

# BSH0551T01A1A

servo motor BSH, Lexium 05, 0.5N.m,  
8000rpm, 55mm, untapped shaft, Sincos single  
turn, without brake, IP50, straight





## Main

Product or component type	Servo motor
Device short name	BSH
Maximum mechanical speed	9000 rpm
Continuous stall torque	0.5 N.M for LXM32.U90M2 at 3 A, 115 V, single phase 0.5 N.M for LXM32.U45M2 at 1.5 A, 230 V, single phase 0.5 N.M for LXM05CU70M2, 200...240 V, single phase 0.5 N.M for LXM05AD10F1, 110...120 V, single phase 0.5 N.M for LXM05AD10M2, 200...240 V, single phase 0.5 N.M for LXM05BD10F1, 110...120 V, single phase 0.5 N.M for LXM05BD10M2, 200...240 V, single phase 0.5 N.M for LXM05CD10F1, 110...120 V, single phase 0.5 N.M for LXM05CD10M2, 200...240 V, single phase 0.5 N.M for LXM15LD13M3, 230 V, three phase 0.5 N.M for LXM05AD10M3X, 200...240 V, three phase 0.5 N.M for LXM05BD10M3X, 200...240 V, three phase 0.5 N.m for LXM05CD10M3X, 200...240 V, three phase
Peak stall torque	1.5 N.M for LXM32.U90M2 at 3 A, 115 V, single phase 1.4 N.M for LXM32.U45M2 at 1.5 A, 230 V, single phase 1.08 N.M for LXM05CU70M2, 200...240 V, single phase 1.4 N.M for LXM05AD10F1, 110...120 V, single phase 1.4 N.M for LXM05AD10M2, 200...240 V, single phase 1.4 N.M for LXM05BD10F1, 110...120 V, single phase 1.4 N.M for LXM05BD10M2, 200...240 V, single phase 1.4 N.M for LXM05CD10F1, 110...120 V, single phase 1.4 N.M for LXM05CD10M2, 200...240 V, single phase 1.24 N.M for LXM15LD13M3, 230 V, three phase 1.4 N.M for LXM05AD10M3X, 200...240 V, three phase 1.4 N.M for LXM05BD10M3X, 200...240 V, three phase 1.4 N.m for LXM05CD10M3X, 200...240 V, three phase

Nominal output power	<p>150 W for LXM32.U90M2 at 3 A, 115 V, single phase</p> <p>300 W for LXM32.U45M2 at 1.5 A, 230 V, single phase</p> <p>150 W for LXM05AD10F1, 110...120 V, single phase</p> <p>150 W for LXM05BD10F1, 110...120 V, single phase</p> <p>150 W for LXM05CD10F1, 110...120 V, single phase</p> <p>150 W for LXM05CU70M2, 200...240 V, single phase</p> <p>270 W for LXM05AD10M2, 200...240 V, single phase</p> <p>270 W for LXM05BD10M2, 200...240 V, single phase</p> <p>270 W for LXM05CD10M2, 200...240 V, single phase</p> <p>270 W for LXM05AD10M3X, 200...240 V, three phase</p> <p>270 W for LXM05BD10M3X, 200...240 V, three phase</p> <p>270 W for LXM05CD10M3X, 200...240 V, three phase</p> <p>340 W for LXM15LD13M3, 230 V, three phase</p>
Nominal torque	<p>0.49 N.M for LXM32.U90M2 at 3 A, 115 V, single phase</p> <p>0.45 N.M for LXM32.U45M2 at 1.5 A, 230 V, single phase</p> <p>0.43 N.M for LXM05AD10M2, 200...240 V, single phase</p> <p>0.43 N.M for LXM05BD10M2, 200...240 V, single phase</p> <p>0.43 N.M for LXM05CD10M2, 200...240 V, single phase</p> <p>0.46 N.M for LXM05AD10F1, 110...120 V, single phase</p> <p>0.46 N.M for LXM05BD10F1, 110...120 V, single phase</p> <p>0.46 N.M for LXM05CD10F1, 110...120 V, single phase</p> <p>0.46 N.M for LXM05CU70M2, 200...240 V, single phase</p> <p>0.41 N.M for LXM15LD13M3, 230 V, three phase</p> <p>0.43 N.M for LXM05AD10M3X, 200...240 V, three phase</p> <p>0.43 N.M for LXM05BD10M3X, 200...240 V, three phase</p> <p>0.43 N.m for LXM05CD10M3X, 200...240 V, three phase</p>
Nominal speed	<p>3000 rpm for LXM32.U90M2 at 3 A, 115 V, single phase</p> <p>6000 rpm for LXM32.U45M2 at 1.5 A, 230 V, single phase</p> <p>3000 rpm for LXM05AD10F1, 110...120 V, single phase</p> <p>3000 rpm for LXM05BD10F1, 110...120 V, single phase</p> <p>3000 rpm for LXM05CD10F1, 110...120 V, single phase</p> <p>3000 rpm for LXM05CU70M2, 200...240 V, single phase</p> <p>6000 rpm for LXM05AD10M2, 200...240 V, single phase</p> <p>6000 rpm for LXM05BD10M2, 200...240 V, single phase</p> <p>6000 rpm for LXM05CD10M2, 200...240 V, single phase</p> <p>6000 rpm for LXM05AD10M3X, 200...240 V, three phase</p> <p>6000 rpm for LXM05BD10M3X, 200...240 V, three phase</p> <p>6000 rpm for LXM05CD10M3X, 200...240 V, three phase</p> <p>8000 rpm for LXM15LD13M3, 230 V, three phase</p>

Product compatibility	LXM05AD10F1 at 110...120 V single phase LXM05AD10M2 at 200...240 V single phase LXM05BD10F1 at 110...120 V single phase LXM05BD10M2 at 200...240 V single phase LXM05CD10F1 at 110...120 V single phase LXM05CD10M2 at 200...240 V single phase LXM05CU70M2 at 200...240 V single phase LXM32.U90M2 at 115 V single phase LXM32.U45M2 at 230 V single phase LXM05AD10M3X at 200...240 V three phase LXM05BD10M3X at 200...240 V three phase LXM05CD10M3X at 200...240 V three phase LXM15LD13M3 at 230 V three phase
Shaft end	Untapped
IP degree of protection	IP50 standard
Speed feedback resolution	131072 points/turn
Holding brake	Without
Mounting support	International standard flange
Electrical connection	Straight connectors

## Complementary

Range compatibility	Lexium 15 Lexium 05 Lexium 32
Supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	1.4 A
Maximum continuous power	0.45 W
Maximum current Irms	6.2 A for LXM15LD13M3 5.4 A for LXM05AD10F1 5.4 A for LXM05CU70M2 5.4 A for LXM05AD10M2 5.4 A for LXM05AD10M3X 5.4 A for LXM05BD10F1 5.4 A for LXM05BD10M2 5.4 A for LXM05BD10M3X 5.4 A for LXM05CD10F1 5.4 A for LXM05CD10M2 5.4 A for LXM05CD10M3X 5.4 A for LXM32.U90M2 4.5 A for LXM32.U45M2
Maximum permanent current	5.4 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	9 mm
Shaft length	20 mm
Feedback type	Single turn SinCos Hiperface
Motor flange size	55 mm
Number of motor stacks	1
Torque constant	0.36 N.m/A at 120 °C
Back emf constant	22 V/krpm at 120 °C
Number of motor poles	6
Rotor inertia	0.059 kg.cm <sup>2</sup>
Stator resistance	12.2 Ohm at 20 °C
Stator inductance	20.8 mH at 20 °C
Stator electrical time constant	1.7 ms at 20 °C
Maximum radial force Fr	170 N at 8000 rpm 180 N at 7000 rpm 190 N at 6000 rpm 200 N at 5000 rpm 220 N at 4000 rpm 240 N at 3000 rpm 270 N at 2000 rpm 340 N at 1000 rpm
Maximum axial force Fa	0.2 x Fr

Type of cooling	Natural convection
Length	132.5 mm
Centring collar diameter	40 mm
Centring collar depth	2 mm
Number of mounting holes	4
Mounting holes diameter	5.5 mm
Circle diameter of the mounting holes	63 mm
Net weight	1.2 kg

### Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	11.0 cm
Package 1 Width	19.0 cm
Package 1 Length	39.5 cm
Package 1 Weight	1.45 kg
Unit Type of Package 2	P06
Number of Units in Package 2	15
Package 2 Height	77.0 cm
Package 2 Width	80.0 cm
Package 2 Length	60.0 cm
Package 2 Weight	30.415 kg

### Offer Sustainability

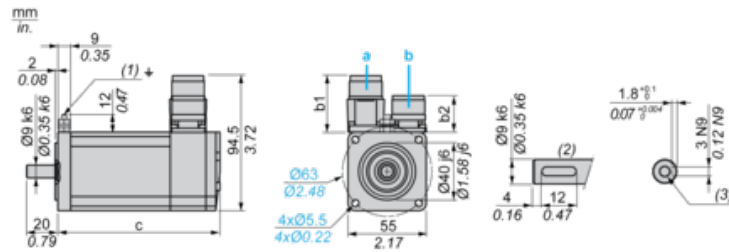
Sustainable offer status	Green Premium product
REACH Regulation	 <a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	 <a href="#">China RoHS Declaration</a>
RoHS exemption information	 <a href="#">Yes</a>
Environmental Disclosure	 <a href="#">Product Environmental Profile</a>
Circularity Profile	No need of specific recycling operations
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
PVC free	Yes

### Contractual warranty

Warranty	18 months
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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)
- (3) For screw M3 x 9 mm/M3 x 0.35 in.

Dimensions in mm

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)
b	b1	b	b1		
39.5	25.5	39.5	39.5	132.5	159

Dimensions in in.

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)
b	b1	b	b1		
1.55	1.00	1.55	1.55	5.21	6.25

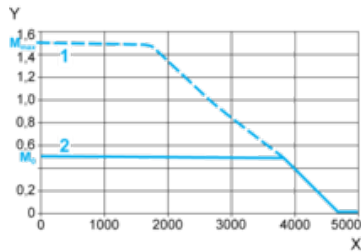
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115 V Single-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•U90M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque

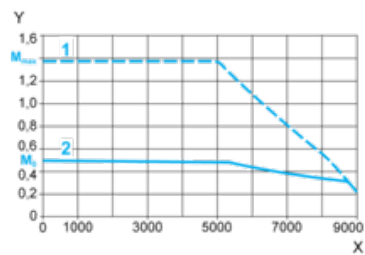
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230 V Single-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•U45M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque