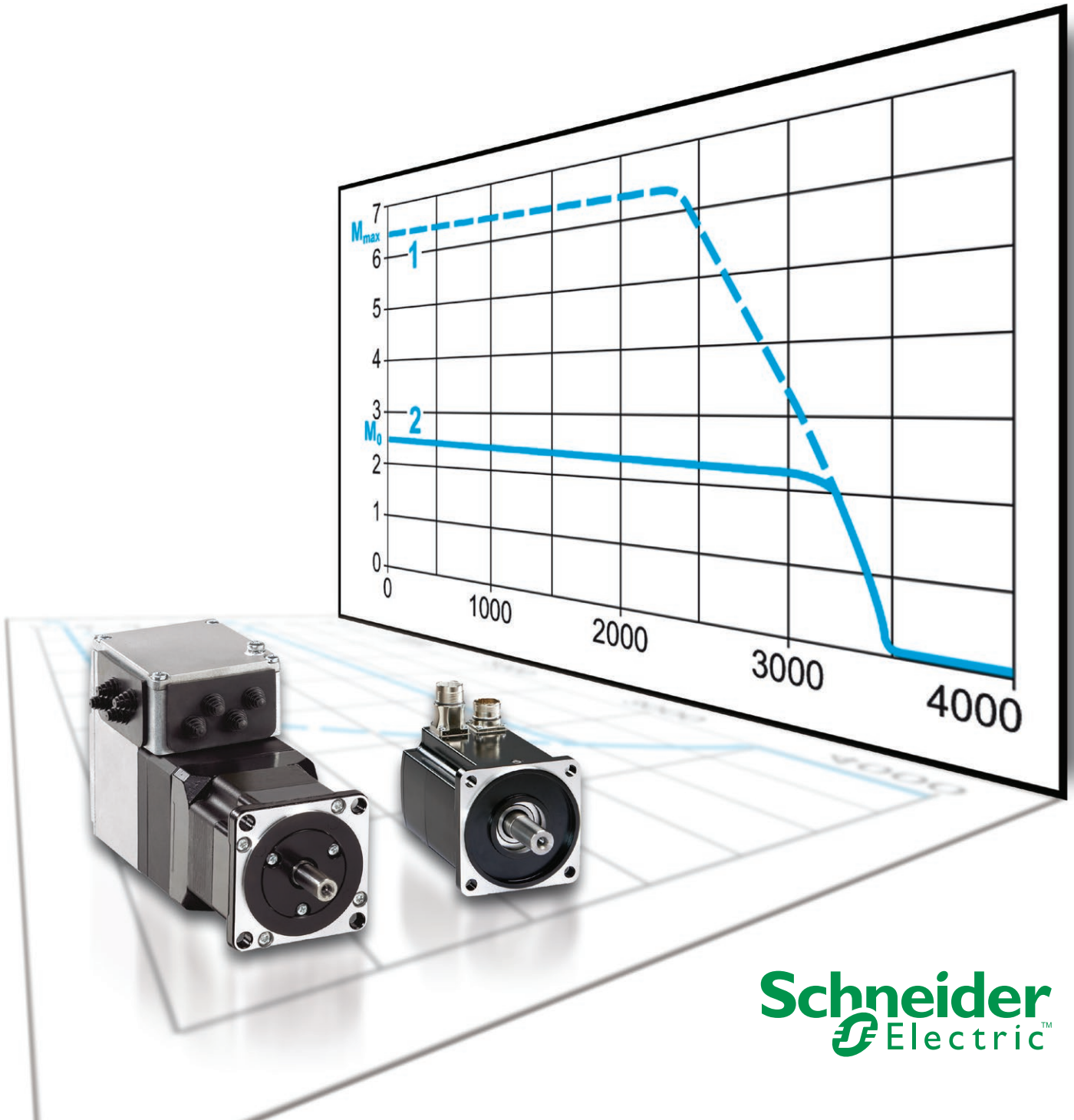
Lexium™ Motion Control Torque/Speed Curves

2014



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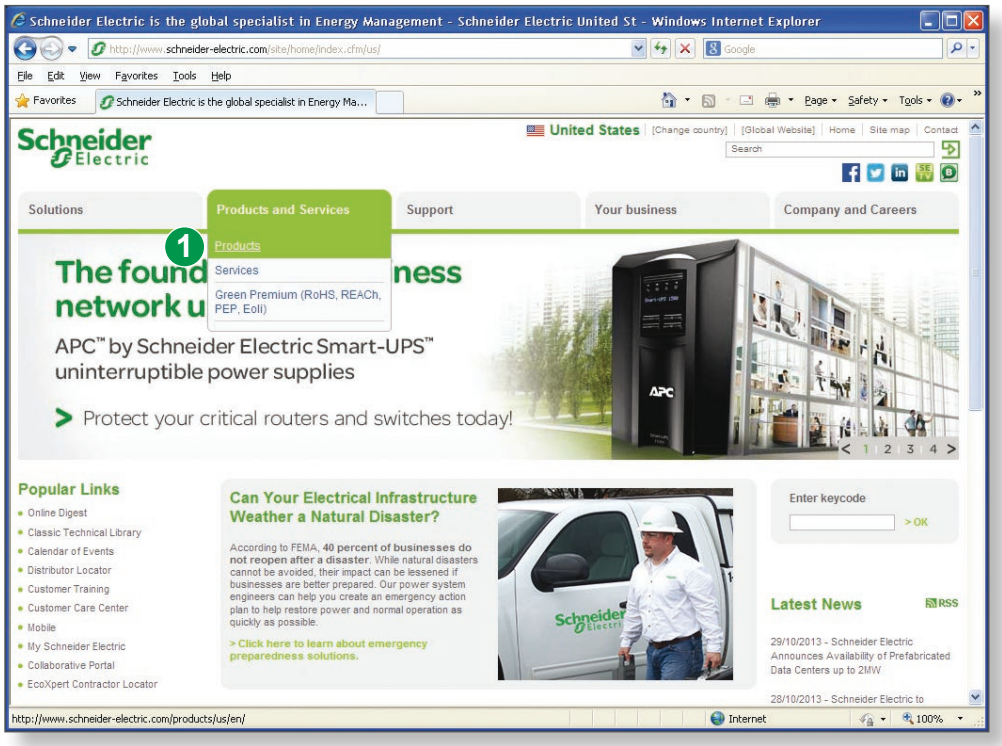
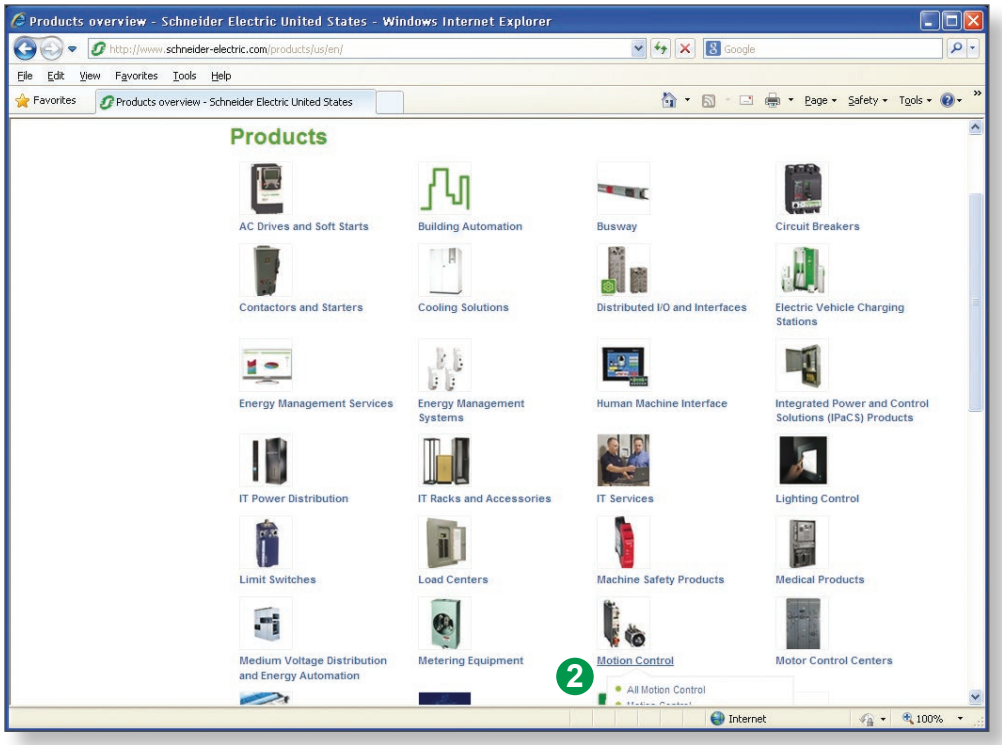
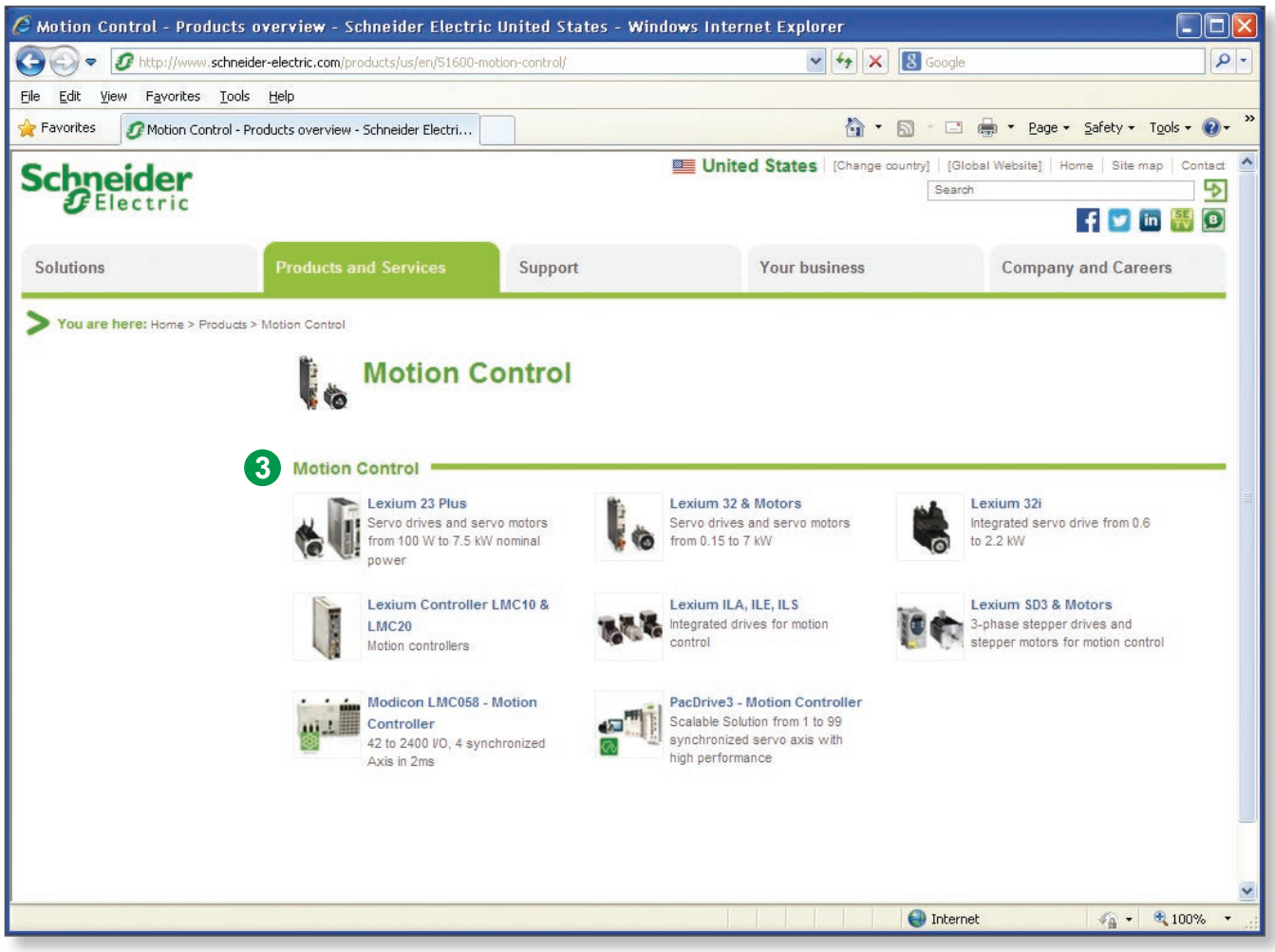


2 On the "Products" page, find the "Motion Control" icon and select "All Motion Control".



> Specifications > Dimensions > References
> Curves > Links to user guides and CAD files

3 On the “Motion Control” page, select the family of products you are interested in. On each product page, you can find Product Information, Documents and Downloads, Support, and more.



Lexium™ Motion Control Torque/Speed Curves

How to read the torque/speed curve diagrams

Each motor/drive combination's performance level is described using torque/speed curve profiles similar to the example shown below with:

1 Peak torque, depending on the servo drive model

2 Continuous torque, depending on the servo drive model where:

- n_{max} (in rpm) corresponds to the maximum speed of the servo motor
- M_{max} (in N•m) represents the peak stall torque value
- M_0 (in N•m) represents the continuous stall torque value

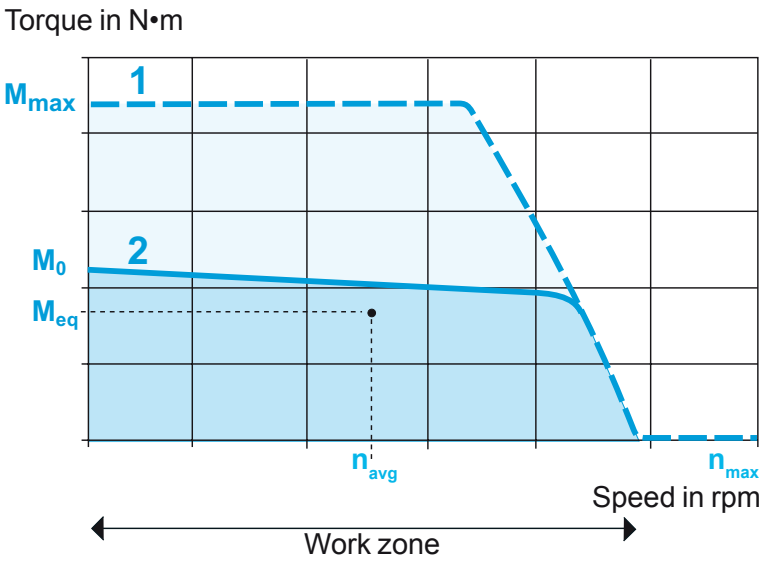
Use these torque/speed curves to determine the correct servo motor size:

1 Locate the work zone of the application in terms of speed.

2 Verify, using the servo motor cycle timing diagram, that the torques required by the application during the various phases of the cycle are located within the area bounded by curve 1 in the work zone.

3 Calculate the average speed n_{avg} and the equivalent thermal torque M_{eq}.

4 The point defined by n_{avg} and M_{eq} must be located below curve 2 in the work zone.



Torque/speed curve diagram example

Contents

Lexium™ Motion Control Torque/Speed Curves

Lexium™ 32 series

Overview

The Lexium 32 product range of servo drives includes 4 servo drive models associated with 2 servo motor ranges for optimum use that can adapt to demands for high performance, power, and simplicity of use in motion control applications. It covers power ratings from 0.15 to 11 kW.

The Lexium 32 product range of servo drives covers motor power ratings between 0.15 kW and 11 kW with three types of power supply:

- 110 to 120 V single-phase, 0.15 kW to 0.8 kW (LXM32●●●●M2)
- 200 to 240 V single-phase, 0.3 kW to 1.6 kW (LXM32●●●●M2)
- 208 to 480 V three-phase, 0.4 kW to 11 kW (LXM32●●●●N4)

BMH and BSH servo motors are synchronous three-phase motors. They feature a SinCos Hiperface® encoder for automatic transmission of data from the servo motor to the servo drive and are available with or without a holding brake.

BMH servo motors

BMH servo motors are medium inertia motors. They are particularly suitable for high-load applications and allow the movement to be adjusted in a more robust manner.
This product offer covers a continuous stall torque range from 1.2 N•m to 84 N•m for nominal speeds from 1,200 to 5,000 rpm.

BSH servo motors

BSH servo motors satisfy requirements for precision and high dynamic performance, due to the low rotor inertia. They are compact, and offer a high power density.
This product offer covers a continuous stall torque range from 0.5 N•m to 33.4 N•m for nominal speeds from 2,500 to 6,000 rpm.

Lexium™ Motion Control Torque/Speed Curves

100 to 120 V single-phase supply voltage

Servo drive/servo motor combinations

Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors

Lexium 32C, 32A, 32M and 32S servo drives
100 to 120 V single-phase supply voltage with integrated EMC filter

BMH (IP 50 or IP 65)		BSH (IP 50 or IP 65)		LXM32●U90M2 Continuous output current: 3 A rms				Page
				Nominal operating point *(1)*			Stall torques	
Type of servo motor	Rotor inertia	Type of servo motor	Rotor inertia	Nominal torque	Nominal speed	Nominal power	M_0/M_{max} *(2)*	
	kgcm²		kgcm²	N•m	rpm	W	N•m/N•m	
		BSH0551T	0.06	0.49	3,000	150	0.5/1.5	34
		BSH0552T	0.10	0.77	3,000	250	0.8/1.9	34
		BSH0553T	0.13					
BMH0701T	0.59							
		BSH0701T	0.25					
		BSH0702T	0.41					
BMH0702T	1.13							
BMH0703T	1.67							
		BSH1001T	1.40					
BMH1001T	3.2							
BMH1002T	6.3							

(1) These values are given for a supply voltage of 120 V single phase.
(2) - M_0: Continuous stall torque
- M_{max}: Peak stall torque

LXM32●D18M2 Continuous output current: 6 A rms				Page
Nominal operating point *(1)*			Stall torques	
Nominal torque	Nominal speed	Nominal power	M_0/M_{max} *(2)*	
N•m	rpm	W	N•m/N•m	
1.14	3,000	350	1.2/3.3	34
1.35	2,500	350	1.4/4.2	16
1.36	2,500	350	1.4/3.5	35

LXM32●D30M2 Continuous output current: 10 A rms				Page
Nominal operating point *(1)*			Stall torques	
Nominal torque	Nominal speed	Nominal power	M_0/M_{max} *(2)*	
N•m	rpm	W	N•m/N•m	
2.07	2,500	550	2.2/6.1	35
2.3	2,500	600	2.5/6.4	16
3.1	2,000	650	3.4/8.7	16
2.75	2,500	700	3.3/6.3	35
3.3	2,000	700	3.4/8.9	17
3.5	2,000	750	6/10.3	17

(1) These values are given for a supply voltage of 120 V single phase.
(2) - M_0: Continuous stall torque
- M_{max}: Peak stall torque

Lexium™ Motion Control Torque/Speed Curves

200 to 240 V single-phase supply voltage

Servo drive/servo motor combinations

Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors

Lexium 32C, 32A, 32M and 32S servo drives
200 to 240 V single-phase supply voltage with integrated EMC filter

BMH (IP 50 or IP 65)		BSH (IP 50 or IP 65)		LXM32●U45M2 Continuous output current: 1.5 A rms				Page
				Nominal operating point *(1)*			Stall torques	
Type of servo motor	Rotor inertia	Type of servo motor	Rotor inertia	Nominal torque	Nominal speed	Nominal power	M^0/M_{max} *(2)*	
	kgcm²		kgcm²	N•m	rpm	W	N•m/N•m	
		BSH0551T	0.06	0.45	6,000	300	0.5/1.4	36
		BSH0552T	0.10					
		BSH0553T	0.13					
		BSH0701T	0.25					
BMH0701T	0.59							
		BSH0702T	0.41					
		BSH0703T	0.58					
BMH0702T	1.13							
		BSH1001T	1.40					
BMH0703T	1.67							
BMH1001T	3.2							
		BSH1002T	2.31					
BMH1002T	6.3							
BMH1003T	9.4							
BMH1401P	16.5							

(1) These values are given for a supply voltage of 240 V single phase.
(2) - M_0: Continuous stall torque
- M_{max}: Peak stall torque

LXM32●U90M2 Continuous output current: 3 A rms				
Nominal operating point *(1)*			Stall torques	
Nominal torque	Nominal speed	Nominal power	M_0/M_{max} *(2)*	Page
N•m	rpm	W	N•m/N•m	
0.74	6,000	450	0.8/2.5	36
0.84	6,000	550	1.2/3	36
0.94	5,000	500	1.3/3.5	37
1.1	4,000	450	1.4/4	18

LXM32●D18M2 Continuous output current: 6 A rms				
Nominal operating point *(1)*			Stall torques	
Nominal torque	Nominal speed	Nominal power	M_0/M_{max} *(2)*	Page
N•m	rpm	W	N•m/N•m	
1.8	5,000	950	2.2/7.2	37
2.1	4,000	900	2.6/7.4	37
2.1	4,000	900	2.5/7.4	18
2.2	4,000	900	2.7/7.5	38
2.9	3,000	900	3.4/10.2	18
2.8	3,000	900	3.4/10.2	19

LXM32●D30M2 Continuous output current: 10 A rms				
Nominal operating point *(1)*			Stall torques	
Nominal torque	Nominal speed	Nominal power	M_0/M_{max} *(2)*	Page
N•m	rpm	W	N•m/N•m	
3.7	4,000	1,500	5.8/16.4	38
4.6	3,000	1,450	6/18.4	19
5.6	2,500	1,450	8/23.5	19
8.9	1,500	1,450	10.3/30.8	19

(1) These values are given for a supply voltage of 240 V single phase.
(2) - M_0: Continuous stall torque
- M_{max}: Peak stall torque

Lexium™ Motion Control Torque/Speed Curves

208 to 480 V three-phase supply voltage

Servo drive/servo motor combinations

Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors

Lexium 32C, 32A, 32M and 32S servo drives
208 to 480 V three-phase supply voltage with integrated EMC filter

BMH (IP 50 or IP 65)		BSH (IP 50 or IP 65)		LXM32•U60N4 Continuous output current: 1.5 A rms				Page	LXM32•D12N4 Continuous output current: 3 A rms				Page
				Nominal operating point *(1)*			Stall torques		Nominal operating point *(1)*			Stall torques	
Motor type	Rotor inertia	Motor type	Rotor inertia	Nominal torque	Nominal speed	Nominal power	M^0/M^{max} *(2)*		Nominal torque	Nominal speed	Nominal power	M^0/M^{max} *(2)*	
	kgcm²		kgcm²	N•m	rpm	W	N•m/N•m		N•m	rpm	W	N•m/N•m	
		BSH0551P	0.06	0.48	6,000	300	0.5/1.5	39					
		BSH0552P	0.10	0.65	6,000	400	0.8/2.5	39					
		BSH0553P	0.13	0.65	6,000	400	1.05/3.5	39					
BMH0701P	0.59			1.1	3,000	350	1.2/4.2	20, 27					
BMH0701P	0.59								1.3	5,000	700	1.4/4.2	20, 27
		BSH0701P	0.25						1.32	5,000	700	1.4/3.5	40
		BSH0702P	0.41						1.64	5,000	850	2.2/7.6	40
BMH1001P	3.2								1.9	4,000	800	3.3/10.8	21, 28
BMH0702P	1.13								2.2	3,000	700	2.5/7.4	20, 27
BMH0703P	1.67												
		BSH0703P	0.58										
		BSH1001P	1.40										
BMH1001P	3.2												
BMH1002P	6.3												
		BSH1002P	2.31										
BMH1003P	9.4												
		BSH1003P	3.2										
BMH1401P	16.5												
		BSH1004P	4.2										
		BSH1401P	7.4										
BMH1402P	32.0												
		BSH1402T	12.7										
		BSH1403T	17.9										
BMH1403P	47.5												
		BSH1404P	23.7										
BMH1901P	67.7												
BMH1902P	130												
BMH1903P	194												
BMH2053P	190												

(1) These values are given for a supply voltage of 400 V single phase.
(2) - M_0: Continuous stall torque
- M_{max}: Peak stall torque

LXM32●D18N4 Continuous output current: 6 A rms				Page
Nominal operating point *(1)*			Stall torques	
Nominal torque	Nominal speed	Nominal power	M^0/M^{max} *(2)*	
N•m	rpm	W	N•m/N•m	
2.4	5,000	1,300	3.4/10.2	20, 27
2.44	5,000	1,300	3.1/11.3	40
2.7	4,000	1,100	3.3/9.6	41
3.1	4,000	1,300	3.4/10.2	21, 28
3.9	4,000	1,600	5.9/18.4	21, 28
4	4,000	1,700	5.8/18.3	41

LXM32●D30N4 Continuous output current: 10 A rms				Page
Nominal operating point *(1)*			Stall torques	
Nominal torque	Nominal speed	Nominal power	M^0/M^{max} *(2)*	
N•m	rpm	W	N•m	
6.2	4,000	2,600	8.4/25.1	21, 28
6.3	3,000	2,000	8/28.3	41
7.6	3,000	2,400	10.3/30.8	22, 29
8.3	2,500	2,100	10/37.9	41
9.5	2,500	2,500	11.1/27	42

LXM32●D72N4 Continuous output current: 24 A rms				Page
Nominal operating point *(1)*			Stall torques	
Nominal torque	Nominal speed	Nominal power	M^0/M^{max} *(2)*	
N•m	rpm	W	N•m	
12.1	3,000	3,800	16.8/50.3	22, 29
12.3	3,000	3,900	19.5/59.3	42
12.9	3,000	4,100	27.8/90.2	42
14.2	3,000	4,500	24/71.8	22, 29
19	2,500	5,000	33.4/103.6	42
18.4	2,500	4,800	30/77.7	23, 30
22.3	2,500	5,900	37.4/101	23, 30
36	1,500	5,700	43.2/123	23, 30
52.2	1,200	6,500	84/232	26, 33

(1) These values are given for a supply voltage of 400 V single phase.
(2) - M_0: Continuous stall torque
- M_{max}: Peak stall torque

Lexium™ Motion Control Torque/Speed Curves

208 to 480 V three-phase supply voltage

Servo drive/servo motor combinations

Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors

Lexium 32M servo drives

208 to 480 V three-phase supply voltage with integrated EMC filter

BMH (IP 50 or IP 65)		BSH (IP 50 or IP 65)		LXM32MD85N4 Continuous output current: 32 A rms				Page
				Nominal operating point *(1)*			Stall torques	
Motor type	Rotor inertia	Motor type	Rotor inertia	Nominal torque	Nominal speed	Nominal power	M^0/M^{max} *(2)*	
	kgcm²		kgcm²	N•m	rpm	W	N•m/N•m	
		BSH0551P	0.06					
		BSH0552P	0.10					
		BSH0553P	0.13					
BMH0701P	0.59							
BMH0701P	0.59							
		BSH0701P	0.25					
		BSH0702P	0.41					
BMH1001P	3.2							
BMH0702P	1.13							
BMH0703P	1.67							
		BSH0703P	0.58					
		BSH1001P	1.40					
BMH1001P	3.2							
BMH1002P	6.3							
		BSH1002P	2.31					
BMH1003P	9.4							
		BSH1003P	3.2					
BMH1401P	16.5							
		BSH1004P	4.2					
		BSH1401P	7.4					
BMH1402P	32.0							
		BSH1402T	12.7					
		BSH1403T	17.9					
BMH1403P	47.5							
		BSH1404P	23.7					
BMH1901P	67.7			16.5	3,000	5,180	30/86.6	24, 31
BMH1902P	130			29	2,000	6,070	48/115.5	24, 31
BMH1903P	194			35	2,000	7,330	57.6/141.3	24, 31
BMH2053P	190			53	1,500	8,330	88/266	26, 33

(1) These values are given for a supply voltage of 400 V single phase.
(2) - M_0: Continuous stall torque
- M_{max}: Peak stall torque

				Page
LXM32MC10N4 **Continuous output current: 40 A rms**				
Nominal operating point *(1)*			**Stall torques**	
Nominal torque	**Nominal speed**	**Nominal power**	**M^0/M^{max}** *(2)*	
N•m	**rpm**	**W**	**N•m/N•m**	
16.5	**3,000**	**5,180**	**30/89.7**	**25, 32**
29	**2,000**	**6,070**	**48/130.7**	**25, 32**
37	**2,000**	**7,750**	**65/162.7**	**25, 32**
57.5	**1,500**	**9,060**	**88/306**	**26, 33**

(1) These values are given for a supply voltage of 400 V single phase.
(2) - M_0: Continuous stall torque
- M_{max}: Peak stall torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

115 V single-phase supply voltage

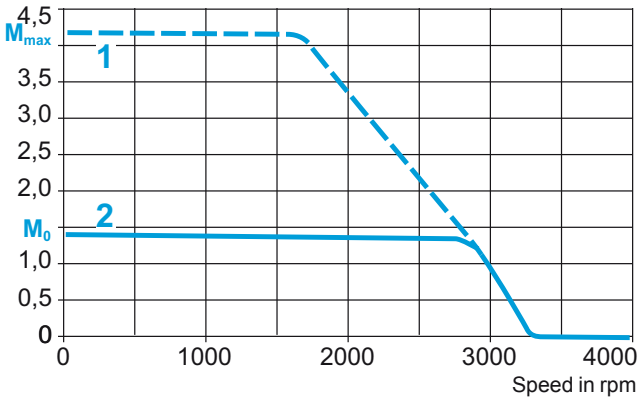
BMH 070 ●● servo motor

Type of servo motor				BMH 070 1T	BMH 070 2T	BMH 070 3T
Associated with Lexium 32 servo drive				LXM 32●D18M2	LXM 32●D30M2	
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	1.4	2.5	3.4
	Peak stall	M_{max}	N•m	4.2	6.4	8.7
Nominal operating point	Nominal torque		N•m	1.35	2.3	3.1
	Nominal speed		rpm	2500		2000
	Nominal servo motor output power		W	350	600	650
Maximum current			A rms	9.6	15	
Servo motor specifications						
Maximum mechanical speed			rpm	8000		
Constants (at 120°C)	Torque		N•m/A rms	0.49	0.46	0.61
	Back emf		V rms/krpm	31.7	29.6	39.3
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	0.59	1.13	1.67
		With brake J_m	kgcm²	0.7	1.24	1.78
Stator (at 20°C)	Resistance (phase/phase)		Ω	3.2	1.15	1.32
	Inductance (phase/phase)		mH	9.1	3.6	4.3

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

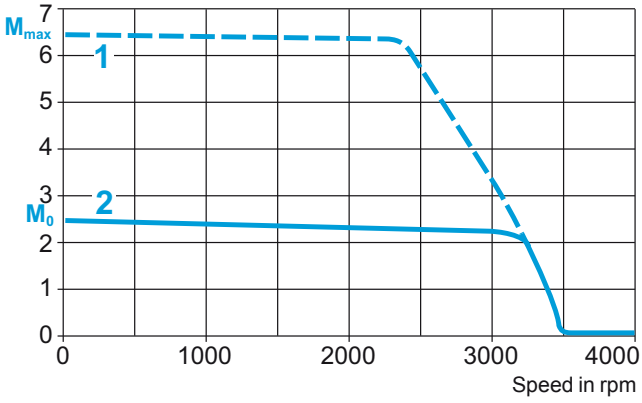
BMH 070 1T servo motor

With LXM 32●D18M2 servo drive



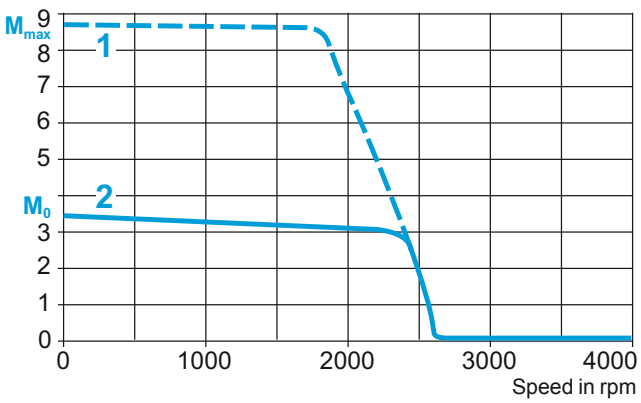
BMH 070 2T servo motor

With LXM 32●D30M2 servo drive



BMH 070 3T servo motor

With LXM 32●D30M2 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

115 V single-phase supply voltage

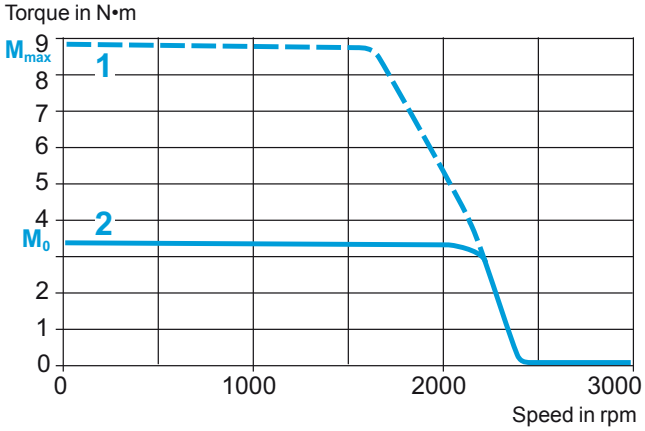
BMH 100 ●● servo motor

Type of servo motor				BMH 100 1T	BMH 100 2T
Associated with Lexium 32 servo drive				LXM 32●D30M2	
Switching frequency			kHz	8	
Torque	Continuous stall	M_0	N•m	3.4	6
	Peak stall	M_{max}	N•m	8.9	10.3
Nominal operating point	Nominal torque		N•m	3.3	3.5
	Nominal speed		rpm	2000	
	Nominal servo motor output power		W	700	750
Maximum current			A rms	15	
Servo motor specifications					
Maximum mechanical speed			rpm	6000	
Constants (at 120°C)	Torque		N•m/A rms	0.67	0.72
	Back emf		V rms/ krpm	43.3	46.2
Rotor	Number of poles			10	
	Inertia	Without brake J_m	kgcm²	3.19	6.28
		With brake J_m	kgcm²	3.68	6.77
Stator (at 20°C)	Resistance (phase/phase)		Ω	1.19	0.54
	Inductance (phase/phase)		mH	5.3	2.7

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

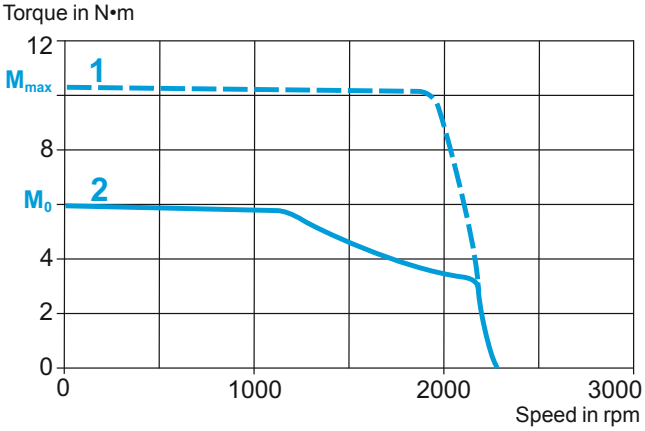
BMH 100 1T servo motor

With LXM 32●D30M2 servo drive



BMH 100 2T servo motor

With LXM 32●D30M2 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

230 V single-phase supply voltage

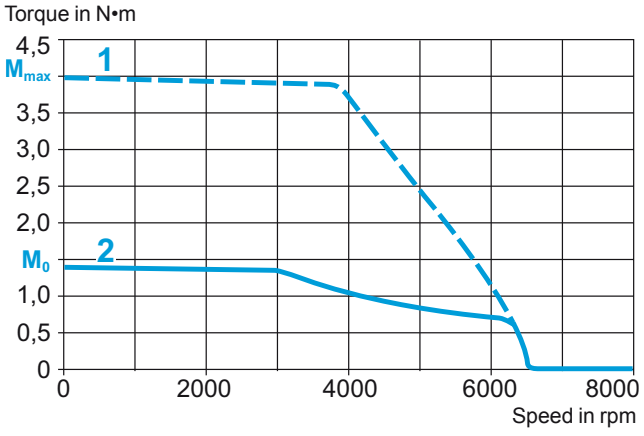
BMH 070 ●● servo motor

Type of servo motor				BMH 070 1T	BMH 070 2T	BMH 070 3T
Associated with Lexium 32 servo drive				LXM 32●U90M2	LXM 32●D18M2	
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	1.4	2.5	3.4
	Peak stall	M_{max}	N•m	4	7.4	10.2
Nominal operating point	Nominal torque		N•m	1.1	2.1	2.9
	Nominal speed		rpm	4000		3000
	Nominal servo motor output power		W	450	900	
Maximum current			A rms	9.6	17.7	17.8
Servo motor specifications						
Maximum mechanical speed			rpm	8000		
Constants (at 120°C)	Torque		N•m/A rms	0.49	0.46	0.61
	Back emf		V rms/ krpm	31.7	29.6	39.3
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	0.59	1.13	1.67
		With brake J_m	kgcm²	0.7	1.24	1.78
Stator (at 20°C)	Resistance (phase/phase)		Ω	3.2	1.15	1.32
	Inductance (phase/phase)		mH	9.1	3.6	4.3

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

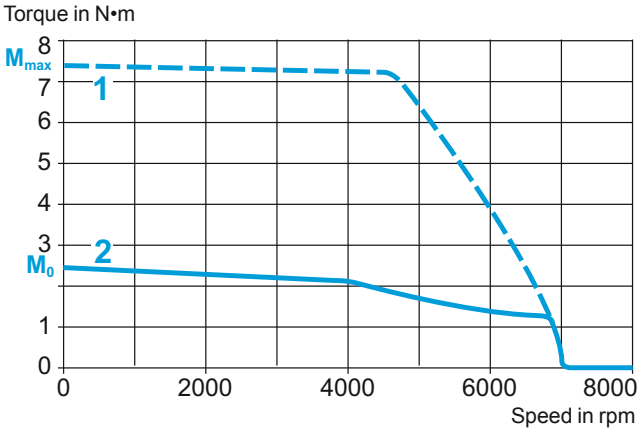
BMH 070 1T servo motor

With LXM 32●U90M2 servo drive



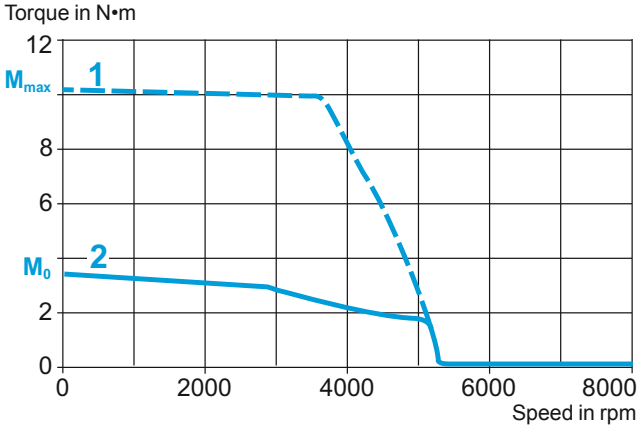
BMH 070 2T servo motor

With LXM 32●D18M2 servo drive



BMH 070 3T servo motor

With LXM 32●D18M2 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

230 V single-phase supply voltage

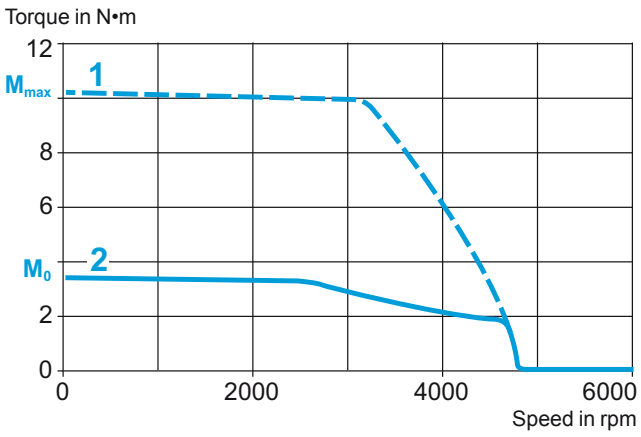
BMH 100/140 ●● servo motors

Type of servo motor				BMH 100 1T	BMH 100 2T	BMH 100 3T	BMH 140 1P
Associated with Lexium 32 servo drive				LXM 32●D18M2	LXM 32●D30M2		
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	3.4	6	8.2	10.3
	Peak stall	M_{max}	N•m	10.2	18.4	22.8	30.8
Nominal operating point	Nominal torque		N•m	2.8	4.6	5.6	6.9
	Nominal speed		rpm	3000		2500	2000
	Nominal servo motor output power		W	900	1450		
Maximum current			A rms	19.4	30		29.8
Servo motor specifications							
Maximum mechanical speed			rpm	6000			4000
Constants (at 120°C)	Torque		N•m/A rms	0.67	0.72	0.851	1.2
	Back emf		V rms/ krpm	43.3	46.2	54.8	77.4
Rotor	Number of poles			10			
	Inertia	Without brake J_m	kgcm²	3.19	6.28	9.37	16.46
		With brake J_m	kgcm²	3.68	6.77	10.3	17.96
Stator (at 20°C)	Resistance (phase/phase)		Ω	1.19	0.54	0.47	0.69
	Inductance (phase/phase)		mH	5.3	2.7	3	6.7

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

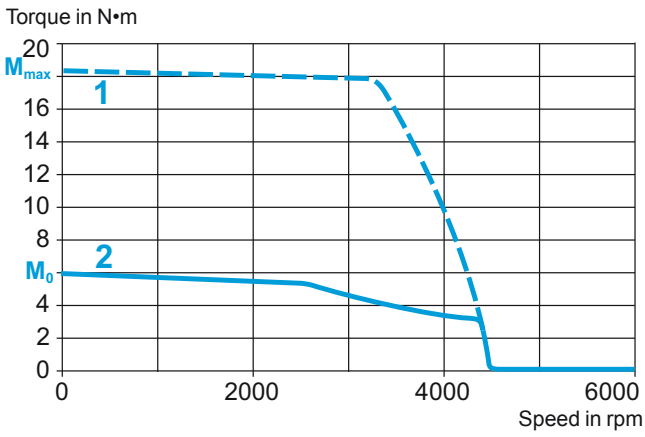
BMH 100 1T servo motor

With LXM 32●D18M2 servo drive



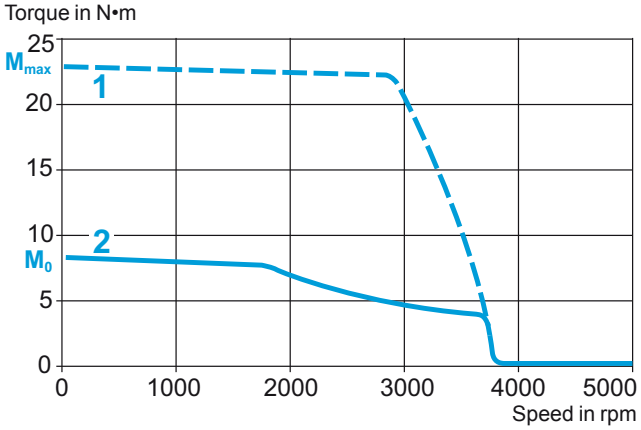
BMH 100 2T servo motor

With LXM 32●D30M2 servo drive



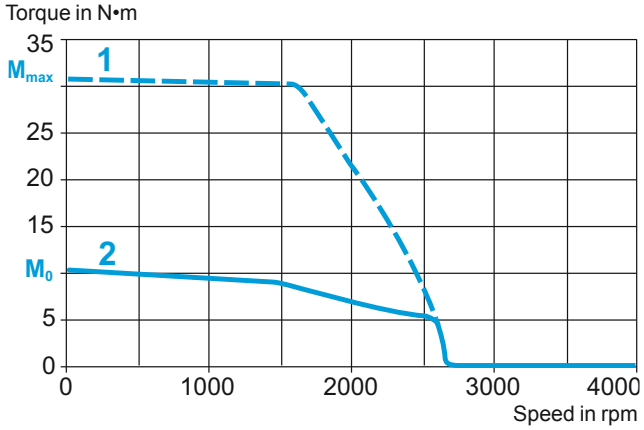
BMH 100 3T servo motor

With LXM 32●D30M2 servo drive



BMH 140 1P servo motor

With LXM 32●D30M2 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

400 V 3-phase supply voltage

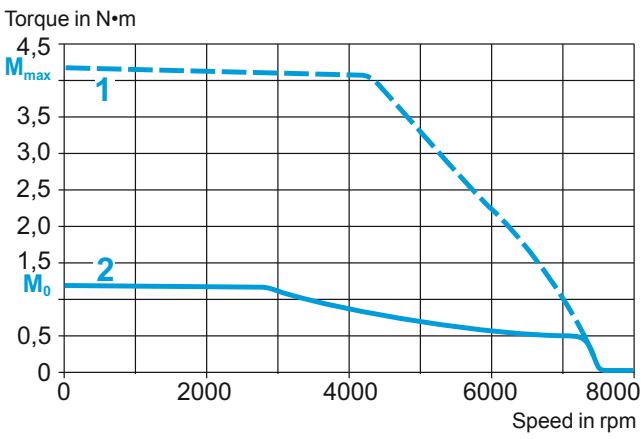
BMH 070 ●● servo motor

Type of servo motor				BMH 070 1P		BMH 070 2P	BMH 070 3P
Associated with Lexium 32 servo drive				LXM 32●U60N4	LXM 32●D12N4		LXM 32●D18N4
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	1.2	1.4	2.5	3.4
	Peak stall	M_{max}	N•m	4.2		7.4	10.2
Nominal operating point	Nominal torque		N•m	1.1	1.3	2.2	2.4
	Nominal speed		rpm	3000	5000	3000	5000
	Nominal servo motor output power		W	350	700		1300
Maximum current			A rms	6		9.7	12.6
Servo motor specifications							
Maximum mechanical speed			rpm	8000			
Constants (at 120°C)	Torque		N•m/A rms	0.79		0.84	0.87
	Back emf		V rms/ krpm	50.72		54.08	55.8
Rotor	Number of poles			10			
	Inertia	Without brake J_m	kgcm²	0.59		1.13	1.67
		With brake J_m	kgcm²	0.7		1.24	1.78
Stator (at 20°C)	Resistance (phase/phase)		Ω	8.3		3.8	2.65
	Inductance (phase/phase)		mH	23.4		12.2	8.6

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

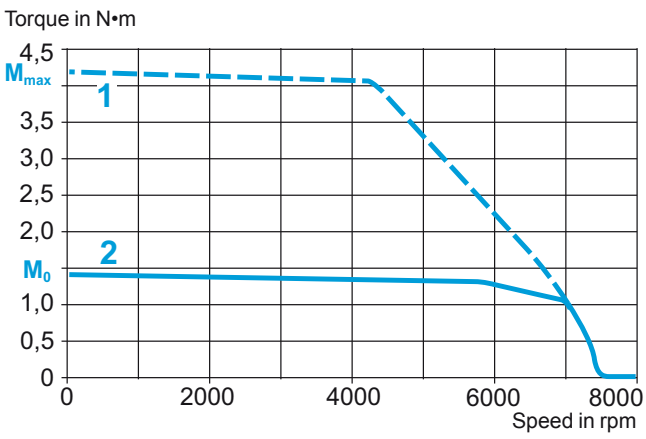
BMH 070 1P servo motor

With LXM 32●U60N4 servo drive



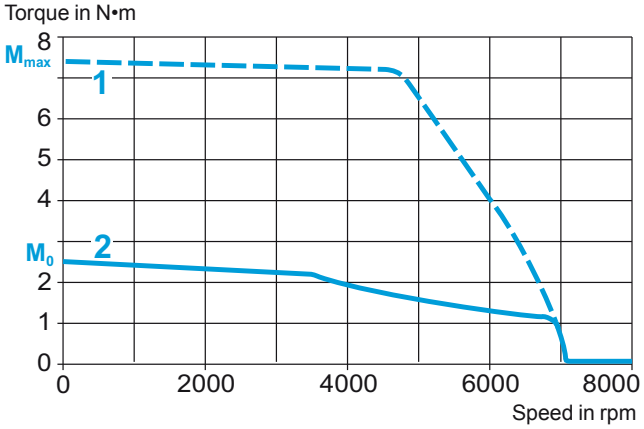
BMH 070 1P servo motor

With LXM 32●D12N4 servo drive



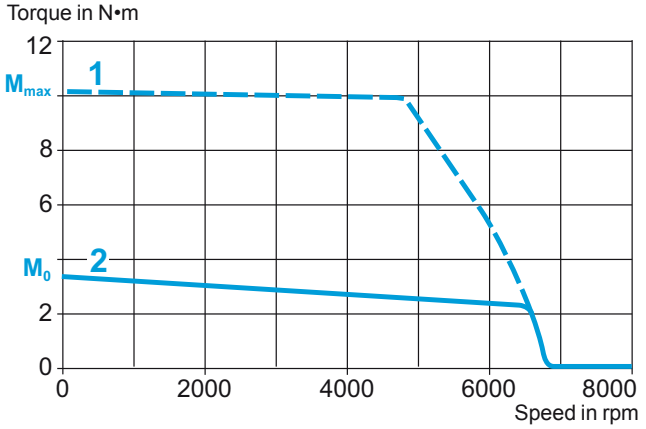
BMH 070 2P servo motor

With LXM 32●D12N4 servo drive



BMH 070 3P servo motor

With LXM 32●D18N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

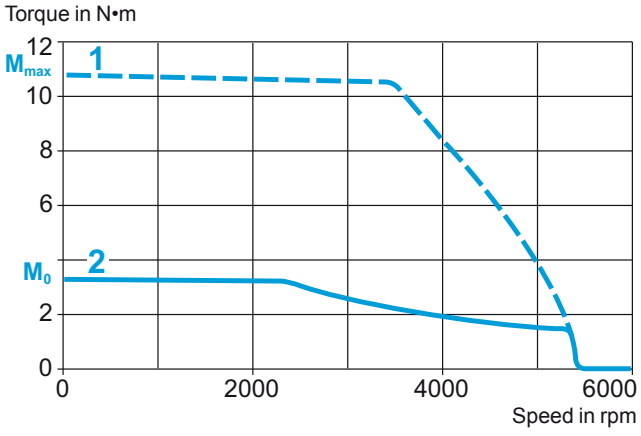
Lexium 32 servo drives/BMH servo motors
400 V 3-phase supply voltage

BMH 100 ●● servo motor

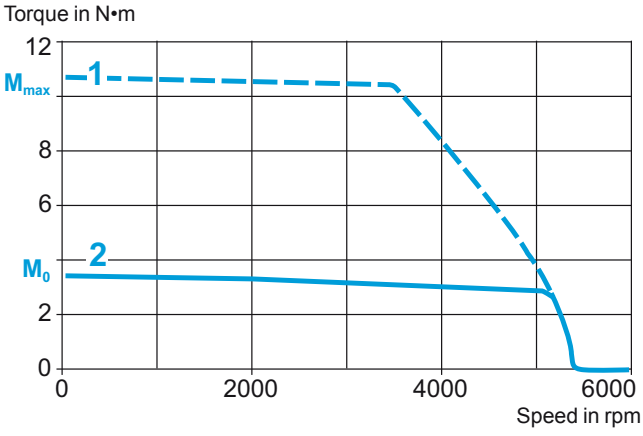
Type of servo motor				BMH 100 1P		BMH 100 2P	BMH 100 3P
Associated with Lexium 32 servo drive				LXM 32●D12N4	LXM 32●D18N4		LXM 32●D30N4
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	3.3	3.4	5.2	8.4
	Peak stall	M_{max}	N•m	10.8		18.4	25.1
Nominal operating point	Nominal torque		N•m	1.9	3.1	3.9	5.2
	Nominal speed		rpm	4000		4000	5000
	Nominal servo motor output power		W	800	1300	1600	2700
Maximum current			A rms	11.9		18	29.1
Servo motor specifications							
Maximum mechanical speed			rpm	6000			
Constants (at 120°C)	Torque		N•m/A rms	1.1		1.2	1
	Back emf		V rms/krpm	70.3		77	63.5
Rotor	Number of poles			10			
	Inertia	Without brake J_m	kgcm²	3.2		6.3	9.4
		With brake J_m	kgcm²	3.68		6.77	10.3
Stator (at 20°C)	Resistance (phase/phase)		Ω	3.1		1.51	0.63
	Inductance (phase/phase)		mH	13.9		7.5	4

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

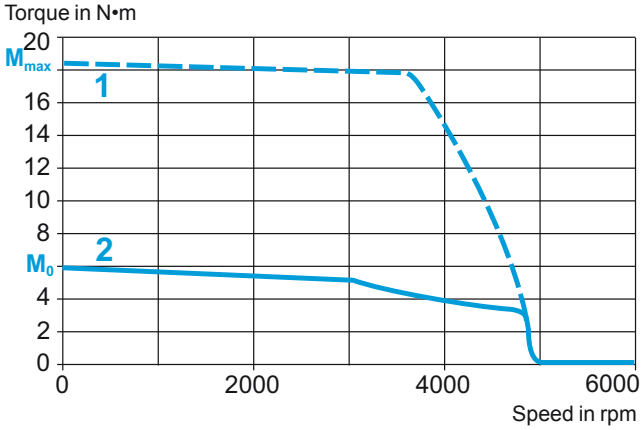
BMH 100 1P servo motor
With LXM 32●D12N4 servo drive



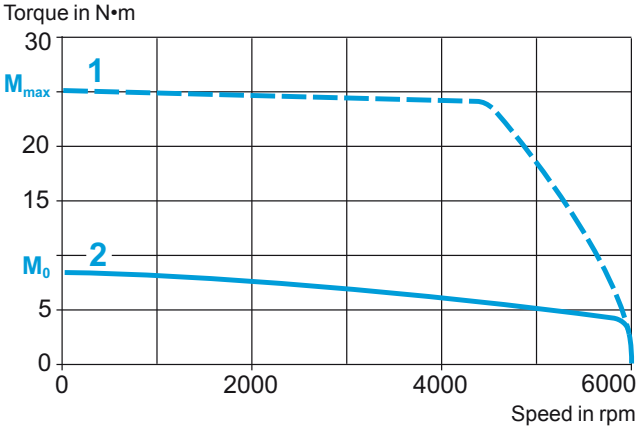
BMH 100 1P servo motor
With LXM 32●D18N4 servo drive



BMH 100 2P servo motor
With LXM 32●D18N4 servo drive



BMH 100 3P servo motor
With LXM 32●D30N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

400 V 3-phase supply voltage

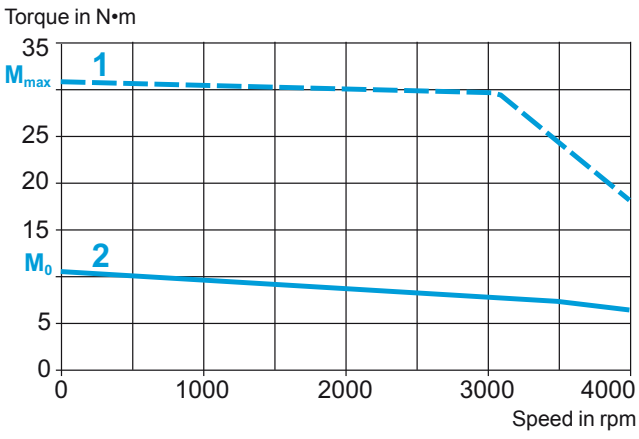
BMH 140 ●● servo motor

Type of servo motor				BMH 140 1P	BMH 140 2P	BMH 140 3P
Associated with Lexium 32 servo drive				LXM32●D30N4	LXM 32●D72N4	
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	10.3	18.5	24
	Peak stall	M_{max}	N•m	30.8	55.3	75
Nominal operating point	Nominal torque		N•m	7.7	11.2	14.9
	Nominal speed		rpm	3000		
	Nominal servo motor output power		W	2400	3500	4700
Maximum current			A rms	29.8	57.4	62.3
Servo motor specifications						
Maximum mechanical speed			rpm	4000		
Constants (at 120°C)	Torque		N•m/A rms	1.2	1.1	1.34
	Back emf		V rms/krpm	77.4	70.7	85.9
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	16.5	32	47.5
		With brake J_m	kgcm²	17.96	33.5	50.27
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.69	0.23	0.22
	Inductance (phase/phase)		mH	6.7	3	

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

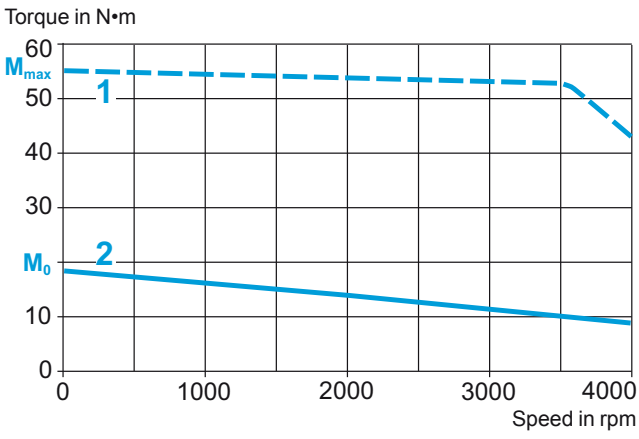
BMH 140 1P servo motor

With LXM 32●D30N4 servo drive



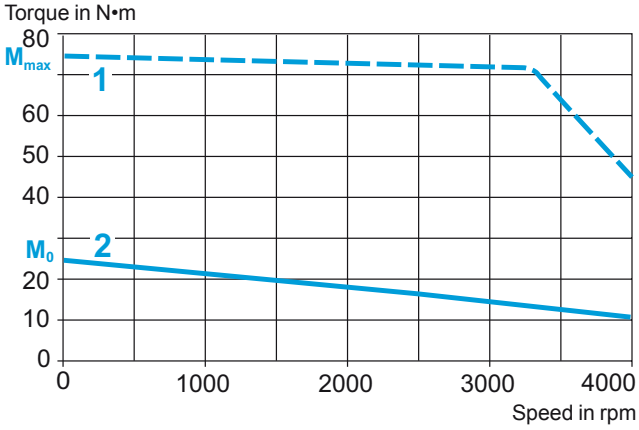
BMH 140 2P servo motor

With LXM 32●D72N4 servo drive



BMH 140 3P servo motor

With LXM 32●D72N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors
400 V 3-phase supply voltage

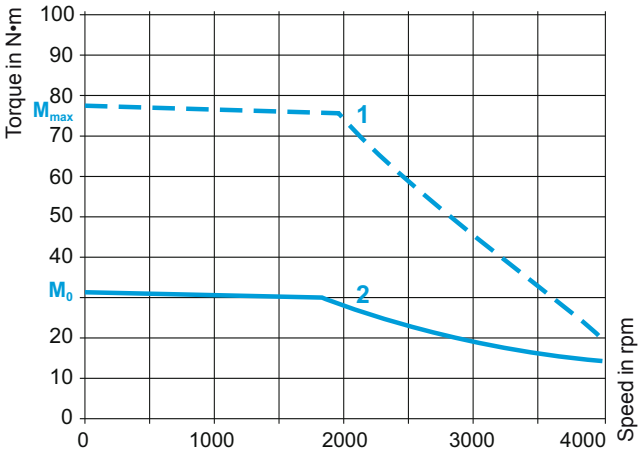
BMH 190 ●● servo motor

Type of servo motor				BMH 190 1P	BMH 190 2P	BMH 190 3P
Associated with Lexium 32 servo drive				LXM 32● D72N4		
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	30	37.4	43.2
	Peak stall	M_{max}	N•m	77.7	101	123
Nominal operating point	Nominal torque		N•m	18.4	22.3	36
	Nominal speed		rpm	2500	2500	1500
	Nominal servo motor output power		W	4800	5900	5700
Maximum current			A rms	24		
Servo motor specifications						
Maximum mechanical speed			rpm	4000	4000	3500
Constants (at 120°C)	Torque		N•m/A rms	1.3	1.56	1.8
	Back emf		V rms/ krpm	87.6	108.3	129.2
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	67.7	130.1	194.1
		With brake J_m	kgcm²	71.8	144.8	208.8
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.24	0.15	0.13
	Inductance (phase/phase)		mH	5.08	3.86	3.62

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

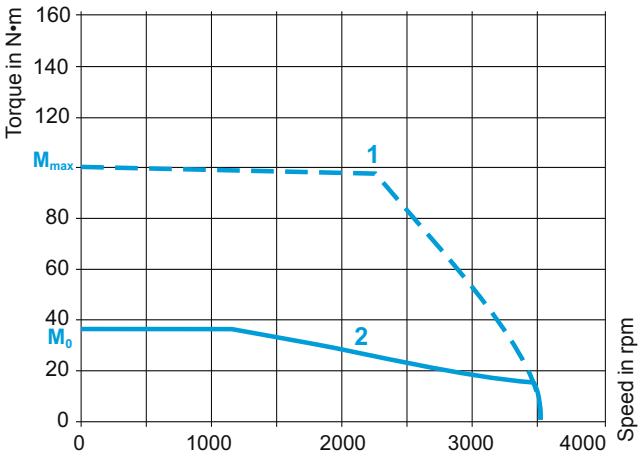
BMH 190 1P servo motor

With LXM 32●D72N4 servo drive



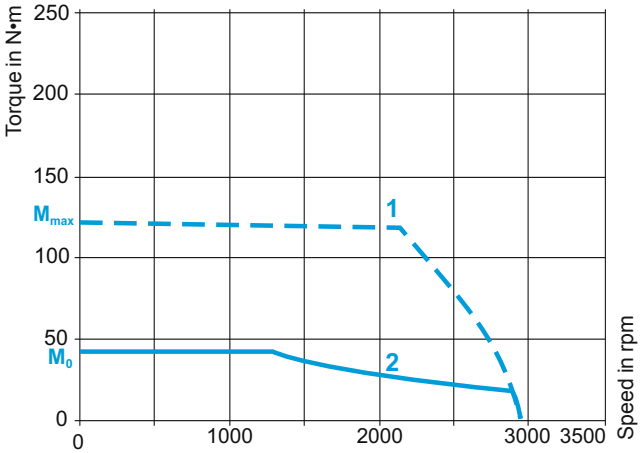
BMH 190 2P servo motor

With LXM 32●D72N4 servo drive



BMH 190 3P servo motor

With LXM 32●D72N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

400 V 3-phase supply voltage

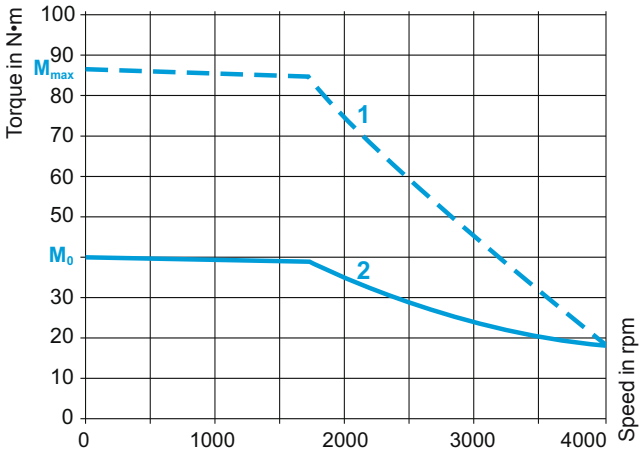
BMH 190 ●● servo motor

Type of servo motor				BMH 190 1P	BMH 190 2P	BMH 190 3P
Associated with Lexium 32 servo drive				LXM 32● MD85N4		
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	30	48	57.6
	Peak stall	M_{max}	N•m	86.6	115.5	141.3
Nominal operating point	Nominal torque		N•m	16.5	29	35
	Nominal speed		rpm	3000	2000	2000
	Nominal servo motor output power		W	5180	6070	7330
Maximum current			A rms	32		
Servo motor specifications						
Maximum mechanical speed			rpm	4000	4000	3500
Constants (at 120°C)	Torque		N•m/A rms	1.3	1.56	1.8
	Back emf		V rms/ krpm	87.6	108.3	129.2
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	67.7	130.1	194.1
		With brake J_m	kgcm²	71.8	144.8	208.8
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.24	0.15	0.13
	Inductance (phase/phase)		mH	5.08	3.86	3.62

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

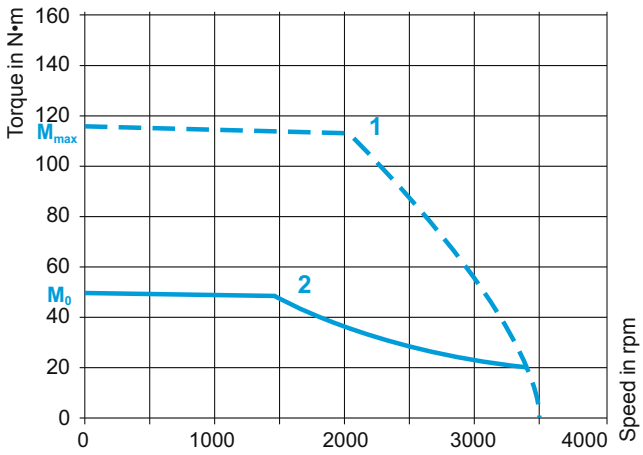
BMH 190 1P servo motor

With LXM 32●MD85N4 servo drive



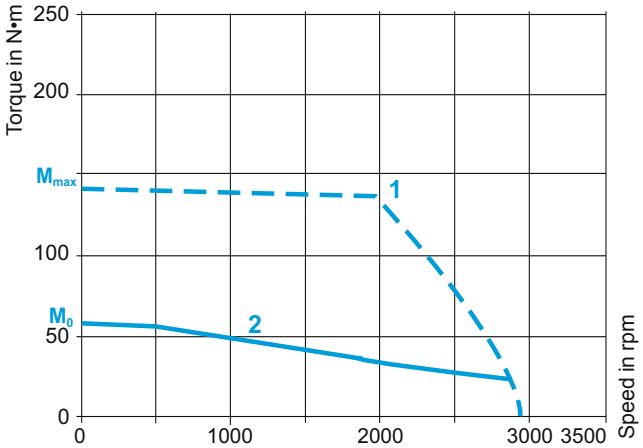
BMH 190 2P servo motor

With LXM 32●MD85N4 servo drive



BMH 190 3P servo motor

With LXM 32●MD85N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors
400 V 3-phase supply voltage

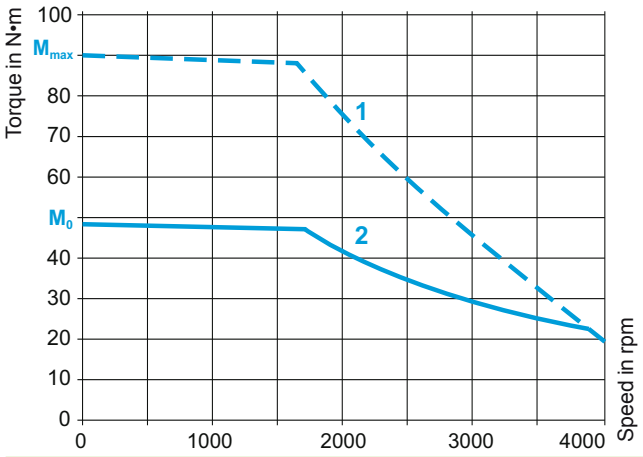
BMH 190 ●● servo motor

Type of servo motor				BMH 190 1P	BMH 190 2P	BMH 190 3P
Associated with Lexium 32 servo drive				LXM 32● MC10N4		
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	30	48	65
	Peak stall	M_{max}	N•m	89.7	130.7	162.7
Nominal operating point	Nominal torque		N•m	16.5	29	37
	Nominal speed		rpm	3000	2000	2000
	Nominal servo motor output power		W	5180	6070	7750
Maximum current			A rms	40		
Servo motor specifications						
Maximum mechanical speed			rpm	4000	4000	3500
Constants (at 120°C)	Torque		N•m/A rms	1.3	1.56	1.8
	Back emf		V rms/ krpm	87.6	108.3	129.2
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	67.7	130.1	194.1
		With brake J_m	kgcm²	71.8	144.8	208.8
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.24	0.15	0.13
	Inductance (phase/phase)		mH	5.08	3.86	3.62

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

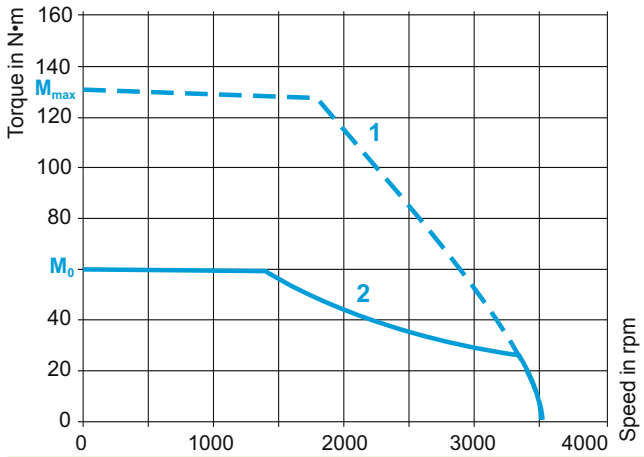
BMH 190 1P servo motor

With LXM 32●MC10N4 servo drive



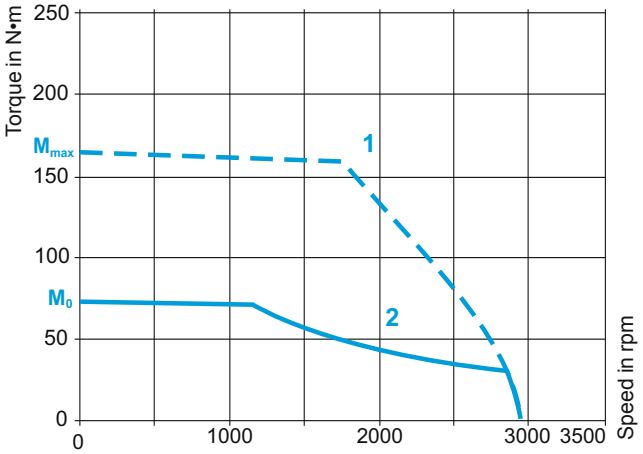
BMH 190 2P servo motor

With LXM 32●MC10N4 servo drive



BMH 190 3P servo motor

With LXM 32●MC10N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

400 V 3-phase supply voltage

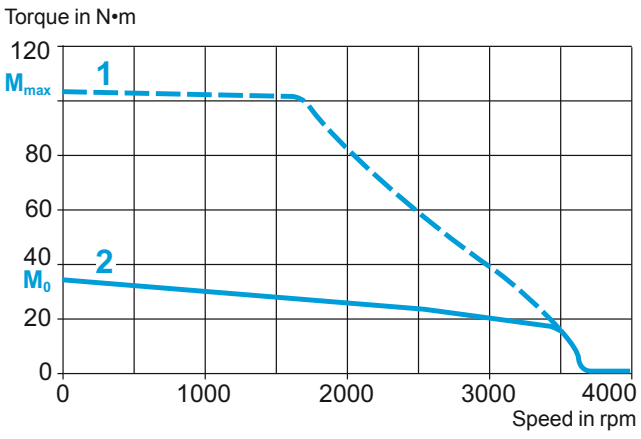
BMH 205 ●● servo motor

Type of servo motor				BMH 205 1P	BMH 205 2P	BMH 205 3P
Associated with Lexium 32 servo drive				LXM 32●D72N4		
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	34.4	62.5	84
	Peak stall	M_{max}	N•m	103.4	170	232
Nominal operating point	Nominal torque		N•m	25.8	41.6	52.2
	Nominal speed		rpm	2000	1500	1200
	Nominal servo motor output power		W	5400	6500	
Maximum current			A rms	72		
Servo motor specifications						
Maximum mechanical speed			rpm	3800		
Constants (at 120°C)	Torque		N•m/A rms	1.6	2.6	3.5
	Back emf		V rms/ krpm	104	161	218
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	71.4	129	190
		With brake J_m	kgcm²	87.4	145	206
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.3	0.3	0.32
	Inductance (phase/phase)		mH	5.9	5.6	6.9

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

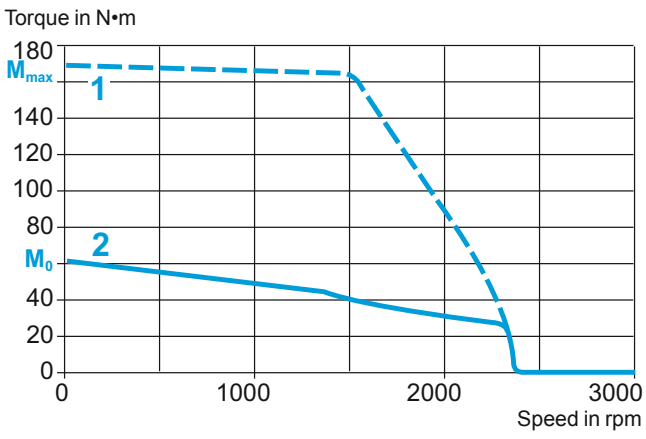
BMH 205 1P servo motor

With LXM 32●D72N4 servo drive



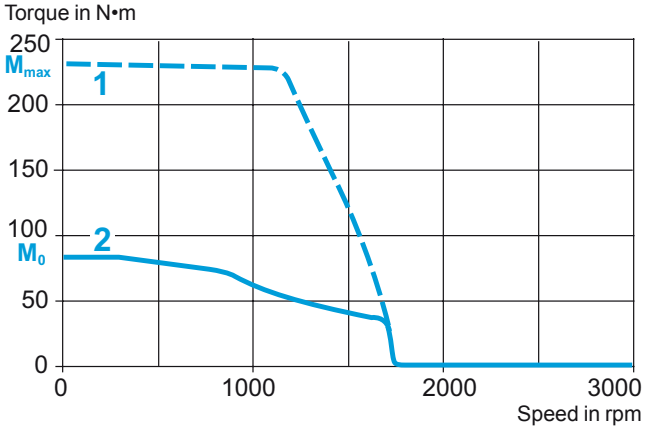
BMH 205 2P servo motor

With LXM 32●D72N4 servo drive



BMH 205 3P servo motor

With LXM 32●D72N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

480 V 3-phase supply voltage

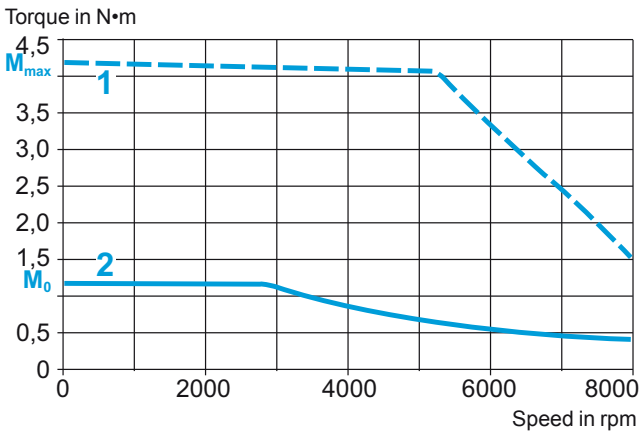
BMH 070 ●● servo motor

Type of servo motor				BMH 070 1P		BMH 070 2P	BMH 070 3P
Associated with Lexium 32 servo drive				LXM 32●U60N4	LXM 32●D12N4		LXM 32●D18N4
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	1.2	1.4	2.5	3.4
	Peak stall	M_{max}	N•m	4.2		7.4	10.2
Nominal operating point	Nominal torque		N•m	1.1	1.3	2.2	2.4
	Nominal speed		rpm	3000	5000	3000	5000
	Nominal servo motor output power		W	350	700		1300
Maximum current			A rms	6		9.7	12.6
Servo motor specifications							
Maximum mechanical speed			rpm	8000			
Constants (at 120°C)	Torque		N•m/A rms	0.79		0.84	0.87
	Back emf		V rms/ krpm	50.72		54.08	55.8
Rotor	Number of poles			10			
	Inertia	Without brake J_m	kgcm²	0.59		1.13	1.67
		With brake J_m	kgcm²	0.7		1.24	1.78
Stator (at 20°C)	Resistance (phase/phase)		Ω	8.3		3.8	2.65
	Inductance (phase/phase)		mH	23.4		12.2	8.6

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

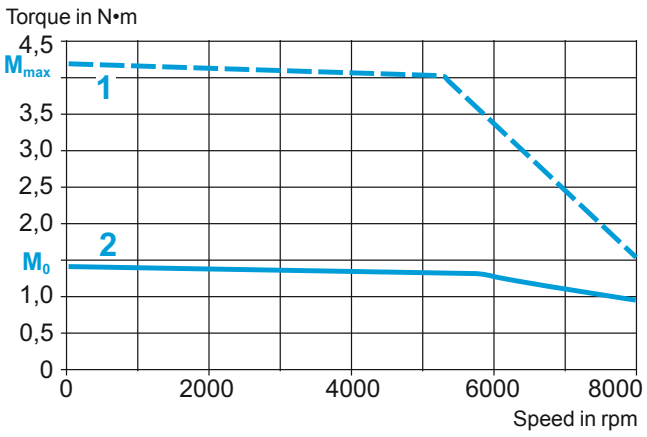
BMH 070 1P servo motor

With LXM 32●U60N4 servo drive



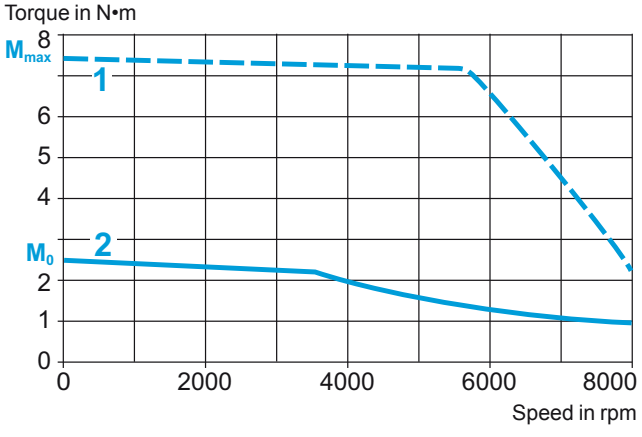
BMH 070 1P servo motor

With LXM 32●D12N4 servo drive



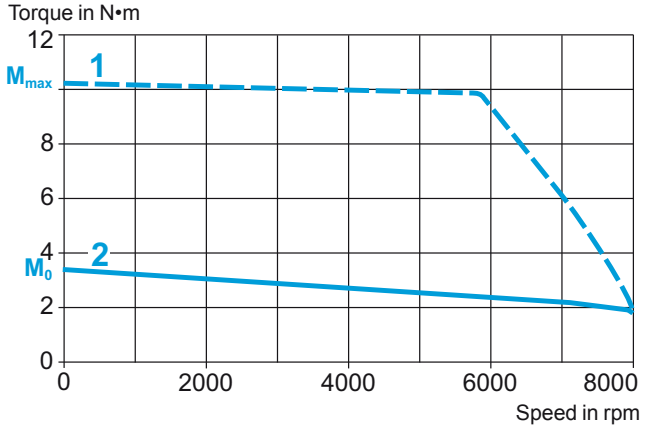
BMH 070 2P servo motor

With LXM 32●D12N4 servo drive



BMH 070 3P servo motor

With LXM 32●D18N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

480 V 3-phase supply voltage

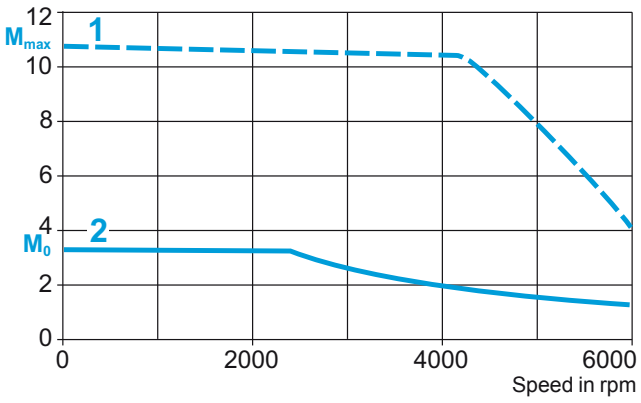
BMH 100 ●● servo motor

Type of servo motor				BMH 100 1P		BMH 100 2P	BMH 100 3P
Associated with Lexium 32 servo drive				LXM 32● D12N4	LXM 32● D18N4		LXM 32● D30N4
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	3.3	3.4	6.2	8.4
	Peak stall	M_{max}	N•m	10.8		18.4	25.1
Nominal operating point	Nominal torque		N•m	1.9	3.1	3.9	5.2
	Nominal speed		rpm	4000			5000
	Nominal servo motor output power		W	800	1300	1600	2700
Maximum current			A rms	11.9		18	29.1
Servo motor specifications							
Maximum mechanical speed			rpm	6000			
Constants (at 120°C)	Torque		N•m/A rms	1.1		1.2	1
	Back emf		V rms/ krpm	70.3		77	63.5
Rotor	Number of poles			10			
	Inertia	Without brake J_m	kgcm²	3.2		6.3	9.4
		With brake J_m	kgcm²	3.68		6.77	10.3
Stator (at 20°C)	Resistance (phase/phase)		Ω	3.1		1.51	0.63
	Inductance (phase/phase)		mH	13.9		7.5	4

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

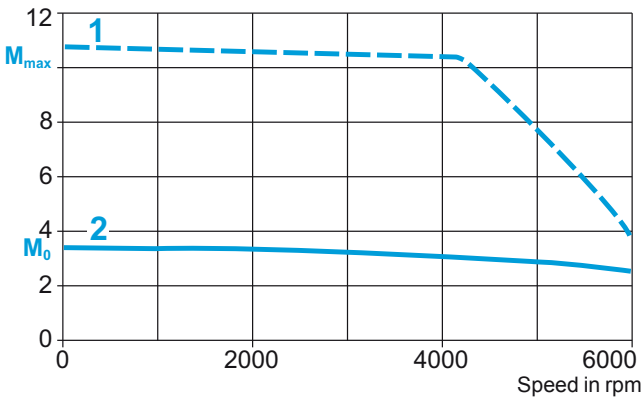
BMH 100 1P servo motor

With LXM 32●D12N4 servo drive



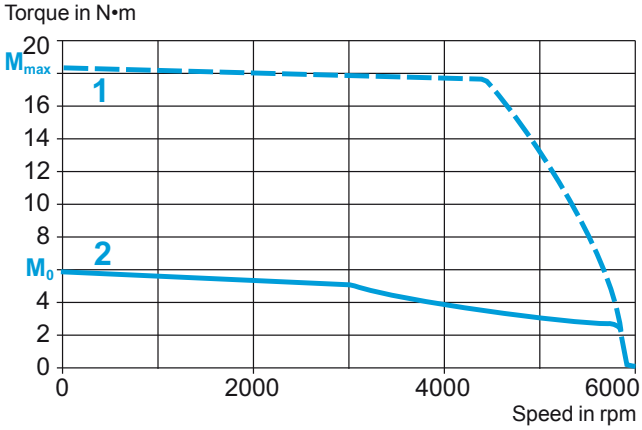
BMH 100 1P servo motor

With LXM 32●D18N4 servo drive



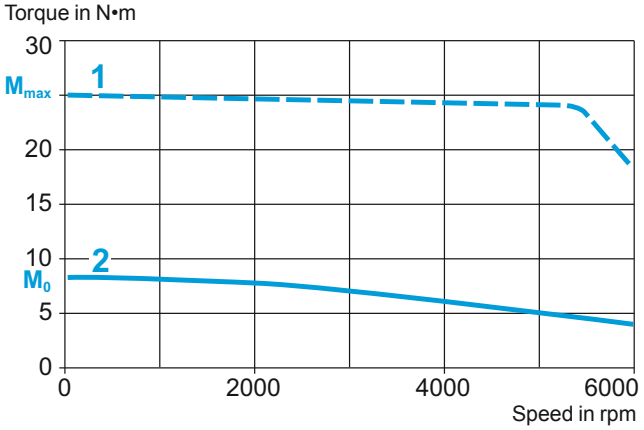
BMH 100 2P servo motor

With LXM 32●D18N4 servo drive



BMH 100 3P servo motor

With LXM 32●D30N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors
480 V 3-phase supply voltage

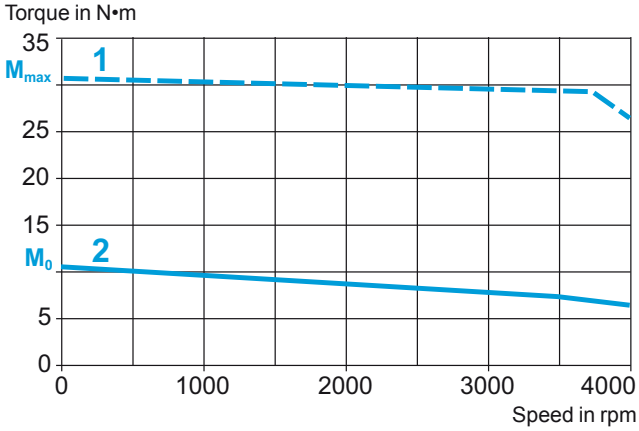
BMH 140 ●● servo motor

Type of servo motor				BMH 140 1P	BMH 140 2P	BMH 140 3P
Associated with Lexium 32 servo drive				LXM 32● D30N4	LXM 32● D72N4	
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	10.3	18.5	24
	Peak stall	M_{max}	N•m	30.8	55.3	75
Nominal operating point	Nominal torque		N•m	7.7	11.2	14.9
	Nominal speed		rpm	3000		
	Nominal servo motor output power		W	2400	3500	4700
Maximum current			A rms	29.8	57.4	62.3
Servo motor specifications						
Maximum mechanical speed			rpm	4000		
Constants (at 120°C)	Torque		N•m/A rms	1.2	1.1	1.34
	Back emf		V rms/ krpm	77.4	70.7	85.9
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	16.5	32	47.5
		With brake J_m	kgcm²	17.96	33.5	50.27
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.69	0.23	0.22
	Inductance (phase/phase)		mH	6.7	3	

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

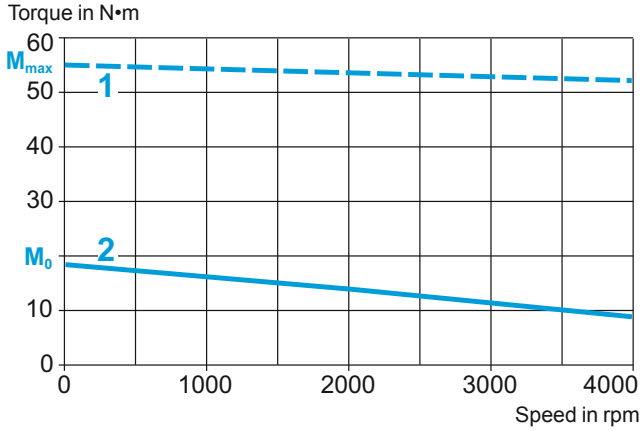
BMH 140 1P servo motor

With LXM 32●D30N4 servo drive



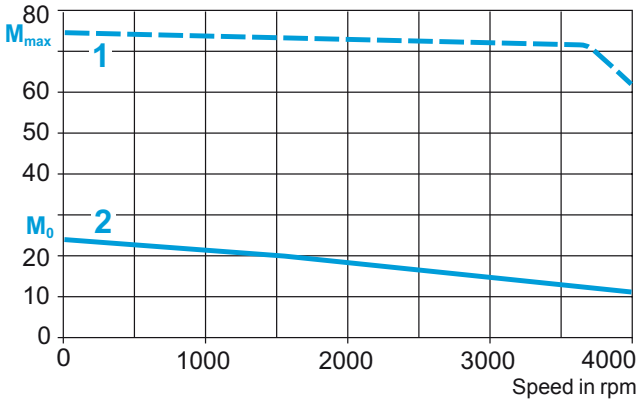
BMH 140 2P servo motor

With LXM 32●D72N4 servo drive



BMH 140 3P servo motor

With LXM 32●D72N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

480 V 3-phase supply voltage

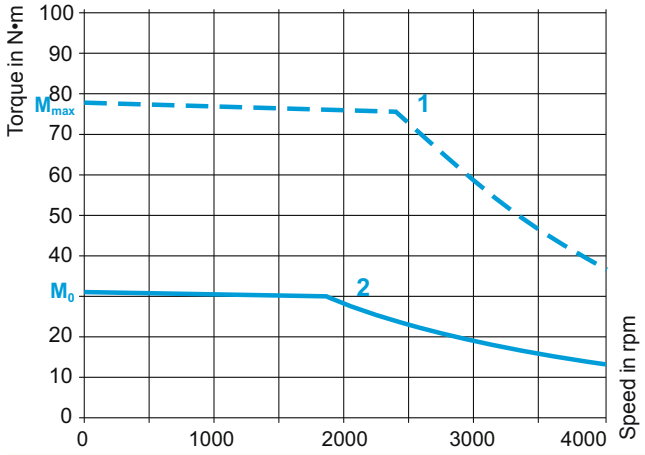
BMH 190 ●● servo motor

Type of servo motor				BMH 190 1P	BMH 190 2P	BMH 190 3P
Associated with Lexium 32 servo drive				LXM 32● D72N4		
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	30	37.4	43.2
	Peak stall	M_{max}	N•m	77.7	101	123
Nominal operating point	Nominal torque		N•m	18.4	22.3	36
	Nominal speed		rpm	2500	2500	1500
	Nominal servo motor output power		W	4800	5900	5700
Maximum current			A rms	24		
Servo motor specifications						
Maximum mechanical speed			rpm	4000	4000	3500
Constants (at 120°C)	Torque		N•m/A rms	1.3	1.56	1.8
	Back emf		V rms/ krpm	87.6	108.3	129.2
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	67.7	130.1	194.1
		With brake J_m	kgcm²	71.8	144.8	208.8
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.24	0.15	0.13
	Inductance (phase/phase)		mH	5.08	3.86	3.62

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

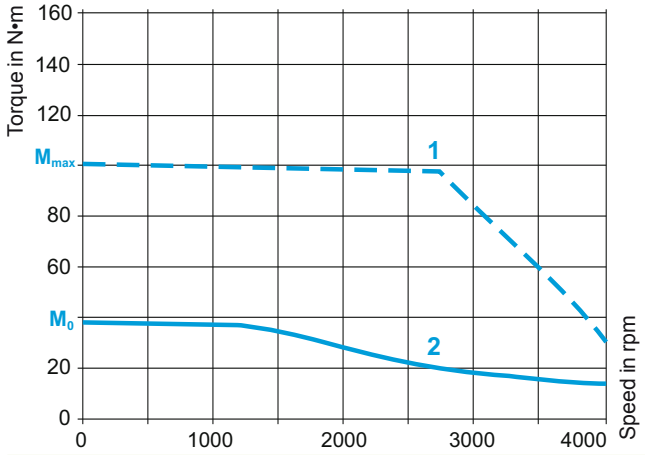
BMH 190 1P servo motor

With LXM 32●D72N4 servo drive



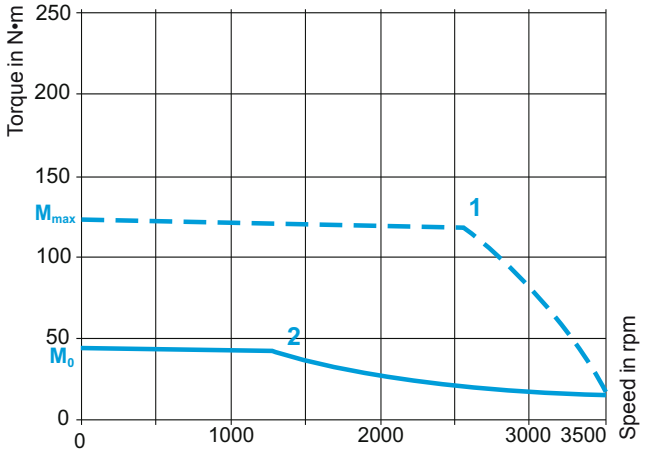
BMH 190 2P servo motor

With LXM 32●D72N4 servo drive



BMH 190 3P servo motor

With LXM 32●D72N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors
480 V 3-phase supply voltage

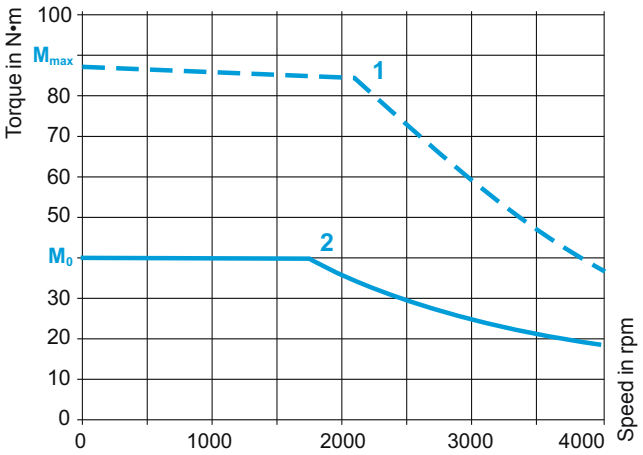
BMH 190 ●● servo motor

Type of servo motor				BMH 190 1P	BMH 190 2P	BMH 190 3P
Associated with Lexium 32 servo drive				LXM 32● MD85N4		
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	30	48	57.6
	Peak stall	M_{max}	N•m	86.6	115.5	141.3
Nominal operating point	Nominal torque		N•m	16.5	29	35
	Nominal speed		rpm	3000	2000	2000
	Nominal servo motor output power		W	5180	6070	7330
Maximum current			A rms	32		
Servo motor specifications						
Maximum mechanical speed			rpm	4000	4000	3500
Constants (at 120°C)	Torque		N•m/A rms	1.3	1.56	1.8
	Back emf		V rms/krpm	87.6	108.3	129.2
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	67.7	130.1	194.1
		With brake J_m	kgcm²	71.8	144.8	208.8
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.24	0.15	0.13
	Inductance (phase/phase)		mH	5.08	3.86	3.62

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

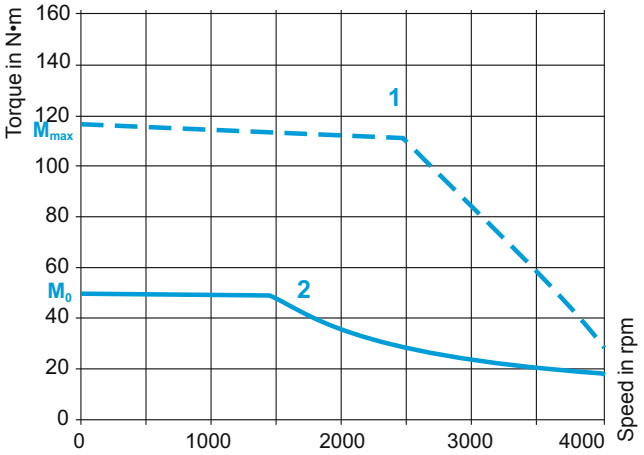
BMH 190 1P servo motor

With LXM 32●MD85N4 servo drive



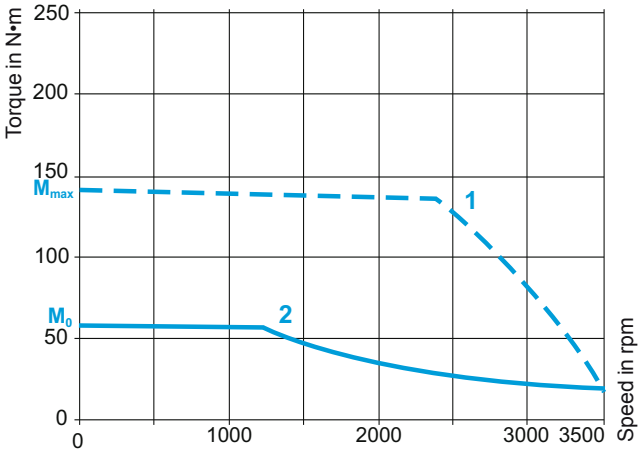
BMH 190 2P servo motor

With LXM 32●MD85N4 servo drive



BMH 190 3P servo motor

With LXM 32●MD85N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors

480 V 3-phase supply voltage

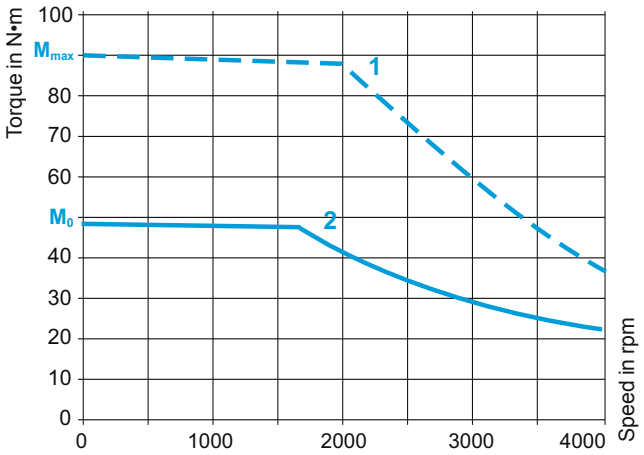
BMH 190 ●● servo motor

Type of servo motor				BMH 190 1P	BMH 190 2P	BMH 190 3P
Associated with Lexium 32 servo drive				LXM 32● MC10N4		
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	30	48	65
	Peak stall	M_{max}	N•m	89.7	130.7	162.7
Nominal operating point	Nominal torque		N•m	16.5	29	37
	Nominal speed		rpm	3000	2000	2000
	Nominal servo motor output power		W	5180	6070	7750
Maximum current			A rms	40		
Servo motor specifications						
Maximum mechanical speed			rpm	4000	4000	3500
Constants (at 120°C)	Torque		N•m/A rms	1.3	1.56	1.8
	Back emf		V rms/ krpm	87.6	108.3	129.2
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	67.7	130.1	194.1
		With brake J_m	kgcm²	71.8	144.8	208.8
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.24	0.15	0.13
	Inductance (phase/phase)		mH	5.08	3.86	3.62

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

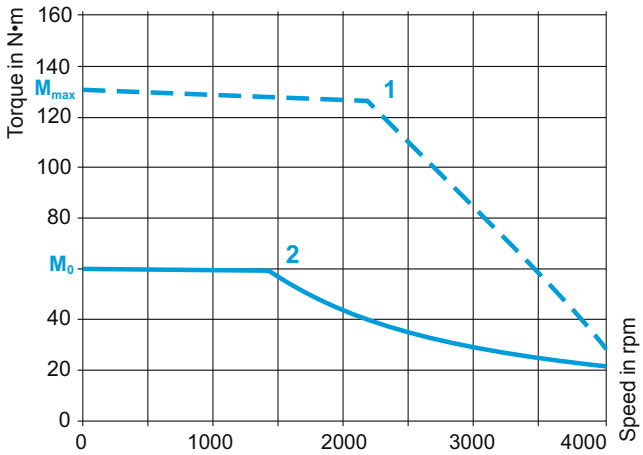
BMH 190 1P servo motor

With LXM 32●MC10N4 servo drive



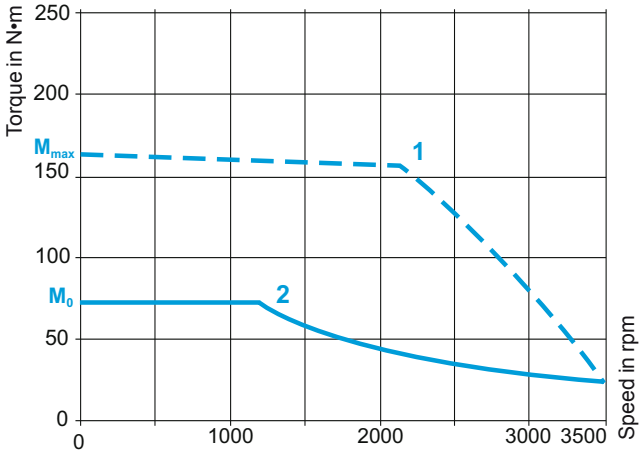
BMH 190 2P servo motor

With LXM 32●MC10N4 servo drive



BMH 190 3P servo motor

With LXM 32●MC10N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BMH servo motors
480 V 3-phase supply voltage

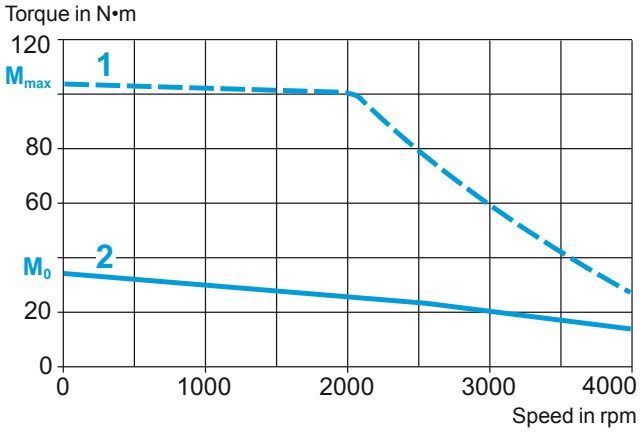
BMH 205 ●● servo motor

Type of servo motor				BMH 205 1P	BMH 205 2P	BMH 205 3P
Associated with Lexium 32 servo drive				LXM 32● D72N4		
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	34.4	62.5	84
	Peak stall	M_{max}	N•m	103.4	170	232
Nominal operating point	Nominal torque		N•m	25.8	41.6	52.2
	Nominal speed		rpm	2000	1500	1200
	Nominal servo motor output power		W	5400	6500	
Maximum current			A rms	72		
Servo motor specifications						
Maximum mechanical speed			rpm	3800		
Constants (at 120°C)	Torque		N•m/A rms	1.6	2.6	3.5
	Back emf		V rms/ krpm	104	161	218
Rotor	Number of poles			10		
	Inertia	Without brake J_m	kgcm²	71.4	129	190
		With brake J_m	kgcm²	87.4	145	206
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.3		0.32
	Inductance (phase/phase)		mH	5.9	5.6	6.9

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

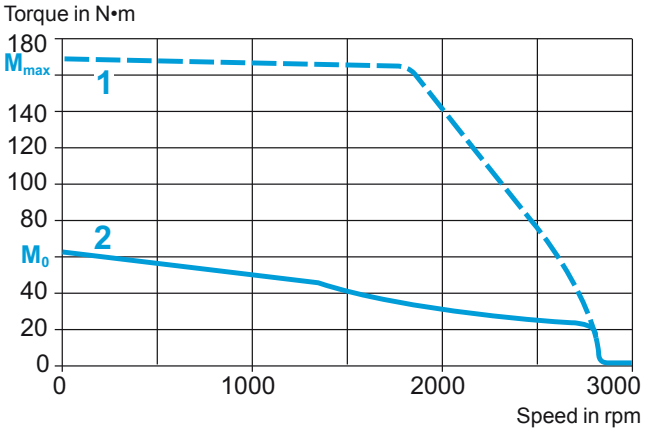
BMH 205 1P servo motor

With LXM 32●D72N4 servo drive



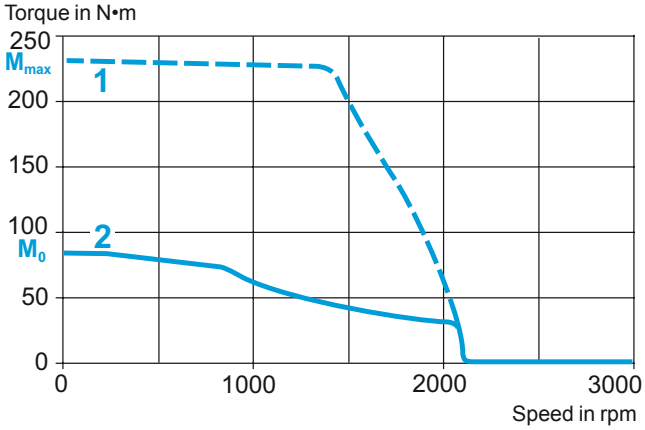
BMH 205 2P servo motor

With LXM 32●D72N4 servo drive



BMH 205 3P servo motor

With LXM 32●D72N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

115 V single-phase supply voltage

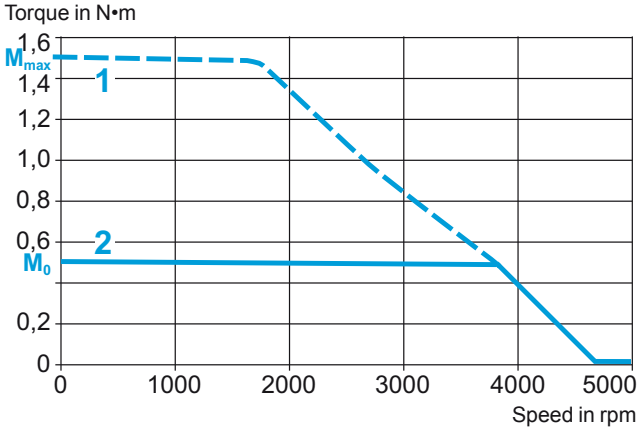
BSH 055 ●● servo motor

Type of servo motor				BSH 055 1T	BSH 055 2T	BSH 055 3T
Associated with Lexium 32 servo drive				LXM 32● U90M2		LXM 32● D18M2
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	0.5	0.8	1.2
	Peak stall	M_{max}	N•m	1.5	1.9	3.3
Nominal operating point	Nominal torque		N•m	0.49	0.77	1.14
	Nominal speed		rpm	3000		
	Nominal servo motor output power		W	150	250	350
Maximum current			A rms	5.4	6	10
Servo motor specifications						
Maximum mechanical speed			rpm	9000		
Constants (at 120°C)	Torque		N•m/A rms	0.36		0.39
	Back emf		V rms/ krpm	22		
Rotor	Number of poles			6		
	Inertia	Without brake J_m	kgcm²	0.059	0.096	0.134
		With brake J_m	kgcm²	0.0803	0.1173	0.1553
Stator (at 20°C)	Resistance (phase/phase)		Ω	12.2	5.2	3.1
	Inductance (phase/phase)		mH	20.8	10.6	7.4

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

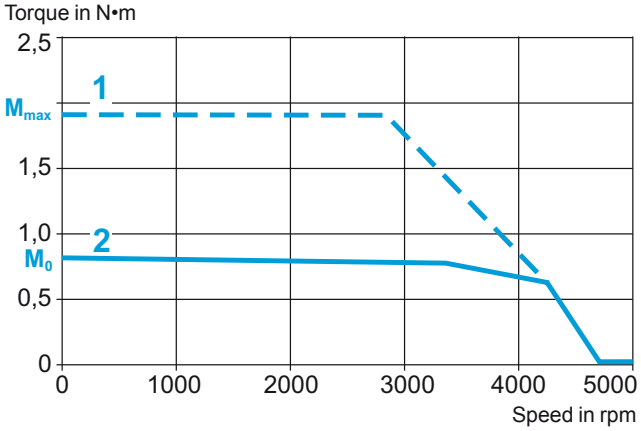
BSH 055 1T servo motor

With LXM 32●U90M2 servo drive



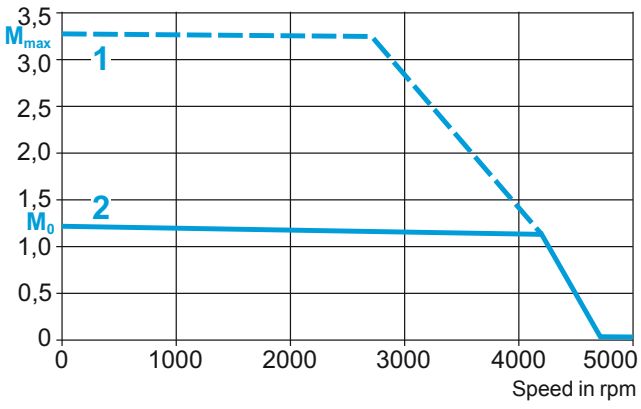
BSH 055 2T servo motor

With LXM 32●U90M2 servo drive



BSH 055 3T servo motor

With LXM 32●D18M2 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

115 V single-phase supply voltage

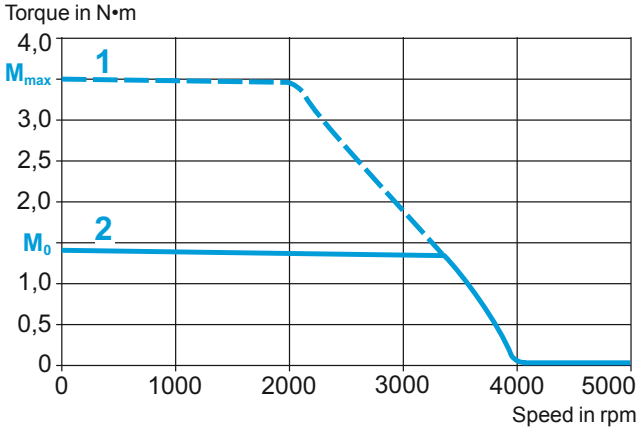
BSH 070/100 ●● servo motor

Type of servo motor				BSH 070 1T	BSH 070 2T	BSH 100 1T
Associated with Lexium 32 servo drive				LXM 32● D18M2	LXM 32● D30M2	
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	1.4	2.2	3.3
	Peak stall	M_{max}	N•m	3.5	6.1	6.3
Nominal operating point	Nominal torque		N•m	1.36	2.07	2.75
	Nominal speed		rpm	2500		
	Nominal servo motor output power		W	350	550	700
Maximum current			A rms	10	15	15
Servo motor specifications						
Maximum mechanical speed			rpm	8000		6000
Constants (at 120°C)	Torque		N•m/A rms	0.44	0.45	
	Back emf		V rms/ krpm	26	28	29
Rotor	Number of poles			6		8
	Inertia	Without brake J_m	kgcm²	0.25	0.41	1.4
		With brake J_m	kgcm²	0.322	0.482	2.018
Stator (at 20°C)	Resistance (phase/phase)		Ω	3.3	1.5	0.87
	Inductance (phase/phase)		mH	12.3	6.7	4

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

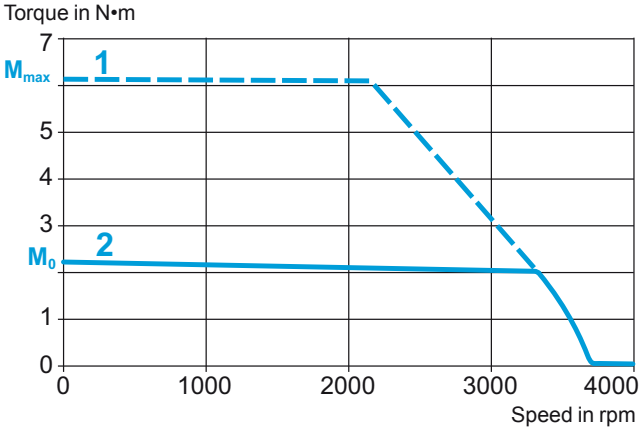
BSH 070 1T servo motor

With LXM 32●D18M2 servo drive



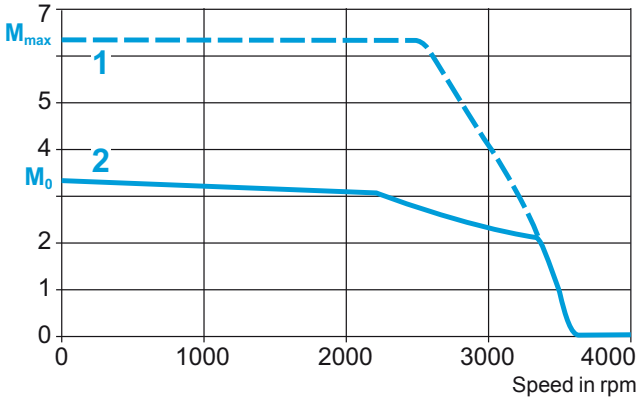
BSH 070 2T servo motor

With LXM 32●D30M2 servo drive



BSH 100 1T servo motor

With LXM 32●D30M2 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

230 V single-phase supply voltage

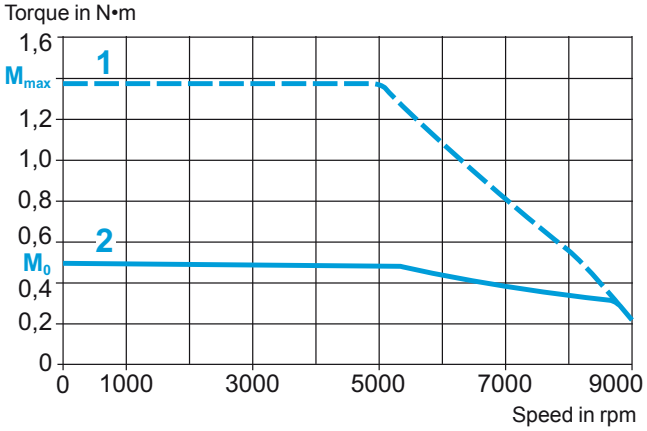
BSH 055 ●● servo motor

Type of servo motor				BSH 055 1T	BSH 055 2T	BSH 055 3T
Associated with Lexium 32 servo drive				LXM 32● U45M2	LXM 32● U90M2	
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	0.5	0.8	1.2
	Peak stall	M_{max}	N•m	1.4	2.5	3
Nominal operating point	Nominal torque		N•m	0.45	0.74	0.84
	Nominal speed		rpm	6000		
	Nominal servo motor output power		W	300	450	550
Maximum current			A rms	4.5	8.8	9
Servo motor specifications						
Maximum mechanical speed			rpm	9000		
Constants (at 120°C)	Torque		N•m/A rms	0.36		0.39
	Back emf		V rms/ krpm	22		
Rotor	Number of poles			6		
	Inertia	Without brake J_m	kgcm²	0.059	0.096	0.134
		With brake J_m	kgcm²	0.0803	0.1173	0.1553
Stator (at 20°C)	Resistance (phase/phase)		Ω	12.2	5.2	3.1
	Inductance (phase/phase)		mH	20.8	10.6	7.4

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

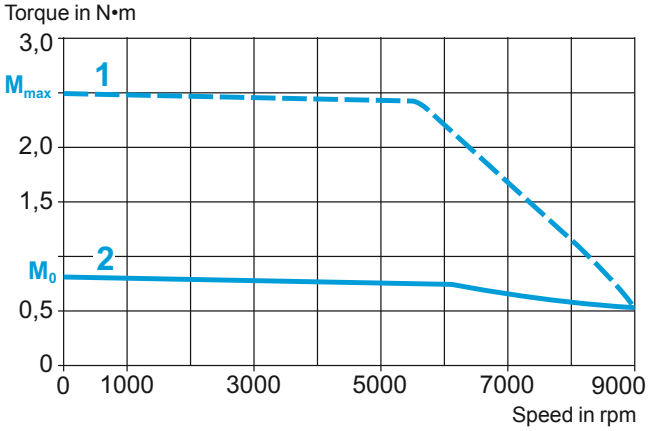
BSH 055 1T servo motor

With LXM 32●U45M2 servo drive



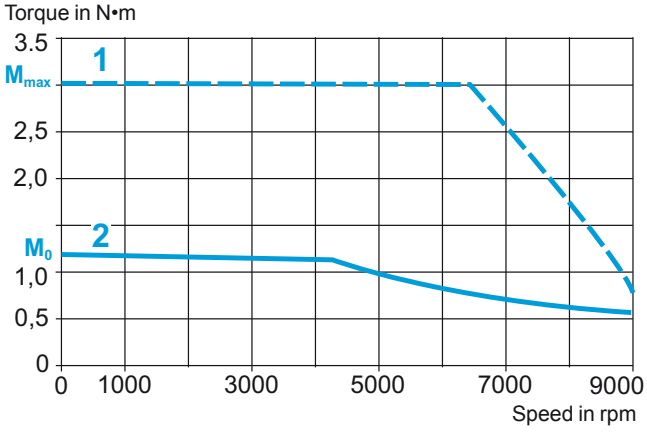
BSH 055 2T servo motor

With LXM 32●U90M2 servo drive



BSH 055 3T servo motor

With LXM 32●U90M2 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors
230 V single-phase supply voltage

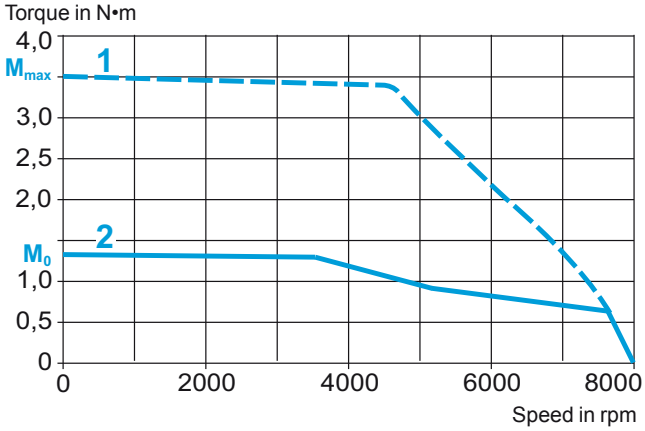
BSH 070 ●● servo motor

Type of servo motor				BSH 070 1T	BSH 070 2T	BSH 070 3T
Associated with Lexium 32 servo drive				LXM 32● U90M2	LXM 32● D18M2	
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	1.3	2.2	2.6
	Peak stall	M_{max}	N•m	3.5	7.2	7.4
Nominal operating point	Nominal torque		N•m	0.94	1.8	2.1
	Nominal speed		rpm	5000		4000
	Nominal servo motor output power		W	500	950	900
Maximum current			A rms	9	18	
Servo motor specifications						
Maximum mechanical speed			rpm	8000		
Constants (at 120°C)	Torque		N•m/A rms	0.44	0.45	0.44
	Back emf		V rms/ krpm	26	28	29
Rotor	Number of poles			6		
	Inertia	Without brake J_m	kgcm²	0.25	0.41	0.58
		With brake J_m	kgcm²	0.322	0.482	0.81
Stator (at 20°C)	Resistance (phase/phase)		Ω	3.3	1.5	0.91
	Inductance (phase/phase)		mH	12.3	6.7	4.4

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

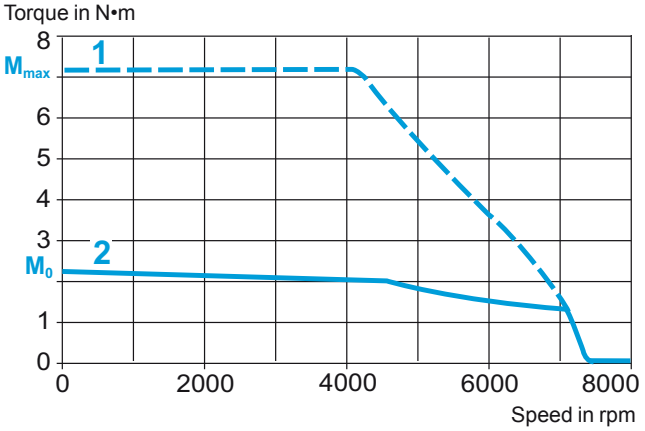
BSH 070 1T servo motor

With LXM 32●U90M2 servo drive



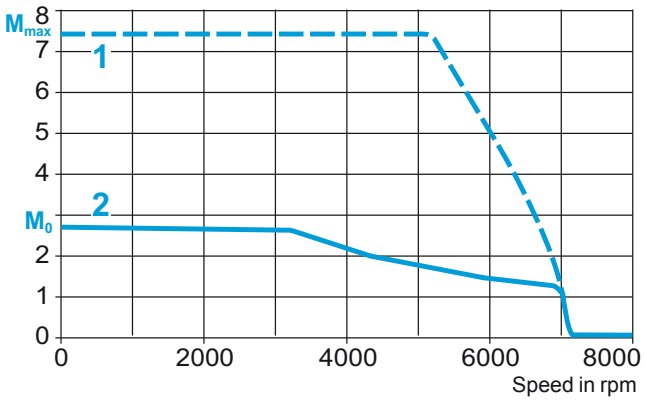
BSH 070 2T servo motor

With LXM 32●D18M2 servo drive



BSH 070 3T servo motor

With LXM 32●D18M2 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

230 V single-phase supply voltage

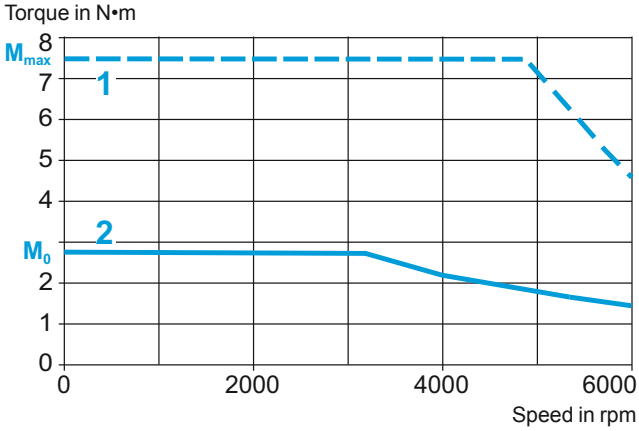
BSH 100 ●● servo motor

Type of servo motor				BSH 100 1T	BSH 100 2T
Associated with Lexium 32 servo drive				LXM 32● D18M2	LXM 32● D30M2
Switching frequency			kHz	8	
Torque	Continuous stall	M_0	N•m	2.7	5.8
	Peak stall	M_{max}	N•m	7.5	16.4
Nominal operating point	Nominal torque		N•m	2.2	3.7
	Nominal speed		rpm	4000	
	Nominal servo motor output power		W	900	1500
Maximum current			A rms	18	30
Servo motor specifications					
Maximum mechanical speed			rpm	6000	
Constants (at 120°C)	Torque		N•m/A rms	0.45	0.59
	Back emf		V rms/ krpm	29	37
Rotor	Number of poles			8	
	Inertia	Without brake J_m	kgcm²	1.4	2.31
		With brake J_m	kgcm²	2.018	2.928
Stator (at 20°C)	Resistance (phase/phase)		Ω	0.87	0.56
	Inductance (phase/phase)		mH	4	3

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

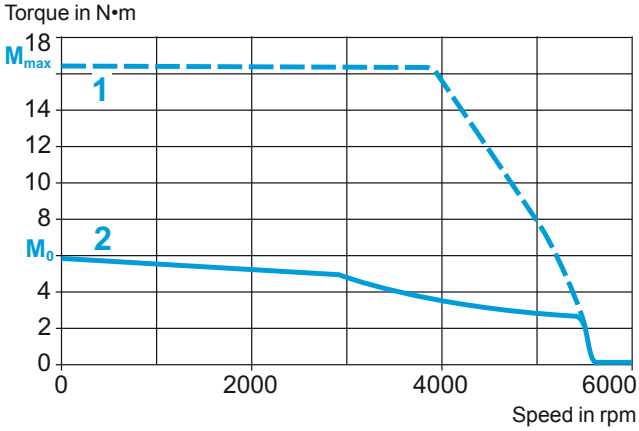
BSH 100 1T servo motor

With LXM 32●D18M2 servo drive



BSH 100 2T servo motor

With LXM 32●D30M2 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

400 V 3-phase supply voltage

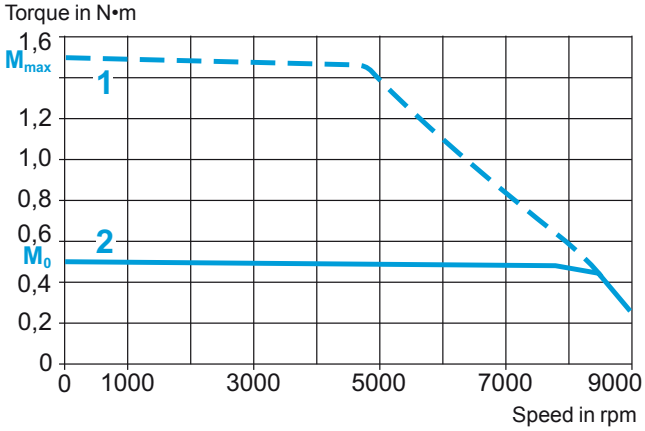
BSH 055 ●● servo motor

Type of servo motor				BSH 055 1P	BSH 055 2P	BSH 055 3P	BSH 070 1P	BSH 070 2P	BSH 070 3P
Associated with Lexium 32 servo drive				LXM 32● U60N4			LXM 32● D12N4		LXM 32● D18N4
Switching frequency			kHz	8					
Torque	Continuous stall	M_0	N•m	0.5	0.8	1.05	1.4	2.2	3.1
	Peak stall	M_{max}	N•m	1.5	2.5	3.5	3.5	7.6	11.3
Nominal operating point	Nominal torque		N•m	0.48	0.65		1.32	1.64	2.44
	Nominal speed		rpm	6000			5000		
	Nominal servo motor output power		W	300	400		700	850	1300
Maximum current			A rms	2.9	4.8	6	5.7	11.8	17
Servo motor specifications									
Maximum mechanical speed			rpm	9000			8000		
Constants (at 120°C)	Torque		N•m/A rms	0.7			0.8	0.77	0.78
	Back emf		V rms/ krpm	40		41	46	48	49
Rotor	Number of poles			6					
	Inertia	Without brake J_m	kgcm²	0.059	0.096	0.134	0.25	0.41	0.58
		With brake J_m	kgcm²	0.083	0.1173	0.1553	0.322	0.482	0.81
Stator (at 20°C)	Resistance (phase/phase)		Ω	41.8	17.4	10.4	10.4	4.2	2.7
	Inductance (phase/phase)		mH	71.5	35.3	25	38.8	19	13

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

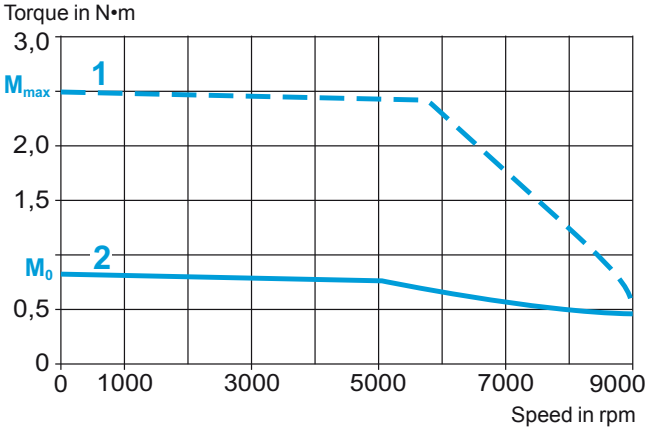
BSH 055 1P servo motor

With LXM 32●U60N4 servo drive



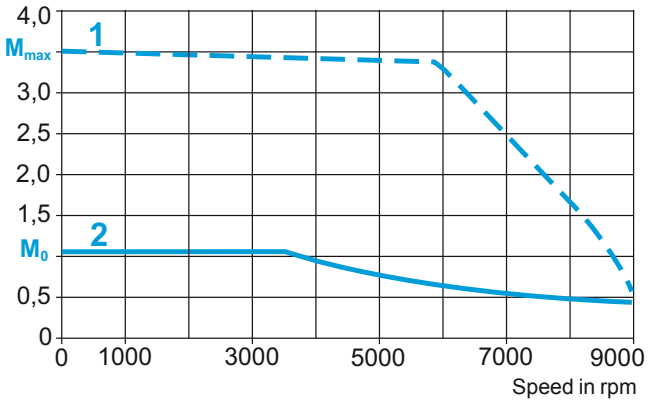
BSH 055 2P servo motor

With LXM 32●U60N4 servo drive



BSH 055 3P servo motor

With LXM 32●U60N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

400 V 3-phase supply voltage

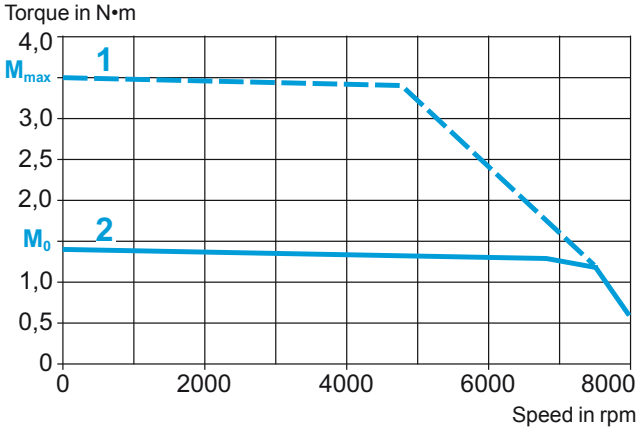
BSH 070 ●● servo motor

Type of servo motor				BSH 055 1P	BSH 055 2P	BSH 055 3P	BSH 070 1P	BSH 070 2P	BSH 070 3P
Associated with Lexium 32 servo drive				LXM 32● U60N4			LXM 32● D12N4		LXM 32● D18N4
Switching frequency			kHz	8					
Torque	Continuous stall	M_0	N•m	0.5	0.8	1.05	1.4	2.2	3.1
	Peak stall	M_{max}	N•m	1.5	2.5	3.5	3.5	7.6	11.3
Nominal operating point	Nominal torque		N•m	0.48	0.65		1.32	1.64	2.44
	Nominal speed		rpm	6000			5000		
	Nominal servo motor output power		W	300	400		700	850	1300
Maximum current			A rms	2.9	4.8	6	5.7	11.8	17
Servo motor specifications									
Maximum mechanical speed			rpm	9000			8000		
Constants (at 120°C)	Torque		N•m/A rms	0.7			0.8	0.77	0.78
	Back emf		V rms/ krpm	40		41	46	48	49
Rotor	Number of poles			6					
	Inertia	Without brake J_m	kgcm²	0.059	0.096	0.134	0.25	0.41	0.58
		With brake J_m	kgcm²	0.083	0.1173	0.1553	0.322	0.482	0.81
Stator (at 20°C)	Resistance (phase/phase)		Ω	41.8	17.4	10.4	10.4	4.2	2.7
	Inductance (phase/phase)		mH	71.5	35.3	25	38.8	19	13

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

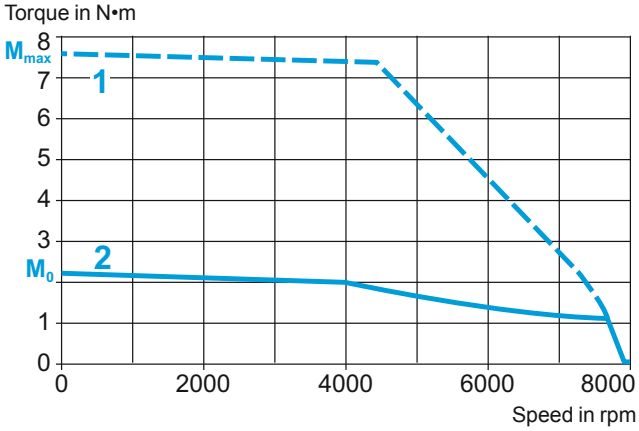
BSH 070 1P servo motor

With LXM 32●D12N4 servo drive



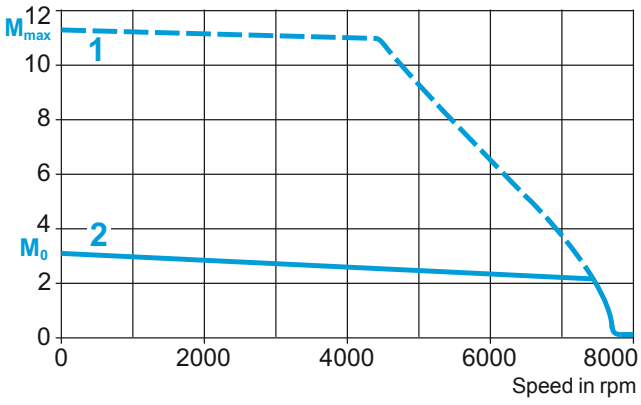
BSH 070 2P servo motor

With LXM 32●D12N4 servo drive



BSH 070 3P servo motor

With LXM 32●D18N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors
400 V 3-phase supply voltage

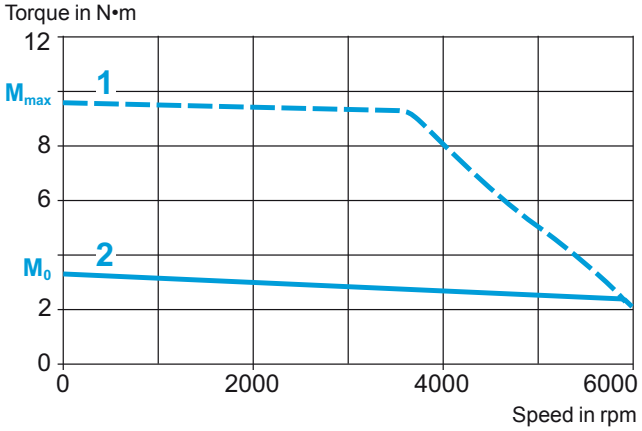
BSH 100 ●● servo motor

Type of servo motor				BSH 100 1P	BSH 100 2P	BSH 100 3P	BSH 100 4P
Associated with Lexium 32 servo drive				LXM 32● D18N4		LXM 32● D30N4	
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	3.3	5.8	8	10
	Peak stall	M_{max}	N•m	9.6	18.3	28.3	37.9
Nominal operating point	Nominal torque		N•m	2.7	4	6.3	8.3
	Nominal speed		rpm	4000		3000	2500
	Nominal servo motor output power		W	1100	1700	2000	2100
Maximum current			A rms	12	17.1	28.3	30
Servo motor specifications							
Maximum mechanical speed			rpm	6000			
Constants (at 120°C)	Torque		N•m/A rms	0.89	1.21	1.22	1.62
	Back emf		V rms/krpm	60	77		103
Rotor	Number of poles			8			
	Inertia	Without brake J_m	kgcm²	1.4	2.31	3.22	4.22
		With brake J_m	kgcm²	2.018	2.928	3.838	5.245
Stator (at 20°C)	Resistance (phase/phase)		Ω	3.8	2.4	1.43	1.81
	Inductance (phase/phase)		mH	17.6	12.7	8.8	11.8

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

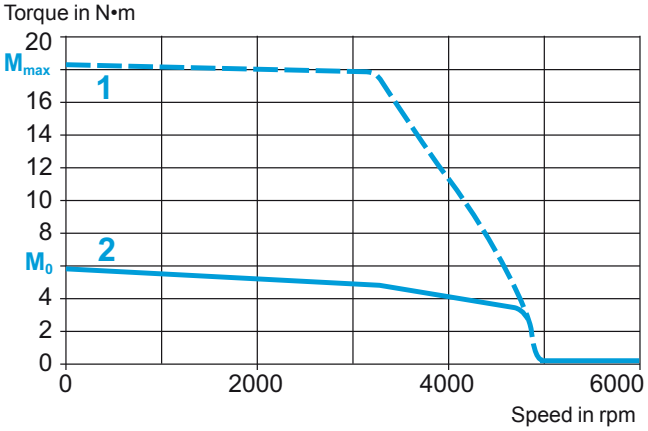
BSH 100 1P servo motor

With LXM 32●D18N4 servo drive



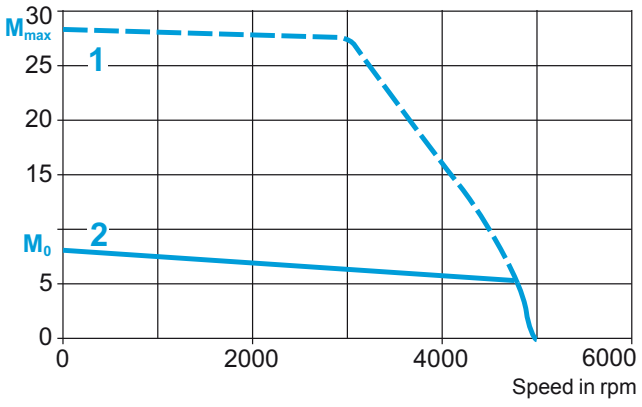
BSH 100 2P servo motor

With LXM 32●D18N4 servo drive



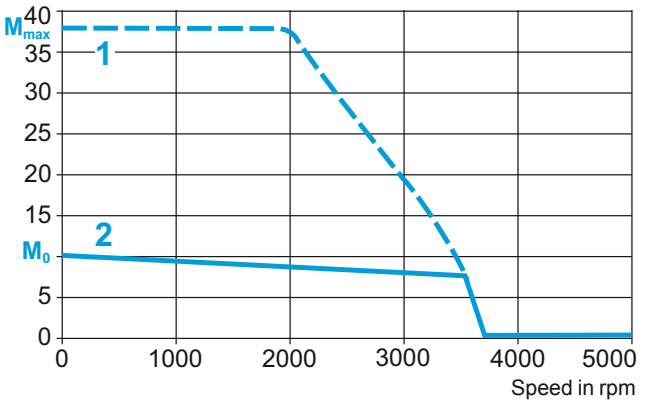
BSH 100 3P servo motor

With LXM 32●D30N4 servo drive



BSH 100 4P servo motor

With LXM 32●D30N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

400 V 3-phase supply voltage

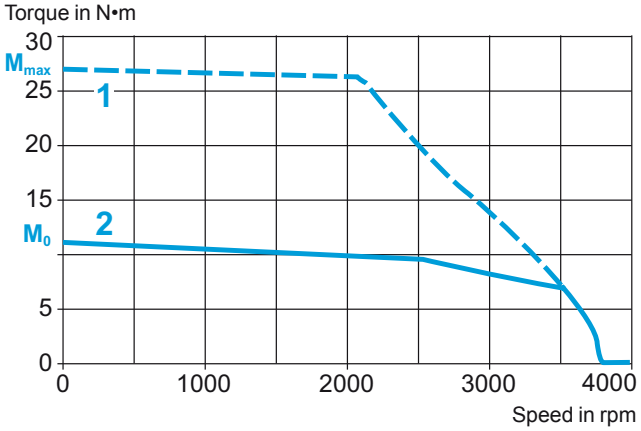
BSH 140 ●● servo motor

Type of servo motor				BSH 140 1P	BSH 140 2T	BSH 140 3T	BSH 140 4P
Associated with Lexium 32 servo drive				LXM 32● D30N4	LXM 32● D72N4		
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	11.1	19.5	27.8	33.4
	Peak stall	M_{max}	N•m	27	59.3	90.2	103.6
Nominal operating point	Nominal torque		N•m	9.5	12.3	12.9	19
	Nominal speed		rpm	2500	3000		2500
	Nominal servo motor output power		W	2500	3900	4100	5000
Maximum current			A rms	20.8	72		
Servo motor specifications							
Maximum mechanical speed			rpm	4000			
Constants (at 120°C)	Torque		N•m/A rms	1.43	1.47	1.58	1.57
	Back emf		V rms/ krpm	100	101	105	104
Rotor	Number of poles			10			
	Inertia	Without brake J_m	kgcm²	7.41	12.68	17.94	23.7
		With brake J_m	kgcm²	9.21	14.48	23.44	29.2
Stator (at 20°C)	Resistance (phase/phase)		Ω	1.41	0.6	0.4	0.28
	Inductance (phase/phase)		mH	15.6	7.4	5.1	3.9

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

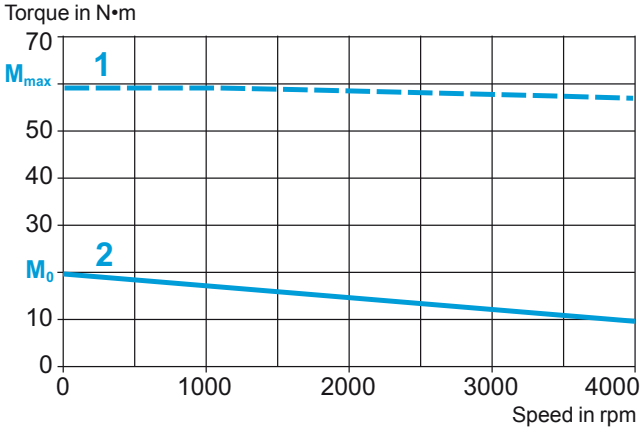
BSH 140 1P servo motor

With LXM 32●D30N4 servo drive



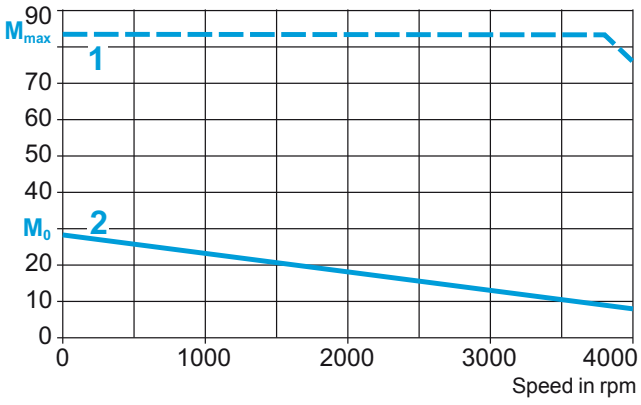
BSH 140 2T servo motor

With LXM 32●D72N4 servo drive



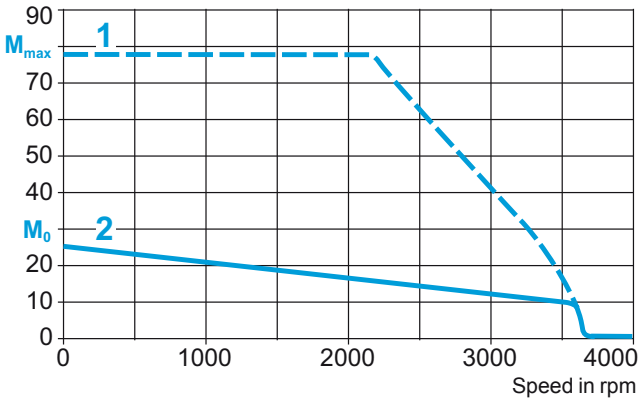
BSH 140 3T servo motor

With LXM 32●D72N4 servo drive



BSH 140 4P servo motor

With LXM 32●D72N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors
480 V 3-phase supply voltage

BSH 055 ●● servo motor

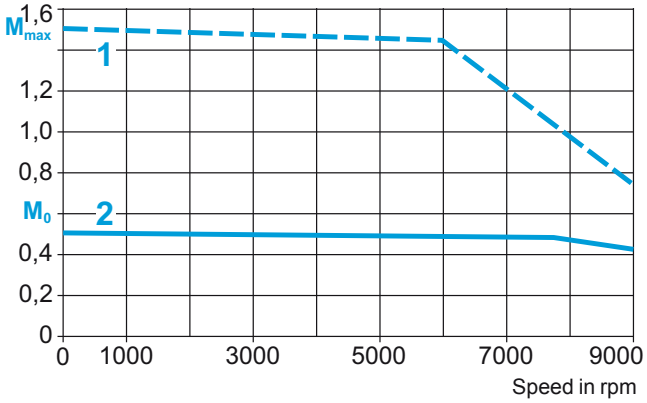
Type of servo motor				BSH 055 1P	BSH 055 2P	BSH 055 3P
Associated with Lexium 32 servo drive				LXM 32● U60N4		
Switching frequency			kHz	8		
Torque	Continuous stall	M_0	N•m	0.5	0.8	1.05
	Peak stall	M_{max}	N•m	1.5	2.5	3.5
Nominal operating point	Nominal torque		N•m	0.48	0.65	
	Nominal speed		rpm	6000		
	Nominal servo motor output power		W	300	400	
Maximum current			A rms	2.9	4.8	6
Servo motor specifications						
Maximum mechanical speed			rpm	9000		
Constants (at 120°C)	Torque		N•m/A rms	0.7		
	Back emf		V rms/ krpm	40		41
Rotor	Number of poles			6		
	Inertia	Without brake J_m	kgcm²	0.059	0.096	0.134
		With brake J_m	kgcm²	0.0803	0.1173	0.1553
Stator (at 20°C)	Resistance (phase/phase)		Ω	41.8	17.4	10.4
	Inductance (phase/phase)		mH	71.5	35.3	25

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

BSH 055 1P servo motor

With LXM 32●U60N4 servo drive

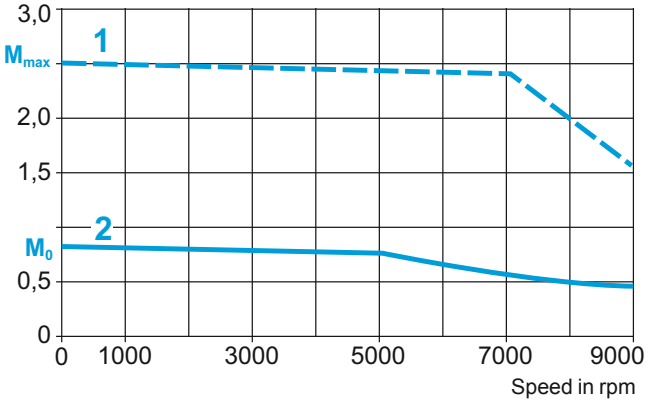
Torque in N•m



BSH 055 2P servo motor

With LXM 32●U60N4 servo drive

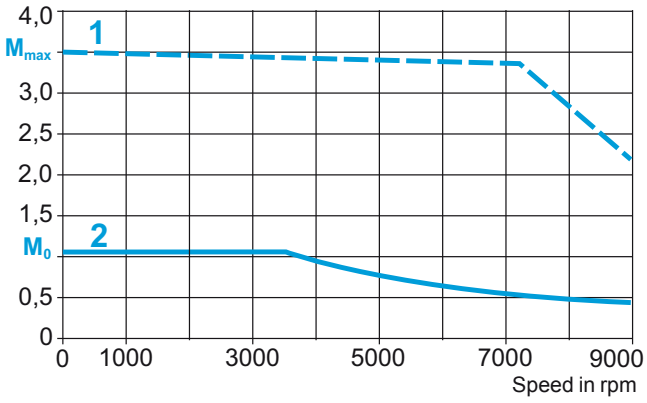
Torque in N•m



BSH 055 3P servo motor

With LXM 32●U60N4 servo drive

Torque in N•m



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

480 V 3-phase supply voltage

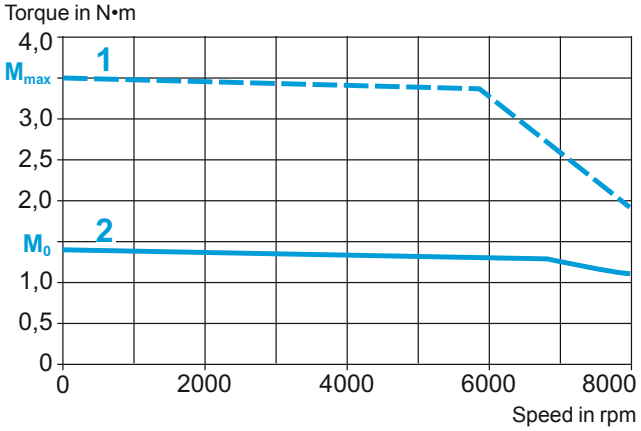
BSH 070 ●● servo motor

Type of servo motor				BSH 055 1P	BSH 055 2P	BSH 055 3P	BSH 070 1P	BSH 070 2P	BSH 070 3P
Associated with Lexium 32 servo drive				LXM 32● U60N4			LXM 32● D12N4		LXM 32● D18N4
Switching frequency			kHz	8					
Torque	Continuous stall	M_0	N•m	0.5	0.8	1.05	1.4	2.2	3.1
	Peak stall	M_{max}	N•m	1.5	2.5	3.5	3.5	7.6	11.3
Nominal operating point	Nominal torque		N•m	0.48	0.65		1.32	1.64	2.44
	Nominal speed		rpm	6000			5000		
	Nominal servo motor output power		W	300	400		700	850	1300
Maximum current			A rms	2.9	4.8	6	5.7	11.8	17
Servo motor specifications									
Maximum mechanical speed			rpm	9000			8000		
Constants (at 120°C)	Torque		N•m/A rms	0.7			0.8	0.77	0.78
	Back emf		V rms/ krpm	40		41	46	48	49
Rotor	Number of poles			6					
	Inertia	Without brake J_m	kgcm²	0.059	0.096	0.134	0.25	0.41	0.58
		With brake J_m	kgcm²	0.0803	0.1173	0.1553	0.322	0.482	0.81
Stator (at 20°C)	Resistance (phase/phase)		Ω	41.8	17.4	10.4	10.4	4.2	2.7
	Inductance (phase/phase)		mH	71.5	35.3	25	38.8	19	13

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

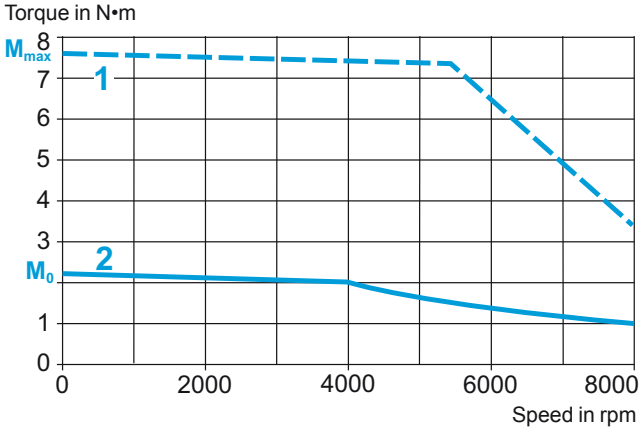
BSH 070 1P servo motor

With LXM 32●D12N4 servo drive



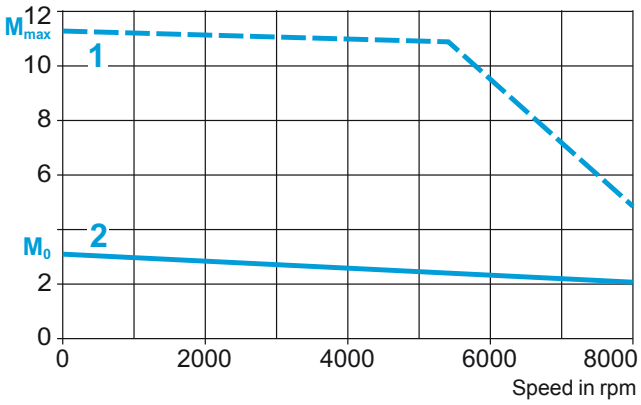
BSH 070 2P servo motor

With LXM 32●D12N4 servo drive



BSH 070 3P servo motor

With LXM 32●D18N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

480 V 3-phase supply voltage

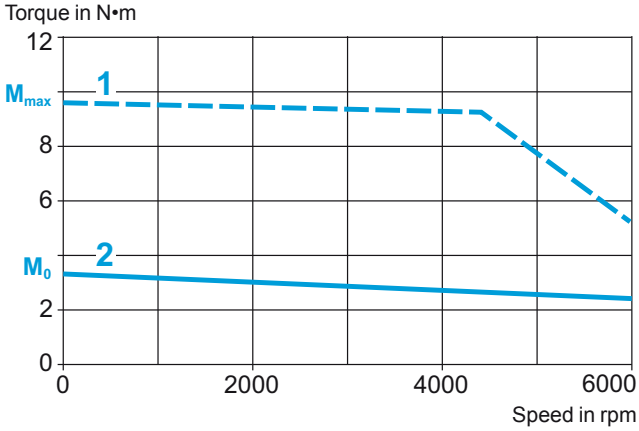
BSH 100 ●● servo motor

Type of servo motor				BSH 100 1P	BSH 100 2P	BSH 100 3P	BSH 100 4P
Associated with Lexium 32 servo drive				LXM 32● D18N4		LXM 32● D30N4	
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	3.3	5.8	8	10
	Peak stall	M_{max}	N•m	9.6	18.3	28.3	37.9
Nominal operating point	Nominal torque		N•m	2.7	4	6.3	8.3
	Nominal speed		rpm	4000			3000
	Nominal servo motor output power		W	1100	1700	2600	
Maximum current				12	17.1	28.3	30
Servo motor specifications							
Maximum mechanical speed			rpm	6000			
Constants (at 120°C)	Torque		N•m/A rms	0.89	1.21	1.22	1.62
	Back emf		V rms/ krpm	60	77		103
Rotor	Number of poles			8			
	Inertia	Without brake J_m	kgcm²	1.4	2.31	3.22	4.22
		With brake J_m	kgcm²	2.018	2.928	3.838	5.245
Stator (at 20°C)	Resistance (phase/phase)		Ω	3.8	2.4	1.43	1.81
	Inductance (phase/phase)		mH	17.6	12.7	8.8	11.8

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

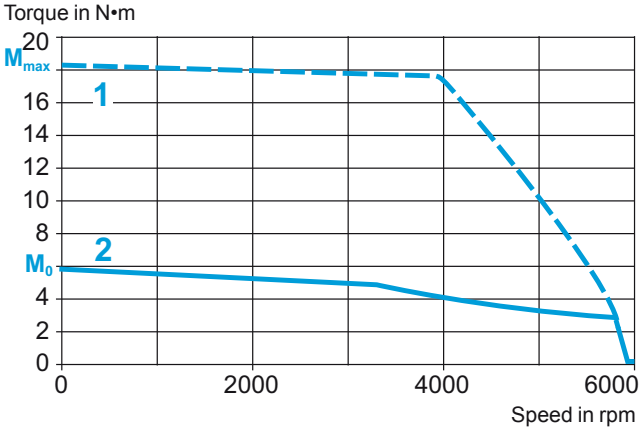
BSH 100 1P servo motor

With LXM 32●D18N4 servo drive



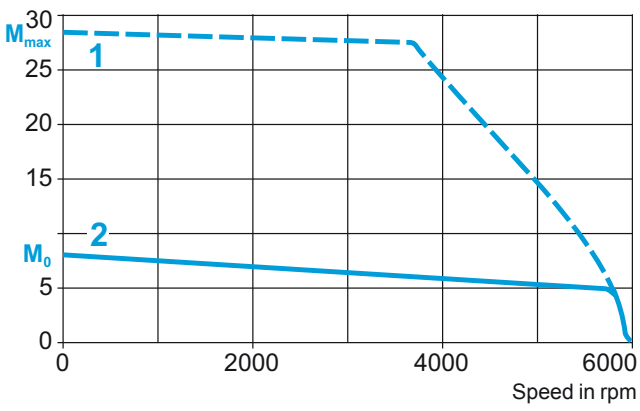
BSH 100 2P servo motor

With LXM 32●D18N4 servo drive



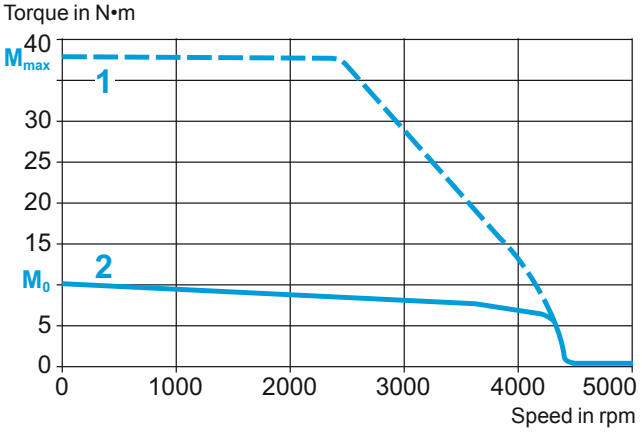
BSH 100 3P servo motor

With LXM 32●D30N4 servo drive



BSH 100 4P servo motor

With LXM 32●D30N4 servo drive



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32 servo drives/BSH servo motors

480 V 3-phase supply voltage

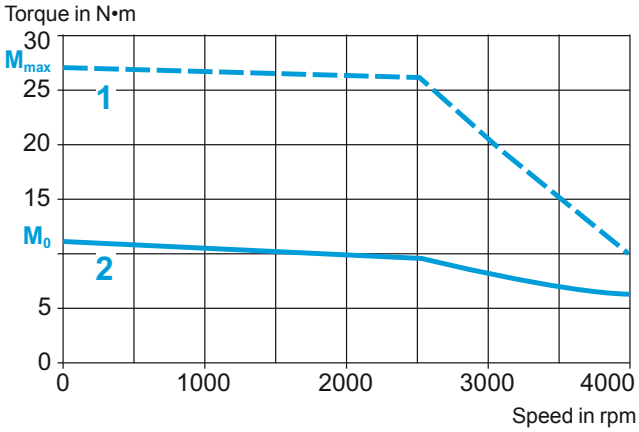
BSH 140 ●● servo motor

Type of servo motor				BSH 140 1P	BSH 140 2T	BSH 140 3T	BSH 140 4P
Associated with Lexium 32 servo drive				LXM 32● D30N4	LXM 32● D72N4		
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	11.1	19.5	27.8	33.4
	Peak stall	M_{max}	N•m	27	59.3	90.2	103.6
Nominal operating point	Nominal torque		N•m	9.5	12.3	12.9	19
	Nominal speed		rpm	3000			2500
	Nominal servo motor output power		W	3000	3900	4100	5000
Maximum current			A rms	20.8	72		
Servo motor specifications							
Maximum mechanical speed			rpm	4000			
Constants (at 120°C)	Torque		N•m/A rms	1.43	1.47	1.58	1.57
	Back emf		V rms/ krpm	100	101	105	104
Rotor	Number of poles			10			
	Inertia	Without brake J_m	kgcm²	7.41	12.68	17.94	23.7
		With brake J_m	kgcm²	9.21	14.48	23.44	29.2
Stator (at 20°C)	Resistance (phase/phase)		Ω	1.41	0.6	0.4	0.28
	Inductance (phase/phase)		mH	15.6	7.4	5.1	3.9

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

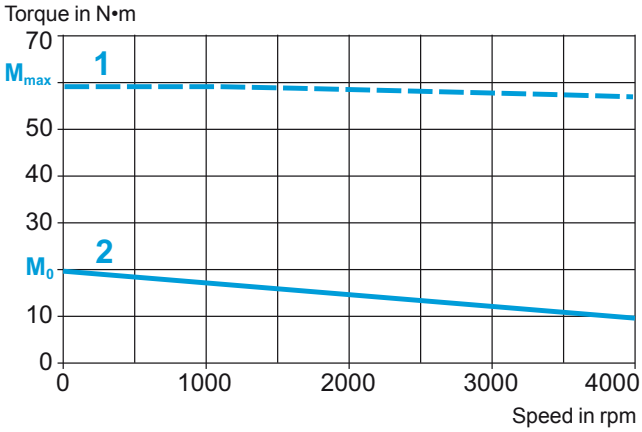
BSH 140 1P servo motor

With LXM 32●D30N4 servo drive



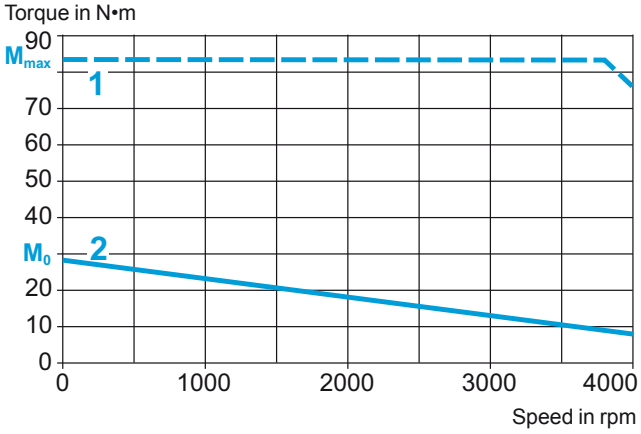
BSH 140 2T servo motor

With LXM 32●D72N4 servo drive



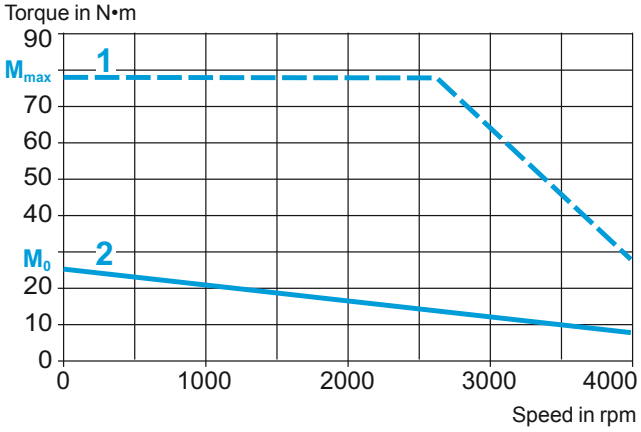
BSH 140 3T servo motor

With LXM 32●D72N4 servo drive

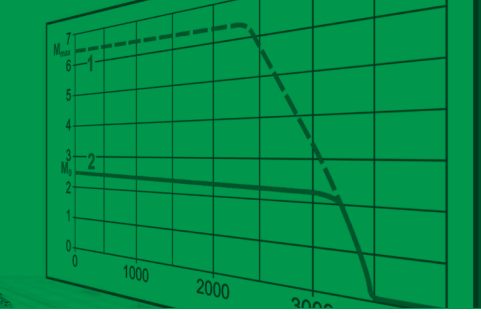


BSH 140 4P servo motor

With LXM 32●D72N4 servo drive



1 Peak torque
2 Continuous torque



Lexium™ 32i series

Overview

The Lexium™ 32i integrated drives, a modular product range, features two communication interfaces for controlling Lexium BMI servo motors. These servo motors help to integrate the power stage that provides a direct power supply from either a single-phase or three-phase AC supply.
This allows Lexium 32i integrated drives to provide optimum functionality adapted to specific performance, power, and simplicity-of-use requirements of motion control applications.
It covers power ratings between 0.4 and 2.1 kW.

Two communication interfaces – CANopen™/CANmotion™ and EtherCAT – allow adaptation to numerous industrial control system architectures.

An integrated “Safe-Torque-Off” function reduces system design times and makes it easier to comply with safety standards.

The product offer

The Lexium 32i product range of integrated drives covers motor power ratings between 0.4 kW and 2.1 kW with three types of power supply:
- 110–120 V single-phase, from 0.4 kW to 0.75 kW (**BMI●●●●T●●●**)
- 200–240 V single-phase, from 0.7 kW to 1.3 kW (**BMI●●●●T●●●**)
- 208–480 V three-phase, from 0.4 kW to 2.1 kW (**BMI●●●●P●●●**)

Lexium™ Motion Control Torque/Speed Curves

Lexium 32i integrated drives/BMI servo motors

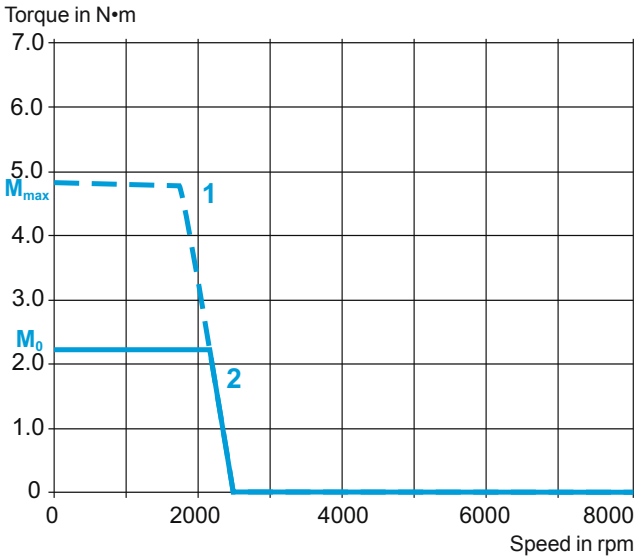
115 V single-phase supply voltage

Mechanical data

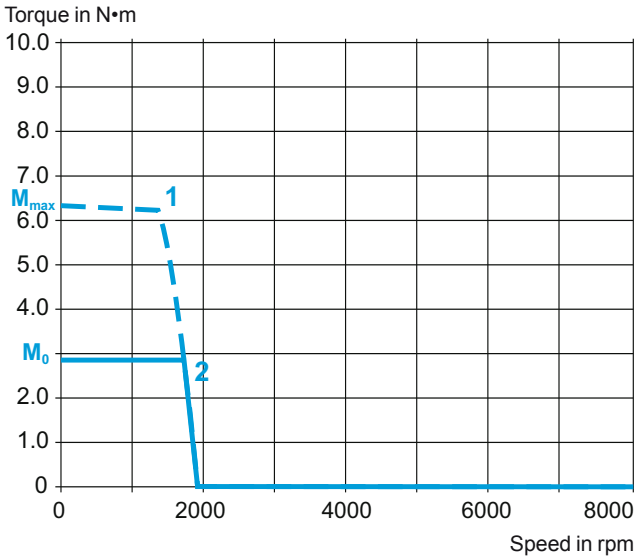
Type of servo motor				BMI 070 2T	BMI 070 3T	BMI 100 2T
Switching frequency			**kHz**	8		
Torque	Continuous stall	M_0	**N•m**	2.3	3	5.4
	Peak stall	M_{max}	**N•m**	6.6	8.6	14.5
Nominal operating point	Nominal torque		**N•m**	2.2	2.9	5.4
	Nominal speed		**rpm**	1700	1400	1400
	Nominal servo motor output power		**kW**	0.4	0.4	0.75
Rotor inertia without brake			**kgcm²**	1.13	1.67	6.28

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

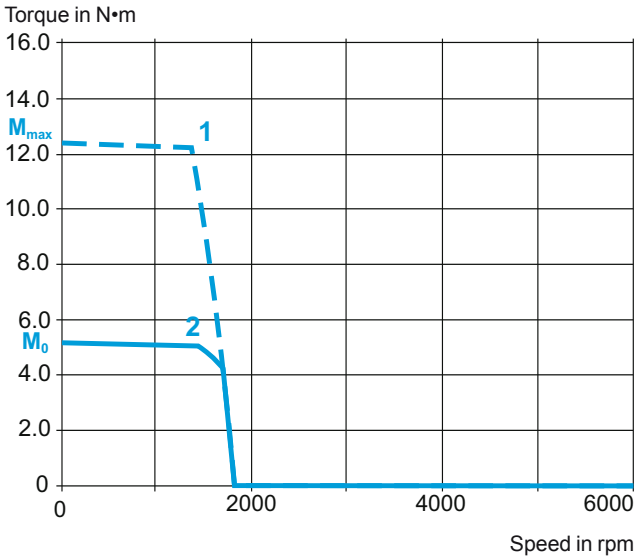
BMI 070 2T servo motor



BMI 070 3T servo motor



BMI 100 2T servo motor



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

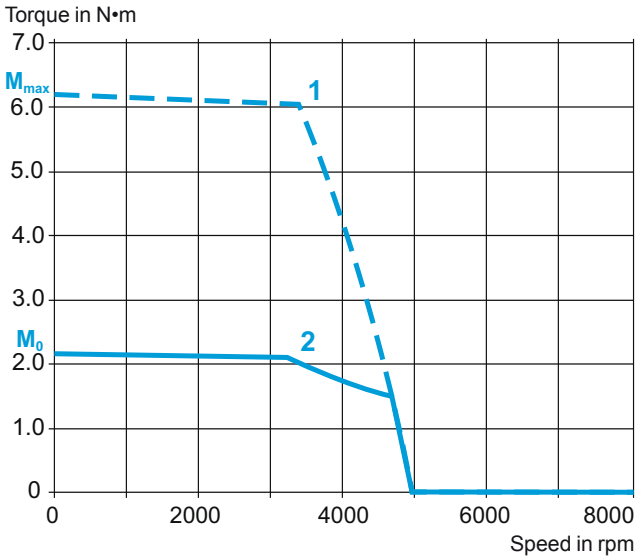
Lexium 32i integrated drives/BMI servo motors
230 V single-phase supply voltage

Mechanical data

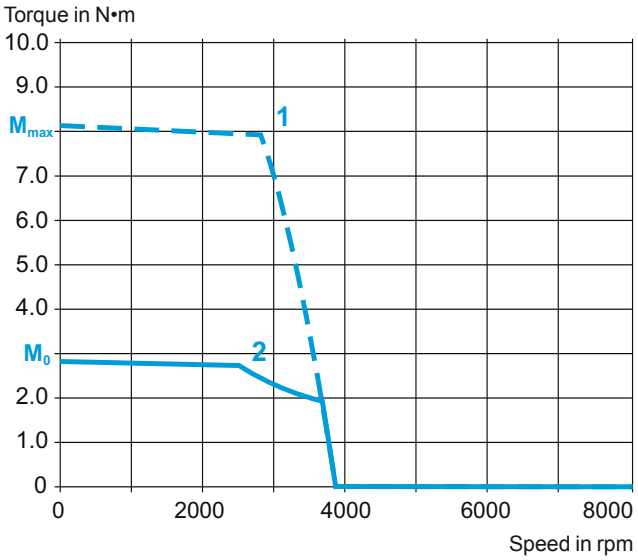
Type of servo motor				BMI 070 2T	BMI 070 3T	BMI 100 2T
Switching frequency			**kHz**	8		
Torque	Continuous stall	M_0	**N•m**	2.3	3	5.4
	Peak stall	M_{max}	**N•m**	6.6	8.6	14.5
Nominal operating point	Nominal torque		**N•m**	1.7	2.2	4.4
	Nominal speed		**rpm**	4000	3200	3000
	Nominal servo motor output power		**kW**	0.7	0.7	1.3
Rotor inertia without brake			**kgcm²**	1.13	1.67	6.28

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

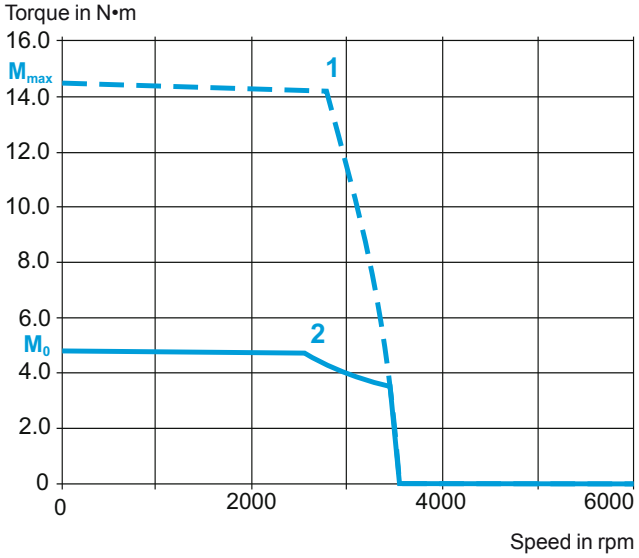
BMI 070 2T servo motor



BMI 070 3T servo motor



BMI 100 2T servo motor



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32i integrated drives/BMI servo motors

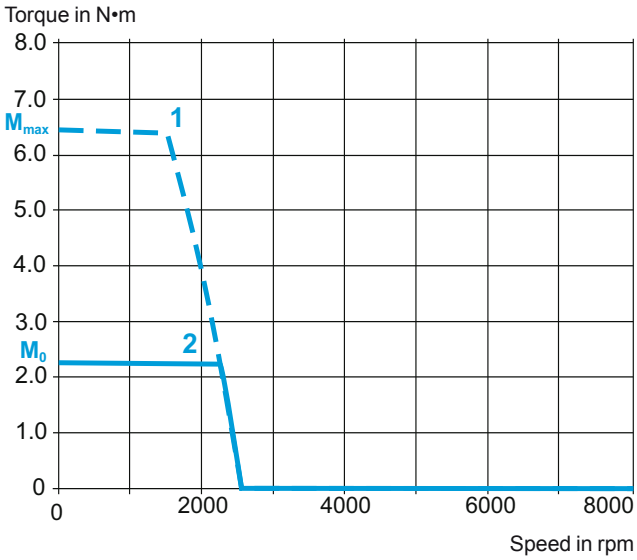
208 V 3-phase supply voltage

Mechanical data

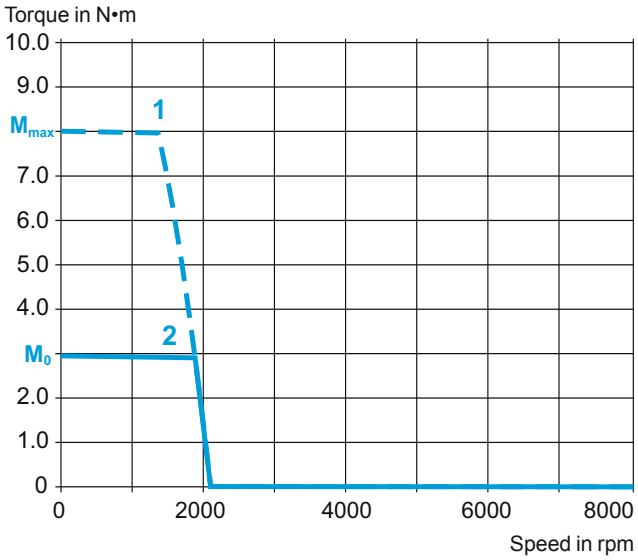
Type of servo motor				BMI 070 2P	BMI 070 3P	BMI 100 2P	BMI 100 3P
Switching frequency			**kHz**	8			
Torque	Continuous stall	M_0	**N•m**	2.5	3	5.4	7.2
	Peak stall	M_{max}	**N•m**	6.8	8.6	14	19.2
Nominal operating point	Nominal torque		**N•m**	2.4	2.9	5.4	7.2
	Nominal speed		**rpm**	1800	1600	1900	1500
	Nominal servo motor output power		**kW**	0.4	0.45	1	1
Rotor inertia without brake			**kgcm²**	1.13	1.67	6.28	9.37

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

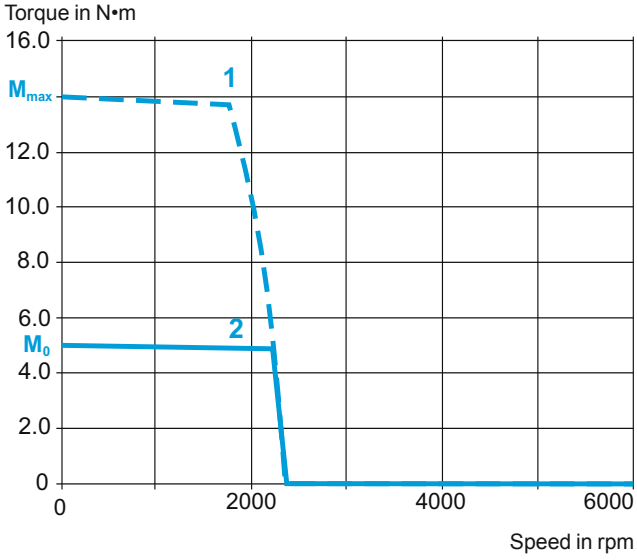
BMI 070 2P servo motor



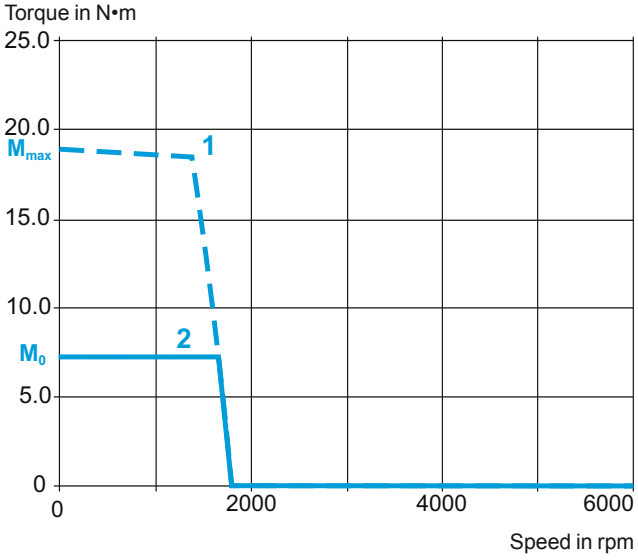
BMI 070 3P servo motor



BMI 100 2P servo motor



BMI 100 3P servo motor



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32i integrated drives/BMI servo motors

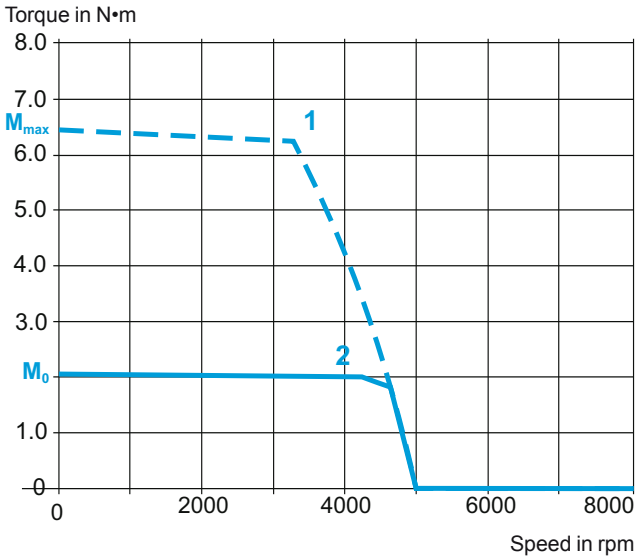
400 V 3-phase supply voltage

Mechanical data

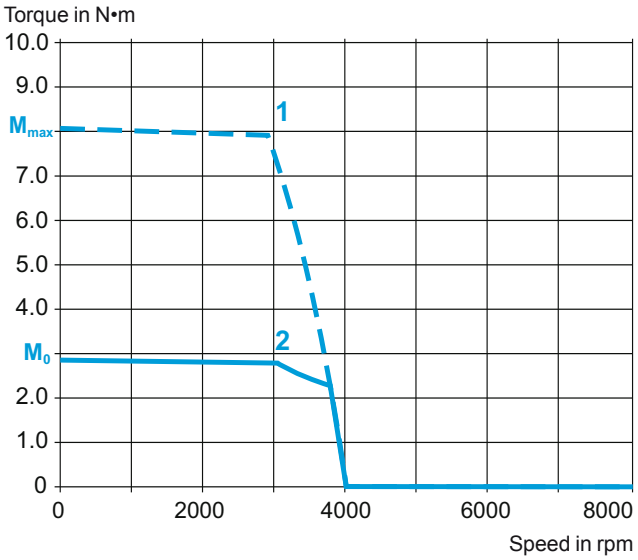
Type of servo motor				BMI 070 2P	BMI 070 3P	BMI 100 2P	BMI 100 3P
Switching frequency			**kHz**	8			
Torque	Continuous stall	M_0	**N•m**	2.5	3	5.4	7.2
	Peak stall	M_{max}	**N•m**	6.8	8.6	14	19.2
Nominal operating point	Nominal torque		**N•m**	2.2	2.7	5.1	6.8
	Nominal speed		**rpm**	3600	3300	3800	3000
	Nominal servo motor output power		**kW**	0.8	0.9	1.9	2
Rotor inertia without brake			**kgcm²**	1.13	1.67	6.28	9.37

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

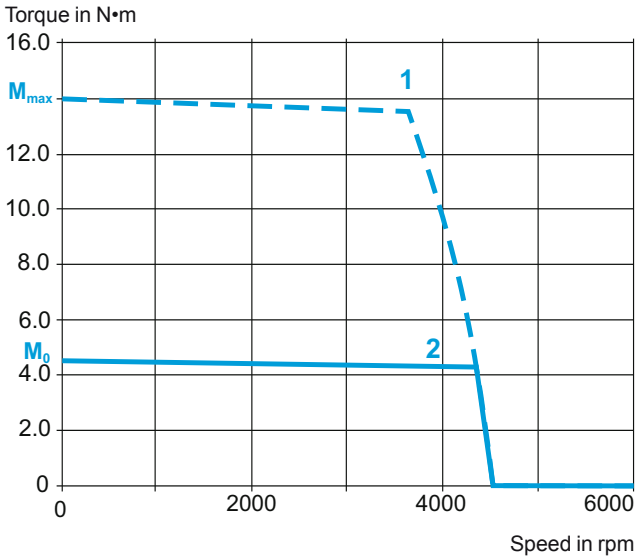
BMI 070 2P servo motor



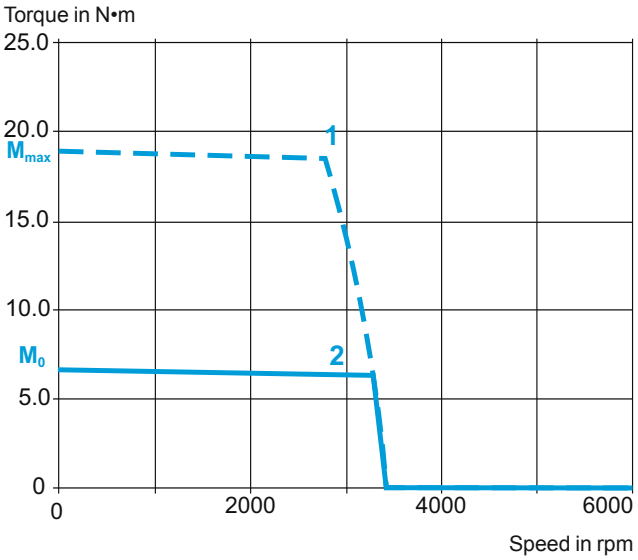
BMI 070 3P servo motor



BMI 100 2P servo motor



BMI 100 3P servo motor



1 Peak torque
2 Continuous torque

Lexium™ Motion Control Torque/Speed Curves

Lexium 32i integrated drives/BMI servo motors

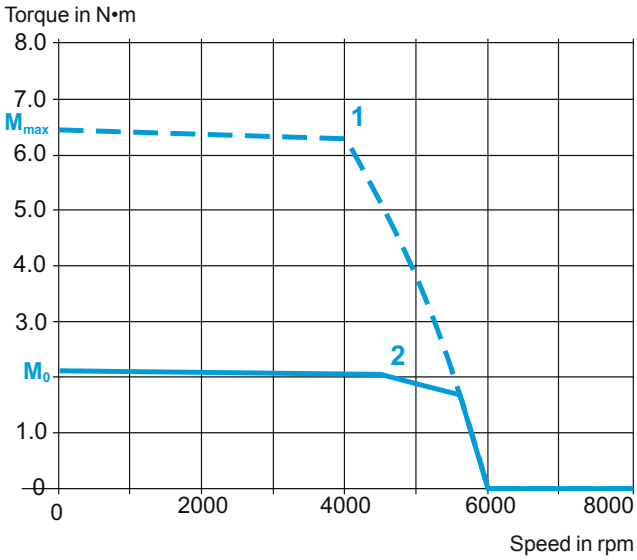
480 V 3-phase supply voltage

Mechanical data

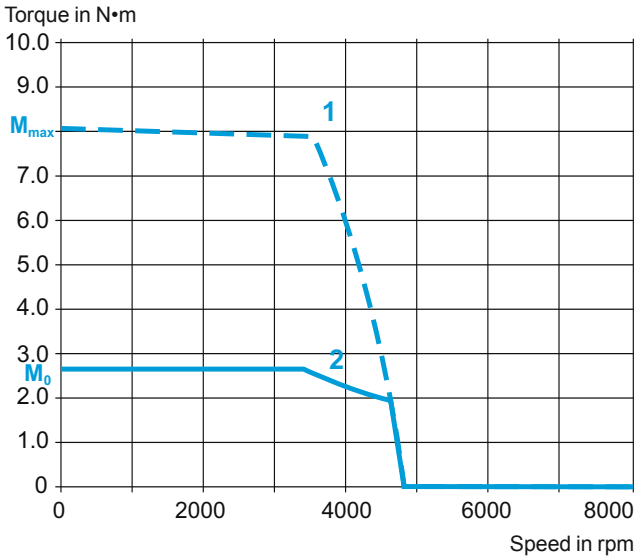
Type of servo motor				BMI 070 2P	BMI 070 3P	BMI 100 2P	BMI 100 3P
Switching frequency			kHz	8			
Torque	Continuous stall	M_0	N•m	2.5	3	5.4	7.2
	Peak stall	M_{max}	N•m	6.8	8.6	14	19.2
Nominal operating point	Nominal torque		N•m	2	2.3	4.1	5.6
	Nominal speed		rpm	4400	3900	4700	3700
	Nominal servo motor output power		kW	0.9	0.9	1	2.1
Rotor inertia without brake			kgcm²	1.13	1.67	6.28	9.37

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

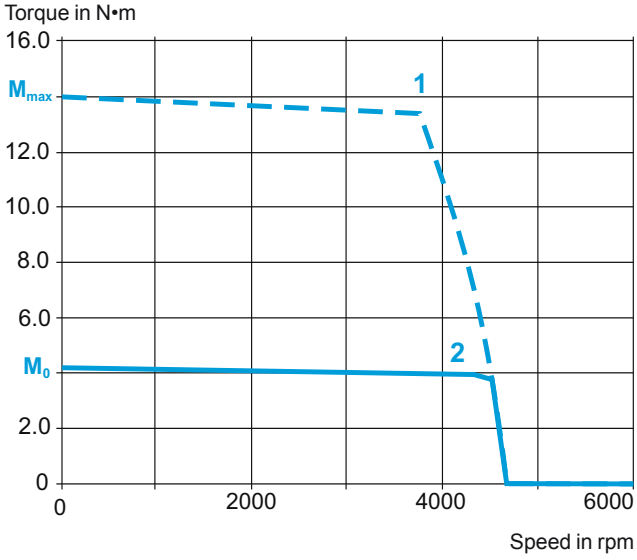
BMI 070 2P servo motor



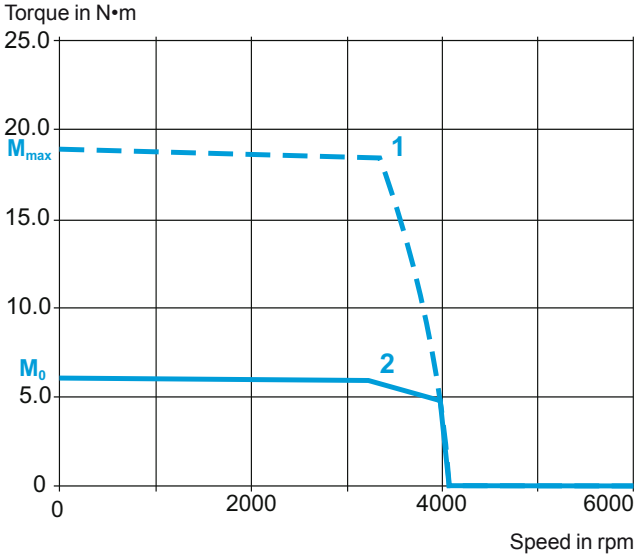
BMI 070 3P servo motor



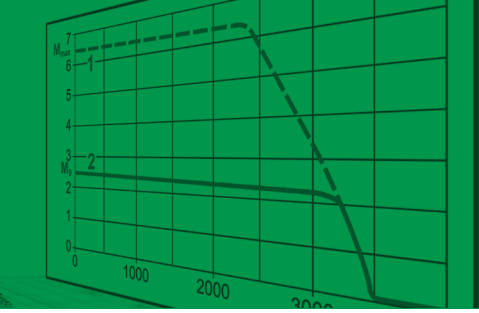
BMI 100 2P servo motor



BMI 100 3P servo motor



1 Peak torque
2 Continuous torque



Lexium™ IL● series

Overview

Lexium™ Integrated Drives are used to create decentralized motion control solutions in very compact units.

These drives consist of a motor and control electronics. They are controlled via a communication bus, a pulse/direction (P/D) interface or an I/O interface (for the “Motion sequence” operating mode).

Lexium Integrated Drives are used as decentralized drives in machine building. When combined with a Schneider Electric Lexium Controller or a PLC, they can be used to create complex control system architectures simply and at minimum cost. Ready-to-use function blocks are available for programming movements with Schneider Electric or third-party motion controllers.

Compact design

Lexium motor and control electronics form a compact unit. This decentralized unit does not require any space in the enclosure for the control electronics, thus reducing the size of the machine.

Simple to install and commission

Integration of the motor and the control electronics reduces installation costs and simplifies incorporation of electromagnetic compatibility. In addition, Lexium CT PC software enables rapid commissioning.

Optimum flexibility to adapt to your application

Lexium Integrated Drives can be equipped with an AC synchronous servo motor, a DC brushless motor or a stepper motor, providing multiple options for use in a wide variety of applications.
Depending on the technology used, these drives can meet requirements for dynamic performance, flexibility or precision in motion control applications.

Open communication with control system architectures

Depending on the model, Lexium Integrated Drives incorporate as standard the main communication protocols used in industry for increased performance of your applications:
- CANopen, PROFIBUS DP, DeviceNet, EtherCAT, EtherNet/IP, Ethernet POWERLINK™ and Modbus TCP communication buses and networks
- RS 485 serial link

Lexium Integrated Drives with stepper motor are also available with a pulse/direction (P/D) interface or an I/O interface for the motion sequence.

This open communication concept enables integration in numerous control system architectures.

Lexium™ Motion Control Torque/Speed Curves

IL●1 for CANopen, PROFIBUS DP, RS 485

ILA1 with AC synchronous servo motor

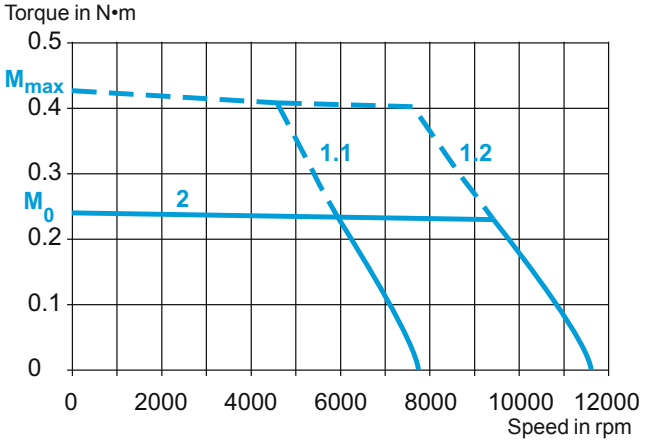
Mechanical data

Type of integrated drive			ILA1●571				ILA1●572			
Winding type			T		P		T		P	
Nominal supply voltage		⎓ V	24	36	24	36	24	36	24	36
Nominal speed of rotation		rpm	5100	7500	3200	5500	3100	5000	2600	4300
Max. torque *(1)*	M_{max}	N•m	0.43		0.6		0.61		0.72	
Continuous torque *(2)*	M_0	N•m	0.26		0.26		0.41		0.45	
Positioning resolution per revolution		Inc.	16384				16384			
Accuracy of positioning sensor		°	±0.05				±0.05			
Rotor inertia		kgcm²	0.1				0.18			
Mass		kg	1.4				1.7			
Shaft load	Max. radial force *(3)*	N	89				107			
	Max. axial tensile force	N	104				104			
	Max. axial force pressure	N	104				104			
	Nominal bearing service life *(4)*	h	20000				20000			
Holding brake (optional) *(5)*										
Holding torque		N•m	1.2							
Electrical pull-in power		W	10							
Brake release time		ms	14							
Brake application time		ms	13							
Moment of inertia		kgcm²	0.07							
Multiturn encoder (optional) *(5)*										
Measuring range absolute		rpm	4096							
Positioning resolution per revolution		Inc.	16384							
Accuracy of positioning sensor		°	±0.05							

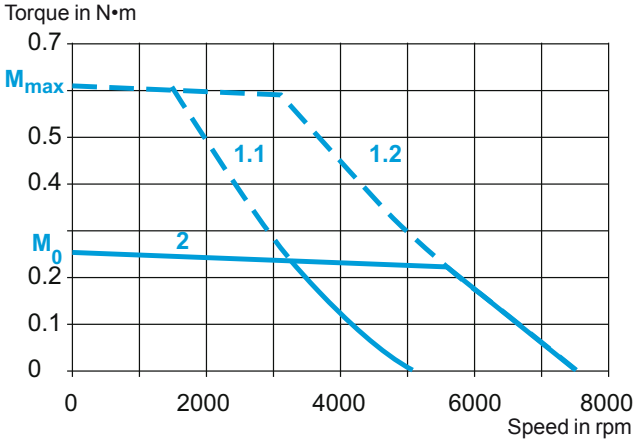
(1) Max. 2.5 s
(2) At 20 rpm; at 0 rpm the continuous torque is reduced to 89% of the specified value
(3) Point of application of radial force: 10 mm distance to flange
(4) Operating hours at a probability of failure of 10%; conditions for shaft load: speed 4000 rpm, 100% duty cycle at continuous torque, ambient temperature 40 °C
(5) Holding brake and multiturn encoder cannot be used in combination.

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

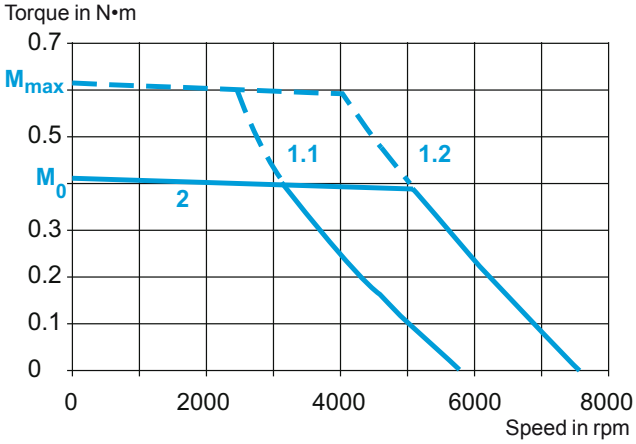
ILA1●571T (winding type T)



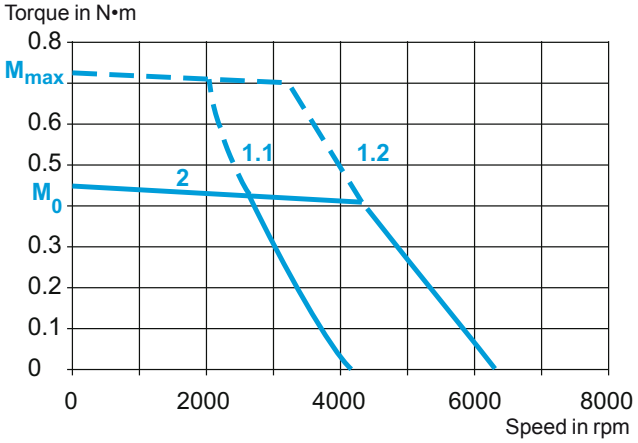
ILA1●571P (winding type P)



ILA1●572T (winding type T)



ILA1●572P (winding type P)



1.1 Max. torque at 24 V **1.2** Max. torque at 36 V **2** Continuous torque

Lexium™ Motion Control Torque/Speed Curves

IL●1 for CANopen, PROFIBUS DP, RS 485

ILE1 with brushless DC motor (without gear)

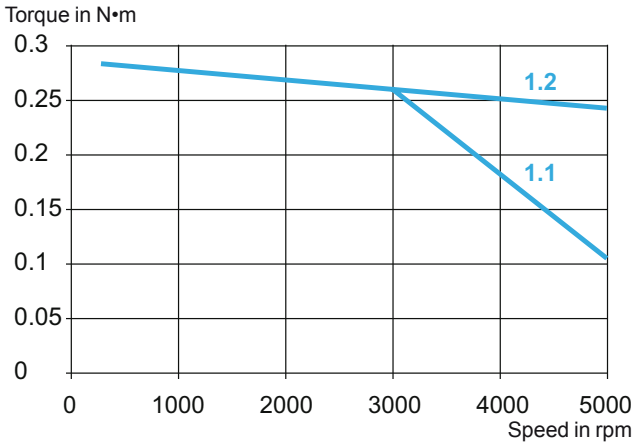
Mechanical data

Nominal supply voltage		**⎓ V**	24	36
Nominal current		**A**	4.7	5.1
Nominal speed of rotation		**rpm**	4000	4800
Nominal output power		**W**	74	117
Nominal torque		**N•m**	0.175	0.24
Max. torque	M_{max}	**N•m**	0.26	0.36
Max. current with power stage disabled		**A**	0.1	0.06
Detent torque (at zero current)		**N•m**	0.08	
Moment of inertia		**kgcm²**	0.149	
Max. speed of rotation		**rpm**	5000	
Positioning resolution per revolution		**Inc.**	12	
Accuracy of positioning sensor		**°**	±1	
Mass		**kg**	1.4	
Shaft load	Max. radial force *(1)*	**N**	80	
	Max. axial tensile force	**N**	30	
	Max. axial force pressure	**N**	30	
	Nominal bearing service life *(2)*	**h**	20000	

(1) Point of application of radial force: 12.5 mm distance to flange
(2) Operating hours at a probability of failure of 10%

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

ILE1 without gear



1.1 Max. torque at 24 V **1.2** Max. torque at 36 V

Lexium™ Motion Control Torque/Speed Curves

IL●1 for CANopen, PROFIBUS DP, RS 485

ILE1 with brushless DC motor (with straight teeth gear)

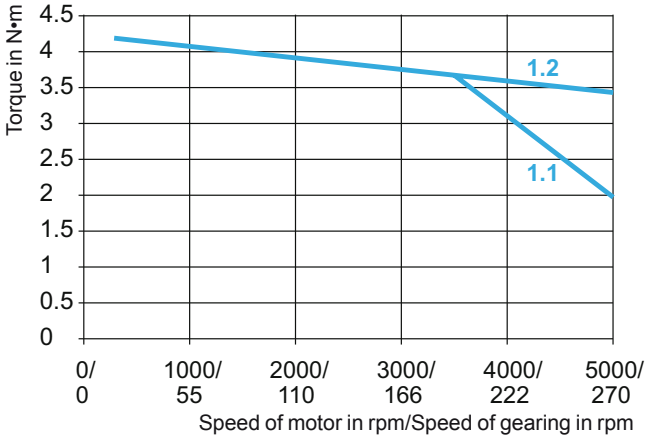
Mechanical data for ILE1●661 with straight teeth gear

			G1		G2		G3		G4	
Ratio			18:1 (160:9)		38:1 (75:2)		54:1 (490:9)		115:1 (3675:32)	
Number of gear stages			3		3		4		4	
Nominal supply voltage		⎓ V	24	36	24	36	24	36	24	36
Nominal current		A	4.5	4	4	3.4	4.3	3.5	2.6	2.1
Nominal speed of rotation of motor		rpm	4000	4800	4000	4800	4000	4800	4000	4800
Nominal output speed of rotation		rpm	225	270	107	128	73	88	35	42
Nominal output torque		N•m	3.1	3.5	5.8	6.0	9.5	10.0	10.0	11.0
Nominal output power		W	74	98	65	81	73	88	38	48
Max. current with power stage disabled		A	0.1	0.06	0.1	0.06	0.1	0.06	0.1	0.06
Detent torque (at zero current)		N•m	1.1		3.0		3.3		8.0	
Moment of inertia output		kgcm²	48		211		441		1962	
Max. speed of rotation		rpm	281		133		92		44	
Positioning resolution of motor per revolution		Inc.	12							
Positioning accuracy motor		Inc.	±1							
Positioning resolution of output		°	1.667		0.8		0.55		0.26	
Torsional backlash		°	≤1							
Mass		kg	1.85							
Shaft load (short-term operation)	Max. radial force *(1)*	N	200							
	Max. axial force	N	80							
	Nominal bearing service life *(2)*	h	2500							
Shaft load (long-term operation)	Max. radial force *(1)*	N	200							
	Max. axial force	N	10							
	Nominal bearing service life *(2)*	h	15000		15000		15000 *(3)*		15000 *(4)*	

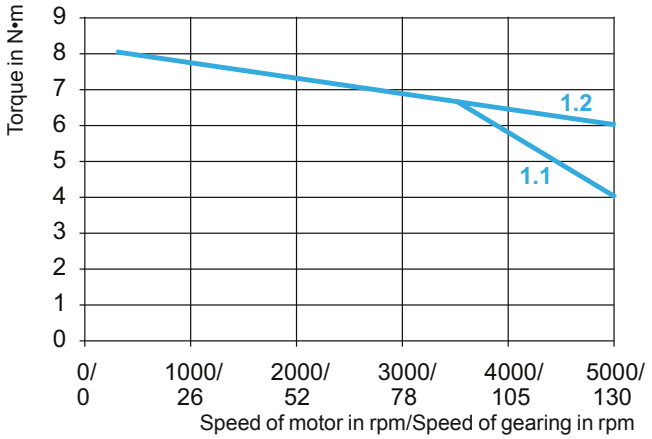
(1) Point of application of radial force: 12.5 mm distance to flange
(2) Operating hours at a probability of failure of 10%
(3) With reduced nominal output torque = 6 N•m; 2500 h at maximum torque
(4) With reduced nominal output torque = 8 N•m; 2500 h at maximum torque

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

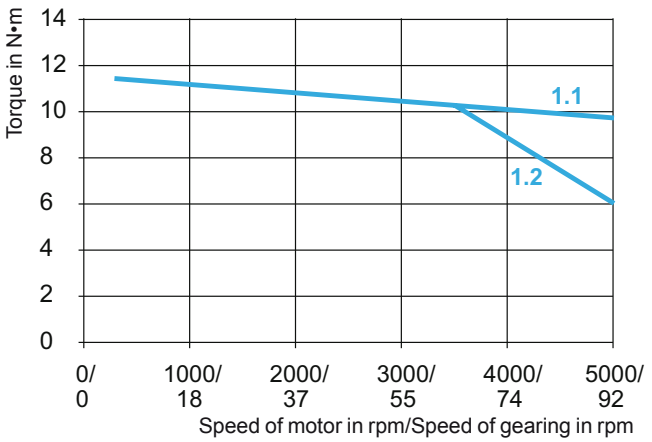
ILE1●661 with straight teeth gear G1



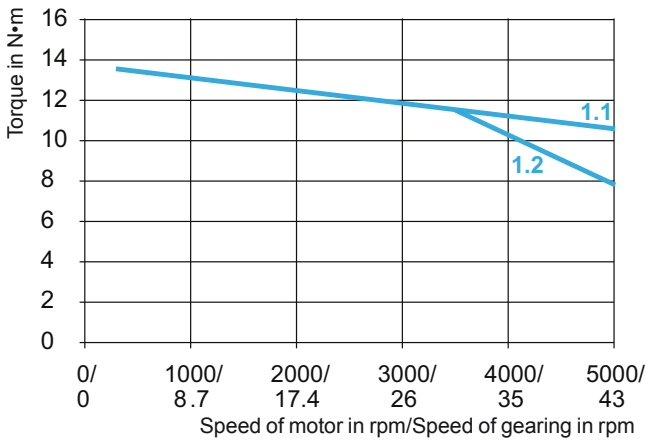
ILE1●661 with straight teeth gear G2



ILE1●661 with straight teeth gear G3



ILE1●661 with straight teeth gear G4



1.1 Max. torque at 24 V **1.2** Max. torque at 36 V

Lexium™ Motion Control Torque/Speed Curves

IL●1 for CANopen, PROFIBUS DP, RS 485

ILE1 with brushless DC motor (with worm gear)

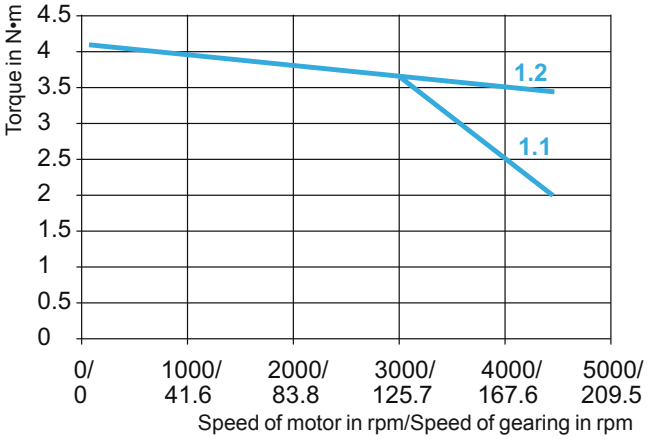
Mechanical data for ILE1●661 with worm gear

			G5		G6		G7		G8	
Ratio			24:1 (525:22)		54:1 (1715:32)		92:1 (735:5)		115:1 (3675:32)	
Number of gear stages			2		3		3		3	
Nominal supply voltage		⎓ V	24	36	24	36	24	36	24	36
Nominal current		A	6.8	5.1	6.8	3.8	6.8	3.8	6.8	3.8
Nominal speed of rotation of motor		rpm	4000	4000	4000	4000	4000	4000	4000	4000
Nominal output speed of rotation		rpm	168		75		44		35	
Nominal output torque		N•m	2.5	3.5	5.8	6.0	9.0	9.2	10.2	10.6
Nominal output power		W	45	61	45	47	41	42	37	39
Max. current with power stage disabled		A	0.1							
Detent torque (at zero current)		N•m	2.9		6.5		12.3		16.7	
Moment of inertia output		kgcm²	90		430		1270		1980	
Max. speed of rotation		rpm	186		93		54		44	
Positioning resolution of motor per revolution		Inc.	12							
Positioning accuracy motor		Inc.	±1							
Positioning resolution of output		°	1.26		0.56		0.33		0.26	
Torsional backlash		°	≤1.5		≤1.0		≤1.0		≤1.0	
Mass		kg	2.3							
Shaft load	Max. radial force *(1)*	N	200							
	Max. axial force	N	80							
	Nominal bearing service life *(2)*	h	3000		6000		9000		9000	

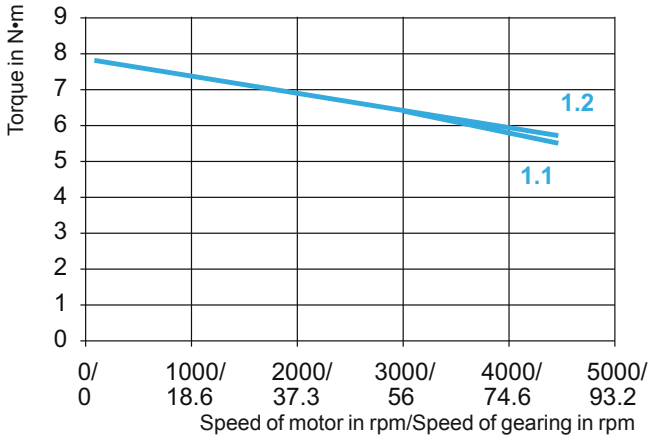
(1) Point of application of radial force: 12.5 mm distance to flange
(2) Operating hours at a probability of failure of 10%

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

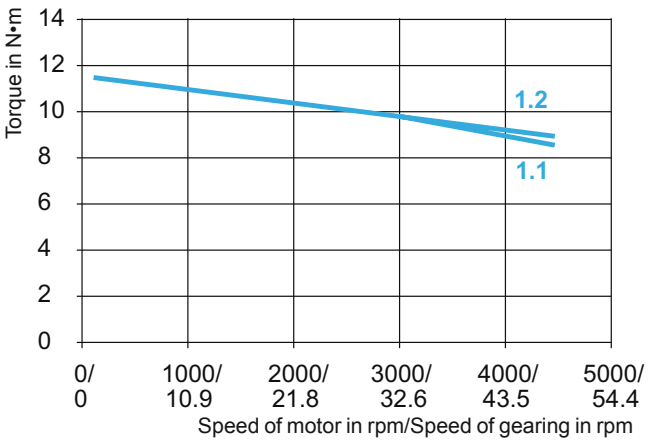
ILE1●661 with worm gear G5



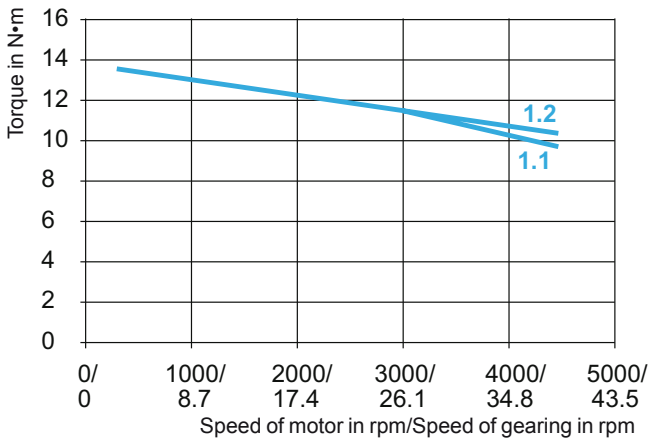
ILE1●661 with worm gear G6



ILE1●661 with worm gear G7



ILE1●661 with worm gear G8



1.1 Max. torque at 24 V **1.2** Max. torque at 36 V

Lexium™ Motion Control Torque/Speed Curves

IL●1 for CANopen, PROFIBUS DP, RS 485

ILS1 with 3-phase stepper motor

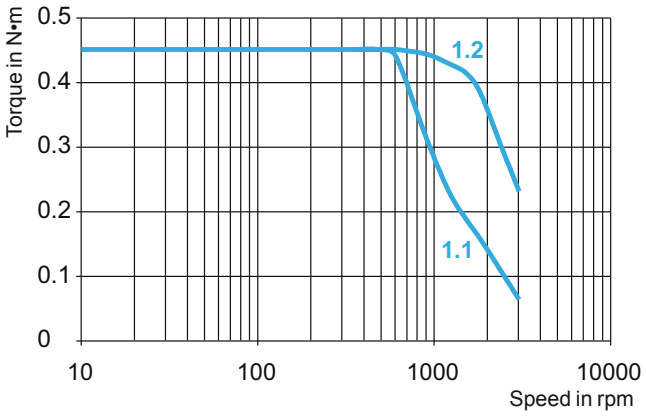
Mechanical data

Type of integrated drive			ILS1●571	ILS1●572	ILS1●573
Winding type			P	P	P
Max. torque		**N•m**	0.45	0.9	1.5
Holding torque		**N•m**	0.51	1.02	1.70
Moment of inertia		**kgcm²**	0.1	0.22	0.38
Positioning resolution per revolution		**Inc.**	20000		
Systematic angle tolerance per step *(1)*		**arcmin**	±6		
Mass		**kg**	1.3	1.6	2.0
Shaft load *(2)*	Max. radial force *(3)*	**N**	24	24	50
	Max. axial tensile force	**N**	100		
	Max. axial force pressure	**N**	8.4		
	Nominal bearing service life *(4)*	**h**	20000		

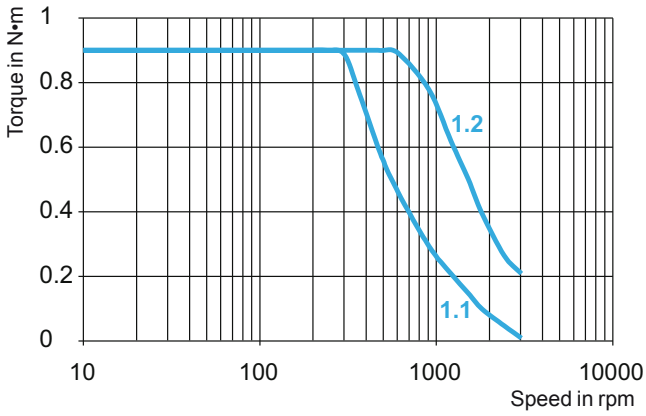
(1) Measured at 1000 steps/revolution
(2) Conditions for shaft load: speed of rotation 60 rpm, 100% duty cycle at continuous torque, ambient temperature 40 °C
(3) Point of application of radial force: 10.5 mm distance to flange
(4) Operating hours at a probability of failure of 10%

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

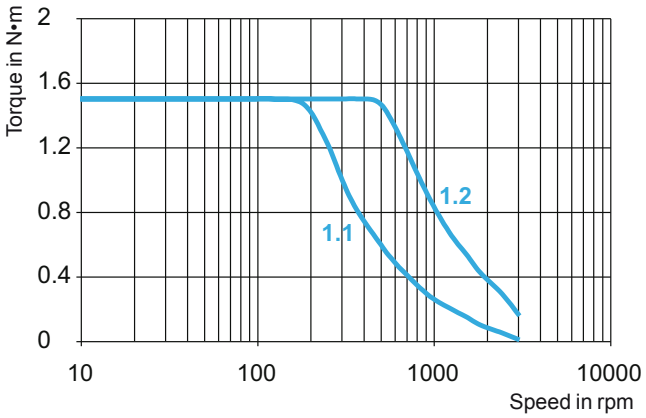
ILS1●571P (winding type P)



ILS1●572P (winding type P)



ILS1●573P (winding type P)



1.1 Max. torque at 24 V **1.2** Max. torque at 36 V

Lexium™ Motion Control Torque/Speed Curves

IL●1 for CANopen, PROFIBUS DP, RS 485

ILS1 with 3-phase stepper motor

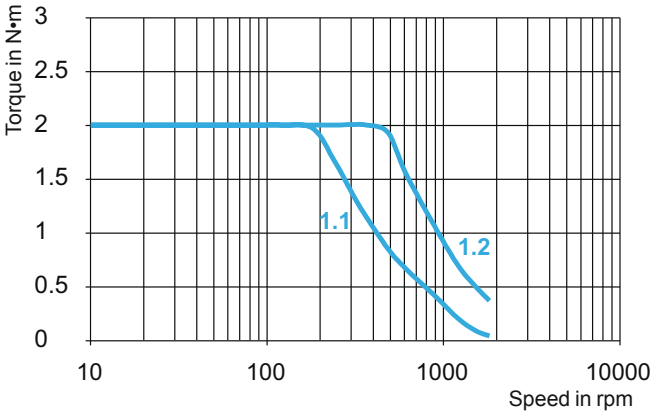
Mechanical data

Type of integrated drive			ILS1●851	ILS1●852	ILS1●853	
Winding type			P	P	P	T
Max. torque		N•m	2.0	4.0	6.0	4.5
Holding torque		N•m	2.0	4.0	6.0	4.5
Moment of inertia		kgcm²	1.1	2.2	3.3	
Positioning resolution		Inc.	20000			
Systematic angle tolerance per step *(1)*		arcmin	±6			
Mass		kg	2.6	3.6	4.7	
Shaft load *(2)*	Max. radial force *(3)*	N	100	100	110	
	Max. axial tensile force	N	170			
	Max. axial force pressure	N	30			
	Nominal bearing service life *(4)*	h	20000			
Holding Brake						
Holding torque		N•m	6			
Electrical pull-in power		W	22			
Brake release time		ms	40			
Brake application time		ms	20			
Moment of inertia		kgcm²	0.2			
Mass		kg	1.8			

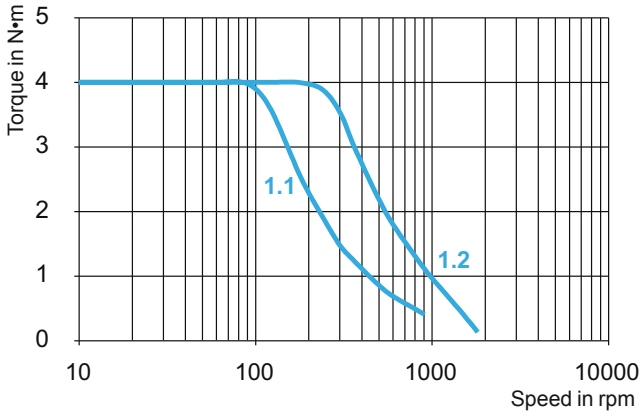
(1) Measured at 1000 steps/revolution
(2) Conditions for shaft load: speed of rotation 60 rpm, 100% duty cycle at continuous torque, ambient temperature 40 °C
(3) Point of application of radial force: 10.5 mm distance to flange
(4) Operating hours at a probability of failure of 10%

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

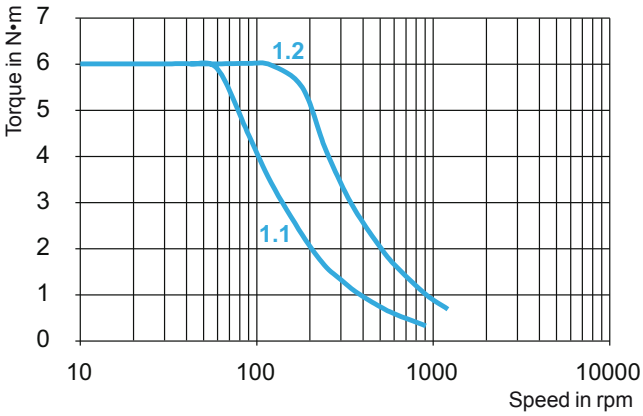
ILS1●851P (winding type P)



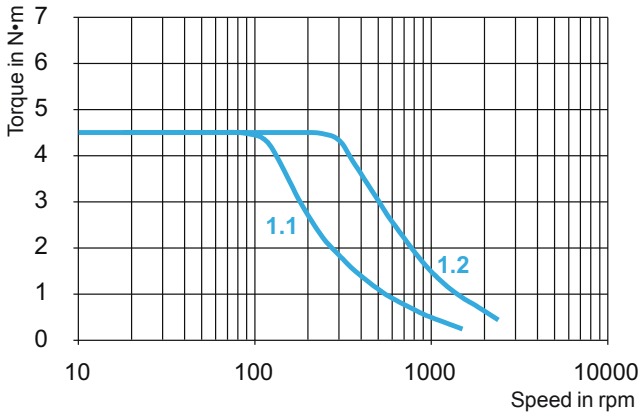
ILS1●852P (winding type P)



ILS1●853P (winding type P)



ILS1●853T (winding type T)



1.1 Max. torque at 24 V **1.2** Max. torque at 36 V

Lexium™ Motion Control Torque/Speed Curves

IL●2 for DeviceNet, EtherCAT, Modbus TCP, Ethernet Powerlink

ILA2 with AC synchronous servo motor

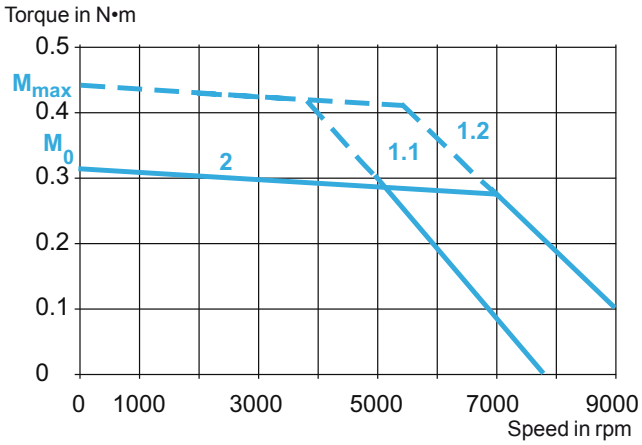
Mechanical data

Type of integrated drive			ILA2●571				ILA2●572			
Winding type			T		P		T		P	
Nominal supply voltage		⎓ V	24	48	24	48	24	48	24	48
Nominal speed of rotation		rpm	5000	7000	3200	5100	3000	5100	1600	3400
Max. torque *(1)*	M_{max}	N•m	0.45		0.62		0.85		1.62	
Continuous torque *(2)*	M_0	N•m	0.31		0.44		0.57		0.78	
Positioning resolution per revolution		Inc.	16384				16384			
Accuracy of positioning sensor		°	±0.05				±0.05			
Rotor inertia		kgcm²	0.095				0.173			
Mass		kg	1.4				1.7			
Shaft load	Max. radial force *(3)*	N	89				107			
	Max. axial tensile force	N	104				104			
	Max. axial force pressure	N	104				104			
	Nominal bearing service life *(4)*	h	20000				20000			
Holding brake (optional) *(5)*										
Holding torque		N•m	1.2							
Electrical pull-in power		W	10							
Brake release time		ms	14							
Brake application time		ms	13							
Moment of inertia		kgcm²	0.07							
Multiturn encoder (optional) *(5)*										
Measuring range absolute		rpm	4096							
Positioning resolution per revolution		Inc.	16384							
Accuracy of positioning sensor		°	±0.05							

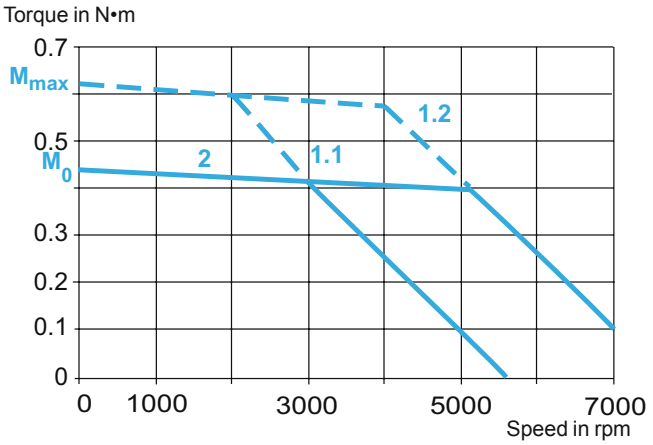
(1) Max. 2.5 s
(2) At 20 rpm; at 0 rpm the continuous torque is reduced to 89% of the specified value
(3) Point of application of radial force: 10 mm distance to flange
(4) Operating hours at a probability of failure of 10%; conditions for shaft load: speed 4000 rpm, 100% duty cycle at continuous torque, ambient temperature 40 °C
(5) Holding brake and multiturn encoder cannot be used in combination.

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

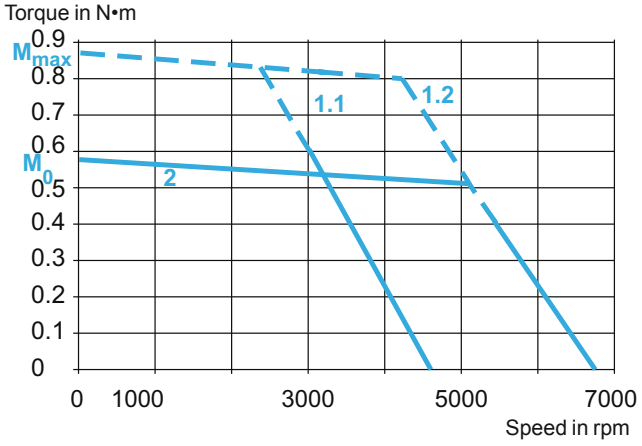
ILA2●571T (winding type T)



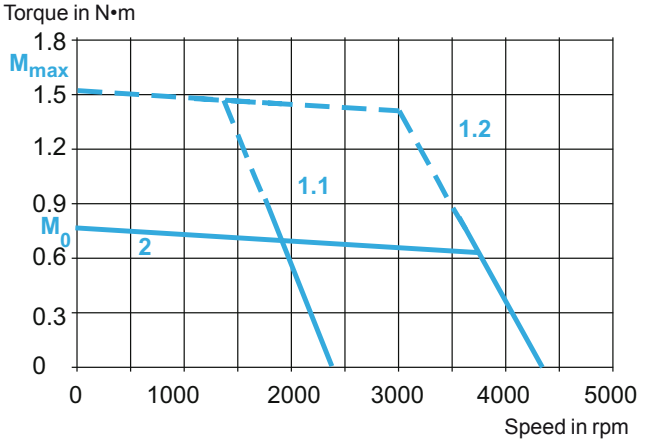
ILA2●571P (winding type P)



ILA2●572T (winding type T)



ILA2●572P (winding type P)



1.1 Max. torque at 24 V **1.2** Max. torque at 48 V **2** Continuous torque

Lexium™ Motion Control Torque/Speed Curves

IL●2 for DeviceNet, EtherCAT, Modbus TCP, Ethernet Powerlink

ILE2 with brushless DC motor (without gear)

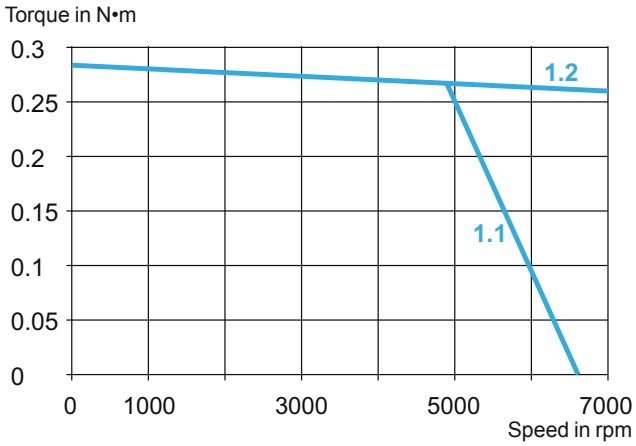
Mechanical data

Type of integrated drive			ILE2●661		ILE2●662	
Nominal supply voltage		⎓ V	24	48	24	48
Nominal current		A	6.8	3.8	9.5	7
Nominal speed of rotation		rpm	4800	6000	3100	5000
Nominal output power		W	131	163	162	262
Nominal torque		N•m	0.26		0.5	
Max. torque	M_{max}	N•m	0.43		0.8	
Max. current with power stage disabled		A	0.1			
Detent torque (at zero current)		N•m	0.08		0.106	
Moment of inertia		kgcm²	0.17		0.34	
Max. speed of rotation		rpm	6500	7000	5000	7000
Positioning resolution per revolution		Inc.	12			
Accuracy of positioning sensor		°	±0.5			
Mass		kg	1.4		1.75	
Shaft load	Max. radial force *(1)*	N	80			
	Max. axial tensile force	N	30			
	Max. axial force pressure	N	30			
	Nominal bearing service life *(2)*	h	20000			

(1) Point of application of radial force: 12.5 mm distance to flange
(2) Operating hours at a probability of failure of 10%

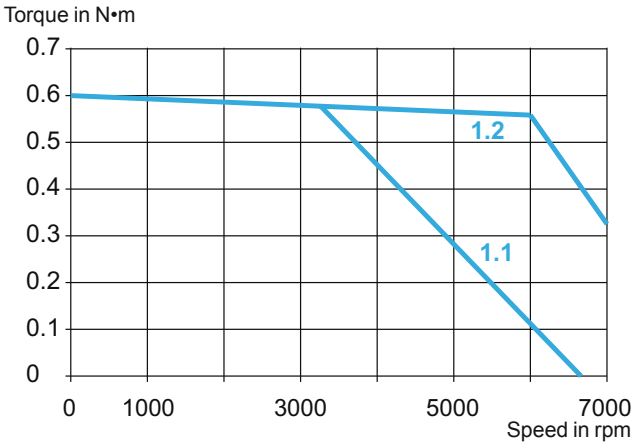
Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

ILE2●661 without gear



1.1 Max. torque at 24 V **1.2** Max. torque at 48 V

ILE2●662 without gear



Lexium™ Motion Control Torque/Speed Curves

IL●2 for DeviceNet, EtherCAT, Modbus TCP, Ethernet Powerlink

ILE2 with brushless DC motor (with straight teeth gear)

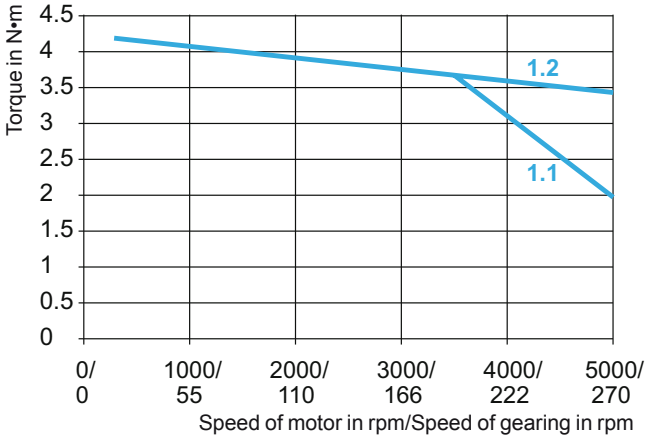
Mechanical data for ILE2●661 with straight teeth gear

			G1		G2		G3		G4	
Ratio			18:1 (160:9)		38:1 (75:2)		54:1 (490:9)		115:1 (3675:32)	
Number of gear stages			3		3		4		4	
Nominal supply voltage		⎓ V	24	48	24	48	24	48	24	48
Nominal current		A	6.8	3.8	6.8	3.8	6.8	3.8	6.8	3.8
Nominal speed of rotation of motor		rpm	4000	5000	4000	5000	4000	5000	4000	5000
Nominal output speed of rotation		rpm	225	281	107	133	73	92	35	44
Nominal output torque		N•m	3.5		7.3		10		12	
Nominal output power		W	95	119	95	119	90	112	54	68
Max. current with power stage disabled		A	0.1							
Detent torque (at zero current)		N•m	1.42		3.00		4.36		9.19	
Moment of inertia output		kgcm²	48		211		441		1962	
Max. speed of rotation		rpm	281		133		92		44	
Positioning resolution of motor per revolution		Inc.	12							
Positioning accuracy motor		Inc.	±0.5							
Positioning resolution of output		°	1.667		0.8		0.55		0.26	
Torsional backlash		°	≤1							
Mass		kg	1.85							
Shaft load (short-term operation)	Max. radial force *(1)*	N	200							
	Max. axial force	N	80							
	Nominal bearing service life *(2)*	h	2500							
Shaft load (long-term operation)	Max. radial force *(1)*	N	200							
	Max. axial force	N	10							
	Nominal bearing service life *(2)*	h	15000		15000		15000 *(3)*		15000 *(4)*	

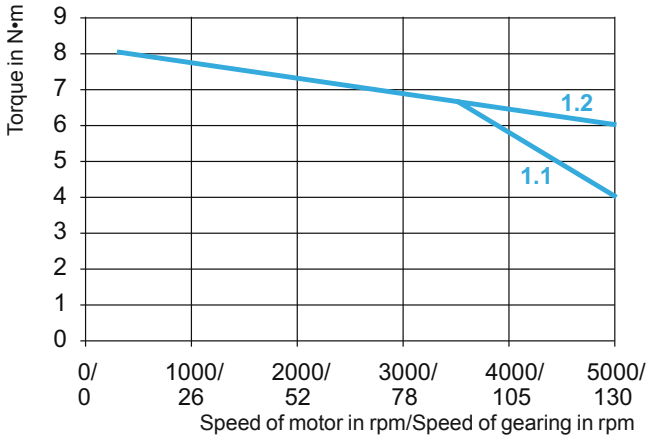
(1) Point of application of radial force: 12.5 mm distance to flange
(2) Operating hours at a probability of failure of 10%
(3) With reduced nominal output torque = 6 N•m; 2500 h at maximum torque
(4) With reduced nominal output torque = 8 N•m; 2500 h at maximum torque

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

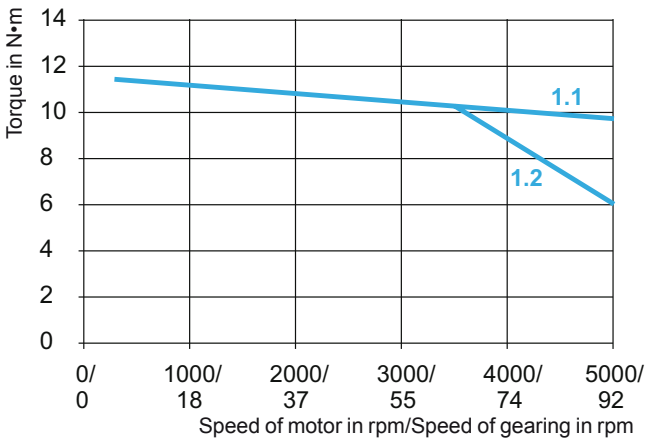
ILE2●661 with straight teeth gear G1



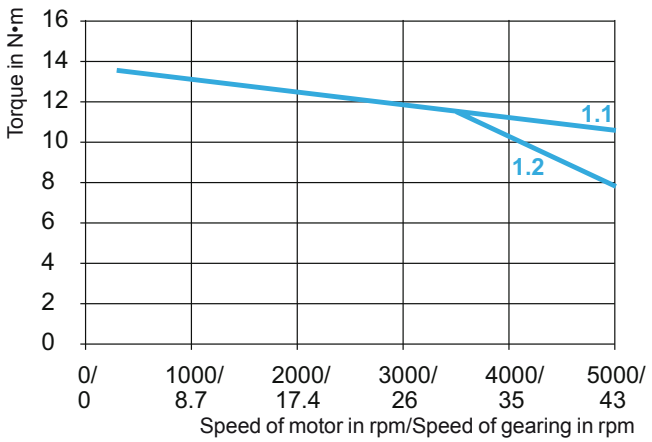
ILE2●661 with straight teeth gear G2



ILE2●661 with straight teeth gear G3



ILE2●661 with straight teeth gear G4



1.1 Max. torque at 24 V **1.2** Max. torque at 48 V

Lexium™ Motion Control Torque/Speed Curves

IL●2 for DeviceNet, EtherCAT, Modbus TCP, Ethernet Powerlink

ILE2 with brushless DC motor (with worm gear)

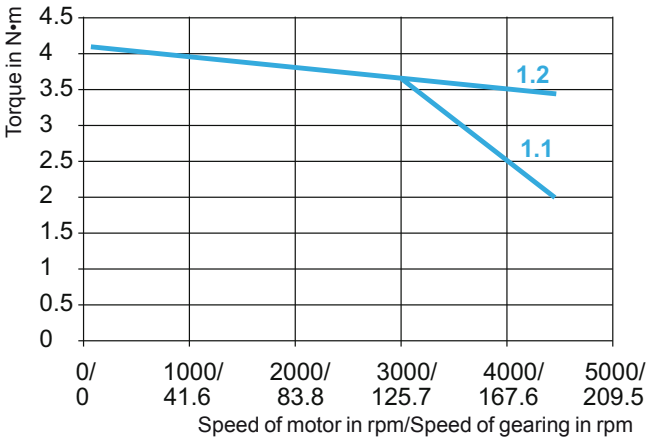
Mechanical data for ILE2●661 with worm gear

			G5		G6		G7		G8	
Ratio			24:1 (525:22)		54:1 (1715:32)		92:1 (735:5)		115:1 (3675:32)	
Number of gear stages			2		3		3		3	
Nominal supply voltage		⎓ V	24	48	24	48	24	48	24	48
Nominal current		A	6.8	3.8	6.8	2.7	6.8	2.6	6.8	2.9
Nominal speed of rotation of motor		rpm	4000	4000	4000	4000	4000	4000	4000	4000
Nominal output speed of rotation		rpm	168		75		44		35	
Nominal output torque		N•m	3.8		6.0		9.2		10.6	
Nominal output power		W	45	66	45	47	41	42	37	39
Max. current with power stage disabled		A	0.1							
Detent torque (at zero current)		N•m	2.9		6.5		12.3		16.7	
Moment of inertia output		kgcm²	90		430		1270		1980	
Max. speed of rotation		rpm	186		93		54		44	
Positioning resolution of motor per revolution		Inc.	12							
Positioning accuracy motor		Inc.	±1							
Positioning resolution of output		°	1.26		0.56		0.33		0.26	
Torsional backlash		°	≤1.5		≤1.0		≤1.0		≤1.0	
Mass		kg	2.3							
Shaft load	Max. radial force *(1)*	N	200							
	Max. axial force	N	80							
	Nominal bearing service life *(2)*	h	3000		6000		9000		9000	

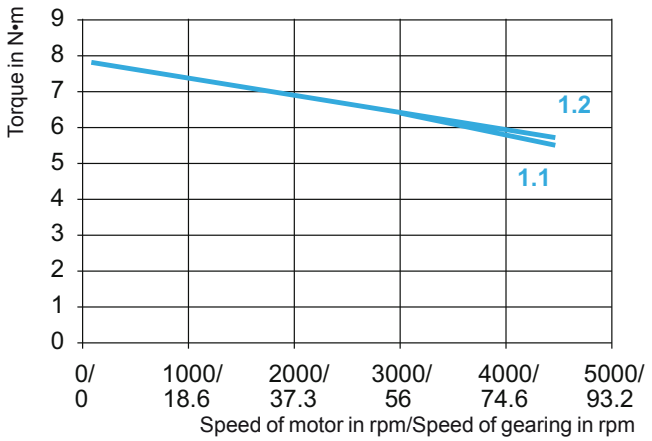
(1) Point of application of radial force: 12.5 mm distance to flange
(2) Operating hours at a probability of failure of 10%

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

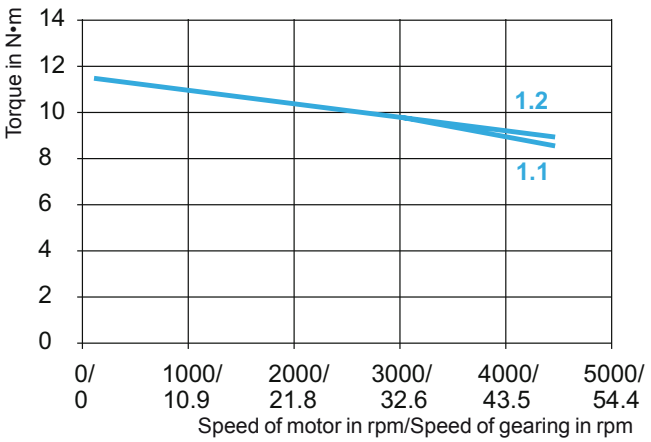
ILE1●661 with worm gear G5



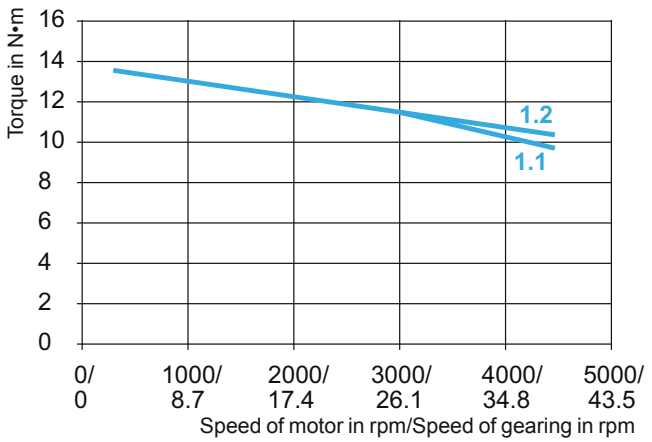
ILE1●661 with worm gear G6



ILE1●661 with worm gear G7



ILE1●661 with worm gear G8



1.1 Max. torque at 24 V **1.2** Max. torque at 48 V

Lexium™ Motion Control Torque/Speed Curves

IL●2 for DeviceNet, EtherCAT, Modbus TCP, Ethernet Powerlink

ILS2 with 3-phase stepper motor

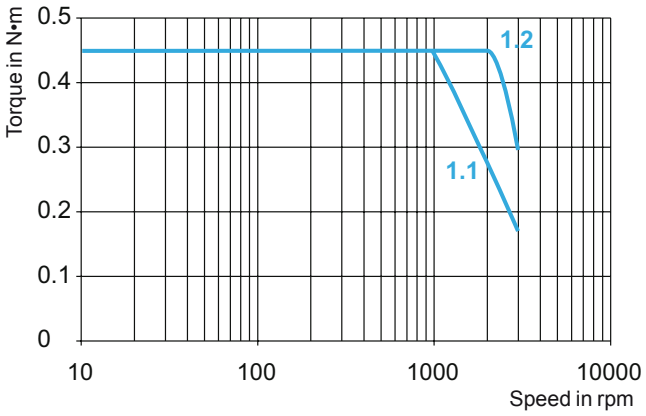
Mechanical data

Type of integrated drive			ILS2●571	ILS2●572	ILS2●573
Winding type			P	P	P
Max. torque		**N•m**	0.45	0.9	1.5
Holding torque		**N•m**	0.45	0.9	1.5
Moment of inertia		**kgcm²**	0.1	0.22	0.38
Positioning resolution per revolution		**Inc.**	20000		
Systematic angle tolerance per step *(1)*		**arcmin**	±6		
Mass		**kg**	1.3	1.6	2.0
Shaft load *(2)*	Max. radial force *(3)*	**N**	24	24	50
	Max. axial tensile force	**N**	100		
	Max. axial force pressure	**N**	8.4		
	Nominal bearing service life *(4)*	**h**	20000		

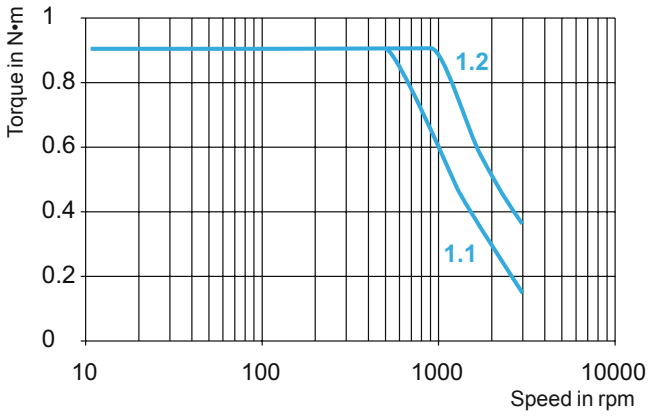
(1) Measured at 1000 steps/revolution
(2) Conditions for shaft load: speed of rotation 60 rpm, 100% duty cycle at continuous torque, ambient temperature 40 °C
(3) Point of application of radial force: 10.5 mm distance to flange
(4) Operating hours at a probability of failure of 10%

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

ILS2●571P (winding type P)



ILS2●572P (winding type P)



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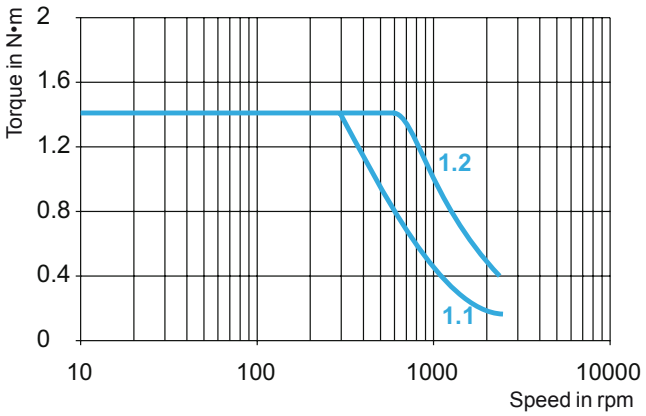


1.1 Max. torque at 24 V **1.2** Max. torque at 48 V

Lexium™ Motion Control Torque/Speed Curves

IL●2 for DeviceNet, EtherCAT, Modbus TCP, Ethernet Powerlink

ILS2 with 3-phase stepper motor

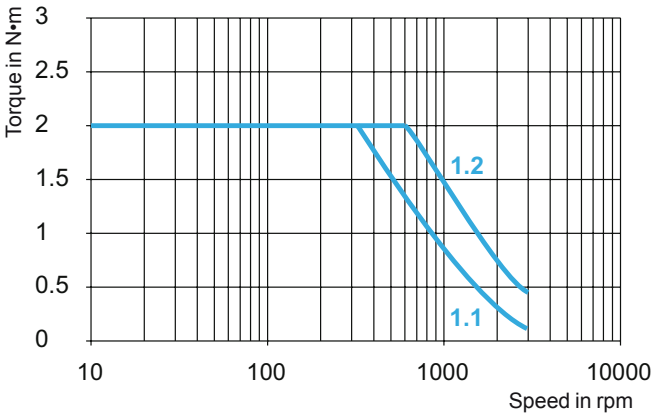
Mechanical data

Type of integrated drive			ILS2●851	ILS2●852	ILS2●853	
Winding type			P	P	P	T
Max. torque		**N•m**	2.0	4.0	6.0	4.5
Holding torque		**N•m**	2.0	4.0	6.0	4.5
Moment of inertia		**kgcm²**	1.1	2.2	3.3	
Positioning resolution		**Inc.**	20000			
Systematic angle tolerance per step *(1)*		**arcmin**	±6			
Mass		**kg**	2.6	3.6	4.7	
Shaft load *(2)*	Max. radial force *(3)*	**N**	100	100	110	
	Max. axial tensile force	**N**	170			
	Max. axial force pressure	**N**	30			
	Nominal bearing service life *(4)*	**h**	20000			
Holding Brake						
Holding torque		**N•m**	6			
Electrical pull-in power		**W**	22			
Brake release time		**ms**	40			
Brake application time		**ms**	20			
Moment of inertia		**kgcm²**	0.2			
Mass		**kg**	1.8			

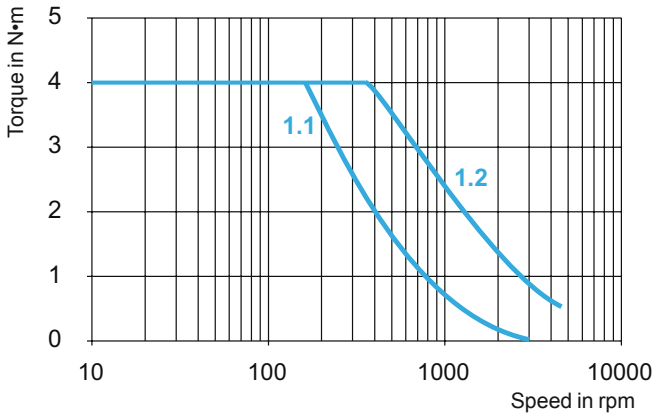
(1) Measured at 1000 steps/revolution
(2) Conditions for shaft load: speed of rotation 60 rpm, 100% duty cycle at continuous torque, ambient temperature 40 °C
(3) Point of application of radial force: 10.5 mm distance to flange
(4) Operating hours at a probability of failure of 10%

Torque/speed curves *(For information on how to read these curves, please refer to the guide on page 5.)*

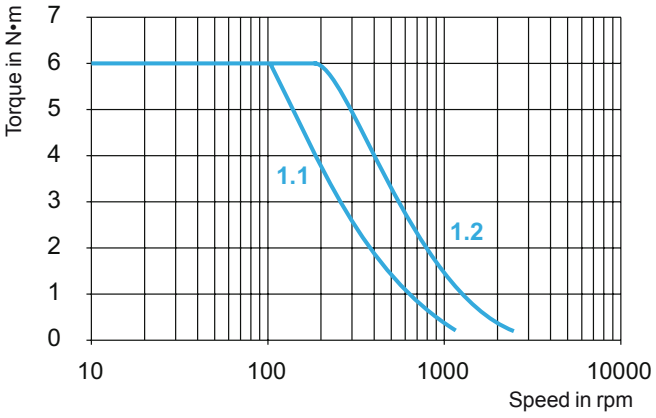
ILS2●851P (winding type P)



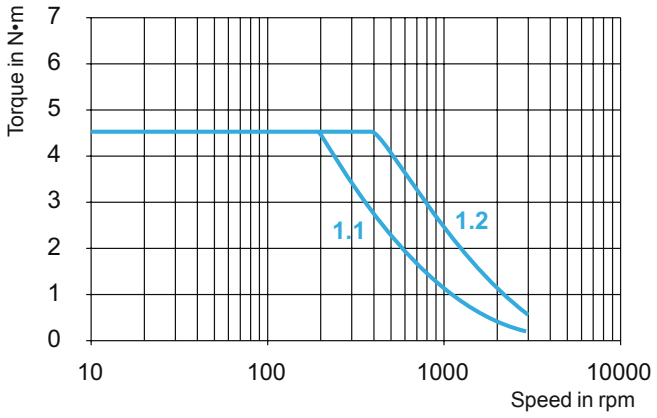
ILS2●852P (winding type P)



ILS2●853P (winding type P)



ILS2●853T (winding type T)



1.1 Max. torque at 24 V **1.2** Max. torque at 48 V

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