

Direct Drive Motor KDU Series



The KDU Series are Direct Drive Motors which achieve 10 arc-sec positioning accuracy as well as ± 0.5 arc-sec repeatability with a resolution of 0.16 arc-sec. Also, the KDU has a large Hollow Shaft design which allows cables, shafts or lasers to pass through the axis of rotation.

- Exceptional positional accuracy
- Exceptional repeatability
- Ultra high resolution

•KDU Series Ratings

Item	Model	KDU-13SB	KDU-13WB
		Maximum Torque ²	Nm
Max. Rotational Speed	rpm	127	127
Torque Constant	Nm/A(rms)	3.1 (26.9 In.lb/A(rms))	6.5 (56.4 In.lb/A(rms))
Input Power Supply Voltage	V	AC 100/AC200	
Moment of Inertia	kg.m ²	0.0047	0.0065
Moment Stiffness	Nm/rad	2.4 x 10 ⁵	
Motor Position Sensor	pulse/rev	Incremental encoder Square wave : phase A and B: 11,840,000 Z Index Pulse Signal	
Repeatability ³	arc sec	± 0.5	
Absolute Positioning Accuracy ⁴	arc sec	10 (Angular position corrected)	
Mass	kg	4.0	5.0
Mounting Direction	-	Output shaft to face upward	
Combined Driver	-	HA-770-2	
Induced Voltage Constant	V/ (rpm)	.033	0.68
Line Resistance	Ω (20°C)	9.1	14.0
Line Inductance	mH	19	35
Motor Insulation	-	Insulation Resistance: 100 M Ω more (DC500V) Insulation Strength: AC1500V/1 min. Insulation Class: Class B	
Protective Structure ⁵	-	Total-enclosed self-enclosed type (IP 40 or equivalent)	

1 The table above shows output values of output shaft.
 2 The values in the table above are obtained when connected to HA-770 servo driver.
 3 The repeatability and absolute repeatability are the values measured in an environment of 23 \pm 0.3°C in temperature, 50% RH in humidity and with output shaft facing upward in mounting direction. Please contact Harmonic Drive LLC, to inquire about use with different environmental conditions.
 4 Value after angular position of the HA-770 servo driver is corrected.
 5 All parts, except the rotary sliding parts (oil seal), of the actuators are protected against solid bodies of superior dimensions to 1mm, and against the water sprays.

•Direct Drive Motor HA-770 Series



HA-770 Series

Model	HA-770-2
Rated Current	1.8A
Maximum Current	10A
Power Source Voltage	AC100V~115V(Single-phase) + 10%~-15% 50/60Hz, AC200V~230V (Single-phase) + 10%~-15% 50/60Hz
Position Command Pulse	Line driver system: Maximum response frequency, Two-pulse system, One-pulse system: 1MHz, Two-phase pulse system: 200kHz
Control System	Sine wave PWM system, switching frequency: 25kHz
Control Mode	Position control
Weight	0.8kg

•Motor Length

Unit: mm

	KDU-13SB	KDU-13WB
A	80	94

