

# BSH1403T31A1P

AC servo motor BSH, Lexium 32, 27.8N.m, 3000rpm, keyed shaft, without brake, IP65



## Main

|                           |                                                                                                              |
|---------------------------|--------------------------------------------------------------------------------------------------------------|
| Product or component type | Servo motor                                                                                                  |
| Device short name         | BSH                                                                                                          |
| Maximum mechanical speed  | 4800 rpm                                                                                                     |
| Continuous stall torque   | 27.8 N.M for LXM32.D72N4 at 24 A, 400 V, three phase<br>27.8 N.m for LXM32.D72N4 at 24 A, 480 V, three phase |
| Peak stall torque         | 90.2 N.M for LXM32.D72N4 at 24 A, 400 V, three phase<br>90.2 N.m for LXM32.D72N4 at 24 A, 480 V, three phase |
| Nominal output power      | 4100 W for LXM32.D72N4 at 24 A, 400 V, three phase<br>4100 W for LXM32.D72N4 at 24 A, 480 V, three phase     |
| Nominal torque            | 12.9 N.M for LXM32.D72N4 at 24 A, 400 V, three phase<br>12.9 N.m for LXM32.D72N4 at 24 A, 480 V, three phase |
| Nominal speed             | 3000 rpm for LXM32.D72N4 at 24 A, 400 V, three phase<br>3000 rpm for LXM32.D72N4 at 24 A, 480 V, three phase |
| Product compatibility     | LXM32.D72N4 at 400 V three phase<br>LXM32.D72N4 at 480 V three phase                                         |
| Shaft end                 | Keyed                                                                                                        |
| IP degree of protection   | IP65 standard<br>IP67 with IP67 kit                                                                          |
| Speed feedback resolution | 131072 points/turn                                                                                           |
| Holding brake             | Without                                                                                                      |
| Mounting support          | International standard                                                                                       |
| Electrical connection     | Straight connectors                                                                                          |

## Complementary

|                           |                              |
|---------------------------|------------------------------|
| Range compatibility       | Lexium 32                    |
| Supply voltage max        | 480 V                        |
| Network number of phases  | Three phase                  |
| Continuous stall current  | 22.3 A                       |
| Maximum continuous power  | 3.3 W                        |
| Maximum current Irms      | 72 A for LXM32.D72N4         |
| Maximum permanent current | 81.3 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             | Single turn SinCos Hiperface |
| Motor flange size         | 140 mm                       |
| Number of motor stacks    | 3                            |

|                                       |                                                                |
|---------------------------------------|----------------------------------------------------------------|
| Torque constant                       | 1.58 N.m/A at 120 °C                                           |
| Back emf constant                     | 105 V/krpm at 120 °C                                           |
| Number of motor poles                 | 10                                                             |
| Rotor inertia                         | 12.68 kg.cm <sup>2</sup>                                       |
| Stator resistance                     | 0.4 Ohm at 20 °C                                               |
| Stator inductance                     | 5.1 mH at 20 °C                                                |
| Stator electrical time constant       | 12.75 ms at 20 °C                                              |
| Maximum radial force Fr               | 1780 N at 3000 rpm<br>2030 N at 2000 rpm<br>2560 N at 1000 rpm |
| Maximum axial force Fa                | 0.2 x Fr                                                       |
| Type of cooling                       | Natural convection                                             |
| Length                                | 327.5 mm                                                       |
| Centring collar diameter              | 130 mm                                                         |
| Centring collar depth                 | 3.5 mm                                                         |
| Number of mounting holes              | 4                                                              |
| Mounting holes diameter               | 11 mm                                                          |
| Circle diameter of the mounting holes | 165 mm                                                         |
| Net weight                            | 21.2 kg                                                        |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 27.0 cm |
| Package 1 Width              | 27.0 cm |
| Package 1 Length             | 48.2 cm |
| Package 1 Weight             | 11.5 kg |

## Offer Sustainability

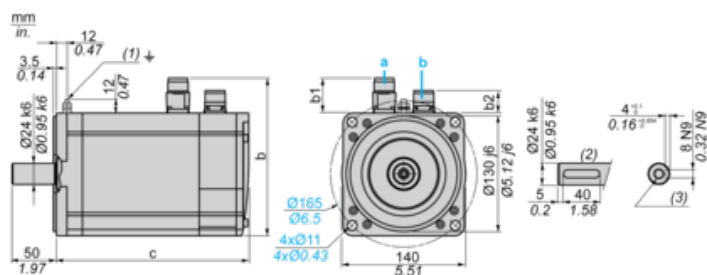
|                            |                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 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       |

## 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)

(3) For screws M8 x 19 mm/M8 x 0.75 in.

Dimensions in mm

| Straight connectors |    |      | Rotatable angled connectors |    |      | c (without brake) | c (with brake) |
|---------------------|----|------|-----------------------------|----|------|-------------------|----------------|
| b                   | b1 | b2   | b                           | b1 | b2   |                   |                |
| 192.5               | 54 | 25.5 | 198.5                       | 60 | 39.5 | 328               | 366            |

Dimensions in in.

| Straight connectors |      |      | Rotatable angled connectors |      |      | c (without brake) | c (with brake) |
|---------------------|------|------|-----------------------------|------|------|-------------------|----------------|
| b                   | b1   | b2   | b                           | b1   | b2   |                   |                |
| 7.57                | 2.12 | 1.00 | 7.81                        | 2.36 | 1.55 | 12.91             | 14.40          |

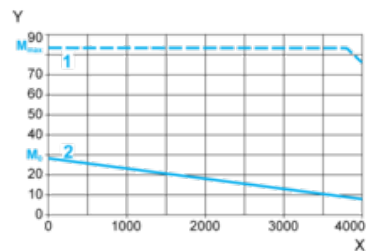
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### 400 V 3-Phase Supply Voltage

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#### Torque/Speed Curves

Servo motor with LXM32•D72N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque

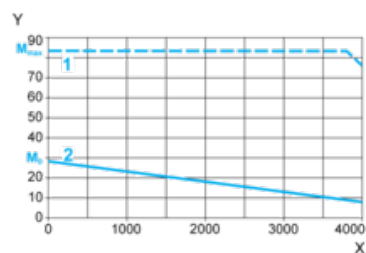
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### 480 V 3-Phase Supply Voltage

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#### Torque/Speed Curves

Servo motor with LXM32•D72N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque