



DigiTech

Products Catalog

REV .3
English

DIGITAL PUSH PULL FORCE GAUGE
MOTORIZED TEST STANDS
MANUAL TEST STANDS
AUTOMATIC SPRING TESTER
AUTOMATIC TORSION SPRING TESTER
AUTOMATIC FORCE ANALYZER
AUTOMATIC SWITCH FEELING ANALYZER



デジテック株式会社

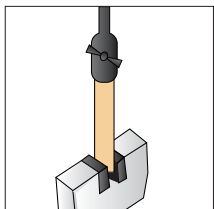
Under the exertion of **POWER** characteristic changes that are invisible to the eye can be accurately digitized

Our company manufactures and sells various "TEST STANDS" associated with loading measuring equipments, such as a handy Digital Push/Pull Force Gauge.

We develop products to help maximize our customers' productivity, meeting the high-level quality and complexity required of industrial products.

Measurement Applications

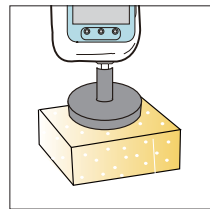
A break / Pull measurement



Destructive power at the time of pulling the material measurement of (breaking force)

- Breaking measurement such as rope or cable
- Tensile strength, such as fiber
- Rubber or film, measurement of material extending the tape, etc.

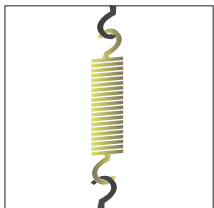
The compression measurement



Measurements of the press material (compression) deformation of the time (destructive power)

- Force to break the glass
- Firmness of the food, such as eggs
- The power to break down the package

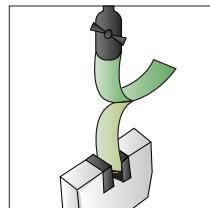
The spring measurement



Measuring a characteristic of the spring used in various products

- The power to extend the spring
- A force to compress the spring
- Deflection measurement of spring
- Measurement of the torsion spring

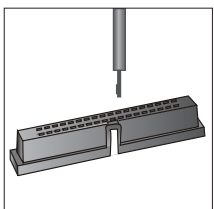
Peeling measurement



The adhesive strength of the seal or film (peel force) measurement

- Force when peeling off the seal
- Adhesive strength measurement of adhesive tapes.
- Adhesive strength measurement of film

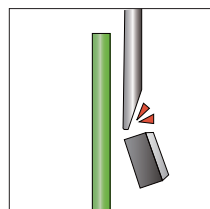
Connector insert-withdrawal measurement



Measuring the force at the time of insertion and force to extract the material

- Insertion force measurement of connectors
- Insertion force measurement such as cork or cap

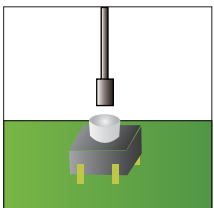
Welding / The adhesion strength measurement



Measurement of the adhesive strength of the Yosetsuya solder

- The adhesive strength of the solder on the electronic board
- Weld strength

Switch measurement



Measurement of the operating force of the switches

- Operating force measurement of the keyboard
- Operating force measurement of mobile phone switch
- Operating force measurement, such as a dome-type switch
- Operating force measurement such as tact switch

Industry Measurement example

Medical industry

- Hardness measurement of a tablet of medicine
- Sharpness measurements, such as for injection needles.

Food industry

- Opening the package
- Measures hardness of food products etc.

Automotive industry

- Measurements of the urethane sheet
- Feeling measurement of electrical equipment
- Measurements of the suspension
- Opening and closing force of the door, etc.

Electronics industry

- The operating force of the fiber keyboard
- Fiber operation force such as switch
- Tensile measurement of cables
- Such as pressure measurement of the electronic substrate

Garment industry

- Strength measurement of the cloth
- Strength measurements for materials such as fiber

Other

- Fiber plastic, strength measurement of resin
- Strength measurement for glass or ceramics etc.

**Please contact us also
for other measurement.**

Automatic Smart Force Analyzer

MODEL Tec-01

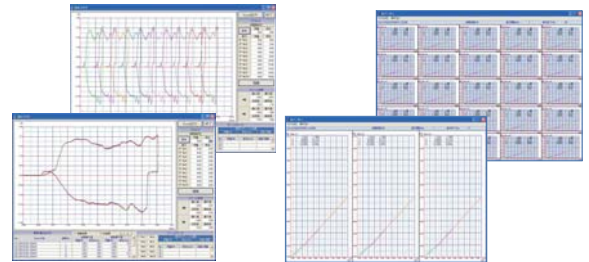
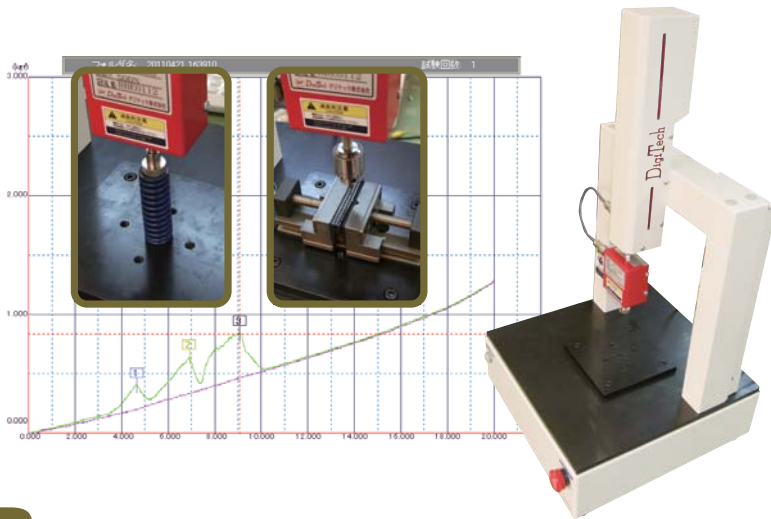
Smart Force Analyzer

Easy-to-use, high-functioning!
PC controlled system,
desktop load testing equipment

◆ Examples of suitable tests

- Compression test
- Tensile test
- Break test
- Connector insertion and removal test
- Spring test
- Peel test
- 3-point bending test, etc.

The compact desktop force analyzer was developed with low price, ease of use, and high functionality in mind. The detailed test movement settlement can be arranged on the PC, the coloration between the load and displacement can be displayed by the wave graphic diagram. The 'maximum value', 'fracture value', and 'deformation value' can be researched at any point using the wave graphic diagram. Equipped with several functions such as "Piled wave type measurement with real time" and "functions of re-draw", it is easy to make the 2nd proceeding of test date and issue a report using the export functions to EXCEL at 30 patterns and over.



■ Option ■

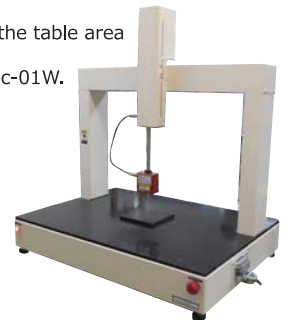
All operations can be arranged via PC. When connected, the OPTION controller can operate the rise/descent at a 3 step speed and start or stop tests.



CHARACTERISTIC

1. Can be used even in narrow spaces due to its compact design. Compact design for small spaces.
2. Can control the analyzer at 0.01mm unit via a PC connection.
Analyzable at below 0.01mm using the included PC software!
3. Can grasp the measurement contents visually by displaying the wave data.
4. Can total automatically by the judgment of "OK ? NG" at the settlement of regulated value.
5. Can analyze and handle the high-accuracy data easily via PC control.
6. Can register your favorite pick-up points in the wave data.
7. High data analysis functions such as the wave graphic diagram and the display of the poled waveform graphic diagram etc are equipped via the software, which is filled with plenty of ideas.
8. Includes language-change functions for Japanese, English, Korean, and Chinese, so can be utilized worldwide productions countries, and places.

Wide model of the table area
W670 × D500
Tec-01W.



Tec Specification

Specification / Model	Tec-01	Tec-02	Tec-05	Tec-10	Tec-20	Tec-50
Capacity	10N/1kgf	20N/2kgf	50N/5kgf	100N/10kgf	200N/20kgf	500N/50kgf
Load resolution	0.001N/0.1gf	0.01N/1gf	0.01N/1gf	0.01N/1gf	0.1N/0.01kgf	0.1N/0.01kgf
Load accuracy	Within ± 0.5% of indication value					
Length resolution	0.01mm (0.001mm)					
Displacement accuracy	Less than ±50μm+0.0001L (mm)					
Test speed	0.1mm~600mm/min					
Measurement length	Reference height adjustable range : 90mm · Measurement movement : 80mm					
Measurement content	Peak Value, break down value, insertion force value, ON / OFF points					
Number of repetitions	999999 times					
Number of data	1000 data					
Control method	Full control of the personal computer					
Control content	0.01mm/0.10mm/1.00mm Inching, start position return, test start, test stop					
Safety device	Limit setting stop, overload stop, emergency stop SW					
Transportation	Precision ball screw and a stepping motor					
Table Size	W300×D300mm (Between pillars 210)					
Communication method	USB connection					
Dimensions	W310 X H580 X D310					
Weight	approx. 20kg					
Power source	AC100~240V					

※Specifications are subject to change without notice.

[Main function of this software]

- 1.Registration Test Conditions(unlimited, according to HDD capacity)
- 2.Registration Test Result(unlimited, according to HDD capacity)
- 3.Functions of test results of wave data reading
- 4.Real time wave diagram graphic comparison measurement by piled wave measurement function
- 5.Wave diagram graphic Redraw functions with speed adjustable functions
- 6.Enlarging display functions of area appointment in data of Wave diagram graphic
- 7.Cursor point data register functions in data of Wave diagram graphic (Max. register number : 10 data)
- 8.Favorite settlement functions of the color and kind of lines for back of graphic, grid line, wave etc
- 9.Display functions of wave diagram graphic data placed side by side (A4 sheet minimum 1 waveform-Up to 25 waveforms)
- 10.Display functions of piled wave diagram graphic data (The maximum registration drawable number 10 data)
- 11.Functions of register the cursor point data in the piled display (Max. register number : 10 data)
- 12.Make the report by the functions of export to EXCEL
 - 12-1. EXPORT of each test results
 - 12-2. EXPORT of lists for test results · totaled results
 - 12-3. EXPORT of Wave log data CSV type
 - 12-4. EXPORT of display placed side by side
 - 12-5. EXPORT of display piled
- 13.Functions of Clip Board Copy in the display of measurement screen
- 14.Step movement and continuous movement · Stop at 0.01mm, 0.10mm, 1.00mm
- 15.Language switching function (Japanese, English, Korean, Simplified Chinese, Traditional Chinese)

Automatic Multi Force Analyzer

MODEL FT-501

Automatic Multi Force Analyzer

Examples of suitable tests

- Compression test
- Tensile test
- Break test
- Connector insertion and removal test
- Creep test
- Spring test
- Peel test
- 3-point bending test, etc.

Adoption of 8.4" color LCD touch panel furthers excellent visibility and operability. In particular, the adoption of the Jog Shuttle controller for operability means it can be regulated by hand while viewing the test piece. In addition, the test result can be printed out immediately with the internal thermal printer. Any result data in continuous testing can be picked up. The USB 1.1 port makes it possible to transmit data at high speeds via external connection to the PC.

Able to test continuously, data can be picked up at any point as often as required.



* Jig is optional.



X-Y table

CHARACTERISTIC

1. The smallest displacement setting for proper implementation of the pressure control is 0.01mm in order to detect load data.
2. Through load setting any pressure force is precisely controlled to detect the amount of deformation and displacement data of the test piece.
3. The fine movement settings of load and displacement allow for testing of connector insertion or breaking.
4. Visually displays data using bar graphs or waveform for specification judgment.
5. JOG Shuttle controller allows for manual control; start and stop of the tester can be performed by hand.
6. Test results and statistics data can be immediately printed out using the internal printer.
7. Using the USB, it can perform high speed communications with the PC, and is able to control the tester or deal with data using the optional software.

FT-501 Specification

Specification / Model	FT-501
Capacity	Body maximum load 500N, Test load rating is due to the load cell
Load resolution	Load 4-digit (5-digit) display (by the load cell)
Load accuracy	Within $\pm 0.5\%$ of indication value
Length resolution	0.01mm (0.001mm option)
Displacement accuracy	Less than $\pm 20\mu\text{m} + 0.0001\text{L}$ (mm)
Test speed	0.1mm~600mm/min
Test stroke	230mm (Without load cell)
Measurement content	Load value by the Displacement setting, Displacement value by the load setting, Peak Value, breakdown value, ON / OFF-point measurement
Number of repetitions	999999 times
Number of data	1000 data
Display Monitor	8.4-inch TFT color LCD touch panel
External controller	jog shuttle dial(7 stage variable speed control, Inching control), Test start, Stop
Safety device	Limit setting stop, overload stop, emergency stop SW
Built-in printer	58mm paper type Thermal dot printer
Transportation	Precision ball screw and AC SERVO motor
Table Size	W480×D230mm
Communication method	USB 1.1
Dimensions	W480 X H570 X D475
Weight	approx. 60kg
Power source	AC100 or 220V

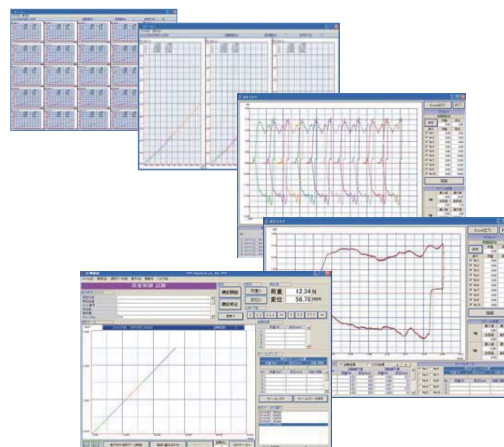
※Specifications are subject to change without notice.

【Main function of this software】

- 1.Registration Test Conditions(unlimited, according to HDD capacity)
- 2.Registration Test Result(unlimited, according to HDD capacity)
- 3.Functions of test results of wave data reading
- 4.Real time wave diagram graphic comparison measurement by piled wave measurement function
- 5.Wave diagram graphic Redraw functions with speed adjustable functions
- 6.Macro formula registration function
- 7.Enlarging display functions of area appointment in data of Wave diagram graphic
- 8.Cursor point data register functions in data of Wave diagram graphic (Max. register number : 10 data)
- 9.Favorite settlement functions of the color and kind of lines for back of graphic, grid line, wave etc
- 10.Display functions of wave diagram graphic data placed side by side (A4 sheet minimum 1 waveform-Up to 25 waveforms)
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 - 13-5. EXPORT of display piled
 - 13-6. EXPORT of Macro expansion test results
- 14.Functions of Clip Board Copy in the display of measurement screen
- 15.Step movement and continuous movement · Stop at 0.01mm, 0.10mm, 1.00mm
- 16.Language switching function (Japanese, English, Korean, Simplified Chinese, Traditional Chinese)

MODEL FWT seriesHigh load type
Automatic Multi Force Analyzer

FWT series is a gate-type high-load test machine equipped with all the features of our FT-501 model. You can control positioning smoothly across seven stages with the installed AC servo motor and precision ball screws. Further control using the jog shuttle allows control of 0.01mm, 0.10mm or 1.00mm that can easily be performed by hand while looking at the test material. Easily view the measurement data using the 8.4 inch touch panel for displaying data such as waveform graph, max loads and breaking value. You can collect data from tests and display on the monitor or print the results.



CHARACTERISTIC

1. The smallest displacement setting for proper implementation of the pressure control is 0.01mm in order to detect load data.
2. Can accurately change pressure value by 10 levels to detect any displacement data.
3. The fine movement settings of load and displacement allow for testing of connector insertion or breaking.
4. Visually displays data using bar graphs or waveform for specification judgment.
5. Can implement any macro formulas and auto calculate a variety of results from the waveform data.
6. JOG Shuttle controller allows for manual control; start and stop of the tester can be performed by hand.
7. Monitor display can be changed to/from Japanese, English, Korean or Chinese for quicker installation in any location.
8. Using the USB, it can perform high speed communications with the PC, and is able to control the tester or deal with data using the optional software.
9. Test results and statistics data can be immediately printed out using the internal printer.

FWT Specification

Specification / Model	FWT-100	FWT-200	FWT-500	FWT-1000	FWT-2000
Capacity	1kN (100kgf)	2kN (200kgf)	5kN (500kgf)	10kN (1000kgf)	20kN (2000kgf)
Load resolution	100mN (10gf)	1N (100gf)	1N (100gf)	1N (100gf)	10N (1kgf)
Length resolution	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm
Test speed	0.1~600mm/min	0.1~600mm/min	0.1~600mm/min	0.1~600mm/min	0.1~600mm/min
Test stroke	700mm	700mm	700mm	1000mm	1000mm
Display and operation	8.4-inch color touch panel, jog shuttle controller				
Load accuracy	Within $\pm 0.5\%$ of indication value				
Transportation	Precise ball screw / AC servo motor				
Safety device	Upper and lower limit switch (optional setting method), overload stop, emergency stop switch				
JIG table dimensions	200×200mm	200×200mm	200×200mm	250×250mm	250×250mm
Communication method	USB1.1	USB1.1	USB1.1	USB1.1	USB1.1
Dimensions	W770×H1342×D390	W770×H1342×D390	W770×H1342×D390	W870×H1770×D390	W870×H1770×D390
Weight	approx. 160kg	approx. 160kg	approx. 160g	approx. 200kg	approx. 220kg
Power source	AC100 or 220V	AC100 or 220V	AC100 or 220V	AC100 or 220V	AC100 or 220V

Automatic Smart Switch Feeling Analyzer

MODEL Tec-01F

Smart Switch Feeling Analyzer

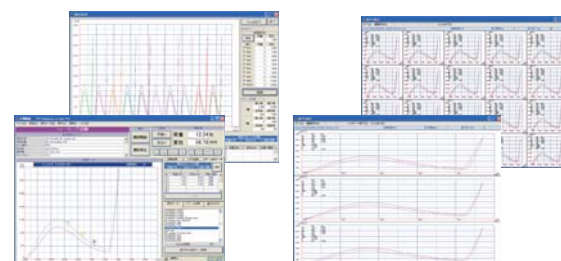
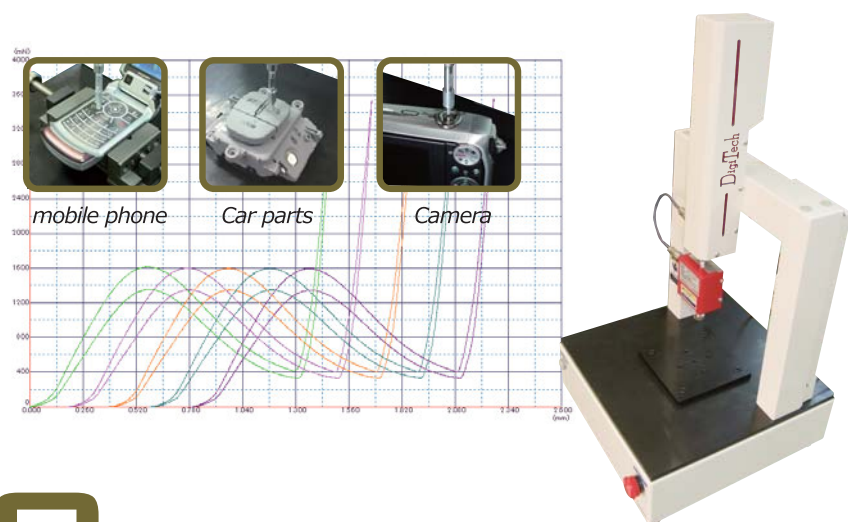
Easy-to-use, highly functioning!
PC controlled system,
desktop Switch feeling testing equipment

◆ Examples of suitable tests

- Dome switch
- Tactile switch
- Silicone rubber switch
- Double click switch

etc.

The compact desktop switch feeling analyzer was developed with low price, ease of use, and high functionality in mind. Detailed test movement settlement can be arranged via the PC with coloration between the load and displacement display by the The peak value · bottom value · click value etc... can be researched at any point using the wave graphic diagram. Equipped with several functions such as "Piled wave type measurement with real time" and "functions of re-draw", it is easy to make the 2nd proceeding of test date and issue a report using the export functions to EXCEL at 30 patterns and over.



Option

All operations can be arranged via PC. When connected, the OPTION controller can operate the rise/descent at a 3 step speed and start or stop tests.



Wide model of the table area
W670 × D500

Tec-01W.



CHARACTERISTIC

1. Can be used even in narrow spaces due to its compact design. Compact design for small spaces.
2. Can control the analyzer at 0.01mm unit via a PC connection.
Analyzable at below 0.01mm using the included PC software.
3. Can grasp the measurement contents visually by displaying the wave data.
4. Can total automatically by the judgment of "OK ? NG" at the settlement of regulated value.
5. Can analyze and handle the high-accuracy data easily via PC control.
6. Can register your favorite pick-up points in the wave data.
7. High data analysis functions such as the wave graphic diagram and the display of the poled waveform graphic diagram etc are equipped via the software, which is filled with plenty of ideas, productions countries, and places.
8. Includes language-change functions for Japanese, English, Korean, and Chinese, so can be utilized worldwide productions countries, and places.

Tec-F Specification

Specification / Model	Tec-01	Tec-02	Tec-05
Capacity	10N/1kgf	20N/2kgf	50N/5kgf
Load resolution	0.001N/0.1gf	0.01N/1gf	0.01N/1gf
Load accuracy	Within ± 0.5% of indication value		
Length resolution	0.01mm (0.001mm)		
Displacement accuracy	Less than ±50μm+0.0001L (mm)		
Test speed	0.1mm~600mm/min		
Measurement length	Reference height adjustable range : 90mm · Measurement movement : 80mm		
Measurement content	Peak Value, bottomn value, Click load, Click%, ON / OFF point value etc...		
Number of repetitions	999999 times		
Number of data	1000 data		
Control method	Full control of the personal computer		
Control content	0.01mm/0.10mm/1.00mm Inching, start position return, test start, test stop		
Safety device	Limit setting stop, overload stop, emergency stop SW		
Transportation	Precision ball screw and a stepping motor		
Table Size	W300×D300mm (Between pillars 210)		
Communication method	USB connection		
Dimensions	W310 X H580 X D310		
Weight	approx. 20kg		
Power source	AC100~240V		

※ Specifications are subject to change without notice.

[Main function of this software]

- 1.Registration Test Conditions(unlimited, according to HDD capacity)
- 2.Registration Test Result(unlimited, according to HDD capacity)
- 3.Functions of test results of wave data reading
- 4.Real time wave diagram graphic comparison measurement by piled wave measurement function
- 5.Wave diagram graphic Redraw functions with speed adjustable functions
- 6.Enlarging display functions of area appointment in data of Wave diagram graphic
- 7.Cursor point data register functions in data of Wave diagram graphic (Max. register number : 10 data)
- 8.Favorite settlement functions of the color and kind of lines for back of graphic, grid line, wave etc
- 9.Display functions of wave diagram graphic data placed side by side (A4 sheet minimum 1 waveform-Up to 25 waveforms)
- 10.Display functions of piled wave diagram graphic data (The maximum registration drawable number 10 data)
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- 12.Make the report by the functions of export to EXCEL
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 - 12-3. EXPORT of Wave log data CSV type
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 - 12-5. EXPORT of display piled
- 13.Functions of Clip Board Copy in the display of measurement screen
- 14.Step movement and continuous movement · Stop at 0.01mm, 0.10mm, 1.00mm
- 15.Language switching function (Japanese, English, Korean, Simplified Chinese, Traditional Chinese)

Automatic Switch Feeling Analyzer

MODEL FT-502

Automatic Switch Feeling Analyzer

◆ Examples of suitable tests

- Dome switch
- Tactile switch
- Silicone rubber switch
- Double click switch
- etc.

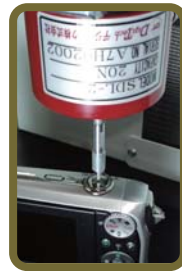
You can perform push feeling load measurement on any switches such as keyboards, mobile phones or automobile parts. Adoption of 8.4" color LCD touch panel furthers excellent visibility and operability. Using the Jog Shuttle you are able to operate the device while looking at testing material. In addition, the test result can be printed out immediately with the internal thermal printer. Any result data in continuous testing can be picked up. The USB 1.1 port makes it possible to transmit data at high speeds via external connection to the PC.



Mobile phone



Car parts



Camera



* Jig is optional.

CHARACTERISTIC

1. Strength and characteristics of tactile switch, silicone rubber and various switches can be digitized.
2. Peak value of the switch, the bottom value, clicks, click rate, hysteresis, ON point and OFF point, etc. can be measured.
3. The measurements of alternate switch and double-click switch are also supported.
4. Visually understand the result by displaying the test result and wave graph data at same time.
5. Standard values can be set for each point, and then perform the statistics and display by the measurement results.
6. JOG Shuttle controller allows for manual control; start and stop of the tester can be performed by hand.
7. Test results and statistics data can be immediately printed out using the internal printer.
8. Using the USB, it can perform high speed communications with the PC, and is able to control the tester or deal with data using the optional software.
9. Includes language-change functions for Japanese, English, Korean, and Chinese, so can be utilized worldwide production countries and places.

FT-502 Specification

Specification / Model	FT-502
Capacity	Body maximum load 500N, Test load rating is due to the load cell
Load resolution	Load 4-digit (5-digit) display (by the load cell)
Load accuracy	Within $\pm 0.5\%$ of indication value
Length resolution	0.01mm (0.001mm option)
Displacement accuracy	Less than $\pm 20\mu\text{m} + 0.0001\text{L (mm)}$
Test speed	0.1mm~600mm/min
Test stroke	230mm (Without load cell)
Measurement content	Peak Value, bottomn value, Click load, Click%, Hysteresis ON / OFF point value etc..
Number of repetitions	999999 times
Number of data	1000 data
Display Monitor	8.4-inch TFT color LCD touch panel
External controller	jog shuttle dial(7 stage variable speed control, Inching control), Test start, Stop
Safety device	Limit setting stop, overload stop, emergency stop SW
Built-in printer	58mm paper type Thermal dot printer
Transportation	Precision ball screw and AC SERVO motor
Table Size	W480×D230mm
Communication method	USB 1.1
Dimensions	W480 X H570 X D475
Weight	approx. 60kg
Power source	AC100 or 220V

※Specifications are subject to change without notice.

【Main function of this software】

- 1.Registration Test Conditions(unlimited, according to HDD capacity)
- 2.Registration Test Result(unlimited, according to HDD capacity)
- 3.Functions of test results of wave data reading
- 4.Real time wave diagram graphic comparison measurement by piled wave measurement function
- 5.Wave diagram graphic Redraw functions with speed adjustable functions
- 6.Macro formula registration function
- 7.Enlarging display functions of area appointment in data of Wave diagram graphic
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- 15.Step movement and continuous movement · Stop at 0.01mm, 0.10mm, 1.00mm
- 16.Language switching function (Japanese, English, Korean, Simplified Chinese, Traditional Chinese)

Automatic 3D Switch Feeling Analyzer

MODEL Tec3D / Tec3DW

Automatic 3D Switch Feeling Analyzer

You can perform an automated load properties test efficiently by managing the X-Y axis

This is the three-dimensional switch feeling testing equipment.

Managing X-Y axis tables on the PC allows for automated tests with maximum 300 points in 1 work. Detailed test movement settlement can be arranged via the PC with coloration between the load and displacement display by the wave diagram. And the peak value · bottom value · click value etc... by the wave graphic diagram can be researched at any point as you like.

Equipped with a variety of analyzing functions such as "Real time Piled wave type measurements" and re-drawing. It can also export results to EXCEL in more than 30 types of format for supporting editing results or creating reports.

◆ Examples of suitable tests

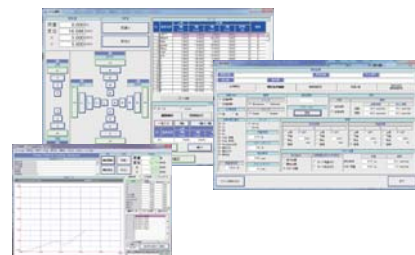
- Dome switch
- Tactile switch
- Silicone rubber switch
- Double click switch
- etc.



Tec3D



Tec3DW



C H A R A C T E R I S T I C

1. The Tec3D model is a smaller design, while our Tec3DW allows for a larger examination area.
2. Can control testing equipment operations starting at 0.001mm unit via a PC connection.
3. Visually displays wave pattern data in real time.
4. You can create multiple standards and perform automated judgment tests based on these standards.
5. While testing in real time, you can pull any point data or automated calculation by macro function.
6. Of the wave pattern put it on top of one another, and can confirm the difference of the test result of the time varying according to a function visually.
7. I pick up any point in wave pattern data and register and can save it.
8. Of the ON/OFF point of the switch it is possible for automatically detecting.
9. Includes language-change functions for Japanese, English, Korean, and Chinese, so can be utilized worldwide production countries and places.

Tec3D / Tec3DW Specification

Specification / Model	Tec3D-01F	Tec3D-02F	Tec3D-05F	Tec3DW-01F	Tec3DW-02F	Tec3DW-05F
Capacity	10N/1kgf	20N/2kgf	50N/5kgf	10N/1kgf	20N/2kgf	50N/5kgf
Load resolution	0.001N/0.1gf	0.01N/1gf	0.01N/1gf	0.001N/0.1gf	0.01N/1gf	0.01N/1gf
Load accuracy	Within ± 0.5% of indication value					
Length resoration	Z-axis=0.001mm X-axis=0.001mm Y-axis=0.001mm					
Displacement accuracy	Less than ±20μm + 0.0001L(mm)					
Test speed	0.1~600mm/min					
Test stroke	Z-axis Height-adjustable range : 90mm , Test stroke : 80mm			Test stroke : 130mm		
Measurement contents	Go peak value, bottom value / backward peak value, bottom value / click load value / click rate / hysteresis / contact ON, OFF-point					
Number of repetitions	999999 times					
Number of data	X-Y coordinate point setting 300 points palette coordinate setting of 100 points (up to a total of 30000 points)					
control method	Full control of the personal computer, remote controller					
X-Y-axis travel range	X=100mm(±50mm) Y=130mm(±65mm)			X=450mm(±225mm) Y=200mm(±100mm)		
X-Y-axis max. moving speed	6000mm/min			6000mm/min		
X-Y-axis stopping accuracy	Less than ±20μm + 0.0001L(mm)					
X-Y-axis repeatedly accuracy	Less than ±10μm					
X-Y-axis stopping accuracy	0.01mm/0.10mm/1.00mm Inching, start position return, the start of the test, the test stop					
Safety device	Limit stop, overload stop, emergency stop SW					
Transportation	Precision ball screw and a stepping motor			Precision ball screw , stepping motor and AC servo motor		
Table Size	W110mm X D140mm			W460mm X D210mm		
Communication system	USB connection					
Dimensions	W382 X H580 X D365			W676 X H790 X D510		
Weight	approx.35kg			approx.75kg		
Power source	AC100~240V					

※Also continued production in the non-standard specification. Please contact us.

※Specifications are subject to change without notice.

Sensation you feel when
a person touches a button or switch

All main data is acquired by once's measurement.



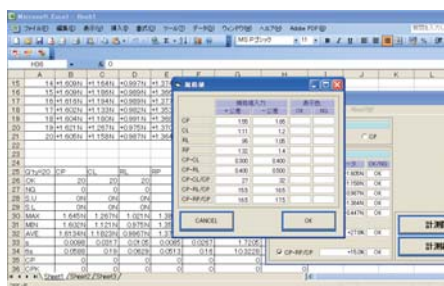
- It's possible to measure and get all data of the switch, a peak value, bottom value, click rate, a click value and a hysteresis together.

- Connected to the various printers printing is possible.
- PC connection via USB use

- Up to 500 data can be stored peak value and instantaneous value
- auto memory function



- FX-20 (One connection is accessible)
- FX-200(Five connection is accessible)

[illegible]

There are the language-change functions of Japanese · English · Korean · Chinese, so can be available for several production countries and places.

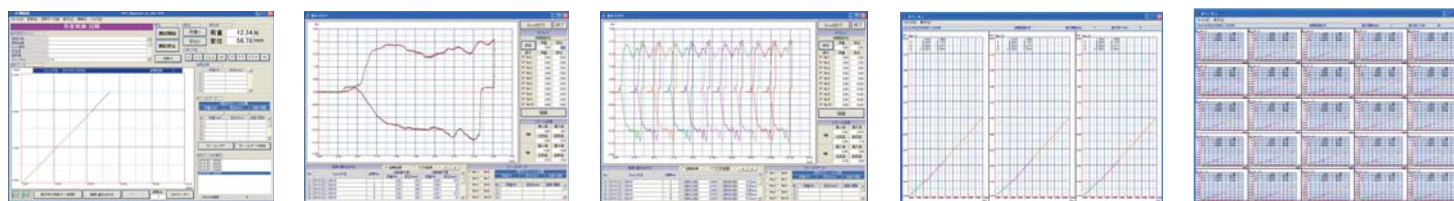
DTF series specification

Measuring shaft	M6
Accuracy	±0.2% f.s
Measurement unit	N, gf , lb
Measurement	To go : Peak value, Bottom value, Click load value and ratio, Hysteresis Return : Peak value, Bottom value
Memory	500 data
Weight	approx. 500g (Include MFF-20 : 6.5kg)
Power source	Ni-MHbattery / AC-100V ~ 240V multi AC adaptor
Accessories	6PCS jig / multi AC adaptor / USB cable / Carrying case / Operation manual / Warranty card

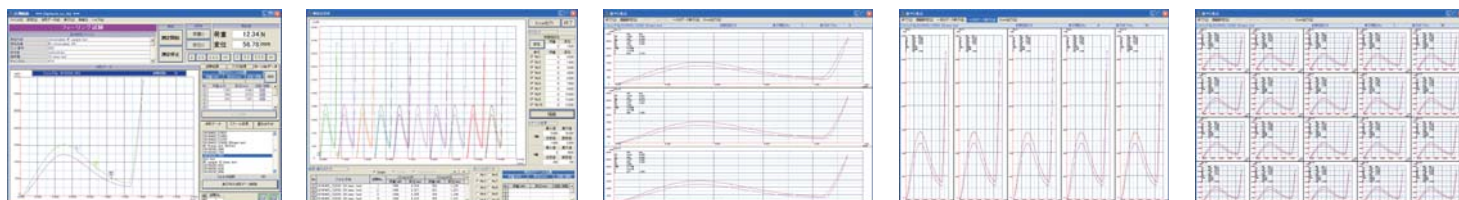
* Specifications are subject to change without prior notice

Characteristic introduction of the testing equipment

【Software : Connector insertion and removal test • Position Value test • Broken test etc...】



【Software : Switch Feeling Tester】



Support quality control by a high analytical ability and various drawing layouts and a report automatic making function.

【 Main characteristic】

This analyzer measures the maximum value • rupture value • deformation value on the compression testing • tension testing by the wave graphic diagram and keep the test results which was measured. automatically.

The test results can displayed every time, and there are the functions that have the description of piled wave graphic diagram • registered functions at favorite point on the wave graphic diagram • functions that several test results can display at the same time • analyzed functions of the piled wave diagram graphic • cursor displayed functions of graphic wave • Redraw functions that play and one-stop the wave diagram graphic at your favorite speed etc, and can support the quality control of the customer's products.

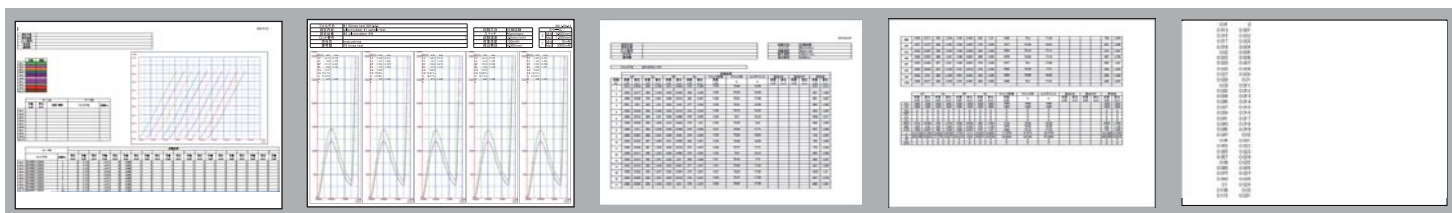
【Origin Detection Function and deflection revision function 】

The origin detection function is equipped, and can detect the origin point and memory the surface of the test table and the standard point of the jig which is used automatically. And the deflection revision function is equipped, revise and measure a little deflection of the displacement automatically, which is occurred to the analyzer or load cell (load sensor) itself when the work piece is tested.

By this function, the problem of the displacement tolerance which may lead to the large tolerance rate in case of the small stroke work piece can be cleared, and can measure high-accurately.

【Functions of auto report making】

The functions to export to EXCEL by several layouts are equipped in standard, can make the report whose favorite layouts are over 30 kinds. All reports are exported to EXCEL once, so it is easy to make the 2nd proceeding easily.



【Functions of language-changeover】



You can choose the language among Japanese • English • Korean • Chinese every time for this application software.

And any language can be suitable for making the report, not for measuring only.

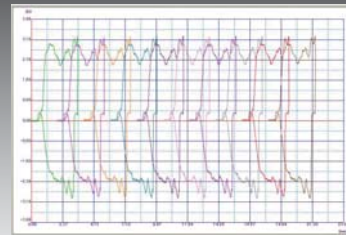
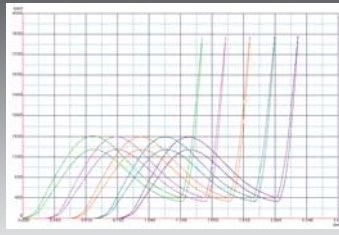
So when the tested data is passed to other countries, you can choose favorite language and make the report every time.

【PC interlocking movement function】

Application links just to start an examination with remote control on the testing equipment side after having let this application stand by on a PC and starts data preservation. (Tec • Tec-W • Tec3D • Tec3DW series)

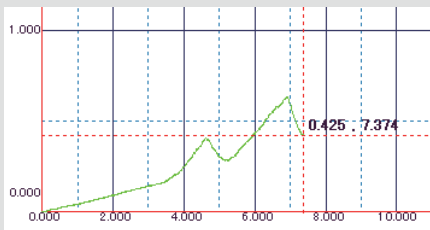
*There is different in some functions by the difference in model. Please inquire for the details.

Display functions of piled wave diagram graphic data



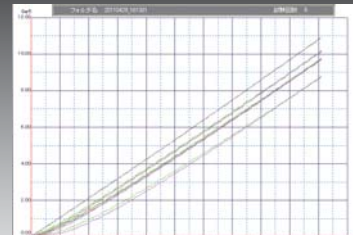
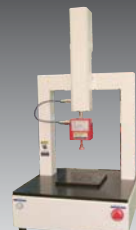
Display a different test result of the examination time on the same graph area and can compare it.

Wave Re-draw Function



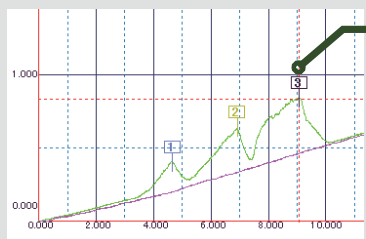
The test results can be displayed every time, and can display the movies of wave graphic diagram at your favorite speed. The change of the displaying speed and stopping at one time can be operated in playing, the wave graphic diagram can be checked every time.

Piled wave measurement with Real time



This can compare several data by piling the test result wave graphic diagram after testing, and the continuous testing can be operated with piling the wave graphic diagram when testing. So you can check the tendency of characteristic change of work piece when you are testing.

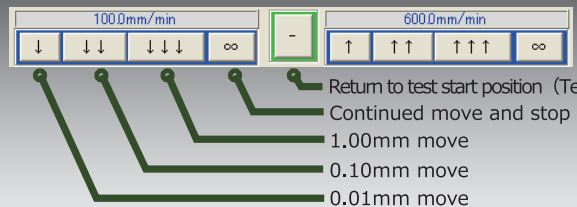
Cursor point registration function



Display pickup registration point number

The wave pattern data lead of the test result is possible and chooses any point data, pickup registration of the load and displacement are possible. One-click can easily perform the making of the test result report, too.

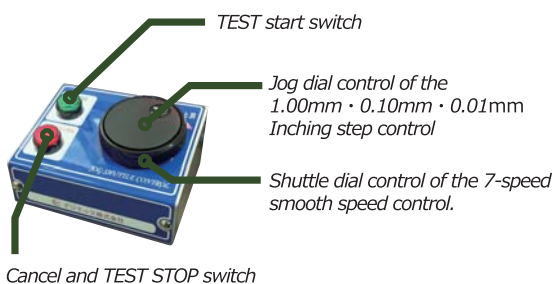
Machine control by PC.



Return to test start position (Tec)
Continued move and stop
1.00mm move
0.10mm move
0.01mm move

A testing machine, manual operation is possible from the PC. Every 0.01 mm, 0.10 mm and 1.00 mm as well as usual rise and descent operation. inching movement control and test start position return can be performed, so one before a test you can make a setup toward easiness and correctness.

Jog/Shuttle Dial Controller (FT series)



TEST start switch

Jog dial control of the 1.00mm · 0.10mm · 0.01mm
Inching step control

Shuttle dial control of the 7-speed
smooth speed control.

Cancel and TEST STOP switch

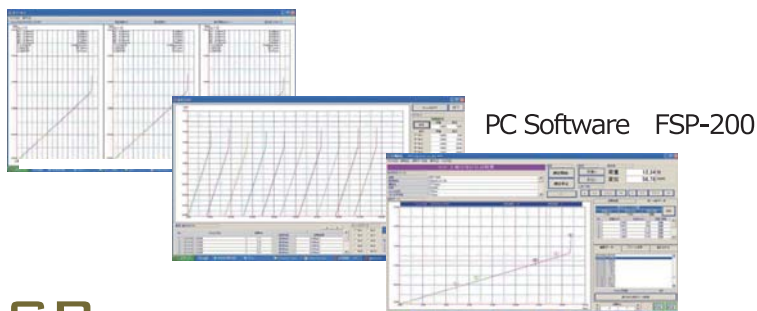
Built-in Printer (FT series)



Test result and a total result can be printed out quickly.

Emergency switch

A high-tech and easy operation type Automatic Spring Tester which can be used on both tensile and compression tests. Equipped with an easy visible blue colored back-light LCD panel and a Jog Dial enables smooth positioning by hand operations. Including a built-in printer (high speed printing) with which you can record the test results, totalized data and etc. Applying USB1.1 for external wiring network and it enables high speed data communications with PC.

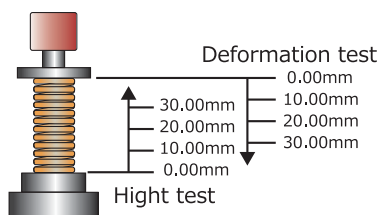


ASP CHARACTERISTIC

1. Applicable for load tests of compression springs, tension springs, washer springs.
2. Setting 5 test points at maximum.
3. For measurements of load at optional set points, free length, initial load, peak load are possible.
4. Instant printing of test data by high speed built-in printer.
5. Two ways of test that are Height Setting Test, Displacement Setting Test and Find the mean by coming and going Test.
6. Possible to register the item number and it enables to start the test just by recalling the item number without re-input of the test conditions.
7. Tolerance (upper and lower limit) setting and totalizing function is devised, and GO/NOGO judge, process capability etc. can be seen by a glance.
8. Monitor display can be switched from/to Japanese/English/Chinese/Korean version at any time by key operation.
9. Measurement of displacement and deformation by preset of a certain load value. (equipped as standard for S Model).
10. Complex test mode enables measurement of load and displacement during a single test sequence. (equipped as standard for S Model).

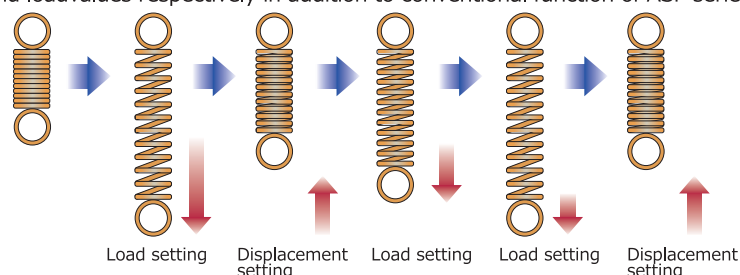
Height Setting / Deformation Setting

Selectable two test methods: Length test and deformation test are available. ON compression test, length and load value when the spring is fully compressed can be measured.



Complex test mode (S Model)

Maximum of 5 points (either displacement and load values) can be measured combining setting at any require points of displacement and load values respectively in addition to conventional function of ASP series.



ASP Specifications

Spec\Model	ASP-1/ASP-1S	ASP-5/ASP-5S	ASP-10/ASP-10S	ASP-50/ASP-50S
Capacity	10N (1kgf)	50N (5kgf)	100N (10kgf)	500N (50kgf)
Measurement unit	N, gf, lb	N, gf, lb	N, gf, lb	N, kgf, lb
Load resolution	0.1mN (0.01gf)	1mN (0.1gf)	1mN (0.1gf)	10mN (1gf)
Length resolution	0.01mm	0.01mm	0.01mm	0.01mm
Test speed	1~600mm/min	1~600mm/min	1~600mm/min	1~600mm/min
Max test length	210mm	210mm	210mm	210mm
Anvil diameter	20Φ	60Φ	60Φ	60Φ
Machine standard	Class 0.5 of JIS B 7738 Coil spring compression/tension tester based			
Mechanism part	Precision ball screw and AC Servo Motor			
Safety Measures	Limit stop, Over load stop, Emergency SW			
Communication Method	USB1.1	USB1.1	USB1.1	USB1.1
Dimension	W450×H570×D350	W450×H570×D350	W450×H570×D350	W450×H570×D350
Weight	approx.45kg	approx.45kg	approx.45kg	approx.45kg
Power Source	AC100 or 220V	AC100 or 220V	AC100 or 220V	AC100 or 220V

* S Model : Equipped with Load setting test mode

* Specifications are subject to change without prior notice

Option



The compression board with the pinhole for the measurement of the spring falling down

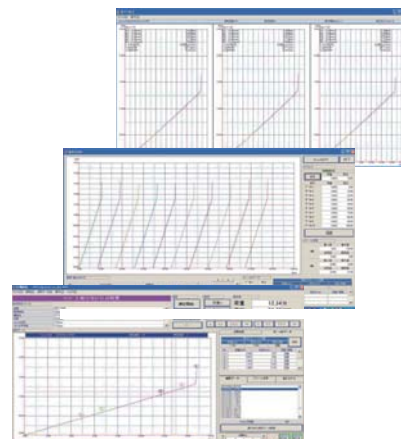
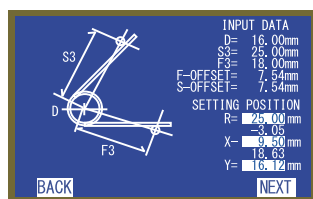
Load testing machine for torsion spring with basic functions of the ASP series tensile and compression spring tester. Easily set test conditions by inputting basic spring data and following onscreen guidance.

Complicated calculations such as angle are automatically computed.

You can easily operate positioning using the Jog dial and blue coloured back-light for better visibility.

Easy View Graphic Display

Input dimensions of spring is displayed in graph based on basic condition setting. For input work can be done by checking both drawing and graphic display, easy to compare and eliminate mistakes in setting.



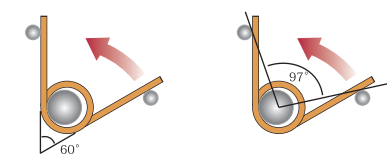
PC Software FSP-300

STP CHARACTERISTIC

1. Measurement of load value, torque value and free angle (center of angle / outer of angle) of torsion spring is possible.
2. Setting 5 test points at maximum.
3. Two ways of test that are Angle Setting Test, Deformation Setting Test and Find the mean by coming and going Test.
4. Instant printing of test data by high speed built-in printer.
5. Possible to register the item number and it enables to start the test just by recalling the item number without re-input of the test conditions.
6. Tolerance (upper and lower limit) setting and totalizing function is devised, and GO/NOGO judge, process capability etc. can be seen by a glance.
7. Monitor display can be switched from/to Japanese/English/Chinese/Korean version at any time by key operation.
8. Test mode of widening direction of angle is mounted in addition to the test of closing direction of angle. (equipped as standard for S Model).

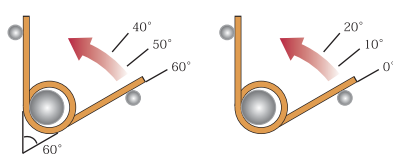
*Please be sure that some springs such as few coiling etc. may not be possible to perform accurate measurement.

2-ways of test :
Center of Angle Setting / Out of Angle Setting.



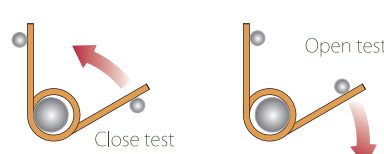
Outer angle test
Equipped with Center of Angle Test and Out of Angle Switching System.

2-ways of mode :
Angle Setting / Deformation Setting.



Test by setting angle
Test by setting deformation
Selectable two test methods: Length test and deformation test are available.

2-ways of mode :
Close Testing / Open Testing



The STP-S model deals with the inspection of the direction opening an angle in addition to the inspection of the direction closing a general angle.

STP Specifications

Spec\Model	STP-5 / STP-5S	STP-10 / STP-10S	STP-50 / STP-50S
Capacity	50N (5kgf)	100N (10kgf)	500N (50kgf)
Measurement unit	N, gf	N, gf	N, kgf
Torque unit	Nmm, Ncm, Nm gfmm, gfcmm, gfm	Nmm, Ncm, Nm gfmm, gfcmm, gfm	Nmm, Ncm, Nm kgfmm, kgfcm, kgfm
Resolution	0.001Nmm	0.001Nmm	0.01Nmm
Measurement Angle	0.1~7200.0deg	0.1~7200.0deg	0.1~7200.0deg
Test Speed	10~1800deg/min	10~1800deg/min	10~1800deg/min
X-axis	±25mm	±25mm	±25mm
Y-axis	60mm	60mm	60mm
Z-axis	80mm	80mm	80mm
Machine standard	Class 0.5 of JIS B 7738 Coil spring compression/tension tester based		
Mechanism part	AC Servo Motor		
Safety Measures	Limit stop, Over load stop, Emergency SW		
Communication Method	USB1.1	USB1.1	USB1.1
Dimension	W490×H620×D490	W490×H620×D490	W490×H620×D490
Weight	approx.65kg	approx.65kg	approx.65kg
Power Source	AC100 or 220V	AC100 or 220V	AC100 or 220V

* S Model : Equipped with OPEN test mode * Specifications are subject to change without prior notice

PC Software FSP-300 (Option)

A wave pattern draws test data on a PC in real time and can perform data analysis from a test result. Perform all the testing equipment operation, examination condition registration, examination condition summons on a PC; a test result and a wave pattern data, count result on EXCEL Export is possible.

- Test condition registration.
- Examination machine control.
- Arranges and the real-time data communication.
- Wave type drawing is displayed.
- It arranges and it displays it.
- Shape of waves is displayed repeatedly.
- Waveform data reading.
- Pick up data registration.
- EXCEL export.
- Data total function.
- Test result making.

It corresponds to Japanese/English/Simple chinese/Traditional Chinese/Korean.

MODEL ASP series

High load type

Automatic spring tester

A high-tech and easy operation type Automatic Spring Tester which can be used on both tensile and compression tests. You can easily operate positioning using the Jog dial and blue coloured back-light LCD panels for better visibility. Includes a built-in printer (high speed printing) for printing test results or totalized data.

The USB 1.1 port makes it possible to transmit data at high speeds via external connection to the PC.



High-load type A S P Specifications

PC software FSP-200

Spec\Model	ASP-100/ASP-100S	ASP-200/ASP-200S	ASP-500/ASP-500S	ASP-1000/ASP-1000S	ASP-2000/ASP-2000S
Capacity	1kN (100kgf)	2kN (200kgf)	5kN (500kgf)	10kN (1000kgf)	20kN (2000kgf)
Measurement unit	N, kgf, lb	N, kgf, lb	N, kgf, lb	N, kgf, lb	N, kgf, lb
Load resolution	10mN (1gf)	100mN (10gf)	100mN (10gf)	100mN (10gf)	1N (100gf)
Length resolution	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm
Test speed	1~600mm/min	1~600mm/min	1~600mm/min	1~600mm/min	1~600mm/min
Max test length	600mm	600mm	600mm	800mm	800mm
Anvil diameter	150Φ	150Φ	150Φ	200Φ	200Φ
Machine standard	Class 0.5 of JIS B 7738 Coil spring compression/tension tester based				
Mechanism part	Precision ball screw and AC Servo Motor				
Safety Measures	Limit stop, Over load stop, Emergency SW				
Communication Method	USB1.1	USB1.1	USB1.1	USB1.1	USB1.1
Dimension	W770×H1277×D390	W770×H1277×D390	W770×H1277×D390	W870×H1770×D390	W870×H1770×D390
Weight	approx.190kg	approx.190kg	approx.190kg	approx.220kg	approx.260kg
Power Source	AC100 or 220V	AC100 or 220V	AC100 or 220V	AC100 or 220V	AC100 or 220V

* S Model : Equipped with load setting test mode

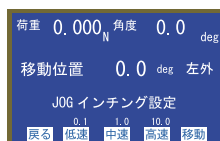
* If you require testing equipment suitable for over 20kN, please contact us.

* Specifications are subject to change without prior notice

R ASP&STP

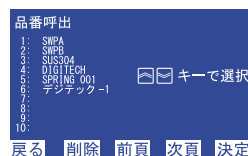
ICH IN FUNCTION

【Jog/Shuttle Dial Controller】



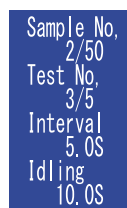
By turning Shuttle Dial (outside), the test speed can be easily changed from Low to High, and the Jog Dial (inside) can control the transferring distance precisely.(0.01mm, 0.10mm, 1.00mm)

【Registration and Recall of Item Number】



You can save up to 50 test conditions. Saved conditions allow subsequent testing to be carried out smoothly.

【Real Time Display of Test Process】



- Sample number situation
- Repeat test situation
- Display of interval time
- Display of idling time at each step

【Display of Bar-Graph】



By setting tolerance (upper/lower limit), bar graph is displayed on the data of each point, spring rate, free length, initial load, length at fully compressed spring.

【List-up Display of Test Results and Totalized Data】

Maker	DIGITECH
User	ゲジテック
Product	OSAKA
G.W.	SMPD
Wire dia	1.00mm
V.W.ram	12.5
O.d. Coil	20.0mm
A.d. Coil	18.50mm
No. 1	
1	10.00mm 316.9g
2	12.00mm 357.5g
3	14.00mm 400.1g
1~2 S.RATE	20.3g/mm
F.LENGTH	37.0mm
I.LONG	170.3g

Printing test results and totalized data with various registered information such as item number, name, company name, customer name, material information of spring etc.

【List-up Display of Test Results and Totalized Data.】

基準値	10.00	12.00	3
Set Point			
Std. value	311.2	354.3	396.5
Lim. upper	311.2	354.3	396.5
Lim. lower	311.0	354.1	396.3
集計結果			
φ	1.4695	0.3633	0.2966
σ	4.4096	1.0599	0.8899
cp	0.0453	0.1834	0.2247
cpk	0.0000	0.0000	0.0000
戻る	結果明細		

List up data such as number of passed, number of NG, maximum and minimum value, CP value etc. shall be displayed with automatic totalization.

JUST PRO DTG series

Equipped with displacement indication and a displacement control function

Digital Push Pull Force Gauge

wave diagram.

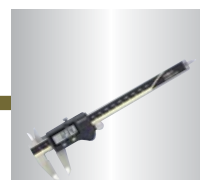


Push

Pull

Insertion
Removal

Contact
point



MITUTOYO
DIGIMATIC
Connection *1



LINEAR
GAUGE
Connection *2

Many functions!
Simple operation !



Serial printer Connection
DIGIMATIC printer Connection

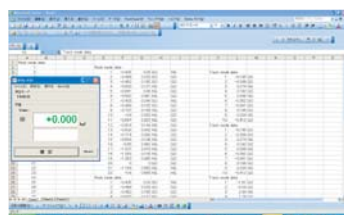


Personal computer
Connection



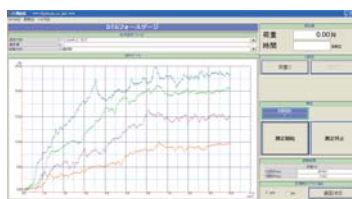
Test stand Connection

Free software FX-10

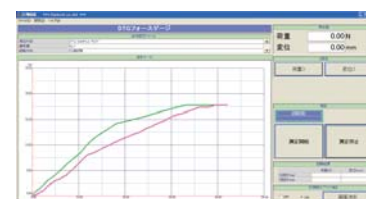


※Download free software from homepage

Optional software FX-100T FX-100



Time - Load



Displacement - Load

Standard accessories



List of DTG series

Model	DTG-1	DTG-2	DTG-5	DTG-10	DTG-20	DTG-50	DTG-100
Capacity	10N (1kgf)	20N (2kgf)	50N (5kgf)	100N (10kgf)	200N (20kgf)	500N (50kgf)	1000N (100kgf)
Resolution	0.001N (0.1gf)	0.01N (1gf)	0.01N (1gf)	0.01N (1gf)	0.1N (10gf)	0.1N (10gf)	0.1N (10gf)

DTG series specifications

Measuring shaft	M6
Measuring accuracy	±0.2% f.s
Measuring unit	N, kgf(gf), lb
Measuring cycle	1ms, 5ms, 16ms, 50ms (selectable)
Display renewal cycle	1, 2, 5, 10, 20times/sec (selectable)
Communication method	USB mini B
Memory	1000 data
External input	Mitutoyo digimatic input, pulse input. (displacement meter) point ON,OFF load detection input.
Printer output	Serial output,Mitutoyo digimatic output
Output for test stand	Load setting /displacement setting method UP,DOWN,STOP output,overload output(open collector output)
Analog output	±2V / f.s (load value only)
Tolerance judgment output	LOW · GOOD · HIGH LED lighting and output. (open collector output)
Display	H45mm×W50mm LCD. Load: 6digit, Displacement: 7digit. Battery remain quantity.
Dimension	H220mm×W74mm×D37mm
Weight	approx. 500g
Operationtemperature	0°C~40°C
Power source	Ni-MH battery. AC100V ~ 240V multi AC adapter
Standard accessory	6pcs jig. A multi AC adapter,USB cable,Carrying case. Operation manual,Test Certificate

* 1 DIGIMATIC and MITUTOYO are registered trademarks of Mitutoyo Corporation.

* 2 Some models may not connect to this device.

※Specifications are subject to change without notice.

Portable Torque Gauge

Model-DTR-20 / DTR-50 / DTR-100

Measures breaking torque of screw tightening/loosening.

Clockwise and anticlockwise measurements can be changed by replacing the tip of the jig.

± NG, OK decision function, it has all of the features of other digital gauge.

USB output cable and AC100V ~ 240V corresponding

multi AC Adapter come as standard accessories.

Capacity	※DTR-20 2000mNm(20kgfcm) ※DTR-50 5Nm(5kgfcm) ※DTR-100 10Nm(100kgfcm)
Resolution	1mNm(0.01kgfcm)
Measuring unit	N · m, kgf · cm
accuracy	±0.5% f.s
weight	approx. 700g (a sensor part is included)
Accessory	4pcs screw driver bits



External Connection Force Gauge

Model-DTW-05K / DTW-2K / DTW-200K

By connecting a variety of load cell to the instrument, it can be used as a portable type of force gauge.

OK, and it has all of the features of DTG force gauge, such as ± NG judgment contact output.

Measuring unit	N, kgf(gf), lb
Accuracy	±0.2% F.S
Measurement	Peak value, Contactpoint value
Weight	approx. 600g

Model	Capacity	Resolution
DTW-05K	5N	0.001N
DTW-2K	20N	0.01N
DTW-200K	2 k N	1N

※Various load capacity other than the above can also be produced.



Rod-type load cell connection Force Gauge

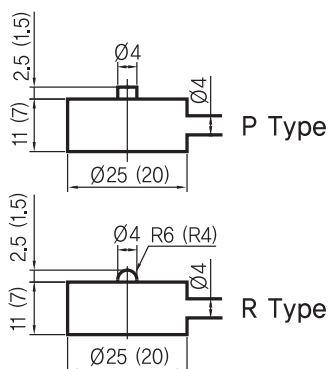
Model-DTW-20DML / DTW-100DML / DTW-200DML

Bendable between the grip and the tip of the load cell.

OK, and it has all of the features of DTG force gauge, such as ± NG judgment contact output.

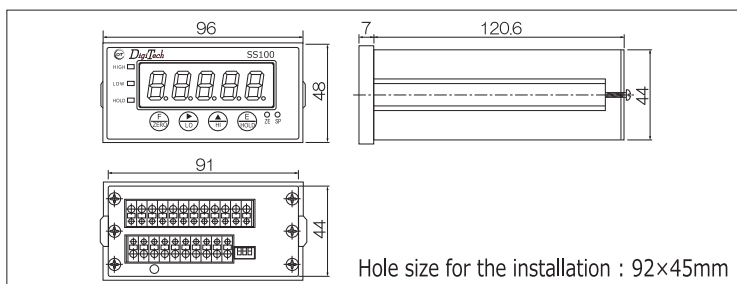
Measuring unit	N, kgf(gf), lb
Accuracy	±0.2% F.S
Measurement	Peak value, Contactpoint value
Weight	approx. 800g

Model	Capacity	Resolution
DTW-20DML	200N	0.1N
DTW-100DML	1 k N	0.1N
DTW-200DML	2 k N	1N



Digital Force Indicator

Model-SS100



It is a general-purpose digital load indicator for load cells. It can be connected to various types of load cells. Easily attached to any location using an installation hole.



* The force gauge and jig are not included

Load cell type	Strain gauge sensor (350Ω,120Ω)
Sensor applied voltage	DC 5V Load cell (350Ω) / DC10V Load cell (120Ω)
Input signal	1.0, 1.5, 2.0, 3.0mV/V (dip switch)
Display	-19999 ~ +99999
Measuring accuracy	±0.2% f . s
External output	LOW · GOOD · HIGH Comparator output (Open collector)
Weight	approx. 800 g
Dimension	W96mm×H48mm×D128mm
Power source	AC100 ~ AC240V

- External data hold function.
- Peak data hold function.
- Analog data output function.
- External zero reset function.
- High,Good,Low comparator output function.

Automatic Test Stand for DTG Force Gauge **Model-ASM-1000**

Motorized Test Stands

Wave data drawing software is included!

Manage various load displacement evaluation tests !

Desktop model automatic test stand for the DTG force gauge.

Using the PC software included you can test displacement (load and time), and display via wavegraph or save the result.

Specifications

Capacity	1000N (100kgf)
Length Resolution	0.01mm
Test Speed	0.1 ~ 500mm/min (Digital input)
Test Stroke	430mm
Test Function	Blue back light LCD AUTO / MANUAL Any change 0.01mm, 0.10mm, 1.00mm Inching move UP/DOWN/STOP of load value setting UP/DOWN/STOP of displacement value setting Automatically return it to the start position
External Connection	USB Connection (for PC) RS232C(for surmal dot printer) * PC and Printer is option
Transportation	Precise ball screw · servo motor
Safety device	Hard limit stop · Over load stop · Emergency switch
Table Size	W250xD130
Dimensions	W250xH565xD375
Weight	app.22kg
Power source	AC100V ~ 240V Multi

* Specifications are subject to change without prior notice
* Force gauge and jig are not included

Examples of suitable tests

- Compression
- Tensile
- Connector-insertion
- Broken

etc



Software Application DTG-FX300

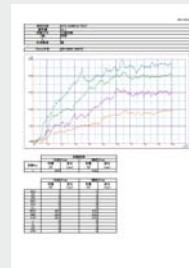


time - load

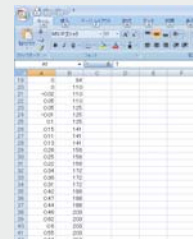


displacement - load

The test result output



Print out of Test result



Wave data fact sheet

High load type Automatic Test Stand **Model-AFS-2000**

Motorized Test Stands

Tensile and compression type electric stand capable of up to 2000N (200kg).

Using an external connection type Force gauge DTW series, you can connect the load cells directly to the instrument.

Utilizing various functions such as \pm NG judgment and overload stop as well as OK via LED/buzzer, the rise/fall/stop can be controlled.

Capacity	2000N(200kgf)
Length Resolution	0.01mm
Test speed	5 ~ 100mm/min
Test stroke	250mm
Mechanical operations	AUTO/MANUAL operation switching function Pass-fail judgment display function by buzzer sound and LED Rise and fall, stop, and repeated by the set load. Rise and fall, stop, and repeat by setting displacement..
Safety measure	Any set limit stop / over load stop / emergency stop SW
Table Dimensions	W250xD110
Dimensions	W250xH565xD375mm
Weight	approx. 45kg
Power source	AC100V ~ 240V



※Force gauge and JIG is optional

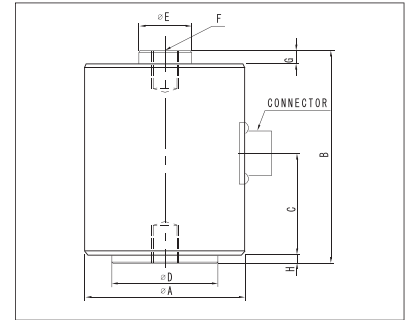
Model-DL series

TENSION&COMPRESSION LOAD CELLS

Tensile general-purpose type load cell for compression.

Until 1N ~ 20kN We offer a variety of types.

Versatile; you can use in a wide range of applications with excellent durability.



●Standard specification										Unit mm
Model	Capacity	ΦA	B	C	ΦD	ΦE	F	G	H	
DL-01	1000mN (100gf)	52	45	23	47	10.5	M4×0.7	7	1	
DL-02	2000mN (200gf)	52	45	23	47	10.5	M4×0.7	7	1	
DL-05	5000mN (500gf)	52	45	23	47	10.5	M4×0.7	7	1	
DL-1	10N (1kgf)	52	45	23	47	12	M6×1.0	7	1	
DL-2	20N (2kgf)	52	45	23	47	20	M10×1.5	5	3	
DL-5	50N (5kgf)	60	80	37	40	20	M10×1.5	5	3	
DL-10	100N (10kgf)	60	80	37	40	20	M10×1.5	5	3	
DL-20	200N (20kgf)	60	80	37	40	20	M10×1.5	5	3	
DL-50	500N (50kgf)	60	80	37	40	20	M10×1.5	5	3	
DL-100	1kN (100kgf)	60	80	37	40	20	M10×1.5	5	3	
DL-200	2kN (200kgf)	60	80	37	40	20	M10×1.5	5	3	
DL-500	5kN (500kgf)	60	80	37	40	20	M10×1.5	5	3	
DL-1000	10kN (1tf)	60	80	37	40	20	M12×1.5	5	3	
DL-2000	20kN (2tf)	88	110	51	80	36	M18×1.5	5	3	

●Standard specification

Capacity (R.C)

Rated output (R.O)

Non-linearity

Hysteresis

Repeatability

Zero balance

Promotion input voltage

The inter-terminal resistance

Insulation resistance

Insulation resistance

Allowable temperature range

Temperature effect, on rated output

Temperature effect, on zero balance

Safe overload

1N, 2N, 5N, 10N, 20N, 50N, 100N, 500N,
1kN, 2kN, 5kN, 10kN, 20kN (100gf ~ 2tf)

2mv/v ± 1% (100gf ~ 5gf = 1mv/v)

0.03% of R.O.

0.03% of R.O.

0.03% of R.O.

±2% of R.O.

10V (100gf ~ 5kgf = 5v)

350Ω ± 1%

2000MΩ

-10 ~ 50°C

-10 ~ 50°C

0.1% of LOAD/10°C

0.05% of R.O/10°C

120% R.C

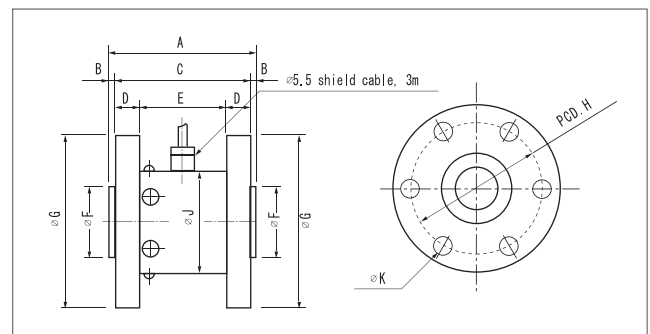
Model-TQC series

NON-ROTARY TORQUE SENSORS

Non-rotational torque meter.

0.2N-m ~ 20kN-m We offer a variety of types.

Used to fix one side in a non-rotational torque meter to measure the torsional torque and the like.



●Standard specification											Unit mm
Model	Capacity	A	B	C	D	E	ΦF	ΦG	H	J	ΦK
TQC-2KC	0.2N-m (2kgf-cm)	61	3	55	5	45	20	58	46	33	2×4-Φ4.5
TQC-3KC	0.3N-m (3kgf-cm)	61	3	55	5	45	20	58	46	33	2×4-Φ4.5
TQC-5KC	0.5N-m (5kgf-cm)	61	3	55	5	45	20	58	46	33	2×4-Φ4.5
TQC-10KC	1.0N-m (10kgf-cm)	61	3	55	10	35	40	80	66	48	2×4-Φ6.5
TQC-20KC	2.0N-m (20kgf-cm)	61	3	55	10	35	40	80	66	48	2×4-Φ6.5
TQC-30KC	3.0N-m (30kgf-cm)	61	3	55	10	35	40	80	66	48	2×4-Φ6.5
TQC-50KC	5.0N-m (50kgf-cm)	61	3	55	10	35	40	80	66	48	2×4-Φ6.5
TQC-1K	10N-m (100kgf-cm)	61	3	55	10	35	40	80	66	48	2×4-Φ6.5
TQC-2K	20N-m (200kgf-cm)	61	3	55	10	35	40	80	66	48	2×4-Φ6.5
TQC-3K	30N-m (300kgf-cm)	61	3	55	10	35	40	80	66	48	2×4-Φ6.5
TQC-5K	50N-m (500kgf-cm)	61	3	55	10	35	40	80	66	48	2×4-Φ6.5
TQC-10K	100N-m (1000kgf-cm)	61	3	55	10	35	40	80	66	48	2×4-Φ6.5
TQC-20K	200N-m (2000kgf-cm)	86	3	80	15	50	40	98	78	58	2×6-Φ10.5
TQC-50K	500N-m (5000kgf-cm)	130	3	124	20	84	60	118	95	68	2×6-Φ10.5
TQC-100K	1kN-m (10Tonf-cm)	136	3	130	20	90	60	146	115	75	2×6-Φ13
TQC-200K	2kN-m (20Tonf-cm)	146	3	140	25	90	60	166	130	99	2×8-Φ17
TQC-500K	5kN-m (50Tonf-cm)	176	3	170	35	100	60	197	155	98	2×12-Φ17
TQC-1000K	10kN-m (100Tonf-cm)	180	3	174	37	100	90	248	180	110	2×12-Φ21
TQC-2000K	20kN-m (200Tonf-cm)	180	3	174	37	100	90	248	180	110	2×12-Φ21

●Standard specification

Capacity (R.C)

Rated output (R.O)

Non-linearity

Hysteresis

Repeatability

Promotion input voltage

The inter-terminal resistance

Insulation resistance

Allowable temperature range

Temperature compensation range

Temperature effect, on rated output

Temperature effect, on zero balance

Safe overload

The length of the cable

0.2N-m ~ 20kN-m

(0.02kgf-mgf ~ 2000kgf-m)

1mv/v ± 1%

0.3% (0.1kgf-m under 0.5% R.O)

0.3% (0.1kgf-m under 0.5% R.O)

0.02% of R.O.

10V

350Ω ± 1%

2000MΩ

-10 ~ 50°C

-10 ~ 50°C

0.1% of LOAD/10°C

0.05% of R.O/10°C

120% R.C

Φ5±0.5, 4core, 3m

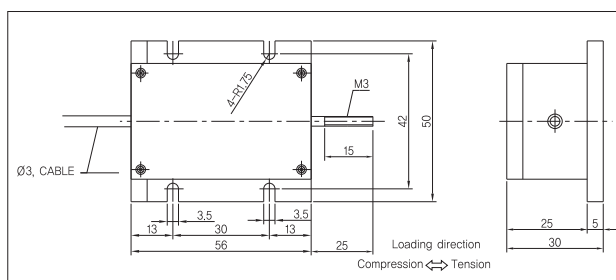
Model-UL series

UNIVERSAL BENDING BEAM LOAD CELLS

It is for micro load for tension and compression load cell.

We have 2 types which are 5N and 20N. They are suitable for measuring a very small load.

Versatile; you can use for a wide range of applications with excellent durability.



●Standard specification

Model	UL-05	UL-2
Capacity (RC)	5N (500gf)	20N (2kgf)
Safe overload	150% RC	
Rated output (R.O)	1.2 ~ 1.5mv/v	
Non-linearity	0.2% R.O.	
Hysteresis	0.2% R.O.	
Repeatability	0.2% R.O.	
Promotion input voltage	5V	
Zero balance	±0.2mv/v	
Input resistance	350 ohm ±40 ohm	
Output resistance	350 ohm ±40 ohm	
Insulation resistance	1000M-ohm or more (DC 50V)	
Allowable temperature range	0 ~ 50°C	
Temperature compensation range	-10 ~ 60°C	
Impact of output due to the temperature	0.5% R.O./10°C	
Influence of zero point due to temperature	0.5% LOAD/10°C	
The length of the cable	Φ3.4core shield cable, 2m	

Other Load cells



Small compression-only load cell

DM series Φ51~88
DMM series Φ21~26
DMC series Φ16~20

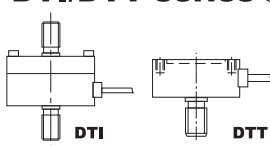
Compression-only general-purpose type load cell. Smaller, lighter, and excellent durability. We offer a variety of types of 500N ~ 100kN.

●Standard specification (DM)					
Model	capacity	Φ	Model	capacity	Φ
DM-50K	500N (50kgf)	51	DM-1T	10 kN (1tf)	51
DM-100K	1kN (100kgf)	51	DM-2T	20 kN (2tf)	51
DM-200K	2kN (200kgf)	51	DM-5T	50 kN (5tf)	88
DM-500K	50kN (500kgf)	51	DM-10T	100kN (10tf)	88



Small tension and compression load cell

DTI/DTT series Φ23~27



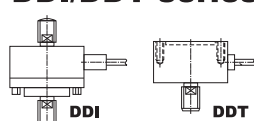
This is a tensile load cell for general purposes. It is very light and has excellent durability. We offer a variety of types between 500N ~ 20kN.

●Standard specification					
Model	capacity	Φ	Model	capacity	Φ
DTI-1K	10N (1kgf)	23	DTT-1K	10N (1kgf)	23
DTI-2K	20N (2kgf)	23	DTT-2K	20N (2kgf)	23
DTI-5K	50N (5kgf)	23	DTT-5K	50N (5kgf)	23
DTI-10K	100N (10kgf)	27	DTT-10K	100N (10kgf)	27
DTI-20K	200N (20kgf)	27	DTT-20K	200N (20kgf)	27
DTI-50K	500N (50kgf)	27	DTT-50K	500N (50kgf)	27
DTI-100K	1kN (100kgf)	27	DTT-100K	1kN (100kgf)	27
DTI-200K	2kN (200kgf)	27	DTT-200K	2kN (200kgf)	27



Small tension and compression load cell

DDI/DDT series Φ51



This is a tensile load cell for general purposes. It is very light and has excellent durability. We offer a variety of types between 10N ~ 2kN.

●Standard specification					
Model	capacity	Φ	Model	capacity	Φ
DDI-50K	500N (50kgf)	51	DDT-50K	500N (50kgf)	51
DDI-100K	1kN (100kgf)	51	DDT-100K	1kN (100kgf)	51
DDI-200K	2kN (200kgf)	51	DDT-200K	2kN (200kgf)	51
DDI-500K	5kN (500kgf)	51	DDT-500K	5kN (500kgf)	51
DDI-1T	10kN (1tf)	51	DDT-1T	10kN (1tf)	51
DDI-2T	20kN (2tf)	51	DDT-2T	20kN (2tf)	51



Compression-only load cell

DCH series

This is a compression-only high load cell. We offer a variety of types between 5kN to 5000kN.

●Standard specification					
Model	capacity	Φ	Model	capacity	Φ
DCH-0.5T	5kN (500kgf)	40	DCH-20T	200kN (20tf)	96
DCH-1T	10kN (1tf)	62	DCH-50T	500kN (50tf)	130
DCH-2T	20kN (2tf)	62	DCH-100T	1000kN (100tf)	158
DCH-3T	30kN (3tf)	62	DCH-200T	2000kN (200tf)	240
DCH-5T	50kN (5tf)	62	DCH-300T	3000kN (300tf)	240
DCH-10T	100kN (10tf)	62	DCH-500T	5000kN (500tf)	265



Compression-only load cell

UCL series

This is a compression-only high load cell. We offer a variety of types between 60kN to 500kN.

●Standard specification					
Model	capacity	Φ	Model	capacity	Φ
UCL-T6	60kN (6tf)	174	UCL-T20	200kN (20tf)	180
UCL-T8	80kN (8tf)	174	UCL-T27	270kN (27tf)	275
UCL-T12	120kN (12tf)	180	UCL-T34	340kN (34tf)	275
UCL-T15	150kN (15tf)	180	UCL-T50	500kN (50tf)	275



Tension and compression load cell for high load load cell

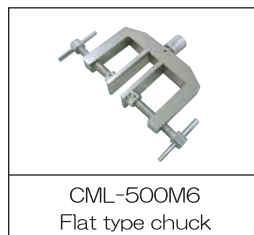
UTL series

Compression/tension high load cell. We offer a variety of types between 5kN to 2kN.

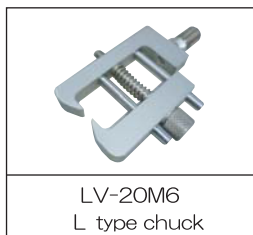
●Standard specification					
Model	capacity	Φ	Model	capacity	Φ
UTL-0.5	5kN (500kgf)	88	UTL-10	100kN (10tf)	180
UTL-1	10kN (1tf)	118	UTL-20	200kN (20tf)	180
UTL-2	20kN (2tf)	118	UTL-50	500kN (50tf)	180
UTL-5	50kN (5tf)	118			

Optional attachments

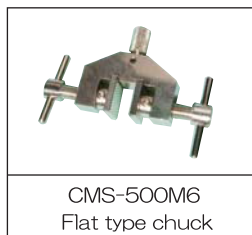
It can be attached to the gauge and the stand of our products.
Please contact us for other equipment and details like.



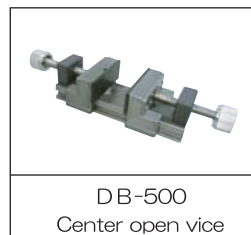
CML-500M6
Flat type chuck
Max. load 500 N
Mounting screws M6 Female
Max. opening width 50mm



LV-20M6
L type chuck
Max. load 20 N
Mounting screws M6 Female
Max. opening width 15mm



CMS-500M6
Flat type chuck
Max. load 500 N
Mounting screws M6 Female
Max. opening width 10mm



DB-500
Center open vice
Max. load 500 N
Max. opening width 65mm



RCK-200M6
Cylinder chuck
Max. load 200 N
Mounting screws M6 Female
Max. opening Diameter $\phi 4$



FV-50M6
Pin chuck
Max. load 50 N
Mounting screws M6 Female
Max. opening width 1.5mm



SXY-50
X-Y Table
Max. load 500 N
Moving distance X = 30mm
Y = 30mm



LXY-110
X-Y Table
Max. load 500 N
Moving distance X = 75mm
Y = 75mm

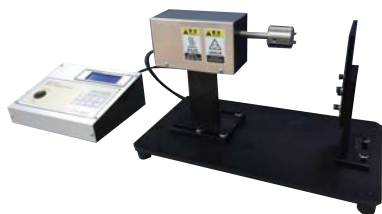


SPL-20-100
90 degree peel jig
Max. load 20 N
Mounting screws M5×4
Moving distance 100mm



MGL-500-150
3-point bending jig
Max. load 500 N
Max. opening width 150mm

Other main products



Tabletop torsion
endurance testing machine



Temperature expansion
coefficient evaluation
for load application device



Torque durability
testing machine

After-sale service

Regarding traceability and repair, proofreading, official approval, making of documents
please refer either to us or the following agency.

- For improvement purposes, the rating or design of the product may change without prior notice.
- All products are sold without stands unless otherwise specified.
(All the gauge and the jigs attached to the stands of the catalogue photograph are images)
- The true color of the product may differ slightly due to reprinting.

Sales agent



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