

# BSH1402T31F2P

AC servo motor BSH, Lexium 32, 14.4N.m,  
3000rpm, keyed shaft, with brake, IP65





## Main

|                           |                                                                                                                                                                                                                                                                                   |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or component type | Servo motor                                                                                                                                                                                                                                                                       |
| Device short name         | BSH                                                                                                                                                                                                                                                                               |
| Maximum mechanical speed  | 4000 rpm                                                                                                                                                                                                                                                                          |
| Continuous stall torque   | 19.5 N.M for LXM32.D72N4 at 24 A, 400 V, three phase<br>19.5 N.M for LXM32.D72N4 at 24 A, 480 V, three phase<br>14.4 N.M for LXM05AD42M3X, 200...240 V, three phase<br>14.4 N.M for LXM05BD42M3X, 200...240 V, three phase<br>14.4 N.m for LXM05CD42M3X, 200...240 V, three phase |
| Peak stall torque         | 59.3 N.M for LXM32.D72N4 at 24 A, 400 V, three phase<br>59.3 N.M for LXM32.D72N4 at 24 A, 480 V, three phase<br>24.56 N.M for LXM05AD42M3X, 200...240 V, three phase<br>24.56 N.m for LXM05BD42M3X, 200...240 V, three phase                                                      |
| Nominal output power      | 3900 W for LXM32.D72N4 at 24 A, 400 V, three phase<br>3900 W for LXM32.D72N4 at 24 A, 480 V, three phase<br>2900 W for LXM05AD42M3X, 200...240 V, three phase<br>2900 W for LXM05BD42M3X, 200...240 V, three phase<br>2900 W for LXM05CD42M3X, 200...240 V, three phase           |
| Nominal torque            | 12.3 N.M for LXM32.D72N4 at 24 A, 400 V, three phase<br>12.3 N.M for LXM32.D72N4 at 24 A, 480 V, three phase<br>9.2 N.M for LXM05AD42M3X, 200...240 V, three phase<br>9.2 N.M for LXM05BD42M3X, 200...240 V, three phase<br>9.2 N.m for LXM05CD42M3X, 200...240 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<br>3000 rpm for LXM05AD42M3X, 200...240 V, three phase<br>3000 rpm for LXM05BD42M3X, 200...240 V, three phase<br>3000 rpm for LXM05CD42M3X, 200...240 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                                                                                                                                                     |
| Shaft end                 | Keyed                                                                                                                                                                                                                                                                             |
| IP degree of protection   | IP65 standard<br>IP67 with IP67 kit                                                                                                                                                                                                                                               |
| Speed feedback resolution | 131072 points/turn                                                                                                                                                                                                                                                                |
| Holding brake             | With                                                                                                                                                                                                                                                                              |
| Mounting support          | International standard flange                                                                                                                                                                                                                                                     |
| Electrical connection     | Rotatable right-angled connectors                                                                                                                                                                                                                                                 |

## Complementary

|                                       |                                                                                                       |
|---------------------------------------|-------------------------------------------------------------------------------------------------------|
| Range compatibility                   | Lexium 32<br>Lexium 05                                                                                |
| Supply voltage max                    | 480 V                                                                                                 |
| Network number of phases              | Three phase                                                                                           |
| Continuous stall current              | 22.5 A                                                                                                |
| Maximum continuous power              | 4.2 W                                                                                                 |
| Maximum current Irms                  | 72 A for LXM32.D72N4<br>75.2 A for LXM05AD42M3X<br>75.2 A for LXM05BD42M3X<br>75.2 A for LXM05CD42M3X |
| Maximum permanent current             | 75.2 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                                                                          |
| Holding torque                        | 23 N.m holding brake                                                                                  |
| Motor flange size                     | 140 mm                                                                                                |
| Number of motor stacks                | 2                                                                                                     |
| Torque constant                       | 1.47 N.m/A at 120 °C                                                                                  |
| Back emf constant                     | 101 V/krpm at 120 °C                                                                                  |
| Number of motor poles                 | 10                                                                                                    |
| Rotor inertia                         | 14.48 kg.cm <sup>2</sup>                                                                              |
| Stator resistance                     | 0.6 Ohm at 20 °C                                                                                      |
| Stator inductance                     | 7.4 mH at 20 °C                                                                                       |
| Stator electrical time constant       | 12.1 ms at 20 °C                                                                                      |
| Maximum radial force Fr               | 1680 N at 3000 rpm<br>1930 N at 2000 rpm<br>2430 N at 1000 rpm                                        |
| Maximum axial force Fa                | 0.2 x Fr                                                                                              |
| Brake pull-in power                   | 24 W                                                                                                  |
| Type of cooling                       | Natural convection                                                                                    |
| Length                                | 310.5 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                            | 17.7 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             | 13.29 kg |

## Offer Sustainability

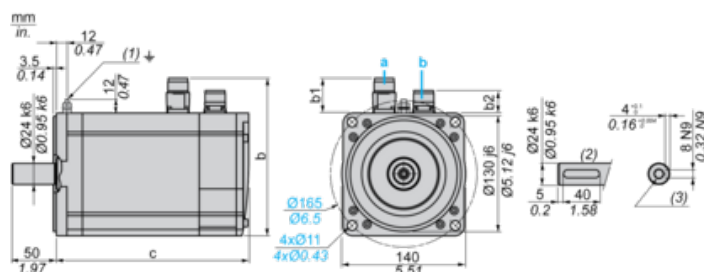
|                            |                                                                                                                                 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 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)  
(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 | 273               | 311            |

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 | 10.74             | 12.24          |

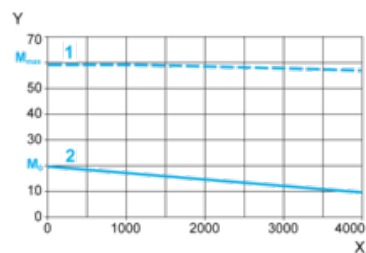
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### 400 V 3-Phase Supply Voltage

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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

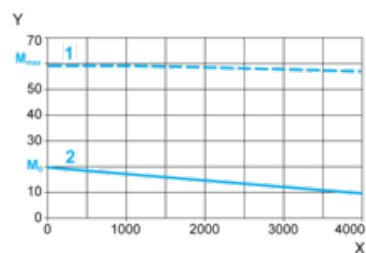
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### 480 V 3-Phase Supply Voltage

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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