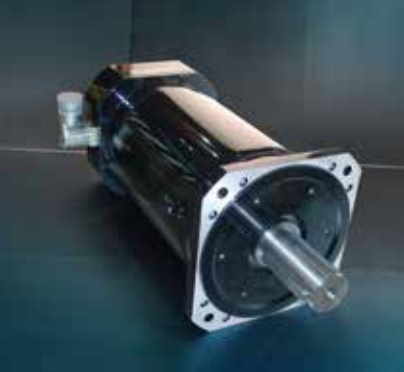


BRUSHLESS SERVO MOTOR RANGE 2014

BRUSHLESS SERVO MOTORS
TORQUE MOTORS





THE RANGE

Lafert offers a wide range of permanent magnet synchronous servo motors and torque motors. The Lafert range of servo motors grants precise engineering and superior performance.

Thanks to its whole integrated manufacturing process, Lafert can supply standard and tailor-made products for **Industrial Automation** giving **excellent flexibility** and **cost efficiency**.

MORE FEATURES

- Drive End cooling (liquid coolant)
- Low voltage special winding
- Water cooling (jacket) for medium and large size motors
- Fly - connectors for cabling
- 230V application
- One cable solution
- Safety application



BRUSHLESS SERVO MOTORS

STANDARD FEATURES

- Torque range 0.25 to 162 Nm; rated speed up to 6000 rpm
- Superior performance, high torque accuracy
- High dynamics and acceleration
- High overload capability
- Compact design with high power density
- Wide range of transducers: resolver, incremental and absolute encoders
- Forced ventilation (fan cooling) option available
- IP65 protection; TENV construction
- All motors available with brake as an option
- Deep background to meet any special mechanical and electrical design
- Excellent flexibility to meet specific market demands

OPTIONAL FEATURES

- cURus certification
- Special rotor balancing grade
- Special rotor inertia
- Customised flange and special shaft
- Other (type of encoder and connector, brake, sensor, ...)

TARGET APPLICATIONS

- Material Handling
- Printing
- Material working
- Packaging machines
- Textile machines
- Plastic machines
- Robots

Type	Square flange mm	Torque Nm	Rated speed rpm	Centering diameter Ø	Diameter coupling holes mm	Shaft diameter Ø	Shaft length mm
B28Q	58	0.25 to 1.25	3000 – 6000	Ø40j6	63	9	20
B36Q	70	0.6 to 3	3000 – 6000	Ø60j6	75	11	23
B56Q	91.3	1.35 to 4.5	3000 – 6000	Ø80j6	100	14	30
B63Q	100	4 to 10	3000 – 4500 - 6000	Ø95j6	115	19	40
B71Q	142	4.5 to 26	2000 – 3000 - 4500	Ø130j6	165	24	50
B71Q	142	29 to 38	2000 – 3000 - 4500	Ø130j6	165	28	58
B100J	190	20 to 42	2000 – 3000	Ø180j6	215	32	58
B100J	190	56 to 80	2000 – 3000	Ø180j6	215	38	80
B132I	240	42 to 73	1500 – 2000 – 3000	Ø230j6	265	38	80
B132I	240	81 to 120	1500 – 2000 – 3000	Ø230j6	265	42	110



TORQUE MOTORS

STANDARD FEATURES

- Torque range 10 to 510 Nm and rated speed up to 1000 rpm
- High torque at low speed; low noise level
- High overload capability
- Energy Efficient through the whole speed range
- Different coupling shaft available: standard key, blind hole, hollow shaft
- Water cooling options available for medium and large size motors
- Optimal for machines' strong integration

OPTIONAL FEATURES

- cURus certification
- Customised flange and special shaft
- Other (type of encoder and connector, thermal sensor, ...)

TARGET APPLICATIONS

- Material Handling
- Printing
- Material working
- Textile machines
- Plastic machines

B16P



B18P



Type	Square flange mm	Torque Nm	Rated speed rpm	Centering diameter ø	Diameter coupling holes mm	Shaft diameter ø	Shaft diameter internal ø	Shaft length mm
B10P	225	10 to 20	500 – 1000	Ø130j6	165	32	30	80
B16P	275	50 to 240	300 – 500 - 1000	Ø180j6	215	55	55	110
B18P	386	115 to 510	300	Ø250j6	300	75	80	140

MOTOR TYPE CODES USED

DIGIT DESCRIPTION

PRODUCT TYPE

x	B	Complete Brushless Servo Motors
	F	Brushless Servo Motors components

STANDARD MOTOR SIZE

aa	B28Q	<input type="checkbox"/> Flange 58
	B36Q	<input type="checkbox"/> Flange 70
	B56Q	<input type="checkbox"/> Flange 91.3
	B63Q	<input type="checkbox"/> Flange 100
	B71Q	<input type="checkbox"/> Flange 142
	B100J	<input type="checkbox"/> Flange 190
	B132I	<input type="checkbox"/> Flange 240

TORQUE MOTOR SIZE

B10	<input type="checkbox"/> Flange typical 225
B16	<input type="checkbox"/> Flange typical 275
B18	<input type="checkbox"/> Flange typical 386

STALL TORQUE CODE

bb	Integer: digit + digit	Fractional: letter + digit (x)	Over hundred: letter + digit or letter	Over Threehundred: digit + digit + digit				
	02	2 Nm	Dx	0.x Nm	C0	100 Nm	300	300 Nm
	12	12 Nm	Ex	1.x Nm	CA	105 Nm	375	375 Nm
	25	25 Nm	Fx	2.x Nm	C1	110 Nm	460	460 Nm
	...	etc...	Gx	3.x Nm	CB	115 Nm	...	etc..
			Hx	4.x Nm	...	etc..		
			Ix	5.x Nm	B0	200 Nm		
			Lx	6.x Nm	BA	205 Nm		
			Mx	7.x Nm	B1	210 Nm		
			Nx	8.x Nm	BB	215 Nm		
			Ox	9.x Nm	...	etc..		

SINUSOIDAL STANDARD MOTOR TYPE

Size	Series	Description
28	Q	8 poles
36	Q	8 poles
56	Q	8 poles
63	Q	8 poles
71	Q	8 poles
100	J	10 poles
132	I	6 poles

SINUSOIDAL TORQUE MOTOR TYPE

Size	Series	Description
10	P	12 poles
16	P	24 poles
18	P	30 poles

SPEED

d	1	1000 rpm	A	1500 rpm	P	200 rpm
	2	2000 rpm	B	2500 rpm	Q	300 rpm
	3	3000 rpm	C	3500 rpm	R	400 rpm
	4	4000 rpm	D	4500 rpm	O	500 rpm
	6	6000 rpm				

VOLTAGE

e	M	230/220V	H	400/380V
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CONNECTION TYPE

f	4	Straight connectors on endshield
	5	Cables signal & power exit
	6	°90 angled connectors as option only for connector construction
	7	Swiveling °90 angled connectors

Terminal box construction to be evaluated on special request only

MOTOR TYPE CODES USED

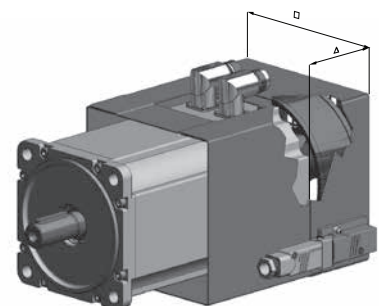
DIGIT	DESCRIPTION										
BRAKE AND SHAFT EXTENSION											
g	A Without brake, keyed shaft										
	B With brake, keyed shaft										
	C With reinforced brake, keyed shaft										
	D Without brake, smooth shaft										
	E With brake, smooth shaft										
	F With reinforced brake, smooth shaft										
FEEDBACK*											
00	Without feedback										
RESOLVER											
05	Resolver 2 poles										
A5	Resolver 4 poles										
INCREMENTAL ENCODER With Hall sensors and 0 reference mark											
E9	1000 ppr										
09	1024 ppr										
L9	2000 ppr										
F9	2048 ppr										
hh	SIN / COS HIPERFACE ENCODER										
	RS	Single-turn 1024 sin/cos Stegmann SRS50									
	RM	Multi-turn 1024 sin/cos, 4096 rev. Stegmann SRM50									
	EK	Single-turn 16 sin/cos Stegmann SEK37									
	EL	Multi-turn 16 sin/cos, 4096 rev. Stegmann SEL37									
EnDat or other Hiperface encoders available on request											
* Availability of each feedback system and/or ppr to be evaluated on the motor size											
CONNECTION DIRECTION											
i	0 Standard										
	2 Position 2										
COOLING SYSTEM											
l	0 Natural convection										
	V Forced Ventilation 230Vac from B-Flange to A-Flange										
	X Forced Ventilation 24Vdc from B-Flange to A-Flange										
CUSTOMER OPTION											
mm											
Eg.:											
x	aa	bb	c	d	e	f	g	hh	i	l	mm
B	63	08	Q	3	H	4	A	05	0	0	00

FORCED VENTILATION

Forced ventilation available for B63Q, B71Q, B100J and B132I series.

For precise increase and torque performances, please refer to the Technical Catalogue.

Type	Voltage V	Power consumption W	Fan kit square mm	Delta L mm
B63Q	24 Vdc	11	122 x 122	87
	230 Vac, 60/50 Hz	12		
B71Q	24 Vdc	12	164 x 164	98
	230 Vac, 60/50 Hz	47		
B100J	24 Vdc	12	212 x 212	110
	230 Vac, 60/50 Hz	47		
B132I	24 Vdc	12	246 x 246	116
	230 Vac, 60/50 Hz	47		



ELECTRICAL DATA BRUSHLESS SERVO MOTORS
SELF COOLED

Type	Stall torque ($\Delta t = 105^\circ\text{C}$)	Rated torque ($\Delta t = 105^\circ\text{C}$)	Stall current	Rated current	Rated speed	Moment of Inertia	Length with resolver	
	Mo Nm	Mn Nm	Io Arms	In Arms	n 1/min	J 10 ⁴ Kgm ²	Without brake L mm	With Brake L mm
B28.D2Q	0.25	0.24	0.34	0.33	6000	0.07	86.5	116.5
B28.D5Q	0.50	0.47	0.69	0.65	6000	0.13	98.5	128.5
B28.D7Q	0.75	0.70	1.03	0.96	6000	0.19	110.5	140.5
B28.01Q	1.00	0.93	1.37	1.28	6000	0.25	122.5	152.5
B28.E2Q	1.25	1.16	1.72	1.59	6000	0.31	134.5	164.5
B36.D6Q	0.6	0.5	0.8	0.7	6000	0.25	112	147
B36.E2Q	1.2	1.0	1.6	1.4	6000	0.44	127	162
B36.E8Q	1.8	1.5	2.5	2.1	6000	0.63	142	177
B36.F4Q	2.4	2.0	3.3	2.7	6000	0.82	157	192
B36.03Q	3	2.4	4.1	3.0	6000	1.02	172	207
B56.E3Q	1.35	1.3	0.8	0.8	3000	0.47	112.5	147.5
B56.F6Q	2.6	2.5	1.6	1.5	3000	0.88	135	170
B56.G5Q	3.5	3.1	2.1	1.9	3000	1.09	150	185
B56.H5Q	4.5	3.9	2.8	2.4	3000	1.40	170	205
B63.04Q	4	2.5	2.1	3.50	3000	1.87	150	182
B63.06Q	6	3.7	3.2	5.25	3000	2.67	170	202
B63.08Q	8	4.9	4.6	7.50	3000	3.47	194	226
B63.10Q	10	6.1	5.4	8.75	3000	4.27	214	246
B71.04Q	4.5	4.2	1.8	1.7	2000	3.6	148	183
B71.08Q	9	8.1	3.7	3.3	2000	6.0	173	208
B71.12Q	12.5	11.8	5.1	4.8	2000	8.2	198	228
B71.16Q	16	15.1	6.6	6.2	2000	10.7	223	253
B71.20Q	20	18.5	8.2	7.6	2000	13.1	248	273
B71.26Q	26	22.4	10.6	9.2	2000	18.4	298	318
B71.29Q	29	23.9	11.9	9.8	2000	20.6	338	373
B71.32Q	32	25.5	13.1	10.4	2000	23.0	360	395
B71.35Q	35	26.7	14.3	10.9	2000	25.5	383	418
B71.38Q	38	28.0	15.6	11.5	2000	28.0	405	440
B10.20J	20	18.3	8.2	7.5	2000	33	195	225
B10.28J	28	24.7	11.4	10.1	2000	46	218	248
B10.36J	36	30.1	14.7	12.3	2000	60	240	270
B10.42J	42	36.1	17.2	14.8	2000	74	263	293
B10.56J	56	44.5	22.9	18.2	2000	102	308	338
B10.68J	68	50.9	27.8	20.8	2000	130	353	383
B10.80J	80	57.8	32.7	23.6	2000	158	414	444
B13.42I	42	35.5	12.9	10.9	1500	65	303	353
B13.58I	58	47.0	17.8	14.4	1500	90	343	393
B13.73I	73	58.5	22.4	17.9	1500	114	383	433
B13.81I	81	65.0	24.8	19.9	1500	126	403	453
B13.98I	98	77.5	30.1	23.8	1500	150	443	493
B13.C2I	120	94.5	36.8	29.0	1500	192	503	553

ELECTRICAL DATA BRUSHLESS SERVO MOTORS

AIR COOLED

Type	Stall torque	Rated torque	Stall	Rated	Rated	Moment of Inertia J 10 ⁴ Kgm ²	Length with resolver	
	($\Delta t = 105^\circ\text{C}$)	($\Delta t = 105^\circ\text{C}$)	current	current	speed		Without brake	With Brake
	M ₀ Nm	M _n Nm	I ₀ Arms	I _n Arms	n 1/min		L mm	L mm
B63.04Q	4.8	4.4	2.9	2.7	3000	1.87	237	296
B63.06Q	7.4	6.8	4.5	4.2	3000	2.67	257	289
B63.08Q	10.1	9.4	6.2	5.8	3000	3.47	281	313
B63.10Q	13	11.8	8.0	7.2	3000	4.27	301	333
B71.04Q	6	5.6	2.5	2.3	2000	3.6	246	281
B71.08Q	12	11.0	4.9	4.5	2000	6.0	271	306
B71.12Q	17	15.8	7.0	6.5	2000	8.2	296	326
B71.16Q	22	20.5	9.0	8.4	2000	10.7	321	351
B71.20Q	27.5	25.5	11.3	10.4	2000	13.1	346	371
B71.26Q	35.5	33.5	14.5	13.7	2000	18.4	396	416
B71.29Q	40	39.2	16.4	16.1	2000	20.6	436	471
B71.32Q	44	42.6	18.0	17.4	2000	23.0	458	493
B71.35Q	48	46.1	19.7	18.9	2000	25.5	481	516
B71.38Q	52	49.7	21.3	20.4	2000	28.0	503	538
B10.20J	26	24.2	10.6	9.9	2000	33	305	335
B10.28J	36.4	33.1	14.9	13.5	2000	46	328	358
B10.36J	47.2	42.1	19.3	17.2	2000	60	350	380
B10.42J	55.4	50.0	22.7	20.4	2000	74	373	403
B10.56J	74.5	61.7	30.4	25.2	2000	102	418	448
B10.68J	91.1	70.8	37.2	28.9	2000	130	463	493
B10.80J	108	80.3	44.1	32.8	2000	158	524	554
B13.42I	61	56.0	18.7	17.2	1500	65	419	469
B13.58I	84	77.5	25.8	23.8	1500	90	459	509
B13.73I	105	98.0	32.2	30.1	1500	114	499	549
B13.81I	116	109.0	35.6	33.4	1500	126	519	569
B13.98I	136	125.0	41.7	38.3	1500	150	559	609
B13.C2I	162	142.0	49.7	43.6	1500	192	619	669

ELECTRICAL DATA TORQUE MOTORS

Type	Stall torque	Rated torque	Stall	Rated	Rated	Moment of Inertia J 10 ⁴ Kgm ²	Length with resolver
	($\Delta t = 105^\circ\text{C}$)	($\Delta t = 105^\circ\text{C}$)	current	current	speed		L
	M ₀ Nm	M _n Nm	I ₀ Arms	I _n Arms	n 1/min		mm
B10.10P	10	9.6	1.03	0.99	500	40	160
B10.20P	20	19.0	2.06	1.96	500	80	160
B16.50P	50	48	3.0	2.9	300	409	230
B16.C0P	100	95	6.0	5.7	300	784	280
B16.C5P	150	142	8.9	8.5	300	1159	330
B16.B0P	200	188	11.9	11.2	300	1534	380
B16.B4P	240	225	14.3	13.4	300	1833	420
B18.CBP	115	100	7	6	300	0.16	259
B18.BCP	225	196	14	12	300	0.30	309
B18.325P	325	283	20	17	300	0.44	359
B18.420P	420	365	26	22	300	0.58	409
B18.510P	510	444	31	27	300	0.72	459



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