

# BRH0853P30F1A

AC servo motors BRH - 12 N.m - 4500 rpm -  
keyed shaft - with brake - IP56

## Main

|                             |                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or component type   | Motion servo motors                                                                                                                                                                                                                                                                                                              |
| Component name              | BRH                                                                                                                                                                                                                                                                                                                              |
| Continuous stall torque     | 4.2 N.m                                                                                                                                                                                                                                                                                                                          |
| Peak stall torque           | 9.7 N.m for LXM05AD28F1<br>9.7 N.m for LXM05AD28M2<br>9.7 N.m for LXM05BD28F1<br>9.7 N.m for LXM05BD28M2<br>9.7 N.m for LXM05CD28F1<br>9.7 N.m for LXM05CD28M2<br>13.6 N.m for LXM05AD42M3X<br>13.6 N.m for LXM05BD42M3X<br>13.6 N.m for LXM05CD42M3X                                                                            |
| Nominal output power        | 570 W for LXM05CD28F1<br>570 W for LXM05AD28F1<br>570 W for LXM05BD28F1<br>1200 W for LXM05BD28M2<br>1200 W for LXM05CD28M2<br>1200 W for LXM05AD28M2<br>1250 W for LXM05BD42M3X<br>1250 W for LXM05CD42M3X<br>1250 W for LXM05AD42M3X                                                                                           |
| Nominal speed               | 1500 rpm for LXM05AD28F1<br>1500 rpm for LXM05BD28F1<br>1500 rpm for LXM05CD28F1<br>4500 rpm for LXM05AD28M2<br>4500 rpm for LXM05BD28M2<br>4500 rpm for LXM05CD28M2<br>6000 rpm for LXM05AD42M3X<br>6000 rpm for LXM05BD42M3X<br>6000 rpm for LXM05CD42M3X                                                                      |
| Maximum mechanical speed    | 6000 rpm                                                                                                                                                                                                                                                                                                                         |
| Product compatibility       | LXM05AD28F1 at 115 V single phase<br>LXM05AD28M2 at 230 V single phase<br>LXM05AD42M3X at 230 V 3 phases<br>LXM05BD28F1 at 115 V single phase<br>LXM05BD28M2 at 230 V single phase<br>LXM05BD42M3X at 230 V 3 phases<br>LXM05CD28F1 at 115 V single phase<br>LXM05CD28M2 at 230 V single phase<br>LXM05CD42M3X at 230 V 3 phases |
| Shaft end                   | Keyed                                                                                                                                                                                                                                                                                                                            |
| IP degree of protection     | IP56                                                                                                                                                                                                                                                                                                                             |
| Encoder type                | Single turn SinCos Hiperface                                                                                                                                                                                                                                                                                                     |
| Encoder feedback resolution | 16384 points/turn                                                                                                                                                                                                                                                                                                                |
| Holding brake               | With                                                                                                                                                                                                                                                                                                                             |
| Mounting support            | International standard flange                                                                                                                                                                                                                                                                                                    |
| Electrical connection       | Straight connectors                                                                                                                                                                                                                                                                                                              |
| Number of poles             | 10                                                                                                                                                                                                                                                                                                                               |

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## Complementary

|                                 |                                                                                                                                                                                                                                                             |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility             | Lexium 05                                                                                                                                                                                                                                                   |
| Switching frequency             | 8 kHz                                                                                                                                                                                                                                                       |
| Nominal torque                  | 2.55 N.m for LXM05AD28M2<br>2.55 N.m for LXM05AD42M3X<br>2.55 N.m for LXM05BD28M2<br>2.55 N.m for LXM05BD42M3X<br>2.55 N.m for LXM05CD28M2<br>2.55 N.m for LXM05CD42M3X<br>3.65 N.m for LXM05AD28F1<br>3.65 N.m for LXM05BD28F1<br>3.65 N.m for LXM05CD28F1 |
| Maximum current Irms            | 20 A for LXM05AD28F1<br>20 A for LXM05AD28M2<br>20 A for LXM05BD28F1<br>20 A for LXM05BD28M2<br>20 A for LXM05CD28F1<br>20 A for LXM05CD28M2<br>30 A for LXM05AD42M3X<br>30 A for LXM05BD42M3X<br>30 A for LXM05CD42M3X                                     |
| Torque constant                 | 0.51 N.m/A rms at 120 °C                                                                                                                                                                                                                                    |
| Back emf constant               | 33 V rms/krpm at 120 °C                                                                                                                                                                                                                                     |
| Rotor inertia                   | 2.96 kg.cm <sup>2</sup> without brake<br>3.49 kg.cm <sup>2</sup> with brake                                                                                                                                                                                 |
| Stator resistance               | 0.7 Ohm                                                                                                                                                                                                                                                     |
| Stator inductance               | 2.7 mH                                                                                                                                                                                                                                                      |
| Stator electrical time constant | 4 ms                                                                                                                                                                                                                                                        |
| Maximum radial force Fr         | 220 N at 6000 rpm<br>223 N at 5000 rpm<br>230 N at 4000 rpm<br>237 N at 3000 rpm<br>244 N at 2000 rpm<br>287 N at 1000 rpm                                                                                                                                  |
| Maximum axial force Fa          | 0.2 x Fr                                                                                                                                                                                                                                                    |
| Product weight                  | 4.4 kg                                                                                                                                                                                                                                                      |

## Environment

|                          |                   |
|--------------------------|-------------------|
| RoHS EUR conformity date | 4Q2009            |
| RoHS EUR status          | Will be compliant |