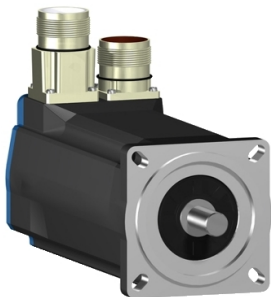


# Product datasheet

Specifications



AC servo motor BSH, Lexium 05,  
1.1N.m, 3000rpm, untapped shaft,  
without brake, IP65

BSH0703P21A1A

! Discontinued on: 01-Nov-2020

! Discontinued

## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device short name         | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Product or component type | Servo motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Maximum mechanical speed  | 8000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Continuous stall torque   | 2.83 N.m for LXM15LD21M3, 230 V, single phase<br>1.1 N.m for LXM15LU60N4, 480 V, three phase<br>1.1 N.m for LXM15LU60N4, 400 V, three phase<br>1.5 N.m for LXM15LU60N4, 230 V, three phase<br>2.23 N.m for LXM15LD13M3, 230 V, three phase<br>2.4 N.m for LXM15LD10N4, 230 V, three phase<br>2.4 N.m for LXM15LD10N4, 400 V, three phase<br>2.4 N.m for LXM15LD10N4, 480 V, three phase<br>2.83 N.m for LXM15LD17N4, 230 V, three phase<br>2.83 N.m for LXM15LD17N4, 400 V, three phase<br>2.83 N.m for LXM15LD17N4, 480 V, three phase<br>2.83 N.m for LXM15LD21M3, 230 V, three phase<br>2.8 N.m for LXM05AD17M2, 200...240 V, single phase<br>2.8 N.m for LXM05AD17M3X, 200...240 V, three phase<br>2.8 N.m for LXM05AD22N4, 380...480 V, three phase<br>2.8 N.m for LXM05AD28M2, 200...240 V, single phase<br>2.8 N.m for LXM05BD17M2, 200...240 V, single phase<br>2.8 N.m for LXM05BD17M3X, 200...240 V, three phase<br>2.8 N.m for LXM05BD22N4, 380...480 V, three phase<br>2.8 N.m for LXM05BD28M2, 200...240 V, single phase<br>2.8 N.m for LXM05CD17M2, 200...240 V, single phase<br>2.8 N.m for LXM05CD17M3X, 200...240 V, three phase<br>2.8 N.m for LXM05CD22N4, 380...480 V, three phase<br>2.8 N.m for LXM05CD28M2, 200...240 V, single phase<br>3.1 N.m for LXM32.D18N4 at 6 A, 400 V, three phase<br>3.1 N.m for LXM32.D18N4 at 6 A, 480 V, three phase |

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

|                             |                                                     |
|-----------------------------|-----------------------------------------------------|
| <b>Peak stall torque</b>    | 5.99 N.m for LXM15LD21M3, 230 V, single phase       |
|                             | 7.16 N.m for LXM05AD17M2, 200...240 V, single phase |
|                             | 10.3 N.m for LXM05AD28M2, 200...240 V, single phase |
|                             | 7.16 N.m for LXM05BD17M2, 200...240 V, single phase |
|                             | 10.3 N.m for LXM05BD28M2, 200...240 V, single phase |
|                             | 7.16 N.m for LXM05CD17M2, 200...240 V, single phase |
|                             | 10.3 N.m for LXM05CD28M2, 200...240 V, single phase |
|                             | 3.3 N.m for LXM15LU60N4, 480 V, three phase         |
|                             | 3.3 N.m for LXM15LU60N4, 400 V, three phase         |
|                             | 3.3 N.m for LXM15LU60N4, 230 V, three phase         |
|                             | 6 N.m for LXM15LD13M3, 230 V, three phase           |
|                             | 5.3 N.m for LXM15LD10N4, 230 V, three phase         |
|                             | 5.3 N.m for LXM15LD10N4, 400 V, three phase         |
|                             | 5.3 N.m for LXM15LD10N4, 480 V, three phase         |
|                             | 7.71 N.m for LXM15LD17N4, 230 V, three phase        |
|                             | 7.71 N.m for LXM15LD17N4, 400 V, three phase        |
|                             | 7.71 N.m for LXM15LD17N4, 480 V, three phase        |
|                             | 9.28 N.m for LXM15LD21M3, 230 V, three phase        |
|                             | 7.16 N.m for LXM05AD17M3X, 200...240 V, three phase |
|                             | 8.75 N.m for LXM05AD22N4, 380...480 V, three phase  |
|                             | 7.16 N.m for LXM05BD17M3X, 200...240 V, three phase |
|                             | 8.75 N.m for LXM05BD22N4, 380...480 V, three phase  |
|                             | 7.16 N.m for LXM05CD17M3X, 200...240 V, three phase |
|                             | 8.75 N.m for LXM05CD22N4, 380...480 V, three phase  |
|                             | 11.3 N.m for LXM32.D18N4 at 6 A, 400 V, three phase |
|                             | 11.3 N.m for LXM32.D18N4 at 6 A, 480 V, three phase |
| <b>Nominal output power</b> | 750 W for LXM05AD17M2, 200...240 V, single phase    |
|                             | 750 W for LXM05AD28M2, 200...240 V, single phase    |
|                             | 750 W for LXM05BD17M2, 200...240 V, single phase    |
|                             | 750 W for LXM05BD28M2, 200...240 V, single phase    |
|                             | 750 W for LXM05CD17M2, 200...240 V, single phase    |
|                             | 750 W for LXM05CD28M2, 200...240 V, single phase    |
|                             | 750 W for LXM15LD21M3, 230 V, single phase          |
|                             | 1250 W for LXM15LD10N4, 400 V, three phase          |
|                             | 1300 W for LXM15LD17N4, 400 V, three phase          |
|                             | 1400 W for LXM15LD17N4, 480 V, three phase          |
|                             | 1500 W for LXM15LD10N4, 480 V, three phase          |
|                             | 350 W for LXM15LU60N4, 230 V, three phase           |
|                             | 700 W for LXM15LD13M3, 230 V, three phase           |
|                             | 700 W for LXM15LU60N4, 400 V, three phase           |
|                             | 750 W for LXM05AD17M3X, 200...240 V, three phase    |
|                             | 750 W for LXM05AD22N4, 380...480 V, three phase     |
|                             | 750 W for LXM05BD17M3X, 200...240 V, three phase    |
|                             | 750 W for LXM05BD22N4, 380...480 V, three phase     |
|                             | 750 W for LXM05CD17M3X, 200...240 V, three phase    |
|                             | 750 W for LXM05CD22N4, 380...480 V, three phase     |
|                             | 750 W for LXM15LD10N4, 230 V, three phase           |
|                             | 750 W for LXM15LD17N4, 230 V, three phase           |
|                             | 750 W for LXM15LD21M3, 230 V, three phase           |
|                             | 950 W for LXM15LU60N4, 480 V, three phase           |
|                             | 1300 W for LXM32.D18N4 at 6 A, 400 V, three phase   |
|                             | 1300 W for LXM32.D18N4 at 6 A, 480 V, three phase   |

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal torque | 2.4 N.m for LXM05AD17M2, 200...240 V, single phase<br>2.4 N.m for LXM05AD28M2, 200...240 V, single phase<br>2.4 N.m for LXM05BD17M2, 200...240 V, single phase<br>2.4 N.m for LXM05BD28M2, 200...240 V, single phase<br>2.4 N.m for LXM05CD17M2, 200...240 V, single phase<br>2.4 N.m for LXM05CD28M2, 200...240 V, single phase<br>2.4 N.m for LXM15LD21M3, 230 V, single phase<br>1.12 N.m for LXM15LU60N4, 230 V, three phase<br>1.12 N.m for LXM15LU60N4, 400 V, three phase<br>1.12 N.m for LXM15LU60N4, 480 V, three phase<br>1.8 N.m for LXM15LD10N4, 480 V, three phase<br>1.96 N.m for LXM15LD17N4, 480 V, three phase<br>2 N.m for LXM15LD10N4, 400 V, three phase<br>2 N.m for LXM15LD17N4, 400 V, three phase<br>2.23 N.m for LXM15LD13M3, 230 V, three phase<br>2.4 N.m for LXM05AD17M3X, 200...240 V, three phase<br>2.4 N.m for LXM05AD22N4, 380...480 V, three phase<br>2.4 N.m for LXM05BD17M3X, 200...240 V, three phase<br>2.4 N.m for LXM05BD22N4, 380...480 V, three phase<br>2.4 N.m for LXM05CD17M3X, 200...240 V, three phase<br>2.4 N.m for LXM05CD22N4, 380...480 V, three phase<br>2.4 N.m for LXM15LD10N4, 230 V, three phase<br>2.4 N.m for LXM15LD17N4, 230 V, three phase<br>2.4 N.m for LXM15LD21M3, 230 V, three phase<br>2.44 N.m for LXM32.D18N4 at 6 A, 400 V, three phase<br>2.44 N.m for LXM32.D18N4 at 6 A, 480 V, three phase                        |
| Nominal speed  | 3000 rpm for LXM15LD13M3, 230 V, three phase<br>3000 rpm for LXM05AD17M2, 200...240 V, single phase<br>3000 rpm for LXM05BD17M2, 200...240 V, single phase<br>3000 rpm for LXM05CD17M2, 200...240 V, single phase<br>3000 rpm for LXM05AD17M3X, 200...240 V, three phase<br>3000 rpm for LXM05BD17M3X, 200...240 V, three phase<br>3000 rpm for LXM05CD17M3X, 200...240 V, three phase<br>3000 rpm for LXM15LU60N4, 230 V, three phase<br>8000 rpm for LXM15LD10N4, 480 V, three phase<br>8000 rpm for LXM15LU60N4, 480 V, three phase<br>3000 rpm for LXM15LD10N4, 230 V, three phase<br>6000 rpm for LXM15LD10N4, 400 V, three phase<br>3000 rpm for LXM05AD28M2, 200...240 V, single phase<br>3000 rpm for LXM05BD28M2, 200...240 V, single phase<br>3000 rpm for LXM05CD28M2, 200...240 V, single phase<br>3000 rpm for LXM15LD21M3, 230 V, single phase<br>3000 rpm for LXM05AD22N4, 380...480 V, three phase<br>3000 rpm for LXM05BD22N4, 380...480 V, three phase<br>3000 rpm for LXM05CD22N4, 380...480 V, three phase<br>3000 rpm for LXM15LD17N4, 230 V, three phase<br>3000 rpm for LXM15LD21M3, 230 V, three phase<br>6000 rpm for LXM15LD17N4, 400 V, three phase<br>6000 rpm for LXM15LU60N4, 400 V, three phase<br>7000 rpm for LXM15LD17N4, 480 V, three phase<br>5000 rpm for LXM32.D18N4 at 6 A, 400 V, three phase<br>5000 rpm for LXM32.D18N4 at 6 A, 480 V, three phase |

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product compatibility     | LXM05AD17M2 at 200...240 V single phase<br>LXM05AD28M2 at 200...240 V single phase<br>LXM05BD17M2 at 200...240 V single phase<br>LXM05BD28M2 at 200...240 V single phase<br>LXM05CD17M2 at 200...240 V single phase<br>LXM05CD28M2 at 200...240 V single phase<br>LXM15LD21M3 at 230 V single phase<br>LXM15LU60N4 at 230 V three phase<br>LXM15LD13M3 at 230 V three phase<br>LXM15LU60N4 at 400 V three phase<br>LXM15LU60N4 at 480 V three phase<br>LXM15LD10N4 at 400 V three phase<br>LXM05AD17M3X at 200...240 V three phase<br>LXM05BD17M3X at 200...240 V three phase<br>LXM05CD17M3X at 200...240 V three phase<br>LXM15LD10N4 at 230 V three phase<br>LXM15LD10N4 at 480 V three phase<br>LXM15LD21M3 at 230 V three phase<br>LXM15LD17N4 at 230 V three phase<br>LXM05AD22N4 at 380...480 V three phase<br>LXM05BD22N4 at 380...480 V three phase<br>LXM05CD22N4 at 380...480 V three phase<br>LXM15LD17N4 at 400 V three phase<br>LXM15LD17N4 at 480 V three phase<br>LXM32.D18N4 at 400 V three phase<br>LXM32.D18N4 at 480 V three phase |
| Shaft end                 | Untapped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IP degree of protection   | IP65 standard<br>IP67 with IP67 kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Speed feedback resolution | 131072 points/turn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Holding brake             | Without                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| mounting support          | International standard flange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Electrical connection     | Straight connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Complementary

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility       | Lexium 15<br>Lexium 05<br>Lexium 32                                                                                                                                                                                                                                                                                                                                                                                                                       |
| supply voltage max        | 480 V                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Network number of phases  | Three phase                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Continuous stall current  | 4.1 A                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| maximum continuous power  | 1.7 W                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Maximum current Irms      | 15.2 A for LXM15LD13M3<br>15.2 A for LXM15LD21M3<br>15.2 A for LXM15LD17N4<br>15.2 A for LXM15LU60N4<br>15.2 A for LXM15LD10N4<br>17 A for LXM05AD17M2<br>17 A for LXM05AD28M2<br>17 A for LXM05AD17M3X<br>17 A for LXM05AD22N4<br>17 A for LXM05BD17M2<br>17 A for LXM05BD28M2<br>17 A for LXM05BD17M3X<br>17 A for LXM05BD22N4<br>17 A for LXM05CD17M2<br>17 A for LXM05CD28M2<br>17 A for LXM05CD17M3X<br>17 A for LXM05CD22N4<br>17 A for LXM32.D18N4 |
| Maximum permanent current | 17 A                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Switching frequency       | 8 kHz                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Second shaft              | Without second shaft end                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                       |                                                                                                                            |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Shaft diameter                        | 14 mm                                                                                                                      |
| Shaft length                          | 30 mm                                                                                                                      |
| Feedback type                         | Single turn SinCos Hiperface                                                                                               |
| Motor flange size                     | 70 mm                                                                                                                      |
| Number of motor stacks                | 3                                                                                                                          |
| Torque constant                       | 0.78 N.m/A at 120 °C                                                                                                       |
| Back emf constant                     | 49 V/krpm at 120 °C                                                                                                        |
| Number of motor poles                 | 6                                                                                                                          |
| Rotor inertia                         | 0.58 kg.cm²                                                                                                                |
| Stator resistance                     | 2.7 Ohm at 20 °C                                                                                                           |
| Stator inductance                     | 13 mH at 20 °C                                                                                                             |
| Stator electrical time constant       | 4.82 ms at 20 °C                                                                                                           |
| Maximum radial force Fr               | 400 N at 6000 rpm<br>430 N at 5000 rpm<br>460 N at 4000 rpm<br>510 N at 3000 rpm<br>580 N at 2000 rpm<br>730 N at 1000 rpm |
| Maximum axial force Fa                | 0.2 x Fr                                                                                                                   |
| Type of cooling                       | Natural convection                                                                                                         |
| Length                                | 220 mm                                                                                                                     |
| Centring collar diameter              | 60 mm                                                                                                                      |
| Centring collar depth                 | 2.5 mm                                                                                                                     |
| Number of mounting holes              | 4                                                                                                                          |
| Mounting holes diameter               | 5.5 mm                                                                                                                     |
| Circle diameter of the mounting holes | 82 mm                                                                                                                      |
| Net weight                            | 3.62 kg                                                                                                                    |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 12.3 cm |
| Package 1 Width              | 12.8 cm |
| Package 1 Length             | 37.7 cm |
| Package 1 Weight             | 3.6 kg  |

## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Sustainability



**Green Premium™ label** is Schneider Electric’s commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product’s sustainability >](#)



Transparency   RoHS/REACH

Well-being performance

|                                                                                                              |     |
|--------------------------------------------------------------------------------------------------------------|-----|
|  Mercury Free               |     |
|  Rohs Exemption Information | Yes |
|  Pvc Free                   |     |

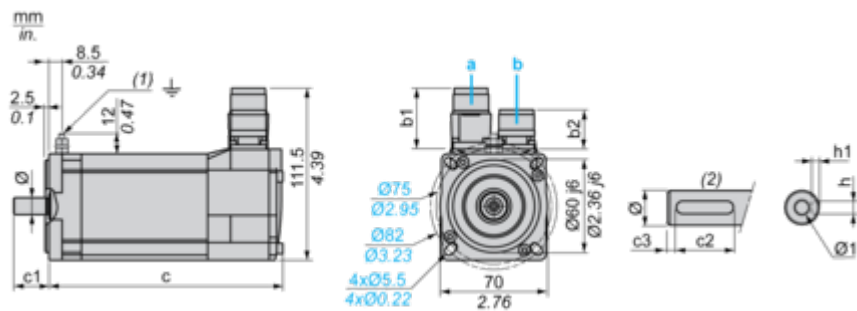
Certifications & Standards

|                          |                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Eu Rohs Directive        | Pro-active compliance (Product out of EU RoHS legal scope)                                                                  |
| China Rohs Regulation    | <a href="#">China RoHS declaration</a>                                                                                      |
| Environmental Disclosure | <a href="#">Product Environmental Profile</a>                                                                               |
| Weee                     | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| Circularity Profile      | No need of specific recycling operations                                                                                    |

Dimensions Drawings

Servo Motors Dimensions

Example with Straight Connectors



- a: Power supply for servo motor brake  
b: Power supply for servo motor encoder  
(1) M4 screw  
(2) Shaft end, keyed slot (optional)  
Dimensions in mm

| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1 | c2 | c3 | h    | h1                             | Ø     | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|----|----|----|------|--------------------------------|-------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |    |    |    |      |                                |       |               |
| 39.5                | 25.5 | 39.5                        | 39.5 | 220               | 254            | 30 | 20 | 5  | 5 N9 | 3 <sup>+0.1</sup> <sub>0</sub> | 14 k6 | M5 x 12.5     |

Dimensions in in.

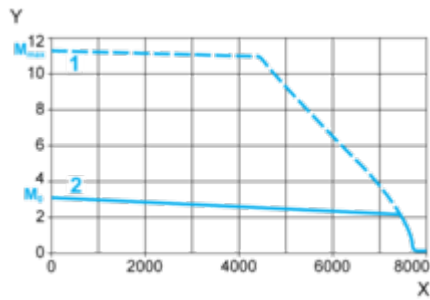
| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1   | c2   | c3   | h       | h1                                  | Ø       | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|------|------|------|---------|-------------------------------------|---------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |      |      |      |         |                                     |         |               |
| 1.55                | 1.00 | 1.55                        | 1.55 | 8.66              | 10.00          | 1.18 | 0.78 | 0.19 | 0.20 N9 | 0.12 <sup>+0.004</sup> <sub>0</sub> | 0.55 k6 | M5 x 0.49     |

Performance Curves

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18N4 servo drive

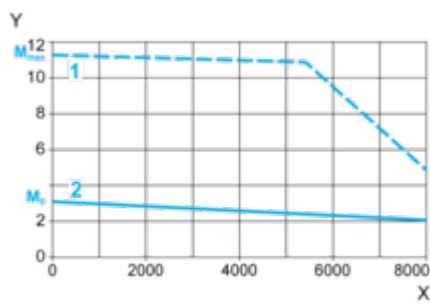


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

480 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18N4 servo drive



- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque