional**)

- Suitable for water quality testing of surface water, sewage plant output, distilled seawater, pollution source waste, softened water, steam condensate, etc.
- Wall-mounted instrument, flow-through or input electrode
- Optional conductivity electrodes with different conductivity ranges are available
- The meter can switch between conductivity and resistivity
- Upper and lower limit alarms can be set
- With power failure data protection
- Automatic temperature compensation
- Auto ranging
- Protection level: IP65

SPECIFICATION

Conductivity	**range**	0~10mS/cm, divided into six ranges (0.000~0.199)µS/cm, (0.20~1.99)µS/cm, (2.0~19.9)µS/cm, (20.0~199.9)µS/cm, (0.200~1.999)mS/cm, (2.00~10.00)mS/cm
	resolution	0.001/0.01/0.1µS/cm, 0.01/0.1mS/cm
	accuracy	±2.0%FS
Temperature	**range**	-10.0°C~120.0°C
	resolution	0.1°C
	accuracy	±0.5°C (at 0.0°C~60.0°C), ±1.0°C (other range)
Automatic temperature compensation range		-10.0°C~120.0°C
Temperature coefficient compensation range		(0~10)%/°C
Output signal		(4~20)mA
Operating environment		temperature: (-5~50)°C, relative humidity: ≤90%
Power supply		AC 220V, 50Hz
Hole-opening size		140×140mm
Dimension (L×W×H)		166×166×110mm
Weight		2kg

STANDARD DELIVERY

Main unit	1 pc
Assembly parts*	1 pc

*Including mounting bracket, mounting screws, fuses

OPTIONAL ACCESSORY

Conductivity electrode*	**0415-EZ41-01**	10~10000µs/cm (K=1cm^{-1})
	0415-EZ41-02	1~199.9µs/cm (K=0.1cm^{-1})
	0415-EZ41-03	0~19.9µs/cm (K=0.01cm^{-1})

*Flow-through installation, inlet Ø6mm, outlet Ø10mm, cable length can be customized

PEN-TYPE pH TESTERS (BASIC TYPE)

- Suitable for water quality testing, sewage treatment, food and cosmetic testing, agriculture, scientific research, etc.
- Mini design with an electrode diameter of 10mm
- Manual temperature compensation
- With reading stabilization reminder function
- Electrode failure alert, replaceable electrodes
- Low voltage alarm
- CR2032 battery, automatic power off
- Probe protection level: IP54

VIDEO

0436-HB01

SPECIFICATION

Code	0436-HB01	0436-HB02
Measuring range	0.0~14.0pH	0.00~14.00pH
Resolution	0.1pH	0.01pH
Accuracy	±0.5pH	±0.05pH
Temperature compensation range	0~99.9°C (manual)	
Calibration mode	1~3 points	
Standard solution	CH (pH buffers: 4.00, 6.86, 9.18) USA (pH buffers: 4.00, 7.00, 10.01) NIS (pH buffers: 4.01, 6.86, 9.18)	
Power supply	CR2032 battery	
Dimension (L×W×H)	50×188×17mm	
Weight	60g	

STANDARD DELIVERY

Main unit	1 pc
pH electrode (0436-HB-E)	1 pc
pH buffer powder (0436-HB-S)*	6 pcs (CH)

*Dissolve in distilled water to 250mL

PEN-TYPE pH TESTER CODE 0432-HB22

- 3 types of pH electrodes: bulb type, plane type and puncture type
- Suitable for water quality testing, sewage treatment, food and cosmetics testing, agriculture and scientific research, etc.
- Can measure the ORP, the same series of electrodes can be replaced with each other
- Automatic temperature compensation
- Alarm function: the red backlight displays alarm mode
- With the stabilizing and locking functions of the reading
- Probe protection level: IP67
- Can be used normally in any environment with three colors of backlight
- Automatic power off
- Lightweight, easy to carry and operate

VIDEO

pH "bulb type" electrode (included)

ORP "platinum needle" electrode (**optional**)

pH "plane type" electrode (**optional**)

pH "puncture type" electrode (**optional**)

SPECIFICATION

Measuring range	-2.00~16.00pH
	temperature 0~50°C
	ORP -1000mV~+1000mV
Resolution	0.01pH
	temperature 0.1°C
	ORP 1mV
Accuracy	±0.02pH
	temperature ±0.5°C
	ORP ±0.2%FS
Calibration mode	1~3 points
Standard solution	USA (pH buffers: 4.00, 7.00, 10.01) NIST (pH buffers: 4.01, 6.86, 9.18)
Power supply	4×1.5V AAA batteries
Dimension (L×W×H)	178×40×40mm
Weight	133g

STANDARD DELIVERY

Main unit	1 pc
Standard solution	3 bottles (USA)
Test cup	3 pcs
KCl powder	1 bottle
1.5V AAA battery	4 pcs
pH bulb type electrode	1 pc

OPTIONAL ACCESSORY

pH plane type electrode	0432-HB-F
pH puncture type electrode	0432-HB-P
ORP electrode	0432-HB-O

PORTABLE pH METER
CODE 0430-HA21

plastic pH elctrode
(included)

hydrofluoric acid/strong
acid resistant glass
pH electrode unit (**optional**)

- 1~3 points automatic calibration, with calibration guidance and automatic inspection function
- Manual and automatic temperature compensation functions for more accurate measurement
- The meter provides three types of reading stability criteria
- 50 sets of data storage
- Featuring a foldable stand, suitable for multi scenario applications
- Probe protection level: IP57

standard solution (included)

SPECIFICATION

pH	range	0.00~14.00pH
	resolution	0.1/0.01pH
	accuracy*	±(0.01pH+1d)
	temperature compensation	0°C~100°C (manual or automatic)
	calibration mode	1~3 points
mV	range	-1000mV~+1000mV
	resolution	1mV
	accuracy*	±(0.2%FS+1d)
Temperature	range	0°C~100°C
	resolution	0.1°C
	accuracy *	±(0.5°C+1d)
Standard solution		pH buffers: 4.00, 7.00, 10.01
Power supply		3×1.5V AA batteries
Dimension (L×W×H)		86×196×33mm
Weight		292g

*d is the resolution

STANDARD DELIVERY

Main unit	1 pc
Standard solution	3 bottles
1.5V AA battery	3 pcs
Plastic pH electrode	1 pc

OPTIONAL ACCESSORY

Hydrofluoric acid/strong acid resistant glass pH electrode	0430-HA21-A
Strong alkali/high salt/high temperature pH electrode	0430-HA21-B

PORTABLE pH METER
CODE 0431-0018

IP65 WATERPROOF

VIDEO

- Reading mode: auto-read and continuous-read
- Automatic/manual temperature compensation
- Auto-hold feature senses and locks the measurement endpoint
- 1 or 2 points calibration with standard recognition
- Data capacity up to 200 sets for each parameter
- IP65 dust/waterproof
- Automatic power off

standard solution (included)

wristband (included)

KCl powder (included)

SPECIFICATION

pH	range	-2.00~18.00pH
	resolution	0.01pH
	electronic unit accuracy	±0.01pH
	measurement accuracy	±0.02pH
	calibration point	1 or 2
	standard recognition	NIST pH buffers: 4.01, 7.00, 10.01
Voltage	range	-1999~1999mV
	resolution	1mV
	accuracy	±0.1%FS
Temperature	range	-5~110°C/23~230°F
	resolution	0.1°C/0.2°F
	accuracy	±0.4°C/±0.7°F
Inputs		pH electrode: BNC (Q9)
		temp. probe: 4-pin aviation connector
Power supply		rechargeable battery
Dimension (L×W×H)		80×225×35mm
Weight		400g

STANDARD DELIVERY

Main unit	1 pc
Electrode	1 pc
Electrode holder	2 pcs
Wristband	1 pc
Silicone rubber case	1 pc
AC/DC adapter and charging cable	1 pc
Standard solution	3 bottles
KCl powder	1 bottle

VIDEO

DATA OUTPUT

BENCHTOP pH METER
CODE 0434-HD24

- Equipped with glass pH electrode, using a special gelation process, the solution inside the electrode will not flow, no air bubbles even when inverted, and the electrode glass adopts a thick film process, so there is no need to worry about the sphere rupture caused by ordinary collision
- GLP data storage and management, USB data output
- 1~3 points automatic calibration, with calibration guidance and automatic inspection function
- Automatic recognition of pH buffers, automatic display of slope at the end of calibration
- Manual and automatic temperature compensation functions for more accurate measurement
- Equipped with flexible electrode holder, easy to operate with one hand

standard solution (included)

SPECIFICATION

pH	range	-2.00~20.00pH
	resolution	0.1/0.01pH
	accuracy*	±(0.01pH+1d)
	temperature compensation	0°C~100°C (manual or automatic)
	calibration mode	1~3 points
mV	range	-2000mV~+2000mV
	resolution	1mV
	accuracy*	±(0.1%FS+1d)
Temperature	range	0°C~100°C
	resolution	0.1°C
	accuracy *	±(0.5°C+1d)
Data storage		200 groups of USB data
Standard solution		USA (pH buffers: 4.00, 7.00, 10.01) NIST (pH buffers: 4.01, 6.86, 9.18) China series, user-defined solutions
Power supply		AC/DC adapter (9V)
Dimension (L×W×H)		195×215×100mm
Weight		950g

*d is the resolution

STANDARD DELIVERY

Main unit	1 pc
Standard solution	3 bottles (USA)
Power adapter	1 pc
Glass pH electrode	1 pc
Temperature electrode	1 pc
Flexible electrode holder	1 pc
USB flash disk	1 pc
USB cable	1 pc

ON-LINE pH METER
CODE 0435-HZ11

CAN BE CUSTOMIZED

VIDEO

combination pH/ORP electrode (included)

- Suitable for water quality monitoring in the fields of chemical industry, oil refining, metallurgy, pharmacy, power station and environmental protection, etc.
- Simultaneously measure pH, ORP, temperature
- Automatic slope calculation and temperature compensation
- Automatically recognizes 4.00, 6.86, 9.18 standard solutions
- With power failure data protection
- Tray-mounted or wall-mounted for easy installation and operation
- Upper and lower limit alarms can be set
- Protection level: IP65

SPECIFICATION

pH	range	0.00~14.00pH
	resolution	0.01pH
	accuracy*	±(0.05pH+1d)
ORP	range	-1800mV~+1800mV
	resolution	1mV
	accuracy*	±(10mV+1d)
Temperature	range	-10.0°C~120.0°C
	resolution	0.1°C
	accuracy*	±(1.0°C+1d)
Measurement of water sample temperature		0°C~60°C
Isolated output signal		(4~20)mA DC, maximum load750Ω
Output upper and lower limits		pH: (0.00~14.00)pH optional, ORP: (-1800~+1800)mV optional
Sample flow rate		(100~120)mL/min
Inlet pressure		(7~140)kPa
Combination electrode	liquid junction	PTFE double salt bridge
	reference structure	Ag/AgCl
	temperature compensation unit	PT1000
	housing material	PP
	outline dimension	Ø30×170mm
	output signal	analog signal
	connector	fork blade
	installation mode	3/4NPT
	pressure range	≤0.6MPa
	applicable samples	routine or contaminated samples
Operating environment		temperature: (-5~50)°C, relative humidity: ≤90%
Power supply		AC 220V, 50Hz
Hole-opening size		140×140mm
Dimension (L×W×H)		166×166×110mm
Weight		2kg

*d is the resolution

STANDARD DELIVERY

Main unit	1 pc
Combination pH/ORP electrode (0435-HZ11-E)	1 pc
pH buffer powder (0435-HZ11-S)*	15 pcs
Assembly parts**	1 set

*Dissolve in distilled water to 250mL

**Including mounting bracket, mounting screws, fuses

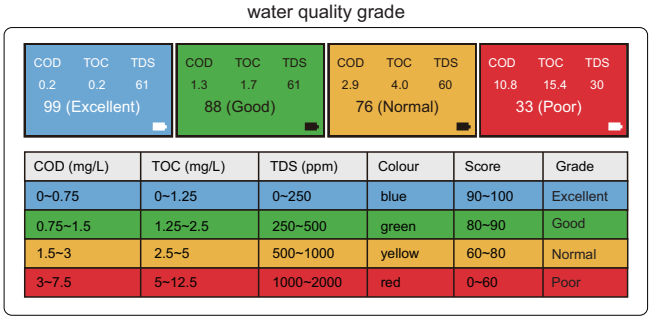
WATER QUALITY TESTER
CODE 0410-EA31

- Suitable for measuring tap water, purified water, underground water, surface water (unpolluted) and other drinking water, to determine microorganisms and pesticide residues in water
- Use UV absorption method to measure COD, TOC, UV275 parameters of drinking water, and measure the conductivity to determine TDS of drinking water
- Can simultaneously measure 6 parameters: COD (chemical oxygen demand), TOC (total organic carbon), UV275 (ultraviolet wavelength 275nm), TDS (total dissolved solids), EC (electric conductivity), T (temperature) for comprehensive evaluation of water quality
- With intelligent scoring feature: 4 colors backlight indicate 4 grades of water quality
- Automatic temperature compensation
- Probe protection level: IP67

SPECIFICATION

Measuring range	COD	0~50mg/L
	TOC	0~50mg/L
	conductivity	0~4000μS/cm
	TDS	0~2000ppm
	UV275	0~1au/cm
	temperature	0-50°C
Resolution	COD	0.01mg/L
	TOC	0.01mg/L
	conductivity	1μS/cm
	TDS	1ppm
	UV275	0.001au/cm
	temperature	0.1°C
Accuracy	COD	0~5mg/L, ±0.5mg/L 5~50mg/L, ±10%
	TOC	0~5mg/L, ±0.5mg/L 5~50mg/L, ±10%
	conductivity	±3.5%FS
	TDS	±3.5%FS
	UV275	0~0.1au/cm, ±0.01au/cm 0.1~1au/cm, ±10%
	temperature	±1°C
Power supply		2×1.5V AAA batteries
Dimension (L×W×H)		157×37×14mm
Weight		68g

water quality grade



COD (mg/L)	TOC (mg/L)	TDS (ppm)	Colour	Score	Grade
0~0.75	0~1.25	0~250	blue	90~100	Excellent
0.75~1.5	1.25~2.5	250~500	green	80~90	Good
1.5~3	2.5~5	500~1000	yellow	60~80	Normal
3~7.5	5~12.5	1000~2000	red	0~60	Poor

STANDARD DELIVERY

Main unit	1 pc
Pure water calibration cup	1 pc

PORTABLE DENSITY METER
CODE MDY-PD30

DATA OUTPUT

IP67 WATERPROOF

VIDEO

- Rapid measurement of petroleum products, beverages, alcohol, pharmaceuticals, coolants, etc.
- It can measure density, temperature, concentration and specific gravity of liquids
- 5000 data sets can be stored, uploaded and printed wirelessly
- The display can rotate in response to gravity
- 2mL of sample is needed each time
- Probe protection level: IP67
- Explosion proof level: Ex ia IIC T4 Ga

SPECIFICATION

Density	range	0.0000g/cm³ ~3.0000g/cm³
	accuracy	±0.001g/cm³
	repeatability	0.0002g/cm³
	resolution	0.0001g/cm³
Temperature	range	0°C~55°C
	accuracy	±0.2°C
	repeatability	0.1°C
	resolution	0.01°C
Power supply		3.7V rechargeable Li-ion battery
Work time		20 hours
Data port		bluetooth
Operation environment		-10°C~60°C
Dimension (L×W×H)		245×95×125mm
Weight		650g

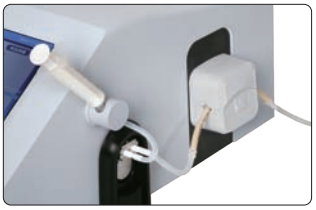
STANDARD DELIVERY

Main unit	1 pc
Injection tube	2 pcs
Power adapter	1 pc
Bluetooth receiver	1 pc

VIDEO

DATA OUTPUT

AUTOMATIC DENSITY METER
CODE MDY-MD30



manual sampling

automatic sampling

- According to GB/T 29617, GB/T 2013, ISO 12185, ASTM D4052, ASTM D5002, ASTM D3505
- Rapid measurement of liquids such as sugar solutions, fruit juices, alcohols, oils, food additives, metalworking cleaners, etc.
- 2~3mL of sample is needed each time
- Built-in peltier temperature control device for more accurate measurements
- Dry air and distilled water can be used for daily calibration
- Compatible with automatic sampling and manual sampling
- Rapid pre-test mode and precision mode
- Data can be saved and reports can be exported

drying barrel (included)

SPECIFICATION

Density range	0.0000g/cm³~3.0000g/cm³
Measurement method	density g/cm³, density kg/m³, specific gravity of water
Density resolution	0.0001g/cm³
Density accuracy	±0.0005g/cm³
Density repeatability	≤0.0002g/cm³
Temperature resolution	0.01°C
Temperature control range	5°C~50°C
Temperature control precision	±0.05°C
Temperature control accuracy	±0.1°C
Observation	high definition camera/video observation
Data storage	128G
Display	10.1 inch color LCD touch screen
Power supply	100V~240V, 50Hz~60Hz
Dimension (L×W×H)	439×350×217mm
Weight	9kg

STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc
PP syringe (MDY-MD30-ZSQ1)	3 pcs
Drying barrel	1 pc
Waste liquid bottle	1 pc
Silicone tube connector	1 set
Silicone tube	1 pc
Dust cover	1 pc

OPTIONAL ACCESSORY

Stylus printer	**MDY-MD30-PRINTER-A**
Thermal printer	**MDY-MD30-PRINTER-B**
PTFE syringe	**MDY-MD30-ZSQ2**
Glass syringe	**MDY-MD30-ZSQ3**

SINGLE-CHANNEL ADJUSTABLE PIPETTES

VIDEO

- According to EN/ISO 8655
- Lightweight and ergonomic design
- Wide measuring range from 0.1μL to 10mL
- Digital window, the range is displayed clearly
- Tools for calibration and maintenance are included
- Sterilizable lower half

LMP-SC05

SPECIFICATION

Code	Range	Increment	Nominal volume	Maximum permissible systematic error		Maximum permissible random error	
	μL	μL	μL	μL	%	μL	%
LMP-SC01	0.1~2.5	0.05	2.5	±0.0625	±2.50	±0.05	±2.00
			1.25	±0.0375	±3.00	±0.0375	±3.00
			0.25	±0.03	±12.00	±0.015	±6.00
LMP-SC02	0.5~10	0.1	10	±0.1	±1.00	±0.08	±0.80
			5	±0.075	±1.50	±0.075	±1.50
			1	±0.025	±2.50	±0.015	±1.50
LMP-SC03	2~20	0.5	20	±0.18	±0.90	±0.08	±0.04
			10	±0.12	±1.20	±0.1	±1.00
			2	±0.06	±3.00	±0.04	±2.00
LMP-SC04	5~50	0.5	50	±0.3	±0.60	±0.15	±0.30
			25	±0.225	±0.90	±0.15	±0.60
			5	±0.1	±2.00	±0.1	±2.00
LMP-SC05	10~100	1	100	±0.8	±0.80	±0.15	±0.15
			50	±0.5	±1.00	±0.2	±0.40
			10	±0.3	±3.00	±0.15	±1.50
LMP-SC06	20~200	1	200	±1.2	±0.60	±0.3	±0.15
			100	±0.8	±0.80	±0.3	±0.30
			20	±0.6	±3.00	±0.2	±1.00
LMP-SC07	50~200	1	200	±1.2	±0.60	±0.3	±0.15
			100	±0.8	±0.80	±0.3	±0.30
			50	±0.5	±1.00	±0.2	±0.40
LMP-SC08	100~1000	5	1000	±6	±0.60	±2	±0.20
			500	±3.5	±0.70	±1.25	±0.25
			100	±2	±2.00	±0.7	±0.70
LMP-SC09	200~1000	5	1000	±6	±0.60	±2	±0.20
			500	±3.5	±0.70	±1.25	±0.25
			200	±1.8	±0.90	±0.6	±0.30
LMP-SC10	500~5000	50	5000	±25	±0.50	±7.5	±0.15
			2500	±15	±0.60	±7.5	±0.30
			500	±3.5	±0.70	±1.5	±0.30
LMP-SC11	1000~10000	100	10000	±60	±0.60	±20	±0.20
			5000	±60	±1.20	±15	±0.30
			1000	±30	±3.00	±6	±0.60

wrench (included)

6-posotion linear stand **(optional)**

6-posotion round stand **(optional)**

STANDARD DELIVERY

Main unit	1 pc
Pipette tip	1 pc
Wrench	1 pc
Simple stand	1 pc

OPTIONAL ACCESSORY

6-position linear stand	LMP-LS01
6-position round stand	LMP-RS01
Pipette tip	LMP-SC□□*-PT

*LMP-SC□□ is pipette code

SUITABLE FOR WATER BASED COOLANT

DIGITAL REFRACTOMETER
CODE ISQ-DRM31

- Quickly measure the concentration of coolant, sugar solution, juice and drinks
- Two measurement modes: single measurement and automatic average multiple measurement
- Two units: brix and refractive index
- Refer to the refraction factor of coolant, for example: the refraction factor of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is (2.1×6%)=12.6%
- Automatic power off

VIDEO

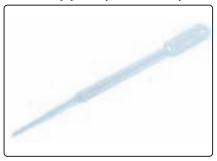
SPECIFICATION

Measuring range	0~50% (1.3330~1.4200RI)
Accuracy	±0.2% (±0.0003RI)
Resolution	0.1% (0.0001RI)
Power supply	1×AAA battery
Dimension (L×W×H)	121×58×25mm
Weight	90g

STANDARD DELIVERY

Main unit	1 pc
Dropper	1 pc
Battery (AAA)	1 pc

dropper (included)



SUITABLE FOR WATER BASED COOLANT

MINI DIGITAL REFRACTOMETER
CODE 5801-A55

- Quickly measure the concentration of coolant
- Automatic temperature compensation
- Brix and refractive index can be displayed
- Refer to the refraction coefficient of coolant, for example: the refraction coefficient of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is (2.1×6%)=12.6%
- Automatic power off

VIDEO

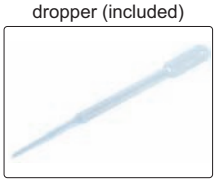
SPECIFICATION

Measuring range	0~50% (1.3330~1.4200RI)
Accuracy	±0.2% (±0.0003RI)
Resolution	0.1% (0.0001RI)
Power supply	built-in 3.7V rechargeable lithium battery
Dimension (L×W×H)	147×46×27mm
Weight	115g (including battery)

STANDARD DELIVERY

Main unit	1 pc
Dropper	1 pc

dropper (included)



SEA WATER BAUME METER
CODE 5808-SW25

- Rapid measurement of sea water and salt water concentration
- Suitable for measuring the content of NaCl in aqueous solutions, snowmelt, brine, sea water and other saline solutions
- Automatic temperature compensation
- Display content and refractive index
- Automatic power off

VIDEO

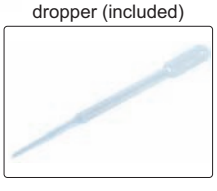
SPECIFICATION

Measuring range	-1.00~25.00°Bé (1.3270~1.3950RI)
Accuracy	±0.2°Bé (±0.0003RI)
Resolution	0.01°Bé (0.0001RI)
Power supply	1×AAA battery
Dimension (L×W×H)	121×58×25mm
Weight	90g

STANDARD DELIVERY

Main unit	1 pc
Dropper	1 pc
Battery (AAA)	1 pc

dropper (included)



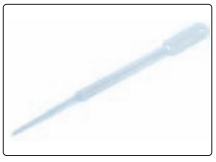
HYDROGEN PEROXIDE REFRACTOMETER
CODE 5809-HP61

- Quickly measure the concentration of hydrogen peroxide
- Hydrogen peroxide content and refractive index can be displayed
- Automatic temperature compensation
- Automatic power off

SPECIFICATION

Measuring range	0.0%~61.0% (1.3330nD~1.4200nD)
Accuracy	±0.5% (±0.0003nD)
Resolution	0.1% (0.0001nD)
Power supply	1×AAA battery
Dimension (L×W×H)	121×58×25mm
Weight	90g

dropper (included)



STANDARD DELIVERY

Main unit	1 pc
Dropper	1 pc
Battery (AAA)	1 pc

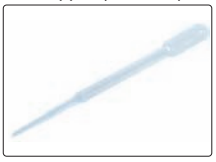
OPTIONAL ACCESSORY

Low-temperature H_2O_2 module	**5809-HP61-L**
High-temperature H_2O_2 module	**5809-HP61-H**

HONEY REFRACTOMETER
CODE 5823-HE38

- Quickly measure the water content in honey
- Water content and refractive index can be displayed
- Automatic temperature compensation
- Automatic power off

dropper (included)



SPECIFICATION

Measuring range	5.0%~38.0% (1.3330nD~1.5177nD)
Accuracy	±0.2% (±0.0003nD)
Resolution	0.1% (0.0001nD)
Power supply	built-in 3.7V rechargeable lithium battery
Dimension (L×W×H)	147×46×27mm
Weight	115g

STANDARD DELIVERY

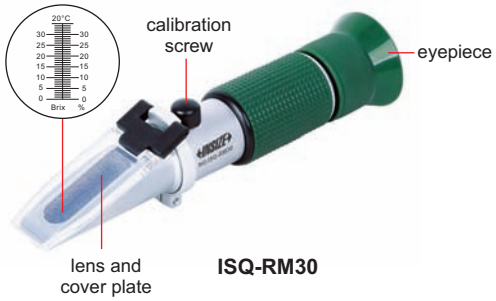
Main unit	1 pc
Dropper	1 pc

VIDEO

SUITABLE FOR WATER BASED COOLANT

PORTABLE REFRACTOMETERS

- Quickly measure the concentration of coolant, sugar solution, juice and drinks
- Refer to the refraction factor of coolant, for example:
  the refraction factor of grinding emulsion is 2.1,
  the reading value is 6%, so the actual concentration is (2.1×6%)=12.6%



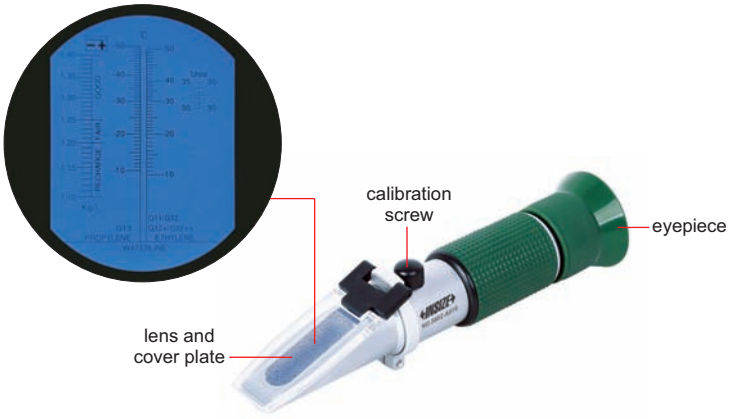
ISQ-RM30

SPECIFICATION

Code	ISQ-RM10	ISQ-RM30	ISQ-RM80
Measuring range	0~10%	0~32%	0~80%
Accuracy (20°C)	±0.1%	±0.2%	±0.5%
Resolution	0.1%	0.2%	0.5%
Dimension (L×W×H)	27×40×184mm	27×40×160mm	27×40×137mm
Weight	230g	207g	187g

VIDEO

PORTABLE REFRACTOMETER FOR AUTOMOTIVE LIQUID CODE 5802-A510



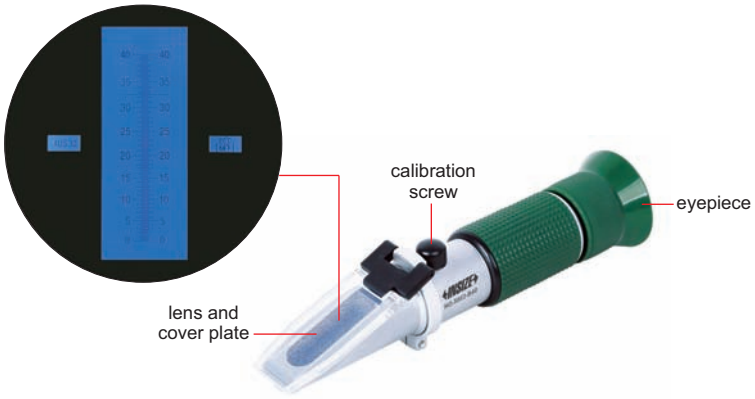
- Measure the freezing point of the antifreeze and the concentration of urea in diesel exhaust fluid
- Measure the specific gravity of battery fluid

SPECIFICATION

Measuring object	ethylene glycol	propylene glycol	urea	battery fluid
Measuring range	-50~0°C	-50~0°C	30~35%	1.10~1.40kg/l
Accuracy	±5°C	±5°C	±1%	±0.02kg/l
Resolution	1°C	1°C	1%	0.01kg/l
Dimension (L×W×H)	27×40×160mm			
Weight	172g			

VIDEO

PORTABLE REFRACTOMETER FOR DIESEL EXHAUST FLUID CODE 5803-B40

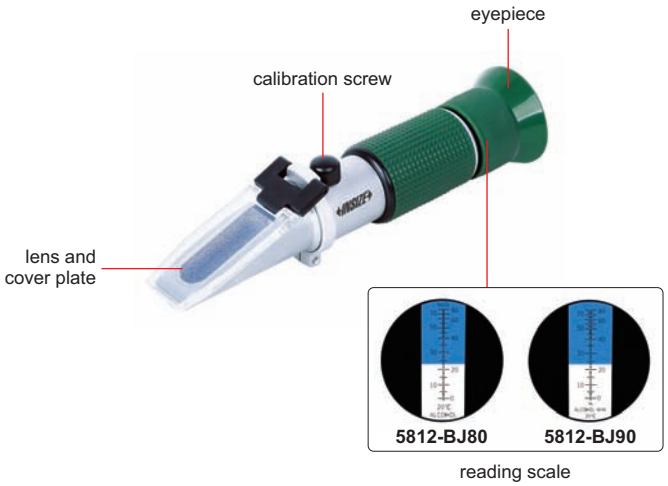


- Measure the concentration of urea in diesel exhaust fluid
- Wide measuring range

SPECIFICATION

Measuring range	0~40%
Accuracy	±0.2% (20°C)
Resolution	0.2%
Dimension (L×W×H)	27×40×160mm
Weight	170g

HANDHELD ALCOHOL REFRACTOMETERS

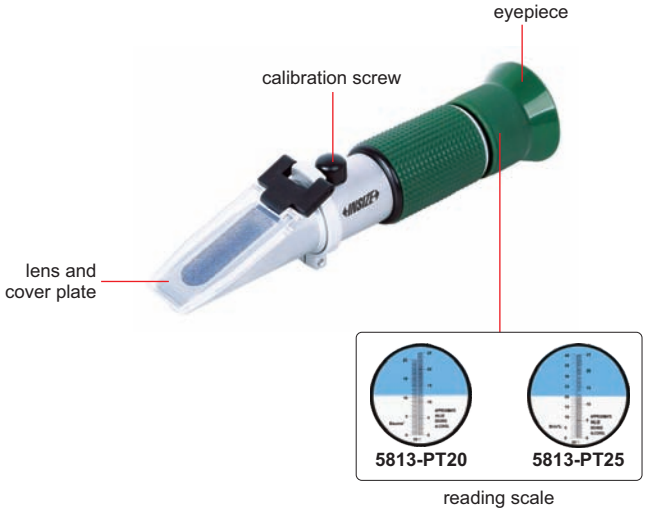


- Quickly measure the alcohol concentration of white wine, vodka, whisky, etc.

SPECIFICATION

Code	5812-BJ80		5812-BJ90	
Measuring range	0~60%V/V	60~80%V/V	0~50%W/W	50~80%W/W
Accuracy (20°C)	±1%V/V	±2%V/V	±1%W/W	±2%W/W
Resolution	1%V/V	2%V/V	1%W/W	2.5%W/W
Dimension (L×W×H)	24×40×198mm		24×40×198mm	
Weight	194g		194g	

HANDHELD WINE REFRACTOMETERS



- Measure the sugar concentration of wine before and during fermentation
- Measure various indicators of grape ripening process to determine the optimal period for using grapes in the winemaking process

SPECIFICATION

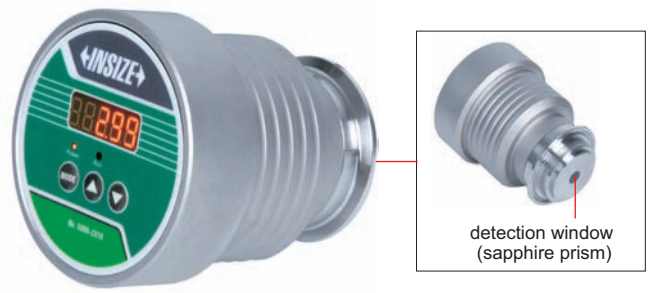
Code	5813-PT20	5813-PT25
Measuring range	0~20Baume (0~25%VOL)	0~40%Brix (0~25%VOL)
Accuracy (20°C)	±0.2Baume (±0.2%VOL)	±1%Brix (±0.2%VOL)
Resolution	0.2Baume (0.2%VOL)	1%Brix (0.2%VOL)
Dimension (L×W×H)	24×40×162mm	24×40×162mm
Weight	180g	180g

ONLINE REFRACTIVITY SENSORS

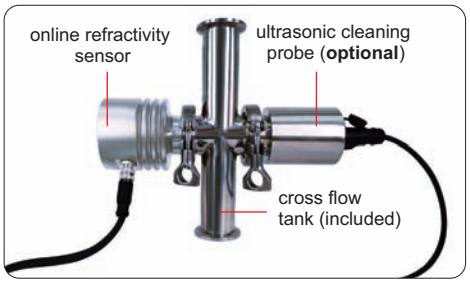
VIDEO

BUILT-IN BLUETOOTH

IP67 WATERPROOF

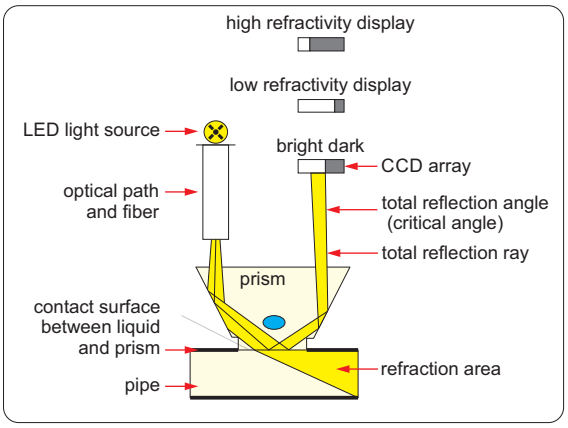


5806-ZX10



- Based on the principle of light refraction and total reflection, measure the concentration of coolant, sugar liquid and other liquids in real time
- High measuring accuracy and wide measuring range
- Automatic temperature compensation
- Built-in bluetooth
- Screw thread, flange, chuck and other installation methods can be customized
- Use sapphire prism, high hardness and wear-resistant
- Resistance to dirty, easy to clean
- Protection level of probe part: IP67

measuring principle



SPECIFICATION

Code	5806-ZX10	5806-ZX20
Type	flat-top	round-top (self-cleaning)
Measuring range	Brix 0.00~90.00%	
	refractivity 1.33299~1.51782	
	temperature 0~60°C	
Accuracy	Brix ±0.20%	
	refractivity ±0.00030	
	temperature ±0.5°C	
Resolution	Brix 0.01%	
	refractivity 0.00001	
	temperature 0.1°C	
Measuring mode	immersion	
Pressure resistance	≤ 1MPa	
Measuring speed	1time/5s	
Output (customizable)	analog output: (4~20)mA for Brix (0.00~90.00)%	
	digital output: RS485	
Power supply	DC 24V±10%, working current <100mA	
Dimension	Ø88×109mm	Ø88×133mm
Weight	827g	882g

application example

STANDARD DELIVERY

Main unit	1 pc
Cross flow tank	1 pc
Clamp	4 pcs
Polytef gasket	6 pcs
Connector	2 pcs
Wall piece	1 pc

OPTIONAL ACCESSORY

Ultrasonic cleaning probe	5806-ZX-UCP
High pressure water/air cleaning device	5806-ZX-HPC
Automatic brush cleaning system	5806-ZX-AC

ULTRAVIOLET-VISIBLE SPECTROPHOTOMETER (STANDARD TYPE)
CODE UVS-B205

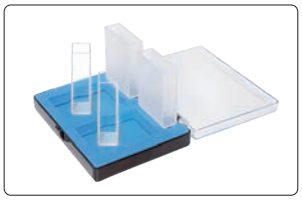
DATA OUTPUT

VIDEO

- Widely used in organic chemistry, biochemistry, pharmaceutical analysis, food testing, environmental protection, life science, etc.
- Built-in quantitative analysis software for easy operation
- Optional software to extend the range of applications, such as photometric measurement, quantitative measurement, kinetics, spectrum scan, DNA/protein test, mult-wavelength test, etc.
- Large sample chamber can accommodate 5~100mm cuvettes of all kinds
- Self-fault diagnosis function
- Provide power failure protection

SPECIFICATION

Optical system	automatic wavelength
Wavelength range	190~1100nm
Spectral bandwidth	2nm
Wavelength accuracy	±1nm
Wavelength repeatability	≤0.2nm
Wavelength resolution	0.1nm
Stray light	≤0.2%T @220nm/360nm
Noise	0.001A/2min @500nm
Baseline flatness	±0.002A/h
Photometric range	0~200%T, -3~3A, 0~9999C (0~9999F)
Photometric accuracy	±0.5%T
Photometric repeatability	≤0.2%T
Work mode	T, A, C, E
Light source	deuterium lamp, tungsten lamp
Display	128×64 LCD
Data storage	200 test data or 100 working curves
Power supply	AC 220V, 50Hz
Dimension (L×W×H)	420×510×240mm
Weight	15.5kg



glass cuvette, quartz cuvette (included)

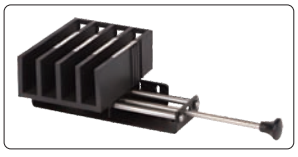
manual 4-position film holder **(optional)**

STANDARD DELIVERY

Main unit	1 pc
Glass cuvette (10mm)	1 set
Quartz cuvette (10mm)	1 set

OPTIONAL ACCESSORY

Computer	**UVS-B205-COMPUTER**
Software	**UVS-B205-SOFTWARE**
Printer	**UVS-B205-PRINTER**
Manual 4-position film holder	**UVS-B205-BM4**
Manual 4-cell holder (100mm)	**UVS-B205-BSM10**



manual 4-cell holder **(optional)**

DATA OUTPUT

ULTRAVIOLET-VISIBLE SPECTROPHOTOMETER (ADVANCED TYPE) CODE UVS-B103

VIDEO

- Widely used in organic chemistry, biochemistry, pharmaceutical analysis, food testing, environmental testing, life sciences, etc.
- Photometric measurement, quantitative measurement, kinetics, spectrum scan, DNA/protein test, mult-wavelengti test, etc.
- Suspended optical system with thickened aluminum base plate to reduce the effects of vibration
- The dual-layer design separates optical and electrical circuits completely, improving instrument resolution and stability
- Adoption of photoelectric signal detection device for lower SNR
- Ultra-large screen shows various scan curves and graphs directly

SPECIFICATION

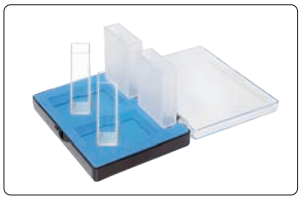
Optical system	double beam, grating 1200lines/mm
Wavelength range	190~1100nm
Spectral bandwidth	2.0nm
Wavelength accuracy	±0.3nm
Wavelength repeatability	≤0.1nm
Wavelength resolution	0.1nm
Stray light	≤0.1%T @420nm, ≤0.05%T @220nm/340nm
Noise	≤0.05%T (transmittance 0%), ≤0.1%T (transmittance 100%)
Baseline flatness	±0.001A/h
Photometric range	0~200%T, -3~3A, 0~9999C (0~9999F)
Photometric accuracy	±0.3%T
Photometric repeatability	≤0.1%T
Work mode	T, A, C, E
Light source	deuterium lamp, tungsten lamp
Display	7" TFT color screen
Data storage	2000 test data or 500 working curves
Data output	data export via U disk, supporting Excel, txt, and image
Power supply	AC 220V, 50Hz
Dimension (L×W×H)	450×580×210mm
Weight	21kg

STANDARD DELIVERY

Main unit	1 pc
Glass cuvette (10mm)	1 set
Quartz cuvette (10mm)	1 set

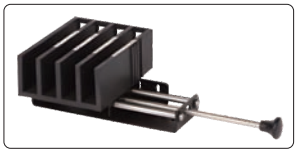
OPTIONAL ACCESSORY

Computer	**UVS-B103-COMPUTER**
Software	**UVS-B103-SOFTWARE**
Printer	**UVS-B103-PRINTER**
Manual 4-position film holder	**UVS-B103-BM4**
Manual 4-cell holder (100mm)	**UVS-B103-BSM10**
Auto 8-cell holder	**UVS-B103-BSM08**



glass cuvette, quartz cuvette (included)

manual 4-position film holder **(optional)**



manual 4-cell holder **(optional)**

auto 8-cell holder **(optional)**

OPACIMETER
CODE TSM-C11

standard filter (included)

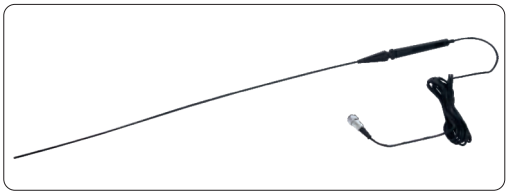
VIDEO

- According to ISO11614
- Used to test the visible contaminants in emissions (exhaust smoke) from the compression combustion (diesel) engine. Suitable for environmental protection, motor vehicle testing, engine manufacturing, automobile manufacturing and automobile repair
- LCD display and touch screen, can test opacity and light absorption coefficient, simple and intuitive
- With free acceleration test and transient test function, automatic data processing
- Use sampling (split) test and air curtain protection technology, prevent the optical system from being polluted by exhaust smoke
- Test chamber is controlled under constant temperature, prevent the moisture condensation and temperature fluctuation for accurate measurements
- Automatic preheating and zeroing
- RS232 serial port communicates with external computer

SPECIFICATION

Measuring range	opacity Ns	0~99.9%
	light absorption coefficient K	0~16.0m^{-1}
	rotary speed	300~8000rpm
	oil temperature	0~120°C
Resolution	opacity Ns	0.1%
	light absorption coefficient K	0.01m^{-1}
	rotary speed	1rpm
	oil temperature	1°C
Accuracy	opacity Ns	±2%
	light absorption coefficient K	±0.05m^{-1}
	rotary speed	±1%
	oil temperature	±2°C
Warm-up		15min
Effective length of optical path		215mm
Equivalent length of optical path		430mm
Environment	temperature	5~40°C
	relative humidity	5~95%RH
Power supply		AC220V, 50Hz
Dimension (L×W×H)	control unit	370×280×220mm
	measurement unit	435×230×360mm
Weight	control unit	5.5kg
	measurement unit	6.5kg

speed adaptor (**optional**)


oil temperature sensor (**optional**)

STANDARD DELIVERY

Main unit	control unit	1 pc
	measurement unit	1 pc
Sampling probe		1 pc
Connection cable		1 pc
Standard filter		1 pc
Printer		1 pc

OPTIONAL ACCESSORY

Speed adaptor	TSM-C11-S
Oil temperature sensor	TSM-C11-T
Software and RS-232C cable	TSM-C11-SOFTWARE

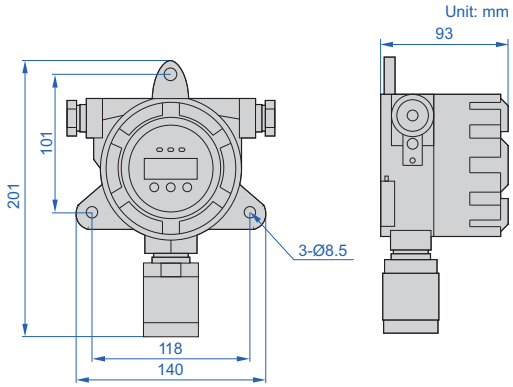
IP65 WATERPROOF

CAN BE CUSTOMIZED

VIDEO

GAS DETECTION TRANSMITTER
CODE 0613-SG01

- Continuous detection of gas concentration
- Customized secondary alarm, light alarm indication, optional sound and light alarm lamp
- Can be customized other gases, such as O_2, CO, H_2S, NH_3, etc.
- Fixed installation, wall-mounted installation, longitudinal tube installation
- Quickly replaceable gas sensors
- Adjustable calibration values
- Sampling method: diffusion
- Protection level: IP65
- Explosion proof level: Exd II CT6 Gb



SPECIFICATION

Gas	CH_4*
Range	0~100%LEL
Resolution	1%LEL
Accuray	±5%FS
Response time	≤30s**
Alarm setting	primary alarm, secondary alarm
Alarm output	passive switching output (max: AC 220V 3A) independent sound and light alarm output
Signal output	RS485, (4~20)mA
Cable	3×1.5mm² or 4×2.5mm² shield cable
Transmission distance	≤1000m
Working environment	-40~70°C, <95%RH (no condensation)
Power supply	DC 24V
Dimension (L×W×H)	201×140×93mm
Weight	1.2kg

*Other gases can be customized

**Different response times for different gases

STANDARD DELIVERY

Main unit	1 pc
Calibration remote control	1 pc

OPTIONAL ACCESSORY

Sound and light alarm lamp	**0613-SG01-AL**
8-position alarm controller	**0613-SG01-C08**
24-position alarm controller	**0613-SG01-C24**

SINGLE GAS DETECTORS

VIDEO

IP64 WATERPROOF

- More than 30 types of gases can be customized, such as NO, NH_3, Cl_2, etc.
- Adjustable alarm level, alarm mode: sound, light, vibration
- Adjustable calibration level
- Sampling method: diffusion
- Self-test on startup
- Display with backlight
- Low battery indication
- Explosion proof level: Ex ib IIB T3 Gb

0611-SG01

SPECIFICATION

Code	0611-SG01	0611-SG02	0611-SG03	0611-SG04
Gas	combustible gas/EX	O_2	CO	H_2S
Range	0~100%LEL	0~30.0%VOL	0~1000ppm	0~100ppm
Resolution	1%LEL	0.1%VOL	1ppm	1ppm
Accuracy	±5%FS	±0.7%VOL	±5ppm or ±10%	±2ppm or ±10%
Response time	≤30s	≤20s	≤60s	≤60s
Sensor lifetime *	2 years			
Operation environment	-20°C~50°C, <95%RH, no condensation			
Power supply	3.7V rechargeable Li-ion battery, working time≥8h			
Dimension (L×W×H)	56×112×45mm			
Weight	154g			

* Sensor lifetime depends on working environment

calibration cap (included)

STANDARD DELIVERY

Main unit	1 pc
Calibration cap	1 pc
Power adapter	1 pc

MULTI GAS DETECTOR CODE 0612-MG04

VIDEO

IP64 WATERPROOF

- Customize more than 30 types of gases, such as NO, NH_3, Cl_2, etc.
- Adjustable alarm level, alarm mode: sound, light, vibration
- Adjustable calibration level
- Sampling method: diffusion
- Self-test on startup
- Display with backlight
- Low battery indication
- Explosion proof level: Ex ib IIB T3 Gb

SPECIFICATION

Gas	combustible gas/EX	O_2	CO	H_2S
Range	0~100%LEL	0~30.0%VOL	0~1000ppm	0~100ppm
Resolution	1%LEL	0.1%VOL	1ppm	1ppm
Accuracy	±5%FS	±0.7%VOL	±5ppm or ±10%	±2ppm or ±10%
Response time	≤30s	≤20s	≤60s	≤60s
Sensor lifetime *	2 years	5 years	2 years	2 years
Operation environment	-20°C~50°C, <95%RH, no condensation			
Power supply	3.7V rechargeable Li-ion battery, working time≥8h			
Dimension (L×W×H)	61×131×44mm			
Weight	196g			

* Sensor lifetime depends on working environment

calibration cap (included)

STANDARD DELIVERY

Main unit	1 pc
Calibration cap	1 pc
Power adapter	1 pc

VIDEO

DATA OUTPUT

HANDHELD AIRBORNE PARTICLE COUNTER
CODE 0811-CA01

high efficiency filter (included)

- Widely used in electronic production clean room testing, filter leakage detection, monitor biological safety, HVAC systems, computer rooms, food packaging environments, pharmaceutical and medical device production environments, hospital clean operating rooms, automotive spraying environments, etc.
- Using semiconductor laser sensor
- Measures the size and number of dust particles per unit volume of air in clean environments, and can be set to alarm at different purification levels
- Simultaneous counting of six counting channels (0.3μm, 0.5μm, 1μm, 3μm, 5μm, 10μm), and can be stored according to the room number respectively, according to the calculation of the upper confidence limit of 95% for each room (UCL value)
- It can be connected to a PC data acquisition system for remote control

SPECIFICATION

Sampling flow	range	2.83L/min (0.1ft³)
	accuracy	±5%
Particle	particle diameter passage	0.3μm, 0.5μm, 1μm, 3μm, 5μm, 10μm, simultaneous counting of six particle diameters
	repeatability	≤10%FS
	error of particle sizes	±30% (0.5μm, 5μm)
	accuracy	±30%FS (0.5μm)
Self-cleaning time		≤10min
Delay sampling time		0~99s
Sampling time		1s~9999s
Sampling mode		single, repeated, continuous, calculate, remote
Unit conversion		m³, ft³
Counting mode		cumulative value, difference value, concentration value
UCL setting*		sampling points (A): set from 2 to 9, sampling times per point (L): set from 2 to 9, location: set from 0 to 999
Alarm setting		the instrument is equipped with a clean room level alarm function, which will alarm when it exceeds the standard of class 100, 1000, 10000, 100000, 300000, 1000000, and will also alarm when the battery voltage is too low
Data storage		store 1000 sets of data (including particle size, data, environmental data, time, sample volume, data location), no data loss after power failure
Environmental requirement		temperature: 0~40°C, relative humidity: 20~90%, no condensation, the instrument should be used in a non-corrosive air environment
Power supply		16.8V rechargeable Li-ion battery, working time 8h
Dimension (L×W×H)		130×230×45mm
Weight		900g

* Upper confidence limit of 95%

STANDARD DELIVERY

Main unit	1 pc
Isokinetic sampling port	1 pc
High efficiency filter (0811-CA01-F)	1 pc
Communication cable	1 set
Adapter	1 pc
USB disk	1 pc

OPTIONAL ACCESSORY

Printer	0811-CA01-PRINTER
Temperature and humidity sensors	0811-CA01-THW
Tripod	0701-TR175

DRY LASER PARTICLE SIZE ANALYZER (BASIC TYPE)
CODE 0815-D300

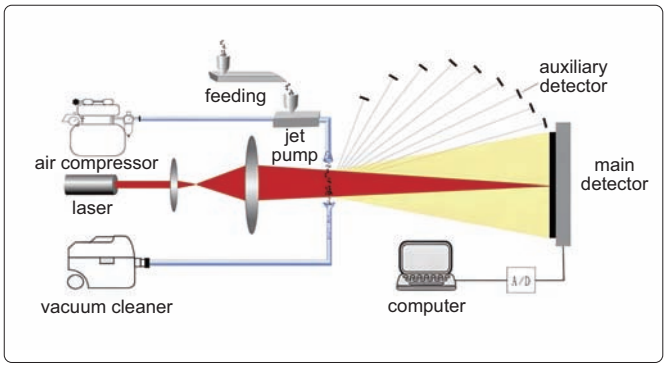
- According to GB/T 19077-2016, ISO 13320:2009
- Suitable for any powdered material, particularly good for materials which react with water, or shape change in liquids
- It can be used for metal and non-metal powder, cements, pharmaceuticals, fillers, catalysts, additives, lubricants, coal powder, mud and sand, dust, foodstuffs, graphites, photographic materials, calcium carbonate, kaolin and other powdery materials
- Using air as the dispersing medium and the principle of turbulent dispersion, ensure that the sample is thoroughly dispersed
- Based on the MIE scattering theory, converging Fourier transform optical path, and with He-Ne laser photodetectors
- Just need put in the sample, dust collection, air supply, feeding are all done automatically

SPECIFICATION

Measuring range		0.1μm~300μm
Channels number		56pcs
Accuracy*		≤1%
Repeatability*		≤1%
Dispersion method		dry-turbulence dispersion
Dispersing medium		compressed air
Test speed		<1min for each time
Software function	**analysis mode**	free distribution, R-R distribution, logarithm normal distribution, mesh number classification
	statistic method	volume distribution, quantity distribution
	statistic comparison	several testing results of samples, different batches of samples testing result, samples before and after processing, test result of samples in different time
	user-defined analysis	figure out percentage according to the particle size figure out particle size according to the percentage figure out percentage according to the particle size range
	operation mode	automatically control air flow speed, dispersion, test and analysis
	test report	word, excel, photo (bmp), text etc.
Power supply		220V, 50Hz
Dimension		main unit: 765×450×325mm
		dispersion unit: 260×285×135mm
Weight		36kg

* Deviation of D50 on standard sample

test principle



STANDARD DELIVERY

Main unit	1 pc
Air compressor	1 pc
Dust collector	1 pc
Diamond standard sample	1 pc
Sampling spoon	2 pcs
Computer	1 pc
Toolkit*	1 set

* Including mirror paper, screwdriver, fuse, PTFE thread seal tape, brush, rubber suction bulb

DATA OUTPUT

WATERPROOF

VIDEO

ONLINE OIL PARTICLE COUNTERS

- With high precision laser sensors, small size, high accuracy, and stable performance
- Real-time monitoring of particulate contamination in oil systems
- With built in data analysis system, can display each channel's particle size data and auto judge sample grade
- Built in calibration function, which can be calibrated according to standards like SEA4059, ISO4402, GB/T18854, etc.
- Equipped with RS232, RS485 and USB interfaces, it can be connected to various devices for data monitoring and processing
- Volume flushing and duration flushing modes for easy use and maintenance

PSC-ZX100

SPECIFICATION

Code	PSC-ZX100	PSC-ZX100M
Protection level	IP56	IP67
Light source	semiconductor laser	
Flow range	5~500ml/min	
Particle size range	1~1000μm	
Limit coincidence error	40000particle/ml	
Sample viscosity	≤650cSt	
Sensitivity	1μm or 4μm (c)	
Counting volume	1~999ml	
Counting accuracy	±0.5 pollution levels	
Test time interval	1s~24h	
Temperature of sample	0~80°C	
Working temperature	-20~60°C	
Pipeline pressure	0.1~10MPa	
Interface type	USB, RS232, RS485	
Data store	1000 sets of data can be stored, and support U-disk storage	
Power supply	AC 110~220V, 50~60Hz	
Weight	1kg	0.6kg
Dimension (L×W×H)	115×85×60mm	100×75×60mm

STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc
Data cable	1 pc

OPTIONAL ACCESSORY*

Name	code	parameter
Temperature sensor	**PSC-ZX100-TE**	measurement range: 1~100°C, accurate: 1°C
Water activity sensor	**PSC-ZX100-AW**	measurement range: 0~1aw, accurate: 0.03aw
Water content sensor	**PSC-ZX100-MC**	measurement range: 1~360ppm, accurate: 1ppm

*Optional sensors should be installed in the factory, only for **PSC-ZX100**

PORTABLE OIL PARTICLE COUNTER (BASIC TYPE)
CODE PSC-BX200

DATA OUTPUT

IP67 WATERPROOF

VIDEO

- With high precision laser sensors, small size, high accuracy, and stable performance
- Portable and suitable for laboratory or on site testing
- With built in data analysis system, can display each channel's particle size data, auto judge sample grade and print data
- Built in calibration function, which can be calibrated according to standards like SEA4059, ISO4402, GB/T18854, etc.
- Parameters can be modified, ultra large storage
- Volume flushing and duration flushing modes for easy use and maintenance

SPECIFICATION

Light source	semiconductor laser
Particle size range	1~500μm
Limit coincidence error	40000particle/mL
Offline detection of sample viscosity	≤100cSt (for high viscosity, an optional pressure sampler is available)
Sensitivity	0.8μm or 4μm (c)
Counting volume	1~999mL (recommend 10 or 20mL)
Counting accuracy	<10%
Protection level	IP67
Test time interval	1s~24h
Working temperature	-20~60°C
Temperature of sample	0~80°C
Water activity	0~1aw
Water content	0~360ppm
Offline detection speed	5~60mL/min
Interface type	USB
Data store	1000 sets of data can be stored, and support U disk storage
Power supply	AC 110~220V, 50~60Hz
Dimension (L×W×H)	275×220×107mm
Weight	2.5kg

STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc
Liquid inlet/discharge tubes	1 set

OPTIONAL ACCESSORY

Pressure sampler (basic type)	**PSC-YQ100**
Pressure sampler (portable type)	**PSC-YQ200**

DATA OUTPUT

IP67 WATERPROOF

PORTABLE OIL PARTICLE COUNTER (STANDARD TYPE) CODE PSC-BX300

VIDEO

- With high precision laser sensors, small size, high accuracy, and stable performance
- Portable and suitable for laboratory or on site testing
- With built in data analysis system, can display each channel's particle size data, auto judge sample grade and and print data
- Built in calibration function, which can be calibrated according to standards like SEA4059, ISO4402, GB/T18854, etc.
- Built in micro water sensor and temperature sensor
- Parameters can be modified, ultra large storage
- Volume flushing and duration flushing modes for easy use and maintenance

SPECIFICATION

Light source	semiconductor laser
Particle size range	1~500μm
Limit coincidence error	40000particle/mL
Offline detection of sample viscosity	≤100cSt (for high viscosity, an optional pressure sampler is available)
Sensitivity	0.8μm or 4μm (c)
Counting volume	1~999mL (recommend 10 or 20mL)
Counting accuracy	<10%
Protection level	IP67
Test time interval	1s~24h
Working temperature	-20~60°C
Temperature of sample	0~80°C
Water activity	0~1aw
Water content	0~360ppm
Offline detection speed	5~60mL/min
Interface type	USB
Data store	1000 sets of data can be stored, and support U disk storage
Online pressure detection	0.1~0.6MPa (optional pressure reducing valve)
Power supply	AC 110~220V, 50~60Hz
Dimension (L×W×H)	365×295×170mm
Weight	5.5kg

STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc
Liquid inlet/discharge tubes	1 set

OPTIONAL ACCESSORY

Pressure sampler (basic type)	**PSC-YQ100**
Pressure sampler (portable type)	**PSC-YQ200**
Pressure reducing valve	**PSC-BX300-PRV**

OIL PARTICLE COUNTER (STANDARD TYPE)
CODE PSC-TX100

VIDEO

DATA OUTPUT

- Built in ISO4406, NAS1638, SEA4059F, SAE749D, SAE4059cpc, ГОСТ17216, QC/T29104, GJB420A, GJB420B standards
- High precision laser sensors, wide measurement range, stable performance, high resolution
- Test interval can be set freely
- Built in data analysis system, can display each channel's particle size data, auto judge sample grade and print data
- Parameters can be modified, ultra large storage
- Volume flushing and duration flushing modes for easy use and maintenance
- Temperature, water activity, and water content sensors can be selected
- Includes manual, automatic, and half-count calibrations
- 5 account settings, with separate permissions for each account

SPECIFICATION

Light source	semiconductor laser
Resolution	≤10% (GB/T18854, ISO11171)
Coincidence error limit	12000~40000particle/ml
Repeatable	<2%
Sampling volume	0.2~6000ml, interval 0.1ml
Sampling error	<0.5%
Sampling rate	5~80ml/min
Sample temperature	-30~80°C
Working temperature	-20~60°C
Storage temperature	-30~80°C
Particle size range	1~100μm (ACFTD standard) or 4~70μm (c) (ISO MTD standard)
Counting accuracy	<5%
Sensitivity	0.8μm (ISO4402) or 3μm (c)
Sample viscosity	≤650cSt
Test channel	8~64 channels selectable (default 64 channels)
Pressure range	-0.08MPa~0.8MPa
Temperature sensor	optional, measurement range: 1~100°C, accuracy: 1°C
Water activity sensor	optional, measurement range: 0~1aw, accuracy: 0.03aw
Water content sensor	optional, measurement range: 1~360ppm, accuracy: 1ppm
Interface type	RS232, RE485 and USB
Data store	1000 sets of data can be stored, and support U disk storage
Weight	23kg
Dimension (L×W×H)	340×410×650mm
Power supply	AC 110~240V, 50~60Hz, 70W

STANDARD DELIVERY

Main unit	1 pc
Pneumatic pump	1 pc
Positive pressure tube	1 pc
Liquid discharge tube	1 set
Ultrasonic cleaner	1 pc
Tool	1 set

OPTIONAL ACCESSORY*

Temperature sensor	PSC-TX100-TE
Water activity sensor	PSC-TX100-AW
Water content sensor	PSC-TX100-MC

*Optional sensors should be installed in the factory

PRESSURE GAUGES 13

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Pressure Transmitters
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High Precision Digital
Pressure Gauges
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Digital Pressure Gauges
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Bourdon Tube Pressure Gauges (Dry)
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Bourdon Tube Pressure Gauges
(Liquid Filled)
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Gas Test Pressure Gauges
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Process Pressure Gauges
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Diaphragm Pressure Gauges
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Refrigeration pressure gauges
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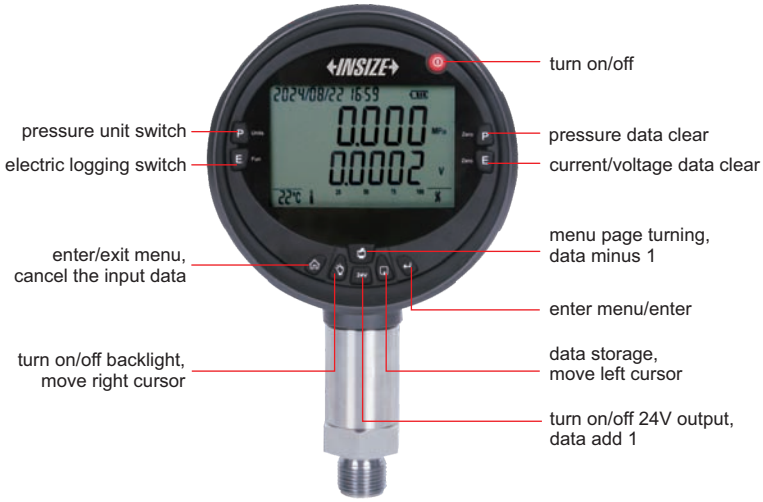
DIGITAL PRESSURE CALIBRATORS

INSPECTION CERTIFICATE

BACKLIGHT



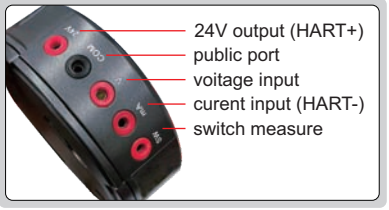
5240-M20Y600

- Calibration of general pressure gauges, precision pressure gauges, pressure transmitters, pressure switches, sphygmomanometers, pressure transducers and other pressure instruments and meters
- Large white backlight LCD display with multiple measurements shown at the same time
- With standard HART interface, built-in HART communication, It can calibrate HART pressure transmitter
- RS232 interface for uploading stored files
- 11 pressure units can be switched
- With automatic temperature compensation function
- With data storage function, the data will not be lost when the pressure calibrator is switched off
- Other additional functions: pressure percentage display, pressure leakage detection, multiple triggering of pressure switches, pressure peak recording, 24V DC output

Range*	Connection*		
	M20	G1/2	NPT1/2
(-100-0)kPa/(-1~0)bar	5240-M20Y010A	5240-G12Y010A	5240-N12Y010A
(0-100)kPa/(0~1)bar	5240-M20Y010	5240-G12Y010	5240-N12Y010
(0-160)kPa/(0~1.6)bar	5240-M20Y016	5240-G12Y016	5240-N12Y016
(0-250)kPa/(0~2.5)bar	5240-M20Y025	5240-G12Y025	5240-N12Y025
(0-400)kPa/(0~4)bar	5240-M20Y04	5240-G12Y04	5240-N12Y04
(0-600)kPa/(0~6)bar	5240-M20Y06	5240-G12Y06	5240-N12Y06
(0-1)MPa/(0~10)bar	5240-M20Y10	5240-G12Y10	5240-N12Y10
(0-1.6)MPa/(0~16)bar	5240-M20Y16	5240-G12Y16	5240-N12Y16
(0-2.5)MPa/(0~25)bar	5240-M20Y25	5240-G12Y25	5240-N12Y25
(0-4)MPa/(0~40)bar	5240-M20Y40	5240-G12Y40	5240-N12Y40
(0-6)MPa/(0~60)bar	5240-M20Y60	5240-G12Y60	5240-N12Y60
(0-10)MPa/(0~100)bar	5240-M20Y100	5240-G12Y100	5240-N12Y100
(0-16)MPa/(0~160)bar	5240-M20Y160	5240-G12Y160	5240-N12Y160
(0-25)MPa/(0~250)bar	5240-M20Y250	5240-G12Y250	5240-N12Y250
(0-40)MPa/(0~400)bar	5240-M20Y400	5240-G12Y400	5240-N12Y400
(0-60)MPa/(0~600)bar	5240-M20Y600	5240-G12Y600	5240-N12Y600

*Other ranges and connection can be customized according to customer requirements

top



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STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc
Current and voltage test line	1 set

OPTIONAL ACCESSORY

Pressure gauge penumatic calibration pump	5220-PP06
Pressure gauge calibration pump	5230-HP□□□
Pressure adapter	5220-PA-□□□

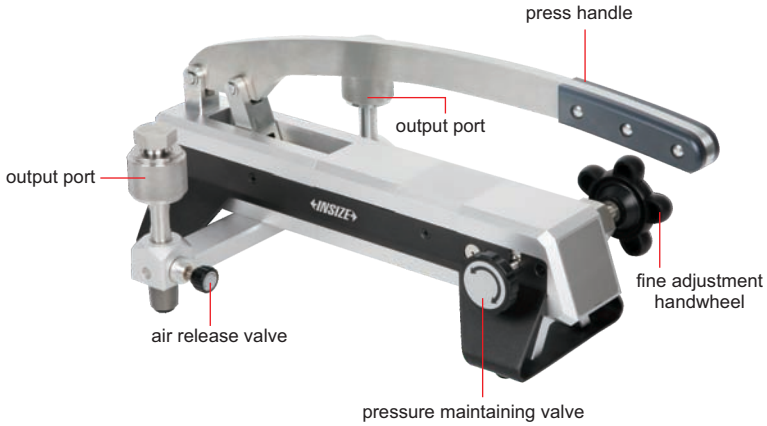
To be continued

Continued from previous page

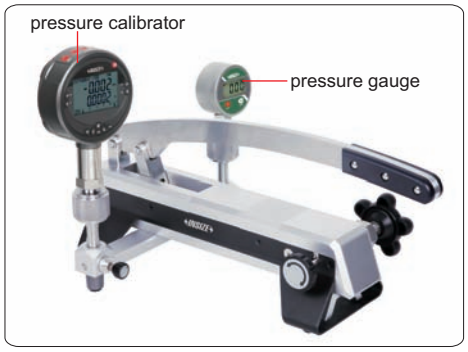
SPECIFICATION

Accuracy		0.05%FS
Overload pressure		120%FS
Long-term stability		±0.1%FS/year
Zero drift		±0.1%FS
Dial diameter		120mm
Pressure type		gauge pressure
Unit		MPa, kPa, inHg, inH₂o, kgf/cm², mmH₂o, mmHg, mbar, bar, psi, Pa
Electrical connection		measuring connection standard Ø4mm jack
Current measurement	**range**	(-30~30)mA
	resolution	0.1μA
	accuracy	±(0.01%RD+0.003%FS)
Voltage measurement	**range**	(-30~30)V
	resolution	0.1μV
	accuracy	±(0.01%RD+0.003%FS)
Pressure switch-off measurement		voltage range 3V~24V (if with electric)
Temperature measurement	**range**	0~50°C
	accuracy	±1°C
24V DC output		24V±0.5V, 50mA (max)
Operation environment	**work temperature**	0~50°C
	humidity	(0~90%)RH (non-condensing)
	atmospheric pressure	0.86~1.01bar/(86~101)kPa
Data interface		RS232
Power supply		rechargeable lithium battery, power adapter
Dimension		header Ø120×45mm, overall length 190mm
Weight		0.70kg

PRESSURE GAUGE PENUMATIC CALIBRATION PUMP CODE 5220-PP06



application example



- Energy-saving operation
- Two quick-connect ports
- Screw type fine adjustment
- All parts are made of aluminium alloy
- Easy maintenance and repair

carrying case (**optional**)

SPECIFICATION

Pressure range	(-0.095~6)MPa (-0.95~70)bar/(-14~1000)psi
Adjustment resolution	10Pa
Output port	M20×1.5 female (Qty 2)*
Medium	air
Dimension (L×W×H)	450×262×170mm
Weight	5.5kg

*Other output port (1/2G, 1/4G, 1/2NPT, 1/4NPT) can be customized

STANDARD DELIVERY

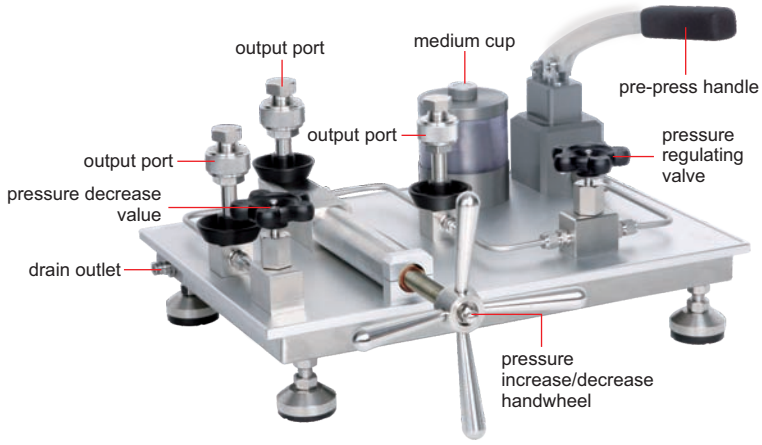
Main unit	1 pc
O-ring	20 pcs

OPTIONAL ACCESSORY

Pressure calibrator	**5240-□□□**
Pressure calibration adaptor	**5220-PA-□□□**
Carrying case	**5220-CASE**

PRESSURE GAUGE CALIBRATION PUMPS

application example



- Portable design for laboratory and industrial field use
- Three quick-connect ports, two pressure gauge can be calibrated at the same time
- Stable pressure increase/decrease
- Media drain design, to aviod the dirty media pollution of the system
- The parts are made of stainless steel, stable and reliable quality
- Overall open structure, easy to maintain and repair

5230-HP60W

carrying case (**optional**)

SPECIFICATION

Code	5230-HP60W	5230-HP60Y
Pressure range	(0~60)MPa/(0~600)bar/(0~9000)psi	
Adjustment resolution	0.1kPa	
Medium	pure water	mineral oil
Output port	M20×1.5 female (Qty 3)*	
Reservoir volume	0.38L	
Dimension (L×W×H)	465×370×240mm	
Weight	15kg	

*Other output port (1/2G, 1/4G, 1/2NPT, 1/4NPT) can be customized

STANDARD DELIVERY

Main unit	1 pc
O-ring	20 pcs

OPTIONAL ACCESSORY

Pressure calibrator	5240-□□□
Pressure calibration adaptor	5220-PA-□□□
Carrying case	5220-CASE

PRESSURE GAUGE ADAPTERS

5220-PA-SET

- The adapters are designed for the conversion connection between different types and specifications of threads during the testing of pressure gauge
- The M20×1.5 male thread is converted to a variety of different specifications and types of threads, which can meet most of the conversion connection needs

Set

Code	Including 38 adapters	Pressure range
5220-PA-SET	5220-PA-M20M, 5220-PA-M20F, 5220-PA-M16M, 5220-PA-M16F, 5220-PA-M14M 5220-PA-M14F, 5220-PA-M12M, 5220-PA-M12F, 5220-PA-M10M, 5220-PA-M10F 5220-PA-G12M, 5220-PA-G12F, 5220-PA-G38M, 5220-PA-G38F, 5220-PA-G14M 5220-PA-G14F, 5220-PA-G18M, 5220-PA-G18F, 5220-PA-ZG12M, 5220-PA-ZG12F 5220-PA-ZG38M, 5220-PA-ZG38F, 5220-PA-ZG14M, 5220-PA-ZG14F, 5220-PA-ZG18M 5220-PA-ZG18F, 5220-PA-N12M, 5220-PA-N12F, 5220-PA-N38M, 5220-PA-N38F 5220-PA-N14M, 5220-PA-N14F, 5220-PA-N18M, 5220-PA-N18F, 5220-PA-6HB 5220-PA-8HB, 5220-PA-10HB, 5220-PA-M20RA	(-1-250) bar

To be continued

Continued from previous page

Individual

Code	Specification
5220-PA-M20M	M20×1.5 male to M20×1.5 male
5220-PA-M20F	M20×1.5 male to M20×1.5 female
5220-PA-M16M	M20×1.5 male to M16×1.5 male
5220-PA-M16F	M20×1.5 male to M16×1.5 female
5220-PA-M14M	M20×1.5 male to M14×1.5 male
5220-PA-M14F	M20×1.5 male to M14×1.5 female
5220-PA-M12M	M20×1.5 male to M12×1.5 male
5220-PA-M12F	M20×1.5 male to M12×1.5 female
5220-PA-M10M	M20×1.5 male to M10×1.0 male
5220-PA-M10F	M20×1.5 male to M10×1.0 female
5220-PA-G12M	M20×1.5 male to G1/2 male
5220-PA-G12F	M20×1.5 male to G1/2 female
5220-PA-G38M	M20×1.5 male to G3/8 male
5220-PA-G38F	M20×1.5 male to G3/8 female
5220-PA-G14M	M20×1.5 male to G1/4 male
5220-PA-G14F	M20×1.5 male to G1/4 female
5220-PA-G18M	M20×1.5 male to G1/8 male
5220-PA-G18F	M20×1.5 male to G1/8 female
5220-PA-ZG12M	M20×1.5 male to ZG1/2 male

Code	Specification
5220-PA-ZG12F	M20×1.5 male to ZG1/2 female
5220-PA-ZG38M	M20×1.5 male to ZG3/8 male
5220-PA-ZG38F	M20×1.5 male to ZG3/8 female
5220-PA-ZG14M	M20×1.5 male to ZG1/4 male
5220-PA-ZG14F	M20×1.5 male to ZG1/4 female
5220-PA-ZG18M	M20×1.5 male to ZG1/8 male
5220-PA-ZG18F	M20×1.5 male to ZG1/8 female
5220-PA-N12M	M20×1.5 male to NPT1/2 male
5220-PA-N12F	M20×1.5 male to NPT1/2 female
5220-PA-N38M	M20×1.5 male to NPT3/8 male
5220-PA-N38F	M20×1.5 male to NPT3/8 female
5220-PA-N14M	M20×1.5 male to NPT1/4 male
5220-PA-N14F	M20×1.5 male to NPT1/4 female
5220-PA-N18M	M20×1.5 male to NPT1/8 male
5220-PA-N18F	M20×1.5 male to NPT1/8 female
5220-PA-6HB	M20×1.5 male to Ø6 hose barb
5220-PA-8HB	M20×1.5 male to Ø8 hose barb
5220-PA-10HB	M20×1.5 male to Ø10 hose barb
5220-PA-M20RA	M20×1.5 male to right angle M20×1.5 female

Gas pressure connection hose

Code	Application	Pressure range
5220-PA-GH	for remote calibration of gas pressure gauge, the gauge is connected to the calibrator	(-1-8) bar

5220-PA-GH

High gas pressure connection hose

Code	Application	Pressure range
5220-PA-HGH	for remote calibration of high gas pressure gauge, the gauge is connected to a calibrator	(-1-40) bar

5220-PA-HGH

High liquid pressure connection hose

Code	Application	Pressure range
5220-PA-LH	for remote calibration of high pressure liquid pressure gauge, the gauge is connected to the calibrator	(0-700) bar

5220-PA-LH

Gas-liquid separation filter

Code	Application	Pressure range
5220-PA-SF	when calibrating gauge with air pressure sources, the filter impurities and excludes oil	(-1-250) bar

5220-PA-SF

Liquid filter

Code	Application	Pressure range
5220-PA-LF	the filter impurities the pressure gauge lumen to prevent contamination of the pressure source	(0-700) bar

5220-PA-LF

Pressure gauge thread cleaner

Code	Application
5220-PA-TC	remove sealing wrappings such as twine and raw tape from threaded connections

5220-PA-TC

Oil-water separator

Code	Application
5220-PA-OWS	used to isolate the upper and lower two (or the same) liquid media, isolation film can also play a role in equipment maintenance and cleaning

5220-PA-OWS

PRESSURE TRANSMITTERS
CODE 5501-□□□□□

IP65 WATERPROOF (HIRSCHMANN)

IP67 WATERPROOF (STRAIGHT OUT)

- Compact structure design, small appearance, easy to install
- Digital circuit design, good appliance compatibility
- High-performance diffusion silicon sensor for high sensitivity
- Good long-term stability and high precision
- Circuit adopts anti-frequency interference design, stable output signal
- Anti-reverse connection protection
- 304 stainless steel material

5501-A2C2E1M1P3R11

Accuracy

A1	0.25%FS
A2	0.5%FS

Thread connection

C1	M20*1.5
C2	G1/4
C3	G1/2
C4	NPT1/4
C5	NPT1/2

Mating connection

M1	hirschmann
M2	aviation plug
M3	straight out

Output signal

E1	4-20mA
E2	RS485
E3	0-10V
E4	0-5V
E5	0.5-4.5V

Supply voltage

P1	5V DC
P2	24V DC
P3	12-28V DC
P4	3.3V DC

5501-A□C□E□M□P□R□

- accuracy
- connection thread
- output signal
- pressure range
- supply voltage
- mating connection

Positive pressure range

R1	(0~0.1)bar
R2	(0~0.16)bar
R3	(0~0.25)bar
R4	(0~0.4)bar
R5	(0~0.6)bar
R6	(0~1)bar
R7	(0~1.6)bar
R8	(0~2.5)bar
R9	(0~4)bar
R10	(0~6)bar
R11	(0~10)bar
R12	(0~16)bar
R13	(0~25)bar
R14	(0~40)bar
R15	(0~60)bar
R16	(0~100)bar
R17	(0~160)bar
R18	(0~250)bar
R19	(0~400)bar
R20	(0~600)bar

Compound pressure range

R23	(-0.1~0.1)bar
R24	(-0.25~0.25)bar
R25	(-0.5~0.5)bar
R26	(-1~1)bar

Code example:

5501-A2C2E1M1P3R11	**A2**-accuracy 0.5%FS
	C2-connection thread 1/4G
	E1-output signal 4~20mA
	M1-hirschmann mating connection
	P3-supply voltage 12-28V DC
	R11-pressure range (0~10bar)

Vacuum pressure range

R21	(-0.5~0)bar
R22	(-1~0)bar

Absolute pressure range

R27	(0~1)bar.a
R28	(0~1.6)bar.a
R29	(0~2)bar.a
R30	(0~2.5)bar.a
R31	(0~3)bar.a
R32	(0~4)bar.a
R33	(0~5)bar.a
R34	(0~6)bar.a
R35	(0~10)bar.a
R36	(0~16)bar.a
R37	(0~20)bar.a
R38	(0~25)bar.a

SPECIFICATION

Overload pressure	≤100bar 200%; >100bar 150%
Response time	≤5ms
Long-term stability	±0.25%/year
Working temperature	-20~80°C
Protection class	IP65 (hirschmann); IP67 (straight out)
Measurement medium	measurement medium is compatible with 316L stainless steel gas or liquid
Shell material	304 stainless steel
Weight	200g

IP65
WATERPROOF

HIGH PRECISION DIGITAL PRESSURE GAUGES
CODE 5218-□□□□

5218-A2C2P2R6

- Dial rotates 330°
- 12 pressure units can be switched
- The main screen displays the pressure, the secondary screen displays the ambient temperature, maximum pressure value, minimum pressure value, range etc.
- Recording data can be collected at an adjustable rate
- Record up to 270,000 pieces of data per record, data can be exported

SPECIFICATION

Unit	MPa, kgf/cm², bar, psi, mH_2O, mbar, Tor, inHg, inH_2O, inWC, ATM, kPa
Overload pressure	150%
Dial diameter	85mm
Dial rotation angle	330°
Sampling rate	0.1~10s/time
Data interface	type-c
Protection level	IP65
Case material	zinc casting
Connection thread material	304 stainless steel
Measurement medium	compatible with 316L stainless steel gas or liquid
Working temperature	-5~40°C
Weight	400g

Code explanation:

5218-A□C□P□R□
accuracy
connection thread
pressure range
power supply mode

Code example:

5218-A2C2P2R6	**A2**-accuracy 0.1%FS
	C2-connection thread G1/4
	P2-type-c external power supply + rechargeable battery power supply
	R6-pressure range (0~10)bar

Accuracy

A1	0.05%FS
A2	0.1%FS
A3	0.5%FS

Thread connection

C1	M20*1.5
C2	G1/4
C3	G1/2
C4	NPT1/4
C5	NPT1/2

Supply voltage

P1	type-c external power supply + 3 AAA batteries power supply
P2	type-c external power supply + rechargeable battery power supply

Positive pressure range

R1	(0~1)bar
R2	(0~1.6)bar
R3	(0~2.5)bar
R4	(0~4)bar
R5	(0~6)bar
R6	(0~10)bar
R7	(0~16)bar
R8	(0~25)bar
R9	(0~40)bar
R10	(0~60)bar
R11	(0~100)bar
R12	(0~160)bar
R13	(0~250)bar
R14	(0~400)bar
R15	(0~600)bar
R16	(0~700)bar

Vacuum pressure range

R17	(-1~0)bar

Compound pressure range

R18	(-1~1)bar
R19	(-1~1.6)bar
R20	(-1~2.5)bar
R21	(-1~6)bar
R22	(-1~10)bar
R23	(-1~16)bar
R24	(-1~25)bar

DIGITAL PRESSURE GAUGES (DIAL DIAMETER 60mm)

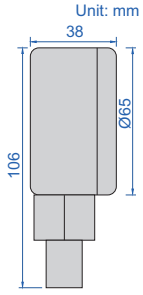
INSPECTION CERTIFICATE | BACKLIGHT | IP50 WATERPROOF

- The case is made of 304 stainless steel
- Large LCD screen, support unit switching
- Zero, backlight, on/off functions
- Pressure bar display, indicating current pressure percentage
- Built-in high-precision pressure sensor, high accuracy, high long-term stability
- Measurement of gases, liquids, oils and other media that do not corrode stainless steel
- Anti-electromagnetic interference design, conforms to EN61326 standard

Range*	Connection*		
	M14	G1/4	NPT1/4
(0-1.6)MPa	5202-M14Y16	5202-G14Y16	5202-N14Y16
(0-6)MPa	5202-M14Y60	5202-G14Y60	5202-N14Y60
(0-25)MPa	5202-M14Y250	5202-G14Y250	5202-N14Y250

*Other ranges and connection can be customized according to customer requirements

5202-M14Y60



SPECIFICATION

Accuracy		1%FS
Overload pressure		120% (≥10MPa); 150% (<10MPa)
Pressure type		gauge pressure
Unit		MPa, kPa, psi, kgf/cm², bar
Power supply		2×1.5V AAA batteries (for 12 months working)
Operation environment	work temperature	-10~60°C
	humidity	(0~100%)RH (non-condensing)
	storage temperature	-10~50°C
Dial diameter		60mm
Weight		0.23kg

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	2 pcs

DIGITAL PRESSURE GAUGES (DIAL DIAMETER 80mm)

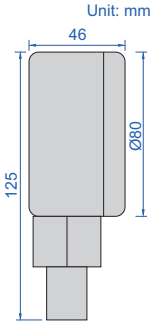
INSPECTION CERTIFICATE | BACKLIGHT | IP50 WATERPROOF

- The case is made of 304 stainless steel
- Large LCD screen, support unit switching
- Zero, backlight, on/off, Low voltage alarm, extreme value recording functions
- Pressure bar display, indicating current pressure percentage
- Built-in high-precision pressure sensor, high accuracy, high long-term stability
- Measurement of gases, liquids, oils and other media that do not corrode stainless steel
- Anti-electromagnetic interference design, conforms to EN61326 standard

Range*	Connection*		
	M20	G1/2	NPT1/2
(0-1.6)MPa	5203-M20Y16	5203-G12Y16	5203-N12Y16
(0-6)MPa	5203-M20Y60	5203-G12Y60	5203-N12Y60
(0-25)MPa	5203-M20Y250	5203-G12Y250	5203-N12Y250

*Other ranges and connection can be customized according to customer requirements

5203-M20Y60



SPECIFICATION

Accuracy		0.5%FS
Overload pressure		150% (>10MPa); 200% (≤10MPa)
Pressure type		gauge pressure
Unit		MPa, kPa, psi, kgf/cm², bar, mH₂O, inHg
Power supply		2×1.5V AAA batteries (for 12 months working)
Operation environment	work temperature	-10~60°C
	humidity	(0~100%)RH (non-condensing)
	storage temperature	-10~50°C
Dial diameter		80mm
Weight		0.38kg

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	2 pcs

BLACK STEEL CASE | BRASS BOURDON TUBE

BLACK STEEL RING | BRASS CONNECTION

BOURDON TUBE PRESSURE GAUGES (DRY)
CODE 5204-□□□□□

5204-C4D3L1W1R11

- Black steel case, black steel ring, brass connection, brass bourdon tube
- Used for pneumatic systems, compressors, compressed air systems, non-vibration use
- Suitable for fluid medium which does not clog connection port or corrode brass

5204-C□D□L□W□R□
connection
dial size
connection position
window
pressure range

SPECIFICATION

Accuracy class	CL 2.5 for 40mm (1.5"), 50mm (2"); CL 1.6 for 63mm (2.5"), 100mm (4")
Ambient temperature	-40°C~60°C (-40°F~140°F)
Medium temperature	≤60°C (140°F)

Code example:

5204-C4D3L1W1R11	**C4**-connection thread 1/4BSP
	D3-dial size Ø63mm
	L1-bottom connection position
	W1-plastic material window
	R11-pressure range (0~10bar/0~150psi)

Process connection

C1	1/8BSP (Ø40mm, Ø50mm, Ø63mm)
C2	1/8ZG (Ø40mm, Ø50mm, Ø63mm)
C3	1/8NPT (Ø40mm, Ø50mm, Ø63mm)
C4	1/4BSP (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C5	1/4ZG (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C6	1/4NPT (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C7	3/8BSP (Ø100mm)
C8	3/8ZG (Ø100mm)
C9	3/8NPT (Ø100mm)
C10	1/2BSP (Ø100mm)
C11	1/2ZG (Ø100mm)
C12	1/2NPT (Ø100mm)

Dial size

D1	Ø40mm (1.5")
D2	Ø50mm (2")
D3	Ø63mm (2.5")
D4	Ø100mm (4")

Connection position

L1	bottom
L2	back
L3	back connection with front flange
L4	bottom connection with back flange

Window

W1	plastic
W2	tempered glass

Pressure range

R1	(-1~0bar/-30~0inHg)
R2	(-1~2bar/-30~0inHg~30psi)
R3	(-1~4bar/-30~0inHg~60psi)
R4	(-1~7bar/-30~0inHg~100psi)
R5	(0~1bar/0~15psi)
R6	(0~1.4bar/0~20psi)
R7	(0~2bar/0~30psi)
R8	(0~2.5bar/0~35psi)
R9	(0~4bar/0~60psi)
R10	(0~7bar/0~100psi)
R11	(0~10bar/0~150psi)
R12	(0~11bar/0~160psi)
R13	(0~14bar/0~200psi)
R14	(0~16bar/0~230psi)
R15	(0~20bar/0~300psi)
R16	(0~25bar/0~350psi)
R17	(0~40bar/0~600psi)
R18	(0~55bar/0~800psi)
R19	(0~60bar/0~850psi)
R20	(0~70bar/0~1000psi)
R21	(0~100bar/0~1500psi)
R22	(0~140bar/0~2000psi)
R23	(0~160bar/0~2300psi)
R24	(0~200bar/0~3000psi)
R25	(0~250bar/0~3500psi)
R26	(0~280bar/0~4000psi)
R27	(0~350bar/0~5000psi)
R28	(0~400bar/0~6000psi)

BOURDON TUBE PRESSURE GAUGES (DRY)
CODE 5205-□□□□□

ELECTROPLATING CASE | ELECTROPLATING RING | BRASS CONNECTION | BRASS BOURDON TUBE

5205-C4D3L1W1R15

5205-C□D□L□W□R□
- connection
- dial size
- connection position
- window
- pressure range

Code example:

5205-C4D3L1W1R15	**C4**-connection thread 1/4BSP
	D3-dial size Ø63mm
	L1-bottom connection position
	W1-plastic material window
	R15-pressure range (0~20bar/0~300psi)

- Electroplating case, electroplating ring, brass connection, brass bourdon tube
- Used for pneumatic systems, compressors, compressed air system, non-vibrating use
- Suitable for fluid medium which does not clog connection port or corrode brass

SPECIFICATION

Accuracy class	CL 2.5 for 40mm (1.5"), 50mm (2"); CL 1.6 for 63mm (2.5"), 100mm (4")
Ambient temperature	-40°C~60°C (-40°F~140°F)
Medium temperature	≤60°C (140°F)

Process connection

C1	1/8BSP (Ø40mm, Ø50mm, Ø63mm)
C2	1/8ZG (Ø40mm, Ø50mm, Ø63mm)
C3	1/8NPT (Ø40mm, Ø50mm, Ø63mm)
C4	1/4BSP (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C5	1/4ZG (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C6	1/4NPT (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C7	3/8BSP (Ø100mm)
C8	3/8ZG (Ø100mm)
C9	3/8NPT (Ø100mm)
C10	1/2BSP (Ø100mm)
C11	1/2ZG (Ø100mm)
C12	1/2NPT (Ø100mm)

Dial size

D1	Ø40mm (1.5")
D2	Ø50mm (2")
D3	Ø63mm (2.5")
D4	Ø100mm (4")

Connection position

L1	bottom
L2	back

Window

W1	plastic
W2	tempered glass

Pressure range

R1	(-1~0bar/-30~0inHg)
R2	(-1~2bar/-30~0inHg~30psi)
R3	(-1~4bar/-30~0inHg~60psi)
R4	(-1~7bar/-30~0inHg~100psi)
R5	(0~1bar/0~15psi)
R6	(0~1.4bar/0~20psi)
R7	(0~2bar/0~30psi)
R8	(0~2.5bar/0~35psi)
R9	(0~4bar/0~60psi)
R10	(0~7bar/0~100psi)
R11	(0~10bar/0~150psi)
R12	(0~11bar/0~160psi)
R13	(0~14bar/0~200psi)
R14	(0~16bar/0~230psi)
R15	(0~20bar/0~300psi)
R16	(0~25bar/0~350psi)
R17	(0~40bar/0~600psi)
R18	(0~55bar/0~800psi)
R19	(0~60bar/0~850psi)
R20	(0~70bar/0~1000psi)
R21	(0~100bar/0~1500psi)
R22	(0~140bar/0~2000psi)
R23	(0~160bar/0~2300psi)
R24	(0~200bar/0~3000psi)
R25	(0~250bar/0~3500psi)
R26	(0~280bar/0~4000psi)
R27	(0~350bar/0~5000psi)
R28	(0~400bar/0~6000psi)

STAINLESS STEEL CASE

STAINLESS STEEL RING

STAINLESS STEEL CONNECTION

STAINLESS STEEL BOURDON TUBE

BOURDON TUBE PRESSURE GAUGES (DRY)
CODE 5206-□□□□□

5206-C4D3L1W1R1

5206-C□D□L□W□R□
- connection
- dial size
- connection position
- window
- pressure range

Code example:

5206-C4D3L1W1R1	**C4**-connection thread 1/4BSP
	D3-dial size Ø63mm
	L1-bottom connection position
	W1-plastic material window
	R1-pressure range (-1~0bar/-30~0inHg)

- Stainless steel case, stainless steel ring, stainless steel connection, stainless steel bourdon tube
- Used for pneumatic systems, compressors, compressed air system, non-vibrating use
- Suitable for fluid medium which does not clog connection port or corrode stainless steel

SPECIFICATION

Accuracy class	CL 2.5 for 40mm (1.5"), 50mm (2"); CL 1.6 for 63mm (2.5"), 100mm (4")
Ambient temperature	-40°C~60°C (-40°F~140°F)
Medium temperature	≤60°C (140°F)

Process connection

C1	1/8BSP (Ø40mm, Ø50mm, Ø63mm)
C2	1/8ZG (Ø40mm, Ø50mm, Ø63mm)
C3	1/8NPT (Ø40mm, Ø50mm, Ø63mm)
C4	1/4BSP (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C5	1/4ZG (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C6	1/4NPT (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C7	3/8BSP (Ø100mm)
C8	3/8ZG (Ø100mm)
C9	3/8NPT (Ø100mm)
C10	1/2BSP (Ø100mm)
C11	1/2ZG (Ø100mm)
C12	1/2NPT (Ø100mm)

Dial size

D1	Ø40mm (1.5")
D2	Ø50mm (2")
D3	Ø63mm (2.5")
D4	Ø100mm (4")

Connection position

L1	bottom
L2	back

Window

W1	plastic
W2	tempered glass

Pressure range

R1	(-1~0bar/-30~0inHg)
R2	(-1~2bar/-30~0inHg~30psi)
R3	(-1~4bar/-30~0inHg~60psi)
R4	(-1~7bar/-30~0inHg~100psi)
R5	(0~1bar/0~15psi)
R6	(0~1.4bar/0~20psi)
R7	(0~2bar/0~30psi)
R8	(0~2.5bar/0~35psi)
R9	(0~4bar/0~60psi)
R10	(0~7bar/0~100psi)
R11	(0~10bar/0~150psi)
R12	(0~11bar/0~160psi)
R13	(0~14bar/0~200psi)
R14	(0~16bar/0~230psi)
R15	(0~20bar/0~300psi)
R16	(0~25bar/0~350psi)
R17	(0~40bar/0~600psi)
R18	(0~55bar/0~800psi)
R19	(0~60bar/0~850psi)
R20	(0~70bar/0~1000psi)
R21	(0~100bar/0~1500psi)
R22	(0~140bar/0~2000psi)
R23	(0~160bar/0~2300psi)
R24	(0~200bar/0~3000psi)
R25	(0~250bar/0~3500psi)
R26	(0~280bar/0~4000psi)
R27	(0~350bar/0~5000psi)
R28	(0~400bar/0~6000psi)

BOURDON TUBE PRESSURE GAUGES (LIQUID FILLED)

- Stainless steel case and bezel, copper alloy internals
- Shock-proof and pulse-proof
- Suitable for pneumatic systems, hydraulic systems and compressed air systems

CAN BE CUSTOMIZED

Dial size	Ø63mm		
Process connection	1/4BSP	1/4ZG	1/4NPT
Connector location	bottom	bottom	bottom
Range (0~10bar/0~150psi)	5201-63B2Y10	5201-63Z2Y10	5201-63N2Y10

5201-63B2Y10

SPECIFICATION

Accuracy class	1.6
Ambient temperature	-20~60°C
Medium temperature	≤60°C

BOURDON TUBE PRESSURE GAUGES (LIQUID FILLED) CODE 5207-□□□□□

STAINLESS STEEL CASE | STAINLESS STEEL RING | BRASS BOURDON TUBE | BRASS CONNECTION | CRIMP RING

5207-C4D3L2W1R14

- Stainless steel case, stainless steel ring, brass connection, brass bourdon tube
- Used for hydraulic and pneumatic systems, compressors, compressed air system, shock-proof and pulse-proof
- Suitable for fluid medium which does not clog connection port or corrode brass

5207-C□D□L□W□R□
connection
dial size
pressure range
window
connection position

Process connection

C1	1/8BSP (Ø40mm, Ø50mm, Ø63mm)
C2	1/8ZG (Ø40mm, Ø50mm, Ø63mm)
C3	1/8NPT (Ø40mm, Ø50mm, Ø63mm)
C4	1/4BSP (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C5	1/4ZG (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C6	1/4NPT (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C7	3/8BSP (Ø100mm)
C8	3/8ZG (Ø100mm)
C9	3/8NPT (Ø100mm)
C10	1/2BSP (Ø100mm)
C11	1/2ZG (Ø100mm)
C12	1/2NPT (Ø100mm)

Dial size

D1	Ø40mm (1.5")
D2	Ø50mm (2")
D3	Ø63mm (2.5")
D4	Ø100mm (4")

Connection position

L1	bottom
L2	back
L3	back connection with front flange
L4	bottom connection with back flange

Window

W1	polycarbonate
W2	tempered glass

Code example:

5207-C4D3L2W1R14	**C4**-connection thread 1/4BSP
	D3-dial size Ø63mm
	L2-back connection position
	W1-polycarbonate material window
	R14-pressure range (0~16bar/0~230psi)

SPECIFICATION

Accuracy class	CL 2.5 for 40mm (1.5"), 50mm (2"); CL 1.6 for 63mm (2.5"), 100mm (4")
Liquid	silicone
Ambient temperature	-20°C~60°C (-4°F~140°F)
Medium temperature	≤60°C (140°F)

Pressure range

R1	(-1~0bar/-30~0inHg)
R2	(-1~2bar/-30~0inHg~30psi)
R3	(-1~4bar/-30~0inHg~60psi)
R4	(-1~7bar/-30~0inHg~100psi)
R5	(0~1bar/0~15psi)
R6	(0~1.4bar/0~20psi)
R7	(0~2bar/0~30psi)
R8	(0~2.5bar/0~35psi)
R9	(0~4bar/0~60psi)
R10	(0~7bar/0~100psi)
R11	(0~10bar/0~150psi)
R12	(0~11bar/0~160psi)
R13	(0~14bar/0~200psi)
R14	(0~16bar/0~230psi)
R15	(0~20bar/0~300psi)
R16	(0~25bar/0~350psi)
R17	(0~40bar/0~600psi)
R18	(0~55bar/0~800psi)
R19	(0~60bar/0~850psi)
R20	(0~70bar/0~1000psi)
R21	(0~100bar/0~1500psi)
R22	(0~140bar/0~2000psi)
R23	(0~160bar/0~2300psi)
R24	(0~200bar/0~3000psi)
R25	(0~250bar/0~3500psi)
R26	(0~280bar/0~4000psi)
R27	(0~350bar/0~5000psi)
R28	(0~400bar/0~6000psi)
R29	(0~600bar/0~9000psi)
R30	(0~700bar/0~10000psi)

STAINLESS STEEL CASE | STAINLESS STEEL RING | STAINLESS STEEL CONNECTION | STAINLESS STEEL BOURDON TUBE | CRIMP RING

BOURDON TUBE PRESSURE GAUGES (LIQUID FILLED)
CODE 5208-□□□□□

5208-C4D3L1W1R19

- Stainless steel case, stainless steel ring, stainless steel connection, stainless steel bourdon tube
- Used for hydraulic and pneumatic systems, compressors, compressed air system, shock-proof and pulse-proof
- Suitable for fluid medium which does not clog connection port or corrode stainless steel

5208-C□D□L□W□R□
- connection
- dial size
- connection position
- window
- pressure range

Code example:

5208-C4D3L1W1R19	**C4**-connection thread 1/4BSP
	D3-dial size Ø63mm
	L1-back connection position
	W1-polycarbonate material window
	R19-pressure range (0~60bar/0~850psi)

SPECIFICATION

Accuracy class	CL 2.5 for 40mm (1.5"), 50mm (2"); CL 1.6 for 63mm (2.5"), 100mm (4")
Liquid	silicone
Ambient temperature	-20°C~60°C (-4°F~140°F)
Medium temperature	≤60°C (140°F)

Process connection

C1	1/8BSP (Ø40mm, Ø50mm, Ø63mm)
C2	1/8ZG (Ø40mm, Ø50mm, Ø63mm)
C3	1/8NPT (Ø40mm, Ø50mm, Ø63mm)
C4	1/4BSP (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C5	1/4ZG (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C6	1/4NPT (Ø40mm, Ø50mm, Ø63mm, Ø100mm)
C7	3/8BSP (Ø100mm)
C8	3/8ZG (Ø100mm)
C9	3/8NPT (Ø100mm)
C10	1/2BSP (Ø100mm)
C11	1/2ZG (Ø100mm)
C12	1/2NPT (Ø100mm)

Dial size

D1	Ø40mm (1.5")
D2	Ø50mm (2")
D3	Ø63mm (2.5")
D4	Ø100mm (4")

Connection position

L1	bottom
L2	back
L3	back connection with front flange
L4	bottom connection with back flange

Window

W1	polycarbonate
W2	tempered glass

Pressure range

R1	(-1~0bar/-30~0inHg)
R2	(-1~2bar/-30~0inHg~30psi)
R3	(-1~4bar/-30~0inHg~60psi)
R4	(-1~7bar/-30~0inHg~100psi)
R5	(0~1bar/0~15psi)
R6	(0~1.4bar/0~20psi)
R7	(0~2bar/0~30psi)
R8	(0~2.5bar/0~35psi)
R9	(0~4bar/0~60psi)
R10	(0~7bar/0~100psi)
R11	(0~10bar/0~150psi)
R12	(0~11bar/0~160psi)
R13	(0~14bar/0~200psi)
R14	(0~16bar/0~230psi)
R15	(0~20bar/0~300psi)
R16	(0~25bar/0~350psi)
R17	(0~40bar/0~600psi)
R18	(0~55bar/0~800psi)
R19	(0~60bar/0~850psi)
R20	(0~70bar/0~1000psi)
R21	(0~100bar/0~1500psi)
R22	(0~140bar/0~2000psi)
R23	(0~160bar/0~2300psi)
R24	(0~200bar/0~3000psi)
R25	(0~250bar/0~3500psi)
R26	(0~280bar/0~4000psi)
R27	(0~350bar/0~5000psi)
R28	(0~400bar/0~6000psi)
R29	(0~600bar/0~9000psi)
R30	(0~700bar/0~10000psi)

BOURDON TUBE PRESSURE GAUGES (LIQUID FILLED)
CODE 5209-□□□□□

STAINLESS STEEL CASE | STAINLESS STEEL RING | STAINLESS STEEL CONNECTION

STAINLESS STEEL BOURDON TUBE | BAYNOET RING

5209-C7D2L1W1R11

- Stainless steel case, stainless steel ring, stainless steel connection, stainless steel bourdon tube
- Used for hydraulic and pneumatic systems, compressors, compressed air system, shock-proof and pulse-proof
- Suitable for fluid medium which does not clog connection port or corrode stainless steel

5209-C□D□L□W□R□
connection
dial size
connection position
window
pressure range

Code example:

5209-C7D2L1W1R11	**C7**-connection thread 1/2BSP
	D2-dial size Ø100mm
	L1-bottom connection position
	W1-tempered glass material window
	R11-pressure range (0~10bar/0~140psi)

SPECIFICATION

Accuracy class	CL 1.6 for 63mm (2.5"); CL 1.0 for 100mm (4"), 150mm (6")
Ambient temperature	-20°C~60°C (-4°F~140°F)
Liquid	silicone
Medium temperature	≤60°C (140°F)

Process connection

C1	1/4BSP (Ø63mm)
C2	1/4ZG (Ø63mm)
C3	1/4NPT (Ø63mm)
C4	3/8BSP (Ø100mm, Ø150mm)
C5	3/8ZG (Ø100mm, Ø150mm)
C6	3/8NPT (Ø100mm, Ø150mm)
C7	1/2BSP (Ø100mm, Ø150mm)
C8	1/2ZG (Ø100mm, Ø150mm)
C9	1/2NPT (Ø100mm, Ø150mm)

Dial size

D1	Ø63mm (2.5")
D2	Ø100mm (4")
D3	Ø150mm (6")

Connection position

L1	bottom
L2	back

Window

W1	tempered glass
W2	safety glass

Pressure range

R1	(-1~0bar/-30~0inHg)
R2	(-1~2bar/-30~0inHg~30psi)
R3	(-1~4bar/-30~0inHg~60psi)
R4	(-1~7bar/-30~0inHg~100psi)
R5	(0~1bar/0~15psi)
R6	(0~1.4bar/0~20psi)
R7	(0~2bar/0~30psi)
R8	(0~2.5bar/0~35psi)
R9	(0~4bar/0~60psi)
R10	(0~7bar/0~100psi)
R11	(0~10bar/0~150psi)
R12	(0~11bar/0~160psi)
R13	(0~14bar/0~200psi)
R14	(0~16bar/0~230psi)
R15	(0~20bar/0~300psi)
R16	(0~25bar/0~350psi)
R17	(0~40bar/0~600psi)
R18	(0~55bar/0~800psi)
R19	(0~60bar/0~850psi)
R20	(0~70bar/0~1000psi)
R21	(0~100bar/0~1500psi)
R22	(0~140bar/0~2000psi)
R23	(0~160bar/0~2300psi)
R24	(0~200bar/0~3000psi)
R25	(0~250bar/0~3500psi)
R26	(0~280bar/0~4000psi)
R27	(0~350bar/0~5000psi)
R28	(0~400bar/0~6000psi)
R29	(0~600bar/0~9000psi)
R30	(0~700bar/0~10000psi)

BRASS CONNECTION | BRASS BOURDON TUBE | PLASTIC CASE | PLASTIC WINDOW

WATER TEST PRESSURE GAUGES
CODE 5210-□□□

- Plastic case, plastic window, brass connection, brass bourdon tube, with memory pointer
- Used for water test

5210-C1D2R3

5210-C□D□R□
connection — pressure range
dial size

Code example:

5210-C1D2R3	**C1**-connection thread 1/4BSP
	D2-dial size Ø63mm
	R3-pressure range (0~14bar/0~200psi)

Process connection

C1	1/4BSP (Ø50mm, Ø63mm)
C2	1/4ZG (Ø50mm, Ø63mm)
C3	1/4NPT (Ø50mm, Ø63mm)

Dial size

D1	Ø50mm (2")
D2	Ø63mm (2.5")

Pressure range

R1	(0~7bar/0~100psi)
R2	(0~11bar/0~160psi)
R3	(0~14bar/0~200psi)
R4	(0~20bar/0~300psi)

SPECIFICATION

Accuracy class	CL 2.5 for 50mm (2"); CL 1.6 for 63mm (2.5")
End connection	with 3/4" female thread copper alloy swivel connection
Ambient temperature	-20°C~60°C (-4°F~140°F)
Medium temperature	≤60°C (140°F)

ELECTROPLATING CASE | BRASS BOURDON TUBE | STAINLESS STEEL RING | BRASS CONNECTION | ELECTROPLATING BRASS MOUNT

GAS TEST PRESSURE GAUGES
CODE 5211-□□□□

- Electroplating case, stainless steel ring, brass connection, brass bourdon tube, electroplating brass mount
- Used for gas test

5211-C1D2W1R2

5211-C□D□W□R□
connection — pressure range
dial size — window

Code example:

5211-C1D2W1R2	**C1**-connection thread 1/4BSP
	D2-dial size Ø63mm
	W1-plastic material window
	R2-pressure range (0~10bar/0~140psi)

Process connection

C1	1/4BSP (Ø50mm, Ø63mm)
C2	1/4ZG (Ø50mm, Ø63mm)
C3	1/4NPT (Ø50mm, Ø63mm)

Dial size

D1	Ø50mm (2")
D2	Ø63mm (2.5")

Windows

W1	plastic
W2	tempered glass

Pressure range

R1	(0~7bar/0~100psi)
R2	(0~10bar/0~140psi)
R3	(0~11bar/0~160psi)
R4	(0~14bar/0~200psi)
R5	(0~20bar/0~300psi)

SPECIFICATION

Accuracy class	CL 2.5 for 50mm (2"); CL 1.6 for 63mm (2.5")
End connection	with 3/4NPT female mount
Ambient temperature	-20°C~60°C (-4°F~140°F)
Medium temperature	≤60°C (140°F)

GAS LINE TEST PRESSURE GAUGES
CODE 5212-□□□□□

BLACK STEEL CASE | BRASS BOURDON TUBE | BLACK STEEL RING | BRASS CONNECTION

5212-C1D2E2W1R5

5212-C□D□E□W□R□
connection
dial size
end connection
window
pressure range

- Black steel case, black steel ring, brass connection, brass bourdon tube, bell style
- Used for test gas line pressure

Code example:

5212-C1D2E2W1R5	**C1**-connection thread 1/4BSP
	D2-dial size Ø63mm
	E2-end connection thread 3/4NPT
	W1-plastic material window
	R5-pressure range (0~10bar/0~140psi)

Process connection

C1	1/4BSP (Ø50mm, Ø63mm)
C2	1/4ZG (Ø50mm, Ø63mm)
C3	1/4NPT (Ø50mm, Ø63mm)

Dial size

D1	Ø50mm (2")
D2	Ø63mm (2.5")

SPECIFICATION

Accuracy class	CL 2.5 for 50mm (2"); CL 1.6 for 63mm (2.5")
Ambient temperature	-20°C~60°C (-4°F~140°F)
Medium temperature	≤60°C (140°F)

End connection

E1	1/2NPT
E2	3/4NPT
E3	1NPT

Pressure range

R1	(0~1bar/0~15psi)
R2	(0~2bar/0~30psi)
R3	(0~4bar/0~60psi)
R4	(0~7bar/0~100psi)
R5	(0~10bar/0~140psi)
R6	(0~11bar/0~160psi)
R7	(0~14bar/0~200psi)
R8	(0~16bar/0~230psi)
R9	(0~20bar/0~300psi)

Window

W1	plastic
W2	tempered glass

NOTE: FOR HIGHLY-CORROSIVE, HIGH-TEMPERATURE, OR SEVERE SERVICE APPLICATIONS, A DIAPHRAGM SEAL IS RECOMMENDED

PROCESS PRESSURE GAUGES
CODE 5213-□□□□□

ALL STAINLESS STEEL INTERNAL PARTS

SAFETY GLASS WINDOW

STAINLESS STEEL CONNECTION

IP65 WATERPROOF

5213-A2C3L1M1R18

5213-A□C□L□M□R□
- accuracy class
- connection thread
- connection position
- case material
- pressure range

- Safety pattern design, stainless steel connection, safety glass window
- All stainless steel internal parts
- Process gauge is designed to withstand corrosive atmospheres and media, pulsation and vibration, a very rugged gauge engineered for the process industries
- The pressure gauge is applied to the food, drink, refrigeration, petrolchemical processing and so on

Code example:

5213-A2C3L1M1R18	**A2**-accuracy class 1.0
	C3-connection thread 1/4NPT
	L1-bottom connection position
	M1-polypropylene case
	R18-pressure range (0~100bar)

SPECIFICATION

Dial size	Ø115mm (4.5")
Ambient temperature	-20°C~60°C (-4°F~140°F)
Medium temperature	≤60°C (140°F)

Accuracy class

A1	CL 0.5
A2	CL 1.0

Process connection

C1	3/8BSP
C2	1/2BSP
C3	1/4NPT
C4	1/2NPT

Connector location

L1	bottom
L2	back

Case material

M1	polypropylene
M2	back impact resistant phenolic

Pressure range

R1	(-1~0bar)
R2	(-1~1.5bar)
R3	(-1~3bar)
R4	(-1~5bar)
R5	(-1~9bar)
R6	(-1~15bar)
R7	(-1~24bar)
R8	(0~1bar)
R9	(0~1.6bar)
R10	(0~2.5bar)
R11	(0~4bar)
R12	(0~6bar)
R13	(0~10bar)
R14	(0~16bar)
R15	(0~25bar)
R16	(0~40bar)
R17	(0~60bar)
R18	(0~100bar)
R19	(0~160bar)
R20	(0~250bar)
R21	(0~400bar)
R22	(0~600bar)
R23	(0~700bar)

DIAPHRAGM PRESSURE GAUGES
CODE 5214-□□□□□

BLACK STEEL CASE | BRASS DIAPHRAGM | BLACK STEEL RING | BRASS CONNECTION

5214-C1D1L1W1R15

5214-C□D□L□W□R□
connection
dial size
pressure range
window
connection position

- Black steel case, black steel ring, brass connection, brass diaphragm
- Used to measure micro pressure and negative pressure of gas that has no corrosion to stainless steel

Code example:

5214-C1D1L1W1R15	**C1**-connection thread 1/4BSP
	D1-dial size Ø63mm
	L1-bottom connection position
	W1-plastic material window
	R15-pressure range (0~250mbar/0~2500mmH_2O)

Process connection

C1	1/4BSP (Ø63mm)
C2	1/4ZG (Ø63mm)
C3	1/4NPT (Ø63mm)
C4	3/8BSP (Ø100mm)
C5	3/8ZG (Ø100mm)
C6	3/8NPT (Ø100mm)
C7	1/2BSP (Ø100mm)
C8	1/2ZG (Ø100mm)
C9	1/2NPT (Ø100mm)

Dial size

D1	Ø63mm (2.5")
D2	Ø100mm (4")

Connection position

L1	bottom
L2	back

Window

W1	plastic
W2	tempered glass

SPECIFICATION

Accuracy class	CL 1.6 for 63mm (2.5"), 100mm (4")
Ambient temperature	-40°C~60°C (-40°F~140°F)
Medium temperature	≤60°C (140°F)

Pressure range

R1	(-600~0mbar/-6000~0mmH_2O)
R2	(-400~0mbar/-4000~0mmH_2O)
R3	(-250~0mbar/-2500~0mmH_2O)
R4	(-160~0mbar/-1600~0mmH_2O)
R5	(-100~0mbar/-1000~0mmH_2O)
R6	(-60~0mbar/-600~0mmH_2O)
R7	(-40~0mbar/-400~0mmH_2O)
R8	(-25~0mbar/-250~0mmH_2O)
R9	(-10~150mbar/-100~1500mmH_2O)
R10	(0~25mbar/0~250mmH_2O)
R11	(0~40mbar/0~400mmH_2O)
R12	(0~60mbar/0~600mmH_2O)
R13	(0~100mbar/0~1000mmH_2O)
R14	(0~160mbar/0~1600mmH_2O)
R15	(0~250mbar/0~2500mmH_2O)
R16	(0~400mbar/0~4000mmH_2O)
R17	(0~600mbar/0~6000mmH_2O)
R18	(0~700mbar/0~7000mmH_2O)

STAINLESS STEEL CASE | STAINLESS STEEL DIAPHRAGM | STAINLESS STEEL RING | STAINLESS STEEL CONNECTION

DIAPHRAGM PRESSURE GAUGES
CODE 5215-□□□□

5215-C1D1W1R15

5215-C□D□W□R□
connection
dial size
window
pressure range

- Stainless steel case, stainless steel ring, stainless steel connection, stainless steel diaphragm
- Used to measure micro pressure and negative pressure of gas that has no corrosion to stainless steel

Code example:

5215-C1D1W1R15	**C1**-connection thread 1/4BSP
	D1-dial size Ø63mm
	W1-tempered glass material window
	R15-pressure range (0~250mbar/0~2500mmH_2O)

SPECIFICATION

Accuracy class	CL 1.6 for 63mm (2.5"), 100mm (4"); CL 1.0 for 160mm (6.3")
Connection position	bottom
Ambient temperature	-40°C~60°C (-40°F~140°F)
Medium temperature	≤60°C (140°F)

Process connection

C1	1/4BSP (Ø63mm)
C2	1/4ZG (Ø63mm)
C3	1/4NPT (Ø63mm)
C4	3/8BSP (Ø100mm, Ø160mm)
C5	3/8ZG (Ø100mm, Ø160mm)
C6	3/8NPT (Ø100mm, Ø160mm)
C7	1/2BSP (Ø100mm, Ø160mm)
C8	1/2ZG (Ø100mm, Ø160mm)
C9	1/2NPT (Ø100mm, Ø160mm)

Dial size

D1	Ø63mm (2.5")
D2	Ø100mm (4")
D3	Ø160mm (6.3")

Window

W1	tempered glass
W2	safety glass

Pressure range

R1	(-600~0mbar/-6000~0mmH_2O)
R2	(-400~0mbar/-4000~0mmH_2O)
R3	(-250~0mbar/-2500~0mmH_2O)
R4	(-160~0mbar/-1600~0mmH_2O)
R5	(-100~0mbar/-1000~0mmH_2O)
R6	(-60~0mbar/-600~0mmH_2O)
R7	(-40~0mbar/-400~0mmH_2O)
R8	(-25~0mbar/-250~0mmH_2O)
R9	(-10~150mbar/-100~1500mmH_2O)
R10	(0~25mbar/0~250mmH_2O)
R11	(0~40mbar/0~400mmH_2O)
R12	(0~60mbar/0~600mmH_2O)
R13	(0~100mbar/0~1000mmH_2O)
R14	(0~160mbar/0~1600mmH_2O)
R15	(0~250mbar/0~2500mmH_2O)
R16	(0~400mbar/0~4000mmH_2O)
R17	(0~600mbar/0~6000mmH_2O)
R18	(0~700mbar/0~7000mmH_2O)

REFRIGERATION PRESSURE GAUGES
CODE 5216-□□

STAINLESS STEEL CASE | STAINLESS STEEL RING | BRASS CONNECTION | BRASS BOURDON TUBE

- Stainless steel case, stainless steel ring, brass connection, brass bourdon tube
- Used in freezers, chilled water units, screw-type air compressor units, and suitable for non-acid, alkali or copper alloy and plating parts, stainless steel non-corrosive workplace

5216-C1R2

5216-C□R□
connection — pressure range

Code example:

5216-C1R2	**C1**-connection thread 7/16UNF
	R2-pressure range (-1~38bar/-30~0inHg~550psi)

Process connection

C1	7/16UNF
C2	1/4SAE

Pressure range

R1	(-1~18bar/-30~0inHg~250psi)
R2	(-1~38bar/-30~0inHg~550psi)

SPECIFICATION

Accuracy class	CL 1.6
Dial size	Ø63mm (2.5")
Connector location	back connection with front flange
Window	polycarbonate
Liquid	silicone
Ambient temperature	-20°C~60°C (-4°F~140°F)
Medium temperature	≤60°C (140°F)

TEMPERATURE AND PRESSURE GAUGES
CODE 5217-□□□

ELECTROPLATING RING | BRASS BOURDON TUBE | BLACK STEEL CASE | BRASS CONNECTION

- Black steel case, electroplating ring, brass connection, brass bourdon tube
- Bimetal thermometer system, bourdon tube pressure system
- Used in heating systems, combi-boilers with hot water and heating, it combines the value of an individual pressure gauge and thermometer in one instrument

5217-C1L1R2

SPECIFICATION

Accuracy class	CL 1.6
Dial size	80mm
Process connection	1/4BSP
Window	plastic
Ambient temperature	-40°C~60°C (-40°F~140°F)
Medium temperature	≤60°C (140°F)

End connection

C1	1/2BSP (Ø80mm)
C2	1/2ZG (Ø80mm)
C3	1/2NPT (Ø80mm)

Connection position

L1	bottom
L2	back

Pressure and temperature range

R1	(0~4bar)/(0~120°C)
R2	(0~6bar)/(0~120°C)
R3	(0~8bar)/(0~120°C)
R4	(0~10bar)/(0~120°C)
R5	(0~16bar)/(0~120°C)

5217-C□L□R□
end connection — connection position — pressure and temperature range

Code example:

5217-C1L1R2	**C1**-end connection thread 1/4BSP
	L1-bottom connection position
	R2-pressure and temperature range (0~6bar)/(0~120°C)

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DIGITAL OSCILLOSCOPE
CODE 9530-WA10

passive probe (included)

- Analogue bandwidth: 100MHz
- Memory depth: 64kpts
- Sampling rate per channel: 1GSa/s (non-interleaved mode)
- Waveform capture rate: 5,000wfms/s
- Automatic measurement of multiple waveform parameters
- Multiple frequency standard square waves can be output:10Hz, 100Hz, 1kHz, 10kHz
- Sampling mode: real-time sampling and equivalent sampling
- Lissajous method: measuring the phase of a waveform

SPECIFICATION

Analogue bandwidth	100MHz
Channel	2
Maximum real-time sampling rate	1GSa/s (non-interleaved mode)
Rise time	≤3.5ns
Memory depth	64kpts
Waveform capture rate	5000wfms/s
Vertical scale (V/div)	1mV/div~20V/div
Time base scale (s/div)	2ns/div~50s/div
Storage method	setup, wave, bitmap
Trigger type	edge, pulse, alternate, slope, video
Trigger mode	auto, normal, single
Trigger coupling	DC, AC, HF, LF, noise
Cursor measurement	time, voltage, tracking
Parameter measurement	automatic measurement of multiple waveform parameters
Mathematical operation	+, -, ×, ÷, FFT, filter
Digital filter	low pass, high pass, band pass, band stop
Setting	internal: 20 groups, USB: 200 groups
Waveform	internal: 20 groups, USB: 200 groups
Recorded frame	1000 frames of screen data
Interface	USB Host, USB Device, Pass/Fail
Maximum input voltage	300Vrms, the transient over voltage is 1000 Vpk.
Probe compensator output	voltage: about 3Vp-p frequency: 10Hz,100Hz,1kHz, 10kHz
Power supply	AC 100V~240V, 50-60Hz
Dimension (L×W×H)	306mm×138mm×124mm
Weight	2.5kg

STANDARD DELIVERY

Main unit	1 pc
Passive probe	2 pcs
USB cable	1 pc

AC/DC DIGITAL POWER METER
CODE 9670-PM70

- Basic accuracy: 0.2%
- AC/DC universal, input signal bandwidth: DC, 15Hz-5kHz
- High measurement speed, up to 0.1s refresh rate
- Voltage and current ratio function
- Sound and light alarm for voltage, current, power over the limits
- Standard RS232 interface to support test automation and data transmission

SPECIFICATION

Measurement parameters		voltage (U), current (I), active power (P), reactive power (Q), apparent power (S), power factor (λ), phase angle (φ), voltage frequency (f), voltage peak (Vpk), current peak (Apk), electric energy (Wh), current integration (Ah), electric energy time (Time)
Wiring method		single phase
Voltage range		15/30/60/150/300/600V
Current range		100mA/200mA/500mA/1A/2A/5A/10A/20A
Voltage	**display range**	0.15V~600V
	accuracy (at 23±5˚C)	DC, 15Hz≤f≤5kHz: ±(0.1%×display+0.1%×range)
Current	**display range**	0.5mA~20A
	accuracy (at 23±5˚C)	DC, 15Hz≤f≤5kHz: ±(0.1%×display+0.1%×range)
Active power	**display range**	1.0mW~12kW
	accuracy (at 23±5˚C)	DC, 15Hz≤f≤5kHz: PF>0.5: ±(0.1%×display+0.1%×range) PF≤0.5: ±(0.25%×display+0.25%×range)
Frequency	**display range**	15Hz~5kHz
	accuracy (at 23±5˚C)	±(0.1%xdisplay) (voltage amplitude should be greater than 10% of range)
Electric energy	**display range**	0~9999MWh
	accuracy (at 23±5˚C)	±(0.5%×display)
Current integration	**display range**	0~9999MAh
	accuracy (at 23±5˚C)	±(0.5%×display)
Power factor		±(0.010~1.000)
Ratio range (voltage, current)		0.1~6000
Interface		RS232 interface, supports MODBUS and ASCII code protocols
Power supply		AC 100V~240V, 50/60Hz
Dimension (L×W×H)		281×213×99mm
Weight		2550g

STANDARD DELIVERY

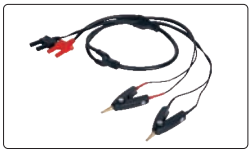
Main unit	1 pc
RS232 communication cable	1 pc

DC RESISTANCE TESTER
CODE 9651-RM20

test probe **9651-TL** (**optional**)

- Maximum reading: 220000
- Basic accuracy: 0.05%
- 3.5 inch LCD screen
- Temperature compensation function
- Short-circuit zeroing calibration
- Bad contact detection
- Comparator: pass or fail judge
- Keyboard lock function

temperature probe (included)



test clip (included)

RS232 communication cable (included)

SPECIFICATION

Function	Range	Resolution	Accuracy ("d" is the least reading)
Slow test	20mΩ	0.001mΩ	±(0.1%+3d)
	200mΩ/2Ω/20Ω/200Ω/ 2kΩ/20kΩ/200kΩ	0.001mΩ/0.00001Ω/0.0001Ω/0.001Ω/ 0.00001kΩ/0.0001kΩ/0.001kΩ	±(0.05%+2d)
	2MΩ	0.0001MΩ	±(0.1%+5d)
Medium speed test	20mΩ	0.001mΩ	±(0.2%+5d)
	200mΩ/2Ω/20Ω/200Ω/ 2kΩ/20kΩ/200kΩ	0.001mΩ/0.00001Ω/0.0001Ω/0.001Ω/ 0.00001kΩ/0.0001kΩ/0.001kΩ	±(0.1%+3d)
	2MΩ	0.0001MΩ	±(0.2%+5d)
Fast test	20mΩ	0.01mΩ	±(0.8%+5d)
	200mΩ/2Ω/20Ω/200Ω/ 2kΩ/20kΩ/200kΩ	0.01mΩ/0.0001Ω/0.001Ω/0.01Ω/ 0.0001kΩ/0.001kΩ/0.01kΩ	±(0.5%+5d)
	2MΩ	0.001MΩ	±(0.8%+5d)
Range mode	auto range, manual range and nominal range		
Test speed	slow: 3t/s, medium speed: 18t/s, fast: 60t/s		
Trigger	internal trigger, manual trigger, external trigger		
Interface	handler interface, RS232 interface, RS485 interface, USB interface and temperature compensation interface		
Power supply	AC 100V~240V, 50Hz/60Hz		
Dimension (L×W×H)	307×264×107mm		
Weight	2.5kg		

STANDARD DELIVERY

Main unit	1 pc
RS232 communication cable	1 pc
Temperature probe	1 pc
Test clip	1 pc

OPTIONAL ACCESSORY

Test probe	**9651-TL**

DC RESISTANCE TESTER (BASIC TYPE)
CODE 9654-LW50

VIDEO

- Maximum reading: 5000
- Basic accuracy: 0.2%
- 0.8 inch high brightness digital tube
- Full-range short-circuit zero function
- Comparator function: upper and lower limit alarms

test clip (included)

SPECIFICATION

Function	Range	Resolution	Accuracy ("d"is the least reading)
Slow test	50mΩ	0.01mΩ	±(0.2%+5d)
	500mΩ	0.1mΩ	±(0.2%+3d)
	5Ω/50Ω/500Ω/5kΩ	0.001Ω/0.01Ω/0.1Ω/0.001 kΩ	±(0.2%+2d)
	50kΩ	0.01kΩ	±(0.2%+3d)
	200kΩ	0.1kΩ	±(0.2%+5d)
Fast test	50mΩ	0.01mΩ	±(0.5%+5d)
	500mΩ/5Ω/50Ω/500Ω/ 5kΩ/50kΩ	0.1mΩ/0.001Ω/0.01Ω/ 0.1Ω/0.001kΩ/0.01kΩ	±(0.5%+3d)
	200kΩ	0.1kΩ	±(0.5%+5d)
Range mode	auto range and manual range		
Test speed	slow: 3t/s, fast: 10t/s		
Beep	OK, NG		
Power supply	AC 220V±10%, 50Hz		
Dimension (L×W×H)	259×220×85mm		
Weight	2.1kg		

STANDARD DELIVERY

Main unit	1 pc
Test clip	1 pc

HANDHELD DC OHMMETER
CODE 9650-HA20

- Maximum reading: 20000
- Basic accuracy: 0.05%
- 3.5 inch LCD screen with adjustable backlight
- Temperature compensation function
- Full-range short-circuit zero function
- Comparator function: upper and lower limit alarms
- Data hold
- Keyboard lock function
- Automatic power off

test clip (included)

SPECIFICATION

Function		Range	Resolution	Accuracy ("d"is the least reading)
High current mode	Slow & medium speed test	20mΩ	0.01mΩ	±(0.5%+3d)
		200mΩ/2Ω/20Ω/200Ω/ 2kΩ/20kΩ/200kΩ	0.01mΩ/0.0001Ω/0.001Ω/0.01Ω/ 0.0001kΩ/0.001kΩ/0.01kΩ	±(0.05%+1d)
		2MΩ	0.0001MΩ	±(0.5%+1d)
		20MΩ	0.01MΩ	±(1%+3d)
	Fast speed test	20mΩ	0.01mΩ	±(0.5%+5d)
		200mΩ/2Ω/20Ω/200Ω/ 2kΩ/20kΩ/200kΩ	0.01mΩ/0.0001Ω/0.001Ω/0.01Ω/ 0.0001kΩ/0.001kΩ/0.01kΩ	±(0.1%+3d)
		2MΩ	0.0001MΩ	±(1%+3d)
		20MΩ	0.01MΩ	±(2%+5d)
Low current mode *	Slow, medium, fast speed test	20mΩ	0.01mΩ	±(0.5%+5d)
		200mΩ/2Ω/20Ω/200Ω/ 2kΩ/20kΩ/200kΩ	0.01mΩ/0.0001Ω/0.001Ω/0.01Ω/ 0.0001kΩ/0.001kΩ/0.01kΩ	±(0.1%+3d)
		2MΩ	0.0001MΩ	±(1%+3d)
		20MΩ	0.01MΩ	±(2%+5d)
Range mode		auto range, manual range and nominal range		
Test speed		slow: 3t/s, medium speed: 15t/s, fast: 30t/s		
Trigger		internal trigger, manual trigger, remote trigger		
Interface		Mini USB interface, compatible with SCPI command		
Power supply		rechargeable lithium battery (operation time ≥ 8 hours)		
Dimension		130×210×38mm		
Weight		700g		

* When using the 2MΩ and 20MΩ ranges, it is recommended to select the high current mode

STANDARD DELIVERY

Main unit	1 pc
Power adapter	1 pc
Mini USB communication cable	1 pc
Test clip	1 pc

OPTIONAL ACCESSORY

Test probe	9650-TL

LCR METERS

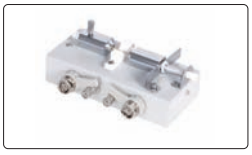
VIDEO

9653-YS01

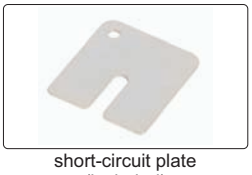
- 3.5-inch TFT LCD display
- Basic accuracy: 0.05%
- Auto level control
- Calibration function: full-scale open circuit and short-circuit sweep frequency clear, three groups of users point frequency calibration
- List test: cyclic scanning of up to 10 groups of frequency or level is performed and the results are compared to the set values
- Comparator: 11-level sorting function, up to 999,999 measured parts can be counted

kelvin clip lead
(include)

test fixture
(include)



SMD test fixture
(**optional**)



short-circuit plate
(included)

SMD tweezer lead
(**optional**)

SMD tweezer lead
(**optional**)

SPECIFICATION

Code	9653-YS002	9653-YS01	9653-YS02	9653-YS03
Test frequency	10Hz~20kHz	10Hz~100kHz	10Hz~200kHz	10Hz~300kHz
Parameters	Cs-Rs, Cs-D, Cp-Rp, Cp-D, Lp-Rp, Lp-Q, Ls-Rs, Ls-Q, G-B, R-X, Z-θrad, Z-θdeg, DCR			
Monitor parameters	Z, D, Q, θrad, θdeg, R, X, G, B, Y, Vac, Iac, Δ, Δ%			
Signal level	voltage: 10mV~2V; current: 100μA~20mA			
DC bias	-2.5V~+2.5V			
Source resistance	30Ω, 50Ω, 100Ω			
Range	auto range, manual range and nominal range, 9 levels of ranges			
Maximum reading	main parameter: 999999; secondary parameter: 999999			
Test speed	fast: 40t/s; medium speed: 10t/s; slow: 3t/s			
Comparator	11-level sorting, 9-level GD, 1-level NG, 1-level AUX			
Interface	RS232 interface, RS485 interface, USB interface, HANDLER interface			
Power supply	AC 100V~240V, 50/60Hz			
Dimension (L×W×H)	350×264×107mm			
Weight	2.6kg			

STANDARD DELIVERY

Main unit	1 pc
Kelvin clip lead	1 pc
Test fixture	1 pc
Short-circuit plate	1 pc

OPTIONAL ACCESSORY

SMD test fixture	9653-ST01
SMD tweezer lead	9653-ST02
SMD tweezer lead	9653-ST03*

*The **9652-YS02** and **9652-YS03** come standard with the **9653-ST03** test lead

DATA OUTPUT

INSPECTION CERTIFICATE

VIDEO

HANDHELD LCR METER
CODE 9652-RC02

SMD tweezer lead
(included)

short-circuit plate
(included)

kelvin clip lead
(included)

- Automatic measure inductance (L), capacitance (C), resistance (R), impedance (Z), quality factor (Q), dissipation factor (D), phase (θ) and DC resistance (DCR)
- Internal trigger
- Data hold
- Full range open and short compensation
- Equivalent circuit: series and parallel
- Compare main parameter with nominal value and display percent deviation
- Built in USB-C interface for data transmission and charging
- Language: English, Chinese
- LCD touch screen with adjustable backlight
- Automatic power off

SPECIFICATION

Measuring parameters	C-D, C-Q, C-R, L-D, L-Q, L-R, L-Rdc, R-Q, R-X, R-Rdc, Rdc, Z-D, Z-Q, Z-θr, Z-θd
Range	8 levels, auto range or hold range
Basic accuracy	0.2%
Test frequency	50Hz, 60Hz, 100Hz, 120Hz, 200Hz, 400Hz, 500Hz, 1kHz, 2kHz, 4kHz, 5kHz, 10kHz, 20kHz, 40kHz, 50kHz, 100kHz accuracy: 0.02%
Signal level	0.1V, 0.3V, 0.7V, 1V; accuracy: 10%
Test speed	slow 2.5 times/sec, fast 10 times/sec
Interface	USB-C interface: support HID and VCOM communication, compatible with SCPI command
Operation environment	0°C~40°C, <80%RH
Working time	50% brightness: 9h; 100% brightness : 7h
Power supply	rechargeable Li-ion battery
Power	<1.5W
Dimension	195×90×41mm
Weight	380g

STANDARD DELIVERY

Main unit	1 pc
Kelvin clip lead	1 pc
SMD tweezer lead	1 pc
Short-circuit plate	1 pc

AC GROUND RESISTANCE TESTER
CODE 9460-GR40

VIDEO

- 5-inch LCD touch screen display
- Comparator function: sound and light alarms for upper and lower limit
- User correction function
- Keyboard lock function

test clamps (included)

SPECIFICATION

Current	**range**	AC 5A~40A
	resolution	0.1A
	accuracy	±(2%+5d)
Resistance test	**range**	0~600mΩ
	resolution	0.1mΩ
	accuracy	±(2%+5d)
Frequency		50Hz, 60Hz
Output voltage		≤6V
Output power		when the input voltage is 110V, the output power≤75VA; when the input voltage is 220V, the output power≤150VA
Time		0~999.9s
Interface		HANDLER interface, RS-232C interface
Power supply		AC 110V/220V, 50Hz/60Hz
Dimension (L×W×H)		320×250×120mm
Weight		7kg

STANDARD DELIVERY

Main unit	1 pc
Test clamp	2 pcs

AC/DC WITHSTANDING VOLTAGE INSULATION TESTER
CODE 9453-ST01

high voltage test clips (included)

high voltage test rod
(included)

RS232 communication cable
(included)

- 5-inch LCD touch screen display
- Arc detection function
- Electric shock protection function
- 10 test files can be stored, each file can be edited with 16 test steps
- Standard communication interface to meet automation test requirements
- Applications: home appliance, transformer, electrical device, component

SPECIFICATION

Withstand voltage test	output voltage	range	AC: 5kV; DC: 6kV
		resolution (d)	0.001kV
		accuracy	±(2%+5d)
	test current	range	AC: 10mA; DC: 5mA
		resolution (d)	AC: 0.001mA~0.01mA; DC: 0.1μA~0.01mA
		accuracy	±(2%+5d)
Insulation resistance test	output voltage	range	1kV
		resolution (d)	0.001kV
		accuracy	±(1%+2d)
	test resistance	range	10GΩ
		resolution (d)	0.001MΩ~0.01GΩ
		accuracy	output voltage≥500V, test resistance 1MΩ-1GΩ: ±(5%+5d); output voltage≥500V, test resistance 1GΩ-10GΩ: ±(10%+5d); output voltage<500V, test resistance 0.1MΩ-1GΩ: ±(10%+5d)
Discharge function			discharge after testing
Arc detection			1~9 level (AC/DC), factory default is 5
Time			voltage rising time: 0.1s~999.9s; voltage falling time: 0.1s~999.9s; voltage testing time: 0.1s~999.9s
Interface			HANDLER interface, RS232C interface, USB interface
Operation environment			temperature: 10°C~40°C; relative humidity: ≤70%
Power supply			AC 110V/220V, 50Hz/60Hz
Dimension (L×W×H)			450×270×130mm
Weight			9.2kg

STANDARD DELIVERY

Main unit	1 pc
High voltage test clip	2 pcs
High voltage test rod	1 pc
RS232 communication cable	1 pc

INSULATION RESISTANCE TESTER
CODE 9456-DR01

VIDEO

- Rapidly assess in as fast as 50ms
- Quick discharge of residual voltage
- Charge timer function for capacitive loads
- Contact check function and short-circuit check function prevent errors due to poor contact and potential defects
- Comparator function, beep can be set
- Save 10 test files, USB supports file access
- Various communication interfaces to meet automation test requirements

SPECIFICATION

Output voltage	**range**	10V~1000V	
	resolution	1V	
	setting accuracy	±(1%+2d)	
	readback accuracy	±(2%+1d)	
Insulation resistance	**range**	0.000MΩ~9.99GΩ	
	resolution	0.001MΩ~1MΩ	
	basic accuracy	±2%	
Measurement speed	**contact check**	mode off	mode on
	auto range	slow: 2 times/sec medium: 13 times/sec fast: 18 times/sec	slow: 1.9 times/sec medium: 11 times/sec fast: 15 times/sec
	manual range	slow: 2.2 times/sec medium: 18 times/sec fast: 29 times/sec	slow: 2 times/sec medium: 15 times/sec fast: 22 times/sec
List sweep	**list count**	5 groups	
	discharge time	synchronized setup: 10ms~10s	
	charge time	independent setup: 0.1s~99s	
	test time	independent setup: 0.1s~99s	
	comparator	independent setup: 0.000MΩ~10GΩ	
Short-circuit current		<2mA	
Maximum of charging current		1.8mA	
Display result		reading, current, resistance, peak, sorting result, audible and visual alarm	
Interface		Handler interface, RS232 interface, USB interface, RS485 interface	
Operation environment		temperature: 10°C~40°C; relative humidity: 10%~85%	
Power supply		AC 100V~240V, 50Hz/60Hz, 20VA	
Dimension (LxWxH)		264×304×107mm	
Weight		2.25kg	

Test voltage	Range	Accuracy	Resolution
10V≤VX<100V	0MΩ~4MΩ	±(2%+5d)	0.001MΩ
	1.9MΩ~40MΩ		0.01MΩ
	19MΩ~400MΩ	±(5%+5d)	0.1MΩ
100V≤VX<500V	0MΩ~4MΩ	±(2%+5d)	0.001MΩ
	1.9MΩ~40MΩ		0.01MΩ
	19MΩ~400MΩ	±(5%+5d)	0.1MΩ
	190MΩ~4GΩ	±(5%+10d)	1MΩ
500V≤VX≤1000V	0MΩ~4MΩ	±(2%+5d)	0.001MΩ
	1.9MΩ~40MΩ		0.01MΩ
	19MΩ~400MΩ		0.1MΩ
	190MΩ~4GΩ	±(5%+5d)	1MΩ
	4GΩ~9.99GΩ	±(25%+10d)	

STANDARD DELIVERY

Main unit	1 pc
Test lead	2 pcs
HANDLER connector	1 pc
RS232 communication cable	1 pc

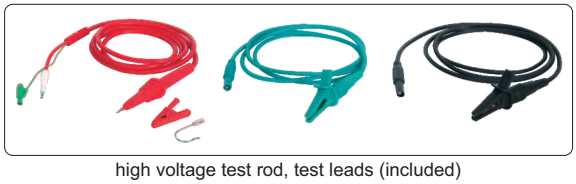
INSULATION RESISTANCE TESTERS

VIDEO

DATA OUTPUT

- Continuous measurement, comparative measurement
- Absorption ratio, polarization index measurement
- AC and DC voltage measurement
- Data storage, USB interface data transfer
- High voltage output warning, automatic discharge
- Battery level indication
- Backlight display function
- Auto power off function

9455-TR10



high voltage test rod, test leads (included)

SPECIFICATION

Test voltage*	Insulation resistance	Accuracy**	Resolution
100V (only **9455-TR05**)	0.05MΩ~5MΩ	±(3%+5d)	0.01MΩ
	5MΩ~50MΩ	±(3%+5d)	0.01MΩ
	50MΩ~500MΩ	±(3%+5d)	0.1MΩ
	0.5GΩ~5GΩ	±(5%+5d)	0.01GΩ
	5GΩ~20GΩ	±(20%+5d)	0.1GΩ
250V	0.1MΩ~10MΩ	±(3%+5d)	0.01MΩ
	10MΩ~100MΩ	±(3%+5d)	0.1MΩ
	100MΩ~1000MΩ	±(3%+5d)	1MΩ
	1GΩ~10GΩ	±(5%+5d)	0.01GΩ
	10GΩ~30GΩ	±(20%+5d)	0.1GΩ
500V	0.2MΩ~20MΩ	±(3%+5d)	0.01MΩ
	20MΩ~200MΩ	±(3%+5d)	0.1MΩ
	200MΩ~2000MΩ	±(3%+5d)	1MΩ
	2GΩ~20GΩ	±(20%+5d)	0.01GΩ
	20GΩ~50GΩ	±(20%+5d)	0.1GΩ
1000V	0.5MΩ~50MΩ	±(3%+5d)	0.01MΩ
	50MΩ~500MΩ	±(3%+5d)	0.1MΩ
	500MΩ~5000MΩ	±(3%+5d)	1MΩ
	5GΩ~50GΩ	±(20%+5d)	0.01GΩ
	50GΩ~100GΩ	±(20%+5d)	0.1GΩ
2500V	1MΩ~10MΩ	±(3%+5d)	0.01MΩ
	10MΩ~100MΩ	±(3%+5d)	0.1MΩ
	100MΩ~1000MΩ	±(3%+5d)	1MΩ
	1GΩ~10GΩ	±(10%+5d)	0.01GΩ
	10GΩ~100GΩ	±(20%+5d)	0.1GΩ
	100GΩ~300GΩ	±(20%+5d)	1GΩ
5000V	2MΩ~20MΩ	±(3%+5d)	0.01MΩ
	20MΩ~200MΩ	±(3%+5d)	0.1MΩ
	200MΩ~2000MΩ	±(3%+5d)	1MΩ
	2GΩ~20GΩ	±(10%+5d)	0.01GΩ
	20GΩ~200GΩ	±(20%+5d)	0.1GΩ
	200GΩ~2000GΩ	±(20%+5d)	1GΩ
10kV (only **9455-TR10**)	5MΩ~50MΩ	±(3%+5d)	0.01MΩ
	50MΩ~500MΩ	±(3%+5d)	0.1MΩ
	500MΩ~5000MΩ	±(5%+5d)	1MΩ
	5GΩ~50GΩ	±(10%+5d)	0.01GΩ
	50GΩ~500GΩ	±(20%+5d)	0.1GΩ
	500GΩ~2000GΩ	±(20%+5d)	1GΩ

Code		9455-TR05	9455-TR10
Test voltage		100V~5000V	250V~10kV
Insulation resistance		0.05MΩ~2000GΩ	0.1MΩ~2000GΩ
DC voltage	range	±(0~1000)V	
	resolution	0.1V	
	accuracy	±(1.5%+3d)	
AC voltage (50/60Hz)	range	(0~750)V	
	resolution	0.1V	
	accuracy	±(1.5%+3d)	
Short-circuit current		≥5.0mA	
Operation environment		temperature: -10°C~40°C; humidity: ≤85%RH	
Power supply		rechargeable battery, power adapter	
Dimension (L×W×H)		277×227.5×153mm	
Weight		2.75kg	

STANDARD DELIVERY

Main unit	1 pc
High voltage test rod	1 pc
Alligator clip test lead	2 pcs
Power adapter	1 pc
USB cable	1 pc
Software	1 pc

* Open-circuit voltage: DC voltage 0%~+10%

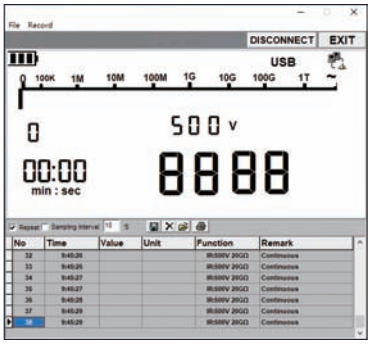
** Insulation resistance of 100GΩ or more should be measured under 50%RH humidity

INSULATION RESISTANCE TESTER
CODE 9454-SR35

DATA OUTPUT

VIDEO

computer software (included): connects to PC via USB cable, displays and stores data



- Continuous measurement, comparative measurement
- Timed measurement, polarization index measurement
- AC and DC voltage measurement
- Data storage, USB interface data transmission
- High voltage output warning, automatic discharge
- Battery level indication
- Backlight display function
- Auto power off function

SPECIFICATION

Insulation resistance	test voltage *	500V	1000V	2500V	5000V
	range	0.5MΩ~20MΩ	1MΩ~40GΩ	2.5MΩ~100GΩ	5MΩ~1000GΩ
	resolution	0.5MΩ~99.9MΩ: 0.1MΩ 100MΩ~999MΩ: 1MΩ 1GΩ~9.99GΩ: 0.01GΩ 10GΩ~1000GΩ: 0.1GΩ			
	accuracy **	0.5MΩ~99.9MΩ: ±(3%+5d) 100MΩ~9.99GΩ: ±(5%+5d) 10GΩ~99.9GΩ: ±(10%+5d) 100GΩ~1000GΩ: ±(20%+5d)			
DC voltage	range	±(30~600)V			
	resolution	1V			
	accuracy	±(2%+3d)			
AC voltage (50/60Hz)	range	(30~600)V			
	resolution	1V			
	accuracy	±(2%+3d)			
Short-circuit current		>3.0mA			
Operation environment		temperature: -10°C~40°C; humidity: ≤85%RH			
Power supply		8 LR14 batteries or power adapter			
Dimension		202×155×94mm			
Weight		1.28kg			

* Open-circuit voltage: DC voltage 0%~+20%
** Insulation resistance of 100GΩ or more should be measured under 50% RH humidity

STANDARD DELIVERY

Main unit	1 pc
Alligator clip test lead	3 pcs
Battery (LR14)	8 pcs
Power adapter	1 pc
USB cable	1 pc

INSULATION RESISTANCE TESTER (BASIC TYPE)
CODE 9452-IR21

VIDEO

- Continuous measurement: press and rotate the test button to measure continuously
- Alarm function: the tester alerts with buzzer when the insulation resistance is less than 4MΩ
- Over-range indication
- Data hold
- High-voltage output alert
- Auto backlight display
- Low battery indication
- Auto power off

test clips (included)

test leads (included)

SPECIFICATION

Insulation resistance	test voltage*	100V	250V	500V	1000V
	range	100MΩ	500MΩ	2.00GΩ	5.00GΩ
	resolution	0.00MΩ~9.99MΩ: 0.01MΩ 10.0MΩ~99.9MΩ: 0.1MΩ 100MΩ~999MΩ: 1MΩ 1.00GΩ~5.00GΩ: 0.01GΩ			
	accuracy	0~99.9MΩ: ±(3%+5d); 100MΩ~5.00GΩ: ±(5%+5d)			
AC voltage **	range	30~750V (50/60Hz)			
	resolution	1V			
	accuracy	±(2%+3d)			
Short-circuit current		<2.0mA			
Operation environment		temperature: 0°C~35°C; humidity: <75%RH			
Power supply		6×1.5V AA batteries or AC/DC adapter (**optional**)			
Dimension		184×115×75mm			
Weight		600g			

*Open-circuit voltage: DC voltage 0~+10%
** Data hold and backlight display function are not applicable for AC voltage measurement

STANDARD DELIVERY

Main unit	1 pc
Test lead	2 pcs
Test clip	2 pcs
Battery (AA)	6 pcs

OPTIONAL ACCESSORY

AC/DC adapter	9452-AP

EARTH RESISTANCE TESTER
CODE 0716-ER120

VIDEO

- Timed measurement function
- Auto power off
- Display with backlight
- Data hold
- Low battery indication

auxiliary grounding rods (included)

SPECIFICATION

Function	Range	Resolution	Accuracy ("d" is the least reading)
Earth resistance	20Ω	0.01Ω	±(2%+10d)
	200Ω/2000Ω	0.1Ω/1Ω	±(2%+3d)
AC earth voltage	1000V	1V	±(2%+5d)
DC voltage	1500V	1V	±(1%+5d)
Test methods	2-wire testing, 3-wire testing		
Power supply	8×1.5V AA batteries		
Dimension	178×110×59mm		
Weight	600g		

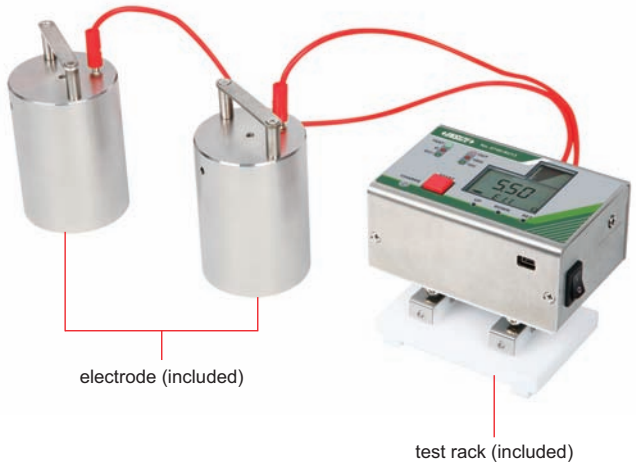
STANDARD DELIVERY

Main unit	1 pc
Test lead	5 pcs
Auxiliary grounding rod	2 pcs
Battery (AA)	8 pcs

SURFACE RESISTANCE TESTER
CODE 0740-SU13

DATA OUTPUT

VIDEO



- Designed to EOS/ESD, CECC, ASTM and UL standards
- Suitable for testing table mats, floors, paint, work clothes, bags, etc.
- Automatic selection of resistance range and test voltage

SPECIFICATION

Range	1×10^{3}~1×10^{13} Ω
Accuracy	<10^{11}: 10% ≥10^{11}: 20%
Test voltage	10V/100V, ±5%
Test time	15s, 30s, 60s
Working environment	temperature: 0ºC~49ºC, humidity: ≤80%RH
Power supply	rechargeable lithium battery: 3.7V, 1800mAh
Dimension (L×W×H)	115×79×69mm
Weight	630g

STANDARD DELIVERY

Main unit	1 pc
Electrode	2 pcs
Conductive rubber	2 pcs
Test lead	3 pcs
Test rack	1 pc
Power adapter	1 pc

OPTIONAL ACCESSORY

Digital thermohygrometer	**9362-TH27**
Digital thermohygrometer	**0317-TH37**

DC POWER SUPPLY (BASIC TYPE)
CODE 9911-PS305

STANDARD DELIVERY

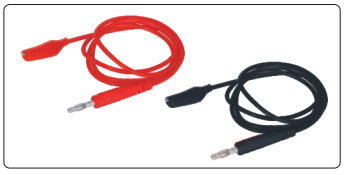
Main unit	1 pc
Test lead	2 pcs

SPECIFICATION

Voltage	range	30V
	setting resolution	10mV
	setting accuracy	≤0.1%+20mV
	readback resolution	10mV
	readback accuracy	≤0.1%+20mV
	load regulation	≤0.1%+5mV
	line regulation	≤0.01%+5mV
	ripple	10mVrms
Current	range	5A
	setting resolution	1mA
	setting accuracy	≤0.2%+6mA
	readback resolution	1mA
	readback accuracy	≤0.2%+6mA
	load regulation	≤0.2%+3mA
	line regulation	≤0.2%+3mA
	ripple	8mArms
OVP		0~33V
OCP		0~5.5A
Work condition		temperature: 0~40°C, humidity: ≤80%RH
Storage condition		temperature: -20~60°C, humidity: ≤80%RH
Cool system		fan cool
Power supply		AC 220V±10%, 50Hz/60Hz
Dimension (L×W×H)		230×80×150mm
Weight		1.45kg

VIDEO

- Four-digit LED display
- Output power display
- Output switch control
- Panel locking function to prevent misoperation
- USB interface for power supply
- OVP/OCP protection
- 3 shortcut keys for presetting



test leads (included)

DC POWER SUPPLY
CODE 9914-BP506

SPECIFICATION

Rate output voltage		0~50V
Rate output current		0~6A
Maximum output power		150W
Voltage	setting resolution	10mV
	setting accuracy	≤0.5%+50mV
	readback resolution	10mV
	readback accuracy	≤0.5%+50mV
	load regulation	≤0.05%+5mV
	line regulation	≤0.1%+3mV
	ripple	≤5mVrms
Current	setting resolution	1mA
	setting accuracy	≤0.5%+5mA
	readback resolution	1mA
	readback accuracy	≤0.5%+5mA
	load regulation	≤0.1%+3mA
	line regulation	≤0.1%+3mA
	ripple	≤20mArms
OVP		0~55V
OCP		0~6.5A
Work condition		temperature: 0°C~40°C, humidity: ≤75%RH
Storage condition		temperature: -20°C~50°C, humidity: ≤90%RH
Cool system		fan cool
Power supply		110V/220V±10%, 50Hz/60Hz
Dimension		200×80×155mm
Weight		1.23kg

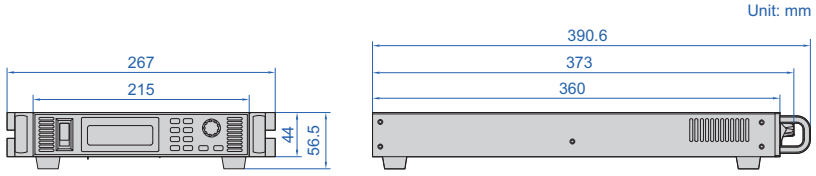
VIDEO

- Four-digit LED display
- Independent voltage and current control knob
- Output switch control
- Panel locking function to prevent misoperation
- USB interface for power supply
- OVP/OCP protection
- 3 shortcut keys for presetting

STANDARD DELIVERY

Main unit	1 pc
Test lead	2 pcs

HIGH POWER DC POWER SUPPLIES



- High precision and low ripple
- OVP/OCP/OPP/OTP protection
- 1U half rack, suitable for system integration
- Remote compensation function
- Various communication interfaces

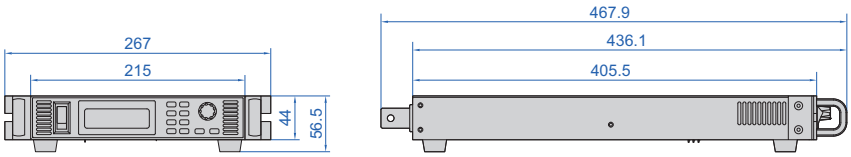
SPECIFICATION

Code		9915-NCK61	9915-NCK62	9915-NCK63	9915-NCK91	9915-NCK92	9915-NC1K1
Rate output voltage		0~30V	0~60V	0~100V	0~30V	0~60V	0~100V
Rate output current		0~20A	0~10A	0~6A	0~30A	0~15A	0~10A
Maximum output power		600W			900W		1000W
Voltage	setting resolution	1mV		10mV	1mV		10mV
	setting accuracy	≤0.05%+0.2%FS	≤0.05%+0.1%FS		≤0.05%+0.2%FS	≤0.05%+0.1%FS	
	readback resolution	1mV		10mV	1mV		10mV
	readback accuracy	≤0.05%+0.2%FS	≤0.05%+0.1%FS		≤0.05%+0.2%FS	≤0.05%+0.1%FS	
	load regulation	≤0.05%+20mV	≤0.1%+20mV	≤0.1%+30mV	≤0.05%+20mV	≤0.1%+20mV	≤0.1%+30mV
	line regulation	≤0.05%+20mV	≤0.1%+20mV	≤0.1%+30mV	≤0.05%+20mV	≤0.1%+20mV	≤0.1%+30mV
	ripple	≤30mVrms	≤60mVrms	≤80mVrms	≤30mVrms	≤60mVrms	≤80mVrms
Current	setting resolution	1mA					
	setting accuracy	≤0.1%+0.1%FS	≤0.1%+0.5%FS		≤0.1%+0.1%FS	≤0.1%+0.5%FS	
	readback resolution	1mA					
	readback accuracy	≤0.1%+0.2%FS	≤0.1%+0.5%FS		≤0.1%+0.2%FS	≤0.1%+0.5%FS	
	load regulation	≤0.05%+20mA	≤0.1%+20mA	≤0.1%+30mA	≤0.05%+20mA	≤0.1%+20mA	≤0.1%+30mA
	line regulation	≤0.05%+20mA	≤0.1%+20mA	≤0.1%+30mA	≤0.05%+20mA	≤0.1%+20mA	≤0.1%+30mA
	ripple	≤30mArms	≤60mArms	≤80mArms	≤30mArms	≤60mArms	≤80mArms
Work condition		temperature: 0°C~40°C, humidity: 20%RH~80%RH					
Storage condition		temperature: -10°C~55°C, humidity: 10%RH~90%RH					
Cool system		fan cool					
Power supply		220V±10%, 50Hz/60Hz					
Dimension (L×W×H)		215×360×44mm					
Weight		4kg					

HIGH POWER DC POWER SUPPLIES

VIDEO

Unit: mm



- High precision and low ripple
- OVP/OCP/OPP/OTP protection
- 1U half rack, suitable for system integration
- Remote compensation function
- Various communication interfaces
- Customized specifications are available

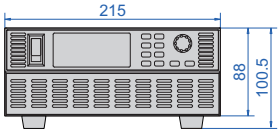
SPECIFICATION

Code		9916-HC1K81	9916-HC1K82	9916-HC1K83	9916-HC1K84	9916-HC1K85
Rate output voltage		0~30V	0~60V	0~100V	0~150V	0~300V
Rate output current		0~60A	0~30A	0~18A	0~12A	0~6A
Maximum output power		1800W				
Voltage	setting resolution	1mV		10mV		
	setting accuracy	≤0.05%+0.2%FS	≤0.05%+0.1%FS			≤0.05%+0.05%FS
	readback resolution	1mV		10mV		
	readback accuracy	≤0.05%+0.2%FS	≤0.05%+0.1%FS			≤0.05%+0.05%FS
	load regulation	≤0.05%+20mV	≤0.1%+20mV	≤0.1%+30mV		
	line regulation	≤0.05%+20mV	≤0.1%+20mV	≤0.1%+30mV		
	ripple	≤30mVrms	≤60mVrms	≤80mVrms	≤100mVrms	≤150mVrms
Current	setting resolution	1mA				
	setting accuracy	≤0.1%+0.05%FS		≤0.1%+0.1%FS	≤0.1%+0.2%FS	≤0.05%+0.5%FS
	readback resolution	1mA				
	readback accuracy	≤0.1%+0.05%FS		≤0.1%+0.1%FS	≤0.1%+0.2%FS	≤0.1%+0.5%FS
	load regulation	≤0.05%+20mA	≤0.1%+20mA	≤0.1%+30mA		
	line regulation	≤0.05%+20mA	≤0.1%+20mA	≤0.1%+30mA		
	ripple	≤30mArms	≤60mArms	≤80mArms	≤100mArms	≤300mArms
Work condition		temperature: 0°C~40°C, humidity: 20%RH~80%RH				
Storage condition		temperature: -10°C~55°C, humidity: 10%RH~90%RH				
Cool system		fan cool				
Power supply		220V±10%, 50Hz/60Hz				
Dimension (L×W×H)		215×405.5×44mm				
Weight		4.5kg				

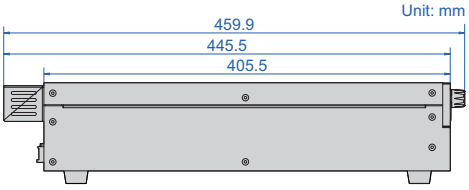
HIGH POWER DC POWER SUPPLIES

VIDEO

- High precision and low ripple
- OVP/OCP/OPP/OTP protection
- 2U half rack, suitable for system integration
- Remote compensation function
- Various communication interfaces
- Customized specifications are available



Unit: mm



SPECIFICATION

Code		9917-FC3K61	9917-FC3K62	9917-FC3K63	9917-FC3K64	9917-FC3K65
Rate output voltage		0~30V	0~60V	0~100V	0~150V	0~300V
Rate output current		0~120A	0~60A	0~36A	0~24A	0~12A
Maximum output power		3600W				
Voltage	setting resolution	1mV		10mV		
	setting accuracy	≤0.05%+0.2%FS	≤0.05%+0.1%FS			≤0.05%+0.05%FS
	readback resolution	1mV		10mV		
	readback accuracy	≤0.05%+0.2%FS	≤0.05%+0.1%FS			≤0.05%+0.05%FS
	load regulation	≤0.05%+20mV	≤0.1%+20mV	≤0.1%+30mV		
	line regulation	≤0.05%+20mV	≤0.1%+20mV	≤0.1%+30mV		
	ripple	≤50mVrms	≤60mVrms	≤100mVrms	≤150mVrms	≤300mVrms
Current	setting resolution	10mA	1mA			
	setting accuracy	≤0.1%+0.05%FS		≤0.1%+0.1%FS	≤0.1%+0.2%FS	≤0.05%+0.5%FS
	readback resolution	10mA	1mA			
	readback accuracy	≤0.1%+0.05%FS		≤0.1%+0.1%FS	≤0.1%+0.2%FS	≤0.1%+0.5%FS
	load regulation	≤0.1%+30mA	≤0.1%+20mA	≤0.1%+30mA		
	line regulation	≤0.1%+30mA	≤0.1%+20mA	≤0.1%+30mA		
	ripple	≤60mArms		≤100mArms	≤150mArms	≤300mArms
Work condition		temperature: 0°C~40°C, humidity: 20%RH~80%RH				
Storage condition		temperature: -10°C~55°C, humidity: 10%RH~90%RH				
Cool system		fan cool				
Power supply		220V±10%, 50Hz/60Hz				
Dimension (L×W×H)		215×405.5×88mm				
Weight		7.5kg				

VIDEO

DATA OUTPUT

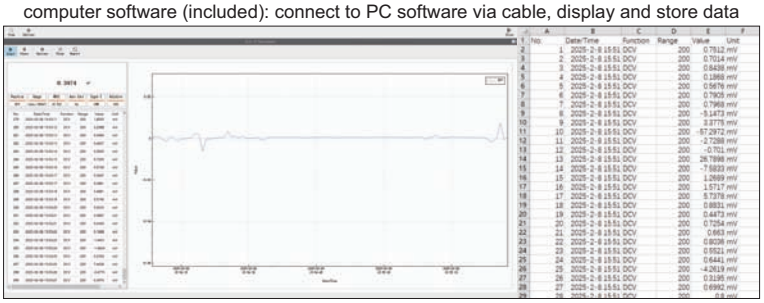
DIGITAL MULTIMETER
CODE 9258-KC550

- 6 ½ digits resolution
- Measuring speed up to 10k rdgs/s
- Built-in thermocouple cold-end compensator
- Support statistical analysis of data
- Support bar graph, trend graph, histogram display
- Rear panel test function
- Supports standard SCPI remote control commands

SPECIFICATION

Function	Range	Basic accuracy (reading%+range%)
DC voltage	200mV/2V/20V/200V/1000V	±(0.0035+0.0006)
AC voltage	200mV/2V/20V/200V/750V	±(0.06+0.03)
DC current	2μA/20μA /200μA/2mA/20mA/200mA/2A/10A	±(0.05+0.002)
AC current	200μA/2mA/20mA/200mA/2A/10A	±(0.1+0.04)
Resistance	20Ω/200Ω/2kΩ/20kΩ/200kΩ/2MΩ/10MΩ/100MΩ/1GΩ	±(0.01+0.001)
Capacitance	2nF/20nF/200nF/2μF/20μF/200μF/2mF/20mF/100mF	±(1+0.1)
Frequency	3Hz~1MHz	±(0.007)
Temperature	supports thermocouple and RTD testing	
Continuity check	adjustable from 0Ω~2000Ω, default is 30Ω	
Diode test	0V~4V	
Frequency response	300kHz	
Mathematical operation	maximum, minimum, average, standard deviation, relative, dBm, dB	
Trigger	automatic trigger, single trigger, external trigger	
Display	digital, dual-window, histogram, tendency chart, bar chart	
Interface	communication interface: USB/LAN/RS232; storage interface: U disk	
Operation environment	temperature: 0ºC~28ºC, humidity: <90%RH; temperature: 28ºC~40ºC, humidity: <75%RH; temperature: 40ºC~55ºC, humidity: <50%RH (non-condensation)	
Storage environment	temperature: -20ºC~70ºC, humidity: <95%RH (non-condensation)	
Power supply	100V~120V, 45~440Hz, 200V~240V, 45~66Hz	
Size (L×W×H)	378×256×113mm	
Weight	3.4kg	

computer software (included): connect to PC software via cable, display and store data



STANDARD DELIVERY

Main unit	1 pc
Test lead	2 pcs
Test clip	2 pcs
RS232 cable	1 pc
USB cable	1 pc
K-type thermocouple	1 pc

DIGITAL MULTIMETER (BASIC TYPE)
CODE 9231-H610

DATA OUTPUT

VIDEO

- 6 ½ digits resolution
- Minimum integral time: 0.125PLC
- Upper and lower limit alarm
- Can store 10000 sets of data

SPECIFICATION

Function	Range	Basic accuracy (reading%+range%)
DC voltage	100mV/1V/10V/100V/1000V	±(0.0035+0.0005)
AC voltage	100mV/1V/10V/100V/750V	±(0.05+0.03)
DC current	10mA/100mA/1A/10A	±(0.015+0.005)
AC current	10mA/100mA/1A/10A	±(0.1+0.03)
Resistance	100Ω/1kΩ/10kΩ/100kΩ/1MΩ/10MΩ/100MΩ	±(0.01+0.001)
Capacitance	10nF/100nF/1μF/10μF/100μF/1000μF/10mF	±(1+0.5)
Frequency	3Hz~100kHz	±(0.01)
Temperature	supports thermocouple and RTD testing (manual cold-end compensation)	
Continuity check	range: 100Ω, threshold: 20Ω	
Diode test	0V~5V	
Frequency response	100kHz	
Mathematical operation	maximum, minimum, average, relative, dBm	
Interface	communication interface: USB/RS232	
Operation environment	temperature: 0ºC~40ºC, humidity: <80%RH; temperature: 40ºC~50ºC, humidity: <70%RH (non-condensation)	
Storage environment	temperature: -25ºC~60ºC, humidity: <90%RH (non-condensation)	
Power supply	220V±10%, 50/60Hz	
Size (L×W×H)	310×255×109mm	
Weight	4.1kg	

STANDARD DELIVERY

Main unit	1 pc
Test lead	2 pcs
Test clip	2 pcs
RS232 cable	1 pc
USB cable	1 pc

MULTIMETER SELECTION TABLE

Code	9241-ML200	9242-ML100A	9216-F520	9246-180	9247-190	9219-KV220	9215-E510
Digits of display	3.5					4	4.5
Maximum display	2000	2000	2000	6000	6000	9999	22000
DC Voltage	600V	600V	600V	1000V	600V	999.9V	1000V
AC Voltage	600V	600V	600V	750V	600V	999.9V	1000V
DC Current	200mA	10A	10A	10A	600mA	9.99A	20A
AC Current	200mA	–	10A	10A	600mA	9.99A	20A
Resistance	20MΩ	20MΩ	20MΩ	60MΩ	60MΩ	99.99MΩ	220MΩ
Temperature	–	–	√	–	–	√	–
True RMS	–	–	–	√	√	√	√
Auto range	√	–	√	–	√	√	√
NCV	√	–	–	√	√	√	√
Duty cycle	–	–	–	√	√	√	√
Contiunty check	√	√	√	√	√	√	√
Diode test	√	√	√	√	√	√	√
LPF ACV	–	–	–	–	–	–	√
Data transmission	–	–	–	–	–	Bluetooth	USB

VIDEO

PEN-TYPE DIGITAL MULTIMETER
CODE 9241-ML200

- Auto/manual ranging
- Maximum mode
- Data hold
- NCV detection
- Low battery indication
- Auto power off
- Safety rating: CAT III 600V

SPECIFICATION

Function	Range	Resolution	Accuracy ("d" is the least reading)
DC Voltage	200mV/2V/20V/200V/600V	0.1mV/1mV/10mV/0.1V/1V	±(0.7%+2d)
AC Voltage	200mV/2V/20V/200V	0.1mV/1mV/10mV/0.1V	±(0.8%+3d)
	600V	1V	±(1.0%+3d)
DC Current	20mA/200mA	10μA/0.1mA	±(1.5%+3d)
AC Current	20mA/200mA	10μA/0.1mA	±(2.0%+3d)
Resistance	200Ω	0.1Ω	±(1.0%+3d)
	2kΩ/20kΩ/200kΩ/2MΩ	1Ω/10Ω/0.1kΩ/1kΩ	±(1.0%+1d)
	20MΩ	10kΩ	±(1.0%+5d)
Logic level test	<1.5V (green LED on); 1.5~3.5V (green & red LED off); >3.5V (red LED on)		
Diode	open circuit voltage 1.5V		
Continuity buzzer	<50Ω		
Power supply	2×1.5V AAA batteries		

test lead (included)

clips (included)

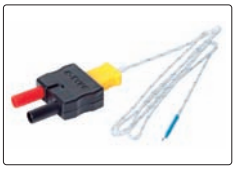
STANDARD DELIVERY

Main unit	1 pc
Test lead	1 pc
Clip	2 pcs
Battery (AAA)	2 pcs

DIGITAL MULTIMETER
CODE 9216-F520

test leads (included)

- 2000 counts digital display
- Auto ranging (except 200mV AC)
- Data hold
- Max hold
- Display with backlight
- Low battery indication
- Auto power off
- Safety rating: CAT III 600V



temperature probe and adapter (included)

SPECIFICATION

Function	Range	Resolution	Accuracy ("d" is the least reading)
DC Voltage	200mV	0.1mV	±(0.5%+2d)
	2V/20V/200V	0.001V/0.01V/0.1V	±(1.0%+2d)
	600V	1V	±(1.2%+2d)
AC Voltage (50~60Hz)	200mV	0.1mV	±(1.5%+30d)
	2V	0.001V	±(1.2%+3d)
	20V/200V	0.01V/0.1V	±(1.5%+3d)
	600V	1V	±(2.0%+4d)
DC Current	200μA	0.1μA	±(1.0%+3d)
	2000μA/20mA/200mA	1μA/0.01mA/0.1mA	±(1.5%+3d)
	10A	0.01A	±(2.5%+5d)
AC Current (50~60Hz)	200μA	0.1μA	±(1.5%+5d)
	2000μA/20mA/200mA	1μA/0.01mA/0.1mA	±(1.8%+5d)
	10A	0.01A	±(3.0%+7d)
Resistance	200Ω	0.1Ω	±(1.2%+4d)
	2kΩ	0.001kΩ	±(1.0%+2d)
	20kΩ/200kΩ/2MΩ	0.01kΩ/0.1kΩ/0.001MΩ	±(1.2%+2d)
	20MΩ	0.01MΩ	±(2.0%+3d)
Temperature (type-K)	-50°C to 1000°C	1°C	±(3.0%+5d)
	-58°F to 1832°F	1°F	±(3.0%+8d)
Diode test	test current: 0.3mA typical	1mV	±(10%+5d)
Continuity check	less than 100Ω		
Power supply	9V battery		
Dimension (L×W×H)	150×70×48mm		
Weight	255g		

STANDARD DELIVERY

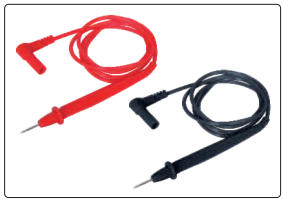
Main unit	1 pc
Thermocouple adapter	1 pc
Temperature probe	1 pc
9V battery	1 pc
Test lead	2 pcs

POPULAR MODEL

MINI DIGITAL MULTIMETER (BASIC TYPE)
CODE 9242-ML100A

VIDEO

- Portable size with protective case
- 1999 counts digital display
- Data hold
- Display with backlight
- Low battery indication
- Auto power off
- Safety rating: CAT II 600V



test leads (included)

SPECIFICATION

Function	Range	Resolution	Accuracy ("d" is the least reading)
DC Voltage	200.0mV	0.1mV	±(0.7%+3d)
	2000mV	1mV	±(0.5%+2d)
	20.00V/200.0V/600V	0.01V/0.1V/1V	±(0.7%+3d)
AC Voltage (40~400Hz)	200.0V/600V	0.1V/1V	±(1.2%+3d)
DC Current	200.0μA/200.0mA	0.1μA/0.1mA	±(1.0%+2d)
	10.00A	0.01A	±(1.2%+5d)
Resistance	200.0Ω	0.1Ω	±(1.0%+2d)
	2000Ω/20.00kΩ/200.0kΩ	1Ω/0.01kΩ/0.1kΩ	±(0.8%+2d)
	20.00MΩ	0.01MΩ	±(1.2%+3d)
Battery test	1.5V/9V/12V battery check		
Diode test	open circuit voltage: 2.1V DC		
Continuity test	<50Ω		
Power supply	2×1.5V AAA batteries		
Dimension (LxWxH)	134×77×47mm		
Weight	206g		

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	2 pcs
Test lead	2 pcs

SMART DIGITAL MULTIMETER
CODE 9247-190

VIDEO

- Automatically identify test modes for AC voltage/DC voltage/resistance/continuity
- NCV detection and judge the strength by light and buzzer
- Self-calibration when power on to ensure accuracy
- LIVE firewire recognition
- Display with backlight
- True RMS measurement
- Data hold
- Low battery indication
- Auto power off
- Safety rating: CAT III 600V

test leads (included)

SPECIFICATION

Function	Range	Resolution	Accuracy ("d" is the least reading)
DC Voltage	60mV/600mV/6V/60V/600V	0.01mV/0.1mV/0.001V/0.01V/0.1V	±(0.5%+3d)
AC Voltage	60mV/600mV/6V/60V/600V	0.01mV/0.1mV/0.001V/0.01V/0.1V	±(1.0%+3d)
DC Current	6000μA/60mA/600mA	1μA/0.01mA/0.1mA	±(1.2%+5d)
AC Current	6000μA/60mA/600mA	1μA/0.01mA/0.1mA	±(1.5%+5d)
Resistance	600Ω/6kΩ/60kΩ/600kΩ	0.1Ω/0.001kΩ/0.01kΩ/0.1kΩ	±(1.0%+5d)
	6MΩ/60MΩ	0.001MΩ/0.01MΩ	±(1.5%+3d)
Capacitance	6nF/60nF/600nF/6μF/60μF/600μF	0.001nF/0.01nF/0.1nF/0.001μF/0.01μF/0.1μF	±(4.0%+5d)
	6mF/60mF	0.001mF/0.01mF	±(5.0%+5d)
Frequency	10Hz/100Hz/1000Hz/10kHz/ 100kHz/1000kHz	0.001Hz/0.01Hz/0.1Hz/0.001kHz/ 0.01kHz/0.1kHz	±(1.0%+5d)
	10MHz	0.001MHz	±(3.0%+5d)
Duty cycle	1~99%	0.1%	±(3.0%+5d)
Diode measurement	open circuit voltage 2.0V		
Continuity measurement	<50Ω		
Power supply	2×3V CR2032 batteries		
Dimension (L×W×H)	133×68×18mm		
Weight	178g		

STANDARD DELIVERY

Main unit	1 pc
Test lead	2 pcs
Battery (CR2032)	2 pcs

DIGITAL MULTIMETER (WITH JACK INDICATOR LIGHT)
CODE 9246-180

test leads (included)

- Jack indicator light: jacks flash green to indicate the corresponding jacks for test leads
- NCV detection and judge the strength by light and buzzer
- Self-calibration when power on to ensure accuracy
- LIVE firewire recognition
- Double color backlight (orange backlight prompts high voltage or current: the orange backlight automatically lights up when voltage is higher than 80V or the current is higher than 1A)
- Large range capacitance meter 100mF
- True RMS measurement
- Battery test function
- Max/Min mode
- Data hold
- Low battery indication
- Auto power off
- Safety rating: CAT III 1000V, CAT IV 600V

STANDARD DELIVERY

Main unit	1 pc
Test lead	2 pcs
Battery (AA)	2 pcs

SPECIFICATION

Function	Range	Resolution	Accuracy ("d" is the least reading)
DC Voltage	600mV/6V/60V/600V/1000V	0.1mV/0.001V/0.01V/0.1V/1V	±(0.5%+3d)
AC Voltage	6V/60V/600V/750V	0.001V/0.01V/0.1V/1V	±(0.8%+5d)
DC Current	60μA/60mA/600mA/10A	0.01μA/0.01mA/0.1mA/0.01A	±(1.2%+3d)
AC Current	60mA/600mA/10A	0.01mA/0.1mA/0.01A	±(1.5%+3d)
Resistance	600Ω/6kΩ/60kΩ/600kΩ	0.1Ω/0.001kΩ/0.01kΩ/0.1kΩ	±(1.0%+3d)
	6MΩ/60MΩ	0.001MΩ/0.01MΩ	±(1.5%+3d)
Capacitance	10nF/100nF/1000nF/10μF/100μF/1000μF	0.001nF/0.01nF/0.1nF/0.001μF/0.01μF/0.1μF	±(4.0%+5d)
	10mF/100mF	0.001mF/0.01mF	±(5.0%+5d)
Frequency	10Hz/100Hz/1000Hz/10kHz/100kHz/ 1000kHz	0.001Hz/0.01Hz/0.1Hz/0.001kHz/0.01kHz/ 0.1kHz	±(1.0%+3d)
	10MHz	0.001MHz	±(3.0%+3d)
Duty cycle	1~99%	0.1%	±(3.0%+3d)
Diode measurement	forward DC current 2.5mA, reverse DC voltage 3.0V		
Continuity measurement	<30Ω		
Power supply	2×1.5V AA batteries		
Dimension (L×W×H)	188×88×50mm		
Weight	424g		

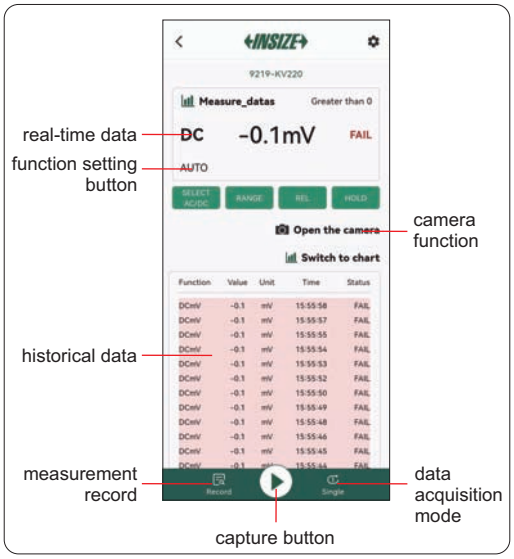
BLUETOOTH DIGITAL MULTIMETER
CODE 9219-KV220

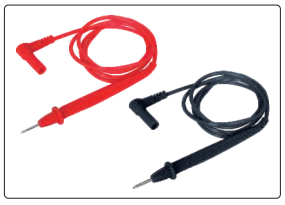
DATA OUTPUT

VIDEO

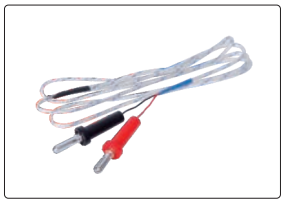
- Built-in bluetooth
- Mobile app is included
- 9999 counts digital display
- True RMS measurement
- Display with backlight
- Relative measurement mode
- Auto/manual ranging
- Auto power off
- Data hold
- NCV detection
- Low battery indication
- Safety rating: CAT III 600V

app (included)





test leads (included)



temperature probe (included)

STANDARD DELIVERY

Main unit	1 pc
Test lead	2 pcs
Temperature probe	1 pc
Battery (AAA)	3 pcs

SPECIFICATION

Function	Range		Resolution	Accuracy ("d" is the resolution)
DC Voltage	9.999mV/99.99mV		0.001mV/0.01mV	±(0.7%+8d)
	999.9mV/9.999V/99.99V/999.9V		0.1mV/0.001V/0.01V/0.1V	±(0.5%+3d)
AC Voltage (40~400Hz)	9.999mV/99.99mV		0.001mV/0.01mV	±(1.0%+3d)
	999.9mV/9.999V/99.99V/999.9V		0.1mV/0.001V/0.01V/0.1V	±(0.8%+3d)
DC Current	999.9μA		0.1μA	±(0.8%+3d)
	999.9mA/9.999A		0.1mA/0.001A	±(1.0%+3d)
AC Current (40~400Hz)	999.9μA		0.1μA	±(1.0%+3d)
	999.9mA/9.999A		0.1mA/0.001A	±(1.2%+3d)
Resistance	999.9Ω/9.999kΩ/99.99kΩ/999.9kΩ		0.1Ω/0.001kΩ/0.01kΩ/0.1kΩ	±(0.8%+2d)
	9.999MΩ		0.001MΩ	±(1.5%+3d)
	99.99MΩ		0.01MΩ	±(2.0%+5d)
Capacitance	9.999nF		0.001nF	±(4.0%+10d)
	9.999nF/99.99nF/999.9nF/9.999μF /99.99μF/999.9μF		0.001nF/0.01nF/0.1nF/0.001μF /0.01μF/0.1μF	±(4.0%+5d)
	9.999mF		0.001mF	±(10.0%)
Frequency	99.99Hz~9.999MHz		0.01Hz~0.001MHz	±(0.1%+5d)
Temperature	-40~1000°C	-40~0°C	1°C	±4°C
		>0~100°C	1°C	±(1.0%+5d)
		>100~1000°C	1°C	±(2.0%+5d)
	-40~1832°F	-40~32°F	1°F	±5°F
		>32~212°F	1°F	±(1.5%+5d)
		>212~1832°F	1°F	±(2.5%+5d)
Duty cycle	0.1%~99.9%		0.1%	±(3%+5d)
Diode test	open circuit voltage 3.3V, test current 1.5mA			
Continuity check	<30Ω			
Power supply	3×1.5V AAA batteries			
Dimension (L×W×H)	187×88×56mm			
Weight	400g			

VIDEO

DATA OUTPUT

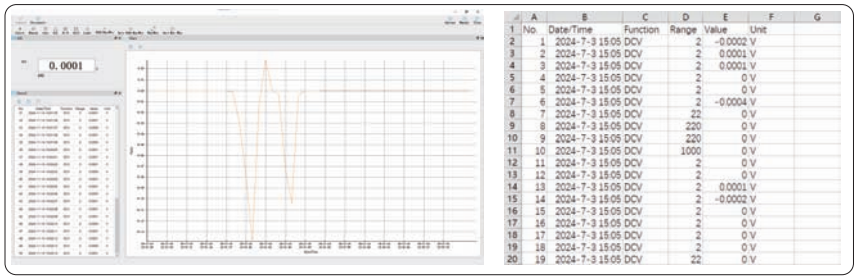
DIGITAL MULTIMETER
CODE 9215-E510

- 22000 counts digital display
- Data transmission via USB
- True RMS measurement
- Data hold
- Peak/Max/Min mode
- Low pass filter function
- NCV detection
- Low battery indication
- Auto power off
- Safety rating: CAT III 1000V, CAT IV 600V

USB connection cable (included)

conversion plug (transistor) (included)

computer software (included): connect to PC software via USB cable to collect, display and store data



STANDARD DELIVERY

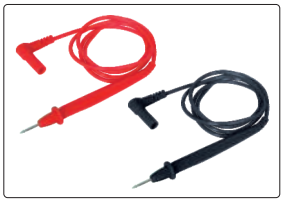
Main unit	1 pc
Test lead	2 pcs
USB connection cable	1 pc
Conversion plug (transistor)	1 pc
Battery (AAA)	4 pcs

SPECIFICATION

Function	Range	Resolution	Accuracy ("d" is the resolution)
DC Voltage	220mV	0.01mV	±(0.1%+5d)
	2.2V/22V/220V	0.1mV/0.001V/0.01V	±(0.05%+5d)
	1000V	0.1V	±(0.1%+5d)
AC Voltage	220mV	0.01mV	±(1.0%+10d), 40Hz~1kHz
			±(1.5%+30d), 1kHz~10kHz
	2.2V/22V	0.1mV/1mV	±(0.8%+10d), 40Hz~1kHz
			±(1.2%+50d), 1kHz~10kHz
	220V	10mV	±(0.8%+10d), 40Hz~1kHz
			±(2.0%+50d), 1kHz~10kHz
	1000V	0.1V	±(1.2%+10d), 40Hz~1kHz
			±(3.0%+50d), 1kHz~10kHZ
DC Current	220μA/2200μA/22mA/220mA	0.01μA/0.1μA/0.001mA/0.01mA	±(0.5%+10d)
	20A	0.001A	±(1.2%+50d)
AC Current	220μA/2200μA	0.01μA/0.1μA	±(0.8%+10d), 40Hz~1kHz
			±(3.0%+50d), 1kHz~10kHz
	22mA/220mA/20A	0.001mA/0.01mA/0.001A	±(1.2%+10d), 40Hz~1kHz
			±(3.0%+50d), 40Hz~1kHz
Resistance	220Ω/2.2kΩ/22kΩ/220kΩ	0.01Ω/0.0001kΩ/0.001kΩ/0.01kΩ	±(0.5%+10d)
	2.2MΩ	0.0001MΩ	±(0.8%+10d)
	22MΩ	0.001MΩ	±(1.5%+10d)
	220MΩ	0.01MΩ	±(3.0%+50d)
Capacitance	22nF/220nF/2.2μF/22μF	0.001nF/0.01nF/0.0001μF/0.001μF	±(3.0%+5d)
	220μF/2.2mF	0.01μF/0.0001mF	±(4.0%+5d)
	22mF	0.001mF	±(10%+5d)
	220mF	0.01mF	±(20%+5d)
Frequency	10Hz~220MHz	0.01Hz~0.01MHz	±(0.01%+5d)
Duty cycle	0.1%~99.9%	0.1%	±(2.0%+5d)
Transistor hFE	range: 1β~1000β		
Diode test	open circuit voltage: 3V		
Continuity check	<50Ω		
Power supply	4×1.5V AAA batteries		
Dimension	186×89×49mm		
Weight	400g		

DIGITAL AC/DC CLAMP METER
CODE 9315-CF210

VIDEO



test leads (included)

- 4000 counts display
- 28mm jaw opening
- NCV detection with light and sound alarm
- True RMS measurement
- Auto ranging
- REL (zero) function
- Data hold
- Polarity indication
- LCD screen with backlight
- Low battery indication
- Auto power off
- Safety rating: CAT III 300V/CAT II 600V

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	2 pcs
Test lead	2 pcs

SPECIFICATION

Function	Range	Resolution	Accuracy ("d" is the least reading)
DC Current	40.00A/400.0A	0.01A/0.1A	±(2.0%+5d)
AC Current *	40.00A/400.0A	0.01A/0.1A	±(2.0%+5d)
DC Voltage	400.0mV	0.1mV	±(0.7%+3d)
	4.000V/40.00V/400.0V/600V	0.001V/0.01V/0.1V/1V	±(0.5%+2d)
AC Voltage *	4.000V	0.001V	±(1.0%+5d)
	40.00V/400.0V/600V	0.01V/0.1V/1V	±(0.8%+5d)
AC Voltage frequency	10Hz~60kHz	0.01Hz~0.01kHz	±(0.5%+2d)
Resistance	400.0Ω	0.1Ω	±(1.0%+2d)
	4.000kΩ/40.00kΩ/400.0kΩ	0.001kΩ/0.01kΩ/0.1kΩ	±(0.8%+2d)
	4MΩ/40MΩ	0.001MΩ/0.01MΩ	±(2.5%+5d)
Capacitance	40.00nF/400.0nF/4.000μF/ 40.00μF/400.0μF	0.01nF/0.1nF/0.001μF/ 0.01μF/0.1μF	±(4.0%+5d)
	4.000mF/40.00mF	0.001mF/0.01mF	±10.0%
Frequency	10Hz~10MHz	0.01Hz~0.01MHz	±(0.1%+4d)
Duty cycle	0.1%~99.0%	0.1%	±(3.0%+5d)
Diode test	open circuit voltage: 4V		
Continuity check	<30Ω		
Power supply	2×1.5V AAA batteries		
Dimension (L×W×H)	215×75×37mm		
Weight	235g		

* AC voltage/current frequency response: 45Hz~400Hz, true RMS display

AC PHASE AND VOLTAGE DETECTOR
CODE 9723-400

VIDEO

- Non-contact detection of phase sequence, high and low voltage, wire distinction
- Low battery indication
- Auto power off
- Flashlight

SPECIFICATION

Phase sequence detection	screen shows clockwise or counterclockwise
High and low voltage detection	beep: slow~fast backlight: green~red analog bar: low~high
Wire distinction	green backlight indicates neutral wire red backlight indicates live wire
Power supply	2×1.5V AAA batteries
Dimension	157×27×23mm
Weight	32g

DIGITAL VOLTAGE TESTER
CODE 9721-250

- Direct AC test (contact): 12-250V two way display: voltage displays on LCD screen and neon lamp lights up (when voltage>80V)
- Induction AC test (non-contact): 12-250V to detect power source or recognize the phase line, ground line and break point
- Direct DC test (contact): 6-36V instant sense and display
- Work without battery
- Tester tip: CRV material

SPECIFICATION

Range	AC: 12-250V; DC: 6-36V
Neon lamp life	30000 times
Dimension	133×21×19mm
Weight	22g

VOLTAGE TESTER
CODE 9722-250

- Tester tip: CRV material

SPECIFICATION

Range	AC: 100-250V
Neon lamp life	30000 times
Dimension	145×Ø15mm
Weight	21g

INTELLIGENT CORDLESS SOLDERING IRON
CODE 0710-SD420

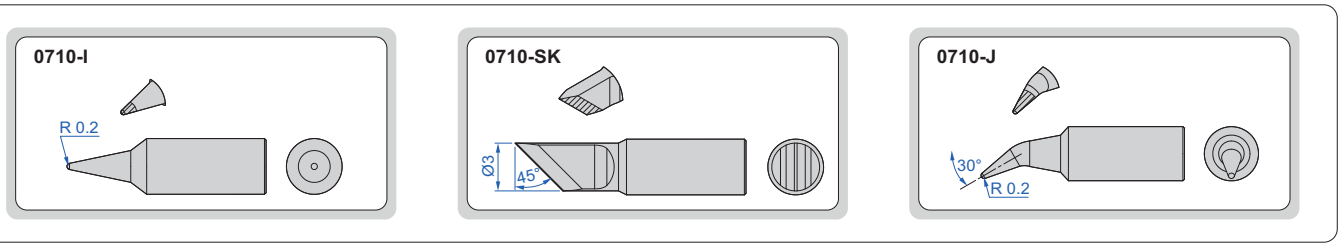
soldering tip **0710-SK** (included)

soldering tip **0710-J** (included)

- Built-in lithium battery, easy to carry
- Integral precision soldering tip, fast heating speed
- Automatic sleep function
- Temperature calibration function

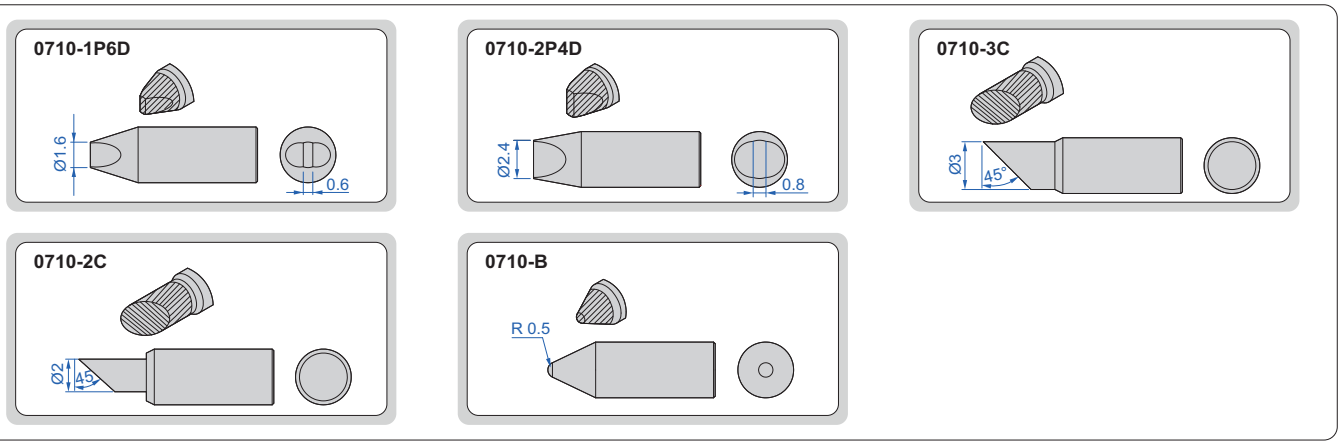
soldering tips (included)

Unit: mm



soldering tips (optional)

Unit: mm



SPECIFICATION

Display screen	OLED
Temperature range	100°C~420°C
Power	10W
Work hours	30 minutes (indicates V-P when the battery is low)
Power supply	rechargeable lithium battery: 3.7V, 2600mAh
Dimension	198×27×21mm
Weight	85g

soldering iron stand (included)

STANDARD DELIVERY

Main unit	1 pc
Soldering tip (0710-I)	1 pc
Soldering tip (0710-J)	1 pc
Soldering tip (0710-SK)	1 pc
Soldering iron stand	1 pc

OPTIONAL ACCESSORY

Soldering tip	**0710-1P6D**
Soldering tip	**0710-2P4D**
Soldering tip	**0710-3C**
Soldering tip	**0710-2C**
Soldering tip	**0710-B**

LEAD FREE SOLDERING STATION
CODE 0711-SS480

VIDEO

- Fast heat-up and temperature return of the welding table
- Quickly switch between 3 different temperatures
- Temperature calibration function
- Compatible with general-purpose soldering nozzles, easy to use and economical

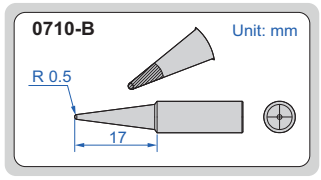
SPECIFICATION

Display screen	LCD
Temperature range	100°C~480°C
Temperature stability	±2°C (when the air is still and no load)
Power	70W (MAX)
Tip to ground potential	<2mV
Tip to ground resistance	<2Ω
Power supply	AC 220V, 50Hz
Dimension	87×140×119mm
Weight	1.75kg

STANDARD DELIVERY

Main unit	1 pc
Soldering tip (0711-B)	1 pc
Soldering iron stand	1 pc

soldering tips (included)



OPTIONAL ACCESSORY

Soldering tip	0711-0P8D
Soldering tip	0711-1P2D
Soldering tip	0711-2P4D
Soldering tip	0711-3P2D
Soldering tip	0711-LB
Soldering tip	0711-I
Soldering tip	0711-1C
Soldering tip	0711-2C
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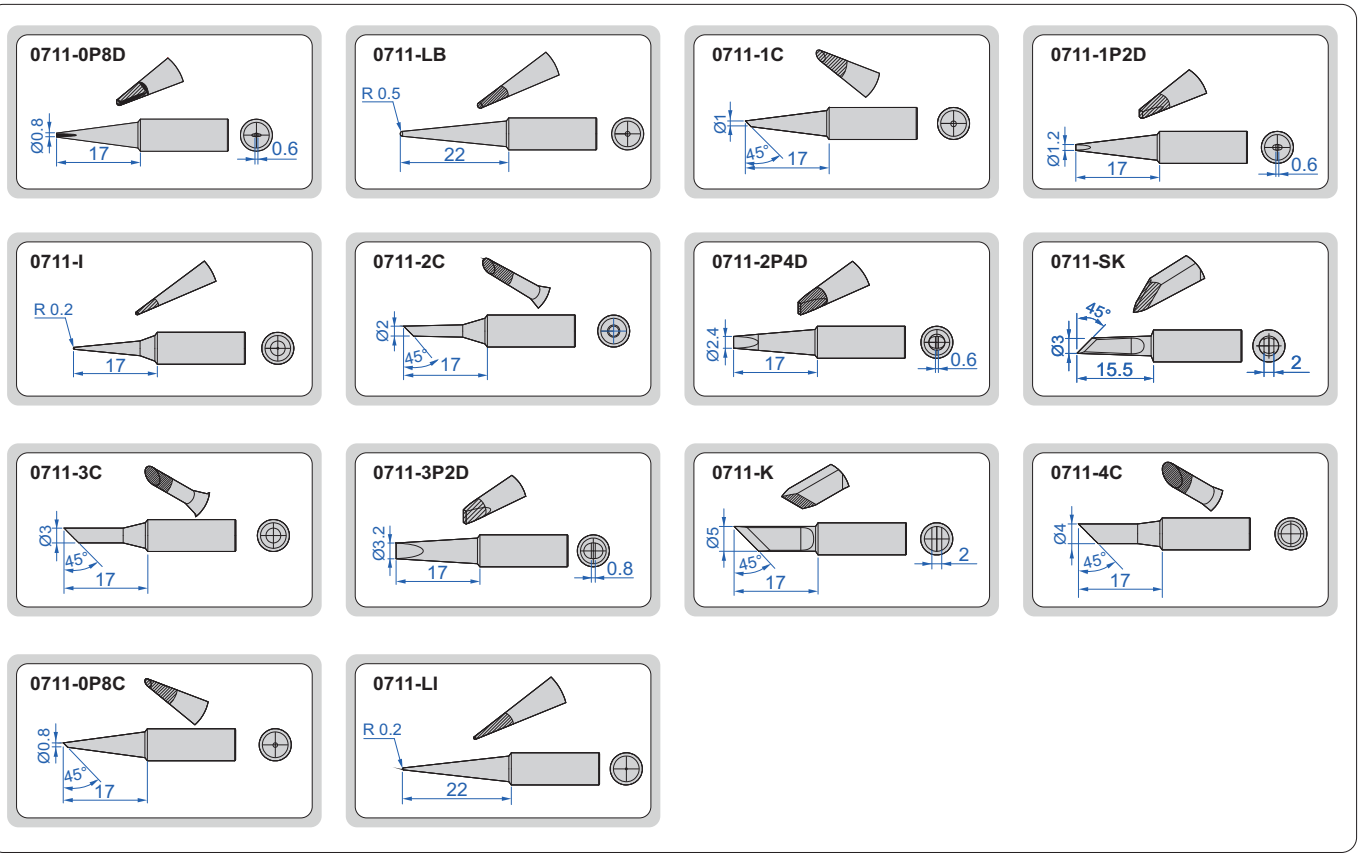
Soldering tip	0711-4C
Soldering tip	0711-0P8C
Soldering tip	0711-K
Soldering tip	0711-LI
Soldering tip	0711-SK

soldering tips (optional)

Unit: mm



INTELLIGENT LEAD FREE SOLDERING STATION
CODE 0712-SS450

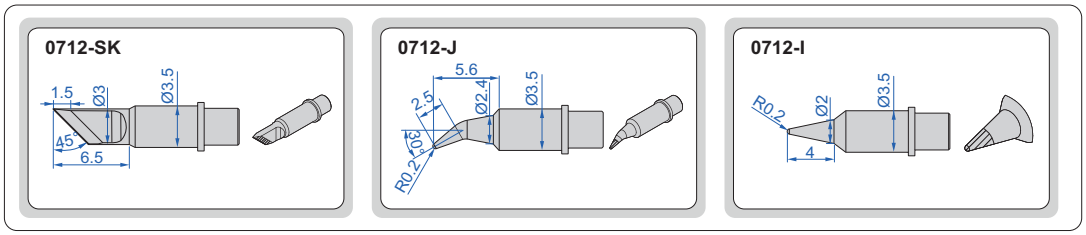
- Fast heat-up and temperature return of the welding table
- Quickly switch between 3 different temperatures
- Temperature calibration function
- Automatic sleep function
- Unit: °C/°F

soldering tip **0712-SK** (included)

soldering tip **0712-J** (included)

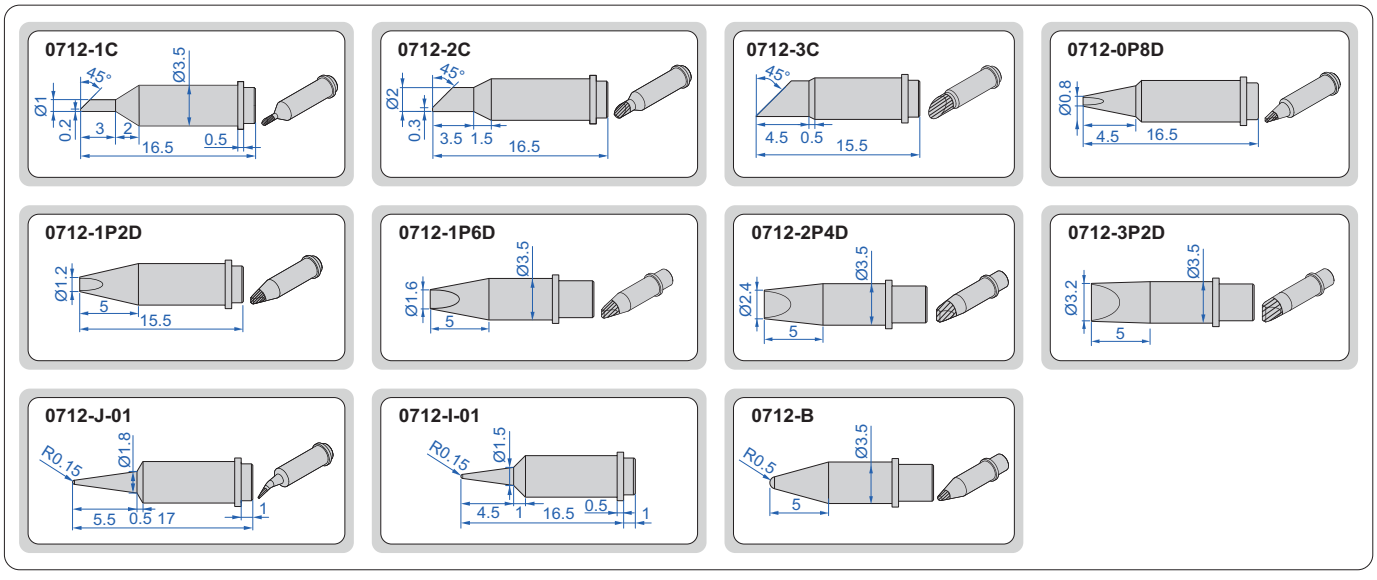
soldering tips (included)

Unit: mm



soldering tips (optional)

Unit: mm



SPECIFICATION

Display screen	IPS
Temperature range	100°C~450°C/212°F~842°F
Temperature stability	±2°C (when the air is still and no load)
Power	90W (MAX)
Tip to groundl potential	<2mV
Tip to ground resistance	<2Ω
Power supply	AC 220V, 50Hz
Dimension	116×149×93mm
Weight	1.8kg

STANDARD DELIVERY

Main unit	1 pc
Soldering tip (0712-SK)	1 pc
Soldering tip (0712-J)	1 pc
Soldering tip (0712-I)	1 pc
Soldering iron stand	1 pc

OPTIONAL ACCESSORY

Soldering tip	0712-1C
Soldering tip	0712-2C
Soldering tip	0712-3C
Soldering tip	0712-0P8D
Soldering tip	0712-1P2D
Soldering tip	0712-1P6D
Soldering tip	0712-2P4D
Soldering tip	0712-3P2D
Soldering tip	0712-J-01
Soldering tip	0712-I-01
Soldering tip	0712-B

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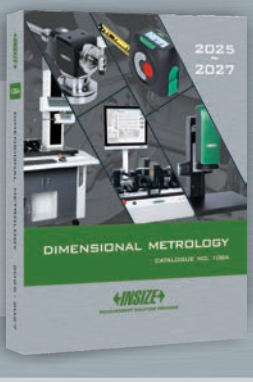

DATA OUTPUT AND SOFTWARE

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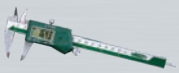
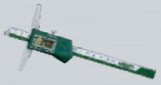


DEPTH MEASURING TOOLS



HEIGHT MEASURING TOOLS

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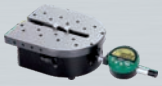

MICROMETERS

BORE DIAMETER AND CIRCUMFERENCE MEASURING TOOLS

ARC RADIUS MEASURING TOOLS

KEYWAY AND CHAMFER MEASURING TOOLS

INDICATORS AND DIAL INDICATOR STANDS

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STANDARDS AND GAUGE BLOCKS

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LEVELS

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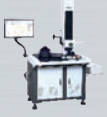
ROUNDNESS, PROFILE AND ROUGHNESS TESTERS



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