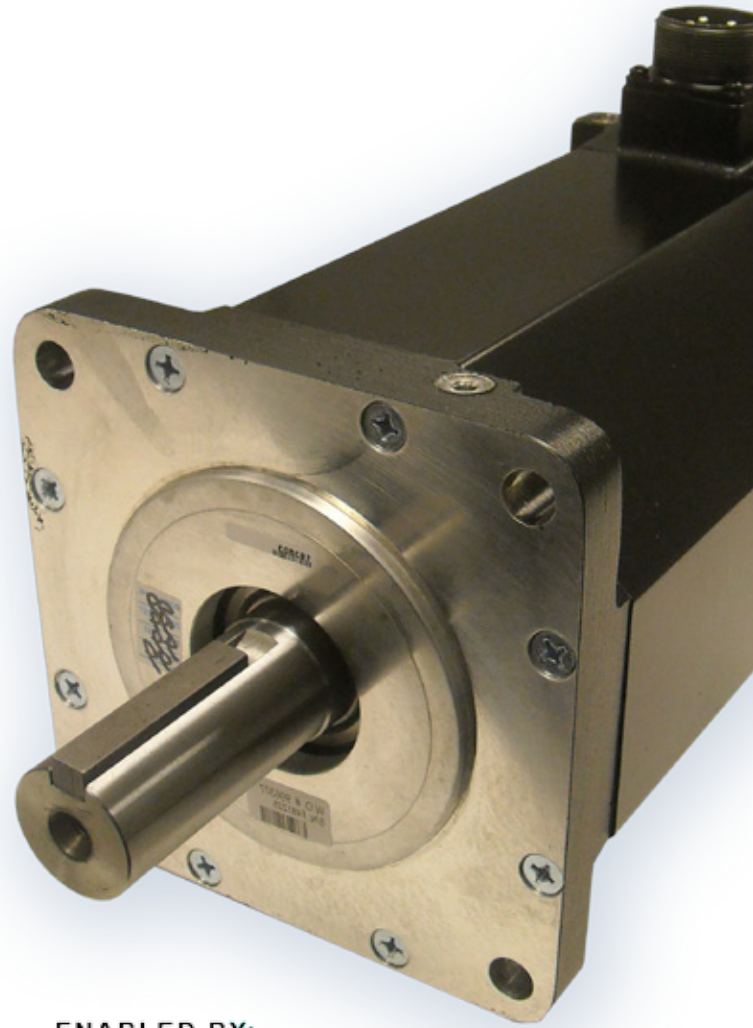


F-SERIES MEDIUM INERTIA SERVO MOTORS

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ENABLED BY:
ROCKWELL AUTOMATION TECHNOLOGY
AUTHORIZED REPLACEMENTS FOR F-SERIES SERVO MOTORS
FROM ROCKWELL AUTOMATION/ALLEN-BRADLEY

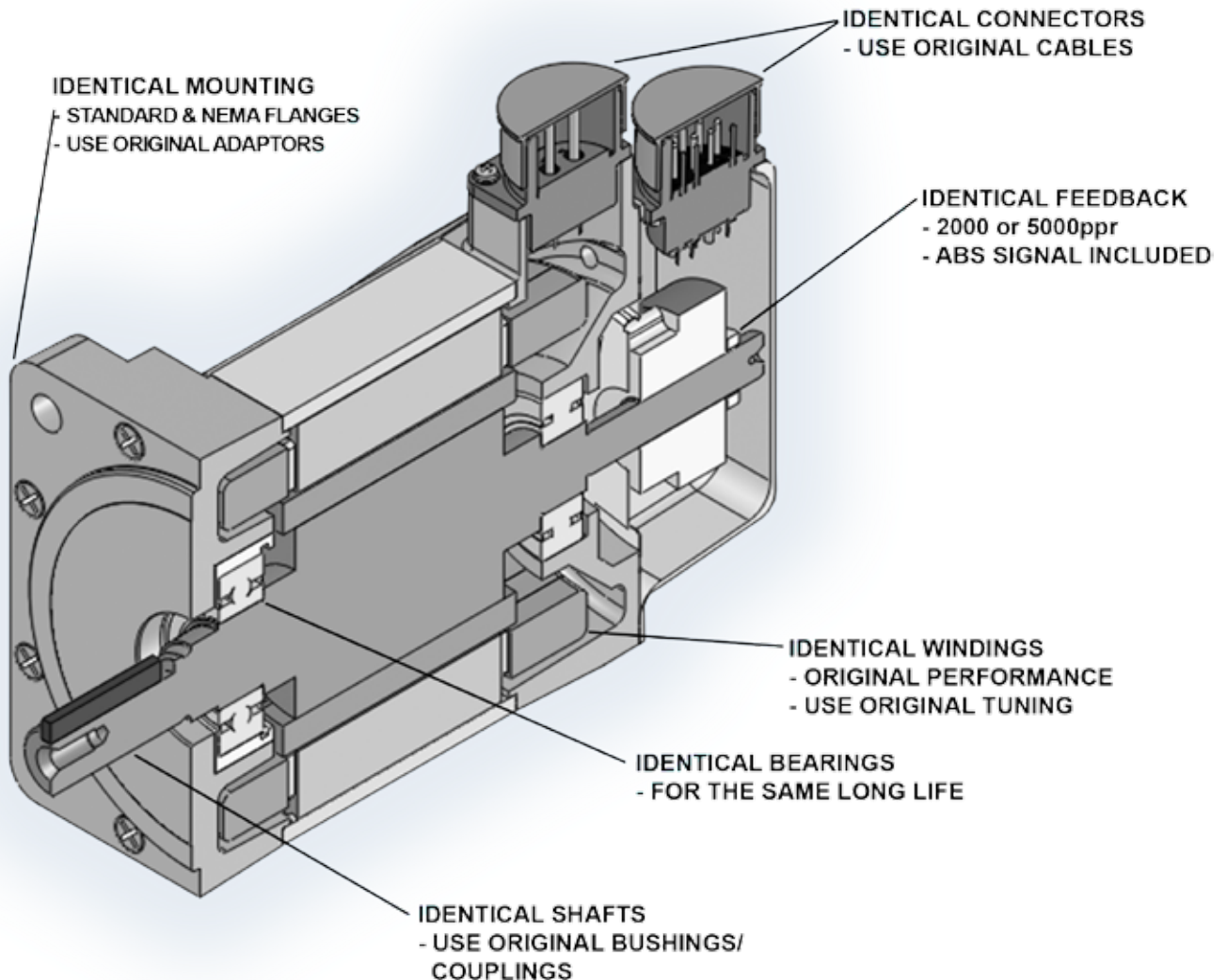
ELWOOD[®] HIGH PERFORMANCE
MOTORS
SERVOS - STEPPERS

ISO 9001
CERTIFIED COMPANY



F SERIES

AUTHORIZED REPLACEMENTS FOR ROCKWELL AUTOMATION F-SERIES MEDIUM INERTIA SERVO MOTORS



CAPABILITIES:

- ▶ PROVEN ROBUST DESIGN
- ▶ TRUE DROP-IN REPLACEMENTS FOR F-SERIES MOTORS FROM:
ROCKWELL AUTOMATION/ALLEN-BRADLEY,
RELIANCE/ELECTRO-CRAFT,
GIDDINGS & LEWIS (G&L) FSM
- ▶ FRAME SIZES TO REPLACE:
F-4000, F-6000;
FSM400, FSM600
- ▶ IDENTICAL SETUPS
- ▶ IDENTICAL PERFORMANCE
- ▶ NO SOFTWARE CHANGES NECESSARY
- ▶ ORIGINAL EQUIPMENT COMPONENTS
CONNECTORS, SHAFTS, FLANGES,
BEARINGS, WINDINGS, ENCDERS
- ▶ **CUSTOMS AVAILABLE**
- ▶ **LIFETIME SUPPORT**
- ▶ **NO OBSOLESCENCE**

FEATURES:

- ▶ MEDIUM INERTIA DESIGN AND FERRITE MAGNETS FOR SMOOTH OPERATION AND INERTIA MATCHING HEAVY LOADS
- ▶ SPEEDS TO 4000RPM
- ▶ CONTINUOUS TORQUE: 3.5Nm TO 28Nm
- ▶ PEAK TORQUE TO 57Nm
- ▶ 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**

MEDIUM INERTIA SERVOS

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F-SERIES SERVO MOTOR DATA

MOTOR MODEL		F-4030	F-4050	F-4075	F-6100	F-6200	F-6300
MECHANICAL DATA (1)							
Rated Torque, Cont (Stall)	Nm	3.5	6.9	9.3	13.0	19.8	27.8
	lb-in	31	61	82	115	175	245
Peak Torque (Stall)	Nm	11.3	15.2	19.6	31.6	42.0	56.5
	lb-in	100	120	174	280	372	500
Rated Current	A _{0-PK}	5.7	12	12	17	25	34
Rated Power	kW	1.4	2.5	2.2	3.5	4.1	4.7
	hp	1.87	3.35	2.94	4.69	5.49	6.3
Rated Voltage (Drive Supply)	V _{rms}	230	230	230	230	230	230
Rotor Moment of Inertia	kg-m ²	0.0010	0.0021	0.0032	0.0064	0.0107	0.0162
	lb-in-s ²	0.01	0.02	0.03	0.06	0.10	0.14
Rotor Moment of Inertia Brake Motors	kg-m ²	0.0011	0.0022	0.0032	0.0070	0.0110	0.0170
	lb-in-s ²	0.010	0.020	0.030	0.061	0.098	0.147
Motor Shipping Weight	kg	11.0	15.8	21.4	25.1	33.5	45.8
	lb	23.0	34.8	47.2	55.4	73.8	101.0
Motor Shipping Weight Brake Motors	kg	12.5	17.8	23.9	30.0	38.4	51.4
	lb	27.6	39.2	52.6	66.0	84.4	113.1
Damping	Nm/krpm	0.06	0.1	0.15	0.16	0.24	0.37
	lb-in/krpm	0.50	0.94	1.30	1.40	2.10	3.30
Friction Torque	Nm	0.063	0.11	0.17	0.17	0.24	0.46
	lb-in	0.56	0.94	1.50	1.50	2.10	4.10
Max. Operating Speed	rpm	4000	4000	3000	3000	3000	3000
WINDING DATA (1)							
Poles		8	8	8	8	8	8
K _T , Sine Wave Torque Constant (2)	Nm/A _{0-PK}	0.54	0.54	0.73	0.71	0.70	0.73
	lb-in/A _{0-PK}	4.8	4.8	6.5	6.3	6.2	6.5
K _T , Square Wave Torque Constant (3)	Nm/A _{0-PK}	0.60	0.60	0.80	0.78	0.80	0.81
	lb-in/A _{0-PK}	5.3	5.3	7.1	6.9	6.8	7.1
K _E , Voltage Constant (4)	V/krpm	66	66	89	86	85	89
Winding Resistance Phase to Phase at 25±5°C	Ohms ±15%	2.24	0.89	0.98	0.51	0.26	0.16
Winding Inductance Phase to Phase	mH	6.8	3.3	3.4	3.3	1.7	1.1
Thermal Resistance	°C/Watt	0.63	0.48	0.40	0.45	0.37	0.30
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

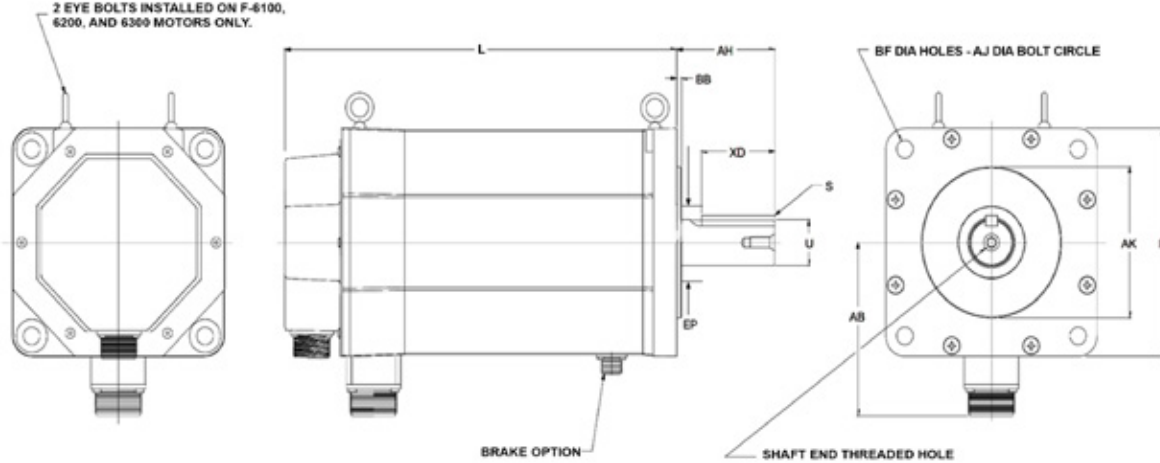
*The thermostat is normally used as a switch for a 15VDC logic signal.



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RACINE, WI 53404, USA web://www.elwood.com/motors



ELWOOD HIGH PERFORMANCE MOTORS F-SERIES DIMENSIONAL DATA



Motor Dimensions													
Motor Model	AB	AH	AJ	AK	BB	BF	EP	L	L Brake	P	S	U	XD
	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in
F-4030	102/4.02	50/1.97	145/5.71	110/4.33	3/0.12	10/0.39	22.2/0.875	194/7.64	257/10.12	127/5.00	6x6/0.24x0.24	19/0.75	38/1.49
F-4050								272/10.71	335/13.19				
F-4075								350/13.78	413/16.26				
F-6100	131/5.16	80/3.15	200/7.87	114.3/4.50	4/0.16	13/0.53	36.5/1.438	255/10.04	326/12.83	173/6.81	10x8/0.39x0.32	35/1.38	60/2.36
F-6200								320/12.60	390/15.35				
F-6300								420/16.53	490/19.29				

SUPPLEMENTAL MOTOR DIMENSIONS												
Length, from motor faceplate to center of connectors												
CONNECTOR	F-4030	BRAKE	F-4050	BRAKE	F-4075	BRAKE	F-6100	BRAKE	F-6200	BRAKE	F-6300	BRAKE
Brake (mm/in)	—	56/2.20	—	56/2.20	—	56/2.20	—	59/2.32	—	59/2.32	—	59/2.32
Encoder (mm/in)	126/4.96	189/7.44	204/8.03	267/10.51	282/11.10	345/13.58	183/7.20	254/10.0	248/9.76	318/12.52	348/13.70	418/16.46
Power (mm/in)	172/6.77	235/9.25	250/9.84	313/12.32	228/8.98	301/11.85	233/9.17	304/11.97	298/11.73	368/14.49	398/15.67	468/18.42

Shaft End Threaded Hole		
Motor Series	Thread	Thread Depth
F-4000	M6 x 1.00mm	15mm/.59in
F-6000	M8 x 1.25mm	20mm/.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		
	F-4030, F-4050, F-4075	F-6100 & F-6200	F-6300
Rockwell Model	9101-1382 2090-UXNPAHF-14S 2090-XXNPHF-14S	9101-1383 2090-UXNPAHF-10S 2090-XXNPHF-10S	9101-1399 2090-UXNPAHF-8S 2090-XXNPHF-8S
Elwood Model	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	

