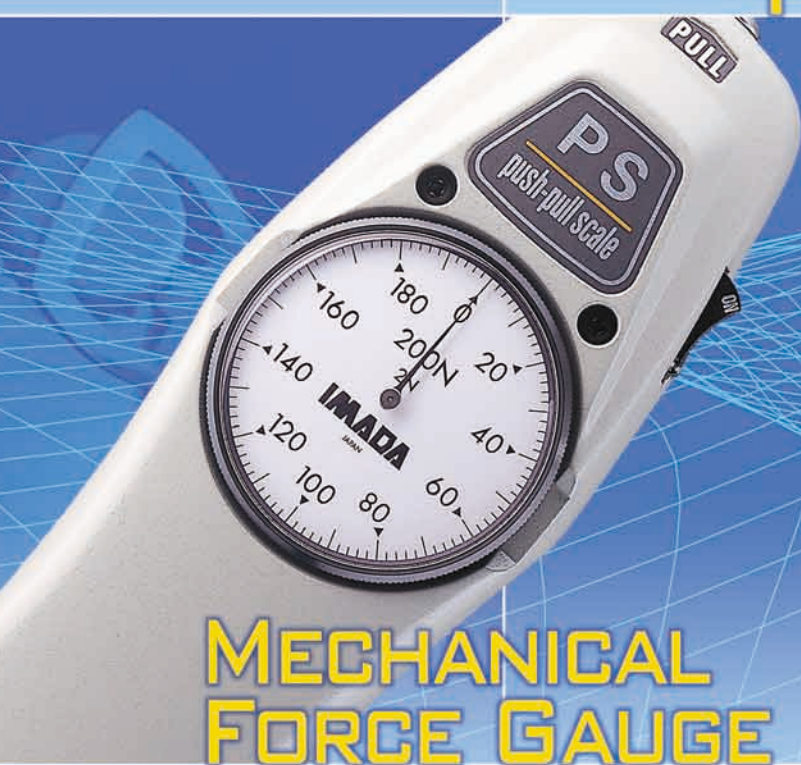


For measurements of tensile and compressive forces, it features ease of use combined with powerful functionality.



DIGITAL FORCE GAUGE



MECHANICAL FORCE GAUGE

For easy and accurate measurement without power charge. Various models and ranges of capacity are available.



MOTORIZED TEST STAND

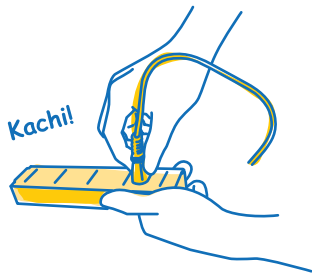
For stable measurement. It helps labor-saving and sufficient measurement. Various convenient functions available.

Force with Us

“How chunky are these cookies?” “Want to know how strong this plant roots.”

IMADA can answer to these questions and requests.

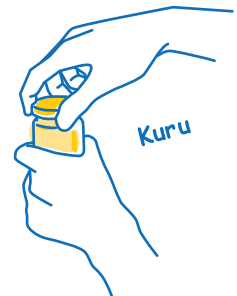
The strength, used to rely on imagination or professional experience, can be accurately measured with IMADA force measurement tools. IMADA offers more potential of measurement.



●**Inserting**: Control force to insert power point. It helps better safety.



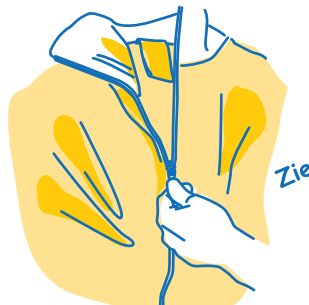
●**Stretching**: Texture of cheese effects taste. You can even control taste.



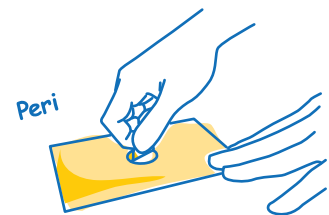
●**Rotating**: Complete tightening and easy loosening. Best balance by measurement.



●**Opening**: Not too hard, Not too easy. Study of convenient cupboard.



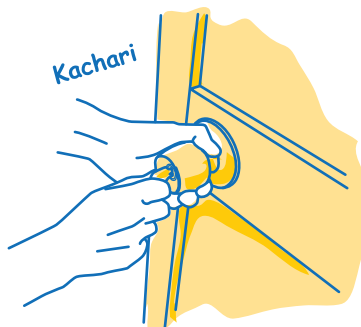
●**Pulling**: Endurance test can be operated by cycle measurement.



●**Peeling**: Development of seal by repeating peel and reseal.



●**Pressing**: Easy button deeply relies on how hard to press.



●**Locking**: Even locking and unlocking are under force control.



●**Pinching**: Force is important also to your laundry partner.

Applications Industries

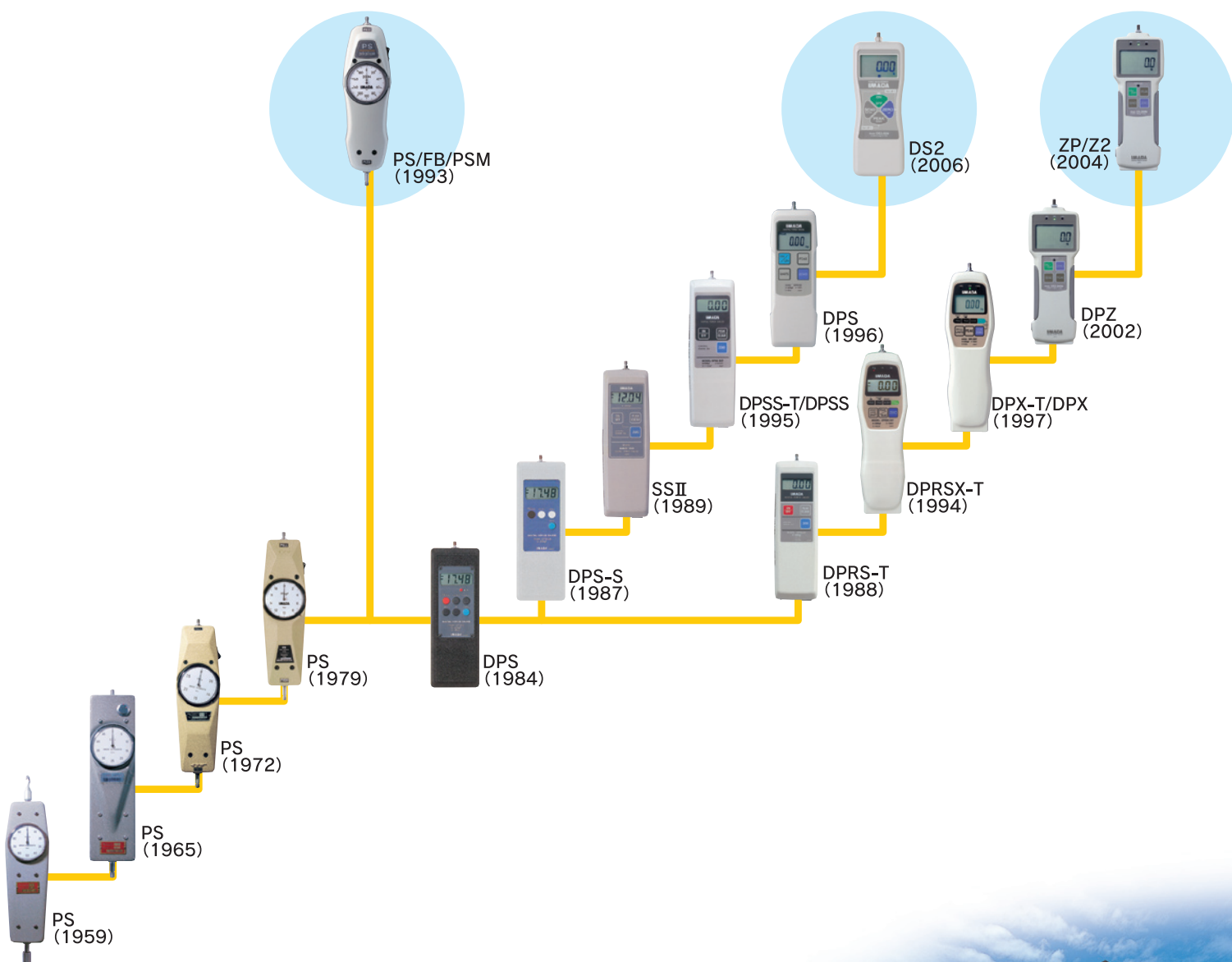
- Aircrafts ●Plastics ●Foods
- Vehicles ●Textile ●Cosmetics
- Electronics ●Sports goods ●Packages
- Precision instruments
- Office equipments
- Medical instruments

Applications

- Switch, keyboard contact press
- Adhesive bond, spot welds strength
- Brake, clutch pedal operating pressure
- Motor, bearings driving force
- Spring, silicon rubber bending strength
- Fastener, pull top can pull testing
- Connector insertion / withdrawal force
- Glass, ceramics, pills crush strength
- Seal, laminate peel strength
- Needle penetration force
- Plastic, cardboard box breaking strength
- Paste materials, fruit firmness

History of IMADA Force Gauge

The history of IMADA goes back in 1947, when a mechanical force gauge for aircraft maintenance is ordered. As Japan had imported force gauges until then, it was so hard to develop. Yet IMADA Push Pull Gauge (mechanical force gauge), developed resulting from much effort, has gone down in history as the first force gauge made in Japan. IMADA Force Gauge is now used in the fields of quality control and R&D of the various kinds of industries. Over the years, IMADA has established its name and reputation as a world leading manufacturer of Force Gauge with high quality and reliability.



We accept custom-made product

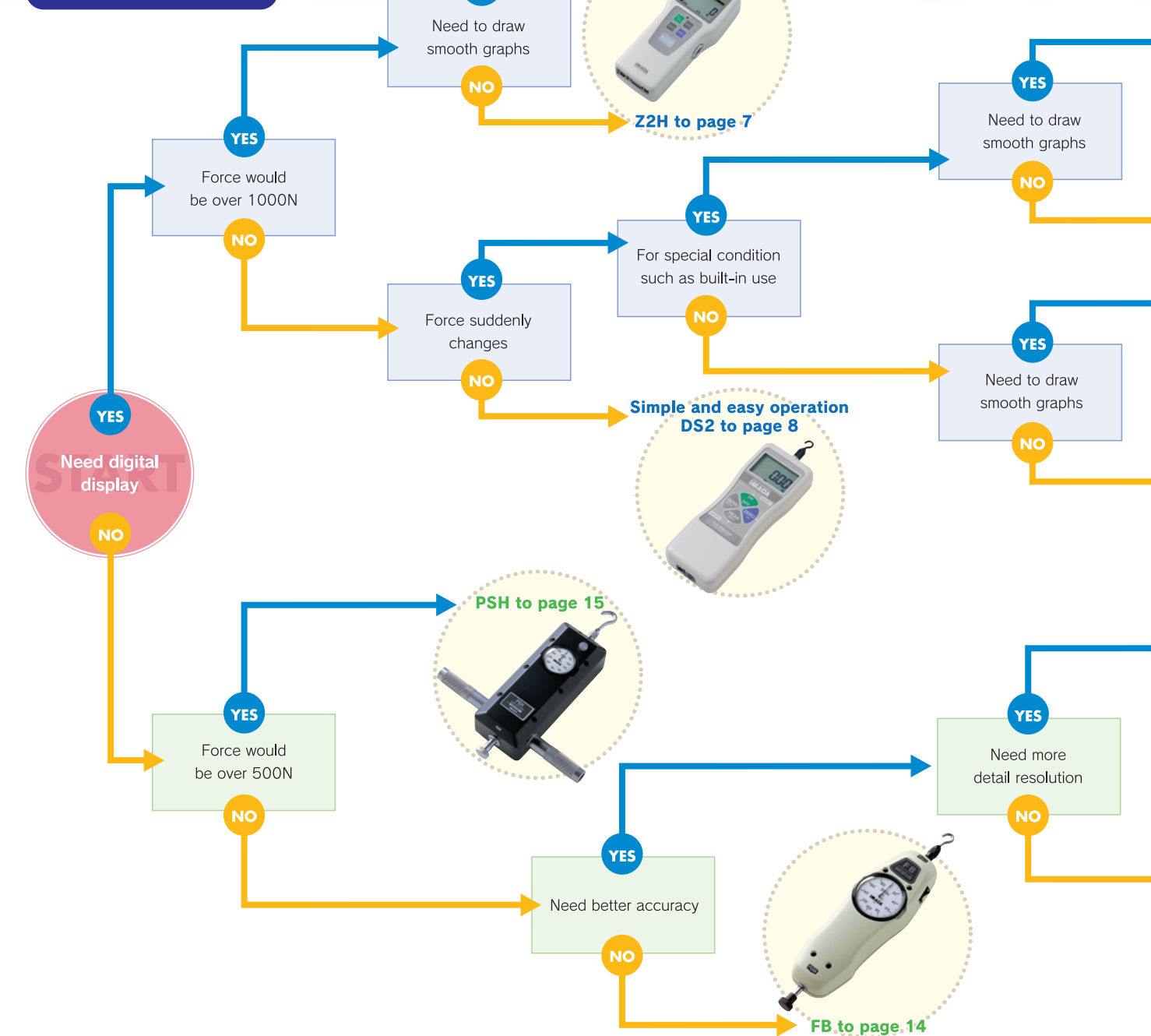
IMADA can develop and produce custom-made product based on customers' measurement requests. Our engineers offer you the best solution for the special measurement condition such as built-in measurement and specific specifications.



Criterion for Model Selection

YES

ZPH to page 7



Custom

We can offer customized models. Requests of built-in models, specialized attachments, and special specifications are always welcome.

Custom

We can offer customized models. Requests of built-in models, specialized attachments, and special specifications are always welcome.



Out sensor and useful output ZPS to page 7



Out sensor and high spec Z2S to page 7

Useful output ZP to page 6



High spec Z2 to page 6

PSM to page 15



PS to page 14



ZP series

PC connectable with USB. Smooth graph with optional software.

Z2 series

Follows even sudden force change. Convenient functions available.

ZPS/Z2S series

For dangerous measurement or built in measurement with outside sensor.

ZPH/Z2H series

Higher capacity available. Handle supports high capacity measurement.

DS2 series

Simple and compact design. Creative design supports hand held use.

PS series

Better accuracy and endurance have attracted lots of fans.

FB series

Good accuracy with good price. For simple measurement.

PSM series

Avoid misreading with more calibration points.

PSH series

Higher capacity available. Handle supports high capacity measurement.

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Consultation

“What’s the best way to measure this?” “Which model is suitable for this sample?” “Is a force gauge appropriate to measure this?” etc... It is our pleasure to give advice about not only products but also measurement as a whole. We are here to support your measurement.

Digital Force Gauges

Digital Force Gauge

Digital Force Gauge by IMADA can measure both tension and compression with high accuracy. Its responding speed is distinguished and it follows even sudden force change. It includes many convenient functions such as display reverse, input / output signals, and graph drawing with optional software. It is designed for easy holding. With test stands, more accurate measurement is available in the fields of quality control and R&D.

Features of Digital Force Gauge

1 Digital indication
avoids misreading

2 Connectable with PC,
easy data control

3 Various convenient functions

4 Good for impact/
destruction test

1 Thread
For tensile and compressive measurements.
A variety of attachments attachable

2 Comparator LED
Lights according to set comparator value

3 Display
Values, units, modes and power alarm are displayed. Reversible.

4 Overload Warning LED
Blinks when the force exceeds 110% of capacity

5 PEAK button
Selects Peak Mode or Track Mode

6 ON/OFF button
Turns power on/off.

7 ZERO button
Resets value.

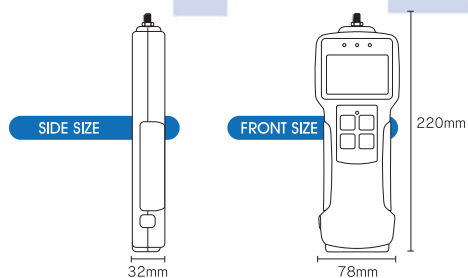
8 SEND button
Outputs/Memorizes data, Holds value while pressed

9 I/O connector for RS-232C (all models) and
USB (ZP series only)
Data can be transmitted to PC or other devices.
Signals can be sent to gauges.



full-scale

▲ an aim of the size (5mm)



ZP/Z2



ZP/Z2 set

Features

- ① Creative design is good for hand-held use
- ② Force value evaluation by LED
- ③ Memorable 1000 values
- ④ Display reversible
- ⑤ Peak hold
- ⑥ Follows sudden force change
- ⑦ Die cast aluminum housing bears noise
- ⑧ Attachments and carrying case included
- ⑨ 1 year guarantee.

Specifications

Accuracy	Att.	Thread	RS232C	USB	Analog Voltage	Memory	Unit Change
$\pm 0.2\%F.S \pm 1 \text{ digit}$	6/8	M6/M10	Yes/No	Yes/No	1V/2V	Yes/No	N/lbf/kgf

*Att.=Attachment

- **Detail**
- Weight: 520g
 - Dimension: W78*H220mm
 - Accessory: Attachments 8pcs (to page 21), AC adapter, Carrying Case, Operation Manual, Inspection Certificate, (for ZP) Data Logging Software: ZP-Logger and USB cable

Applications

- Measuring of the strength of electronic parts bonding or soldering
- Measuring of contact press for touch panel or keyboard
- Measuring of push/pull force for connector pin or slide cap
- Pull testing of pull top can or noodle container lid

Standard Model

Its responding speed is distinguished and it follows even sudden force change. Display can be reversed for using with test stand. Capacity from 2N to 1000N is available. ZP series has USB.

Common Specifications of ZP/Z2 series

Model	ZP/ZPS/ZPH (USB model)	Z2/Z2S/Z2H (NON-USB model)
Accuracy	$\pm 0.2\%F.S \pm 1 \text{ digit}$	
Display	4-digit LCD	
Display update	10times/sec	
Sampling rate	1000 times/sec(max)	
Battery usage	8 hours (Approx. 10 hours for charging)	
Overload capacity	Approx. 200% F.S.	
Power supply	Internal NiMH rechargeable battery, AC adapter	
Environment	Temperature: 0~+40°, Humidity range: 20~80%RH	
Functions	Peak hold, Memory (1000 data), Comparator, Display reverse, Auto zero clear, Alarm, Auto power off, Damping	
Output	RS232C, Analog voltage $\pm 2V$ F.S.	
	Comparator \pm NG or OK, Overload	
Overload warning	USB	Mitutoyo digimatic
	Approx. 110% F.S. (LED flash, alarm)	
External connecting switch	HOLD, ZERO, PEAK	

Model	Capacity	Display	Resolution	Measuring shaft
ZP(Z2)-2N	2N(200gf)	2.000N(200.0gf)	0.001N(0.1gf)	M6
ZP(Z2)-5N	5N(500gf)	5.000N(500.0gf)	0.001N(0.1gf)	
ZP(Z2)-20N	20N(2kgf)	20.00N(2.000kgf)	0.01N(0.001kgf)	
ZP(Z2)-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)	
ZP(Z2)-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)	
ZP(Z2)-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)	
ZP(Z2)-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)	
ZP(Z2)-1000N	1000N(100kgf)	1000N(100.0kgf)	1N(0.1kgf)	



Advantage of USB connection

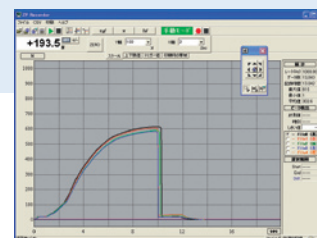
1. High usability due to the most popular interface
2. High speed data processing for accurate graphing

Included Software: ZP-Logger

Data logging software ZP-Logger is included to ZP/ZPS/ZPH series which have USB connection. Memory data and displayed value can be transferred to PC and saved in CSV style. Not graph drawing software. (Optional software is for graph drawing)

Optional Software: ZP-Recorder

ZP-Recorder is optional software for USB model ZP/ZPS/ZPH series. The maximum data transfer rate to the host computer is 1000 per second, and this high speed data communication makes smooth and accurate graphing.



Optional software for ZP(USB) model: ZP-Recorder

Digital Force Gauges

ZPS/Z2S



Separate Sensor Model

This is a force gauge display unit connected to an external load cell. This model is suitable for the use of limitation and dangerous area. This gauge is available with various shape and wide range of load cells. ZPS series has USB output function.

Specifications

Accuracy	Att.	Thread	RS232C	USB	Analog Voltage	Memory	Unit Change
$\pm 0.2\%F.S. \pm 1 \text{ digit}$	6/8 ^{*1}	M6/M10	Yes/No	Yes/No	1V/2V	Yes/No	N/lbf/kgf

Detail

- Weight: 440g (load cell excluded) ● Dimension: W78×D32×H220mm
- Accessory: Attachments 8pcs*1 (to page 21), AC adapter, Carrying Case, Operation Manual, Inspection Certificate, (for ZPS) Data Logging Software: ZP-Logger and USB cable
- Other specifications are common to ZP/Z2 series. Please refer to "Common Specifications of ZP/Z2 series" on page 6.

Model	Capacity	Display	Resolution	Thread
ZPS(Z2S)-DPU-2N	2N(200gf)	2.000N(200.0gf)	0.001N(0.1gf)	M6
ZPS(Z2S)-DPU-5N	5N(500gf)	5.000N(500.0gf)	0.001N(0.1gf)	
ZPS(Z2S)-DPU-20N	20N(2kgf)	20.00N(2,000kgf)	0.01N(0.001kgf)	
ZPS(Z2S)-DPU-50N	50N(5kgf)	50.00N(5,000kgf)	0.01N(0.001kgf)	
ZPS(Z2S)-DPU-100N	100N(10kgf)	100.0N(10,00kgf)	0.1N(0.01kgf)	
ZPS(Z2S)-DPU-200N	200N(20kgf)	200.0N(20,00kgf)	0.1N(0.01kgf)	
ZPS(Z2S)-DPU-500N	500N(50kgf)	500.0N(50,00kgf)	0.1N(0.01kgf)	M10
ZPS(Z2S)-DPU-1000N	1000N(100kgf)	1000N(100,0kgf)	1N(0.1kgf)	
ZPS(Z2S)-DPU-2000N	2000N(200kgf)	2000N(200,0kgf)	1N(0.1kgf)	
ZPS(Z2S)-DPU-5000N	5000N(500kgf)	5000N(500,0kgf)	1N(0.1kgf)	M18P1.5 D22 female screw
ZPS(Z2S)-DPU-10kN	10kN(1000kgf)	10.00kN(1000kgf)	0.01kN(1kgf)	
ZPS(Z2S)-DPU-20kN	20kN(2000kgf)	20.00kN(2000kgf)	0.01kN(1kgf)	

*1) Included 6 high capacity attachments for 1000N, 2000N and 5000N.

*No attachment is included with ZPS/Z2S-DPU-10kN or higher. Those models do not have measuring shaft but there is a female screw in place of a thread.

*Other types of load cell are available as option. (On page 11)

*The amplifier has to be adjusted every time when load cells are changed.

ZPS/Z2S set

ZPH/Z2H



High Capacity Standard Model

Covers the measurements of high force between 1000N~5000N. Display can be reversed for using with test stand. ZPH series has USB output function.

Specifications

Accuracy	Att.	Thread	RS232C	USB	Analog Voltage	Memory	Unit Change
$\pm 0.2\%F.S. \pm 1 \text{ digit}$	6/8	M6/M10	Yes/No	Yes/No	1V/2V	Yes/No	N/lbf/kgf

Detail

- Weight: 1200g ● Dimension: W92×D44.5×H232.5mm
- Accessory: Attachments 6pcs (to page 21), Handle and bolts (to page 21), AC adapter Carrying Case, Operation Manual, Inspection Certificate, (for ZPH) Data Logging Software: ZP-Logger and USB cable
- Other specifications are common to ZP/Z2 series. Please refer to "Common Specifications of ZP/Z2 series" on page 6.

Applications

- Strength test for various materials (tension test, compression test, shearing test, etc.)
- Measuring of attraction/repulsion force of solenoid or magnet.
- Adhesion test of laminated tubes.

Model	Capacity	Display	Resolution	Thread
ZPH(Z2H)-1000N	1000N(100kgf)	1000N(100,0kgf)	1N(0.1kgf)	M10
ZPH(Z2H)-2000N	2000N(200kgf)	2000N(200,0kgf)	1N(0.1kgf)	
ZPH(Z2H)-5000N	5000N(500kgf)	5000N(500,0kgf)	1N(0.1kgf)	

ZPH/Z2H set

DS2

Popular Model

It covers the measurement of low to medium force between 2N~1000N.
It has high performance and quality but simple functions and economic price.



CE



DS2 set

Features of DS2 series

- ① An ergonomic design fit to your hand
- ② Easy operation with simple functions
- ③ Display reverse function
- ④ Peak hold function
- ⑤ Rugged die cast aluminum housing
- ⑥ Included attachments and carrying case
- ⑦ 1 year guarantee

Specifications

Accuracy	Att.	Thread	RS232C	USB	Analog Voltage	Memory	Unit Change
$\pm 0.2\% \text{ F.S.} \pm 1 \text{ digit}$	6/8	M6/M10	Yes/No	Yes/No	1V/2V	Yes/No	N/lbf/kgf

*Att. = Attachment

Applications

- Measurement of tensile and compressive force.
- Measurement of strength of electronic parts, etc.
- Measurement of strength of packaging seals, etc.
- Measurement of insertion/removal force of connectors and slide caps.

Specifications of DS2 series

Accuracy	$\pm 0.2\% \text{ F.S.} \pm 1 \text{ digit}$
Display	4-digit LCD
Display update	10 times/sec
Sampling rate	1000 times/sec (max)
Battery usage	10 hours (Approx. 10 hours for charging)
Overload capacity	Approx. 200% F.S.
Power supply	Internal NiMH rechargeable battery, AC adapter
Environment	Temperature: $0 \sim +40^{\circ}$, Humidity range: $20 \sim 80\% \text{ RH}$
Functions	Peak hold Comparator Display reverse Damping (2-step)
Output	Digital (RS232C) Analog voltage Approx. $\pm 1 \text{ V F.S.}$ Mitutoyo Digimatic
Overload warning	Approx. $110\% \text{ F.S.}$ (LCD blinks)
Weight	Approx. 420 g
Dimensions	W66 × D33 × H189 mm
Included	6 attachments (Small Hook, Flat Tip, Conical Tip, Chisel Tip, Notched Tip, Extension Shaft (tp page 21)) AC adapter, Carrying case, Instruction manual, Inspection certificate

Model	Capacity	Indication	Resolution	Thread
DS2-2N	2N (200gf)	2.000N (200.0gf)	0.001N (0.1gf)	M6
DS2-5N	5N (500gf)	5.000N (500.0gf)	0.001N (0.1gf)	
DS2-20N	20N (2kgf)	20.00N (2,000kgf)	0.01N (0.001kgf)	
DS2-50N	50N (5kgf)	50.00N (5,000kgf)	0.01N (0.001kgf)	
DS2-200N	200N (20kgf)	200.0N (20,000kgf)	0.1N (0.01kgf)	
DS2-500N	500N (50kgf)	500.0N (50,000kgf)	0.1N (0.01kgf)	
DS2-1000N	1000N (100kgf)	1000N (100,000kgf)	1N (0.1kgf)	

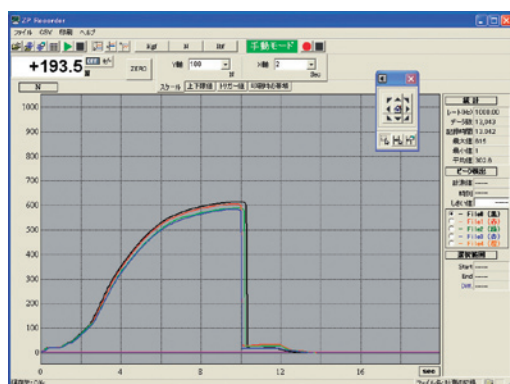
Accessories

Equipments for Output

IMADA digital force gauge can be connected to a computer or printer.

ZP-Recorder (Japanese) ZP-Recorder-E (English)

for USB



Software for USB model

ZP-Recorder is software for managing and analyzing measuring data. High-speed sampling and smooth graphing are possible by USB connection. Data comparison is easy by displaying five (max) graphs.

Main Function

- Sampling Speed: Max 1msec
- Graphing, Averaged value
- Data saving in .fcs, .csv format
- Comparison of five graphs

Corresponding Models

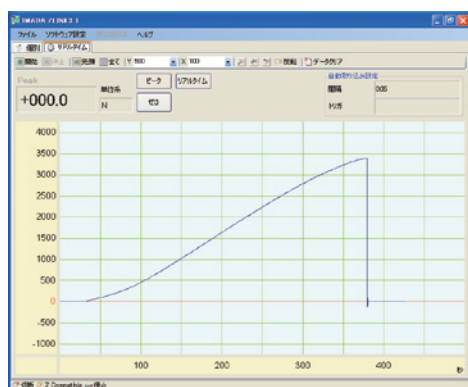
- ZP/ZPS/ZPH series (USB output)

Operating Environment

- Microsoft Windows 98SE/2000/XP
- Microsoft .Net Framework 1.1 (included)

ZLINK3 (Japanese) ZLINK3-E (English)

for RS232C



Software for RS232C connection

ZLINK is software for managing and analyzing measuring data. ZLINK3 has function of drawing graphs and managing peak value.

This software provides high usability and efficient work of data processing.

Main Function

- Sampling Speed: 20msec
- Graphing, Averaged Value
- Data saving in .bmp, .csv format

Corresponding Models

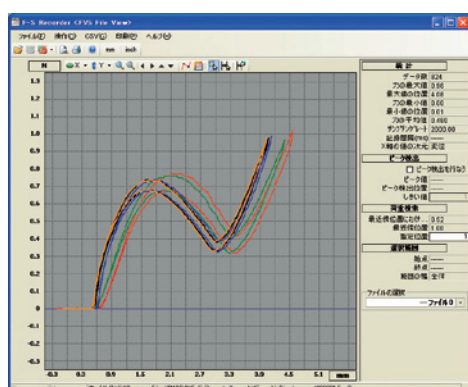
- DS2/Z/HTG2/DTX2 series

Operating Environment

- Microsoft Windows 98SE/2000/NT/XP
- Microsoft .Net Framework 1.0 or later (included)

F-S Recorder (Japanese) F-S Recorder-E (English)

for USB



Software for model F-S Master

Easy to draw graphs of Force-Time and Force-Displacement (Go to page 29)

Features

- Easy to get graph of force-displacement with USB
- Precise graph with high speed sampling (max. 0.5msec)
- Data comparison is easy by displaying five (max) graphs.
- Automatic recording by force, displacement, and external signal triggers.

Environment

CPU: Higher than Pentium 3
OS: Later than Windows 2000SP3, later than XPSP2, VISTA
Later than Microsoft Internet Explorer 5.01
Microsoft .NET Framework 2.0 (Included)

DP-1VR



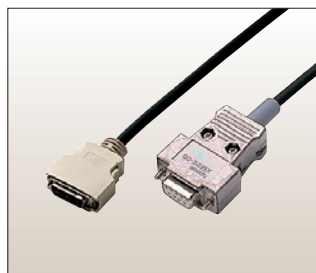
Mitutoyo Digimatic Mini Processor®

Connect to Z2/DS2/HTG2/DTX2 series to print out the measured values, max/min/average value, and standard deviation.

RS232C Cable

Connect to PC to record the measured value and to set the parameters and operate the measurements from the PC.

●Approx. 3m



CB-204

For Z/HTG2/DTX2



CB-203 (9P)

For DS2
CB-201 (25P male)
CB-202 (25P female)

Digimatic Cable

Connect to Mitutoyo Digimatic Mini-Processor to record the measured value.

●Approx. 3m



CB-304

For Z2/HTG2/DTX2



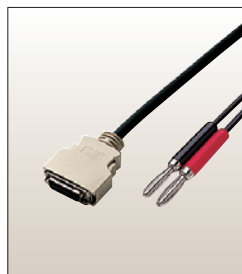
CB-301

For DS2

Analog Cable

Connect to analog equipment to record the changes in measured value.

●Approx. 3m



CB-104

For Z/HTG2/DTX2



CB-101

For DS2

Stand Option Cable (for MX series)

Connect stand (MX series) with digital force gauge Z series and force amp FA PLUS to operate Force Control / Over Load Stop / Displacement Detection / External Control and so on. (Go to *1 on page 18)

●Approx. 1.2m



CB-501

For Z series-Force control

●Approx. 1.2m(gauge side), 2m(PC side)



CB-504

For Z series-Force control
and external signal in/output

●Approx. 1m



CB-601

For FA PLUS

Stand Option Cable (for MX2, EMX series)

Connect stand (MX2 / EMX series) with digital force gauge Z series and force amp FA PLUS to operate Force Control / Over Load Stop / Displacement Detection / External Control and so on. (Go to *1 on page 18)

●Approx. 1.5m



CB-704

For Z series-Force control
(connect to MX2/EMX)

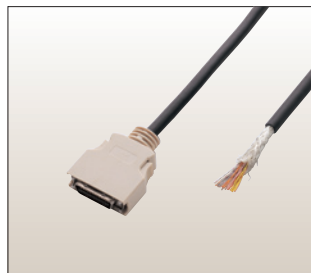
●Approx. 1.5m



CB-705

For FA PLUS-Force control
(connect to MX2/EMX)

●Approx. 1.5m



CB-706

For External signal In/Output
(connect to MX2-CN/EMX)

●Approx. 1m



CB-707

For FA PLUS (MX2-FA)

Load Cells

Load Cells

■For tension

LTS

Small range



Load cell for tension

- Capacity: 0.5N
- Accuracy: within $\pm 1\%$ F.S.
- Dimension: W34×D23×H55mm
- Cable length: Approx. 1m

Model	Capacity	Thread
LTS-0.5N	0.5N	M2

■For tension/Compression

DPU

Standard



Load cell for tension/compression

- Capacity: 2N~500N
- Accuracy: within $\pm 0.2\%$ F.S.
- Dimension: W58×D21×H71~W72×D21×H73mm
- Cable length: Approx. 2m

Model	Capacity	Thread
DPU-2N	2N	M6
DPU-5N	5N	
DPU-10N	10N	
DPU-20N	20N	
DPU-50N	50N	
DPU-100N	100N	
DPU-200N	200N	
DPU-500N	500N	

DPU

High capacity



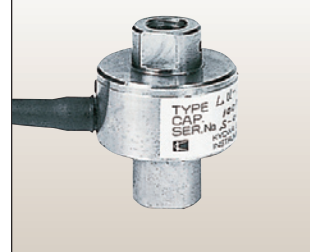
Load cell for tension/compression

- Capacity: 1000N~20kN
- Accuracy: within $\pm 0.2\%$ F.S.
- Dimension: W58×D24×H130~W88×D40×H155mm
- Cable length: Approx. 3m

Model	Capacity	Thread
DPU-1000N	1000N	M10
DPU-2000N	2000N	
DPU-5000N	5000N	
DPU-10kN	10kN	M18P1.5 D22 female screw
DPU-20kN	20kN	

LU

Multipurpose



Load cell for tension/compression

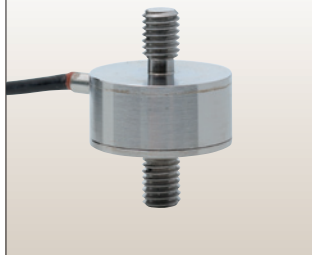
- Capacity: 50N~2000N
- Accuracy: within $\pm 1\%$ F.S.
- Dimension: $\phi 28 \times H35$ mm
- Cable length: Approx. 3m

Model	Capacity
LU-50N	50N
LU-100N	100N
LU-200N	200N
LU-500N	500N
LU-1000N	1000N
LU-2000N	2000N

■For Compression

LMU

Small size



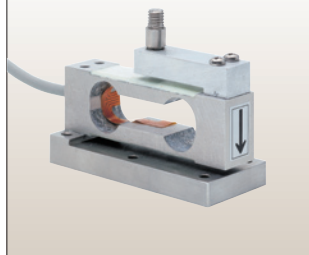
Load cell for tension/compression

- Capacity: 50N~500N
- Accuracy: within $\pm 1\%$ F.S.
- Dimension: $\phi 18 \times H25$ mm
- Cable length: Approx. 2m

Model	Capacity	Thread
LMU-50N	50N	M5P0.8
LMU-100N	100N	
LMU-200N	200N	
LMU-500N	500N	

WP-50N

Waterproof



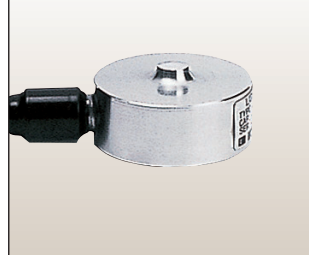
Load cell for tension/compression

- Capacity: 50N
- Accuracy: within $\pm 0.5\%$ F.S.
- Use environment: IP65
- Dimension: W70×D30×H58mm
- Cable length: Approx. 30cm

Model	Capacity	Thread
WP-50N	50N	M6

LC

Multipurpose



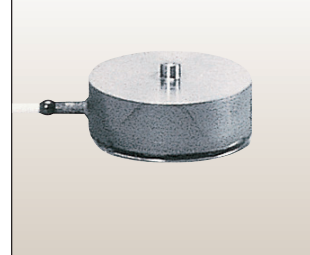
Load cell for compression

- Capacity: 500N~20kN
- Accuracy: within $\pm 0.5\%$ F.S.
- Dimension: $\phi 50 \times H25$ mm
- Cable length: Approx. 3m

Model	Capacity
LC-500N	500N
LC-1000N	1000N
LC-2000N	2000N
LC-5000N	5000N
LC-10kN	10kN
LC-20kN	20kN

LM

Small size



Load cell for compression

- Capacity: 5N~20kN
- Accuracy: 5~2000N=within $\pm 1\%$ F.S., 5000N/10kN=within $\pm 1.5\%$ F.S., 20kN=within $\pm 2.5\%$ F.S.
- Dimension: $\phi 12 \times H4$ mm~ $\phi 21 \times H10$ mm
- Cable length: Approx. 2m

Model	Capacity
LM-5N	5N
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

*When you connect a load cell to ZPS/Z2S display and FA Plus force amp., adjustment is necessary whenever load cell is changed.

*The accuracy of the load cells are guaranteed when connected to IMADA display and amplifier.

*We can offer customized load cells as requested.



Please note that Force gauges and load cells are easily broken if force exceeding capacity is applied, regardless power on/off. Make sure to avoid overload.

Load Cells for Other Purposes

LMT-1000N

High temperature



Load cell for compression

- Capacity: 1000N
- Accuracy: within $\pm 5\%$ F.S.
- Use temperature: $-40 \sim +130^{\circ}\text{C}$
- Dimension: $\phi 14 \times \text{H}4.3\text{mm}$
- Cable length: Approx. 2m

Model	Capacity
LMT-1000N	1000N

PN-50N

Pen type



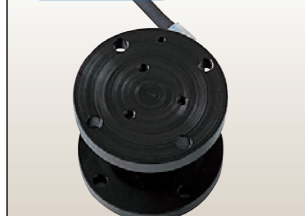
Load cell for compression

- Capacity: 50N
- Accuracy: within $\pm 2\%$ F.S.
- Dimension: $\phi 20 \times \text{H}90\text{mm}$
- Cable length: Approx. 2m

Model	Capacity	Thread
PN-50N	50N	M6

TFC

For torque



Load cell for torque

- Capacity: 200N-cm \sim 1000N-cm
- Accuracy: within $\pm 0.5\%$ F.S.
- Dimension: $\phi 60 \times \text{H}53\text{mm}$
- Cable length: Approx. 2m

Model	Capacity
TFC-200Nc	200N-cm
TFC-500Nc	500N-cm
TFC-1000Nc	1000N-cm

TMS

For String Tension



Load cell for wire/string tension

- Capacity: 500N \sim 2000N
- Accuracy: within $\pm 0.5\%$ F.S.
- Dimension: TMS-50=W100×D31×H170mm, TMS-100/200=W120×D45×H250mm
- Cable length: Approx. 2m

Model	Capacity
TMS-500N	500N
TMS-1000N	1000N
TMS-2000N	2000N

Desktop Force Amplifier

DM-2000N

For Door



Load cell for automatic door

- Capacity: 2000N
- Accuracy: $\pm 2\%$
- Dimension: W94×D66×H380mm
- Cable length: Approx. 2m

Model	Capacity
DM-2000N	2000N

FA Plus

FA Plus can be connected to any load cells and used under various measurement conditions.

Digital Force Analyzer: FA Plus



- Used for strength test for various materials. (tension test, compression test, shearing test, peeling test and so on.)
- High-speed force sampling (2000 times/sec.).
More precise value is measured especially at impulse experiment.
- High efficiency for measurement of factory automation system with external in/output signal.
- Separated load cell and amp are efficient when used for dangerous measurement or used in small space.
- Easy to make force-displacement graph.
(Optional software: F-S Recorder is needed. To page 9, 29)

Specifications of FA Plus

- Unit: N (kN), kgf (gf), lbf (ozf)
- Display mode: Track/peak mode
- Display: 4-digits LCD with sign
- Sampling speed: 2000times/sec.
- LCD display update: 10times/sec.
- Capacity: Depends on Load cell
- Accuracy: $\pm 0.2\%$ F.S.
 ± 1 digit (DPU series)
- Environment: $0 \sim +40^{\circ}\text{C}$, 20~80% RH
- Power: AC100V \sim 240V
- Optput: USB, RS232C, Analog (Approx. $\pm 2\text{V F.S.}$), Comparator output, Overload output
- External connection switch: External control is possible
- Accessories: FAP Logger
- Weight: Approx. 1.5kg
- Size: W210×D160×H99mm

Mechanical Force Gauges

Mechanical Force Gauges (Push-Pull Scale)

IMADA mechanical force gauge can accurately measure tensile / compressive force without power supply.

Based on our long history of technical achievement as a force gauge pioneer with the variety of know-how, IMADA mechanical force gauge is produced under advanced technology and severe quality control, and maintain high precision for a long period of time.

Features of Mechanical Force Gauge

Feature
①

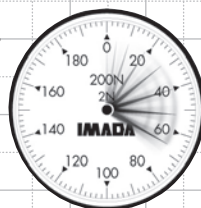
Power supply Needless

Feature
②

Durable and high reliability

Feature
③

Force transition is readable



1. Ergonomic design for hand held use
2. Rugged die cast aluminum housing
3. Durable high accuracy with exclusive indicator and special spring materials
4. Peak force hold on all models
5. Zero adjustment for tare weight
6. Easy to read dial
7. Included attachments and carrying case
8. 1 year guarantee

① **Tensile thread(PSS/PS/PSM/FS/FB:M6P1)
(PSH:M10P1.5)**

Measure tensile forces with the following attachments: Small Hook, Large Hook, Y Hook and optional attachments.

② **Peak switch**

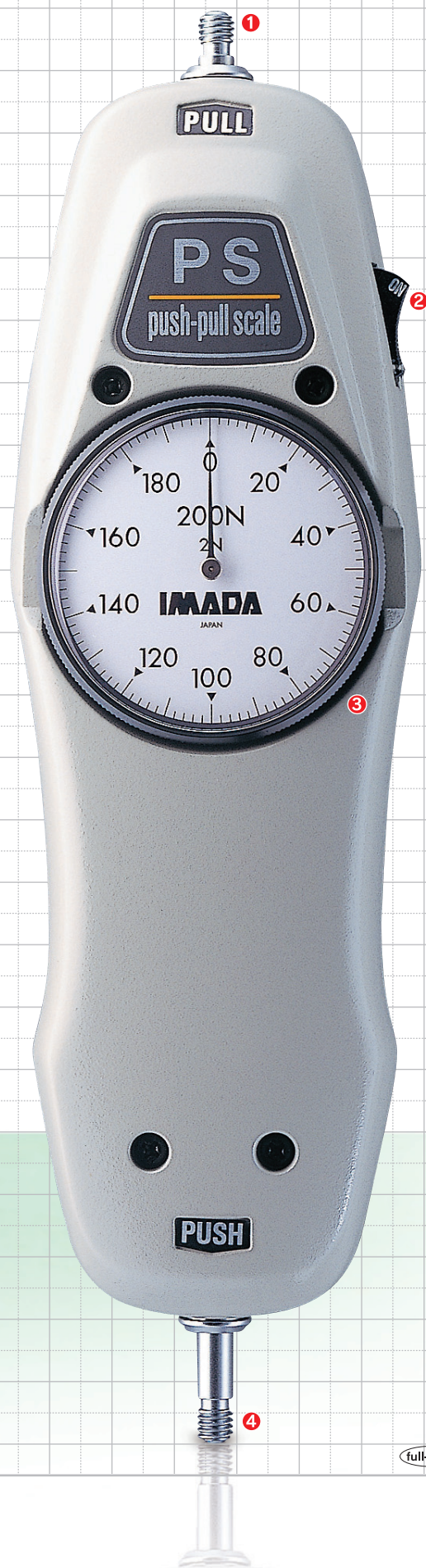
This switch activates or clears peak hold reading.

③ **Tare ring**

Rotate tare ring to zero

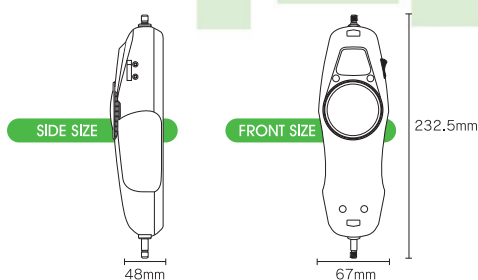
④ **Compressive thread(PSS/PS/PSM/FS/FB:M6P1)
(PSH:M10P1.5)**

Measure compressive forces with the following attachments: Flat Tip, Conical Tip, Chisel Tip, Notched Tip and optional attachments.



full-scale

▲an aim of the size (5mm)



PS/PSS



PS/PSS set

Specifications

Accuracy	Att.	Thread	Test Direction	Division	Peak Hold
±0.1% F.S.	6/8	M6/M10	Push/Pull	100lines/200lines	Yes/No

*Att.=Attachment

Specifications

- Stroke: 10mm
- Graduation: 100lines (120 lines for 30N, 300N, 3K, 30K, 30lb)
- Measurement mode: Track and peak mode (selectable)
- Environment: 0~+40°C
- Weight: Approx. 670 g (PS-500N) *differ from model numbers
- Dimension: W67×D48×H232.5mm
- Accessory: Attachments 8pcs (to page 21), Carrying Case, Operation Manual, Inspection Certificate

Applications

- 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 appropriate for measurements with sudden force change.

Standard Model

It is the standard type with high precision and durability. Covers the measurements of low to medium force between 5N~500N.

Model	Capacity	Resolution	Thread
PS-5N	5N	0.05N	M6
PS-10N	10N	0.1N	
PS-20N	20N	0.2N	
PS-30N	30N	0.25N	
PS-50N	50N	0.5N	
PS-100N	100N	1N	
PS-200N	200N	2N	M6
PS-300N	300N	2.5N	
PS-500N	500N	5N	

Model	Capacity	Resolution	Thread
PSS-0.5K	500gf	5gf	M6
PSS-1K	1kgf	10gf	
PSS-2K	2kgf	20gf	
PSS-3K	3kgf	25gf	
PS-5K	5kgf	50gf	
PS-10K	10kgf	100gf	
PS-20K	20kgf	200gf	M6
PS-30K	30kgf	250gf	
PS-50K	50kgf	500gf	

Model	Capacity	Resolution	Thread
PS-5lb	5lbf	0.05lbf	M6
PS-10lb	10lbf	0.1lbf	
PS-20lb	20lbf	0.2lbf	
PS-30lb	30lbf	0.25lbf	
PS-50lb	50lbf	0.5lbf	
PS-100lb	100lbf	1lbf	

FB/FS



FB/FS set

Specifications

Accuracy	Att.	Thread	Test Direction	Division	Peak Hold
±0.3% F.S.	6/8	M6/M10	Push/Pull	100lines/200lines	Yes/No

*Att.=Attachment

Specifications

- Stroke: 10mm
- Graduation: 100lines (120 lines for 30N, 300N, 3K, 30K, 30lb)
- Measurement mode: Track and peak mode (selectable)
- Environment: 0~+40°C
- Weight: Approx. 630 g (FB-100N) *differ from model numbers
- Dimension: W67×D48×H232.5mm
- Accessory: Attachments 6pcs (to page 21), Carrying Case, Operation Manual, Inspection Certificate

Applications

- 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 appropriate for measurements with sudden force change.

Popular Model

FS/FB model performs steady precision at most affordable price. Covers the measurements of low to medium force between 10N~500N.

Model	Capacity	Resolution	Thread
FB-10N	10N	0.1N	M6
FB-20N	20N	0.2N	
FB-30N	30N	0.25N	
FB-50N	50N	0.5N	
FB-100N	100N	1N	
FB-200N	200N	2N	
FB-300N	300N	2.5N	M6
FB-500N	500N	5N	

Model	Capacity	Resolution	Thread
FS-1K	1kgf	10gf	M6
FS-2K	2kgf	20gf	
FS-3K	3kgf	25gf	
FB-5K	5kgf	50gf	
FB-10K	10kgf	100gf	
FB-20K	20kgf	200gf	
FB-30K	30kgf	250gf	M6
FB-50K	50kgf	500gf	

Model	Capacity	Resolution	Thread
FB-5lb	5lbf	0.05lbf	M6
FB-10lb	10lbf	0.1lbf	
FB-20lb	20lbf	0.2lbf	
FB-30lb	30lbf	0.25lbf	
FB-50lb	50lbf	0.5lbf	
FB-100lb	100lbf	1lbf	

Mechanical Force Gauges

PSM



PSM set

Specifications

Accuracy	Att.	Thread	Test Direction	Division	Peak Hold
±0.1%F.S.	6/8	M6/M10	Push/Pull	100lines/200lines	Yes/No

*Att.=Attachment

Specifications

- Stroke: 10mm
- Graduation: 200lines (150 lines for 30N, 300N, 3K, 30K)
- Measurement mode: Track and peak mode(selectable)
- Accessory: Attachments 8pcs (to page 21), Carrying Case, Operation Manual, Inspection Certificate
- Environment: 0~+40°C
- Weight: Approx. 660 g (PSM-300N) *differ from model numbers
- Dimension: W67×D48×H232.5mm

Applications

- 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 appropriate for measurements with sudden force change.

Precision Model

Its high-resolution scale has more calibration points than other models.

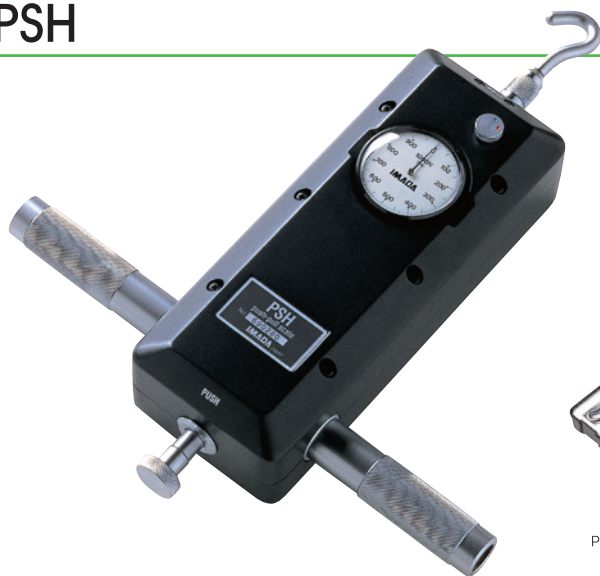
It helps you to avoid misreading.

Covers the measurements of low to medium force between 20N~500N.

Model	Capacity	Resolution	Thread
PSM-20N	20N	0.1N	M6
PSM-30N	30N	0.2N	
PSM-50N	50N	0.25N	
PSM-100N	100N	0.5N	
PSM-200N	200N	1N	
PSM-300N	300N	2N	
PSM-500N	500N	2.5N	

Model	Capacity	Resolution	Thread
PSM-2K	2kgf	10gf	M6
PSM-3K	3kgf	20gf	
PSM-5K	5kgf	25gf	
PSM-10K	10kgf	50gf	
PSM-20K	20kgf	100gf	
PSM-30K	30kgf	200gf	
PSM-50K	50kgf	250gf	

PSH



PSH set

Specifications

Accuracy	Att.	Thread	Test Direction	Division	Peak Hold
±0.1%F.S.	6/8	M6/M10	Push/Pull	100lines/200lines	Yes/No

*Att.=Attachment

Specifications

- Stroke: 10mm
- Graduation: 100lines (120 lines for 3000N, 300K, 300lb)
- Measurement mode: Track and peak mode(selectable)
- Accessory: Attachments 6pcs (to page 21), 2 exclusive handles, 4 installation bolts, Carrying Case, Operation Manual, Inspection Certificate
- Environment: 0~+40°C
- Weight: Approx. 2.8kg (PSH-2000N) *differ from model numbers
- Dimension: W95×D63.5×H290mm

Applications

- Strength test for various materials (tension test, compression test, shearing test, etc.)
 - Measuring of attraction/repulsion force of solenoid or magnet.
 - Adhesion test of laminated tubes.
- *Digital force gauges are appropriate for measurements with sudden force change.

High Capacity Standard Model

Extra strong body supports high load range with best reliability.

Covers the measurements of high force between 500N~3000N.

Model	Capacity	Resolution	Thread
PSH-500N	500N	5N	M10
PSH-1000N	1000N	10N	
PSH-2000N	2000N	20N	
PSH-3000N	3000N	25N	

Model	Capacity	Resolution	Thread
PSH-50K	50kgf	500gf	M10
PSH-100K	100kgf	1kgf	
PSH-200K	200kgf	2kgf	
PSH-300K	300kgf	2.5kgf	

Model	Capacity	Resolution	Thread
PSH-200lb	200lb	2lb	M10
PSH-300lb	300lb	2.5lb	
PSH-500lb	500lb	5lb	

UKT/UKK



Specifications	UKT	UKK		UKT	UKK		
Accuracy	Att.	Att.	Thread	Test Direction	Test Direction	Division	Peak Hold
±0.3% F.S.	4/5	4/5	M6/M1.0	Push/Pull	Push/Pull	100lines/200lines	Yes/No

● Specifications

- Stroke:10mm ●Graduation:100lines(120 lines for 30N, 300N, 3K, 30K, 30lb) ●Measurement mode:Track and peak mode(selectable)
 ●Peak hold function ●Environment:0~+40℃ ●Weight:Approx.300g ●Dimension:W60×D40×H156mm
 ●Included:UKF=5 tension attachments(Small Hook, Extension Shaft, Large Hook, Y Hook),
 UKK=5 compression attachments(Flat Tip, Conical Tip, Chisel Tip, Notched Tip, Extension Shaft),
 Carrying Case, Instruction Manual, Inspection Certificate

Applications

- Measuring of the contact pressure for touch panel or keyboard.
 - Measuring of the bonding strength of adhesive tapes and the peel strenght of adhesive sheets.
- *Digital force gauges are appropriate for measurements with sudden force change.

Compact Model (for tension / for compression)

The smallest in dimension among all mechanical gauges
Ideal for built in narrow space.

Measuring direction is specialized: UKT for tension and UKK for compression.

Model		Capacity	Resolution	Throughput
Tension	Compression			
UKT-20N	UKK-20N	20N	0.2N	M6
UKT-30N	UKK-30N	30N	0.25N	
UKT-50N	UKK-50N	50N	0.5N	
UKT-100N	UKK-100N	100N	1.0N	
UKT-200N	UKK-200N	200N	2.0N	
UKT-300N	UKK-300N	300N	2.5N	

Model		Capacity	Resolution	Throughput
Tension	Compression			
UKT-2K	UKK-2K	2kgf	20gf	M6
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	30kaf	250af	

Model		Capacity	Resolution	Throughput
Tension	Compression			
UKT-51b	UKK-51b	51bf	0.051bf	M6
UKT-101b	UKK-101b	101bf	0.11bf	
UKT-201b	UKK-201b	201bf	0.21bf	
UKT-301b	UKK-301b	301bf	0.251bf	
UKT-501b	UKK-501b	501bf	0.51bf	

Selection of suitable force gauge

We classify force gauges into two groups: mechanical and digital. Each model has specific features and functions. Suitable force gauge must be chosen according to measuring purpose.

Comparison of mechanical and digital force gauges

	Digital Force Gauge	Mechanical Force Gauge
Advantage	<ul style="list-style-type: none"> ● Less reading error ● Connectable to PC, and other equipment ● Various functions as digital instrument ● Suitable for impact and break point test 	<ul style="list-style-type: none"> ● No electricity is required ● Durable ● Possible to read force transition
Weakness	<ul style="list-style-type: none"> ● Difficult to read force transition without software ● Necessary to charge a battery 	<ul style="list-style-type: none"> ● Unsuitable for impact and break point test ● Reading error might occur by individual difference

Selection of suitable range

Please choose suitable range of force gauge as the following method.

Measuring method	Selection of the range
When you do high speed test as impact and break point	<p>Please select the capacity is 200% of measuring value.</p> <p>For example; Measuring value: 10N In the case of ZP series ZP-20N which is double capacity of measuring value is suitable.</p>
when you do slow speed test as elongation test	<p>Please select the capacity is 150% of measuring value.</p> <p>For example; Measuring value: 30N In the case of ZP series Suitable Capacity is 45N and choose ZP-50N.</p>



Please note that force gauges are easily broken if force exceeding capacity is applied, regardless power on/off.



We recommend attachments whose weight is less than 10% of gauge capacity.

Please be careful to select an attachment when you use small range gauge.

Motorized Test Stands

For precise and repeatable measurements, test stand is necessary in order to keep same test condition. It does not need heavy manual labor when applying large forces, and makes the task of obtaining measurements more efficient.

*All the force gauges shown with the test stands in this page are sold separately.

MX series

Easy Operation

MX-500N/MX-1000N/MX-2000N/MX-5000N

Motorized Test Stands

It covers low-load up to 500N.
This stand covers from quality control to material testing as tension-compression tester.

- Single / continuous cycle function
- Fix speed / adjustable speed mode select
- Overload stop(work with Z series)*1
- Force control mode(work with Z series)*1
- Power supply: AC100~240V
- Safety feature: Upper / lower limit, Emergency button



MX-500N



MX-1000N
It covers low-load up to 1000N.



MX-2000N
It covers up to 2000N.



MX-5000N
It covers up to 5000N.



Item	MX-500N	MX-1000N	MX-2000N	MX-5000N
Capacity (N)	500	1000	2000	5000
Stroke with gauge (mm)*2	235	410	285	305
Travel distance (mm)	270	420	340	350
Speed (mm/min)	10-300	8-240	6-180	10-300
Dimension WxDxH (mm)	Approx. 214×428×573	Approx. 263×368×903	Approx. 250×483×782	Approx. 250×420×816
Weight (Kg)	Approx. 13	Approx. 24	Approx. 23	Approx. 30

Option*3	MX-500N	MX-1000N	MX-2000N	MX-5000N
Speed/Length Meter*4			-E	
Length Meter			-S	
Timer*5		N/A		-TM
Counter		N/A		-CT
for FA PLUS		N/A		-FA
Long Stroke *6	-L550	-L650	-L600	N/A
Speed Range Change*7	Please contact us			

MX2 series

Highly Functional

MX2-500N/MX2-1000N

Motorized Test Stands

Addition to the functions of MX series, LCD supports easy and precise operation. Detail of measurement conditions can be set with a dial. Standard functions of timer and counter answer to the request of endurance test. The strength of shaft was also improved and it can apply force more accurately.

- Jog/Manual/Cycle Mode
- Speed, Timer, Counter settable on display
- Overload Prevention (with Z series)*1
- Force Control (with Z series)*1
- Power: AC100 to 240V
- Safety Guard: Upper/Lower stroke limit, Emergency button, Front shield

Item	MX2-500N	MX2-1000N
Capacity (N)	500	1000
Stroke with gauge (mm)*2	240	310
Travel distance (mm)	240	295
Speed (mm/min)	10-300	10-300
Dimension WxDxH (mm)	Approx. 220×380×562	Approx. 280×421×660
Weight (Kg)	Approx. 18	Approx. 19

Option *3	MX2-500N	MX2-1000N
Length Meter		-S
Long Stroke*6	-L	-L
for FA PLUS		-FA
I/O connector	-CN	-CN
Speed Range Change*7	Please contact us	



MX2-500N



MX2-1000N



EMX series

Professional

EMX-1000N

Motorized Test Stands

Highest spec and best quality among IMADA test stands.

Addition to various functions of MX2 series, control by displacement is possible. (Displacement output is an option). Significantly strong main shaft helps accurate and professional measurement even with easy operation. Various measurement conditions are settable with wide speed range and small resolutions of displacement.

- Jog/Manual/Cycle Mode
- Speed, Timer, Counter settable on display
- Overload Prevention (with Z series)*1
- Force Control (with Z series)*1
- Control by displacement
- I/O signal (optional cable is needed)
- Speed change at set position while measurement
- Power: AC100 to 240V
- Safety Guard: Upper/Lower stroke limit, Emergency button, Front shield

Item	EMX-1000N
Capacity (N)	1000
Stroke with gauge (mm)*2	315
Travel distance (mm)	280
Speed (mm/min)	0.5-600
Dimension WxDxH (mm)	Approx. 280×421×643
Weight (Kg)	Approx. 23.5

Option*3	EMX-1000N
Long Stroke *6	-L
for FA PLUS	-FA



EMX-1000N



Horizontal series

MH-1000N
(Automatic / manual operation)ML-1000N
(Manual operation)

Motorized Test Stands

Horizontal model covers low-load up to 1000N.

High functional MH series and basic ML series are available.

〈MH-1000N function〉

- Single / continuous cycle function
- Fix speed / adjustable speed mode select
- Overload stop (work with Zseries)*1
- Force control mode (work with Zseries)*1
- 〈Common specification〉
- Safety feature: Left / right limit, Emergency button
- Power supply: AC100~240V

Item	MH-1000N/ML-1000N
Capacity (N)	1000
Stroke with gauge (mm)*2	285
Travel distance (mm)	235
Speed (mm/min)	6-180
Dimension WxDxH (mm)	Approx. 700×195×210
Weight (Kg)	Approx. 14

Option*3	MH-1000N/ML-1000N
Speed/Length Meter*4	-E
Length Meter	-S
Long Stroke *6	-L□□
Speed Range Change*7	Please contact us



MH-1000N

Horizontal series

MH-300

Motorized Test Stands

Horizontal model covers up to 3000N.

Include auto-cycle function.

- Manual / single cycle / continuous cycle function
- Power supply: AC100~240V

Item	MH-300
Capacity (N)	3000
Stroke with gauge (mm)*2	295
Travel distance (mm)	245
Speed (mm/min)	8-240
Dimension WxDxH (mm)	Approx. 700×252×227
Weight (Kg)	Approx. 29

Option*3	MH-300
Speed/Length Meter*4	-E
Length Meter	-S
5 Step Speed	-5C
Long Stroke *6	-L□□
Speed Range Change*7	Please contact us



MH-300

*1 Valid by connected to digital force gauge Z series or force amplifier FA PLUS with optional cable. Overload Prevention is function that stand stops operation when force exceeding capacity is applied. This function doesn't guarantee perfect prevention of overload. Force control is function to stop when force reaches set value and to keep force within set value range.

*2 Max distance from table of stand to tip of thread of force gauge Z series.

*3 Option code should be added after model numbers.

*4 Displays speed and displacement. The value can be held by keeping button pressed. Built in factory.

*5 Keep set force range for set time period, and goes back. Valid when connected to force gauge Z series. Composed at factory.

*6 The possible extension length depends on stand models.

*7 Capacity may decrease by speed range change. Please contact us for detail.

Manual Test Stands

For precise and repeatable measurements, test stand is necessary in order to keep same test condition. It does not need heavy manual labor when applying large forces, and makes the task of obtaining measurements more efficient. In the measurement which small movement is required, exact measurement is attained by handle or lever operation.

*All the force gauges shown with the test stands in this page are sold separately.

SV series

SV-1

Manual Test Stand for Compression (lever)

SV-1 is exclusive for compression measurement. Simple one-lever control makes the measurement efficient.



SV-1

Item	SV-1	SV-2
Capacity (N)	500	500
Stroke with gauge (mm)*1	225	225
Travel distance (mm)	60	60
Travel per 1 turn	60mm per 110°	3mm
Mechanical stopper	Attached	Attached
Dimension W×D×H (mm)	Approx. 200×250×410	Approx. 200×250×410
Weight (Kg)	Approx. 9	Approx. 8

SV-2

Manual Test Stand (handle)

SV-2 is compact manual test stand of handle operation. It is simple and easy operation.



SV-2

Option*2	SV-1	SV-2
Extended Shaft (No change on stroke)	-L600	- L600
Length Meter	N/A	-S

KV series

KV-50N

Manual Test Stand for Low-loaded

Quick and precise measurements for low-loaded. Minimum size gives convenience in transporting.



KV-50N

Item	KV-50N
Capacity (N)	50
Stroke with gauge (mm)*1	60
Travel distance (mm)	100
Travel per 1 turn	1mm
Dimension W×D×H (mm)	Approx. 140×180×220
Weight (Kg)	Approx. 2

Option*2	KV-50N
Long Stroke	N/A
Length Meter	-S

MS series

MSF-50N/F-S Master-MSL-□□N

Manual Test Stand for Low-loaded

Light and compact design makes easy to carry around and good for measurement in small space. Measurement at various angles is possible. Force-displacement graph can be drawn (FS Master-MSL series).

Best size for hand held use.
*Force gauge is not included.



FS Master-MSL-□□N

MSF-50N

Models

Model	Capacity	Length meter	Detail
MSF-50N	50N	—	Used with digital force gauges (capacity:2N to 50N)
F-S Master-MSL-□□N(*1)		○	Force measurement unit including a load cell, length meter, force amplifier and software

*1□□N is arbitrary capacity of load cell.



Slight movement is available with adjuster knob.



Possibility of work place and usage is broadened with light and compact design.



Force-Time and Force-Displacement curve can be drawn with F-S Master-MSL-□□N.

Specifications

Capacity	50N	
Stroke	Approx.80mm(Max.)	
Structure	Rack&Pinion(18mm/1 turn)	
Dimension	W109.4*D72*H204mm	
Weight	Approx. 1.2kg	
Accessory	Attachment mounting plate,screws	
Applicable force gauges	MSF-50N	Digital force gauge by IMADA
	F-S Master-MSL-□□N	Load cells(DPU series)/by IMADA

Applicable capacity is up to 50N

HV series

HV-1000N/HV-3000N

Manual Test Stand

Vertical stand in manual operation; with a minute revolution of 1.2mm/one complete turn of hand-wheel ensures delicate measurement.



HV-1000N

HV-500N II

For tension / compression test up to 500N.
Includes mechanical stopper.



HV-500N II

Item	HV-500N II	HV-1000N	HV-3000N
Capacity (N)	500	1000	3000
Stroke with gauge (mm)*1	240	375	390
Travel distance (mm)	280	370	425
Travel per 1 turn	2mm	1.2mm	0.6mm
Mechanical stopper	Attached	N/A	N/A
Dimension W×D×H (mm)	Approx. 327×309×598	Approx. 305×275×730	Approx. 355×310×744
Weight (Kg)	Approx. 10	Approx. 18	Approx. 24

Option*2	HV-500N II	HV-1000N	HV-3000N
Long Stroke*3	-L550	-L630	-L630
Length Meter	-S	-S	-S

SH series

SH-1000N/SH-3000N

Manual Test Stand

Horizontal stand that helps easy sample handling in manual operation.

Delicate and stable movement is possible with small step travel.

Easy sample handling due to its horizontal design.



SH-1000N

Item	SH-1000N	SH-3000N
Capacity (N)	1000	3000
Stroke with gauge (mm)*1	250	320
Travel distance (mm)	280	365
Travel per 1 turn	1.2mm	0.6mm
Dimension W×D×H (mm)	Approx. 560.5×265×219.5	Approx. 696.5×285×225
Weight (Kg)	Approx. 15	Approx. 22

Option*2	SH-1000N	SH-1000N
Long Stroke*3	-L□□	-L□□
Length Meter	-S	-S

LH series

LH-500N

Wire Harness Pull Tester

Pull tester for checking of pull-off force values of electrical leads, crimped terminals, connectors and soldered parts. Packed with attachments for fixing each terminal and wire. Force gauge is not included.

- Included Attachment:
CW-500N (wedge grip) , CH-500N



Pull test of a wire harness terminal by LH-500N



LH-500N

Item	LH-500N
Capacity (N)	500
Travel per 120°	85mm
Dimension W×D×H (mm)	Approx. 155×450×182
Weight (Kg)	Approx. 10.5

GF-1, GF-2 Grip Mounting Adapter

(for manual test stand SV-1/2)

Mount attachments to test stand base. It is possible to fix vertical stand SV, HV, MX, MX2, and EMX series.

- Capacity:
1000N(100kgf)/5000N(500kgf)
- Mounting screw:
M6/M6 and M10
- Weight: Approx. 240g/260g
- Screw: M6



GF-1



GF-2

- *1 Max distance from table of stand to tip of thread of force gauge Z series.
- *2 Option code should be added after model numbers.
- *3 Please request preferable extending length.

Included Attachments/Optional Attachments

Attachments

Attachments should be set to the thread (male screw) of force gauges to pull / compress test samples.

Attachments to choose depend on dimensions, materials, measurement conditions and purposes. As appropriate attachments enhance accuracy of measurement, we offer various kinds of attachments.

"Which one should I choose?" "How can I chuck this sample?"

Please contact us to find the answers. We suggest the best solution for you.



Standard Attachments

Standard attachments below are included to force gauges.

Standard Capacity Model

Steel S-series are included in models up to 1000N/100kgf.
Aluminum A-series are included in models under 100N/10kgf.
DS2 and FB don't include large hook and Y hook.
The model with capacity 1000N/100kgf includes small hook SR-1 instead of S-1.
●Screw:M6

A-1/S-1/SR-1 Small Hook

- A-1 Weight: Approx. 3.1g
- S-1 Weight: Approx. 13g
- SR-1 Weight: Approx. 19g



*SR-1 is included to ZP-1000N, Z2-1000N, and DS2-1000N

A-2/S-2 Flat Tip

- A-2 Weight: Approx. 2.7g
- S-2 Weight: Approx. 13g



A-3/S-3 Conical Tip

- A-3 Weight: Approx. 1.8g
- S-3 Weight: Approx. 10g



A-4/S-4 Chisel Tip

- A-4 Weight: Approx. 1.9g
- S-4 Weight: Approx. 11g



A-5/S-5 Notched Tip

- A-5 Weight: Approx. 1.9g
- S-5 Weight: Approx. 11g



A-6/S-6 Extension Shaft

- A-6 Weight: Approx. 7.1g
- S-6 Weight: Approx. 27g



A-7/S-7 Large Hook

- A-7 Weight: Approx. 7.0g
- S-7 Weight: Approx. 44g



A-8/S-8 Y Hook

- A-8 Weight: Approx. 8.8g
- S-8 Weight: Approx. 58g



High Capacity Model

Included ZPH(Z2H), ZPS(Z2S)-DPU and PSH series (For capacity 1000N/100kgf to 5000N/500kgf). Not included with handles and installation bolts for ZPS(Z2S) series.
●Screw:M10

B-1 Small Hook

- Weight: Approx. 59g



B-2 Flat Tip

- Weight: Approx. 29g



B-3 Conical Tip

- Weight: Approx. 33g



B-4 Chisel Tip

- Weight: Approx. 38g



B-5 Notched Tip

- Weight: Approx. 38g



B-6 Extension Shaft

- Weight: Approx. 102g



B-7 Handles

- Weight: Approx. 250g(1piece)



B-8 Installation Bolts

- Weight: Approx. 16g



Attachments for Compression

We can provide wide variety of attachments to cover many applications. Attachments with customized specification are available.

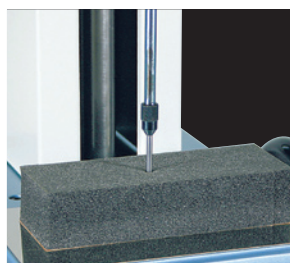
PG-2/3/4/5

Penetrating Pin Gauges

Check the hardness of clay-like materials, the burst strength of plastic covering, etc. The penetrating pin gauges are light and suitable for measuring minute force.



PG-2



Hardness test of sponge

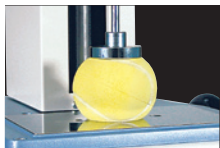
Model	PG-2	PG-3	PG-4	PG-5
Capacity	100N(10kgf)	100N(10kgf)	200N(20kgf)	200N(20kgf)
Outer diameter	φ 2mm	φ 3mm	φ 4mm	φ 5mm
Length	20mm	20mm	20mm	20mm
Weight	Approx. 2g	Approx. 3g	Approx. 4g	Approx. 5g
Screw			M6	

*We recommend the weight of attachment should be under 10% of gauge capacity. Please be careful to select an attachment when you use small range gauge.

A-40/60,S-40/60

Large Flat Heads

The head is suitable for the crush test of tablet or plastic bottles. The materials of A type is aluminum and it is light weight.



Compression test of tennis ball



A-40

Model	A-40	A-60	S-40	S-60
Capacity	200N(20kgf)	200N(20kgf)	500N(50kgf)	500N(50kgf)
Outer diameter	φ 40mm	φ 60mm	φ 40mm	φ 60mm
Weight	Approx. 38g	Approx. 84g	Approx. 110g	Approx. 238g
Screw			M6	

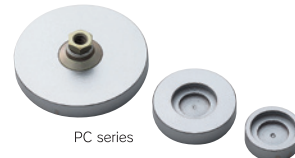
PC-5040/5060/5100

Disc Compression Jig

For the measurements of many kinds of compression force and breaking strength, the variety of shapes and sizes are designed for the jigs. The larger size jigs have free joint, which will prevent the breakdown of force gauge when extra force is applied.



Compression test of plastic bottle



PC series

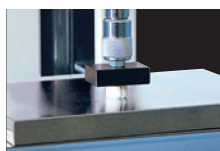
Model	PC-5040	PC-5060	PC-5100
Capacity	5000N(500kgf)	5000N(500kgf)	5000N(500kgf)
Outer diameter	φ 40mm	φ 60mm	φ 100mm
Weight	Approx. 160g	Approx. 330g	Approx. 820g
Screw		M10	

*Aluminum made is available for low capacity gauges

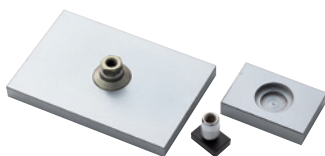
SQ-5030/5075/5150

Rectangle Compression Jig

It is suitable for burst test of plastic bags.



Hardness test of tablet



SQ series

Model	SQ-5030	SQ-5075	SQ-5150
Capacity	5000N(500kgf)	5000N(500kgf)	5000N(500kgf)
Plate size	30×20mm	75×50mm	150×100mm
Weight	Approx. 65g	Approx. 500g	Approx. 1560g
Screw		M10	

*Aluminum made is available for low capacity gauges

SP-5010/5020/5030

Sphere Compression Jig

For compression test of various materials.



SP series

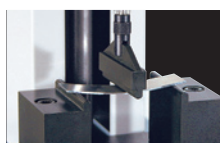
Model	SP-5010	SP-5020	SP-5030
Capacity	5000N(500kgf)	5000N(500kgf)	5000N(500kgf)
Diameter	φ 10mm	φ 20mm	φ 30mm
Weight	Approx. 26g	Approx. 55g	Approx. 135g
Screw		M10	

*Aluminum made is available for low capacity gauges

GA-10N/5000N

Bend Test Stand

For the bend testing of the test object.



Bend test of metal material



GA-10N

Model	GA-10N	GA-5000N
Capacity	500N(50kgf)	5000N(500kgf)
Depth	60mm	60mm
Opening width stage	5~60mm	5~70mm
Arc	Upper:R2.5mm,Stage:R2.5mm	Upper:R5.0mm,Stage:R2.5mm
Weight	Upper:Approx.100g,Stage:Approx.4100g	Upper:Approx.120g,Stage:Approx.4200g
Screw	M6	M10

PR-2000

Attachment for Burst Strength Test

For the application of burst strength test of tube, and so on.



Burst strength test of tube



Model	PR-2000
Capacity	2000N(200kgf)
Opening space	W260×D170×H100mm(75)mm
Recommended combination	Motorized test stand:MX-2000N-TM Digital force gauge:ZPH/Z2H-2000N, and PR-2000
Weight	Total:Approx.9.5kg, Upper:Approx.4.5kg, Bottom:Approx.5kg, Tube Compressor:Approx.230g
Screw	M10

Attachments for Tension

FP-50/51,SC-3/8

Fine Point Chuck, Small Grips

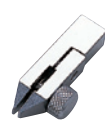
For the measurements in the confined space or of the narrow objects. It is suitable for low force and narrow space test due to lightweight model.



Thin wire test



Fine Point Chuck
FP-50



Small Grips
SC-3

Model	FP-50	FP-51	SC-3	SC-8
Capacity	100N(10kgf)	50N(5kgf)	100N(10kgf)	150N(15kgf)
Opening width	Maximum 0.5mm	Maximum 0.5mm	Maximum 1mm	Maximum 1mm
Jaw face width	1mm	1mm	3mm	8mm
Weight	Approx. 19g	Approx. 8g	Approx. 20g	Approx. 21g
Screw		M6		

GC-60/100

Tape Grips

The grip suites for tension test of rubber, films, or test materials which become deformed or thinned on the testing process. Self tightening "buckle-type" mechanism ensures slip-free operation.



Elongation test of rubber material



GC-60

Model	GC-60	GC-100
Capacity	500N(50kgf)	500N(50kgf)
Specimen width	Maximum 30mm	Maximum 50mm
Specimen thickness	Maximum 2mm	Maximum 2mm
Weight	Approx. 158g	Approx. 300g
Screw		M6

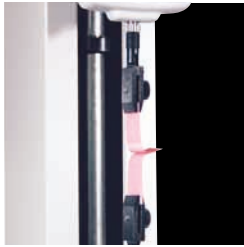
*Specific material and appearance can not be used with these attachment even if it is within specification. Please contact us for detail.

Optional Attachments

FC-21/20/40/21U/41U/21UQ

Film Grips

FC-21U, 41U, and 21UQ have urethane on one side, which avoid breaking samples by gripping.



180° Peel strength test



FC-20



FC-21UQ

Model	FC-21	FC-20	FC-40	FC-21U	FC-41U	FC-21UQ
Capacity	250N(25kgf)	500N(50kgf)	500N(50kgf)	250N(25kgf)	250N(25kgf)	250N(25kgf)
Jaw face width	20mm	20mm	40mm	20mm	40mm	20mm
Opening width	Maximum 2mm	Maximum 2mm	Maximum 2mm	Maximum 2mm	Maximum 2mm	Maximum 1mm
Weight	Approx. 25g	Approx. 73g	Approx. 125g	Approx. 40g	Approx. 70g	Approx. 50g
Screw			M6			

GC-1100/1200/5000

Flat Chuck

For the measurements of general tension force.



Extraction test of connector



GC-1100

Model	GC-1100	GC-1200	GC-5000
Capacity	1000N(100kgf)	1000N(100kgf)	5000N(500kgf)
Jaw face width	20mm	20mm	29mm
Opening width	Maximum 10mm	Maximum 20mm	Maximum 30mm
Weight	Approx. 160g	Approx. 170g	Approx. 1400g
Screw		M6	M10

KC-100/1001/5000

Wedge Grips

Suitable for the measurement of fiber optics and electric wires which becoming thinner while tensed. It is not suitable for the tempered material.



Electric wire strength test



KC-100



KC-1001

Model	KC-100	KC-1001	KC-5000
Capacity	500N(50kgf)	1000N(100kgf)	5000N(500kgf)
Opening width	Maximum 10mm	Maximum 2mm	Maximum 5mm
Weight	Approx. 330g	Approx. 95g	Approx. 565g
Screw		M6	M10

PGC-0510

Pantograph Grips

The more tightened material is tensed, the stronger it grip material. Suitable for materials which become thinner while tensed. Not for tempered material.



Wire harness pull off test



PGC-0510



PGC-AD6

Model	PGC-0510
Capacity	500N(50kgf)
Opening width	Maximum 15mm
Weight	Approx. 110g

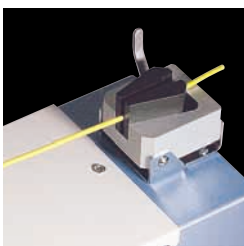
*1 Please use small hook included force gauge to hook PGC-0510

*2 PGC-AD is used to attach PGC-0510 to a stage of test stand.

CW-500N

Wedge Grips

It is easy to clamp cable and wire by one-touch operation.



Wire harness pull off test



Model	CW-500N
Capacity	500N(50kgf)
Opening width	Maximum 5mm
Weight	Approx. 220g
Screw	M6

CH-500N

Wire Terminal Grips

It is suitable for wire terminal clamp.



Wire harness pull off test



Model	CH-500N
Capacity	500N(50kgf)
Opening width	Maximum 6mm
Weight	Approx. 210g
Screw	M6

*We recommend the weight of attachment should be under 10% of gauge capacity. Please be careful to select an attachment when you use small range gauge.

GR-30/2000

Cam Grips for thinner specimen

By pulling, the chuck will be fastened. Suitable for the measurement of the objects becoming thinner while tensed. It is not suitable for the tempered material.



Tensile strength test of tape



GR-30

Model	GR-30	GR-2000
Capacity	500N(50kgf)	2000N(200kgf)
Specimen width	Maximum 30mm	Maximum 50mm
Specimen thickness	Maximum 2mm	Maximum 4mm
Weight	Approx. 180g	Approx. 870g
Screw	M6	M10

GP-15

Knurling Cam Grips for thicker specimen

It is suitable for elastic samples such as silicon rubber, urethane, and resin. It reduces the possibility of sample torn.



Elongation test of rubber tube



Model	GP-15
Capacity	250N(25kgf)
Jaw face width	Maximum 15mm
Opening width	Maximum 4.5mm
Weight	Approx. 70g
Screw	M6

FW-12

Rotary Wire Terminal Fixture

It has 12 slits of different width for wide range of terminal cramp. Since it is rotary type, it is easy to set up a sample.



Wire harness strength test

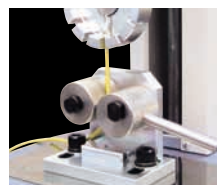


Model	FW-12
Capacity	1000N(100kgf)
Number of slit	12
Weight	Approx. 380g
Screw	M6

GP-30

Knurled Cam Grips

It is the best for the clamp of a wire by the cam mechanism.



Wire harness strength test

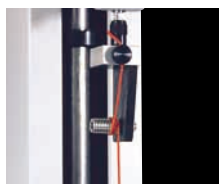


Model	GP-30
Capacity	1000N(100kgf)
Jaw face width	Maximum 30mm
Opening width	Maximum 10mm
Weight	Approx. 880g
Screw	M8 bolts (x2)

GC-30,WC-2000

Wire Wrapping Grips

For measuring the strength of wires, filaments, fibers, etc.



Tensile strength of textile



WC-2000

Model	GC-30	WC-2000
Capacity	500N(50kgf)	2000N(200kgf)
Wrapping thread	M10	M16
Sample diameter	Maximum ϕ 1mm	Maximum ϕ 2mm
Weight	Approx. 136g	Approx. 900g
Screw	M6	M10

DF-60

Hook for Corrugated Cardboard

It is suitable for opening strength test of glued corrugated cardboard.



Opening strength of glued corrugated cardboard



Model	DF-60
Capacity	250N(25kgf)
Width	60mm
Weight	Approx. 145g
Screw	M6

BC-15/PGC-BC

Grip and Vise for Sawed Button Test

Attachments for strength test of sawed button.
Maximum diameter of button is 15mm. Easy to set samples.

Model	BC-15
Capacity	300N
Diameter of sample	Maximum ϕ 15mm
Height of sample	Maximum 3.5mm
Weight	Approx. 1220g

Model	PGC-BC
Capacity	300N
Opening width	35mm
Weight	125g
Structure	Hook



PGC-BC



BC-15

*Specific material and appearance can not be used with these attachment even if it is within specification. Please contact us for detail.

I M A D A

Optional Attachments

Attachments for Others

CP-150N

Pin Grips

It is ideal grips for small pin, wire, etc. CP-150N can be used for both tension and compression. It is suitable for low force and narrow space test due to lightweight model.



Strength test of thin wire



Collet

Model	CP-150N
Capacity	150N(15kgf)
Sample diameter	φ 0~φ 3.2mm
Weight	Approx. 22g
Screw	M6

GC-5/15/15-10

Jacob's Chuck

For use with shafts and rods. The Jacob's chuck has characteristic of better initial gripping and less slipping of test material on testing process.



Insert test of plastic pipe



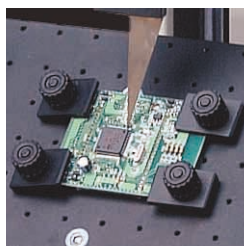
GC-5

Model	GC-5	GC-15	GC-15-10
Capacity	500N(50kgf)	1000N(100kgf)	1000N(100kgf)
Sample diameter	φ 0.5~φ 6.5mm	φ 2.0~φ 13mm	φ 2.0~φ 13mm
Weight	Approx. 235g	Approx. 500g	Approx. 500g
Screw		M6	M10

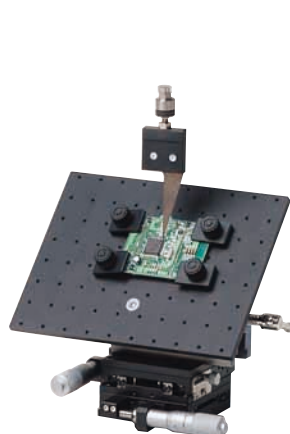
LF

Attachment for Measurement of Soldering Strength(QFP 45° pull test + TIP 90° shear test)

It is possible to use QFP lead 45° pull shear test.



Soldering strength test of IC parts



Attachment for 45° pull test QFP45-1

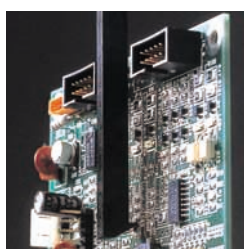
Attachment for 45° shear test TIP90-1

Model	LF
Contents	QFP45-1: Hook attachment QFP45-2: Table for 45° TIP90-1: Shear attachment TIP90-2: Table for 90° QFP-1: X-Y stage
Capacity	100N(10kgf)
XY stage	Stroke: ± 12.5mm Resolution: 0.01mm
Table dimension	200 × 150mm
Table fixing holes pitch	M3P0.5 × 80 Minimum pitch: 20 × 20mm Maximum pitch: 180 × 140mm
Weight of attachment	QFP45-1: Approx. 60g, TIP90-1: Approx. 50g
Weight of table	QFP45-2: Approx. 650g, TIP90-2: Approx. 650g
Weight of XY stage	QFP-1: Approx. 2.6kg

GT-10/20

Peeling Attachment (for pull / for push)

The peeling attachment is installed on the Imada's force gauge for peeling or shearing test of electronic components.



IC tip peel strength test



GT-10

GT-20

Model	GT-10	GT-20
Use	Pull	Push
Capacity	500N(50kgf)	500N(50kgf)
Weight	Approx. 34g	Approx. 34g
Screw		M6

COF-10N

Coefficient of Friction Jig

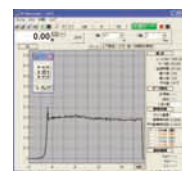
COF-10N is a jig for coefficient of friction. Both dynamic and static friction data can be acquired by included software.



Coefficient of friction test of paper



Model	COF-10N
Weight	10N(1kgf)
Sample thickness	Minimum 1.5mm
Stroke	Minimum 150mm
Weight	Approx. 2.7kg
Accessories	Measurement software: ZP-Recorder-COF



ZP-Recorder-COF

*We recommend the weight of attachment should be under 10% of gauge capacity. Please be careful to select an attachment when you use small range gauge.

P45-50N

45° Peel Test Fixture

Suitable for peeling strength of cup container cover. Angle 45° is nearly practical condition of opening cover.



Peeling test of food contain cup

Model	P45-50N
Capacity	50N(5kgf)
Specimen dimension	Height: 12~90mm, Diameter: 30~120mm
Max opening width of chuck	Maximum 2mm
Weight	Grips: Approx. 30g, Cup fixture: Approx. 1200g

P90-200N

Slide Table for 90° Adhesion Test

This table keeps the measurement angle as 90° by sliding table.



90° peel strength test

Model	P90-200N
Capacity	200N(20kgf)
Sample length	Maximum 155mm
Sample width	Maximum 80mm
Weight	Approx. 3kg

GT-30

Vise Grips

Screw tightened vise is ideal for slip-free attachment to base of test stand. The vise grip can be installed on the vertical stand SV, HV, MX, MX2 and EMX series.



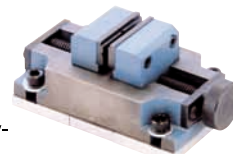
Insert test of plastic pipe

Model	GT-30
Capacity	1000N(100kgf)
Jaw face width	38mm
Opening width	Maximum 39mm
Weight	Approx. 1100g

GTW-50R/50L

Double Vise Grips

This grips open from the center toward both sides and can grip a specimen, large or small, at the center. The gripping faces have vertical and horizontal V-grooves to firmly grip a specimen even if round. An easy-to-use knob type and a strong-gripping lever type are available.



Knob type



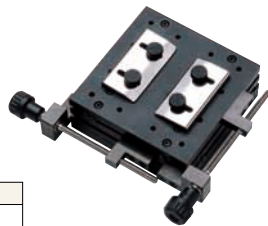
Lever type

Model	GTW-50R	GTW-50L
Type	Knob type	Lever type
Capacity	500N(50kgf)	1000N(100kgf)
Jaw face width	50mm	50mm
Weight	Approx. 3kg	Approx. 3kg

XY-500N

X-Y Table

It is low height model of X-Y table.



Model	XY-500N
Capacity	Tension: 500N(50kgf) Compression: 1000N(100kgf)
Stroke	X, Y each ±30mm
Travel per 1 turn	Approx. 0.8mm

*Not possible to use with horizontal test stand and KV-50N.

TS-5000N

T-Slot Table

It is easy to exchange grips. It is also easy to position center by sliding nut.



Model	TS-5000N
Capacity	5000N(500kgf)
T nut	M8
T nut space	Max. 125mm
Weight	Approx. 5.3kg

CA-10/20

Conversion Adapter

CA-10 is conversion adapter from M6 to M10 screw. CA-20 is conversion adapter from M10 to M6 screw.



CA-10



CA-20

Model	CA-10	CA-20
Weight	Approx. 36g	Approx. 34g
Screw	M6→M10	M10→M6

FOH-1

Optional Handle

Attach to force gauge to support stable force applying. The handle assists to apply large force. Applicable to both digital and mechanical force gauges.



Model	FOH-1
Applicable models	ZP/Z2/DS2/PSS/PS/PSM/FS/FB
Weight	500g
Accessory	Pan head screws (M4xL8 4pcs) Pan head screws (M3xL14 4pc)

Specific material and appearance can not be used with these attachment even if it is within specification. Please contact us for detail.

Digital Torque Gauges

Torque gauge

Torque gauge can measure the force of twist and rotation such as tightening screws, locking doors and opening bottle caps. Numerical quality control, instead of evaluation by sense, is important especially in the case of screws and bottles, which can be tightened without limit. The smoothness of keys and rotary switches gives much influence on easy operation. IMADA torque gauge measures these forces easily and precisely.

Hand Held Torque Gauge

For torque of screws or torsion strength. Various types of sensor tip are available.

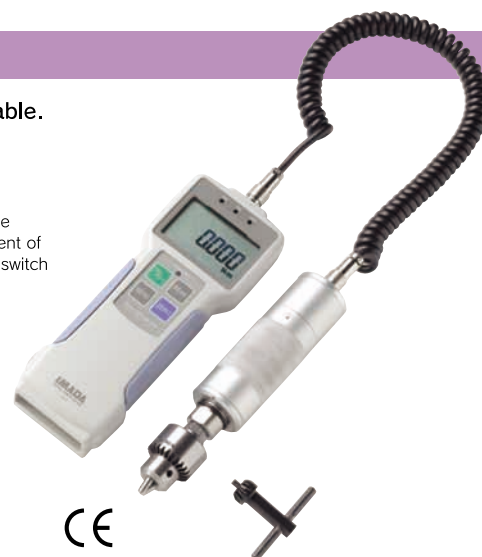
HTG2

Hand Held Torque Gauge

- Accuracy: $\pm 0.5\%$ F.S. ± 1 digit
- Display: 4-digit LCD
- Display Update: 10times/sec
- Sampling Speed: 1msec
- Battery Usage: 8 hours (10hours charge)
- Power: NiMH battery, AC adapter
- Environment: Temperature=0 to 40°C, Humidity=20 to 80%RH
- Over Torque: 150% of capacity
- Functions: Peak hold, Memory (1000data), Comparator evaluation, Auto zero clear, Alarm, Auto power off, Damping
- Output: RS232C, MITUTOYO digimatic, Analog (± 2 VF.S.), Comparator, Over torque
- Over Torque Alarm: 110%F.S. (LED flashes, alarms)
- External Output: Hold, Zero clear, Peak
- Sensor Tip: Diam. 0.5 to 6.5mm pin chuck (standard model)
- Weight: Display=410g, Sensor=530g
- Dimensions: Display=W78xD32xH217mm, Sensor=L194xdim38mm (with standard tip), Cable=350mm
- Accessories: AC adapter, Carrying case, Operation manual, Inspection certificate



The example of the feeling measurement of a click of a rotary switch by HTG2



CE

Model	Capacity	Display	Resolution
HTG2-2N	2N-m(200gf-m)	2.000N-m(200.0gf-m)	0.001N-m(0.1gf-m)
HTG2-5N	5N-m(500gf-m)	5.000N-m(500.0gf-m)	0.001N-m(0.1gf-m)
HTG2-10N	10N-m(1.000kgf-m)	10.00N-m(1.000kgf-m)	0.01N-m(0.001kgf-m)
HTG2-200Nc	200N-cm(20.00kgf-cm)	200.0N-cm(20.00kgf-cm)	0.1N-cm(0.01kgf-cm)
HTG2-500Nc	500N-cm(50.00kgf-cm)	500.0N-cm(50.00kgf-cm)	0.1N-cm(0.01kgf-cm)
HTG2-1000Nc	1000N-cm(100.0kgf-cm)	1000N-cm(100.0kgf-cm)	1N-cm(0.1kgf-cm)

*TA-01~03 are available as option. Please add [-1], [-2], or [-3] to the end of model number.

*HTG2-10N, HTG2-1000Nc includes handles.

*USB model is also available as customized.



HTG2-10N, 1000Nc included handles



(TA-) 00
Standard Pin Chuck
φ 0.5~6.5mm



(TA-) 01
9.5 Torque Wrench



(TA-) 02
Torque Driver



(TA-) 03
Large Pin Chuck
φ 1.2~13mm

Automatic Screw-cap Tester

Reproduce torque measurement accurately.

MTG

Automatic Screw-cap Tester

- Measure precisely by equation of measurement speed.
- Function of USB data output.
- Automatic measurement function by Hi/Low set up values.
- Easy grip and simple operation.
- Precise measurement by high speed sampling.
- Draw graph of torque-time by optional software.



Specifications of MTG series

Item	Detail
Torque range	2N-m, 5N-m, 10N-m, 200N-cm, 500N-cm, 1000N-cm
Sample diameter	Top diameter: φ 20~90mm, Bottom diameter: φ 20~180mm
Sample height	80~240mm
Accuracy	$\pm 0.5\%$ F.S. ± 1 digit
Overload capacity	About 150% of full scale of torque (Sensor may be broken when torque exceed this capacity.)
Sampling rate	Max. 1000 times/sec
LCD display update	10 times/sec
Speed	5~90 degrees/sec
Output	USB, Serial (RS232C), Analog (-2 to +2V)
External connecting	ZERO, Peak/Track mode select, Data output
Environment	Temperature: 0~+40 degrees, Humidity: 20~80%RH
Power	AC100V~240V Free input
Dimension	W433xD322xH635mm(max)
Weight	Approx. 19kg
Accessories	Software: ZP-Logger (to page 06), USB cable, Instruction manual, Inspection certificate

Screw-cap Tester

For the torque measurement of the screw-caps of cosmetic, food and beverage containers.

DTX2

Screw-cap Tester

- Accuracy: $\pm 0.5\%$ F.S. ± 1 digit
- Display: LCD 4-digit
- Sample Diam.: 20 to 180mm
- Power: DTX2-A=AC100to240V, DTX2-B=NiMH battery, AC adapter
- Battery Usage: 8hours (10hours charge)
- Environment: Temperature=0 to 40°C, Humidity=20 to 80%RH
- Over Torque: 150% of capacity
- Functions: Peak hold, Memory (1000data), Comparator evaluation, Auto zero clear, Alarm, Auto power off, Dumping
- Output: RS232C, MITUTOYO digimatic, Analog (± 2 VF.S.), Comparator, Over torque
- Over Torque Alarm: 110%F.S. (LED flashes, alarms)
- External Output: Hold, Zero clear, Peak
- Weight: Display=4.5Kg
- Dimensions: Display=W210xD325xH164mm
- Accessories: AC adapter (DTX2-B only), Carrying case, Operation manual, Inspection certificate



Torque measurement of bottle screw cap.

Model	Capacity	Display	Resolution
DTX2-2N-A(B)	2N-m(200gf-m)	2.000N-m(200.0gf-m)	0.001N-m(0.1gf-m)
DTX2-5N-A(B)	5N-m(500gf-m)	5.000N-m(500.0gf-m)	0.001N-m(0.1gf-m)
DTX2-10N-A(B)	10N-m(1.000kgf-m)	10.00N-m(1.000kgf-m)	0.01N-m(0.001kgf-m)
DTX2-200Nc-A(B)	200N-cm(20.00kgf-cm)	200.0N-cm(20.00kgf-cm)	0.1N-cm(0.01kgf-cm)
DTX2-500Nc-A(B)	500N-cm(50.00kgf-cm)	500.0N-cm(50.00kgf-cm)	0.1N-cm(0.01kgf-cm)
DTX2-1000Nc-A(B)	1000N-cm(100.0kgf-cm)	1000N-cm(100.0kgf-cm)	1N-cm(0.1kgf-cm)

*Please add "A" after model number for AC power supply model. (for example DTX2-2N-A)

*Please add "B" after model number for battery charge model. (for example DTX2-2N-B)

Specialized Testers

Other testers

With combination of force gauges, load cells, and stands, professional force measurement is possible. We offer easy and simple testers from multipurpose to specialized ones. IMADA specialized testers here must change the stereotype toward precise measurement, such as complicated operation, not practical at factory and expensive maintenance fee.

IMADA testers are compact and easy operation and assist improvement of work efficiency. We offer with confident our convenient and economy IMADA testers.

We can suggest the best solution for enhancement of quality control level and measurement efficiency.

We also design customized products for your special measurement samples conditions.

IPT200-5N

**180 degrees peeling
often requested**

Precisely measures delicate force

F-S Master

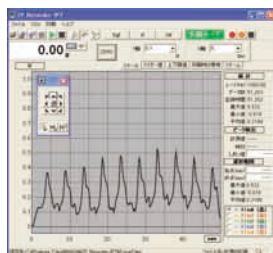
**Dual measurement of force
and displacement**

Easy visual evaluation by graph
of force-displacement

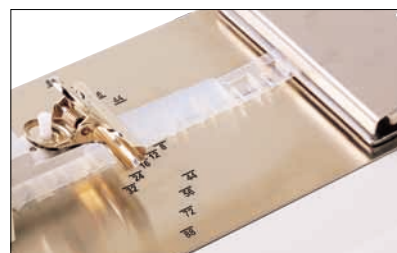
180° Peeling Tester

Easily and precisely measures delicate force up to 5N. Example applications are such as emboss tapes and films. Its high speed sampling enables to draw a smooth graph at real-time through USB connection.

IPT200-5N



ZP-Recorder-IPT



180° peel strength test of emboss tape



IPT200-5N



- Capacity: 5N(500gf)
- Width of sample: 8~88mm
- Stroke(load cell movement): 400mm
- Peeling stroke: 200mm
- Peeling speed: 120, 300, 500, 1000, 1500mm/min(5-step selectable)
- Power supply: AC100~240V
- Weight: Approx. 11kg
- Dimension: W710×D300×H126mm
- Accessories: Software ZP-Recorder-IPT, USB cable, Grip

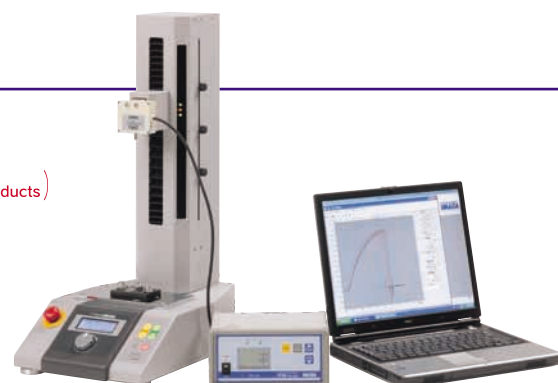
F-S Master

Measurement Unit of Force-Displacement with Output Function

Compact/Economy/Simple, Easy to make force-displacement graph.

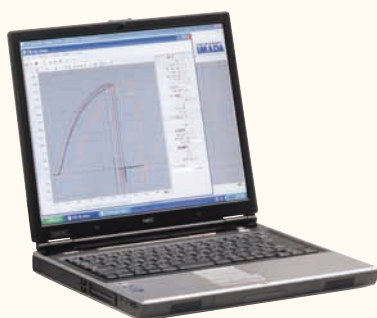
F-S Master

- Easy to draw force-displacement graph.
- More precise peak value with high-speed sampling (Comparison with our products)
- Economy price, good for daily quality control.
- Simple operation, easy to use.
- Easy to make graph with USB correspondence.
- Display five graphs at the same time and analyze.



F-S Recorder

USB Correspondence Software:F-S Recorder



Easy to draw force-time/force-displacement graph.
Convenience of USB connection.
Precise graph with high-speed correspondence.

[Go to page 9 for detail.](#)

FA Plus

Digital Force Analyzer:FA Plus



Force and displacement signals are taken and outputs digital value. (Displacement value is not displayed.)

[Go to page 12 for detail.](#)

Specifications of F-S Master

Item		Contents
Units	Force	N (kN) , kgf (gf) , lbf (ozf)
	Displacement	mm, inch
Range of Force	Load cell	Please choose one from 2N, 5N, 10N, 20N, 50N, 100N, 200N, 500N, 1000N, 2000N, 5000N
	Test Stand	Please choose one from MSL(50N) , 0.5K2(500N) , 1K2/1KE(1000N) , 2K(2000N) , 5K(5000N)
Resolution	Force	4-digits with sign (Ex.Resolution of Load Cell 5N=0.001N)
	Displacement	0.01mm
	Measuring Speed	0.1mm/min
Accuracy	Force	±0.2%F.S.±1 digit
	Displacement	±0.1mm±1 digit(at no force)
Shaft Strength		MX2-500N:0.25mm, MX2-1000N:0.5mm, EMX-1000N:0.25mm (Max gap of distances from table to tip of gauges under conditions of no force and max force applied.)
Travel Distance (Speed)	MSL:80mm	
	0.5k2:240mm(10-300mm/min)	
	1k2:295mm(10-300mm/min) , 1kE:280mm(0.5-600mm/min)	
	2k:340mm(6-180mm/min)	
	5k:350mm(10-300mm/min)	
	Please contact us for custom speed and stroke.	
Speed of Data Sampling		Max. 0.5msec(with F-S Recorder)
Output		USB, RS232C, Analog (Approx. ±2V) , Comparator, Overload
External Connection		CONF, ZERO, SEND, PEAK
Motorized Test Stand		Stroke limit, Overload stop, Emergency stop
Power		AC100V~240V Free input

Select from
11

Load Cell

Load Cell: Series DPU

Sensor of force detection. Range of 2N~5000N are available.



Model	Capacity	Thread
DPU-2N	2N	M6
DPU-5N	5N	
DPU-10N	10N	
DPU-20N	20N	
DPU-50N	50N	
DPU-100N	100N	
DPU-200N	200N	
DPU-500N	500N	



Model	Capacity	Thread
DPU-1000N	1000N	M10
DPU-2000N	2000N	
DPU-5000N	5000N	

Go to page 11 for detail.

Select from
6

Test Stand

Motorized Test Stand: Series MX, MX2, EMX (Option-FA) Manual Stand: F-S Master-MSL

Capacity of motorized test stand is from 500N up to 5000N



Item	MX-2000N	MX-5000N
Capacity (N)	2000	5000
Model number as FS-Master	2K	5K
Travel Distance (mm)	340	350
Speed (mm/min)	6-180	10-300
Dimension (mm)	Approx. W250×D483×H782	Approx. W250×D420×H816
Weight (Kg)	Approx. 23	Approx. 30

Item	MX2-500N	MX2-1000N
Capacity (N)	500	1000
Model number as FS-Master	0.5K2	1K2
Travel Distance (mm)	240	295
Speed (mm/min)	10-300	10-300
Dimension (mm)	Approx. W220×D380×H562	Approx. W280×D421×H660
Weight (Kg)	Approx. 18	Approx. 19

Item	EMX-1000N
Capacity (N)	1000
Model number as FS-Master	1KE
Travel Distance (mm)	280
Speed (mm/min)	0.5-600
Dimension (mm)	Approx. W280×D421×H643
Weight (Kg)	Approx. 23.5

Item	F-S master-MSL
Capacity (N)	50
Model number as FS-Master	MSL
Travel Distance (mm)	80
Dimension (mm)	Approx. W109.4×D72×H204
Weight (Kg)	Approx. 1.2

Go to page 17~19 for detail.

Range setting of F-S Master

F-SMaster-0.5K2-200N

Various combination is possible depending on purposes of measurement.

Range of Motorized Stand

MSL (50N)	1KE (1000N)
0.5K2 (500N)	2K (2000N)
1K2 (1000N)	5K (5000N)

Range of Load Cell

2N	20N	200N	2000N
5N	50N	500N	5000N
10N	100N	1000N	

*Design, appearance and specifications
may be changed for modifications or improvements without any prior notice.

Agency

