

## Key Performance Features

- High Energy Neodymium Magnets
- Operating speeds to 6000RPM
- High Torque to Size ratio
- 24-600VDC typical Bus voltage
- Custom Designed To Your Performance Requirements



# BFA42 BRUSHLESS MOTOR SERIES

## Motor Characteristics

(8 Pole Design)

FRAME SIZE	STACK LENGTH	Peak Stall Torque (Tp) oz-in	Cont. Stall Torque (Tc) oz-in	Friction & Cogging Torque (Tf) oz-in	Rotor Inertia (Jm) oz-in-sec <sup>2</sup>	Thermal Resistance (Rth) degC/Watt	Max Recom'd Speed RPM	Max Winding Temp C	Elec Time Constant (Te) msec	Power Range W	Weight lb
<b>BFA42 - 200</b>		1950	650	22.0	0.041	0.35	6000	155	5.4	1200	9.7
<b>BFA42 - 300</b>		2700	900	31.0	0.062	0.31	6000	155	5.5	1700	12.8
<b>BFA42 - 400</b>		3600	1200	40.0	0.082	0.28	6000	155	5.6	2000	16
<b>BFA42 - 600</b>		4800	1600	60	0.124	0.20	6000	155	5.65	2800	24.2

## Sample Windings

CONSULT MAGMOTOR APPLICATION STAFF FOR OTHER AVAILABLE WINDINGS

	BFA42 - 200				BFA42 - 300				BFA42 - 400				BFA42 - 600			
	5E	5G	5I	5K	5E	5G	5I	5K	5E	5G	5I	5K	5E	5G	5I	5K
Torque Constant (Kt) oz-in/amp	9.9	15.7	24.9	39.5	14.8	23.5	37.3	59.2	19.7	31.3	49.8	79	29.6	47	74.6	118.5
Voltage Constant (Ke) Volts/Krpm	7.3	11.6	18.4	29.2	10.9	17.4	27.6	43.8	14.6	23.2	36.8	58.4	21.9	34.8	55.2	87.6
L-L Resistance (Ra) Ohms (cold)	0.02	0.046	0.14	0.33	0.035	0.071	0.165	0.4	0.045	0.095	0.22	0.57	0.15	0.21	0.46	0.88
Inductance (L-L) mH	0.08	0.19	0.47	1.18	0.114	0.29	0.71	1.77	0.152	0.39	0.95	2.37	0.23	0.59	1.43	3.6
Peak Current (A) Amps	195	125	78	49	182	114	72	45	183	115	72	45	162	102	64	40

VALUES AS LISTED ARE TEST CONDITIONS. ACTUAL RESULTS MAY VARY

## BFA42 Series Options

- Optical Encoders
- Hall Sensor or Encoder Commutation Gear Boxes and Brakes
- Application Specific Windings and Mechanical designs
- Custom Cables and Connectors
- IP 67 Sealing

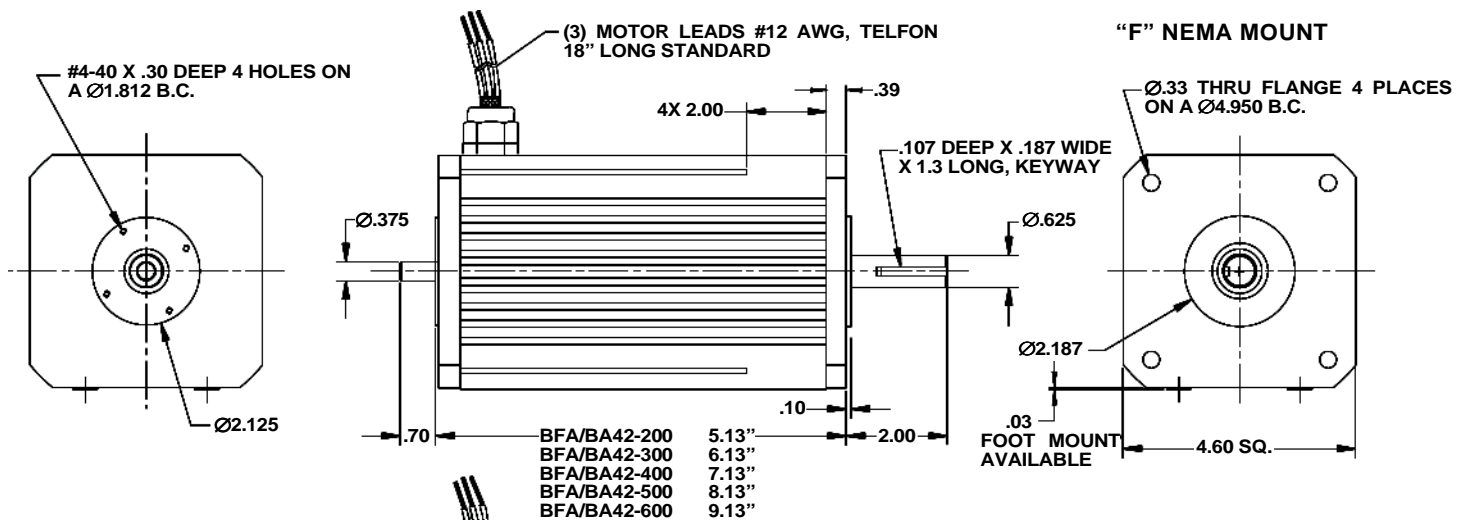
For more options, see [magmotor.com](http://magmotor.com) custom solutions, or call us.

## Typical Applications

- Hybrid & Electrical Vehicle Systems  
Commercial, Fleet & Military
- Off-Road applications
- Power Steering
- Vehicle hydraulic accessories
- Medical & Laboratory Equipment
- Automated Assembly Machines
- X-Y-Z Positioning Machines

**Magmotor**  
A US Hybrid Company

### BFA SQUARE FINNED BODY



### "F" NEMA MOUNT

5/16-18 THRU 4 PLACES ON A Ø3.250 B.C.

Ø2.499

### BA ROUND BODY (OPTIONAL)

### FACE MOUNT

Ø4.60