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

Three of these test machines are desktop models, the other two are floor standing test machines. The primary difference among the desktop units are the characteristics of the motor drive units. The floor standing models offer greater torque, with one of them offering twisting and bending at the same time.

DMLHB-TW
DMLHP-TW
DMLHPR-TW

TC111L-TW

TC111L-TSB

Twisting 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 twisting tests of linear samples suitable for Cable, Harness, and Wire endurance testing. Three of these models can operate on a desktop. The differences among them are the motor drive units, the HB version offers higher speed testing, the HP version allows more accurate movements, and the HPR can increase the angle from ± 270° to ± 3,600°. The TC111L-TW is a basic twisting test machine that can twist with higher torque than the desktop test machines. The TC111L-TSB test machine can bend a sample at the same time it is twisting the sample, especially developed for robot cables.

Desktop TW video --
Floor Standing TW video --
Floor Standing TSB video -- https://www.youtube.com/watch?v=Kn3g6jvMq-A

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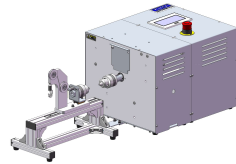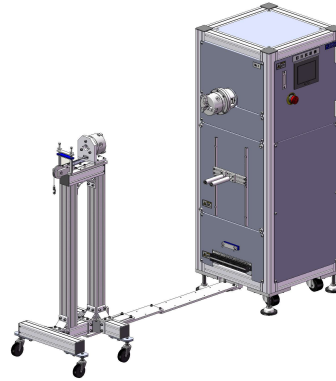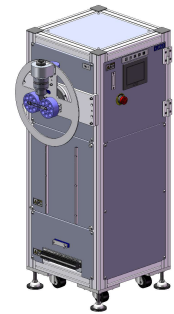YUASA **YUASA SYSTEM CO., LTD.**

Endurance Testing Systems
Jigs and Machines for Twisting Tests of Linear Samples

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

Three of these test machines are desktop models, the other two are floor standing test machines. The primary difference among the desktop units are the characteristics of the motor drive units. The floor standing models offer greater torque, with one of them offering twisting and bending at the same time.

	DMLHB-TW	DMLHP-TW	DMLHPR-TW	TC111L-TW	TC111L-TSB
Specifications - Jig	Twisting Test Jig	Twisting Test Jig	Twisting Test Jig	Twisting Test Jig	Twisting while Bending Test Jig
Jig Model Number	DMX-TW	DMX-TW	DMX-TW	X-TW	X-TSB
Sample thickness	φ 0.8 ~ 10mm (0.031 ~ 0.394")	φ 0.8~10mm 0.031~0.394")	φ 0.8~10mm 0.031~0.394")	φ 2~80mm 0.079~3.15")	φ 5~20mm 0.197~0.787")
Sample size (mm)	0~208mm (8.19") + holding spaces	0~208mm (8.19") + holding spaces	0~208mm (8.19") + holding spaces	0~1000mm (39.4") + holding spaces	525mm (20.7") + holding spaces
Torsion angle	0 ~ ±270º	0 ~ ±270º	0 ~ ±3600º	0 ~ ±270º	±270º (when bending angle is ±90º)
Torsion speed	10~120 rec/min	5~90 rec/min (when ±45º)	5~90 rec/min (when ±45º)	5~90 rec/min	5 ~ 60 rec/min
Torsion torque	1 N m (0.74 ft lb) maximum	1.8 N m (1.33 ft lb) maximum	1.8 N m (1.33 ft lb) maximum	16 N m (11.8 ft lb) maximum	16 N m (11.8 ft lb) maximum
Weight - Turning Chuck	0.3 kg (0.66 lb)	0.3 kg (0.66 lb)	0.3 kg (0.66 lb)	5 kg (11.0 lb)	6 kg (13.2 lb)
Weight - Following Chuck	1.6 kg (3.5 lb)	1.6 kg (3.5 lb)	1.6 kg (3.5 lb)	30 kg (66 lb)	10 kg (22 lb)
Weight - Cover	0.7 kg (1.5 lb)	0.7 kg (1.5 lb)	0.7 kg (1.5 lb)	N/A	N/A
Dimensions (mm) (WDH)	166mm x 286mm x 248.5mm	166mm x 286mm x 248.5mm	166mm x 286mm x 248.5mm	470mm x 1560mm x 1110mm	
Dimensions (inch) (WDH)	6.53" x 11.3" x 9.789"	6.53" x 11.3" x 9.789"	6.53" x 11.3" x 9.789"	18.5" x 61.4" x 43.7"	
Specifications - Base Unit	Reciprocating Unit	Reciprocating Unit	Rotary Reciprocating Unit	Rotary Reciprocating Unit	Rotary Reciprocating Unit
Machine Model Number	DMLHB	DMLHP	DMLHPR	TC111L	TC111L
Motor	DC Brushless Motor (DC 24V, 3.5A, 30W)	Stepping Motor (DC 48V, 1.72A, 30W)	Stepping Motor (DC 48V, 1.72A, 30W)	Induction gearmotor, 3 Phases, 400W	Induction gearmotor, 3 Phases, 400W
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 ±270º	0 to ±270º	0 ~ ±3600º	0° ~ ±180° bend (0° ~ ±270°oscillation)	0° ~ ±180° bend (0° ~ ±270°oscillation)
Operating speed	10 ~ 120 rec/min	5 ~ 90 rec/min	5 ~ 90 rec/min	5~90 rec/min	5~90 rec/min
Installation Temp range	+5 to +40ºC	+5 ~ +40º C (+41 ~ +104º F)	+5 ~ +40º C (+41 ~ +104º F)	+5 ~ +40º C (+41 ~ +104º F)	+5 ~ +40º C (+41 ~ +104º 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 200V, 3 Phase, 50/60Hz, 5A. 1kVA	AC 200V, 3 Phase, 50/60Hz, 5A. 1kVA
Weight - Test Machine	16.5 kg (36.4 lb)	15.2 kg (33.5 lb)	15.0 kg (33.1 lb)	170 kg (375 lb)	170 kg (375 lb)
Dimensions (mm) (WDH)	396mm x 343.5mm x 289mm	396mm x 343.5mm x 289mm	396mm x 343.5mm x 289mm	520mm x 680mm x 1345mm	500mm x 500mm x 1345mm
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"	20.5" x 26.8" x 53.0"	19.7" x 19.7" x 53.0"
Attached units					
System Model Number	DMLHB-TW	DMLHP-TW	DMLHPR-TW	TC111L-TW	TC111L-TSB
Weight	19.1 kg (42.1 lb)	17.8 kg (39.2 lb)	17.6 kg (13.2 lb)	208 kg (459 lb)	186 kg (410 lb)
Dimensions (mm) (WDH)	396mm x 801mm x 255 mm	396mm x 801mm x 255 mm	396mm x 801mm x 255 mm	500mm x 1760mm x 1345mm	500mm x 722mm x 1345mm
Dimensions (inch) (WDH)	15.6" x 31.5" x 10.0"	15.6" x 31.5" x 10.0"	15.6" x 31.5" x 10.0"	19.7" x 69.3" x 53.0"	19.7" x 28.4" x 53.0"

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