

# BRH0851P31F2A

AC servo motors BRH - 4.2 N.m - 6000 rpm -  
keyed shaft - with brake - IP56

## Main

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or component type   | Motion servo motors                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Component name              | BRH                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Continuous stall torque     | 1.86 N.m                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Peak stall torque           | 4.61 N.m for LXM05AD17F1<br>4.61 N.m for LXM05AD17M2<br>4.61 N.m for LXM05AD17M3X<br>4.61 N.m for LXM05BD17F1<br>4.61 N.m for LXM05BD17M2<br>4.61 N.m for LXM05BD17M3X<br>4.61 N.m for LXM05CD17F1<br>4.61 N.m for LXM05CD17M2<br>4.61 N.m for LXM05CD17M3X<br>5.34 N.m for LXM05AD22N4<br>5.34 N.m for LXM05BD22N4<br>5.34 N.m for LXM05CD22N4                                                                                                 |
| Nominal output power        | 280 W for LXM05BD17F1<br>280 W for LXM05CD17F1<br>280 W for LXM05AD17F1<br>730 W for LXM05BD17M2<br>730 W for LXM05BD17M3X<br>730 W for LXM05CD17M2<br>730 W for LXM05CD17M3X<br>730 W for LXM05AD17M2<br>730 W for LXM05AD17M3X<br>910 W for LXM05BD22N4<br>910 W for LXM05CD22N4<br>910 W for LXM05AD22N4                                                                                                                                     |
| Nominal speed               | 1500 rpm for LXM05AD17F1<br>1500 rpm for LXM05BD17F1<br>1500 rpm for LXM05CD17F1<br>4500 rpm for LXM05AD17M2<br>4500 rpm for LXM05AD17M3X<br>4500 rpm for LXM05BD17M2<br>4500 rpm for LXM05BD17M3X<br>4500 rpm for LXM05CD17M2<br>4500 rpm for LXM05CD17M3X<br>6000 rpm for LXM05AD22N4<br>6000 rpm for LXM05BD22N4<br>6000 rpm for LXM05CD22N4                                                                                                 |
| Maximum mechanical speed    | 6000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Product compatibility       | LXM05AD17F1 at 115 V single phase<br>LXM05AD17M2 at 230 V single phase<br>LXM05AD17M3X at 230 V 3 phases<br>LXM05AD22N4 at 400/480 V 3 phases<br>LXM05BD17F1 at 115 V single phase<br>LXM05BD17M2 at 230 V single phase<br>LXM05BD17M3X at 230 V 3 phases<br>LXM05BD22N4 at 400/480 V 3 phases<br>LXM05CD17F1 at 115 V single phase<br>LXM05CD17M2 at 230 V single phase<br>LXM05CD17M3X at 230 V 3 phases<br>LXM05CD22N4 at 400/480 V 3 phases |
| Shaft end                   | Keyed                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IP degree of protection     | IP56                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Encoder type                | Single turn SinCos Hiperface                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Encoder feedback resolution | 131072 points/turn                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Holding brake               | With                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Mounting support            | International standard flange                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                       |                                   |
|-----------------------|-----------------------------------|
| Electrical connection | Rotatable right-angled connectors |
| Number of poles       | 10                                |

## Complementary

|                                  |                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility              | Lexium 05                                                                                                                                                                                                                                                                                                                                       |
| Switching frequency              | 8 kHz                                                                                                                                                                                                                                                                                                                                           |
| Nominal torque                   | 1.45 N.m for LXM05AD22N4<br>1.45 N.m for LXM05BD22N4<br>1.45 N.m for LXM05CD22N4<br>1.55 N.m for LXM05AD17M2<br>1.55 N.m for LXM05AD17M3X<br>1.55 N.m for LXM05BD17M2<br>1.55 N.m for LXM05BD17M3X<br>1.55 N.m for LXM05CD17M2<br>1.55 N.m for LXM05CD17M3X<br>1.76 N.m for LXM05AD17F1<br>1.76 N.m for LXM05BD17F1<br>1.76 N.m for LXM05CD17F1 |
| Maximum current I <sub>rms</sub> | 11 A for LXM05AD17F1<br>11 A for LXM05AD17M2<br>11 A for LXM05AD17M3X<br>11 A for LXM05BD17F1<br>11 A for LXM05BD17M2<br>11 A for LXM05BD17M3X<br>11 A for LXM05CD17F1<br>11 A for LXM05CD17M2<br>11 A for LXM05CD17M3X<br>14 A for LXM05AD22N4<br>14 A for LXM05BD22N4<br>14 A for LXM05CD22N4                                                 |
| Torque constant                  | 0.48 N.m/A rms at 120 °C                                                                                                                                                                                                                                                                                                                        |
| Back emf constant                | 30.5 V rms/krpm at 120 °C                                                                                                                                                                                                                                                                                                                       |
| Rotor inertia                    | 1.06 kg.cm <sup>2</sup> without brake<br>1.59 kg.cm <sup>2</sup> with brake                                                                                                                                                                                                                                                                     |
| Stator resistance                | 2.1 Ohm                                                                                                                                                                                                                                                                                                                                         |
| Stator inductance                | 8 mH                                                                                                                                                                                                                                                                                                                                            |
| Stator electrical time constant  | 3.8 ms                                                                                                                                                                                                                                                                                                                                          |
| Maximum radial force Fr          | 173 N at 6000 rpm<br>176 N at 5000 rpm<br>181 N at 4000 rpm<br>187 N at 3000 rpm<br>193 N at 2000 rpm<br>226 N at 1000 rpm                                                                                                                                                                                                                      |
| Maximum axial force Fa           | 0.2 x Fr                                                                                                                                                                                                                                                                                                                                        |
| Product weight                   | 2.2 kg                                                                                                                                                                                                                                                                                                                                          |

## Environment

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