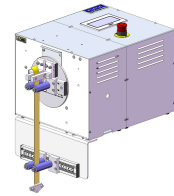


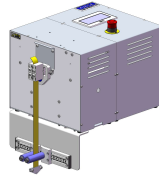
## Modular Desktop Endurance Testing Systems Jigs and Machines for Bending Tests of Linear Samples

Bending test for linear objects including Cables (Electric Wires, Optical Fibers), Harnesses, Cable Guides, Tubes, Wires, Fibers, Wearables & automobile applications

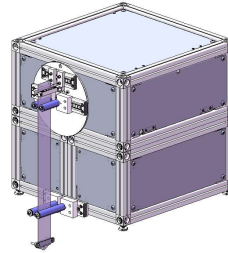
All of these test machines are modular desktop units. They range from a basic test machine to larger test machines with Tension-Free™ technology.



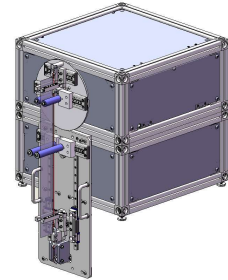
DMLHB-P150



DMLHB-C4/2/1BR  
DMLHP-C4/2/1BR



TCD111L-P220



TCD111L-TFB

## Desktop Linear Bending Testers for Cables, Harnesses, Wires

YUASA SYSTEM has been developing Tension-Free™ endurance testing systems since 2012. With our in-house expertise in mechanical, electrical, and software engineering, we have developed accurate testing methods for next generation devices, components, and materials. Tension-Free™ endurance testing reduces product design time by producing more consistent and reliable test data. Samples undergo the desired testing without being subjected to undesired tension introduced by the needs of the test equipment. As desired, our jigs also can operate with tension.

YUASA offers several jigs and machines for bending tests of linear samples suitable for Cable, Harness, and Wire endurance testing. Each of these models can operate on a desktop. The P150 is the basic test machine. The C4/2/1BR jigs offer the tightest bending, down to a radius of 0.25 mm or 0.01 inches. The C4/2/1BR can be fitted to two different motor drive units. The HB motor offers higher speed testing. The HP motor allows more accurate movements. The P220 and TFB are heavier machines, and can handle heavier bending jobs. The P220 is the basic large desktop test machine. The TFB uses our Tension-Free™ technology.

P150 video -- <https://www.youtube.com/watch?v=XtLYpi2s2b0>

C4/2/1BR video -- [https://www.youtube.com/watch?v=y2j\\_rx7dmDQ](https://www.youtube.com/watch?v=y2j_rx7dmDQ)

TFB video -- <https://www.youtube.com/watch?v=GJI-rFtNYuU>

# Modular Desktop Endurance Testing Systems Jigs and Machines for Bending Tests of Linear Samples

Bending test for linear objects including Cables (Electric Wires, Optical Fibers), Harnesses, Cable Guides, Tubes, Wires, Fibers, Wearables & automobile applications

All of these test machines are modular desktop units. They range from a basic test machine to larger test machines with Tension-Free™ technology.

	DMLHB-P150	DMLHB-C4/2/1BR	DMLHP-4/2/1BR	TCD111L-P220	TCD111L-TFB
					<b>Tension-Free</b>
<b>Specifications - Jig</b>	Bending Test Jig	Bending Test Jig	Bending Test Jig	Bending Test Jig	Bending Test Jig
Jig Model Number	DMX-P150	C4/2/1BR	C4/2/1BR	DX-P220	DX-TFB + DX-P220
Sample	Sheet or Linear samples	Sheet or Linear Samples	Sheet or Linear Samples	Sheet or Linear Samples	Sheet or Linear Samples
Sample thickness	16mm (0.63") maximum	16mm (0.63") maximum	16mm (0.63") maximum	16mm (0.63") maximum	16mm (0.63") maximum
Sample width	30mm (1.18") maximum	30mm (1.18") maximum	30mm (1.18") maximum	50mm (1.97") maximum	50mm (1.97") maximum
Bending radius	2.5mm~40mm (0.1"~1.57")	0.25mm~50 mm (0.0098"~1.97")	0.25mm~50 mm (0.0098"~1.97")	5mm~50mm (0.197"~1.97")	5mm~50mm (0.197"~1.97")
Bending angle	0 to ±180°	4R 0~±90° 2R 0~±135° 1R 0~±180°	4R 0~±90° 2R 0~±135° 1R 0~±180°	0 to ±180°	0 to ±180°
Bend Rollers/Blocks	Rollers	Blocks - 4R, 2R, 1R	Blocks - 4R, 2R, 1R	Rollers	Rollers
Included Bend Rollers	10mm (0.39")			10mm (0.39")	10mm (0.39")
Torque	1 N m (0.74 ft lb)	1 N m (0.74 ft lb)	1.8 N m (1.33 ft lb)	9 N m (6.64 ft lb)	9 N m (6.64 ft lb)
Operating speed	10~60 rec/min	10~60 rec/min	5~60 rec/min	30~90 rec/min	30~90 rec/min
Weight - Swing Plate	1.0 kg (2.2 lb)	0.5 kg (1.1 lb)	0.5 kg (1.1 lb)	1.3 kg (2.9 lb)	1.3 kg (2.9 lb)
Weight - Swing Checker	1.5 kg (3.3 lb)	1.5 kg (3.3 lb)	1.5 kg (3.3 lb)	0.8 kg (1.8 lb)	4.6 kg (10.1 lb)
Weight - Cover	1.0 kg (2.2 lb)	1.0 kg (2.2 lb)	1.0 kg (2.2 lb)	3.5 kg (7.7 lb)	3.5 kg (7.7 lb)
Dimensions (mm) (WDH)	293mm x 90mm x 385.5mm	293mm x 99 mm x 418mm	293mm x 99 mm x 418mm	450mm x 645mm x 490mm	450mm x 645mm x 490mm
Dimensions (inch) (WDH)	11.5" x 3.54" x 15.2"	11.5" x 3.90" x 16.5"	11.5" x 3.90" x 16.5"	17.7" x 25.4" x 19.3"	17.7" x 25.4" x 19.3"
<b>Specifications - Base Unit</b>	Rotary Reciprocating Unit	Reciprocating Unit	Reciprocating Unit	Rotary Reciprocating Unit	Rotary Reciprocating Unit
Machine Model Number	DMLHB	DMLHB	DMLHP	TCD111L	TCD111L
Motor	DC Brushless Motor (DC 24V, 3.5A, 30W)	DC Brushless Motor (DC 24V, 3.5A, 30W)	Stepping Motor (DC 48V, 1.72A, 30W)	Induction gearmotor, 3 Phases, 90W	Induction gearmotor, 3 Phases, 90W
Motor gear ratio	1:20	1:20	1:20	1:40	1:40
Counter	8 digit display	8 digit display	8 digit display	8 digit display	8 digit display
Operating angle	0 to ±270°	0 to ±270°	0 to ±270°	0 to ±180°	0 to ±180°
Operating speed	10 ~ 120 rec/min	10 ~ 120 rec/min	5 ~ 90 rec/min	10~90 rec/min	10~90 rec/min
Installation Temp range	+5 ~ +40° C (+41 ~ +104° F)	+5 ~ +40° C (+41 ~ +104° F)	+5 ~ +40° C (+41 ~ +104° F)	+5 ~ +40° C (+41 ~ +104° F)	+5 ~ +40° C (+41 ~ +104° F)
Installation Humidity	15 ~ 85% RH (no condensation)	15 ~ 85% RH (no condensation)	15 ~ 85% RH (no condensation)	15 ~ 85% RH (no condensation)	15 ~ 85% RH (no condensation)
Power supply	AC (100V-240V, 50Hz/60Hz, 1 Phase, 100VA)	AC (100V-240V, 50Hz/60Hz, 1 Phase, 100VA)	AC (100V-240V, 50Hz/60Hz, 1 Phase, 100VA)	AC (100V-110V, 50Hz/60 Hz, 1 Phase, 5A)	AC (100V-110V, 50Hz/60 Hz, 1 Phase, 5A)
Power supply optional				AC (200V-240V, 50Hz/60 Hz, 1 Phase, 5A)	AC (200V-240V, 50Hz/60 Hz, 1 Phase, 5A)
Weight - Test Machine	16.5 kg (36.4 lb)	16.5 kg (36.4 lb)	15.2 kg (33.5 lb)	60 kg (132 lb)	60 kg (132 lb)
Dimensions (mm) (WDH)	396mm x 343.5mm x 289mm	396mm x 343.5mm x 289mm	396mm x 343.5mm x 289mm	450mm x 450 mm x 467.5 mm	450mm x 450 mm x 467.5 mm
Dimensions (inch) (WDH)	15.6" x 13.5" x 11.4"	15.6" x 13.5" x 11.4"	15.6" x 13.5" x 11.4" "	17.7" x 17.7" x 18.4"	17.7" x 17.7" x 18.4"
<b>Attached units</b>					
System Model Number	DMLHB-P150	DMLHB-C4/2/1BR	DMLHP-4/2/1BR	TCD111L-P220	TCD111L-TFB
Weight	20 kg (44 lb)	19.5 kg (43 lb)	18.2 kg (40 lb)	67.8 kg (149 lb)	69.4 kg (153 lb)
Dimensions (mm) (WDH)	396mm x 443mm x 418mm	396mm x 443mm x 436mm	396mm x 443mm x 436mm	450mm x 645mm x 490mm	450mm x 645mm x 490mm
Dimensions (inch) (WDH)	15.6" x 17.4" x 16.5"	15.6" x 17.4" x 17.2"	15.6" x 17.4" x 17.2"	17.7" x 25.4" x 19.3"	17.7" x 25.4" x 19.3"

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