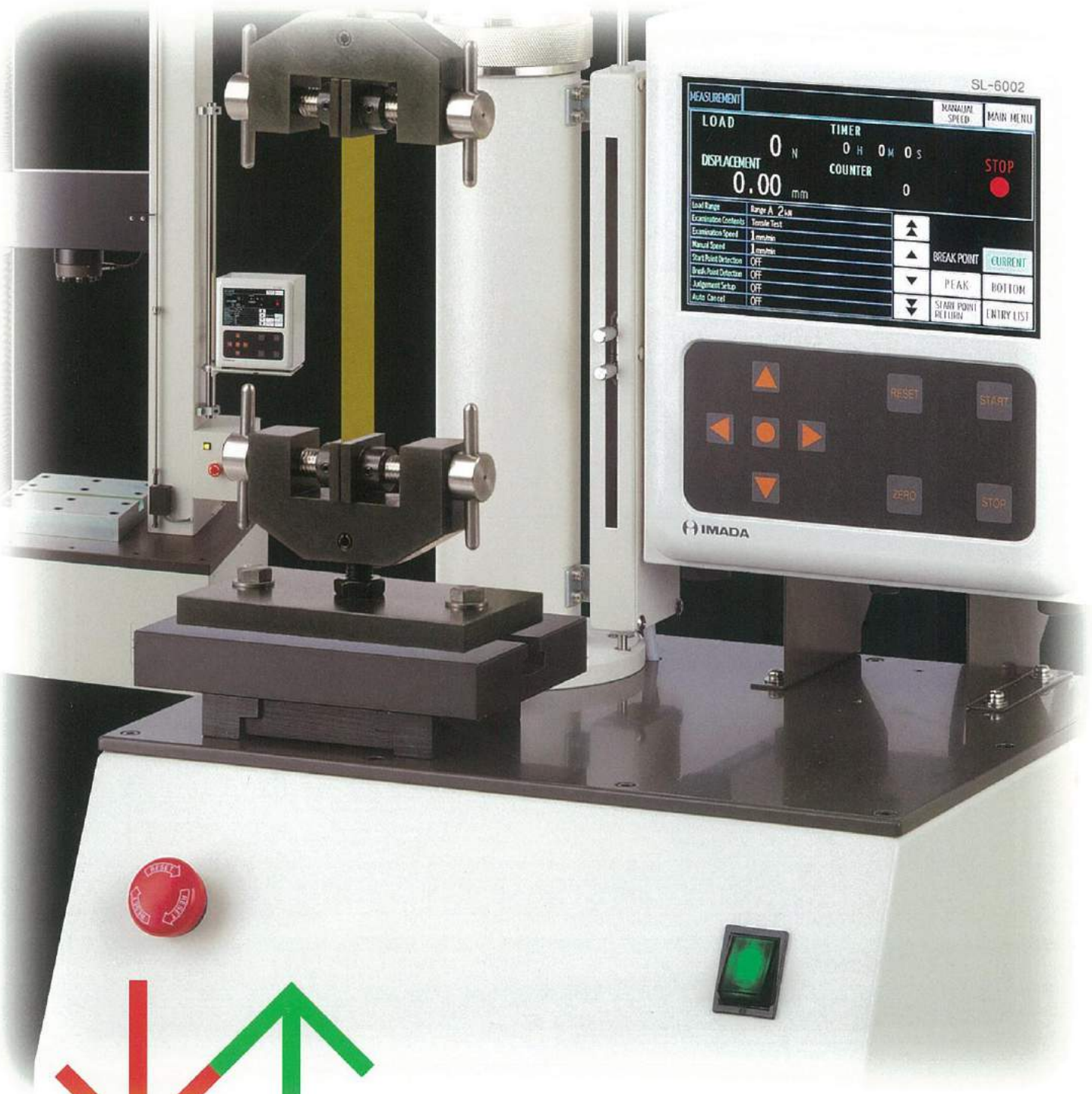
IMADA SEISAKUSHO



IMADA-SS UNIVERSAL TESTING MACHINE

IMADA-SS Universal Testing Machine enables you to measure and evaluate the strength of the various materials, such as metal, rubber, plastic, ceramic and the other products in many fields.
This Universal Testing Machine also enables you to perform the strength testings of "Tensile", "Compression", "Bending", "Peeling" and other variation of the test.

The criteria to select an optimized model and jig of the IMADA-SS products are as follows.
More detail is given, then more appropriate suggestion can be possible.

1. What kind of sample would you like to test? And how should it be tested?
2. How much will be the maximum measurement load?
3. How much is the minimum measurement load?
4. At which speed will the sample be tested?
5. How should the result of the test be output?
6. Under which condition or at which place is the machine to be used?
7. Are there any special requirements?

We have been engaged in manufacturing of the load testing equipment for many years.
Not only the testing equipment listed in this catalogue, we can offer you also a custom-made machine in accordance with your special requirements. Please feel free to contact us, we would provide you with an optimized solution.

The catalogue content of the following sections / Index

1. Models

The IMADA-SS Universal testing machine has various types. Each type is characteristic.

Model SV/SVZ

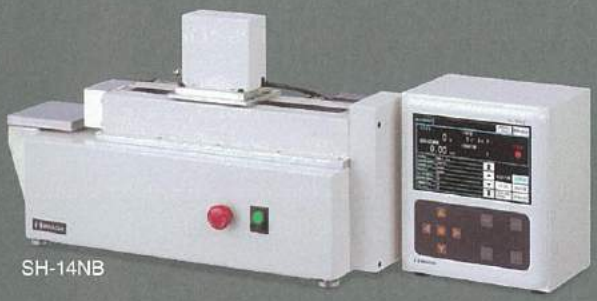
Loadcell is attached to the one column up / down axis.
This machine has the following features.

① Good Workability. Since this has one axis, there's enough working space in sideways and front of the machine.
② Easy positioning of the loadcell enables the testing of long-length samples.
③ Good Portability. This SV-type machine is designed to be used on the table and it's very compact.
④ Easy Operation.

Maximum load of this type can be chosen from 2N (0.2kgf) to 2kN (200kgf). This variation makes this Universal Testing Machine possible to measure a very little load such as semi-conductor testing parts, and up to mid-range strength such as machine parts.

Model SH

Horizontal type testing machine. It is suitable for the horizontal direction testing, such as measuring of the peeling, or friction strength of the microchips.


SH-14NB

Model SDT

Loadcell moves up and down in parallel with the vertical frame. It is suitable for the testing which requires long stroke such as rubber, tape, and other long and lean materials.


SDT-503NB

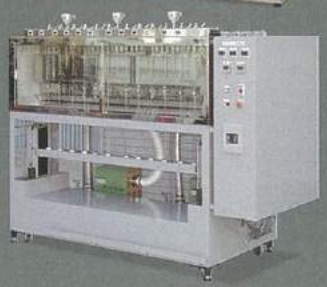
Model SDWS/SDW

Feeding screw on both sides of the gate-type frame moves the crosshead up and down. This Universal Testing Machine is used when relatively large maximum loads and long stroke are needed. SDWS is a desktop type, and SDW is to be installed on the stable floor.


SDWS-0513

Model Special type

We design the special-type Testing Machine and Torque Testing machine in such fields as Electronic, Electron, Automobile, Ceramic, and Food. Please contact us and tell us your special needs.



2. The summary of the function

Many options to expand the function of IMADA-are models cannot adopt these functions. In

Standard function

(1) Load ※ SV-55C type does not have the range changing function.

Load value is measured by loadcell. Measuring range is usually 20% to 100% of the maximum load. If the load to be measured is less than 20% of the maximum load, lower measuring range should be added on for a precise measurement. Imada Testing Machines are manufactured in accord with JIS 1st class precision of the load. JIS is an abbreviation of "Japan Industrial Standard".

(2) Displacement ※ SV-55C type can measure only the load. / V-55C type does not have this function.

It is required to measure the load-displacement relation such as longitudinal elastic modulus of the material or the character of the spring. Testing machine can measure the displacement. Value of displacement is displayed by measuring the amount of the displacement. However, there is a little differences between the actual amount of the displacement of the jig attached to the loadcell and the amount of the displacement of the testing machine. This is the function of an automatic compensation according to the amount of the load.

(3) Speed ※ SV-55C type has a volume changeable system.

On the load measuring test, the speed of the machine has a great effect on its results. JIS or other standardized testing method specifies the testing speed for each test. By inputting the numerical value, the operation can be easily performed at the indicated speed.

(4) Cycle movement function ※ SV-55C type does not have this function.

With this function, the machine will operate repeatedly under a particular condition until reaching the number of times set in. The setting of the upper lower limit is possible for both load and displacement. There is also a function to stop the machine at a certain time preset. For universal testing machines, it is common to use this repetition function at around 1,000 times, comparatively a little number of times of repeat. Should a repetition test at a level of tens of thousands of times be required, please employ a durable testing machine suitable for it.

(5) Break point detect function ※ SV-55C type does not have this function.

This is the function which automatically stops or reverses the testing machine when the force reaches to the point of breakage on test pieces. With this function the value of the displacement at time of the breakage can be hold as well.

(6) Start point detect function ※SV-55C type does not have this function.

By a slight contact, this function set the value of displacement automatically at "zero".
This function can be used for measuring the value of displacement from the point of contact.

(7) Self-adjustment function of an examination start / the end ※ SV-55C type does not have this function.

"An automatic cancellation function" is to start a test after removing the load of chuck itself which happens by grabbing the test piece for a pulling test. "The automatic feed function" makes the machine run faster by compression or bending test during no-load unit the upper-side jig contacts the test piece. There is also the function that automatically returns to the original/starting position at the end of the test.

(8) Judgment function ※ SV-55C type does not have this function.

Using this function, a specific range for load or displacement can be set, which judgment whether the point of "Peak/Bottom" or "Break" is within the set range.

(9) Language switch ※ SV-55C type does not have this function.

It is possible to select the language, Japanese or English on the LCD screen display.

(10) Outside output ※ Please confirm conformity of the software concerned.

As for all models except SV-55 type, a connection to a PC by USB is possible.

SS Testing Machines are available. Some models equip the following functions as standard. Please be aware that there addition, "Accessories (P14-P15)", "Attachment (P16-P23)", and "Software (P28-P31)" are also available as an option.

Additional function / Option

(1) Long length specification

By using a longer shaft for SV/SVZ-50-type testing machine, longer test piece can be tested. We have prepared the several length options as below (cut away). Extra long length shaft can be manufactured as a special specification. (standard + 150mm)

(2) Adding extra load range ※ SV-55C type does not have this function.

If a wide range of load from small to big capacity shall be tested with one testing machine, please select the models which can equip the multiple load range. In case the load to be measured will be smaller than the range which is set for a model as standard, by exchanging the loadcell, up to 8 ranges cam be additionally built-in. Depending on the models, the number of the ranges which can be additionally built-in is different. Please check it with us.

(3) Keep load to function ※ SV-55C type does not have this function.

On stopping the machine applying a certain load, the value of the load decreases gradually. This occurs because of the creeps of the loadcell and test piece. To keep the specific load, it is necessary to set back the amount which was lost by creep. It is function that this controls it to enter the set range, and can drive.

(4) Load speed follow function ※ SV-55C type does not have this function.

The load speed means the transformation of the load per time. Due to the stiffness change on the test piece, the load speed cannot be always maintained even if the testing machine is being operated at a constant speed. In order to prevent this, the load speed should be always calculated and in accordance with it the speed of the testing machine should be automatically adjusted. This is the function to control this.

(5) Function of switch feeling examination (F-S test)

This is an optional function exclusively used for the feeling tests of switches. Each peak and bottom value of the hysteresis can be measured with a specially programmed setting item. Repetition test can be performed as well by setting the number of times required.

※ SV-55C type does not have this function. And, as for this function, pc software (ISP-V) is necessary.

(6) Program operation function

This is the function measure the operation with several step in connection, for every steps specified value for load or displacement can be set. Up to 99 steps are possible to be preset.

※ SV-55C type does not have this function. And, as for this function, pc software (ISP-V) is necessary.

(7) Outside output option

An output terminal can be installed at an option. The analog terminal outputs load and the displacement at 10V/FS each. There is the output terminal for a printer as well.

※ The analog terminal is equipped with by default by SV-55C type.

MEMO

The speed of the testing machine is to be decided by the related standards. Below are some examples of testing speed for typical materials as reference.

① Tensile test of Metal material ——— 5～10mm/min
② Tensile test of Plastic material ——— 2～500mm/min
③ Bending of Ceramic material ——— 0.1～1mm/min
④ Pulling of Rubber material ——— 100～500mm/min
⑤ Peeling testing ——— 300mm/min

SV-55C

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

※ The jigs displayed above are option.

Characteristics

○It is the economical testing machine in the digital testing machine of our company. It is compact and can be used easily.

○The loadcell is available from 20N～500N. Please choose it to the examination condition.

※ The proofreading can be done in the compression side if requested.
※ This model dose not have the Overload protection function. Please choose model SVZ-50NB in case there is the supposition more than the rated load.

Usage example

○Peeling examinations of the adhesion and the heat seal.

○Tensile tests of solderless terminal.

○Various kinds of examination such as foods or medical supplies.

Options

○Long Axis / Test machine with 150mm longer axis than the standard can be offered upon request.

○Long stroke / Stroke up to 250mm.

○Special speed / A customized speed can be also arranged.

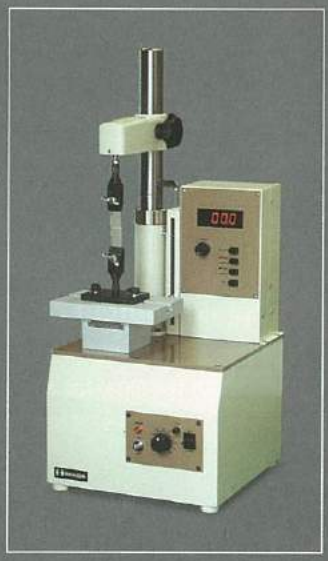
Standard specifications

Model (※1)	SV-55C-□M	SV-55C-□H
Maximum Load	500N	
Load Display / Minimum Unit	[The specifications of Load Range] Reference	
Load Precision	JIS 1class (Indication value ±1%range)	
Displacement Minimum Unit	–	
Drive type	AC Motor	
Speed Range	10～100mm/min	30～300mm/min
Stroke	130mm	
Sample Mounting Span	115～239mm	
Distance of Sample to Column	85mm	
Table Size	100×155mm (With T-groove)	
Safety Device	Optional setting Upper and Lower Limit	
Convenient Function	Peak Hold function Forwarding function	
Output	ANALOG OUTPUT 10V/FS	
Power supply	AC100V 3A	
Weight	Approx 18kg	
Size (※2)	W250×D250×H577mm (P32 reference)	

(※1) The model symbol is put in □. Refer to [The specifications of Load Range].
(※2) The listed "Height" is measured with the UP/DOWN axis at the lower limit.

ex.: Peeling test of Heat seal

SV-55C features very easy operation at a very reasonable price. This machine is used for Heat-seal evaluation test based on JIS Z 0238 by many users. The test piece for this test has a width of 15mm, and GC-2-2 (max. width of 20mm) attachment can be used. SV-55C-20H (Maximum load of 200N, speed of 300mm/min) is mostly selected for this purpose.



Specifications of Load Range

Type	Range Model	Load Range	Maximum Load Display	Minimum Unit
C	**50**	500N	500N	1N
	20	200N	199.9N	0.1N
	2	20N	19.99N	0.01N

SVZ-50NB

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

Characteristics

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

Usage example

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

Options

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

Standard specifications

Model	SVZ-50NB-□(※1)		
Maximum Load	500N	Convenient Function	Memory function of the examination conditions
Load Display	[The specifications of Load Range] Reference		Peak/Bottom Hold function
Minimum Unit	[The combination of Load Range according to the model]		Cycle mode function
Load Precision	JIS 1 class (Indication value ±1% range)		Detect function of Break Point
Displacement Minimum Unit	0.01mm		Detect function of Start Point
Drive type	Brush less DC Motor		Auto Cancel/Auto Feed function
Speed Range	10~300mm/min		Auto Start Point Return function
Stroke	130mm		Judgment function
Sample Mounting Span	110~240mm		
Distance of Sample to Column	85mm	Output(※2)	USB
Table Size	100×155mm (With T-groove)	Power supply	AC100V 3A
Safety Device	Optional setting Upper and Lower Limit	Weight	Approx 22kg
	Over-load Prevention function	Size(※3)	W300×D357×H566mm (P32 reference)

(※1) The model symbol is put in □. Refer to [The combination of Load Range according to the model]. (※2) Analog output and Printer output can be installed with option.
(※3) The listed "Height" is measured with the UP/DOWN axis at the lower limit.

Specifications of Load Range

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

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

Combination of Load Range according to the model

Model	Usable Range	Setting Load Range							
		500N	200N	100N	50N	20N	10N	5N	2N
SVZ-50NB-50R1	100N ~ 500N	●	–	–	–	–	–	–	–
SVZ-50NB-50R2	20N ~ 500N	●	–	●	–	–	–	–	–
SVZ-50NB-50R3	4N ~ 500N	●	–	●	–	●	–	–	–
SVZ-50NB-20R1	40N ~ 200N	–	●	–	–	–	–	–	–
SVZ-50NB-20R2	10N ~ 200N	–	●	–	●	–	–	–	–
SVZ-50NB-20R3	2N ~ 200N	–	●	–	●	–	●	–	–
SVZ-50NB-5R1	10N ~ 50N	–	–	–	●	–	–	–	–
SVZ-50NB-5R2	2N ~ 50N	–	–	–	●	–	●	–	–
SVZ-50NB-5R3	0.4N ~ 50N	–	–	–	●	–	●	–	●
SVZ-50NB-2R1	4N ~ 20N	–	–	–	–	●	–	–	–
SVZ-50NB-2R2	1N ~ 20N	–	–	–	–	●	–	●	–

SVZ-200NB

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

Characteristics

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

Usage example

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

Options

○Output of ANALOG/PRINTER

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

○Special speed construction

Standard specifications

Model	SVZ-200NB-□(※1)		
Maximum Load	2kN	Convenient Function	Memory function of the examination conditions
Load Display	[The specifications of Load Range] Reference		Peak/Bottom Hold function
Minimum Unit	[The combination of Load Range according to the model]		Cycle mode function
Load Precision	JIS 1 class (Indication value ±1% range)		Detect function of Break Point
Displacement Minimum Unit	0.01mm		Detect function of Start Point
Drive type	Brush less DC Motor		Auto Cancel/Auto Feed function
Speed Range	5~500mm/min		Auto Start Point Return function
Stroke	130mm		Judgment function
Sample Mounting Span	197~295mm		
Distance of Sample to Column	100mm	Output(※2)	USB
Table Size	100×150mm (With T-groove)	Power supply	AC100V 5A
Safety Device	Optional setting Upper and Lower Limit	Weight	Approx 35kg
	Over-load Prevention function	Size(※3)	W338×D357×H642mm (P32 reference)

(※1) The model symbol is put in □. Refer to [The combination of Load Range according to the model]. (※2) Analog output and Printer output can be installed with option.
(※3) The listed "Height" is measured with the UP/DOWN axis at the lower limit.

Specifications of Load Range

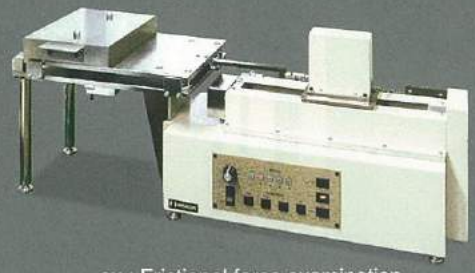
Load Range	Maximum Load Display	Minimum Unit
2kN	2000N	1N
1kN	1000.0N	0.1N
500N	500.0N	
200N	200.0N	
100N	100.00N	0.01N
50N	50.00N	
20N	20.00N	

※ The usable range is recommended at 20~100% of each setting Load Range.
※ It is possible as an option to add Load Range other than the above listed.

Combination of Load Range according to the model

Model	Usable Range	Setting Load Range						
		2kN	1kN	500N	200N	100N	50N	20N
SVZ-200NB-200R1	400N ~ 2kN	●	–	–	–	–	–	–
SVZ-200NB-200R2	100N ~ 2kN	●	–	●	–	–	–	–
SVZ-200NB-200R3	20N ~ 2kN	●	–	●	–	●	–	–
SVZ-200NB-100R1	200N ~ 1kN	–	●	–	–	–	–	–
SVZ-200NB-100R2	40N ~ 1kN	–	●	–	●	–	–	–
SVZ-200NB-100R3	10N ~ 1kN	–	●	–	●	–	●	–
SVZ-200NB-50R1	100N ~ 500N	–	–	●	–	–	–	–
SVZ-200NB-50R2	20N ~ 500N	–	–	●	–	●	–	–
SVZ-200NB-50R3	4N ~ 500N	–	–	●	–	●	–	●

SH-14NB



ex.: Frictional force examination

SH-14NB type is the horizontal and desktop type testing machine, which allows measuring up to 500N maximum load. The measuring of the load will be done by the loadcell and the displacement by the encoder, This type of testing machines is suitable, when the test pieces can be set down only in horizontal or the operation in the horizontal way is easier. As for the measurement accuracy, vertical types are superior to horizontal one, since for the horizontal type the jigs are placed at the right angle direction to gravity.

Characteristics

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

Usage example

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

Options

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

Standard specifications

Model	SH-14NB-□(※1)		
Maximum Load	500N	Convenient Function	Memory function of the examination conditions
Load Display	[The specifications of Load Range] Reference		Peak/Bottom Hold function
Minimum Unit	[The combination of Load Range according to the model]		Cycle mode function
Load Precision	JIS 1 class (Indication value ±1% range)		Detect function of Break Point
Displacement Minimum Unit	0.01mm		Detect function of Start Point
Drive type	Brush less DC Motor		Auto Cancel/Auto Feed function
Speed Range	5~500mm/min		Auto Start Point Return function
Stroke	200mm (Condition without the Attachments)		Judgment function
Table Size	100×100mm	Output(※2)	USB
Safety Device	Optional setting Upper and Lower Limit Over-load Prevention function	Power supply	AC100V 5A
		Weight	Approx 24kg
		Size	W535×D180×H305mm (P32 reference)

(※1) The model symbol is put in □. Refer to [The combination of Load Range according to the model]. (※2) Analog output and Printer output can be installed with option.

Specifications of Load Range

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

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

Combination of Load Range according to the model

Model	Usable Range	Setting Load Range							
		500N	200N	100N	50N	20N	10N	5N	2N
SH-14NB-50R1	100N ~ 500N	●	–	–	–	–	–	–	–
SH-14NB-50R2	20N ~ 500N	●	–	●	–	–	–	–	–
SH-14NB-50R3	4N ~ 500N	●	–	●	–	●	–	–	–
SH-14NB-20R1	40N ~ 200N	–	●	–	–	–	–	–	–
SH-14NB-20R2	10N ~ 200N	–	●	–	●	–	–	–	–
SH-14NB-20R3	2N ~ 200N	–	●	–	●	–	●	–	–
SH-14NB-5R1	10N ~ 50N	–	–	–	●	–	–	–	–
SH-14NB-5R2	2N ~ 50N	–	–	–	●	–	●	–	–
SH-14NB-5R3	0.4N ~ 50N	–	–	–	●	–	●	–	●
SH-14NB-2R1	4N ~ 20N	–	–	–	–	●	–	–	–
SH-14NB-2R2	1N ~ 20N	–	–	–	–	●	–	●	–

SDT-203NB

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

Characteristics

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

Usage example

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

Options

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

Stroke 400mm type

Standard specifications

Model	SDT-203NB-□ (※1)		
Maximum Load	2kN	Convenient Function	Memory function of the examination conditions
Load Display	[The specifications of Load Range] Reference		Peak/Bottom Hold function
Minimum Unit	[The combination of Load Range according to the model]		Cycle mode function
Load Precision	JIS 1 class (Indication value ±1% range)		Detect function of Break Point
Displacement Minimum Unit	0.01mm		Detect function of Start Point
Drive type	Brush less DC Motor		Auto Cancel/Auto Feed function
Speed Range	5~500mm/min		Auto Start Point Return function
Distance from a Table to a Load-cell	Max. 647mm (An effective stroke is decided by selection of an attachment)		Judgment function
Distance of Sample to Column	80mm	Output (※2)	USB
Table Size	100×150mm (With T-groove)	Power supply	AC100V 5A
Safety Device	Optional setting Upper and Lower Limit	Weight	Approx 47kg
	Over-load Prevention function	Size	W376×D320×H1097mm (P32 reference)

(※1) The model symbol is put in □. Refer to [The combination of Load Range according to the model]. (※2) Analog output and Printer output can be installed with option.

Specifications of Load Range

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

※ The usable range is recommended at 20~100% of each setting Load Range.
※ It is possible as an option to add Load Range other than the above listed.

Combination of Load Range according to the model

Model	Usable Range	Setting Load Range						
		2kN	1kN	500N	200N	100N	50N	20N
SDT-203NB-200R1	400N ~ 2kN	●	–	–	–	–	–	–
SDT-203NB-200R2	100N ~ 2kN	●	–	●	–	–	–	–
SDT-203NB-200R3	20N ~ 2kN	●	–	●	–	●	–	–
SDT-203NB-100R1	200N ~ 1kN	–	●	–	–	–	–	–
SDT-203NB-100R2	40N ~ 1kN	–	●	–	●	–	–	–
SDT-203NB-100R3	10N ~ 1kN	–	●	–	●	–	●	–
SDT-203NB-50R1	100N ~ 500N	–	–	●	–	–	–	–
SDT-203NB-50R2	20N ~ 500N	–	–	●	–	●	–	–
SDT-203NB-50R3	4N ~ 500N	–	–	●	–	●	–	●

SDT-503NB

SDT-503NB type is tension and compression testing machine with the electric drive.
Various examinations to maximum load 5kN are possible. It has the maximum load capacity as a desk model with single column.

Characteristics

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

Usage example

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

Options

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

Standard specifications

Model	SDT-503NB-□(※1)		
Maximum Load	5kN	Convenient Function	Memory function of the examination conditions
Load Display	[The specifications of Load Range] Reference		Peak/Bottom Hold function
Minimum Unit	[The combination of Load Range according to the model]		Cycle mode function
Load Precision	JIS 1 class (Indication value ±1% range)		Detect function of Break Point
Displacement Minimum Unit	0.01mm		Detect function of Start Point
Drive type	AC Servo Motor		Auto Cancel/Auto Feed function
Speed Range	0.1～500mm/min		Auto Start Point Return function
Distance from a Table to a Load-cell	Max. 680mm (An effective stroke is decided by selection of an attachment)		Judgment function
Distance of Sample to Column	95mm	Output(※2)	USB
Table Size	100×150mm (With T-groove)	Power supply	AC100V 7A
Safety Device	Optional setting Upper and Lower Limit	Weight	Approx 81kg
	Over-load Prevention function	Size	W527×D460×H1152mm (P32 reference)

(※1) The model symbol is put in □. Refer to [The combination of Load Range according to the model]. (※2) Analog output and Printer output can be installed with option.

Specifications of Load Range

Load Range	Maximum Load Display	Minimum Unit
5kN	5000N	1N
1kN	1000.0N	0.1N
200N	200.0N	

※ The usable range is recommended at 20～100% of each setting Load Range.
※ It is possible as an option to add Load Range other than the above listed.

Combination of Load Range according to the model

Model	Usable Range	Setting Load Range		
		5kN	1kN	200N
SDT-503NB-R1	400N ～ 5kN	●	–	–
SDT-503NB-R2	200N ～ 5kN	●	●	–
SDT-503NB-R3	40N ～ 5kN	●	●	●

SDWS

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

Characteristics

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

Usage example

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

Options / Special specifications

○Broad type with wider width.
○Longer / Shorter stroke type.
○Offered with homoiothermal housing/case for environmental testings.
○Additional load ranges.
○Displacement resolution of 1 μm.
○Output to ANALOG/PRINTER
This option becomes is necessary for the connection to Analog recorder or printer.


Longer Stroke Structure


Constant Temperature Chamber finished


With Protection Cover

Standard specifications

Model (※1)	SDWS-0213-□	SDWS-0513-□	SDWS-1013-□	SDWS-2013-□
Maximum Load	2kN	5kN	10kN	20kN
Load Display	[The specifications of Load Range] Reference			
Minimum Unit	[The combination of Load Range according to the model]			
Load Precision	JIS 1 class (Indication value ±1% range)			
Displacement Minimum Unit	0.01mm			
Drive type	AC Servo Motor			
Speed Range	0.1~500mm/min			0.05~100mm/min
Distance from a Table to a Load-cell	Max. 750mm (An effective stroke is decided by selection of an attachments			
Effective Test Width	376mm			
Table Size	300×300mm (With T-groove)			
Safety Device	Optional setting Upper and Lower Limit Over-load Prevention function			
Convenient Function	Memory function of the examination conditions Peak/Bottom Hold function Cycle mode function Detect function of Break Point Detect function of Start Point Auto Cancel/Auto Feed function Auto Start Point Return function Judgment function			
Output (※2)	USB			
Power supply	AC100V 10A			
Weight	Approx 130kg		Approx 180kg	
Size	W777×D390×H1356mm (P32 reference)		W835×D420×H1474mm (P32 reference)	

(※1) The model symbol is put in □. Refer to [The combination of Load Range according to the model]. (※2) Analog output and Printer output can be installed with option.

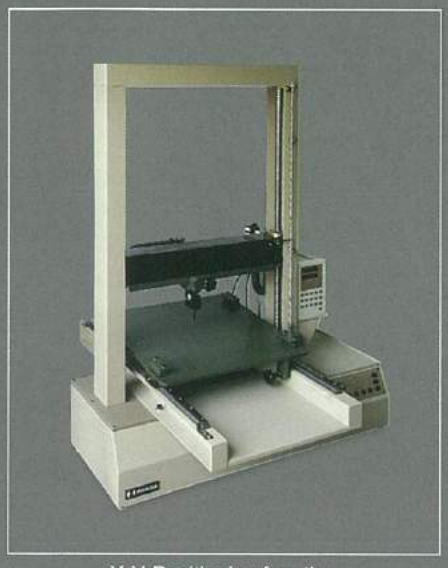
Specifications of Load Range

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

※ The usable range is recommended at 20~100% of each setting Load Range.
※ It is possible as an option to add Load Range other than the above listed.

Combination of Load Range according to the model

Model	Usable Range	Setting Load Range							
		20kN	10kN	5kN	2kN	1kN	500N	200N	100N
SDWS-0213-R1	400N ~ 2kN	–	–	–	●	–	–	–	–
SDWS-0213-R2	100N ~ 2kN	–	–	–	●	–	●	–	–
SDWS-0213-R3	20N ~ 2kN	–	–	–	●	–	●	–	●
SDWS-0513-R1	1kN ~ 5kN	–	–	●	–	–	–	–	–
SDWS-0513-R2	200N ~ 5kN	–	–	●	–	●	–	–	–
SDWS-0513-R3	40N ~ 5kN	–	–	●	–	●	–	●	–
SDWS-1013-R1	2kN ~ 10kN	–	●	–	–	–	–	–	–
SDWS-1013-R2	500N ~ 10kN	–	●	–	●	–	–	–	–
SDWS-1013-R3	100N ~ 10kN	–	●	–	●	–	●	–	–
SDWS-2013-R1	4kN ~ 20kN	●	–	–	–	–	–	–	–
SDWS-2013-R2	1kN ~ 20kN	●	–	●	–	–	–	–	–
SDWS-2013-R3	200N ~ 20kN	●	–	●	–	●	–	–	–



X-Y Positioning function

Wide type

Desk type

SDW

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

※ Please refer for the type of 200kN specifications.

Characteristics

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

Usage example

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

Options / Special specifications

○A wide type of the valid examination width.
○The type that is long (short) of the stroke.
○The type that an environmental examination (Homoiothermal box) was added to
○The addition of the load range.
○A type of displacement resolving power 1μm.
○Output of ANALOG/PRINTER
This option is necessary for the connection to Analog recorder or printer.

SDW-9103

SDW-5003

With Protection Cover

Standard specifications

Model (※1)	SDW-1003-□	SDW-2003-□	SDW-5003-□	SDW-9103-□
Maximum Load	10kN	20kN	50kN	100kN
Load Display	[The specifications of Load Range] Reference			
Minimum Unit	[The combination of Load Range according to the model]			
Load Precision	JIS 1 class (Indication value ±1% range)			
Displacement Minimum Unit	0.01mm			
Drive type	AC Servo Motor			
Speed Range	0.1~500mm/min			
Distance from a Table to a Load-cell	Max. 1100mm (An effective stroke is decided by selection of an attachment)		Max. 1080mm (An effective stroke is decided by selection of an attachment)	
Effective Test Width	445mm		439mm	
Table Size	300×300mm (With T-groove)		350×350mm (With T-groove)	
Safety Device	Optional setting Upper and Lower Limit Over-load Prevention function			
Convenient Function	Memory function of the examination conditions Peak/Bottom Hold function Cycle mode function Detect function of Break Point Detect function of Start Point Auto Cancel/Auto Feed function Auto Start Point Return function Judgment function			
Output (※2)	USB			
Power supply	AC100V 10A	AC200V 15A 3phase	AC200V 30A 3phase	
Weight	Approx 320kg		Approx 460kg	Approx 486kg
Size	W985×D460×H1850mm (P33 reference)		W1038×D580×H1962mm (P33 reference)	

(※1) The model symbol is put in □. Refer to [The combination of Load Range according to the model]. (※2) Analog output and Printer output can be installed with option.

Specifications of Load Range

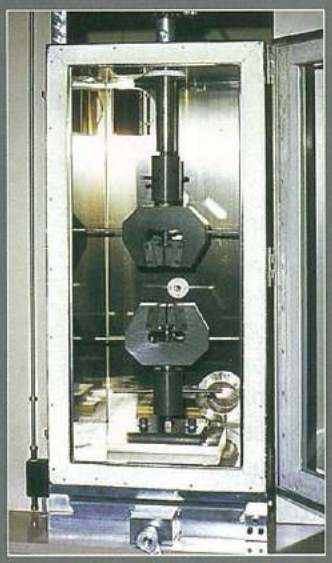
Load Range	Maximum Load Display	Minimum Unit
100kN	100.00kN	0.01kN
50kN	50.00kN	
20kN	20.00kN	
10kN	10.000kN	0.001kN
5kN	5000N	1N
2kN	2000N	
1kN	1000.0N	0.1N
500N	500.0N	

※ The usable range is recommended at 20~100% of each setting Load Range.
※ It is possible for the option to add other Load Range that Load-cell is changed to other than the above.

Combination of Load Range according to the model

Model	Usable Range	Setting Load Range							
		100kN	50kN	20kN	10kN	5kN	2kN	1kN	500N
SDW-1003-R1	2kN ~ 10kN	–	–	–	●	–	–	–	–
SDW-1003-R2	400N ~ 10kN	–	–	–	●	–	●	–	–
SDW-1003-R3	100N ~ 10kN	–	–	–	●	–	●	–	●
SDW-2003-R1	4kN ~ 20kN	–	–	●	–	–	–	–	–
SDW-2003-R2	1kN ~ 20kN	–	–	●	–	●	–	–	–
SDW-2003-R3	200N ~ 20kN	–	–	●	–	●	–	●	–
SDW-5003-R1	10kN ~ 50kN	–	●	–	–	–	–	–	–
SDW-5003-R2	2kN ~ 50kN	–	●	–	●	–	–	–	–
SDW-5003-R3	400N ~ 50kN	–	●	–	●	–	●	–	–
SDW-9103-R1	20kN ~ 100kN	●	–	–	–	–	–	–	–
SDW-9103-R2	4kN ~ 100kN	●	–	●	–	–	–	–	–
SDW-9103-R3	1kN ~ 100kN	●	–	●	–	●	–	–	–

Wide type



Constant-Temperature Chamber furnished

Longer Stroke type

200kN Range type

ACCESSORIES/OPTION

Digital printer BS2-80TS

The value of "load and displacement" can be printed out.

No.	荷重(N)	変位(mm)
001	14.1	1.45
002	19.3	1.65
003	21.4	1.87
004	24.8	2.13
005	26.6	2.33

ex.: Printing

Specifications

Model	BS2-80TS
Printing style	Thermal line dot
Communication	RS-232C (Exclusive output terminal)
Paper	BS-80-15 (80×ø38)
Power supply	AC100V (Special DC Adapter)
Weight	Approx 410g
Size	W134×D180×H60mm
Accessories	DC adapter / Paper 1role / Cable C-101

※ As for the models with NB (specifications), the output to printer is optional.

Digital printer DP-1VR

The value of "load" can be printed.

SUB GR. NO.	1
1	27.54
2	28.30
3	27.71
4	28.35
5	27.43

ex.: Printing

Specifications

Model	DP-1VR
Printing style	Thermal line dot
Communication	Digimatic output terminal
Paper	No.09EAA082
Power supply	AC100V(Special DC Adapter)
Weight	Approx 390g
Size	W94×D201×H75mm
Accessories	DC adapter / Paper 1role / Cable C-201

※ As for the models with NB (specifications), the output to printer is optional.

Pen recorder

The transformation curve of "load and the time" can be recorded.

Specifications

Model	R-01A
Paper	Model H-25-1(width 250mm)
Range	1·2·5·10·100·500mV·1·2·5·10·20·50V
Feed rate	1·2·3·6·10·15·30·60cm/min&hour
Pen	Model R-3000
Power supply	AC100V±10%
Weight	Approx 6kg
Size	W376×D425×H158mm
Accessories	Paper 1role / Pen 1 / Cable C-302

※ As for the models with NB (specifications), the output to printer is optional.

Transformer

For the usage abroad of the testing machine with AC100V power supply, it is necessary to do transformation of the local voltage to 100V.

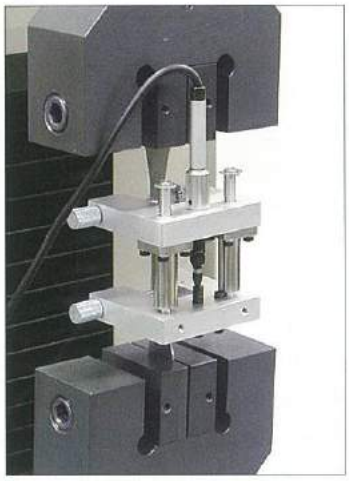
Specifications

Model	Input	Output	Max. current	Suitable appliances	Weight
SU-300	110~120V	100V	3A	SV-55C/SV-5A	2kg
SE-300	220~240V				4kg
600AU	110~120V		6A	Under 2kN	2.5kg
600AE	220~240V				7.1kg
1000AU	110~120V		10A	5kN~10kN	3.3kg
1000AE	220~240V				11kg

Many accessories are available to ensure the expansion of the function of our Testing Machine.
Accessories are to be connected with the output of our testing machine.
Please notice that some of our tester does not equip an output for certain accessories,
or equip an output as an option.

Extensometer (gauge length unit) Model GTD-50

It is clipped to test pieces such as metal or the plastic, in order to measure quantity of elongation precisely. The elongation is displayed by switching on the displacement display.



Specifications

Model		GTD-50
Gauge mark		50mm
Max. elongation		10mm
Resolution		0.001mm
Max. sample size	Plate	13mm
	Pipe	ø15mm
Weight		Approx 400g

Extensometer (gauge length unit) Model GTD-1000

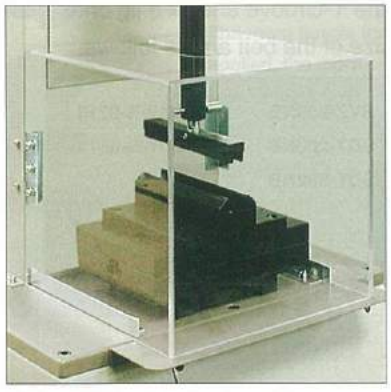
This is a type to use in case of a large elongation like rubber. It is produced by quantity of stroke / a testing machine type.

ex.: Mounted on a SDT-203 testing machine

Protection cover

There are the dangerous examination contents which are scattered when a sample is destroyed.
Various protective covers to have examine it safely are optional. Please refer to P10, P12 for SDWS/SDW type use.

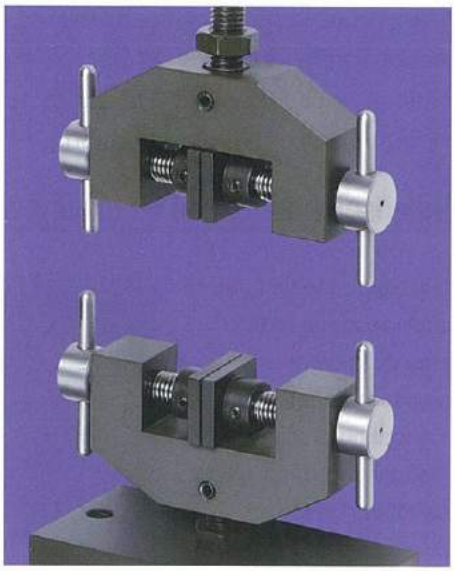
General model for desk testing machine
The whole of the moving part is covered.
When a window is not closed, there is the safety device which cannot perform movement of the testing machine.



Simple model
The simple model to cover the minimum area in danger.

For fire prevention protection
When it might catch fire by the compression examinations such as the lithium ion battery.

ATTACHMENTS (JIGS)



Selection of an attachment is very important, and it will bring out the full-capability of the testing machine. Almost every IMADA-SS testing machine can measure both "tensile" and "compression". The test of "Tension", "Compression", "Bending", "Peeling test", and so on is possible by selecting the correct attachment for the testing purpose. We have many special attachments besides the items listed in this catalogue. We design the attachment which meets your requirement. Please feel free to contact us and let us know your requirement.

■Caution when choosing the right attachment

○Testing load has to be lower than the maximum load of the attachment.

○The weight of the upper attachment has to be lower than the 10% of the maximum load of the loadcell. If the maximum load of the loadcell is very small, it is recommended to adjust the testing machine with the attachment attached being placed.

○Make sure the size of the connecting rod is correct. Chart below shows the size of the screw for upper/lower attachment.

○If you plan to test special materials, it is highly recommended to perform the sample testing to choose the right attachment.

■Installation size list

(1) The installation of the upper jig

The upper jig is installed to a loadcell. The screw size is as follows.

The machine model to use a loadcell equal to or less than 500N is for a male screw. The jig side gets the female screw.

The machine model to use loadcell more than 1kN is for a female screw. The jig side gets the male screw.

Load	Under 500N	1kN~10kN	20kN	50kN	100kN
Type	**SV-55C** **SVZ-50NA** **SVZ-200NB-50** **SDT-203NB-50**	**SVZ-200NB-200** **SDT-203NB-200** **SDT-503NB** **SDWS-0213** **SDWS-0513** **SDWS-1013** **SDW-1003**	**SDWS-2013** **SDW-2003**	**SDW-5003**	**SDW-9103**
Screw size	M6P1	M12P1.75	M16P1.5	M24P2	M32P2

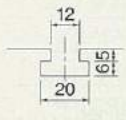
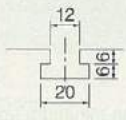
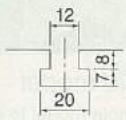
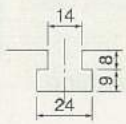
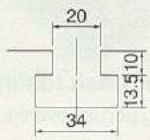
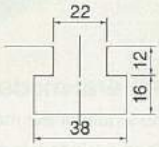
※ When a jig of the small capacity is installed with the additional load range, a connection screw is necessary.

(2) The installation of the lower jig

The surface plate with T-Groove to fix lower jig is situated on the base of testing machine and the push-pull stand.

Two T-throw nuts are to be inserted into the T-Groove and fix a jig onto them with two bolts.

The dimension of the T-Groove and the size of the bolt are as follows.

Type	**SV-55C** **SVZ-50NA**	**SVZ-200NB** **SDT-203NB** **SDT-502NB**	**SDWS-0213** **SDWS-0513**	**SDWS-1013** **SDWS-2013** **SDW-1003** **SDW-2003**	**SDW-5003**	**SDW-9103**
T-Nut	M8P1.25	M8P1.25	M8P1.25	M12P1.75	M16P2	M20P2.5
T Groove						

Film chuck

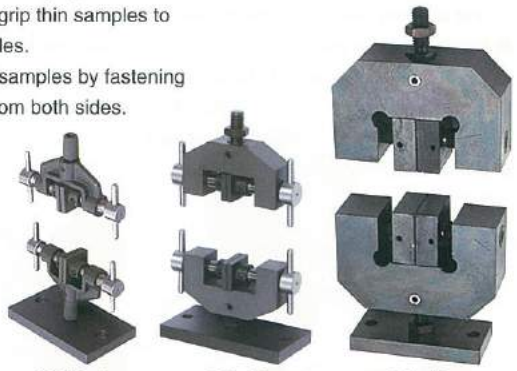
- This is designed for the tension test of the thin film (max. thickness of 2mm)
- Suitable for the 180° peeling test of the glued sheet.
- GC-2-2A/GC-2-5A are made of aluminum, and there are no filing around the gripping area.
- "GT-71" is recommended as a lower attachment if you need to set the samples without any sagging.

GC-2-2A GC-2-5

Type	Max. Load	Face width	Upper Weight
GC-2-2A	50N	20mm	38g
GC-2-5A		50mm	65g
GC-2-2	500N	20mm	75g
GC-2-3		30mm	100g
GC-2-5		50mm	155g

Flat chuck

- Flat chuck is all-purpose chucks which can grip thin samples to thick samples.
- It clips the samples by fastening the plate from both sides.



GC-10-1 GC-12 GC-15

Type	Max. Load	Face width	Open wide	Upper Weight
GC-10-1	500N	20mm	0~10mm	140g
GC-10-2			0~20mm	200g
GC-10-3			10~30mm	220g
GC-12	2kN	30mm	0~18mm	530g
GC-15	5kN	48mm	0~20mm	3.6kg
GC-17	10kN			

Drill chuck

- This chuck is used to hold the round bar shaped samples, or attachment with round bar.

GC-20TR1 GC-20TR4

Type	Max. Load	Grip	Upper Weight
GC-20TR1	1kN	ø0.5~3mm	100g
GC-20TR4A	5kN	ø2~9mm	440g
GC-20TR4B	10kN		

Pin chuck

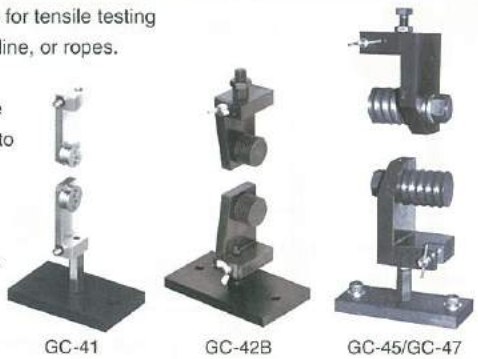
- It is a jig which clamps a pin, and to be used by a compression examination.
- This chuck is commonly used at stab examination.

GC-30A GC-30-05~15

Type	Max. Load	Grip	Upper Weight
GC-30A	200N	ø0.5~5mm	160g
GC-30-05	10N	ø0.5~1mm	16g
GC-30-10		ø1~1.5mm	
GC-30-15		ø1.5~2mm	

Wire winding grip

- This is suitable for tensile testing of strings, thin line, or ropes.
- It hold the samples by the frictional force to the drum, avoiding the samples to be cut at the edge of the attachment.



GC-41 GC-42B GC-45/GC-47

Type	Max. Load	Wire diameter	Drum	Upper Weight
GC-41	50N	ø0.5mm	ø16mm	27g
GC-42A	500N	ø2mm	ø30mm	580g
GC-42B	2kN			
GC-45	5kN	ø8mm	ø40mm	3kg
GC-47	10kN			

Roller grip

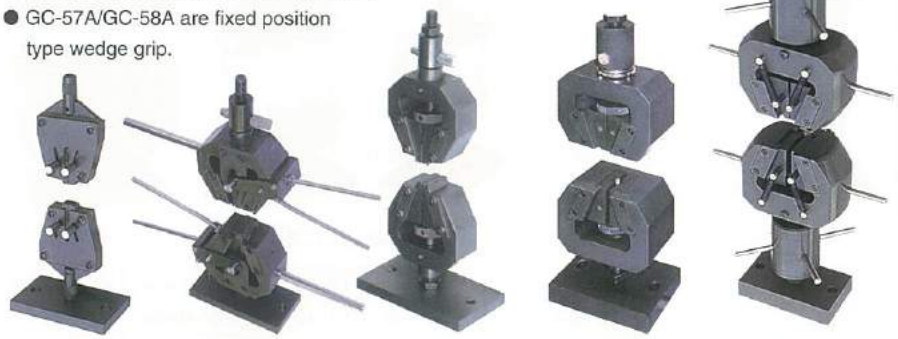
- This attachment is suitable for testing materials which are deformable and elastic such as rubber and films.
- The more tensile force is applied, the more self-clamping force is obtained.

GC-60 GC-62

Type	Max. Load	Width	Upper Weight
GC-60	500N	30mm	180g
GC-62	2kN	40mm	500g

Wedge grip

- Wedge grip has a self-clamping effect to hold the samples tightly, and it is very easy to clamp or release the samples.
- Hardened parts may cause slip since the initial grip force might be not enough. This needs to be checked before testing the samples.
- Surface of the gripped area is flat. As an option, "V" shaped surface for the round rod can be manufactured.
- GC-57A/GC-58A are fixed position type wedge grip.



GC-50 GC-51 GC-55 GC-57A/58A GC-57~59S

Type	Max. Load	Face width	Open wide	Upper Weight
GC-50	500N	8mm	4mm	200g
GC-51	2kN	30mm	7mm	1.9kg
GC-55	5kN		5mm	2.8kg
GC-57	10kN	38mm	8mm	6.5g
GC-57A		40mm	9mm	7kg
GC-58	20kN	38mm	8mm	
GC-58A		40mm	9mm	
GC-59	50kN	45mm	8mm	
GC-59S	100kN			8kg

Pantograph chuck

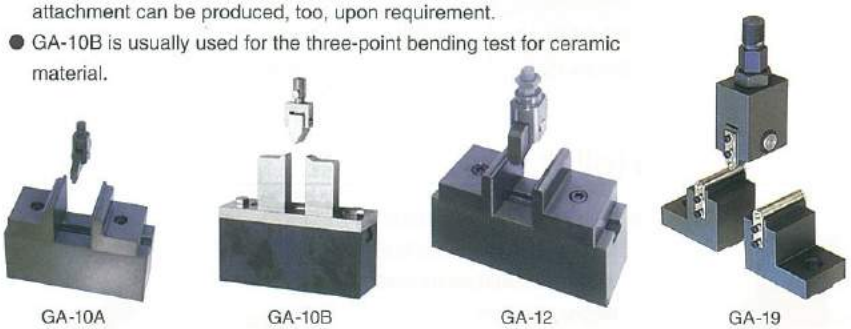
- As for the Pantograph Chuck, clamping is one-touch-type, no tightening is necessary.
- GC-90AT/GC-90GT can be used as a replacement of the Air grip and as one unit for upper and lower sides.

GC-90H GC-90A GC-90G GC-90AT GC-90GT

Type	Max. Load	Face width	Open wide	Upper Weight
GC-90H	50N	4mm	2mm	30g
GC-90A	500N	20mm	4mm	200g
GC-90G	1kN			920g

Bend test attachment

- This jig is for 3-point bending test attachment. The 4-point bending attachment can be produced, too, upon requirement.
- GA-10B is usually used for the three-point bending test for ceramic material.



GA-10A GA-10B GA-12 GA-19

Type	Max. Load	R	Width	Upper Weight
GA-10A	500N	2mm	55mm	150g
GA-10B		0.5mm	15mm	200g
GA-12	10kN	5mm	50mm	400g
GA-18	20kN			980g
GA-19	50kN			1.1kg
GA-19S	100kN			1.2kg

Flat type compression attachment

- This attachment is designed for compression test use. ● Attachment GA-20A is a self-centering type.
- Upper flat head of GA-22/28/29 is a self-centering type, and the extent of alignment can be adjusted.

GA-20 GA-20A GA-22 GA-28/GA-29 GA-29S

Type	Max. Load	Diameter	Upper Weight
GA-20	500N	ø55mm	150g
GA-20A			200g
GA-22	10kN	ø100mm	920g
GA-28	20kN		1.3kg
GA-29	50kN		2kg
GA-29S	100kN		4.3kg

X-Y table / Y-Z table

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


GT-20-3


GT-20-2


GT-20-1


GT-20-4

Type	Max. Load	Stroke
GT-20-1	50N	X±7.5mm/Y±7.5mm
GT-20-2	3kN	X±25mm/Y±25mm
GT-20-3	500N	X±30mm/Y±30mm
GT-20-4		Y±15mm/Z±10mm

Vice grip / Paper chuck

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


GT-30-2


GT-30-2W

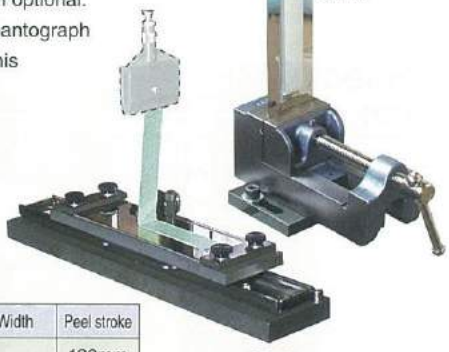

GT-71

Type	Max. Load	Width	Open wide
GT-30-2	3kN	62mm	64mm
GT-30-2W			
GT-71	500N	30mm	2mm

Peel test attachment

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


GT-42


GT-40

Type	Max. Load	Width	Peel stroke
GT-40	200N	50mm	130mm
GT-42	500N		150mm

Chip peeling test attachment / Square-shape attachment

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


GT-52


GT-53


GC-91

Type	Max. Load	Specification	Upper Weight
GT-52	500N	⊓10mm	105g
GT-53			100g
GT-91	200N	Open wide 0~4mm	150g

Miscellaneous attachment

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


GP-5-0


GP-5-1


GP-5-2


GP-5-3


GP-5-3A

Type	Max. Load	Size	Weight
GP-5-0	50N	–	4g
GP-5-3A		79mm	8g
GP-5-1	500N	–	12g
GP-5-2		ø16mm	12g
GP-5-3		100mm	27g
GP-30-1	3kN	–	60g
GP-30-2		ø25mm	30g


GP-30-1


GP-30-2

T-nuts / Connecting Joint / Universal Joint

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


GQ-10-0

GQ-10-1


GQ-10-2


GQ-10-3


GQ-10-4


GQ-20-1


GQ-20-2


GQ-30-1


GQ-30-2


GQ-30-3


GQ-31-1


GQ-31-2

Type	Screw diameter
GQ-10-0	M8
GQ-10-1	M6 (M) ×M6 (M)
GQ-10-2	M12 (M) ×M6 (M)
GQ-10-3	M12 (M) ×M10 (M)
GQ-10-4	M12 (M) ×M12 (M)

※ (M) means male screws.
(F) means female screws.

Type	Screw diameter
GQ-20-1	M6 (F) ×M6 (F)
GQ-20-2	M12 (F) ×M12 (F)
GQ-30-1	M6 (F) ×M6 (F)
GQ-30-2	M12 (F) ×M12 (F)
GQ-30-3	M12 (F) ×M10 (F)
GQ-31-1	M6 (F) ×M6 (F)
GQ-31-2	M12 (F) ×M12 (F)

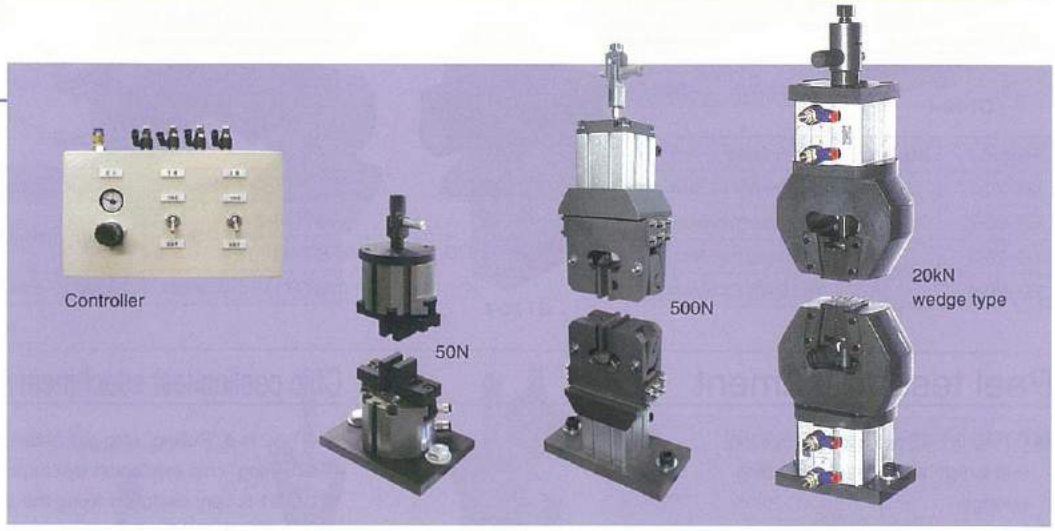
SPECIAL ATTACHMENT

Examples of Special Attachment.

Tensile Test

Air grip

It is produced in accordance with each load specifications.

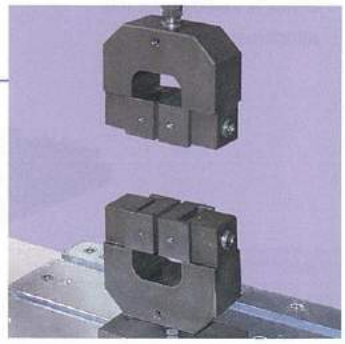


Special film chuck

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

Special flat chuck

Special flat chuck designed for high load.

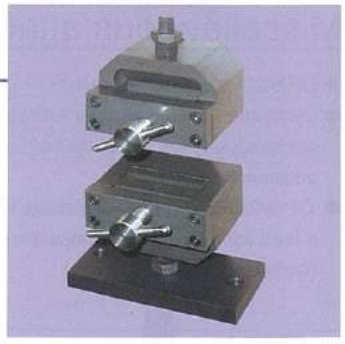


Optical fiber attachment

This chuck is specially designed for pulling test of optical fiber. The diameter of the drums is made big in comparison with that of the standard wire winding grip. (on the photo, ø50mm)

Woven and knitted fabrics test attachment

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

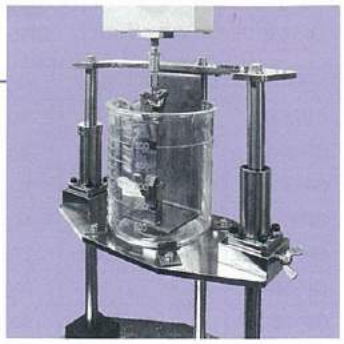


Tape tensile test attachment

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

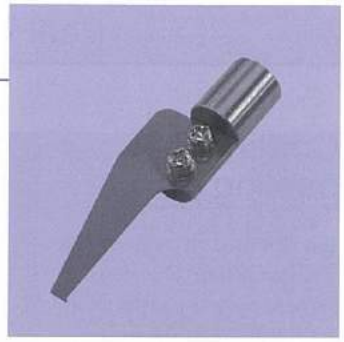
The examination that was put in a liquid

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



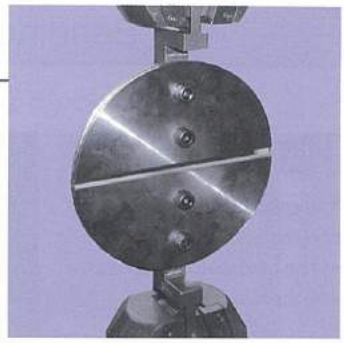
Attachment for lead-free solder

In accordance with 'JIS Z 3198-6'.



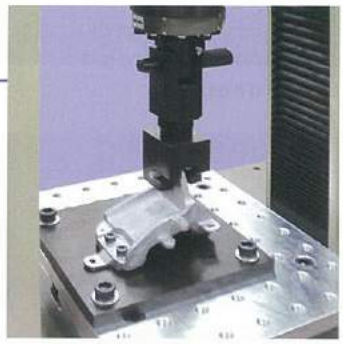
Attachment for wire ring

This jig is to hook wires in ring-shape.



Die casting pulling attachment

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



Wine bottle corkscrew jig

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

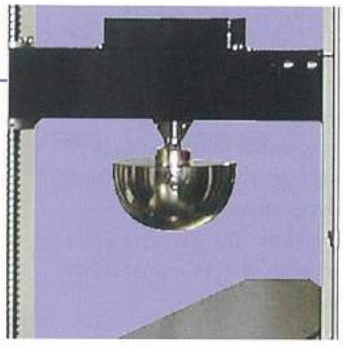
Compression Test

Special compression

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

Special compression

This hemisphere jig is to pressurize for special compression examinations.



Compression jig with cushioning spring

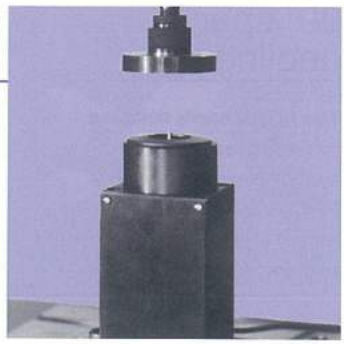
This compression jig is designed to avoid a collision by examinations with high-speed.

Heat sealed compression

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

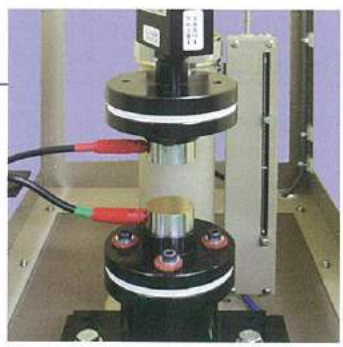
Compression jig with displacement meter

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



Compression jig for resistance measurement

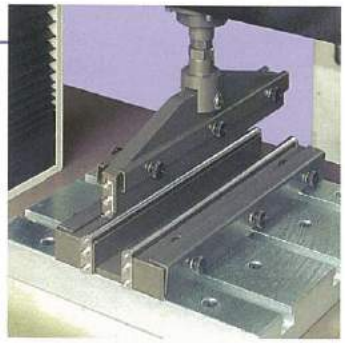
It is a jig for evaluating lithium batteries compression. Measurement by a resistance meter connected from a different place is possible.



Bending Test

Tile bending jig

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

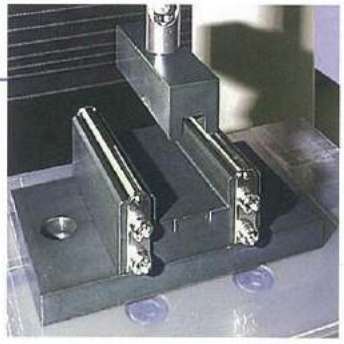


Printed circuit board bending jig

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

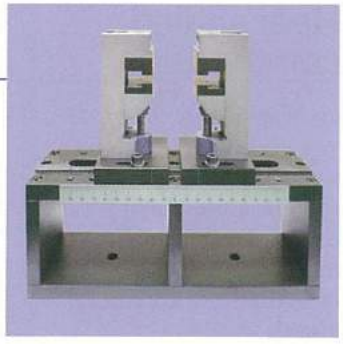
4-point bending test jig

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



Clamp-type bending jig

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



Large size special bending jig

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

Peel Test

Coating peeling jig

This jig is used for measuring the adhesion strength of coating and the basic material such as under JIS A 9696. As the method, an assisting piece (to be disposed later) is to stuck on the coating film by adhesive, and then the coating in the surrounding is to be cut and measured.

90° peeling jig

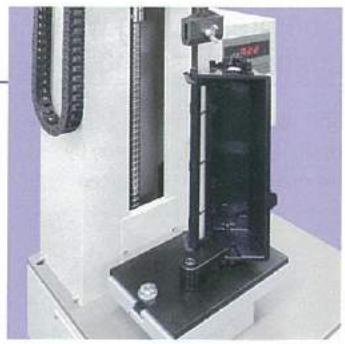
This is a special type the 90° peeling examination. The sample is put on the upper part jig with rollers. The film is pulled down ward in the 90° direction and peeled off. It is used for JIS X 6305-1 "cards peeling examinations".

T-style peeling jig

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

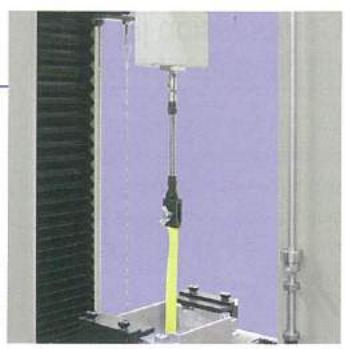
Toner container peeling jig

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



90° special peeling jig

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

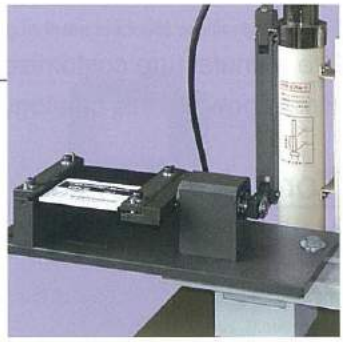


Frictional force measurement jig

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

Torsion examination jig

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



Hand operation roller

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

Stab jig

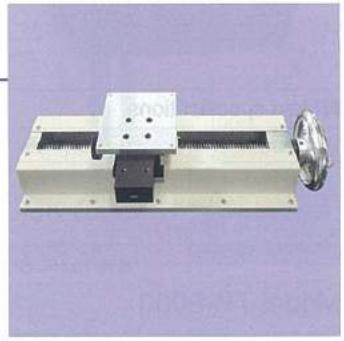
This jig is to fix a sample for an examination to stab. The sample is to be inserted from the opening on the to and all the circumference is to be fastened by turning the lever. As the upper jig, the pin chuck (GC-30) insetting needle with R0.5 of tip is used and by this the sample is to be stabbed.

The 45° slant level

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

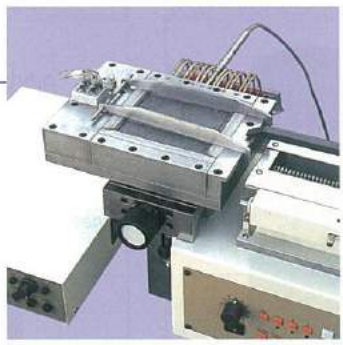
Special X-Y stage

This stage enables to adjust a relatively big movement.



Hot plate (horizontal)

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

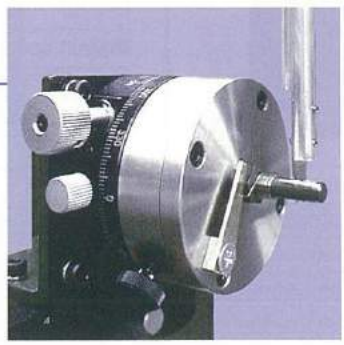


Hot plate (vertical)

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

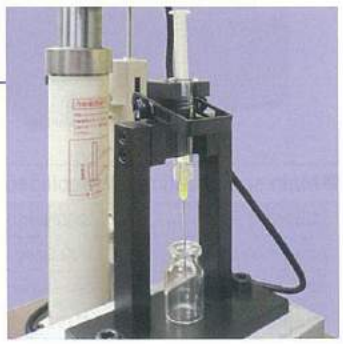
Torsion spring measurement jig

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



Syringe pressurization jig

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



SPECIAL SPECIFICATION TESTING MACHINE

We manufacture customized testing machines for your various testing purposes.
Here shows in this catalogue is a part of those. Please feel free to contact us for your special application.

Torque Tester

Model TR-200

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

■Main specifications

Capacity	2kN·cm
Angle measure	180deg
Rotation speed	0.1~1rpm
Power supply	AC100V 5A

Model TR-250

It is used for an evaluation of rotary torque such as the volume of the electric part. Here is the type that an upper sensor section turns.

■Main specifications

Capacity	20N·cm
Angle measure	400deg
Rotation speed	0.1~100rpm
Power supply	AC100V 5A

Model TR-2000

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

■Main specifications

Capacity	200N·m
Angle measure	999.9deg
Rotation speed	0.1~3rpm
Power supply	AC100V 7A

Model TR-5000

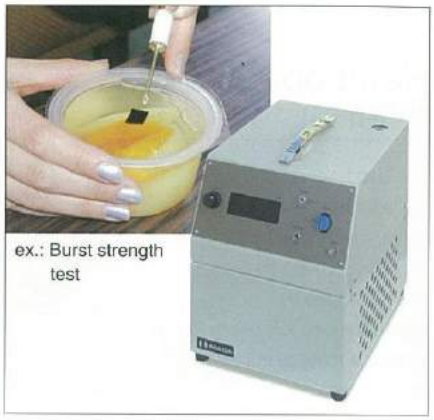
This type is set on the floor and to used for an evaluation which requires.

■Main specifications

Capacity	500N·m
Angle measure	999.9deg
Rotation speed	0.04~20rpm
Power supply	AC200V 20A

Burst Tester Model BT-200

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



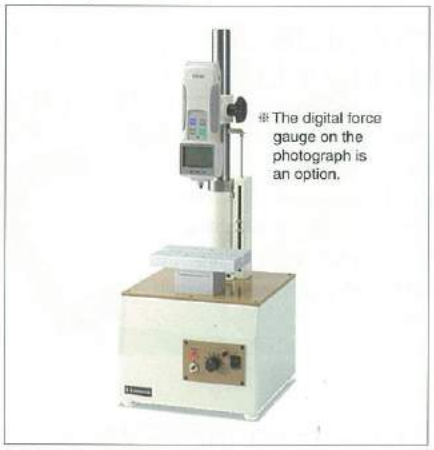
ex.: Burst strength test

■Main specifications

Capacity	0.2MPa
Resolution	0.001MPa
Measuring function	Peak value hold
	Displays the estimated amount of flow
Power supply	AC100V 2A
Size	W200×D250×H265mm
Weight	Approx 17kg

Push Pull Stand Model SV-5A

It is the stand for maximum load 500N. Two kinds of speed can be chosen.



※The digital force gauge on the photograph is an option.

■Main specifications

Model		SV-5A-□
Maximum load		500N
Speed	M	10~100mm/min
	H	30~300mm/min
Stroke		130mm
Power supply		AC100V 3A
Size		W250×D250×H577mm
Weight		Approx 17kg

※ Speed mark (M or H) is put in □.

Automatic pulling testing machine

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

■Main specifications

Maximum Load	5kN
Speed	250mm/min
Stroke	200mm
Power supply	AC100V 7A

Rear spoiler pulling testing machine

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

■Main specifications

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

Packing compression testing machine

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

■Main specifications

Maximum Load	50kN
Speed	0.5~500mm/min
Pressure board	1200×2000mm
Power supply	AC200V 3kVA

High-speed peeling testing machine

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

■Main specifications

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

Five sets of flexure testing machine

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

■Main specifications

Bending angle	180°
Repetition speed	60 times/min
Size	1500×500×1250mm
Power supply	AC100V 7A

Creep testing machine

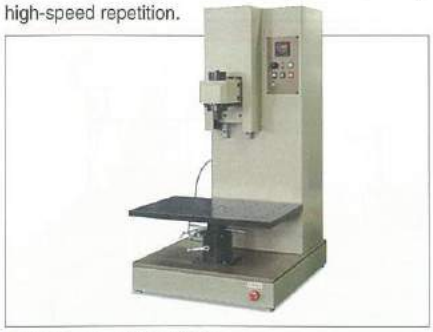
Using force by the weight; and the creep characteristic evaluation testing machine which hangs constant load to a sample for a long time.

■Main specifications

Maximum Load	100kN
Magnification	x50
Weight	Approx 350kg

Switch durability testing machine

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



■Main specifications

Maximum Load	500N
Repetition speed	0.5~3 times/sec
Size	500×550×963mm
Power supply	AC100V 3A

Spiral spring durability testing machine

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

■Main specifications

Maximum Torque	100N·m
Rotate angle	200°
Speed	1~500 deg/min
Power supply	AC100V 7A

Leather flexure testing machine

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

■Main specifications

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

Tape rewind testing machine

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

■Main specifications

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

Tape creep testing machine

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

■Main specifications

Load	0.1~2kg
Temperature	40~80°C
Size	1900×800×1550mm
Power supply	AC200V 30A

Torsion testing machine

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

■Main specifications

Maximum Load	22N
Speed	60 r/min
Chuck span	50~300mm
Power supply	AC100V 5A 50Hz

Elongation testing equipment

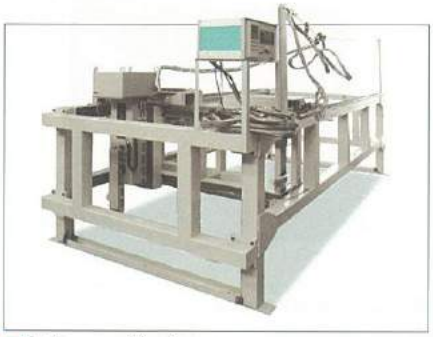
It is an exclusive measuring machine measuring elongation rate of the copper wire. Conduction is intercepted at the time of break, and measurement is finished.

■Main specifications

Rate of elongation	500×10^{-1}%
Speed	200mm/min
Chuck span	250mm
Power supply	AC100V 3A

Flooring pressurization testing machine

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

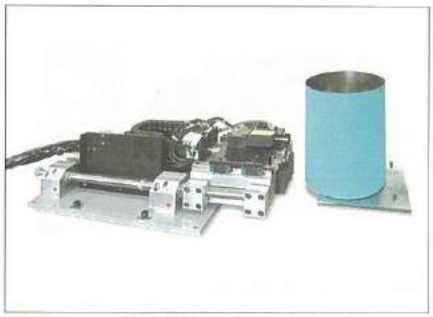


■Main specifications

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

Gapless testing machine

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

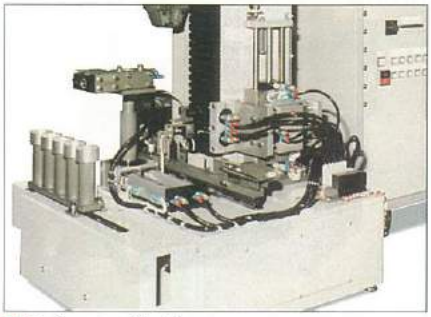


■Main specifications

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

Wire automatic pulling testing machine

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

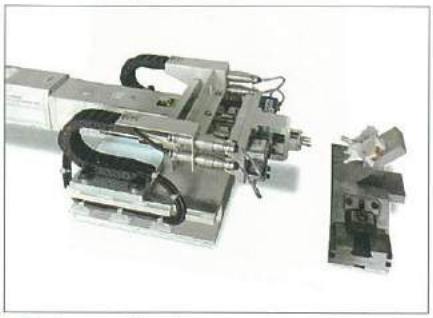


■Main specifications

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

Lamp socket pull and insert testing machine

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



■Main specifications

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

Seat belt collision testing equipment

Evaluation examination equipment of the seat belt at the time of the impact. The chair moves it along the rail and collide.

X-Y-Z load testing machine

This is the testing machine with a program control for position of "X-Y-axis" and for pressuring at the "Z-axis". On the apparatus the position change of a sample such as lead frames or printed circuit boards can be done automatically.

Horizontal force measurement machine

The equipment which measures the force that a loadcell is added to a jig directly, and is pushed perpendicularly.

Spring testing machine

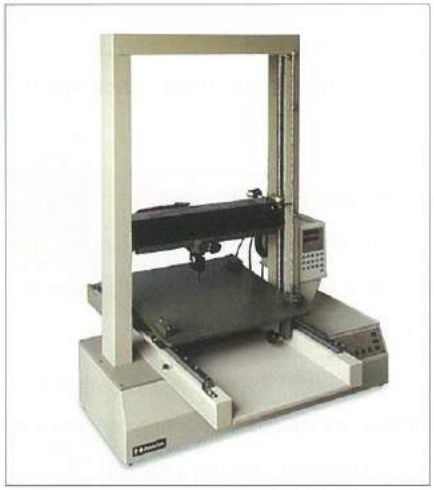
This spring testing machine equips a jig for "pulling and compression" regularly, and can measure up to a load of 500N at the maximum.

Testing machine with microscope

The type of testing machine fits out the microscope. This is suitable for the measurement of tiny test piece.

Testing machine with X-Y stage

The loadcell is to be shifted on the X-axis and the table with a large sample on is to be slid on the Y-axis in order to bring the sample to right position for pressure measuring.



Flux pressure measuring instrument

The flux characteristic of the dry cell under being added load is measured. There are load and the voltage.

Compact testing machine

Load testing machine for cosmetics containers. The opening and shutting of the cover of the container is taken by a photoelectric sensor.

Many connections load testing machine

Multiple load testing machines are set up all together. Each measurement can be performed independently. It is an example to a user who executes many numbers of the examination.

Automatic load testing machine

This is used for inspection on the production line and designed to make the time necessary for tasks for examination briefly.

SOFTWARE

Testing equipment is possible to be connected to a PC. This software has various useful utility such as analyzing, saving and managing of each data as well as parameter-setting for controlled operations.

Data processing software / ISP-V

Software ISP-V receives the value of load and displacement from the testing machine, and draw load-displacement curves (Stress-Strain Curves) and load-time curves. It also processes these values and prints / saves the results.

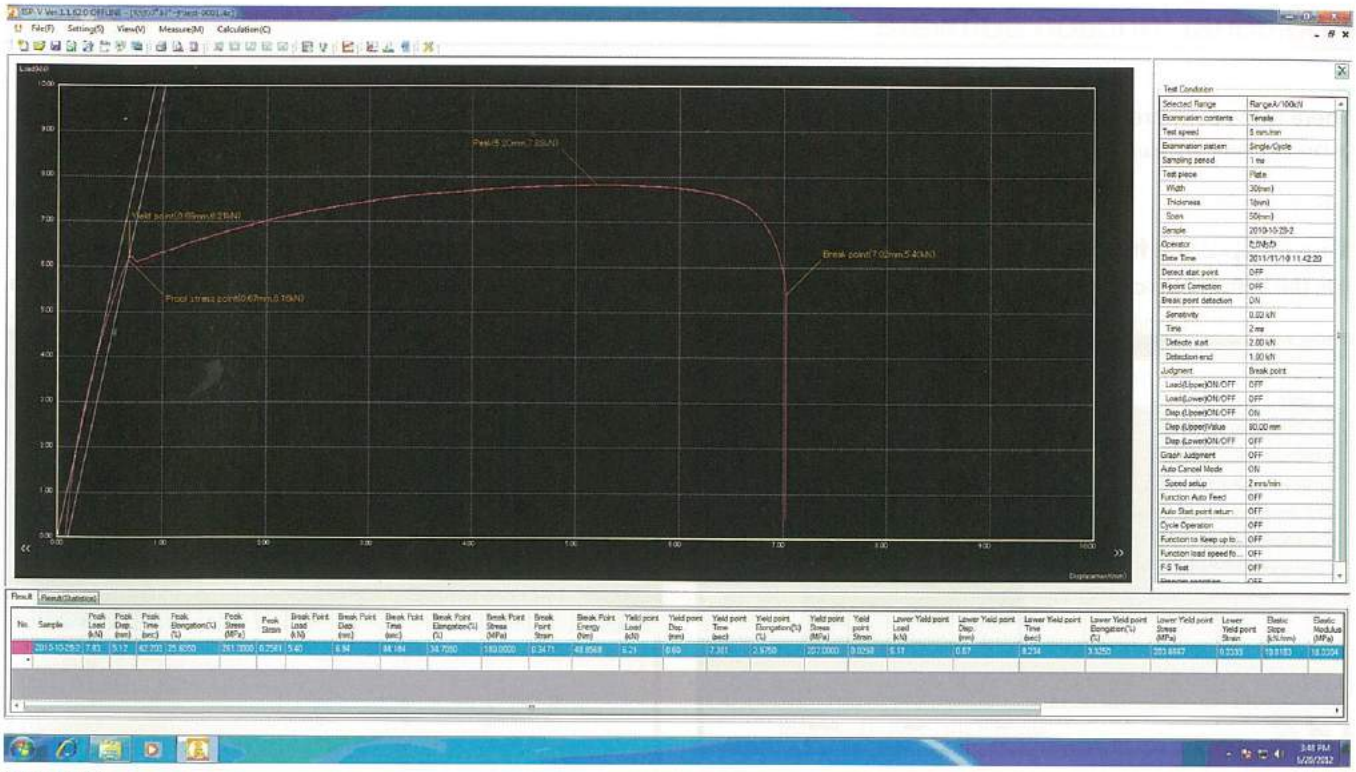
Characteristics

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

Main function

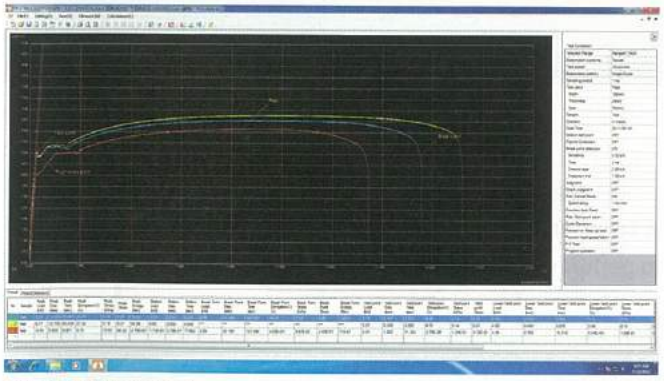
1. Graph	① The color for background and data lines, etc. can be set arbitrary.
	② Enlargement of the graph can be done by clicking directly with mouse.
	③ Function to let the screen-scale automatically widen or scroll.
	④ Function to overlap plural data. (※1)
	⑤ By layout setting, a good look even on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

(※1) There is no limit for the numbers of files to be take in, but depending on the size of the data it cannot be displayed.
(※2) The calculation of the energy is not for the yield point.

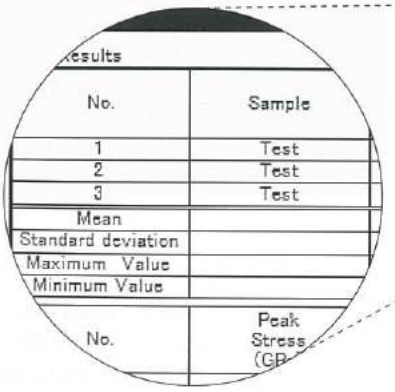


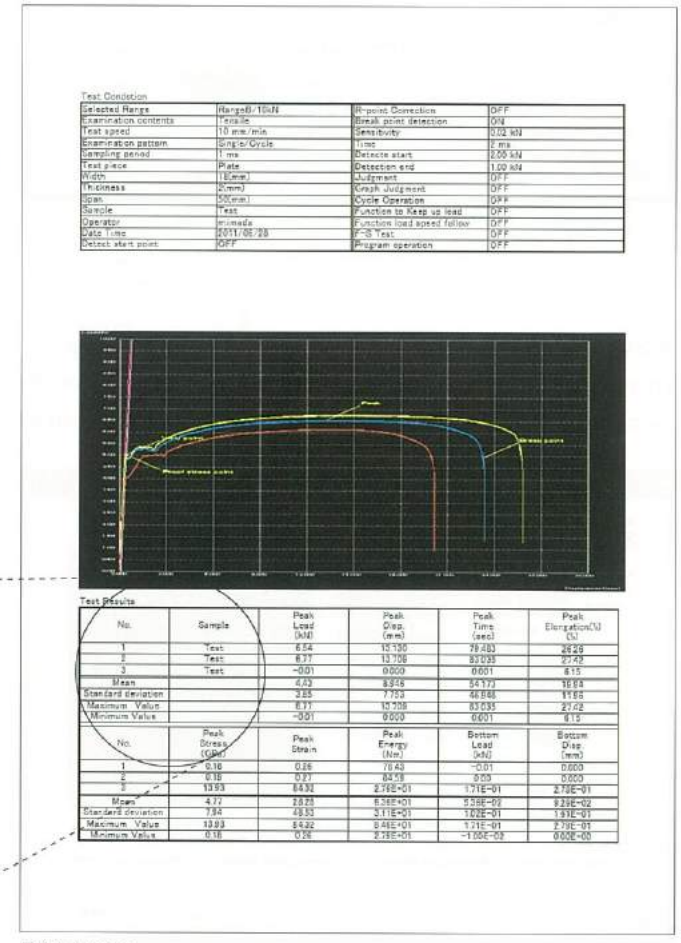
S-S Graph

Peel test



Overlap data graph





Print image

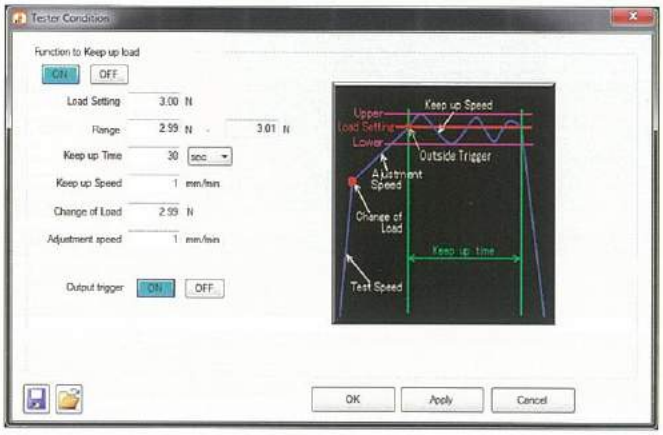
SOFTWARE

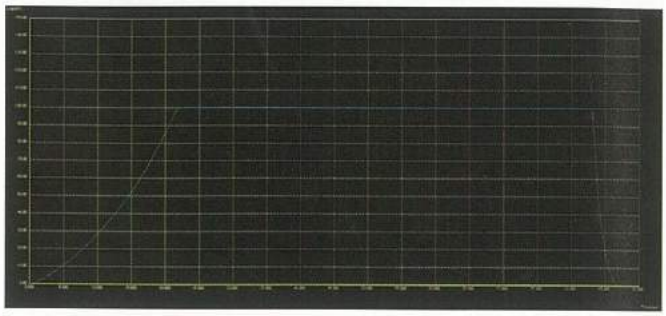
Additional function software

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

■Keep up Load function

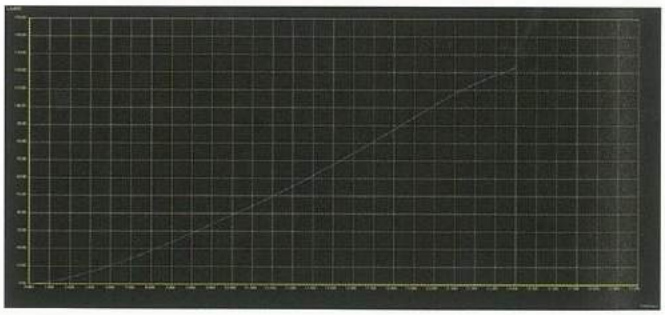
It is the software to control the operation of the testing machine and maintain the set scope of the required load value at all time.





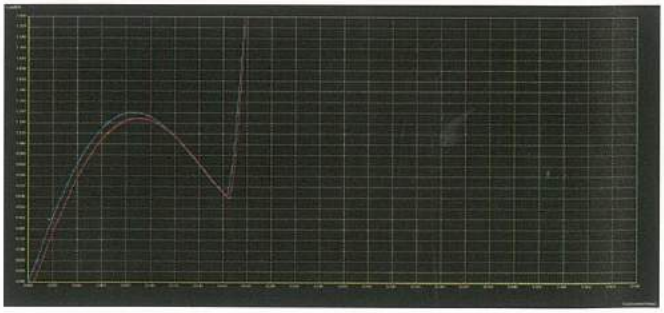
■Load speed follow function

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



■Switch feeling examination

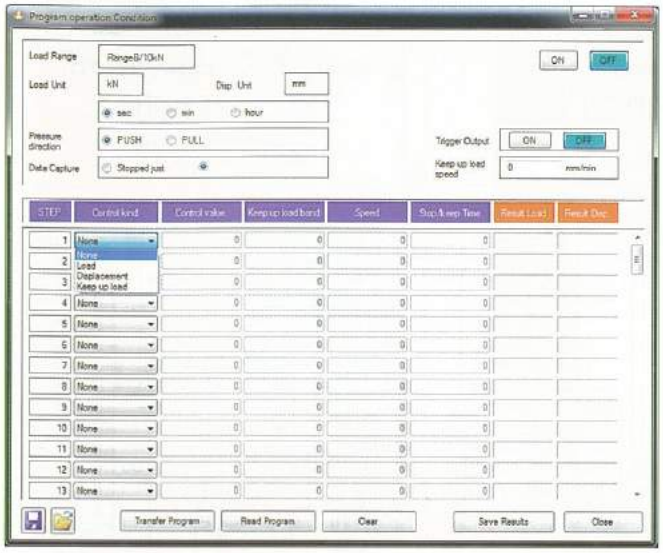
This is an option for the exclusive use of the feeling examination of switches. Each peak and bottom value of the hysteresis can be measured by the exclusive setting item. Repeat test can be also performed by setting the required number.

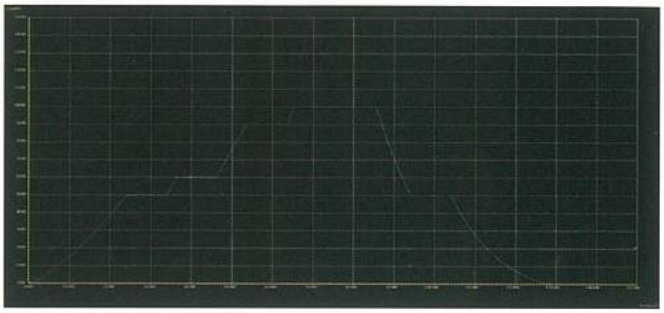


SOFTWARE

Program operation

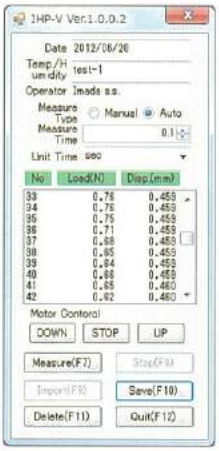
This is for the function to measure the operation with several steps in connection, for every steps specified value for load or displacement can be set. UP to 99 steps are possible to be preset. The "Keep Up Load Function" is also one of the control types and can be set for it. The step can set either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





Data collect software / IHP-V

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



	A	B	C
1	Date	2012/06/20	
2	Temp./Hur	test-1	
3	Operator	Imada s.s.	
4	No	Load(N)	Disp.(mm)
5		1 0.74	0.141
6		2 0.74	0.141
7		3 0.74	0.141
8		4 0.75	0.141
9		5 0.75	0.141
10		6 0.75	0.141
11		7 0.75	0.141
12		8 0.75	0.141
13		9 0.75	0.141

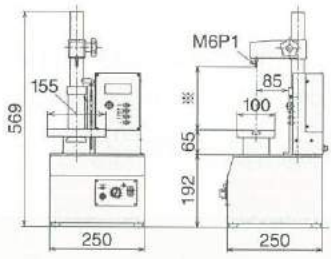
CSV output

Software operation environment

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

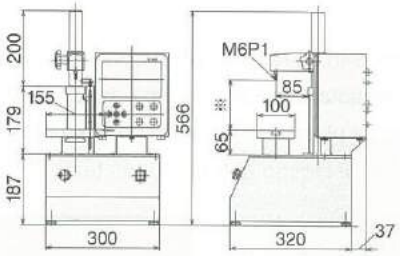
* Windows is a trade mark of Microsoft Corporation. * The recommended specifications are for a stable operation with Windows 7 class.

Outline (mm)



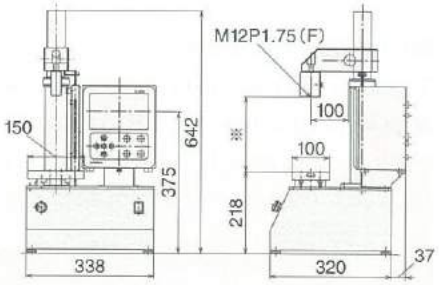
※ Sample Mounting Span: 115~239

Model SV-55C



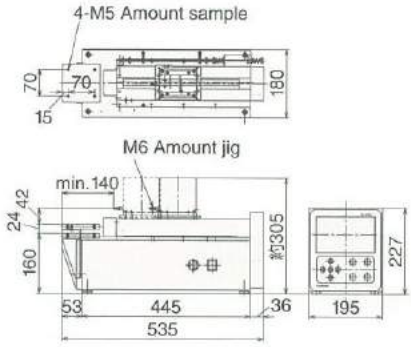
※ Sample Mounting Span: 110~240

Model SVZ-50NB

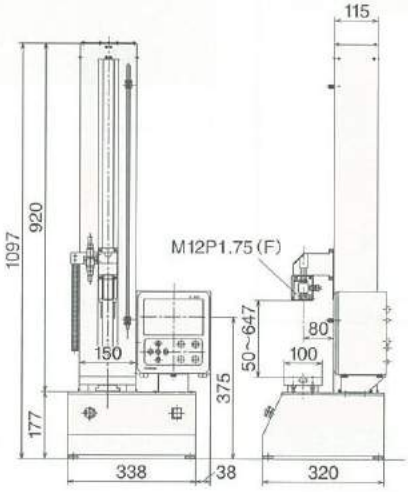


※ Sample Mounting Span: 197~295

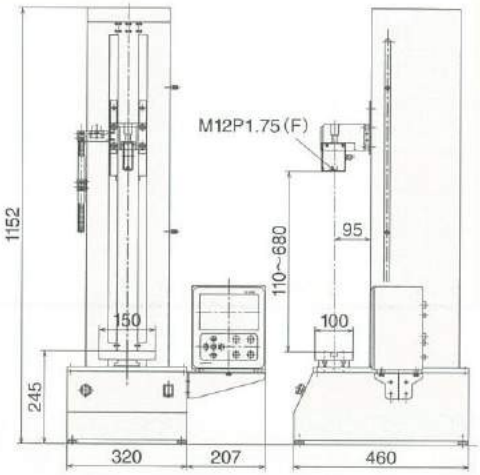
Model SVZ-200NB



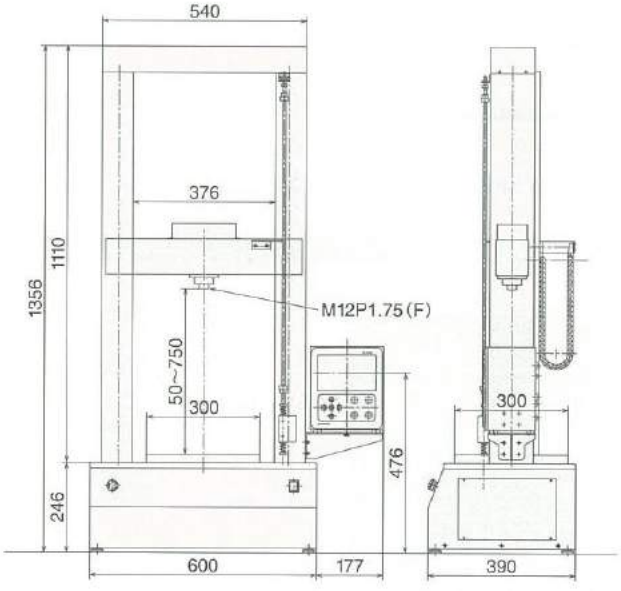
Model SH-14NB



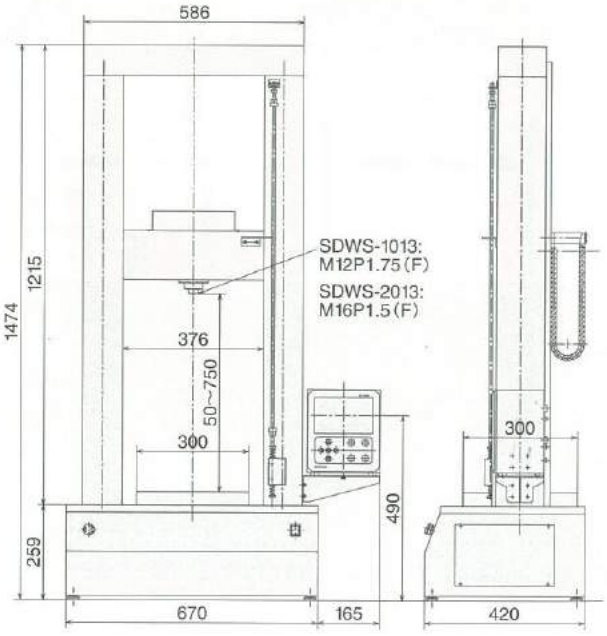
Model SDT-203NB



Model SDT-503NB



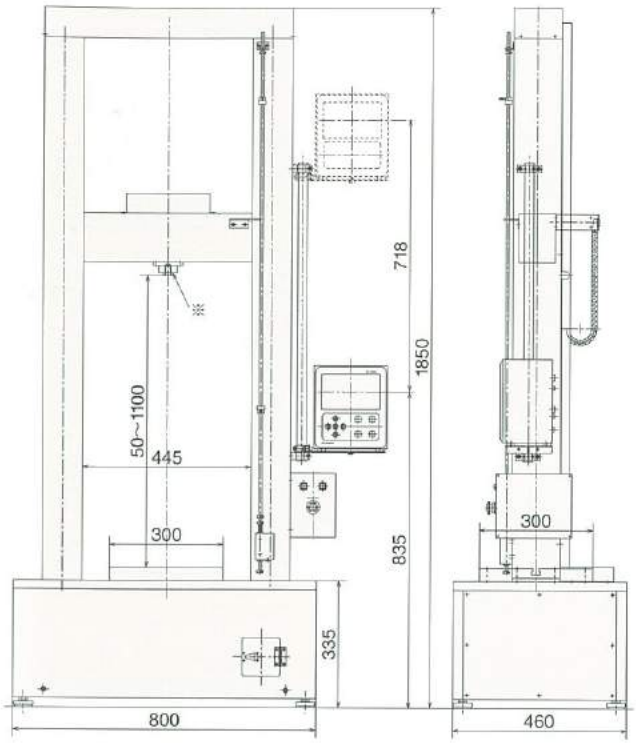
Model SDWS-0213/0513



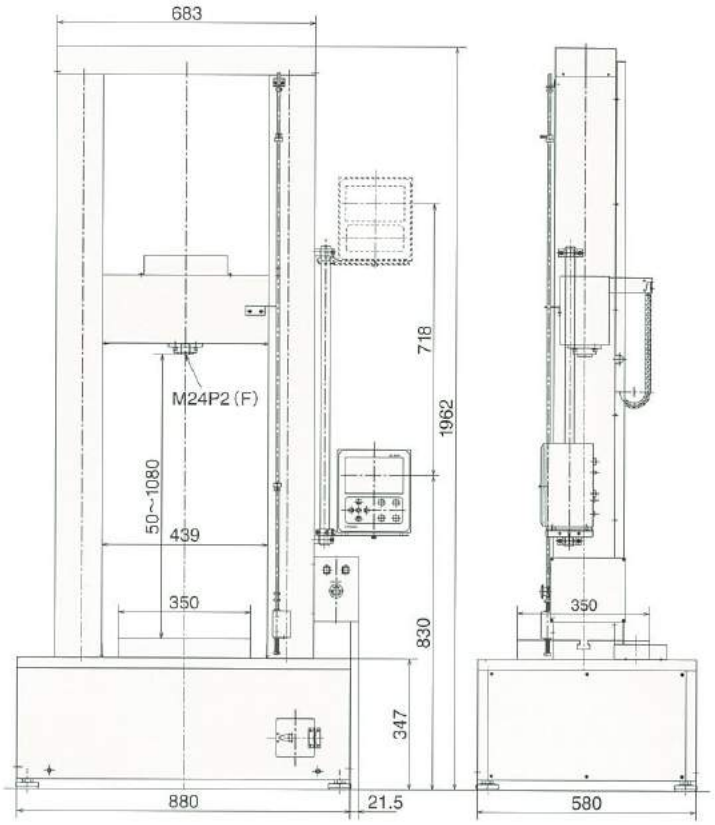
Model SDWS-1013/2013

OUTLINE

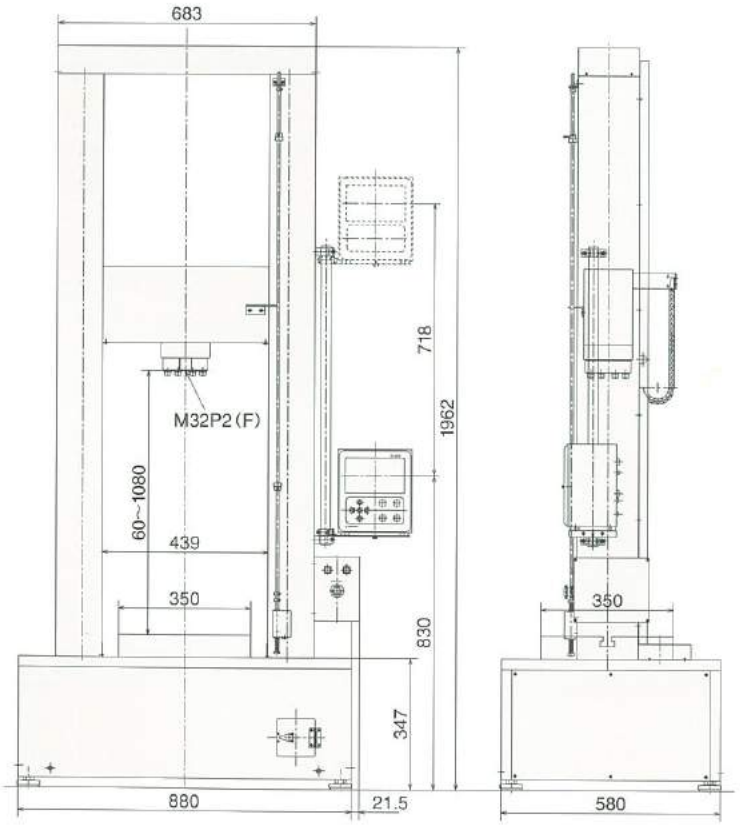
※SDW-1003: M12P1.75 (F)
SDW-2003: M16P1.5 (F)



Model SDW-1003/2003



Model SDW-5003



Model SDW-9103

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

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