

Features

- 17, 23, 34 and 42 frame brushless servo motors
- Optimized for use with IDC's B8000 servo controls
- 12 foot motor, encoder and commutation sensor cables included
- High Torque-to-inertia ratio for quick acceleration
- Custom windings and mountings available
- High performance Neodymium magnets
- IP65 sealing for washdown environments
- Rugged MS-style connectors
- Thermoswitch protection in windings



Brushless Motor Comparison

	Continuous Stall Torque oz-in [N-m]	Peak Torque oz-in [N-m]	Max Speed @ 115 VAC rps [rpm]	Max Speed @ 230 VAC rps [rpm]	For Complete Motor Specs, see:
B12	24 [0.17]	63 [0.44]	100 [6000]	NA	H48
B22	80 [0.56]	192 [1.35]	100 [6000]	100 [6000]	H49
B23	160 [1.13]	502 [3.54]	63 [3780]	100 [6000]	H50
B23H	160 [1.13]	480 [3.39]	76 [4560]	100 [6000]	H51
B31	256 [1.81]	672 [4.74]	54 [3240]	100 [6000]	H52
B32	493 [3.48]	853 [6.02]	37 [2220]	74 [4440]	H53
B33	624 [4.41]	1792 [12.65]	20 [1200]	41 [2460]	H54
B40	488 [3.45]	1328 [9.38]	27 [1620]	55 [3300]	H55
B41	930 [6.57]	1616 [11.41]	20 [1200]	39 [2340]	H56
B42	1328 [9.38]	4032 [28.47]	9 [540]	18 [1080]	H57



How To Order

Motor Models	Description	Options	Description
B12	B12 motor with 12-foot cable	-B	24 VDC motor brake
B22	B22 motor with 12-foot cable	-C25	25-foot cable
B23	B23 motor with 12-foot cable	-C50	50-foot cable
B23H	B23H motor with 12-foot cable	-NS	No shaft seal
B31	B31 motor with 12-foot cable	Other options	Special motor shafts, windings, mounting flanges, and cables available. Contact IDC for details.
B32	B32 motor with 12-foot cable		
B33	B33 motor with 12-foot cable		
B40	B40 motor with 12-foot cable		
B41	B41 motor with 12-foot cable		
B42	B42 motor with 12-foot cable		



HowTo Order

After you have chosen the gearmotor that best meets your application requirements, use the table below to put together a complete model number.

We mount both Value and Performance Planetary precision gearheads on our B Series brushless servo motors to give you the exact speed and torque for your application.

The next 10 pages provide system performance specifications for our brushless servo gearmotors using our B8000 Series controls.

-V Vertical Option

The gearhead is packed with additional grease to prevent lubricant from slumping to the bottom when operated in a vertical orientation.

-LB Low Backlash Option

See page I1 for information.

Gearmotor Warranty

IDC gearmotors are warranted against defects in material and workmanship when used within specified operating conditions. The motor carries a two-year warranty, and the Performance Planetary gearheads are warranted for life. The gearmotor must be returned to IDC every five years for gearhead re-lubrication and cleaning for the warranty to remain in effect.

Example	Description
G23PI-B23-0055	Size 23, Performance Planetary in-line configuration, B23 brushless servo motor (with encoder, commutation sensors and 12-ft cables), 5.5:1 gear ratio

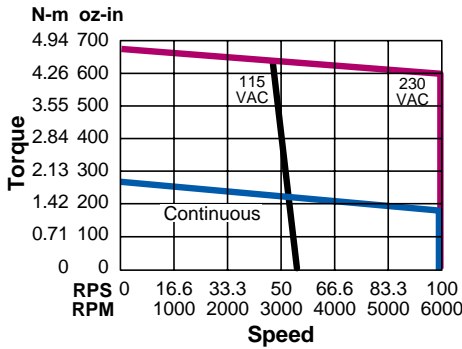
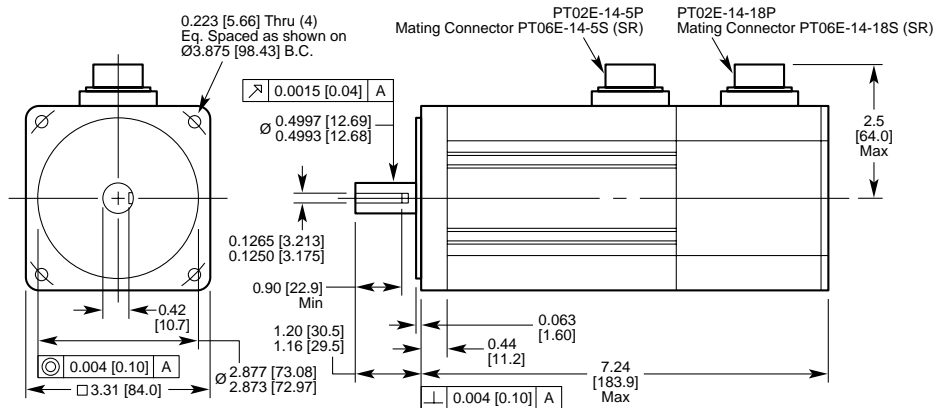


HowTo Order

Size	Gearhead		B Series Motor		Gear Ratio	Options	
	Size	Type					
G17	PI	Performance Planetary In-Line	B12, see page H48		0030-7000	LB	Low Backlash
	PC	Performance Planetary Right-Angle				V	Vertical
G23	PI	Performance Planetary In-Line	B22, see page H49		0030-7000	LB	Low Backlash
	PC	Performance Planetary Right-Angle	B23, see page H50			V	Vertical
	VI	Value Planetary In-Line	B23H, see page H51				
	VR	Value Planetary Right-Angle					
G34	PI	Performance Planetary In-Line	B31, see page H52		0030-7000	LB	Low Backlash
	PC	Performance Planetary Right-Angle	B32, see page H53			V	Vertical
	VI	Value Planetary In-Line	B33, see page H54				
	VR	Value Planetary Right-Angle					
G42	PI	Performance Planetary In-Line	B40, see page H55		0030-7000	LB	Low Backlash
	PC	Performance Planetary Right-Angle	B41, see page H56			V	Vertical
	VI	Value Planetary In-Line	B42, see page H57				
	VR	Value Planetary Right-Angle					



- Performance using B8000 Series controls
- IDC recommends at least a 10% torque safety margin and taking winding tolerances into account when applying servo motors.
- See How to Order on page H46
- Brake option adds 1.5 in [38 mm] to motor length



- Continuous duty region (230/115 VAC) [max RMS torque over any 10-minute interval]
- Intermittent duty region
- 115 VAC speed limit

System Ratings with B8000 Controls

Torque

Continuous Stall Torque oz-in [N-m]	256 [1.81]
Peak oz-in [N-m]	672 [4.74]
Peak Shaft Power @ 230 VAC HP [W]	3.1 [2344]

Torque Sensitivity

$K_{T(p-p)}$ oz-in/A [N-m/A]*	67.2 [0.474]
Back EMF, KV V_{pp}/krp *	49.7

* ±10% tolerance

Motor Data

Rotor Inertia oz-in-sec ² [kg-m] ²	0.008 [5.7 x 10 ⁻⁵]
Weight lb [kg]	8.3 [3.8]
Axial Shaft Loading lb [kg]	25 [11.3]
Radial shaft loading lb [kg] @ 1 in [25 mm]	40 [18.1]
Incremental encoder	2000 line, 8000 counts/rev

Applying Gearheads

- See page I-1 for IDC gearhead information
- See page I-6 for how to determine gearmotor performance
- The servo drive should be current limited if the continuous or intermittent torque of the motor exceeds the gear head torque ratings.

Performance Planetary Gearmotors

	In-line	Right-angle
Gear Ratio in [mm]	L	A x B
4, 5.5, 7, 10	11.43 [290.3]	4.77 x 15.17 [121.2 x 385.3]
16, 22, 28, 40, 70, 100	12.55 [318.8]	4.77 x 16.29 [121.2 x 413.8]
160, 250, 400, 700	13.78 [350.0]	Above 100:1, not available

Value Planetary Gearmotors

	In-line	Right-angle
Gear Ratio in [mm]	L	A x B
4, 5.5, 7, 10	11.8 [299.7]	4.77 x 15.54 [121.2 x 394.7]
16, 22, 28, 40, 70, 100	13.1 [331.7]	4.77 x 16.8 [121.2 x 426.7]
160, 250, 400, 700	Above 100:1, not available	