

- High end model achieves greater precision as well as high usability
- Wide speed range 0.5 to 600mm/min for testing in various conditions
- Digital setting of travel distance by 0.1mm
- Storing of operating patterns improves efficiency



### Improving precision of measurement with EMX-1000N

EMX is designed to achieve precise measurement with its rugged design and smooth motion. With minimized influence of deformation, it is not only suitable for force measurement, but also a perfect solution for force-displacement measurement.

By combining with a force gauge, it enables you to draw graphs of force v.s time and force vs. displacement at high sampling rate of 2000Hz.

Useful functions are available to assist you to perform a variety of testing. Wide speed range, setting of digital travel distance by 0.1mm, repeating number of testing, pausing time and operation pattern storing functions cover extensive measurement needs. Furthermore, the equipped I/O connector allows communications with external devices, which can be used to improve efficiency or safety in testing by using inputs such as start and interlock.

### Features

#### Improved Repeatability

- Constant testing speed and position for applying compression and tensile force
- Model with most rugged design minimizes influence of deformation (max. 0.25mm)
- Ball screw realizes smooth motion
- Digital setting of travel distance by 0.1mm.

#### Easy Operation

- Ergonomically inclined control panel
- Dial operation for digital setting
- Three testing modes to meet testing requirements

#### Versatility for a wide variety of testing

- Wide speed range from 0.5 to 600 mm/min
- Ideal for durability test by setting the number of test cycles to repeat
- Useful timer function for compression testing allows pausing at a set force value. (\*)
- Attached table can mount a wide range of grips and fixtures.
- External signal input is equipped.

#### Functions for efficient testing

- Easy setting of travel distance depending on the sample height.
- Up to 5 testing patterns can be stored.
- Automatically changes traveling and measuring speed at a set force value. (\*)
- Starts software together with test stand motion. (\*)

\* Requires certain models of force gauge and optional cable.

[Application Example and Configurations]

**[Optional Cable]**  
Connects force gauge and test stand to activate a variety of control functions.

**[Force Gauge]**  
Measures compression, tensile, peel strength, etc. Mountable to test stand with screws.

**[Optional Attachments]**  
Integral components to complete a testing system, selectable from a wide range to suit your testing applications.

**[Stroke Limit]**  
**[Speed Shift Point]**  
Set limits of stroke easily with upper and lower knobs. Middle knob adjusts the speed shift point.

**[Head]**  
Operates upward and downward with mounted force gauge.

**[Table]**  
Attachments or testing samples can be mounted on the table.  
Dimension: W200 x D100

**[Operation Panel]**  
Used for settings, operations and emergency stop.

\*Force gauge, optional attachments and optional cable are sold separately.

[Operation Panel]

**[Emergency Button]**  
For emergency stops

**[Push Dial]**  
For setting by turning and pressing. Jog move at manual mode.


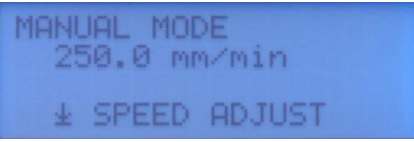

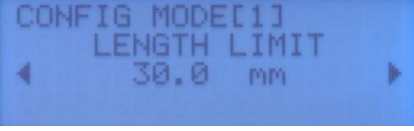
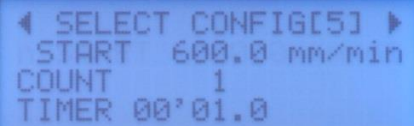
**[LCD]**  
Shows status and settings

**[Operation Buttons]**  
Controls upward and downward at set/max. speed and stop.



[Applications] Use suitable attachments to perform a variety of measurements.

Tactile test of switches	Material bend testing	Repulsion test of cushion material
Evaluates tactility of a variety of switches and buttons such as a switch of camera shutter.	Applies compression force to test strength of materials such as metal by bending or breaking.	Analyzes cushioning characteristics of materials including sponges and packaging buffers.

**[Basic Operations]**

<p><b>Adjusting speed</b></p>		<p>Testing speed is easily adjustable with dial.</p> <p>Setting resolution: [0.5-20mm/min : 0.5mm/min] [20-100mm/min : 5mm/min] [100-600mm/min : 10mm/min]</p> <p>Adjustable speed types: Start, Measuring, Return</p>
<p><b>Three measuring modes</b></p>		<p>Three testing modes are available to meet requirements.</p> <ul style="list-style-type: none"> <li>• Manual mode: Moves while up/down buttons are pressed.</li> <li>• JOG mode: Minute feeding by turning dial (approx. 0.01mm per 1 turn)</li> <li>• Cycle mode: Travels between stroke limit knobs for cycles.</li> </ul>
<p><b>Other functions</b></p>		<p>Cycle mode allows to set the number of tests to repeat and pausing time.</p> <p>Counter (number of tests to repeat): Max. 65535 times Timer (pausing time): Up to 99 min 59 sec 9 (by 0.1 sec)</p>
<p><b>Other functions</b></p>		<p>Digital setting of displacement limit is possible.</p> <p>Digital displacement limit: by 0.1mm</p>
<p><b>Other functions</b></p>		<p>Up to 5 patterns of testing speed, counter, timer and digital displacement limit can be stored as operating conditions.</p>

**[Main Options]**

<p><b>Long stroke (-L)</b></p>	<p><b>-FA option (-FA)</b></p>
<p>This option provides extended stroke. Useful when testing stretching samples or testing for long distance.</p>	<p>This option provides inbuilt liner scale. It allows displaying displacement data on force gauge together with force value and drawing FS curves in PC via USB. *ZTA series force gauge and optional cable are required. *Force-displacement measurement unit FSA series are also available, which includes the necessary products.</p>
	

23/08/2017

## [Specifications]

Model	EMX-1000N
Capacity	1000N
Speed	Digital 0.5 to 600mm/min [0.5 - 20mm/min: by 0.5mm/min] [20 - 100mm/min: by 5mm/min] [100 - 600mm/min: by 10mm/min]
Max. Sample Height *1	290mm
Rigidity	[Standard models] less than 0.25 mm [Long stroke (optional)] less than 0.6 mm
Stroke Limit	Controllable with upper and lower knob Digital length limit (travel distance)
Measuring Modes	Manual / Jog / Cycle mode
Functions	Counter (number of tests to repeat): Max. 65535 times Timer (pausing time): Up to 99 min 59 sec 9 (by 0.1 sec) Digital length limit (travel distance): by 0.1mm Storing operating patterns: up to 5 patterns
Control	Emergency stop, force control (*2), overload prevention (*2, *3), external signal input
Operating temperature humidity	0 to +40 degree Celsius 35 to 70% (avoid condensation)
Voltage	AC100 to 240V, 50/60Hz (Select from 100, 120 and 230V. Accessories are provided accordingly.)
Power Consumption	50W
Dimensions	See [Dimensions]
Weight	Approx. 23.5 kg
Accessories	Operation manual, power cable, spare fuse, tools, GF-2 (Grip mounting adaptor)
Available Options *4	-L : Extended stroke by 300mm -FA : Inbuilt liner scale
Mountable Force Gauges *5	Mechanical Force Gauge: FB, PS, PSM, PSH series Digital Force Gauge: DST, DSV, ZTS, ZTA series Load cell: DPU series (up to 500N *6)

\*1 Max. sample height refers to the distance between the table and the tip of force gauge measuring shaft when the head is at the top. (With up to 1000N model of ZTS/ZTA series)

\*2 ZTS/ZTA series force gauge and optional cable CB-518 are required.

\*3 It does not guarantee complete protection against overloading.


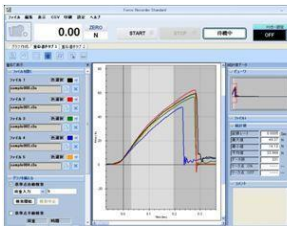
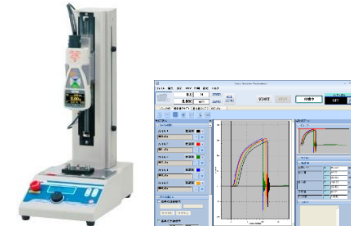
\*4 Add the option code after the model name to complete the model with options.

e.g. When adding long stroke option to EMX-1000N ... Model: EMX-1000N-L

\*5 Ensure to use within the capacity of force gauge and test stand regardless of the mountable models.

\*6 Mounting block (sold separately) is required to mount over 1000N range of DPU.

### [Related Products]





Digital Force Gauge ZTS/ZTA series		Software Force Recorder series	Force – Displacement Measurement Unit FSA series
With high sampling rate of 2000Hz, it offers highly precise measurement. Use optional cable to control motion together with EMX series.		This graphing software can start and stop automatically based on the trigger setting of EMX test stand function.	It draws a detailed graph of force and displacement, which is suitable for tactile test, material evaluation and more. The unit includes a force gauge, a test stand with a linear scale, a cable and a graphing software.
			
Cable	<b>CB-518</b>	For connecting with force gauge ZTS/ZTA series: Activates useful functions	
	<b>CB-706</b>	For –CN option: Open end cable to connect with external device	
	<b>CB-728</b>	For –FA option: Connects ZTA series force gauge and test stand to provide force and displacement measurement. (Motion control and related functions are also available.)	

### [Control Functions] Activated when ZTS/ZTA series force gauge and CB-518 are used together.

<ul style="list-style-type: none"> <li>• Overload Prevention: Prevents the sensor from getting damaged due to overloading. (It does not guarantee complete protection against overloading.)</li> <li>• Force control: Allows to set a force value to apply or to stop.</li> <li>• Measuring speed setting: Enables automatic speed change at a point of contact using the set force value.</li> <li>• Automatic measurement: Software recording and zeroing force gauge can be automatically done.</li> </ul>
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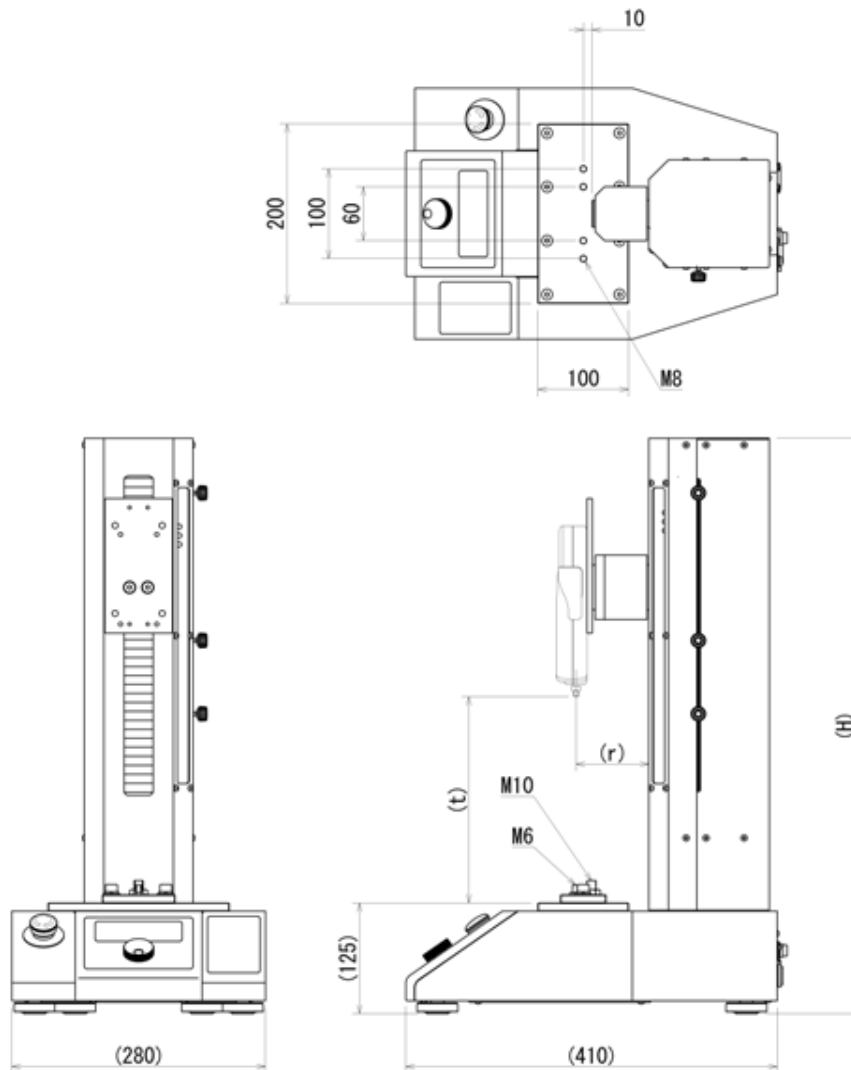
\* See 'Advanced Functions of Test Stands' for details.

### [Examples of Customized Solutions]

External signal input		Interlock	
Allows to mount a switch to start and stop operation such as a foot pedal, which improves efficiency or allows operating it together with your equipment.		Enables you to comply with a safety code by having safety shield, which stops movement of test stand when opened.	
Testing Large Samples		Controller-separated Model	
Recommended when you... <ul style="list-style-type: none"> <li>- Test a sample larger than test stand table.</li> <li>- Test multiple points on a large sample to push in/pull.</li> </ul>		Recommended when you... <ul style="list-style-type: none"> <li>- Want to incorporate IMADA testing system into your equipment</li> <li>- Fix controller/drive part on a specific place</li> <li>- Need to prevent dangers in testing by keeping distance.</li> </ul>	



[Dimensions]



		EMX-1000N	EMX-1000N-L
H		645	945
r	With DST/DSV/ZTS/ZTA (2N to 1000N) mounted	80	
	With ZTS/ZTA (2500N to 5000N) mounted	93	
	With DPU (lower than 500N) mounted	78	
	With DPU (Over 1000N) mounted	82	
t	With DST/DSV mounted	325	625
	With ZTS/ZTA (2N to 1000N) mounted	320	620
	With ZTS/ZTA (2500N to 5000N) mounted	365	665
	With DPU (2N to 10N) mounted	380	680
	With DPU (20N to 500N) mounted	375	675
	With DPU (1000N to 5000N) mounted	300	600

Unit: mm

\* Mounting block (optional) is required when mounting DPU-1000N to 5000N.

**[Cautions]**

- The contents may be changed without prior notice.
- Force gauge is not included but necessary to conduct force measurement.
- This product does not include a force gauge, optional attachments or optional cable.
- This product is designed for measurement purpose only.
- Do not copy the contents without permission.

**IMADA CO., LTD**

99 Jinnoshinden-cho aza Kanowari Toyohashi  
Japan 441-8077

Tel: +81-(0)532-33-3288

Fax: +81-(0)532-33-3866

E-mail: [info@forcegauge.net](mailto:info@forcegauge.net)

Website: <http://www.forcegauge.net/en/>



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