

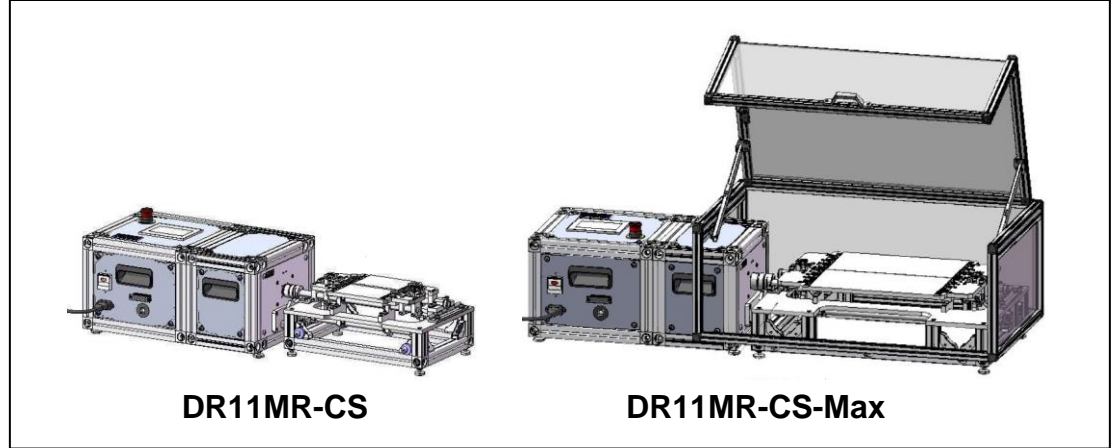
Preliminary

## Tension-Free™ Modular Desktop Endurance Testing System CS Clamshell Motion Benchtop Platform

Tension-Free™ Clamshell-type flexing test for planar objects including Flexible Displays, OLED devices, Barrier Film, Flat Cables, Flexible Printed Circuits, Wearables & automobile applications, and for linear objects including Cables (Electric Wires, Optical Fibers), Harnesses, Cable Guides, Tubes, Wires, Fibers, Wearables & automobile applications

The Tension-Free™ Double Jointed Clamshell structure can flex samples with a 0.5 mm radius without putting tensile stress on the sample. Samples will change naturally.

The sample can be mounted on a cartridge and then loaded onto the test jig.



# CS-Max

The Tension-Free™ Clamshell-type flexing test jig enables flexing tests without tension for linear and planar objects.

Enables interchangeable holding plate sizes (S, M, L, XL)

Wide variation of optical imaging systems (HD Video, Dino-Lite, IDS etc.)

Expanding analytical packages on Flexdata (Remote Surveillance, Edge Delamination, Multi-layer Delamination, Material Deformation)

CS-Max can be used with various size cartridges, 13" to 19.5"

Model	Sample Plates (mm)	Sample Sizes
S	W 110 x L 160	A6 / 13"
M	W 170 x L 160	A5 / B6 / 14"
L	W 234 x L 160	A4 / B6 / 15.5"
XL	W 400 x L 160	A4 / B4 / 19.5"

### Display Compatibility

- Foldable Smartphones
- Foldable Notebooks

### Features

- Camera on both sides with built-in prism
- Two sets of cartridges can be mounted on the jig like CS-Twin
- Can be used in chamber

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Tension-Free™ Clamshell-type Flexing Test		
	DR11MR-CS	DR11MR-CS-Max (preliminary)
<b>Specifications - Jig</b>		
Jig Model Number	CS	CS-Max
Sample	Sheet or Linear samples	
Sample thickness	1 mm (0.039") maximum	
Sample width	130 mm (5.12") maximum	tbd
Sample length minimum	π R plus clamping space	
Sample length maximum	190 mm (7.48")	tbd
Optional Cartridge	N/A	tbd
Flexing angle	0 - 180°	
Flexing radius	0.5 - 5.0 mm (0.020 - 0.197")	
Flexing force	0.7 Nm (0.52 foot pounds) maximum	
Permissible Torque	6.5 Nm (4.8 ft lb)	6.5 Nm (4.8 ft lb)
Flexing speed	about 5 ~ 60 rec/min (30 ~ 360 deg/sec)	
Weight - Jig	about 9.0 kg (19.85 lb)	about 22 kg (48.5 lb) (includes cover)
Weight - Cover	about 3.0 kg (6.6 lb)	about 3.3 kg (7.3 lb) (only door)
Dimensions (mm)	400mm x 260mm x 180mm (WDH)	570mm x 360mm x 180mm (WDH)
Dimensions (inches)	15.75" x 10.2" x 7.1" (WDH)	22.4" x 14.2" x 7.1" (WDH)
<b>Specifications - Cartridge</b>		
Weight - Cartridge (1 set)	about 1.0 kg (2.2 lb)	tbd
Dimensions (mm)	188mm x 190mm x 19mm (WDH)	tbd
Dimensions (inches)	7.40" x 7.48" x 0.748 (WDH)	tbd
Shims to set flexing radius	0.05 - 5.0 mm (0.002 to 0.2 ")	
<b>Specifications - Base Unit</b>		
Rotary Reciprocating Unit		
Machine Model Number	DR11MR	DR11MR4
Power supply	AC (100V-240V, 50Hz/60 Hz, 500VA)	
Motor	Stepping Motor Type	
Motor power	DC 48V, 3.55A, 100W	
Gear box	1/15	
Reciprocating angle	7 ~ ±3600 deg	
Rotation speed	1 ~ 1200 deg/sec	
Positioning accuracy	0.05 deg	
Permissible torque	6.5 Nm (4.8 ft lb)	
Permissible Moment of Inertia	2.0 x 10 <sup>-3</sup> kg/m <sup>2</sup>	
Output Shaft Static Rated Moment	1.5 Nm	
Counter	8 digit display	
Installation Temp range	+5 to +40°C (+41 to +104°F)	
Installation Humidity	15 - 85% RH (no condensation)	
Weight	about 20 kg (44.1 lb)	
Dimensions (mm)	500mm x 300mm x 288mm (WDH)	600mm x 300mm x 288mm (WDH)
Dimensions (inches)	19.69" x 11.8" x 11.34" (WDH)	23.62" x 11.81" x 11.34" (WDH)
<b>Attached units with Cover</b>		
System Model Number	DR11MR-CS	DR11MR4-CS-Max
Weight	about 33 kg (72.7 lb)	tbd
Dimensions (mm)	952mm x 459mm x 312mm	1134mm x 460mm x 334mm (WDH)
Dimensions (inches)	37.5" x 18.1" x 12.3" (WDH)	44.65" x 18.1" x 13.1" (WDH)

### US SERVICES AVAILABLE

- Online training
- Technical support
- Installation & set-up
- Maintenance
- Guaranteed Warranty

For further information:  
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[www.yuasa-system.jp/en](http://www.yuasa-system.jp/en)

