



B Series Features

- 17, 23, 34 and 42 frame brushless servo motors
- Optimized for use with IDC's B8000 servo controls
- High Torque-to-inertia ratio for quick acceleration
- Rugged MS-style connectors, 12-ft quick-disconnect cables included

BN Series Features

- 23 and 34 frame brushless servo motors
- True NEMA dimensions (including motor shafts)
- Smooth operation/low cogging
- 12-ft jacketed cables included

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 | H-53 |
| B23 | 160 [1.13] | 580 [4.09] | 63 [3780] | 100 [6000] | H-54 |
| B23H | 160 [1.13] | 480 [3.39] | 76 [4560] | 100 [6000] | H-55 |
| B32 | 493 [3.48] | 853 [6.02] | 37 [2220] | 74 [4440] | H-56 |
| B33 | 624 [4.41] | 1792 [12.65] | 20 [1200] | 41 [2460] | H-57 |
| B40 | 488 [3.45] | 1328 [9.38] | 27 [1620] | 55 [3300] | H-58 |
| B41 | 930 [6.57] | 1616 [11.41] | 20 [1200] | 39 [2340] | H-59 |
| B42 | 1328 [9.38] | 4032 [28.47] | 9 [540] | 18 [1080] | H-60 |
| BN21 | 22 [0.15] | 70 [0.49] | 100 [6000] | N/A | H-49 |
| BN23 | 51 [0.36] | 170 [1.2] | 100 [6000] | N/A | H-50 |
| BN31 | 108 [0.76] | 320 [2.26] | 79 [4750] | N/A | H-51 |
| BN32 | 191 [1.35] | 560 [3.96] | 61 [3700] | N/A | H-52 |



How To Order

| Motor Models | Description | Options | Description |
|----------------------|--|----------------------|---|
| <input type="text"/> | — | <input type="text"/> | |
| B12 | B12 motor w/ 12-ft quick-disconnect cable | -B | 24 VDC motor brake |
| B23 | B23 motor w/ 12-ft quick-disconnect cable | -C25 | 25-foot cable |
| B23H | B23H motor w/ 12-ft quick-disconnect cable | -C50 | 50-foot cable |
| B32 | B32 motor w/ 12-ft quick-disconnect cable | -C100 | 100-foot cable |
| B33 | B33 motor w/ 12-ft quick-disconnect cable | | |
| B40 | B40 motor w/ 12-ft quick-disconnect cable | | |
| B41 | B41 motor w/ 12-ft quick-disconnect cable | | |
| B42 | B42 motor w/ 12-ft quick-disconnect cable | | |
| Motor Models | Description | | |
| <input type="text"/> | | | |
| BN21 | BN21 motor with 12-foot jacketed cable | | Note: Currently, no options are available for the BN motors. |
| BN23 | BN23 motor with 12-foot jacketed cable | | |
| BN31 | BN31 motor with 12-foot jacketed cable | | |
| BN32 | BN32 motor with 12-foot jacketed cable | | |

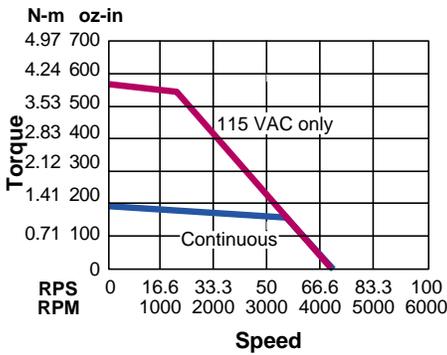
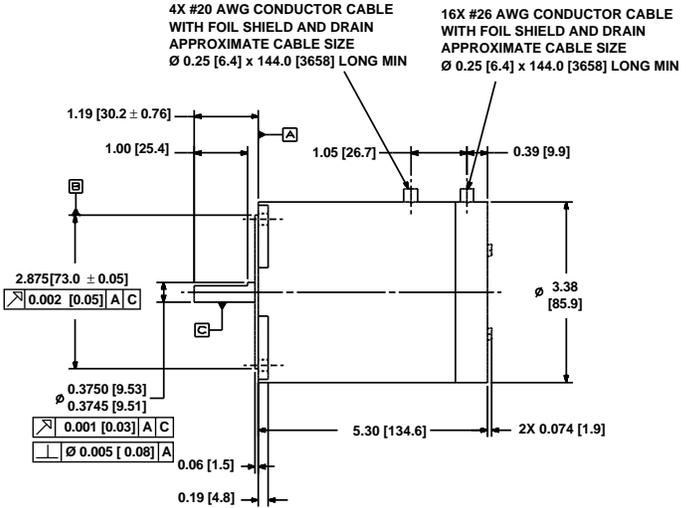
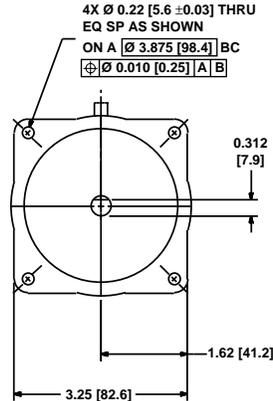


To confirm your selection, review the checklist on page H-6.





- 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 H-48.



- Continuous duty region (115 VAC only) [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] | 191 [1.35] |
| Peak oz-in [N-m] | 560 [3.96] |
| Peak Shaft Power @ 230 VAC HP [W] | 0.89 [665] |

Torque Sensitivity

| | |
|-------------------------------|--------------|
| $K_{T(p-p)}$ oz-in/A [N-m/A]* | 54.9 [0.388] |
| Back EMF, $V_{p-p}/kRPM^*$ | 40.6 |

* ±10% tolerance

Motor Data

| | |
|--|-----------------------------------|
| Rotor Inertia oz-in-sec ² [kg-m] ² | 0.0193 [1.37 x 10 ⁻⁴] |
| Weight lb [kg] | 6 [2.8] |
| Axial Shaft Loading lb [kg] | 50 [222] |
| Radial shaft loading lb [kg] @ 0.5 in [12.7 mm] | 14.5 [64.4] |
| Incremental encoder | 1000 line, 4000 counts/rev |

Applying Gearmotors*

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

Performance Planetary Gearmotors

| | In-line | Right-angle |
|---------------------------|---------------|------------------------------|
| Gear Ratio in [mm] | L | A x B |
| 3 to 10 | 9.49 [241.1] | 5.20 x 14.46 [132.1 x 367.3] |
| 16 to 100 | 10.61 [269.5] | 5.20 x 15.59 [132.1 x 396.0] |
| 160 to 700 | 11.84 [300.7] | Above 100:1, not available |

Value Planetary Gearmotors

| | In-line | Right-angle |
|---------------------------|---------------|------------------------------|
| Gear Ratio in [mm] | L | A x B |
| 3 to 10 | 9.86 [250.4] | 5.20 x 14.83 [132.1 x 376.7] |
| 16 to 100 | 11.12 [282.4] | 5.20 x 16.10 [132.1 x 408.9] |