

# BSH1402P02F2A

AC servo motor BSH - 19.2 Nm - 4000 rpm -  
untapped shaft - with brake - IP50

## Main

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| Product or component type | AC servo motors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Component name            | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Continuous stall torque   | 14.9 N.m for LXM15LD28M3 at 230 V 3 phases<br>14.9 N.m for LXM15MD28N4 at 230 V 3 phases<br>14.9 N.m for LXM15MD28N4 at 400 V 3 phases<br>14.9 N.m for LXM15MD28N4 at 480 V 3 phases<br>19.2 N.m for LXM05AD42M3X at 200...240 V 3 phases<br>19.2 N.m for LXM05AD57N4 at 380...480 V 3 phases<br>19.2 N.m for LXM05BD42M3X at 200...240 V 3 phases<br>19.2 N.m for LXM05BD57N4 at 380...480 V 3 phases<br>19.2 N.m for LXM05CD42M3X at 200...240 V 3 phases<br>19.2 N.m for LXM05CD57N4 at 380...480 V 3 phases<br>19.5 N.m for LXM15MD40N4 at 230 V 3 phases<br>19.5 N.m for LXM15MD40N4 at 400 V 3 phases<br>19.5 N.m for LXM15MD40N4 at 480 V 3 phases<br>19.5 N.m for LXM15MD56N4 at 230 V 3 phases<br>19.5 N.m for LXM15MD56N4 at 400 V 3 phases<br>19.5 N.m for LXM15MD56N4 at 480 V 3 phases        |
| Peak stall torque         | 28.71 N.m for LXM15LD28M3 at 230 V 3 phases<br>28.71 N.m for LXM15MD28N4 at 230 V 3 phases<br>28.71 N.m for LXM15MD28N4 at 400 V 3 phases<br>28.71 N.m for LXM15MD28N4 at 480 V 3 phases<br>39.3 N.m for LXM15MD40N4 at 230 V 3 phases<br>39.3 N.m for LXM15MD40N4 at 400 V 3 phases<br>39.3 N.m for LXM15MD40N4 at 480 V 3 phases<br>41.94 N.m for LXM05AD42M3X at 200...240 V 3 phases<br>41.94 N.m for LXM05BD42M3X at 200...240 V 3 phases<br>41.94 N.m for LXM05CD42M3X at 200...240 V 3 phases<br>47.5 N.m for LXM15MD56N4 at 230 V 3 phases<br>47.5 N.m for LXM15MD56N4 at 400 V 3 phases<br>47.5 N.m for LXM15MD56N4 at 480 V 3 phases<br>47.5 N.m for LXM05AD57N4 at 380...480 V 3 phases<br>47.5 N.m for LXM05BD57N4 at 380...480 V 3 phases<br>47.5 N.m for LXM05CD57N4 at 380...480 V 3 phases |
| Nominal output power      | 2350 W for LXM15LD28M3 at 230 V 3 phases<br>2350 W for LXM15MD28N4 at 230 V 3 phases<br>2350 W for LXM15MD40N4 at 230 V 3 phases<br>2350 W for LXM15MD56N4 at 230 V 3 phases<br>2350 W for LXM05AD42M3X at 200...240 V 3 phases<br>2350 W for LXM05BD42M3X at 200...240 V 3 phases<br>2350 W for LXM05CD42M3X at 200...240 V 3 phases<br>3350 W for LXM15MD28N4 at 480 V 3 phases<br>3350 W for LXM15MD40N4 at 480 V 3 phases<br>3400 W for LXM15MD28N4 at 400 V 3 phases<br>3400 W for LXM15MD40N4 at 400 V 3 phases<br>3400 W for LXM15MD56N4 at 400 V 3 phases<br>3400 W for LXM15MD56N4 at 480 V 3 phases<br>3400 W for LXM05AD57N4 at 380...480 V 3 phases<br>3400 W for LXM05BD57N4 at 380...480 V 3 phases<br>3400 W for LXM05CD57N4 at 380...480 V 3 phases                                        |

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| Nominal speed               | 1500 rpm for LXM15LD28M3 at 230 V 3 phases<br>1500 rpm for LXM15MD28N4 at 230 V 3 phases<br>1500 rpm for LXM15MD40N4 at 230 V 3 phases<br>1500 rpm for LXM15MD56N4 at 230 V 3 phases<br>1500 rpm for LXM05AD42M3X at 200...240 V 3 phases<br>1500 rpm for LXM05BD42M3X at 200...240 V 3 phases<br>1500 rpm for LXM05CD42M3X at 200...240 V 3 phases<br>3000 rpm for LXM15MD28N4 at 400 V 3 phases<br>3000 rpm for LXM15MD40N4 at 400 V 3 phases<br>3000 rpm for LXM15MD56N4 at 400 V 3 phases<br>3000 rpm for LXM15MD56N4 at 480 V 3 phases<br>3000 rpm for LXM05AD57N4 at 380...480 V 3 phases<br>3000 rpm for LXM05BD57N4 at 380...480 V 3 phases<br>3000 rpm for LXM05CD57N4 at 380...480 V 3 phases<br>4000 rpm for LXM15MD28N4 at 480 V 3 phases<br>4000 rpm for LXM15MD40N4 at 480 V 3 phases |
| Maximum mechanical speed    | 4000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Product compatibility       | LXM05AD42M3X at 200...240 V 3 phases<br>LXM05AD57N4 at 380...480 V 3 phases<br>LXM05BD42M3X at 200...240 V 3 phases<br>LXM05BD57N4 at 380...480 V 3 phases<br>LXM05CD42M3X at 200...240 V 3 phases<br>LXM05CD57N4 at 380...480 V 3 phases<br>LXM15LD28M3 at 230 V 3 phases<br>LXM15MD28N4 at 230 V 3 phases<br>LXM15MD28N4 at 400 V 3 phases<br>LXM15MD28N4 at 480 V 3 phases<br>LXM15MD40N4 at 230 V 3 phases<br>LXM15MD40N4 at 400 V 3 phases<br>LXM15MD40N4 at 480 V 3 phases<br>LXM15MD56N4 at 230 V 3 phases<br>LXM15MD56N4 at 400 V 3 phases<br>LXM15MD56N4 at 480 V 3 phases                                                                                                                                                                                                                 |
| Shaft end                   | Untapped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IP degree of protection     | IP50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Encoder type                | Absolute multiturn SinCos Hiperface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Encoder feedback resolution | 131072 points/turn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Holding brake               | Without                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Mounting support            | International standard flange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Electrical connection       | Straight connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Number of poles             | 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Complementary

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|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility                         | Lexium 05<br>Lexium 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Nominal torque                              | 8 N.m for LXM15MD28N4 at 480 V 3 phases<br>8 N.m for LXM15MD40N4 at 480 V 3 phases<br>10.8 N.m for LXM05BD57N4 at 380...480 V 3 phases<br>10.8 N.m for LXM05CD57N4 at 380...480 V 3 phases<br>10.8 N.m for LXM15MD28N4 at 400 V 3 phases<br>10.8 N.m for LXM15MD40N4 at 400 V 3 phases<br>10.8 N.m for LXM15MD56N4 at 400 V 3 phases<br>10.8 N.m for LXM15MD56N4 at 480 V 3 phases<br>10.8 N.m for LXM05AD57N4 at 380...480 V 3 phases<br>15 N.m for LXM05BD42M3X at 200...240 V 3 phases<br>15 N.m for LXM05CD42M3X at 200...240 V 3 phases<br>15 N.m for LXM15LD28M3 at 230 V 3 phases<br>15 N.m for LXM15MD28N4 at 230 V 3 phases<br>15 N.m for LXM15MD40N4 at 230 V 3 phases<br>15 N.m for LXM15MD56N4 at 230 V 3 phases<br>15 N.m for LXM05AD42M3X at 200...240 V 3 phases |
| Maximum current I <sub>rms</sub>            | 44.1 A for LXM15LD28M3<br>44.1 A for LXM15MD28N4<br>44.1 A for LXM15MD40N4<br>44.1 A for LXM15MD56N4<br>44.1 A for LXM05AD42M3X<br>44.1 A for LXM05AD57N4<br>44.1 A for LXM05BD42M3X<br>44.1 A for LXM05BD57N4<br>44.1 A for LXM05CD42M3X<br>44.1 A for LXM05CD57N4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Switching frequency                         | 4 kHz for LEX05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Torque constant                             | 1.47 N.m/A rms at 120 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Back electromagnetical force (emf) constant | 101 V rms/krpm at 120 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Rotor inertia                               | 12.68 kg.cm <sup>2</sup> without brake                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Stator resistance                           | 0.6 Ohm at 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Stator inductance                           | 7.4 mH at 20 °C<br>7.71 mH at 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Stator electrical time constant             | 12.33 ms at 20 °C<br>12.85 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Product weight                              | 16 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Environment

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