

# BSH0551T21A2A

servo motor BSH, Lexium 05, 0.5N.m,  
8000rpm, 55mm, untapped shaft, Sincos single  
turn, without brake, IP65





## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or Component Type | Servo motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Device short name         | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Maximum mechanical speed  | 9000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Continuous stall torque   | 4.43 Lbf.In (0.5 N.m) LXM32.U90M2 3 A, 115 V, single phase<br>4.43 Lbf.In (0.5 N.m) LXM32.U45M2 1.5 A, 230 V, single phase<br>4.43 Lbf.In (0.5 N.m) LXM05CU70M2, 200...240 V, single phase<br>4.43 Lbf.In (0.5 N.m) LXM05AD10F1, 110...120 V, single phase<br>4.43 Lbf.In (0.5 N.m) LXM05AD10M2, 200...240 V, single phase<br>4.43 Lbf.In (0.5 N.m) LXM05BD10F1, 110...120 V, single phase<br>4.43 Lbf.In (0.5 N.m) LXM05BD10M2, 200...240 V, single phase<br>4.43 Lbf.In (0.5 N.m) LXM05CD10F1, 110...120 V, single phase<br>4.43 Lbf.In (0.5 N.m) LXM05CD10M2, 200...240 V, single phase<br>4.43 Lbf.In (0.5 N.m) LXM15LD13M3, 230 V, three phase<br>4.43 Lbf.In (0.5 N.m) LXM05AD10M3X, 200...240 V, three phase<br>4.43 Lbf.In (0.5 N.m) LXM05BD10M3X, 200...240 V, three phase<br>4.43 lbf.in (0.5 N.m) LXM05CD10M3X, 200...240 V, three phase               |
| Peak stall torque         | 13.28 Lbf.In (1.5 N.m) LXM32.U90M2 3 A, 115 V, single phase<br>12.39 Lbf.In (1.4 N.m) LXM32.U45M2 1.5 A, 230 V, single phase<br>9.56 Lbf.In (1.08 N.m) LXM05CU70M2, 200...240 V, single phase<br>12.39 Lbf.In (1.4 N.m) LXM05AD10F1, 110...120 V, single phase<br>12.39 Lbf.In (1.4 N.m) LXM05AD10M2, 200...240 V, single phase<br>12.39 Lbf.In (1.4 N.m) LXM05BD10F1, 110...120 V, single phase<br>12.39 Lbf.In (1.4 N.m) LXM05BD10M2, 200...240 V, single phase<br>12.39 Lbf.In (1.4 N.m) LXM05CD10F1, 110...120 V, single phase<br>12.39 Lbf.In (1.4 N.m) LXM05CD10M2, 200...240 V, single phase<br>10.97 Lbf.In (1.24 N.m) LXM15LD13M3, 230 V, three phase<br>12.39 Lbf.In (1.4 N.m) LXM05AD10M3X, 200...240 V, three phase<br>12.39 Lbf.In (1.4 N.m) LXM05BD10M3X, 200...240 V, three phase<br>12.39 lbf.in (1.4 N.m) LXM05CD10M3X, 200...240 V, three phase |
| Nominal output power      | 150 W LXM32.U90M2 3 A, 115 V, single phase<br>300 W LXM32.U45M2 1.5 A, 230 V, single phase<br>150 W LXM05AD10F1, 110...120 V, single phase<br>150 W LXM05BD10F1, 110...120 V, single phase<br>150 W LXM05CD10F1, 110...120 V, single phase<br>150 W LXM05CU70M2, 200...240 V, single phase<br>270 W LXM05AD10M2, 200...240 V, single phase<br>270 W LXM05BD10M2, 200...240 V, single phase<br>270 W LXM05CD10M2, 200...240 V, single phase<br>270 W LXM05AD10M3X, 200...240 V, three phase<br>270 W LXM05BD10M3X, 200...240 V, three phase<br>270 W LXM05CD10M3X, 200...240 V, three phase<br>340 W LXM15LD13M3, 230 V, three phase                                                                                                                                                                                                                               |

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal torque            | 4.34 Lbf.In (0.49 N.m) LXM32.U90M2 3 A, 115 V, single phase<br>3.98 Lbf.In (0.45 N.m) LXM32.U45M2 1.5 A, 230 V, single phase<br>3.81 Lbf.In (0.43 N.m) LXM05AD10M2, 200...240 V, single phase<br>3.81 Lbf.In (0.43 N.m) LXM05BD10M2, 200...240 V, single phase<br>3.81 Lbf.In (0.43 N.m) LXM05CD10M2, 200...240 V, single phase<br>4.07 Lbf.In (0.46 N.m) LXM05AD10F1, 110...120 V, single phase<br>4.07 Lbf.In (0.46 N.m) LXM05BD10F1, 110...120 V, single phase<br>4.07 Lbf.In (0.46 N.m) LXM05CD10F1, 110...120 V, single phase<br>4.07 Lbf.In (0.46 N.m) LXM05CU70M2, 200...240 V, single phase<br>3.63 Lbf.In (0.41 N.m) LXM15LD13M3, 230 V, three phase<br>3.81 Lbf.In (0.43 N.m) LXM05AD10M3X, 200...240 V, three phase<br>3.81 Lbf.In (0.43 N.m) LXM05BD10M3X, 200...240 V, three phase<br>3.81 lbf.in (0.43 N.m) LXM05CD10M3X, 200...240 V, three phase |
| Nominal speed             | 3000 rpm LXM32.U90M2 3 A, 115 V, single phase<br>6000 rpm LXM32.U45M2 1.5 A, 230 V, single phase<br>3000 rpm LXM05AD10F1, 110...120 V, single phase<br>3000 rpm LXM05BD10F1, 110...120 V, single phase<br>3000 rpm LXM05CD10F1, 110...120 V, single phase<br>3000 rpm LXM05CU70M2, 200...240 V, single phase<br>6000 rpm LXM05AD10M2, 200...240 V, single phase<br>6000 rpm LXM05BD10M2, 200...240 V, single phase<br>6000 rpm LXM05CD10M2, 200...240 V, single phase<br>6000 rpm LXM05AD10M3X, 200...240 V, three phase<br>6000 rpm LXM05BD10M3X, 200...240 V, three phase<br>6000 rpm LXM05CD10M3X, 200...240 V, three phase<br>8000 rpm LXM15LD13M3, 230 V, three phase                                                                                                                                                                                       |
| Product compatibility     | LXM05AD10F1 110...120 V single phase<br>LXM05AD10M2 200...240 V single phase<br>LXM05BD10F1 110...120 V single phase<br>LXM05BD10M2 200...240 V single phase<br>LXM05CD10F1 110...120 V single phase<br>LXM05CD10M2 200...240 V single phase<br>LXM05CU70M2 200...240 V single phase<br>LXM32.U90M2 115 V single phase<br>LXM32.U45M2 230 V single phase<br>LXM05AD10M3X 200...240 V three phase<br>LXM05BD10M3X 200...240 V three phase<br>LXM05CD10M3X 200...240 V three phase<br>LXM15LD13M3 230 V three phase                                                                                                                                                                                                                                                                                                                                                |
| Shaft end                 | Untapped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IP Degree of Protection   | IP65 standard<br>IP67 with IP67 kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Speed feedback resolution | 131072 points/turn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Holding brake             | Without                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 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              | 1.4 A                                                                                                                                                                                                                                                                            |
| Maximum continuous power              | 0.45 W                                                                                                                                                                                                                                                                           |
| Maximum current Irms                  | 6.2 A LXM15LD13M3<br>5.4 A LXM05AD10F1<br>5.4 A LXM05CU70M2<br>5.4 A LXM05AD10M2<br>5.4 A LXM05AD10M3X<br>5.4 A LXM05BD10F1<br>5.4 A LXM05BD10M2<br>5.4 A LXM05BD10M3X<br>5.4 A LXM05CD10F1<br>5.4 A LXM05CD10M2<br>5.4 A LXM05CD10M3X<br>5.4 A LXM32.U90M2<br>4.5 A LXM32.U45M2 |
| Maximum permanent current             | 5.4 A                                                                                                                                                                                                                                                                            |
| Switching frequency                   | 8 kHz                                                                                                                                                                                                                                                                            |
| Second shaft                          | Without second shaft end                                                                                                                                                                                                                                                         |
| Shaft diameter                        | 0.35 in (9 mm)                                                                                                                                                                                                                                                                   |
| Shaft length                          | 0.79 in (20 mm)                                                                                                                                                                                                                                                                  |
| Feedback type                         | Single turn SinCos Hiperface                                                                                                                                                                                                                                                     |
| Motor flange size                     | 2.17 in (55 mm)                                                                                                                                                                                                                                                                  |
| Number of motor stacks                | 1                                                                                                                                                                                                                                                                                |
| Torque constant                       | 0.36 N.m/A 248 °F (120 °C)                                                                                                                                                                                                                                                       |
| Back emf constant                     | 22 V/krpm 248 °F (120 °C)                                                                                                                                                                                                                                                        |
| Number of motor poles                 | 6                                                                                                                                                                                                                                                                                |
| Rotor inertia                         | 0.059 kg.cm <sup>2</sup>                                                                                                                                                                                                                                                         |
| Stator resistance                     | 12.2 Ohm 68 °F (20 °C)                                                                                                                                                                                                                                                           |
| Stator inductance                     | 20.8 mH 68 °F (20 °C)                                                                                                                                                                                                                                                            |
| Stator electrical time constant       | 1.7 ms 68 °F (20 °C)                                                                                                                                                                                                                                                             |
| Maximum radial force Fr               | 170 N 8000 rpm<br>180 N 7000 rpm<br>190 N 6000 rpm<br>200 N 5000 rpm<br>220 N 4000 rpm<br>240 N 3000 rpm<br>270 N 2000 rpm<br>340 N 1000 rpm                                                                                                                                     |
| Maximum axial force Fa                | 0.2 x Fr                                                                                                                                                                                                                                                                         |
| Type of cooling                       | Natural convection                                                                                                                                                                                                                                                               |
| Length                                | 5.22 in (132.5 mm)                                                                                                                                                                                                                                                               |
| Centring collar diameter              | 1.57 in (40 mm)                                                                                                                                                                                                                                                                  |
| Centring collar depth                 | 0.08 in (2 mm)                                                                                                                                                                                                                                                                   |
| Number of mounting holes              | 4                                                                                                                                                                                                                                                                                |
| Mounting holes diameter               | 0.22 in (5.5 mm)                                                                                                                                                                                                                                                                 |
| Circle diameter of the mounting holes | 2.48 in (63 mm)                                                                                                                                                                                                                                                                  |
| Net Weight                            | 2.65 lb(US) (1.2 kg)                                                                                                                                                                                                                                                             |

## Ordering and shipping details

|                   |                        |
|-------------------|------------------------|
| Category          | 18282-LEXIUM 32 MOTORS |
| Discount Schedule | PC53                   |
| GTIN              | 3389118158474          |
| Returnability     | No                     |
| Country of origin | DE                     |

## Packing Units

|                              |                    |
|------------------------------|--------------------|
| Unit Type of Package 1       | PCE                |
| Number of Units in Package 1 | 1                  |
| Package 1 Height             | 4.53 in (11.5 cm)  |
| Package 1 Width              | 7.48 in (19.0 cm)  |
| Package 1 Length             | 15.55 in (39.5 cm) |
| Package 1 Weight             | 28.22 oz (800.0 g) |

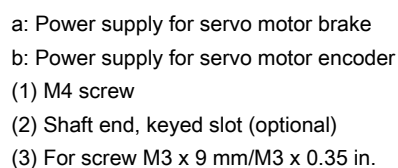
## Offer Sustainability

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

### Example with Straight Connectors



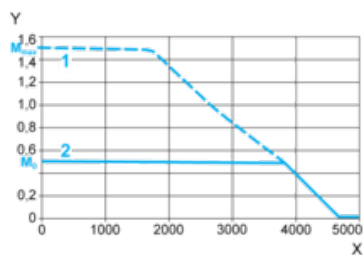
| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) |
|---------------------|------|-----------------------------|------|-------------------|----------------|
| b                   | b1   | b                           | b1   |                   |                |
| 39.5                | 25.5 | 39.5                        | 39.5 | 132.5             | 159            |

| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) |
|---------------------|------|-----------------------------|------|-------------------|----------------|
| b                   | b1   | b                           | b1   |                   |                |
| 1.55                | 1.00 | 1.55                        | 1.55 | 5.21              | 6.25           |

### 115 V Single-Phase Supply Voltage

#### Torque/Speed Curves

Servo motor with LXM32•U90M2 servo drive



X Speed in rpm

Y Torque in Nm

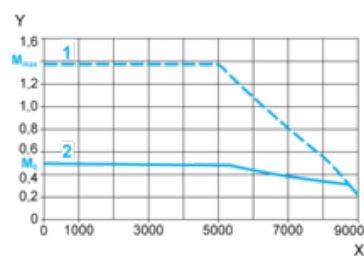
1 Peak torque

2 Continuous torque

### 230 V Single-Phase Supply Voltage

#### Torque/Speed Curves

Servo motor with LXM32•U45M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque