FORCE MEASUREMENT

IMADA CO..LTD

99 Jinnoshinden-cho aza Kanowari Toyohashi Aichi 441-8077 Japan Telephone: +81-(0)532-33-3288 Telefax: +81-(0)532-33-3866 E-mail: info@forcegauge.net

The further product information is on our Product and Service Site.

https://www.forcegauge.net/en/

Please visit our Corporate Site which introduce a wide range of information of force measurement.

https://force-channel.com/en/

- ●The contents will be changed without any notices. ●We can custom design and manufacture to meet your particular requirements.
- •Please feel free to contact us or our distributor for further information of our products.
- ◆The colors and shapes might be slightly different from the actuel products.
 ◆We show specifications partially,so please see full specifications on our website or contact us before purchase

Agency



www.unimetra.cz

FORCE MEASUREMENT Product Catalog

Force Gauges&Associated Equipment

DIGITAL FORCE GAUGE
MECHANICAL FORCE GAUGE
MOTORIZED TEST STAND



Next Series

A group of upgraded measurement devices with new PCBs. Those devices under Next Series enable a variety of benefits online through the user support site.



Force Gauges

IMADA force gauges can be used for tensile tests, compression tests, peel tests, and unlimited force testing applications.

We offer a wide range of gauges such as mechanical models (easy to handle), digital models (various functions equipped), and a variety of sensors.





Software

Software records force transitions graphically, calculates the statistics automatically, and equips various functions to enable you to analyze the data in detail.



Test Stands

A test stand achieves greater accuracy since it provides constant test angle/speed.
Combined with a digital force gauge, a motorized test stand can activate useful functions to protect sensors from breakdown, streamline measurement, and more.



Attachments

We provide a wide range of grips and fixture to meet your force measurement needs. One force gauge can be combined with various attachments to handle a wide range of force testing applications.



■ Force Testing System

We provide various force testing system below to improve your productivity and meet a variety of force testing needs.

Force-displacement analysis system
Specialized testers for peeling etc.

And more



IMADA's force testers are used worldwide in R&D and quality control of every industry to assess and ensure the quality.

IMADA offers a wide range of force testing products and know-how accumulated for many decades, enabling you to measure a huge variety of "force" such as mechanical strength (breaking/deformation force), tactile sensation (softness/hardness), functionality of operational physical force, and more.











The best force measurement solution by IMADA

We are an expert of force measurement.

IMADA force gauges have been used worldwide for more than 75 years to assess and ensure quality by professionals in every industry.

IMADA gauges can be used for a wide range of force testing applications such as tensile, compression, peel,

They can even measure ambiguous things such as "cheese stickiness" and "switch pressing force." We provide the best force measurement solutions with our know-how and a wide range of products.

The industries using our force gauges















Before-sales services

Test Method Consulting

We provide the best measurement solution based on our 75 years knowledge and experiences. Please feel free to contact us for any measurement concerns, for example, measurement in accordance with standards, effective measurement ways, improvement of measurement repeatability and so on.

sample, and the like.







●Peeling/adhesive force





●Extraction force



●Rotating/Twisting force



IMADA offers the best force measurement solution.

Force changes shape and speed of objects. Force is defined as Mass×Acceleration=Force. There are many types of forces such as Tension/ Compression/Shearing/ Bending, and more. Below you can see force measuring instruments called "force gauges," which quantify the force in units of "Newton," "Kilogram," and "Pound." We provide a wide range of force gauges and related equipment to fit your measuring needs.

75 Years History of IMADA Force Gauge



On our website, you can see a wide range of force testing applications, and download a specification sheet of each product. Please

●IMADA service group telephone number: +81(0)532-33-3288 https://www.forcegauge.net/en/

IMADA

After-sales services

Custom-made Orders

We also provide custom- made orders which are based on your measurement conditions and samples. Please let us know your requests such as installing a

force gauge in equipment, looking for a fixture which can grip a unique shape

Repair

We and some of our sales partners provide repair services. We are dedicated to short-term delivery.

Calibration

We and some of our sales partners also provide calibration service to keep the accuracy. Some of our products can be provided calibration services in accordance with ISO/IEC 17025:2017.

Publishing Various Certifications

Many types of certifications can be published in short terms such as Calibration Certificate, Traceability Chart and so on.



Crashing force



Bending force









Force measurement is conducted to assess safety, durability, functionality, operability, and more. We offer a wide range of force gauges and related equipment to fit your measurement needs.

For use by hand

Compression and tension force can be easily measured.



Force gauges (Push Pull Scales)

They measure compression, tension, peeling force, and more. They can be readily used by hand to conduct a test, or can be combined with a test stand to creat your own testing machine.





Attachments are integral components to

be combined with a force gauge or a test stand, enabling compression, tension, peeling and other force measurement.

To page 38

Software

Software draw graphs of the relationships between Force and Time or Force and Displacement. Utilize it for detailed analysis.

To page 22



(E) Connecting Cables

A cable connects a force gauge and a test stand, activating the force controlling function and the preventing overload function. Besides. cables are also used to connect external equipment like PC.



To page 25

Other Product Line-up

180 Degree Peel Tester IPTS-5N/20N/50N

A specialized tester for peeling test of such as cover film of electric components and tapes

To page 54



FSA Force-Displacement Analysis Unit

Easy graph drawing of force and displacement

Texture Analyzer

Digitizing food texture

such as stickiness,

hardness and more

testers."

See another catalog,

"Catalog for Torque

testers and Food

FRTS

testing machine

repeatability

A force gauge can be combined

with a test stand to achieve high

To page 50



Automatic crimp tester ACT-1000N

A specialized tester for tensile strength test of crimped terminal

To page 53

Torque Gauges

For rotating and twisting force measurement



See another catalog, "Catalog for Torque testers and Food testers.'

Measurement Examples

Compression Test



Tension Test

testing applications such as tearing, extracting, pull-off, and more.



Peel Test

IMADA peel testers handle a wide range of testing applications of such as adhesive tape, film, and more



Coefficient of Friction Test

IMADA COF testers calculate coefficient of static Friction and average of coefficient of kinetic Friction automatically

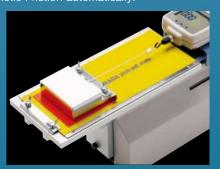


Table of contents

Category	Page	Details
	Force	Gauges and Related Items
Force Gauge Comparison&Applications	07~08	A comparison table to help selecting a force gauge, and information of how to use it
Digital Force Gauges		
ZTS	11~12	Standard type force gauges with high repeatability
Advanced Measurement Examples	13~14 15	Advanced force gauges with high functionality
DST Examples	16	Advanced measurement enabled by combination of a force gauge and a motorized test stanc Simple force gauges
DSV	17	Handheld force gauges with high repeatability
Amplifiers & Load cells	17	Handreid force gauges with right repeatability
eZ-Connect	18~21	Set of a sensor interchangeable amplifier & a load cell
eZT	18	Sensor interchangeable amplifier
Desktop Amplifier	18	An amplifier for a load cell to read force value
Load cells	19~21	Sensors to detect force (Various models are available to fit your test needs.)
Software		
Force Recorder Light	23	Affordable force-time graphing software for ZTS/ZTA, eZT, FA Plus2, HTGS/HTGA and DTXS/DT
Force Recorder Standard	23	Force-Time graphing software for ZTS/ZTA, eZT, FA Plus2, HTGS/HTGA and DTXS/DTXA
Force Recorder Professional	23	Force-Displacement graphing software for ZTA, eZT, HTGA and DTXA
Force Recorder Plus	24	Multiple gauges Force-Time graphing software for ZTS/ZTA, eZT, FA Plus2, HTGS/HTGA and DTXS/DT
Force Logger Plus	24	Multiple gauges managing software
ZLINK4	24	Force-Time graphing software for DSV/DST
Cables Cables	25	Cables to output for external devises like DC and activate entiand functions
Cables Wireless Unit	25 26	Cables to output for external devices like PC and activate optional functions Wireless unit to transmit data wirelessly
Cable Application Examples	26	Examples of functionality expanded by cables
Built-in Linear Scale Unit	26	Linear scale unit for ZTA and eZT series
Mechanical Force Gauges		Enda, sould drift for Enrique of Footios
FB	27	Simple force gauges
PS	27	Highly accurate force gauges
PSM	28	The most accurate force gauges with high resolution
PSH	28	High-capacity force gauges in capacity up to 3000N
UKT/UKK	28	Small force gauges ideal for mounting on equipment
Muscle Force Measurement Device	28	Kit for measurement of muscle strength and job task analysis (workload test)
Force Gauge Complementary Information	29	Information to select a suitable capacity, key points of managing force gauges, and more
	30~31	Test Stands Comparison table to help selecting test stand
Test Stand Comparisons&Applications Motorized Test Stands MX2	32	Comparison table to help selecting test stand Digital vertical stand to improve repeatability and operating performance
Motorized Test Stands MX2 MH2	32 32	Comparison table to help selecting test stand Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance
Motorized Test Stands MX2 MH2 EMX	32 32 33	Comparison table to help selecting test stand Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function
Motorized Test Stands MX2 MH2 EMX MX	32 32 33 33	Comparison table to help selecting test stand Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands
Motorized Test Stands MX2 MH2 EMX MX MX	32 32 33	Comparison table to help selecting test stand Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function
Motorized Test Stands MX2 MH2 EMX	32 32 33 33 33 33	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH	32 32 33 33	Comparison table to help selecting test stand Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA	32 32 33 33 33 33	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands (Lever type or handle type)
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV	32 32 33 33 33 33 34 34 34 35 35	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV MS	32 32 33 33 33 33 34 34 34 35 35	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH	32 32 33 33 33 33 34 34 34 35 35 35	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand	32 32 33 33 33 33 34 34 35 35 35 35	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting yours
Motorized Test Stands MX2 MH2 EMX MX MX MM Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands	32 32 33 33 33 33 34 34 35 35 35 35 35 36	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting yours Available options such as extending stroke, speed range change, and more
Motorized Test Stands MX2 MH2 EMX MX MM Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands	32 32 33 33 33 33 34 34 35 35 35 35 35 35 36 37	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting yours Available options such as extending stroke, speed range change, and more Examples of customized test stands
Motorized Test Stands MX2 MH2 EMX MX MM MM Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands	32 32 33 33 33 33 34 34 35 35 35 35 35 37 At	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting yours Available options such as extending stroke, speed range change, and more
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Attachment types and how to use	32 32 33 33 33 33 34 34 34 35 35 35 35 35 35 37	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments	32 32 33 33 33 33 33 34 34 35 35 35 35 35 35 37 At	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands Lachments and Fixtures
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments Compression Attachments	32 32 33 33 33 33 33 34 34 35 35 35 35 35 36 37 At	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting yours Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments Compression Attachments Tension Attachments Compression and Tension Attachments	32 32 33 33 33 33 34 34 34 35 35 35 35 35 36 37 At 38 38 39~40 40~42 43	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands	32 32 33 33 33 33 33 34 34 34 35 35 35 35 35 36 37 At 38 38 39~40 40~42 43 43	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Lever-type test stand (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips.
Motorized Test Stands MX2 MH2 EMX MX MX MM Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands	32 32 33 33 33 33 33 33 34 34 35 35 35 35 35 36 37 At 40~42 43 43 43	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments of customized test stands Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric
Motorized Test Stands MX2 MH2 EMX MX MM Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Compression Attachments Compression Attachments Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments	32 32 33 33 33 33 33 33 34 34 35 35 35 35 35 35 36 37 At 38 39~40 40~42 43 43 43 44	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands Lever-type test stand solution for fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing
Motorized Test Stands MX2 MH2 EMX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Cincip Compression Attachments Tension Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments	32 32 33 33 33 33 33 33 34 34 35 35 35 35 35 35 36 37 At 38 39~40 40~42 43 43 43 44 44	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing Fixtures for soldering strength testing of QFP and TIP
Motorized Test Stands MX2 MH2 EMX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Cinciple Stands Attachment types and how to use Accessory Attachments Compression Attachments Tension Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments Peel Test Fixtures	32 32 33 33 33 33 33 33 34 34 35 35 35 35 35 35 36 37 At 38 39~40 40~42 43 43 43 44 44 44	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on
Motorized Test Stands MX2 MH2 EMX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Cinpression Attachments Compression Attachments Tension Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments Peel Test Fixtures Medical Attachments	32 32 33 33 33 33 34 34 35 35 35 35 35 36 37 At 38 39~40 40~42 43 43 44 44 44 45 46	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for medical equipment such as syringe
Motorized Test Stands MX2 MH2 EMX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments Compression Attachments Tension Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments Peel Test Fixtures Medical Attachments Vise Grips and Tables	32 32 33 33 33 33 33 33 34 34 35 35 35 35 35 35 36 37 At 38 39~40 40~42 43 43 43 44 44 44	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments for customized test stands tachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for medical equipment such as syringe Varieties of tables and adapters like vice grips, XY table.
Motorized Test Stands MX2 MH2 EMX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments Compression Attachments Tension Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments Peel Test Fixtures Medical Attachments Vise Grips and Tables Optional Handles	32 32 33 33 33 33 34 34 35 35 35 35 36 37 At 38 38 39~40 40~42 43 43 44 44 44 45 46 47	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments for customized test stands tachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for medical equipment such as syringe Varieties of tables and adapters like vice grips, XY table.
Motorized Test Stands MX2 MH2 EMX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments Compression Attachments Tension Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments Peel Test Fixtures Medical Attachments Vise Grips and Tables Optional Handles Conversion Adapters	32 32 33 33 33 33 33 33 34 34 34 35 35 35 35 35 36 37 At 38 39~40 40~42 43 43 43 43 43 43 44 44 45 46 47 48 48 48	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple vertical test stands Simple horizontal test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for medical equipment such as syringe Varieties of tables and adapters like vice grips, XY table. An accessory fixed to mechanical or digital force gauges to improve measurment repeatability
Motorized Test Stands MX2 MH2 EMX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments Compression Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments Peel Test Fixtures Medical Attachments Vise Grips and Tables Optional Handles Conversion Adapters Eye Bolts and Eye Nuts for Load Cells	32 32 33 33 33 33 34 34 35 35 35 35 35 36 37 At 38 38 39~40 40~42 43 43 44 44 45 46 47 48 48	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple vertical test stands Simple vertical test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for medical equipment such as syringe Varieties of tables and adapters like vice grips, XY table. An accessory fixed to mechanical or digital force gauges to improve measurment repeatability. Attachment fixed between force gauge and attachment for higher repeatability.
Motorized Test Stands MX2 MH2 EMX MX MM MM Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands	32 32 33 33 33 33 34 34 35 35 35 35 35 36 37 At 38 38 39~40 40~42 43 43 43 44 44 45 46 47 48 48 48 49	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting your Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harmess testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for medical equipment such as syringe Varieties of tables and adapters like vice grips, XY table. An accessory fixed to mechanical or digital force gauges to improve measurment repeatability. Hoisting attachments to load
Motorized Test Stands MX2 MH2 EMX MX MM MM Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments Compression Attachments Tension Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments Peel Test Fixtures Medical Attachments Vise Grips and Tables Optional Handles Conversion Adapters Eye Bolts and Eye Nuts for Load Cells Custom Order Examples	32 32 33 33 33 33 33 33 34 34 35 35 35 35 35 35 36 37 At 38 39~40 40~42 43 43 44 44 45 46 47 48 48 48 49 e Mea	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting yours Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for medical equipment such as syringe Varieties of tables and adapters like vice grips, XY table. An accessory fixed to mechanical or digital force gauges to improve measurment repeatability. Hoisting attachments to load cells for tensi
Motorized Test Stands MX2 MH2 EMX MX MX MH Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments Compression Attachments Tension Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments Peel Test Fixtures Medical Attachments Vise Grips and Tables Optional Handles Conversion Adapters Eye Bolts and Eye Nuts for Load Cells Custom Order Examples Force Force Displacement Analysis Unit FSA	32 32 33 33 33 33 33 33 34 34 35 35 35 35 35 35 36 37 At 38 39~40 40~42 43 43 44 44 45 46 47 48 48 48 49 e Mea	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple horizontal test stands Simple wertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (less than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting yours Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harmess testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for medical equipment such as syringe Varieties of tables and adapters like vice grips, XY table. An accessory fixed to mechanical or digital force gauges to improve measurment repeatability Attachment fixed between force gauge and attachment for higher repeatability. Hoisting attachments to load cells for tensile tests. Examples of custom-made attachments Examples of custom-made attachments
Motorized Test Stands MX2 MH2 EMX MX MM MM Manual Test Stands SVL/SVH HV FCA KV MS SH Accessories for Test Stand Options for Test Stands Customized Test Stands Attachment types and how to use Accessory Attachments Compression Attachments Tension Attachments Compression and Tension Attachments Pinching Force Test Attachment Friction Attachments Wire Crimp Pull Test Attachments Chip Components Tension/Shear Test Attachments Peel Test Fixtures Medical Attachments Vise Grips and Tables Optional Handles Conversion Adapters Eye Bolts and Eye Nuts for Load Cells Custom Order Examples	32 32 33 33 33 33 33 33 34 34 35 35 35 35 35 35 36 37 At 38 39~40 40~42 43 43 44 44 45 46 47 48 48 48 49 e Mea	Digital vertical stand to improve repeatability and operating performance Digital horizontal stand to improve repeatability and operating performance High- performance / functional model with wide speed range and digital stroke limit function Simple vertical test stands Simple horizontal test stands Simple horizontal test stands Simple horizontal test stands Simple horizontal test stands Simple vertical test stands (Lever type or handle type) Long stroke model ideal for testing large or flexible samples Lever-type test stand able to fix a stroke Small model for low capacity (fess than 50N) measurement Compact model helping various measurement by different ways of installation Horizontal test stand with a handle Accessories which improve safety during measurement and enable you to perform displacement measurement by mounting yours Available options such as extending stroke, speed range change, and more Examples of customized test stands tachments and Fixtures Basic information of attachments Standard attachments coming with force gauges Attachments for compression tests like a bending test, a pressing test, and more Attachments for tensile tests like a tearing test, an extraction test, and more Attachments for both compression and tension Jig for pinching or opening tests of forceps, vernier-calipers, and clips. The fixtures comes with the auto calculating software of Coefficient of Static Friction and Average of Coefficient of Kinetic Fric Wire and terminal clamps for wire harness testing Fixtures for soldering strength testing of QFP and TIP Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for peel tests of such as tape, film coating surfaces, pull-tab and so on Attachments for bedictions of the process of the processory fixed to mechanical or digital force gauges to improve measurment repeat

Index

Utilize this index to find the number of the	ne page of your	·			
Α		G		PPC-5000N	42
A-1/2/3/4/5/6/7/8	38	GC-1100/1200/5000/GCF-1200	40	PR-500N/2500N	40
A-40/60	39	GC-5/15	43	PS/PSS series	27
ACT-1000N	53	GC-60/100	41	PSH series	28
ACT-T-01/ACT-T-02	53	GF-1/2	34	PSM series	28
APR-97 series	45	GP-15/30	42	PTD-100N	42
		GR-30/2000	42	PTF-100N	42
В		GT-10/20	44	PTW-10IN	45
B-1/2/3/4/5/6/7/8	38	GT-30/2000N	47	PW-4	44
BC-15	41	GTW-2500N	47		
BT-500N/5000N/5000N-CB	40	GTW-50R/50L	47	R	
B1-30014/300014/300014-CB	40	01W 30IV 30E	- ''	RE-20kN	48
С		Н		RZTA-1000N/RDSV-1000N/RFB-750N	28
	40		10	RZTA-1000N/RD3V-1000N/RFB-730N	20
CA series	48	HDC-1	48		
CB series	25	HFC-50N	42	S	
CCJ series	43	HGB-1	48	S-1/2/3/4/5/6/7/8	38
CFX series	20	HV series	34	S-40/60	39
CH-500N	44			SC-3/8	41
CH-5000N	44			SCX series	19
CHX series	20	IPTS series	54	SH series	35
CLFX series	20			SHF series	42
COF-2N-V/10N-V	43			SJ series	44
COF2-2N/10N	43	JF6-50N	48	SJS series	44
CP-150N	43	31 0 0014	1-0	SK series	21
		V			21
CW-500N	41,44	N N	0.5	SKM-1000N	
CW-5000N	44	KV-50N	35	SP-5010/5020/5030	39
		KC-100/1001/5000	41	SQ-5030/5075/5150	39
D				SR-1	38
DD2 series	20			ST-SS	35
DF-60	42	LC series	20	SVH-1000N	34
DM-2000N	21	LH-500N	53	SVL-1000N	34
DMK series	26	LM series	20	SW1 series	19
DST series	16	LMT-1000N	20	SW3 series	19
DSV series	17	LMU series	19		
DPU series	19	LOP-1000N	42	Т	
Di O Selles	13	LU series	19	TH-1000N/5000N	45
=		LO selles	13	TKS-20N/250N	39
E	40	M			
EB series	48	M	1.0	TS-5000N	47
eFA Plus2	18	MED series	46		
eHT series	21	MH-1000N	33	U	
EJ6-1000N	48	MH2 series	32	UJ6-1000N/UJ10-5000N	48
EJ10-5000N	48	MS series	35	UR-8S/8M	39
EMX series	33	MX series	33	UKK series	28
EN-500N	48	MX2 series	32	UKT series	28
eTFX series	21				
eZ Connent series	18	0		V	
eZT	18	OP-EMX-FA	35	VWF-10N	43
		OP-MX2EMX-IC/OP-MX250-IC	35		
F		OT-8IN	40	W	
FA Plus2	18		70	WG series	41
	27				
FB/FS series				WL01-ADP/WL01-USB	26
FC series	41	P		V	
FCA-50N	35	PAD series	40	X	
FOH-1	48	P45-50N	45	XST-500N	47
Force Logger Plus	24	P90-200N/200N-EZ/200N-BB	45	XY-500N series	47
Force Recorder Light	23	P180-200N/200N-BB	45		
Force Recorder Plus	24	PC-5040/5060/5100	39	Z	
Force Recorder Professional	23	PCA-150N	43	ZD series	20
Force Recorder Standard	23	PG-2/3/4/5	39	ZLINK4	24
FP-50/51	41	PGC-0505/0510/2530	41	ZTA series	13~14
FSA series	50~52	PGC-BC	41	ZTS series	11~12
FSC-1525	45	PK1-500N	21	ZU series	21
	43	PK2-1500N	21		21
FW-12	44	PN-50N	19	ZW1-10kN	۷.

Force Gauges (Push Pull Scales)

Measuring instruments for compression/tension/peel force

A force gauge can be used by hand, or combined a test stand to creat your force testing machine. They are also called for "push pull scales" or "push pull gauges."







To page 13~14



OCaptures a peak value accurately

due to its high sampling rate.

Manages data easily with

ODisplays clearly.



Advanced Functionality Model Outputs and inputs displacement using a linear scale together. OSaves data in a USB flash

Simple

with its peak hold function.



Mechanical Force Gauges

- They work without battery
- They have durable bodies. Read force transition easily

- It is not suitable for impact tests and breaking tests.
- It may cause human reading error.

To page 27



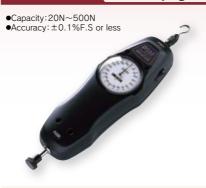
OThis is the most economical model



When measuring high capacity more than 500N: PSH→To Page 28

PSM

To page 28



OThis is the most accurate model with high

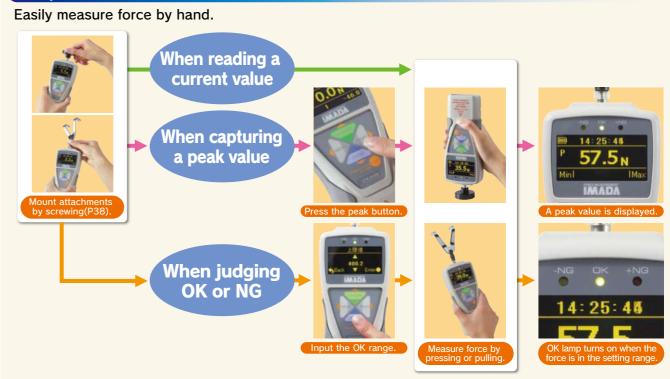
Digital force gauges

It has 2 remarkable features; 1. Its digital indication prevents human reading error.

2. Easily manage or analyze test data with connecting it to a PC.

How to Use Digital Force Gauges (Using Example Model: ZT series)





Highly Repeatable Method

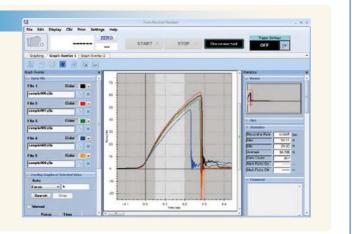
Combining a digital force gauge with a test stand (page 30), enables you to conduct a highly repeatable test since the test stand provides constant test speed and angle.



Graphing

With software (page 22), the force transition can be confirmed graphically on a PC.

Connecting a digital force gauge with a PC enables you to see force transition graphically and analyze data in detail.



Next Series ~Continue to Evolve

Typified by ZT digital force gauge series, Next Series is a generic term to describe the next generation models of IMADA measurement devices.

Unlike previous models, these devices under Next Series are equipped with new PCBs allowing them to avail various benefits on our user support website.

Especially additional functions downloadable on the site expand the usage scenes of the devices by improving efficiency or safety in measurement or enhancing the compatibility of test data.

Consequently, Next Series devices have high customizability to meet complex needs of each user.

IMADA, a solution provider in Force Measurement, increases both hard and software product line-ups to enable various measurements for more comprehensive requirements.

Scan the QR code for the latest line-ups of the Next Series and additional functions



Refer to Next Series products in this catalogue (as of Jan 2023)

User Support Site IMADA-Connected



Honnected

With your account and product registrations, You can download additional functions, software, operating manuals, etc. from this website.



https://www.imada-connected.com/

0.0 P- 0

Standard Type with High Repeatability

ZTS series (Basic Model) Next Series



Easy Data Management on PC

Software Force Logger is included.

-It automatically detects maximum and minimum values.

This series of gauges can be used for a wide range of measuring purposes from peak measurement to highly repeatable measurement.

The gauges come with data-capturing software.

OData Capturing

-It sends 10 data/sec to PC.

-It saves data in CSV format.

OGraphing by Optional

graphically on PC in real time (at Max.2000Hz) The detail

is in Page 22.

The software shows force vs time

Force Graphing Software

Accurately / Precisely

OHigh Speed Sampling:2000Hz lows rapid force change, capturing peak values more accurately.

○High Accuracy: ±0.2%F.S±1digit

User-friendly

○ High Luminance Organic EL Display Clear organic display has excellent



Setting menu in 8 languages helps easy operation

Making efficient

OK·NG Judgment Function

Picks out defective products easily. (+NG or -NG light goes on when the force is over or under the borderline that you have decided.)

3 Line Indicator

A force value is indicated in the middle tier, and can select information as required in the upper and lower tiers.

©Connect and Link to Various External Equipment.



□Size:Approx.W75×D34×H191mm Tension Compatible ☐Weight:Approx.490g



Check Force Transition on Graphs

Software Force Recorder — To Page 23~24



Connect with External Devices

Cable Using Applications ——



Improve Measuring Repeatability

Apply Stable Force by Hand

Handle FOH-1-To Page 48 Hand Grip Belt HGB-1 -To Page 48



Transmit Data Wirelessly Wireless Unit WL01-ADP/WL01-USB

To Page 26

Standard Type Model List

Model	Capacity	Display	Thread
ZTS-2N	2N	2.000N/2000mN(200.0gf)	
ZTS-5N	5N	5.000N/5000mN(500.0gf)	
ZTS-20N	20N	20.00N(2.000kgf)]
ZTS-50N	50N	50.00N(5.000kgf)	м6
ZTS-100N	100N	100.0N(10.00kgf)	
ZTS-200N	200N	200.0N(20.00kgf)]
ZTS-500N	500N	500.0N(50.00kgf)	
ZTS-1000N	1000N	1000N/1.000kN(100.0kgf)	

On our website, you can see a wide range of force testing applications, and download a specification sheet of each product. Please feel free to contact u

●IMADA service group telephone number: +81(0)532-33-3288

Search https://www.forcegauge.net/en/

ZTS series specifications

+/-0.2%F.S.+/-1 digit(Excepted sensor separated model) N, kgf, lbf (※1) 4-digit Organic EL 2000Hz (2000 data / sec) at maximum Customized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memory, Comparator (judgement of OK or NG). Reversible display, Sion inversion, Zero clear
4-digit Organic EL 2000Hz (2000 data / sec) at maximum Customized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memory, Comparator
2000Hz (2000 data / sec) at maximum Customized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memory, Comparator
Customized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memory, Comparator
compression), Internal 1000 points data memory, Comparator
timer, +NG alarm, Off timer (auto power off), Dumping, Time display
Temperature: 0 to +40 degree Celsius, Humidity: 20 to 80%RH
USB, RS232C, ±2 VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG), Overload alarm
6.5 hours (2 hours full re-charging)
Attachments(%2), AC adapter, Inspection certificate, CD-driver(including simple software for data logging), USB cable, Carrying case.

- Japanese domestic model does not indicate kgf and lbf units. *2 Please refer to Page 38 for the detail of accessory attachments.
- OThe weights are slightly different by the ranges.

ZTS series (High Capacity Model) (Next Series



- The load capacity ranges from 2500N to 5000N.
- OThis model has the same functions and performance as ZTS series basic model.





Check Force Transition on Graphs

Software Force Recorder — To Page 23~24

Improve Measuring Repeatability Test Stands -To Page 30



Connect with External Devices Cable Using Applications —— — To Page 26



Transmit Data Wirelessly Wireless Unit WL01-ADP/WL01-USB

To Page 26

Compression and

□Size:Approx.W83×D44.5×H221mm

■High Capacity Model List

Model	Capacity	Display	Thread
ZTS-2500N	2500N	2500N (2.500kN)	M10
ZTS-5000N	5000N	5000N (5.000kN)	MIO



- Olt features an external sensor, which is ideal for installing into facilities or measuring under special circumstance.
- We offer a wide range of sensors such as waterproof, wide temperature range, pen shape, and more to meet your force measurement requirement.

Please select one load cell from page 19 to 21.









To Page 26

This model has the same functions and performance as ZTS series basic model. (Accuracy and testing direction is determined by the sensor combined with the indicator.)



Check Force Transition on Graphs Software Force Recorder — To Page 23~24

Weight (the indicator only): Approx.490g



Connect with External Devices Cable Using Applications — To Page 26

Sensor separate type Model List (When selecting load cell DPU series)

(TITIOTI COLOCULING ICAG			
Model	Capacity	Display	Thread
ZTS-DPU-2N	2N	2.000N (2000mN)	
ZTS-DPU-5N	5N	5.000N (5000mN)	
ZTS-DPU-10N	10N	10.00N	
ZTS-DPU-20N	20N	20.00N	M6
ZTS-DPU-50N	50N	50.00N	WIO
ZTS-DPU-100N	100N	100.0N	1
ZTS-DPU-200N	200N	200.0N	1
ZTS-DPU-500N	500N	500.0N	



Transmit Data Wirelessly

Wireless Unit WL01-ADP/WL01-USB

(
Capacity	Display	Thread
1000N	1000N (1.000kN)	
2000N	2000N (2.000kN)	M10
5000N	5000N (5.000kN)	
10kN	10.00kN	M18P1.5
20kN	20.00kN	Depth22 female screw
	Capacity 1000N 2000N 5000N 10kN	Capacity Display 1000N 1000N (1.000kN) 2000N 2000N (2.000kN) 5000N 5000N (5.000kN) 10kN 10.00kN

OPlease refer to Page 19 for the detail of load cell DPU series

An example of separated sensor model combined with a load cell

ZTS-LM-500N Load cell model Choose ZTS or ZTA

*In the case where you combine ZTS with a load cell, LM-500N

- To Page 30



High-functional Type with Various Functions

ZTA series (Basic Model) Next Series

This series have the highest functionality. They have 2 remarkable points; 1. They input or output displacement. 2. They can connect to USB flash drive to save the original graph data.

ZTA has all the functions of ZTS(Page 11) with a few more additional features, including I/O for displacement, saving data to USB flash drive, and more.

OZTA series features

Input and Output Displacement

©Force vs displacement data management on PC FSA series (Force-Displacement Analysis Unit) [Page 50~ 52]can be used to manage force-displacement data on PC.

Showing displacement on a force gauge with a test stand FA version test stand [Page 32~33]can be used together to show displacement on a force gauge.

Measuring force-displacement with external facilities

Built-in linear scale [Page 26]can be used together with ZTA.

Need an optional cable [Page 25] for that.

Data Saving to a USB Flash Drive

OData Saving into a USB Flash Drive at 100Hz.

Series of data can be saved without PC.





Apply Stable Force by Hand

Transmit Data Wirelessly

Wireless Unit WL01-ADP/WL01-USB

Analyze Force-Displacement Relation

Force-Displacement Analysis Unit — To Page 50

+/-0.2%FS+/-1digit

N, kgf, lbf(%1)

4-digit Organic EL

2000Hz (2000 data / sec) at maximum

ustomized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memory, Comparator (judgement of OK or NG), Reversible display, Sign inversion,

ero 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 USB, RS232C, ±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(%2),

Displacement(%3)

Temperature: 0 to +40 degree Celsius, Humidity: 20 to 80%RH

6.5 hours (2 hours full re-charging)

Attachments (%5),AC adapter, Inspection certificate, CD

Carrying case, Adaptor for USB flash drive.

iver (including simple software for data logging), USB cable

Handle FOH-1 —

Hand Grip Belt HGB-1 -

Compression and Tension Compatible ☐ Weight: Approx.490g

ZTA series specifications

Accuracy

Display

Function

Sampling rate

Unit of measurement(%1)

Operating environment

Accessory(%4)

□Size:Approx.W75×D34×H191mm

To Page 48

To Page 48

To Page 26



Check Force Transition on Graphs Software Force Recorder



Connect with External Devices Cable Using Applications -To Page 26



Improve Measuring Repeatability Test Stands

To Page 30

ZTA series model list

Model	Capacity	Display	Thread
ZTA-2N	2N	2.000N/2000mN(200.0gf)	
ZTA-5N	5N	5.000N/5000mN(500.0gf)	
ZTA-20N	20N	20.00N(2.000kgf)	
ZTA-50N	50N	50.00N(5.000kgf)	м6
ZTA-100N	100N	100.0N(10.00kgf)	
ZTA-200N	200N	200.0N(20.00kgf)	
ZTA-500N	500N	500.0N(50.00kgf)	
ZTA-1000N	1000N	1000N/1.000kN(100.0kaf)	

- *1 The model less than 5N can be displayed mN.the model more than 1000N can be displayed kN. Japanese domestic model does not indicate kgf and lbf units.
- *2 Maximum 100 data/sec capturing series of data with a USB flash drive.
- **3 A USB flash drive and a liner scale consume more battery. Thus, when you combine ZTA with the USB flash drive or the liner scale, the battery runs out faster.
- * 4 A USB flash drive is not included.
- X5 Please refer to Page 38 for the detail of accessory attachments.

The weights are slightly different by the ranges.

ZTA series (High Capacity Model) (Next Series

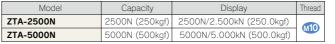
The load capacity ranges from 2500N to 5000N.

This model has the same functions and performance as ZTA series basic model.



Compression and **Tension Compatible** □Size:Approx.W83×D44.5×H221mm ■Weight: Approx. 1100g

■High Capacity Model List





Check Force Transition on Graphs Software Force Recorder — To Page 23~24

Improve Measuring Repeatability



Connect with External Devices

Test Stands ----

Cable Using Applications —— — To Page 26



Analyze Force-Displacement Relation Force-Displacement Analysis Unit - To Page 50



Transmit Data Wirelessly Wireless Unit WL01-ADP/WL01-USB

To Page 26

ZTASERIES (Separated Sensor Model)

It features an external sensor, which is ideal for installing. into facilities or measuring under special circumstance.

• We offer a wide range of sensors such as waterproof, wide temperature range, pen shape, and more to meet your force measurement requirement.

KPlease select one load cell from page 19 to 21







This model has the same functions and performance as ZTA series basic model

 \square Size(the indicator only): Approx. W75 \times D34 \times H188mm Weight (the indicator only): Approx.490g



 $(\epsilon$

Check Force Transition on Graphs Software Force Recorder — To Page 23~24



Connect with External Devices Cable Using Applications -To Page 26

Sensor separate type Model List (When selecting load cell DPU series)

Model	Capacity	Display	Thread
ZTA-DPU-2N	2N	2.000N (2000mN)	
ZTA-DPU-5N	5N	5.000N (5000mN)	
ZTA-DPU-10N	10N	10.00N	
ZTA-DPU-20N	20N	20.00N	M6
ZTA-DPU-50N	50N	50.00N	MO
ZTA-DPU-100N	100N	100.0N	
ZTA-DPU-200N	200N	200.0N	
ZTA-DPU-500N	500N	500.0N	



Connect with a Linear Scale Built-in Linear Scale Unit ---To Page 26



To Page 26

(When selecting load cell DPU series [High capacity model])

		J , ,	
Model	Capacity	Display	Thread
ZTA-DPU-1000N	1000N	1000N (1.000kN)	
ZTA-DPU-2000N	2000N	2000N (2.000kN)	M10
ZTA-DPU-5000N	5000N	5000N (5.000kN)	
ZTA-DPU-10kN	10kN	10.00kN	M18P1.5
ZTA-DPU-20kN	20kN	20.00kN	Depth22 female screw

OPlease refer to Page 19 for the detail of load cell DPU series

An example of separated sensor ZTA-LM-500N Load cell model model combined with a load cell *In the case where you combine ZTA with a load cell, LM-500N

Force Gauge Separated **ZTA** Sensor

Motorized Test Stand **EMX** MH2

Connecting them via Force Control Cable CB series,



enables you to maximize the functions such as the following.

**Please contact us for the combinations. (Our service group: +81-(0)532-33-3288)

following functions

Preventing Overload

OFor reducing overload risks, a test stand stops when a force gauge senses too much force over its capacity.



If the motorized stand goes beyond the overload value during its operation, it will not continue to operate.

*Not able to prevent overload in some cases.

Making Efficient



Olt automatically starts graphing and recording data.

%Graphing software is sold

Automatically it starts graphing.



Force Control Functions

Olmprove operating efficiency

· The force gauge automatically returns to starting point after reaching a pre-set force limit.

· It can change the test speed when a force gauge senses a set point. Using this function, you can move the force gauge quickly until it touches a test sample, which reduces the time taken for measurement.

> For example, slow down when a force gauge detects 0.1N.



For example. pause for 60 seconds, applying 500N pressure constantly.

Suitable for pressure/endurance tests

It can automatically regulate the load so as to be in a pre-set range for a pre-set time period, which is fit for pressure/endurance tests.

Ideal for hand use

OHand fitting design

It has an easy gripping shape.

OLight weight

Approx. 460g, light enough to measure with

©Long lasting battery

Use up to 30 hours continuously (when backlight off).

OUSB power supply available

Charge it from a PC or mobile battery.

Easy quality control

OPass (OK) judgment function Easy checking for defects (It indicates OK when a force is within acceptable range.)

ONotice of calibration schedule

Set the calibration date and notify 30 days before the scheduled date

Overload alarm

Notify with a warning when the measured value approaches capacity

Compression / Tension compatible

□Size:Approx.W72×D32×H181m □Weight:Approx.460g



Check force transition on graphs Software ZLINK4 To Page 24



Improve Measuring Repeatability Test Stand To Page 30

■Model table of DST series

Model	Capacity (N)	Display	Thread
DST-2N	2N	2.000N (2000mN)	
DST-5N	5N	5.000N (5000mN)	
DST-20N	20N	20.00N	
DST-50N	50N	50.00N	м6
DST-200N	200N	200.0N	
DST-500N	500N	500.0N	
DST-1000N	1000N	1000N (1.000kN)	

Easy data management on PC

It features simple functions and easy handling with light weight and compactness.

©Easy connection via USB OData capture software

Covering measurement of low, medium force area, from 2N~1000N.

(Force Logger) included -Transfer 10 data / second to PC

DST Series

-Automatic detection of max. and min. values -Can be saved in CSV format

Digital Force Gauge

Apply Stable Force by Hand Handle FOH-1

To Page 48 Hand Grip Belt HGB-1 To Page 48

■Specifications of DST series

Accuracy	+/-0.2%F.S.+/- 1 digit	
Unit of measurement	N(mN/kN), kgf(gf),lbf (※1)	
Display	4-digit	
Sampling rate	1000Hz (1000 data / sec) at maximum	
Battery	Approx. 30 hours (backlight off); Approx. 14 hours (backlight on) (4.5 hours full charge)	
Power	Built-in Ni-MH battery, USB power supply (PC, mobile battery, AC adapter)	
Operating environment	Temperature: 0 - 40° C Humidity: 20 - 80% RH	
Function	Peak hold (tension and compression)/Comparator (judgement of acceptance or rejection)/Setting sensitivity (3 Levels)/Reversible display/ Reversible symbols/Setting lock/ Date time setting/Off timer/ Calibration time notice	
Output	USB/RS232C	
Overload alarm	Advance notice alarm: Range 90% or above	
	Overload warning (Alarm/Display): Range 110%	
Accessory	Force Logger (Data capturing software)/USB cable/AC adaptor/	
	Attachment (%2)/Carrying/Operation manual/Inspection certificate	

- *1 kN is available at 1000N, mN and gf are available at 2N and 5N ranges. The available units are different from Japanese domestic model and international one.

 *2 Please refer to Page 38 for the detail of accessory attachments.

 Weight are slightly different by the ranges.

- Specifications for Japanese domestic models vary on functions and performance.



High Repeatable Type for Handheld Use

DSV Series

Covering measurement of low, medium force area, from 2N~1000N Increase the reproducibility of measurements of hand-held, with warning function of posture change.

High-end model with a few additional functions while keeping the performance of DST series (Page 16)

Features of DSV Series

Increase repeatability

- **Detection of posture change,** notification by alarm (tilt alarm)
- **OData** record of posture change abnormalities

Higher operability

OInternal memory

Record 1000 data with date & time, and iudament results

©Continuous peak mode

Increase productivity of measurement by continuously acquiring peak value without button operation

Compression / **Tension compatible**

□Size:Approx.W72×D32×H181mm □Weight:Approx.460g



Handle FOH-1 -

Hand Grip Belt HGB-1



Check force transition on graphs To Page 24

Software ZLINK4



Improve Measuring Repeatability

Test Stand To Page 30

■Model table of DSV series

Model	Capacity (N)	Display	Thread
DSV-2N	2N	2.000N(2000mN)	
DSV-5N	5N	5.000N (5000mN)	
DSV-20N	20N	20.00N	
DSV-50N	50N	50.00N	м6
DSV-200N	200N	200.0N	
DSV-500N	500N	500.0N	
DSV-1000N	1000N	1000N(1.000kN)	

■Specifications of DSV series

Accuracy	+/-0.2%F.S.+/- 1 digit		
Unit of measurement	N(mN/kN), kgf(gf),lbf (%1)		
Display	4-digit		
Sampling rate	1000Hz (1000 data / sec) at maximum		
Battery	Approx. 30 hours (backlight off); Approx. 14 hours (backlight on) (4.5 hours full charge)		
Power	Built-in Ni-MH battery, USB power supply (PC, mobile battery, AC adapter)		
Operating environment	Temperature: 0 - 40° C Humidity: 20 - 80% RH		
Function Peak hold (tension and compression)/Comparator (judgement of acceptance of Setting sensitivity(3 Levels)/Reversitie display/Reversities symbols/Setting ioxid/ Da Off timer/Calibration time notice/Tit alarm/Continuous peak mode/internal memory			
Output USB/RS232C			
Overload alarm	Advance notice alarm: Range 90% or above		
Overload warning (Alarm/Display): Range 110%			
Accessory	Force Logger (Data capturing software)/USB cable/AC adaptor/		
	Attachment (%2)/Carrying/Operation manual/Inspection certificate		

Apply Stable Force by Hand

To Page 48

To Page 48

Load Cells and Amplifiers

Load cells convert sensing force to electric signal. You need an amplifier to indicate the force value measured by load cells. They are ideal for built-in or use under unique environment such as dangerous / narrow / dusty, and the like.



Example Normal load cell: DPU-50N



eZ-Connect series Series

eZ-Connect series are···

©eZ-Connect is composed of an amplifier and load cells. Load cells can be replaced without additional adjustment.

·Choose a load cell from page 19 to 21 to connect with the amplifier. Available load cells have a mark 69:

Its overall accuracy is calculated as the total of the accuracy of the amplifier (+/- 0.2%F.S.) and a load cell connected with it.

We do not offer inspection certificate when we ship it out. Therefore, please calibrate it by yourself, or request calibration for each combination if needed(available at a charge).

[This is recommended in these cases below.]

Measure things from low load to high load.

Carry out different types of tests such as tension and torque. Keep a spare load sensor to reduce risks in operation.

+/-0.2%F.S.(**※**1)

16 / sec

2000 data / sec at maximum (%2) Customized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memony.Comparator (judgement of OK or NG), Reversible display, Sign inversion, Zero clear timer, +NG alam, Off timer (auto power off), Dumping, Time display, 151/24 peak.Displacement detection at force peak value,Displacement zero reset at selected force, setting lock

USB, RS232C, ±2 VDC analog output (D/A),Comparator 3 steps (-NG/OK/+NG), rload alarm, Sub comparator 2 steps (output of large or small judgment), USB flash drive, Displacemen

Temperature: 0 to +40 degree Celsius, Humidity: 20 to 80%RH

6.5 hours (2 hours full re-charging)(%3)

AC adapter, CD driver (including simple software for data logging), USB cable, Operation manual, Carrying case, Adaptor for USB flash drive (%4)

ends on load cell and settings *(N,kN,kgf,lbf N-m,N-cm,kgf-m,kgf-cm,lbf-in,ozf-in)

Models of load cells for eZ-Connect series

Sensor Interchangeable Amplifier eZT

OAdd "e" to model name of a load cell for eZ-Connect series as stated below.

Load cell for eZ-Connect series:eDPU-50N ■eZT Specifications

Capture test data precisely due to its high sampling rate (Max.2000Hz).

No additional adjustment is needed to replace load cells.

Multifunctional

Olt has many useful functions such as OK/NG judgement, saving data in USB flash drive, and more.

☐Size(Amplifier only): Approx.W75×D34×H188mm ☐Weight(Amplifier only): Approx.490g



Check Force Transition on Graphs Software Force Recorder — To Page 23~24



Connect with External Devices Cable Using Applications ——

Accuracy

Display update

Sampling rate

**Japanese domestic model does not indicate kgf (kgf-m, kgf-cm) and lbf (lbf-in, ozf-in).

**31 The accuracy of load cell is added during measurement.

**2 You can save up to 100 data/sec in USB flash drive (selectable among 1, 50, and 100 /sec)

**3 A USB flash drive and a liner scalc consume more battery.

Thus, when you combine ZTA with the USB flash drive or the liner scale, the battery runs out faster.

**4 USB flash drive is not included.

Olf you would like to use this amplifier combined with a test stand, please contact us or our sales partner.

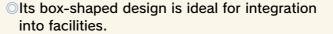
Connect with a Linear Scale Built-in Linear Scale Unit -To Page 26



Transmit Data Wirelessly Wireless Unit WL01-ADP/WL01-USB

Desktop Amplifier FA Plus2 series





Olts rich output functions allow easy connection to external devices such as PLC.



 \square Size:W151×D150×H90mm □Weight: Approx. 1.1kg

This amplifier is available with all load cells from page 19 to 21 except SKM-1000N

Load cells can be replaced in the most cases although they need adjustments However, some load cells are incompatible, and they cannot be combined with an amplifier. Please contact us for the details.

Accuracy

OHigh speed sampling:2000Hz

It shows force value precisely and even follows rapid force change due to its high sampling rate.

Connect with external equipment

Olt can be used as a part of factory automation equipment using input and output signals.

Model	FA Plus2	eFA Plus2			
Features	Adjustment is required when change the load cell	Load cell interchangeable eZ-Connect series (no need for adjustment)			
Unit of	Depends on load	cell and settings			
measurement	(N, kN, kgf, lbf, N-m, N-cm, kgf	f-m, kgf-cm, lbf-in, ozf-in) (%1)			
Display	4-0	ligit			
Sampling rate	2000 data / se	ec at maximum			
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.				
Accessories	AC adapter (only for standard model), Force Logger (software for data logging),				
	USB cable, Adapter for USB flash drive (%2), Instruction manual				
	Inspection certification —				

^{%1} kN is available at 1000N, mN and of are available at 2N and 5N ranges. The available units are different from Japanese domestic model and international one. *2 Please refer to Page 38 for the detail of accessory attachments.

[•] Weight are slightly different by the ranges.

Specifications for Japanese domestic models vary on functions and performance

Load Cells

for Compression and Tension

Standard Type DPU

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.W58×D21×H71~W72×D21×H73mm	
Cable Length	Approx.2m	

Model	Capacity	Thread	
DPU-2N	2N		
DPU-5N	5N		
DPU-10N	10N 10N		
DPU-20N	20N	Male Screw	
DPU-50N	50N	M6P1.0	
DPU-100N			
DPU-200N			
DPII-500N	500N]	

Extra Small Type

SCX

Suitable for measurement where

It measures force by mounted to

equipment with female threads.

access is limited due to

the extra compact body.

- *2 DPU-10kN/20kN equips a female screw M18 P1.5. The measuring shaft is separately sold.
- for Compression and Tension for Compression and Tension

for Compression and Tension

High Capacity Type **DPU**

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.W58×D26×H130~W88×D42×H155mm	
Cable Length	Approx.3m	

	Model	Capacity	Thread		
	DPU-1000N	1000N			
	DPU-2000N	2000N	Male Screv M10P1.5		
	DPU-5000N	5000N	(※1)		
	DPU-10kN	10kN	N/A(%2)		
	DPU-20kN	20kN	IVA(%Z)		
	* 1 A female screw M12 P1.75 is available by				

- removing the measuring shaft.

for Compression and Tension

Waterproof and Dust-proof Type SW1

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



Fix it with female screws or connect it to eye bolts to measure force.

۱.			
П	Capacity	100~5000N	
П	Accuracy	±0.5%F.S. or less	
П	Size	Approx.W40XD20XH40mm	
П	Cable Length	Approx.0.5~2m(Curl cable)	
Ι,			

Model	Capacity	Thread	
SW1-100N	100N	Female Screw	
SW1-200N	200N	M6P1.0	
SW1-500N	500N	Female Screw M8P1.25	
SW1-1000N	1000N		
SW1-2000N	2000N		
SW1-5000N	5000N	M10P1.5	

*Please contact us if the users need the male

for Compression and Tension

Waterproof and Dust-proof Type SW3

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



Fix it with female screws or connect it to eye bolts to measure force.

- 1				
		Capacity	10kN~20kN	
		Accuracy	±0.5%F.S. or less	
		Size	Approx.W80XD25XH80mm	
		Cable Length	Approx.5m	
- 1				

_				
1	Model	Capacity	Thread	
	SW3-10kN	10kN	Female Scre	
	SW3-20kN	20kN	M16P2.0	
	WDloaco contac	et us if the users need	d the mal	

thread.

Extra Small Type LMU

Sensor part diameter is Approx. φ 18mm.



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

Capacity 100N~2000N		Capacity	50~500N
Accuracy	±1.0%F.S. or less	Accuracy	±1.0%F.S. or less
Size	Approx.W16×D12×H19.1mm	Size	Approx. φ 18XH25mm
Cable Length	Approx.3m	Cable Length	Approx.2m

			1 -	
Model	Capacity	Thread		
SCX-100N	100N			ı
SCX-200N	200N	Female Screw		ı
SCX-500N	500N	M6	П	
SCX-2000N	2000N		П	
				_

LMU-50N 50N LMU-100N 100N LMU-200N 200N LMU-500N 500N

Capacity

(1 Conversion adaptor CA-F5T6 (Page 48) is required when M6 screw attachment mounting on the load cell.

for Compression and Tension

Small Type

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



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. φ 28XH35mm
Cable Length	Approx.3m

Model	Capacity	Thread		
LU-50N	50N			
LU-100N	100N			
LU-200N	200N	Female Screw M8P1.25		
LU-500N	500N			
LU-1000N	1000N			
LU-2000N	2000N			

Conversion adaptor CA-8T6 (for M6 screw)/CA-8T10 (for M10 screw) (Page 48) is required when M6/M10 screw attachments mounting on the load cell.

for Compression and Tension

Pen Type PN-50N

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. φ 20XH90mm
Cable Length	Approx.2m

1	Model	Capacity	Threa
	PN-50N	50N	M6P1.0

for Compression

Standard Type LM

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



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

	10kN~20kN
	±0.5%F.S. or less
_	Approx.W80XD25XH80mm
_	H
h	Approx.5m
Ī	

		1		
	Thread		Model	T
Π	Female Screw		LM-10N	T
	M16P2.0		LM-20N	I
			LM-50N	
e	d the male		LM-100N	I
			LM-200N	T
			LM-500N	T
			LM-1000N	I

LM-2000N LM-5000N

for Compression for Compression

projection.

Capacity

Accuracy

Model

LC-500N

LC-1000N

LC-2000N

LC-5000N

LC-10kN

LC-20kN

Size

Washer Type CHX

Ideal for press-fit force measurement due to the washer (through hole) design



It measures press-fit force by pushing in a rod-shaped sample through a part.

	Capacity	100N~2000N
	Accuracy	100~500N: ±2.0%F.S. or less 2000N: ±1.0%F.S. or less
	Size	100~500N: Approx. φ 25×H7.1m 2000N: Approx. φ 30×H14mm
	Cable Length	Approx.3m

Model	Capacity
CHX-100N	100N
CHX-500N	500N
CHX-2000N	2000N

for Compression

High Accuracy Type

LC

High accuracy model.

It measures force by applying compression on the top of

500N~20kN

±0.5%F.S. or less Approx. φ50XH25mm

Capacity

500N

1000N

2000N

5000N

10kN

High Capacity Type

High accuracy model. Available for high capacity measurement.



projection.

	100N~2000N			Capacity
	100~500N: ±2.0%F.S. or less			Accuracy
	2000N: ±1.0%F.S. or less	П	ſ	Size
	100~500N: Approx. φ 25×H7.1mm 2000N: Approx. φ 30×H14mm			Cable Le
gth	Approx.3m			

	Capacity	Model
	100N	CHX-100N
	500N	CHX-500N
	2000N	CHX-2000N
_	00011	

DD2



It measures force by applying compression on the top of

_				
	Capacity	5000N~20kN		
1	Accuracy	±0.5%F.S. or less		
1	Size	Approx. φ 94XH48mr		
	Cable Length	Approx.5m		
4				

	Model	Capacity
H	DD2-5000N	5000N
1	DD2-10kN	10kN
	DD2-20kN	20kN

for Compression

Extra Small and Flat Type **CFX**

Extra small load cell with the large load-bearing area.





It measures force by applying compression on the flat sensor area.

	Capacity	20N~200N
	Accuracy	±1.0%F.S. or less
	Size	Approx. φ 15×H9mm
	Cable Length	Approx.3m
ı		

	1	Model	Capacity	Thread	
		CFX-20N	20N		
		CFX-50N	50N	Female Screw M2	
		CFX-200N	200N		
٦					

for Compression

Thin and Flat Type **CLFX**

Able to insert in narrow space due to the extra thin body.





It measures force by applying compression on the flat sensor area.

	Capacity	50N~500N
	Accuracy	±2.0%F.S. or less
n	Size	Approx. φ20×H6mm
	Cable Length	Approx.3m

	Model	Capacity	Thread
	CLFX-50N	20N	Female Scre
	CLFX-500N	500N	M2

for Compression

Wide Temperature Range Type LMT-1000N

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. ϕ 14XH4.3mm
Cable Length	Approx.2m

Model	Capacity
LMT-1000N	1000N

for Compression or Tension

High Capacity ZD

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



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

ı		
	Capacity	1000N~20kN
	Accuracy	±0.5%F.S. or less
	Size	Approx.W78XD30XH44~W116XH38XD46mm
	Cable Length	Approx.3m

Model	Capacity	Thread
ZD1-1000N	1000N	
ZD1-2000N	2000N	Male Screw M12P1.75
ZD1-5000N	5000N	M12P1.75
ZD1-10kN	10kN	
ZD2-20kN	20kN	Male Screw M20P1.5

Please choose tension or compression

Load Cells

for Compression or Tension High Accuracy Type SK





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
Model	Capacity
SK-2000N	2000N
SK-5000N	5000N
SK-10kN	1 0kN
SK-20kN	20kN

for Tension

High Capacity Type ZU

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. φ 30xH210~ φ 39xH234mm
Cable Length	Approx.5m
Model	Capacity
ZU-10kN	1 0kN
ZU-20kN	20kN

for Tension Crane Scale Type





It can be used as a crane scale.

	Capacity	10kN
1	Accuracy	±1.0%F.S. or less
	Size	Approx.W79×L250
	Cable Length	Approx.0.5~2m(Curl cable
1	Model	Capacity
4		. ,
	ZW1-10kN	10kN
1		·

Special Use Load Cell **Door Tester**

DM-2000N

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



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

ı	Capacity	2000N		
ı	Accuracy	±2.0%F.S. or less		
	Size	Approx.W94XD66XH380mm		
ı	Cable Length	Approx.2m		
	Model	Capacity		
ı	DM-2000N	2000N		
ı	Complies with the co	rrsponding part of BS EN 12453 (2017)		

ndustrial, commercial and garage doors and gates - safety in us

Special Use Load Cell

Closing Force of Car Windows SKM-1000N

Exclusively for automatic closing force of car windows.



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

1	Capacity	1000N	
1	Accuracy	±1.0%F.S. or less	
	Size	Approx.W70XD50XH32mm	
	Cable Length	Approx.200mm(Flexible arm)	
This product is united to the indicator. THe united model: ZTS-SKM-1000N/ZTA-SKM-10			
Model		Canacity	

For Torque(only for eZ-connect)

Flange type Torque load Cell

eTFX

SKM-1000N

Special Use Load Cell

Handbrakes Force of Two-Wheelers PK1-500N

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.W100XD25XH24mm
	Cable Length	Approx.1.5m
	Model	Capacity
1	PK1-500N	500N
ш		

Special Use Load Cell

Foot Brakes Force of Cars PK2-1500N

Exclusively for stepping foot brakes of cars.

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

Conneity	1500N
Capacity	100011
Accuracy	±1.0%F.S. or less
Size	Approx.W50XD70XH28mm
Cable Length	Approx.1.5m
Model	Capacity
PK2-1500N	1500N

For Torque(only for eZ-connect)

Torque Load Cell eHT series

It measures turning/twisting force.



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

Capacity	U.JIN-III - IUIN-III	
Accuracy	±0.5% F.S. or less	
Size	φ38×138mm	
Cable Length	Approx.0.5~1m (curl cable)	
Model	Capacity	
eHT-0.5N	50N-cm(X1)	
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.		
	Size Cable Length Model eHT-0.5N eHT-2N eHT-5N eHT-10N **1 Displayed u	

(Refers to IEC 60529; 2001)

IP (International Protection) is a standard which is based on IEC Standard 529 for solid foreign materials, electric devices for water and cabinet.

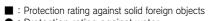


Ideal for integration to equipment by fixing it with its equipped through holes on both sides.

5N-m~10N-m	
±1.0%F.S. or less	
Approx. φ35×28mm	
Approx.2m	
Capacity	
5N-m(500N-cm)	
10N-m(1000N-cm)	

What is IP?

(Explanation of the IP code) -



Protection rating against water (Some IMADA load cells are rated with IP67 /65/ 64.)

Protected from immersion in water under the specified time and water pressure (depth).

- Protected against water jets from any direction. - Protected against water splashed from any direction.

Only the load cell part is rated with IP. Its amplifier (indicator), connecting parts, and connector parts do not comply with IP

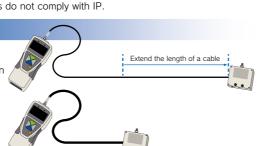
Custom Order Examples

[Example: Extend the length of a cable]

We can extend the length of a cable for gauge-PC connection or loadcell-amplifier connection.

[Example:Enhance flexibilty of a cable]

We can offer high-flex cable to reduce risks of disconnection. *We cannot offer it in some cases Contact us for further information



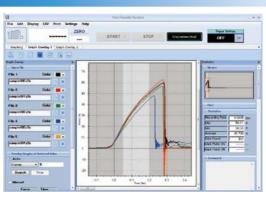
Advantage of Using The Software

Force transition can be graphically confirmed in real time by connecting force gauge and PC via USB cable. Software allows easy data management and analysis.

Data Collection and Analysis Software

Transfer data from a force gauge to a PC in real time via a cable. It shows test data graphically on a PC, and force transition can be confirmed visually. Moreover, it automatically calculates the statistics and stores recorded data, enabling you to manage data with ease.

XAII software is available in English and Japanese by language setting.



Software Lists

JUILWAITE LISTS					
CD	Name of software	Purpose	Compatible model	Connecting port	Maximum data capturing rate
Terra Namenia Capita :- Capita :-	Force Recorder Light	for drawing Force-Time Graph This software is moderate-priced edition.	ZTS ZTA eZT FA Plus2 HTGS/HTGA/FTFX) DTXS/DTXA To Page 11 To Page 13 To Page 18 See a torque catalog. See a torque catalog.	USB	Max. 2000Hz
State Section 1.	Force Recorder Standard	for drawing Force-Time Graph	ZTS, ZTA, eZTJ, FA Plus2 HTGS/HTGA/ETFX) DTXS/DTXA To Page 11 To Page 13 To Page 18 See a longue calalog. See a longue calalog.	USB	Max. 2000Hz
	Force Recorder Professional	for drawing Force-Displacement Graph	ZTA eZT FA Plus 2 HTGAC-TFX) DTXS/DTXA To Page 18 To Page 18 See a torque calalog. See a torque calalog.	USB	Max. 2000Hz
0	Force Recorder Plus	for drawing Force-Time Graph up to 4 force gauges.	ZTS ZTA eZT FA Plus2 HTGS/HTGA/STFX) DTIXS/DTXA To Page 11 To Page 13 To Page 18 See a torque catalog. See a torque catalog.	USB	Max. 1000Hz
International Property of the Control of the Contro	Force Logger Plus	for acquiring data from up to 4 force gauges **Not available for drawing a graph	ZTS ZTA eZT FA Plus2 DST DSV HTGS/HTGA/-TR) DTXS/DTXA To Page 11 To Page 13 To Page 18 To Page 18 To Page 16 To Page 17 See a turque calalog. See a torque calalog.	USB	Max. 10Hz
	ZLINK4	for drawing Force-Time Graph	To Page 16 To Page 17	USB	Max. 50Hz

Operating Environment for Force Recorder series, Force Logger Plus, ZLINK4, Force Recorder Plus [Operating Environment]

Force Recorder Light/Standard/Professional、ZLINK4	Force Recorder Plus	Force Logger Plus
Windows 8.1 / 10 / 11	Windows 8.1 / 10 / 11	Windows 8.1 / 10 / 11
CPU: 1GHz or higher/Memory: 2GB or more	CPU: 1GHz or higher/Memory: 4GB or more	CPU: 1GHz or higher/Memory: 2GB or more
Hard disk: 10GB(Data storage area) more	Hard disk: 10GB(Data storage area) more	Hard disk: 10GB(Data storage area) more
.NET Framework 4.8 later	.NET Framework 4.8 later	.NET Framework 4.8 later
Resolution: 1024×768 pixel more	Resolution: 1920×1080 pixel more	Resolution: 1280×768 pixel more
	Windows 8.1 / 10 / 11 CPU: 1GHz or higher/Memory: 2GB or more Hard disk: 10GB(Data storage area) more .NET Framework 4.8 later	Windows 8.1 / 10 / 11 CPU: 1GHz or higher/Memory: 2GB or more Hard disk: 10GB(Data storage area) more NET Framework 4.8 later Windows 8.1 / 10 / 11 Windows 8.1 / 10 / 11 CPU: 1GHz or higher/Memory: 4GB or more Hard disk: 10GB(Data storage area) more NET Framework 4.8 later

■Comparison Table

Function Comparison

Software	Force Recorder Light	Force Recorder Standard	Force Recorder Professional	Force Recorder Plus	Force Logger Plus	ZLINK4
Feature	Graphing only	With editing functions	Force-displacement graphing	Graphing for multiple force gauges at the same time	Connect up to max. 4 force gauges	Simple Graphing
Graph	Force-time	Force-time	Force-time; Force-displacement	Force-time	N/A	Force-time
Data transferring speed (Max)	2000 data/sec	2000 data/sec	2000 data/sec	1000 data/sec	10 data/sec	50 data/sec
Recording data point (Max)	7.2 million	7.2 million	7.2 million	3 million	65 thousand	7.2 million
Displacement output	N/A	N/A	✓	N/A	N/A	N/A
Graph overlaying function	N/A	✓ (Max. 5 graphs)	✓ (Max. 5 graphs)	✓ (Max. 10 graphs)	N/A	N/A
Trigger function	N/A	√	√	✓	N/A	✓
Point marking	N/A	✓	✓	N/A	N/A	N/A
Border line function	N/A	✓	✓	N/A	N/A	N/A
Capture function	N/A	✓	✓	✓	N/A	N/A
Graph scaling	√ (Auto)	√ (Auto)	√(Auto)	✓ (Auto/Manual)	N/A	✓
Statistics output	√	✓	✓	✓	✓	✓
Comment	✓	✓	✓	N/A	N/A	✓
Print	✓	✓	✓	✓	✓	✓
CSV file converting	√	✓	✓	✓	✓	✓
Preview saving (PDF/Word/Excel)	✓	✓	✓	✓	N/A	✓
Force gauge setting	✓	✓	✓	✓	✓	✓
Managing force gauge	N/A	N/A	N/A	./	/	N/A



Force Recorder Light

Force-Time Graphing Software



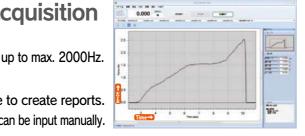
Affordable model focusing on graph acquisition

■Acquire measuring data accurately and precisely

• It graphs measurement accurately and precisely at high sampling rate, up to max. 2000Hz.

■Create report instantly

- Easily saves data in Word, Excel and PDF format, reducing time to create reports.
- •It automatically inputs graphs, dates & time, and statistics. Comments also can be input manually.
- ·Refer to the [Operating Environment] on the previous page for the details of operating environment.



Forse Recorder Standard Manual Communication (MADA

Force Recorder Standard

Force-Time Graphing Software



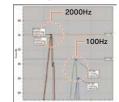
Analyze data easily and accurately, and create report with ease

■ Make efficient by simple manipulations and useful functions

- Data can be easily compared due ----to plural tabs.
- - Olt automatically calculates Max/Min/Ave values.
 - Comments can be insertted.

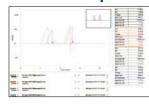
 Maximum 5 graphs can be overlaid in a table, allowing easy comparison and accurate analysis.

■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.
- Comparison of 2000Hz and 100Hz 2000Hz is more to capture peak value than 100 Hz.

■Create reports quickly -



- Data can be easily saved in Word, Excel, and PDF format, reducing the time to create reports.
- Olt automatically inputs graphs, date & time, and statistics. Comments also can be input manually if necessary.

•Refer to the [Operating Environment] on the previous page for the details of operating environment.



Force Recorder Professional

Force-Displacement Graphing Software



Draw and analyze force vs displacement graphs (FS curve)

In force-displacement measurement, a dedicated device measures force and travel amount (compression, tension) of the force gauge on the motorized stand as displacement at the same time.

Force vs displacement graphs can be drawn.

- Force-displacement graph can be created by connecting the linear scale (Page 26) or test stand with inbuilt linear scale (FA model) (Page 36) together with force gauge.
- •FSA series (Page 50~52) include this software.
- Professional is basically the same as Standard in performance&function
- ·Refer to the [Operating Environment] on the previous page for the details of operating environment.



Force Recorder Plus

Multiple gauges Force-Time Graphing Software



Graph the data up to 4 force gauges, and display different measurment unit such as force and torque in 1 screen

■Acquire data up to 4 force gauges

- Easy USB connection ※A self-power USB hub is required separately
- Acquire synchronized data (up to 1000 times/sec)
- The force applied to different parts of the sample can be measured up to 4 points at the same time

Display different unit such as force and torque in 1 screen

•Record the transition of the multiple movements such as pressing and turning



Maximum 10 graphs can be overlaid in a table and compared

It enables you to analyze test results more easily since 10 graphs can be compared at the same time, which is more than other software
 Refer to the [Operating Environment] on the previous page for the details of operating environment.



Force Logger Plus

Multiple Gauges Managing Software



Manage data up to 4 force gauges

Acquire data up to 4 force gauges

- Easy USB connection **A self-power USB hub is required separately.
- •Acquire single data or synchronized data (up to 10 times/sec)

Simple data management

- •Record data by each serial number of the force gauge, together with the date & time of recording and person in charge.
- •Register the force gauge by each serial number and manage the force gauge with an operator's name and a department.

Force gauge setting

• Easily set functions of the force gauge by the software.



*The wire less Unit(P24) is available only for Ver.1.10 and late Force Logger is available with Ver.2.10 and later.

 Refer to the [Operating Environment] on the previous page for the details of operating environment.



ZLINK4

Force-Time Graphing Software for DST/DSV



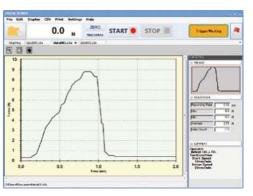
Draw force-time graph easily

■Graphing at Max. 50Hz

- Open multiple graphs with tabs
- Zoom specific parts in detail easily with zoom function

High operability by trigger function

- •Automatic recording by setting the force value of when to start and end. The recording time also can be set.
- Refer to the [Operating Environment] on the previous page for the details of operating environment.





The Cable 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.



- *1 ZTS/A series force gauges output raw sensor data as fast analog voltage without conversion with -AN option.
- **2 Please refer to "ZT series Advanced Measurement Examples" on Page 15

 (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 guaruntee the complete overload-prevention.) ※3 It also activates motion control by set force values and an overload-preventing function.
- *4 EMX series with firmware ver.2.0 or later requires CB-718,
- ** We offer custom-made options for the cables such as extending the length, changing the connector (from analog output to BNC connector), enhancing the flexibility and more.
- * CB-308 are required to connect Mitutoyo Digimatic Mini Processor to ZTS/A series (earlier than Ver.5.00)

Wireless Data Transmit System WL01-ADP/ WL01-USB

It transmits measurement data wirelessly from a force gauge to a PC or other device.

- OReliable data transmission/reception: It equips reception-decting function such as "group-name" setting and send-error detection.
- High security data protection: It prevents data leak with AES data encryption
- OVarious methods of data management: Using published communication-command, you can import data to your Excel format or other software, and it can receine data from 26pcs of force gauge at a maximum. X1

WL01-USB WL01-ADP	
Wireless Data Transmission System Unit	When co

4	WL01-ADP	Second No.				
Wireless Data	a Transmission System Unit	When connected to PC				
USB Wireless Receiver						
Rece	Receiver which connected to PC to receive data					
		WL01-USB				
ole Software **3	Force Logger (Attachmer	nt, available from the Ver. 2.10 later)				
	Force Logger Plus (Sold Se	eparately, available from Ver. 1.10 later)				
ation Distance ※4	F	Approx.20m				
Communication	Complies with IEEE802 15	4 World Common Frequency: 2 4GHz				

Complies with CE: Radio Equipment Directive [2014/53/EU]

Complies with Japanese Technical Standard: ARIB STD-T66 Please contact us for use in other available areas Complies with Japanese Technical Standard: ARIB STD-T66 Please contact us for use in other available areas In the case of using the output signal by connecting force gauge to a test stand or external device while using wireless communication, you can use Wireless Transmit BOX (WL01-BOX). Depending on the software used, the number of connectable devices is limited.

All compatible models are available from firmware Ver.3.10 and later.

The maximum number of gauges connected to it in IMADA software is Force Logger: 1 unit / Force Logger Plus: 4 unit In the case of using Wireless Data Transmission System Unit with IMADA software, you cannot use some functions. Please contact us for the details. E.g. Acquire continuous data. The communication distance may vary depending on the obstacles and environmental conditions. Please contact us for the details.

Standard / Frequency

WL01-ADP

eFA Plus2, DTXA/DTXS, HTGA/HTGS, HTGA/HTGS-TFX

Approx.20m

Complies with IEEE802.15.4 World Common Frequency: 2.4GHz

Complies with CE: Radio Equipment Directive [2014/53/EU]

Built-in Linear Scale Unit

Standard / Frequency

Connect this linear scale to ZTA(P13) series/eZT(P18) series to measure force and displacement. It can be mounted on your equipment easily.

Model	DMK-100	DMK-300	DMK-500	DMK-800
Stroke(mm)	Max.100	Max.300	Max.500	Max.800
Size(mm)	254X25	454X25	654X25	954X25
ixina screw	M4	M4	M4	M4

**Select from 37 pin comnector or cable without connector



The Cables for Past Models

If you need a cable for past-model force gauges/torque gauges, please refer to the right list. If your model is not mentioned in the list, please contact us.

(The Model List)

Model	ZP,Z2 series	HTG2,DTX2 series	DS2 series
Analog cable	CB-104	CB-104	CB-101
RS-232C cable	CB-204	CB-204	CB-203
Digimatic cable	CB-304	CB-304	CB-301
Force Control cable	CR_501 (Connect with MX series)		

**Please select CB-504 if CB-204 and CB-501 are required to use at the same time.

Examples of Cable Applications

with Digital Force Gague ZT series

It enables you to

- ·detect abnormalities using a buzzer / light / your equipment together. (Using the functions of comparator and overload output)
- ·record the force value of contact point in a switch tactile test or broken point in a cable strength test.

(Using the function of the external contact point output)

- ·show the point at the moment contact point of switch tactile test or a broken point of cable strength test on a graph using software (Force Recorder Standard/Professional). (Using the mark point function)
- ·control an external device when the force gauge senses a set point. (Using sub-comparator function; Available only in ZTA/eZT series)

with Motorized Test Stand EMX, MX2(MH2) series(Option-CN version)

It enables you to

- Operate externally from a foot switch and the like.
- · Improve equipment safety with an interlock mechanism.
- ·Link wire conduction and test stand activities.

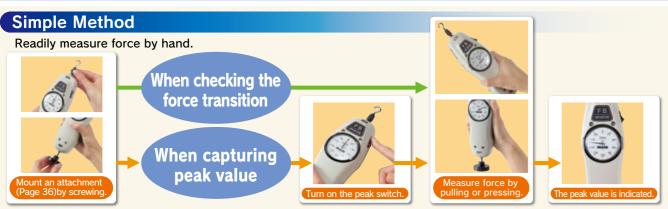




Analog type force gauges. It is easy to read force transition. Electricity is not needed. They are stout and long-lasting.

Mechanical Force Gauges

How to Use Mechanical Force Gauges (Using Example Model: FB series)



Reproducible Method

Combine a test stand(P30) with a force gauge to improve repeatability.



Economical Type

FB/FS series



Repeatability Test Stands —To Page 30	(

		Apply Stable Force by Hand		
80	V	Handle	FOH-1 -To Page 48	

Specifications

Accuracy	±0.3%F.S. or less
Division	100lines(X1)
Reading method	Real time/Peak hold(Switchable)
Standard accessories	Attachment 6pcs(%3) the instruction manual the carry case Inspection certificate etc.
•	

Model lists

Model	Capacity	Resolution	Thread
FB-10N	10N	0.1N	
FB-20N	20N	0.2N	
FB-30N	30N	0.25N	
FB-50N	50N	0.5N	м6
FB-100N	100N	1 N	MO
FB-200N	200N	2N	
FB-300N	300N	2.5N	
FB-500N	500N	5N	

	International model lists(%2)			
	Model	Resolution	Thread	
	FS-1K	1 kgf	10gf	
	FS-2K	2kgf	20gf	
	FS-3K	3kgf	25gf	
	FB-5K	5kgf	50gf	м6
	FB-10K	10kgf	100gf	WO
	FB-20K	20kgf	200gf	
	FB-30K	30kgf	250gf	
	FB-50K	50kgf	500gf	
	Model	Capacity	Resolution	Thread
	FB-5lb	5lbf	0.05lbf	
	FB-10lb	10lbf	0.1lbf	
	FB-20lb	20lbf	0.2lbf	м6
	FB-30lb	30lbf	0.25lbf	WIO
	FB-50lb	50lbf	0.5lbf	
	FB-100lb	100lbf	1 lbf	

Standard Type

PS/PSS series



Specifications

Accuracy	±0.1%F.S. or less
Division	100lines(X1)
Reading method	Real time/Peak hold (Switchable)
Standard accessories	Attachment 8pcs(%3) the instruction manual the carry case Inspection certificate etc.

Model lists

Model	Capacity	Resolution	Thread
PS-5N	5N	0.05N	
PS-10N	10N	0.1N	
PS-20N	20N	0.2N	
PS-30N	30N	0.25N	
PS-50N	50N	0.5N	м6)
PS-100N	100N	1 N	
PS-200N	200N	2N	
PS-300N	300N	2.5N	
PS-500N	500N	5N	

■International model lists(※2)

				` '
d	Model	Capacity	Resolution	Thread
	PSS-0.5K	500gf	5gf	
	PSS-1K	1 kgf	10gf	
	PSS-2K	2kgf	20gf	
	PSS-3K	3kgf	25gf	м6
	PS-5K	5kgf	50gf	MO
	PS-10K	10kgf	100gf	
	PS-20K	20kgf	200gf	
	PS-30K	30kgf	250gf	
	PS-50K	50kgf	500gf	
	Model	Capacity	Resolution	Thread
	PS-5lb	5lbf	0.05lbf	
	PS-10lb	10lbf	0.1lbf	
	PS-20lb	20lbf	0.2lbf	м6
	PS-30lb	30lbf	0.25lbf	MO
	PS-50lb	50lbf	0.5lbf	
	PS-100lb	100lbf	1 lbf	

PSH series





Apply Stable Force by Hand Handle FOH-1 - To Page 48

- Specifications		
Accuracy	±0.1%F.S. or less	
Division	200lines(X1)	
Reading method	Real time/Peak hold(Switchable)	
Standard accessories	Attachment 8pcs(%3)-the instruction manual-the carry case-Inspection certificate etc.	

Precision Type

PSM series

Model lists

Model	Capacity	Resolution	Thread
PSM-20N	20N	0.1N	
PSM-30N	30N	0.2N]
PSM-50N	50N	0.25N	
PSM-100N	100N	0.5N	м6
PSM-200N	200N	1 N	
PSM-300N	300N	2N]
PSM-500N	500N	2.5N	

International model lists(%2)

in item attends in the dest in the (m.E)			
Model	Capacity	Resolution	Thread
PSM-2K	2kgf	10gf	
PSM-3K	3kgf	20gf]
PSM-5K	5kgf	25gf	
PSM-10K	10kgf	50gf	M6
PSM-20K	20kgf	100gf	
PSM-30K	30kgf	200gf]
PSM-50K	50kgf	250gf	

Notes: The weight is depending on the range. (**1)120 lines for 30N, 30N, 30N and 30lb.(150lines for PSM) (**2) The international models are NOT able to sell in Japan due to the Measurement Act.(**3)Please refer to Page 38 for the accessory attachment

High Capacity Type



Test Stands - To Page 30 Specifications

Accuracy	±0.1%F.S. or less	
Division	100lines(※1)	
Reading method	Real time/Peak hold(Switchable)	
Standard accessories	Attachment 6 pcs(%3) the instruction manual the carry case Inspection certificate etc.	

Model lists

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

International model lists(%2)

Capacity	Resolution	Thread
50kgf	0.5kgf	
100Kkgf	1 kgf	M10
200kgf	2kgf	WILD
300kgf	2.5kgf	1
Capacity	Resolution	Thread
200lbf	2lbf	
300lbf	2.5lbf	M10
500lbf	5lbf	
	50kgf 100Kkgf 200kgf 300kgf Capacity 200lbf 300lbf	50kgf 0.5kgf 100Kkgf 1kgf 200kgf 2kgf 300kgf 2.5kgf Capacity Resolution 200lbf 2lbf 300lbf 2.5lbf

Built-in Type UKT/UKK series



Exclusive use for tension:UKT series Exclusive use for compression:UKK series

Specifications		
Accuracy	±0.3%F.S. or less	
Division	100lines(%1)	
Reading method	Real time/Peak hold(memory pointer type)	
Standard accessories	Attachment(UKK:5pcs-UKT:4pcs)-the instruction manual-the carry case-Inspection certificate	

Model lists

		Capacity	Resolution	Thread
UKT-20N	UKK-20N	20N	0.2N	
UKT-30N	UKK-30N	30N	0.25N	
UKT-50N	UKK-50N	50N	0.5N	м6
UKT-100N	UKK-100N	100N	1 N	MO
UKT-200N	UKK-200N	200N	2N	
UKT-300N	IIKK-300N	300N	2.5N	

International model lists(%2)

IVIO	uei	Capacity	Resolution	IIIIeau
UKT-2K	UKK-2K	2kgf	20gf	
UKT-3K	UKK-3K	3kgf	25gf	
UKT-5K	UKK-5K	5kgf	50gf	WG.
UKT-10K	UKK-10K	10kgf	100gf	м6
UKT-20K	UKK-20K	20kgf	200gf	
UKT-30K	UKK-30K	30kgf	250gf	
Mo	del	Capacity	Resolution	Thread
UKT-5lb	UKK-5lb	5lbf	0.05lbf	
UKT-10lb	UKK-10lb	10lbf	0.1lbf	_
UKT-20lb	UKK-20lb	20lbf	0.2lbf	м6
UKT-30lb	UKK-30lb	30lbf	0.25lbf	
UKT-50lb	UKK-50lb	50lbf	0.5lbf	

Muscle Force Measurement Device

Muscle Force Measurement Device

Muscle force measurement device is a kit including a force gauge, a handle, and pads, designed for measurement of muscle strength and job task analysis (workload test).



6 types of included attachments deal with wide variety of test samples. [Application]





[Specification chart]

•			
Model	RZTA-1000N	RDSV-1000N	RFB-750N
Capacity	1000N	1000N	750N
Size	Approx.W302×D37×H200mm	Approx.W302×D36×H189mm	Approx.W302×D51×H218mm
Weight	Approx.1kg	Approx. 1 kg	Approx. 1. 1kg

What is Unit "N"?

The "N" is a force unit called "Newton." <1kgf=9.80665N>

In Japan, Measurement Act established in 1993 requires you to use only Newton for force measurement.

Thus, in Japan our gauges indicate N.

For outside of Japan, we offer international models providing N/kgf/lbf. To be specific, as for digital force gauges you can switch units (N/kgf/lbf), and as for mechanical force gauges you have to select one from the 3 units before

For your information, in Japan the unit only in the table below can be used according to Measurement Act.

Excerpt of "Measurement Units pertaining to the International System of Units" (Ministry of Economy, Trade and Industry)

Quantity of the state of physical phenomena	Measurement unit
Force	Newton
Moment of force	Newton-meter
Pressure	Pascal or Newton per square meter bar
Stress	Pascal or Newton per square meter
Viscosity	Pascal second or Newton second per square meter

Reduced value for conventional force unit 1kgf=9.80665N

What is the best way to choose the most suitable range of a force gauge / a load cell?



Capacity in specifications means the maximum force that can be applied to a force gauge / a load cell. Force gauges or load cells would be broken if you applied force over their capacity. Therefore, we recommend that you choose the force gauge whose capacity is a little larger than expected force in your testing. Please utilize the information below to prolong gauges' lives.

Shock or Breaking Test: When Measuring Rapid Force Change

→Please choose the force gauge whose capacity is 200% of expected force in your testing.

Ex) Expected force: 10N, Measuring instrument: Digital force gauge ZTS →ZTS-20N is recommended. (①Double the expected force(10N) \rightarrow 20N, ②Choose the ZTS whose capacity is 20N \rightarrow ZTS-20N)

Elongation Test: When Measuring Slow Force Change

→Please choose the force gauge whose capacity is 150% of expected force in your testing.

Ex) Expected force: 30N, Measuring instrument: Digital force gauge ZTS series →ZTS-50N is recommended.

(①Increase expected force(30N) by half → 45N, ②Choose the ZTS whose capacity is 45N

→ We do not offer ZTS-45N, then ZTS-50N is the nearest one.)

What Is "F.S." for Accuracy, for example +/-0.2%F.S.?

"F.S." is abbreviation of "Full Scale," and it means the capacity.

Ex) ZTS-50N offers +/-0.2%F.S. accuracy, and has 50N capacity.

→The error is... 50N X + /-0.2% = +/-0.1N.

→When the measured value is 30N using ZTS-50N, guaranteed result is $\sim 30N+/-0.1N = 29.9$ to 30.1N.

Key Point of Maintenance of Measuring Instrument

Measuring instruments should be calibrated periodically. Calibrating means checking if they maintain initial accuracy or not. All of the measuring instruments including force gauges reduce their accuracy slightly day by day, therefore, they should be calibrated, and adjusted as required to conduct precise measurement continuously.

IMADA offers calibration services, so you can keep using our force gauges for long after purchase at ease. Besides, our calibration center is certified with ISO/IEC17025:2017, therefore, we offer high quality of calibration service if required. *Some products cannot be calibrated for some reasons.

Test Stands

Motorized Test Stands

They provide constant test speed and apply

Simple MX(Vertical)/MH(Horizontal)

Standard MX2(Vertical)/MH2(Horizontal)

Capacity:

To Page 33 display the speed on its monitor.

⟨MX⟩500N~1000N (MH)1000N

The Simplest Type

•For simple compression/ tension tests

Measuring speed can be changed

with its dial, however, the setting speed is not able to be seen in

digital MX2/MH2 or FMX can

(MX2)500N~5000N

(MH2)500N~2500N

Functionality

force straight, offering high repeatability.

Test Stands Improve Repeatability.

They provide constant test speed and apply load straight, reducing the variation from a person to a person.

A force gauge can be used by hand, and also it can be used with a test stand for greater accuracy. Combine a test stand with a force gauge and attachments to create a force testing machine, which offers a significant advantage over handheld use in precision.

Manual Test Stands

With a manual test stand, force can be applied straight, offering higher repeatability than measurement by hand.

Simple

SVL-1000N 9 To Page 34

Capacity: 1000N

•The simplest test stand

The lever improves measuring efficiency.

SVH-1000N

To Page 34 Capacity: 1000N

The simplest test stand •The handle realizes stable measurement.

Low Capacity

KV-50N

 Digitally set testing speed and see it on its monitor. The equipped monitor indicates

User Friendly and High

measuring conditions which can be easily set.

 MX2/MH2 include Timer and Counter function which enable you to conduct durability tests

FCA-50N

To Page 35

Capacity:50N Simple Lever Test Stand can set travel distance

To Page 35

Capacity:50N •Ideal for small force measurement.

MSF-50N



Capacity:50N Varieties of measurements can be realized by the different installing ways

High Performance EMX

To Page 32



Capacity:500~1000N

Advanced type of MX2 with several features below

- It provides a wide range of testing speed (0.5-600mm/min) and travel distance setting, covering a wide variety of testing
- It has highest rigidity, offering great precision.
- •5 types of measuring pattern (speed/repeat frequency etc.)can be stored.

Long Stroke

HV To Page 34 Capacity:500N~3000N

•Ideal for stretching or large sample measurement

Horizontal



Capacity: 1000N~3000N A sample can be set very easily.

*Actual measuring capacities are depending on the force gauge capacities

However, measurements are depending on test stand capacities when the test stand capacity is less than the force gauge capacity

On our website, you can see a wide range of force testing applications, and download a specification sheet of each product. Please feel free to contact us

●IMADA service group telephone number: +81(0)532-33-3288 https://www.forcegauge.net/en/



To Page 35

ODurability test using its timer function and repeat test using its counter functions can be conducted.

Easy setting with press-turn dial

Motorized Test Stand







How to Use Motorized Test Stand

Combining a test

gauge and

testing needs.

stand with a force

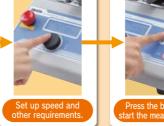
attachments enables

you to create a testing machine to meet your

(Using Example: MX2 series)







Tension Test

As options, we can extend stroke, change speed range, and more to meet your measurement needs. Some models can equip a linier scale (FA version) to measure / analyze the relationships of force and displacement. The details are on Page 36.

Common overview of Motorized Test Stand (Compatible Test Stand : MX2 series, MH2 series, EMX series)

Adjusting Speed *1



Testing speed is easily adjustable with the dial. Setting Resolution:

Speed Range	UNIT	
10-20mm/min	0.5mm/min	
20-100mm/min	5mm/min	
100-300mm/min	10mm/min	
*Adjustable speed types: Start/Measuring/Peturn		

Other Functions



In CYCLEMODE, you can set the reciprocating frequency and pausing time. Counter (the reciprocating frequeucy): Max. 65535 times Timer (pausing time): Max. 99 min 59 sec 9 (by 0.1 sec)

Three Measuring Modes

250.0 mm/min SPEED ADJUST

Three Testing Modes are available:

- **MANUAL MODE:**It moves a force gauge at the set speed while Up/Down or Left/Right button pressed.
- **JOG MOVE:**It moves a force gauge at light feeds
- (approx. 0.05mm/1 turn)by turning the dial.
- **●CYCLE MODE:**It reciprocate a force gauge between stroke-limit knobs.

Versatile Functions with Force Gauge



Versatile functions are available with the Force Gauge (ZT Series) and the CB series cables.

Overload Prevention: A test stand stops when a force gauge senses too much force over its capacity.

- Force Control: A test stand stops when a force gauge senses a pre-set force limit.
 Or it can automatically regulate the load so as to be ina pre-set range for a pre-set tine period.
- Measurement Speed Control: Auto-switch function between the Moving direction and the Measurement Speed.
- Auto-Functions: Auto-Zero Reset of the Force Gauge and Auto-recording of the measured values reflected in the Software during the measurement.

Refer to the P.15 for details

Measuring speed can be set digitally.

conditions which enables you to set them easily.



Model	MX2-500N	MX2-1000N	MX2-2500N	MX2-5000N
Capacity	500N	1000N	2500N	5000N
Speed	10-300mm/min	10-300mm/min	10-300mm/min	0.5-300mm/min
Maximum Sample Height (%1)	Approx.235mm	Approx.300mm	Approx.320mm	Approx.380mm
Weight	Approx.18kg	Approx. 19kg	Approx.26kg	Approx.51kg
Size	Approx.W220xD380xH562mm	Approx.W280xD410xH660mm	Approx.W280xD410xH644mm	Approx.W295xD444xH823mm

To Page 50

MH2 series





Easy setting with press-turn dial



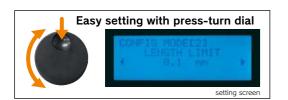


ecification				
Model	MH2-500N	MH2-2500N		
city	500N	2500N		
d	10-300mm/min	10-300mm/min		
Sample Length (%1)	Approx.245mm	Approx.340mm		
nt	Approx.14kg	Approx.27kg		
	Approx.W554xD220xH219mm	Approx.W666xD340xH261mm		

※1 The speed ranges vary per product.

Advanced Type **EMX series**

- OMeets your various measuring requirements by wide speed range (0.5~600mm/min)
- ©Enables you to measure precisely with the highest rigidity
- OSets the travel distance digitally and unify measuring condition
- Olmproves measuring efficiency by storing up to 5 measuring patterns
- Allows communication with various external devices by equipped I/O connector
- Olmproves measuring accuracy and efficiency by CONTACT/BREAK DETECTION
- OMakes it simple to set measuring conditions by Easy set-up mode



Specification

Model	EMX-500N	EMX-1000N
Capacity	500N	1000N
Speed	0.5-600mm/min	0.5-600mm/min
Maximum Sample Height (X1)	Approx.295mm	Approx.320mm
Weight	Approx. 19kg	Approx.23.5kg
Size	Approx.W220xD380xH637mm	Approx.W280xD410xH643mm



Simple Type

OThis type is the simplest.



Specification

Model	MX-500N	MX-1000N
Capacity	500N	1000N
Speed	10-300mm/min	8-240mm/min
Maximum Sample Height (**1)	Approx.235mm	Approx.420mm
Weight	Approx.13kg	Approx.24kg
Size	Approx.W214xD428xH573mm	Approx.W263xD368xH903mm

MH-1000N



Specification

MH-1000N
1000N
6-180mm/min
Approx.280mm
Approx. 14kg
Approx.W700xD195xH210mm

Note: A force gauge is separately sold. Actual measuring capacity depends on the force gauge's capacity. However, when the test stand's capacity is less than the force gauge's capacity, you can measure force up to the test stand's capacity. The maximum height or length means the distance between the test stand table and the thread of the force gauge ZT series general type(1000N or less) at the highest position of the test stand. The distance does not include attachments. The distance of MX2-2500, MX2-5000N or MH2-2500N is in the case of mounting ZT series high capacity type.

Manual Test Stands

They provide constant test angles, offering higher repeatability than measurement by hand.





Combining a test stand with a force gauge and attachments, you can create a testing machine to meet your testing needs.





How to Use Manual Test Stand

(Using Example: SVL-1000N)







As options, we can extend its stroke or mount a length scale. The detail is on Page 36.

Simple Type SVL-1000N/SVH-1000N

The lever type improves the measuring efficiency. The handle type realizes stable measurement.

Specification

Model	SVL-1000N(Lever type)	SVH-1000N (Handle type)
Capacity 1000N		1000N
Maximum Sample Height(X1)	Approx.225mm	Approx.225mm
Maximum Stroke**A	60mm	60mm
Feed Amount	60 mm / 170 degree turn of the lever	3mm/1turn
Weight	Approx.7.3kg	Approx.7.7kg
Size	Approx.W200xD280xH410mm	Approx.W200xD280xH410mm

**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.



Long Stroke Type HV series

- OHV series have a long stroke, ideal for testing extensible or large specimens.
- They are operated by a handle.

Specification

Model	HV-500NII	HV-1000N	HV-3000N
Capacity	500N	1000N	3000N
Maximum Sample Height(X1)	Approx.240mm	Approx.375mm	Approx.415mm
Feed Amount	2mm/1turn	1.2mm/1turn	0.6mm/1turn
Weight	Approx. 10kg	Approx. 18kg	Approx.24kg
Size	Approx.W327xD309xH597.5mm	Approx.W325xD275xH730mm	Approx.W355xD310xH744mm



Note: OA force gauge is separately sold. Actual measuring capacity depends on the force gauge's capacity. However, when the test stand's capacity is less than the force gauge's capacity, you can measure force up to the test stand's capacity.(**1)The maximum height or length means the distance between the test stand table and the thread of the force gauge ZT series gen less)at the highest position of the test stand. The distance does not include attachments. The distance of HV-3000N or SH-3000N is in case of mounting ZT series high capacity type

Low Capacity or Small Type

○This type is ideal for measurement in capacity up to 50N. OA force gauge can be moved at light feed.

FCA-50N

Sets a travel distance to move a force gauge, and measures the force value to the distance.



FCA-50N

~45mm (Adjustable with the limit knob)

50~80mm (※1)

Approx.W175xH296xD178mm ZTS ZTA DST DSV (%2)

KV-50N



MS series

Various measurements are possible by the different installing ways. Inalyze Force-



	- 1	-
You can combine this sta		
tripod to expand the rang	e of measuring	opportunity.
XYou need an optional adaptor (s		nbine it with a tripod.
*We do not sell any tripods	i.	

Specifications		
Model	KV-50N	
Capacity	50N	
Maximum Sample Height(X1)	Approx.63mm	
Feed Amount	1.0mm/1turn	
Weight	Approx.2kg	
Size	Approx.W140xD180xH220mm	

Specifications

MSF-50N	MSL-50N
Standard	FA version(Page33)
50	N
Approx.44mm	
18mm/1turn	
Approx.1.2kg	
Approx.W110xD81xH204mm	
	Standard 50 Approx 18mm Approx

X1 The measuring space means the distance between the test stand table and the thread of a force gauge. The distance depends on where you put 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, please see "Catalog for Torque testers and Food testers.

Horizontal Type

SH series

OHorizontal type: Sets a sample easily.

Specification

Specifications

Model

Measuring Space

Capacity

)istance

Model	SH-1000N	SH-3000N
Capacity	1000N	3000N
Maximum Sample Length(X1)	Approx.250mm	Approx.355mm
Feed Amount	1.2mm/1turn	0.6mm/1turn
Weight	Approx.15kg	Approx.22kg
Size	Approx.W560.5xD265xH219.5mm	Approx.W696.5xD285xH225mm



Accessories for Test Stand

Interlocking Shield OP-MX250-IC



OInterlocking	1			
shield for MX2		•	• 1	
and EMX series	-			
automatically			1	•
stops operation	6		1	
when the door	1 - 1			
is open.			+	•
•				
	16	2		
OD MYSEMY IC			-420	

Specification				
Model	OP-MX2EMX-IC	OP-MX250-IC		
Cover Material	PET	Polycarbonate		
Weight	Approx.9.1kg	Approx.5.5kg		
Size	Approx.W410xD312xH650mm	Approx.W375xD250xH803mm		
Compatible	MX2-500N/1000N/2500N	MX2-5000N		
Test Stand (※1)	EMX series	NIVIZ-JUUUN		

*1-CN option and safety setting of MX2 series are required to vate interlock function. (-CN option is installed standardly for EMX series)

Safety Shield

Olt is a safety shield put in front of a test stand, protecting an



Spec	itication	
Mo	odel	ST-SS

_opecineation					
Model	ST-SS				
Cover Material	Acrylic				
Weight	Approx. 500g				
Size	Approx.W406xD305xH628mm				

User Mounted Kit FA version OP-EMX-FA

ODisplacement unit can be mounted by yourself to EMX series firmware ver 2.0 or later .



Specification	1	
Model	OP-EMX-FA	OP-EMX-L-FA
Size	Approx.W81xD82xH455mm	Approx.W81xD82xH755m
Fixing Screw	Use included M3 truss head s	crews(Short:2pcs,Long:4pcs

XUse CB-718 Sold separately to measure displacement

Options for Test Stands

The options below can be added 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.)



Long Stroke (-L,-2L)

We extend the stand's stroke.

Extended Column (-EXT)

We extend the stand's column. The stand's stroke does Not change.



Limited Options for The Motorized Test Stands

Speed / Length Meter (-E)

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

Speed Range Change (-VOO)

We can change the range of measuring speed.

decrease their force capacity. Please contact

(The customizable range differs among

models. Besides, some models could

us for further information.)



FA version (-FA)

We build a linear scale into a test stand 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 analysis unit, please see page 45.



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

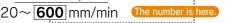
	Model	MX- 500N	MX- 1000N	MX2- 500N	MX2- 1000N	MX2- 2500N	MX2- 5000N	EMX- 500N	EMX- 1000N	MH- 1000N	MH2- 500N	MH2- 2500N
Speed/ Length Meter	-E	0	0							0		
Length Scale	-S	0	0	0	0	0	© _{*1}			0	0	© _{*1}
FA Specification	-FA			0	0	0	© _{*1}	© _{*1}	© _{*1}		0	© _{*1}
L Ctl	-L) +200 **2) +250 **2	+200	+300	+300		+300	+300			
Long Stroke	-2L			+400 **3								
Extended Column	-EXT						+200					
O/I External Signals	-CN			0	0	0	0	* 5	* 5		0	0
Speed Range Change	-V••	40~1200 20~600 2~60	40~1200 27~800 20~600 15~400 4~120	30~900 20~600 15~450 3~90 1.5~45	35~1000 25~750 5~150 2.5~75	2.5~75 5~150				30~900 20~600 15~450 10~300 3~90	30~900 20~600 15~450 3~90 1.5~45	2.5~75 5~150

**1 User mounted unit is available. **2 It may decrease its capacity. **3 The -2L option is incompatible with length scale (-S option). Additional charge for wooden packaging is required for shipping. **4 The column is extended but the stroke remains the same. **5 It is already installed as the standard function. **6 Some models could decrease their force capacity. Please contact us for further information.

Examples of Model with Options

•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



Options Available for Manual Test Stands

	Model	SVL- 1000N	SVH- 1000N	HV- 500NII	HV- 1000N	HV- 3000N	KV- 50N	MSF- 50N	MSL- 50N	SH- 1000N	SH- 3000N
Length Scale	-S	0	0	0	0	0	0			0	0
Long Stroke (mm)	-L			O +200 **1	O +150 ×1						
Extended Column (mm)	-EXT	+200 *2	+200 *2								

^{*1} It may decrease its capacity. *2 We can extend the column length, but travel distance of force gauge does Not change.

Examples of Model with Options.

•When you want to see the travel distance of a force gauge using SVH-1000N → Choose the option "Length Scale (-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

For further information, see page 15

[This is recommended when you…]

- -Test stretch samples.
- -Compress (Tensile) long.
- ↑ We can extend column length of both horizontal and vertical test stands.
- -Test speedily.
- -Test slowly.
- ↑ We can change the range of measuring speed.



Testing Large Samples

[This is recommended when you…] -Measure a large sample

since the test stand can be moved in the X-Y direction with the guide rail. It improves the measurement efficiency since a sample is not needed to move even when compressing (pulling) multiple points from one end



The electromagnetic lock cover provides safety

[This is recommended when you…]

-Would like to stop the test stand completely before the door is unlocked, instead of unlocking the door at the same time as the stand stops.



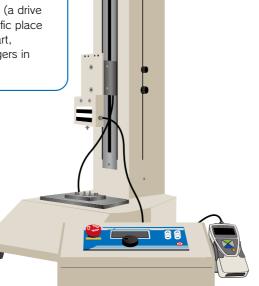
Separating a Display Part from a **Drive Part for Built-in**

[This is recommended when you…]

Incorporate IMADA force testing system into your equipment

-Fix a display part (a drive part) on a specific place

-Manipulate it apart, preventing dangers in testing.



Please feel free to contact us about made-to-order issues. We will provide the best solution for you.

Attachments

The fixtures mounting on a force gauge thread or a test stand table

Attachments are integral components of testing systems, designed for a wide variety of force testing applications for tension, compression, peeling, COF, and more.

■The Attachment Types and How to Use

IMADA attachments are separated to 2 types generally.

Attachments to be mounted on a force gauge.



A force gauge's thread is M6 or M10 screw, and type 1 attachments are designed to fit into either screw. You can choose desired one from a wide range of attachments, and mount it on a force gauge's thread to complete a force tester





*It is attached with test stands (except some models)

(Accessory attachments for the force gauges whose

capacities are higher than or equal to 1000N)

Weight of an attachment is applied as force to a force gauge, therefore, please choose an attachment whose weight is 10% or less of the force gauge's capacity.



Please contact us before purchase to choose the most appropriate attachment for your testing. Some samples cannot be tested appropriately due to their shapes or materials. We are pleased to help you choose the best attachment to meet your testing needs.



Some attachments are in accordance with Japanese Industrial Standard (JIS). A force gauge and a test stand are required for measurements complying with JIS. Please feel free to contact us for the details. When you need other standard such as ISO or ASTM, please contact us as well.

Accessory Attachments

The IMADA force gauges come with attachments below for basic compression/tension tests.

Standard Type



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

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



The number of attachments varies by models. ZTS/ZTA Basic model: 0° . ZTS/ZTA-DPU-2~500N: 0° . DST/DSV: 0° . PS/PSM: 0° . FB: 0° . For 1000N capacity, SR-1 is included instead of S-1.

On our website, you can see a wide range of force testing applications, and download a specification sheet of each product. Please feel free to contact up

The number of attachments varies by models

B-2

B-6

High Capacity Type

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

IMADA

B-4

Compression Attachments

We offer fixtures for a variety of compression testing such as a durability test, a bending test, a sticking test, and more.

Puncture Test Fixture

TKS-20N/250N

Designed for puncture strength test of thin samples such as film.

ORepresentative applications

Film Metal foil PET bottle Cloth Fiber material

Model	TKS-20N	TKS-250N		
Capacity(N)	20	250		
Pin diameter(mm)	Approx. φ 1	Approx. φ 1		
Pin weight(g)	Approx.22.2(Pin+Pin vice)	Approx. 16		
Mounting screw	M6			

In accordance with a part of JIS Z 1707(2019)



Compression Test Fixture for Small Spots PG-2/3/4/5

(Compression Test Fixture)

A-40/60, S-40/60



Model	PG-2	PG-3	PG-4	PG-5
Capacity(N)	100	100	200	200
External diameter(mm)	Approx. φ2	Approx. φ3	Approx. φ4	Approx. φ5
Weight(g)	Approx.2	Approx.3	Approx.4	Approx.5
Mounting screw			16)	



Model	A-40	A-60	S-40	S-60	
Capacity(N)	200	200	1000	1000	
External diameter(mm)	φ40	φ60	φ40	φ60	
Weight(g)	Approx.38	Approx.84	Approx.110	Approx.238	
Mounting screw	MA				

Compression Test Fixture

UR-8S/8M





Model	UR-8S	UR-8M
Capacity(N)	50	50
Weight(g)	Approx.5.4	Approx.5.2
Hardness	ShoreA50	ShoreA70
	Hardness like eraser	Hardness like rubber ball for base ball
Mounting screw		6

※ Please note the fixture does not react to capacitance touch panels.

For High Capacity[Rectangle type]

SQ series



Model	SQ-5030	SQ-5075	SQ-5150
Capacity(N)	·	5000	· · · · · · · · · · · · · · · · · · ·
Size(mm)	30X20	75X50	150X100
Weight(g)	Approx.65	Approx.500	Approx.1560
Mounting screw		M10	

For High Capacity [Disc type]

PC series



Model	PC-5040	PC-5060	PC-5100
Capacity(N)	5000	5000	5000
External diameter(mm)	φ40	φ60	φ100
Weight(g)	Approx. 160	Approx.330	Approx.820
Mounting screw		M10	

For High Capacity[Spherical type]



Model	SP-5010	SP-5020	SP-5030
Capacity(N)		5000	
External diameter(mm)	φ10	φ20	φ30
Weight(g)	Approx.26	Approx.55	Approx.135
Mounting screw		M10	

Compression Attachments

We offer fixtures for a variety of compression testing such as a durability test, a bending test, a sticking test, and more.

Press Test Fixture

PR-500N/2500N

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

Retort pouch Packing box Food pack Tube container

Model	PR-500N	PR-2500N
Capacity(N)	500	2500
Measurable size(mm)	W194XD120XH156	W200XD140XH105
Weight(g)	Force gauge side: Approx. 900	Force gauge side: Approx.3100
Mounting screw	M6	M1 0

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



OT-8IN

OT-8IN

OT-8IN

BT-500N/5000N/5000N-CB (Bending Test Fixture)

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

ORepresentative applicat





Model	BT-500N	BT-5000N	BT-5000N-CB			
Capacity(N)	500	5000	5000			
Upper anvil diameter(mm)	R2.5	R3	R5			
Block diameter(mm)	R2.5	R3	R2			
Upper anvil Weight(g)	Approx. 100g	Approx.130g	Approx.150g			
Mounting screw (II)						
BT-5000N:Compiles with the corresponding part of JIS C2141(1992)/R1601(2008)/R1602(1995)/K7088/IEC60672-2(1991).ISO14704-2016						
BT-5000N-CB:Complies with the corresponding part	of JIS K7074(1988)/K7017(1999)/	C2141(1992)/H7406(1993)/K7088	VIEC60672-2(1991).ISO FDIS-142			

Attachment for this tray

Optional Tray

Protective tray for test stand

Receives the contents from

leaking out during

measurement.

PAD series Soft Pad Attachments

Ideal for when not damage the surface of sample and apply force slowly not to generate the impact force.

Furniture Plastic cup Human body

Model	PAD-100-25	PAD-R80	PAD-25-25	PAD-D80
Capacity (N)	1000	1000	1000	1000
Size(mm)	100×25×25	100×31.4×25	25×25×25	φ80×25
Hardness	Asker C35°			
Weight(g)	Approx.95	Approx.75	Approx.30	Approx.140
Mounting screw	<u>M6</u>			



Tension Attachments

We offer a wide range of fixtures and grips for tensile testing such as a tearing test, a breaking tension test, and more.

Flat Chuck

GC series

These grips can be used foe a wide range of testing applications. Its jaw is manually tightened, and individually adjusted for samples up to 10-30mm thick. (The maximum thick differs among models.) GCF-1200 is multi-purpose model, replaceable the claws.

Connector Cable Fastener Booklet Plastic Piece of metal

Model	GC-1100	GC-1200	GC-5000	GCF-1200
Capacity(N)	1000	1000	5000	1000
Aperture opening width(mm)	Max. 10	Max. 20	Max. 30	Max. 20
Weight(g)	Approx. 160	Approx.170	Approx.1400	Approx.170
Mounting screw	M6	M6	M10	M6
Replaceable claws exchange	-	-	-	0

GCF-1200 with wave-shaped claws complies with the corresponding part of ISO 1924-2(1994)/JIS P 8113(2006). **Fixed models(-F) are available, recommended when you attach it on a test stand since their attaching parts are fixed.(Fixed mounting screw is standard equipped to GCF-1200.)



We offer a wide range of fixtures and grips for tensile testing such as a tearing test, a breaking tension test, and more.

Film Grip

FC series

Ideal for gripping thin samples 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.





Model	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.16	Approx.73	Approx.125	Approx.40	Approx.58	Approx.38
Mounting screw	M6					
**We provide a film cutter(page45) **Fixed models(-F) are available, recommended when you attach it on a test stand since their attaching parts(mounting screws) are fixed.						

Pantograph Grip

PGC series

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



ORepresentative applications					_
Film	Rubber	Wire	Cable	Nonwoven fabric	Plastic

Model	PGC-0505	PGC-0510	PGC-2530
Capacity(N)	500	500	2500
Aperture opening width(mm)	Max.20	Max.15	Max.15
Sample diameter	Max.6	Max.6	Max.10
Weight(g)	Approx.170	Approx.110	Approx.750
Mounting screw	_	_	MID

BC-15/PGC-BC (For Tensile Strength Test of Sewed Button)

CW-500N

CW-500N

Max.5

Approx

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.

ORepresentative applications

Wire Clamp Grip

The wedge type grip for wire/cable,

designed to secure a sample easily.

It is not suitable

CW-500N

Cable Wire

Capacity(N)

perture opening width(

for slippery or

hard samples.





Model	PGC-BC
Capacity(N)	300
Aperture opening width(mm)	Max.20
Weight(g)	Approx.125

at narrow spaces.

0.00
300
Max. φ 15
Max.3.5

Roller Grip

GC-60/100

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 winded around the grip.





Model	GC-60	GC-100
Capacity(N)	500	500
Measurable width(mm)	Max.30	Max.50
Measurable thickness(mm)	Ma	x.2
Weight(g)	Approx.158	Approx.300
Mounting screw	<u> </u>	6

*We provide a film cutter (P45)

Rubber Film

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.)





FP-50/51

Model	KC-100	KC-1001	KC-5000
Capacity(N)	500	1000	5000
Aperture opening width(mm)	Max.8	Max.2	Max.5
Weight(g)	Approx.330	Approx.95	Approx.565
Mounting screw	M6	M6	w10

Wire Winding Grip **WG Series**

Ideal for tensile test of



Model	WG-250N	WG-1000N	WG-5000N
Capacity(N)	250	1000	5000
Diameter of bolt(mm)	17	9	12
Sample diameter(mm)	Max. φ 1	Max. φ 1.2	Max. φ3
Weight(g)	Approx.60	Approx. 180	Approx.610
Mounting screw	(V	6	W10

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

Small Grip

SC-3/8

Fine Point Chuck)



Electrical lead Copper foil	Copper for SC-8.	il peeling test with
Model	SC-3	SC-8
Capacity(N)	100	150
perture opening width(mm)	Max.1	Max.1
Veight(g)	Approx.21	Approx.21
Mounting screw		6



Model	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	M	6

Cam Grip

GR-30/2000

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





Model	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	<u>M6</u>	M10

*We provide a film cutter (P45)

Tape Film

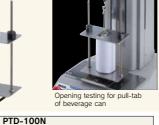
Jig for opening pull-tab of beverage can

PTD-100N

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

Model

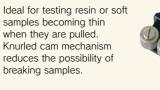




Capacity (N)	100
Maximum sample size (mm)	Height: 170 Width: 90
	dance with a part of JIS S 0021-2(2018). ISO1748(2015)
	nal tray to receive outflowing contents. (See P45 for further information.)
**A-1,5-1,015R-1 (Pa	ge38) are required to attach the upper part of the fixture to a force gauge.

Knurled Cam Grip

GP-15/30





Rubber Cable Silicone Elastomer

Model	GP-15	GP-30
Capacity(N)	250	1000
Aperture opening width(mm)	Max.4.5	Max.10
Weight(g)	Approx.70	Approx.880
Mounting scrow	TIE TO THE TOTAL PROPERTY OF THE TOTAL PROPE	_

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

PTF-100N

Designed to pull up a pull-tab of canned food's container to 90 degree to measure force opening the container's lid. *You cannot open the full lid of the

Pull-tab of canned food's container



Capacity (N) Maximum sample size (mm)

Ideal for tightening

Representative applications

of binding band.

Mounting screw

binding band



PTF-100N

Height: 170 Width: 110

**We provide an optional tray to receive outflowing contents. (See P45 for further information.) **A-1,S-1,or SR-1 (Page38) are required to attach the upper part of the fixture to a force gauge

Attachment for polypropylene band (PP band) tensile test) PPC-5000N

Designed to clamp polypropylene band firmly without slipping.

presentative applications

PP band



PPC-5000N



Model	PPC-5000N	
Capacity(N)	5000	
Measurable width (mm)	40	
Measurable thickness (mm)	1	
Weight (g)	Approx.620	
Mounting screw	(10)	
Samuella and Sala alama		

5000
40
1
Approx.620
M
ding part of JIS Z 1527(2002)

Complies with the correspond

Loop Tensile Test Fixture

LOP-1000N







Model LOP-1000N Capacity(N) Aperture width (mn 3 (Sample length below 127mm), 38.1 (Sample length exceed 127mm Mandrel weight (g) Force gauge side(S):Approx140g Force gauge side(L):Approx195g

(Flip Cap Opening Force Test Hook)

LOP-1000N

It is in accordance with a part of SAE AS23190 UL62275

Double Arm Hook SHF Series Hook for Corrugated Cardboard Adhesion Test) DF-60





Corrugated cardboard Mode DF-60 Capacity(N) Approx.6

Designed to hook a sample by two claws. Ideal for tension tes of cap or capshaped samples.

Plastic Bottle SHF-100N SHF Model Capacity(N) Maximum sample size

-100N-L	1
/)x55(H)mm	
prox.110	



Flip Cap



Capacity(N) Approx.11mm Maximum sample si Approx. 15

*CW-500N is attachable for our horizontal stands



CCJ Series Cap Clamping Jig

Firmly Clamps small cylindrical specimen such as bottle caps with 4 adjustable pins. (Not suitable for soft or easy-to-deform samples.)

	Model	CCJ-100N	CCJ-100N-01	CCJ-100N-02	CCJW-100N	CCJW-100N-01	CCJW-100N-02
	Capacity (N)	100					
	Allowable sample diameter(mm)	7~50		10~100			
	Clamping Pin	Standard Pin (Urethan)	Notch Pin	Long clamp pin	Standard Pin (Urethan)	Notch Pin	Long damp pin
Ī	Weight (g)	Approx.250	Approx.300	Approx.260	Approx.330	Approx.380	Approx.340

Jacobs Chuck

GC-5/15

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





Model	GC-5	GC-15
Capacity(N)	500	1000
Aperture opening width(mm)	Approx. φ 0.5~6.5	Approx. φ 2.0~13
Weight(g)	Approx.235	Approx.500
Mounting screw	(1)	6

Pinching Force Test Attachment

PCA-150N Pinching Force Measurement Jig)

Designed for pinching/spreading force measurement of double-handle tools, like clips and calipers. Easy adjusting of the measuring widths along with the scale.



Pinching strength test of forceps with PCA-150N

Model	PCA-150N
Capacity (N)	150
Pinching widths (mm)	5~15
Spreading section widths of the jig (mm)	1~15
Weight (g)	Force gauge mounting side: Approx. 50

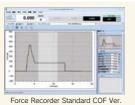
Friction Attachments

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

Coefficients of Friction Fixture

COF Series







Paper coefficient of friction test with COF2-10N

Coefficient of friction test for lipstick&artificial skir

Model	COF2-2N	COF2-10N	COF-2N-V	COF-10N-V
Compatible test stand	MH2-	500N	Vertical	type ×1
Weight of the weight part(g)	200	1000	200	1000
Measurable size(mm)	Thickness:Max.1.5 Length:Max.150			

Variable Weight Reciprocating Friction Test Jig

This jig enables you to measure the friction occurring when vertical force is applied

by a weight, reciprocating friction, repeated friction and more. Various holders which are sold separately allow you to diversity test applications. The included software (Force Recorder Standard COF Ver.) automatically calculates Coefficient of friction

ORepresentative applications Pen&Paper Lipstick&Artificial skin i spatula&glass

*Weight is required senarately

Model	VWF-10N
Capacity **	1000g
Sample diameter	8mm
Compatible force gauge	ZTS/ZTA Series
Compatible test stand	MH2-500N

N	Model	①VWF-STH	②VWF-STH-VA	③VWF-ATH-VA	@VWF-BAH6	⑤VWF-BLH
Fe	eature	Stick Holder	Variable Angle Stick Holder	Variable Angle Attachment Holder	φ6 Ball Holder	Blade Holder

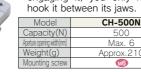
Wire Crimp Pull Test Attachments

Combining these attachments with a force gauge and a test stand, enables you to create a wire harness testing machine. These attachments are designed to grip different sizes of harnesses.

~500N Accessory Attachments for A Manual Wire Clamp pull Tester [LH-500N(P53)]

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.

Model	CW-500N
Capacity(N)	500
Aperture opening width(mm)	Max. 5
Weight(g)	Approx.220
Mounting screw	M6



~1000N Attachments for Vertical Test Stands

terminal jig accommodate wire diameters up to 8mm.

Rotate the wheel to the desired size

totale the wheel to the desired size.			
Model	FW-12		
Capacity(N)	1000		
Measurable Diameter(mm)	φ1~8		
Weight(g)	Approx.380		
Mounting screw	M6		

Rotary wire The grip secures wire terminals and other Rotary wire The grip secures wire terminals and other samples. It has samples. It has grooves of different sizes to accommodate wire diameters up to 8mm. Rotate the wheel to the desired size.

Mounting screw

coating from breaking.

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

Model GP-30 Capacity(N)



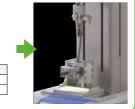
~5000N Attachments for High Capacity

Wire terminal jig It engages terminals from ϕ 4 to φ12mm diameter.



Model	CH-5000N
Capacity(N)	5000
Measureable diameter(mm)	ϕ 4~12(Internal diameter of the terminal hole)
Weight(g)	Approx.315
Mounting screw	M10
A 4 4	and time with a good of IIC C 200E (2010) with

Wire clamp jig It is designed for prevening wire using CH-5000N and CW-5000N togethe



Chip Components Tension/Shear Test Attachments

QFP Lead Hook/Chip Shear Jig) SJ Series





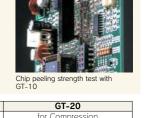


Model	SJ-QFP-01	SJ-TIP-01	SJ-TIP-02	SJ-TIP-03	SJ-TIP-04
Capacity(N)			100		
Dimension(mm)	Approx.118	Approx.79	Approx.78	Approx.93	Approx.75
Mounting screw			M6		
Weight (g) × 1	Approx.60	Approx.50	Approx.50	Approx.15	Approx.25

Chip Peel Fixture

GT-10/20





Model	GT-10	GT-20	
Applying force	for Tension	for Compression	
Capacity(N)	500		
Weight(g)	Approx.34		
Mounting screw	M6		

Alignment stage for solder joint strength test) SJS-100N-L/S

Designed for solder joint strength test. The table enables you to finely adjust the stage position.

The direction of stage is switchable and enables you to perform solder joint strength test of 45 and 90 degrees.

ORepresentative applications QFPlead Chip Electronic Components

Model	SJS-100N-L	SJS-100N-S
Capacity(N)	100	
Dimension(mm)	Approx.W236×D155~×H247	Approx.W236×D155×H190
Weight(kg) × 1	Approx.3.2	Approx.2.8
Moving distance of XY stage	±30mm	



*1 Weight of the attachment is also applied as a load on the force gauge. Consider it when selecting the capacity of a force gauge.

We offer fixtures for peel testing (adhesive testing) of sticky tapes, coating surfaces, and more.

90 Degree Peel Test Fixture P90-200N/200N-EZ/200N-BB

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.

ORepresentative applications

Adhesive tape Copper foil Magnetic card Poultice

Model	P90-200N	P90-200N-EZ	P90-200N-BB	
Measurable force(N)	~200	0.4~200	~200	
Measurable size(mm)	Length: Max. 155	Width:Max.80	Contact us	
DOG 000N 0				

P90-200N Complies with the corresponding part of JIS C5016(1994)/Z0237(2022),IEC249-1 (1982)/326-2(1990),ASTM D6862-11(2016)/D3330(2010),JS029862(2007) P90-200N-BB Complies with the corresponding part of IEC249-1(1982)/326-2(1990),ISO452 (2003),JIS H 8630(2006). nding part of IEC249-1(1982)/326-2(1990),ISO4525

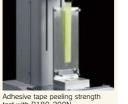
*We provide a film cutter (P45). With the cutter, you can cut film in constant-width *We also provide a rubber roller according to JIS (See P45 for further information).



180 Degree Peel Test Fixture P180-200N/200N-BB

Ideal for 180 degree peel testing for adhesive tape and so on. It is in accordance with a part of JIS Z 0237(2009).





P180-200N-BB

Measurable force(ength: Max. 150 Width: Max. 40

P180-200N Complies with the corresponding part of IEC249-1(1982)/326-2(1990),ISO29862 (2007),ASTM D3330(2010),JIS C5016(1994)/JIS Z 0237(2022).
P180-200N-BB Complies with the corresponding part of IEC249-1(1982)/326-2(1990),JIS C5016(1994). **We provide a film cutter (P45). With the cutter, you can cut film in constant-width **We also provide a rubber roller according to JIS (See P45 for further information).

45 Degree Peel Test Fixture





	-
Model	P45-50N
pacity(N)	50
asurable size(mm)	Height: Approx. 10~100 Diameter: Approx. 20~140

**We provide an optional tray to receive outflowing contents. (See P45 for further information.)

**A-1,S-1,or SR-1 (Page38) are required to attach the upper part of the fixture to a force gauge.

Surface Coating Pull-Off Test Fixture

P180-200N

TH-1000N/5000N

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

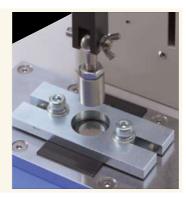
ORepresentative applications

Mode

Painted surface					
	Model		TH-1000N-7	TH-1000N-20	TH-5000N-20
	Capacity(N		1000	1000	5000
	Upper fixture	Adhesive area shape	Diameter7mm	Diameter20mm	Diameter20mm
	(Force gauge	Weight (g)	Approx.40	Approx.90	Approx.195
	side)	Mounting screw	M6	M6	M10
	Lower fixture	The center hole diameter (mm)	Diameter30	Diameter30	Diameter30
	TII 1000N 7	to to considerate	the end of HC K ECO	2 F 7 (0014) TH 100	ON 00I

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).





Rubber Roller for Peel Test APR-97 series





Model		APR-97-1K	APR-97-2K		
The roller weight(g)		Approx.1000	Approx.2000		
	The sample contacting part material	Rubber(Hardness A80)	Rubber(Hardness A80)		
	APR-97-1k is in accordance with a part of JIS Z0237(2022),ISO 29862(2018).				
	ΔPR-97-2k is in accordance with a part of IIS 70237(2022) ISO 29862(2018), and ISO 29863				

Film Cutter

FSC-1525 is in accordance with ASTM F88, JIS Z 0238 (1998), and JIS Z 1707 (2019).

This cutter enables you to

cut film in constant-width,

improving measurement

efficiency. It comes with

2 sets of spare edges.

FSC-1525

PTW-10IN Optional tray





Model	PTW-10IN
Size (mm)	264×178
Attachments using with this tray	P45-50N, PTD-100N, PTF-100N, MED-SCT-50
※Even though you co	mbine the tray with a test stand.

Capacity (N

Mounting screw

00N

remember that the stand is still weak in water

Medical Attachments

Attachment for Probe Tack Test

MED-IS-20N

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

ORepresentative applications

Sticking plaster

Model	MED-IS-20N
Capacity (N)	20
Surface diameter of contact (mm)	5
Weight (g)	Force gauge mounting side: Approx. 70g
Mounting screw	116

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

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

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

ORepresentative applications

Needle

Model	MED-NPT-200N
Capacity	200
Measurable needle diameter (mm)	0.3-20
Measurable length diameter (mm)	above 10
Weight (g)	Force gauge mounting side: Approx. 210g
Mounting screw	M6

Complies with a part of JIS T3209(2011)/T3220(2011)/T3221(2011)/T3222(2011)/T3223(2016)/T3228(2018)/T3229(2011) Complies with a part of ISO 7864(2016)/10555-5(2013)/11608-2(2012)

Attachment for Compression Test of Syringe

MED-SCT-500N

Ideal for compression test of syringe.

ORepresentative applications

Syringe

Model	MED-SCT-500N
Capacity (N)	500N
Measurable capacity(ml)	0.5~50
Diameter of attached outer cylinder (mm)	10/15/24/33
Installation	Mounting on the stand

Complies with a part of ISO 7886-1(2017)

Luer fitting adapters

**We provide an optional tray to receive outflowing contents. (See P45 for further information.) **You need S-2 (Page38) to push syringe.

MED-LFA-20N series

Designed to connect sample needles to force gauges without removing their needle hubs.

ORepresentative applications

Needle Vial stopper

Model	MED-LFA-20N-MS	MED-LFA-20N-FS	MED-LFA-20N-ML
Capacity(N)	20	20	20
Weight(g)	Approx. 15	Approx. 15	Approx. 15
Mounting Screw	M6	M6	M6
Product Type	Male Luer Slip Adapter	Female Luer Slip Adapter	Male Luer Lock Adapter

Complies with a part of ISO 8871-5(2016)/ISO 7864(2016)

MED-LFA-20N-FS Vial stopper Penetrability test



Designed to measure strength and sharpness of acupuncture needle.

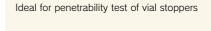




	MED-ACU-2N
	2
(mm)	Ф0.1~1.0
	The side with force gauge:22g
	M6

Complies with the corresponding part of JIS T 9301(2016)

MED-VH-5N Vial holder



00

Representative applications

Model	MED-VH-5N
pacity(N)	5(*)
ight(g)	Approx.220

Complies with a part of ISO 8871-5(2016) *Force value applied to the clamper when extracting the needle cannot exceed 5N

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

Model	GT-30	GT-30-E	GT-30-U	GT-2000N
Features	Compatible with 1000N			Compatible with 2000N
	Companic with 100014	NOICH Jaw & I	One side Notch Jaw X1	Interchangeable mounting directions
Capacity(N)	1000	1000	250	2000
Aperture opening width (mm)	38	35	35	66
Mounting	To Test stand table			

%1 We provide spare notch jaw.



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)

Model	GTW-50R	GTW-50L
type	Knob type	Lever type
Capacity(N)	500	1000
Aperture opening width(mm)	Max.68	
Mounting	to Test stand table	





tensile strength of test of resin molding item.

High Capacity Self-centering Vise Grip

A wide opening jaw enables gripping a larger samples.

GTW-2500N

The stainless material unaffects magnetic specimen. It is designed to replace jaws easily and even mount your own jaw. It comes with standard jaw GTW-2500-MP(2pieces).

Model	GTW-2500N	
Capacity(N)	2500	
Aperture opening width (mm)	Max. 160	
Mounting	To Test stand table	

 \times We provide the Jaw (GTW2500-MP10) which can be fixed up to 6 pieces and Sample stage (GTW-SP) which helps to put a sample stably.

Separate-sold accessory GTW2500-MP10 GTW-SP GTW-SP

XY Table

XY-500N series

A sample can be put 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)

Model	XY-500N-BB	XY-500N-M8	XY-500N-EZ
Features	Breadboard type	M8 screw type	M8 screw and free movable table type
Capacity(N)	Tension: 500 Compression: 1000	Tension:500 Compression: 1000	Tension:500 Compression:-
X-Y movement amount(mm)		+/- 30	
Mounting		To test stand table	

 $\label{thm:continuous} \mbox{\@scalebase}{$



XST-500N

This table enables you to align a test sample easily.

Model	XST-500N
Capacity(N)	500
Movement amount (mm)	70
Weight (kg)	1.9
Mounting	To test stand table



T-Slot Table

TS-5000N

It is for holding attachments, being utilized to mount/remove attachments quickly.

A sample also can be centered readily since the table moves in X/Y directions.

ice the table moves in A/T directions.		
Model	TS-5000N	
Capacity(N)	5000 (2500N for 1pc, 5000N for 2pcs)	
iameter of T-nut hole	M8	
he space between T-nuts	Max.125	
lovement amount(mm)	X:±64 Y:±15	
Mounting	To test stand table	



Optional Handles

Optional Handle for Force Gauges

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



FOH-1

Model	FOH-1
ompatible model	1000N or less range of ZTA/ZTS/DSV/DST/PSS/PS/PSM/FS/FB series
eight(g)	Approx.500

Hand Grip Belt

HGB-1

Designed to prevent a force gauge slipping from hand. It enables you to apply force easily.



	5 .
Model	HGB-1
Compatible model	200N or less range of ZTA/ZTS/DSV/DST/PSS/PS/PSM/FS/FB
Weiaht(a)	Approx.45

Optional Handle for Fire Door Closing Measurement

Specialized for fire door closing force measurement

according to the Building

Standard Law of Japan.





	When mounted with force gauge
Model	HDC-1
Compatible model	1000N or less range of ZTA/ZTS/DSV/DST/PSS/PS/PSM/FS/FB

Conversion Adapters

Attachment Adapter JF/EJ series

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





Model	JF6-50N	EJ6-1000N	EJ10-5000N
apacity(N)	50	1000	5000
ounting screw for a force gauge	_	M6	M10
ounting screw for a chuck fixture	M6	M6	M10
leight(g)	Approx.8	Approx.29	Approx.140

Please contact us for the detail that which attachment is available.A-1/S-1/SR-1 (Page 38) is required to mount JF6-50N on a force gauge.

Universal Joint UJ6-1000N/UJ10-5000N

It features free-joint design to reduce biased load to a force gauge.
Combine this joint and an attachment, and mount them to a force gauge's thread, then the attachment uniformly contacts a test specimen, which improves repeatability.



Model	UJ6-1000N	UJ10-5000N
Capacity (N)	1000	5000
Mounting screw for a force gauge	M6	M10
Mounting screw for an attachment	M6	M10
Weight (g)	Approx.25	Approx. 140

Conversion Adapter

CA series

Gauges' threads (a part to mount an attachment) differ in size among models, thus you can use these adaptors to combine a force gauge and a desired attachment even if their sizes are different.



Model	Screw diameter	Capacity	Purpose
			When mounting a M4 screw attachment of FRTS to a M6 screw thread of a force gauge.
			When mounting a M10 screw attachment to a M6 screw thread of a force gauge.
CA-F10T6	M1O(Female Screw)→M6	1000N	When mounting a M6 screw attachment to a M10 screw thread of a force gauge.
	M4(Female Screw)→M6		When mounting a M6 screw attachment to FRTS series.
	M5(Female Screw)→M4	100N	When mounting a M4 screw attachment to a M5 screw thread of Load cell LMU series.
	M5(Female Screw)→M6	500N	When mounting a M6 screw attachment of FRTS series to a M5 screw thread of a load cell LMU series.
	M8→M4	100N	When mounting a NA screw attachment of FRTS series to M8 screw thread of a load cel LU series. **tross not mount to a Tinut.
	M8→M6		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 attachment.

Eye Bolt and Eye Nut for Load Cells

Hoisting attachment for tension test by load cells (Page 19).

Eye Bolt

EB series

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

Model	EB-500N-M6	EB-500N-M8	EB-5000N	EB-20kN
Compatible load cell	DPU-5N~500N SW1-100N/200N	LU series SW1-500N	DPU-1000N~ 5000N	DPU-10kN/ 20kN
Capacity(N)	500	500	5000	20k
Weight(g)	Approx.18	Approx.39	Approx.137	Approx.1100
Mounting screw	M6 Male Screw	M8 Male Screw	M12 Male Screw	M18 Male Screw

Rod End[for shafts]

RE-20kN

A shaft can be put through it.

Model	RE-20kN
Compatible load cell	DPU-10kN, DPU-20kN
Capacity (kN)	20
Weight(g)	Approx.300
Mounting screw	M18 Male Screw









Eye Nut EN-500N

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

Model	EN-500N
Compatible load cell	LMU series
Capacity(N)	500
Weight(g)	Approx.11
Mounting screw	M5 Female Screw



We can resize the width and the length of the grip part.

We flexibly change sizes (width, depth) of fixtures and grips to fit your testing needs. Please contact us for the details.





2. Changing Specifications to Fit Your Testing Needs

Changing conditions such as measuring angles, temperatures, and more

[Example: Specification change of peeling test fixture]

We can offer a degree changeable table for peel testing. Besides, we can combine a heater with a table of a test stand.

• Measurement in accordance with standards such as Japanese Industrial Standard, ISO or ASTM

We offer force measuring instrument complying with standards' requirement (measuring speed, fixture desigh, etc).

3. Completely Original Products

[Example: Cork excerption measuring unit]

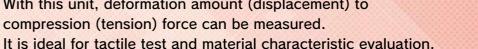
We offer the special use fixture for your sample to improve measuring repeatability and efficiency.



FSA series Force-Displacement Analysis Unit

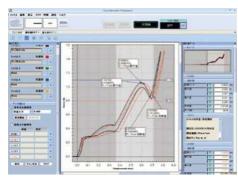
High-performance measurement unit that can easily analyze the relationship between force and displacement

With this unit, deformation amount (displacement) to compression (tension) force can be measured.





It draws Force vs Displacement graphs in real time at Max.2000Hz



Basic Functions of Force-Displacement Measurements

- Easy connection to PC by USB
- ■Smooth graphing performance at 2000Hz
- ■Graph zooming function
- Comment insertion on graphs
- Ouick data export to WORD, EXCEL, PDF

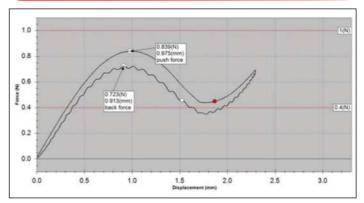
Useful Functions for Measurements and Analysis

- ■Graph comparing function Max 5 graphs
- ■Reference line function
- Statistical calculation (maximum/ minimum/ average values).
- Automatic displacement reset at the measurement start (when the force reaches the set force value)
- Test trigger function (when the force reaches the set displacement value)

The Advantage of Measuring Displacement and Force Together.

Since force transition with reference to displacement can be confirmed, this unit is perfect for tactile testing, material characteristic evaluation, and more.

Example of A Switch Characteristic Evaluation



Curves in force-time graphs constantly goes from left to right, and never come back to left.

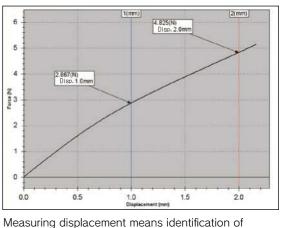
On the other hand, curves in force-displacement graphs come back to left since it is drawn based on displacement.

Therefore, force-displacement analysis method is better choice to identify the hysteresis(zero reversion).

Moreover, the point of switch ON/OFF can be automatically defined and displayed by using Mark On function.

**Custom-made cable is required for Mark-On function.

Example of Plastic Bending Test



deformation amount. It is easy to check "How much force does it need to transform a testing sample(dent a sample at $\bigcirc\bigcirc$ mm)?

Other Test **Examples**

- •Simple evaluation of spring characteristic •Fitting quality test of cosmetic containers •Pulling test for slide structures.
- •Simple evaluation of rubber product characteristic •Extract test of connecters
- Cushioning material repulsion test
- Car cushion hardness test

- Repulsion test for sport equipment (Tennis ball)
- •Peel test with distance of tape and films •Food texture test
- •Compression and Breaking test for electric components •LCD panel strength test

On our website, you can see a wide range of force testing applications, and download a specification sheet of each product. Please feel free to contact u

●IMADA service group telephone number: +81(0)532-33-3288 https://www.forcegauge.net/en/

IMADA

Configuration

A Force Gauge

It measures force, and indicates force and displacement values. Different attachments can be combined to handle a wide range of force testing applications. Easily put it on (off from)a test stand by



FSA-0.5K2-500N

A Test Stand

It is a machinery to move a force gauge up and down (left and right).

Move it with up/down (left/right) buttons. Easily set up test requirement such as test speeds. pause and more with its dial.

A Cable

It connects the force gauge and the test stand for control. (FSA-MSL does not include this cable since it operates manually.)

Standard Attachments

Attachments are integral components of this testing system. Although this testing system comes with some basic attachments, optional attachments can be combined as required. We offer a wide range of optional attachments to fit various measurement needs.







Software

This software can draw force-displacement graph. It captures force and displacement values at Max. 2000/sec, and draw them into graphs smoothly. It automatically starts graphing using Trigger function. *MSL-FSA does not have this Trigger function.



Measurement unit	Force	N, kgf, lbf %	
	Displacement	mm, inch **	
Range		2N(200gf), 5N(500gf), 20N(2kgf), 50N(5kgf), 100N(10kgf), 200N(20kgf), 500N(50kgf), 1000N(100kgf), 2500N(250kgf), 5000N(500kgf)	
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)		
Sampling rate 2000 data/sec		2000 data/sec	
Output USB, Serial(RS232C), Analog(Approx. +/-2V), Comparator, Overload, Sub comparator, USB flash drive		USB, Serial(RS232C), Analog(Approx. +/-2V), Comparator, Overload, Sub comparator, USB flash drive	
* USB flash drive is not included.			
Accessories Instruction manual, Inspection certificate, Power cable, 2 pcs of spare fuses,		Instruction manual, Inspection certificate, Power cable, 2 pcs of spare fuses,	
Driver CD-ROM(including software for data log "ZT-Logger"), Graphing software "Force-Recorder Professional".		Driver CD-ROM(including software for data log "ZT-Logger"), Graphing software "Force-Recorder Professional".	

Note: Of force gauge is separately sold. Of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately sold of a characteristic separately sold. Of a characteristic separately sold of a characteristic separately separately sold of a characteristic separately se up to the test stand's capacity.(%1)The maximum height or length means the distance between the test stand table and the thread of the force gauge ZT series general type(1000N or less)at the highest position of the test stand. The distance does not include attachments. The distance of FSA-2.5K2' FSA-5K2,FSA-2.5HK2 is in case of mounting ZT series high capacity type. **The unit is different from Japanese domestic models.

We provide a wide range of testing system to fit your needs

- ODigitally set up test requirements such as speed, pause, a number of times, and more with simple operation (Except FSA-MSL).
- Start graphing by one click or record data automatically.

Precisely

- Capture data accurately due to its high sampling rate(Max. 2000Hz).
- Overlay graphs for detailed analysis.



Models: FSA-0.5K2-2~500N

□Capacity:2~500N

☐The max. sample height: 235mm

Models: FSA-1K2-2~1000N

□Capacity:2~1000N

☐The max.sample height:300mm

Models: FSA-2.5K2-2~2500N

□Capacity:2~2500N

☐The max. sample height:320mm

Models: FSA-5K2-2N~5000N

□Capacity:2~5000N ☐The max.sample height:380mm

Multifunctional and Accurate □Speed: 0.5~600mm/min(Standard) The travel distance to move a force gauge can be set digitally. Test requirements also can be stored in it. Since this test stand has high intensity, enables you to measure force and displacement more accurately.

Models: FSA-0.5KE-2~500N

□Capacity:2~500N

☐The max.sample height: 295mm

Models: FSA-1KE-2~1000N

Portable

□Capacity:2~1000N

☐The max.sample height:320mm

Horizontal

The MH2 series test stand is set Testing speed can be adjusted digitally.

☐Speed: 10-300mm/min (standard)



Models: FSA-0.5HK2-2~500N Models: FSA-2.5HK2-2~2500N

□Capacity:2~500N

☐The max.sample height: 245mm

□Capacity:2~2500N ☐The max.sample height:340mm

Models: FSA-MSL-2~50N

X1 Force gauge's capacity decides the capacity of testing system

**2 The sample maximum height means the distance between the test stand table and the thread of the force gauge ZT series general model (1000N or less) at the highest position of the test stand head. The figure for FSA-2.5K2' FSA-2.5HK2,FSA-5K2 is in the case of ZT series high capacity model combined.

(Knob operation, Up to 50N) \square Capacity:2~50N(\times 1)

☐The sample maximum height:44mm(※2)



Mounting on tripod enables you to measure wider range of testing applications An optional adaptor is required to mount it



Since it is lightweight, it can be carried to various places.

It also can be fixed on a wall by screws.

Automatic crimp tester

ACT-1000N Next Series You can carry out the test in accordance with a part standards UL 486A-486B and JISC2805.

- ○The start button provides smooth flow from testing to saving data including OK/NG judgment.
- Test conditions can be saved up to 26 patterns in it, which is useful for multiple tests. Recall a suitable setting easily and instantly.
- 2 test modes are available; "BREAK mode" and "KEEP mode". With BREAK mode, Detect the force when a crimp terminal is broken. With KEEP mode, Test the tensile durability at a set point.

ACT-1000N provides speedy test due to its ease of use.









ACT-T-01 Jig for round terminals: Easily fix round terminals.

Model	ACT-1000N	ACT-1000N-V300	
Capacity	1000N		
Accuracy	+/-0.5% F.	S +/-1digit	
Unit	N, kgf	lbf(*1)	
Sampling rate	200	0Hz	
Measuring speed	10/25/50/100 mm/min (Choose from 4 steps)	25/50/100/300 mm/min (Choose from 4 steps)	
Stroke	Approx	.50mm	
Allowable sample	Terminal side: 1~8mm		
diameter	Harness side: 1∼8mm		
Allowable sample length	100mm 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		
Operating environment	Temperature:0~40 degree Celsius Humidity:20~80%RH		
Accessory	Software, USB cable, Power cord, Inspection Certificate		

X1 This is the specifications for International model. Please note Japanese domestic model shows force in N only.

Jig for rod terminals: Grips a small terminal such as a rod terminal



Test Lever Stand

LH-500N

Olt is ideal for tensile strength test of crimped terminal.

Designed exclusively for wire harness testing = Easy manipulation → Improve measurement efficiency

■Weight:

Approx.11kg







Approx.W155×D450×H182mm

Accessory Attachment



Wire Clamp fixture: Wedge type. You can grip wire/cable easily by pulling the lever



CH-500N Terminal Clamp fixture: It is wide size fixture as gripping a

Model	LH-500N		
Capacity	500N		
Accessory	Terminal Clamp Fixture:CH-500N Wire Clamp Fixture:CW-500N *Force gauge is not included.		

Specialized Testers

Peel Tester

IPTS-5N Series



- It enables peel test of embossed carrier tape complying with IEC.
- It graphs the measurement accurately due to its high sampling rate, at Max. 2000Hz.
- It handles a wide range of test speed up to 1500mm/min.
- One-click Operation: The start button provides smooth flow from testing to data saving.



Related Standards

- ●A part of JIS C0806-3(2014)[Packaging of components for automatic handling-Part 3 Packaging of surface mount components on continuous tapes
- A part of IEC 60286-3(2019) [Packaging of components for automatic handling - Part 3: Packaging of surface mount components on continuous tapes (Peel test part)



High Speed Peel Tester

IPTS-20N/50N



- Olt graphs the measurement accurately due to its high sampling rate, at Max. 2000Hz.
- It handles a wide range of test speed up to 1500mm/min.
- One-click Operation: The start button provides smooth flow from testing to data saving.
- Olt enables to test samples at a thickness of up to 0.5mm.



Related Standards

- A peel test part of ISO 29862:2018 [Self adhesive tapes Determination of peel adhesion properties] (A peel test part of JIS Z 0237:2022) A peel test part of ISO 8510-2:2006 [Adhesives - Peel test for a flexible-bonded-to-rigid
- test specimen assembly Part 2: 180° peel (A peel test part of JIS K6854-2:1999) A peel test part of Japanese Pharmacopoeia

Label, adhesive tape, stickers, screen protector sheet, laminated package, adhesive tape for first-aid, postcard, magnetic tape, foil laminated film, electrode's line of solar cell, copper foil of circuit board.



IPTS series is specialized for 180-degree peel test. = It ensures the high performance of your works and accurate test.







Automatically it records and graphs

Model	IPTS-5N	IPTS-20N	IPTS-50N	
Capacity	5N	20N	50N	
Resolution	0.001N 0.01N			
Unit:	N, gf, ozf	N, kgf, lbf		
Accuracy	±0.2%F.S. ±1digit			
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)			
Test speed	120, 200, 300, 500, 1000, 1500mm/min(Switchable)			
Stroke (length)	Travel of load cell: Approx. 400mm (Peel length: Approx. 200mm)			
Peel angle	165*-180* (Height and angle are adjustable.)			
Max. sample width	Adhesion: 88mm(Film clip: 40mm, Sample clip: 95mm)	Adhesion: 88mm(Grip	o: 20mm, Clamp: 50mm)	
Max. sample thickness	Cover film: 0.5mm	Grip: 3mm	Clamp: 13mm	
Safety device	Emergency stop button, Overload prevention (Valid only when the power is ON) (%1)			
Power	AC100~240V free input(%2)			
Weight	Approx. 11kg			
Operating environment	Temperature: 0~40°C Humidity: 20~80%RH			
Accessories	Force Recorder Standard (graphing software), USB cable, Power cable, Film grip, Inspection certificate, Instruction manual			

- **2 Please speelfy the voltage when you order. (Accessory varies depending on voltage.)
 **3 The film grip attachments for IPTS-5N and IPTS-20N/50N are different.
 ** Japanese domestic models do not indicate gf/kgf/ and ozf/lbf.