

## Modular Desktop Endurance Testing System

### Motor Drive Units

DMLHB

DMLHP

DMLHPR

New Motor Drive Units for endurance testing of planar and linear objects including Flexible Displays, OLED devices, Barrier Films, Flat Cables, Flexible Printed Circuits, Wearables & automobile applications

These Motor Drive Units can operate a number of jigs for bending, twisting, folding, rolling-up, pushing, pulling, and stretching.

The HB and HP can quickly be converted between Rotary Mode and Linear Mode by adding or removing the rotary shaft cover or adding or removing the linear shaft.

The HPR is Rotary Mode and can handle ten full rotations.



DMLHB



DMLHP



DMLHPR

# HB HP HPR

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 System has introduced three new motor drive units, the HB, the HP, and the HPR. The dimensions of the three base units are the same. The HB and the HP are designed to drive both rotary drive jigs and linear drive jigs. A simple modification allows changing from one mode to the other. This versatility may allow one motor drive to suffice for a variety of testing needs.

The HB uses a DC brushless motor, the HP and HPR use a stepping motor. The HB allows a higher speed long-time repeating test, the HP and HPR allow more accurate position movements. The HPR has a rotary drive only, and has a greater range of rotary drive, increasing the angle from  $\pm 270^\circ$  to  $\pm 3,600^\circ$ . All models have a disconnection detector and preset counter.

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	<b>DMLHB</b>	<b>DMLHP</b>	<b>DMLHPR</b>
	<b>Base Unit</b>	<b>Base Unit</b>	<b>Base Unit</b>
<b>Specifications</b>	Rotary and Linear Drive	Rotary and Linear Drive	Rotary Drive
Machine Model Number	DMLHB	DMLHP	DMLHPR
Electrical Power	AC100-240V (50/60 Hz) 100VA	AC100-240V (50/60 Hz) 100VA	AC100-240V (50/60 Hz) 100VA
Motor	DC Brushless Motor	Stepping Motor	Stepping Motor
Motor Power	DC 24V, 3.5A (maximum), 30W	DC 48V, 1.72A (maximum), 30W	DC 48V, 1.72A (maximum), 30W
Motor Gear Box	1/20	1/20	1/20
Reciprocating speed Rotary Mode	10 ~ 120 rec/min	5 ~ 90 rec/min (maximum)	5 ~ 1280 deg/sec
Reciprocating speed Linear Mode	10 ~ 120 rec/min	5 ~ 90 rec/min (maximum)	N/A
Reciprocating angle Rotary Mode	0 ~ ±270° [Rotary Mode]	7 ~ ±270° in 0.1° increments	7 ~ ±3600°
Reciprocating distance Linear Mode (mm)	0 ~ ±60mm (Linear Mode)	3 ~ 120mm in 0.1mm increments	N/A
Reciprocating distance Linear Mode (inches)	0 ~ ±2.362" (Linear Mode)	0.118 ~ 4.724" in 0.004" increments	N/A
Acceleration Rotary Mode		360 rad/s <sup>2</sup> (maximum)	223 rad/s <sup>2</sup> maximum
Acceleration Linear Mode		4.5 m/s <sup>2</sup> (14.8 feet/s <sup>2</sup> ) (maximum)	N/A
Positioning Accuracy Rotary Mode		0.25° (by backlash)	
Positioning Accuracy Linear Mode		0.15mm (0.006") (by backlash)	N/A
Permissible torque/output Rotary Mode	1.0 Nm (maximum)	1.8 Nm	1.8 Nm
Permissible torque/output Linear Mode	400 N (maximum)	72 N	N/A
Permissible moment of inertia Rotary Mode		2.0 x 10 <sup>-3</sup> kg/m <sup>2</sup>	
Output shaft static rated moment Rotary Mode	1.5 Nm	1.5 Nm	1.5 Nm
Output shaft static rated moment Linear Mode	1.3 Nm	1.3 Nm	N/A
Counter	8-digit display (can set the target number)	8-digit display (can set the target number)	8-digit display (can set the target number)
Installation Temp Range	+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)
Safety interlock	Safety cover for testing jig	Safety cover for testing jig	Safety cover for testing jig
Dimensions (mm)	396mm x 343.5mm x 289mm (WDH)	396mm x 344mm x 289mm (WDH)	396mm x 344mm x 289mm (WDH)
Dimensions (inches)	15.6" x 13.5" x 11.4" (WDH)	15.6" x 13.5" x 11.4" (WDH)	15.6" x 13.5" x 11.4" (WDH)
Weight	about 16.5 kg (36.4 lb)	about 15.2 kg (about 33.5 lb)	13.9 kg (about 30.6 lb)

## US SERVICES AVAILABLE

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

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

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

For further information please email: [info@yuasa-system.jp](mailto:info@yuasa-system.jp)