

## BSH0702P22F2A

AC servo motor BSH - 2.1 Nm - 8000 rpm -  
untapped shaft - with brake - IP65

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## Main

| Product or component type | AC servo motors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| Component name            | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Continuous stall torque   | 2.12 N.m for LXM05AD10M2 at 200...240 V single phase<br>2.12 N.m for LXM05AD10M3X at 200...240 V 3 phases<br>2.12 N.m for LXM05AD17M2 at 200...240 V single phase<br>2.12 N.m for LXM05AD17M3X at 200...240 V 3 phases<br>2.12 N.m for LXM05AD14N4 at 380...480 V 3 phases<br>2.12 N.m for LXM05BD10M2 at 200...240 V single phase<br>2.12 N.m for LXM05BD10M3X at 200...240 V 3 phases<br>2.12 N.m for LXM05BD17M2 at 200...240 V single phase<br>2.12 N.m for LXM05BD17M3X at 200...240 V 3 phases<br>2.12 N.m for LXM05BD14N4 at 380...480 V 3 phases<br>2.12 N.m for LXM05CD10M2 at 200...240 V single phase<br>2.12 N.m for LXM05CD10M3X at 200...240 V 3 phases<br>2.12 N.m for LXM05CD17M2 at 200...240 V single phase<br>2.12 N.m for LXM05CD17M3X at 200...240 V 3 phases<br>2.12 N.m for LXM05CD14N4 at 380...480 V 3 phases<br>2.2 N.m for LXM15LD10N4 at 480 V 3 phases<br>2.2 N.m for LXM15LD13M3 at 230 V single phase<br>2.2 N.m for LXM15LD10N4 at 230 V 3 phases<br>2.2 N.m for LXM15LD10N4 at 400 V 3 phases     |
| Peak stall torque         | 4.57 N.m for LXM05AD10M2 at 200...240 V single phase<br>4.57 N.m for LXM05AD10M3X at 200...240 V 3 phases<br>4.57 N.m for LXM05BD10M2 at 200...240 V single phase<br>4.57 N.m for LXM05BD10M3X at 200...240 V 3 phases<br>4.57 N.m for LXM05CD10M2 at 200...240 V single phase<br>4.57 N.m for LXM05CD10M3X at 200...240 V 3 phases<br>4.85 N.m for LXM15LD10N4 at 230 V 3 phases<br>4.85 N.m for LXM15LD10N4 at 400 V 3 phases<br>4.85 N.m for LXM15LD10N4 at 480 V 3 phases<br>5.63 N.m for LXM15LD13M3 at 230 V single phase<br>5.63 N.m for LXM05AD17M2 at 200...240 V single phase<br>5.63 N.m for LXM05AD17M3X at 200...240 V 3 phases<br>5.63 N.m for LXM05AD14N4 at 380...480 V 3 phases<br>5.63 N.m for LXM05BD17M2 at 200...240 V single phase<br>5.63 N.m for LXM05BD17M3X at 200...240 V 3 phases<br>5.63 N.m for LXM05BD14N4 at 380...480 V 3 phases<br>5.63 N.m for LXM05CD17M2 at 200...240 V single phase<br>5.63 N.m for LXM05CD17M3X at 200...240 V 3 phases<br>5.63 N.m for LXM05CD14N4 at 380...480 V 3 phases |

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| Nominal output power     | 597 W for LXM15LD10N4 at 230 V 3 phases<br>597 W for LXM15LD13M3 at 230 V single phase<br>600 W for LXM05AD10M2 at 200...240 V single phase<br>600 W for LXM05AD10M3X at 200...240 V 3 phases<br>600 W for LXM05AD17M2 at 200...240 V single phase<br>600 W for LXM05AD17M3X at 200...240 V 3 phases<br>600 W for LXM05AD14N4 at 380...480 V 3 phases<br>600 W for LXM05BD10M2 at 200...240 V single phase<br>600 W for LXM05BD10M3X at 200...240 V 3 phases<br>600 W for LXM05BD17M2 at 200...240 V single phase<br>600 W for LXM05BD17M3X at 200...240 V 3 phases<br>600 W for LXM05BD14N4 at 380...480 V 3 phases<br>600 W for LXM05CD10M2 at 200...240 V single phase<br>600 W for LXM05CD10M3X at 200...240 V 3 phases<br>600 W for LXM05CD17M2 at 200...240 V single phase<br>600 W for LXM05CD17M3X at 200...240 V 3 phases<br>600 W for LXM05CD14N4 at 380...480 V 3 phases<br>1000 W for LXM15LD10N4 at 400 V 3 phases<br>1300 W for LXM15LD10N4 at 480 V 3 phases                                                        |
| Nominal speed            | 3000 rpm for LXM15LD10N4 at 230 V 3 phases<br>3000 rpm for LXM15LD13M3 at 230 V single phase<br>3000 rpm for LXM05AD10M2 at 200...240 V single phase<br>3000 rpm for LXM05AD10M3X at 200...240 V 3 phases<br>3000 rpm for LXM05AD17M2 at 200...240 V single phase<br>3000 rpm for LXM05AD17M3X at 200...240 V 3 phases<br>3000 rpm for LXM05AD14N4 at 380...480 V 3 phases<br>3000 rpm for LXM05BD10M2 at 200...240 V single phase<br>3000 rpm for LXM05BD10M3X at 200...240 V 3 phases<br>3000 rpm for LXM05BD17M2 at 200...240 V single phase<br>3000 rpm for LXM05BD17M3X at 200...240 V 3 phases<br>3000 rpm for LXM05BD14N4 at 380...480 V 3 phases<br>3000 rpm for LXM05CD10M2 at 200...240 V single phase<br>3000 rpm for LXM05CD10M3X at 200...240 V 3 phases<br>3000 rpm for LXM05CD17M2 at 200...240 V single phase<br>3000 rpm for LXM05CD17M3X at 200...240 V 3 phases<br>3000 rpm for LXM05CD14N4 at 380...480 V 3 phases<br>6000 rpm for LXM15LD10N4 at 400 V 3 phases<br>8000 rpm for LXM15LD10N4 at 480 V 3 phases |
| Maximum mechanical speed | 8000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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| Product compatibility       | LXM05AD10M2 at 200...240 V single phase<br>LXM05AD10M3X at 200...240 V 3 phases<br>LXM05AD14N4 at 380...480 V 3 phases<br>LXM05AD17M2 at 200...240 V single phase<br>LXM05AD17M3X at 200...240 V 3 phases<br>LXM05BD10M2 at 200...240 V single phase<br>LXM05BD10M3X at 200...240 V 3 phases<br>LXM05BD14N4 at 380...480 V 3 phases<br>LXM05BD17M2 at 200...240 V single phase<br>LXM05BD17M3X at 200...240 V 3 phases<br>LXM05CD10M2 at 200...240 V single phase<br>LXM05CD10M3X at 200...240 V 3 phases<br>LXM05CD14N4 at 380...480 V 3 phases<br>LXM05CD17M2 at 200...240 V single phase<br>LXM05CD17M3X at 200...240 V 3 phases<br>LXM15LD10N4 at 230 V 3 phases<br>LXM15LD10N4 at 400 V 3 phases<br>LXM15LD10N4 at 480 V 3 phases<br>LXM15LD13M3 at 230 V single phase |
| Shaft end                   | Untapped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IP degree of protection     | IP65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Encoder type                | Absolute multiturn SinCos Hiperface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Encoder feedback resolution | 131072 points/turn x 4096 turns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Holding brake               | With                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Mounting support            | International standard flange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Electrical connection       | Rotatable right-angled connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Number of poles             | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Complementary

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| Range compatibility                         | Lexium 05<br>Lexium 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Nominal torque                              | 1.55 N.m for LXM15LD10N4 at 480 V 3 phases<br>1.65 N.m for LXM15LD10N4 at 400 V 3 phases<br>1.9 N.m for LXM15LD13M3 at 230 V single phase<br>1.9 N.m for LXM15LD10N4 at 230 V 3 phases<br>1.9 N.m for LXM05AD10M2 at 200...240 V single phase<br>1.9 N.m for LXM05AD17M2 at 200...240 V single phase<br>1.9 N.m for LXM05AD10M3X at 200...240 V 3 phases<br>1.9 N.m for LXM05AD17M3X at 200...240 V 3 phases<br>1.9 N.m for LXM05AD14N4 at 380...480 V 3 phases<br>1.9 N.m for LXM05BD10M2 at 200...240 V single phase<br>1.9 N.m for LXM05BD17M2 at 200...240 V single phase<br>1.9 N.m for LXM05BD10M3X at 200...240 V 3 phases<br>1.9 N.m for LXM05BD17M3X at 200...240 V 3 phases<br>1.9 N.m for LXM05BD14N4 at 380...480 V 3 phases<br>1.9 N.m for LXM05CD10M2 at 200...240 V single phase<br>1.9 N.m for LXM05CD17M2 at 200...240 V single phase<br>1.9 N.m for LXM05CD10M3X at 200...240 V 3 phases<br>1.9 N.m for LXM05CD17M3X at 200...240 V 3 phases<br>1.9 N.m for LXM05CD14N4 at 380...480 V 3 phases |
| Maximum current I <sub>rms</sub>            | 11.8 A for LXM15LD13M3<br>11.8 A for LXM15LD10N4<br>11.8 A for LXM05AD10M2<br>11.8 A for LXM05AD17M2<br>11.8 A for LXM05AD10M3X<br>11.8 A for LXM05AD17M3X<br>11.8 A for LXM05AD14N4<br>11.8 A for LXM05BD10M2<br>11.8 A for LXM05BD17M2<br>11.8 A for LXM05BD10M3X<br>11.8 A for LXM05BD17M3X<br>11.8 A for LXM05BD14N4<br>11.8 A for LXM05CD10M2<br>11.8 A for LXM05CD17M2<br>11.8 A for LXM05CD10M3X<br>11.8 A for LXM05CD17M3X<br>11.8 A for LXM05CD14N4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Switching frequency                         | 4 kHz for LEX05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Torque constant                             | 0.77 N.m/A rms at 120 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Back electromagnetical force (emf) constant | 48 V rms/krpm at 120 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Rotor inertia                               | 0.482 kg.cm <sup>2</sup> with brake                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| Stator resistance               | 4.2 Ohm at 20 °C                                                                                                           |
| Stator inductance               | 19 mH at 20 °C                                                                                                             |
| Stator electrical time constant | 4.52 ms at 20 °C                                                                                                           |
| Maximum radial force Fr         | 390 N at 6000 rpm<br>410 N at 5000 rpm<br>450 N at 4000 rpm<br>490 N at 3000 rpm<br>560 N at 2000 rpm<br>710 N at 1000 rpm |
| Maximum axial force Fa          | 0.2 x Fr                                                                                                                   |
| Product weight                  | 2.89 kg                                                                                                                    |

## Environment

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