

MEASURING TOOLS TESTING EQUIPMENT

Force Gauge

• Digital Force Gauge

- ZTS Series - Standard type force gauges with high repeatability	R-002-003
- ZTA Series - Advanced force gauges with high functionality	R-002-003
- DST Series - Simple force gauges	R-004-005
- DSV Series - Handheld force gauges with high repeatability	R-004-005
- ZT Series - Separate Sensor Model	R-006-007

• Mechanical Force Gauge

- FB / FS Series - Simple force gauges	R-008-009
- PS / PSS Series - Highly accurate force gauges	R-008-009
- PSM Series - The most accurate force gauge with high resolution	R-008-009
- UKT / UKK Series - Small force gauges ideal for mounting on equipment	R-010
- PSH Series - High-capacity force gauges in capacity up to 3000N	R-011

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- Software	R-064-066
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Torque Tester

• Torque Tester

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- CD-100M / 10M - Torque Tester	R-077
- DI-9M-8 / 08 - Torque Tester	R-078
- NDI-800CN/80CN - Torque Tester	R-079
- DI-11 - Torque Tester	R-080
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• Torque Wrench

- DIW Series - Digital Torque Wrench	R-090
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TESTING EQUIPMENT

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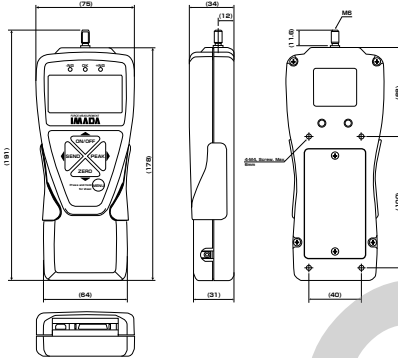
FORCE MEASUREMENT

IMADA

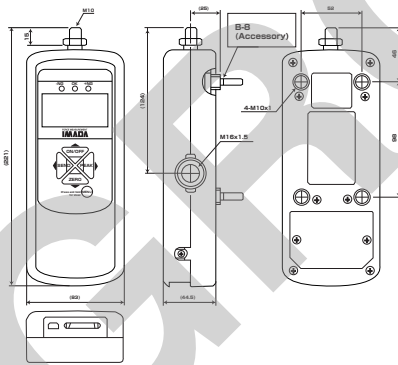
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DIGITAL FORCE GAUGE ZTS - ZTA Series

Basic Model

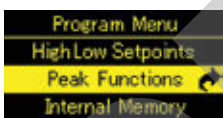


High Capacity Model



Feature 1 Clear display / Easy setting

- Clear organic display has excellent readability and reduces misreading.
- Setting menu with multiple languages helps easy operation.

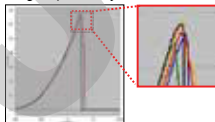


Feature 2 You can capture peak value precisely at high sampling.

It reduces missing load value due to high sampling speed (2000 data / sec.). Peak value can be accurately captured.

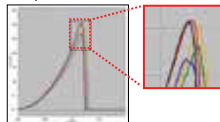
Breaking tests of the same sample

Sampling speed: 2000Hz
->High repeatability



Data measured at 2000Hz
Ave. of peak: 33.2N
Nearly the same value

Sampling speed: 100Hz
->Dispersion of the measured data



Data measured at 100Hz
Ave. of peak: 29.92N
Values vary. Ave. is lower.

*Depending on sample or testing conditions, you may not get the same result.

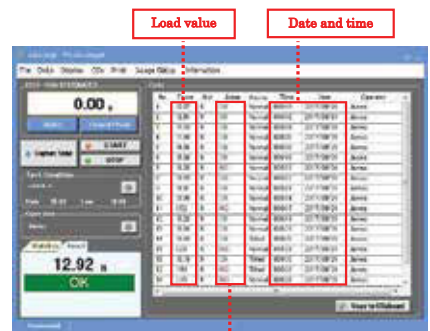
Feature 3 Easy and reliable data management on PC with included software, Force Logger.

Included data logger software, Force-Logger can transfer data to PC by one click all at once.

- Displayed value at when you press SEND button
- Continuous data (10 data / sec) (You can make a graph with Excel later)
- Data saved in internal memory

Merits to Use

- You can connect ZTA to PC via USB, easy setup.
- Date and time are automatically recorded when you transfer data.
- It automatically calculates Maximum, Minimum, and Average values.
- You can register measurement conditions and measurer's name.
- Easy pass-fail judgement by the colored OK/NG
- Easy printing, saving (format image on the right) and management of data.



Load value

Date and time

OK/NG judgment

How to use

Simply handheld use





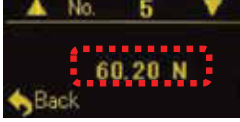



High repeatability with a test stand



Make graphs to analyze force transition



Feature 4 Various functions to improve usability in different measurement environment

<p>Bar graph of force</p>  <p>Force transition is clearly visible.</p> <p>You can clearly see force transition, which is useful for overload (sensor break-down) prevention. *1</p>	<p>Overload (sensor break-down) warning *1</p>  <p>When load over its capacity is added, warning is indicated. Please stops measurement immediately when this indication show up</p>	<p>Internal memory</p>  <p>Peak values can be saved in ZTS itself.</p> <p>You can clearly see force transition, which is useful for overload (sensor break-down) prevention. *1</p>
<p>OK/NG judgment</p>  <p>LED light shows its judgment. Alarm goes off when it detects +NG</p> <p>You can set high/low points, and LED light tells you if measured value is between high and low points or not. Signal output is also possible and you can synchronize it with external equipment.</p>	<p>Setting LOCK</p>  <p>Locking the current settings</p> <p>It prevents unintentional changes of settings.</p>	<p>Saving measured Date and Time</p>  <p>Easy data management</p> <p>It has calendar and clock functions which enable saving measurement data with its time and date record.</p>

When you connect ZTS to a motorized test stand (External equipment) with a dedicated cable, more useful functions can be activated:

- For example... - Avoiding overload (sensor break-down) *2
- Operation control according to selected load values.

*1 It does NOT completely prevent overload. It may be overloaded before the warning indication shows up in the case when high load is added in a moment.

*2 A motorized test stand and a dedicated cable are necessary to activate this function. We cannot assure the perfect prevention against overload (sensor break-down).

Specifications

Order No.	ZTA	ZTS
Feature	Advanced model with various functions such as data saving in USB memory stick, displacement I/O and more.	Standard model with the same benefit in performance as ZTA series but reduced functionality.
Accuracy	+/-0.2%F.S. +/-1 digit	
Unit of measurement ⁽¹⁾	N, kgf, lbf ⁽²⁾	
Display	4-digit organic EL	
Display update	16 times / sec.	
Sampling rate	2000 data / sec at maximum ⁽³⁾	
Battery	8 hours (2 hours charge) ⁽⁴⁾	
Safe overload rating	The battery is more consumed when connected to USB memory stick or linear scale.	
Operating environment	Approx.200%F.S.	
Function	Temperature: 0 to +40 degree Celsius, Humidity: 20 to 80%RH	
	Customized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memory, Comparator (judgment of OK or NG), Reversible display, Sign inversion, Zero clear timer, +NG alarm, Off timer (auto power off), Dumping, Calendar display, Setting lock	
	1 st /2 nd peak, Displacement detection at force peak, Displacement 0 reset at selected force	-
Output	USB, RS232C, Mitutoyo digimatic ⁽⁵⁾ , 2 VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG)	
	Sub comparator 2 steps (output of low or high judgment)	-
Overload warning	Approx.110%F.S. (Warning message and alarm)	
External connecting switch	SEND (a point of contact holding), Zero reset, Peak ON/OFF setting	
Weight	Indicator: Approx. 490g (Load cell: Please refer to each load cell's specifications)	
Dimensions	Please refer to dimensions.	
Accessory ⁽⁶⁾	AC adapter, Inspection certificate, CD driver (including simple software for data log), Attachments (The set of attachments varies according to range.), USB cable, Carrying case.	
	Adapter for USB memory stick ⁽⁶⁾	-

*1 These are the specifications for International model. Please note that this unit is different from Japanese domestic model and international one.

*2 [N indication] The indication of 2N and 5N models is mN or N. The indication of 1000N,2500N and 5000N model is N or kN.

[kgf indication] The indication of 2N and 5N models is gf.

[lbf indication] The indication of 2N and 5N models is ozf.

*3 When you save data in USB memory stick, the sampling rate is selectable among 1, 50 and 100/sec.

*4 The battery is more consumed when connected to USB flash drive or a linear scale.

*5 Not always available for Mitutoyo digimatic products.

*6 USB memory stick is not included.

Order No.		Capacity	Display	Resolution	Thread
ZTS-2N	ZTA-2N	2N	2.000N (2000mN)	0.001N (1mN)	M6
ZTS-5N	ZTA-5N	5N	5.000N (5000mN)	0.001N (1mN)	
ZTS-20N	ZTA-20N	20N	20.00N	0.01N	
ZTS-50N	ZTA-50N	50N	50.00N	0.01N	
ZTS-100N	ZTA-100N	100N	100.0N	0.1N	
ZTS-200N	ZTA-200N	200N	200.0N	0.1N	
ZTS-500N	ZTA-500N	500N	500.0N	0.1N	
ZTS-1000N	ZTA-1000N	1000N	1000N (1.000kN)	1N (0.001kN)	M10
ZTS-2500N	ZTA-2500N	2500N	2500N (2.500kN)	1N (0.001kN)	
ZTS-5000N	ZTA-5000N	5000N	5000N (5.000kN)	1N (0.001kN)	

TESTING EQUIPMENT

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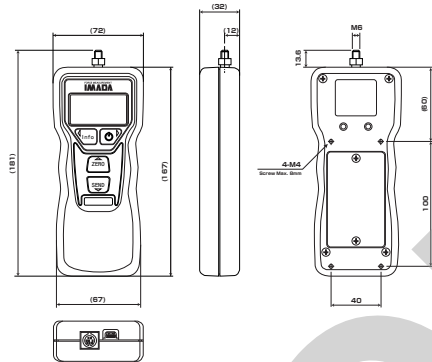
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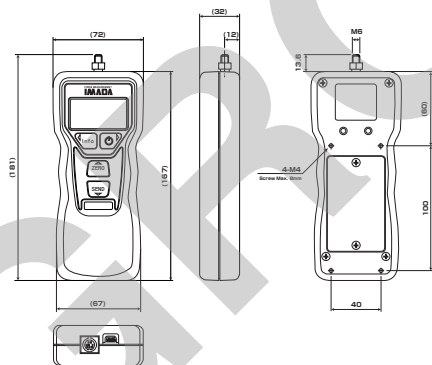
DIGITAL FORCE GAUGE DST/DSV Series

DST Series



DST has excellent cost-performance.
You can use it for both tension and compression. You can switch real-time measurement and peak-hold measurement. It equips OK judgement or reversible indication functions for greater usability.

DSV Series



DSV improves reproducibility in hand-held use.
DSV is an advanced model equipped with tilt-sensing function, Internal memory (1000) function, and more.

Newly added functions to improve work efficiency

DSV sounds alarms when you tilt it to right/left or up/down from the preset position, for greater accuracy.



- DSV has tilt-sensing function, sounding alarms when it senses a tilt from the pre-set position.
- When it sounds an alarm, "NG" is recorded.
- * DST does NOT have the tilt-sensing function.

You can prevent DSV/DST from sensor-breakdown due to mechanical stopper.



- DSV/DST-2N/5N/20N/50N has mechanical stopper for overload preventing.
- * You cannot prevent overload in some cases.

You can connect maximum 4 pcs of DSV/DST to PC at the same time, for easier management.



- You can record acquired data, date, OK judgement.
- * You need a dedicated optional software for this.

DSV/DST has longer battery life and great portability.



- Battery life lasts 30 hours at maximum when its backlight is off.
- You can charge it from a PC or a mobile battery.

[Main functions]

- ① **Indicate force digitally**
Digital indication offers NO individual differences in reading.
- ② **Reversible indication**
The indication can be turned upside down as desired with simple button operation.
- ③ **OK judgement**
You can set upper/lower limit, then, it indicates OK.
- ④ **Display**
Time, battery life, and other information can be indicated as desired.
It can indicate the last values, or peak & real time values at the same time.
- ⑤ **Calibration schedule reminder**
You can set up the desired date for next calibration, then on 30 days before the set date, it reminds you of the next calibration by a message on its monitor.



⑥ **You can easily attach an attachment.**

Thread is M6 screws, and IMADA attachments are designed to fit into the thread. A plastic nut is supplied to adjust attachment's position.

⑦ **Settings**

You can set up about peak capturing mode, upper/lower limit, operation sound, etc.



⑧ **Languages**

English and Japanese are available.

⑨ **Hand fitting design**

You can apply force stably due to easy-gripping shape and durable aluminum die-casting body.

⑩ **Connector for USB & RS232C**
It equips connectors for USB cable and RS232C.

You can charge it from a PC or a mobile battery using a supplied USB cable.



TESTING EQUIPMENT

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FORCE MEASUREMENT
IMADA

Force Gauge
เครื่องมือวัดแรงดึง แรงดัน

Specifications

Order No.	DSV	DST
Accuracy	$\pm 0.2\% \text{F.S. (full scale)} \pm 1 \text{ digit}$	
Unit of measurement	N(mN, kN), kgf(gf), lbf (*1)	
Display	4-digit LCD	
Sampling rate	Max. 1000 data/sec	
Battery	Approx.30 hours (when back light is off) Approx.14 hours (when back light is on) (need 4.5 hours for full charge)	
Overload	Approx.200%F.S.	
Power	Nickel-Metal Hydride battery (NiMH battery) , USB charge(PC, mobile battery, AC adapter)	
Operating environment	Temperature: 0 – 40°C Humidity: 20 – 80%RH	
Function	Peak hold(Tensile or compression)/Comparator(OK Judgement)/Sensitivity(3 steps)/ Reversible display /Sign inversion/Setting lock/Date & Time/Off timer (Auto power-off)/ Reminder for calibration schedule/Overload alarm	
	Tilt-sensing alarm/Continuity peak mode(*2) /Internal memory (1000 point)	
Output	USB / RS232C	
Overload alarm	Alarm to notify "near-overload state": Approx. 90%F.S. (Alarm sound) Alarm to notify "overloaded state" : Approx.110% F.S. (Alarm sound / Indication blinking)	
Weight	Approx.460g (*3)	
Dimensions	Refer to Dimensions below.	
Accessory	Force Logger(Data capturing software)/USB cable/AC adaptor/ Attachments (The types of attachments vary by models)/Carrying case/ Instruction manual/Inspection certificate	

*1 These are the specifications for International model. Note that the available units are different from Japanese domestic model and international one. kN is available at 1000N, mN and gf is available at 2N and 5N ranges.

*2 You cannot use Continuous peak mode when the measurement does not reach 10% of the force gauge's capacity. Instead, use Peak mode. Continuous peak mode could not fit enough for measurement with a shock such as break tests. Contact us for further details.

*3 The weights are slightly different by the model.

Order No.	Capacity	Display	Resolution	Thread
DSV (DST) -2N	2N	2.000N	0.001N	M6
DSV (DST) -5N	5N	5.000N	0.001N	
DSV (DST) -20N	20N	20.00N	0.01N	
DSV (DST) -50N	50N	50.00N	0.01N	
DSV (DST) -200N	200N	200.0N	0.1N	
DSV (DST) -500N	500N	500.0N	0.1N	
DSV (DST) -1000N	1000N	1000N	1N	

Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Digital Force

Gauge
รุ่นดิจิทัล

Mechanical

Force Gauge
รุ่นแบบกลไก

Other Force

Gauge
รุ่นอื่นๆ

Amplifiers

ตัวขยายสัญญาณ

Load cells

โหลดเซลล์

Software & Output

Equipment
ซอฟต์แวร์
และสายสัญญาณ

Test Stands

ขาตั้ง

Attachment and

Fixture
อุปกรณ์เสริมจับ
ชิ้นงาน

TESTING EQUIPMENT

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FORCE MEASUREMENT
IMADA

เครื่องมือวัดแรงดึง แรงดัน แบบดิจิทัล

DIGITAL FORCE GAUGE

ZT Series Separate Sensor Model - High functionality/High performance



Use with...

DPU series load cell for mount on equipment

LM series load cell for measuring in limited space.

WP series load cell for measuring in wet environment.

DM series load cell for measuring the closure force of automatic doors.

*LEFT: ZTA with DPU-50N

*Load cells are calibrated independently to each display unit. They are NOT interchangeable.

Features

Fast Sampling & Accurate Results	Direct data storing to USB	Clear Display
Fast sampling speed of max. 2000 data/sec and fast USB connection provides smooth graph drawing. (Optional software required)	Continuous data saved directly to USB memory stick (ZTA series only)	Bright Organic EL display shows multiple values (date and time, the number of memory, comparator value and more.)

Specifications

Order No.	ZTA	ZTS
Feature	Advanced model with various functions such as data saving in USB memory stick, displacement I/O and more.	Standard model with the same benefit in performance as ZTA series but reduced functionality.
Accuracy	+/-0.2%F.S./-1digit	
Unit of measurement ⁽¹⁾	N, kgf, lbf ⁽²⁾	
Display	4-digit organic EL	
Display update	16 times / sec.	
Sampling rate	2000 data / sec at maximum ⁽³⁾	
Battery	8 hours (2 hours charge) ⁽⁴⁾	
	The battery is more consumed when connected to USB memory stick or linear scale.	
Safe overload rating	Approx.200%F.S.	
Operating environment	Temperature: 0 to +40 degree Celsius, Humidity: 20 to 80%RH	
Function	Customized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memory, Comparator (judgment of OK or NG), Reversible display, Sign inversion, Zero clear timer, +NG alarm, Off timer (auto power off), Dumping, Calendar display, Setting lock	
	1 st /2 nd peak, Displacement detection at force peak, Displacement 0 reset at selected force	-
Output	USB, RS232C, Mitutoyo digimatic ⁽⁵⁾ , 2 VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG)	
	Sub comparator 2 steps (output of low or high judgment)	-
Overload warning	Approx.110%F.S. (Warning message and alarm)	
External connecting switch	SEND (a point of contact holding), Zero reset, Peak ON/OFF setting	
Weight	Indicator: Approx. 490g (Load cell: Please refer to each load cell's specifications)	
Dimensions	Please refer to dimensions.	
Accessory ⁽⁶⁾	AC adapter, Inspection certificate, CD driver (including simple software for data log), Attachments (The set of attachments varies according to range.), USB cable, Carrying case.	
	Adapter for USB memory stick ⁽⁶⁾	-

*1 These are the specifications for International model. Please note that this unit is different from Japanese domestic model and international one.

*2 [N indication] The indication of 2N and 5N models is mN or N. The indication of 1000N,2500N and 5000N model is N or kN.

[kgf indication] The indication of 2N and 5N models is gf.

[lbf indication] The indication of 2N and 5N models is ozf.

*3 When you save data in USB memory stick, the sampling rate is selectable among 1, 50 and 100/sec.

*4 The battery is more consumed when connected to USB flash drive or a linear scale.

*5 Not always available for Mitutoyo digimatic products.

*6 USB memory stick is not included.

DPU Models

Order No.		Capacity	Display	Resolution
ZTA-DPU-2N	ZTS-DPU-2N	2N (200gf)	2.000N/2000mN(200.0gf)	0.001N/1mN(0.1gf)
ZTA-DPU-5N	ZTS-DPU-5N	5N (500gf)	5.000N/5000mN(500.0gf)	0.001N/1mN(0.1gf)
ZTA-DPU-10N	ZTS-DPU-10N	10N (1kgf)	10.00N(1.000kgf)	0.01N(0.001kgf)
ZTA-DPU-20N	ZTS-DPU-20N	20N (2kgf)	20.00N(2.000kgf)	0.01N(0.001kgf)
ZTA-DPU-50N	ZTS-DPU-50N	50N (5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZTA-DPU-100N	ZTS-DPU-100N	100N (10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZTA-DPU-200N	ZTS-DPU-200N	200N (20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZTA-DPU-500N	ZTS-DPU-500N	500N (50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)
ZTA-DPU-1000N	ZTS-DPU-1000N	1000N (100kgf)	1000N/1.000kN(100.0kgf)	1N/0.001kN(0.1kgf)
ZTA-DPU-2000N	ZTS-DPU-2000N	2000N (200kgf)	2000N/2.000kN(200.0kgf)	1N/0.001kN(0.1kgf)
ZTA-DPU-5000N	ZTS-DPU-5000N	5000N (500kgf)	5000N/5.000kN(500.0kgf)	1N/0.001kN(0.1kgf)
ZTA-DPU-10kN	ZTS-DPU-10kN	10kN (1000kgf)	10.00kN(1000kgf)	0.01kN(1kgf)
ZTA-DPU-20kN	ZTS-DPU-20kN	20kN (2000kgf)	20.00kN(2000kgf)	0.01kN(1kgf)

LMU Models

Order No.		Capacity	Display	Resolution
ZTA-LMU-50N	ZTS-LMU-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZTA-LMU-100N	ZTS-LMU-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZTA-LMU-200N	ZTS-LMU-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZTA-LMU-500N	ZTS-LMU-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)

LU Models

Order No.		Capacity	Display	Resolution
ZTA-LU-50N	ZTS-LU-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZTA-LU-100N	ZTS-LU-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZTA-LU-200N	ZTS-LU-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZTA-LU-500N	ZTS-LU-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)
ZTA-LU-1000N	ZTS-LU-1000N	1000N(100kgf)	1000N/1.000kN(100.0kgf)	1N/0.001kN(0.1kgf)
ZTA-LU-2000N	ZTS-LU-2000N	2000N(200kgf)	2000N/2.000kN(200.0kgf)	1N/0.001kN(0.1kgf)

LM Models

Order No.		Capacity	Display	Resolution
ZTA-LM-10N	ZTS-LM-10N	10N(1kgf)	10.00N(1.000kgf)	0.01N(0.001kgf)
ZTA-LM-20N	ZTS-LM-20N	20N(2kgf)	20.00N(2.000kgf)	0.01N(0.001kgf)
ZTA-LM-50N	ZTS-LM-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZTA-LM-100N	ZTS-LM-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZTA-LM-200N	ZTS-LM-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZTA-LM-500N	ZTS-LM-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)
ZTA-LM-1000N	ZTS-LM-1000N	1000N(100kgf)	1000N/1.000kN(100.0kgf)	1N/0.001kN(0.1kgf)
ZTA-LM-2000N	ZTS-LM-2000N	2000N(200kgf)	2000N/2.000kN(200.0kgf)	1N/0.001kN(0.1kgf)
ZTA-LM-5000N	ZTS-LM-5000N	5000N(500kgf)	5000N/5.000kN(500.0kgf)	1N/0.001kN(0.1kgf)
ZTA-LM-10kN	ZTS-LM-10kN	10kN(1000kgf)	10.00kN(1000kgf)	0.01kN(1kgf)
ZTA-LM-20kN	ZTS-LM-20kN	20kN(2000kgf)	20.00kN(2000kgf)	0.01kN(1kgf)

Force Gauge
เครื่องมือวัดแรงดึง
และแรงดัน

**Universal
Testing Machine**
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

**Digital Force
Gauge**
รุ่นดิจิทัล

**Mechanical
Force Gauge**
รุ่นแบบกลไก

**Other Force
Gauge**
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

**Software & Output
Equipment**
ซอฟต์แวร์
และสายสัญญาณ

Test Stands
ขาตั้ง

**Attachment and
Fixture**
อุปกรณ์เสริมจับ
ชิ้นงาน

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT

IMADA

เครื่องมือวัดแรงดึง แรงดัน แบบแมคคานิคัล

MECHANICAL FORCE GAUGE

PSS / PS / PSM / FB / FS Series

FB / FS Series

PS / PSS series

PSM series

Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

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รุ่นแมคคานิค

Other Force
Gauge
รุ่นอื่นๆ

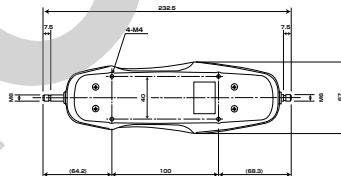
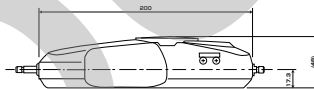
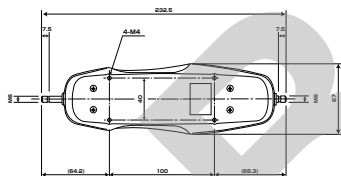
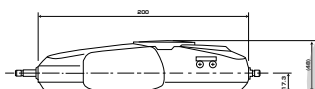
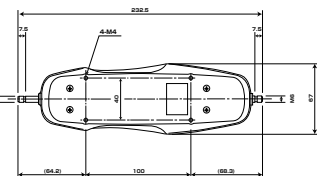
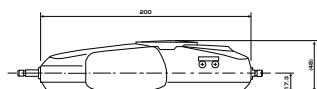
Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

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Attachment and
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ชิ้นงาน



Application

- Measuring of the contact pressure for touch panel or keyboard
- Measuring of the bonding strength of adhesive tapes and the peel strength of adhesive sheets
- *Digital force gauges are more suitable for measuring rapid change of the force such as impact test

Feature

- All models are equipped with Peak Hold function which captures peak force.
- Zero adjustment function for tare weight allows the adjustments of attachment's weight.

Specifications

Order No.	PSS	PS	PSM	FS	FB
Stroke	10 mm				
Measuring units	Refer to the following tables				
Display features	Track and peak mode (Selectable)				
Graduation	100 lines*		200 lines **	100lines *	
Accuracy	+/-0.1% of F.S			+/-0.3% of F.S	
Operating temperature range	From 0 to +40 degree Celsius				
Weight (approx.)	580g*** (PSS-10N)	670g*** (PS-500N)	660g*** (PSM-300N)	580g*** (FS-10N)	630g*** (FB-100N)
Accessories	8 attachments Carrying case			6 attachments Carrying case	

* 120 lines for 3K, 30K, 300N, 30lb, 300K, 300N, 300lb.

** 150 lines for 3K, 30K.

***As the weight differs depending on its capacity, the above is just of main model numbers.

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

Force Gauge
เครื่องมือวัดแรงดึง แรงดัน
และแรงดัน

1. PPS/PS Series: Highly Accurate, Durable Standard Model PS Series [N unit graduation: 100 lines *120 lines]

Order No.	Capacity	Resolution
PS-5N	5 N	0.05 N
PS-10N	10 N	0.1 N
PS-20N	20 N	0.2 N
PS-30N*	30 N	0.25 N
PS-50N	50 N	0.5 N
PS-100N	100 N	1 N
PS-200N	200 N	2 N
PS-300N*	300 N	2.5 N
PS-500N	500 N	5 N

PSS Series [Kgf unit graduation: 100 lines *120 lines] Note 1)

Order No.	Capacity	Resolution
PSS-0.5K	500 gf	5 gf
PSS-1K	1 kgf	10 gf
PSS-2K	2 kgf	20 gf
PSS-3K *	3 kgf	25 gf

PS Series [Kgf unit graduation: 100 lines *120 lines] Note 1)

Order No.	Capacity	Resolution
PS-5K	5 kgf	50 gf
PS-10K	10 kgf	100 gf
PS-20K	20 kgf	200 gf
PS-30K *	30 kgf	250 gf
PS-50K	50 kgf	500 gf

PS Series [lbf unit graduation: 100 lines *120 lines] Note 1)

Order No.	Capacity	Resolution
PS-5lb	5 lbf	0.05 lbf
PS-10lb	10 lbf	0.1 lbf
PS-20lb	20 lbf	0.2 lbf
PS-30lb *	30 lbf	0.25 lbf
PS-50lb	50 lbf	0.5 lbf
PS-100lb	100 lbf	1 lbf

Note 1) Prohibited to sell Japanese market due to Japanese Measurement standard law.

3. FB/FS Series: Steady Accuracy, Affordable Price Popular Type FB Series [N unit graduation: 100 lines*120 lines]

Order No.	Capacity	Resolution
FB-10N	10 N	0.1 N
FB-20N	20 N	0.2 N
FB-30N *	30 N	0.25 N
FB-50N	50 N	0.5 N
FB-100N	100 N	1 N
FB-200N	200 N	2 N
FB-300N *	300 N	2.5 N
FB-500N	500 N	5 N

FS Series [kgf unit graduation: 100 lines *120 lines] Note 1)

Order No.	Capacity	Resolution
FS-1K	1 kgf	10 gf
FS-2K	2 kgf	20 gf
FS-3K *	3 kgf	25 gf

FS Series [kgf unit graduation: 100 lines *120 lines] Note 1)

Order No.	Capacity	Resolution
FB-5K	5 kgf	50 gf
FB-10K	10 kgf	100 gf
FB-20K	20 kgf	200 gf
FB-30K *	30 kgf	250 gf
FB-50K	50 kgf	500 gf

FB Series [lbf unit graduation: 100 lines *120 lines] Note 1)

Order No.	Capacity	Resolution
FB-5lb	5 lbf	0.05 lbf
FB-10lb	10 lbf	0.1 lbf
FB-20lb	20 lbf	0.2 lbf
FB-30lb *	30 lbf	0.25 lbf
FB-50lb	50 lbf	0.5 lbf
FB-100lb	100 lbf	1 lbf

Note 1) Prohibited to sell Japanese market due to Japanese Measurement standard law.

2. PSM Series: High-Resolution Scale Precision Type PSM Series [N unit graduation: 200 lines **150 lines]

Order No.	Capacity	Resolution
PSM-20N	20 N	0.1 N
PSM-30N **	30 N	0.2 N
PSM-50N	50 N	0.25 N
PSM-100N	100 N	0.5 N
PSM-200N	200 N	1 N
PSM-300N **	300 N	2 N
PSM-500N	500 N	2.5 N

PSM Series [kgf unit graduation: 200lines **150 lines] Note 1)

Order No.	Capacity	Resolution
PSM-2K	2 kgf	10 gf
PSM-3K	3 kgf	20 gf
PSM-5K	5 kgf	25 gf
PSM-10K	10 kgf	50 gf
PSM-20K	20 kgf	100 gf
PSM-30K **	30 kgf	200 gf
PSM-50K	50 kgf	250 gf

Note 1) Prohibited to sell Japanese market due to Japanese Measurement standard law.

Force Gauge
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TESTING EQUIPMENT

เครื่องมือทดสอบ

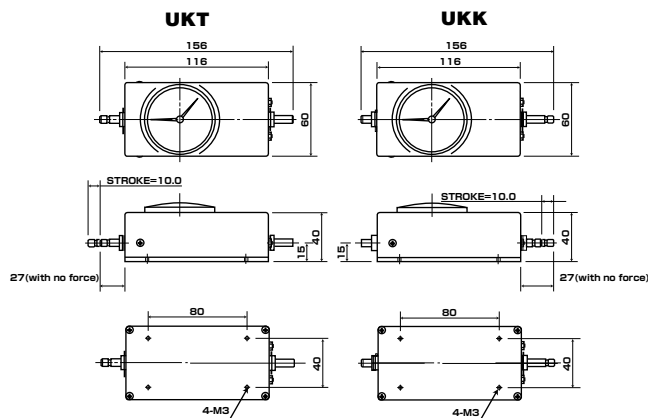
FORCE MEASUREMENT

IMADA

เครื่องมือวัดแรงดึง แรงดัน แบบแมคคานิคัล

MECHANICAL FORCE GAUGE

UKT/UKK Series - Dedicated Mechanical Force gauge for Tension or Compression



Application

- Measuring of the contact pressure for touch panel or keyboard
- Measuring of the bonding strength of adhesive tapes and the peel strength of adhesive sheets
- *The digital force gauges are more suitable for measuring rapid change of the force such as impact test

Feature

- All models are equipped with Peak Hold function which captures peak force.
- Zero adjustment function for tare weight allows the adjustments of attachment's weight.

Specifications

Order No.	UKT series	UKK series
Stroke	10 mm	
Measuring units	Refer to the following tables	
Display features	Track / Peak (Memory pointer)	
Graduation	100 lines *	
Accuracy	±0.3% of F.S	
Operating temperature range	0~+40 degree Celsius	
Weight	300 g	
Accessory	4 attachments for tension Carrying case	5 attachments for compression Carrying case

* 120 lines for 30N, 300N, 3K, 30K, 30lb.

[UKT/UKK Series Specification]

UKT Series / UKK Series [N unit graduation: 100 lines *120 lines]

UKT series (For tension only) / UKK series (For compression only)			
Order No.		Capacity	Resolution
UKT-20N	UKK-20N	20N	0.2N
UKT-30N*	UKK-30N	30N	0.25N
UKT-50N	UKK-50N	50N	0.5N
UKT-100N	UKK-100N	100N	1N
UKT-200N	UKK-200N	200N	2N
UKT-300N*	UKK-300N	300N	2.5N

UKT Series / UKK Series [kgf unit graduation: 100 lines *120 lines] Note 1)

UKT series (For tension only) / UKK series (For compression only)			
Order No.		Capacity	Resolution
UKT-2K	UKK-2K	2kgf	20gf
UKT-3K*	UKK-3K	3kgf	25gf
UKT-5K	UKK-5K	5kgf	50gf
UKT-10K	UKK-10K	10kgf	100gf
UKT-20K	UKK-20K	20kgf	200gf
UKT-30K*	UKK-30K	30kgf	250gf

UKT Series / UKK Series [N unit graduation: 100 lines *120 lines]

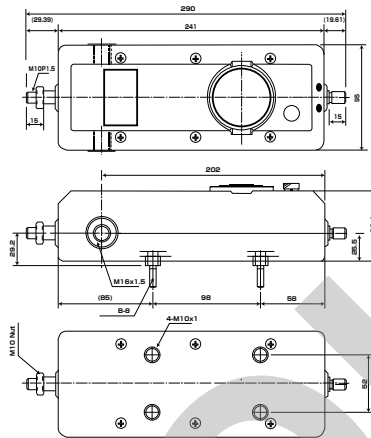
UKT series (For tension only) / UKK series (For compression only)			
Order No.		Capacity	Resolution
UKT-5lbf	UKK-5lbf	5lbf	0.05lbf
UKT-10lbf	UKK-10lbf	10lbf	0.1lbf
UKT-20lbf	UKK-20lbf	20lbf	0.2lbf
UKT-30lbf	UKK-30lbf	30lbf	0.25lbf
UKT-50lbf	UKK-50lbf	50lbf	0.5lbf

Note 1) Prohibited to sell Japanese market due to Japanese Measurement standard law.

เครื่องมือวัดแรงดึง แรงดัน แบบแมคคานิค

MECHANICAL FORCE GAUGE

PSH Series - High Capacity Standard Model



Application

- Strength tests for various materials (tension test, compression test, shearing test, etc.)
 - Measuring of attraction/repulsion force of solenoid or magnet.
 - Adhesion test of laminated tubes
- *The digital force gauges are more suitable for measuring rapid change of the force such as impact test

Specifications

Order No.	PSH
Stroke	10 mm
Measuring unit	Refer to the following tables
Display feature	Real-time Track / Peak-hold mode (Selectable)
Graduation	100 lines *
Accuracy	Within +/- 0.1% of F.S
Operating temperature	0 to+40 degree Celsius
Weight	3.1 kg
Accessory	6 attachments Handles (2 pcs.) Force gauge mounting plate bolts (4 pcs.)

* 120 lines for 3000N, 300K, 300lb

[PSH series available models]

Order No.	Capacity	Resolution	Remark
PSH-500N	500N	5N	
PSH-1000N	1000N	10N	
PSH-2000N	2000N	20N	
PSH-3000N*	3000N	25M	
Model(NOT available in Japan)			
PSH-50K	50kgf	0.5kgf	Not available for Japanese market due to the Japanese measurement standards law. (Available only for overseas market)
PSH-100K	100kgf	1kgf	
PSH-200K	200kgf	2kgf	
PSH-300K*	300kgf	2.5kgf	
Model(NOT available in Japan)			
PSH-200lb	200lbf	2lbf	Not available for Japanese market due to the Japanese measurement standards law. (Available only for overseas market)
PSH-300lb*	300lbf	2.5lbf	
PSH-500lb	500lbf	5lbf	

* Graduation: 120 lines

Force Gauge
เครื่องมือวัดแรงดึง และแรงดัน

Universal Testing Machine
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TESTING EQUIPMENT

เครื่องมือทดสอบ

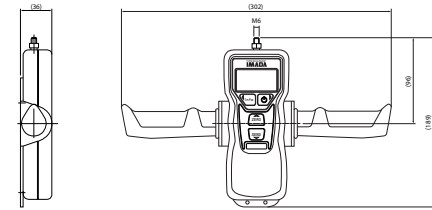
FORCE MEASUREMENT
IMADA

เครื่องมือวัดแรงดึง แรงดัน

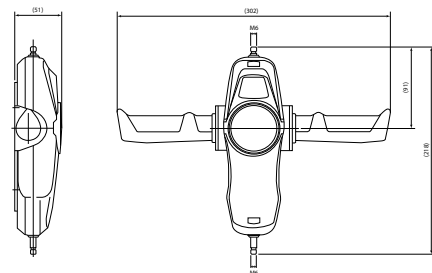
OTHER FORCE GAUGE

RZTA-1000N/RDSV-1000N/RFB-750N - Muscle Force Measurement Device

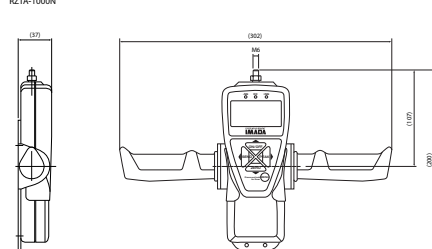
RDSV-1000N



RFB-750N



RZTA-1000N



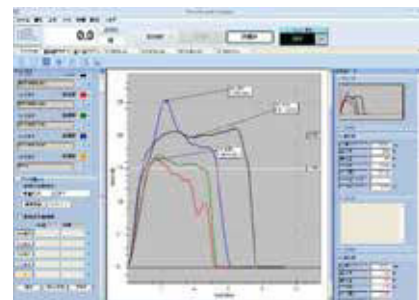
- Designed to measure muscle strength of arms, legs, necks, tongues, etc.
- Enables you to measure occupational loads (opening/closing doors, pushing a wagon, drawing a cart and so on) as well.
- Includes several pads and attachments to fit your measurement needs.
- Three kinds of kits are available.
- Comes in a carrying case, which can store the handle with the gauge mounted.
- RZTA and RDSV can save peak value with the date in RZTA/RDSV or a PC.



- 1 For compression [Rectangular pad]
- 2 For compression [Curved pad]
- 3 For compression [Square pad]
- 4 For compression [Round pad]
- 5 For tension [Large hook]
- 6 For tension [Y hook]

Feature 1	Feature 2	Feature 3
Various attachments and pads	Carrying case	Easy data management
6 types of attachments and pads enable different testing.	Force gauge mounted handle can put attached carrying case.	A peak value and date/time can be saved in force gauges. (RDSV/RZTA only)

Testing application	
Leg muscle strength test (with a curved pad)	Arm muscle strength test (with a curved pad)
Tongue strength test (with a square pad)	Back strength test (with a round pad)
Force test to push a cart (with a round pad)	Force test to open a door (with a Y hook)



Graphing software [Force Recorder Standard] (included in RZTA-1000N)

Durability is recorded on graphs

With a graphing software included in RZTA-1000N, Force transition is visualized with graphs and you can...

- See force durability
- Overlaying and compare graphs
- Add comments
- Save data in Word/Excel/PDF etc.

The graphing software makes it possible to analyze and manage data very easily.




TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
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Force Gauge
เครื่องมือวัดแรงดึง แรงดัน

Specifications

Order No.		RZTA-1000N	RDSV-1000N	RFB-750N
Image				
Features	Main feature	Functional model for various purpose including data analysis with graphing and direct data saving to USB drive.	Standard model with useful function. Tilt-sensing alarm enables stable testing.	Mechanical model for easy visual reading of force transition.
	Peak	√+	√+	√+
	Visible force transition	√++	√	√+
	Data management on PC	√++	√+	—
	Graphing	√+	—	—
Performance	Capacity	1000N	1000N	750N
	Unit	N (kN), kg (*1)	N (kN), kg (*1)	N (*1)
	Accuracy	+/- 0.2%F.S. +/-1digit	+/- 0.2%F.S. +/-1digit	+/- 0.3%F.S.
	Sampling rate	Max. 2000 times/sec	Max. 1000 times/sec	—
	Sensitivity	4 steps	3 steps	—
	Display	4-digit graphic organic EL	4-digit graphic LCD	Dial indicator
	Power	Internal battery, AC adapter	Internal battery, USB charge (AC adapter)	—
	Battery	Approx. 8 continuous hours of use by 4.5 hour charge	Approx. 30 continuous hours of use (with backlight off) by 2 hour charge	—
	Weight	Approx. 1kg	Approx. 1kg	Approx. 1.1kg
	Peak hold	√+	√+	√+
Functions	Judgement	√++ (OK,NG)	√+ (OK only)	—
	Calender	√+	√+	—
	Bar graph	√+	—	—
	Overload warning	√+	√+ + (w/ Precaution Alarm)	—
	Tilt-sensing alarm	—	√+	—
	Language	JP, EN, CN, ES, DE, FR, IT, KO	JP, EN	—
	Internal memory	√+ (1000 data)	√+ (1000 data)	—
	USB Drive *2	√+	—	—
	Graphing	√+	—	—
	Accessory	Handle, attachment pads (6 types), carrying case, inspection certificate		
		USB cable, software for data management, graphing software, AC adapter, USB drive	USB cable, software for data management, AC adapter	Protection cap

*1 It is for international models. Available units for Japanese domestic models are different.

*2 Continuous data for graphing can be saved at 100 data/ sec.

Force Gauge

เครื่องมือวัดแรงดึง และแรงดัน

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TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

ระบบทดสอบอื่นๆ

Other Force Testing System

FSA series - Force-Displacement Measurement Unit (for Tactile Test)

Features

IMADA Force-Displacement Measurement Unit FSA series can be used for tactile test, material evaluation and more. The high speed sampling rate 2000 Hz captures accurate values and draws a detailed graph of force and displacement. The unit includes a force gauge, a test stand with a linear scale, a cable and a graphing software. The capacity is from 2N to 2500N.

Simple Setup

You mount the force gauge on the test stand and connect them by the cable. You can perform force-displacement measurement by using with necessary fixtures and connecting external equipment according to your needs.

High Speed Sampling Rate 2000Hz for Capturing Values and Drawing a Graph

The high speed sampling rate 2000Hz captures accurate values and draws force vs displacement graph in detail.

Easy Report Creation

The included software supports your report creation. You can perform zooming a specific area, adding comments, graph layering (up to 5 graphs) and more. Moreover, the created graph can be directly exported as Word, Excel and PDF file.

Auto Data Recording

Graph drawing automatically starts and stops at set force/displacement or external signal.

[Included Product]

Force Gauge:

High Functionality Digital Force Gauge ZTA series

Test Stand with a linear scale (It is different on the model):

Standard Type Vertical Motorized Test Stand MX2 series (FSA-0.5K2 series, FSA-1K2 series or FSA-2.5K2 series)

High Functionality Type Vertical Motorized Test Stand EMX-1000N (FSA-1KE series)

Standard Type Horizontal Motorized Test Stand MH2-500N (FSA-0.5HK2 series)

Small Manual Test Stand MSL-50N (FSA-MSL series)

*We also offer custom-made test stands (e.g. for a special long stroke, for installing to a facility, etc).

ASK for Custom-made Order

Software:

Graph Drawing Software Force Recorder Professional

Cable*:

CB-718(FSA-0.5K2 series, FSA-1K2 series, FSA-2.5K2 series and FSA-0.5HK2 series)

CB-728(FSA-1KE series)

*The cable of FSA-MSL series is directly attached to the test stand.

[Testing applications]

- Switch tactile test >>

- Seat cushioning characteristics (hardness) test >>

- Sponge hardness test >>



Software Operating Environment

Operating environment	OS: Windows 7/8/8.1/10
Hardware	CPU: Pentium4(1GHz more) more recommended
	Memory: 2GB or more is recommended
	Hard disk: 10GB (data storage area) or more
Plat form	.NET Framework4.6 or more
Execute environment	Microsoft Internet Explorer 6.0 later
	Windows Installer 3.1 later

Order No.	FSA- - N		
Measurement unit	Force	N, kgf, lbf (switchable) 1*	
	Displacement	mm, inch (switchable) 1*	
Range	2N(200gf), 5N(500gf), 20N(2kgf), 50N(5kgf), 100N(10kgf), 200N(20kgf), 500N(50kgf), 1000N(100kgf), 2500N(250kgf)		
Resolution	Force	4 digit (e.g. Resolution of 5N force gauge is 0.001N)	
	Displacement	0.001mm(on software; Force Recorder Professional)	0.01mm (on force gauge display)
Accuracy	Force	+/-0.2% F.S. +/-1digit	
	Displacement	+/-0.1mm +/-1 digit (with no load)	
Model:Stroke:Speed	*When maximum force is applied, the stand may be deformed upward and downward (approx. -0.5mm~+0.5mm).		
	MSL:80mm:Manual adjustment knob		
	0.5K2:230mm:10-300mm/min		
	1K2:290mm:10-300mm/min		
	2.5K2:290mm:10-300mm/min		
	0.5HK2:230mm:10-300mm/min		
	1KE:290mm:0.5-600mm/min		
	*1 Please refer to Model list below.		
*2 "Stroke" means the maximum length from the top of force gauge to the table of test stand. Therefore, stroke varies depending on the force gauge and the attachments combined.			
Sampling rate	2000 data/sec		
Display update	16 data/sec		
Output(*2)	USB, Serial(RS232C), Analog(Approx. +/-2V),Comparator, Overload, Sub comparator, USB memory * USB memory stick is not included.		
Functions of motorized test stand	Stroke limit, Overload prevention(*1), Force control(*2), Emergency stop *1 We cannot assure the perfect prevention against sensor break-down. *2 The value of force control is specified by the absolute value.		
Power of motorized test stand	Free input AC100V to 240V		
Operating temperature/Humidity	Temperature: 0 to 40 degree Celsius / Humidity:20 to 80%RH		
Accessories	Instruction manual, Inspection certificate, Power cable, 2 pcs of spare hues, Driver CD-ROM(including software for data log "ZT-Logger"), Graphing software "Force-Recorder Professional".		

*1 These are the specifications for International model. Please note that this unit is different from Japanese domestic model and international one.

*2 Custom made order cable is necessary if the displacement output and the serial or the analogue signal output are needed on the same time.

Order No.	Type	Capacity	Feature
FSA-MSL-__N	Portable	50N	Manual system.
FSA-0.5K2-__N		500N	Automatic system.
FSA-1K2-__N	Standard	1000N	Testing speed, the number of testing, pause time can be chosen.
FSA-2.5K2-__N		2500N	> Ideal for repetition/durability test
FSA-0.5HK2-__N	Standard horizontal	500N	Automatic system. Testing speed, the number of testing, pause time can be chosen.
FSA-1KE-__N	High performance functionality	1000N	Automatic system. Precise measurement due to high rigidity. In addition to functions of 0.5-2.5K2 series, more functions such as travel set up, 5 running patterns memory, etc. are available.

* __N: You can select range according to your test.

ระบบทดสอบอื่นๆ

Other Force Testing System

Automatic Crimp Tester - ACT-1000N (Partly in accordance with UL 486A-486B)



Features

- The Start Button provides smooth flow from testing to saving data including OK/NG judgment.
- You can save test conditions up to 26 patterns in it, which is useful for multiple tests. You can recall a suitable setting easily and instantly.
- 2 test modes are available; "BREAK mode" and "KEEP mode".
With BREAK mode, you can detect the force when a crimp terminal is broken. With KEEP mode, you can test the tensile durability at a set point.

Specification for Automatic Crimp Tester ACT-1000N

Order No.	ACT-1000N	ACT-1000N-V300
Capacity	1000N	
Accuracy	±0.5% F.S ±1digit	
Unit	N, kgf, lbf (*1)	
Sampling rate	2000Hz	
Measuring speed	10/25/50/100 mm/min(Choose from 4 steps)	25/50/100/300 mm/min(Choose from 4 step)
Stroke	Approx.50mm	
Allowable sample diameter	Terminal side : 1~8mm	
Diameter	Harness side : 1~8mm	
Allowable sample length	100 mm or more	
Mode	BREAK mode / KEEP mode	
Output	USB/RS232C/pass or fail decision signal (OK/NG)	
Security lock	Emergency stop button and Overload prevention (at the power on)	
Power supply	AC100 ~ 240V	
Size	W400 x D240 x H150mm	
Weight	Approx.11kg	
Operating environment	Temperature : 0~40 degree Celsius Humidity : 20~80%RH	
Accessory	Software, USB cable, Power cord, Inspection Certificate	

*1 This is the specifications for International model.
Please note Japanese domestic model shows force in N only.

Force Gauge
เครื่องมือวัดแรงดึง
และแรงดัน

**Universal
Testing Machine**
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

**Digital
Force Gauge**
รุ่นดิจิทัล

**Mechanical
Force Gauge**
รุ่นแบบกลไก

**Other
Force Gauge**
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

**Software & Output
Equipment**
ซอฟต์แวร์
และสายสัญญาณ

Test Stands
ขาตั้ง

**Attachment and
Fixture**
อุปกรณ์เสริมจับ
ชิ้นงาน

ระบบทดสอบอื่นๆ

Other Force Testing System

Test Lever Stand - LH-500N (Crimp Tester)

Features

It is ideal for tensile strength test of crimped terminal.
Designed exclusively for wide harness testing = Easy manipulation → Improve measurement efficiency



Order No.	LH-500N
Capacity	500 N
Stroke	Approx. 85 mm
Size	Approx. W155 x D450 x H182mm
Weight	Approx. 11kg
Accessories	Terminal Clamp Fixture : CH-500N Wire Clamp Fixture : CW-500N *Force gauge is not included.

TESTING EQUIPMENT

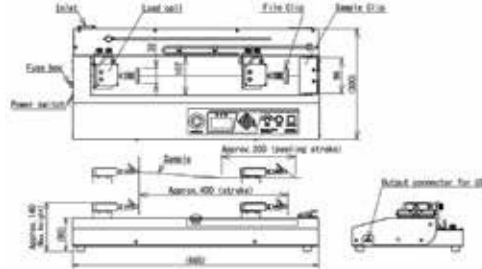
เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

ระบบทดสอบอื่นๆ

Other Force Testing System

Peel Test - IPTS-5N (Complying with a part of IEC 60286-3:2013)



Features

- Specialized for peel test of embossed carrier tape complying with IEC and JIS
- High sampling rate of 2000Hz ensures accurate graphing
- Handles a wide range of test speed up to 1500 mm/min
- One-click user-friendly operation

Specifications for accessory software

Model	Force Recorder Standard
Data transferring speed	Max. 2000 data / sec (2000Hz)
Recording data point	Max. 720 million
Graph	Graph overlaying function, Capture function, Graph scaling, Statistics output, Point marking
Graph recording	Trigger function
Edit	Insert textbox, borderline function
Output	Print(A4, Letter size), CSV, Word/Excel/PDF
OS	Windows 7/8.1/10
Hardware	CPU :Pentium4(1GHz or more) or more is recommended. Memory: 2GB or more is recommended. Harddisk (data storage area):10GB or more is recommended.
Platform	.NET Framework4.6 or later
Execute environment	Microsoft Internet Explorer 6 or later, Windows Installer 3.1 or later
Image size	Resolution 1024x768 pixel or more
Connection port	USB1.1, USB2.0 connector *We do not guarantee operation in USB 3.0.

*Some old version of EXCEL shows data up to 65,531 only.

Specifications for IPTS-5N Peel Tester

Order No.	IPTS-5N
Accuracy	+/-0.2% F.S. +/-1 digit
Capacity	5N
Resolution	0.001N
Overload	Approx. 150% F.S. (It warns with light flashing and buzzer when the force is over 110% of capacity.)
Sampling rate	2000 data / sec. at maximum
Testing speed	120, 200, 300, 500, 1000, 1500mm / min (switchable)
Stroke	Travel of a load cell: Approx.400mm (Peeling length: Approx.200mm)
Peel angle	165-180 degree (Height and angle are adjustable.)
Testable width of samples	Adhesion:88mm (Film clip: 40mm, Sample clip: 95mm)
Testable thickness of samples	Cover film: 0.5mm
Safety device	Emergency stop button, Overload prevention (Only when the power is turned ON) (*1)
Power	AC100 to 240V free input (*2)
Weight	Approx.11kg
Operating environment	Temperature: 0 to 40 degree Celcius / Humidity: 20 to 80% RH
Accessory	Force Recorder (graph drawing software), USB cable, Power cable, Film grip, Inspection certificate, Instruction manual

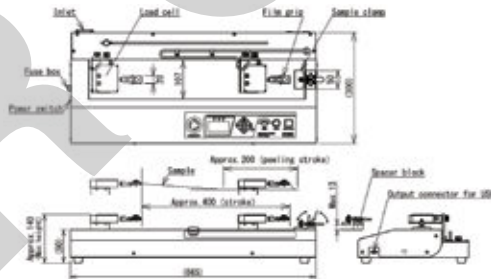
*1 You cannot prevent overload in some cases.

*2 Please specify the voltage when you order. (Accessory varies depending on voltage.)

ระบบทดสอบอื่นๆ

Other Force Testing System

IPTS-20N/50N - High speed peel strength tester



Features

- Peel Strength Tester for 180-degree peel test of a wide range of samples such as adhesive tapes and laminated package.
- It offers a wide range of test speed up to 1500mm/min.
- Easy sample setting and simple operation.
- Accessory software graphs the measurement accurately due to its high sampling rate, Max.2000Hz.

Specifications for accessory software

Model	Force Recorder Standard
Data transferring speed	Max. 2000 data / sec (2000Hz)
Recording data point	Max. 720 million
Graph	Graph overlaying function, Capture function, Graph scaling, Statistics output, Point marking
Graph recording	Trigger function
Edit	Insert textbox, borderline function
Output	Print(A4, Letter size), CSV, Word/Excel/PDF
OS	Windows 7/8.1/10
Hardware	CPU : Pentium4(1GHz or more) or more is recommended. Memory: 2GB or more is recommended. Harddisk (data storage area):10GB or more is recommended.
Platform	.NET Framework4.6 or later
Execute environment	Microsoft Internet Explorer 6 or later, Windows Installer 3.1 or later
Image size	Resolution 1024x768 pixel or more
Connection port	USB1.1, USB2.0 connector *We do not guarantee operation in USB 3.0.

* Some old version of Excel shows data up to 65,531 only.

Specifications for IPTS-5N Peel Tester

Order No.	IPTS-20N	IPTS-50N
Accuracy	+/-0.2% F.S. +/-1 digit	
Capacity	20N	50N
Resolution	0.01N	
Overload	Approx. 150% F.S. (It warns with light flashing and buzzer when the force is over 110% of capacity.)	
Sampling rate	Max. 2000 data / sec (2000Hz)	
Testing speed	120, 200, 300, 500, 1000, 1500mm / min (switchable)	
Stroke	Travel of a load cell: Approx.400mm (Peeling length: Approx.200mm)	
Peel angle	165-180 degree (Height and angle are adjustable.)	
Testable width of samples	Adhesion:88mm (Grip: 20mm, Clamp: 50mm)	
Testable thickness of samples	Grip: 3mm Clamp: 13mm	
Safety device	Emergency stop button, Overload prevention (Only when the power is turned ON) (*1)	
Power	AC100 to 240V free input (*2)	
Weight	Approx.11kg	
Operating environment	Temperature: 0 to 40 degree Celcius / Humidity: 20 to 80% RH	
Accessory	Force Recorder (graph drawing software), USB cable, Power cable, Film grip, Spacer block, Inspection certificate, Instruction manual	

*1 It does not guarantee complete protection against overload.

*2 Please specify the voltage when you order. (Accessory varies depending on voltage.)

ระบบทดสอบอื่นๆ

Other Force Testing System FRTS series - Food Texture Analyzer



Features

Simple operation:

Simply choose desired food (your test sample) or a test standard from the list on its touch screen, then it shows recommended measuring conditions.

Easy data management and analysis:

You can easily manage data using USB flash drive* and software*. *They are included.

Easy care:

Designed to keep clean

Order No.		FRTS-5N	FRTS-50N	FRTS-100N
Capacity		5N	50N	100N
Resolution		5.00N	50.00N	100.0N
Accuracy	Force	0.2%F.S 1digit		
	Displacement	0.1mm 1digit		
Unit	Force	N / Kg / lbf (*)		
	Displacement	mm / inch (*)		
Indication	Force	4-digit		
	Displacement	0.001mm (as the minimum resolution)		
Sampling rate		1000Hz		
Sample maximum height		70mm(*1)		
Table travel distance		Max.100mm		
Speed		0.1 to 10.0mm/sec		
Functions		3 types of measuring method (Food/Standard(*2), Program, Manual), Add-a-favorites for measuring conditions (Max.6 conditions), Start-trigger function, Overload preventing function (*3)		
Output		USB, USB flash drive		
Accessories		Graphing software, Power cable, USB cable, USB flash drive, Attachment (4 kinds), Fuse, Inspection certificate		
Operating environment (*4)		Temperature: 0 to 40 degree Celsius Humidity: 20 to 80 %RH		
Weight		Body: 7.7kg Control Panel: 0.8kg		
Size		185 x 300 x 400 mm (except its control panel)		

* The units are switchable. The units differs from Japanese domestic model.

*1 It is the maximum distance from its table surface to the part where an attachment is mounted.

*2 You need PC for measurement to comply with some standards. *3 You cannot prevent overload in some cases.

*4 You cannot use this product in a vibratile environment.

Force Gauge

เครื่องมือวัดแรงดึง
และแรงขึ้น

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Digital Force Gauge

รุ่นดิจิทัล

Mechanical Force Gauge

รุ่นเมคคานิค

Other Force Gauge

รุ่นอื่นๆ

Amplifiers

ตัวขยายสัญญาณ

Load cells

โหลดเซลล์

Software & Output Equipment

ซอฟต์แวร์
และสายสัญญาณ

Test Stands

ขาตั้ง

Attachment and Fixture

อุปกรณ์เสริมจับ
ชิ้นงาน

TESTING EQUIPMENT

เครื่องมือทดสอบ

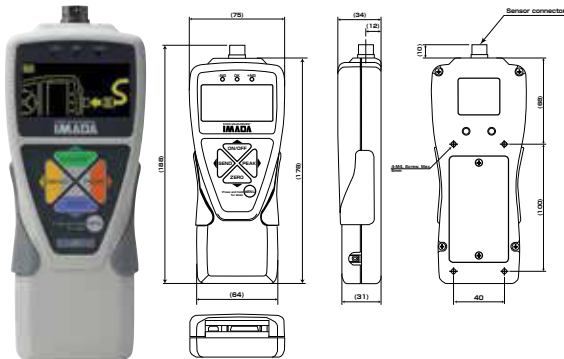
FORCE MEASUREMENT

IMADA

ตัวขยายสัญญาณ

AMPLIFIERS

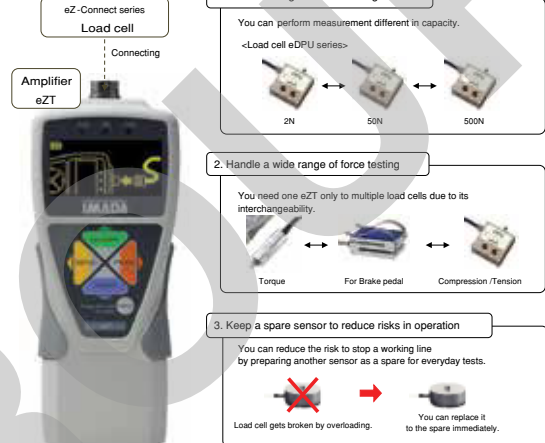
eZT-Connect Series: Sensor Interchangeable Amplifier eZT



Features

- Single eZT can be combined with various load cells, enabling you to handle a wide range of force testing applications such as compression, tension, and torque due to its interchangeability. NO adjustment is required to change load cells.
- You can select a load cell from almost 70 kinds such as compression, tension, torque, waterproof, wide temperature range, and more.
- You can keep spare load cells in preparation to breakdown of the load cell.

[Features]



The accuracy adjustment is NOT REQUIRED to change sensors.

[Interchanging the load cells]



[Wide Range of Testing Applications]

eZT can handle a wide range of force testing applications to fit various needs.

Handheld use	Use as a force tester
Handheld use, combined with a handle	As a force tester, combined with a test stand
<p>E.g. Mount the handle LTH-T to eDPU</p> <p>We also offer other handles for handheld use.</p>	<p>You can combine various sensors and attachments to fit various measurement needs.</p> <p>E.g. Mount a load cell to a test stand and perform 90 degree peel test of adhesion tape.</p>

Specifications

Order No.	eZT
Accuracy	+/-0.2%F.S. (*1)
Unit of measurement	Depends on load cell and settings (N, kN, kgf, lbf N-m, N-cm, kgf-m, kgf-cm, lbf-in, ozf-in)
Display	4-digit
Display update	16 / sec
Sampling rate	2000 data / sec at maximum (*2)
Battery	8 hours (2 hours charge) (*3)
Operating environment	Temperature: 0 to +40 degree Celsius, Humidity: 20 to 80%RH
Functions	Customized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memory, Comparator (judgment of OK or NG), Reversible display, Sign inversion, Zero clear timer, +NG alarm, Off timer (auto power off), Dumping, Time display, 1st/2nd peak, Displacement detection at force peak value, Displacement zero reset at selected force, setting lock
Output	USB, RS232C, Mitutoyo digimatic (*4), 2 VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG), Overload alarm, Sub comparator 2 steps (output of large or small judgment), USB flash drive, Displacement.
Overload warning	Approx.110%F.S. (Warning message and alarm)
External connecting switch	SEND (a point of contact holding), Zero reset, Peak ON/OFF setting
Available liner scales(*5)	- Online driver output (a line receiver according to RS422/485 must be built in.) - Open collector output (Voltage drop between contacts must be smaller than 0.5V.)
Weight	Approx. 490g
Dimensions	Please refer to dimensions
Accessory	AC adapter, CD driver (including simple software for data logging), USB cable, Carrying case, Adaptor for USB flash drive (*6)

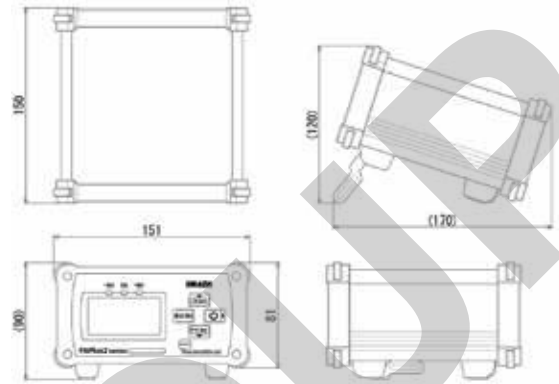
*1 The accuracy of load cell is added when using connected with a load cell.
 *2 Up to 100 data/sec. is saved in USB memory (selectable among 1, 50, and 100 /sec)
 *3 The battery is more consumed when connected to USB flash drive or a linear scale.
 *4 Not always available for Mitutoyo digimatic products.
 *5 Some linear scales could not be available even if they meet the mentioned specifications.
 *6 USB flash drive is not included.

ตัวอย่างสัญญาณ

Desktop Amplifier FA Plus2



FA Plus2



Features

Control Functions	<ul style="list-style-type: none"> - Adjustable baud rate to fit to your facilities such as PLC - Easy output of continuous data to your facilities such as PLC due to high RS232C data output speed (continuous data rate: 100 data/sec) - Accurate and quick force judgement due to high comparator data rate (2000 data/sec)
Management Functions	<ul style="list-style-type: none"> - Enables detection of load cell using A/D (Analog to Digital) value display - Reduces risks in operation by keeping a spare load cell using eZ Connect series

Order No.	FA Plus2	eFA Plus2
Features	Adjustment is required when change the load cell	Load cell interchangeable eZ Connect series (no need for adjustment)
Accuracy	The accuracy of connected load cell	The accuracy of connected load cell + ±0.2% F.S. (*1)
Unit of measurement	Depends on load cell and settings (N, kN, kgf, lbf, N-m, N-cm, kgf-m, kgf-cm, lbf-in, ozf-in) (*2)	
Display	4-digit	
Display update	16 / sec	
Sampling rate	2000 data / sec at maximum (*3)	
Battery	AC adapter (AC100~240V)(*4)	
Operating environment	Temperature: 0~40 degree Celsius	Humidity: 20~80%RH
Functions	Customized display (header and footer), Peak hold (tension and compression), Comparator (judgment of OK or NG), Display of AD value, Reversible display, Zero clear timer, +NG alarm, Off timer (auto power off), Dumping, Time display, 1st/2nd peak, Displacement detection at force peak value, Displacement zero reset at selected force, setting lock	
Output	RS232C (baud rate available from 57600bps to 9600bps), USB, 2 VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG), Overload alarm, Sub comparator 2 steps (output of large or small judgment), USB flash drive, Displacement.	
Overload warning	Approx.110%F.S. (Warning message and alarm)	
Available liner scales	Online driver output (a line receiver according to RS422/485 must be built in.) Open collector output (Voltage drop between contacts must be smaller than 0.5V.)	
Weight	1100g	
Dimensions	Refer to dimensions	
Accessories	AC adapter (only for standard model), Force Logger (software for data logging), USB cable, Adapter for USB flash drive (*5), Instruction manual Inspection certification	

*1 Accuracy ±0.2% F.S. is added.

*2 The available units are different from Japanese domestic model and international one.

*3 When you save data in USB memory stick, the sampling rate is selectable among 1, 50 and 100/sec.

*4 Option of industrial power DC+24V is available. (option: -DC)

*5 USB flash drive is not included.

Force Gauge
เครื่องมือวัดแรงดึง
และแรงดัน

Universal
Testing Machine
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

Digital Force
Gauge
รุ่นดิจิทัล

Mechanical
Force Gauge
รุ่นแมคคานิค

Other Force
Gauge
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

Software & Output
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ซอฟต์แวร์
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Test Stands
ขาตั้ง

Attachment and
Fixture
อุปกรณ์เสริมจับ
ชิ้นงาน

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
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โหลดเซลล์

Load Cells

Standard Type DPU for Compression and Tension

Easy built-in shape to external equipment



It measures force by mounting an attachment on the thread (the male screw part)

Capacity	2N ~ 500N
Accuracy	± 0.2% F.S. or less
Size	Approx. W58xD21xH71 ~ W88xD42xH155mm
Cable Length	Approx. 2m

Order No.	Capacity	Thread
DPU-2N	2N	Male Screw M6P1.0
DPU-5N	5N	
DPU-10N	10N	
DPU-20N	20N	
DPU-50N	50N	M6P1.0
DPU-100N	100N	
DPU-200N	200N	
DPU-500N	500N	

High Capacity Type DPU for Compression and Tension

Easy built-in shape to external equipment



It measures force by mounting an attachment on the thread (the male screw part)

Capacity	1000N ~ 20kN
Accuracy	± 0.2% F.S. or less
Size	Approx. W58xD21xH130 ~ W88xD42xH155mm
Cable Length	Approx. 3m

Order No.	Capacity	Thread
DPU-1000N	2N	Male Screw M10P1.5
DPU-2000N	5N	
DPU-5000N	10N	
DPU-10kN	20N	N/A*
DPU-20kN	500N	

* There is no thread on the load cell head while it equips a female screw M18 P1.5 Depth 22. The thread is able to attach on the head optionally.

Small Type SW1 for Compression and Tension

Able to connect samples to the two sides of the sensor.



You can fix it with female screws or connect it to eye bolts to measure force.

Capacity	100 ~ 5000N
Accuracy	± 0.5% F.S. or less
Size	Approx. W40xD20xH40mm
Cable Length	Approx. 0.5~2m (Curl cable)

Order No.	Capacity	Thread
SW1-100N	100N	Female screw
SW1-200N	200N	M6P1.0
SW1-500N	500N	Female screw
SW1-1000N	1000N	M8P1.25
SW1-2000N	2000N	Female screw
SW1-5000N	5000N	M10P1.5

* Please connect us if the user need the thread.

High Capacity Type SW3 for Compression and Tension

Able to connect samples to the two sides of the sensor.



You can fix it with female screws or connect it to eye bolts to measure force.

Capacity	10kN ~ 20kN
Accuracy	± 0.5% F.S. or less
Size	Approx. W80xD25xH80mm
Cable Length	Approx. 5m

Order No.	Capacity	Thread
SW3-10kN	10kN	Female screw M16P2.0
SW3-20kN	20kN	

* Please connect us if the user need the thread.

Extra Small Type LMU for Compression and Tension

Sensor part diameter is Approx. Ø 18mm.



It measures force by mounting an attachment on the thread (the male screw part).

Capacity	50N ~ 500N
Accuracy	± 1.0% F.S. or less
Size	Approx. Ø18xH25mm
Cable Length	Approx. 2m

Order No.	Capacity	Thread
LMU-50N	50N	male screw M5P0.8
LMU-100N	100N	
LMU-200N	200N	
LMU-500N	500N	

*1 Conversion adaptor CA-F5T6 is required when M6 screw attachments mounting on the load cell.

Small Type LU for Compression and Tension

Able to connect samples to the two sides of the sensor.



You can fix it with female screws or connect it to eye bolts to measure force.

Capacity	50 ~ 2000N
Accuracy	± 1.0% F.S. or less
Size	Approx. Ø28xH35mm
Cable Length	Approx. 3m

Order No.	Capacity	Thread
LU-50N	50N	Female screw M8P1.25
LU-100N	100N	
LU-200N	200N	
LU-500N	500N	
LU-1000N	1000N	
LU-2000N	2000N	

Conversion adaptor CA-8T6 (for M6 screw) / CA-8T10 (for M10 screw) is required when M6/M10 screw attachments mounting on the load cell.

Pen Type PN-50N for Compression and Tension

Ideal for touching force measurements such as small manipulation force.



It measures force by mounting an attachment on the thread (the male screw part)

Capacity	50N
Accuracy	± 2.0% F.S. or less
Size	Approx. Ø20xH90mm
Cable Length	Approx. 2m

Order No.	Capacity	Thread
PN-50N	50N	M6P1.0

High Accuracy Type SK for Compression and Tension

Durable sensor.



You can mount metal fittings in 3 holes as required.

Capacity	2000N ~ 20kN
Accuracy	± 0.25% F.S. or less
Size	Approx. W130xD30xH30mm
Cable Length	Approx. 5m

Order No.	Capacity
SK-2000N	2000N
SK-5000N	5000N
SK-10kN	10kN
SK-20kN	20kN

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

Force Gauge
เครื่องมือวัดแรงดึง แรงดัน
และแรงดัน

Force Gauge
เครื่องมือวัดแรงดึง
และแรงดัน

Universal
Testing Machine
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

Digital Force
Gauge
รุ่นดิจิทัล

Mechanical
Force Gauge
รุ่นแอนะล็อก

Other Force
Gauge
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

Software & Output
Equipment
ซอฟต์แวร์
และสายสัญญาณ

Test Stands
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Attachment and
Fixture
อุปกรณ์เสริมจับ
ชิ้นงาน

Small Type ZD for Compression and Tension

Small-size sensor in capacity from 1000N up to 20kN



It measures force by mounting an attachment on the thread (the male screw part)

Capacity	1000N ~ 20kN
Accuracy	± 0.5% F.S. or less
Size	Approx. W78xD30xH44 ~ W116xD38xH46mm
Cable Length	Approx. 3m

Order No.	Capacity	Thread
ZD1-1000N	1000N	male screw M12P1.75
ZD1-2000N	2000N	
ZD1-5000N	5000N	
ZD1-10kN	10kN	male screw M20P1.5
ZD1-20kN	20kN	

*Please choose tension or compression

General Type LC for Compression

Coin type load cell



It measures force by applying compression on the top of projection

Capacity	500N ~ 20kN
Accuracy	± 0.5% F.S. or less
Size	Approx. Ø50xH25mm
Cable Length	Approx. 5m

Order No.	Capacity
LC-500N	500N
LC-1000N	1000N
LC-2000N	2000N
LC-5000N	5000N
LC-10kN	10kN
LC-20kN	20kN

High Accuracy Type DD2 for Compression

High accuracy model. Available for high capacity measurement.



It measures force by applying compression on the top of projection.

Capacity	5000N ~ 20kN
Accuracy	± 0.5% F.S. or less
Size	Approx. Ø94xH48mm
Cable Length	Approx. 5m

Order No.	Capacity
DD2-5000N	5000N
DD2-10kN	10kN
DD2-20kN	20kN

Small Type LM for Compression

It can be inserted in narrow spaces due to the coin shape.



It measures force by applying compression on the top of projection.

Capacity	10N ~ 20kN
Accuracy	10N~10kN: ±2.0% F.S. or less 20kN : ±3.5% F.S. or less
Size	Approx. Ø12xH4~Ø21xH10mm
Cable Length	10N~2000N: Approx. 2m 5000N~20kN: Approx. 3m

Order No.	Capacity
LM-10N	10N
LM-20N	20N
LM-50N	50N
LM-100N	100N
LM-200N	200N
LM-500N	500N
LM-1000N	1000N
LM-2000N	2000N
LM-5000N	5000N
LM-10kN	10kN
LM-20kN	20kN

Wide Temperature Rang Type LMT-1000N for Compression

It can be used in temperatures between -40 degrees Celsius and +130 degrees Celsius.



It measures force by applying compression on the top of projection.

Capacity	1000N
Accuracy	± 1.0% F.S. or less
Size	Approx. Ø14xH4.3mm
Cable Length	Approx. 2m

Order No.	Capacity
LMU-500N	500N

High Capacity Type ZU for Tension

Two rod ends are included. Small-size sensor in capacity from 10kN up to 20kN



Force is measured by attaching a sample on the rod end.

Capacity	10kN ~ 20kN
Accuracy	± 1.0% F.S. or less
Size	Approx. Ø28xH170 ~ Ø50xH234mm (Except the rod ends.)
Cable Length	Approx. 5m

Order No.	Capacity
ZU-10kN	10kN
ZU-20kN	20kN

Crane Scale Type ZW1-10kN for Tension

A hook is included. Light weight and user-friendly.



It can be used as a crane scale.

Capacity	10kN
Accuracy	± 1.0% F.S. or less
Size	Approx. Ø22xH170 mm (Except the fittings and the hook)
Cable Length	Approx. 0.5~2m (Curl cable)

Order No.	Capacity
ZW1-10kN	10kN

Door Tester DM-2000N Special Use Load Cell

Exclusively for measuring closing force of automatic doors and revolving doors.



It measures force by making the blue sensor part touch a closing door.

Capacity	2000N
Accuracy	± 2.0% F.S. or less
Size	Approx. W94xD66xH380mm
Cable Length	Approx. 2m

Order No.	Capacity
DM-2000N	2000N

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT

IMADA

Force Gauge

เครื่องมือวัดแรงดึง แรงดัน

Force Gauge

เครื่องมือวัดแรงดึง และแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Digital Force

Gauge

รุ่นดิจิทัล

Mechanical

Force Gauge

รุ่นแบบกลไก

Other Force

Gauge

รุ่นอื่นๆ

Amplifiers

ตัวขยายสัญญาณ

Load cells

โหลดเซลล์

Software & Output

Equipment

ซอฟต์แวร์

และสายสัญญาณ

Test Stands

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Attachment and

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อุปกรณ์เสริมจับ

ชิ้นงาน

Closing Use Load Cell SKM-1000N Special use Load cell

Exclusively for automatic closing force of car windows.



Put this sensor between a car window and its frame to measure the closing force.

Capacity	1000N
Accuracy	± 1.0% F.S. or less
Size	Approx. W70xD50xH30mm
Cable Length	Approx. 200mm (Flexible arm)

Order No.	Capacity
SKM-1000N	1000N



*You cannot combine it with FA Plus due to its flexible arm.

Handbrakes Force of Two-Wheelers PK1-500N Special use Load cell

Exclusively for gripping hand breaks force of two-wheelers.



Put this sensor on hand breaks and grip them together to measure the force.

Capacity	500N
Accuracy	± 1.0% F.S. or less
Size	Approx. W102xD35xH40mm
Cable Length	Approx. 1.5m

Order No.	Capacity
PK1-500N	500N



Foot Brakes Force of Cars PK2-1500N Special use Load cell

Exclusively for stepping foot brakes of cars.



It measures footbrake manipulating force by putting the load cell on foot breaks and stepping them together.

Capacity	1500N
Accuracy	± 1.0% F.S. or less
Size	Approx. W50xD70xH27mm
Cable Length	Approx. 1.5m

Order No.	Capacity
PK2-1500N	1500N



Torque Load Cell eHT Series For Torque (only for eZ connect)

It measures turning/twisting force.



It measures torque using optional attachments such as pin chuck, socket holder, torque driver etc. Please see another torque catalog for details of the attachments.

Capacity	0.5N-m ~ 10N-m
Accuracy	± 0.5% F.S. or less
Size	Ø38 x 138mm
Cable Length	Approx. 0.5~1m (curl cable)

Order No.	Capacity
-----------	----------

eHT-0.5N	50N-cm (*1)
eHT-2N	2N-m (200N-cm)
eHT-5N	5N-m (500N-cm)
eHT-10N	10N-m (1000N-cm)

*1 Displayed unit is "N-cm" only.
* You can switch N-m(N-cm) to Kgf-m (kgf-cm) or lbf-in (ozf-in)

การเลือกใช้ Software

ADVANTAGE OF USING THE SOFTWARE

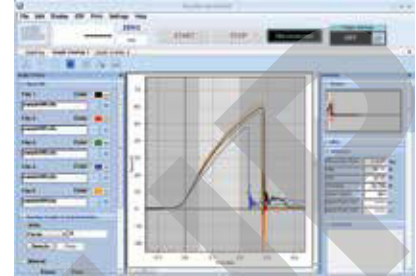
CD	Name of Software	Purpose	Compatible model	Connecting Port	Maximum data capturing rate
	Force Recorder Light	for drawing Force-Time Graph This software is moderate-priced edition.	ZTS ZTA eZT HTGS/HTGA DTXS/DTXA	USB	Max. 2000Hz
	Force Recorder Standard	for drawing Force-Time Graph	ZTS ZTA eZT HTGS/HTGA DTXS/DTXA	USB	Max. 2000Hz
	Force Recorder Professional	for drawing Force-Displacement Graph	ZTA eZT HTGA DTXA	USB	Max. 2000Hz
	Force Logger Plus	for acquiring data from up to 4 force gauges	ZTS ZTA eZT DST DSV HTGS/HTGA DTXS/DTXA	USB	Max. 10Hz
	ZLINK4	for drawing Force-Time Graph	DST DSV	USB	Max. 50Hz

ซอฟต์แวร์ และอุปกรณ์

Software & Output Equipment Force Recorder (Light/Standard)

Features

- Applicable models: ZTS, ZTA, eZT, HTGS, HTGA, DTXS, DTXA series
- When combined with ZTS, ZTA, or eZT, you can draw force-time graph.
- When combined with HTGS, HTGA, DTXS, or DTXA, you can draw torque-time graph.
- High sensitivity (MAX.2000 data /sec sampling speed): Real time graphing is possible.
- Possible to set up functions of a force gauge and save the setting.
- 5 charts at maximum are displayed in the same table (Standard type only): Useful for comparing and evaluating the chart data.



Force Recorder(Light/Standard) Functions

Version	Light	Standard
Graph	force-time torque-time	force-time torque-time
Data transferring speed (Max)	2000 data / sec	2000 data / sec
Recording data point (Max)	7.2 million	7.2 million
Graph overlaying function	N/A	Yes
Trigger function	N/A	Yes
Point marking	N/A	Yes
Border line function	N/A	Yes
Graph editing	N/A	Yes
Graph scaling	Yes	Yes
Statistics output	Yes	Yes
Comment	Yes	Yes
Print	Yes	Yes
CSV file converting	Yes	Yes
Preview saving (PDF/Word/Excel)	Yes	Yes
Force gauge setting	Yes	Yes

*Some old version of EXCEL shows data up to 65,531 only.

Operating Environment

Operating environment	OS: Windows 7/8.1/10
Hardware	CPU: Pentium4 (1GHz more) more recommended Memory: 2GB more recommended Hard disk: 10GB(Data storage area) more
Platform	.NET Framework4.6 more
Execute environment	Microsoft Internet Explorer6.0 later Windows Installer 3.1 later
Image size	Resolution 1024*768 pixel more
The gauges that can be combined	165-180 degree (Height and angle are adjustable.)
Testable width of samples	ZTS/ZTA series, eZT, DTXS/DTXA series, HTGS/HTGA series
Connection port	USB1.1, USB2.0 connector * We do not guarantee operation in USB 3.0.

Force Gauge

เครื่องมือวัดแรงดึง และแรงดัน

Universal
Testing Machine
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

Digital Force
Gauge
รุ่นดิจิทัล

Mechanical
Force Gauge
รุ่นแมคคานิค

Other Force
Gauge
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

Software & Output
Equipment
ซอฟต์แวร์ และสายสัญญาณ

Test Stands
ขาตั้ง

Attachment and
Fixture
อุปกรณ์เสริมจับ

ชิ้นงาน

ซอฟต์แวร์ และอุปกรณ์

Software & Output Equipment Force Logger Plus

Features

- Manages data up to 4 pcs of force gauges simultaneously.
- Acquires single and continuous data to show pass-fail result quickly and clearly.
- Manages force gauge by its serial No. with name, and calibration data.
- Easy connection by the supplied USB hub.



Specifications for Force Logger Plus

Model	Force Logger Plus-J	Force Logger Plus-I
Sampling rate	Max. 10 data / sec	
Resolution	Determined by force gauge's capacity. (Signed 4-digit) (eg: 0.001N when using 5N range.)	
Functions	Statistics output, CSV format conversion, Printing, Force gauge setting, Testing condition, Force gauge management, Operator management, Password protection	
Output	CSV format conversion, Printing	
Languages	Japanese, English	
Compatible force gauges*	ZTS/ZTA series, eZT, FA Plus2, DST/DSV series, HTGS/HTGA series, DTXS/DTXA series	
Required cable	USB cable (supplied with force gauge)	
Accessories	USB hub with power adapter (A type plug adapter only for Japan)	USB hub with power adapter (A and C type plug adapter for Overseas)

* It can acquire force data together with the displacement (angle) data when connected with the ZTA, eZT, FA Plus2, HTGA, and DTXA series. (Requires connecting linear scale or angle meter.)

* It can record the posture change when connecting DSV digital force gauge series.

* Contact us for compatibility of other models.

Operation Environment for Force Logger Plus

OS	OS: Windows 7/8.1/10
Hardware	CPU: Pentium 4 (1GHz or more) or more is recommended Memory: 2GB or more is recommended Hard disk(Data storage area): 10GB or more is recommended
Platform	Microsoft .NET Framework 4.6 or later
Execute Environment	Microsoft Internet Explorer 6.0 or later Windows installer 3.1 or later
Image size	Resolution 1280 768 pixel or more
Connecting Port	USB1.1, USB2.0 connector (force gauges equipped with USB connector)

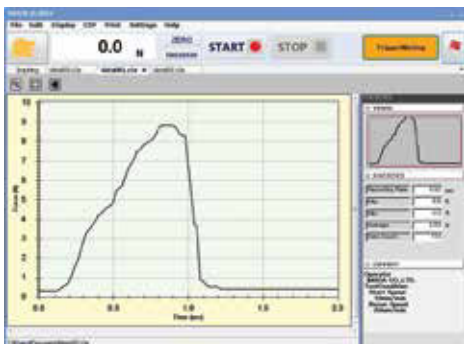
TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

ซอฟต์แวร์ และอุปกรณ์

Software & Output Equipment ZLINK4



Features

- Graphing software for DSV/DST (via USB) and other RS232C output type of force gauges and torque gauges.
- When combined with a force gauge: You can draw force-time graph.
- When combined with a torque gauge: You can draw torque-time graph.
- It automatically starts and ends graphing with a trigger function.
- It automatically saves a recorded graph when graphing is finished.

Specifications for Force Logger Plus

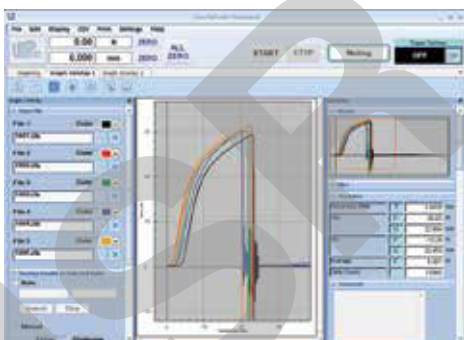
Model	ZLINK4			
Sampling rate	Max. 50 data / sec			
Resolution	Force resolution is determined by a force gauge's capacity. (Signed 4-digit) (e.g.) Your force gauge's capacity is 5N 0.001N			
Functions	Trigger function, Statistics calculation, CSV format conversion, Printing, Displaying data recorded in ZLINK3(*1), Comment function, Force gauge setup (*only for DST/DSV series)			
Output	Word, Excel, PDF			
Languages	Japanese, English			
Compatible force gauges (existing model) & required cables	DSV/DST series USB cable supplied with DST/DSV			
Compatible force gauges (old models)	DS2 series Optional cable CB-203	Z2/ZP series Optional cable CB-204	HTG2 series Optional cable CB-204	DTX2 series Optional cable CB-204

* Contact us for compatibility of other models.

*1 You can convert data recorded in ZLINK3-E into ZLINK4 format using a supplied converting software.

ซอฟต์แวร์ และอุปกรณ์

Software & Output Equipment Force-Recorder (Professional)



Features

- When combined with ZTA series digital force gauge, you can draw force-displacement graph. (A test stand with -FA option is also necessary.)
- When combined with HTGA or DTXA, you can draw torque-angle graph.
- Ideal for tactile test of switches, soft materials, etc.
- High sensitivity (MAX.2000 data /sec sampling speed): Real time graphing is possible.
- Possible to set up functions of a force gauge and save the setting.
- 5 charts at maximum are displayed in the same table: Useful for comparing and evaluating the chart data.

Force-Recorder Professional Functions

Version	Professional
Graph	force-time torque-time force-displacement torque-angle
Data transferring speed (Max)	2000 data / sec
Recording data point (Max)	7.2 million
Displacement output	Yes
Graph overlaying function	Yes
Trigger function	Yes
Point marking	Yes
Border line function	Yes
Graph editing	Yes
Graph scaling	Yes
Statistics output	Yes
Comment	Yes
Print	Yes
CSV file converting	Yes
Preview saving (PDF/Word/Excel)	Yes
Force gauge setting	Yes

Operating environment DSV/DST for ZLINK4 Graph Drawing Software

OS	Windows7/8/8.1/10
Hardware	CPU: Pentium4(1GHz or more or more is recommended. Memory: 2GB or more is recommended. Hard disk (data storage area):10GB or more is recommended.
Platform	Microsoft .NET Framework 4.6 later
Execute Environment	Microsoft Internet Explorer 6.0 later Windows installer 3.1 or later
Image size	Resolution 1024x768 pixel more
Connecting Port	USB1.1, USB2.0 connector (force gauges equipped with USB connector), RS232C(*1)

*1When you use RS232C, make sure to use a PC equipped with RS232C port. (You may use a commercial adaptor to convert RS232C into USB, however, you could not connect well in some cases.)

Operating Environment

Operating environment	OS: Windows 7/8/8.1/10
Hardware	CPU: Pentium4 (1GHz more) more recommended Memory: 2GB more recommended Hard disk: 10GB(Data storage area) more
Platform	.NET Framework4.6 more
Execute Environment	Microsoft Internet Explorer6.0 later Windows Installer 3.1 later
Image size	Resolution 1024*768 pixel more
Force gauges that can be combined	Professional: ZTA series(*1), DTXA/HTGA series(*2) *1 Necessary to be combined with a test stand having displacement meter and a dedicated cable. *2 Necessary to be combined with a rotary encoder.
connection port	USB1.1, USB2.0 connector * We do not guarantee operation in USB 3.0.

ซอฟต์แวร์ และอุปกรณ์

Software & Output Equipment ZP Recorder

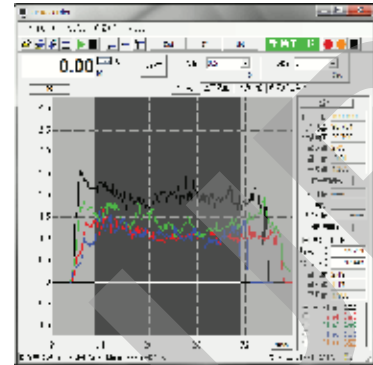
Features

- Applicable models: MTG, FRT, IPT200 series.
- High speed sampling rate (Max.1000/sec) : It follows even sudden force change.
- 5 graphs at maximum can be drawn in a table, which is useful for comparing and evaluating the graph data.

*Force Gauge ZP series have been out of production since new generation model ZT series are now available.

Specifications for ZP-Recorder Graph Drawing Software for USB

ZP-Recorder	
OS	Windows2000 (SP4 or later) / XP (SP2 or later) / Vista / 7 You cannot use this software in 64 bit version of Windows 2000 and XP.
Operating environment	Microsoft .NET Framework 2.0
Interface	Microsoft Internet Explorer 5.01 later
Connection port	PC with USB port as a standard equipment
Connecting cable	USB1.1, 2.0 port
Connecting cable	USB A to B cable(Accessory of ZP series force gauges)
Data transmission speed	Max.1000 data/sec
Resolution	Load depends on load cell range (4-digit LCD) e.g. 5N load cell: 0.001N
Data storage format	Graph: FCE file (Special format only for ZP-Recorder) Data conversion: CSV format(Compatible with Microsoft Excel) The amount of readable data would be restricted depending on Excel version.
The gauges that can be combined	ZP series digital force gauge (ZP, ZPH, ZPS), MTG series automatic torque tester, FRTseries, IPT series



ZP-Recorder	
Force	1.11N
Displacement	1.11mm
Speed	1.11mm/min
Time	1.11sec

ซอฟต์แวร์ และอุปกรณ์

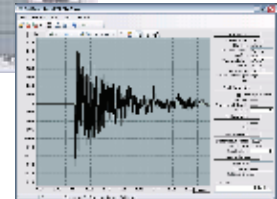
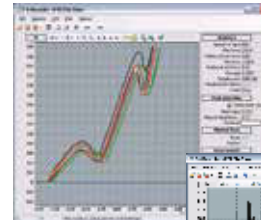
Software & Output Equipment F-S Recorder

Features

- Force-displacement graphing software for FA Plus.
- High speed sampling rate: Max.2000/sec. It draws real-time and smooth graph.
- 5 graphs at maximum can be drawn in a table, which is useful for comparing and evaluating the graph data.

Specifications for F-S-Recorder Force Displacement Graphing Software

F-S Recorder	
OS	Windows2000 (SP3 later)/XP (SP2 later)/Vista/7 You cannot use this software in 64 bit version of Windows 2000 and XP.
Operating environment	Microsoft .NET Framework 2.0
Interface	Microsoft Internet Explorer 5.01 later
Connection port	PC with USB port as a standard equipment
Connecting cable	USB1.1, 2.0 port
Connecting cable	USB A to B cable (Accessory of FA Plus)
Data transmission speed	Max. 2000/sec
Resolution	Load depends on load cell range (4-digit LCD) e.g. 5N load cell: 0.001N Displacement: 0.01mm Speed: 0.1mm/min
Data storage format	Graph: FVSD file (Special format only for F-S Recorder <Force-displacement graphing>) FVST file (Special format only for F-S Recorder <Force-time graphing>) Data conversion: CSV format (Compatible with Microsoft Excel) The amount of readable data would be restricted depending on Excel version.
The gauges that can be combined	FA Plus



Force Gauge

เครื่องมือวัดแรงดึง และแรงดัน

Universal Testing Machine

เครื่องทดสอบแรงบิด

Torque Testers

เครื่องทดสอบแรงบิด

Digital Force Gauge

รุ่นดิจิทัล

Mechanical Force Gauge

รุ่นแมคคานิค

Other Force Gauge

รุ่นอื่นๆ

Amplifiers

ตัวขยายสัญญาณ

Load cells

โหลดเซลล์

Software & Output Equipment

ซอฟต์แวร์ และสายสัญญาณ

Test Stands

ขาตั้ง

Attachment and Fixture

อุปกรณ์เสริมจับชิ้นงาน

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

ซอฟต์แวร์ และอุปกรณ์ Software & Output Equipment Cables

Force Gauge เครื่องมือวัดแรงดึง และแรงดัน
Universal Testing Machine เครื่องทดสอบสากล
Torque Testers เครื่องทดสอบแรงบิด
Digital Force Gauge รุ่นดิจิทัล
Mechanical Force Gauge รุ่นแอนะล็อก
Other Force Gauge รุ่นอื่นๆ
Amplifiers ตัวขยายสัญญาณ
Load cells โหลดเซลล์
Software & Output Equipment ซอฟต์แวร์ และสายสัญญาณ

	ZTA	ZTS	eZt	DSV	DST	FA Plus
						
The Cables to Connect a Force Gauge to an External Devices						
RS232C Cable Connects a PC to a force gauge, enabling to record the measurement and transmit command signals from the PC to the gauge.	CB-208  Length : Approx.3m	CB-208  Length : Approx.3m	CB-208  Length : Approx.3m	CB-203 (9P)*1  Length : Approx.3m	CB-203 (9P)*1  Length : Approx.3m	Contact us.
Digimatic Cable Connects Mitutoyo Digimatic Mini Processor (a portable printer) to a force gauge for printing the measurement.	CB-308  Length : Approx.3m	CB-308  Length : Approx.3m	CB-308  Length : Approx.3m			Contact us.
Analog Cable Connects analog devices such as a pen recorder to a force gauge, enabling to record force transition "CB-118 works for "-AH" option.	CB-108  Length : Approx.3m	CB-108  Length : Approx.3m	CB-108  Length : Approx.3m			Contact us.
Open End Cable Connects a force gauge to a special device.	CB-908  Length : Approx.3m	CB-908  Length : Approx.3m	CB-908  Length : Approx.3m			Contact us.
External contact Point Cable Enables to measure external contact point	CB-808  Length : Approx.3m	CB-808  Length : Approx.3m	CB-808  Length : Approx.3m			Contact us.
The Cables to Connect a Force Gauge / an Amplifier to a Test Stand						
Force Control Cable*2 Connects a test stand (MX/MH) to a force gauge/ an amplifier, activating motion control by set force values and an overload-preventing function.	CB-808  Length : Approx.1.5m	CB-808  Length : Approx.1.5m	CB-808  Length : Approx.1.5m			
Force Control Cable*2 Connects a test stand (MX2/MH2/EMX) to a force gauge/ an amplifier, activating motion control by set force values and an overload-preventing function.	CB-518  Length : Approx.1.5m	CB-518  Length : Approx.1.5m	CB-518  Length : Approx.1.5m			
Displacement cable (MC2-FA/MH2-FA connecting)*3 Allows displacement output by connecting a force gauge/ an amplifier to a test stand equipping a linear scale (MX2-FA/MH2-FA)	CB-718  Length : Approx.1.5m		CB-718  Length : Approx.1.5m			
Displacement Cable (EMX-FA connecting)*3 Allows displacement output by connecting a test stand equipping a linear scale (EMX-FA) to a force gauge/ an amplifier.	CB-808  Length : Approx.1.5m		CB-808  Length : Approx.1.5m			
The Cables to Connect a Test Stand to an External Device						
External Signals I/O Cable Connects a test stand (MX2-CN/MH2-CN/EMX), activating the external control.	CB-718  Length : Approx.1.5m					

*1 CB-201 (25P male) and CN-202(25P female) are also available.

*2 Please refer to "ZT series Advanced Measurement Examples" (A test stand stops when a force gauge senses force beyond its capacity (overload-preventing function) however, it cannot prevent overload completely. We do not guarantee the complete overload-prevention)

*3 It also activates motion control by set force values and an overload-preventing function.

*4 We offer customization including the length extension, connector's change in shape, and more.

ข้อ

TEST STANDS

KV series - Small Manual Test Stand

Features

- It is a desktop type.
- It can move a force gauge at light feed (1.0mm / 1 turn)

Order No.	Capacity	Scale unit
KV-50N	50N	-
KV-50N-S		Yes



Specifications

Order No.	KV-50N
Capacity	50N (5kgf)
Stroke when a Z series force gauge is mounted (*1)	60mm
Travel of a mounted force gauge	1.0mm/a complete turn of its handle
Feed Amount	1.0mm / 1 turn
Size	Approx. W140 x D180 x H220 mm
Weight	Approx. 2kg
Gauges that can be combined (*2)	Popular and standard model
	Load cells and high capacity model cannot be combined.
Accessory	Gauge mounting plate, Screws to mount a force gauge, Tools, Instruction manual
Option	Length meter

*1 Stroke is, in other words, max distance from the tip of a Z series force gauge to a test stand's table.
*2 Please contact us if you would like to combine other force gauges or load cells with the test stand.

ข้อ

TEST STANDS

SVH/SVL-Series - Simple Manual Test Stand

Specifications

Order No.	SVL-1000N (Lever type)	SVH-1000N (Handle Type)
Capacity	1000N	
Max. Sample Height (*1)	Approx. 225mm	
Force direction	Tension and compression	
Travel method	Lever	Handle
Travel per 1 turn	60mm per 170 degree	3mm
Max. Stroke *A	60 mm	
Feed Amount	60mm / 170 degree turn of the lever	3mm / 1 turn
Function	Mechanical stopper	
Weight	Approx. 7.3 kg	Approx 7.7 kg
Dimension	Approx. W200 x D280 x H410mm	
Fixable force gauge	Digital force gauge: DST, DSV, ZTS, ZTA series Mechanical force gauge: FB, PS, PSM series	

*A : Maximum stroke means maximum traveling distance of a force gauge.

*B : GF-1/2: These are necessary adapters for mounting a chuck fixture on the tables of the stand. (Separately sold)



For movement control
Handle Operation
SVH-1000N



For operational efficiency
Lever Operation
SVL-1000N

ข้อ

TEST STANDS

MS series - Small Manual Test Stand for Multi Force Measurement

Features

- Able to measure from different angles not only vertically/horizontally
- Almost as compact as a force gauge
- MSL-50N series: Force-displacement measurement is possible



Specifications

Order No.	MSF-50N	MSL-50N
Feature	standard	FA option *1
Capacity	50N (5kgf)	
Stroke (*2)	Approx. 44mm at maximum	
Feed Amount	18mm / 1 turn	
Travel method	Manual; knob	
Travel of a mounted force gauge	18mm per 1 complete turn	
Dimensions (mm)	Approx. W110 x D81 x H204 mm	
Weight	Approx. 1.2kg	
Accessory	Attachment mounting plate, Screws to mount a gauge, Tools, Instruction manual	
Option	Handle, Adaptor to change the size of screw hole	
Mountable force gauges (*3)	Digital Force Gauge: DST, DSV, ZTS, ZTA series	Digital Force Gauge: ZTA series

*1 It is included displacement scale. You can measure force-displacement using with ZTA series.

*2 The maximum stroke means the distance between the test stand table and the thread of the ZT series.

*3 Please select below 50N capacity of digital force gauges.

Designed by JSR GROUP

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ห้ามนำไปเผยแพร่ก่อนได้รับอนุญาตจากทางบริษัท

Force Gauge
เครื่องมือวัดแรงดึง
และแรงดัน

Universal
Testing Machine
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

Digital Force
Gauge
รุ่นดิจิทัล

Mechanical
Force Gauge
รุ่นแมคคานิค

Other Force
Gauge
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

Software & Output
Equipment
ซอฟต์แวร์
และสายสัญญาณ

Test Stands
ขาตั้ง

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FORCE MEASUREMENT
IMADA

ขาตั้ง

TEST STANDS

HV series - Long Stroke Manual Test Stand



Features

- Fit for measurement of larger or extensible samples due to the longer stroke.
- More stable measurement due to handle operation.

Specifications

Order No.	HV-500N	HV-1000N	HV-3000N
Capacity	500N (50kgf)	1000N(100kgf)	3000N(300kgf)
Max. sample height*1	Approx. 240mm	Approx. 375mm	Approx. 415mm
Travel of a mounted force gauge	2mm / a complete turn of its handle	1.2mm / a complete turn of its handle	0.6mm / a complete turn of its handle
Function	Mechanical stopper		
Feed Amount	2mm / 1 turn	1.2mm / 1 turn	0.6mm / 1 turn
Size	Approx. W327 x D309 x 597.5mm	Approx. W3.5 x D275 x H730mm	Approx. W355 x D310 x H744mm
Weight	Approx.10kg	Approx.18kg	Approx. 24kg
Gauges that can be combined*2	Popular and standard model	Popular, standard, high capacity model	
Accessory	Grip mounting adaptor GF-1 (M6 thread)	Grip mounting adaptor GF-2 (M10-M6 thread)	
Option	Length meter, Long stroke		Length meter

*1 Max. sample height refers to the distance between the table and the tip of ZT series force gauge's measuring shaft when the head is at the top. (HV-500N/1000N: up to 1000N model of ZT series, HV-3000N: with over 2500N model of ZT series is mounted.)

*2 Please contact us if you would like to combine other force gauges or load cells with the test stand.

ขาตั้ง

TEST STANDS

FCA-50N - Simple Lever Test Stand



Specifications

Order No.	FCA-50N
Capacity	50N
Stroke	0~45mm(Adjustable with the limit knob)
Maximum Space	50~80mm (*1)
Weight	Approx. 3kg
Dimensions	Approx. W75 x H296 x D178mm
Compatible force gauge	ZTS, ZTA, DST, DSV (*2)
Accessories	Instruction manual, mounting screws, wrench, warranty card

*1 The distance between the tip of the measuring shaft and the table - differs depending on the force gauge model and adjustable with the mounting position of the force gauge.

*2 you cannot combine high capacity model force gauges with this stand.

*We also offer an food testing unit including this FCA-50N. For further information.

ขาตั้ง

TEST STANDS

SH series - Horizontal Manual Test Stand



Specifications

Order No.	SH-1000N series	SH-3000N series
Capacity	1000N (100kgf)	3000N (300kgf)
Max. Sample Length (*1)	Approx. 250mm	Approx. 355mm
Feed Amount	1.2mm / 1 turn	0.6mm / 1 turn
Size	Approx. W560 x D265 x H219.5mm	Approx. W696.5 x D285 x H225mm
Weight	Approx.15kg	Approx.22kg
Gauges that can be combined(*2)	Mechanical / Digital Force gauges	
Accessory	Load cells and high capacity model cannot be combined.	
Option	Gauge mounting plate, Screws to mount a force gauge, Tools, Instruction manual	
	Length meter, Long stroke	

*1 Stroke is, in other words, max distance from the tip of a Z series force gauge to a test stand's table.

*2 Please contact us if you would like to combine other force gauges or load cells with the test stand.

ขาตั้ง

Motorized test stand MX2 series MX2-500N/1000N/2500N

Specifications

Order No.	MX2-500N	MX2-1000N	MX2-2500N
Capacity	500N (50kgf)	1000N (100kgf)	2500N (250kgf)
Speed	10-300mm/min	10-300mm/min	10-300mm/min
Max. height of a sample (*1)	Approx. 235mm	Approx. 300mm	Approx. 320mm
Dimensions	Approx. W220 x D380 x H562mm	Approx. W280 x D410 x H660mm	Approx. W280 x D410 x 644mm
Weight	Approx. 18 kg	Approx. 19 kg	Approx. 26 kg



MX2-2500N

MX2-500N

Force Gauge
เครื่องมือวัดแรงดึง
และแรงดัน

Universal
Testing Machine
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

Digital Force
Gauge
รุ่นดิจิทัล

Mechanical
Force Gauge
รุ่นแอนะล็อก

Other Force
Gauge
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

Software & Output
Equipment
ซอฟต์แวร์
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ขาตั้ง

Motorized test stand EMX-1000N - High Functionality Type Vertical Motorized Test Stand

Specifications

Order No.	EMX-1000N
Capacity	1000N
Speed	0.5 - 600 mm/min
Max. Sample Height (*1)	Approx. 320mm
Dimensions	Approx. W280 x D410 x H643mm
Weight	Approx. 23.5kg



ขาตั้ง

Motorized Test Stand MX Series MX-500N/1000N/5000N

Specifications

Order No.	MX-500N	MX-1000N	MX-5000N
Capacity	500N (50kgf)	1000N (100kgf)	2500N (250kgf)
Test speed	10 to 300mm/min	8 to 240mm/min	10 to 300mm/min
Max. Sample Height *1	Approx. 235mm	Approx. 420mm	Approx. 340mm
Dimensions	Approx. W214 x D428 x H573mm	Approx. W263 x D368 x H903mm	Approx. W250 x D420 x H816mm
Weight	Approx. 13kg	Approx. 24kg	Approx. 30kg



MX-500N

MX-5000N

TESTING EQUIPMENT

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FORCE MEASUREMENT
IMADA

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Motorized test stand MH2 series

MH2-500N



MH2-2500N



Specifications

Order No.	MH2-500N	MH2-2500N
Capacity	500N	2500N
Speed	Digital 10 to 300mm/min [10 - 20mm/min: by 0.5mm/min] [20 - 100mm/min: by 5mm/min] [100 - 300mm/min: by 10mm/min]	
Max. height of a sample (*1)	Approx. 245mm	Approx. 340mm
Dimensions	Approx. W554 x D220 x H219	Approx. W666 x D340 x H261
Weight	Approx. 14kg	Approx. 27kg

ขาตั้ง

TEST STANDS MH series - Simple Type Horizontal Motorized Test Stand

MH-300



MH-1000N

Specifications

Order No.	MH-1000N	MH-300
Capacity	1000N (100kgf)	3000N
Stroke when a gauge is mounted (*1)	Approx. 285mm	Approx. 295mm
Test speed	6 to 180 mm/min	8 to 240 mm/min
Size	Approx. W700 x D195 x H210mm	Approx. W700 x D252 x H227mm
Weight	Approx. 14kg	Approx. 29kg

Force Gauge
เครื่องมือวัดแรงดึง แรงดัน
และแรงดัน

Force Gauge
เครื่องมือวัดแรงดึง
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Universal
Testing Machine
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Torque Testers
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OPTIONS FOR TEST STANDS

You can add the options to expand functionality of test stands or improve measuring efficiency.

Options for The Manual and Motorized Test Stands

Length Scale (-S)

It digitally indicates travel distance of a force gauge.

(We recommend another option [FA version] below if you need to analyze the relations of force and displacement.)



Length Scale (-L)

We extend the stroke of stand's column.

(Maximum stroke differs among models. Besides, some models could decrease their force capacity. Please contact us for further information.)



Limited Options for The Motorized Test Stands

Speed / Length Meter (-E)

It displays the measuring speed and travel distance of force gauges.



FA version (-FA)

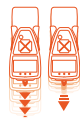
We build a linear scale into a test to output travel distance of a force gauge, and you can utilize it for analysis of force-displacement relations.

For further information of force-displacement relations. For further information of force-displacement analysis unit.



Speed Range Change (-V ○ ○ ○)

We can change the range of measuring speed. (The customizable range differs among model. Besides, some models could decrease their force capacity. Please contact us for further information.)



Output and Input External Signals (-CN)

We can equip a connector for external input and output. For example, you can connect a footswitch with the stand via the connector to operate it by the footswitch (like step on it to start measurement). Please contact us for further information.



OPTIONS AVAILABLE FOR MOTORIZED TEST STANDS

	Model	MX-500N	MX-1000N	MX-5000N	MH-1000N	MH-300	MX2-500N	MX2-1000N	MX2-2500N	MH2-500N	EMX-1000N
Speed / Length Meter	-E	○	○	○	○	○	/	/	/	/	/
Length Scale	-S	○	○	○	○	○	○	○	○	○	/
FA Specification	-FA	/	/	/	/	/	○	○	○	○	○
Long Stroke (mm)	-L	○ +200	○ +250	/	/	/	○ +200	○ +300	○ +300	/	○ +300
Output and Input External Signals	-CN	/	/	/	/	/	○	○	○	○	※1
Speed Range Change ※2 (mm/min)	-V ● ●	40 ~1200 20 ~600 2 ~60	40 ~1200 27 ~800 20 ~600 15 ~400 4 ~120	5 ~150	30 ~900 20 ~600 15 ~450 10 ~300 3 ~90	/	30 ~922 20 ~600 15 ~450 3 ~90 1.5 ~45	35 ~1000 25 ~750 5 ~150 2.5 ~75	1.5 ~45 2.5 ~75 5 ~150	30 ~900 20 ~600 15 ~450 3 ~90 1.5 ~45	/

※1 It is already installed as the standard function.

※2 Some models could decrease their force capacity. Please contact us for further information.

• Examples of Model with Option

- When you want to extend the stroke of MX2-500N → Choose the option "Long Stroke (-L)" = **MX2-500N-L**

- When you want to change the speed range of MX2-500N → Choose the option "Speed Range Change (-V ● ●)" = **MX2-500N-V600**

※In ● ●, we put figure of speed. → Example) When the speed range changes into the fastest speed

20 ~ 600 mm/min

The number is here

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT

IMADA

OPTIONS AVAILABLE FOR MANUAL TEST STANDS

	Model	SVL-1000N	SVH-1000N	HV-500NII	HV-1000N	HV-3000N	KV-50N	MSF-50N	SH-1000N	SH-3000N
Length Scale	-S	○	○	○	○	○	○		○	○
Long Stroke (mm)	-L	○ +200 ※1	○ +200 ※1	○ +200	○ +150					

※1 We can extend the column length, but travel distance of force gauge does Not change.

• Examples of Model with Option

- When you want to see the travel distance of a force using SVH-1000N → Choose the option “Long Stroke (-S)” = **SVH-1000N-S**

The helpful Functions of Motorized Test Stand

The optional functions can be activated by connecting a force gauge ZTS/ZTA series to a motorized test stand via the suitable cable.

1 The Overload Preventing Function

2 Force Control Functions

อุปกรณ์เสริมใช้งาน

STANDARD ATTACHMENTS

(Accessory attachments for the force gauges whose capacities are 1000N or less) M6

Force gauge whose capacities are 100N or less come with aluminum made attachments (A-type). Steel made attachments (S-type) are included in force gauge whose capacities are from 200N to 1000N.

Order No.	A-1 / S-1 / SR1 Small Hook	A-2 / S-2 Flat Tip	A-3 / S-3 Conical Tip	A-4 / S-4 Chisel Tip	A-5 / S-5 Notched Tip	A-6 / S-6 Extension Shaft	A-7 / S-7 Large Hook	A-8 / S-8 Y Hook
Model								








The number of attachment varies by model.

ZTS/ZTA Basic model : 1-8, ZTS/ZTA-DPU-2 ~ 500N : 1-8, DST/DSV : 1-6, PS/PSM : 1-8, FB : 1-6 FOR 1000N capacity, SR-1 is included instead instead of S-1.

อุปกรณ์เสริมใช้งาน

HIGH CAPACITY ATTACHMENTS

(Accessory attachments for the force gauges whose capacities are higher than or equal to 1000N) M10

Order No.	B-1 Small Hook	B-2 Flat Tip	B-3 Conical Tip	B-4 Chisel Tip	B-5 Notched Tip	B-6 Extension Shaft	B-7 Handle	B-8 Mounting bolt
Model								

The number of attachment varies by model.

ZTS/ZTA ~2500N / 5000N : 1-8, ZTS/ZTA-DPU-1000 ~ 5000N : 1-6, PSH : 1-8

Attachments for Compression Testing

อุปกรณ์เสริม

PG-2 / 3 / 4 / 5

Compression Test Fixture for Small Spots

Ideal for compression and penetration tests of small samples.



Order No.	PG-2	PG-3	PG-4	PG-5
Capacity (N)	100	100	100	100
External diameter (mm)	Approx. Ø2	Approx. Ø3	Approx. Ø4	Approx. Ø5
Weight (g)	Approx.2	Approx.3	Approx.4	Approx.5
Mounting screw	M6			

อุปกรณ์เสริม

TKS-20N / 250N

Stricking Test Fixture

Designed for striking test of thin samples such as film



Order No.	TKS-20N	TKS-250N
Capacity (N)	20	250
External diameter (mm)	Approx. Ø1	Approx. Ø1
Weight (g)	Approx.22.2 (Pin+Pin vice)	Approx.16
Mounting screw	M6	

In accordance with a part of JIS Z 1707 (1998)

อุปกรณ์เสริม

GA-10N / 5000N

Bending Test Fixture

Designed for 3 point bending tests for metals, glasses, and more.



Order No.	GA-10N	GA-5000N
Capacity (N)	500	5000
Weight (g)	Force gauge side : Approx. 100	Force gauge side : Approx. 120
Mounting screw	M6	M10

อุปกรณ์เสริม

PR-500N / 2500N

Durability Test Fixture

Designed for durability tests for retort pouch, heat sealed packages, box and so on.



Order No.	PR-500N	PR-2500N
Capacity (N)	500	5000
Measurable size (mm)	W194xD120xH105	W200xD140xH105
Weight (g)	Force gauge side : Approx. 900	Force gauge side : Approx. 3100
Mounting screw	M6	M10

PR-2500N: In accordance with a part of JIS Z 0238 (1998)

อุปกรณ์เสริม

A-40 / 60, S-40 / 60

Compression Test Fixture

Ideal for crashing tests.
Type A is made of aluminum and Type S is made of steel.
Type A is for low capacity force gauges.



Order No.	A-40	A-60	S-40	S-60
Capacity (N)	200	200	500	500
External diameter (mm)	Ø40	Ø60	Ø40	Ø60
Weight (g)	Approx.38	Approx.84	Approx.110	Approx.238
Mounting screw	M6			

อุปกรณ์เสริม

UR-8S / 8M

Compression Test Fixture

Hemisphere shaped fixture made of urethane.
It produces finger-touch.



Order No.	GA-10N	GA-5000N
Capacity (N)	500	5000
Weight (g)	Force gauge side : Approx. 100	Force gauge side : Approx. 120
Hardness	Shore A50	Shore A70
	Hardness like eraser	Hardness like rubber ball for base ball
Mounting screw	M6	

อุปกรณ์เสริม

PC Series

For High Capacity [Disc type]

Ideal for high capacity compression/ breaking testing up to 5000N.
They can contact a test sample closely due to a free joint design.



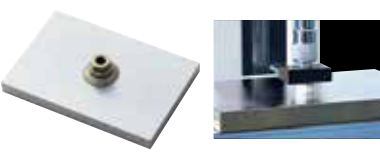
Order No.	PC-5040	PC-5060	PC-5100
Capacity (N)	5000	5000	5000
External diameter (mm)	Ø40	Ø60	Ø100
Weight (g)	Approx.160	Approx.330	Approx.820
Mounting screw	M10		

อุปกรณ์เสริม

SQ Series

For High Capacity [Rectangle type]

Ideal for high capacity compression / breaking testing up to 5000N.
They can contact a test sample closely due to a free joint design.



Order No.	SQ-5030	SQ-5075	SQ-5150
Capacity (N)	5000		
Dimension (mm)	30x20	75x50	150x100
Weight (g)	Approx.65	Approx.500	Approx.1560
Mounting screw	M10		

อุปกรณ์เสริม

SP Series

For High Capacity [Spherical type]

Ideal for high capacity compression / breaking testing up to 5000N.



Order No.	SP-5010	SP-5020	SP-5030
Capacity (N)	5000		
External diameter (mm)	Ø10	Ø20	Ø30
Weight (g)	Approx.26	Approx.55	Approx.135
Mounting screw	M10		

Force Gauge

เครื่องมือวัดแรงดึง และแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Digital Force

Gauge
รุ่นดิจิทัล

Mechanical

Force Gauge
รุ่นแอนะล็อก

Other Force

Gauge
รุ่นอื่นๆ

Amplifiers

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โหลดเซลล์

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FORCE MEASUREMENT

IMADA

Attachments for Tensile Testing

อุปกรณ์เสริมจับชิ้นงาน

ATTACHMENT

GC-1100/1200/5000 - Flat Chuck

Features

These grips can be used for a wide range of testing applications. Its jaw manually tightened, and individually adjusted for samples up to 10-30 thick. (The maximum thick differs among models.)



Order No.	GC-1100	GC-1200	GC-5000
Capacity	1000 N (100kgf)	1000 N (100kgf)	5000 N (500kgf)
Screw of mounting part	M6	M6	M10
Weight	Approx.160 g	Approx.170 g	Approx. 1400g
Opening width [B]	Max. 10 mm	Max. 20 mm	Max. 30 mm

อุปกรณ์เสริม

FC Series

Film Grip

Ideal for gripping thin sample such as film and the like. FC-21U/41U/21UQ has urethane gripping part (only one side), thus the grips can hold the sample tightly but gently enough to avoid breaking samples. FC-21UQ is lever type, easy to grip samples.



FC-21UQ



FC-20

- Representative applications :
Film / Heat sealing / Adhesive tape /
Magnetic card / Substrate

Order No.	FC-21	FC-20	FC-40	FC-21U	FC-41U	FC-21UQ
Capacity (N)	250	500	500	250	250	250
Features	Light type	up to 500N	Wide type up to 500N	One side urethane	wide grip one side urethane	One side urethane with a lever
Aperture width (mm)	Approx.20	Approx.20	Approx.40	Approx.20	Approx.40	Approx.20
aperture opening width (mm)	Max.2	Max.2	Max.2	Max.2	Max.2	Max.0.2
Weight (g)	Approx.25	Approx.73	Approx.125	Approx.40	Approx.70	Approx.50
Mounting screw	M6					

*We provide a film cutter

*Fixed models (-F) are available, recommended when you attach it on a test stand since their attaching parts (mounting screws) are fixed.

อุปกรณ์เสริม

KC Series

Wedge Grip

A self-tightening grip for wire, cable and so on. Designed to grip samples very easily, improving measurement efficiency. (It is not suitable for slippery or hard samples.)

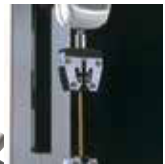
- Representative applications :
Wire / Cable / Optical fiber cable / Plastic
/ Piece of metal



KC-100



KC-1001



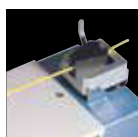
Order No.	KC-100	KC-1001	KC-500
Capacity (N)	500	1000	5000
aperture opening width (mm)	Max.10	Max.2	Max.5
Weight (g)	Approx.25	Approx.70	Approx.50
Mounting screw	M6	M6	M10

อุปกรณ์เสริม

CW-500N

Wire Clamp Grip

The wedge type grip for wire/cable, designed to secure a sample easily. It is not suitable for slippery or hard samples.



- Representative applications :
Cable / Wire

Order No.	CE-500N
Capacity (N)	500
aperture opening width (mm)	Max.5
Weight (g)	Approx.220
Mounting screw	M6

อุปกรณ์เสริม

PGC Series

Pantograph Grip

A self-tightening grip designed to grip samples easily like a cloth pin. It can grip even deformable samples like rubber, resin, and soon. It is not suitable for slippery or hard samples.

- Representative applications :
Film / Rubber / Wire / Cable /
Nonwoven fabric / plastic



Order No.	PGC-0505	PGC-0510	PG-2530
Capacity (N)	500	500	2500
aperture opening width (mm)	Max.20	Max.15	Max.15
Weight (g)	Approx.170	Approx.110	Approx.750
Mounting screw	-	-	M10

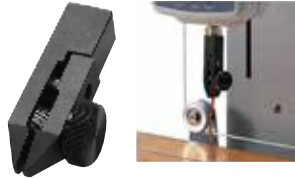
*S-1 or SR-1 is required when mounting PGC-0510 or 0505 on a force gauge.

*PGC-AD6 is required when mounting PGC-0510 or 0505 on a test stand.

อุปกรณ์เสริม **SC-3 / 8** Small Grip

Ideal for gripping fine samples or measurement at narrow spaces.

- Representative applications :
Electrical lead / Copper foil

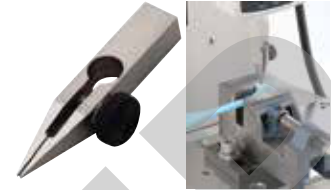


Order No.	SC-3	SC-8
Capacity (N)	100	150
aperture opening width (mm)	Max.1	Max.1
Weight (g)	Approx.20	Approx.21
Mounting screw	M6	

อุปกรณ์เสริม **FP-50 / 51** Fine Point Chuck

Ideal for testing fine strings or threads. You can utilize it in measurement at narrow spaces.

- Representative applications :
Textile / Fur / Soft wire



Order No.	FP-50	FP-51
Capacity (N)	100	50
aperture opening width (mm)	Max. 0.5	Max. 0.5
Weight (g)	Approx. 19	Approx. 8
Mounting screw	M6	

*S-1 or SR-1 is required when mounting PGC-0510 or 0505 on a force gauge.
*PGC-AD6 is required when mounting PGC-0510 or 0505 on a test stand.

อุปกรณ์เสริม **GR-30 / 2000** Cam Grip

Ideal for gripping thin and rectangle shaped sample. Easy steps to set a sample (1. Put through sample, 2. Pull its lever) improves measurement efficiency.

- Representative applications :
Tape / Film



Order No.	GR-30	GR-2000
Capacity (N)	500	2000
aperture opening width (mm)	Max.2	Max.4
Measurable width (mm)	Max.30	Max.50
Weight (g)	Approx. 180	Approx. 870
Mounting screw	M6	M10

* We provide a film cutter

อุปกรณ์เสริม **GC-60 / 100** Roller Chuck

Ideal for testing elastic or deformable samples such as rubber, film, tape and so on. This grip holds a sample tightly since the sample is wound around the grip.

- Representative applications :
Rubber / Film



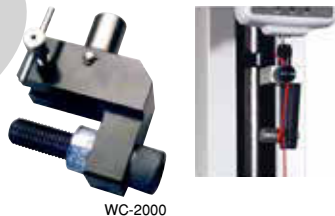
Order No.	GC-60	GC-100
Capacity (N)	500	500
Measurable width (mm)	Max.30	Max.50
aperture opening width (mm)	Max.2	
Weight (g)	Approx.158	Approx.300
Mounting screw	M6	

*We provide a film cutter

อุปกรณ์เสริม **GC-30, WC-2000** Wire winding Grip

Ideal for testing strings, wire and the like. It holds a sample by winding it around, therefore, loads on a sample get balanced, and samples get harder to be broken than nipping type grips.

- Representative applications :
Textile / Wire / Fur



Order No.	GC-30	WC-2000
Capacity (N)	500	2000
Diameter of bolt (mm)	M10	M16
Measurable line diameter (mm)	Max. Ø1	Max.Ø2
Weight (g)	Approx.136	Approx. 900
Mounting screw	M6	M10

อุปกรณ์เสริม **GP-15 / 30** Knurled Cam Chuck

Ideal for testing resin or soft samples becoming thin when they are pulled. Knurled cam mechanism reduces the possibility of breaking samples.

- Representative applications :
Rubber / Cable / Silicone / Elastomer



Order No.	GP-15	GP-30
Capacity (N)	250	1000
Aperture opening width (mm)	Max.4.5	Max.10
Weight (g)	Approx.70	-
Mounting screw	M6	-

Force Gauge

เครื่องมือวัดแรงดึง และแรงดัน

Universal
Testing Machine
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

Digital Force
Gauge
รุ่นดิจิทัล

Mechanical
Force Gauge
รุ่นแมคคาณิก

Other Force
Gauge
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

Software & Output
Equipment
ซอฟต์แวร์ และสายสัญญาณ

Test Stands
ขาตั้ง

Attachment and
Fixture
อุปกรณ์เสริมจับ
ชิ้นงาน

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

อุปกรณ์เสริม

PPC-5000N

Attachment for polypropylene band (PP band) tensile test

Designed to clamp polypropylene band firmly without slipping.

- Representative applications :
PP band



Order No.	PPC-5000N
Capacity (N)	5000
Aperture width (mm)	40
Aperture thickness (mm)	1
Weight (g)	Approx. 620
Mounting screw	M10

อุปกรณ์เสริม

LOP-1000N

Loop Tensile Test Fixture

Ideal for tightening strength measurement of binding band

- Representative applications :
binding band



Order No.	LOP-1000N
Capacity (N)	1000
Aperture width (mm)	10
Mandrel diameter (mm)	9.53 (Sample length below 127mm), 38.1 (Sample length exceed 127mm)
Mandrel weight (g)	Force gauge side (S): Approx. 140g Force gauge side (L): Approx. 195g
Mounting screw	M6

It is in accordance with a part of SAE AS23190B UL62275

อุปกรณ์เสริม

DF-60

Hook for Corrugated Cardboard Adhesion Test

Designed exclusively for corrugated cardboard opening strength testing

- Representative applications :
Corrugated cardboard



Order No.	PPC-5000N
Capacity (N)	5000
Width (mm)	40
Weight (g)	1
Mounting screw	Approx. 6

อุปกรณ์เสริม

BC-15 / PGC-BC

For Tensile Strength Test of Sewed Button

Designed for tensile strength test of cloth button. It can grip the button whose diameter is up to 15mm.
You can set a sample easily, improving measurement efficiency.

- Representative applications :
Cloth button



Order No.	PGC-BC	Order No.	BC-15
Capacity (N)	300	Capacity (N)	300
Aperture opening width (mm)	Max. 20	Measureable diameter (mm)	Max. Ø15
Weight (g)	Approx. 125	Measureable height (mm)	Max. 3.5

*S-1 or SR-1 is required when mounting PGC-BC on a force gauge.

Attachments for Peel Testing

อุปกรณ์เสริม

P90-200N / 200N-EZ

90 Degree Peel Test Fixture

Ideal for 90 degree peel testing for adhesive tape and the like. P90-200N keeps the peeling degree at 90 degree.
The moderated price model is P90-200N-EZ.

- Representative applications :
Adhesive tape / Copper foil /
Magnetic card / Poulitice



Order No.	P90-200N	P90-200N-EZ
Measurable force (N)	~200	0.4 ~ 200
Measurable size (mm)	Length : Max. 155	Width : Max. 80

P20-200N is in accordance with a part of JIS Z 0237 (2009) and JIS C 50 5016 (1994)
*We provide a film cutter. With the cutter, you can cut film in constant-width.
*We also provide a rubber roller according to JIS.

อุปกรณ์เสริม

P180-200N

180 Degree Peel Test Fixture

Ideal for 180 degree peel testing for adhesive tape and so on.

- Representative applications :
Adhesive tape



Order No.	P180-200N
Measurable force (N)	0.5 ~ 200
Measurable size (mm)	Length : Max. 150 Width : Max. 40

It is in accordance with a part of JIS Z 0237 (2009).
*We provide a film cutter. With the cutter, you can cut film in constant-width.
*We also provide a rubber roller according to JIS.

อุปกรณ์เสริม

P45-50N

45 Degree Peel Test Fixture

Ideal for peel testing of cup container's film covers. It standardize the peeling degree which is similar to practically opening a cup container.

*You cannot open the full lid of the container.

- Representative applications :
Film for cup container



Order No.	P45-50N
Capacity (N)	50
Measurable size (mm)	Height : Approx. 10~100 Diameter: Approx.20~140
Chuck opening width (mm)	Max.2

It is in accordance with a part of JIS S 002(2001).

*We provide an optional tray to receive outflowing contents.

*You need A-1, S-1 or SR-1 to attach the upper part of the fixture to a force gauge.

อุปกรณ์เสริม

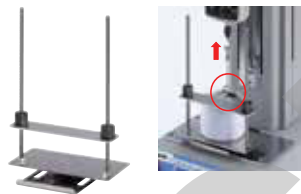
PTF-100N

Jig for opening pull-tab of canned food's container

Designed to pull up a pull-rab of canned food's container to 90 degree to measure force opening the container's lid.

*You cannot open the full lid of the container.

- Representative applications :
Pull-tab of caned food's container



Order No.	PTF-100N
Capacity (N)	100
Maximum sample size (mm)	Height: 170 Width: 110

PTD-100N is in accordance with a part of JIS S 0022 (2001).

*We provide an optional tray to receive outflowing contents.

*You need A-1, S-1 or SR-1 to attach the upper part of the fixture to a force gauge..

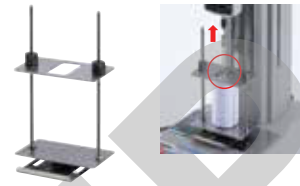
อุปกรณ์เสริม

PTD-100N

Jig for opening pull-tab of beverage can

Designed to pull up aluminum beverage can's pull-tab to 90 degree.

- Representative applications :
Pull-tab of beverage can



Order No.	PTD-100N
Capacity (N)	100
Maximum sample size (mm)	Height: 170 Width: 90

PTD-100N is in accordance with a part of JIS S 0022 (2001).

*We provide an optional tray to receive outflowing contents.

*You need A-1, S-1 or SR-1 to attach the upper part of the fixture to a force gauge.

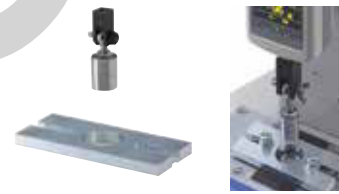
อุปกรณ์เสริม

TH-1000N / 5000N

Coating Surface Peel Test Fixture

Ideal for peel testing of coating surface. It comes with 5 peeling heads (10 peeling heads for TH-1000N-7)

- Representative applications :
Painted surface



Order No.	TH-1000N-7	TH-1000N-20	TH-5000N-20
Capacity (N)	1000	1000	1000
Upper fixture (Force gauge side)	Adhesive area shape	Diameter 7mm	Diameter 20mm
	Weight (g)	Approx.40	Approx.90
	Mounting screw	M6	M10
Lower fixture	The center hole diameter (mm)	Diameter30	Diameter30

TH-1000N-7 is in accordance with a part of JIS K 5600-5-7 (2014)

TH-1000N-20 and TH-5000N-20 are in accordance with a part of JIS K 5600-5-7 (1999).

อุปกรณ์เสริม

APR-97

Rubber Roller for Peel Test

With this roller, you can apply stable pressure to stick samples, improving repeatability.



Order No.	APR-97
The roller weight (g)	Approx.2000
The sample contacting part material	Rubber (Hardnees A80)

It is in accordance with a part of JIS Z 0237 (2009)

อุปกรณ์เสริม

FSC-1525

Film Cutter

This cutter enables you to cut film in constant-width, improving measurement efficiency. It comes with 2 sets of spare edges.



Order No.	FSC-1525
Width to cut	15 ~70mm
Width adjustment block	15mm / 1inch

FSC-1525 is in accordance with ASTM F88, JIS Z 0238 (1999). and JIS Z 1707 (1997).

อุปกรณ์เสริม

PTW-10IN

Optional Tray

For receiving outflowing contents. It is attached on an IMADA test stand.



Order No.	PTW-10IN
Size (mm)	264 x 178
Attachment using with this tray	P45-50N, PTD-100N, PTF-100N

*Even though you combine the tray with a test stand, remember that the stand is still weak in water.

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

Fixture for Coefficients of Friction Testing

อุปกรณ์เสริมจับชิ้นงาน

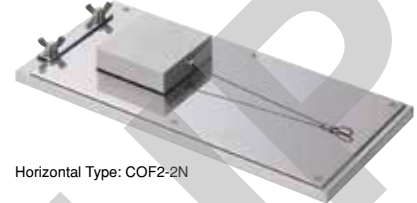
ATTACHMENT

COF series (Partly in accordance with ISO 8295 : 1995)

Features

The included software automatically calculates coefficient of Kinetic friction and coefficient of Static friction and draws graphs.

- Representative applications :
Paper / Film / Panel



Horizontal Type: COF2-2N

Order No	COF2-2N	COF2-10N	COF-2N-V	COF-10N-V
Test stands that can be combined	Horizontal type		Vertical type	
Weight of weight part	200g (Approx.2N)	1000g Approx. (Approx.10N)	200g Approx. (Approx.2N)	1000g Approx. (Approx.10N)
Measurable size (mm)	Thickness: Max.1.5		Length: Max.150	

*You need A-1 or S-1 to attach the weight to a force gauge.

*1 Some vertical test stand can not be combined with the fixture. Please contact us if you need the detail.

COF-2N, COF-2N-V: In accordance with a part of JIS K 7125 (1999).

Attachments for Compression and Tension Testing

อุปกรณ์เสริม

CP-150N

Pin Grip

For gripping thin wire shaped samples.
You can utilize it in measurement at narrow spaces.

- Representative applications :
Wire / Plastic component



อุปกรณ์เสริม

GC-5/15

Jacob's Chuck

Ideal for gripping round cylindrical shaped samples. Designed to prevent the samples from slipping.

- Representative applications :
Plastic



Order No.	CP-150N	Order No.	GC-5	GC-15
Capacity (N)	150	Capacity (N)	500	1000
Aperture Opening width (mm)	Approx. Ø0 ~ 3.2	Aperture Opening width (mm)	Approx. Ø0.5 ~ 6.5	Approx. Ø2.0 ~ 13
Weight (g)	Approx. 22	Weight (g)	Approx. 235	Approx. 500
Mounting Screw	M6	Mounting Screw	M6	

Fixture for Shear Test

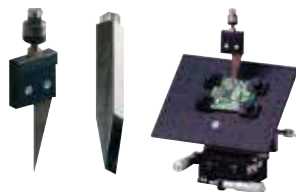
อุปกรณ์เสริม

LF

A Set of Fixtures for Shear Test

This set is designed for shear test of QFP lead and chip components, including jigs and a XY stage. The stage can manually adjust a test position precisely at light feed.

- Representative applications :
QFP lead / Tip component



อุปกรณ์เสริม

GT-10 / 20

Chip Peel Fixture

Ideal for peel (shear) testing for soldered or adhered electric components.

- Representative applications :
Electrical component / Flange cap



Order No.	LF	Order No.	GT-10	GT-20
The set content	For QFP lead strength test : 1. Hook attachment / QFP-45-1 2. 45 degree table / QFP45-2 For soldered chip shearing test : 3. 90 degree chip shear attachment / TIP90-1 4. 90 degree table / TIP90-2 For QFP lead strength test and soldering shearing test : 5. XY table / QFP-1	Applying force	for Tension	for Compression
Capacity (N)	100	Capacity (N)	500	
Table dimension	200 x 150	Weight (g)	Approx. 34	
Weight (g)	1 QFP45-1 : Approx.60g 3 TIP90-1 : Approx. 50g	Mounting Screw	M6	

Attachments for Wire Harness Testing

อุปกรณ์เสริม

Accessories Attachments for A Manual Wire Clamp Pull Tester

~ 500N

Terminal clamp Jig

It is designed to secure a crimp terminal easily and quickly. For engaging it, you only have to hook it between its jaws.



+

Wire clamp Jig

It is designed to secure the ends of wire / cable tightly and easily. For engaging sample, you only have to pull its lever and put your sample on.



→



Order No.	CH-500N
Capacity (N)	500
Aperture opening width (mm)	Max.6
Weight (g)	Approx.210
Mounting screw	M6

Order No.	CW-500N
Capacity (N)	500
Aperture opening width (mm)	Max.5
Weight (g)	Approx.220
Mounting screw	M6

Force Gauge
เครื่องมือวัดแรงดึง และแรงดัน

Universal Testing Machine
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

Digital Force Gauge
รุ่นดิจิทัล

Mechanical Force Gauge
รุ่นแมคคานิค

Other Force Gauge
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

Software & Output Equipment
ซอฟต์แวร์ และสายสัญญาณ

Test Stands
ขาตั้ง

Attachment and Fixture
อุปกรณ์เสริมจับชิ้นงาน

อุปกรณ์เสริม

Accessories Attachments for Vertical Test Stands

~ 1000N

Rotary wire terminal jig

The grip secures wire terminals, cables, connectors, and other samples. It has grooves of different sizes to accommodate a wide range of wire diameters up to 8mm. You only have to rotate the wheel to the desired size.



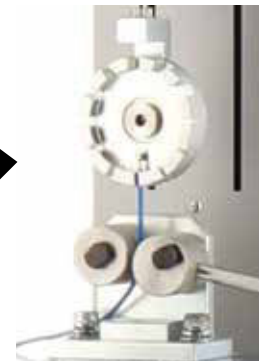
+

Wire clamp Jig

It is for securing the end of wire / cable. Knurled cam mechanism reduces the possibilities of breaking samples.



→



Order No.	FW-12
Capacity (N)	1000
Measureable diameter (mm)	Ø 1 ~ 8
Weight (g)	Approx. 380
Mounting screw	M6

Order No.	GP-30
Capacity (N)	1000
Aperture opening width (mm)	Max.10
Weight (g)	Approx.880

อุปกรณ์เสริม

Accessories Attachments for High Capacity

~ 5000N

Wire terminal jig

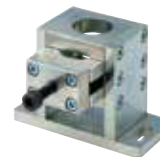
It engages terminals from Ø4 to Ø12mm diameter



+

Wire clamp jig

It is designed for preventing wire coating from breaking.



→



Order No.	CH-5000N
Capacity (N)	5000N
Measureable diameter (mm)	Ø 4 ~ 12 (internal diameter of the terminal hole)
Weight (g)	Approx. 315
Mounting screw	M10

Order No.	CW-5000N
Capacity (N)	5000
Measureable diameter (mm)	Max. Ø 30 (Cable diameter)

You can conduct a test complying with a part of JIS C 2805 (2010) using CH-5000N and CW-5000N together.

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

Attachments for Medical Equipment

อุปกรณ์เสริม

ATTACHMENT

MED-IS-20N - Attachment for Probe Tack Test



Sticking plaster adhesion test with MED-IS-20N



* GF-1 (adaptor for stand fixing) of the photo is not included in this set.

Features

Attachment for measuring adhesiveness of sticking plaster etc. by tack test.

- Representative applications : Sticking plaster

Order No.	MED-IS-20N
Capacity	20N (2kgf)
Surface diameter of contact (mm)	Diameter 5mm
Weight (g)	Force gauge mounting side : Approx. 70g
Mounting screw	M6

Partly in complying with ASTM D 2979 (2016)

In compliance to 6.12.3.4 of the Probe Tack Method by the Japanese Pharmacopoeia

อุปกรณ์เสริม

ATTACHMENT

MED-NPT-200N - Attachment for Pull Out Test



Needle pull out strength test with MED-NPT-200N



Features

Attachment for testing pull out strength of a needle from a needle base.

- Representative applications : Needle

Order No.	MED-NPT-200N
Capacity	200N (20kgf)
Measurable needle diameter (mm)	0.3 to 2.0mm
Measurable needle length (mm)	Above 10
Weight (g)	Force gauge mounting side: Approx. 210g
Mounting screw	M6

Partly in complying with JIS T3209 (2011) / T3220 (2011) / T3222 (2011) / T3222 (2016) / T3223 (2016) / T3228 (2011) / T3229 (2011)

Partly in complying with ISO 7864 (2016) / 10555-5 (2013) / 11608-2 (2012)

อุปกรณ์เสริม

ATTACHMENT

MED-SCT-500N - Attachment for Compression Test of Syringe



Syringe compression test with MED-SCT-500N

Features

Attachment for compression Test of Syringe.

- Representative applications : Syringes

Order No.	MED-SCT-500N
Capacity of force	500N (50kgf)
Capacity of measurable injection	0.5 – 50ml
Diameter of attached outer cylinder (mm)	Ø10/15/24/33mm
Installation	Mounting on the stand

Partly in complying with ISO 7886-1 (2017)

*We provide an optional tray to receive outflowing contents.

*You need S-2 to push syringe.

Attachments for Food Tests

อุปกรณ์เสริม

ATTACHMENT

Included Standard Probes

Disk probe

FR-HA-20J



Sphere probe

FR-SR-20S



Conical probe

FR-ES-60-20J



Wedge probe

FR-KS-60-20 30J



Probe shaft 50mm

FR-JS-50



Probe shaft 100mm

FR-JS-100



อุปกรณ์เสริม

DISK PROBE

FR-HA-D ※1



D
20
30
50
50

อุปกรณ์เสริม

CYLINDRICAL PROBE

FR-EC-D ※1

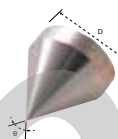


D
3
5
8
10
12.7
15

อุปกรณ์เสริม

CONICAL PROBE

FR-ES-θ-D ※1



θ	D
45	20
60	30

อุปกรณ์เสริม

SPHERE PROBE

FR-SR-D ※1



D
5
7
10
20

We offer more kinds of probes and tables other than above-mentioned one. We can custom design and manufacture to meet your particular requirement.
※1 Please choose designated length in □ when you order. ※2 Sample holder table is required when using Stick guide plate.

อุปกรณ์เสริม

YOGURT CUTTER

FR-YN-29



อุปกรณ์เสริม

VICE PIN FOR STICKING

FR-CP-3



อุปกรณ์เสริม

3 Point bending fixture

FR-TP-60



อุปกรณ์เสริม

Special grip for noodle

FR-NP-25



อุปกรณ์เสริม

Small grip

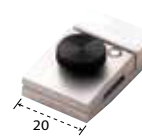
FR-SC-3



อุปกรณ์เสริม

Film grip (small)

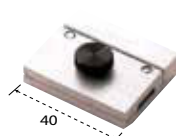
FR-FC-21



อุปกรณ์เสริม

Film grip (large)

FR-FC-41



อุปกรณ์เสริม

Cutter

FR-NB-80



อุปกรณ์เสริม

Wire-cutter

FR-WK-85



Force Gauge

เครื่องมือวัดแรงดึง และแรงดัน

Universal

Testing Machine
เครื่องทดสอบแรงดึง

Torque Testers

เครื่องทดสอบแรงบิด

Digital Force

Gauge
รุ่นดิจิทัล

Mechanical

Force Gauge
รุ่นแบบกลไก

Other Force

Gauge
รุ่นอื่นๆ

Amplifiers

ตัวขยายสัญญาณ

Load cells

โหลดเซลล์

Software & Output

Equipment
ซอฟต์แวร์ และสายสัญญาณ

Test Stands

ขาตั้ง

Attachment and

Fixture

อุปกรณ์เสริมจับ
ชิ้นงาน

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
IMADA

อุปกรณ์เสริม Wedge probe

FR - KS--20 30 ※1



θ
45
60

อุปกรณ์เสริม Wide table

FR - LT -120



อุปกรณ์เสริม Center lined table

FR - CT - 80



อุปกรณ์เสริม Table with trench

FR - GT- ※1



W
3
5
10

อุปกรณ์เสริม Wide table

FR - BG-60



อุปกรณ์เสริม Sample holder table

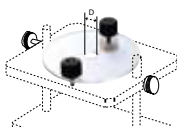
FR - UP- ※1



D
5
10
25
50

อุปกรณ์เสริม Stick guide plate

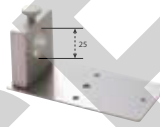
FR - KP- ※1 ※2



D
3
5
10

อุปกรณ์เสริม Stick holder

FR - ST -25



อุปกรณ์เสริม Anti-Scattering Sheet

FR - DP-80



We offer more kinds of probes and tables other than above-mentioned one. We can custom design and manufacture to meet your particular requirement.

※1 Please choose designated length in when you order.

※2 Sample holder table is required when using Stick guide plate.

Other Attachments

อุปกรณ์เสริม GT-30 / 2000N Vice Grip

Wide opening range accommodates different sizes or shaped samples. Use with vertical test stands. (Contact us for models available with this grip)



GT-30



The test example of tensile strength of test of resin molding item.

อุปกรณ์เสริม GTW-50R / 50L Self - centering Vice Grip

Self-centering vice. 2 models are available : 1. Knob model (high operability type) 2. Lever model (Strong clamp type) Use with vertical test stands. (Contact us for models available with this grip)



knob type



Order No.	GT-30	GT-2000N
Capacity (N)	1000	2000
Aperture opening width (mm)	Max.38	Max.64
Mounting	to Test stand table	

Order No.	GTW-50R	GTW-50L
Type	Knob type	Lever type
Capacity (N)	500	1000
Aperture opening width (mm)	Approx. 68	
Mounting	to Test stand table	

อุปกรณ์เสริม **XY-500N** XY Table

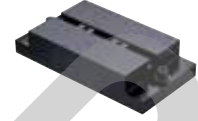
You can put a sample at the center using this XY table since the stage can be moved manually in X and Y directions at light feed. Use with vertical test stands. (Contact us for models available with this table)



Order No.	XY-500N	
Capacity (N)	Tension : 500	Compression : 1000
X-Y movement amount	± 30	
Mounting	to Test stand table	

อุปกรณ์เสริม **TS-5000N** T-Slot Table

It is for holding attachments, being utilized to mount / remove attachments quickly. You can also center your sample readily since the table moves in X / Y directions.



Order No.	TS-5000N	
Capacity (N)	5000	
Diameter of T-nut hole	M8	
The space between T-nuts	Max. 125	
Movement amount (mm)	X : ±64	Y : ±15
Mounting	to Test stand table	

อุปกรณ์เสริม **FOH-1** Optional Handle for Force Gauges

Combining a force gauge with this handle by screws, you can apply force stably.



Order No.	FOH-1	
Compatible model	1000N or less range of ZTA/ZTS/DSV/DST/PSS/PS/PSM/FS/FB Series	
Weight (g)	Approx. 500	

อุปกรณ์เสริม **JF / EJ Series** Attachment Adapter

The mounting adapter for grip type attachment for tension test. They help smooth sample fixation and precise adjustments of gripping positions and angle.



Order No.	JF6-50N	EJ6-1000N	EJ10-5000N
Capacity (N)	50	1000	5000
Mounting screw for a force gauge	-	M6	M10
Mounting screw for a chuck fixture	M6	M6	M10
Weight (g)	Approx. 8	Approx. 29	Approx. 140

*Please contact us for the detail that which attachment is available.
*A-1/S-1/SR-1 is required to mount JF6-50N on a force gauge.

อุปกรณ์เสริม **CA Series** Conversion Adapter

Order No.	Screw diameter	Capacity	Description
CA-F6T4	M6 (Female Screw) → M4	100N	When mounting a M4 screw attachment of FRTS to a M6 screw thread of a force gauge.
CA-F6T10	M6 (Female Screw) → M10	500N	When mounting a M10 screw attachment to a M6 screw thread of a force gauge.
CA-F10T6	M10 (Female Screw) → M6	500N	When mounting a M6 screw attachment to a M10 screw thread of a force gauge.
CA-F4T6	M4 (Female Screw) → M6	100N	When mounting a M6 screw attachment to FRTS series.
CA-F5T4	M5 (Female Screw) → M4	100N	When mounting a M6 screw attachment to a M5 screw thread of load cell LMU series
CA-F5T6	M5 (Female Screw) → M6	500N	When mounting a M6 screw attachment to FRT series to a M5 screw thread of a load cell LMU series
CA-8T4	M8 → M4	100N	When mounting a M4 screw attachment to FRT series to a M8 screw thread of a load cell LU series *It does not mount to a T nut.
CA-8T6	M8 → M6	500N	When mounting a T nut / M8 screw thread of load cell LU series to M6 screw attachment.
CA-8T10	M8 → M10	2000N	When mounting a T nut / M8 screw thread of load cell LU series to M10 screw attachment.



Force Gauge
เครื่องมือวัดแรงดึง และแรงดัน

Universal Testing Machine
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

Digital Force Gauge
รุ่นดิจิทัล

Mechanical Force Gauge
รุ่นแอนะล็อก

Other Force Gauge
รุ่นอื่นๆ

Amplifiers
ตัวขยายสัญญาณ

Load cells
โหลดเซลล์

Software & Output Equipment
ซอฟต์แวร์ และสายสัญญาณ

Test Stands
ขาตั้ง

Attachment and Fixture
อุปกรณ์เสริมจับชิ้นงาน

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT

IMADA

อุปกรณ์เสริม

EB series

EYE BOLT for Load Cell DPU Series

It hangs a test sample or a load cell by hooking chain, rope, hook etc.



Order No.	EB-500N-M6	EB-2000N	EB-20kN
Compatible load cell	DPU-5N ~ 500N	DPN-1000N/2000N	DPU-10kN / 20kN
Capacity (N)	500N	2000N	20kN
Weight (g)	Approx. 18	Approx. 137	Approx. 1100
How to mount	M6 Male Screw	M12 Male Screw	M18 Male Screw

อุปกรณ์เสริม

RE-20kN

Rod End [for shafts] for Load Cell DPU Series

A shaft can be put through it.



Order No.	RE-20kN
Compatible load cell	DPU-10kN, DPU-20kN
Capacity (kN)	20
Weight (g)	Approx. 300
Mounting screw	M18 Male screw

อุปกรณ์เสริม

EB-500N-M8

Eye Bolt for Load Cell LU Series

It hangs a test sample or a load cell by hooking chain, rope, hook etc.



Order No.	EB-500N-M8
Compatible load cell	LU series
Capacity (N)	500
Weight (g)	Approx. 39
Mounting screw	M18 Male Screw

อุปกรณ์เสริม

EN-500N

Eye Nut for Load cell LMU series

It hangs a test sample or a load cell by hooking chain, rope, hook etc.



Order No.	EN-500N
Compatible load cell	LMU series
Capacity (N)	500
Weight (g)	Approx. 300
Mounting screw	M5 Female screw

อุปกรณ์เสริม

HGB-1

Hand Grip Belt



Order No.	HGB-1
Capacity	200N
Weight	Approx. 40g
Accessories	Force gauge fixing screws (4pcs)

* You cannot prevent the falling of force gauge in some cases.
* It is suitable for still samples. Don't use it for movable sample as your hand would be caught.

อุปกรณ์เสริม

HDC-1

Optional handle for a fire door closing measurement



Order No.	HDC-1
Capacity (N)	250
External diameter urethane pad	Approx. Ø16mm
Accessories	Urethane pads (5pcs)(*), Force gauge fixing bolts (4pcs)
Attachable force gauges (**)	Mechanical force gauges Digital force gauges

* Urethane pad can be stuck to S-2 flat tip (force gauge accessory).
** Attachable basic model up to 1000N. (High capacity model is not attachable.)

อุปกรณ์เสริม

GA-10N / 5000N

Bending Test Fixture

Designed for 3 point bending tests for metals, glasses, and more.



Order No.	DMK-100	DMK-300	DMK-500	DMK-800
Accuracy*1	±0.3mm			
Stroke (mm)	Max.100	Max.300	Max.500	Max.800
Dimension(mm)	254x21	454x21	654x21	954x21
Fix screw	M4			
Accessories	M4 6mm screw(2 pcs), instruction manual			

*Displacement is displayed on Digital force gauge ZTA series (separately-sold item).

*1 The individual accuracy of DMK series. It could be changed by the equipment error or how to mount the scale.

เครื่องทดสอบรุ่น SV-55CB UNIVERSAL TESTING MACHINE SV-55CB

Features

SV-55CB is an electrically operated desktop type tensile testing machine. The value of load is measured by loadcell. Maximum load for this type (model) is 500N.

■ Characteristics

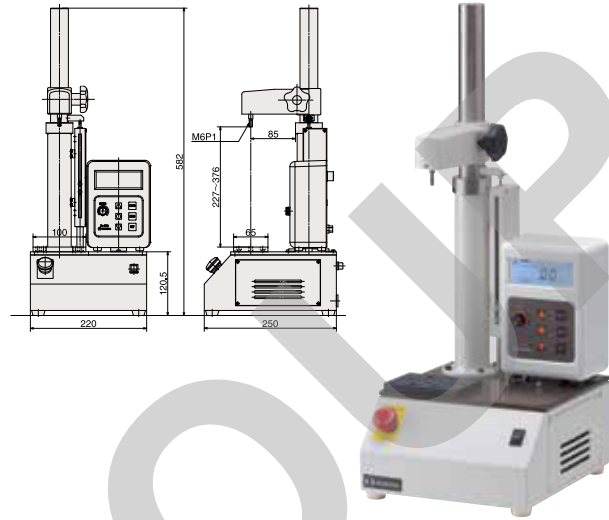
- Compared to combinations of Digital Force Gauge and Stand, this testing machine is inexpensive, and it can be measured with simple operation. However, it has the functions according to the UTM such as overload protection and software.
- This testing machine is about 30% smaller and lighter than the previous model. So, you do not have to worry about that place.
- It can prepare loadcell from 20N to 500N. Therefore, you can choose the one suitable for what you want to measure. In addition, if the 2 range specification type, it will be expanded the measurement range.

■ Usage example

- Peeling tests of the adhesion and the heat seal.
- Tensile tests of solderless terminal.
- Various kinds of test such as foods or medical supplies.

■ Options

- Long Axis /150mm longer axis than the standard.
- Special Speed type (5~120mm/min)
- Printer Output (for Digimatic Printer) *2
- Date Processing Software 'Facirec'



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Universal Testing Machine

เครื่องทดสอบสากล

Accessories / Options

อุปกรณ์เสริมต่างๆ

Attachments

อุปกรณ์เสริมใช้งาน

Software

ซอฟต์แวร์

Specifications of Load Range

Load Range	Maximum Load Display	Resolution
500N	500N	0.1N
200N	200.2N	
100N	99.99N	
50N	50.00N	0.01N
20N	20.00N	
10N	9.999N	
5N	5.000N	0.001N

Combination of Load Range According to the Model

Order No.	Usable Range	Setting Load Range						
		500N	200N	100N	50N	20N	10N	5N
SV-55CB-50R1	100N~500N	●	-	-	-	-	-	-
SV-55CB-50R2	20N~500N	●	-	●	-	-	-	-
SV-55CB-20R1	40N~200N	-	●	-	-	-	-	-
SV-55CB-20R2	10N~200N	-	●	-	●	-	-	-
SV-55CB-5R1	10N~50N	-	-	-	●	-	-	-
SV-55CB-5R2	2N~50N	-	-	-	●	-	●	-
SV-55CB-2R1	4N~20N	-	-	-	-	●	-	-
SV-55CB-2R2	1N~20N	-	-	-	-	●	-	●

Specifications

Order No.	SV-55CB-□(*1)
Maximum Load	500N
Load Display	[Specifications of Load Range]/
Load Precision	[Combination of Load Range According to the Model] Reference
Drive Type	DC Brushless Motor
Speed Range	15~400mm/min
Stroke	130mm
Sample Mounting Span	227~378mm
Displacement to Column	85mm
Table Size	100 65mm(4 point-M8)
Safety Device	Optional Setting Upper and Lower Limit
	Overload Prevention Function
Convenient Function	Peak Hold Function
	Forwarding Function
	Auto Start Point Return Function
	Judgment Function
Output	USB(For Measure software) / For Printer(*2)
Power Supply	AC100V~240V 3A
Weight	Approx 12kgk
Size	W220 D250 H582mm (*3)

*1 The model symbol is put in □. Refer to [Combination of Load Range According to the Model]

*2 Digimatic printer output can be installed with additional option.

*3 The listed 'height' is measured with lower condition of 'UP/DOWN axis'.

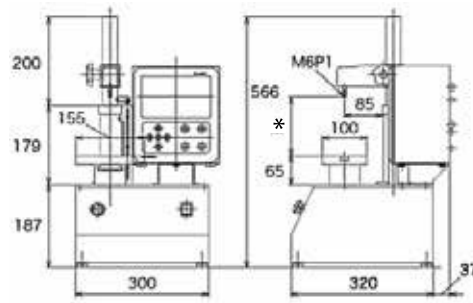
TESTING EQUIPMENT

เครื่องมือทดสอบ

UNIVERSAL TESTING MACHINE
เครื่องทดสอบสากล



เครื่องทดสอบรูน SVZ-50NB UNIVERSAL TESTING MACHINE SVZ-50NB



*Sample Mounting Span: 110~240

Features

As for this model, the test machine has the ability up to 500N of maximum load. Various kinds of load examination can be performed. It is compact and can be used easily.

■ Characteristics

- It is compact and economical. However, both measurements of load and displacement are possible.
- It can be easily handled by exclusive software.

■ Usage example

- The evaluation examinations such as electricity or electronic parts.
- Various kinds of examination such as foods or medical supplies.
- The examinations of small springs.

■ Options

- Long Axis / Test machine with 150mm longer axis than the standard can be offered upon request.
- Special speed / A customized speed can be also arranged.
- Output of ANALOG/PRINTER / This option is necessary for the connection to Analog recorder or printer.

Specifications

Order No.	SVZ-50NB □ (※1)		
Maximum Load	500N		
Load Display	[The specifications of Load Range] Reference		Memory function of the examination conditions
Minimum Unit	[The combination of Load Range according to the model]		Peak/Bottom Hold function
Load Precision	JIS 1 class (Indication value $\pm 1\%$ range)		Cycle mode function
Displacement Minimum Unit	0.01mm	Convenient Function	Detect function of Break Point
Drive type	Brush less DC Motor		Detect function of Start Point
Speed Range	10~300mm/min		Auto Cancel/Auto Feed function
Stroke	130mm		Auto Start Point Return function
Sample Mounting Span	110~240mm		Judgment function
Distance of Sample to Column	85mm	Output (※2)	USB
Table Size	100x155mm (With T-groove)	Power supply	AC100V 3A
Safety Device	Optional setting Upper and Lower Limit	Weight	Approx 22kg
	Over-load Prevention function	Size (※3)	W300xD357xH566mm

※1 The model symbol is put in □. Refer to [Combination of Load Range According to the Model]

※2 Analog output and Printer output can be installed with option.

※3 The listed "Height" is measured with the UP/DOWN axis at the lower limit.

Specifications of Load Range

Load Range	Maximum Load Display	Resolution
500N	500N	0.1N
200N	200.0N	
100N	100.00N	
50N	50.00N	0.01N
20N	20.00N	
10N	10.00N	
5N	5.000N	0.001N
2N	2.000N	

※ The usable range is recommended at 20~100% of each setting Load Range.

Combination of Load Range According to the Model

Order No.	Usable Range	Setting Load Range							
		500N	200N	100N	50N	20N	10N	5N	2N
SVZ-50NB-50R1	100N ~ 500N	●	-	-	-	-	-	-	-
SVZ-50NB-50R2	20N ~ 500N	●	-	●	-	-	-	-	-
SVZ-50NB-50R3	4N ~ 500N	●	-	●	-	●	-	-	-
SVZ-50NB-20R1	40N ~ 200N	-	●	-	-	-	-	-	-
SVZ-50NB-20R2	10N ~ 200N	-	●	-	●	-	-	-	-
SVZ-50NB-20R3	2N ~ 200N	-	●	-	●	-	●	-	-
SVZ-50NB-5R1	10N ~ 50N	-	-	-	●	-	-	-	-
SVZ-50NB-5R2	2N ~ 50N	-	-	-	●	-	●	-	●
SVZ-50NB-5R3	0.4N ~ 50N	-	-	-	●	-	●	-	-
SVZ-50NB-2R1	4N ~ 20N	-	-	-	-	●	-	-	-
SVZ-50NB-2R2	1N ~ 20N	-	-	-	-	●	-	●	-

เครื่องทดสอบรุ่น SVZ-200NB UNIVERSAL TESTING MACHINE SVZ-200NB

Features

This model of testing machine can perform various kind of load measurement to 2kN maximum load.
The efficiency on the drive is increased.
It is compact in size and suitable for middle class load testings.

■ Characteristics

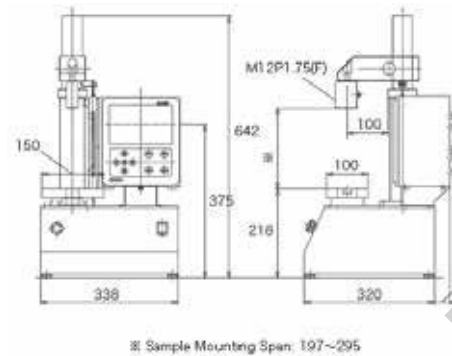
- It is force middle class. The operation is easy due to in the single column UP/DOWN axis.
- The drive type of the ball screw by single axis.
- It can be easily handled by exclusive software. (Option)

■ Usage example

- Material examinations of middle load.
- Various kinds of evaluation examination of machine parts and the products.

■ Options

- Output of ANALOG/PRINTER
- This option is necessary for the connection to Analog recorder or printer.



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Universal Testing Machine

เครื่องทดสอบสากล

Accessories / Options

อุปกรณ์เสริมต่างๆ

Attachments

อุปกรณ์เสริมใช้งาน

Software

ซอฟต์แวร์

Specifications

Order No.	SVZ-200NB-□ (※1)		
Maximum Load	2kN		
Load Display	[The specifications of Load Range] Reference		Memory function of the examination conditions
Minimum Unit	[The combination of Load Range according to the model]		Peak/Bottom Hold function
Load Precision	JIS 1 class (Indication value $\pm 1\%$ range)		Cycle mode function
Displacement Minimum Unit	0.01mm	Convenient Function	Detect function of Break Point
Drive type	Brush less DC Motor		Detect function of Start Point
Speed Range	5~500mm/min		Auto Cancel/Auto Feed function
Stroke	130mm		Auto Start Point Return function
Sample Mounting Span	197~295mm		Judgment function
Distance of Sample to Column	100mm	Output (※2)	USB
Table Size	100x155mm (With T-groove)	Power supply	AC100V 5A
Safety Device	Optional setting Upper and Lower Limit	Weight	Approx 35kg
	Over-load Prevention function	Size (※3)	W338xD357xH642mm

※1 The model symbol is put in □. Refer to [Combination of Load Range According to the Model]

※2 Analog output and Printer output can be installed with option.

※3 The listed "Height" is measured with the UP/DOWN axis at the lower limit.

Specifications of Load Range

Load Range	Maximum Load Display	Resolution
2kN	2000N	1N
1kN	1000.0N	0.1N
500N	500.0N	
200N	200.0N	
100N	100.00N	0.01N
50N	50.00N	
20N	20.00N	

※ The usable range is recommended at 20~100% of each setting Load Range.

※ It is possible as an option to add Load Range other than the above listed.

Combination of Load Range According to the Model

Order No.	Usable Range	Setting Load Range						
		2kN	1kN	500N	200N	100N	50N	20N
SVZ-200NB-200R1	400N ~ 2kN	●	-	-	-	-	-	-
SVZ-200NB-200R2	100N ~ 2kN	●	-	●	-	-	-	-
SVZ-200NB-200R3	20N ~ 2kN	●	-	●	-	●	-	-
SVZ-200NB-100R1	200N ~ 1kN	-	●	-	-	-	-	-
SVZ-200NB-100R2	40N ~ 1kN	-	●	-	●	-	-	-
SVZ-200NB-100R3	10N ~ 1kN	-	●	-	●	-	●	-
SVZ-200NB-50R1	100N ~ 500N	-	-	●	-	-	-	-
SVZ-200NB-50R2	20N ~ 500N	-	-	●	-	●	-	-
SVZ-200NB-50R3	4N ~ 500N	-	-	●	-	●	-	●

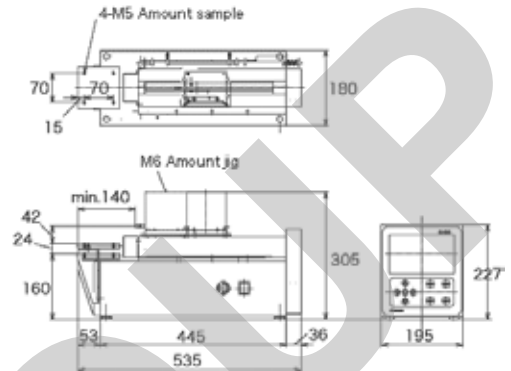
TESTING EQUIPMENT

เครื่องมือทดสอบ



เครื่องทดสอบรุ่น SH-14NB

UNIVERSAL TESTING MACHINE SH-14NB



Features

SH-14NB type is the horizontal and desktop type testing machine, which allows measuring up to 500N maximum load.

The measuring of the load will be done by the loadcell and the displacement by the encoder.

This type of testing machines is suitable, when the test pieces can be set down only in horizontal or the operation in the horizontal way is easier.

As for the measurement accuracy, vertical types are superior to horizontal one, since for the horizontal type the jigs are placed at the right angle direction to gravity.

■ Characteristics

- It is horizontal testing equipment, compact in size and can be put on the desk.
- It can be easily handled by exclusive software (Option).

■ Usage example

- Peeling examinations of semiconductor ICs.
- Frictional force examinations.

■ Options

- Special speed
- Output of ANALOG/PRINTER This option is necessary for the connection to Analog recorder or printer.

Specifications

Order No.	SH-14NB-□(※1)		
Maximum Load	500N		Memory function of the examination conditions
Load Display	[The specifications of Load Range] Reference		Peak/Bottom Hold function
Minimum Unit	[The combination of Load Range according to the model]		Cycle mode function
Load Precision	JIS 1 class (Indication value $\pm 1\%$ range)		Detect function of Break Point
Displacement Minimum Unit	0.01mm	Convenient Function	Detect function of Start Point
Drive type	Brush less DC Motor		Auto Cancel/Auto Feed function
Speed Range	5~500mm/min		Auto Start Point Return function
Stroke	200mm (Condition without the Attachments)		Judgment function
Table Size	100x100mm	Output (※2)	USB
Safety Device	Optional setting Upper and Lower Limit	Power supply	AC100V 5A
	Over-load Prevention function	Weight	Approx 2kg
		Size	W535xD180xH305mm (View drawings)

※1 The model symbol is put in □. Refer to [Combination of Load Range According to the Model]

※2 Analog output and Printer output can be installed with option.

Specifications of Load Range

Load Range	Maximum Load Display	Resolution
500N	500.0N	0.1N
200N	200.0N	
100N	100.00N	
50N	50.00N	0.01N
20N	20.00N	
10N	10.000N	
5N	5.000N	0.001N
2N	2.000N	

※ The usable range is recommended at 20~100% of each setting Load Range.

Combination of Load Range According to the Model

Order No.	Usable Range	Setting Load Range							
		500N	200N	100N	50N	20N	10N	5N	2N
SH-14NB-50R1	100N ~ 500N	●	-	-	-	-	-	-	-
SH-14NB-50R2	20N ~ 500N	●	-	●	-	-	-	-	-
SH-14NB-50R3	4N ~ 500N	●	-	●	-	●	-	-	-
SH-14NB-20R1	40N ~ 200N	-	●	-	-	-	-	-	-
SH-14NB-20R2	10N ~ 200N	-	●	-	●	-	-	-	-
SH-14NB-20R3	2N ~ 200N	-	●	-	●	-	●	-	-
SH-14NB-5R1	10N ~ 50N	-	-	-	●	-	-	-	-
SH-14NB-5R2	2N ~ 50N	-	-	-	●	-	●	-	-
SH-14NB-5R3	0.4N ~ 50N	-	-	-	●	-	●	-	●
SH-14NB-2R1	4N ~ 20N	-	-	-	-	●	-	-	-
SH-14NB-2R2	1N ~ 20N	-	-	-	-	●	-	●	-

เครื่องทดสอบรุ่น SDT-203NB UNIVERSAL TESTING MACHINE SDT-203NB

Features

SDT-203NB type is the tension and compression testing machine, which enables various kinds of testing up to 2kN maximum load.
The electric drive is constructed with the ball screw and a linear guide.
This type is suitable for testing which requires a comparatively long stroke.

■ Characteristics

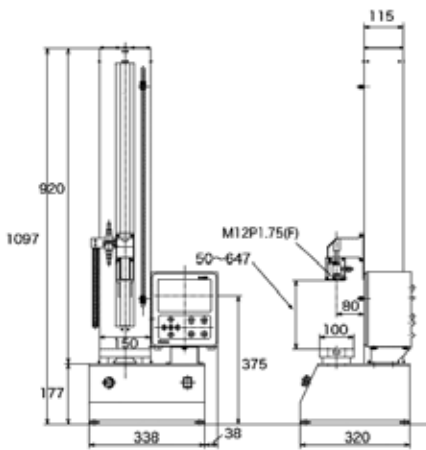
- It is adequate for relatively long-stroke measurements.
- It can be easily handled by exclusive software. (Option)

■ Usage example

- Pulling examinations of well-stretchy samples such as rubber.
- Examination with large strokes such as peeling tests.

■ Options

- The stroke of 400mm / 800mm can be made as an option, too.
- Output of ANALOG/PRINTER This option is necessary for the connection to Analog recorder or printer.



Stroke 400mm type

Stroke 500mm type

Force Gauge

เครื่องวัดแรงดึงและแรงดัน

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Universal Testing Machine

เครื่องทดสอบสากล

Accessories / Options

อุปกรณ์เสริมต่างๆ

Attachments

อุปกรณ์เสริมใช้งาน

Software

ซอฟต์แวร์

Specifications

Order No.	SDT-203NB-□(※1)		
Maximum Load	500N		
Load Display	[The specifications of Load Range] Reference		Memory function of the examination conditions
Minimum Unit	[The combination of Load Range according to the model]		Peak/Bottom Hold function
Load Precision	JIS 1 class (Indication value $\pm 1\%$ range)		Cycle mode function
Displacement Minimum Unit	0.01mm	Convenient Function	Detect function of Break Point
Drive type	Brush less DC Motor		Detect function of Start Point
Speed Range	5~500mm/min		Auto Cancel/Auto Feed function
Distance from a Table to a Load-cell	Max. 647mm (An effective stroke is decided by selection of an attachment)		Auto Start Point Return function
Distance of Sample to Column	80mm		Judgment function
Table Size	100x150mm (With T-groove)	Output (※2)	USB
Safety Device	Optional setting Upper and Lower Limit	Power supply	AC100V 5A
	Over-load Prevention function	Weight	Approx 35kg
		Size	W376xD320xH1097mm

※1 The model symbol is put in □. Refer to [Combination of Load Range According to the Model]

※2 Analog output and Printer output can be installed with option.

Specifications of Load Range

Load Range	Maximum Load Display	Resolution
2kN	2000N	1N
1kN	1000.0N	0.1N
500N	500.0N	
200N	200.0N	
100N	100.00N	0.01N
50N	50.00N	
20N	20.00N	

※ The usable range is recommended at 20~100% of each setting Load Range.

※ It is possible as an option to add Load Range other than the above listed.

Combination of Load Range According to the Model

Order No.	Usable Range	Setting Load Range						
		2kN	1kN	500N	200N	100N	50N	20N
SDT-203NB-200R1	400N ~ 2kN	●	-	-	-	-	-	-
SDT-203NB-200R2	100N ~ 2kN	●	-	●	-	-	-	-
SDT-203NB-200R3	20N ~ 2kN	●	-	●	-	●	-	-
SDT-203NB-100R1	200N ~ 1kN	●	●	-	-	-	-	-
SDT-203NB-100R2	40N ~ 1kN	-	●	-	●	-	-	-
SDT-203NB-100R3	10N ~ 1kN	-	●	-	●	-	●	-
SDT-203NB-50R1	100N ~ 500N	-	-	●	-	-	-	-
SDT-203NB-50R2	20N ~ 500N	-	-	●	-	-	-	-
SDT-203NB-50R3	4N ~ 500N	-	-	●	-	-	-	●

TESTING EQUIPMENT

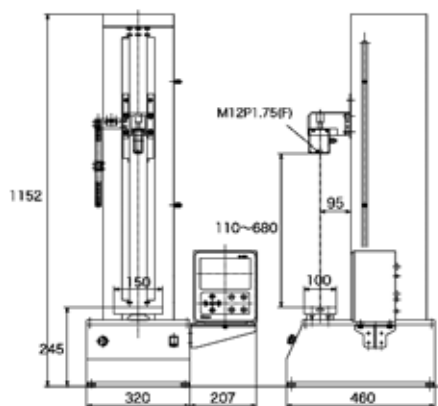
เครื่องมือทดสอบ

UNIVERSAL TESTING MACHINE
เครื่องทดสอบสากล



เครื่องทดสอบรุ่น SDT-503NB

UNIVERSAL TESTING MACHINE SDT-503NB



Features

SDT-503NB type is tension and compression testing machine with the electric drive.

Various examinations to maximum load 5kN are possible. It has the maximum load capacity as a desk model with single column.

■ Characteristics

- It is tension and compression testing equipment with the maximum load capacity as the desk model with single column.
- This is suitable for the long stroke examinations.
- It can be easily handled by exclusive software. (Option)

■ Usage example

- Various material examinations of the middle load.
- The evaluation examinations of the small machine parts.

■ Options

- The customized stroke can be produced upon request.
- Output of ANALOG/PRINTER This option is necessary for the connection to Analog recorder or printer.

Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Universal

Testing Machine
เครื่องทดสอบสากล

Accessories /

Options

อุปกรณ์เสริมต่างๆ

Attachments

อุปกรณ์เสริมใช้งาน

Software

ซอฟต์แวร์

Specifications

Order No.	SDT-503NB-□(※1)		
Maximum Load	5kN		
Load Display	[The specifications of Load Range] Reference		Memory function of the examination conditions
Minimum Unit	[The combination of Load Range according to the model]		Peak/Bottom Hold function
Load Precision	JIS 1 class (Indication value $\pm 1\%$ range)		Cycle mode function
Displacement Minimum Unit	0.01mm	Convenient Function	Detect function of Break Point
Drive type	AC Servo Motor		Detect function of Start Point
Speed Range	0.1~500mm/min		Auto Cancel/Auto Feed function
Distance from a Table to a Load-cell	Max. 680mm (An effective stroke is decided by selection of an attachment)		Auto Start Point Return function
Distance of Sample to Column	95mm		Judgment function
Table Size	100x150mm (With T-groove)	Output (※2)	USB
Safety Device	Optional setting Upper and Lower Limit	Power supply	AC100V 5A
	Over-load Prevention function	Weight	Approx 81kg
		Size (※3)	W527xD460xH1152mm

※1 The model symbol is put in □. Refer to [Combination of Load Range According to the Model]

※2 Analog output and Printer output can be installed with option.

※3 The listed "Height" is measured with the UP/DOWN axis at the lower limit.

Specifications of Load Range

Load Range	Maximum Load Display	Resolution
5kN	5000N	1N
1kN	1000.0N	0.1N
200N	200.00N	

※The usable range is recommended at 20~100% of each setting Load Range.

※It is possible as an option to add Load Range other than the above listed.

Combination of Load Range According to the Model

Order No.	Usable Range	Setting Load Range		
		5kN	1kN	200N
SDT-503NB-R1	400N ~ 5kN	●	-	-
SDT-503NB-R2	200N ~ 5kN	●	●	-
SDT-503NB-R3	40N ~ 5kN	●	●	●

เครื่องทดสอบร่น SDWS UNIVERSAL TESTING MACHINE SDWS



Features

SDWS type is a gate-frame type pulling and compression testing machine.

The load is given onto test pieces by the crosshead which moves up and down by the forwarding screws on both sides of the frame. This type is to be used on a working table.

■ Characteristics

- Examinations of relatively large samples are possible with this gate type frame structure
- It can be easily handled by exclusive software. (Option)

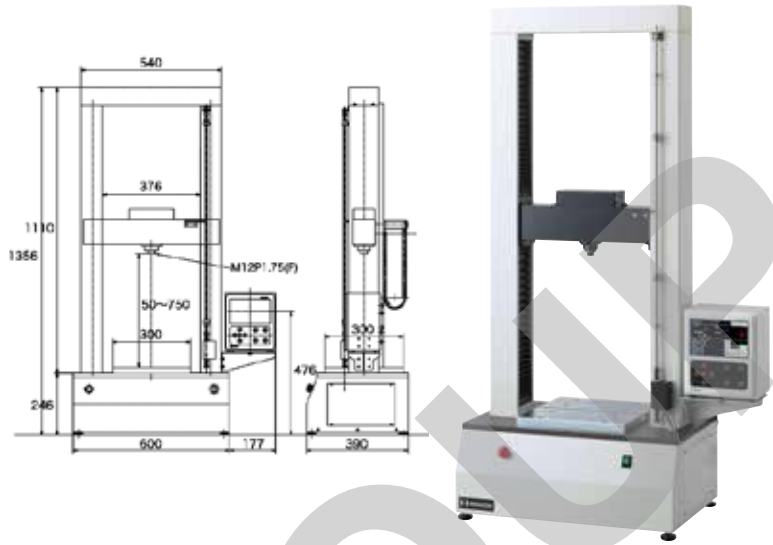
■ Usage example

- Various load tests in medium to big capacity.
- Various evaluation examinations of machine parts and comparatively bigger samples.

■ Options

- Broad type with wider width.
- Longer / Shorter stroke type.
- Offered with homiothermal housing/case for environmental testings.
- Additional load ranges.
- A type of displacement resolving power 1μm.
- Output of ANALOG/PRINTER

This option is necessary for the connection to Analog recorder or printer.



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Universal Testing Machine

เครื่องทดสอบสากล

Accessories / Options

อุปกรณ์เสริมต่างๆ

Attachments

อุปกรณ์เสริมใช้งาน

Software

ซอฟต์แวร์

Specifications

Order No. (※1)	SDWS-0213-□	SDWS-0513-□	SDWS-1013-□	SDWS-2013-□
Maximum Load	2kN	5kN	10kN	20kN
Load Display	[The specifications of Load Range] Reference [The combination of Load Range according to the model]			
Load Precision	JIS 1 class (Indication value ±1% range)			
Displacement Minimum Unit	0.01mm			
Drive type	AC Servo Motor			
Speed Range	0.1~500mm/min			0.05~100mm/min
Distance from a Table to a Load-cell	Max. 750mm (An effective stroke is decided by selection of an attachment)			
Effective Test Width	376mm			
Table Size	300x300mm (with T-groove)			
Safety Device	Optional setting Upper and Lower Limit, Over-load Prevention function			
Convenient Function	Memory function of the examination conditions Peak/Bottom Hold function Cycle mode function Detect function of Break Point Detect function of Start Point Auto Cancel/Auto Feed function Auto Start Point Return function			
Output (※2)	USB			
Power supply	AC100V 10A			
Weight	Approx 130kg			Approx 180kg
Size	W777xD391xH1356mm			W835xD420xH1474mm

※1 The model symbol is put in □. Refer to [Combination of Load Range According to the Model]

※2 Analog output and Printer output can be installed with option.

Specifications of Load Range

Load Range	Maximum Load Display	Resolution
20kN	20.00kN	0.01kN
10kN	10.000kN	0.001kN
5kN	5000N	1N
2kN	2000N	
1kN	1000.0N	
500N	500.0N	0.1N
200N	200.0N	
100N	100.00N	0.01N

※ The usable range is recommended at 20~100% of each setting Load Range.

※ It is possible as an option to add Load Range other than the above listed.

Combination of Load Range According to the Model

Order No.	Usable Range	Setting Load Range							
		20kN	10kN	5kN	2kN	1kN	500N	200N	100N
SDWS-0213-R1	400N ~ 2kN	-	-	-	●	-	-	-	-
SDWS-0213-R2	100N ~ 2kN	-	-	-	●	-	●	-	-
SDWS-0213-R3	20N ~ 2kN	-	-	-	●	-	●	-	●
SDWS-0513-R1	1kN ~ 5kN	-	-	●	-	-	-	-	-
SDWS-0513-R2	200N ~ 5kN	-	-	●	-	●	-	-	-
SDWS-0513-R3	40N ~ 5kN	-	-	●	-	●	-	●	-
SDWS-1013-R1	2N ~ 10kN	-	●	-	-	-	-	-	-
SDWS-1013-R2	500N ~ 10N	-	●	-	●	-	-	-	-
SDWS-1013-R3	100N ~ 10kN	-	●	-	●	-	●	-	-
SDWS-2013-R1	4kN ~ 20kN	●	-	-	-	-	-	-	-
SDWS-2013-R2	1kN ~ 20kN	●	-	●	-	-	-	-	-
SDWS-0213-R3	200N ~ 20kN	●	-	●	-	●	-	-	-

TESTING EQUIPMENT

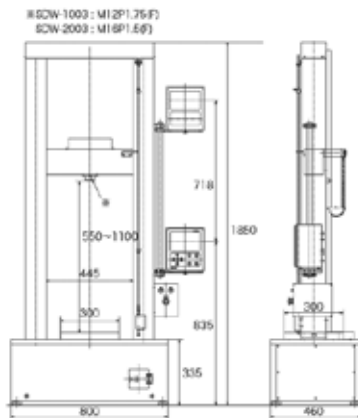
เครื่องมือทดสอบ

UNIVERSAL TESTING MACHINE
เครื่องทดสอบสากล



เครื่องทดสอบรุ่น SDW

UNIVERSAL TESTING MACHINE SDW



Features

SDW type is a testing machine for a load capacity from 10kN upto 200kN. The machine is placed on the floor. The load is given onto test pieces by the crosshead which moves up and down by the forwarding screws on both sides of the frame. For the 200kN type, please inquire us of the specification. *Please refer to the type of 200kN specifications.

■ Characteristics

- Universal type testing machine from 10kN to 200kN.
- It can be also used for an examination of the small load by adding a smaller load-range.
- The examinations of the comparatively large sample is possible due to gate type frame structure.
- It can be easily handled by exclusive software. (Option)

■ Usage example

- Various examinations of large load.
- Various evaluation examinations of machine parts and comparatively bigger sample.

■ Options

- A wide type of the valid examination width.
- The type that is long (short) of the stroke.
- The type that an environmental examination (Homoiothermal box) was added to
- The addition of the load range.
- A type of displacement resolving power 1μm.
- Output of ANALOG/PRINTER

This option is necessary for the connection to Analog recorder or printer.

Specifications

Order No. (※1)	SDW-1003-□	SDW-2003-□	SDW-5003-□	SDW-9103-□
Maximum Load	10kN	20kN	50kN	100kN
Load Display	[The specifications of Load Range] Reference [The combination of Load Range according to the model]			
Load Precision	JIS 1 class (Indication value ±1% range)			
Displacement Minimum Unit	0.01mm			
Drive type	AC Servo Motor			
Speed Range	0.1~500mm/min			
Distance from a Table to a Load-cell	Max. 1100mm (An effective stroke is decided by selection of an attachment)		Max. 1080mm (An effective stroke is decided by selection of an attachment)	
Effective Test Width	445mm		439mm	
Table Size	300x300mm (with T-groove)		350x350mm (with T-groove)	
Safety Device	Optional setting Upper and Lower Limit , Over-load Prevention function			
Convenient Function	Memory function of the examination conditions Peak/Bottom Hold function Cycle mode function Detect function of Break Point Detect function of Start Point Auto Cancel/Auto Feed function Auto Start Point Return function			
Output (※2)	USB			
Power supply	AC100V 10A	AC100V 15A 3phase	AC100V 30A 3phase	
Weight	Approx 320kg		Approx 460kg	Approx 486kg
Size	W985xD460xH1850mm		W1038xD580xH1962mm	

※1The model symbol is put in □. Refer to [Combination of Load Range According to the Model]

※2 Analog output and Printer output can be installed with option.

Specifications of Load Range

Load Range	Maximum Load Display	Resolution
100kN	100.00kN	0.01kN
50kN	50.00kN	
20kN	20.00kN	
10kN	10.00kN	0.001kN
5kN	5000N	
2kN	2000N	
1kN	1000.0N	0.1N
500N	500.0N	

※The usable range is recommended at 20~100% of each setting Load Range.

※It is possible as an option to add Load Range other than the above listed.

Combination of Load Range According to the Model

Order No.	Usable Range	Setting Load Range							
		100kN	50kN	20kN	10kN	5kN	2kN	1kN	500N
SDW-1003-R1	2kN ~ 10kN	-	-	-	●	-	-	-	-
SDW-1003-R2	400N ~ 10kN	-	-	-	●	-	●	-	-
SDW-1003-R3	100N ~ 10kN	-	-	-	●	-	●	-	●
SDW-2003-R1	4kN ~ 20kN	-	-	●	-	-	-	-	-
SDW-2003-R2	1kN ~ 20kN	-	-	●	-	●	-	-	-
SDW-2003-R3	200N ~ 20kN	-	-	●	-	●	-	●	-
SDW-5003-R1	10kN ~ 50kN	-	●	-	-	-	-	-	-
SDW-5003-R2	2kN ~ 50kN	-	●	-	●	-	-	-	-
SDW-5003-R3	400N ~ 50kN	-	●	-	●	-	●	-	-
SDW-9103-R1	20kN ~ 100kN	●	-	-	-	-	-	-	-
SDW-9103-R2	4kN ~ 100kN	●	-	●	-	-	-	-	-
SDW-9103-R3	1kN ~ 100kN	●	-	●	-	●	-	-	-

เครื่องทดสอบแรงบิด TORQUE TESTER



Features

It is used for the open stopper torque measurement of the container of food and the cosmetic.
Lower part disc turns.

Order No.	TR-200
Capacity	2kN • cm
Angle measure	180deg
Rotation speed	0.1 ~ 1rpm
Power supply	AC100V 5A



Features

It is used for the open stopper torque measurement of the container of food and the cosmetic.
Lower part disc turns.

Order No.	TR-250
Capacity	20N • cm
Angle measure	400deg
Rotation speed	0.1 ~ 100rpm
Power supply	AC100V 5A



Features

This type is set on the floor and to used for an evaluation which requires.

Order No.	TR-2000
Capacity	200N • m
Angle measure	999.9deg
Rotation speed	0.1 ~ 3rpm
Power supply	AC100V 7A



Features

This type is set on the floor and to used for an evaluation which requires.

Order No.	TR-5000
Capacity	500N • m
Angle measure	999.9deg
Rotation speed	0.04 ~ 20rpm
Power supply	AC100V 20A

เครื่องทดสอบผิว BURST TESTER

Features

This machine can test the sealed area of the food container by inserting the needle-shape sensor.
Easy to perform the burst strength tests based on 'JIS Z0238-8'.



EX. : Burst strength test

Order No.	BT-200
Capacity	0.2MPa
Resolution	0.001Mpa
Measuring function	Peak value hold Displays the estimated amount of flow
Power supply	AC100V 2A
Size	W200 x D250 x H265mm
Weight	Approx 17g

ขาตั้งใช้ทดสอบแรง PUSH PULL STAND

Features

It is the stand for maximum load 500N. Two kinds of speed can be chosen.
*The digital force gauge on the photograph is an option.



Order No.	SV-5A-□
Maximum load	500N
Speed	M 10 ~ 100mm/min H 30 ~ 300mm/min
Stroke	130mm
Power supply	AC100V 3A
Size	W250 x D250 x H577mm
Weight	Approx 17kg

เครื่องทดสอบการดึงอัตโนมัติ AUTOMATIC PULLING TESTING MACHINE

Features

This is perform pulling test of a wire rod arranged on the tray automatically.
Maximum 50 wire rods can be set.
The type below includes the system by which test result is to be saved automatically.



Maximum load	5kN
Speed	250mm/min
Stroke	200mm
Power Supply	AC100V 7A

เครื่องทดสอบสปอยเลอร์ REAR SPOILER PULLING TESTING MACHINE

Features

It is testing equipment evaluating the fixing strength of the rear spoiler of the car.
This has the feature to execute the pulling test samples without any point to be grabbed, but by using vacuum pad.



Maximum load	2kN
Speed	0.5 ~ 500mm/min
Stroke	350mm
Power Supply	AC200V 20A

TESTING EQUIPMENT

เครื่องมือทดสอบ

UNIVERSAL TESTING MACHINE
เครื่องทดสอบสากล



เครื่องทดสอบแรงกด

PACKING COMPRESSION TESTING MACHINE



Features

This is a compression for large packing materials. It is testing machine of the structure that can measure decentration load to happen by buckling in three loadcells precisely.

Maximum load	50kN
Speed	0.5 ~ 500mm/min
Pressure board	1200x200mm
Power supply	AC200V 3kVA

เครื่องทดสอบแรงดัน 5 ชุด

FIVE SETS OF FLEXURE TESTING MACHINE



Features

The flexural examination of the wires can be performed. Five samples can be examined at the same time.

Bending angle	180 °
Repetition speed	60 times / min
Size	1500x500x1250mm
Power supply	AC100V 7A

เครื่องทดสอบความทนทานสวิทช์

SWITCH DURABILITY TESTING MACHINE



Features

Specified load is repeated and added. This is a testing machine evaluating the life time of such as switches. Because it is driven with a special decentration cam, pressurization is possible even by high-speed repetition.

Maximum load	500N
Repetition speed	0.5 ~ 3 times/sec
Size	500x550x963mm
Power supply	AC100V 3A

เครื่องทดสอบแรงดัน

LEATHER FLEXURE TESTING MACHINE



Features

It is for evaluation examinations of the seat materials of such as cars. The main body of testing equipment is put in constant temperature tank, and an examination can be performed under the environment of -40 degree Celsius.

Force	3N / 9N
Speed	60 ~ 300 r/min
Stroke	0 ~ 60mm
Power supply	AC200V

เครื่องทดสอบความเร็วสูง

HIGH-SPEED PEELING TESTING MACHINE



Features

It is horizontal testing equipment peeling adhesive tape at high speed.

Maximum load	200N
Speed	10 ~ 200m/min
Stroke	600mm
Power supply	AC200V 20A

เครื่องทดสอบคืบตรวจวัดการคลอนของวัตถุ

CREEP TESTING MACHINE



Features

Using force by the weight; and the creep characteristic evaluation testing machine which hangs constant load to a sample for a long time.

Maximum load	100kN
Speed	x50
Weight	Approx 350kg

เครื่องทดสอบความทนทานของเกลียว

SPIRAL SPRING DURABILITY TESTING MACHINE



Features

An examination to give the repetition torque of the rotatory direction to spiral spring. "Torque - angle" characteristic data can be obtained by a PC

Maximum load	100N・m
Repetition speed	200 °
Speed	1 ~ 500 deg/min
Power supply	AC200V 7A

เครื่องทดสอบเทปย้อนกลับ

TAPE REWIND TESTING MACHINE



Features

The rewind peeling force of the adhesive tape is measured. The peeling force is recorded by pen recorders in succession.

Maximum load	100N
Speed	5 ~ 150 mm/min
Power supply	AC100V 5A

เครื่องทดสอบการคืบเทป TAPE CREEP TESTING MACHINE

Features

The adhesive strength of the adhesive tape is evaluated in an appointed temperature environment (40°C - 80°C). 12 samples can be examined at a time.
In addition, the specification for max. 200°C can be also manufactured upon request.



Load	0.1 ~ 2kg
Temperature	40 ~ 80 °C
Size	1900x800x1550mm
Power supply	AC200V 30A

เครื่องทดสอบแรงบิด TORSION TESTING MACHINE

Features

This is to measure after how many times of being twisted under adding the tension a wire rod is to break.



Maximum load	22N
Rotate angle	60 r/min
Speed	50 ~ 300 mm
Power supply	AC200V 5A 50Hz

Force Gauge
เครื่องมือวัดแรงดึงและแรงดัน

Universal Testing Machine
เครื่องทดสอบสากล

Torque Testers
เครื่องทดสอบแรงบิด

Universal Testing Machine
เครื่องทดสอบสากล

Accessories / Options
อุปกรณ์เสริมต่างๆ

Attachments
อุปกรณ์เสริมใช้งาน

Software
ซอฟต์แวร์

เครื่องทดสอบการยืดตัว ELONGATION TESTING EQUIPMENT

Features

It is an exclusive measuring machine measuring elongation rate of the copper wire.
Conduction is intercepted at the time of break, and measurement is finished.



Rate of elongation	500x10 ⁻⁶ %
Speed	200mm/min
Chuck span	250mm
Power supply	AC100V 3A

เครื่องทดสอบแรงดัน FLOORING PRESSURIZATION TESTING MACHINE

Features

A strength examination of the flooring (building materials).
The position of the large work can be adjusted.



Maximum load	5kN
Stroke	300mm
Speed	0.25 ~ 250 mm/min
Power supply	AC100V 7A

เครื่องทดสอบความแข็งของยาง GAPLESS TESTING MACHINE

Features

It is included in an existing cylindrical grinder with a measuring instrument of the rubber hardness after grinding it, and it is used.



Maximum load	200N
Evacuate stroke	Max. 53mm
Resolution	0.001mm
Power supply	AC100V 5A

เครื่องทดสอบแรงดึงลวดอัตโนมัติ WIRE AUTOMATIC PULLING TESTING MACHINE

Features

This is to measure bonding strength of wire and rubber with the function that the wire after the other, is to be shifted into the storage pot after the test end.



Maximum load	5kN
Evacuate stroke	200mm/min
Resolution	10mm/sec
Power supply	AC100V 5A

เครื่องทดสอบแรงดึงซ็อกเก็ตหลอดไฟ LAMP SOCKET PULL AND INSERT TESTING MACHINE

Features

This equipment is installed on a production line and to make insertion-extraction test of fluorescent lamp sockets.



Maximum load	50N
Stroke	46mm
Power supply	AC100V 5A

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TESTING EQUIPMENT

เครื่องมือทดสอบ

UNIVERSAL TESTING MACHINE
เครื่องทดสอบสากล

Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Universal

Testing Machine

เครื่องทดสอบสากล

Accessories /

Options

อุปกรณ์เสริมต่างๆ

Attachments

อุปกรณ์เสริมจับชิ้นงาน

Software

ซอฟต์แวร์

TESTING EQUIPMENT

เครื่องมือทดสอบ



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JSR GROUP

TESTING EQUIPMENT

เครื่องมือทดสอบ

UNIVERSAL TESTING MACHINE
เครื่องทดสอบสากล



IMADA SEISAKUSHO Co.,LTD

เครื่องจับสายไฟ

X-Y TABLE / Y-Z TABLE



Features

- This is used for positioning of the samples.
- Y-Z table "GT-20-4" is to be used for horizontal type test machine.
- If you wish to mount another attachment on GT-20-4, in some cases, table needs to be modified. Please contact us for detail.

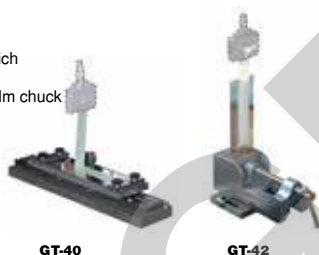
Order No.	Max. Load	Stroke
GT-20-1	50N	X±7.5mm/Y±7.5mm
GT-20-2	3kN	X±25mm/Y±25mm
GT-20-3	500N	X±30mm/Y±30mm
GT-20-4		Y±15mm/Z±10mm

เฉพาะตัวจับชิ้นงาน

PEEL TEST ATTACHMENT

Features

- GT-40/GT-42 are used for peeling test which measures the bonding strength.
- Upper attachment is an optional. Usually film chuck or pantograph chuck is selected for this attachment. (option)



Order No.	Max. Load	Width	Peel stroke
GT-40	200N	50mm	130mm
GT-42	500N		150mm

อุปกรณ์เสริมจับชิ้นงาน

MISCELLANEOUS ATTACHMENT



เครื่องมือจับชิ้นงาน

VICE GRIP / PAPER CHUCK



Features

- It can be used as a lower attachment for many purposes.
- By customizing the surface of the gripping area, it will be used in many ways of testing.
- GT-30-2W is specially designed for gripping covered cable.
- GT-71 is a lower attachment, and it is used when samples needs to be set without any sag.

Order No.	Max. Load	Width	Open wide
GT-30-2	3kN	62mm	64mm
GT-30-2W			
GT-71	500N	30mm	2mm

เฉพาะตัวจับชิ้นงาน

CHIP PEELING TEST ATTACHMENT / SQUARE-SHAPE ATTACHMENT

Features

- GT-52 is a "Pulling" chip exfoliation test attachment. GT-53 is a "Pushing" chip exfoliation test attachment.
- GC-91 is very useful for fixing the samples by its hook. It is used with GT-30-2W for the strength test of crimping terminal.



Order No.	Max. Load	Specification	Upper Weight
GT-52	500N	Wide 10 mm	105g
GT-53			100g
GC-91	200N	Open wide 0 ~ 4mm	150g

Features

- GP-5-0/1 is a hook for catches.
- Connection screws such as 'GQ-10-3' are necessary for 'GP-30-1/2' additionally.
- 'GP-5-2/GP-30-2' are not suitable for a hard sample, because these are not hardened.

Order No.	Max. Load	Size	Weight
GP-5-0	50N	-	4g
GP-5-3A		79mm	8g
GP-5-1		-	12g
GP-5-2	500N	Ø 16mm	12g
GP-5-3		100mm	27g
GP-30-1		-	60g
GP-30-2	3kN	Ø 25mm	30g

เครื่องมืออื่นๆ

T-NUTS / CONNECTING JOINT / UNIVERSAL JOINT



Features

- GQ-10-0 is a T-shape nut used to mount the lower attachment.
- GQ-10-1 to 4 is a connecting rod which has male screws at both ends.
- GQ-20 is an universal joint which has female screws at both ends.
- GQ-31 is a pin-type connecting joint which has female screws at both ends.

Order No.	Screw diameter
GQ-10-0	M8
GQ-10-1	M6(M) x M6(M)
GQ-10-2	M12(M) x M6(M)
GQ-10-3	M12(M) x M10(M)
GQ-10-4	M12(M) x M12(M)
GQ-20-1	M6(F) x M6(F)
GQ-20-2	M12(F) x M12(F)
GQ-30-1	M6(F) x M6(F)
GQ-30-2	M12(F) x M12(F)
GQ-30-3	M12(F) x M10(F)
GQ-31-1	M6(F) x M6(F)
GQ-31-2	M12(F) x M12(F)

Force Gauge

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อุปกรณ์เสริมใช้งาน

Software

ซอฟต์แวร์

Attachments for Tensile Test

เครื่องทดสอบแรงดึง TENSILE TEST

AIR GRIP

is produced in accordance with each load specifications.



Special film chuck

This is used for testing beyond 500N load or for sample width of over 50mm.



Special flat chuck

Special flat chuck designed for high load.



Optical fiber attachment

This chuck is specially designed for pulling test of optical fiber. The diameter of the drums is made big in comparison with that of the standard wire winding grip. (on the photo, Ø50mm)



Woven and knitted fabrics test attachment

In accordance with the 'JIS L 1096 Testing method for woven and knitted fabrics'.



Tape tensile test attachment

It is a jig for tension test of strong tapes such as PP bands for packing



The examination that was put in a liquid

It is a jig performing a pulling examination in a liquid. Here show has a structure that after fixing a sample both from the top and the bottom, the vessel with liquid in it is to be lifted up and the sample is to get into the liquid.



TESTING EQUIPMENT

เครื่องมือทดสอบ

UNIVERSAL TESTING MACHINE
เครื่องทดสอบสากล



IMADA SEISAKUSHO Co.,LTD

Attachment for lead-free solder

In accordance with 'JIS Z 3198-6'.



Attachment for wire ring

This jig is to hook wires in ring-shape



Die casting pulling attachment

This jig is designed according to the specific shape of a sample, enabling its pulling test.



Wine bottle corkscrew jig

The (objective) jig measures force to uncork the wine.



Attachments for Compression Test

เครื่องทดสอบแรงดึง COMPRESSION TEST

Special compression

This is designed for test during which unbalanced load arises and equips a supporting guide.



Special compression

This hemisphere jig is to pressurize for special compression examinations.



Compression jig with cushioning spring

This compression jig is designed to avoid a collision by examinations with high-speed.



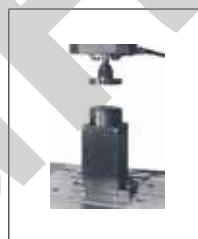
Heat sealed compression

In accordance with 'JIS Z 0238'. This jig with acrylic thick plate is to give pressure on the sealed soft packing bags during compression tests. The dimension of the plates is decided following to the size of the bag.



Compression jig with displacement meter

It is structure to do a direct reading of quantity of distortion of the sample except the flexions such as loadcells. The linear sensor is arranged in the lower part.



Compression jig for resistance measurement

It is a jig for evaluating lithium batteries compression.

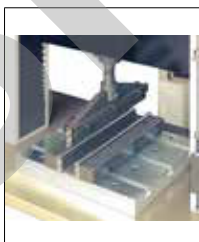


Attachments for Bending Test

เครื่องทดสอบแรงดัน BENDING TEST

Tile bending jig

The special jig for three-points bending tests such for tiles. It will be produced in accordance with each standard.



Printed circuit board bending jig

This jig is for bending tests of the boards. The upper jig which presses the testing sample has R=230mm. The photo shows a sort of support by this a sample does not move even during a repeat test.



4-point bending test jig

Four-points bending jigs in accordance with a standard such as 'JIS R 1601', or other user's standards can be produced. There is a fixed type for each span as well as adjust table type.



Clamp-type bending jig

This jig is aimed to grip the testing sample and then to bend, which is a different from ordinary bending test.



Large size special bending jig

It is a jig for bending strength examinations of building materials and long size pieces.



Attachments for Peel Test

เครื่องทดสอบแรงดึง PEEL TEST

Coating peeling jig

This jig is used for measuring the adhesion strength of coating and the basic material such as under JIS A 9696.

As the method, an assisting piece (to be disposed later) is to stuck on the coating film by adhesive, and then the coating in the surrounding is to be cut and measured.



90°peeling jig

This is a special type the 90 peeling examination. The sample is put on the upper part jig with rollers. The film is pulled down ward in the 90 direction and peeled off. It is used for JIS X 6305-1 'cards peeling examinations'.



T-style peeling jig

This jig has a mechanism to hold the non-peeled part of a test piece horizontal during the test.



Toner container peeling jig

This jig is in exclusive use for the seal peeling of the toner containers of such as copiers / printers.



90°special peeling jig

This jig is specially designed for peeling test of objects sealed on molds. It can be flexibly installed adjusting to the sample shape and while testing keep the sample at 90°



Force Gauge

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เครื่องทดสอบสากล

Accessories / Options

อุปกรณ์เสริมต่างๆ

Attachments

อุปกรณ์เสริมชิ้นงาน

Software

ซอฟต์แวร์

Other Attachments

เครื่องทดสอบอื่นๆ OTHER

Frictional force measurement jig

This jig is in conformity with JIS P 8147 "Paper and board-Determination of the static and kinetic coefficients of friction."



Torsion examination jig

This is a jig to make torsion tests by the load testing machine, instead of torque testing machine equipment. It is suitable for a small torsion angle.



Hand operation roller

The hand-operated roller which is prescribed in JIS Z 0237 testing method. It helps to let an examination board glue adhesive tape by predetermined force with 2kg in weight, a roller diameter of 83mm.



Stab jig

This jig is to fix a sample for an examination to stab. The sample is to be inserted from the opening on the top and all the circumference is to be fastened by turning the lever. As the upper jig, the pin chuck (GC-30) inserting needle with R0.5 of tip is used and by this the sample is to be stabbed.



The 45°slant level

It is a jig fixing a mounting board for tests to peel a device from it. There are a lot of mounting holes on the installation board, which can be set in three positions (horizontal, 45°vertical). It is combined with a X-Y table for aligning it.



Special X-Y stage

This stage enables to adjust a relatively big movement.



Hot plate (horizontal)

Heat is added to mounting boards, and a load evaluation can be performed. The photo shows the horizontal testing machine with the hot plate adequate for the heat less than 300°.



Hot plate (vertical)

Heat is added to electronic parts, and a load evaluation is performed. This plate can impose the heat up to 120°. Several jigs prepared for the shape of parts can be used in exchange.



Torsion spring measurement jig

It is a jig to evaluate the torque characteristic of the torsion spring.



Syringe

pressurization jig

Put the contents in a syringe and the objective jig measures force when it pressurized.



TESTING EQUIPMENT

เครื่องมือทดสอบ



ซอฟต์แวร์ SOFTWARE

Testing equipment is possible to be connected to a PC.

This software has various useful utility such as analyzing, saving and managing of each data as well as parameter-setting for controlled operations.

Data processing software / ISP-V

■ Characteristics

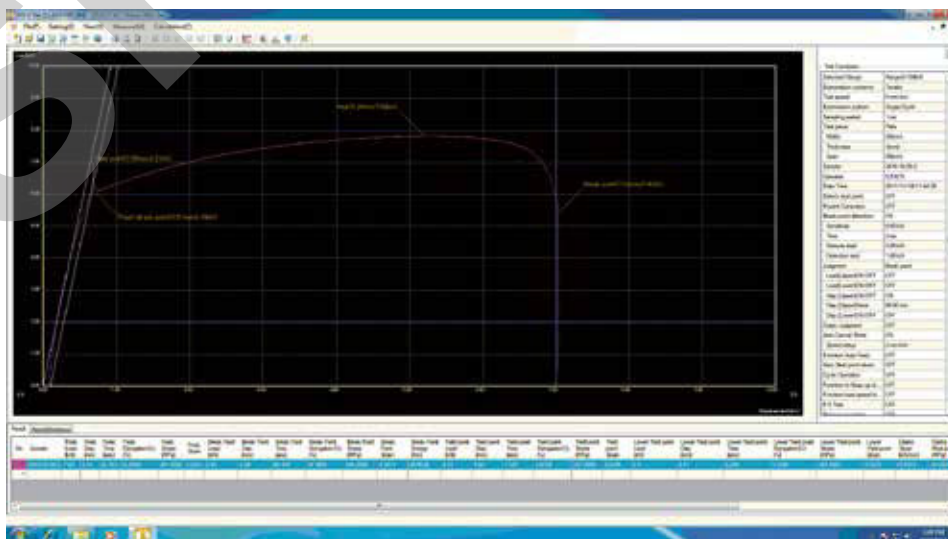
1. Capable of processing data of "Tensile", "Compression", "Bending", and "Peeling" test.
2. During the measurement, you can see the real-time drawing of the curves.
3. Various conditions for tests can be set from the PC side, and the measurement start and end can be executed from it as well.
Because the condition setting is synchronized both on the testing equipment and the PC, changes and /or updates of the condition can be done on either device.
4. Data management can be carried out in several ways, such as saving overlapped graphs from the same work in one file or in separate files.
5. By registering initially, the measurement data is to be automatically processed.
6. An operation processing result, and the graph data file can be automatically saved.
7. Each result and data can be saved as text file and graphs can be converted to BMP from.
So by using commercial software, the results can be output in a preferable layout or style.
8. The calculation result or the statistic data can be checked any time, since those are displayed at the bottom of graph screen.

■ Main function

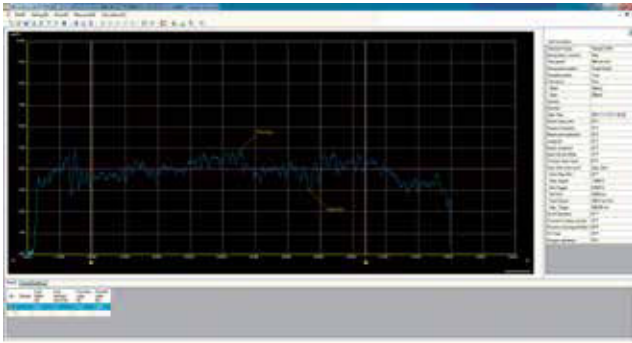
1. Graph	1. The color for background and data lines, etc. can be set arbitrary.
	2. Enlargement of the graph can be done by clicking directly with mouse.
	3. Function to let the screen-scale automatically widen or scroll.
	4. Function to overlap plural data. (*1)
	5. By layout setting, a good look even on the wide screen is possible.
2. File	1. The parameters of conditions and various processing can be saved / read with a specific file.
	2. Measured data can be saved automatically into a specified folder.
	3. Measured value (load / displacement / time) are able to be saved automatically into a specific folder.
	4. The value of calculation results can be saved automatically into a specific folder.
3. Setting / Measurement	1. Function to synchronize various conditions of the test and its control with testing equipment.
	2. By varying the number of sampling, data measurement process for a long period is possible.
	3. Function to slip over unnecessary data using the cycle control, which repeats data by data.
4. Calculation / Result	1. Value of the load / displacement / time (Peak, Bottom, Break, and Yield point).
	2. Computing process of stress-strain, elongation rate and energy at status mentioned above (4-1). (*2)
	3. Computing process of the elastic slope, modules of elasticity and proof stress.
	4. Result of peeling examination; peeling load, strength, peak/bottom as well as average of max. and min. point.
	5. Extraction of data for load, displacement or time at an arbitrary point.
	6. Processing the statistic average, the standard deviation as well as the maximum and minimum value from each result.
	7. Graph judgment function to analyze the actual data graph in a specified range.
	8. Function to detect the multiple peak values in the one examination. (consecutive measurement function)
	9. Average graph out of several graphs from measurement can be made. (S-S average graph)
	10. Comparison process among several data by a particular point. (measurement cursor function)

*1 There is no limit for the numbers of files to be take in, but depending on the size of the data it cannot be displayed.

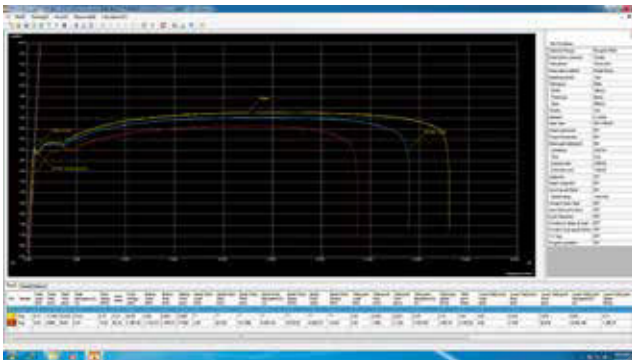
*2 The calculation of the energy is not for the yield point.



S-S Graph

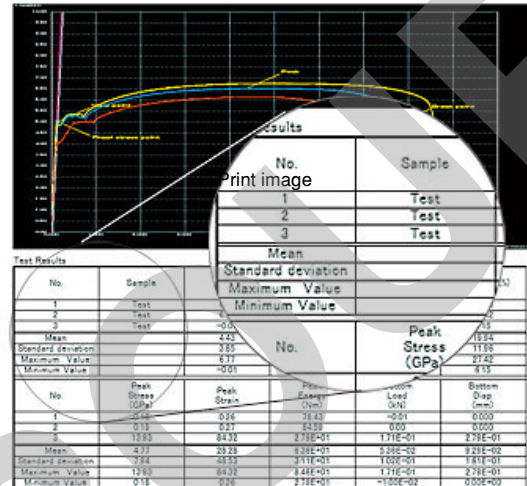


Peel test



Overlap data graph

Test Condition	Range: 10kN	Break point detection	OFF
Examination options	Test	Break point detection	ON
Test speed	10 mm/min	Accuracy	0.02 %
Examination pattern	Single Cycle	Time	10 min
Sampling period	1 ms	Detection start	200 ms
Test piece	Plate	Detection end	100 ms
Width	10 (mm)	Load point	OFF
Thickness	10 (mm)	Break adjustment	OFF
Span	10 (mm)	Cycle operation	OFF
Sample	Test	Function to keep up load	OFF
Operator	Imada	Function load speed follow	OFF
Date Time	2011-05-25	T-B Test	OFF
Detect start point	OFF	Program operation	OFF



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

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เครื่องทดสอบสากล

Accessories / Options

อุปกรณ์เสริมต่างๆ

Attachments

อุปกรณ์เสริมใช้งาน

Software

ซอฟต์แวร์

Additional function software

There is the software that can expand its exclusive control function by being used together with data handling software, ISP-V.
*Data handling software ISP-V is necessary for each option software.

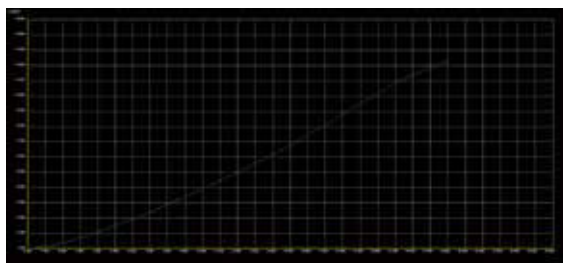
Keep up Load function

It is the software to control the operation of the testing machine and maintain the set scope of the required load value at all time.



Load speed follow function

Normally for tensile and compression testing machine, the speed of adding load (test speed) is calculated at " mm/min", which means the displacement amount per time. However for some tests, the examination regulation gives a guideline that the test should be performed at N/min. for example, which means the variation amount of load per time. This is the function to maintain the preset variation amount of load per time by adjusting and setting back continuously changing load values.



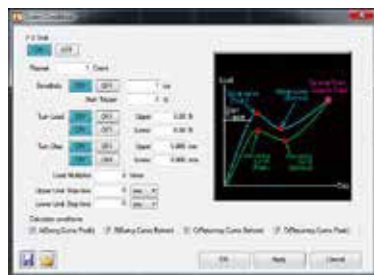
TESTING EQUIPMENT

เครื่องมือทดสอบ



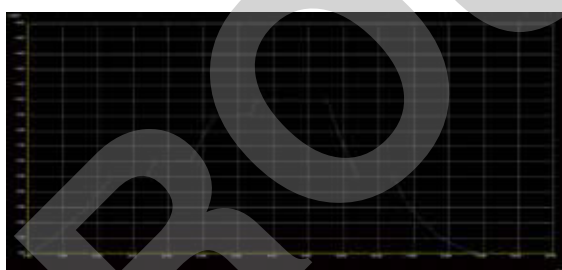
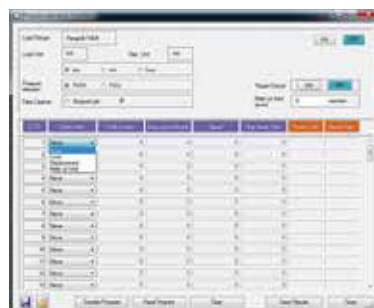
■ Switch feeling examination

This is an option for the exclusive use of the feeling examination of switches.
Each peak and bottom value of the hysteresis can be measured by the exclusive setting item.
Repeat test can be also performed by setting the required number.



■ Program operation

This is for the function to measure the operation with several steps in connection, for every steps specified value for load or displacement can be set.
UP to 99 steps are possible to be preset.
The "Keep Up Load Function" is also one of the control types and can be set for it.
The step can set either plus or minus side (in case of no minus load, load specification is not possible).
The result data from each step can be displayed and output as text.



Data collect software / IHP-V

This is the software which enables the hold value of load and displacement from the testing machine to be saved in a CSV text format.
Under the automatic mode, consecutive accumulation at an interval of over one second can be carried out.



No.	Time	Load (N)	Displacement (mm)
1	0:00:00	0.00	0.00
2	0:00:01	0.00	0.00
3	0:00:02	0.00	0.00
4	0:00:03	0.00	0.00
5	0:00:04	0.00	0.00
6	0:00:05	0.00	0.00
7	0:00:06	0.00	0.00
8	0:00:07	0.00	0.00
9	0:00:08	0.00	0.00
10	0:00:09	0.00	0.00

CSV output

Software operation environment

Compatible Test Machine Tensile and Compression Testing machines except for SV-55C and Push-Pull stand
Operation System Windows XP(SP2 ~), Vista, 7 (32/64bit)
CPU Core2~ (Core i5 recommended) / Memory 2GB~(4GB recommended)
PC composition HDD 80GB~ (500GB recommended) / USB port 2.0

*Windows is a trade mark of Microsoft Corporation.

*The recommended specifications are for a stable operation with Windows 7 class.

เกจวัดแรงบิด

Torque Gauges

DTXS/DTXA series - Screw Cap Torque Tester

Features

- **Accurately / Precisely**
 - It captures torque values accurately due to its high sampling rate (2000Hz).
 - It is designed to reduce weight influence by its bearing mechanism for greater accuracy.
- **User friendly**
 - High Luminance Organic EL display
 - Clear organic display has excellent readability.
 - 8 languages available
 - Setting menu in 8 languages helps easy operation.
- **Making efficient**
 - High working efficiency due to manual operation
 - You can easily capture peak value using peak hold function.
 - You can pick out defective products easily using OK/NG judgement function.
- **Easy data management on PC**
 - Easy connection with USB interface
 - Data capturing software ZT-Logger is included
 - It sends 10 data/sec.
 - It automatically detects maximum and minimum values.
 - It saves data in CSV format.
 - Graphing by optional force capturing software
 - The software shows torque vs time graphically on PC in real time (at Max. 2000Hz)

DTXA - High-functional type

- DTXA series include all the functions of DTXS Series, with a few additional features below.
- Inputting / Outputting Angle
 - HTGA indicates both torque and angle on its monitor, combined with an angle meter.
 - Torque-Angle Analysis with HTGA
 - Capturing 2 Peaks.
 - You can capture 1st and 2nd peaks of measurement.
 - Saving Data to USB Flash Drive
 - You can save continuous data into USB flash drive at 100Hz.
 - In other words, you can save data even without PC.



DTXS - Standard Type

- Size : Approx. W233 x D305 X H87mm (without the table and the pins.)
- Weight : Approx. 4.5kg. (including Standard table and 4 pc Standard Pins.)

Specifications

Order No.	DTXA	DTXS
Feature	Advanced model equipping various functions such as input/output the angles and saving to USB flash drive.	Simple standard model maintaining DTXA performance.
Accuracy	±0.5% F.S.±1digit	
Unit of measurement	N-m, N-cm, kgf-m,kgf-cm, ozf-in, lbf-in (Unit switching is possible.)(*1)	
Display	4-digit	
Display update	16 times/ sec	
Sampling rate	Maximum 2000 data/ sec(*2)	
Battery	8 hours (2 hours full charge)(*3)	
Safe overload rating	Approx. 200%Approx. 200%	
Operating Environment	Temperature: 0 -40 degree Celsius Humidity: 20 -80%RH	
Function	Customized display(header and footer) / Peak hold(Clockwise and Counterclockwise)/Internal memory(1000 point data)/ Comparator (OK or NG judgment)/Reversible display/ Sign inversion/ Zero clear timer/ +NG alarm/Off timer(Auto power off)/ Dumping/ Time display/ setting lock	
	1st2nd peak/Angle detection at torque peak value(*4) /Angle zero reset at selected torque(*4)	-
Output	USB, RS232C, Mitutoyo digimatic (*5), 2 VDC analog output (D/A),Comparator 3 steps (-NG/OK/+NG), Overload alarm	
	Sub comparator 2 steps (output of large or small judgment), USB flash drive, Angle(displacement)	-
Overload warning	Approx.110%F.S. (Warning message and alarm)	
External connecting switch	SEND (a point of contact holding), Zero reset, Peak, ON/OFF setting	
Weight	Approx. 4.5kg (Including Standard table and Standard pins)	
Dimensions	Please refer to dimensions.	
Accessory	AC adapter, Inspection certificate, CD driver (including simple software for data logging), USB cable	
	USB flash drive adapter(*6)	-
Applicable Table	Please see Specification for Torque Gauge Table Attachment	
Applicable Attachment	Please see Specification for Torque Gauge/ Motorized Stand Attachment	

*1 These are the specifications for International model.

Please note that this unit is different from Japanese domestic model and international one.

*2 Up to 100 data/sec. is saved in USB memory (selectable among 1, 50, and 100 /sec)

*3 The battery is more consumed when connected to USB flash drive or a displacement scale.

*4 Angle(displacement) scale is necessary to valid this function.

*5 Not always available for Mitutoyo digimatic products.

*6 USB flash drive is not included

Order No.		Range	Display	Resolution
DTXA-2N	DTXS-2N	2 N-m (200N-cm)	2.000N-m (200.0N-cm)	0.001N-m (0.1N-cm)
DTXA-5N	DTXS-5N	5 N-m (500N-cm)	5.000N-m (500.0N-cm)	0.001N-m (0.1N-cm)
DTXA-10N	DTXS-10N	10N-m (1000N-cm)	10.00N-m (1000N-cm)	0.01N-m (1N-cm)

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT
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TORQUE TESTER
เครื่องมือทดสอบแรงบิด

Attachments for DTXS / DTXA

อุปกรณ์เสริม

Standard table and Standard pins

This table grips PET bottles, aluminium cans, glass jars and the like whose diameter are $\varnothing 20 \sim 160\text{mm}$



Order No. : **DT-TB**
Capacity : 10N-m
Allowable sample diameter : $\varnothing 20 \sim 160\text{mm}$

อุปกรณ์เสริม

Standard table and Notch pins

Ideal for gripping samples such as resin connectors and the like.



Order No. : **DT-TB-01**
Capacity : 10N-m
Allowable sample diameter : $\varnothing 20 \sim 160\text{mm}$

อุปกรณ์เสริม

Standard table and Long clamp pin

Ideal for measuring torque of doorknobs, electric bulbs and so on.



Order No. : **DT-TB-02**
Capacity : 10N-m
Allowable sample diameter : $\varnothing 20 \sim 160\text{mm}$

อุปกรณ์เสริม

Small table and standard pins

Designed for small samples.



Order No. : **HT-ST**
Capacity : 5N-m
Allowable sample diameter : $\varnothing 7 \sim 50\text{mm}$
*Can not be used for 0.5N-m range

อุปกรณ์เสริม

Small table and Notch pins

Ideal for gripping samples such as resin connectors and the like.



Order No. : **HT-ST-01**
Capacity : 5N-m
Allowable sample diameter : $\varnothing 7 \sim 50\text{mm}$
*Can not be used for 0.5N-m range

อุปกรณ์เสริม

Small table and Long clamp pin

Ideal for measuring torque of doorknobs, electric bulbs and so on.



Order No. : **HT-ST-02**
Capacity : 5N-m
Allowable sample diameter : $\varnothing 7 \sim 50\text{mm}$
*Can not be used for 0.5N-m range

อุปกรณ์เสริม

Pin Chuck



Ideal for gripping columnar samples.

Large pin chuck

Order No. **HT-DC-13**
Opening width : $\varnothing 1.2 \sim 13\text{mm}$
Weight : approx.600g

*Cannot be use for 2N-m or 0.5N-m range

Standard pin chuck

Order No. **HT-DC-6.5**
Opening width : $\varnothing 0.5 \sim 6.5\text{mm}$
Weight : approx.200g

*Cannot be use for 0.5N-m range

Standard pin chuck

Order No. **HT-DC-6.5SUS**
Opening width : $\varnothing 0.5 \sim 6.5\text{mm}$
Weight : approx.190g

*Cannot be use for 0.5N-m range

Small pin chuck

Order No. **HT-DC-4**
Opening width : $\varnothing 0.5 \sim 64\text{mm}$
Weight : approx.100g

* HT-DC-6.5SUS (Stainless model) is recommended under easy-to-rust environment.

อุปกรณ์เสริม

Sample Stage



This stage helps you put a sample stably

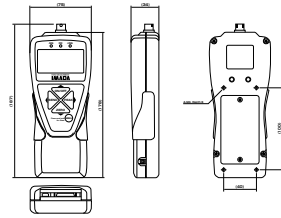
Order No. **TB-SP**

เกจวัดแรงบิด

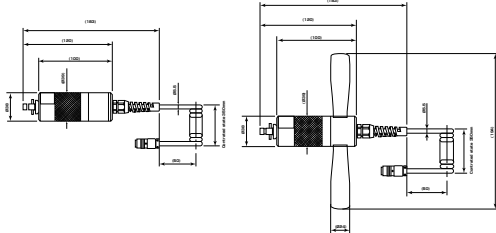
Torque Gauges

HTGS/HTGA series - Handheld Type Digital Torque Gauge

Indicator



Sensor: 0.5N, 2N and 5N



Sensor: 10N



Order No.		Range	Display	Resolution
HTGA-0.5N	HTGS-0.5N	50N-cm	50.00N-cm	0.01N-cm
HTGA-2N	HTGS-2N	2 N-m (200N-cm)	2.000N-m (200.0N-cm)	0.001N-m (0.1N-cm)
HTGA-5N	HTGS-5N	5 N-m (500N-cm)	5.000N-m (500.0N-cm)	0.001N-m (0.1N-cm)
HTGA-10N	HTGS-10N	10N-m (1000N-cm)	10.00N-m (1000N-cm)	0.01N-m (1N-cm)

Features

This torque gauge provides you accurate torque measurement and easy data management. Various samples are measurable such as a screw, a bolt, a rotary switch and more by attachment (fixture) interchange.

[Mutual Features and Functions of HTGS/HTGA series]

For Accurate Torque Measurement

IMADA Handheld Type Torque Gauge HTG series measure torque in CW/CCW. The accuracy $\pm 0.5\%$ F.S. and the 2000Hz high speed sampling rate capture accurate force values of testing. The capacity is 50N-cm to 10N-m (1000N-cm).

Useful Functions

HTG series equips a lot of useful functions for torque measurement. Peak hold function, Data saving function (up to 1000 points to the internal memory), Pass/Fail decision and more. Also, it is able to recall the saved data such as Max., Min., and Data No. on the display.

Ideal for Data Management

Many types of output signals are available such as USB, analog, RS232C and more. By the included software ZT logger, HTG is able to output the data from the internal memory to a PC. Moreover, drawing a torque- time graph on PC is possible at 2000 data/sec by the optional software Force Recorder (Light / Standard).

[HTGA series Original Function]

Direct Data Output for a USB Flash Drive

Not only stored data but also continuous data can be output for a USB flash drive at 100Hz, 50Hz or 1Hz. (The sampling rate is selectable.)

Automatic Calculation of Average Torque in the Internal Memory

The average torque value in the internal memory is automatically calculated.

Displacement I/O

Handheld torque-angle measurement is possible by mounting a custom-made rotary encoder. (Please ask us custom-made order if you are interested in).

Specifications

Order No.	HTGA	HTGS
Outline	Advanced model with various functions such as data saving in USB memory stick, angle(displacement) I/O and more	Standard model
Accuracy	$\pm 0.5\%$ F.S. ± 1 digit	
Unit of measurement (*1)	N-m, N-cm, kgf-m, kgf-cm, lbf-in, ozf-in (N-cm, kgf-cm, lbf-in and ozf-in are available for 0.5N-m.)	
Display	4-digit Organic EL	
Display update	16 / sec	
Sampling rate	2000 data / sec at maximum (*2)	
Battery	Nickel-hydrogen battery / Operating time: 8 hours (2 hours full charge) (*3)	
Safe overload rating	Approx. 200% F.S.	
Operating environment	Temperature: 0 to +40 degree Celsius, Humidity: 20 to 80% RH	
Function	Customized display (header and footer), Peak hold (clockwise and counter-clockwise), Internal 1000 points data memory, Comparator (judgment of OK or NG), Reversible display, Sign inversion, Zero clear timer, +NG alarm, Off timer (auto power off), Dumping, Time display, setting lock	
	Angle zero reset at selected torque (*4)	-
	SB, RS232C, Mitutoyo digimatic (*5), 2 VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG), Overload alarm	-
Output	Sub comparator 2 steps (output of large or small judgment), USB flash drive, Angle(displacement) (*4)	-
Overload warning	Approx. 110% F.S. (Warning message and alarm)	
External connecting switch	SEND (a point of contact holding), Zero reset, Peak ON/OFF setting	
Weight	Display : approx. 490g	
Dimensions	Please refer to dimensions.	
Accessory	AC adapter, Inspection certificate, CD driver (including simple software for data logging), USB cable, Carrying case, L wrench, handles (10N-m range only)	
	USB flash drive adapter (*6)	-
Applicable Attachment	Please see Specification for Torque Gauge/ Motorized Stand Attachment and Specification for Torque Gauge Table Attachment	

*1 These are the specifications for International model. Please note that this unit is different from Japanese domestic model and international one.

*2 The recording rate to USB flash drive is selectable among 1, 50 and 100/sec.

*3 The battery is more consumed when connected to USB flash drive or a displacement scale.

*4 Angle (displacement) scale is necessary to activate this function.

*5 Not always available for Mitutoyo digimatic products.

*6 USB flash drive is not included.

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TESTING EQUIPMENT

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FORCE MEASUREMENT
IMADA

Attachments for HTGS / HTGA

อุปกรณ์เสริม Pin Chuck



Ideal for gripping columnar samples.

Large pin chuck

Order No. **HT-DC-13**
Opening width : $\varnothing 1.2 \sim 13\text{mm}$
Weight : approx. 600g

*Cannot be use for 2N-m or 0.5N-m range

Standard pin chuck

Order No. **HT-DC-6.5**
Opening width : $\varnothing 0.5 \sim 6.5\text{mm}$
Weight : approx. 200g

*Cannot be use for 0.5N-m range

Standard pin chuck

Order No. **HT-DC-6.5SUS**
Opening width : $\varnothing 0.5 \sim 6.5\text{mm}$
Weight : approx. 190g

*Cannot be use for 0.5N-m range

Small pin chuck

Order No. **HT-DC-4**
Opening width : $\varnothing 0.5 \sim 6.4\text{mm}$
Weight : approx. 100g

* HT-DC-6.5SUS (Stainless model) is recommended under easy-to-rust environment.

อุปกรณ์เสริม Socket Holder



Ideal for torque wrench or screwdriver bit.

Order No. : **HT-9.5SQ**
Socket : 9.5mm square
Weight : approx. 100g

อุปกรณ์เสริม Torque Driver



Ideal for measuring tightening / loosening torque

Order No. : **HT-DBH**
Bit : +:No.1 x 50
+:No.2 x 50
-:No.3 x 50
Weight : approx. 100g

อุปกรณ์เสริม M10 adaptor



This adaptor is used to mount M10 attachment

Order No. : **HT-AD-M10**
Screw : M10 x L20
Weight : Approx. 50g

อุปกรณ์เสริม Sensor Holder



The holder is used to fix sensor

Order No. : **SHT-5N**
Capacity : 5N-m

อุปกรณ์เสริม Small table and standard pins

Designed for small samples.



Order No. : **HT-ST**
Capacity : 5N-m
Allowable sample diameter : $\varnothing 7 \sim 50\text{mm}$
*Can not be used for 0.5N-m range

อุปกรณ์เสริม Small table and Notch pins

Ideal for gripping samples such as resin connectors and the like.



Order No. : **HT-ST-01**
Capacity : 5N-m
Allowable sample diameter : $\varnothing 7 \sim 50\text{mm}$
*Can not be used for 0.5N-m range

อุปกรณ์เสริม Small table and Long clamp pin

Ideal for measuring torque of doorknobs, electric bulbs and so on.



Order No. : **HT-ST-02**
Capacity : 5N-m
Allowable sample diameter : $\varnothing 7 \sim 50\text{mm}$
*Can not be used for 0.5N-m range

เกจวัดแรง

Torque Gauges/Torque Testers I-8/I-80 - Driver Torque Meter



Features

- Measure torque (rotating force) for motor screw driver and torque driver.
- It is suitable for daily torque maintenance with simple operations.
- The data output (serial communication) is possible.

Specifications

Order No.	I - 8	I - 80
Measuring range*1	0.20~78.60 cN-m 0.020~8.000 kgf-cm 0.020~6.970 lbf-in —	0.020~7.860 N-m 0.20~80.00 kgf-cm 0.20~69.70 lbf-in 2.0~786.0 cN-m
Accuracy	+/- 0.5% (reading value) or +/-3digit in less than 499 digit.	
Display	4 digits LCD display	
Measuring direction	CW-CCW (Right turn /Left turn)	
Measuring mode	P-P(Peak-hold), T-R(Track), P-D(Peak-down),C(real time data output)	
Upper/Lower value setting	Upper/ Lower value are able to be set in the measuring range.	
Pass-fail decision	Pass/Fail can be check in the measuring range.(P-P mode) GOOD (Pass)...Green lights, NG(Fail)...Red blinks	
Max./ Min./Ave. display	Display stored Max. / Min. /Ave. / Number of measuring values.	
Real time data output	Output applied torque approx. 1/180 sec each.	
Internal memory	800 data	
Output data	ASCII (baud rate 19200 bps)	
Auto zero reset function	Automatic clear value function in each 0.1~3.0 sec (The setting is possible from 0.5 sec each). Manual zero reset setting is at 0.0 sec.	
Zero Reset function	Auto or Manual (only pressing the button.)	
Battery	Ni-Cd 1.2v 5 cell(700mAh) 300 times	
Auto power-off	Auto power-off in 10 minutes with no operation.	
Charging time/ Usable time	Approx.3 hours/ Approx. 12 hours continuous use after full charge.	
Socket joint part (Detecting parts shape)	Square 20 mm / Square 9.5 mm	
Included items (1 each)	Driver adapter OW-025/OW-10	Driver adapter OW-20/OW-60
	Attaché case, battery charger, inspection certificate (*2), calibration certification (*2), traceability system diagram(*2).	



*This product is NOT suitable for impact tools.

*1 It is only approved for the international model. The Japanese model is different range.

*2 All documents are written in English.

Specification for Driver adapter

	OW-025	OW-10	OW-20	OW-60
Range	Max. 0.25N-m	Max. 1.0N-m	Max. 2.0N-m	Max. 6.0N-m
Mechanical life	10,000 times	8,000 times	5,000 times	5,000 times
Bit joint part	M2.6+Pan head screw	M3.0+Pan head screw	M4.0+Pan head screw	M6.0+Panhead screw
Body dimension	Ø28x44	Ø32x51	Ø32x51	Ø32x69

*In the bit joint part, the user inserts their using screw.

*The adapters cannot be used for a manual torque driver. The optional driver adapter is required.
Please contact us if you need.

TESTING EQUIPMENT

เครื่องมือทดสอบ

TORQUE TESTER
เครื่องมือทดสอบแรงบิด

FORCE MEASUREMENT
IMADA

ขาตั้งเกจวัดแรง

Motorized Torque Stand

Test Stands for Torque Tester - MTS series

Features

- **Precisely**
 - High repeatability with constant test speed.
- **Easily**
 - Easy digital speed setting.
 - Auto mode by a set torque.
- **Efficiently**
 - Automatic stopping with a set torque value.
 - Durability test with a set number of test times.
 - Automated data recording, interlocked with software. (You need an optional software to operate it.)



Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องมือทดสอบแรงบิด

Torque Tester

เครื่องมือทดสอบแรงบิด

Torque Driver

เครื่องมือทดสอบแรงบิด

Torque Wrench

เครื่องมือทดสอบแรงบิด

Order No.	MTS-10N	MTS-10N-L	MTS-10N-2L
Capacity		10N-m	
Maximum height of a sample	140mm	240mm	340mm
Speed range	3~90 degree / sec		
Weight	Approx. 14kg		
Size	W432 x D400 x H575mm	W432 x D400 x H675mm	W432 x D400 x H775mm
Function	Manual mode, JOG mode, Automatic mode (CONTINUOUS, ONE WAY) (*1) Overload preventing function (*1), Speed adjustment		
Voltage	AC100V ~ 240V, 50/60Hz, max 3A (*2)		
Accessory	Power cable, Torque gauge connecting cable(*3), Centering stick, Spare fuse, Instruction manual, tools, Packing cardboard		

*DTX series and attachments are sold separately. Please select one for each to complete testing system.

Option

- RA option (equipping an angle meter)
- Stroke Change
- *1 Torque gauge should be connected with the cable (included).
- *2 You may need to change fuse depending on country.
- *3 Standard model comes with CB-518.
- RA (angle meter option) model comes with CB-728

Attachments for MTS (Upper Part)

อุปกรณ์เสริม Standard chack



Order No : **MT-TB**
Max. torque : 10N-m
Sample diameter : Ø20 ~ 90mm

อุปกรณ์เสริม Small chack ※1



Order No : **MT-ST** (※1)
Max. torque : 5N-m
Sample diameter : Ø7 ~ 50mm

อุปกรณ์เสริม Pin chuck



Max. torque : 10N-m

Order No.	Diameter
MT-DC-13	Large Ø 1.2 ~ 13mm
MT-DC-6.5	Medium Ø 0.5 ~ 6.5mm
MT-DC-6.5SUS	Medium (stain-less) Ø 0.5 ~ 6.5mm ※2

Max. torque : 5N-m

Order No.	Diameter
MT-DC-4	Small Ø 0.5 ~ 4mm

อุปกรณ์เสริม M10 adaptor



Order No : **MT-AD-M10**
It helps you mount attachment with a M10 female screw.

※1 We provide a few more kinds of pins to fit your test samples. For more detail, please refer to "Attachments for DTXS / DTXA"
※2 MT-DC-6.5sus (stainless model) is recommended under easy-to-rust environment.

เกจวัดแรง

Torque-Angle Measurement Unit TAA-MTS-TB series

Features

IMADA Torque-Angle Measurement Unit TAA-MTS-TB series can be used for tactile test, material evaluation and more. The high speed sampling rate 2000 Hz captures accurate values and draws a detailed graph of torque and angle. The unit includes a torque gauge, a torque stand with a rotary encoder, a cable, a graphing software and a chuck fixture. The capacity is from 2N-m to 10N-m.

Simple Setup

You mount the torque gauge on the torque stand and connect them by the cable.
You can perform torque-angle measurement for variety of samples by the changeable table and fixtures according to your needs.

High Speed Sampling Rate 2000Hz for Capturing Values and Drawing a Graph

The high speed sampling rate 2000Hz captures accurate values and draws torque-angle graph in detail.

Easy Report Creation

The included software supports your report creation.
You can perform zooming a specific area, adding comments, graph layering (up to 5 graphs) and more.
Moreover, the created graph can be directly exported as Word, Excel and PDF file.

Auto Data Recording

Graph drawing automatically starts and stops at set force/displacement or external signal.

[Included Product]

Torque Gauge: Screw Cap Torque Tester DTXA series

Torque Stand with a rotary encoder: Torque Stand MTS series

*We also offer custom-made test stands (e.g. for a special long stroke, for installing to a facility, etc). ASK for Custom-made Order

Software: Graph Drawing Software Force Recorder Professional

Chuck fixture: Upper Chuck MT-TB

Cable: CB-728

[Application]

Circuit board twist strength test

*The handhold type and the manual torque stand type are also introduced in the specification. Please refer to the specification for the detail.



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

Operating environment	OS: Windows 7/8/8.1/10
Hardware	CPU :Pentium4(1GHz or more) or later recommended
	Memory:2GB or more recommended
	Hard disk: 10GB(Data storage area) or more
Platform	.NET Framework4.6 or more
Execute environment	Microsoft Internet Explorer6.0 or more
	Windows Installer 3.1 or later
Image size	Resolution 1024 768 pixel or more
Connecting port	USB1.1 USB2.0 port *we are not guarantee operation in USB3.0

Specifications

Order No.		TAA-MTS-□□N
Unit	Torque	N-m,N-cm Switching type
	Angle	°(degree)
Range		2N-m(200N-cm), 5N-m(500N-cm), 10N-m(1000N-cm)
Resolution	Force	4 digit (Ex:The resolution of TAA-MTS-5N 0.001N-m(0.1N-cm))
	Angle	0.001° (on Force Recorder Professional), 0.01°(on Torque gauge display)
Accuracy	Force	±0.5%F.S. +/-1 digit
	Angle	±0.1°+/-1 digit
Model: Allowable sample height		TAA-MTS-□□N-TB: 140mm
		TAA-MTS-□□N-L-TB: 240mm
		TAA-MTS-□□N-2L-TB: 340mm
		*Other sample height is allowable. Please contact us.
Torque Data sampling rate		2000 data /sec
Torque display upgrade		16 data/sec
Output		USB Serial(RS232C)(*1), Analogue (Approx. 2V)(*1), Comparator, Overload, Sub comparator, USB flash drive *USB flash drive is not included.
Function	Torque gauge	Customized display(header and footer) / Peak hold mode(CW/CWW) / Internal memory (1000 data) / Comparator(OK/NG judgment) / Reversible display/ Sign inversion/ Zero clear timer/ +NG alarm/ Off timer(Auto power off)/Dumping/ Time display/ 1st 2nd peak/ Setting lock
	Test Stand	Manual mode, JOG mode, Speed adjustment
	Link function(*2)	Angle detection at torque peak / Angle zero reset at the selected torque/ Automatic mode (CONTINUOUS,ONE WAY), Torque control,Overload prevention
Power supply	Torque gauge	Rechargeable battery (8 hour using /2 hour full charge)
	Test stand	AC100V~240V
Operating environment		Temperature: 0 - 40 degree Celsius Humidity: 20 -80%RH
Accessory		Graphing software Force-Recorder Professional, Driver CD-ROM(with data logger simple software), Power cable, AC adapter, Torque gauge connecting cable(CB-728), USB cable, Spare fuse, Instruction manual, Inspection certificate, tool, packing cardboard box.

*1 Custom made cable is necessary when the user needs the Angle output and serial/analogue output on the same time.

*2 It is necessary to connect a torque gauge with the included connecting cable to activate.

Order No.*1	Type	Allowable sample height*2	Capacity
TAA-MTS-□□N-TB	Standard	140mm	Select from 2N-m/5N-m/10Nm
TAA-MTS-□□N-L-TB	Long stroke	240mm	
TAA-MTS-□□N-2L-TB		340mm	
TAA-MTS-□□N-Z	No table and No chuck	140mm*3	

*1 □□: Please choose from the suitable capacity.

*2 We accept custom made order for the sample height 240mm or more.

*3 The long stroke option is also available for "Z" model.

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TESTING EQUIPMENT

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เกจวัดแรง

Torque-Angle Measurement Unit TAA-HTG series (Customized model)



Features

You can measure torque and angle by hand precisely.
First, TAA has a very unique feature, high portability. You can maximize the portability when you test something on a finished product. For example...
– You can go into a car with TAA and test of rotary switches on its dashboard due to its portability.
– You can test a torque of two-wheelers' accelerator
– You can test a knob on a fixed door.
In other words, you do not have to take a piece (a sample) from a finished product to test it.

Second, you can achieve high repeatability due to its high accuracy and high sampling rate.

– TAA torque sensor and angle meter have high accuracy.
– Due to high sampling rate (2000Hz), it follows rapid torque change, accurately detecting a peak value or even a tiny variation.
You can send the data to PC at 2000Hz in real-time, and draw graph using a supplied software.

[TAA is perfect to measure torque and angle of...]

- Rotary switch
- Key
- Finger grip And more We offer custom-made attachment to grip your sample to fit your particular needs.

[TAA includes...]

1. Handheld digital torque gauge HTGA series
 2. Angle meter unit AMK-360
 3. Software Force Recorder Professional
- * Custom made stay and attachments for torque measurement are required to perform torque-angle testing.

Other choices

- Desktop type TAA-MTS-TB series
It rotates your sample automatically, for greater precision.

Other Attachments

อุปกรณ์เสริม เกจวัดแรง

Torque Attachments AMK-360 - Angle Meter Unit

Features

- Enables torque-angle measurement by connecting with handheld digital torque gauge HTGA series

Specifications

Order No.	AMK-360
Accuracy	±0.1 degree (*1)
Resolution	0.1 degree
Angle range	From 0.1 to 9999.9 degree
Length of cable	Approx. 1m
Weight	Approx. 130g (when mount to the torque sensor) (*2)
Mountable Torque Gauge (*3)	HTGA series, eHT series

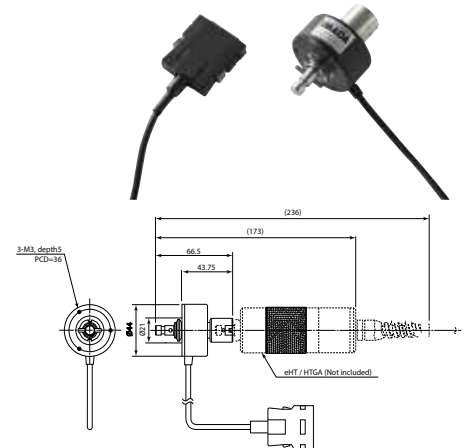
* Custom made stay is required to use it.

* Displacement type setting by supplied software is necessary to use it.

*1 It is resolution for AMK-360 (not include the torque gauges and attachments).

*2 Weight of angle meter unit, custom made stay and attachments are also applied as a load on the torque gauge. The weight of attachment should be less than 10% of the torque gauge capacity.

*3 0.5N-m range is incompatible.



ซอฟต์แวร์ และอุปกรณ์

Software & Output Equipment Force Recorder series

Features

Analyze data easily and accurately, and create report with ease

We offer 3 types (Light / Standard / Professional) to fit your needs.

• Make efficient by simple manipulations and useful functions.

- Easy steps for saving. Connect a force gauge and PC with a USB cable and click START.
- You can compare data easily due to plural tabs.
- Auto-calculation of Maximum value / Minimum value / Average value.
- Comment insertions are possible.
- Maximum 5 graphs are displayed on same display. Easy comparison and Accurate analysis are possible. (Standard / Professional version only)

• Capture measuring data accurately.

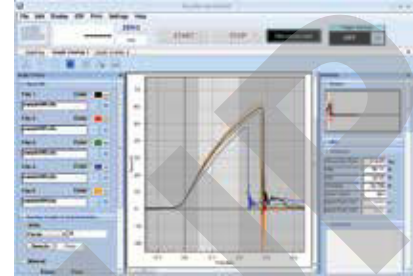
- It graphs the measurement accurately due to high sampling rate, at Max.2000Hz.
- A peak value can be captured more precisely due to the higher sampling rate.

• Create reports quickly

- You can easily save data in Word, Excel, and PDF format, reducing the time to create report.
- It automatically inputs graphs, date & time and statistics. You can also comments manually if necessary.

• Force Recorder Professional

- You can draw torque-angle graphs precisely at Max.2000Hz with ease.
- For angle data acquisition you need an angle meter in addition to DTXA/HTGA/eHT(eZT).
- TAA Series come with this software.



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal

Testing Machine
เครื่องทดสอบแรงดึง

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

Force Recorder(Light/Standard) Functions

Version	Light	Standard	Professional
Feature	Graphing only	With editing functions	Torque-displacement graphing
Graph	Torque-time	Torque-time	Torque-time Torque-angle
Available models	HTGS/HTGA DTXS/DTXA eZT	HTGS/HTGA DTXS/DTXA eZT	HTGA DTXA eZT
Data transferring speed (Max)	2000 data / sec	2000 data / sec	2000 data / sec
Recording data point (Max)	7.2 million	7.2 million	7.2 million
Displacement output	N/A	N/A	Yes
Graph overlaying function	N/A	Yes	Yes
Trigger function	N/A	Yes	Yes
Point marking	N/A	Yes	Yes
Border line function	N/A	Yes	Yes
Capture function	N/A	Yes	Yes
Graph editing	Yes	Yes	Yes
Statistics output	Yes	Yes	Yes
Comment	Yes	Yes	Yes
Print	Yes	Yes	Yes
CSV file converting	Yes	Yes	Yes
Preview saving (PDF/Word/Excel)	Yes	Yes	Yes
Force gauge setting	Yes	Yes	Yes

Operating Environment

Operating environment	OS: Windows 7/8.1/10
Hardware	CPU: Pentium4 (1GHz more) more recommended Memory: 2GB more recommended Hard disk: 10GB(Data storage area) more
Platform	.NET Framework4.6 more
Execute environment	Microsoft Internet Explorer6.0 later Windows Installer 3.1 later
Image size	Resolution 1024*768 pixel more
The gauges that can be combined	165-180 degree (Height and angle are adjustable.)
Testable width of samples	ZTS/ZTA series, eZT, DTXS/DTXA series, HTGS/HTGA series
Connection port	USB1.1, USB2.0 connector * We do not guarantee operation in USB 3.0.

TESTING EQUIPMENT

เครื่องมือทดสอบ

FORCE MEASUREMENT

IMADA

ซอฟต์แวร์ และอุปกรณ์เชื่อมต่อ

Software & Output Equipment Cables

	HTGS/HTGA	DTXS/DTXA	eZt
Force Gauge เครื่องมือวัดแรงดึง และแรงดัน			
Universal Testing Machine เครื่องทดสอบสากล	The Cables to Connect a Force Gauge to an External Devices		
Torque Testers เครื่องทดสอบแรงบิด	RS232C Cable Connects a PC to a force gauge, enabling to record the measurement and transmit command signals from the PC to the gauge.	CB-208  Length : Approx.3m	CB-208  Length : Approx.3m
Torque Tester เครื่องทดสอบแรงบิด	Digimatic Cable Connects Mitutoyo Digimatic Mini Processor (a portable printer) to a force gauge for printing the measurement.	CB-308  Length : Approx.3m	CB-308  Length : Approx.3m
Torque Driver เครื่องทดสอบแรงบิด	Analog Cable Connects analog devices such as a pen recorder to a force gauge, enabling to record force transition *CB-118 works for "-AH" option.	CB-108  Length : Approx.3m	CB-108  Length : Approx.3m
Torque Wrench เครื่องทดสอบแรงบิด	Oper End Cable Connects a force gauge to a special device.	CB-908  Length : Approx.3m	CB-908  Length : Approx.3m
	External contact Point Cable Enables to measure external contact point	CB-808  Length : Approx.3m	CB-808  Length : Approx.3m

*1 CB-201 (25P male) and CN-202(25P female) are also available.

*2 We offer customization including the length extension, connector's change in shape, and more.

เครื่องมือวัดแรงบิด

TORQUE TESTER - CD-100M/10M



Suitable for daily inspection of electric screw driver

Using conventional joint (SJ joint (PAT))

Enable to save 5 channels of pass/fail judgement criterion, and enable to change settings by switch channels even if the tightening term changes.

High durability against high torque loaded unexpectedly. (triple the durability of conventional model).

Also, the attached adapter does not disassemble the joint due to excessive rewinding. It can be used and managed in a conventional way.

- Show "Measurement mode", "Measurement unit", "maximum, minimum, average"
- Switchable measurement unit
- Enable to save 5 sets of settings such as upper limit and lower limit
- 800 items of memory data
- Real-time output About every 1/180 seconds
- Data acquisition software can be downloaded for free



Order No.	CD-100M	CD-10M
Measuring range	0.10~10.00 N·m	0.010~1.000 N·m
	1.0~100.0 kgf·cm	0.10~10.00 kgf·cm
	1.0~90 lbf·in	0.10~9.000 lbf·in
Accuracy	±0.5% (199 digit or less ±1digit)	
Display	The 3.5 figures digital display of LCD	
The measurement direction	CW-CCW (right and left)	
Zero return by one touch	Return to zero by pressing clear button.	
Measurement Mode	Track , P-P(peak to peak) , P-D(Peak-Down) , C(Real-time Output)	
High and low limits judging function	High and low value are measurement within the limits, and can be set up.	
Real-time Output	Load torque value is outputted every about1/ 180 second.	
The Maximum, the minimum, and the average value display	The maximum, the minimum, average value,	
Data Output	ASCII format (baud rate 19200)	
Auto power save	10 minutes no use, automatically switch off	
Power supply	Ni-Cd chargeable battery 1.2V x 5cells 700mAh	
Charging time	About 3hours	
Continuous working time	About 12hours	
Clearance	It is a display clearance in set-up time. (0.1 - 3.0 sec)	
Socket size	□ 20mm/ □9.5mm	
Dimension / Weight	W:160xD:125xH:55 / About 1kg	
Recommend buffer accessories	Measuring joint SJ-50, SJ-10K	Measuring joint SJ-10
	AC/DC adaptor	
	Exclusive receipt case	
	An inspection report, a proofreading certificate, a traceability system figure	

※Do not use for measurement of impact tool. Do not apply more than the specified torque.

Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องมือทดสอบแรงบิด

Torque Tester

เครื่องมือทดสอบแรงบิด

Torque Driver

เครื่องมือทดสอบแรงบิด

Torque Wrench

เครื่องมือทดสอบแรงบิด

TESTING EQUIPMENT

เครื่องมือทดสอบ

CEDAR®

เครื่องวัดแรงบิด

TORQUE TESTER - DI-9M-8/08

Suitable for daily inspection of electric screw driver

Using "OW joint" (joint which is unnecessary to rewind)

Enable to save 5 channels of pass/fail judgement criterion, and enable to change settings by switch channels even if the tightening term changes.

Due to "OW Joint", able to measure effectively without rewinding.

- Show "Measurement mode", "Measurement unit", and "maximum, minimum, average"
- Switchable measurement unit
- 800 items of Memory data
- Real-time output About every 1/180 seconds
- Data acquisition software can be downloaded for free
- Include "Screw Cube"-measuring jig for manual tools



Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องมือทดสอบแรงบิด

Torque Tester

เครื่องมือทดสอบแรงบิด

Torque Driver

เครื่องมือทดสอบแรงบิด

Torque Wrench

เครื่องมือทดสอบแรงบิด

Order No.	DI-9M-8	DI-9M-08
Measuring range	0.020~8.000 N·m 0.20~80.00 kgf·cm 0.20~70 lbf·in	2.0~800.0 mN·m 0.020~8.000 kgf·cm 0.020~7.000 lbf·in
Accuracy	±0.5% (499 digit or less ±3digit)	
Display	The 4 figures digital display of LCD	
The measurement direction	CW-CCW (right and left)	
Zero return by one touch	Return to zero by pressing clear button.	
Measurement Mode	Track, P-P(peak to peak), P-D(Peak-Down), C(Real-time Output)	
High and low limits judging function	High and low value are measurement within the limits, and can be set up.	
Real-time Output	Load torque value is outputted every about 1/180 second.	
The Maximum, the minimum, and the average value display	The maximum, the minimum value, and average value of the saved data	
Data Output	ASCII format (baud rate 19200)	
Auto power save	10 minutes no use, automatically switch off.	
Power supply	Ni-Cd chargeable battery 1.2V x 5cells 700mAh	
Charging time	About 3hours	
Continuous working time	About 12hours	
Clearance	It is a display clearance in set-up time. (0.1 - 3.0 sec)	
Socket size	□ 20mm/ □ 9.5mm	
Dimension / Weight	W:160xD:125xH:55 / About 1kg	
Recommend buffer accessories	Measuring joint OW-20/OW-60	Measuring joint OW-025/OW-10
	Cube (with 5 sides screw hole) 20x20x20 (M2.6/M3/M4/M5/M6 Tap processing)	
	AC/DC adaptor	
	Exclusive receipt case	
	An inspection report, a proofreading certificate, a traceability system figure	

*Do not use for measurement of impact tool. Do not apply more than the specified torque.

เครื่องวัดแรงบิด

TORQUE TESTER - NDI-800CN/80CN



Suitable for daily inspection of electric screw driver Progress of Visibility, Usability and Connectability

Visible display due to colorization & tilt function Easier operation with dedicated software enables more sophisticated management.

Due to "OW Joint", able to measure effectively without rewinding.

- Easy set-up of tester on PC
- Easy search of memory data
- Enable to be powered directly by AC adaptor
- Enable to check pass/fail threshold value during measurement
- Color display depending on measurement value
- Software can be downloaded for free
- Include "Screw Cube"-measuring jig for manual tools



Order No.	NDI-80CN		NDI-800CN	
Range	0.020~8.160 kgf•cm		0.20~81.60 N•m	
	0.018~7.080 lbf•in		0.18~70.80 lbf•in	
	2.0~800.0 mN•m		0.020~8.000 N•m	
Unit	kgf • cm / lbf • in / mN • m		kgf • cm / lbf • in / N • m	
Accuracy	±0.5% (If the value is 499 digit or less, the accuracy ±3 digit.)		±0.5% (If the value is 499 digit or less, the accuracy ±3 digit.)	
Sampling rate	1000 data / 1 second			
Measurement mode	Sybol		Contents	
	Peak hold	PP	Hold the inputted maximum value.	
	Peak down	PD	Hold the inputted first peak value.	
	Real time output	C	Use at the measurement of torque wave. Sampling rate is 250 data / 1 second.	
	Track	TR	Use at the calibration mainly. Display the load torque value.	
Memory capacity	400 Data			
Clock	Store the measurement date.			
Power	AC adaptor (12V) / AA battery			
Socket size	□ 20 / □ 9.5			
Accessories (one pieces each)	(measurement joint) OW-025 / OW10		(measurement joint) OW-20 / OW-60	
	Cube with screw holes of M2.6, M3, M4, M5 and M6 (size 20x20x20mm)			
	AC adaptor (input : AC100~240V (50/60Hz), output : DC12V)			
	USB cable (mini B type)			
	AA Size Cell x4			
	Result of calibration, Certification on calibration, Traceability system figure			

Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

TESTING EQUIPMENT

เครื่องมือทดสอบ

CEDAR®

เครื่องวัดแรงบิด

TORQUE TESTER - DI-11

Suitable for daily inspection of electric screw driver
Correspond to high torque electric driver

Enable to save 5 channels of pass/fail judgement criterion, and enable to change settings easily by switch channels even if the tightening term changes.

Include High torque correspondence joint (SJ - 100)

- Show "Measurement mode" "Measurement unit" Indication of "maximum, minimum, average"
- Switchable measurement unit
- Enable to save 5 sets of settings such as upper limit and lower limit
- 800 items of memory data
- Real-time output About every 1/180 seconds
- Data acquisition software can be downloaded for free



Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

Order No.	DI-9M-08
Measuring range (at the time of Track)	0.10 ~ 20 N·m 1.0 ~ 200 kgf·cm 1.0 ~ 174 lbf·in
Accuracy	±0.5% (499 digit or less ±3digit)
Display	The 4 figures digital display of LED
The measurement direction	CW-CCW (right and left)
Measurement Mode	Track, P-P(peak to peak), P-D(Peak-Down), C(Real-time output)
High and low limits judging function	High and low value are measurement within the limits, and can be set up. Five-set preservation is possible.
Real-time Output	Load torque value is outputted every about 1/180 second.
The Maximum, the minimum, and the average value display	The maximum, the minimum, average value.
Data Output	ASCII format (baud rate 19200)
Auto power save	10 minutes no use, automatically switch off.
Power supply	Ni-Cd chargeable battery 1.2V x 5cells 700mAh
Charging time	From empty - less than 6 hours
Continuous working time	12 hours
Weight	About 1.5kg
Outside dimension	130(W) x 180(D) x 34(H)
Attachment	Measurement joint SJ-50 / SJ-100
Accessories (one piece each)	AC/DC adaptor (Please choose AC adaptor out of 120V, and 230V)
	Exclusive receipt case
	An inspection report, a proofreading certificate, traceability system figure

เครื่องวัดแรงบิด

TORQUE TESTER - DIS-IP series (-IP05/5/50/200/500)



Suitable for managing various manual torque wrench & torque drivers

Standard model for static torque measurement

Bigger characters size and enhance user convenience.

Enable to be installed in a small space due to a separate type.

Enable to save 5 channels of pass/fail judgement criterion, and enable to change settings easily by switch channels even if the tightening term changes.

- Show "Measurement mode" "Measurement unit" Indication of "maximum, minimum, average"
- Switchable measurement unit
- Enable to save 5 sets of settings such as upper limit and lower limit
- 800 items of memory data
- Real-time output About every 1/180 seconds
- Data acquisition software can be downloaded for free



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

Order No.	DIS-IP05		DIS-IP5	DIS-IP50	DIS-IP200	DIS-IP500
Measurement range	2.0 ~ 500m N·m 0.020 ~ 5 kgf·cm 0.020 ~ 45 lbf·in		0.020 ~ 5 N·m 0.20 ~ 50 kgf·cm 0.20 ~ 45 lbf·in	0.20 ~ 50 N·m 2.0 ~ 500 kgf·cm 2.0 ~450 lbf·in	2.0 ~ 200N·m 20 ~ 2000 kgf·cm 20 ~ 1740 lbf·in	2.0 ~ 500 N·m 20 ~ 5000 kgf·cm 20 ~4500 lbf·in
Accuracy	±0.5% (499 digit or less ±1digit)					
Display	The 4 figures digital display of LCD					
The measurement direction	CW-CCW (right and left)					
Mode	P-P	The highest value of load is hold-displayed				
	T-R	A display also changes with load change.				
	P-D	Load catches and displays the moment included in descent from a rise.				
	C	Load torque value is outputted every about 1/180 second				
Clearance	It is a display clearance in set-up time (0.1-3.0sec)					
A success or failure judging function	High and low value are measurement within the limits, and can be set up. Five-set preservation is possible.					
The Maximum, the minimum, and the average value	Displays, and output the data number, the maximum, the minimum, and the average value of the measured value.					
Data memory counts	800 data					
Auto-Power-off	After the neglect during 10 minutes					
Data output	ASCII format (baud rate 19200)					
Power supply	Ni-Cd chargeable battery 1.2Vx5cells 700mAh					
Charge time / use time	Charge about 3 hour / Continuation about 12-hour use					
indicator size / weight	10(W) x 150(D) x 33(H) (it does not contain by the projection thing) / 357g					
Code length	Standard 1m (there are automatic machines no less than 4m as an option)					
Accessories	AC/DC adaptor					
	An inspection report, a proofreading certificate, a traceability system figure					

Detection machine size figure

Form	IP05	IP5	IP50	IP200	IP500	Detection machine outside figure
A	Ø 40		Ø60	Ø60	Ø60	
B	41.2		63	79	99	
C	5		10	15	15.5	
D	Ø60		Ø90	Ø110	Ø140	
E	Ø60		Ø74	Ø90	Ø116	
F (Three division)	Ø4.5		Ø6.5	Ø8.3	Ø10.5	
G (Socket intuition affinity)	6.35sq		9.5sq	12.7sq	19sq	
Weight	189g		632g	1.8kg	3.5kg	

TESTING EQUIPMENT

เครื่องมือทดสอบ

CEDAR®

เครื่องวัดแรงบิด

TORQUE TESTER - DWT-200



Suitable for daily inspection of torque wrench on site
Dedicated for managing Torque wrench

Enable to check the operating torque by easy operation.
Visible display due to LED light.
Include only necessary functions to keep the lowest cost.

- Equipped with "PP" mode for measuring actual torque and "PD" mode for measuring the torque that the torque wrench operates
- Attached adapter for converting detection unit to □ 9.5



Order No.	DWT-200
Measurement range	7.0 ~ 200.0 N·m
Accuracy	±0.5% (499 digit or less ±1digit)
The measurement direction	CW (right)
Measurement mode	Track and P-P (peak hold) P-D(peak down hold)
Auto-power-off	When not operating it for 5 minutes, it is power-source automatic OFF.
A power source and use time	Size AA battery Four Continuous duty About 20 hours (at the time of Alkaline battery use)
Detecting-element form	□ 12.7
Outside size * Weight	200(W) x 120(D) x 96(H) • About 2.6kg
Accessories	Angle drive adapter (□ 9.51 - □ 12.7) An inspection report, a proofreading certificate, a traceability system figure

* About a data output, I correspond as an option.
At the time of spanner type torque wrench measurement, a hexagon-like adapter is required separately. (Option)

เครื่องวัดแรงบิด

TORQUE TESTER - DIS-IPS series (20C/5C)

For managing various torque wrenches & torque drivers, and automatic / semiautomatic machines

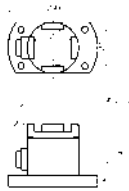
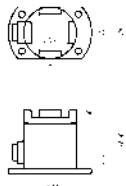

The detection section is very compact and suitable for automatic line measurement.

Enable to save 5 channels of pass/fail judgement criterion, and enable to change settings easily by switch channels even if the tightening term changes.

Due to "OW Joint", able to measure effectively without rewinding.

- Show "Measurement mode" "Measurement unit" Indication of "maximum, minimum, average"
- Switchable measurement unit
- Enable to save 5 sets of settings such as upper limit and lower limit
- 800 items of memory data
- Real-time output About every 1/180 seconds
- Include "Screw Cube" or "Fixed-type Attachment" for measuring static tightening tool
- Data acquisition software can be downloaded for free



Order No.	DIS-IPS20C		DIS-IPS5C	
Measurement range	0.20 ~ 20 N·m		0.020 ~ 5 N·m	
Accuracy	±0.5% (499 digit or less ±1digit)			
Display	The 4 figures digital display of LCD			
The measurement direction	CW-CCW (right and left)			
Mode	Track, P-P(Peak to peak), P-D(peak-down), C(real-time output)			
Clearance	It is a display clearance in set-up time. (0.1 - 3.0 sec)			
A success or failure judging function	High and low value are measurement within the limits, and can be set up. Five-set preservation is possible.			
The maximum, the minimum, and the average value	Displays, memory and output the data number, the maximum, the minimum, and the average value of the measured value			
Data memory counts	800 data			
Auto-power-off	After the neglect during 10 minutes			
Data output	ASCII format (baud rate 19200)			
Power supply	Ni-Cd chargeable battery 1..2V x 5cells 700mAh			
Charge time / use time	Charge about 3 hour / continuation about 12-hour use			
Indicator size / weight	100(W) x 105(D) x 33(H) (It does not contain by the projection thing) / 357g			
Accessories	Fixed attachment □ 20mm M4/M5/M6/M8		Attachment cube 20x20x20mm (M2.6/3/4/5/6)	
	OW20 joint		OW10 joint	
	AC/DC adapter			
	Result of calibration, Certification on calibration, Traceability system figure			
Detector outside dimension			 OW10 joint 	

เครื่องวัดแรงบิด

TORQUE TESTER - DI-1M-IP series (50/200/500)



Suitable for Impact-based tool management

High accuracy, and portable. It is installed on the work line and is effective for periodic inspection of the tool. The blow counter displays number of blows and value of torque, and LED display which is brighter and easier to read. Besides, it can be used for the management of the torque wrench angle nut runner.

- Blow counter shows number of blows and value of torque
- Enable to inspect operating torque of manual preset type torque wrench etc. in peak down mode
- Auto power-off function Autoclear function are installed
- Data acquisition software can be downloaded for free



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

Order No.		DI-1M-IP50	DI-1M-IP200	DI-1M-IP500
Measurement range (at the time of Track)		0.30 ~ 50 N•m	0.020 ~ 5 N•m	0.020 ~ 5 N•m
		3.0 ~ 500 kgf•cm	30 ~ 2000 kgf•cm	30 ~ 5000 kgf•cm
		3.0 ~ 450 lbf•in	30 ~ 1800 lbf•in	30 ~ 4500 lbf•in
Operating range of Pd Mode		0.7N•m ~ , 7.0kgf•cm / lbf• ~	0.7N•m ~ , 7.0kgf•cm / lbf• ~	0.7N•m ~ , 7.0kgf•cm / lbf• ~
Accuracy		±0.5% (499 digit or less ±3digit)		
Display		The 4 figures digital display of LCD		
Mode		Track, Peak (from 30 or more digits to a display), Peak-Down (from 30 or more digits to a display, Operation is 70 or more)		
Blow	Counts	Zero to 99 blow		
	Measurement time	0.1-9.9 seconds		
	Display	LED display		
Data output		ASCII format (baud rate 19200)		
Auto clear time		In 0.5-3.0 seconds (0.5-second interval), an indication is automatically given zero.) It is manual zero clearance by 0.0-second setup		
Power supply		nickel-cadmium battery 1.2v 5cells (700mAh) Auto power OFF (after [OFF] the neglect during 5 minutes)		
Charge time / use time		At the time of charge about 3 hour/, and the maximum charge Continuation about 8-hour use		
Meter part	Outside size	146(W) x 155(D) x 48(H) (It does not contain by the projection part).		
Meter part	Weight	about 600g		
Detection part	Weight	about 600g	about 1.7kg	about 3.1kg
Code length		Standard 1m (there are automatic machines no less than 4m as an option)		
Accessories		Attach case	-	-
		AC/DC adapter		
An inspection report, a proofreading certificate, a traceability system figure				
(Note) When you measure shock tools, such as an impact tool, please use it by 60% or less of rated torque.				

(Note) When you measure shock tools, such as an impact tool, please use it by 60% or less of rated torque.

Detection machine size figure

Form	IP50	IP200	IP500	Detection machine outside figure
A	Ø50	Ø60	Ø60	
B	63	78	98.5	
C	10	15.1	16	
D	Ø90	Ø108	Ø140	
E	Ø74	Ø90	Ø116	
F (Three division)	Ø6.3	Ø8.3	Ø10.5	
G (Socket intuition affinity)	9.5sq	12.7sq	19sq	
Weight	632g	1.8kg	3.5kg	

TESTING EQUIPMENT

เครื่องมือทดสอบ

CEDAR®

เครื่องวัดแรงบิด

TORQUE TESTER - DI-4B-25

Suitable for daily inspection of small-size impact tools

Since display is equipped as with LED, you can clearly read the value even in a dark place.
Enable to measure anywhere because it is integrated type and compact.

- Measurable up to 25 N·m
- Equipped with blow counter for impact tool
- Enable to measure with socket attached
- Attached Soft joint (for tightening elastic material) and hard joint (for tightening rigid material)
- Data acquisition software can be downloaded for free



Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

Order No.	DI-4B-25	Appearance figure
Measurement range (at the time of Track)	0.30 ~ 25 N·m 3.0 ~ 250 kgf·cm 3.0 ~ 220 lbf·in	
Accuracy	±0.5% (or less 499 ±3digit)	
The Display method	4 figures LED display	
The measurement direction	CW - CCW (right and left) It is selection measurement by the change switch	
Mode	Track, Peak, Peak-Down (operation is 70digit or more)	
Auto clear time	In 0.5 - 3.0 seconds (0.5-second interval, an indication is automatically given zero.) It is a manual zero clearance by 0.0-second setup	
Blow measurement range	Zero to 99 blow	
Blow measurement time	0.1-9.9 seconds	
Data output	ACSII format (baud rate 19200)	
Appearance	Dimension: 150(W) x 220(D) x 74(H) Weight: About 2.1kg	
Power supply	nickel-cadmium battery 1.2v 5cells (700mAh) Auto power OFF (after [OFF] the neglect during 5 minutes)	
Charge time / use time	At the time of charge 6 hour /, and the maximum charge Continuation about 8-hour use	
The contents of a set (one piece each)	Hard joint (M10) / Soft joint (M10) / 9.5sq. drive Socket (Hexagon head socket 17)	
	6.35 Hex bit (Hexagon head socket 17)	
	Receipt case	
	AC/SC adaptor (Please choose from 120V and 230V.)	
	Inspection-report / proofreading certificate / Traceability system figure	



Soft joint

17mm of hexagon-head-boit
opposite neighborhoods

Rotate about three times by the
time a nut or a bolt arrives at a
bearing surface and reaches
all torque

For elastic body..



Hard joint

17mm of hexagon-head-boit
opposite neighborhoods

Rotate about 1-/10 by the time a
nut or a bolt arrives at a bearing
surface and reaches all torque.

For rigid object..

เครื่องวัดแรงบิด

TORQUE TESTER - DIS-RL series (005/05/2/6)



For tightening and final check of screws & bolts

Separate type digital torque driver wrench. The detection part is very compact and suitable for measuring lower torque & torque in a narrow place.
Enable to save 5 channels of pass/fail judgement criterion, and enable to change settings easily by switch channels even if the tightening term changes.

- Show "Measurement mode" "Measurement unit" Indication of "maximum, minimum, average"
- Switchable measurement unit
- Enable to save 5 sets of settings such as upper limit and lower limit
- 800 items of memory data
- Real-time output About every 1/180 seconds
- Data acquisition software can be downloaded for free



Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

Order No.	DIS-RL005	DIS-RL05	DIS-RL2	DIS-RL6
Measurement range	2.0 ~ 50m N•m 2.0 ~ 500 gf•cm	2.0 ~ 500 mN•m 0.020 ~ 5 kgf•cm 0.020 ~ 4.5 lbf•in	0.010 ~ 2 N•m 0.10 ~ 20 kgf•cm 0.10 ~ 17.4 lbf•in	0.10 ~ 6 N•m 1.0 ~ 60 kgf•cm 1.0 ~ 54 lbf•in
Accuracy	±0.5% (499 digit or less ±3digit)		±0.5% (199 digit or less ±1digit)	
Display	The 4 figures digital display of LCD			
Measurement direction	CW-CCW (right and left)			
Mode	Track, P-P(peak to peak), P-D(peak-Down), C(Real-time Output)			
Clearance	It is a display clearance in set-up time (0.1-3.0sec)			
A success or failure judging function	High and low value are measurement within the limits, and can be set up. Five-set preservation is possible.			
The Maximum, the minimum, and the average value	Displays, and output the data number, the maximum, the minimum, and the average value of the measured value.			
Real-time output	Load torque value is outputted every about 1/180 second			
Data memory counts	800 data			
Data output	ASCII format (baud rate 19200)			
Power supply	Ni-Cd chargeable battery 1.2Vx5cells 700mAh			
Charge time / use time	Charge about 3 hour / Continuation about 12-hour use			
indicator size / weight	10(W) x 150(D) x 33(H) (it does not contain by the projection thing) / 530g			
Accessories	bit Ø4 Dcut (+) #00/ #0	bit Ø4(+) #0 / #1	bit 6.35HEX (+) #1 / #2 Bit holder / One way bit holder	
	An exclusive case			
	AC/DC adaptor			
	Result of calibration, Certification on calibration, Traceability system figure			
Detector outside dimension	RL05 (RL005 differ in the form of a bit holder part)			

TESTING EQUIPMENT

เครื่องมือทดสอบ

CEDAR®

ประแจวัดแรงบิด

DIGITAL TORQUE DRIVER - NDID-150CN

For tightening and final check of screws & bolts

Idling type Digital Torque Driver

Idling type Torque Driver which enable to count Qty of Torque and tightened number by tightening with clicking noise. When the torque is reached certain value, the clutch is automatically disengaged and idling, so there is no worry of over tightening.

- Enable to adjust Drag torque
- Manage tightening torque and Qty of tightened torque
- Record data of peak torque and torque fluctuation
- Save and transfer data to USB memory
- A smart and functional form
- Attached USB Memory



Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องมือทดสอบแรงบิด

Torque Tester

เครื่องมือทดสอบแรงบิด

Torque Driver

เครื่องมือทดสอบแรงบิด

Torque Wrench

เครื่องมือทดสอบแรงบิด

Order No.	NDID-150CN		
Range	0.20 ~ 15.30 kgf·cm 0.18 ~ 13.28 lbf·in 0.020 ~ 1.500N·m (Selectable)		
Accuracy(*)	+/- (1% + 1digit) (0.30 - 15.0 kgf·cm)		
Operation Temp	10 ~ 35 °C (Storage Temp 0 ~ 45 °C)		
Measurement mode	Mode		Contents
	Screw Counter	PPC	When the grip slip, measure the peak torque. Manage the tightened number at the "CLEAR" timing.
	Peak hold	PP	Measure the peak torque.
	Real Time Output	C	After trigger detection (direction, torque), save 500 data.
	Track	-	Display the load torque
Memory Function	Mode		Contents
	Screw Counter	PPC	USB flash memory
	Peak hold	PP	Body (MAX. 400 data)
	Real Time Output	C	USB flash memory
	Track	-	Non
Battery	Ni-MH Charge cycles : over 300 times (Time : about 3 hours)		
Auto power off	3 minutes (Releasable)		
Accessories	AC adapter Bit #1,2 Hex erwnch USB memory Certification of calibration		

(*) Don't include the accuracy of the torque which GRIP-slip rotates.

ประแจวัดแรงบิด

DIGITAL TORQUE DRIVER - DID-4



For tightening and final check of screws & bolts

Lightweight and compact with integrated display !

Cordless type and improves operability. Enable to stably measure for long continuous use.

Screw tightening counter function is also installed as standard.

Enable to save 5 channels of pass/fail judgement criterion, and enable to change settings easily by switch channels even if the tightening term changes.

- Lightweight and compact with integrated display
- 800 items of Memory data
- USB shape of Data output
- Settable upper limit and lower limit torque
- Notify the set value with buzzer & LED lamp
- Built-in tightening counter
- Rechargeable battery drive
- Auto power off for safe operation
- Real time data output
- Cordless type



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal

Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

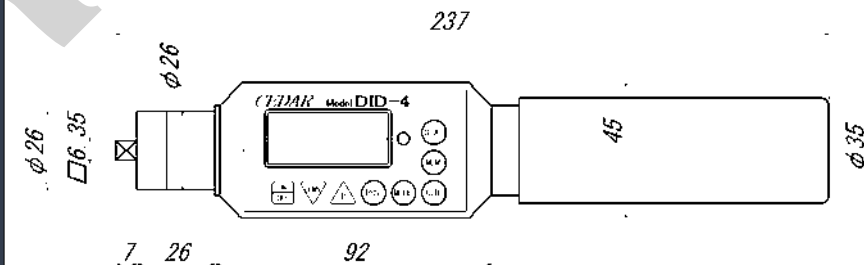
เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

Order No.	DID-4		
Measuring range	0.020 ~ 4 N·m	0.20 ~ 40 kgf·cm	0.20 ~35 lbf·in
Accuracy	±0.5% (499 digit or less ±3digit)		
Display	The 4 figures digital display of LCD		
The measurement direction	CW - CCW (right and left)		
Measurement Mode	PP	peak to peak The highest value of load is hold-displayed.	
	TR	track A display also changes with load change.	
	PD	peak-down Load catches and displays the moment included in descent from a rise.	
	C	Real-time Output Load torque value is outputted every about 1/160 second.	
A success or failure judging function	High and low value are measurement within the limits, and can be set up. Five-set preservation is possible.		
The Maximum, minimum, and the average value	The data number, the maximum, the minimum value, and the average value of memory data are displayed.		
Data memory counts	800 data		
Data output	ASCII format (baud rate 19200)		
auto clear time	If the set-up time comes, measurement value will be automatically cleared in 0.0 ~ 3.0 seconds (0.5s interval).		
Setup of count	1 to 99 count (count in a clockwise direction)		
Power supply	Ni-MH chargeable battery 1.2V x 4 cells 800 mAh		
Charge time / use time	Charge about 3 hour /, continuation about 12-hour use		
Auto-power-off	After the neglect during 10 minutes		
Bit / Socket part	HEX 6.35		
Weight	400g		
Accessories (one piece each)	Bit #1+, #2+		
	Bit holder One way bit holder		
	Exclusive charger		
	Result of calibration document Certification on calibration document / Traceability system figure		
Option	When outputting data, the cable (USB miniB) is needed.		

Outside - dimension



TESTING EQUIPMENT

เครื่องมือทดสอบ

CEDAR®

ประแจวัดแรงบิด

DIGITAL TORQUE DRIVER - DID-05

For tightening and final check of screws & bolts

Lightweight and compact with integrated display !

For checking torque of the small screw of M0.8 ~ M2.0. Checking the starting torque of the rotating body such as volume & hinge.

In order to reduce the influence of the pressing force, the weight of the main unit was minimized to about 180.

Screw tightening counter function is also standard installed.

Enable to save 5 channels of pass/fail judgement criterion, and enable to change settings easily by switch channels even if the tightening term changes.

- Lightweight and compact with integrated display

- 800 items of Memory data

- USB shape of Data output

- Settable upper limit and lower limit torque

- Notify the set value with buzzer & LED lamp

- Built-in tightening counter

- Rechargeable battery drive

- Auto power off safe operation

- Real time data output

- Cordless type

- Roller clutch has adopted and able to fast-forward in a right direction (screw tightening)



Force Gauge

เครื่องมือวัดแรงดึง
และแรงดัน

Universal

Testing Machine

เครื่องทดสอบสากล

Torque Testers

เครื่องทดสอบแรงบิด

Torque Tester

เครื่องทดสอบแรงบิด

Torque Driver

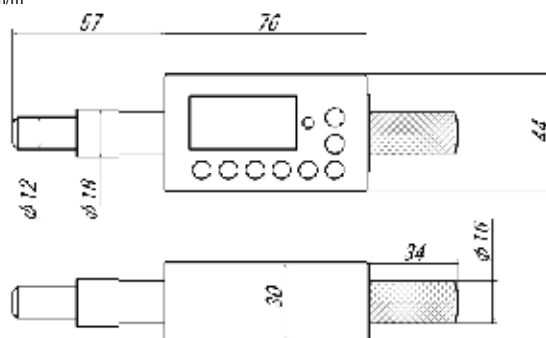
เครื่องทดสอบแรงบิด

Torque Wrench

เครื่องทดสอบแรงบิด

Order No.	DID-05		
Measuring range	2.0 ~ 500 mN•m	0.020 ~ 5 kgf•cm	0.020 ~4.5 lbf•in
Accuracy	±0.5% (499 digit or less ±3digit)		
Display	The 4 figures digital display of LCD		
The measurement direction	CW - CCW (right and left)		
Measurement Mode	PP	peak to peak The highest value of load is hold-displayed.	
	TR	track A display also changes with load change.	
	PD	peak-down Load catches and displays the moment included in descent from a rise.	
	C	Real-time Output Load torque value is outputted every about 1/160 second.	
A success or failure judging function	High and low value are measurement within the limits, and can be set up. Five-set preservation is possible.		
The Maximum, minimum, and the average value	The data number, the maximum, the minimum value, and the average value of memoty data are displayed.		
Data memory counts	800 data		
Data output	ASCII format (baud rate 19200)		
auto clear time	If the set-up time comes, measurement value will be automatically cleared in 0.0 ~ 3.0 seconds (0.5s interval).		
Setup of count	1 to 99 count (count in a clockwise direction)		
Power supply	Ni-MH chargeable battery 650 mAh		
Charge time / use time	Charge about 3 hour /, continuation about 12-hour use		
Auto-power-off	After the neglect during 10 minutes		
Bit / Socket part	Ø4		
Weight	180g		
Accessories (one piece each)	Ø4 Bit+ #1 (For one-way x1 For fixation x1)		
	Exclusive charger		
	Result of calibration document Certification on calibration document / Traceability system figure		
Option	When outputting data, the cable (USB miniB) is needed.		

Outside - dimension



ประแจวัดแรงบิด

Digital torque wrench - DIW series (120/75/20/15)



For tightening and final check of screws & bolts

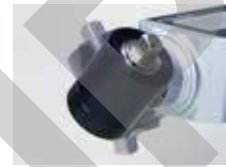
The wrench head part can rotate about 300 degrees! The eyes and the display board can be always parallel and improves operability.

Lightweight and compact with integrated display !

Cordless type and improves operability. Enable to stably measure for long continuous use. Screw tightening counter function is also installed as standard.

Enable to save 5 channels of pass/fail judgement criterion, and enable to change settings easily by switch channels even if the tightening term changes.

- The wrench head part can rotate about 300 degrees
- Lightweight and compact with integrated display
- 800 items of Memory data
- USB shape of Data output
- Settable upper limit and lower limit torque
- Notify the set value with buzzer & LED lamp
- Built-in tightening counter
- Rechargeable battery drive
- Auto power off safe operation
- Real time data output



Force Gauge

เครื่องมือวัดแรงดึงและแรงดัน

Universal

Testing Machine
เครื่องทดสอบสากล

Torque Testers

เครื่องมือทดสอบแรงบิด

Torque Tester

เครื่องมือทดสอบแรงบิด

Torque Driver

เครื่องมือทดสอบแรงบิด

Torque Wrench

เครื่องมือทดสอบแรงบิด

Order No.		DIW-15	DIW-20	DIW-75	DIW-120
Accuracy guarantee range	N/m	0.20 ~ 15	0.20 ~ 20	0.20 ~ 75	2.0 ~ 120
	kgf/cm	2.0 ~ 150	2.0 ~ 200	2.0 ~ 750	20 ~ 1200
	lbf/in	2.0 ~ 130	2.0 ~ 174	2.0 ~ 651	20 ~ 1040
Accuracy		Reading $\pm 0.5\%$ (199 or less digit ± 1 digit)		Reading $\pm 0.5\%$ (499 or less digit ± 3 digit)	
Display		The 4 figures digital display of LCD			
Measurement direction		CW-CCW (right and left)			
Measurement Mode	PP	peak to peak The highest value of load is hold-displayed.			
	TR	track A display also changes with load change.			
	PD	peak-down Load catches and displays the moment included in descent from a rise.			
	C	Real-time Output Load torque value is outputted every about 1/160 second.			
A success or failure judging function		High and low value are measurement within the limits, and can be set up. Five-set preservation is possible.			
The Maximum, the minimum, and the average value		Displays, and output the data number, the maximum, the minimum, and the average value of the measured value.			
Data memory counts		800 data			
Data output		ASCII format (baud rate 19200)			
Auto clear time		If the set-up time comes, measurement value will be automatically cleared in 0.0 ~ 3.0 seconds (0.5s interval).			
Setup of count		1 to 99 count (count in a clockwise direction)			
Power supply		Ni-MH chargeable battery 1.2Vx4cells 800mAh			
Charge time / use time		Charge about 5 hour / Continuation about 12-hour use			
Auto-power-off		After the neglect during 10 minutes			
Bit / Socket part		<input type="checkbox"/> 6.35	<input type="checkbox"/> 9.5	<input type="checkbox"/> 12.7	
Weight (about)		430g	470g	620g	830g
Accessories (one piece each)		One-way socket			
		Exclusive charger			
		Result of calibration document Certification on calibration document / Traceability system figure			
Option		When outputting data, the USB cable (mini B) is needed.			

TESTING EQUIPMENT

เครื่องมือทดสอบ

CEDAR®

จอยส์

One Way Joint - OW series (025/10/20/60)



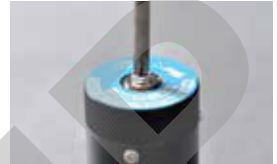
Measuring joint of electric screwdriver

Special structure that does not require rewinding

Improve workability by unique structure, and complete measurement by only operation in the tightening direction.

Enable to be performed long-time stable Torque manage due to the structure which is not necessary to consider the influence of friction.

- Enable to measure with bit set
- Efficient torque check in tightening direction
- Reaction force absorbing structure
- Enable to measure Low-range torque



Order No.		OW-025	OW-10	OW-20	OW-60
Measurement range / N·m		0.25	1	2	6
Mechanical life (number of rotation / times)		10,000	8,000	5,000	5,000
External dimensions	Bit fitting part	M2.6+	M3+	M4+	M6+
	Outer diameter / height	Ø28/44	Ø32/51	Ø32/51	Ø38/69
	Mounting part	□ 20x5(t)			

จอยส์

Measuring Joint - SJ series (50/10/100)



Measuring joint of electric screwdriver

Conventional type coil spring compression method

No decomposition of joint due to excessive return with unique structure!

The SJ Joint is a conventional coil spring compression method and can be used same as conventional management method.

- Enable to mount bits can be installed according to the driver's model
 - By installing hexagonal stat, enable to measure as the bit is attached
- ※For details of the attached bit shape, please contact us.



Order No.		SJ-10	SJ-10K	SJ-50
Measurement range / N·m		1	1	5
External dimensions	Bit fitting part	Hexagon opposite side 5 mm	Hexagon opposite side 6 mm	
	Outer diameter / height	Ø17/45 (uncompressed)	Ø20/50 (uncompressed)	Ø20/42 (uncompressed)
	Mounting part	20 corners x 5(t)		
Attached tester		CD-10M	CD-100M	