

# BSH1004P02F2A

AC servo motor BSH, Lexium 05, 9.31N.m,  
1500rpm, untapped shaft, with brake, IP50





## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or Component Type | Servo motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Device short name         | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Maximum mechanical speed  | 6000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Continuous stall torque   | <p>70.81 Lbf.In (8 N.m) LXM32.D30N4 10 A, 400 V, three phase</p> <p>70.81 Lbf.In (8 N.m) LXM32.D30N4 10 A, 480 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM15MD40N4, 400 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM15MD40N4, 480 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM15MD28M3, 230 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM15MD28N4, 230 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM15MD28N4, 400 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM15MD28N4, 480 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM15MD40N4, 230 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM05AD34N4, 380...480 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM05AD42M3X, 200...240 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM05AD57N4, 380...480 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM05BD34N4, 380...480 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM05BD42M3X, 200...240 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM05BD57N4, 380...480 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM05CD34N4, 380...480 V, three phase</p> <p>82.40 Lbf.In (9.31 N.m) LXM05CD42M3X, 200...240 V, three phase</p> <p>82.40 lbf.in (9.31 N.m) LXM05CD57N4, 380...480 V, three phase</p> |

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|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Peak stall torque    | 335.44 Lbf.In (37.9 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>335.44 Lbf.In (37.9 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>227.46 Lbf.In (25.7 N.m) LXM15MD28M3, 230 V, three phase<br>227.46 Lbf.In (25.7 N.m) LXM15MD28N4, 230 V, three phase<br>227.46 Lbf.In (25.7 N.m) LXM15MD28N4, 400 V, three phase<br>227.46 Lbf.In (25.7 N.m) LXM15MD28N4, 480 V, three phase<br>299.42 Lbf.In (33.83 N.m) LXM15MD40N4, 230 V, three phase<br>299.42 Lbf.In (33.83 N.m) LXM15MD40N4, 400 V, three phase<br>299.42 Lbf.In (33.83 N.m) LXM15MD40N4, 480 V, three phase<br>207.73 Lbf.In (23.47 N.m) LXM05AD34N4, 380...480 V, three phase<br>315.97 Lbf.In (35.7 N.m) LXM05AD42M3X, 200...240 V, three phase<br>315.97 Lbf.In (35.7 N.m) LXM05AD57N4, 380...480 V, three phase<br>207.73 Lbf.In (23.47 N.m) LXM05BD34N4, 380...480 V, three phase<br>315.97 Lbf.In (35.7 N.m) LXM05BD42M3X, 200...240 V, three phase<br>315.97 Lbf.In (35.7 N.m) LXM05BD57N4, 380...480 V, three phase<br>207.73 Lbf.In (23.47 N.m) LXM05CD34N4, 380...480 V, three phase<br>315.97 Lbf.In (35.7 N.m) LXM05CD42M3X, 200...240 V, three phase<br>315.97 lbf.in (35.7 N.m) LXM05CD57N4, 380...480 V, three phase |
| Nominal output power | 2600 W LXM32.D30N4 10 A, 480 V, three phase<br>2100 W LXM32.D30N4 10 A, 400 V, three phase<br>1300 W LXM05AD42M3X, 200...240 V, three phase<br>1300 W LXM05BD42M3X, 200...240 V, three phase<br>1300 W LXM05CD42M3X, 200...240 V, three phase<br>1300 W LXM15MD28M3, 230 V, three phase<br>1300 W LXM15MD28N4, 230 V, three phase<br>1300 W LXM15MD40N4, 230 V, three phase<br>2200 W LXM05AD34N4, 380...480 V, three phase<br>2200 W LXM05AD57N4, 380...480 V, three phase<br>2200 W LXM05BD34N4, 380...480 V, three phase<br>2200 W LXM05BD57N4, 380...480 V, three phase<br>2200 W LXM05CD34N4, 380...480 V, three phase<br>2200 W LXM05CD57N4, 380...480 V, three phase<br>2200 W LXM15MD28N4, 400 V, three phase<br>2300 W LXM15MD40N4, 400 V, three phase<br>2400 W LXM15MD40N4, 480 V, three phase<br>2700 W LXM15MD28N4, 480 V, three phase                                                                                                                                                                                                                                                                                                                                           |

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|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal torque          | 73.46 Lbf.In (8.3 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>73.46 Lbf.In (8.3 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>57.53 Lbf.In (6.5 N.m) LXM15MD28N4, 480 V, three phase<br>59.21 Lbf.In (6.69 N.m) LXM15MD40N4, 480 V, three phase<br>61.96 Lbf.In (7 N.m) LXM15MD28N4, 400 V, three phase<br>62.84 Lbf.In (7.1 N.m) LXM05AD34N4, 380...480 V, three phase<br>62.84 Lbf.In (7.1 N.m) LXM05AD57N4, 380...480 V, three phase<br>62.84 Lbf.In (7.1 N.m) LXM05BD34N4, 380...480 V, three phase<br>62.84 Lbf.In (7.1 N.m) LXM05BD57N4, 380...480 V, three phase<br>62.84 Lbf.In (7.1 N.m) LXM05CD34N4, 380...480 V, three phase<br>62.84 Lbf.In (7.1 N.m) LXM05CD57N4, 380...480 V, three phase<br>63.46 Lbf.In (7.17 N.m) LXM15MD40N4, 400 V, three phase<br>72.40 Lbf.In (8.18 N.m) LXM15MD40N4, 230 V, three phase<br>72.75 Lbf.In (8.22 N.m) LXM05AD42M3X, 200...240 V, three phase<br>72.75 Lbf.In (8.22 N.m) LXM05BD42M3X, 200...240 V, three phase<br>72.75 Lbf.In (8.22 N.m) LXM05CD42M3X, 200...240 V, three phase<br>72.75 Lbf.In (8.22 N.m) LXM15LD28M3, 230 V, three phase<br>72.75 lbf.in (8.22 N.m) LXM15MD28N4, 230 V, three phase |
| Nominal speed           | 2500 rpm LXM32.D30N4 10 A, 400 V, three phase<br>3000 rpm LXM32.D30N4 10 A, 480 V, three phase<br>1500 rpm LXM05AD42M3X, 200...240 V, three phase<br>1500 rpm LXM05BD42M3X, 200...240 V, three phase<br>1500 rpm LXM05CD42M3X, 200...240 V, three phase<br>3000 rpm LXM05AD34N4, 380...480 V, three phase<br>3000 rpm LXM05BD34N4, 380...480 V, three phase<br>3000 rpm LXM05CD34N4, 380...480 V, three phase<br>1500 rpm LXM15MD28M3, 230 V, three phase<br>1500 rpm LXM15MD28N4, 230 V, three phase<br>1500 rpm LXM15MD40N4, 230 V, three phase<br>3000 rpm LXM05AD57N4, 380...480 V, three phase<br>3000 rpm LXM05BD57N4, 380...480 V, three phase<br>3000 rpm LXM05CD57N4, 380...480 V, three phase<br>3000 rpm LXM15MD28N4, 400 V, three phase<br>3000 rpm LXM15MD40N4, 400 V, three phase<br>3500 rpm LXM15MD40N4, 480 V, three phase<br>4000 rpm LXM15MD28N4, 480 V, three phase                                                                                                                                                                                                                                                                   |
| Product compatibility   | LXM05AD42M3X 200...240 V three phase<br>LXM05BD42M3X 200...240 V three phase<br>LXM05CD42M3X 200...240 V three phase<br>LXM05AD34N4 380...480 V three phase<br>LXM05BD34N4 380...480 V three phase<br>LXM05CD34N4 380...480 V three phase<br>LXM15MD28N4 400 V three phase<br>LXM15MD28N4 480 V three phase<br>LXM15MD40N4 400 V three phase<br>LXM15MD40N4 480 V three phase<br>LXM32.D30N4 400 V three phase<br>LXM32.D30N4 480 V three phase<br>LXM05AD57N4 380...480 V three phase<br>LXM05BD57N4 380...480 V three phase<br>LXM05CD57N4 380...480 V three phase<br>LXM15MD28M3 230 V three phase<br>LXM15MD28N4 230 V three phase<br>LXM15MD40N4 230 V three phase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Shaft end               | Untapped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| IP Degree of Protection | IP50 standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                           |                                   |
|---------------------------|-----------------------------------|
| Speed feedback resolution | 131072 points/turn x 4096 turns   |
| Holding brake             | With                              |
| Mounting Support          | International standard flange     |
| Electrical Connection     | Rotatable right-angled connectors |

## Complementary

|                                       |                                                                                                                                                                                                                                                                                             |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range Compatibility                   | Lexium 32<br>Lexium 05<br>Lexium 15                                                                                                                                                                                                                                                         |
| Supply voltage max                    | 480 V                                                                                                                                                                                                                                                                                       |
| Phase                                 | Three phase                                                                                                                                                                                                                                                                                 |
| Continuous stall current              | 6.2 A                                                                                                                                                                                                                                                                                       |
| Maximum continuous power              | 3.64 W                                                                                                                                                                                                                                                                                      |
| Maximum current Irms                  | 34.8 A LXM15LD28M3<br>34.8 A LXM15MD28N4<br>34.8 A LXM15MD40N4<br>32.3 A LXM05AD42M3X<br>32.3 A LXM05AD34N4<br>32.3 A LXM05AD57N4<br>32.3 A LXM05BD42M3X<br>32.3 A LXM05BD34N4<br>32.3 A LXM05BD57N4<br>32.3 A LXM05CD42M3X<br>32.3 A LXM05CD34N4<br>32.3 A LXM05CD57N4<br>30 A LXM32.D30N4 |
| Maximum permanent current             | 32.3 A                                                                                                                                                                                                                                                                                      |
| Switching frequency                   | 8 kHz                                                                                                                                                                                                                                                                                       |
| Second shaft                          | Without second shaft end                                                                                                                                                                                                                                                                    |
| Shaft diameter                        | 0.94 in (24 mm)                                                                                                                                                                                                                                                                             |
| Shaft length                          | 1.97 in (50 mm)                                                                                                                                                                                                                                                                             |
| Feedback type                         | Multiturn SinCos Hiperface                                                                                                                                                                                                                                                                  |
| Holding torque                        | 106.21 lbf.in (12 N.m) holding brake                                                                                                                                                                                                                                                        |
| Motor flange size                     | 3.94 in (100 mm)                                                                                                                                                                                                                                                                            |
| Number of motor stacks                | 4                                                                                                                                                                                                                                                                                           |
| Torque constant                       | 1.62 N.m/A 248 °F (120 °C)                                                                                                                                                                                                                                                                  |
| Back emf constant                     | 103 V/krpm 248 °F (120 °C)                                                                                                                                                                                                                                                                  |
| Number of motor poles                 | 8                                                                                                                                                                                                                                                                                           |
| Rotor inertia                         | 5.245 kg.cm <sup>2</sup>                                                                                                                                                                                                                                                                    |
| Stator resistance                     | 1.81 Ohm 68 °F (20 °C)                                                                                                                                                                                                                                                                      |
| Stator inductance                     | 11.8 mH 68 °F (20 °C)                                                                                                                                                                                                                                                                       |
| Stator electrical time constant       | 6.52 ms 68 °F (20 °C)                                                                                                                                                                                                                                                                       |
| Maximum radial force Fr               | 1070 N 1000 rpm<br>740 N 3000 rpm<br>850 N 2000 rpm                                                                                                                                                                                                                                         |
| Maximum axial force Fa                | 0.2 x Fr                                                                                                                                                                                                                                                                                    |
| Brake pull-in power                   | 17 W                                                                                                                                                                                                                                                                                        |
| Type of cooling                       | Natural convection                                                                                                                                                                                                                                                                          |
| Length                                | 12.11 in (307.5 mm)                                                                                                                                                                                                                                                                         |
| Centring collar diameter              | 3.74 in (95 mm)                                                                                                                                                                                                                                                                             |
| Centring collar depth                 | 0.14 in (3.5 mm)                                                                                                                                                                                                                                                                            |
| Number of mounting holes              | 4                                                                                                                                                                                                                                                                                           |
| Mounting holes diameter               | 0.35 in (9 mm)                                                                                                                                                                                                                                                                              |
| Circle diameter of the mounting holes | 4.53 in (115 mm)                                                                                                                                                                                                                                                                            |
| Net Weight                            | 21.83 lb(US) (9.9 kg)                                                                                                                                                                                                                                                                       |

## Ordering and shipping details

|                   |                        |
|-------------------|------------------------|
| Category          | 18282-LEXIUM 32 MOTORS |
| Discount Schedule | PC53                   |
| GTIN              | 3389118140431          |
| Returnability     | No                     |
| Country of origin | DE                     |

## Packing Units

|                              |                        |
|------------------------------|------------------------|
| Unit Type of Package 1       | PCE                    |
| Number of Units in Package 1 | 1                      |
| Package 1 Height             | 7.20 in (18.3 cm)      |
| Package 1 Width              | 6.42 in (16.3 cm)      |
| Package 1 Length             | 19.37 in (49.2 cm)     |
| Package 1 Weight             | 17.97 lb(US) (8.15 kg) |

## Offer Sustainability

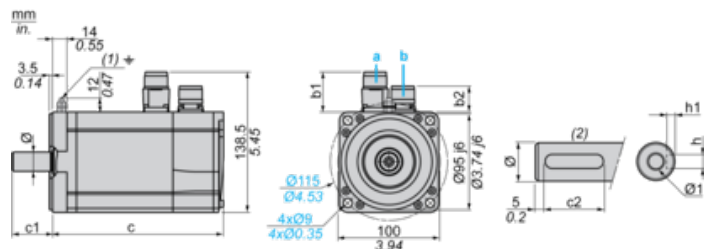
|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                                                       |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)                                                                                                                                                                                                                                  |
| Mercury free               | Yes                                                                                                                                                                                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>                                                                                                                                                                                                                                                      |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                                                         |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                                                                                                                                                                                               |
| Circularity Profile        | No need of specific recycling operations                                                                                                                                                                                                                                                    |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.                                                                                                                                                                |
| PVC free                   | Yes                                                                                                                                                                                                                                                                                         |

## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Servo Motors Dimensions

Example with Straight Connectors



- a: Power supply for servo motor brake  
b: Power supply for servo motor encoder  
(1) M4 screw  
(2) Shaft end, keyed slot (optional)

Dimensions in mm

| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1 | c2 | h    | h1                             | Ø     | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|----|----|------|--------------------------------|-------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |    |    |      |                                |       |               |
| 39.5                | 25.5 | 39.5                        | 39.5 | 277               | 308            | 50 | 40 | 8 N9 | 4 <sup>+0.1</sup> <sub>0</sub> | 24 k6 | M8 x 19       |

Dimensions in in.

| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1   | c2   | h       | h1                                | Ø       | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|------|------|---------|-----------------------------------|---------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |      |      |         |                                   |         |               |
| 1.55                | 1.00 | 1.55                        | 1.55 | 10.90             | 12.12          | 1.96 | 1.57 | 0.31 N9 | 0.16 <sup>+0.1</sup> <sub>0</sub> | 0.94 k6 | M8 x 0.75     |



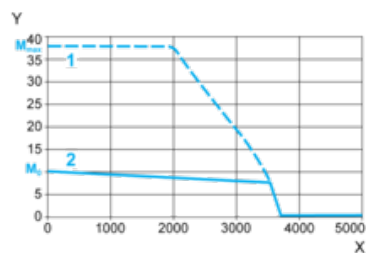
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### 400 V 3-Phase Supply Voltage

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#### Torque/Speed Curves

Servo motor with LXM32•D30N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque

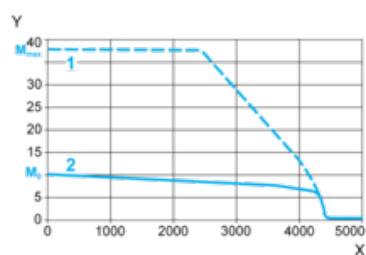
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### 480 V 3-Phase Supply Voltage

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#### Torque/Speed Curves

Servo motor with LXM32•D30N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque