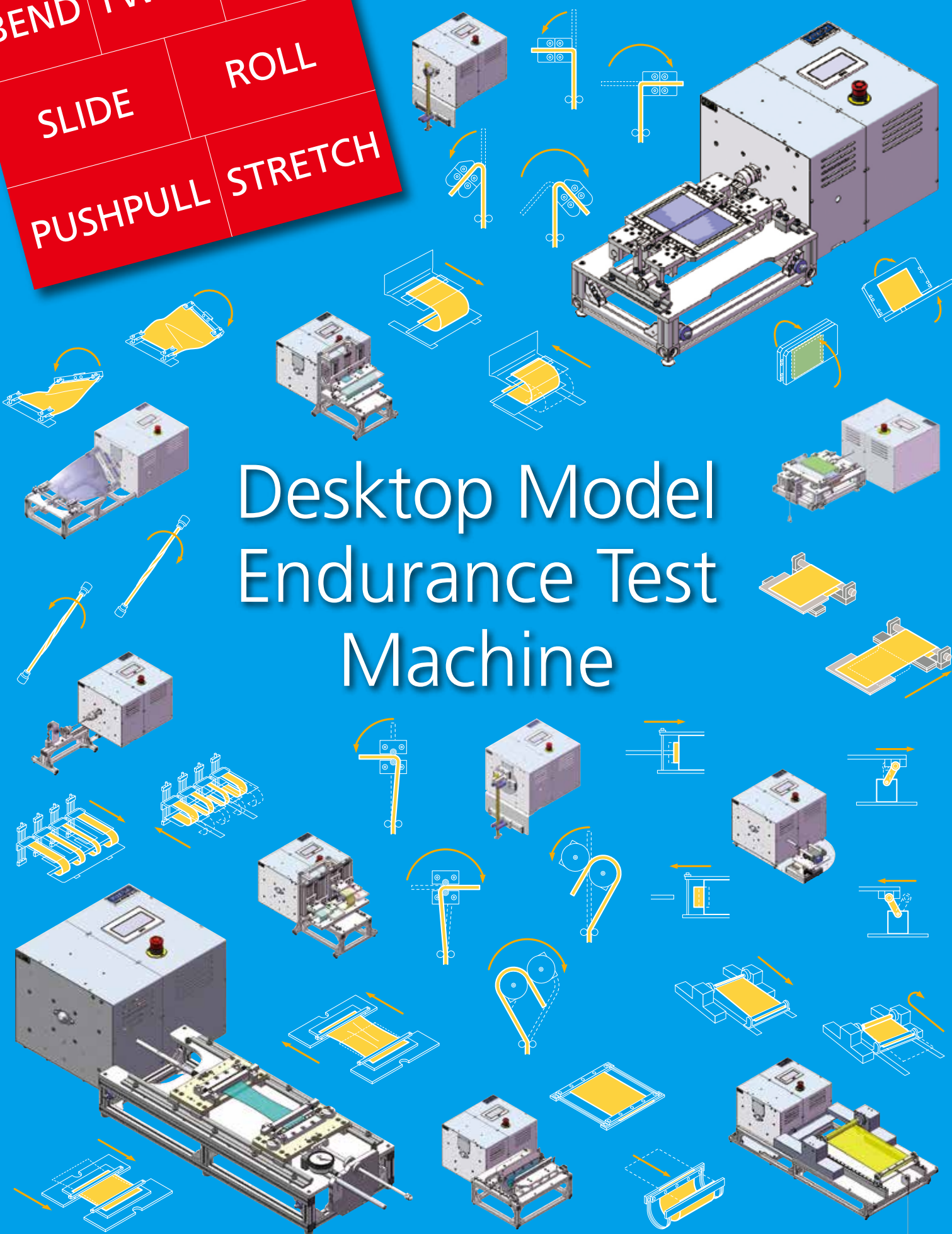


7 Basic Motions

BEND	TWIST	FOLD
SLIDE	ROLL	
PUSH/PULL		STRETCH

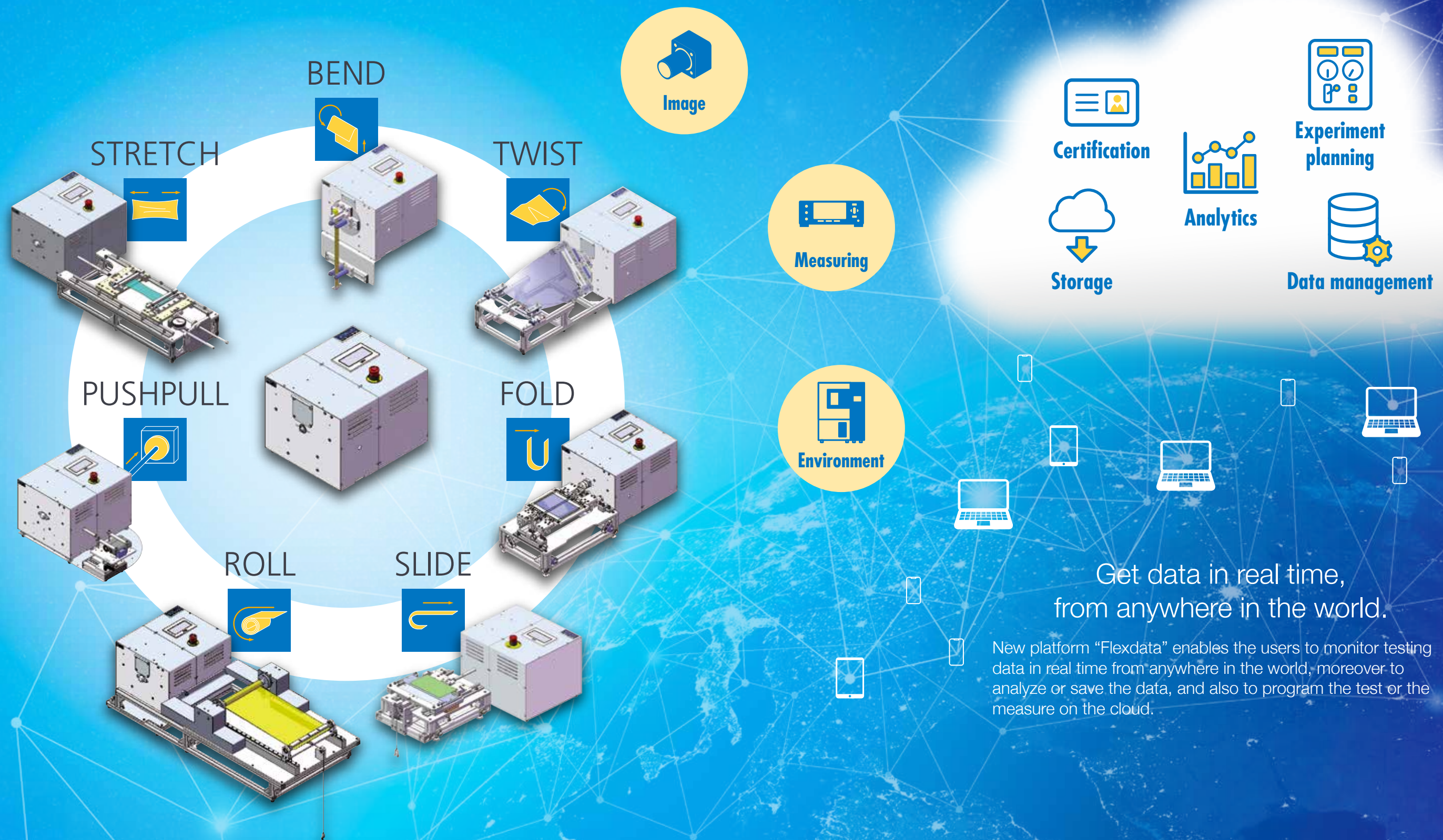


Desktop Model Endurance Test Machine

A Wide Range of Endurance Tests with Our Smaller Machine

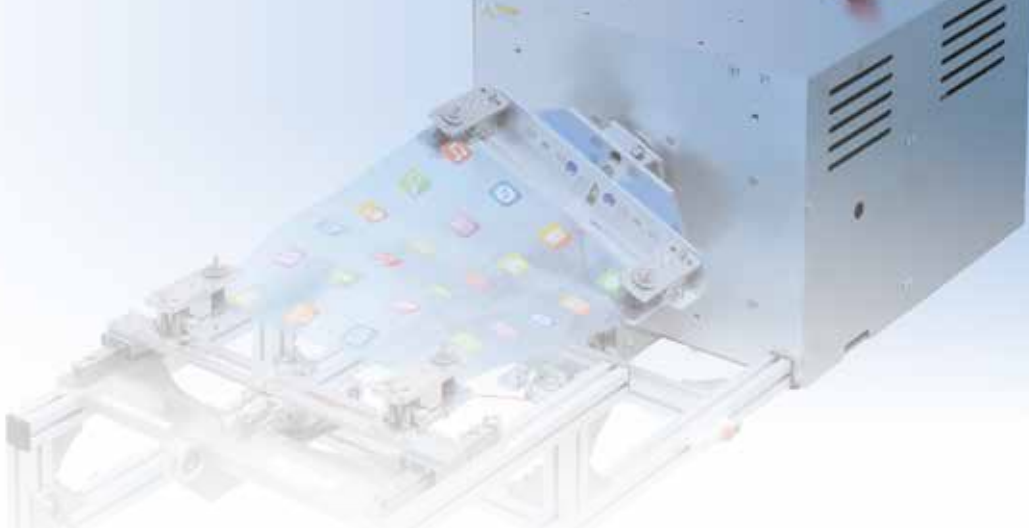
Desktop Model Endurance Test Machine




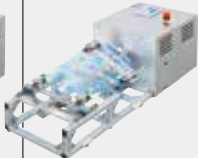









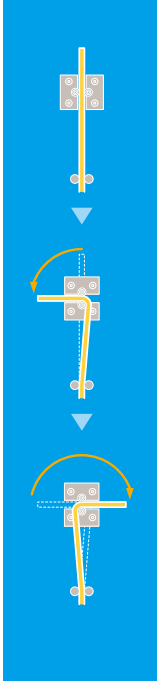
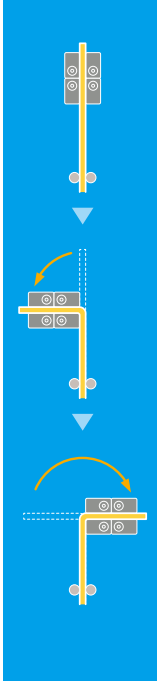
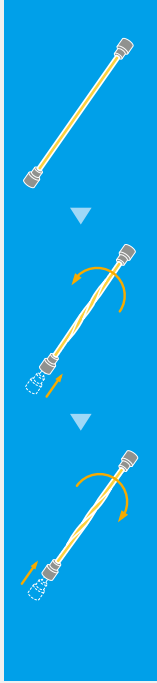
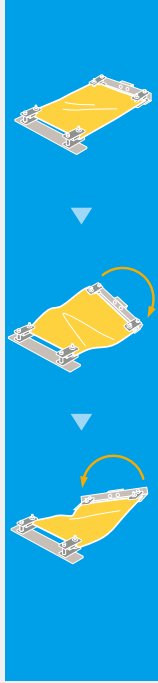
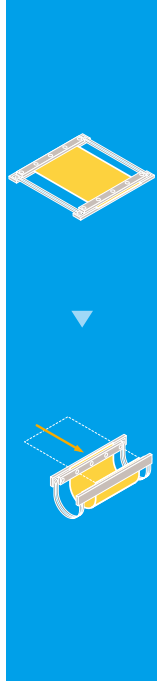
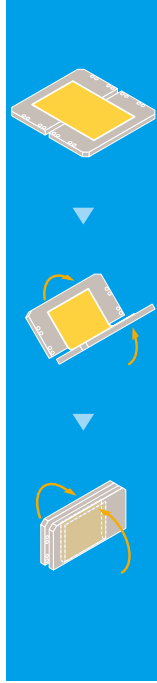
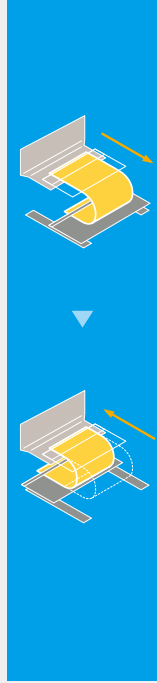
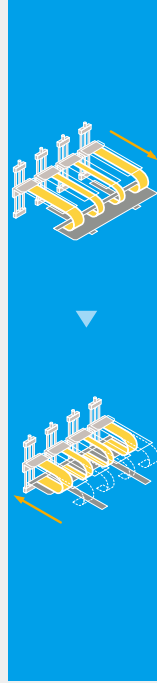
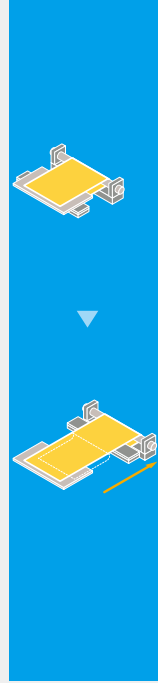

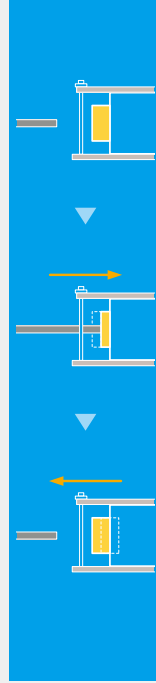
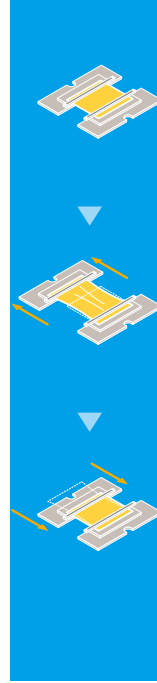
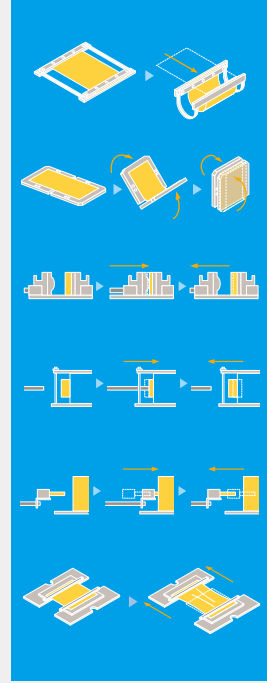
We can do various tests by changing the test jig.
This machine is quiet and space-saving design.



Basic
Motions

Yuasa's Desktop Model Endurance Test Machines provide
7 Basic Motions



BEND		TWIST		FOLD		SLIDE			ROLL	PUSHPULL	STRETCH	Multifunction <small>BEND/SLIDE/PUSHPULL/STRECH</small>
DMLHB-P150	DMLHB-C4BR DMLHB-C2BR DMLHB-C1BR	DMLHB-TW	DMLHB-FT	DMLHB-FS DMLHB-FS-C	—	DMLHB-FU	DMLHB-4U	DMLHB-SU	DMLHB-FR	DMLHB-PP	—	DMLHB-FSN-P...
DMLHP-P150	DMLHP-C4BR DMLHP-C2BR DMLHP-C1BR	DMLHP-TW	DMLHP-FT	DMLHP-FS DMLHP-FS-C	DMLHP-CS	DMLHP-FU	DMLHP-4U	DMLHP-SU	DMLHP-FR	DMLHP-PP	DMLHP-ST	DMLHP-FSN-P...
—	—	DMLHPR-TW	—	—	—	—	—	—	—	—	—	—
Bending Test <small>P150 Type (ø150 Faceplate)</small>	Bending Test <small>CBR Type (Centripetal Clamp Faceplate)</small>	Twisting Test <small>TW Type</small>	Twisting Test <small>FT Type</small>	Folding Test <small>FS / FS-C Type</small>	Folding Test <small>CS Type</small>	Sliding Test <small>FU Type (1-lane)</small>	Sliding Test <small>4U Type (4-lane)</small>	Sliding Test <small>SU Type</small>	Rolling Test <small>FR Type</small>	Pushing / PullingTest <small>PP Type</small>	Stretching Test <small>ST Type</small>	Multifunctional Test <small>FSN Type</small>
												
P150	CBR	TW	FT	FS	CS	FU	4U	SU	FR	PP	ST	FSN
												
p. 05	p. 07	p. 09	p. 11	p. 13	p. 15	p. 17	p. 19	p. 21	p. 23	p. 25	p. 27	p. 29

BEND <small>Bending Test</small>	TWIST <small>Twisting Test</small>	FOLD <small>Folding Test</small>	SLIDE <small>Sliding Test</small>	ROLL <small>Rolling Test</small>	PUSHPULL <small>Pushing / Pulling Test</small>	STRETCH <small>Stretching Test</small>	Multifunction <small>Multifunctional Test</small>	Specifications of Base Unit
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BEND



SMALL

DMLHB-P150 / DMLHP-P150

Desktop Model Endurance Test Machine

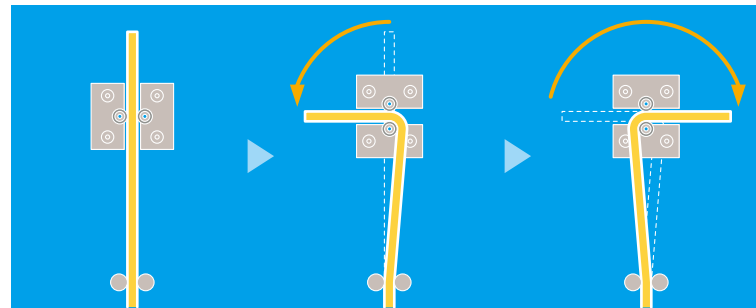
Bending Test P150 Type (ø150 Faceplate)

Using an object such as cable, harness, element wire and fine line as well as belt-shaped objects up to 30mm in width, various bending tests are conducted quickly and easily.

Attachment (Test Jig)

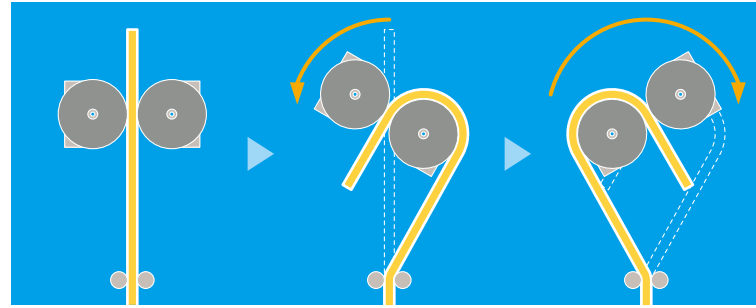
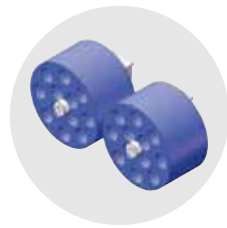
Bend Radius:10mm (Accessory)

A two-piece set of bend radius jig (mandrel) holds a test piece and bend it.



Bend Radius:40mm (max.)

Maximum bending radius is R40mm, operating range is up to $\pm 180^\circ$.



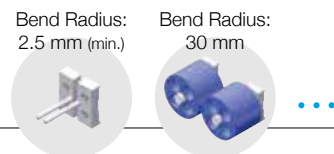
Test Pieces

- Linear Test Piece ... »Cables (Electric Wires, Optical Fibers) »Harness »Cable Guides »Tubes »Wires »Fibers
- Planar Test Piece ... »Flexible Displays »Organic Electroluminescence Devices »Barrier Film »Flexible Printed Circuits »Flat Cables

Notes

»CE Marking

It is possible to change the bend radius from 2.5 mm - 40 mm.
Can be specified in increments of 0.5 mm.



Web

Please check the latest specification on the web.

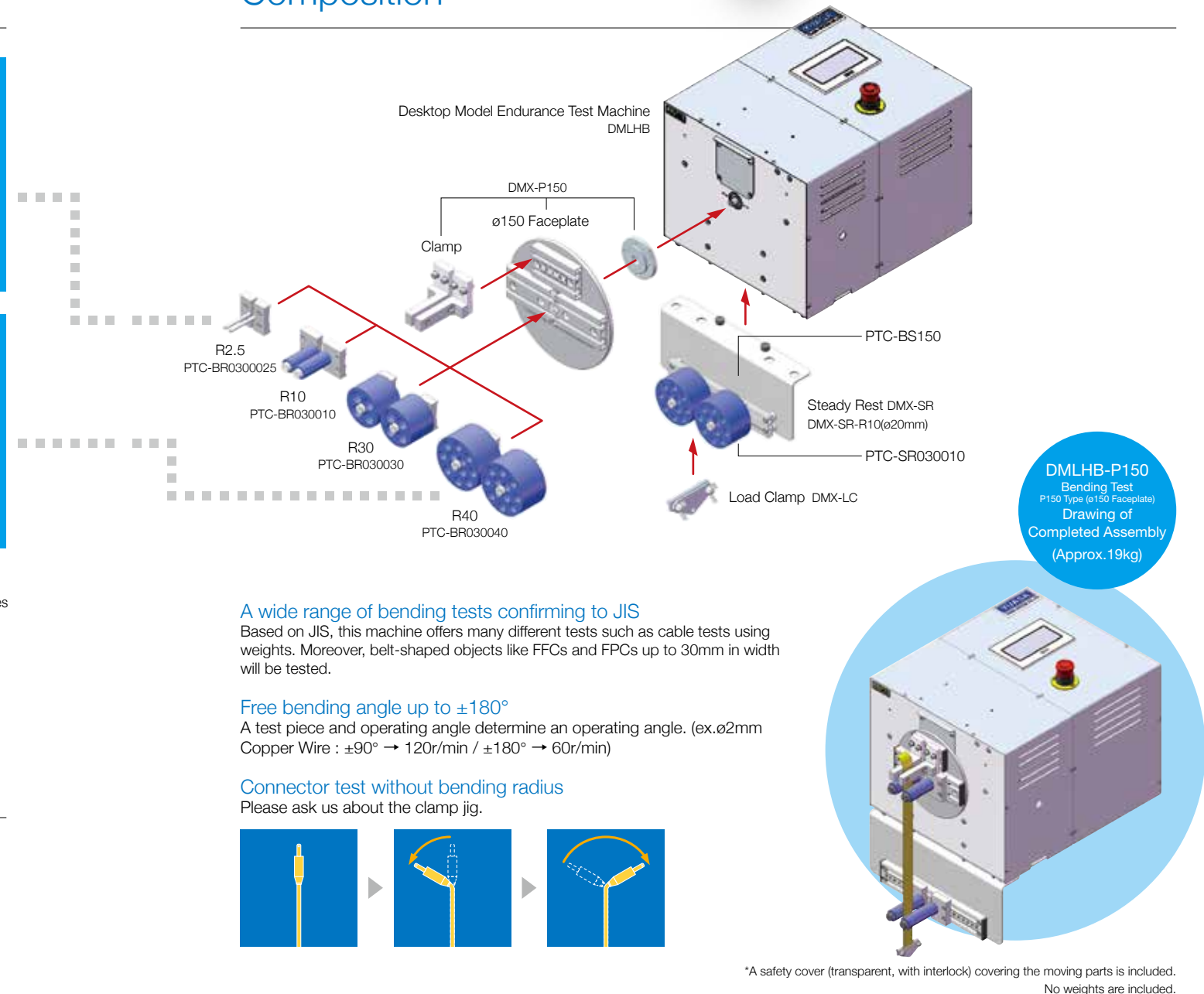
<https://www.yuasa-system.jp/en>

MODELS



You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.

Composition



A wide range of bending tests confirming to JIS

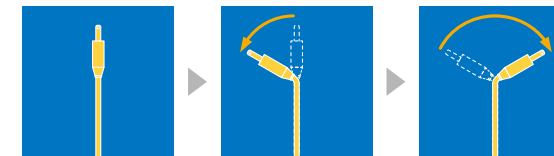
Based on JIS, this machine offers many different tests such as cable tests using weights. Moreover, belt-shaped objects like FFCs and FPCs up to 30mm in width will be tested.

Free bending angle up to $\pm 180^\circ$

A test piece and operating angle determine an operating angle. (ex.ø2mm Copper Wire : $\pm 90^\circ \rightarrow 120r/min$ / $\pm 180^\circ \rightarrow 60r/min$)

Connector test without bending radius

Please ask us about the clamp jig.



*Refer to p.33 regarding the driving specification.

*A safety cover (transparent, with interlock) covering the moving parts is included.
No weights are included.

BEND
Bending Test
P150 Type (ø150 Faceplate)

TWIST
Twisting Test

FOLD
Folding Test

SLIDE
Sliding Test

ROLL
Rolling Test

PUSH/PULL
Pushing / Pulling test

STRETCH
Stretching Test

Multifunction
Multifunctional Test

Specifications of
Base Unit

BEND



SMALL

DMLHB-C4BR / DMLHP-C4BR (4R-block)
DMLHB-C2BR / DMLHP-C2BR (2R-block)
DMLHB-C1BR / DMLHP-C1BR (1R-block)

Desktop Model Endurance Test Machine

Bending Test CBR Type (Centripetal Clamp Faceplate)

With an effective combination of the clamp and bending radius blocks(R-block), a wide range of bending tests will be performed.

This machine is made for testing in smaller bend radii. There are some objects that can be tested with conventional mandrels.

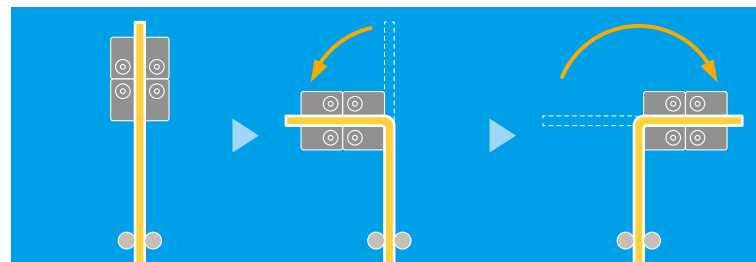
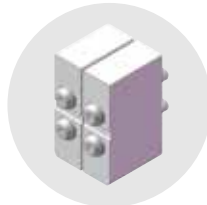
Attachment (Test Jig)

Bending block is usable as clamp.

4R-block

Operating Range:
up to $\pm 90^\circ$

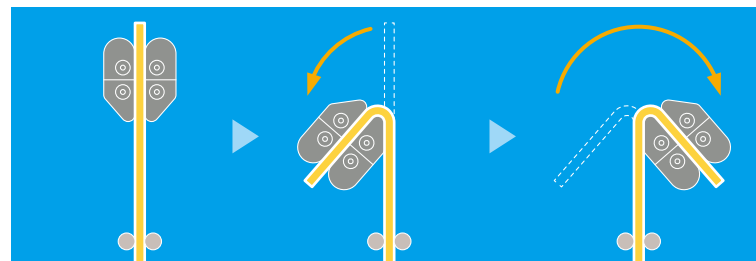
Requirements for
R-Adjustment:
Up to 4 bending radii
can be specified (Total
R-value of two adjacent
corners is less than 15)
Setting R in standard
products: R0.5/R1.0/R1.5/R2.0



2R-block

Operating Range:
up to $\pm 135^\circ$

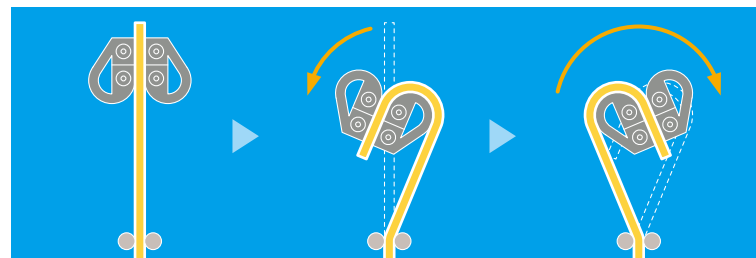
Requirements for
R-Adjustment:
Up to 2 bending radii
can be specified (R11
or lower/MIT test
method R0.38 can also
be separately
supported) Setting R in
standard products: R1.0/R2.0



1R-block

Operating Range:
up to $\pm 180^\circ$

Requirements for
R-Adjustment:
R10 - 50 Setting R in
standard products: R50



Test Pieces

• Linear Test Piece ... »Cables (Electric Wires, Optical Fibers) »Harness »Cable Guides »Tubes »Wires »Fibers
• Planar Test Piece ... »Flexible Displays »Organic Electroluminescence Devices »Barrier Film »Flexible Printed Circuits »Flat Cables

Notes

»CE Marking

Web

Please check the
latest specification
on the web.

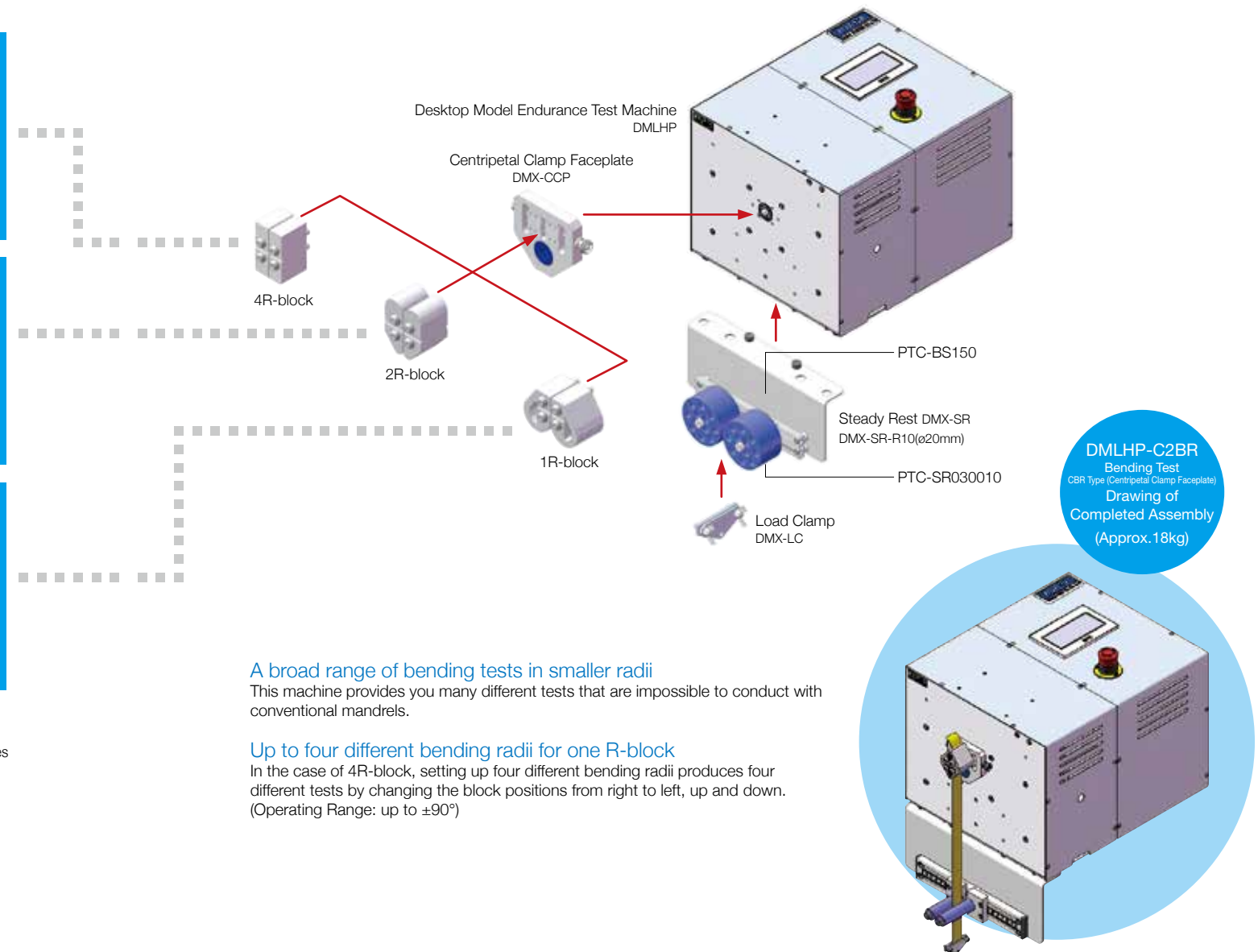
<https://www.yuasa-system.jp/en>

MODELS



You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.

Composition



A broad range of bending tests in smaller radii

This machine provides you many different tests that are impossible to conduct with conventional mandrels.

Up to four different bending radii for one R-block

In the case of 4R-block, setting up four different bending radii produces four different tests by changing the block positions from right to left, up and down. (Operating Range: up to $\pm 90^\circ$)

*A safety cover (transparent, with interlock) covering the moving parts is included.
No weights are included.

*Refer to p.33 regarding the driving specification.

BEND
Bending Test
CBR Type (Centripetal Clamp Faceplate)

TWIST
Twisting Test

FOLD
Folding Test

SLIDE
Sliding Test

ROLL
Rolling Test

PUSHPULL
Pushing / Pulling Test

STRETCH
Stretching Test

Multifunction
Multifunctional Test

Specifications of
Base Unit

TWIST



SMALL

DMLHB-TW / DMLHP-TW / DMLHPR-TW

Desktop Model Endurance Test Machine

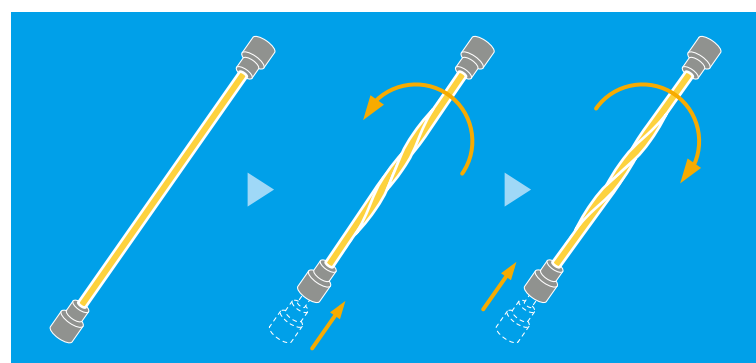
Twisting Test TW Type

This machine offers profitable tests for linear objects like cables and fibers.

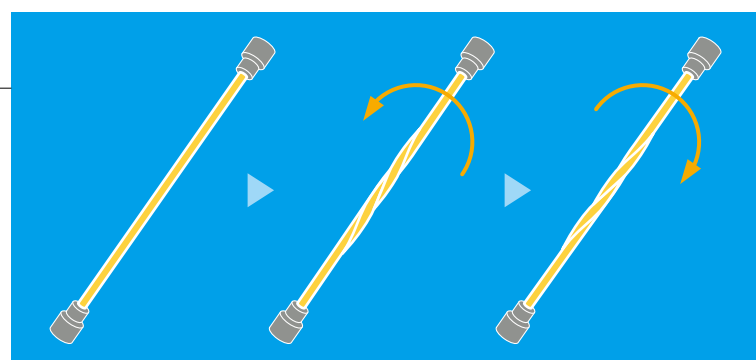
Attachment (Test Jig)

Twisting Test Jig

Holding a test piece with the chuck jig, the output axis twists one end of the object while the jig frame secures the other end.



Not following
(Example of test)



Test Pieces

• Linear Test Piece ... »Cables (Electric Wires, Optical Fibers) »Harness »Cable Guides »Tubes »Wires »Fibers

Notes

»CE Marking

Web

Please check the latest specification on the web.

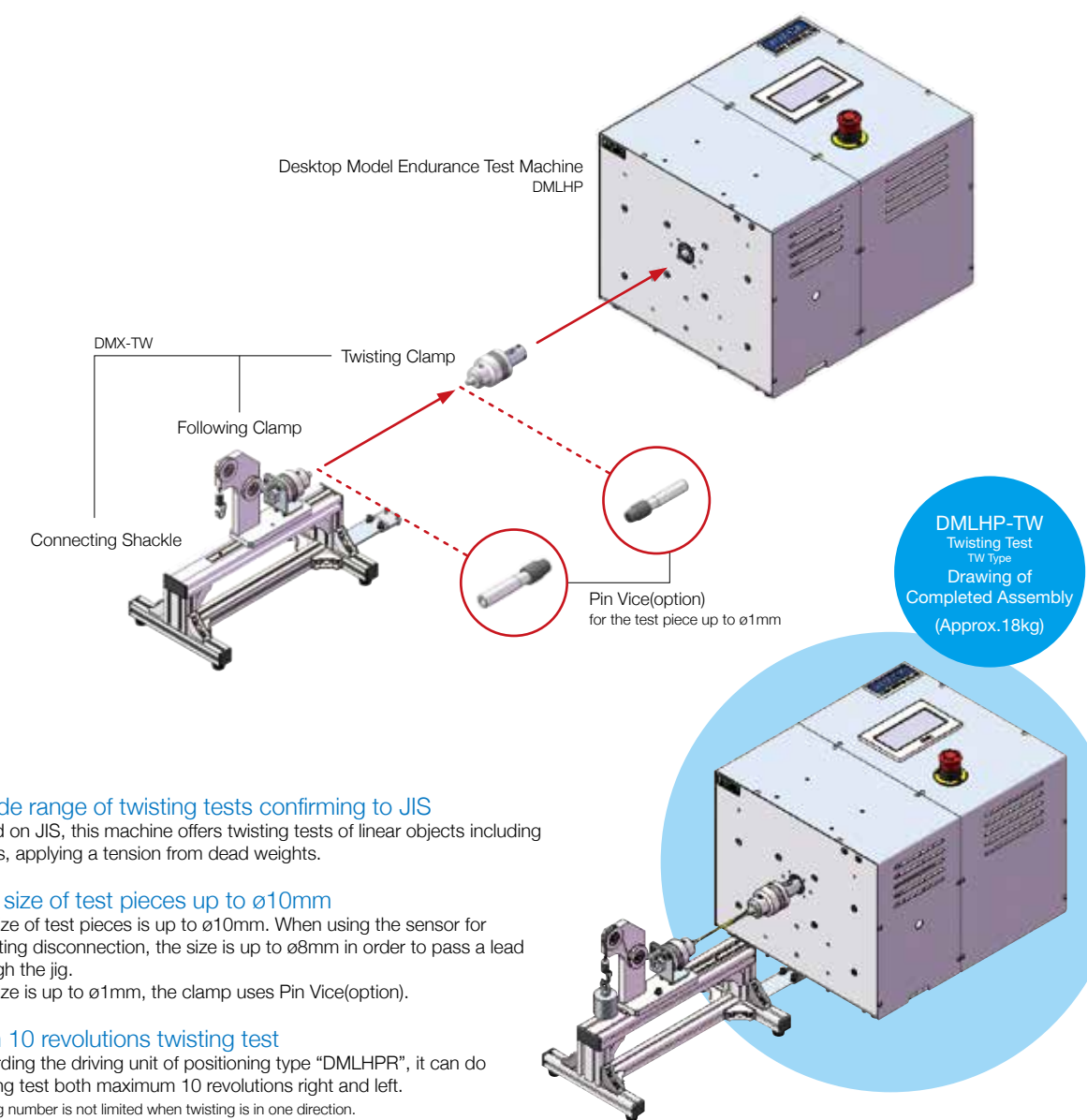
<https://www.yuasa-system.jp/en>

MODELS



You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.

Composition



A wide range of twisting tests confirming to JIS

Based on JIS, this machine offers twisting tests of linear objects including cables, applying a tension from dead weights.

Free size of test pieces up to ø10mm

The size of test pieces is up to ø10mm. When using the sensor for detecting disconnection, the size is up to ø8mm in order to pass a lead through the jig.

The size is up to ø1mm, the clamp uses Pin Vice(option).

Both 10 revolutions twisting test

Regarding the driving unit of positioning type "DMLHPR", it can do twisting test both maximum 10 revolutions right and left.

Twisting number is not limited when twisting is in one direction.

*A safety cover (transparent, with interlock) covering the moving parts is included.
No weights are included.

BEND
Bending Test

TWIST
Twisting Test
TW Type

FOLD
Folding Test

SLIDE
Sliding Test

ROLL
Rolling Test

PUSH/PULL
Pushing / Pulling Test

STRETCH
Stretching Test

Multifunction
Multifunctional Test

Specifications of
Base Unit

TWIST



SMALL

DMLHB-FT / DMLHP-FT

Desktop Model Endurance Test Machine

Twisting Test FT Type

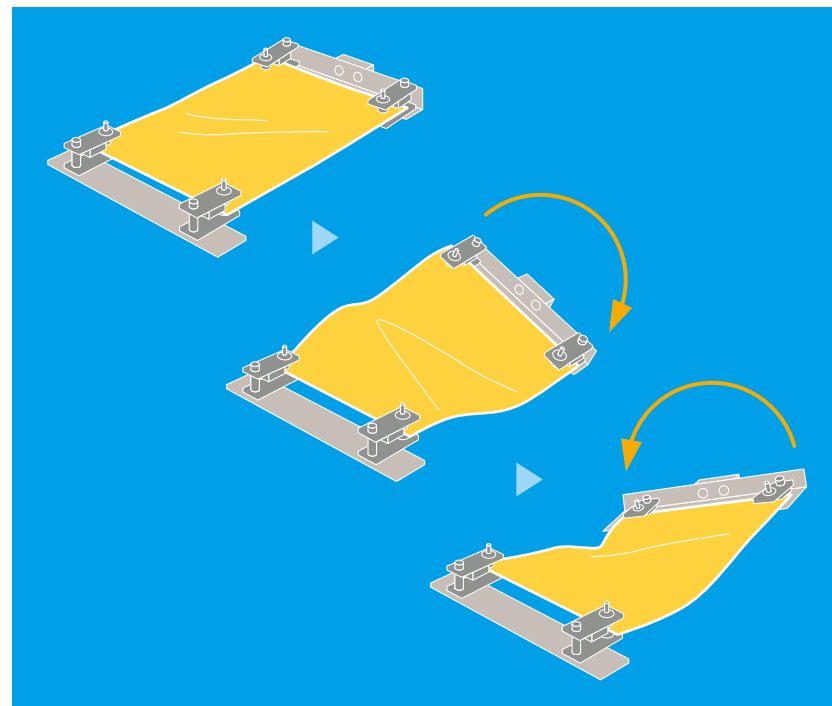
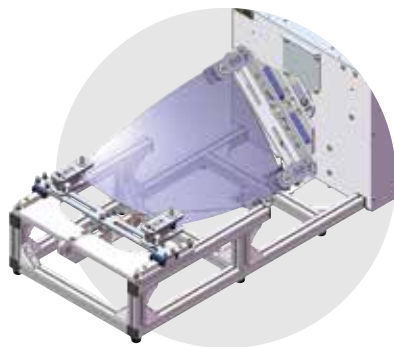


This machine realizes profitable tests for planar objects like flexible displays.

Attachment (Test Jig)

Twisting Test Jig

Holding a test piece with the clamp jig, the output axis twists one edge of the object while the jig frame clamp secures the other edge.



Test Pieces

• Planar Test Piece ...

»Flexible Displays »Organic Electroluminescence Devices »Barrier Film »Flexible Printed Circuits »Flat Cables

Notes

»CE Marking

Web

Please check the latest specification on the web.

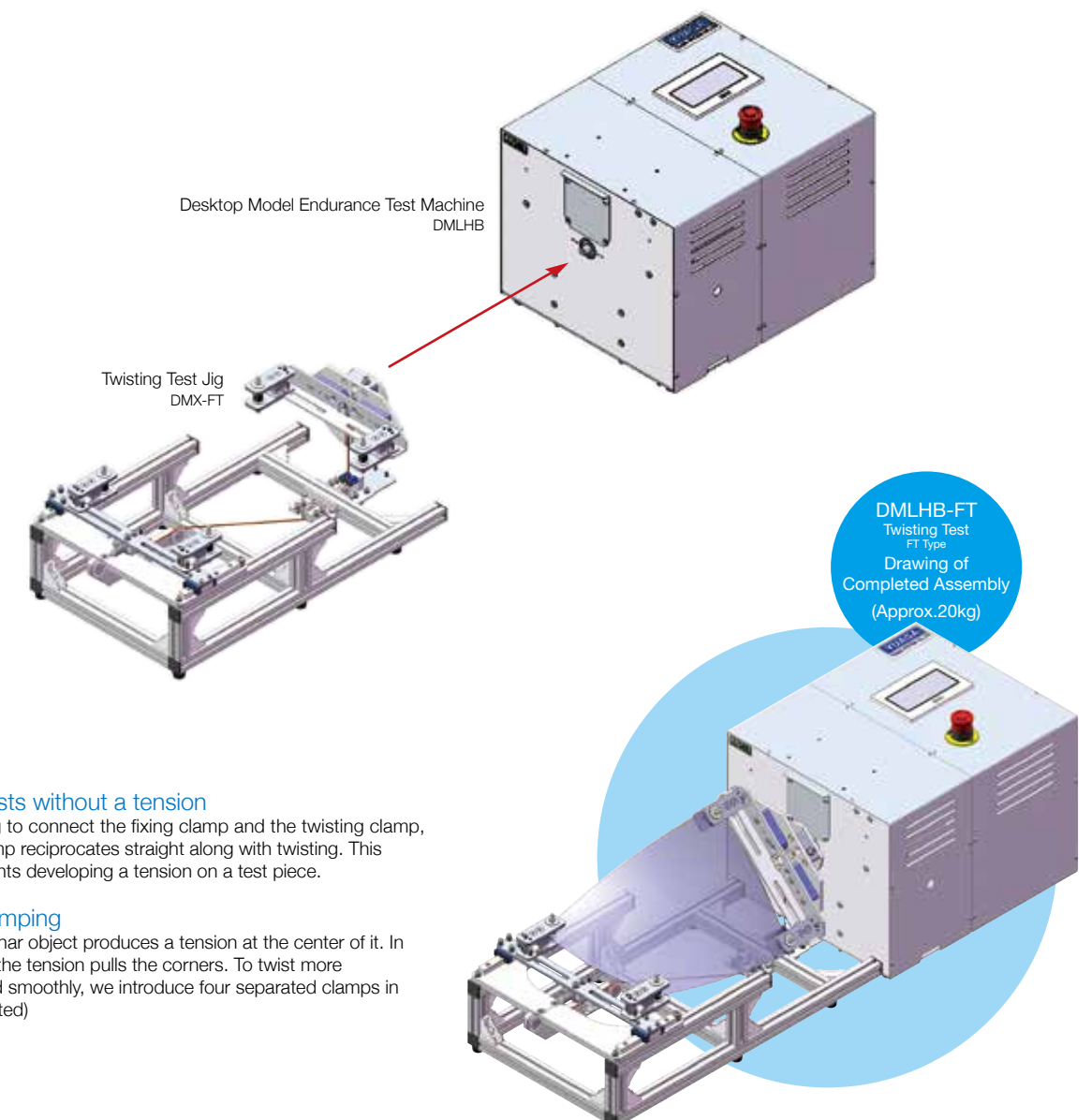
<https://www.yuasa-system.jp/en>

MODELS



You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.

Composition



Twisting tests without a tension

Using a string to connect the fixing clamp and the twisting clamp, the fixing clamp reciprocates straight along with twisting. This system prevents developing a tension on a test piece.

4-point clamping

Twisting a planar object produces a tension at the center of it. In other words, the tension pulls the corners. To twist more effectively and smoothly, we introduce four separated clamps in the jig. (patented)

*Refer to p.33 regarding the driving specification.

*A safety cover (transparent, with interlock) covering the moving parts is included.

BEND
Bending Test

TWIST
Twisting Test
FT Type

FOLD
Folding Test

SLIDE
Sliding Test

ROLL
Rolling Test

PUSH/PULL
Pushing / Pulling Test

STRETCH
Stretching Test

Multifunction
Multifunctional Test

Specifications of
Base Unit

FOLD



SMALL

DMLHB-FS / DMLHP-FS
DMLHB-FS-C / DMLHP-FS-C (Cartridge-type)

Desktop Model Endurance Test Machine

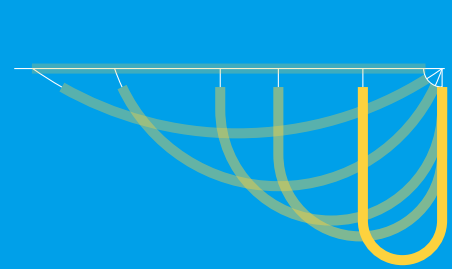
Folding Test FS / FS-C Type



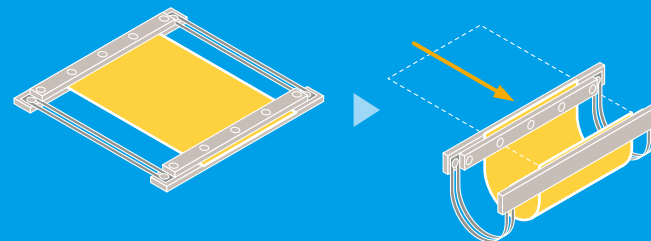
The bending load is applied by having one side of the sample move straight towards the other side. The sample only receives bending load so there are no applied tension or friction.

Attachment (Test Jig)

Basic Movement



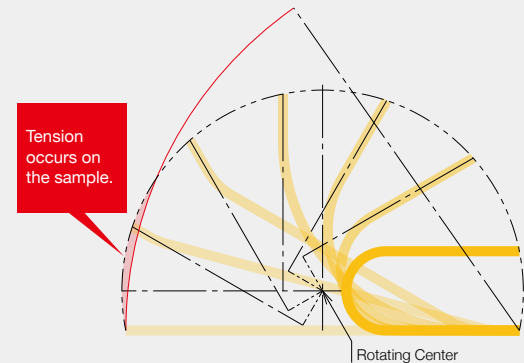
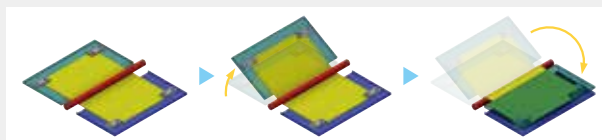
Jig Movement



Set the sample flat on the tilt clamp. The equipment will repeat flat and bend motion. When bending, the tilt clamp moves downward so the sample would bend in natural U-shape. It is possible to perform vertical tests by setting the tilt clamp up right.

Issues During General Folding Test

When conducting tests with equipments shown in the below diagram, a large tension occurs on the sample when the test starts. The cause of this is clear when drawing a circle with radius the same length as the sample on the movement track of the test machine, shown on right. As shown in red in the diagram, the length of the sample is too short against the movement track of the clamp. If one uses a rod, this becomes more apparent. This causes the unexpected breaks and disperse in the test results in actual tests.



Test Pieces

• Planar Test Piece ...
»Flexible Displays »Organic Electroluminescence Devices »Barrier Film »Flexible Printed Circuits »Flat Cables

Notes

»CE Marking

Web

Please check the latest specification on the web.

<https://www.yuasa-system.jp/en>

MODELS



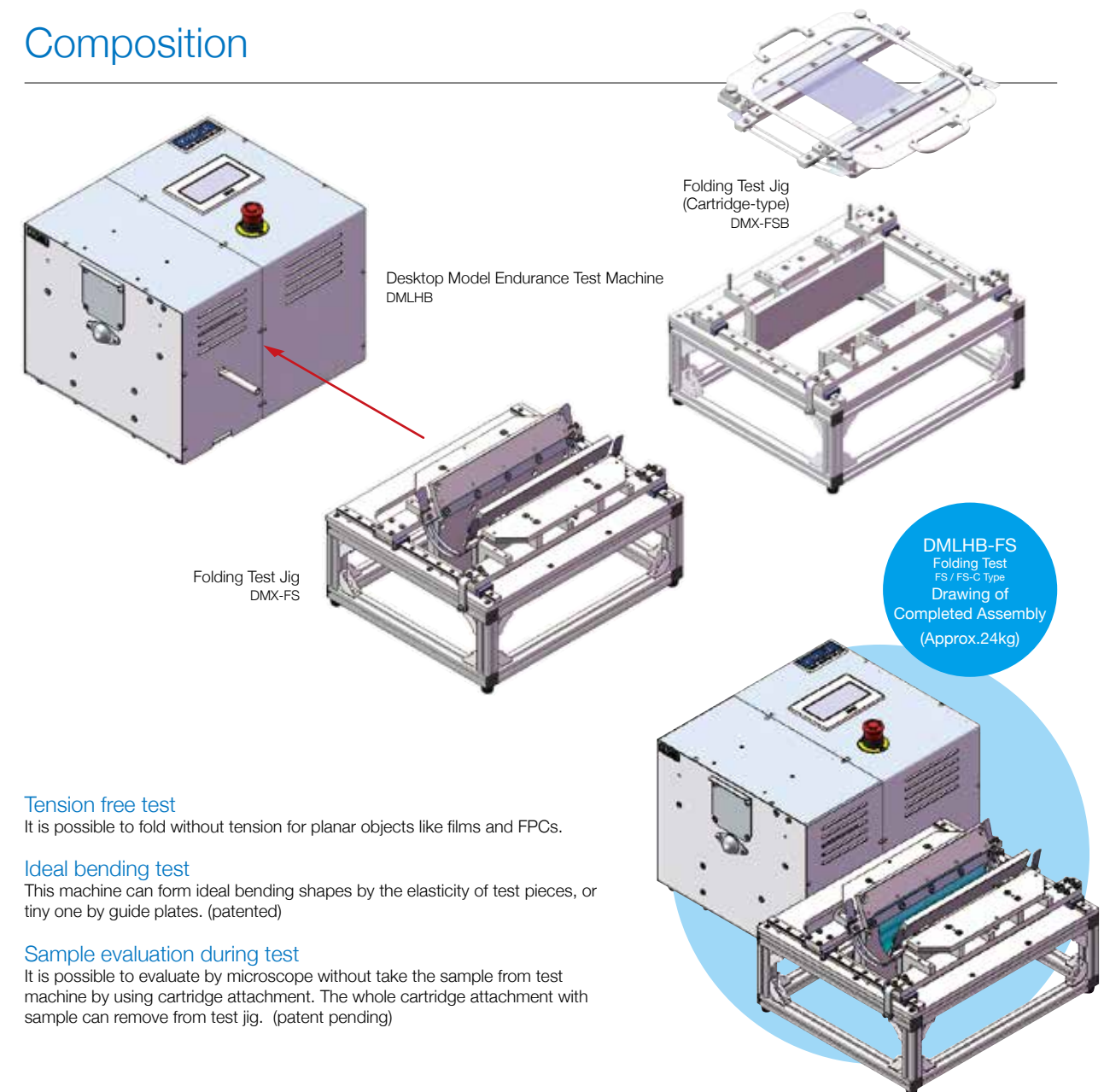
You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.



DMLHB-FS-C

DMLHP-FS

Composition



Tension free test

It is possible to fold without tension for planar objects like films and FPCs.

Ideal bending test

This machine can form ideal bending shapes by the elasticity of test pieces, or tiny one by guide plates. (patented)

Sample evaluation during test

It is possible to evaluate by microscope without take the sample from test machine by using cartridge attachment. The whole cartridge attachment with sample can remove from test jig. (patent pending)

*A safety cover (transparent, with interlock) covering the moving parts is included.

*Refer to p.33 regarding the driving specification.

FOLD



SMALL

DMLHP-CS

Desktop Model Endurance Test Machine

Folding Test CS Type

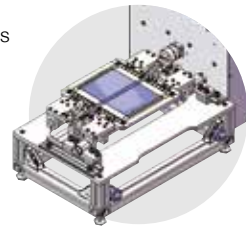


This test machine can examine by tiny bending radius. This test method doesn't occur the tensile stress to the test sample. Test of same bending motion as actual product can also be performed.

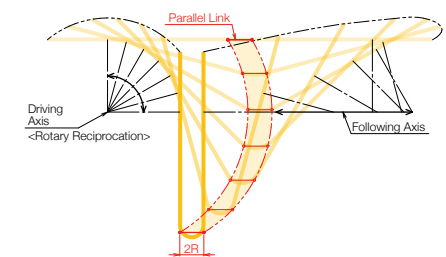
Attachment (Test Jig)

Folding Test Jig

This test jig can realize the tiny bending radius (0.5 - 5mm) test without tensile stress because test sample is kept by the 2 plates of double-joint clamshell (patent pending).

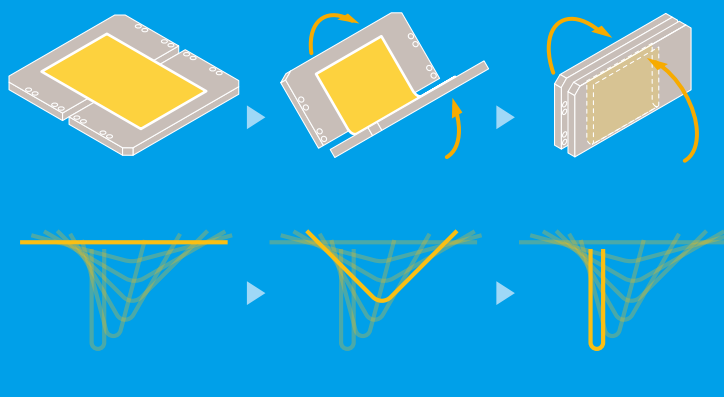


Sample-deformation process



Two plates keep the test sample, and then one plate operates by Rotary Reciprocation Axis. This two plates move open and close keeping each angle by the parallel link structure.

Jig Movement



Deformation process focused on test sample shape



This test jig doesn't make the tensile stress occur to the test sample because rotary point is at the edge of plate. If the rotary point is different position, the tensile stress or compression stress will occur to the test sample.

Test Pieces

• Planar Test Piece ...

»Flexible Displays »Organic Electroluminescence Devices »Barrier Film »Flexible Printed Circuits »Flat Cables

Notes

»CE Marking

Web

Please check the latest specification on the web.

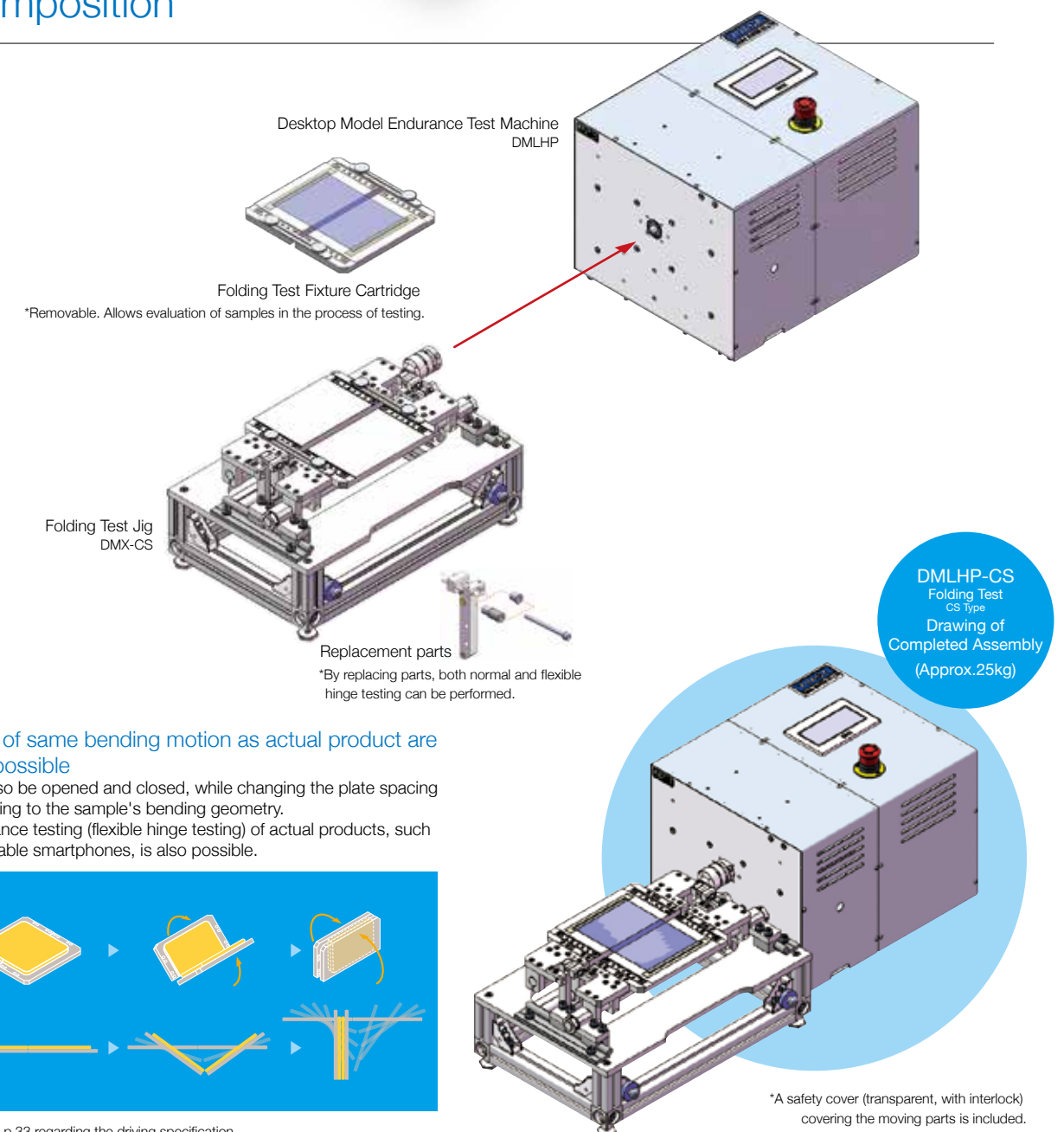
<https://www.yuasa-system.jp/en>

MODELS



You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.

Composition



BEND
Bending Test

TWIST
Twisting Test

FOLD
Folding Test
CS Type

SLIDE
Sliding Test

ROLL
Rolling Test

PUSHPULL
Pushing / Pulling Test

STRETCH
Stretching Test

Multifunction

Base Unit

Specifications of

SLIDE



SMALL

DMLHB-FU / DMLHP-FU

Desktop Model Endurance Test Machine

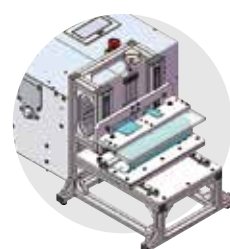
Sliding Test FU Type (1-lane)

This machine realizes profitable tests for planar objects like flexible displays.

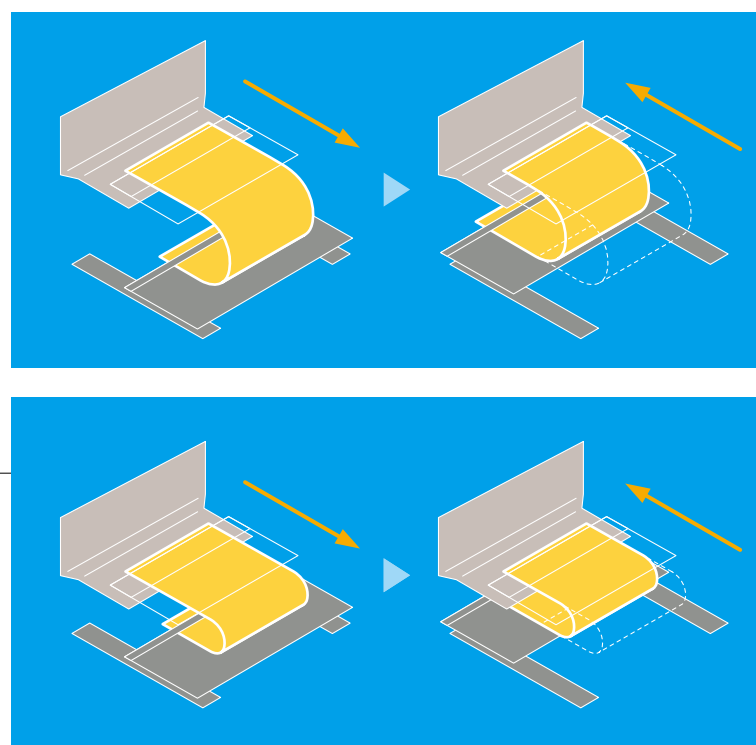
Attachment (Test Jig)

Single-lane Test Jig

Folding test pieces in U-shape to clamp, the output axis reciprocates the lower clamp back and forth.



Small bending radius



Test Pieces

• Planar Test Piece ...

»Flexible Displays »Organic Electroluminescence Devices »Barrier Film »Flexible Printed Circuits »Flat Cables

Notes

»CE Marking

Web

Please check the latest specification on the web.

<https://www.yuasa-system.jp/en>

MODELS

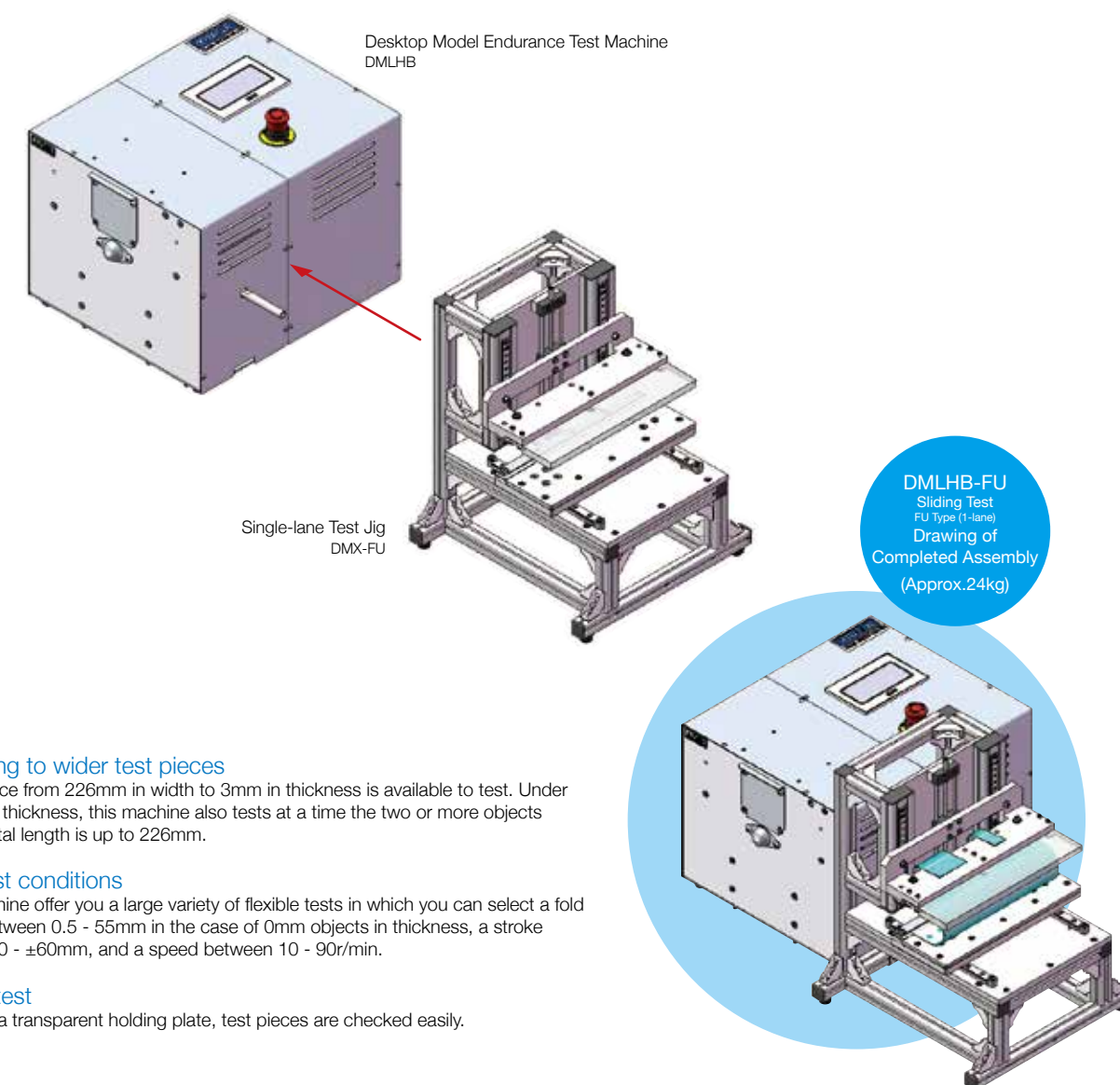


You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.



DMLHP-FU

Composition



Clamping to wider test pieces

A test piece from 226mm in width to 3mm in thickness is available to test. Under the same thickness, this machine also tests at a time the two or more objects whose total length is up to 226mm.

Free test conditions

This machine offer you a large variety of flexible tests in which you can select a fold radius between 0.5 - 55mm in the case of 0mm objects in thickness, a stroke between 0 - ±60mm, and a speed between 10 - 90r/min.

Visible test

By using a transparent holding plate, test pieces are checked easily.

*A safety cover (transparent, with interlock) covering the moving parts is included.

*Refer to p.33 regarding the driving specification.

SLIDE



SMALL

DMLHB-4U / DMLHP-4U

Desktop Model Endurance Test Machine

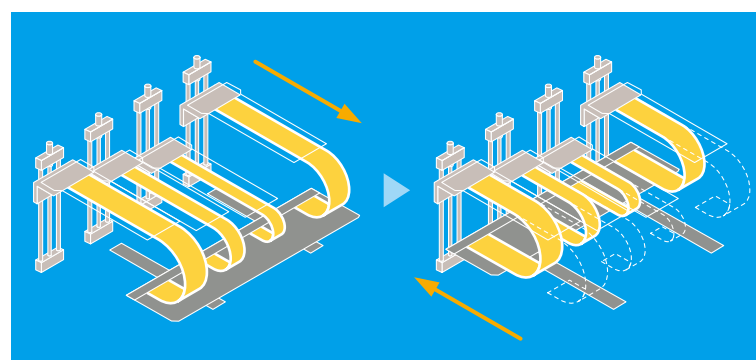
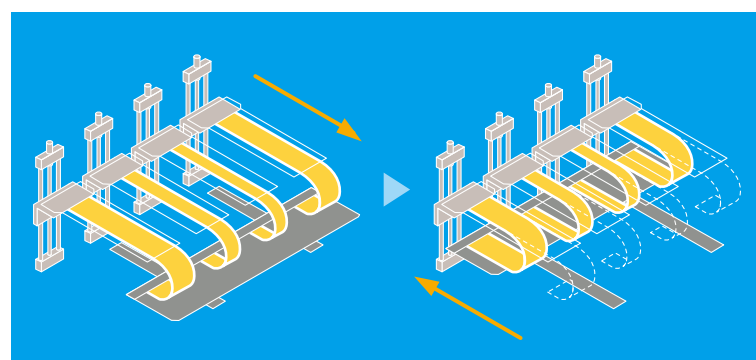
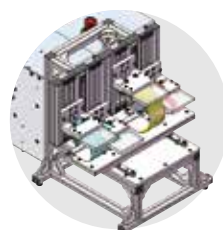
Sliding Test 4U Type (4-lane)

This machine offers profitable tests for linear objects like cables and fibers as well as planar ones such as flexible displays.

Attachment (Test Jig)

4-lane Test Jig

Folding test pieces in U-shape to clamp, the output axis reciprocates the lower clamp back and forth.



Test Pieces

- Linear Test Piece ... »Cables (Electric Wires, Optical Fibers) »Harness »Cable Guides »Tubes »Wires »Fibers
- Planar Test Piece ... »Flexible Displays »Organic Electroluminescence Devices »Barrier Film »Flexible Printed Circuits »Flat Cables

Notes

- »CE Marking

Web

Please check the latest specification on the web.

<https://www.yuasa-system.jp/en>

MODELS

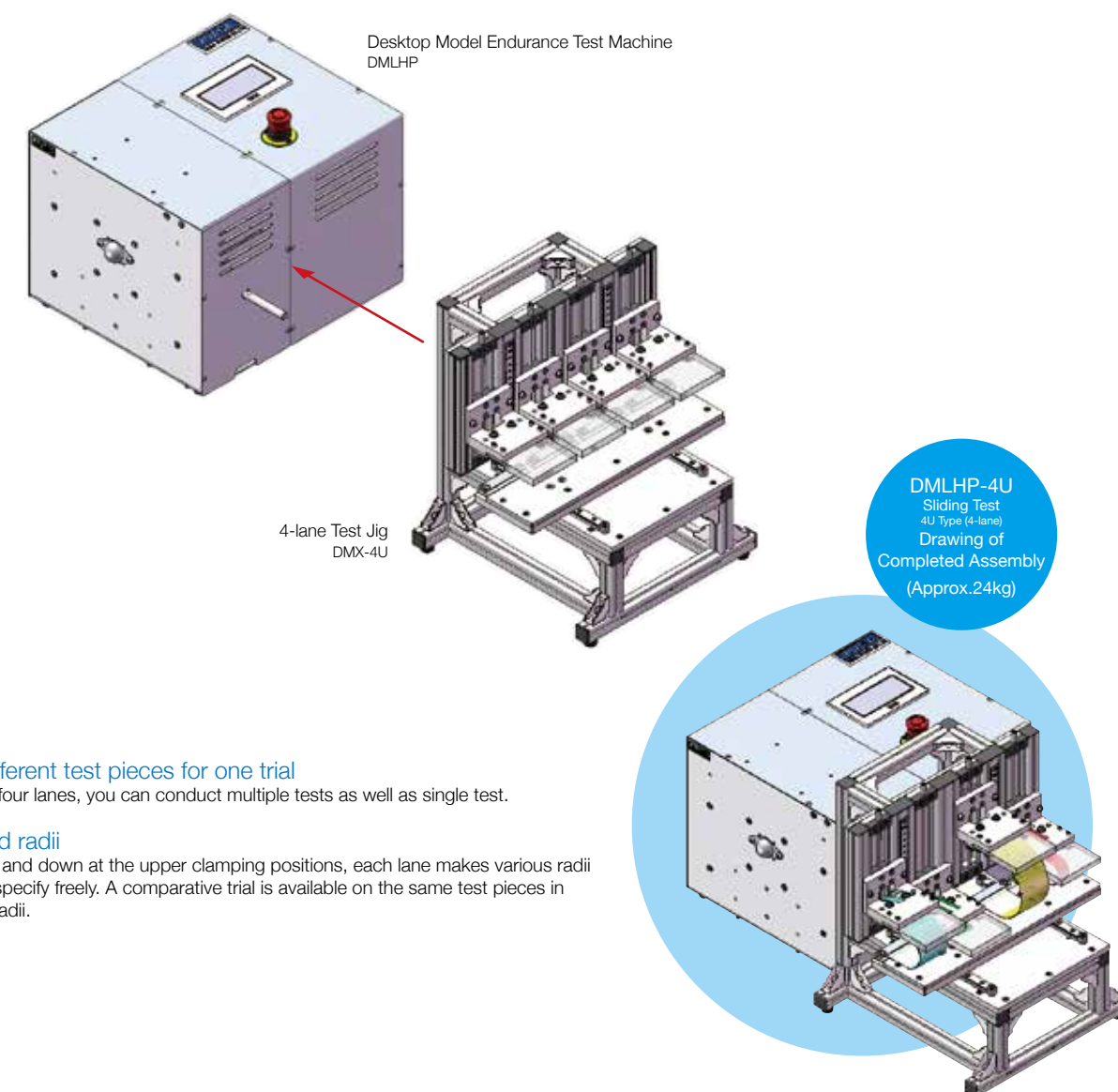


You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.



DMLHB-4U

Composition



Four different test pieces for one trial

By using four lanes, you can conduct multiple tests as well as single test.

Free fold radii

Going up and down at the upper clamping positions, each lane makes various radii that you specify freely. A comparative trial is available on the same test pieces in different radii.

*A safety cover (transparent, with interlock) covering the moving parts is included.

*Refer to p.33 regarding the driving specification.

SLIDE



SMALL

DMLHB-SU / DMLHP-SU

Desktop Model Endurance Test Machine

Sliding Test SU Type

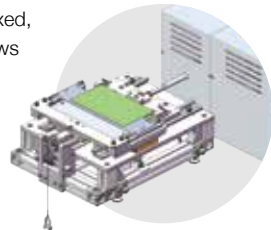
This machine can provide endurance tests for motion of planar objects like flexible display for slide type smartphones.

Attachment (Test Jig)

Sliding Test Jig

Folding test pieces to clamp in U-shape along the roller, and the roller reciprocates back and forth.

Upper clamp is fixed, lower clamp follows the roller.



Load Cell (Optional)

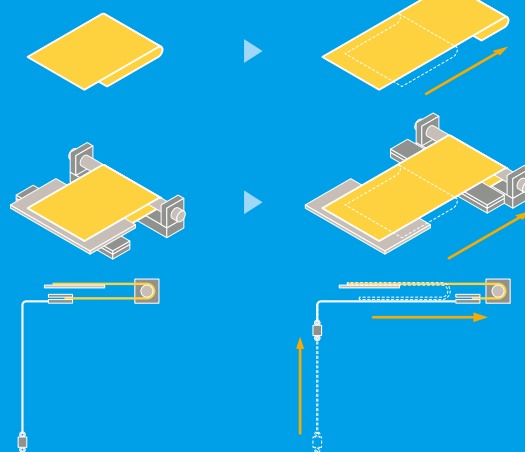


Optional unit for measuring tension load. Tension load on test pieces can be measured directly by installing the load cell unit on jig side.

Product Movement



Sample / Jig Movement



Test Pieces

• Planar Test Piece ... »Flexible Display for Slide Type Smartphones

Notes

»CE Marking

Web

Please check the latest specification on the web.

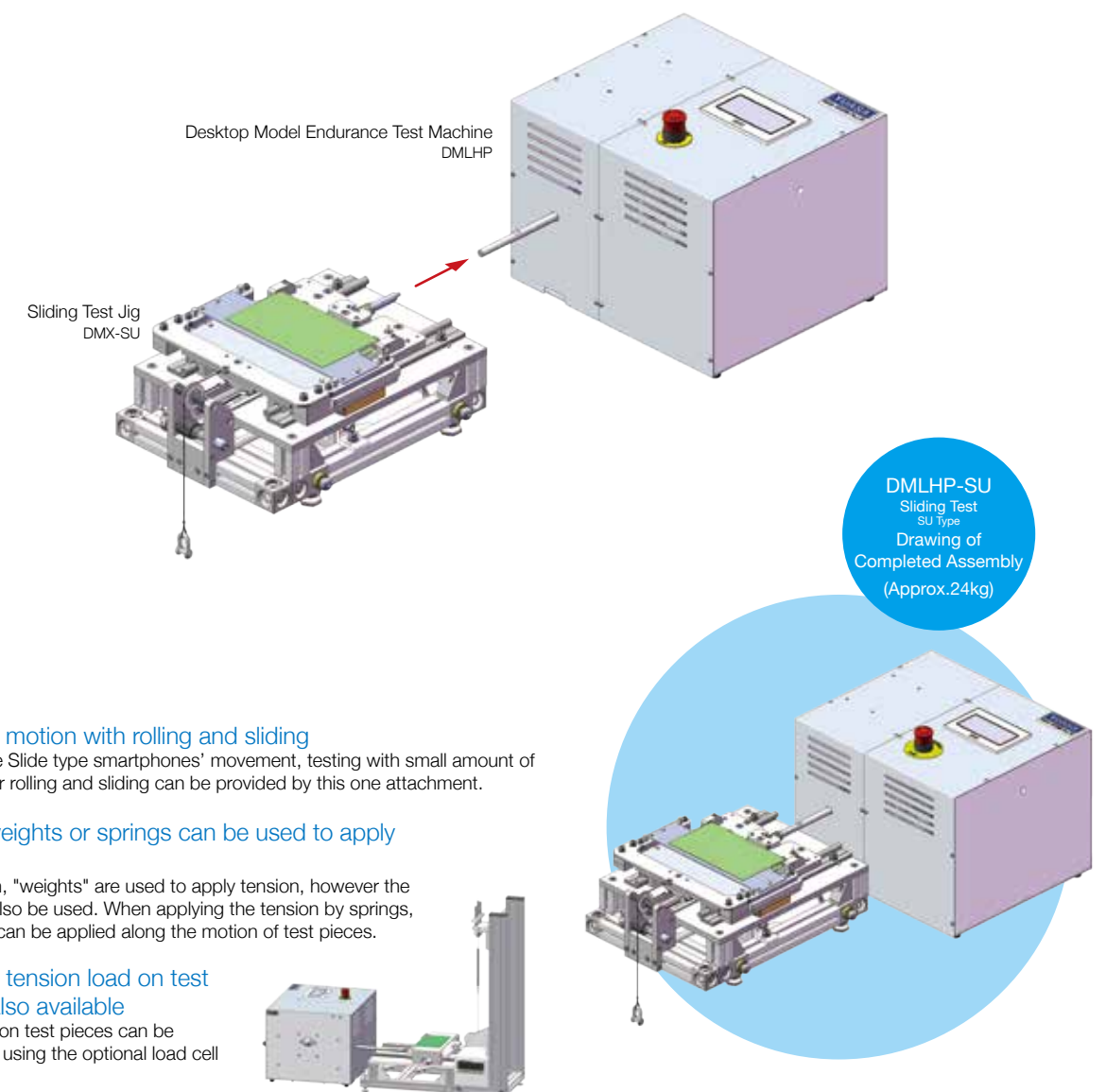
<https://www.yuasa-system.jp/en>

MODELS



You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.

Composition



Combined motion with rolling and sliding

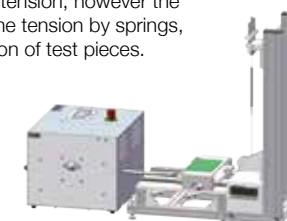
Assuming the Slide type smartphones' movement, testing with small amount of movement for rolling and sliding can be provided by this one attachment.

Either of weights or springs can be used to apply tension

On illustration, "weights" are used to apply tension, however the "spring" can also be used. When applying the tension by springs, tension load can be applied along the motion of test pieces.

Measure a tension load on test pieces is also available

Tension load on test pieces can be measured by using the optional load cell unit.



*A safety cover (transparent, with interlock) covering the moving parts is included.
No weights are included.

*Refer to p.33 regarding the driving specification.

BEND
Bending Test

TWIST
Twisting Test

FOLD
Folding Test

SLIDE
Sliding Test
SU type

ROLL
Rolling Test

PUSH/PULL
Pushing / Pulling Test

STRETCH
Stretching Test

Multifunction
Multifunctional Test

Specifications of
Base Unit

ROLL



SMALL

DMLHB-FR / DMLHP-FR

Desktop Model Endurance Test Machine

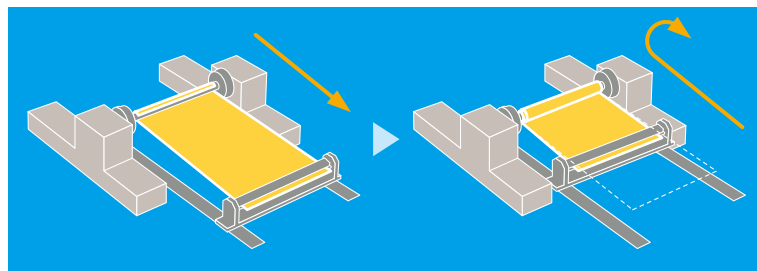
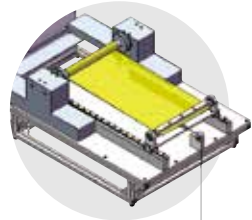
Rolling Test FR Type

Using an object such as flexible displays, as well as cables and fibers, your original "Roll to Roll" (R2R) tests can be conducted.

Attachment (Test Jig)

Rolling Test Jig

The rack and pinion actuator system repeatedly rolls up and unrolls a test piece by rotating and reversing a roller.



Test Pieces

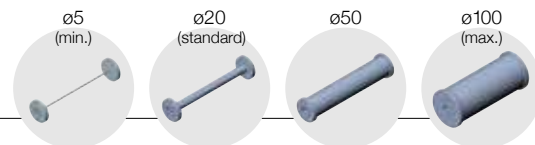
• Planar Test Piece ...

»Flexible Displays »Organic Electroluminescence Devices »Barrier Film »Flexible Printed Circuits »Flat Cables

Notes

»CE Marking

Specify roller sizes from ø5 - ø100mm.

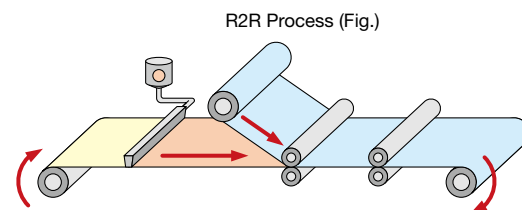


The Needs of Rolling Test

Using a "R2R" manufacturing process, this machine provides evaluation tests as to a roll-up tension during rolling up and a friction between test pieces.

R2R Process

R2R (Roll to Roll) is a manufacturing process of producing electronic devices such as liquid crystal panels and solar cells at high throughput and low costs. It prints organic EL elements or circuit patterns on a roll of flexible material like plastic substrate or film that is transferred one roller to one another.



Web

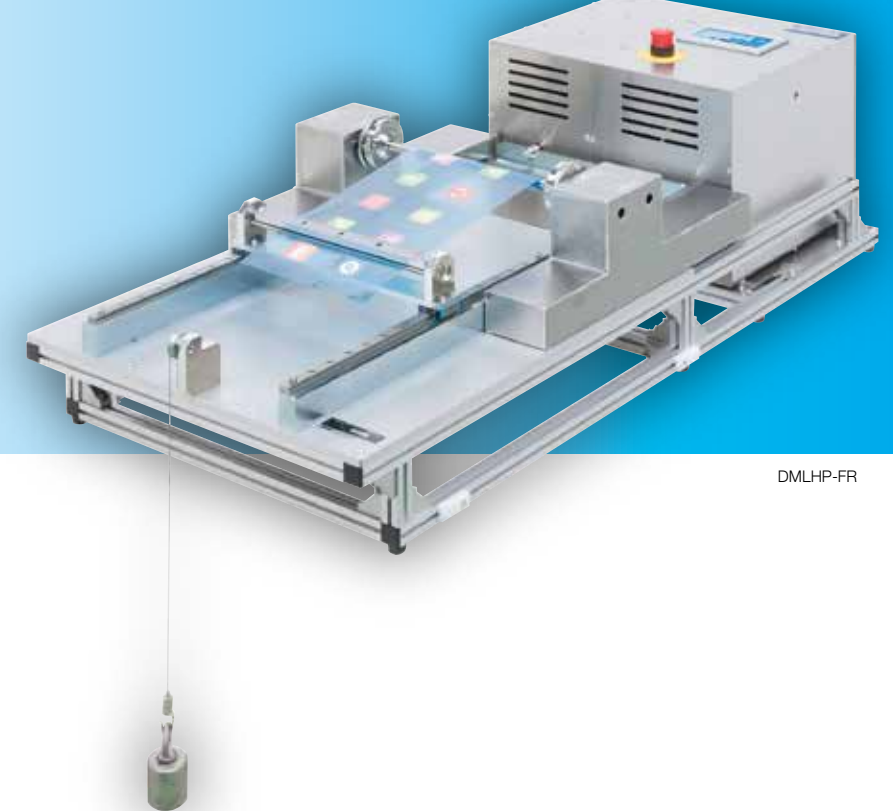
Please check the latest specification on the web.

<https://www.yuasa-system.jp/en>

MODELS

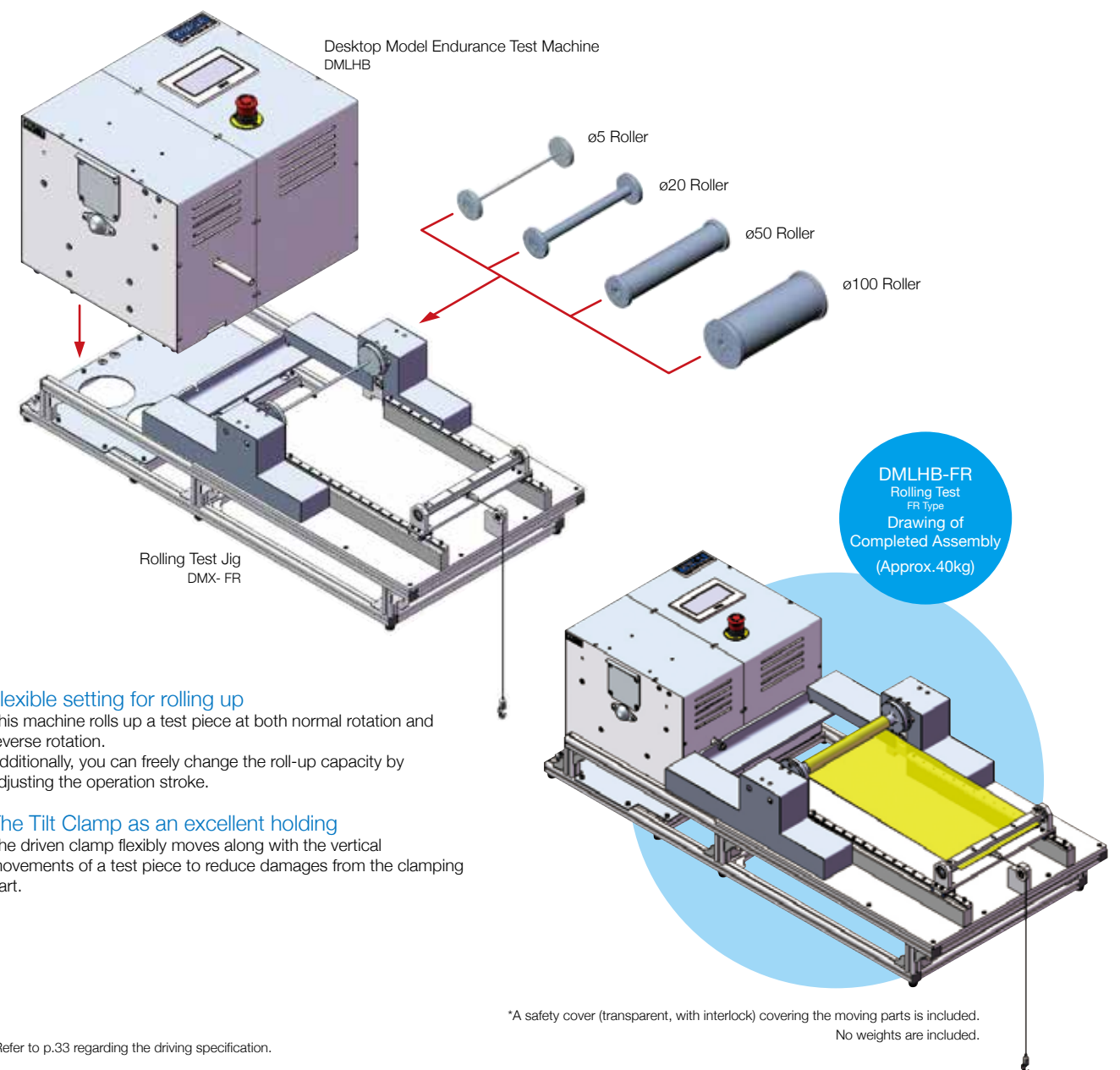


You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.



DMLHP-FR

Composition



Flexible setting for rolling up

This machine rolls up a test piece at both normal rotation and reverse rotation. Additionally, you can freely change the roll-up capacity by adjusting the operation stroke.

The Tilt Clamp as an excellent holding

The driven clamp flexibly moves along with the vertical movements of a test piece to reduce damages from the clamping part.

*A safety cover (transparent, with interlock) covering the moving parts is included.
No weights are included.

*Refer to p.33 regarding the driving specification.

PUSHPULL



SMALL

DMLHB-PP / DMLHP-PP

Desktop Model Endurance Test Machine

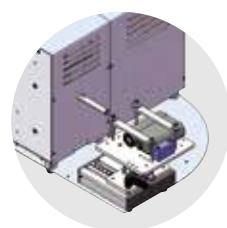
Pushing / Pulling Test PP Type

For switches, SD cards, and USB memories used in many industrial applications, this machine offers endurance tests of pushing and/or pulling.

Attachment (Test Jig)

Pushing / Pulling Test Jig

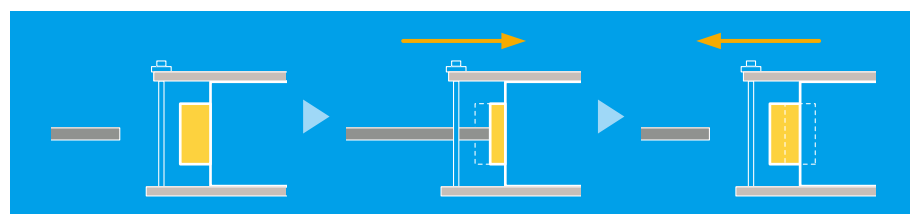
The output axis reciprocally pushes and pulls a test piece fixed on the XYZ table for testing its endurance. Please feel free to consult us about additional jigs attached to the output axis.



Test Pieces	»Push-button Switch	»Limit Switch	»Connectors
	»USB Memory	»SD Card	»Card Reader
Notes	»CE Marking		

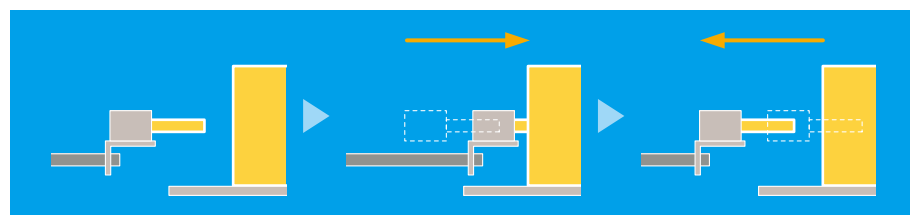
Pushing Test for Push-button Switch

A proper jig is attached to the output axis to push a tested switch.



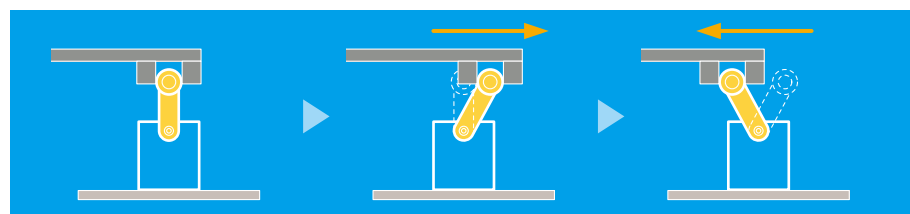
Inserting and Ejecting Test for Storage Media

A proper jig is attached to the output axis to hold a tested media.



Operating Test for Limit Switch

A proper jig is attached to the output axis to operate a tested switch.



Web

Please check the latest specification on the web.

<https://www.yuasa-system.jp/en>

MODELS

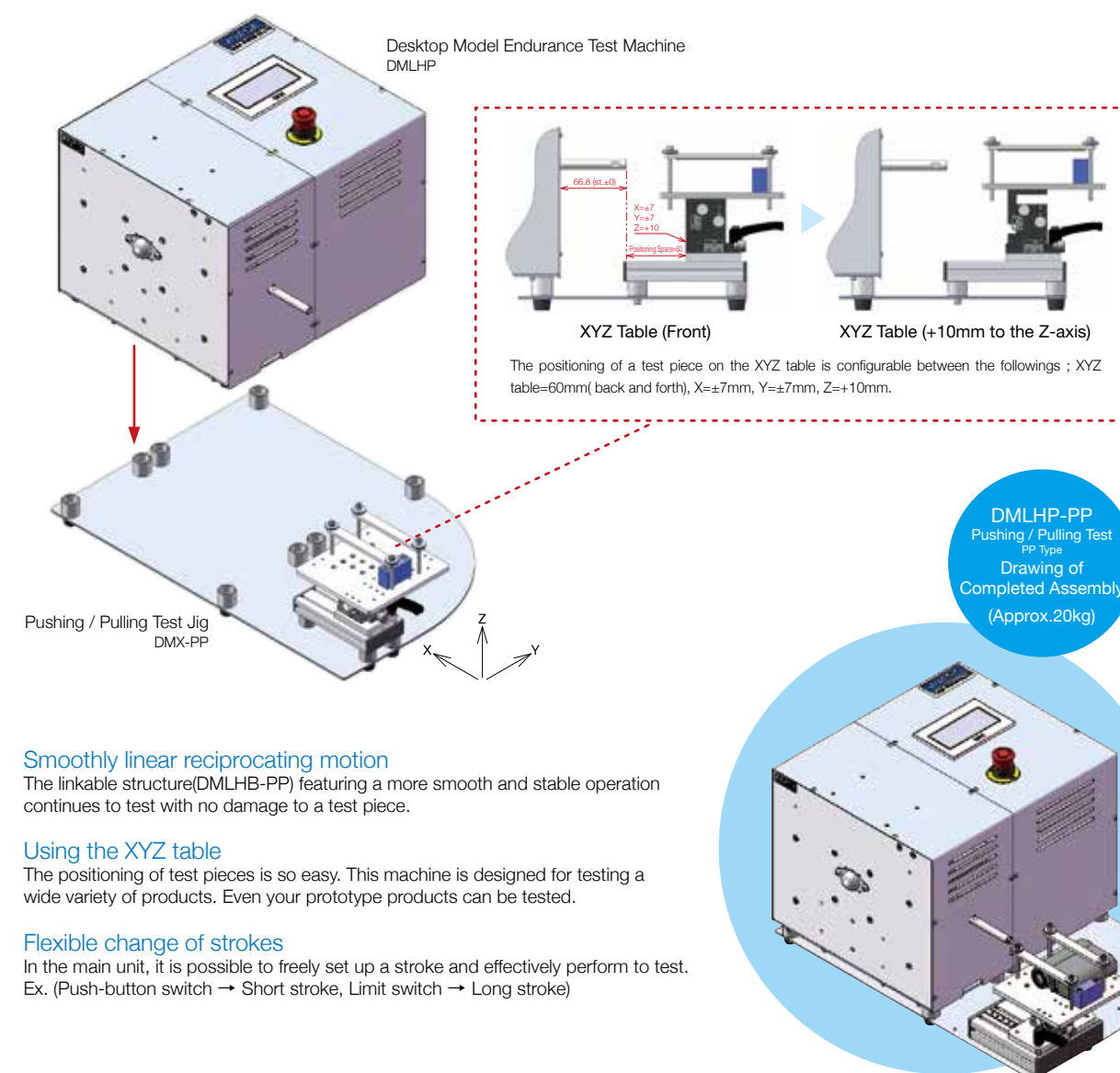


You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.



DMLHB-PP

Composition



Smoothly linear reciprocating motion

The linkable structure(DMLHB-PP) featuring a more smooth and stable operation continues to test with no damage to a test piece.

Using the XYZ table

The positioning of test pieces is so easy. This machine is designed for testing a wide variety of products. Even your prototype products can be tested.

Flexible change of strokes

In the main unit, it is possible to freely set up a stroke and effectively perform to test. Ex. (Push-button switch → Short stroke, Limit switch → Long stroke)

*A safety cover (transparent, with interlock) covering the moving parts is included.

*Refer to p.33 regarding the driving specification.

BEND
Bending Test

TWIST
Twisting Test

FOLD
Folding Test

SLIDE
Sliding Test

ROLL
Rolling Test

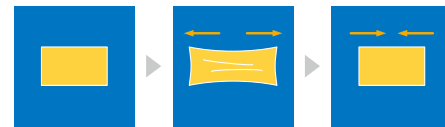
PUSHPULL
Pushing / Pulling Test
PP Type

STRETCH
Stretching Test

Multifunction
Multifunctional Test

Specifications of
Base Unit

STRETCH



SMALL

DMLHP-ST

Desktop Model Endurance Test Machine

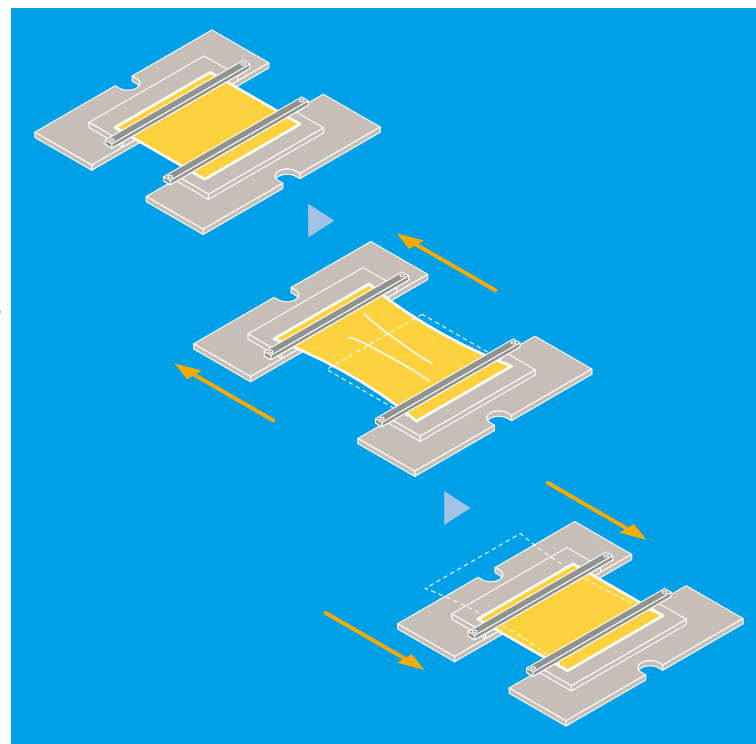
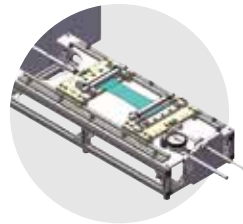
Stretching Test ST Type

This is the best test method to evaluate the stretching test sample such a wearable devices or flexible devices.

Attachment (Test Jig)

Stretching Test Jig

Clamp the test sample horizontally, and it makes tensile stress occur repeatedly by operating the slider of driving unit.



Test Pieces

• Planar Test Piece ...
»Wearable Devices »Flexible Devices

Notes

»CE Marking

Web

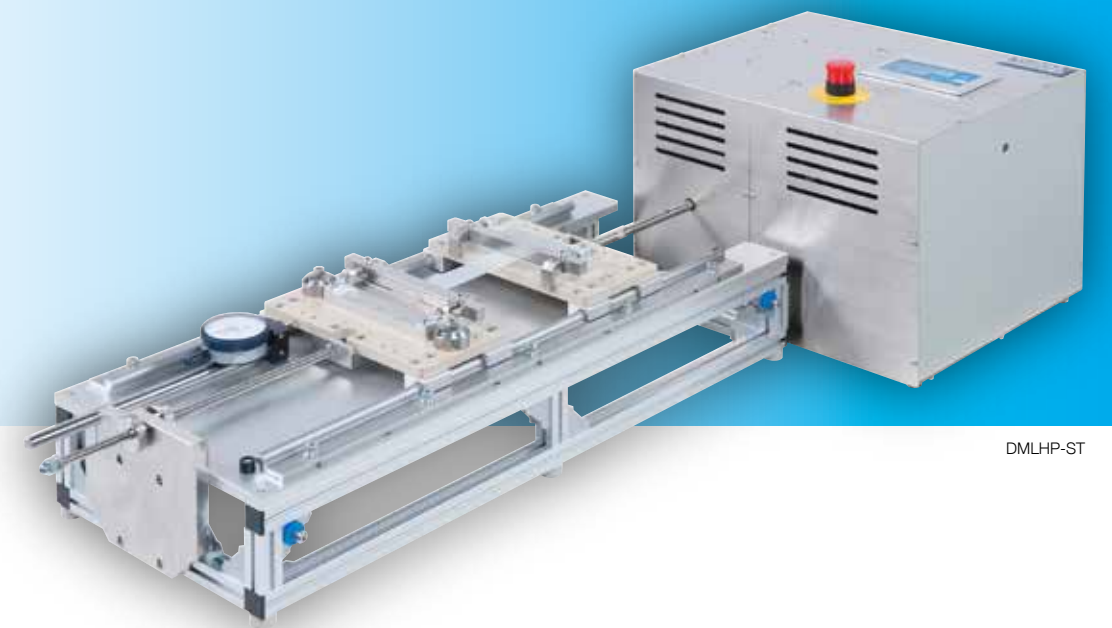
Please check the latest specification on the web.

<https://www.yuasa-system.jp/en>

MODELS

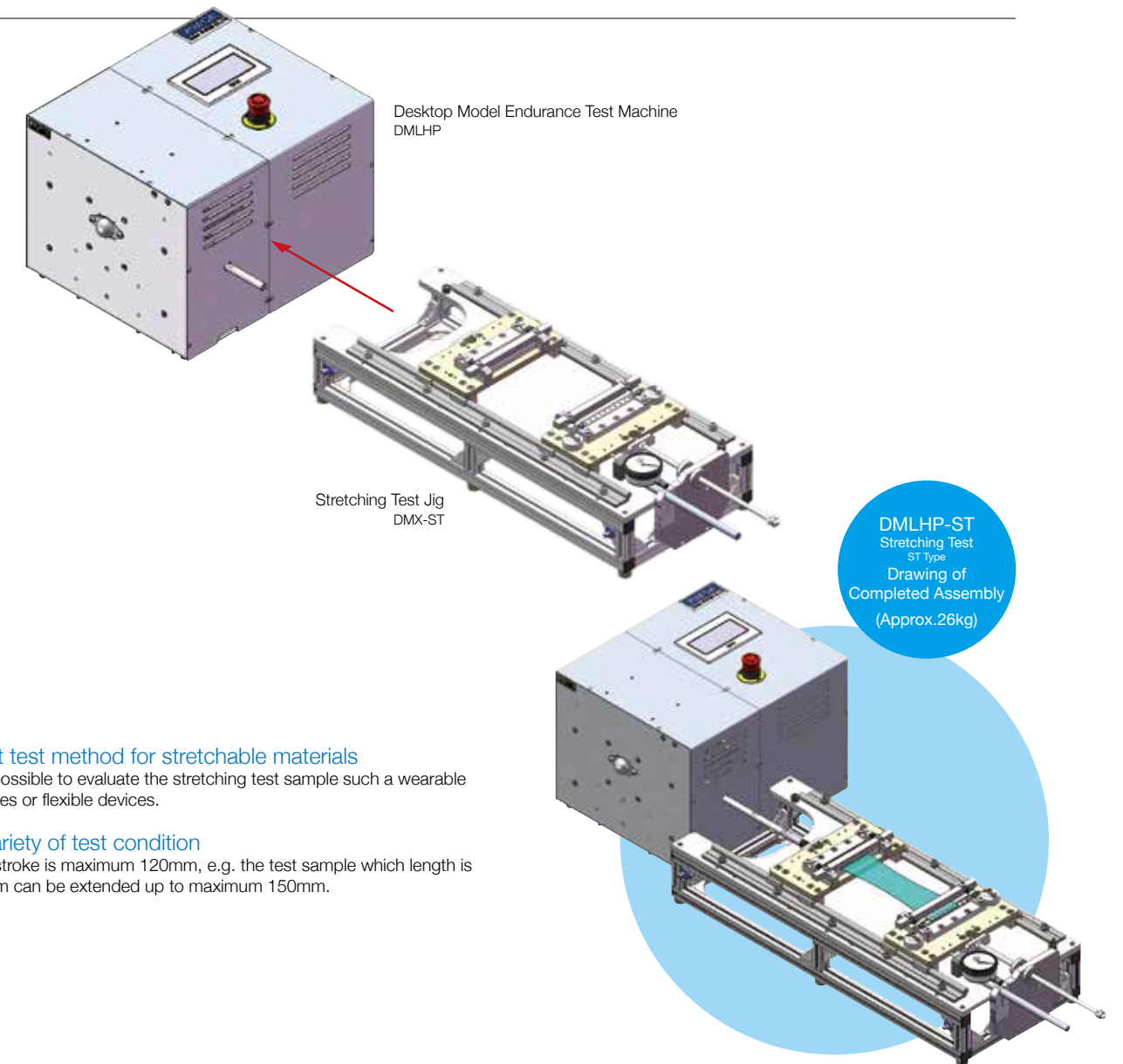


You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.



DMLHP-ST

Composition



Best test method for stretchable materials

It is possible to evaluate the stretching test sample such a wearable devices or flexible devices.

A variety of test condition

The stroke is maximum 120mm, e.g. the test sample which length is 30mm can be extended up to maximum 150mm.

*A safety cover (transparent, with interlock) covering the moving parts is included.

*Refer to p.33 regarding the driving specification.

BEND
Bending Test

TWIST
Twisting Test

FOLD
Folding Test

SLIDE
Sliding Test

ROLL
Rolling Test

PUSH/PULL
Pushing / Pulling Test

STRETCH
Stretching Test
ST Type

Multifunction
Multifunctional Test

Specifications of
Base Unit

Multifunction

SMALL

DMLHB-FSN-P... / DMLHP-FSN-P...

Desktop Model Endurance Test Machine

Multifunctional Test FSN type

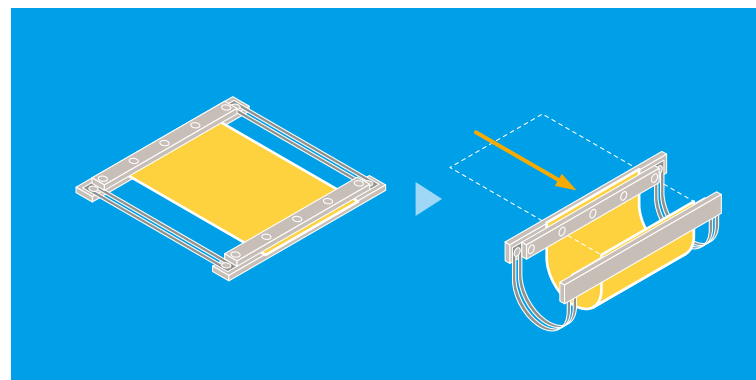
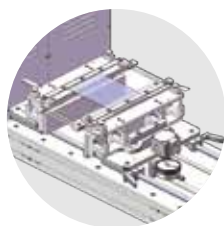
Various tests can be realized by replacing attachments of functional parts of the jig. Attachments can be easily replaced by simply adjusting the four screws.

Attachments for Multifunctional Test (test jigs)

Folding Test Jig

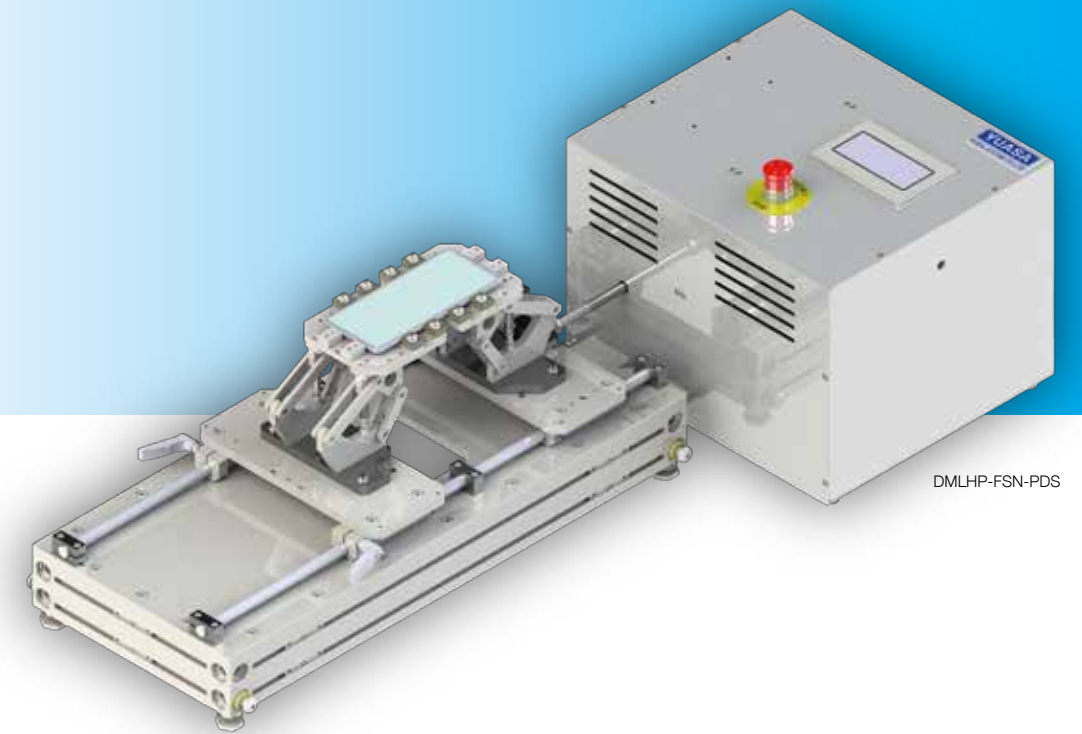
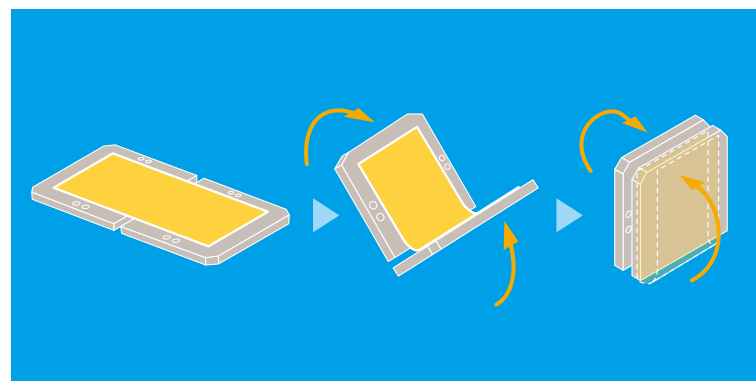
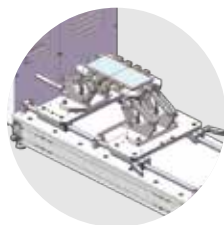
See p. 13 "FS / FS-C Type".

In the FSN type, the folded portion can be viewed from right beside.



Device Folding Test Jig

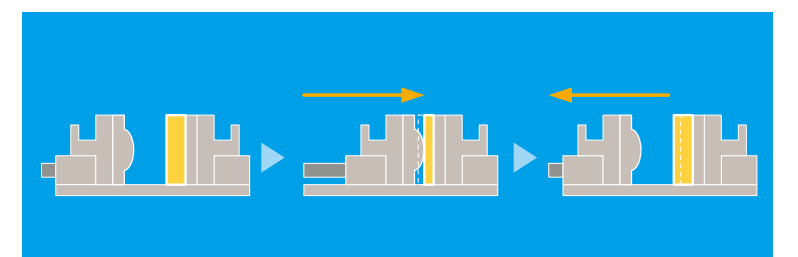
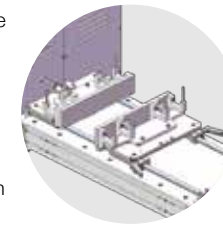
A jig that grips and opens/closes a sample with a hinged structure. Sample holders are manufactured according to the shape of the sample.



DMLHP-FSN-PDS

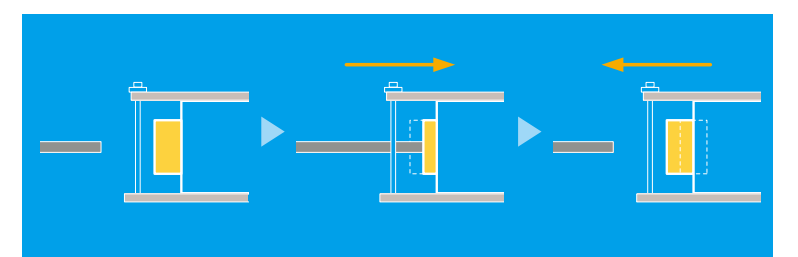
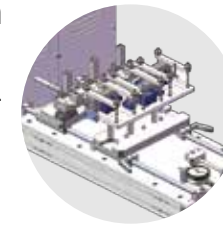
Pushing / Pressing Test Jig

Compress the sample with a pair of plates on the mobile/fixed side. Each plate can be fitted with a pusher according to the test conditions, in addition to the sample.



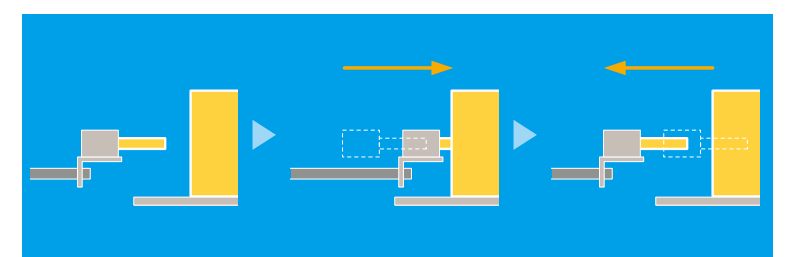
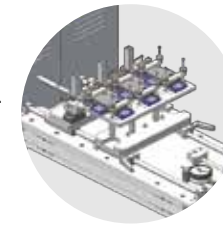
Pushing Test Jig for Push-button Switch

See p. 25, "PP Type".



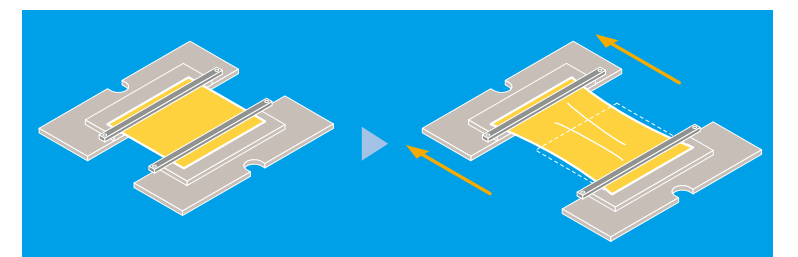
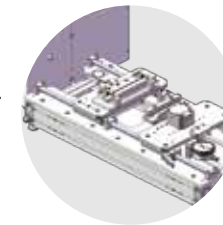
USB Insertion / Extraction Test Jig

See p. 25, "PP Type".



Stretching Test Jig

See p. 27, "ST Type".



Web

Please check the latest specification on the web.

<https://www.yuasa-system.jp/en>

MODELS



You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.

BEND
Bending Test

TWIST
Twisting Test

FOLD
Folding Test

SLIDE
Sliding Test

ROLL
Rolling Test

PUSH/PULL
Pushing / Pulling Test

STRETCH
Stretching Test

Multifunction
Multifunctional Test
FSN Type

Specifications of
Base Unit

Multifunction

SMALL

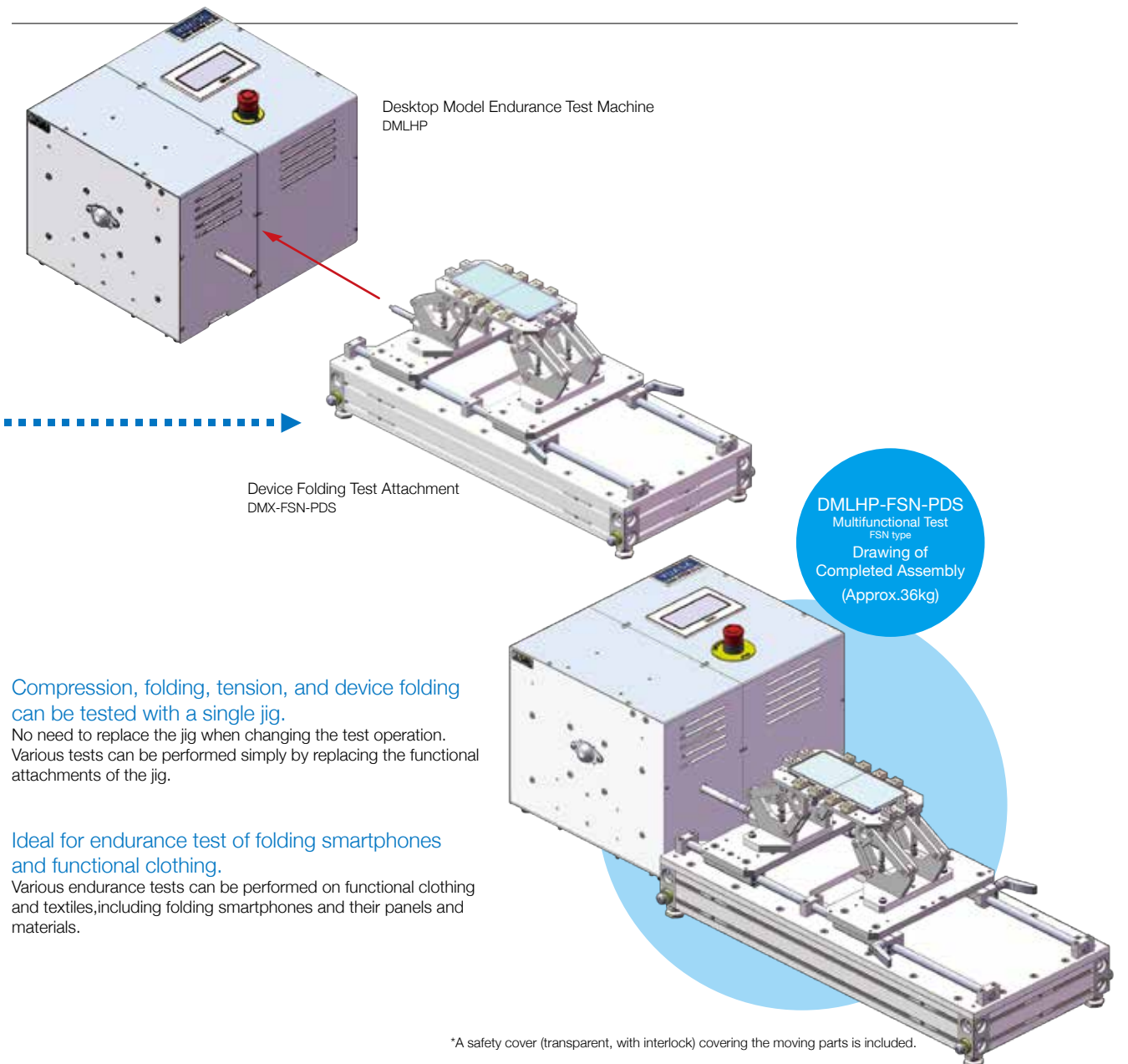
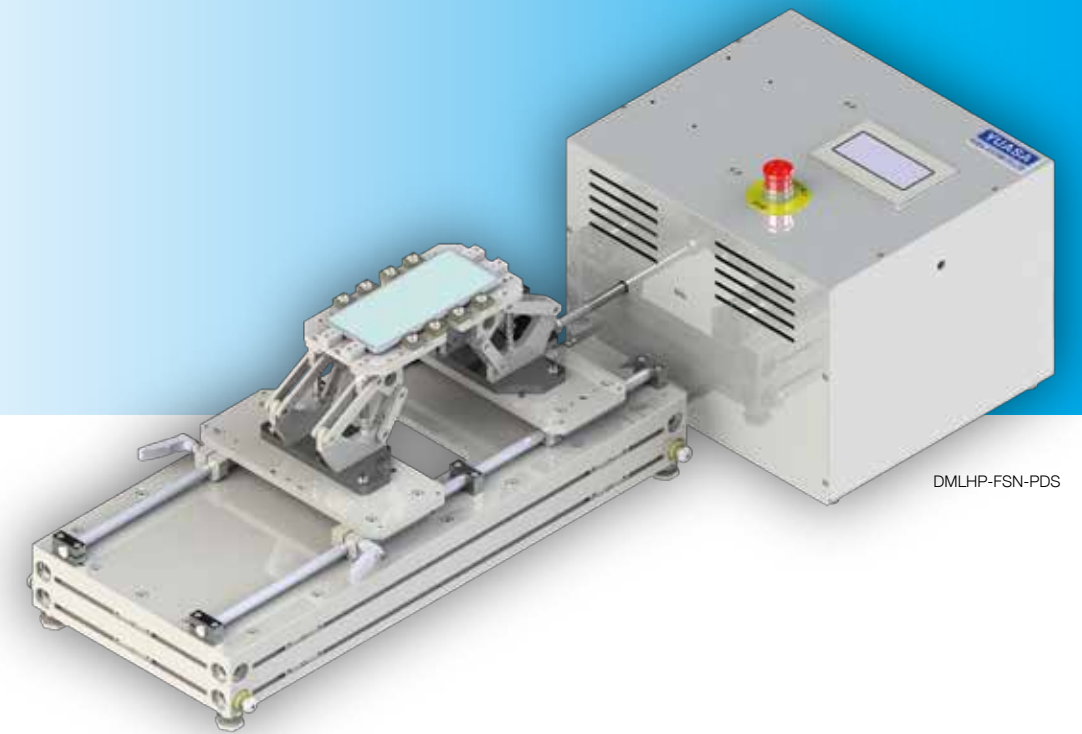
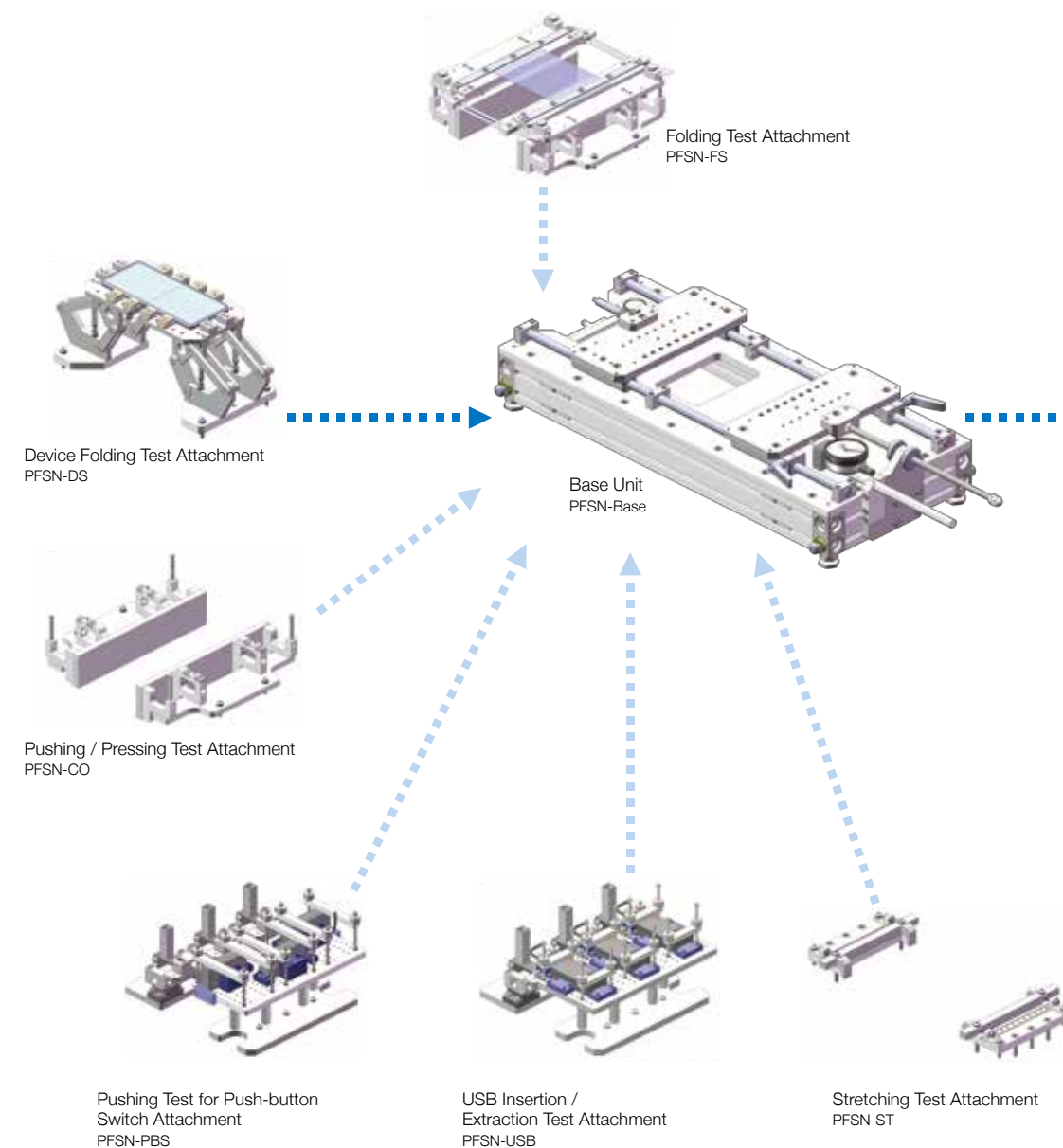
DMLHB-FSN-P... / DMLHP-FSN-P...

Desktop Model Endurance Test Machine

Multifunctional Test FSN type

Various tests can be realized by replacing attachments of functional parts of the jig.
Attachments can be easily replaced by simply adjusting the four screws.

Composition



BEND
Bending Test

TWIST
Twisting Test

FOLD
Folding Test

SLIDE
Sliding Test

ROLL
Rolling Test

PUSH/PULL
Pushing / Pulling Test

STRETCH
Stretching Test

Multifunction
Multifunctional Test
FSN Type

Specifications of
Base Unit

Specifications of Base Unit

SMALL

DMLHB

DMLHP

DMLHPR

(Driving Unit Simple Operation Type)

(Driving Unit Positioning Type)

(Driving Unit Both 10 revolutions Positioning Type)

Desktop Model Endurance Test Machine

Those are driving unit for endurance test machine which operate repeatedly under presetting test condition. Three type unit can be chosen for the test purpose.

DMLHB (Driving Unit Simple Operation Type)

This unit is suit for long-time repeating test.



DMLHP (Driving Unit Positioning Type)

It is possible to set a variety of test conditions, and it can operate freely any position.

DMLHPR (Driving Unit Both 10 revolutions Positioning Type)

It is possible to operate freely within 10 revolutions both sides. Twisting number is not limited when twisting is in one direction. The appearance is same as DMLHP. There is no Linear shaft, this DMLHPR is only rotary motion.



Web

Please check the latest specification on the web.

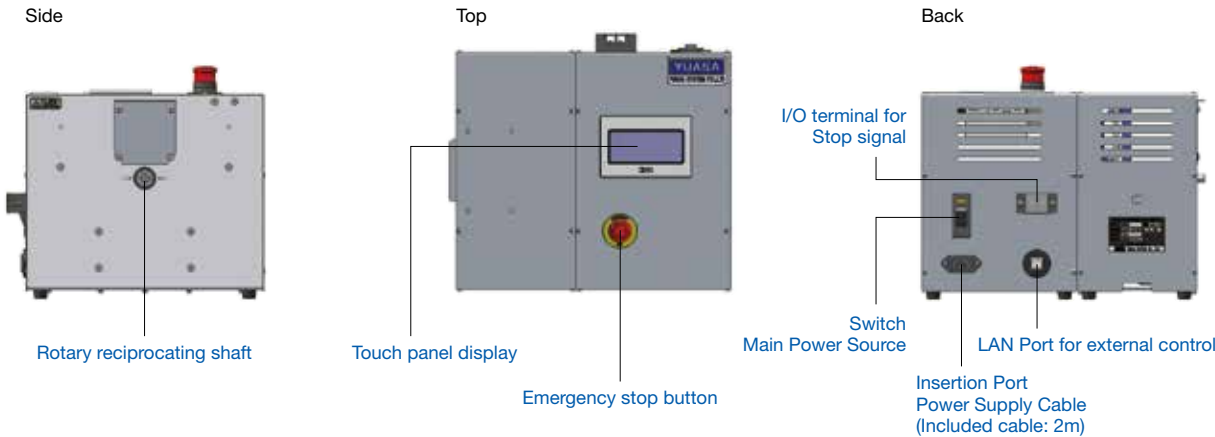
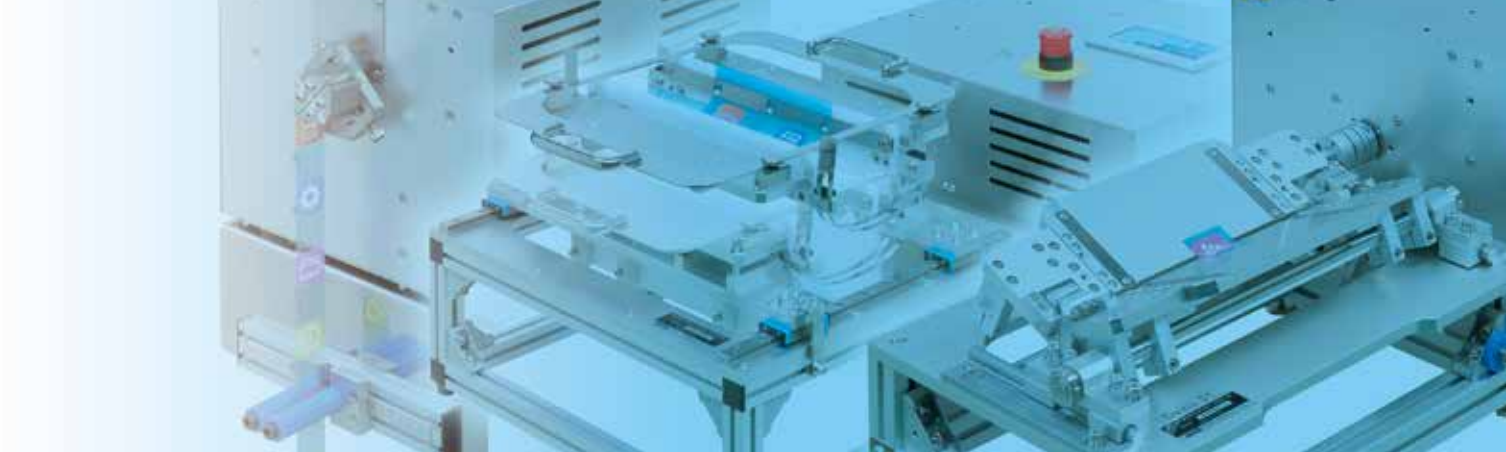
https://www.yuasa-system.jp/en

MODELS

Notes

»CE Marking »KC Mark

You can download the specification. Please check the specification sheet for detailed dimensions and connections. If you have any question, please ask us.



Endurance and quietness

Both mechanical linkage structure(DLDHB) and plastic gear realize the highly endurance and low noise.

Various test condition

Simple operation type: Maximum operation angle $\pm 270^\circ$ (rotary reciprocation mode), maximum operation stroke $\pm 60\text{mm}$, maximum operation speed 120rec/min.

Positioning type: Maximum operation angle $\pm 270^\circ$ (rotary reciprocation mode), maximum operation stroke 120mm, 90rec/min.

Fully automatic testing

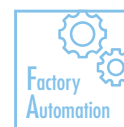
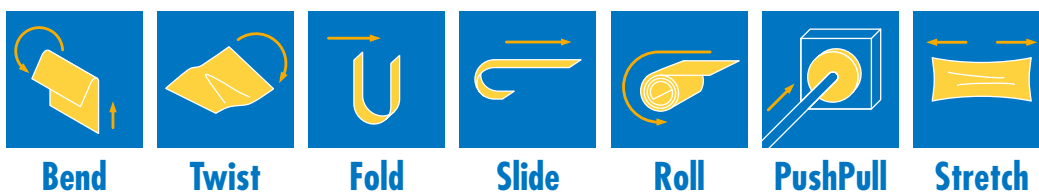
A disconnection detector and preset counter are standard equipment.

Basic Specifications

	DMLHB (Driving Unit Simple Operation Type)		DMLHP (Driving Unit Positioning Type)	DMLHPR (Driving Unit Both 10 revolutions Positioning Type)
	Rotary Reciprocation Mode	Linear Reciprocation Mode	Rotary Reciprocation Mode	Rotary Reciprocation Mode
Electrical Power	AC100-240V (50/60 Hz) 1AT		AC100-240V (50/60 Hz) 1AT	
Motor Unit	DC brushless motor [DC24V, 3.5A(max.), 30W, Gear box 1/20]		Stepping motor [DC48V, 1.72A(max.), 30W, Gear box 1/20]	
Reciprocating Speed	10 - 120 rec/min		5 - 90 rec/min	5 - 1260 deg/sec
Reciprocating Angle / Distance	0 - $\pm 270^\circ$ deg.	0 - ± 60 mm	360 rad/s ² maximum	4.5 m/s ² maximum
Acceleration			223 rad/s ² maximum	
Permissible Torque / Output	$\pm 90^\circ$: 1.00 N·m $\pm 180^\circ$: 0.88 N·m $\pm 270^\circ$: 0.44 N·m (max. 1.00 N·m)	1800/st. (max. 400 N)	7 - $\pm 270^\circ$ deg. (in 0.1 deg. increments)	3 - 120 mm (in 0.1 mm increments)
Counter	8 - digits display (Can set the target number)		1.8 N·m	72 N
Installation Environment	Temp. : +5 - +40°C (41 - 104°F) Humi. : 15 - 85%Rh (No condensation)		8 - digits display (Can set the target number)	
Safety Interlock	Safety cover for the testing jig: Covered or Not		Temp. : +5 - +40°C (41 - 104°F) Humi. : 15 - 85%Rh (No condensation)	
Dimensions (Excluding projections)	W 344 mm × D 296 mm × H 255 mm		Safety cover for the testing jig: Covered or Not	
Net Weight	17kg		W 344 mm × D 296 mm × H 255 mm	
			Net Weight	
			15kg	

*No test jigs are included for each unit.

YUASA SYSTEM ENDURANCE TEST SYSTEM



YUASA SYSTEM CO., LTD.

Our product information is also available on
<https://www.yuasa-system.jp/en>



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R&D Lab	3204 TOMIYOSHI, KITA-KU, OKAYAMA-CITY 701-1133 JAPAN
TOKYO OFFICE	SHINBASHI SN BLDG. 5-7-10 SHINBASHI, MINATO-KU, TOKYO 105-0004 JAPAN
OSAKA OFFICE	8F, NLC SHIN-OSAKA EARTH-BLDG. 5-1-3 MIYAHARA, YODOGAWA-KU, OSAKA-CITY 532-0003 JAPAN



Safety Note To ensure your safe and proper usage, please observe all the manuals before using these machines.