

Standard Type Vertical Motorized Test Stand MX3-500N

- Motorized Test Stand with a stable force application capacity of up to 500N
- Enable highly reproducible tests with uniform test conditions in speed/force direction
- Possible to control operation by force value (load keep, etc.)
- Dedicated downloadable software included for setting/saving/loading test conditions



MX3-500N



Image with a force gauge

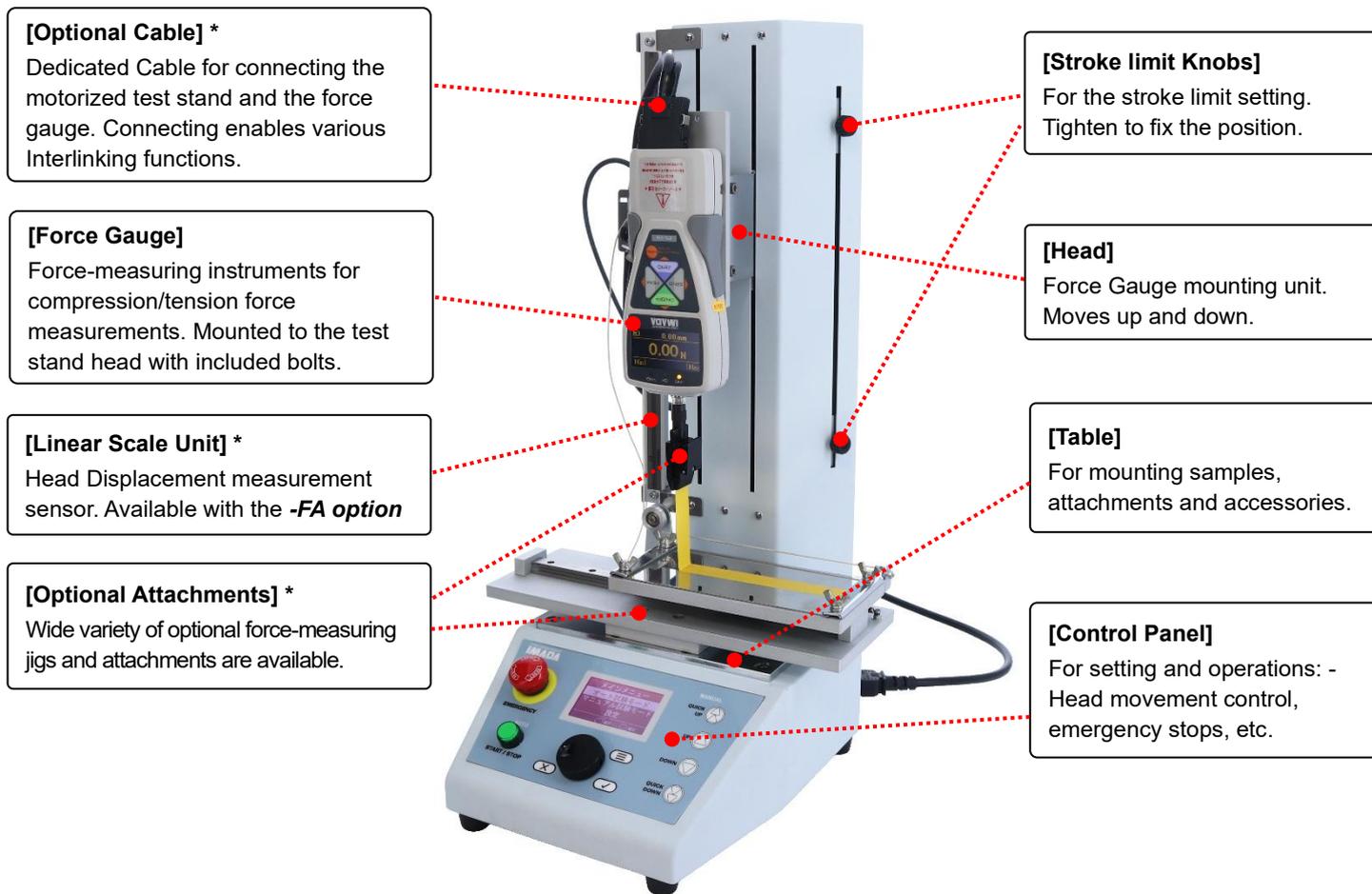
Features

<p>High measurement reproducibility</p> <ul style="list-style-type: none"> - Enables Stable force capacity of up to 500N - Stable uniformity in force directions and test speed - High rigidity with a low deflection design. 	<p>Cater to a wide range of measurement types</p> <ul style="list-style-type: none"> - Repeated durability test by setting the number of test cycles - Durability test by maintaining the specific force value (*2) - The table designed to cater to a various attachment.
<p>Simple Operation</p> <ul style="list-style-type: none"> - Display in English or Japanese languages - Simple test condition settings with dial and buttons operation - Clear display of test settings and status for immediate confirmation. - Software (*1) for test condition settings from PC included 	<p>Supporting Functions for Higher Operability and Safety</p> <ul style="list-style-type: none"> - Easy Stroke Limit setting with adjustable Knobs - Buttons for moving the head up/down manually at a set or max. speed - Trigger signal sent at the start/end of the test (*2) - Lock function to lock settings with a password

*1 Includes download rights for the **CS Test Preset Builder** software. Refer to page 6 for details.

*2 Connection with compatible force gauge via a dedicated cable is required. Refer to page 5 for details.

[Product Configuration Example]



*Optional Attachments and Optional Cables for Force gauge connections are sold separately. Linear-Scale Unit is pre-installed in -FA option.

[Control Panel]



[Basic Operations]

Test Modes: Automatic and Manual	
<p>Test Mode Setting from Main Menu and Auto Test Mode Setting Display</p>	<p>[Auto Test Mode]</p> <p>Auto Test Mode settings enable automatic movement of the head within the set stroke limits, utilizing the force value operation controls (with specified force values: stop, reverse, hold, etc.) and repeat settings, which can be configured with the required number of repeats and stops. *</p> <ul style="list-style-type: none"> ■ Speed Settings for Auto Test Mode <p>The speed settings are available within the range of 10 to 300 mm/min for the measurement Forward, Measuring, and Return. Refer to the [Product Specifications] for details on setting resolution and other specifications.</p> <p>[Manual Test Mode]</p> <p>Manual Test Mode for up and down moves and controlling the force gauge (Test-Stand Head) by pressing the Control Panel buttons. Separate up and down buttons for adjusting head movement and maximum speed settings. JOG MODE for minor up/down adjusting with the dial turning.</p>

* For operation control by force value, connect a compatible force gauge with a dedicated cable. Refer to [Force gauge interlocking function] on page 5 for more details.

[MX3-500N Optional Models]

Long Stroke (-L/-2L)	Speed Range changes (-V45/90/450/600/900)
<p>The long stroke options for extended test stand column and the stroke distances. Designed for testing longer material samples or long, highly stretchable samples, etc.</p>	<p>Enables the speed setting range changes from 1.5 to 900mm/min.</p> <ul style="list-style-type: none"> - The range depends on the options applied. - The capacity reduced in specific speed ranges.
Linear Scale Unit (-FA)	External Signal Input /Output (-CN)
<p>For installing the linear scale unit to the test stand for the head displacement measurement.</p> <p>A dedicated force gauge and cable are required for displacement input/output measurements.</p>	<p>For the external input/output (I/O) connector. Enables Start/Stop, Safety Input. Essential for connecting with other facilities and equipment. E.g., interlock cover, etc.</p>

- Refer to the [Specifications] for details of options.
- Customer-installable linear scale unit is also available. Refer to the [Accessories] for details.

[Specifications]

Model	MX3-500N (Motorized Test Stand)
Capacity	500N
Speed Range (*1)	10 to 300 mm/min [Setting in 0.5mm/min increments]
Max Sample Height (*2)	Approx. 235mm
Rigidity	[Standard Specification] 0.5 mm or less [with long stroke option (-L)] 1.0 mm or less [with long stroke option (-2L)] 2.0 mm or less
Stroke Limit Setting	2 Knobs for stroke limit adjusts
Test Mode	Auto Test Mode / Manual Test Mode
Counter and Timer Function	Counter: Maximum 99,999 counts (measurement count setting and counting) Timer: Maximum 99 minutes 59 seconds 9 (in 0.1 second increments)
Operation Control	Emergency Stop Button, Force Control (*3), Overload Stop Function (*3, *4)
Lock function	General Settings Lock, Test Conditions Change Lock
Operating Environment	Ambient Temperature: 0 to +40 °C / Relative Humidity: 85% or less (no condensation)
Power Supply	AC100-240V, 50/60Hz (Note: specify 100, 120, or 230V. Accessories vary.)
Power Consumption	50W
Dimension	Refer to [Dimensions]
Weight	Approx. 17kg
Supplied Accessories	Operating Manual, Power Cable, Spare Fuse, Tools, Chuck Mounting Plate (GF-1), Fall prevention attachments (For Long Stroke Option -2L Model), USB cable, Test Stand Operation Setting Software: CS Test Preset Builder (*5)
Available Options (*6, *7)	-L: Extended stroke by 200mm -2L: Extended stroke by 400mm -CN: External signal input/output -FA: Linear scale unit installation -V45: Speed 1.5~45mm/min [Setting in 0.05mm/min increments] -V90: Speed 3~90mm/min [Setting in 0.1mm/min increments] -V450: Speed 15-450mm/min [Setting in 0.5mm/min increments] -V600: Speed 20 to 600mm/min [Setting in 1mm/min increments] (Decrease capacity to 250N) -V900: Speed 30 to 900mm/min [Setting in 1mm/min increments] (Decrease capacity to 150N)
Compatible Measuring Instruments (*8)	Mechanical Force Gauge: FB/PS/PSM series Digital Force Gauge: DST, DSV, ZTS, ZTA series (maximum capacity 1000N or less) Load cell: DPU series (maximum capacity 500N or less)

*1 The speed unit: in/mm is also available only in international model. (0.40 to 11.80 in/mm [Setting in 0.02 in/min increments])

*2 Maximum Sample Height: Distance between the Test Stand Table and the mounted Force Gauge Shaft Tip (ZTS/A series) at the highest point

*3 Connection with a compatible force gauge by a dedicated cable is required. Refer to the [Force gauge Interlinking function]

*4 It does not guarantee complete prevention of failure from overloads.

*5 Test Stand Operation Setting Software: CS Test Preset Builder: Refer to Page 6 for details.

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

E.g. MX3-500N, Long Stroke Model ⇒ MX3-500N-L

*7 Models (Test Stands) with -V600 or -V900 options, the capacities are decreased.

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

[Accessories] Sold separately

Linear Scale Unit: OP-0.5K3-FA (-L/-2L) *
Self-installable linear scale unit for the measurement of Head movements for displacement data analysis.

* Dedicated linear scale only for the MX3-500N/-L/-2L.

* For displaying and outputting the Linear Scale Unit values, a compatible force gauge and a dedicated cable connection required.
Linear Scale Unit pre-installed Test Stand **-FA option** is also available.

[Force gauge Interlinking function] Applicable with the dedicated force gauge and cable connections.

Function	Compatible Force Gauge	Dedicated cable	Description
Overload Stop	ZTS/ZTA/eZT FA Plus2/eFA Plus2	CB-528 CB-718	Automatically stops the operation when an overload signal is received from the force gauge. *This function does not guarantee complete prevention of failure from overloads.
	QSMA-400	QCB-ST01	
Force Control	ZTS/ZTA/eZT FA Plus2/eFA Plus2	CB-528 CB-718	Test stand operation control with the force gauge (Stop/Reverse movement directions, force value Keep) according to the force value (limited for the Auto Test Mode operation).
	QSMA-400	QCB-ST01	
Speed Switch	ZTS/ZTA/eZT FA Plus2/eFA Plus2	CB-528 CB-718	Automatically switches the head speed from the forward speed to the measuring speed by the Set Point of force gauge (limited for the Auto Test Mode operation).
	QSMA-400	QCB-ST01	
Displacement Input/Output (*1)	ZTA/eZT FA Plus2/eFA Plus2	CB-718	Displays and Outputs the stand head movement measured with the Linear Scale Unit in displacement value. The force-displacement graphing software (sold separately) enables the graphing of the force-displacement relation.
	QSMA-400	QCB-ST01	
Record Trigger	ZTS/ZTA/eZT FA Plus2/eFA Plus2	CB-528 CB-718	Generates trigger signals at the start/end of auto tests. With the graphing software (sold separately), automatic recording of Start / Stop in response to a trigger signal.
	QSMA-400	QCB-ST01	
ZERO Singal	ZTS/ZTA/eZT FA Plus2/eFA Plus2	CB-528 CB-718	ZERO signal transmission at the start of a forward move in the Auto Test Mode and reset the force gauge to Zero. It is possible to reset only the peak value to zero by setting on the force gauge.
SEND Signal	ZTS/ZTA/eZT FA Plus2/eFA Plus2	CB-528 CB-718	Transmits a SEND signal when the return move of the Auto Test Mode ends. The measurement data memory is saved in the force gauge.

*1 Motorized Test Stand with a Linear Scale Unit is required for Displacement measurement.

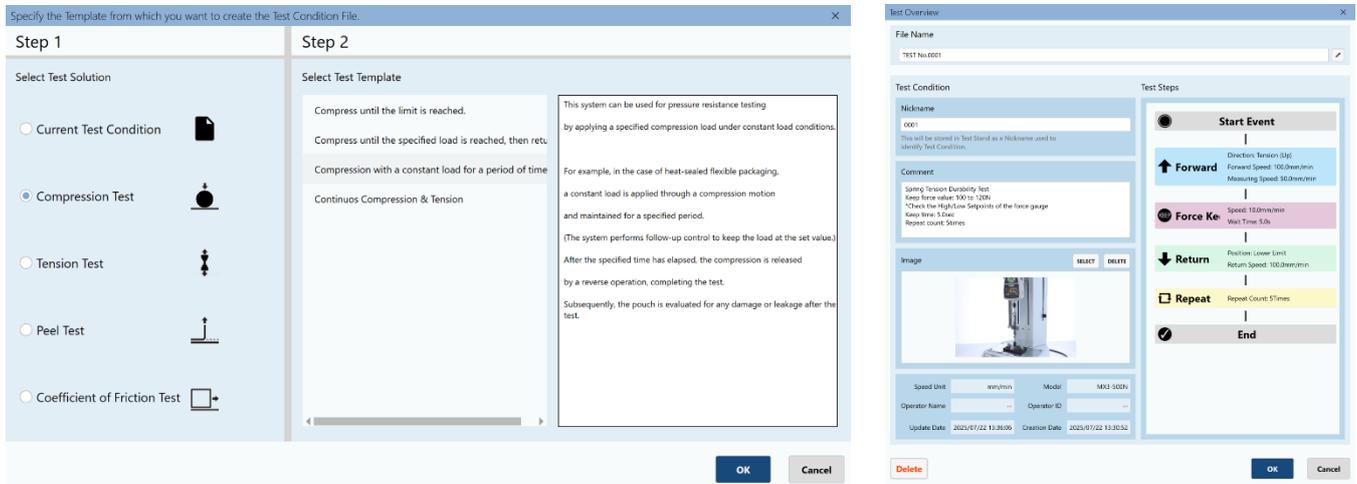
[Dedicated Cables]

CB-528	For connecting the Force Gauge to the Test Stand to enable Interlinking functions.
CB-718	Connect a force gauge with the displacement input/output functions to enable displacement input/output. *1 Enable Interlocking functions.
CB-716	For -CN option: Open-Ended Cable for connection with the Interlock Cover or other peripheral devices.

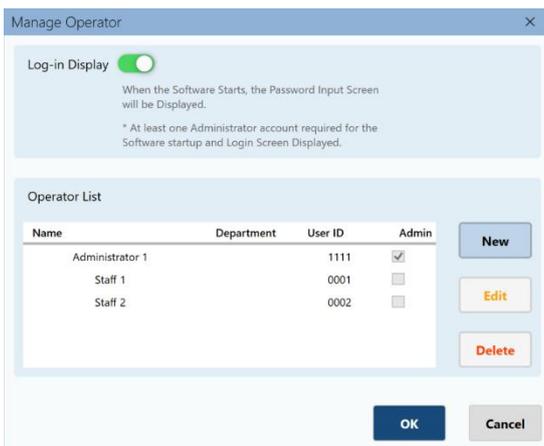
*1 Motorized Test Stand with a Linear Scale Unit is required for Displacement measurement.

[CS Test Preset Builder: Set Up Software For Test Stands]

The software allows the Auto Test Mode testing condition settings from PC or Tablet devices. (*1, *2)



Presets for Auto Test Mode (*3) can be easily created and reflected to the test stand by following simple procedures. For work efficiency, presets are saved and loaded to a PC or tablet device for easy test switching.



The Operator Management Function, used in conjunction with the lock function of the test stand, prevents other users from changing set testing conditions.

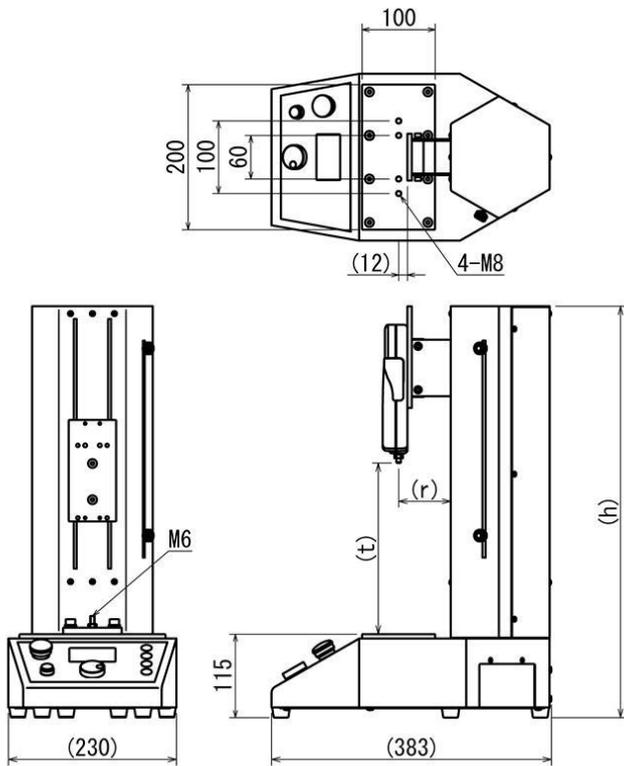
- *1 MX3-500N enables test condition settings without using CS Test Preset Builder.
- *2 CS Test Preset Builder: a download version for downloads from IMADA Connected with a user and the applicable product registration. Internet connection required for registration, downloading, and installing the CS Test Preset Builder.
- *3 Preset is to compile the test speed, reversal/stop conditions, etc. Images and comments added for each measurement preset; sample setting processes and measurement precautions can be saved as notes.

© Software operating environment

Operating Environment	Supported OS: Windows 10/11
Hardware	CPU: Recommended Core i3 1GHz or higher, Memory: Recommended 8GB or higher Hard Disk: 10GB or more (data storage area)
Platform	.NET 8
Screen Size	Resolution 1920 x 1080 pixels or higher
Precautions	- To download/ install/ use the software, Windows user account with the administrator rights is required. - An internet connection is necessary for downloading and installation.

[Dimensions]

Grip mounting adaptor GF-1 is depicted on the front view but not on the top view and the side view of Dimensions.
“M6” on the front view is for attachment installation and “M8” on the top view indicates the position of holes for the screw to fix the grip mounting adaptor to the stand.



	MX3-500N	MX3-500N-L	MX3-500N-2L	
h	567	767	967	
r	With ZTS/ZTA (2N to 500N) mounted	71		
	With DST/DSV mounted	71		
	With DPU (2N to 500N) mounted	69		
t	With DST/DSV mounted	15 to 245	15 to 445	15 to 645
	With ZTS/ZTA (2N to 500N) mounted	5 to 235	5 to 435	5 to 635
	With DPU (2N to 10N) mounted	30 to 260	30 to 460	30 to 660
	With DPU (20N to 500N) mounted	20 to 250	20 to 450	20 to 650

Unit: mm

[Cautions]

- Information in this document is subject to change without prior notice.
- This document is product descriptions and handling precautions, and do not guarantee various characteristics or safety.
- This product is designed for force measurement purpose only.
- Do not copy and use this content without authorization.
- A force gauge (sold separately) is required to use this product.
- Do not use this product in the environments including fierce temperature changes, high temperature, high humidity, near water, dusty place.

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Visit our website for more information on a wide range of product specifications, measurement applications and videos.