

# BSH1004P32F2A

servo motor BSH, Lexium 05, 9.31N.m,  
1500rpm, 100mm, keyed shaft, Sincos multi  
turn, with brake, IP65





## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or component type | Servo motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Device short name         | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Maximum mechanical speed  | 6000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Continuous stall torque   | <p>8 N.M for LXM32.D30N4 at 10 A, 400 V, three phase</p> <p>8 N.M for LXM32.D30N4 at 10 A, 480 V, three phase</p> <p>9.31 N.M for LXM15MD40N4, 400 V, three phase</p> <p>9.31 N.M for LXM15MD40N4, 480 V, three phase</p> <p>9.31 N.M for LXM15MD28M3, 230 V, three phase</p> <p>9.31 N.M for LXM15MD28N4, 230 V, three phase</p> <p>9.31 N.M for LXM15MD28N4, 400 V, three phase</p> <p>9.31 N.M for LXM15MD28N4, 480 V, three phase</p> <p>9.31 N.M for LXM15MD40N4, 230 V, three phase</p> <p>9.31 N.M for LXM05AD34N4, 380...480 V, three phase</p> <p>9.31 N.M for LXM05AD42M3X, 200...240 V, three phase</p> <p>9.31 N.M for LXM05AD57N4, 380...480 V, three phase</p> <p>9.31 N.M for LXM05BD34N4, 380...480 V, three phase</p> <p>9.31 N.M for LXM05BD42M3X, 200...240 V, three phase</p> <p>9.31 N.M for LXM05BD57N4, 380...480 V, three phase</p> <p>9.31 N.M for LXM05CD34N4, 380...480 V, three phase</p> <p>9.31 N.M for LXM05CD42M3X, 200...240 V, three phase</p> <p>9.31 N.m for LXM05CD57N4, 380...480 V, three phase</p>             |
| Peak stall torque         | <p>37.9 N.M for LXM32.D30N4 at 10 A, 400 V, three phase</p> <p>37.9 N.M for LXM32.D30N4 at 10 A, 480 V, three phase</p> <p>25.7 N.M for LXM15MD28M3, 230 V, three phase</p> <p>25.7 N.M for LXM15MD28N4, 230 V, three phase</p> <p>25.7 N.M for LXM15MD28N4, 400 V, three phase</p> <p>25.7 N.M for LXM15MD28N4, 480 V, three phase</p> <p>33.83 N.M for LXM15MD40N4, 230 V, three phase</p> <p>33.83 N.M for LXM15MD40N4, 400 V, three phase</p> <p>33.83 N.M for LXM15MD40N4, 480 V, three phase</p> <p>23.47 N.M for LXM05AD34N4, 380...480 V, three phase</p> <p>35.7 N.M for LXM05AD42M3X, 200...240 V, three phase</p> <p>35.7 N.M for LXM05AD57N4, 380...480 V, three phase</p> <p>23.47 N.M for LXM05BD34N4, 380...480 V, three phase</p> <p>35.7 N.M for LXM05BD42M3X, 200...240 V, three phase</p> <p>35.7 N.M for LXM05BD57N4, 380...480 V, three phase</p> <p>23.47 N.M for LXM05CD34N4, 380...480 V, three phase</p> <p>35.7 N.M for LXM05CD42M3X, 200...240 V, three phase</p> <p>35.7 N.m for LXM05CD57N4, 380...480 V, three phase</p> |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal output power | <p>2600 W for LXM32.D30N4 at 10 A, 480 V, three phase</p> <p>2100 W for LXM32.D30N4 at 10 A, 400 V, three phase</p> <p>1300 W for LXM05AD42M3X, 200...240 V, three phase</p> <p>1300 W for LXM05BD42M3X, 200...240 V, three phase</p> <p>1300 W for LXM05CD42M3X, 200...240 V, three phase</p> <p>1300 W for LXM15MD28M3, 230 V, three phase</p> <p>1300 W for LXM15MD28N4, 230 V, three phase</p> <p>1300 W for LXM15MD40N4, 230 V, three phase</p> <p>2200 W for LXM05AD34N4, 380...480 V, three phase</p> <p>2200 W for LXM05AD57N4, 380...480 V, three phase</p> <p>2200 W for LXM05BD34N4, 380...480 V, three phase</p> <p>2200 W for LXM05BD57N4, 380...480 V, three phase</p> <p>2200 W for LXM05CD34N4, 380...480 V, three phase</p> <p>2200 W for LXM05CD57N4, 380...480 V, three phase</p> <p>2200 W for LXM15MD28N4, 400 V, three phase</p> <p>2300 W for LXM15MD40N4, 400 V, three phase</p> <p>2400 W for LXM15MD40N4, 480 V, three phase</p> <p>2700 W for LXM15MD28N4, 480 V, three phase</p>                         |
| Nominal torque       | <p>8.3 N.M for LXM32.D30N4 at 10 A, 400 V, three phase</p> <p>8.3 N.M for LXM32.D30N4 at 10 A, 480 V, three phase</p> <p>6.5 N.M for LXM15MD28N4, 480 V, three phase</p> <p>6.69 N.M for LXM15MD40N4, 480 V, three phase</p> <p>7 N.M for LXM15MD28N4, 400 V, three phase</p> <p>7.1 N.M for LXM05AD34N4, 380...480 V, three phase</p> <p>7.1 N.M for LXM05AD57N4, 380...480 V, three phase</p> <p>7.1 N.M for LXM05BD34N4, 380...480 V, three phase</p> <p>7.1 N.M for LXM05BD57N4, 380...480 V, three phase</p> <p>7.1 N.M for LXM05CD34N4, 380...480 V, three phase</p> <p>7.1 N.M for LXM05CD57N4, 380...480 V, three phase</p> <p>7.17 N.M for LXM15MD40N4, 400 V, three phase</p> <p>8.18 N.M for LXM15MD40N4, 230 V, three phase</p> <p>8.22 N.M for LXM05AD42M3X, 200...240 V, three phase</p> <p>8.22 N.M for LXM05BD42M3X, 200...240 V, three phase</p> <p>8.22 N.M for LXM05CD42M3X, 200...240 V, three phase</p> <p>8.22 N.M for LXM15LD28M3, 230 V, three phase</p> <p>8.22 N.m for LXM15MD28N4, 230 V, three phase</p> |

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal speed             | 2500 rpm for LXM32.D30N4 at 10 A, 400 V, three phase<br>3000 rpm for LXM32.D30N4 at 10 A, 480 V, three phase<br>1500 rpm for LXM05AD42M3X, 200...240 V, three phase<br>1500 rpm for LXM05BD42M3X, 200...240 V, three phase<br>1500 rpm for LXM05CD42M3X, 200...240 V, three phase<br>3000 rpm for LXM05AD34N4, 380...480 V, three phase<br>3000 rpm for LXM05BD34N4, 380...480 V, three phase<br>3000 rpm for LXM05CD34N4, 380...480 V, three phase<br>1500 rpm for LXM15MD28M3, 230 V, three phase<br>1500 rpm for LXM15MD28N4, 230 V, three phase<br>1500 rpm for LXM15MD40N4, 230 V, three phase<br>3000 rpm for LXM05AD57N4, 380...480 V, three phase<br>3000 rpm for LXM05BD57N4, 380...480 V, three phase<br>3000 rpm for LXM05CD57N4, 380...480 V, three phase<br>3000 rpm for LXM15MD28N4, 400 V, three phase<br>3000 rpm for LXM15MD40N4, 400 V, three phase<br>3500 rpm for LXM15MD40N4, 480 V, three phase<br>4000 rpm for LXM15MD28N4, 480 V, three phase |
| Product compatibility     | LXM05AD42M3X at 200...240 V three phase<br>LXM05BD42M3X at 200...240 V three phase<br>LXM05CD42M3X at 200...240 V three phase<br>LXM05AD34N4 at 380...480 V three phase<br>LXM05BD34N4 at 380...480 V three phase<br>LXM05CD34N4 at 380...480 V three phase<br>LXM15MD28N4 at 400 V three phase<br>LXM15MD28N4 at 480 V three phase<br>LXM15MD40N4 at 400 V three phase<br>LXM15MD40N4 at 480 V three phase<br>LXM32.D30N4 at 400 V three phase<br>LXM32.D30N4 at 480 V three phase<br>LXM05AD57N4 at 380...480 V three phase<br>LXM05BD57N4 at 380...480 V three phase<br>LXM05CD57N4 at 380...480 V three phase<br>LXM15MD28M3 at 230 V three phase<br>LXM15MD28N4 at 230 V three phase<br>LXM15MD40N4 at 230 V three phase                                                                                                                                                                                                                                         |
| Shaft end                 | Keyed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IP degree of protection   | IP65 standard<br>IP67 with IP67 kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 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 15<br>Lexium 32<br>Lexium 05 |
| Supply voltage max       | 480 V                               |
| Network number of phases | Three phase                         |
| Continuous stall current | 6.2 A                               |
| Maximum continuous power | 3.64 W                              |

|                                       |                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum current Irms                  | 34.8 A for LXM15LD28M3<br>34.8 A for LXM15MD28N4<br>34.8 A for LXM15MD40N4<br>32.3 A for LXM05AD42M3X<br>32.3 A for LXM05AD34N4<br>32.3 A for LXM05AD57N4<br>32.3 A for LXM05BD42M3X<br>32.3 A for LXM05BD34N4<br>32.3 A for LXM05BD57N4<br>32.3 A for LXM05CD42M3X<br>32.3 A for LXM05CD34N4<br>32.3 A for LXM05CD57N4<br>30 A for LXM32.D30N4 |
| Maximum permanent current             | 32.3 A                                                                                                                                                                                                                                                                                                                                          |
| Switching frequency                   | 8 kHz                                                                                                                                                                                                                                                                                                                                           |
| Second shaft                          | Without second shaft end                                                                                                                                                                                                                                                                                                                        |
| Shaft diameter                        | 24 mm                                                                                                                                                                                                                                                                                                                                           |
| Shaft length                          | 50 mm                                                                                                                                                                                                                                                                                                                                           |
| Key width                             | 40 mm                                                                                                                                                                                                                                                                                                                                           |
| Feedback type                         | Multiturn SinCos Hiperface                                                                                                                                                                                                                                                                                                                      |
| Holding torque                        | 12 N.m holding brake                                                                                                                                                                                                                                                                                                                            |
| Motor flange size                     | 100 mm                                                                                                                                                                                                                                                                                                                                          |
| Number of motor stacks                | 4                                                                                                                                                                                                                                                                                                                                               |
| Torque constant                       | 1.62 N.m/A at 120 °C                                                                                                                                                                                                                                                                                                                            |
| Back emf constant                     | 103 V/krpm at 120 °C                                                                                                                                                                                                                                                                                                                            |
| Number of motor poles                 | 8                                                                                                                                                                                                                                                                                                                                               |
| Rotor inertia                         | 5.245 kg.cm <sup>2</sup>                                                                                                                                                                                                                                                                                                                        |
| Stator resistance                     | 1.81 Ohm at 20 °C                                                                                                                                                                                                                                                                                                                               |
| Stator inductance                     | 11.8 mH at 20 °C                                                                                                                                                                                                                                                                                                                                |
| Stator electrical time constant       | 6.52 ms at 20 °C                                                                                                                                                                                                                                                                                                                                |
| Maximum radial force Fr               | 1070 N at 1000 rpm<br>740 N at 3000 rpm<br>850 N at 2000 rpm                                                                                                                                                                                                                                                                                    |
| Maximum axial force Fa                | 0.2 x Fr                                                                                                                                                                                                                                                                                                                                        |
| Brake pull-in power                   | 17 W                                                                                                                                                                                                                                                                                                                                            |
| Type of cooling                       | Natural convection                                                                                                                                                                                                                                                                                                                              |
| Length                                | 307.5 mm                                                                                                                                                                                                                                                                                                                                        |
| Centring collar diameter              | 95 mm                                                                                                                                                                                                                                                                                                                                           |
| Centring collar depth                 | 3.5 mm                                                                                                                                                                                                                                                                                                                                          |
| Number of mounting holes              | 4                                                                                                                                                                                                                                                                                                                                               |
| Mounting holes diameter               | 9 mm                                                                                                                                                                                                                                                                                                                                            |
| Circle diameter of the mounting holes | 115 mm                                                                                                                                                                                                                                                                                                                                          |
| Net weight                            | 9.9 kg                                                                                                                                                                                                                                                                                                                                          |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 21.0 cm   |
| Package 1 Width              | 18.0 cm   |
| Package 1 Length             | 56.0 cm   |
| Package 1 Weight             | 10.715 kg |
| Unit Type of Package 2       | P06       |
| Number of Units in Package 2 | 12        |
| Package 2 Height             | 77.0 cm   |
| Package 2 Width              | 80.0 cm   |
| Package 2 Length             | 60.0 cm   |
| Package 2 Weight             | 137.08 kg |

## Offer Sustainability

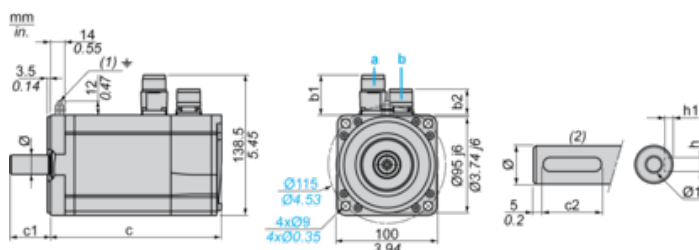
|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| 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 | $4^{+0.1}_0$ | 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 | $0.16^{+0.1}_0$ | 0.94 k6 | M8 x 0.75     |

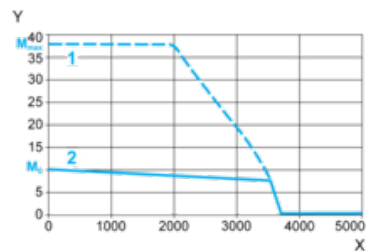
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### 400 V 3-Phase Supply Voltage

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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

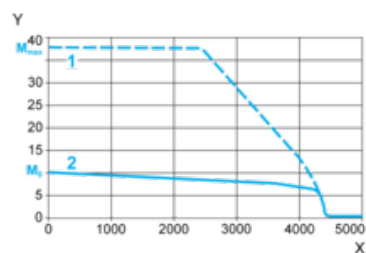
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### 480 V 3-Phase Supply Voltage

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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