

H-SERIES LOW INERTIA SERVOMOTORS

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AUTHORIZED REPLACEMENTS
FOR ROCKWELL AUTOMATION
H-SERIES SERVO MOTORS

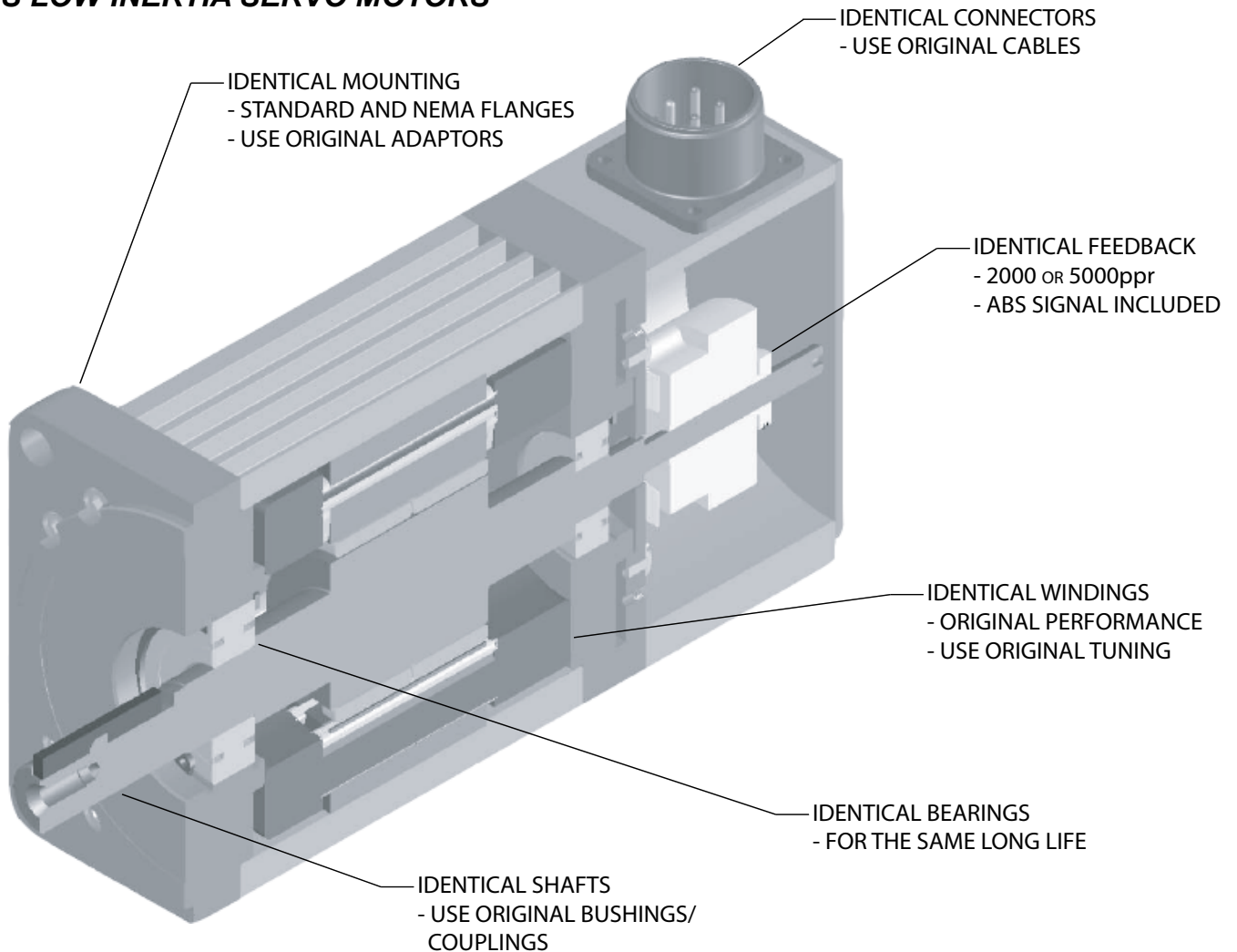
ELWOOD[®] HIGH PERFORMANCE
MOTORS
SERVOS - STEPPERS

ISO 9001
CERTIFIED COMPANY



H SERIES

AUTHORIZED REPLACEMENTS FOR ROCKWELL AUTOMATION H-SERIES LOW INERTIA SERVO MOTORS



CAPABILITIES:

- ▶ PROVEN ROBUST DESIGN
- ▶ TRUE DROP-IN REPLACEMENT FOR H-SERIES AND S-SERIES MOTORS FROM:
ROCKWELL AUTOMATION/ALLEN-BRADLEY,
RELIANCE/ELECTRO-CRAFT,
GIDDINGS & LEWIS (G&L) HSM/SSM
- ▶ FRAME SIZES TO REPLACE:
H-3000, H-4000, H-6000
- ▶ IDENTICAL SETUPS
- ▶ IDENTICAL PERFORMANCE
- ▶ NO SOFTWARE CHANGES NECESSARY
- ▶ ORIGINAL EQUIPMENT COMPONENTS:
SHAFTS, WINDINGS, BEARINGS,
ENCODERS, CONNECTORS
- ▶ **CUSTOMS AVAILABLE**
- ▶ **LIFETIME SUPPORT**
- ▶ **NO OBSOLESCENCE**

FEATURES:

- ▶ LOW INERTIA DESIGN AND NEODYMIUM MAGNETS FOR HIGH ACCELERATION RATES
- ▶ SMOOTH OPERATION:
SKEWED DESIGN FOR LOW COGGING
- ▶ SPEEDS TO 6000 RPM
- ▶ CONTINUOUS TORQUE: 0.8Nm TO 36.4Nm
- ▶ PEAK TORQUE TO 79.1Nm
- ▶ FEEDBACK:
2000ppr or 5000ppr INCREMENTAL,
ABSOLUTE, or RESOLVER (OPTIONAL)
- ▶ SPRING-SET HOLDING BRAKES (OPTIONAL)
- ▶ **CUSTOM MOUNTING, SHAFT, CONNECTORS**
- ▶ **1-YEAR WARRANTY**

REBUILDS:

- ▶ REBUILT TO AS-NEW CONDITION
REGARDLESS OF ORIGINAL MANUFACTURER
- ▶ **1-YEAR WARRANTY**

LOW INERTIA SERVOS

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H-SERIES MOTOR DATA

MOTOR MODEL		H-3007	H-3016	H-4030-P	H-4030-M	H-4050	H-4075	H-6100	H-6200	H-6300
MECHANICAL DATA (1)										
Rated Torque, Cont (Stall)	Nm	0.8	2.3	3.4	3.4	6.8	10.2	11.3	22.6	36.7
	lb-in	7.0	20.0	30.0	30.0	60.0	90.3	100.0	200.0	324.8
Peak Torque (Stall)	Nm	2.5	5.7	9.7	6.8	22.0	30.5	25.42	40.67	79.1
	lb-in	21.9	50.0	85.9	60.0	194.7	269.9	225.0	360.0	700.1
Rated Current	A _{0-PK}	2.5	6.8	5.7	12.0	12.0	12.0	17.0	32.0	46.0
Rated Power	kW	0.35	0.75	1.1	1.1	1.9	2.6	2.5	3.4	6.0
	hp	0.47	1.0	1.5	1.5	2.6	3.5	3.4	4.6	8.1
Rated Voltage (Drive Supply)	V _{rms}	230	230	230	230	230	230	230	230	230
Rotor Moment of Inertia	kg-m ²	0.000030	0.000080	0.000250	0.000250	0.000460	0.000680	0.001400	0.002400	0.003400
	lb-in-s ²	0.00027	0.00072	0.00220	0.00220	0.00410	0.00600	0.01200	0.02100	0.03000
Rotor Moment of Inertia Brake Motors	kg-m ²	0.000038	0.000089	0.000330	0.000330	0.000540	0.000760	0.001700	0.002700	0.003700
	lb-in-s ²	0.00034	0.00079	0.00290	0.00290	0.00480	0.00670	0.01500	0.02400	0.03300
Motor Shipping Weight	kg	2.6/7.0	4.1/11.0	6.8/18.2	6.8/18.2	9.7/26.0	12.9/34.6	18.3/49.0	27.0/72.3	34.8/93.2
	lb	3.2/8.6	4.7/12.6	7.3/19.6	7.3/19.6	10.9/29.2	14.1/37.8	19.2/51.4	28.6/76.6	37.7/101.0
Motor Shipping Weight Brake Motors	kg	3.4/9.1	4.9/13.1	8.8/23.6	8.8/23.6	11.8/31.6	14.9/39.9	22.5/60.3	31.6/84.7	39.2/105.0
	lb	3.8/10.2	5.5/14.7	9.4/25.2	9.4/25.2	12.7/34.0	16.0/42.9	23.8/63.8	32.9/88.1	42.2/113.1
Damping	Nm/krpm	0.010	0.014	0.034	0.034	0.045	0.068	0.100	0.160	0.190
	lb-in/krpm	0.09	0.12	0.3	0.3	0.4	0.6	0.9	1.4	1.7
Friction Torque	Nm	0.014	0.028	0.034	0.034	0.068	0.140	0.140	0.240	0.360
	lb-in	0.12	0.25	0.3	0.3	0.6	1.2	1.2	2.1	3.2
Max. Operating Speed	rpm	5000	5000	4000	4000	4000	3000	3000	3000	3000
WINDING DATA (1)										
Poles		6	6	6	6	6	6	8	8	8
K _t , Sine Wave Torque Constant (2)	Nm/A _{0-PK}	0.28	0.28	0.5	0.25	0.5	0.74	0.68	0.66	0.7
	lb-in/A _{0-PK}	2.5	2.5	4.4	2.2	4.4	6.6	6.0	5.8	6.2
K _t , Square Wave Torque Constant (3)	Nm/A _{0-PK}	0.31	0.31	0.54	0.27	0.54	0.81	0.74	0.72	0.77
	lb-in/A _{0-PK}	2.7	2.7	4.8	2.4	4.8	7.2	6.6	6.4	6.8
K _E , Voltage Constant (4)	V/krpm	38	38	60	30	60	90	82	80	85
Winding Resistance Phase to Phase at 25±5°C	Ohms ±15%	6.60	1.30	2.00	0.50	0.69	0.90	0.49	0.18	0.12
Winding Inductance Phase to Phase	mH	12.0	3.4	9.0	1.9	3.3	5.4	4.4	2.2	1.2
Thermal Resistance	°C/Watt	1.2	0.89	0.79	0.79	0.57	0.48	0.34	0.31	0.24
Dielectric Rating		Power Leads (R,S,T) to Ground:1500 VACrms 50/60 Hz for 1 minute.								
(1) Specifications are at 25°C unless otherwise noted.						(3) Peak value of per phase square wave Amperes				
(2) Peak value of per phase sine wave Amperes						(4) Volts peak-peak Line-Line / kRPM				

STORAGE AND OPERATING CONDITIONS

Ambient Temperature	Operating: 0° to 40°C (32° to 104°F) Storage: -30° to 70°C (-25° to 158°F)
Relative Humidity	5% to 95% non-condensing

THERMOSTAT RATINGS

Rated Voltage	0-250 Volts DC or 50/60 Hz AC*
Rated Current	2.5 Amps @ Power Factor of 1.0
	1.6 Amps @ Power Factor of 0.6
Maximum Switching Current	5 Amps
Contact Resistance	<0.10 Ohms maximum
Contacts	Normally closed
Insulation Dielectric	Mylar Nomex capable of withstanding 1500 VAC RMS 50/60 Hz for 1 minute
Opening Temperature (+/- 5° C)	140° C

*The thermostat is normally used as a switch for a 15VDC logic signal.

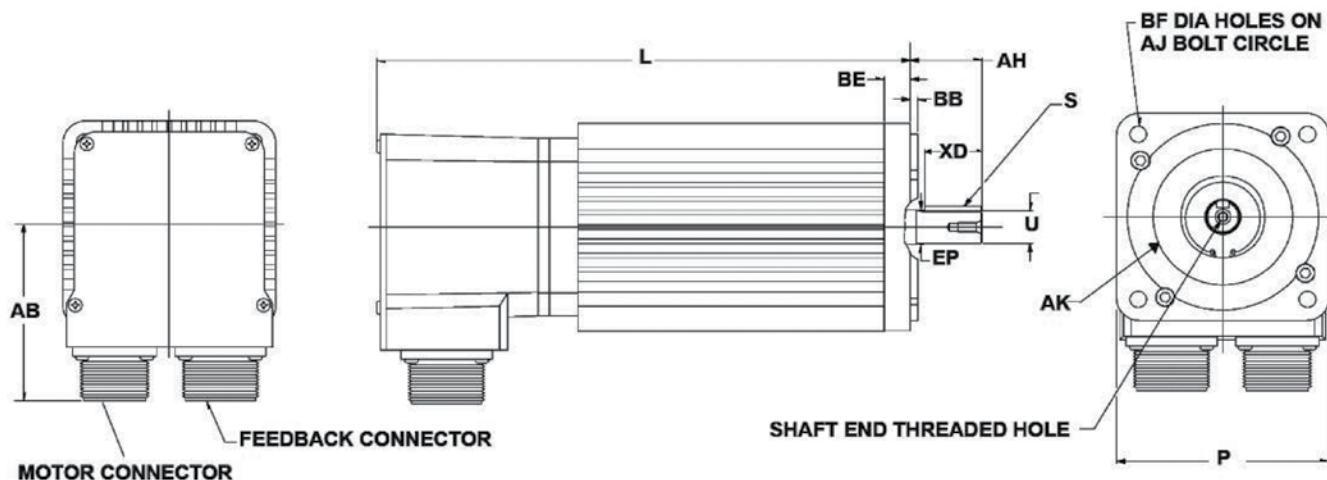


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ELWOOD HIGH PERFORMANCE MOTORS H-SERIES DIMENSIONAL DATA



Motor Dimensions														
Motor Model	AB mm/in	AH mm/in	AJ mm/in	AK mm/in	BB mm/in	BE mm/in	BF mm/in	EP mm/in	L mm/in	L Brake mm/in	P mm/in	S mm/in	U mm/in	XD mm/in
H-3007	75/2.95	30/1.18	100/3.94	80/3.15	3/12	10.9/43	7/28	15/59	172/6.77	211/8.31	89/3.50	5x5/.20x.20	14/55	20/79
H-3016									223/8.77	262/10.31				
H-4030	76/3.00	50/1.97	145/5.71	110/4.33	3/12	15.5/61	10/39	20/79	213/8.39	266/10.45	121/4.76	6x6/.24x.24	19/75	40/1.57
H-4050									264/10.39	317/12.48				
H-4075									315/12.40	368/14.49				
H-6100	101/4.00	80/3.15	200/7.87	114.3/4.50	4/16	21.3/84	13.5/53	38/1.50	277/10.91	330/12.99	178/7.01	10x8/.39x.31	35/1.38	60/2.36
H-6200									353/13.90	406/15.98				
H-6300									429/16.89	482/17.40				

SUPPLEMENTAL MOTOR DIMENSIONS																
Length, from motor faceplate to center of connectors																
CONNECTOR	H-3007	BRAKE	H-3016	BRAKE	H-4030	BRAKE	H-4050	BRAKE	H-4075	BRAKE	H-6100	BRAKE	H-6200	BRAKE	H-6300	BRAKE
Brake (mm/in)	—	107/4.21	—	158/6.22	—	160/6.30	—	211/8.31	—	262/10.31	—	189/7.44	—	265/10.43	—	341/13.42
Encoder & Power (mm/in)	143/5.63	181/7.13	194/7.64	232/9.13	184/7.24	236/9.29	235/9.25	287/11.30	286/11.26	338/13.30	251/9.88	299/11.77	327/12.87	375/14.76	403/15.87	451/17.75

Shaft End Threaded Hole		
Motor Series	Thread	Thread Depth
H-3000	M3 x 0.5MM	10mm / 0.39in
H-4000	M4 x 0.7MM	15mm / 0.59in
H-6000	M6 x 1.0MM	20mm / 0.79in

Note: Motors are manufactured to Millimeter dimensions. Inch dimensions are approximate conversions from millimeters

CABLES: CONTINUOUS FLEX RATED*

*Elwood's continuous flex rated cables replace both flexing and non-flexing cables for H and F Series motors.

Power Cables				
XXX indicates length in feet				
	H-2000 & H-3000	H-4000	H-6100 & H-6200	H-6300
Rockwell Model	9101-1381	9101-1382	9101-1383	9101-1399
	2090-UXNPAHF-16S	2090-UXNPAHF-14S	2090-UXNPAHF-10S	2090-UXNPAHF-8S
	2090-XXNPHF-16S	2090-XXNPHF-14S	2090-XXNPHF-10S	2090-XXNPHF-8S
Elwood Model	141-HPXXX-01	141-HPXXX-02	141-HPXXX-03	141-HPXXX-04

Feedback Cables		
XXX indicates length in feet		
	Ultra 100/200	Ultra 3000
Rockwell Model	9101-1366	2090-UXNFBHF-S
Elwood Model	141-HFXXX-01	141-HFXXX-02

Brake Cables	
XXX indicates length in feet	
For All Ultra Drives	
Rockwell Model	n/a
Elwood Model	141-HBXXX-01



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