

# BSH1003M02F1A

AC servo motor BSH - 7.8 Nm - 6000 rpm -  
untapped shaft - with brake - IP50

## Main

|                             |                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or component type   | AC servo motors                                                                                                                                                                                                                                                                                                                                         |
| Component name              | BSH                                                                                                                                                                                                                                                                                                                                                     |
| Continuous stall torque     | 7.76 N.m for LXM15LD10N4 at 400 V 3 phases<br>7.76 N.m for LXM15LD17N4 at 230 V 3 phases<br>7.76 N.m for LXM15LD17N4 at 400 V 3 phases<br>7.76 N.m for LXM15LD17N4 at 480 V 3 phases<br>7.8 N.m for LXM05AD22N4 at 380...480 V 3 phases<br>7.8 N.m for LXM05BD22N4 at 380...480 V 3 phases<br>7.8 N.m for LXM05CD22N4 at 380...480 V 3 phases           |
| Peak stall torque           | 15.19 N.m for LXM15LD10N4 at 400 V 3 phases<br>22.95 N.m for LXM15LD17N4 at 230 V 3 phases<br>22.95 N.m for LXM15LD17N4 at 400 V 3 phases<br>22.95 N.m for LXM15LD17N4 at 480 V 3 phases<br>23.17 N.m for LXM05AD22N4 at 380...480 V 3 phases<br>23.17 N.m for LXM05BD22N4 at 380...480 V 3 phases<br>23.17 N.m for LXM05CD22N4 at 380...480 V 3 phases |
| Nominal output power        | 750 W for LXM15LD17N4 at 230 V 3 phases<br>1100 W for LXM05AD22N4 at 380...480 V 3 phases<br>1100 W for LXM05BD22N4 at 380...480 V 3 phases<br>1100 W for LXM05CD22N4 at 380...480 V 3 phases<br>1300 W for LXM15LD10N4 at 400 V 3 phases<br>1400 W for LXM15LD17N4 at 400 V 3 phases<br>1400 W for LXM15LD17N4 at 480 V 3 phases                       |
| Nominal speed               | 1000 rpm for LXM15LD17N4 at 230 V 3 phases<br>1500 rpm for LXM05AD22N4 at 380...480 V 3 phases<br>1500 rpm for LXM05BD22N4 at 380...480 V 3 phases<br>1500 rpm for LXM05CD22N4 at 380...480 V 3 phases<br>2000 rpm for LXM15LD10N4 at 400 V 3 phases<br>2000 rpm for LXM15LD17N4 at 400 V 3 phases<br>2000 rpm for LXM15LD17N4 at 480 V 3 phases        |
| Maximum mechanical speed    | 6000 rpm                                                                                                                                                                                                                                                                                                                                                |
| Product compatibility       | LXM05AD22N4 at 380...480 V 3 phases<br>LXM05BD22N4 at 380...480 V 3 phases<br>LXM05CD22N4 at 380...480 V 3 phases<br>LXM15LD10N4 at 400 V 3 phases<br>LXM15LD17N4 at 230 V 3 phases<br>LXM15LD17N4 at 400 V 3 phases<br>LXM15LD17N4 at 480 V 3 phases                                                                                                   |
| Shaft end                   | Untapped                                                                                                                                                                                                                                                                                                                                                |
| IP degree of protection     | IP50                                                                                                                                                                                                                                                                                                                                                    |
| Encoder type                | Absolute multturn SinCos Hiperface                                                                                                                                                                                                                                                                                                                      |
| Encoder feedback resolution | 131072 points/turn x 4096 turns                                                                                                                                                                                                                                                                                                                         |
| Holding brake               | With                                                                                                                                                                                                                                                                                                                                                    |
| Mounting support            | International standard flange                                                                                                                                                                                                                                                                                                                           |
| Electrical connection       | Straight connectors                                                                                                                                                                                                                                                                                                                                     |
| Number of poles             | 8                                                                                                                                                                                                                                                                                                                                                       |

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## Complementary

|                                             |                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility                         | Lexium 05<br>Lexium 15                                                                                                                                                                                                                                                                                                                      |
| Nominal torque                              | 6.36 N.m for LXM15LD10N4 at 400 V 3 phases<br>6.5 N.m for LXM15LD17N4 at 400 V 3 phases<br>6.5 N.m for LXM15LD17N4 at 480 V 3 phases<br>6.73 N.m for LXM05AD22N4 at 380...480 V 3 phases<br>6.73 N.m for LXM05BD22N4 at 380...480 V 3 phases<br>6.73 N.m for LXM05CD22N4 at 380...480 V 3 phases<br>7 N.m for LXM15LD17N4 at 230 V 3 phases |
| Maximum current I <sub>rms</sub>            | 14.7 A for LXM05AD22N4<br>14.7 A for LXM05BD22N4<br>14.7 A for LXM05CD22N4<br>15.6 A for LXM15LD10N4<br>15.6 A for LXM15LD17N4                                                                                                                                                                                                              |
| Switching frequency                         | 4 kHz for LEX05                                                                                                                                                                                                                                                                                                                             |
| Torque constant                             | 2.22 N.m/A rms at 120 °C<br>2.22 N.m/A rms at 120 °C                                                                                                                                                                                                                                                                                        |
| Back electromagnetical force (emf) constant | 1.44 V rms/krpm at 120 °C<br>148 V rms/krpm at 120 °C                                                                                                                                                                                                                                                                                       |
| Rotor inertia                               | 3.838 kg.cm <sup>2</sup> with brake                                                                                                                                                                                                                                                                                                         |
| Stator resistance                           | 5.3 Ohm at 20 °C                                                                                                                                                                                                                                                                                                                            |
| Stator inductance                           | 32.5 mH at 20 °C<br>33.7 mH at 20 °C                                                                                                                                                                                                                                                                                                        |
| Stator electrical time constant             | 6.13 ms at 20 °C<br>6.36 ms at 20 °C                                                                                                                                                                                                                                                                                                        |
| Maximum radial force Fr                     | 660 N at 4000 rpm<br>730 N at 3000 rpm<br>830 N at 2000 rpm<br>1050 N at 1000 rpm                                                                                                                                                                                                                                                           |
| Maximum axial force Fa                      | 0.2 x Fr                                                                                                                                                                                                                                                                                                                                    |
| Product weight                              | 7.4 kg                                                                                                                                                                                                                                                                                                                                      |

## Environment

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|--------------------------|-----------|
| RoHS EUR conformity date | 0850      |
| RoHS EUR status          | Compliant |