### Main

<table>
<thead>
<tr>
<th>Product or component type</th>
<th>Servo motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device short name</td>
<td>BSH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum mechanical speed</th>
<th>9000 rpm</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Continuous stall torque</th>
<th>1.2 N.m for LXM32.U90M2 at 3 A, 230 V, single phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.3 N.m for LXM05AD17F1, 110...120 V, single phase</td>
</tr>
<tr>
<td></td>
<td>1.3 N.m for LXM05AD17M2, 200...240 V, single phase</td>
</tr>
<tr>
<td></td>
<td>1.3 N.m for LXM05BD17F1, 110...120 V, single phase</td>
</tr>
<tr>
<td></td>
<td>1.3 N.m for LXM05BD17M2, 200...240 V, single phase</td>
</tr>
<tr>
<td></td>
<td>1.3 N.m for LXM05CD17F1, 110...120 V, single phase</td>
</tr>
<tr>
<td></td>
<td>1.3 N.m for LXM05CD17M2, 200...240 V, single phase</td>
</tr>
<tr>
<td></td>
<td>1.3 N.m for LXM05CD17M3X, 200...240 V, three phase</td>
</tr>
<tr>
<td></td>
<td>1.3 N.m for LXM05BD17M3X, 200...240 V, three phase</td>
</tr>
<tr>
<td></td>
<td>1.3 N.m for LXM05CD17M3X, 200...240 V, three phase</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peak stall torque</th>
<th>3 N.m for LXM32.U90M2 at 3 A, 230 V, single phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.3 N.m for LXM05AD17F1, 110...120 V, single phase</td>
</tr>
<tr>
<td></td>
<td>3.3 N.m for LXM05AD17M2, 200...240 V, single phase</td>
</tr>
<tr>
<td></td>
<td>3.3 N.m for LXM05BD17F1, 110...120 V, single phase</td>
</tr>
<tr>
<td></td>
<td>3.3 N.m for LXM05BD17M2, 200...240 V, single phase</td>
</tr>
<tr>
<td></td>
<td>3.3 N.m for LXM05CD17F1, 110...120 V, single phase</td>
</tr>
<tr>
<td></td>
<td>3.3 N.m for LXM05CD17M2, 200...240 V, single phase</td>
</tr>
<tr>
<td></td>
<td>3.3 N.m for LXM32.D18M2 at 6 A, 115 V, single phase</td>
</tr>
<tr>
<td></td>
<td>3.31 N.m for LXM05AD17M3X, 200...240 V, three phase</td>
</tr>
<tr>
<td></td>
<td>3.31 N.m for LXM05BD17M3X, 200...240 V, three phase</td>
</tr>
<tr>
<td></td>
<td>3.31 N.m for LXM05CD17M3X, 200...240 V, three phase</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nominal output power</th>
<th>550 W for LXM32.U90M2 at 3 A, 230 V, single phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>350 W for LXM05AD17F1, 110...120 V, single phase</td>
</tr>
<tr>
<td></td>
<td>350 W for LXM05AD17M2, 200...240 V, single phase</td>
</tr>
<tr>
<td></td>
<td>350 W for LXM05BD17F1, 110...120 V, single phase</td>
</tr>
<tr>
<td></td>
<td>350 W for LXM05BD17M2, 200...240 V, single phase</td>
</tr>
<tr>
<td></td>
<td>350 W for LXM05CD17F1, 110...120 V, single phase</td>
</tr>
<tr>
<td></td>
<td>350 W for LXM05CD17M2, 200...240 V, single phase</td>
</tr>
<tr>
<td></td>
<td>350 W for LXM32.D18M2 at 6 A, 115 V, single phase</td>
</tr>
<tr>
<td></td>
<td>350 W for LXM05AD17M3X, 200...240 V, three phase</td>
</tr>
<tr>
<td></td>
<td>350 W for LXM05BD17M3X, 200...240 V, three phase</td>
</tr>
<tr>
<td></td>
<td>350 W for LXM05CD17M3X, 200...240 V, three phase</td>
</tr>
</tbody>
</table>

| Nominal torque          | 0.84 N.m for LXM32.U90M2 at 3 A, 230 V, single phase |

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Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications.

Nov 8, 2019
### Nominal speed

<table>
<thead>
<tr>
<th>Product</th>
<th>RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>LXM05AD17F1 at 110...120 V single phase</td>
<td>6000 rpm</td>
</tr>
<tr>
<td>LXM05AD17M2 at 200...240 V single phase</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>LXM05BD17F1 at 110...120 V single phase</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>LXM05BD17M2 at 200...240 V single phase</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>LXM05CD17F1 at 110...120 V single phase</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>LXM05CD17M2 at 200...240 V single phase</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>LXM32.U90M2 at 230 V single phase</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>LXM32.D18M2 at 115 V single phase</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>LXM5AD17M3X at 200...240 V three phase</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>LXM5BD17M3X at 200...240 V three phase</td>
<td>3000 rpm</td>
</tr>
<tr>
<td>LXM5CD17M3X at 200...240 V three phase</td>
<td>3000 rpm</td>
</tr>
</tbody>
</table>

### Product compatibility

<table>
<thead>
<tr>
<th>Product</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>LXM05AD17F1 at 110...120 V single phase</td>
<td>LXM05AD17F1 at 110...120 V single phase</td>
</tr>
<tr>
<td>LXM05AD17M2 at 200...240 V single phase</td>
<td>LXM05AD17M2 at 200...240 V single phase</td>
</tr>
<tr>
<td>LXM05BD17F1 at 110...120 V single phase</td>
<td>LXM05BD17F1 at 110...120 V single phase</td>
</tr>
<tr>
<td>LXM05BD17M2 at 200...240 V single phase</td>
<td>LXM05BD17M2 at 200...240 V single phase</td>
</tr>
<tr>
<td>LXM05CD17F1 at 110...120 V single phase</td>
<td>LXM05CD17F1 at 110...120 V single phase</td>
</tr>
<tr>
<td>LXM05CD17M2 at 200...240 V single phase</td>
<td>LXM05CD17M2 at 200...240 V single phase</td>
</tr>
<tr>
<td>LXM32.U90M2 at 230 V single phase</td>
<td>LXM32.U90M2 at 230 V single phase</td>
</tr>
<tr>
<td>LXM32.D18M2 at 115 V single phase</td>
<td>LXM32.D18M2 at 115 V single phase</td>
</tr>
<tr>
<td>LXM5AD17M3X at 200...240 V three phase</td>
<td>LXM5AD17M3X at 200...240 V three phase</td>
</tr>
<tr>
<td>LXM5BD17M3X at 200...240 V three phase</td>
<td>LXM5BD17M3X at 200...240 V three phase</td>
</tr>
<tr>
<td>LXM5CD17M3X at 200...240 V three phase</td>
<td>LXM5CD17M3X at 200...240 V three phase</td>
</tr>
</tbody>
</table>

### Shaft end

- **Keyed**

### IP degree of protection

- IP65 standard
- IP67 with IP67 kit

### Speed feedback resolution

- 131072 points/turn

### Holding brake

- Without

### Mounting support

- International standard flange

### Electrical connection

- Straight connectors

### Complementary

**Range compatibility**
- Lexium 32
- Lexium 05

**Supply voltage max**
- 480 V

**Network number of phases**
- Three phase

**Continuous stall current**
- 3.1 A

**Maximum continuous power**
- 0.97 W

**Maximum current Irms**
- 11.9 A for LXM05AD17F1
- 11.9 A for LXM05AD17M2
- 11.9 A for LXM05AD17M3X
- 11.9 A for LXM05BD17F1
- 11.9 A for LXM05BD17M2
- 11.9 A for LXM05BD17M3X
- 11.9 A for LXM05CD17F1
- 11.9 A for LXM05CD17M2
- 11.9 A for LXM05CD17M3X
- 10 A for LXM32.D18M2
- 9 A for LXM32.U90M2

**Maximum permanent current**
- 11.9 A

**Switching frequency**
- 8 kHz

**Second shaft**
- Without second shaft end

**Shaft diameter**
- 9 mm

**Shaft length**
- 20 mm

**Key width**
- 12 mm

**Feedback type**
- Single turn SinCos Hiperface
<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor flange size</td>
<td>55 mm</td>
</tr>
<tr>
<td>Number of motor stacks</td>
<td>3</td>
</tr>
<tr>
<td>Torque constant</td>
<td>0.39 N.m/A at 120 °C</td>
</tr>
<tr>
<td>Back emf constant</td>
<td>22 V/krpm at 120 °C</td>
</tr>
<tr>
<td>Number of motor poles</td>
<td>6</td>
</tr>
<tr>
<td>Rotor inertia</td>
<td>0.134 kg.cm²</td>
</tr>
<tr>
<td>Stator resistance</td>
<td>3.1 Ohm at 20 °C</td>
</tr>
<tr>
<td>Stator inductance</td>
<td>7.4 mH at 20 °C</td>
</tr>
<tr>
<td>Stator electrical time constant</td>
<td>2.39 ms at 20 °C</td>
</tr>
<tr>
<td>Maximum radial force Fr</td>
<td>190 N at 8000 rpm</td>
</tr>
<tr>
<td></td>
<td>200 N at 7000 rpm</td>
</tr>
<tr>
<td></td>
<td>210 N at 6000 rpm</td>
</tr>
<tr>
<td></td>
<td>230 N at 5000 rpm</td>
</tr>
<tr>
<td></td>
<td>240 N at 4000 rpm</td>
</tr>
<tr>
<td></td>
<td>270 N at 3000 rpm</td>
</tr>
<tr>
<td></td>
<td>310 N at 2000 rpm</td>
</tr>
<tr>
<td></td>
<td>390 N at 1000 rpm</td>
</tr>
<tr>
<td>Maximum axial force Fa</td>
<td>0.2 x Fr</td>
</tr>
<tr>
<td>Type of cooling</td>
<td>Natural convection</td>
</tr>
<tr>
<td>Length</td>
<td>176.5 mm</td>
</tr>
<tr>
<td>Centring collar diameter</td>
<td>40 mm</td>
</tr>
<tr>
<td>Centring collar depth</td>
<td>2 mm</td>
</tr>
<tr>
<td>Number of mounting holes</td>
<td>4</td>
</tr>
<tr>
<td>Mounting holes diameter</td>
<td>5.5 mm</td>
</tr>
<tr>
<td>Circle diameter of the mounting holes</td>
<td>63 mm</td>
</tr>
<tr>
<td>Net weight</td>
<td>1.76 kg</td>
</tr>
</tbody>
</table>

**Offer Sustainability**

- **Sustainable offer status**: Green Premium product
- **REACH Regulation**: REACH Declaration
- **EU RoHS Directive**: Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
- **Mercury free**: Yes
- **RoHS exemption information**: Yes
- **China RoHS Regulation**: China RoHS declaration
- **Environmental Disclosure**: Product Environmental Profile
- **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 screw M3 x 9 mm/M3 x 0.35 in.

**Dimensions in mm**

<table>
<thead>
<tr>
<th></th>
<th>Straight connectors</th>
<th>Rotatable angled connectors</th>
<th>c (without brake)</th>
<th>c (with brake)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>b1</td>
<td>b</td>
<td>b1</td>
<td></td>
</tr>
<tr>
<td>39.5</td>
<td>25.5</td>
<td>39.5</td>
<td>39.5</td>
<td>176.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>203</td>
</tr>
</tbody>
</table>

**Dimensions in in.**

<table>
<thead>
<tr>
<th></th>
<th>Straight connectors</th>
<th>Rotatable angled connectors</th>
<th>c (without brake)</th>
<th>c (with brake)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>b1</td>
<td>b</td>
<td>b1</td>
<td></td>
</tr>
<tr>
<td>1.55</td>
<td>1.00</td>
<td>1.55</td>
<td>1.55</td>
<td>6.94</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.99</td>
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</tbody>
</table>
115 V Single-Phase Supply Voltage

Torque/Speed Curves
Servo motor with LXM32•D18M2 servo drive

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed in rpm</td>
<td>Torque in Nm</td>
</tr>
<tr>
<td>1</td>
<td>Peak torque</td>
</tr>
<tr>
<td>2</td>
<td>Continuous torque</td>
</tr>
</tbody>
</table>

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BSH0553T31A1A
Torque/Speed Curves

Servo motor with LXM32-U90M2 servo drive

<table>
<thead>
<tr>
<th>X</th>
<th>Speed in rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Torque in Nm</td>
</tr>
<tr>
<td>1</td>
<td>Peak torque</td>
</tr>
<tr>
<td>2</td>
<td>Continuous torque</td>
</tr>
</tbody>
</table>

230 V Single-Phase Supply Voltage