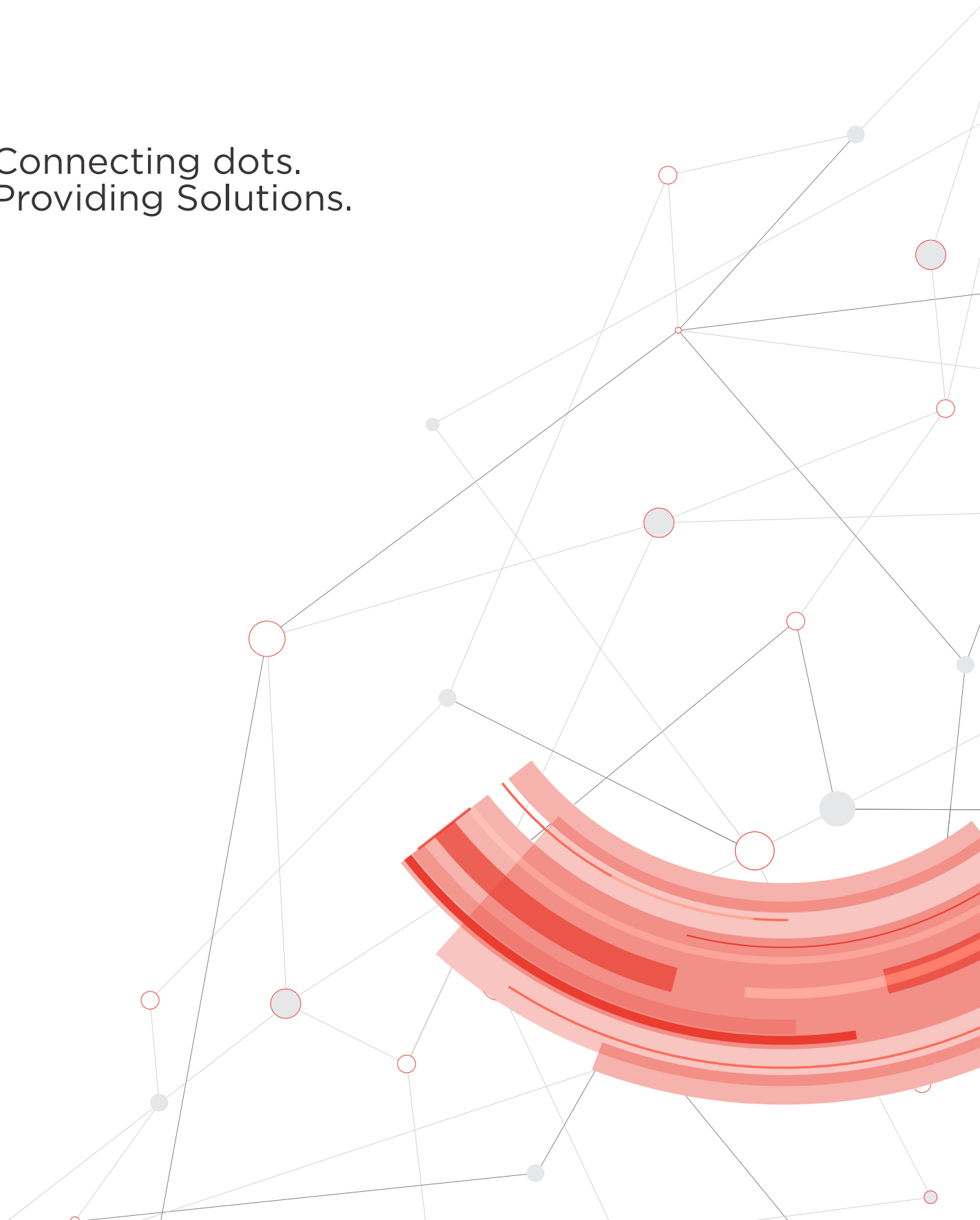


MOTORS



servotecnica

Connecting dots.
Providing Solutions.



Contents

A SERIES	Brushless Motors	up to 24.3Nm	8 - 27
	Synchronous Motors	up to 3.2Nm	28 - 33
B SERIES	Stepper Motors	up to 29Nm	34 - 43
	Brush Torque Motors	up to 10Nm	44 - 63
C SERIES	ATEX Brushless Motors	up to 4.2Nm	64 - 71
	Custom Motors		72 - 79



Expertise at your service

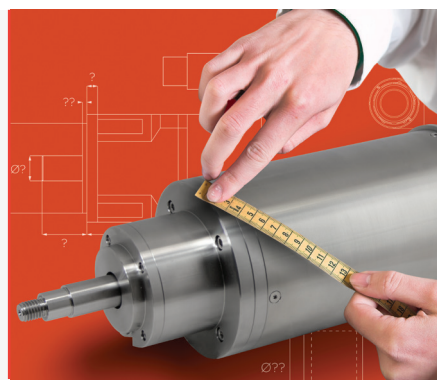
All-around services and solutions. A product selection and software development are the best proposal for specific applications.

In the automation and motion control industry since 1980, Servotecnica manufactures and proposes unique products based on cutting-edge technologies developed by leading global manufacturers.

The concernment of giving a wide range of products guarantees its presence in all sectors of the industry requiring high performances, skilled engineers, reducing machine developing time and offering a service support which grants a reliable partner for your applications.

Custom

Thanks to our very lean, flexible production, we can deliver samples specifically designed according to the explicit requirements of an application in a very short time, thus being always able to identify the best solution for each application.



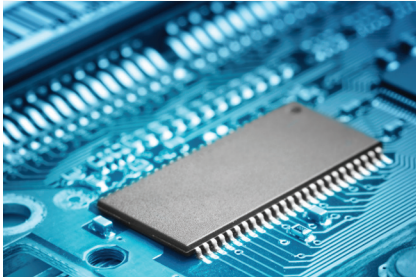
The widest range of technologies

Having a wide range of technologies available - brush, brushless, stepper and synchronous motors - we are always able to provide the suitable motorised system thanks to extensive know-how that gets our motor lines to the top of reference markets and makes it possible for us to be a sole supplier for different types of applications.



Industries

Electronics



Semiconductors
Test
Wafer

Aerospace



Air
Land
Sea

Medical



Diagnosis
Pharm & Beauty
Radiology
Odontology
Mobile tools

Robotics



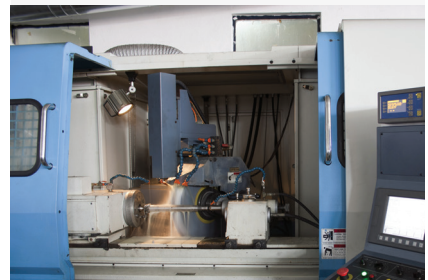
Humanoid robotics
Inspection robotics
Flexible automation
Welder's tongs

Packaging



Filling & labelling
Capping
Food & beverage
Packaging
Scales

Automatic doors



Lifts
Linear doors
Revolving doors
Locks

Machine tool



Machine centre
Sheet metal forming
Electrical discharge
Press machines
Lathe machines

Energy



Renewable energy
Not renewable energy
Wind turbines

Converting



Digital ink jet
Flexographic printing
Offset printing
Plane printing
Rotogravure

Amusement parks



Merry-go-round

Plastics



Blow molding
Plastic bags
Extrusion

Oil & gas



Oil
Gas
Atex
Valves

SVTM A Series

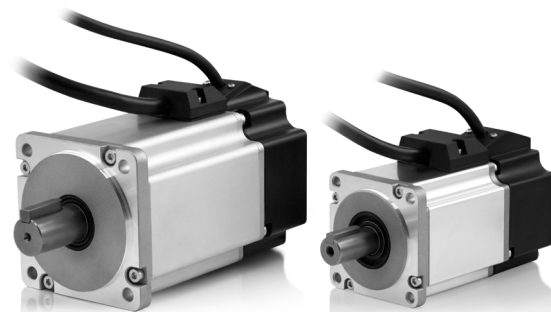
Brushless Motors

servotecnica

BRUSHLESS

SVTM A Series

Brushless Motors



CUSTOMISABLE



LOW VOLTAGE



STURDY

Our Brushless motors (SVTM A Series) feature a type IC 400 construction - this means the motor is totally enclosed and does not need any kind of additional ventilation; this also allows for an IP65 degree of protection on the housing.

To ensure higher service life, most insulating materials are rated in the 200-degree class. In addition, the stator pack design with winding in the groove and using Neodymium magnets ensures high performance with small dimensions, resulting in a sinusoidal electromotive force. For enhanced application safety, a temperature sensor is mounted for each winding so as to prevent damage from overheating and consequently increasing motor service life.

Motors are tested in accordance with EN 60034-18-41 standard relating to partial discharge between windings. To increase the application range, the insulating materials used are UL certified.

All our motors are available with shaft and key. Working voltage options according to customer specifications are available on request. Adjustable connectors (M23 or M17), are mounted in the motors and there may be different wiring and connector solutions.

Benefits

High efficiency

Many feedback available

Low voltage

IP65 water resistant standard

Many customisation options

Brake option

Many voltage options available

Certifications

CE

RoHS 2011/65/EUv

Product code

SVTM A  -  -  -  -  - 

A Series

 Feedback
resolver [R]; incremental encoder [E]; absolute encoder [A] Frame
01 [60]; 02 [80]; 03 [115]; 04 [145] Brake
no [0]; yes [1] Stall torque Special options
Frameless [FML] BEMF

Features

Sealing	IP65* (excluding front shaft)
Winding	3 phase sinusoidal
Operating temperature	-20° +40° C
Tested	EN 60034-18-41**
Insulation class	F, 155° C
Thermal protection	PTC**
Construction	IC 400*
Adjustable connectors	M17 (frame 01) or M23* **
Magnets	Neodymium
Insulators	UL**
Construction technology	high density fractional-slot concentrated-windings
Standard feedback	resolver**, incremental encoder*
Option	brake 24 VDC*

Feedback*

Resolver (Standard)**	
Incremental encoder with hall (standard)	2500 ppr with hall effect
Other feedbacks available upon request**	2-poles ; 7 Vrms; 10kHz; transformation ratio 0.5;
Absolute single-turn hipurface**	SICK SEK 37
Absolute multi-turn hipurface**	SICK SEL 37

Customizations

Cables	Mechanical design	Flange
Materials		

EN 60034-18-41

Partial discharge free electrical insulation systems (type 1) used in rotating electrical machines fed from voltage converters - qualification and quality control test.

*Not available for frameless versions

*Not available for low voltage versions

SVTM A 01

Values	Unit	SVTM A			
		01-0.87-08-x-x-000	01-0.87-20-x-x-000	01-1.16-12-x-x-000	01-1.16-30-x-x-000
Frame	Ø mm	60	60	60	60
Motor length (L)	mm	125	125	145	145
Motor length with brake	mm	162	162	182	182
Nominal voltage	VDC	60	325/560	60	325/560
Continous stall torque	Nm	0,87	0,87	1,16	1,16
Continous stall current	Arms	7	2,73	6,3	2,45
Nominal torque	Nm	0,79	0,7/0,7	1,08	0,97/0,92
Nominal current	Arms	6,32	2,19/2,19	5,81	2,04/1,94
Nominal speed	rpm	3500	8000/8000	2400	5600/8000
Peak torque	Nm	2,8	2,8	3,9	3,9
Peak current	Arms	28	11	25,5	9,9
Torque constant	Nm/Arms	0,125	0,32	0,186	0,475
BEMF constant (1)(2)	Vrms/krpm	8	20,4	12	30,6
Resistance (1)(2)	Ohm	0,8	5,2	1,06	6,9
Inductance (1)	mH	1,6	10,2	2,3	14,9
Rotor inertia	kgcm²	0,22	0,22	0,31	0,31
Max. axial load	N	50			
Max. radial load	N	140			
Feedback (3)	Resolver, encoder inc 2048 + hall, absolute single-turn hipurface (SEK 37), absolute multi-turn hipurface (SEL 37)				
Mass	kg	1.3	1.3	1.6	1.6

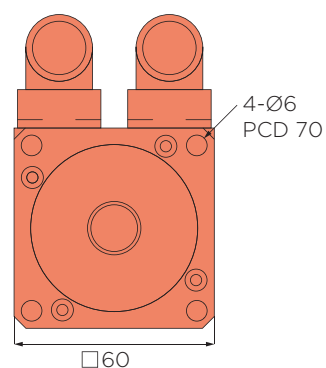
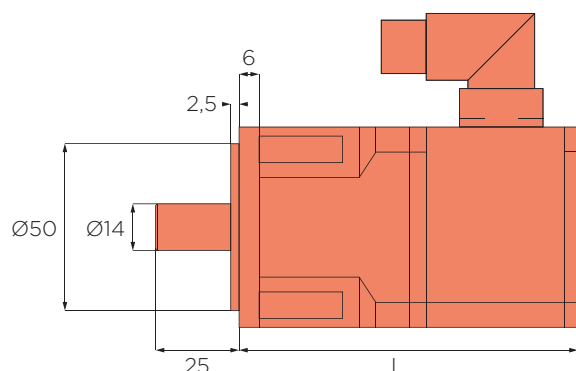
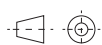
(1) Line-line

(2) At 20° C

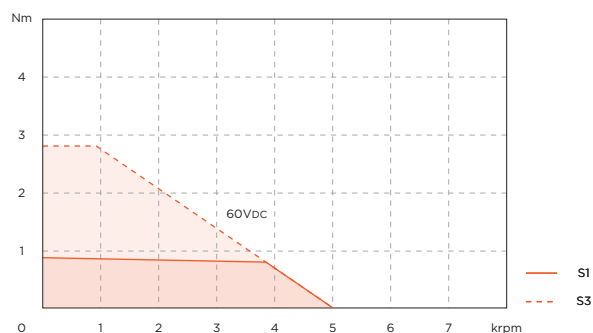
(3) Length may vary with absolute feedback

Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm

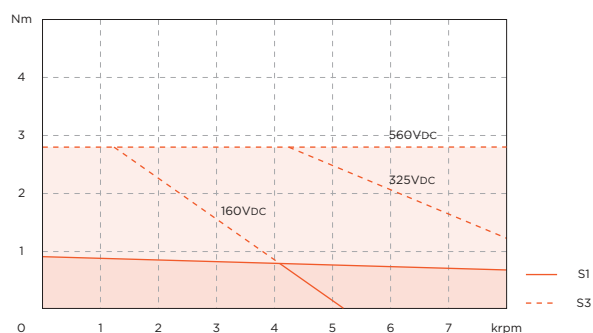
All dimensions in millimeters, unless otherwise specified



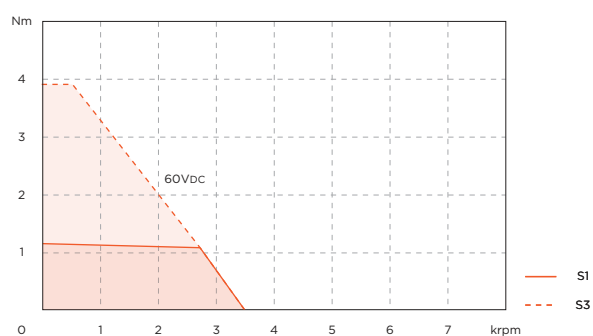
SVTM A 01-0.87-08



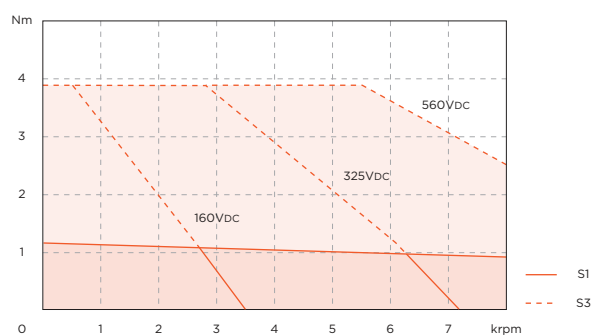
SVTM A 01-0.87-20



SVTM A 01-1.16-12



SVTM A 01-1.16-30



Note:

Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm.
See next page for frameless version.

SVTM A 01

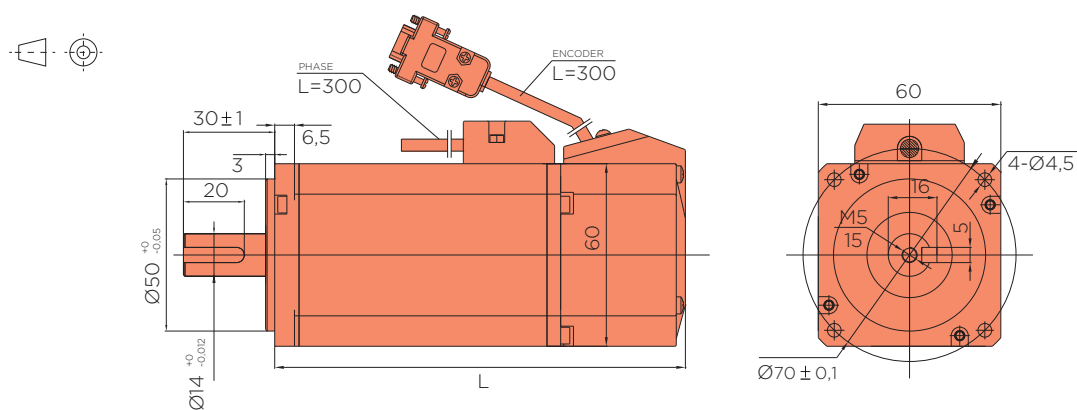
Low Voltage

Values	Unit	SVTM A 01	
		A 01-0.7-06-E-X-000	A 01-1.4-06-E-X-000
Frame	Ø mm	60	60
Motor length (L)	mm	110	135
Motor length with brake	mm	150	175
Nominal voltage	VDC	48	48
Continuous stall torque	Nm	0.7	1.4
Continuous stall current	Arms	6.6	13.2
Nominal torque	Nm	0.64	1.27
Nominal current	Arms	6	12
Nominal speed	rpm	3000	3000
Peak torque	Nm	1.92	3.81
Peak current	Arms	18	36
Torque constant	Nm/Arms	0.107	0.107
BEMF constant (1)(2)	Vrms/krpm	6.5	6.5
Resistance (1)(2)	Ohm	0.56	0.25
Inductance (1)	mH	1.2	0.55
Rotor inertia	kgcm ²	0.21	0.43
Max. axial load	N	98	98
Max. radial load	N	245	245
Feedback	Resolver, encoder inc 2048 + hall, absolute single-turn hipurface (SEK 37), absolute multi-turn hipurface (SEL 37)		
Mass	kg	1.4	1.7

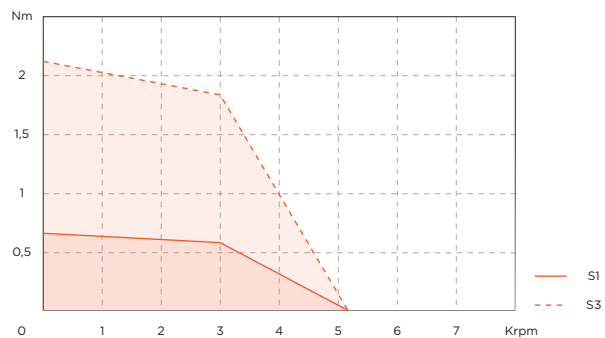
(1) Line-line

(2) At 20° C

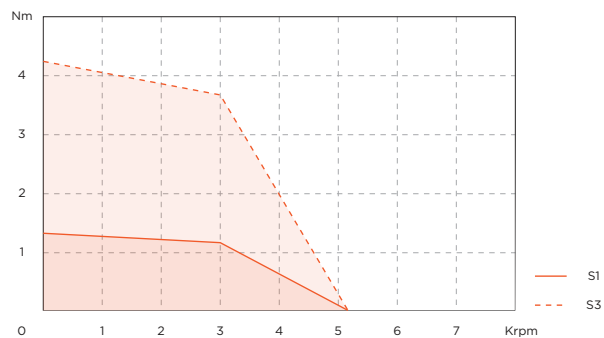
Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm



SVTM A 01-0.7-06-E-X-000



SVTM A 01-1.4-06-E-X-000



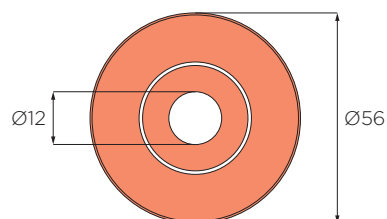
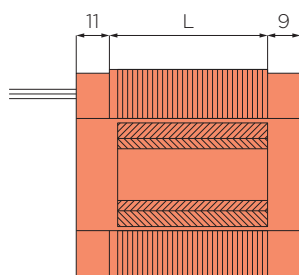
Note:

Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm.
See next page for frameless version.

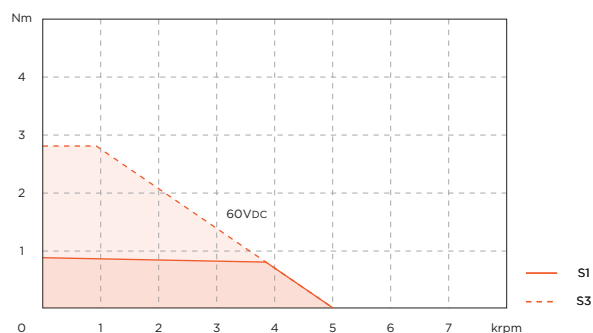
Frameless

Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 305x305x12,7 mm

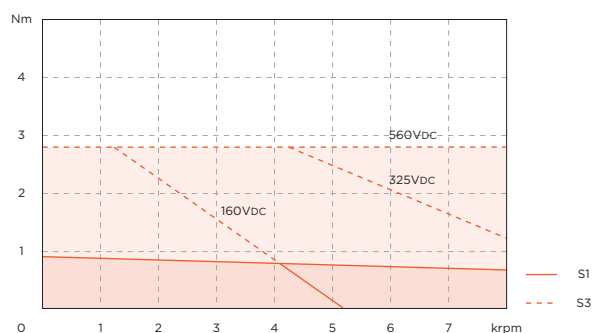
Specifications subject to change.



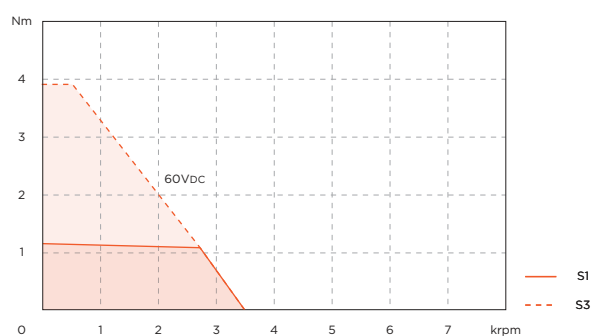
SVTM A 01-0.87-08-0-FML



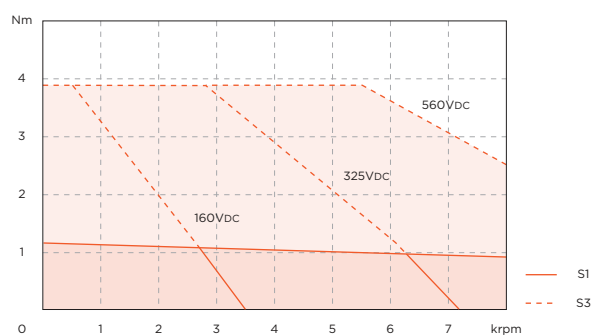
SVTM A 01-0.87-20-0-FML



SVTM A 01-1.16-12-0-FML



SVTM A 01-1.16-30-0-FML



Note:

Rated values are calculated at 25°C ambient temperature, housed motor with an heat sink size of 254x254x6.35 mm. See previous page for framed version.

SVTM A 02

Values	Unit	SVTM A			
		02-1.74-12-x-x-000	02-1.85-36-x-x-000	02-3.00-25-x-x-000	02-3.18-57-x-x-000
Frame	Ø mm	80	80	80	80
Motor length (L)	mm	125	125	155	155
Motor length with brake	mm	166	166	203	203
Nominal voltage	VDC	80	325/560	150	325/560
Continuous stall torque	Nm	1,74	1,85	3	3,18
Continuous stall current	Arms	9	3,3	7,7	3,55
Nominal torque	Nm	1,44	1,48/1,32	2,4	2,55/2,1
Nominal current	Arms	7,35	2,60/2,32	6,19	2,85/2,35
Nominal speed	rpm	3400	4750/8000	3400	3200/5400
Peak torque	Nm	6,3	6,3	11,5	11,5
Peak current	Arms	38,7	13,3	34,3	14,9
Torque constant	Nm/Arms	0,196	0,57	0,388	0,895
BEMF constant (1)(2)	Vrms/krpm	12,5	36,4	25	57,6
Resistance (1)(2)	Ohm	0,6	4,4	0,92	4,35
Inductance (1)	mH	1,45	13,3	2,9	14,8
Rotor inertia	kg/cm ²	0,8	0,8	1,5	1,5
Max. axial load	N	110	110	110	110
Max. radial load	N	330	330	330	330
Thermal protection		PTC	PTC	PTC	PTC
Feedback (3)	Resolver, encoder inc 2048 + hall, absolute single-turn hipurface (SEK 37), absolute multi-turn hipurface (SEL 37)				
Mass	kg	2.3	2.3	3.3	3.3

Values	Unit	SVTM A	
		02-4.10-37-x-x-000	02-4.39-77-x-x-000
Frame	Ø mm	80	80
Motor length (L)	mm	185	185
Motor length with brake	mm	233	233
Nominal voltage	VDC	150	325/560
Continous stall torque	Nm	4,1	4,39
Continous stall current	Arms	7,1	3,67
Nominal torque	Nm	3,26	3,64/3,06
Nominal current	Arms	5,62	3,04/2,56
Nominal speed	rpm	2200	2300/4100
Peak torque	Nm	16,3	16,3
Peak current	Arms	32,8	16
Torque constant	Nm/Arms	0,58	1,196
BEMF constant (1)(2)	Vrms/krpm	37,5	77
Resistance (1)(2)	Ohm	1,25	4,6
Inductance (1)	mH	3,7	17,4
Rotor inertia	kgcm²	2,25	2,25
Max. axial load	N	110	110
Max. radial load	N	330	330
Thermal protection		PTC	PTC
Feedback (3)	Resolver, encoder inc 2048 + hall, absolute single-turn hiperface (SEK 37), absolute multi-turn hiperface (SEL 37)		
Mass	kg	4.3	

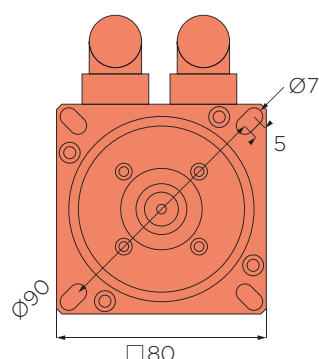
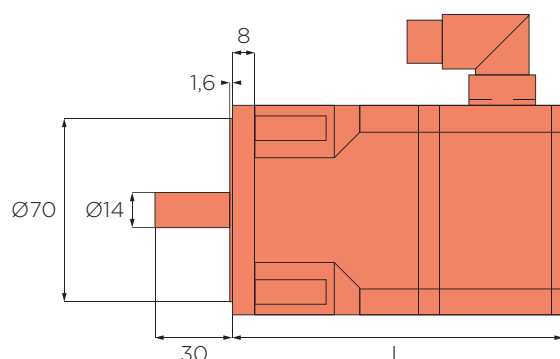
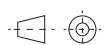
(1) Line-line

(2) At 20° C

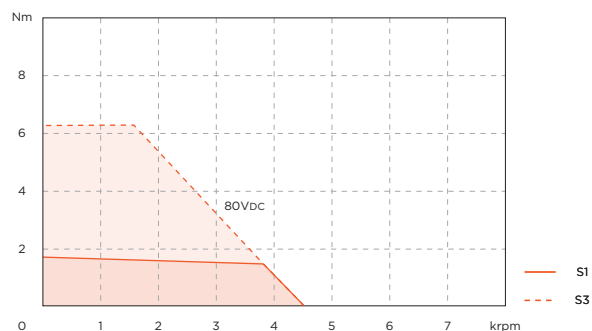
(3) Length may vary with absolute feedback

Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm

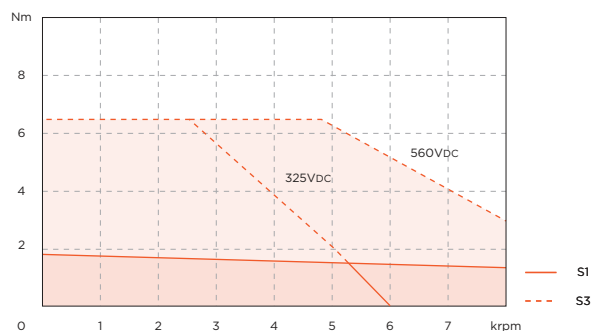
All dimensions in millimeters, unless otherwise specified



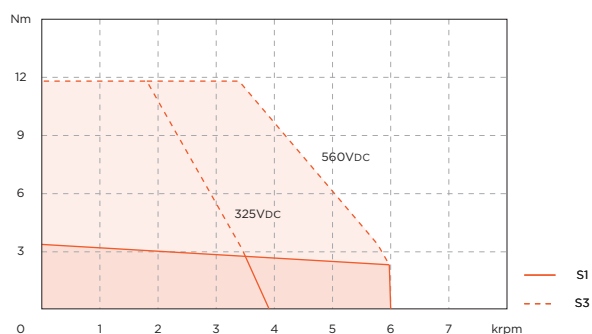
SVTM A 02-1.74-12



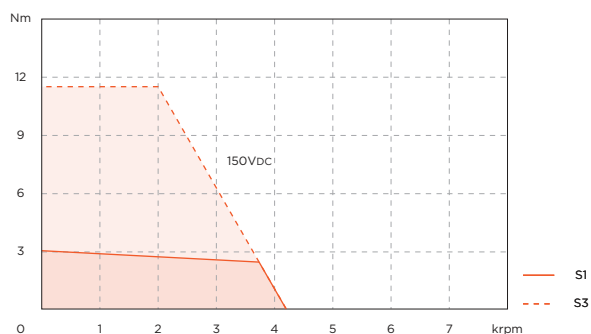
SVTM A 02-1.85-36



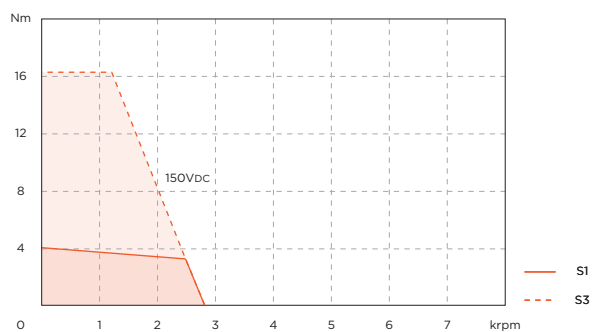
SVTM A 02-3.18-57



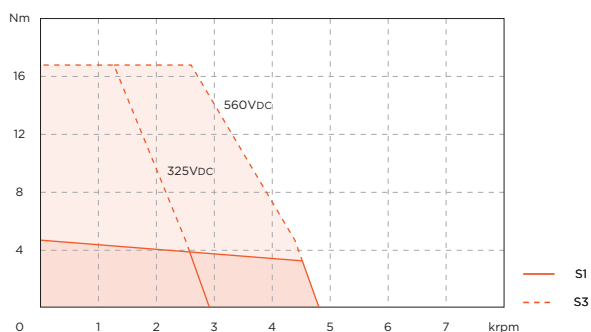
SVTM A 02-3.00-25



SVTM A 02-4.10-37



SVTM A 02-4.39-77



Note:

Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm.
See next page for frameless version.

All dimensions in millimeters, unless otherwise specified

SVTM A 02

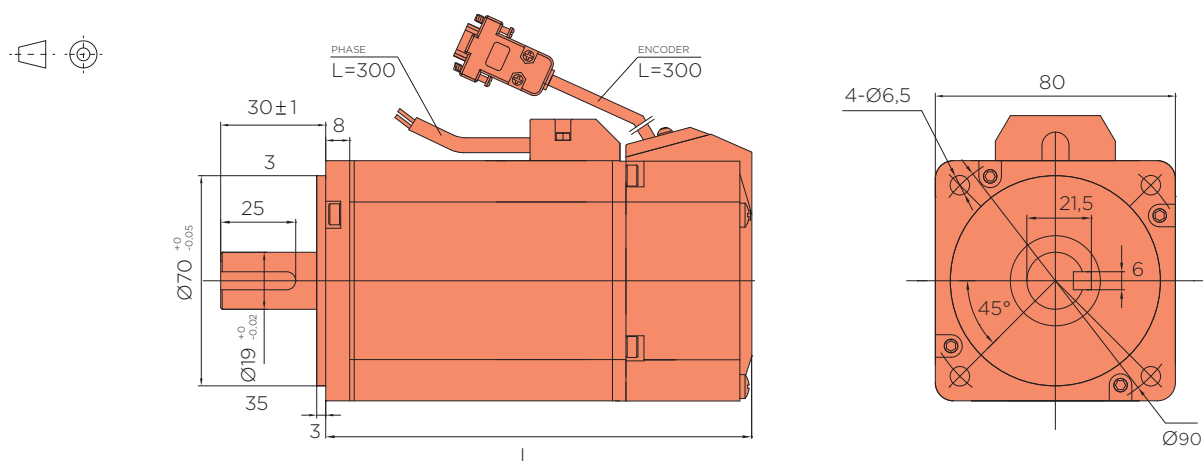
Low Voltage

Values	Unit	SVTM A 02	
		A 02-2.62-06-E-X-000	A 02-3.52-06-E-X-000
Frame	Ø mm	80	80
Motor length (L)	mm	142	162
Motor length with brake	mm	182	202
Nominal voltage	VDC	48	48
Continuous stall torque	Nm	2.62	3.52
Continuous stall current	Arms	24.4	33
Nominal torque	Nm	2.38	3.2
Nominal current	Arms	22.2	30
Nominal speed	rpm	3000	3000
Peak torque	Nm	7.14	9.6
Peak current	Arms	66.6	90
Torque constant	Nm/Arms	0.107	0.107
BEMF constant (1)(2)	Vrms/krpm	6.5	6.5
Resistance (1)(2)	Ohm	0.05	0.042
Inductance (1)	mH	0.28	0.16
Rotor inertia	kgcm ²	1.24	1.7
Max. axial load	N	147	147
Max. radial load	N	392	392
Feedback	Resolver, encoder inc 2048 + hall, absolute single-turn hipurface (SEK 37), absolute multi-turn hipurface (SEL 37)		
Mass	kg	2.4	3.8

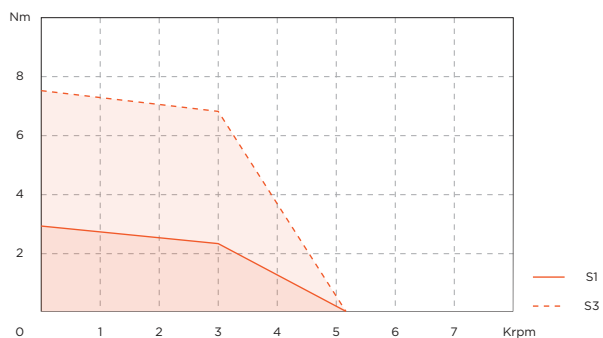
(1) Line-line

(2) At 20° C

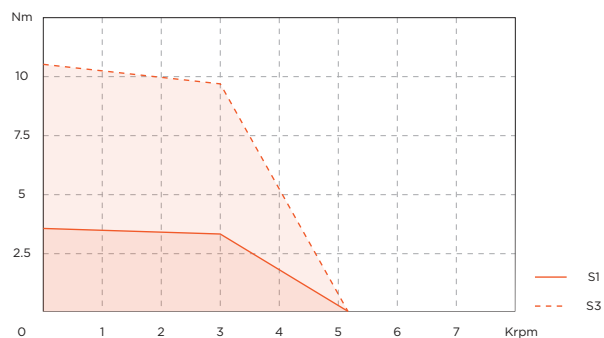
Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm



SVTM A 02-2.62-06-E-X-000



SVTM A 02-3.52-06-E-X-000



Note:

Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm.
See next page for frameless version.

SVTM A 02 ..FML

Frameless

Values	Unit	SVTM A			
		02-1.74-12-0-FML	02-1.85-36-0-FML	02-3.00-25-0-FML	02-3.18-57-0-FML
Frame	Ø mm	76	76	76	76
Motor length (L)	mm	30	30	60	60
Nominal voltage	VDC	80	325/560	150	325/560
Continuous stall torque	Nm	1,74	1,85	3	3,18
Continuous stall current	Arms	9	3,3	7,7	3,55
Nominal torque	Nm	1,44	1,48/1,32	2,4	2,55/2,1
Nominal current	Arms	7,35	2,60/2,32	6,19	2,85/2,35
Nominal speed	rpm	3400	4750/8000	3400	3200/5400
Peak torque	Nm	6,3	6,3	11,5	11,5
Peak current	Arms	38,7	13,3	34,3	14,9
Torque constant	Nm/Arms	0,196	0,57	0,388	0,895
BEMF constant (1)(2)	Vrms/krpm	12,5	36,4	25	57,6
Resistance (1)(2)	Ohm	0,6	4,4	0,92	4,35
Inductance (1)	mH	1,45	13,3	2,9	14,8
Rotor inertia	kg/cm2	0,69	0,69	1,38	1,38
Poles		6	6	6	6
Mass	kg	0,9	0,9	1,7	1,7
Thermal protection		PTC	PTC	PTC	PTC

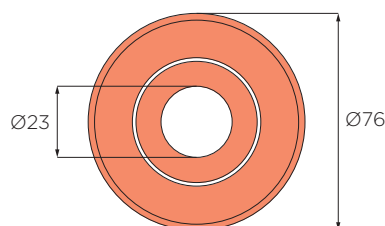
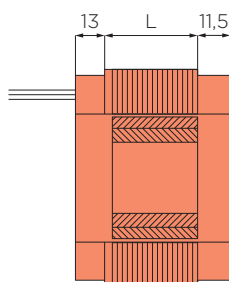
Values	Unit	SVTM A	
		02-4.10-37-0-FML	02-4.39-077-0-FML
Frame	Ø mm	76	76
Motor length (L)	mm	90	90
Nominal voltage	VDC	150	325/560
Continuous stall torque	Nm	4,1	4,39
Continuous stall current	Arms	7,1	3,67
Nominal torque	Nm	3,26	3,64/3,06
Nominal current	Arms	5,62	3,04/2,56
Nominal speed	rpm	2200	2300/4100
Peak torque	Nm	16,3	16,3
Peak current	Arms	32,8	16
Torque constant	Nm/Arms	0,58	1,196
BEMF constant (1)(2)	Vrms/krpm	37,5	77
Resistance (1)(2)	Ohm	1,25	4,6
Inductance (1)	mH	3,7	17,4
Rotor inertia	kgcm ²	2,08	2,08
Poles		6	6
Mass	kg	2,5	2,5
Thermal protection		PTC	PTC
Feedback			

(1) Line-line

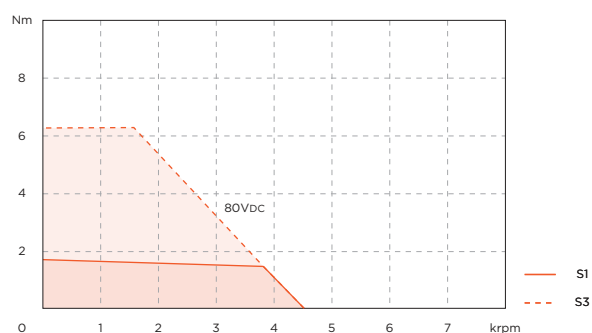
(2) At 20° C

Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 305x305x12,7 mm

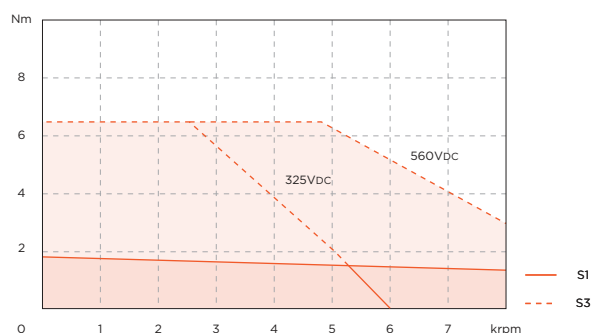
All dimensions in millimeters, unless otherwise specified



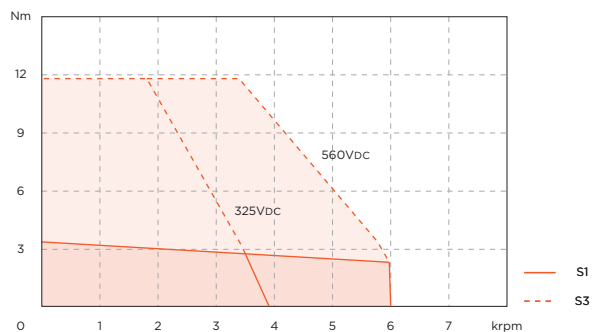
SVTM A 02-1.74-12-0-FML



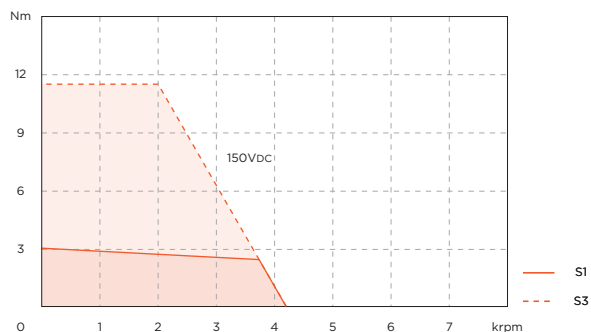
SVTM A 02-1.85-36-0-FML



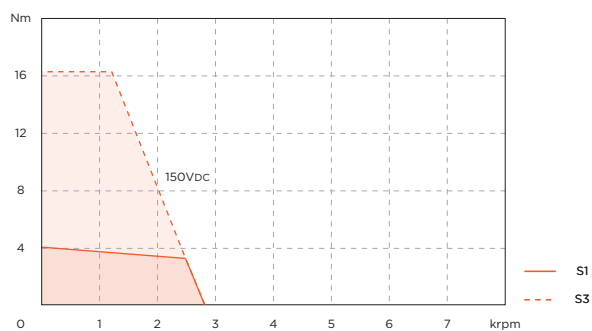
SVTM A 02-3.00-25-0-FML



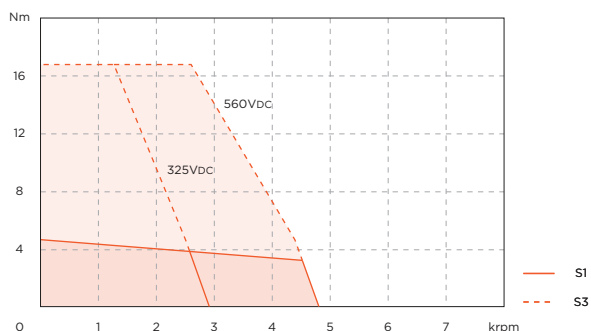
SVTM A 02-3.18-57-0-FML



SVTM A 02-4.10-37-0-FML



SVTM A 02-4.39-077-0-FML



Note:

Rated values are calculated at 25°C ambient temperature, housed motor with an heat sink size of 254x254x6.35 mm. See previous page for framed version.

SVTM A 03

Values	Unit	SVTM A			
		03-4.90-61-x-x-000	03-8.60-105-x-x-000	03-11.5-107-x-x-000	03-14.4-120-x-x-000
Frame	Ø mm	115	115	115	115
Motor length (L)	mm	156	187	218	249
Motor length with brake	mm	204	235	270	301
Nominal voltage	VDC	325/560	560	560	560
Continuous stall torque	Nm	4,9	8,6	11,5	14,4
Continuous stall current	Arms	5,1	5,25	6,85	7,7
Nominal torque	Nm	3,74/2,93	7,0	9,3	11,1
Nominal current	Arms	3,91/3,06	4,24	5,54	5,96
Nominal speed	rpm	2900/4900	2900	2800	2500
Peak torque	Nm	12	22	30	38
Peak current	Arms	15,5	15,8	21	23,3
Torque constant	Nm/Arms	0,956	1,64	1,68	1,87
BEMF constant (1)(2)	Vrms/krpm	61,6	105,6	107	120,5
Resistance (1)(2)	Ohm	2,6	2,95	1,86	1,59
Inductance (1)	mH	12,7	18,7	12,8	12,1
Rotor inertia	kgcm ²	3,7	7,2	10,8	14,4
Max. axial load	N	210	210	210	210
Max. radial load	N	630	630	630	630
Thermal protection		PTC	PTC	PTC	PTC
Feedback (3)	Resolver, encoder inc 2048 + hall, absolute single-turn hipurface (SEK 37), absolute multi-turn hipurface (SEL 37)				
Mass	kg	4	6.5	9.5	12.5

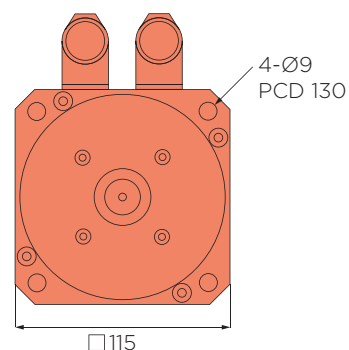
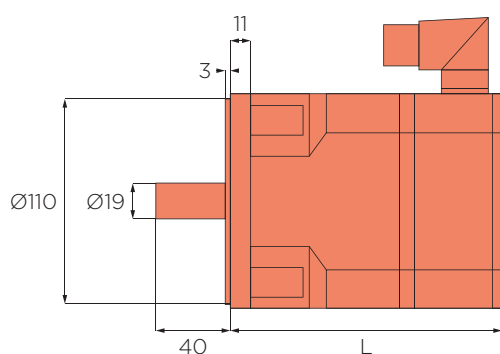
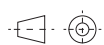
(1) Line-line

(2) At 20° C

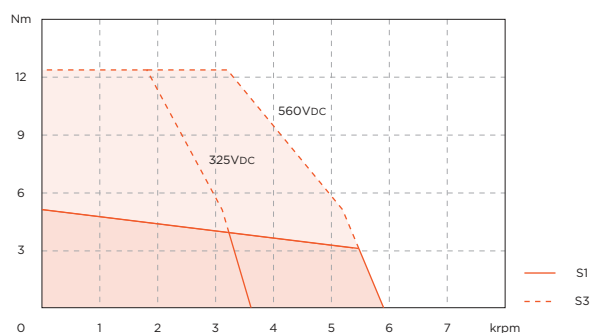
(3) Length may vary with absolute feedback

Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 305x305x12,7 mm

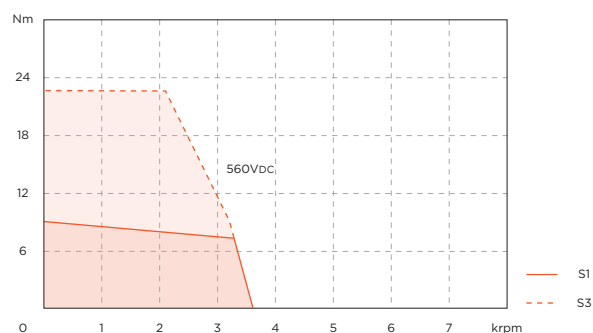
All dimensions in millimeters, unless otherwise specified



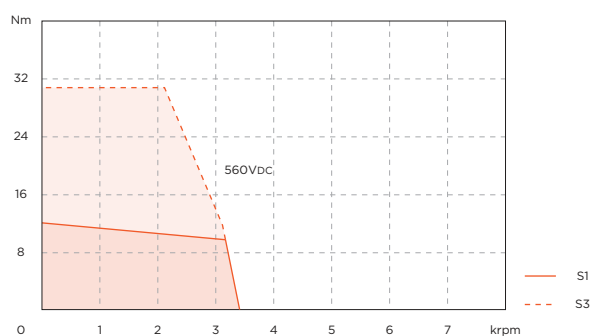
SVTM A 03-4.90-61



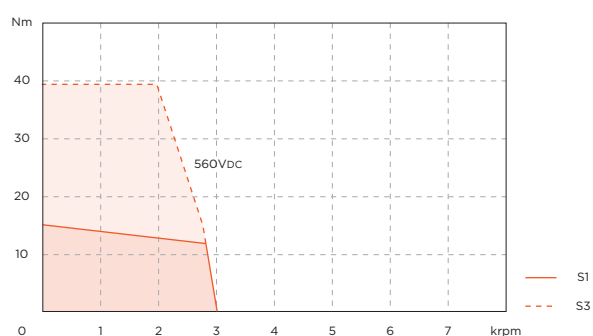
SVTM A 03-8.60-105



SVTM A 03-11.5-107



SVTM A 03-14.4-120



Note:

Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm.
See next page for frameless version.

SVTM A 03 ..FML

Frameless

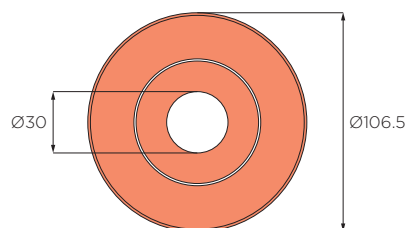
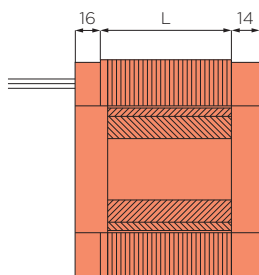
Values	Unit	SVTM A			
		03-4.90-061-0-FML	03-8.60-105-0-FML	03-11.5-107-0-FML	03-14.4-120-0-FML
Frame	Ø mm	106.5	106.5	106.5	106.5
Motor length (L)	mm	31	62	93	124
Nominal voltage	VDC	325/560	560	560	560
Continuous stall torque	Nm	4,9	8,6	11,5	14,4
Continuous stall current	Arms	5,1	5,25	6,85	7,7
Nominal torque	Nm	3,74/2,93	7,0	9,3	11,1
Nominal current	Arms	3,91/3,06	4,24	5,54	5,96
Nominal speed	rpm	2900/4900	2900	2800	2500
Peak torque	Nm	12	22	30	38
Peak current	Arms	15,5	15,8	21	23,3
Torque constant	Nm/Arms	0,956	1,64	1,68	1,87
BEMF constant (1)(2)	Vrms/krpm	61,6	105,6	107	120,5
Resistance (1)(2)	Ohm	2,6	2,95	1,86	1,59
Inductance (1)	mH	12,7	18,7	12,8	12,1
Rotor inertia	kgcm ²	2,88	5,76	8,64	11,5
Poles		10	10	10	10
Mass	kg	1,9	3,7	5,5	7,3
Thermal protection		PTC	PTC	PTC	PTC

(1) Line-line

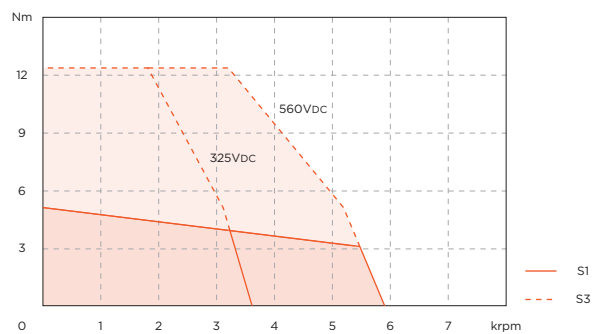
(2) At 20° C

Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 305x305x12,7 mm

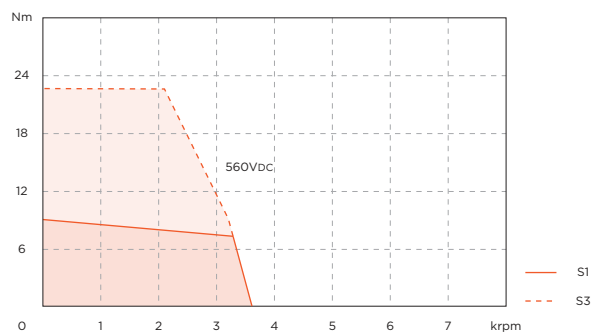
All dimensions in millimeters, unless otherwise specified



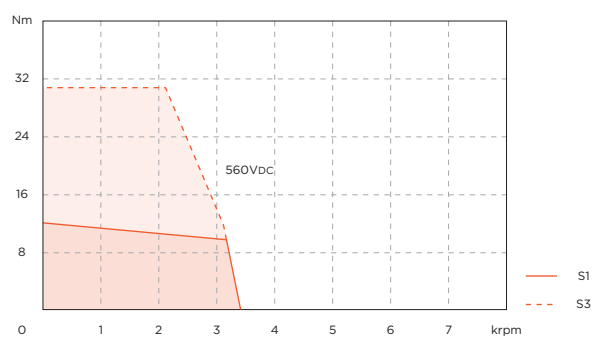
SVTM A 03-4.90-061-0-FML



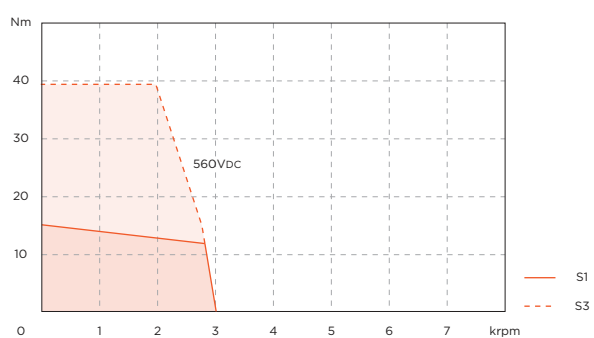
SVTM A 03-8.60-105-0-FML



SVTM A 03-11.5-107-0-FML



SVTM A 03-14.4-120-0-FML



Note:

Rated values are calculated at 25°C ambient temperature, housed motor with an heat sink size of 254x254x6.35 mm. See previous page for framed version.

SVTM A 04

Values	Unit	SVTM A			
		04-12.2-82-x-x-000	04-16.8-110-x-x-000	04-21.0-107-x-x-000	04-24.3-88-x-x-000
Frame	Ø mm	145	145	145	145
Motor length (L)	mm	175	200	225	250
Motor length with brake	mm	227	252	283	308
Nominal voltage	VDC	560	560	560	560
Continuous stall torque	Nm	12,2	16,8	21	24,3
Continuous stall current	Arms	9,6	9,9	12,8	17,8
Nominal torque	Nm	8,6	12,9	15,6	15,0
Nominal current	Arms	6,74	7,53	9,40	10,88
Nominal speed	rpm	3600	2800	2800	3500
Peak torque	Nm	30,1	42,6	54,1	63,7
Peak current	Arms	28,7	29,7	38,4	53,3
Torque constant	Nm/Arms	1,28	1,71	1,66	1,38
BEMF constant (1)(2)	Vrms/krpm	82,1	110	107	88,8
Resistance (1)(2)	Ohm	1,05	1,09	0,71	0,42
Inductance (1)	mH	10,5	12	8,5	4,7
Rotor inertia	kgcm ²	14	20,75	27,5	34,25
Max. axial load	N	430	430	430	430
Max. radial load	N	1300	1300	1300	1300
Thermal protection		PTC	PTC	PTC	PTC
Feedback (3)	Resolver, encoder inc 2048 + hall, absolute single-turn hipurface (SEK 37), absolute multi-turn hipurface (SEL 37)				
Mass	kg	10	12.2	14.4	16.6

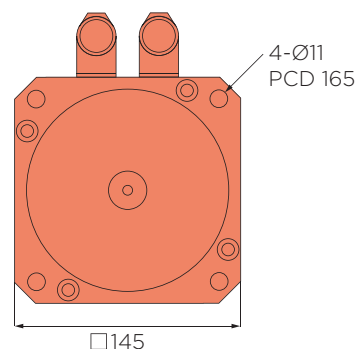
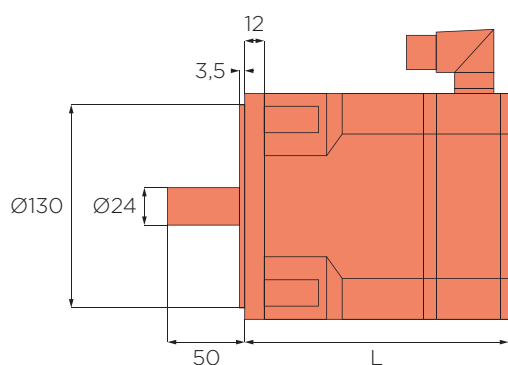
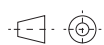
(1) Line-line

(2) At 20° C

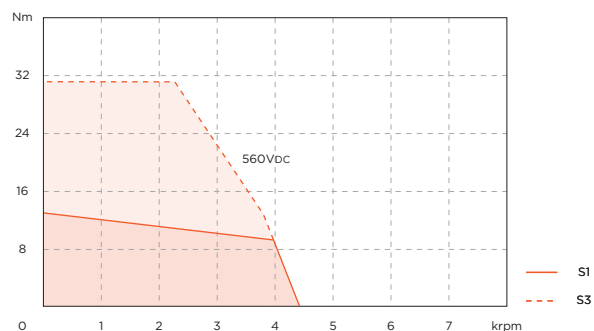
(3) Length may vary with absolute feedback

Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 457x457x12,5 mm

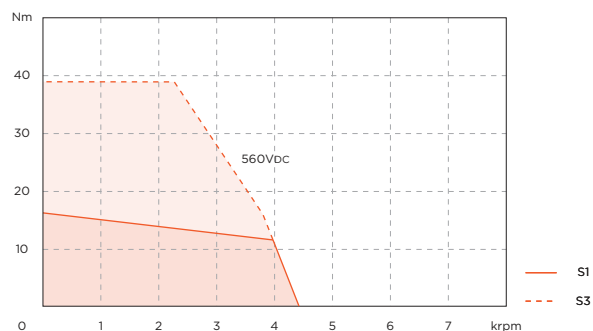
All dimensions in millimeters, unless otherwise specified



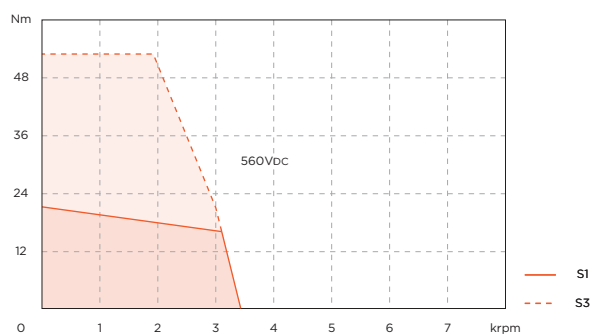
SVTM A 04-12.2-82



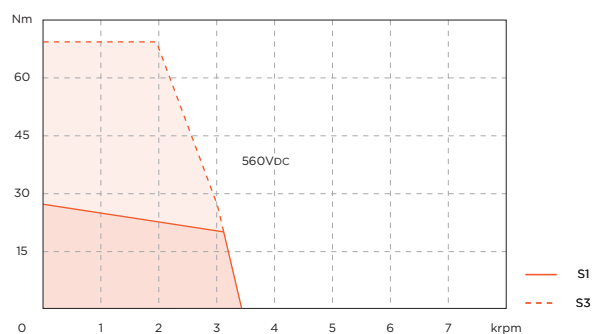
SVTM A 04-16.8-110



SVTM A 04-21.0-107



SVTM A 04-24.3-88



Note:

Rated values are calculated at 20°C ambient temperature with an heat sink size of 254x254x6.35 mm.
See next page for frameless version.

SVTM A 04 ..FML

Frameless

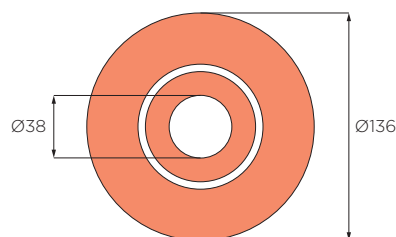
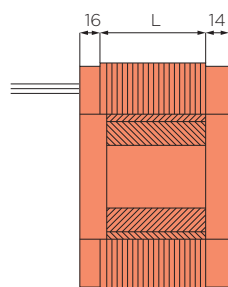
Values	Unit	SVTM A			
		04-12.2-082-0-FML	04-16.8-110-0-FML	04-21.0-107-0-FML	04-24.3-088-0-FML
Frame	Ø mm	136	136	136	136
Motor length (L)	mm	50	75	100	125
Nominal voltage	VDC	560	560	560	560
Continuous stall torque	Nm	560	560	560	560
Continuous stall current	Arms	12,2	16,8	21	24,3
Nominal torque	Nm	9,6	9,9	12,8	17,8
Nominal current	A	6,74	7,53	9,40	10,88
Nominal speed	rpm	3600	2800	2800	3500
Peak torque	Nm	30,1	42,6	54,1	63,7
Peak current	Arms	28,7	29,7	38,4	53,3
Torque constant	Nm/Arms	1,28	1,71	1,66	1,38
BEMF constant (1)(2)	Vrms/krpm	82,1	110	107	88,8
Resistance (1)(2)	Ohm	1,05	1,09	0,71	0,42
Inductance (1)	mH	10,5	12	8,5	4,7
Rotor inertia	kgcm ²	10,1	15,1	20,2	25,5
Poles		10	10	10	10
Mass	kg	4,7	7	9,3	11,6
Thermal protection		PTC	PTC	PTC	PTC

(1) Line-line

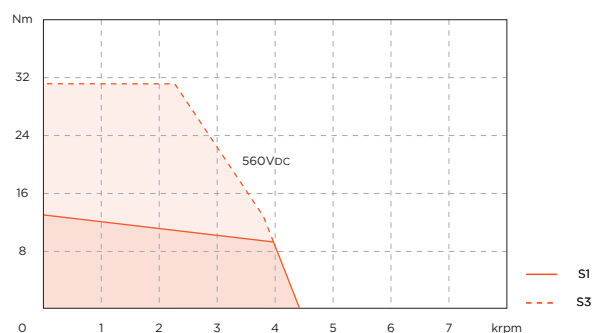
(2) At 20° C

Note: Rated values are calculated at 20°C ambient temperature with an heat sink size of 457x457x12,5 mm

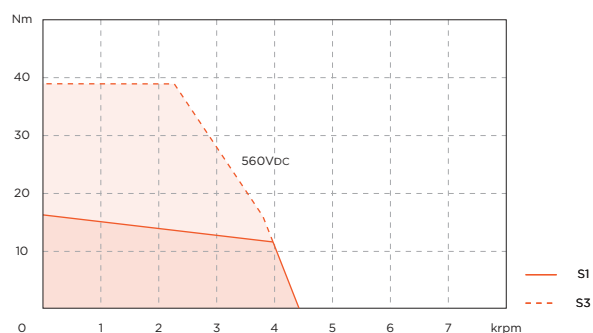
All dimensions in millimeters, unless otherwise specified



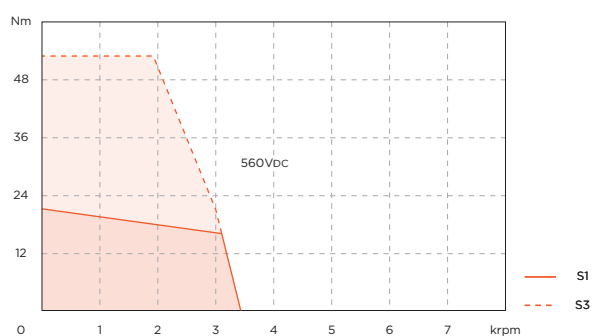
SVTM A 04-12.2-082-0-FML



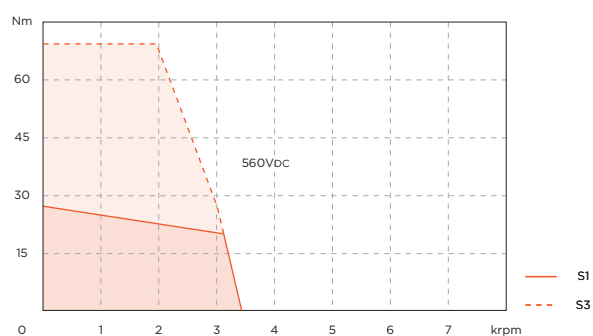
SVTM A 04-16.8-110-0-FML



SVTM A 04-21.0-107-0-FML



SVTM A 04-24.3-088-0-FML



Note:

Rated values are calculated at 25°C ambient temperature, housed motor with an heat sink size of 254x254x6.35 mm. See previous page for framed version.

SVTM B Series

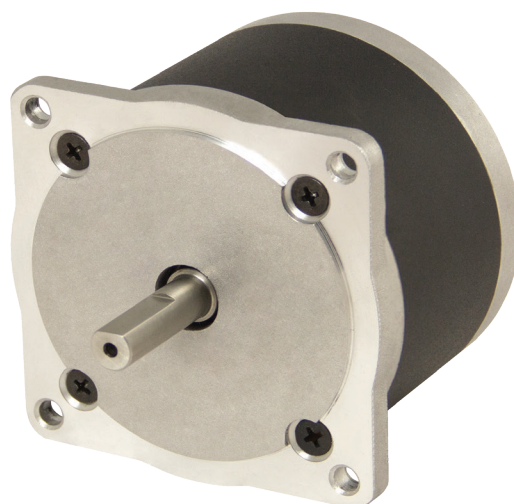
Synchronous Motors

Contents

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SVTM B Series

Synchronous Motors



CUSTOMISABLE



COST-EFFECTIVE



HIGH POWER

Synchronous Motors are distinguished by ease of use; in fact, while being Brushless motors, therefore not subject to brush maintenance, they do not require drivers or controllers for operation.

Our motors are available for both the 220VAC voltage and 50Hz frequency markets, and the 110Vac voltage and 60Hz frequency markets.

Furthermore, the construction motor allows operating current to be equal to start current as well as having high dynamics in a start-stop operation.

Another distinctive feature of Synchronous motors is being able to obtain the stall torque of the locked rotor by applying a DC voltage; even in this condition, if the motor operates within its nominal parameters, there will be no overheating problems.

The motor is supplied with a free-wire solution but, as an option, you can have a terminal box in a hood mounted on the rear flange.

Benefits

Compact

Easy to use

Customisable

Cost-effective

Certifications

CE

RoHS 2011/65/EU

SYNCHRONOUS

B Series

 Options
single [S]; double [D];
terminal box with PG13,5 [M];
terminal box with 3/8gas [I]

Brake
no [0]

 Customizations

Winding	three-phase synchronous motor
Operating temperature	-20° +40° C
Insulation class	B, 130°C
Magnets	Neodymium
Operation	bidirectional

Wire drawing flange	Encoder
Wire drawing shaft	Wire length
Brake	Terminal box connection

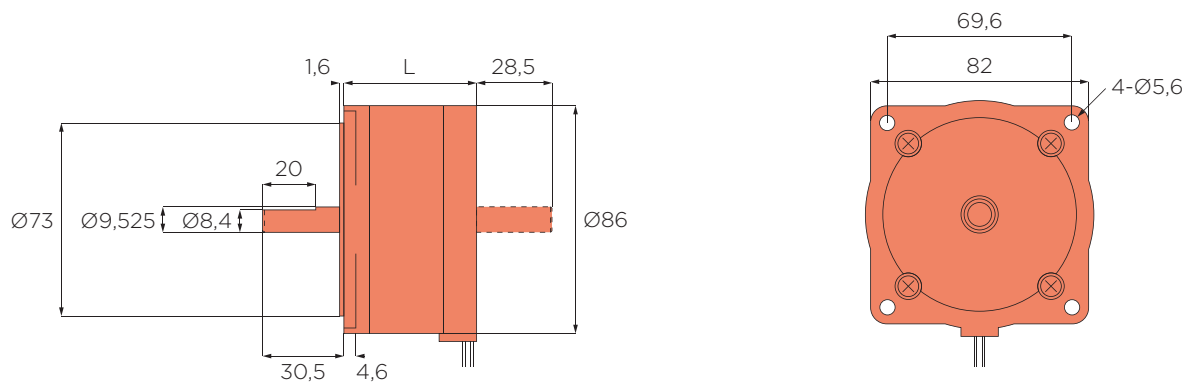
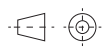
SVTM B 01

Values	Unit	SVTM B		
		01-0.90-220-x-0-000	01-0.90-120-x-0-000	01-01.4-220-x-0-000
Frame	Ø mm	82	82	82
Length	mm	65	65	65
Synchronous max torque	Nm	0,9	0,9	1,4
Operating voltage	VAC	220	120	220
Operating frequency	Hz	50	60	50
Nominal speed	rpm	60	72	60
Rotor inertia	kg/cm ²	0,65	0,65	0,65
Mass	kg	1,5	1,5	1,5
Ambient temperature (1)	°C	-20 +40	-20 +40	-20 +40
Insualtion class		B, 130°C	B, 130°C	B, 130°C
Suggested phase shift component				
Resistor	Ohm	750	470	400
	Watt	100	100	100
Capacitor	microF	0,8	2	2,5
	VAC	400	400	400
Values	Values	Values	Values	Values
		01-1.40-120-x-0-000	01-1.70-220-x-0-000	01-1.70-120-x-0-000
Frame	Ø mm	82	82	82
Length	mm	65	92	92
Synchronous max torque	Nm	1,4	1,7	1,7
Operating voltage	VAC	120	220	120
Operating frequency	Hz	60	50	60
Nominal speed	rpm	72	60	72
Rotor inertia	kg/cm ²	0,65	1,2	1,2
Mass	kg	1,5	2,5	2,5
Ambient temperature (1)	°C	-20 +40	-20 +40	-20 +40
Insualtion class		B, 130°C	B, 130°C	B, 130°C
Suggested phase shift component				
Resistor	Ohm	200	820	300
	Watt	100	100	100
Capacitor	microF	6,3	1,6	4
	VAC	400	400	400
Values	Unit	SVTM B		
		01-2.60-120-x-0-000	01-3.20-220-x-0-000	01-3.20-120-x-0-000
Frame	Ø mm	82	82	82
Length	mm	129	129	129
Synchronous max torque	Nm	2,6	3,2	3,2
Operating voltage	VAC	120	220	120
Operating frequency	Hz	60	50	60
Nominal speed	rpm	72	60	72
Rotor inertia	kg/cm ²	1,9	1,9	1,9
Mass	kg	3,7	3,7	3,7
Ambient temperature (1)	°C	-20 +40	-20 +40	-20 +40
Insualtion class		B, 130°C	B, 130°C	B, 130°C
Suggested phase shift component				
Resistor	Ohm	300	500	100
	Watt	100	100	100
Capacitor	microF	6,5	2,5	8
	VAC	400	400	400

(1) With no condensation

All dimensions in millimeters, unless otherwise specified

Specifications subject to change.



Notes

SVTM C Series

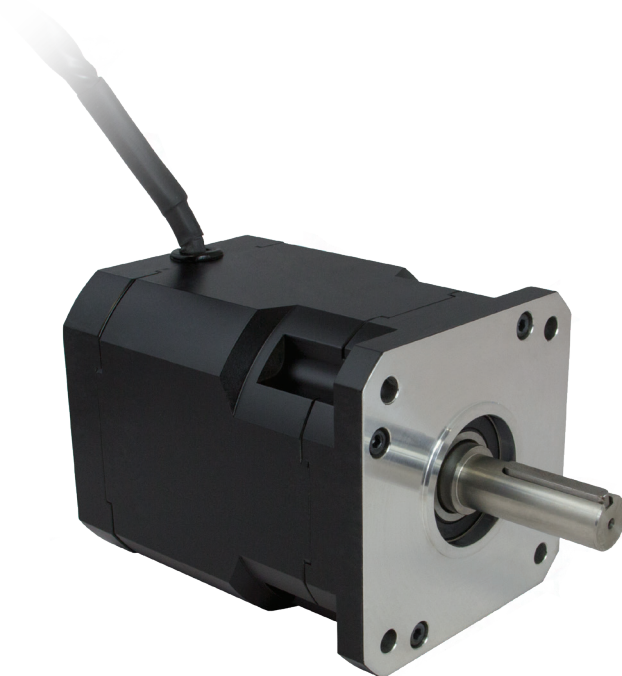
Stepper Motors

Contents

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SVTM C Series

Stepper Motors



COST-EFFECTIVE



STURDY



HIGH TORQUE

The Stepper Motors of the SVTM C 01 family feature a two-phase electromagnetic design which has, however, a four-phase configuration option that ensures compatibility with most drivers on the market. The characteristic design allows for a small-sized rotor and, combined with high-energy magnets, a thorough production process ensuring a reduced airgap and consequently higher dynamics.

Stepper motors of the SVTM C 02 and C 03 families are characterised by a two-phase electromagnetic design ensuring compatibility with the most drivers on the market. Their specific design allows for a large-sized rotor and, thanks to high-energy magnets and a thorough production process, ensures a reduced airgap and higher torques. Moreover, a high-inertia rotor makes it possible to have better speed linearity compared to conventional Stepper Motors.

Their unique design allows for very low values of the detent torque harmonic spectrum in addition to excellent performance even in micro-stepping mode. Torque linearity allows overloading the motor for the toughest applications. The housing structure completely made of aluminium alloy, along with high-quality insulating materials, ensures sturdiness and reliability. The high construction standards allow for very reduced shaft and pilot ring runout tolerances (shaft runout 0.051, pilot ring runout 0.077, pilot ring perpendicularity 0.077), thus allowing coupling with gearboxes.

Benefits

Cost effective

Customisable

Easy to use

Sturdy

Certifications

CE

RoHS 2011/65/EU

Product code

SVTM A  -  -  -  -  - 

C Series

 Frame
01 [82]; 02 [92]; 03 [115] Holding torque Rated current Shaft
single [S]; double [D];
terminal box with PG13,5 [M]*;
terminal box with 3/8gas [I]* Brake
no [0] Customizations
8 wires connection [8xx]*

* SVTM C 01 only

Features

Winding	bi-phase stepper motor
Operating temperature	-20° +40° C
Insulation class	B, 130°C
Magnets	Neodymium
Housing	Aluminium for SVTM C 02 and D 03 series
Shaft runout	0.051 for SVTM C 02 and C 03
Pilot ring oscillation	0.077 for SVTM C 02 and C 03
Pilot ring perpendicularity	0.077 for SVTM C 02 and C 03
Connection	Free lead
Step angle	1.8°

Customizations

Wire drawing flange	Wire length
Wire drawing shaft	Winding: Four-phase
Brake	Other voltage winding
Encoder	

SVTM C 01

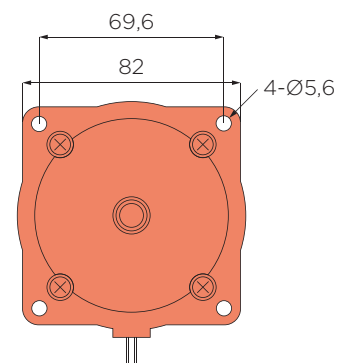
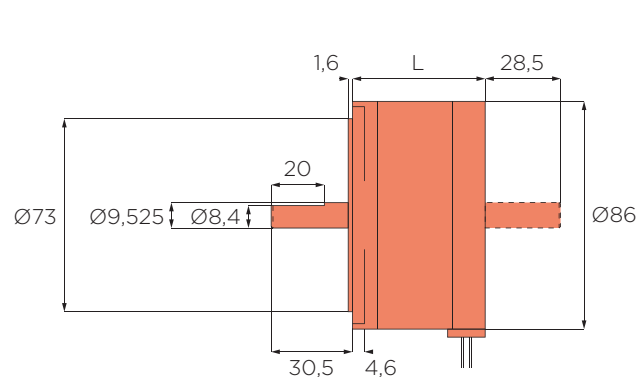
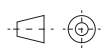
4 WIRES	Values	Unit	SVTM C			
			01-2.8-02-x-0-000	01-2.8-04-x-0-000	01-2.8-06-x-0-000	01-4.8-04-x-0-000
	Frame	Ø mm	82	82	82	82
	Length	mm	65	65	65	92
	Rated current	Arms	2	4	6	4
	Holding torque	Nm	2,8	2,8	2,8	4,8
	Phase resistance	Ohm	2,5	0,65	0,28	0,85
	Phase inductance	mH	21	5,1	2,1	7,7
	Rotor inertia	kgm ² x10 ⁻³	0,065	0,065	0,065	0,12
	Mass	kg	1,5	1,5	1,5	2,5
	Insulation class		B, 130°C	B, 130°C	B, 130°C	B, 130°C
	Ambient temperature (1)	°C	-20 +40	-20 +40	-20 +40	-20 +40
	Values	Unit	SVTM C			
			01-4.8-06-x-0-000	01-7.2-05-x-0-000	01-7.2-09-x-0-000	
	Frame	Ø mm	82	82	82	
	Length	mm	92	129	129	
	Rated current	Arms	6	5	9	
	Holding torque	Nm	4,8	7,2	7,2	
	Phase resistance	Ohm	0,37	0,75	0,25	
	Phase inductance	mH	3,5	8,5	2,5	
	Rotor inertia	kgm ² x10 ⁻³	0,12	0,18	0,18	
	Mass	kg	2,5	3,5	3,5	
	Insulation class		B, 130°C	B, 130°C	B, 130°C	
	Ambient temperature (1)	°C	-20 +40	-20 +40	-20 +40	-20 +40
8 WIRES	Values	Unit	SVTM C			
			01-2.8-01-x-0-800	01-2.8-02-x-0-800	01-2.8-04-x-0-800	01-4.8-02-x-0-800
	Frame	Ø mm	82	82	82	82
	Length	mm	65	65	65	92
	Rated current	Arms	1,4	2,8	4,3	2,8
	Holding torque	Nm	2,8	2,8	2,8	4,8
	Phase resistance	Ohm	5	1,3	0,56	1,17
	Phase inductance	mH	21	5,1	2,1	7,7
	Rotor inertia	kgm ² x10 ⁻³	0,065	0,065	0,065	0,12
	Mass	kg	1,5	1,5	1,5	2,5
	Insulation class		B, 130°C	B, 130°C	B, 130°C	B, 130°C
	Ambient temperature (1)	°C	-20 +40	-20 +40	-20 +40	-20 +40
	Values	Unit	SVTM C			
			01-4.8-04-x-0-800	01-3.5-03-x-0-800	01-7.2-06-x-0-800	
	Frame	Ø mm	82	82	82	
	Length	mm	92	129	129	
	Rated current	Arms	4,3	3,5	6,4	
	Holding torque	Nm	4,8	6	7,2	
	Phase resistance	Ohm	0,75	1,5	0,5	
	Phase inductance	mH	3,5	8,5	2,5	
	Rotor inertia	kgm ² x10 ⁻³	0,12	0,18	0,18	
	Mass	kg	2,5	3,5	3,5	
	Insulation class		B, 130°C	B, 130°C	B, 130°C	
	Ambient temperature (1)	°C	-20 +40	-20 +40	-20 +40	

(1) With no condensation

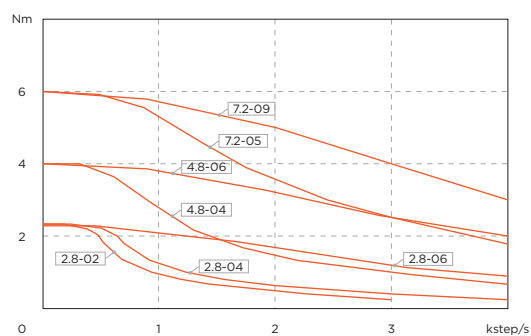
Note: Rated values are calculated at 20°C ambient temperature

All dimensions in millimeters, unless otherwise specified

Specifications subject to change.



SVTM C 01



Note:

Rated values are calculated at 20°C ambient temperature.

Notes

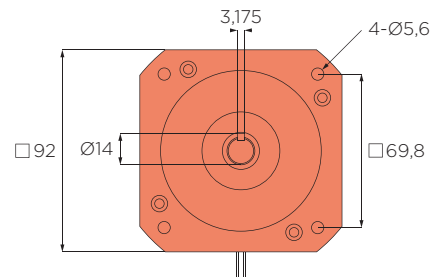
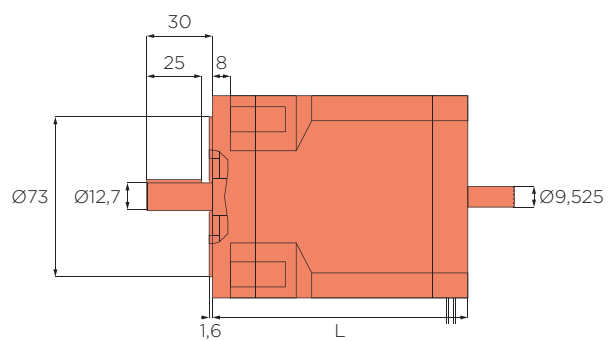
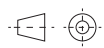
SVTM C 02

Values	Unit	SVTM C		
		02-4.6-08-x-0-000	02-8.8-10-x-0-000	02-12-10-x-0-000
Frame	Ø mm	92	92	92
Length	mm	78	116	154
Rated current	Arms	8,7	10	10
Holding torque	Nm	4,6	8,8	12
Phase resistance	Ohm	0,18	0,18	0,24
Phase inductance	mH	1,1	1,5	2,3
Rotor inertia	kgm ² x10 ⁻³	0,23	0,45	0,68
Mass	kg	2,3	3,8	5,4
Isualtion class		B, 130°C	B, 130°C	B, 130°C
Ambient temperature (1)	°C	-20 +40	-20 +40	-20 +40

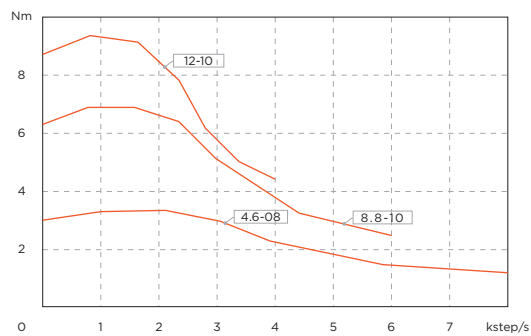
(1) With no condensation

Note: Rated values are calculated at 20°C ambient temperature

All dimensions in millimeters, unless otherwise specified



SVTM C 02



Note:

Rated values are calculated at 20°C ambient temperature.

Notes

SVTM C 03

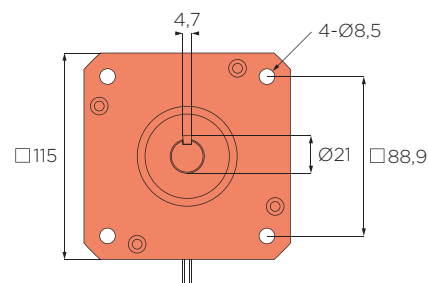
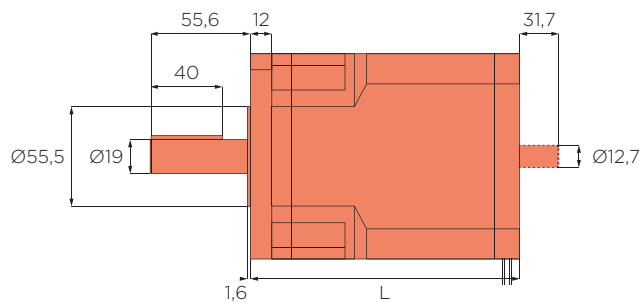
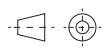
Values	Unit	SVTM C		
		03-11-10-x-0-000	03-21-15-x-0-000	03-29-15-x-0-000
Frame	Ø mm	115	115	115
Length	mm	100	150	200
Rated current	Arms	10,7	15,8	15,4
Holding torque	Nm	11	21	29
Phase resistance	Ohm	0,16	0,1	0,14
Phase inductance	mH	1,3	1,3	2
Rotor inertia	kgm ² x10 ⁻³	0,96	1,92	2,88
Mass	kg	5	8	11
Isualtion class		B, 130°C	B, 130°C	B, 130°C
Ambient temperature (1)	°C	-20 +40	-20 +40	-20 +40

(1) With no condensation

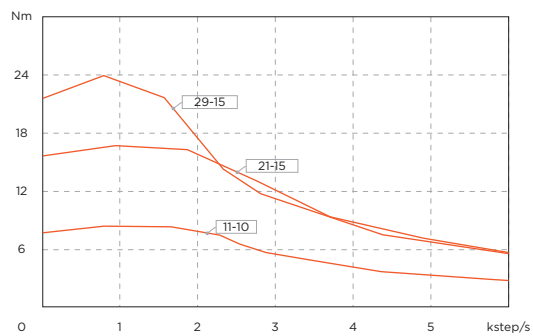
Note: Rated values are calculated at 20°C ambient temperature

All dimensions in millimeters, unless otherwise specified

Specifications subject to change.



SVTM C 03



Note:

Rated values are calculated at 20°C ambient temperature.

Notes

SVTM D Series

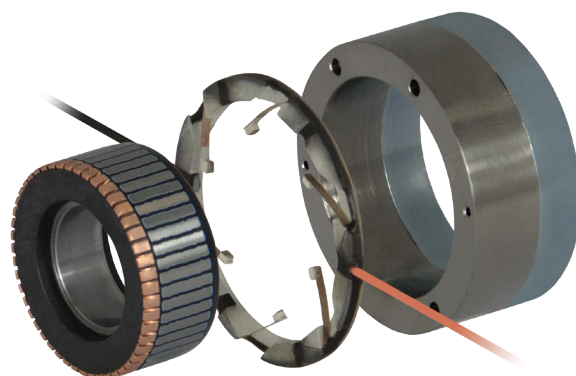
Brush Torque Motors

Contents

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SVTM D Series

Brush Torque Motors



LIGHTWEIGHT



CUSTOMISABLE



HIGH POWER

DC Torque Motors operate on the same principles as the conventional DC motors but the magnetic circuit design and consequent mechanical configuration are designed for a maximum torque output rather than the usual low torque / high speed characteristic.

A range of unhusd units are supplied as three separate components, a permanent magnet field assembly, a wound armature with precision bore for mounting and a brush ring assembly or brush segments.

A fixed element - the stator, is equipped with rare earth permanent magnets and the rotor is equipped with a dc specific winding which is connected to an extra flat commutator - brushed system. Low speed Torque Motors are beneficial for direct-drive applications. Position and speed feedback can be achieved via additions of DC Tachos, Resolvers or Optical Encoders.

The unhusd motors described below can be supplied in custom designed housings for specific applications.

Benefits

Compact	Wide range
Easy to use	Integrable into the mechanics
Customisable	Extended operating temperatures

Certifications

RoHS 2011/65/EU

Product code

SVTM D  -  -  -  -  - 

D Series

 Stall torque Customizations

 Frame
 01 [38.1]; 02 [51]; 03 [60.32]; 04 [76.2];
 05 [85.725]; 06 [92.075]; 07 [114.3];
 08 [130.175]

 Voltage

Features

Winding	brush two-phase DC motor
Operating temperature	-40° +70° C
Insulation class	F, 155° C for 01-04 model and 08 or H, 180° C for 05-07 model
Magnets	rare earth
Collector	gold plating
Construction technology	frameless
Wire length	300mm

Customizations

Wire drawing stator flange	Wires length
Rotor bore on request	Other voltage winding

SVTM D 01

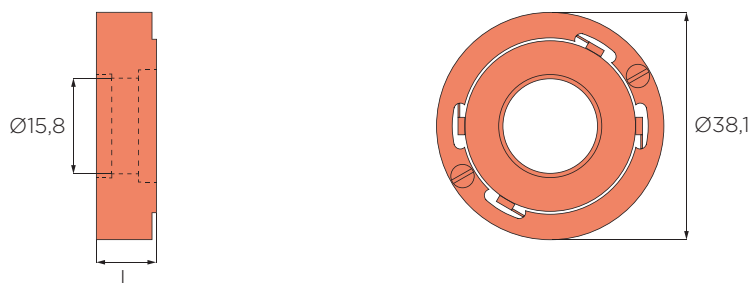
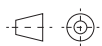
Values	Unit	SVTM D		
		01-0,07-18-000	01-0,12-23-000	01-0,14-17-000
Frame	Ø mm	38,1	38,1	38,1
Motor length	mm	9,78	12,95	12,95
Peak torque, stalled @Vp	mNm	77,7	127	141
Power input @Tp	W	56,7	83,3	78
Motor constant	mNm/√W	10,3	13,9	16
Electrical time constant	ms	0,11	0,15	0,207
No load speed @Vp	rpm	6962	6961	5280
Break away torque	mNm	4,24	2,2	4,94
Ripple torque	% avg to peak	7	5	7
Max allowable temperate/insulation class		F, 155 °C	F, 155 °C	F, 155 °C
Thermal resitance	°C/W	25	19	19
Mass	g	46,8	62	65,2
Rotor inertia	kgm²x10 ⁻⁶	2,97	4,24	4,24
Resistance (1)(2)	Ohm	5,9	6,8	4,1
Inductance (1)	mH	0,65	1,3	0,85
Torque constant	mNm/A	25,1	36,3	32,4
BEMF constant (1)(2)	V/rad/s	0,0251	0,0363	0,0324
Peak voltage @ Tp	V	18,3	23,8	17,9
Peak current @ Tp	A	3,1	3,5	4,36
Wires length	mm	300	300	300
Ambient temperature (3)	°C	-40 +70	-40 +70	-40 +70
Values	Unit	SVTM D		
		01-0,39-22-000	01-0,35-22-000	01-0,33-18-000
Frame	Ø mm	38,1	38,1	38,1
Motor length	mm	27,94	27,94	26
Peak torque, stalled @Vp	mNm	395	353	333
Power input @Tp	W	156	156	72
Motor constant	mNm/√W	31,3	28,3	39,2
Electrical time constant	ms	0,41	0,41	-
No load speed @Vp	rpm	3776	4226	2066
Break away torque	mNm	5,4	5,4	18,5
Ripple torque	% avg to peak	5	5	5
Max allowable temperate/insulation class		F, 155 °C	F, 155 °C	F, 155 °C
Thermal resitance	°C/W	14	14	-
Mass	g	142	142	140
Rotor inertia	kgm²x10 ⁻⁶	9,86	9,86	8,7
Resistance (1)(2)	Ohm	3,18	3,18	4,5
Inductance (1)	mH	1,3	1,3	1,1
Torque constant	mNm/A	56,4	50,4	83,2
BEMF constant (1)(2)	V/rad/s	0,0564	0,0504	0,0832
Peak voltage @ Tp	V	22,3	22,3	18
Peak current @ Tp	A	7	7	4
Wires length	mm	300	300	300
Ambient temperature (3)	°C	-40 +70	-40 +70	-40 +70

(1) Line-line

(2) At 25° C

(3) With no condensation

All dimensions in millimeters, unless otherwise specified



Notes

SVTM D 02

Values	Unit	SVTM D 02-1.20-24-000
Frame	Ø mm	51
Motor length	mm	29
Peak torque, stalled @Vp	mNm	1200
Power input @Tp	W	192
Motor constant	mNm/√W	86,6
Electrical time constant	ms	
No load speed @Vp	rpm	2139
Break away torque	mNm	40
Ripple torque	% avg to peak	5
Max allowable temperate/insulation class		F, 155 °C
Thermal resitance	°C/W	-
Mass	g	295
Rotor inertia	kgm²x10 ⁻⁶	-
Resistance (1)(2)	Ohm	3
Inductance (1)	mH	1,5
Torque constant	mNm/A	150
BEMF constant (1)(2)	V/rad/s	0,15
Peak voltage @ Tp	V	24
Peak current @ Tp	A	8
Wires length	mm	300
Ambient temperature (3)	°C	-40 +70

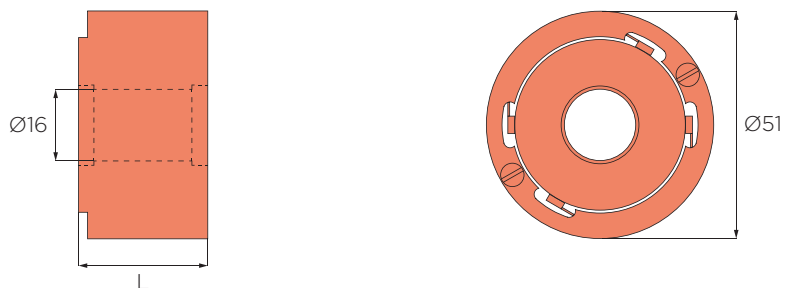
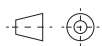
(1) Line-line

(2) At 25° C

(3) With no condensation

Note: Rated values are calculated at 25°C ambient temperature

All dimensions in millimeters, unless otherwise specified



Notes

[illegible]

SVTM D 03

Values	Unit	SVTM D 03-0,60-25-000
Frame	Ø mm	60,32
Motor length	mm	25,4
Peak torque, stalled @Vp	mNm	600
Power input @Tp	W	77,5
Motor constant	mNm/√W	68,2
Electrical time constant	ms	0,238
No load speed @Vp	rpm	1251
Break away torque	mNm	12,7
Ripple torque	% avg to peak	6
Max allowable temperate/insulation class		F, 155 °C
Thermal resitance	°C/W	-
Mass	g	303
Rotor inertia	kgm²x10 ⁻⁶	50,8
Resistance (1)(2)	Ohm	8,4
Inductance (1)	mH	2
Torque constant	mNm/A	195
BEMF constant (1)(2)	V/rad/s	0,195
Peak voltage @ Tp	V	25,5
Peak current @ Tp	A	3,04
Wires length	mm	300
Ambient temperature (3)	°C	-40 +70

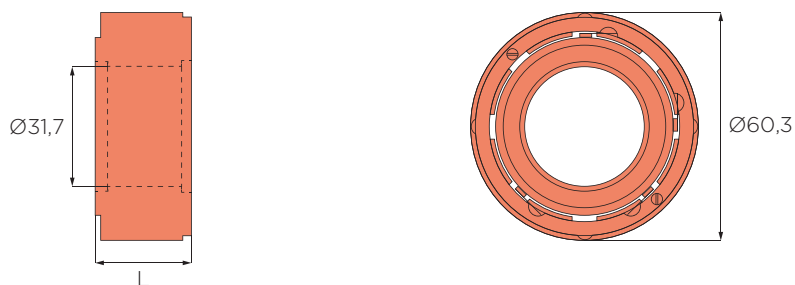
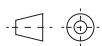
(1) Line-line

(2) At 25° C

(3) With no condensation

Note: Rated values are calculated at 25°C ambient temperature

All dimensions in millimeters, unless otherwise specified



Notes

[illegible]

SVTM D 04

Values	Unit	SVTM D 03-0,60-25-000
Frame	Ø mm	76,2
Motor length	mm	19,8
Peak torque, stalled @Vp	mNm	777
Power input @Tp	W	79,1
Motor constant	mNm/√W	87,4
Electrical time constant	ms	0,291
No load speed @Vp	rpm	947
Break away torque	mNm	17,7
Ripple torque	% avg to peak	6
Max allowable temperate/insulation class		H, 180°C
Thermal resitance	°C/W	3,8
Mass	g	692
Rotor inertia	kgm²x10 ⁻⁶	6,5x10 ⁻²
Resistance (1)(2)	Ohm	4,12
Inductance (1)	mH	2
Torque constant	mNm/A	551
BEMF constant (1)(2)	V/rad/s	0,551
Peak voltage @ Tp	V	23,5
Peak current @ Tp	A	5,7
Wires length	mm	300
Ambient temperature (3)	°C	-40 +70

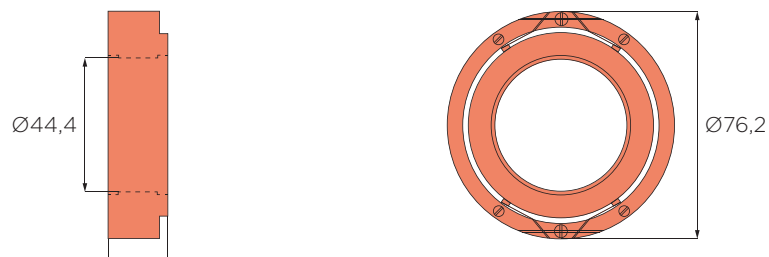
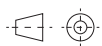
(1) Line-line

(2) At 25° C

(3) With no condensation

Note: Rated values are calculated at 25°C ambient temperature

All dimensions in millimeters, unless otherwise specified



Notes

[illegible]

SVTM D 05

Values	Unit	SVTM D 5-3,14-23-000
Frame	Ø mm	85,725
Motor length	mm	36,9
Peak torque, stalled @Vp	mNm	3140
Power input @Tp	W	134
Motor constant	mNm/√W	0,271
Electrical time constant	ms	0,485
No load speed @Vp	rpm	407
Break away torque	mNm	127
Ripple torque	% avg to peak	7
Max allowable temperate/insulation class		H, 180°C
Thermal resitance	°C/W	3,8
Mass	g	692
Rotor inertia	kgm²x10 ⁻⁶	6,5x10 ⁻²
Resistance (1)(2)	Ohm	4,12
Inductance (1)	mH	2
Torque constant	mNm/A	551
BEMF constant (1)(2)	V/rad/s	0,551
Peak voltage @ Tp	V	23,5
Peak current @ Tp	A	5,7
Wires length	mm	300
Ambient temperature (3)	°C	-40 +70

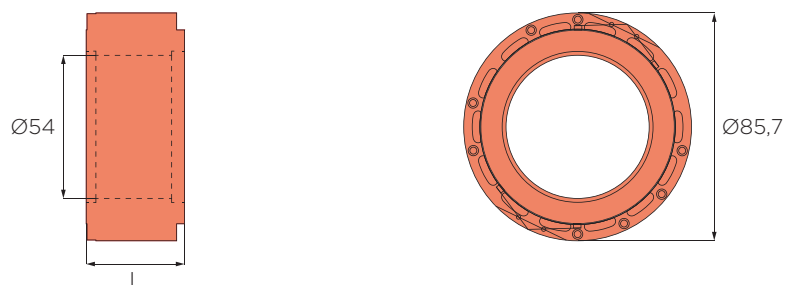
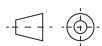
(1) Line-line

(2) At 25° C

(3) With no condensation

Note: Rated values are calculated at 25°C ambient temperature

All dimensions in millimeters, unless otherwise specified



Notes

[illegible]

SVTM D 06

Values	Unit	SVTM D	
		06-1,06-30-000	06-1,06-23-000
Frame	Ø mm	92,075	92,075
Motor length	mm	13,72	13,72
Peak torque, stalled @Vp	mNm	1060	1060
Power input @Tp	W	154	154
Motor constant	mNm/√W	85,4	84,4
Electrical time constant	ms	0,37	0,37
No load speed @Vp	rpm	1387	1390
Break away torque	mNm	31,8	31,8
Ripple torque	% avg to peak	7	7
Max allowable temperate/insulation class		H, 180°C	H, 180°C
Thermal resitance	°C/W	10,1	10,1
Mass	g	241	214
Rotor inertia	kgm ² x10 ⁻⁶	1,61x10 ⁻²	1,61x10 ⁻²
Resistance (1)(2)	Ohm	6,04	3,43
Inductance (1)	mH	2,23	1,27
Torque constant	mNm/A	210	158
BEMF constant (1)(2)	V/rad/s	0,21	0,158
Peak voltage @ Tp	V	30,5	23
Peak current @ Tp	A	5,05	6,7
Wires length	mm	300	300
Ambient temperature (3)	°C	-40 +70	-40 +70
Values	Unit	SVTM D	
		06-2,12-31-000	06-4,00-23-000
Frame	Ø mm	92,075	92,456
Motor length	mm	21,33	37,008
Peak torque, stalled @Vp	mNm	2120	4000
Power input @Tp	W	284	138
Motor constant	mNm/√W	0,156	0,341
Electrical time constant	ms	0,408	0,628
No load speed @Vp	rpm	830	329
Break away torque	mNm	46	130
Ripple torque	% avg to peak	7	7
Max allowable temperate/insulation class		H, 180°C	H, 180°C
Thermal resitance	°C/W	7,3	3,8
Mass	g	430	955
Rotor inertia	kgm ² x10 ⁻⁶	2,8x10 ⁻²	6,5x10 ⁻²
Resistance (1)(2)	Ohm	5,25	4
Inductance (1)	mH	2,14	2,5
Torque constant	mNm/A	358	681
BEMF constant (1)(2)	V/rad/s	0,358	0,681
Peak voltage @ Tp	V	31,1	23,5
Peak current @ Tp	A	5,92	5,87
Wires length	mm	300	300
Ambient temperature (3)	°C	-40 +70	-40 +70

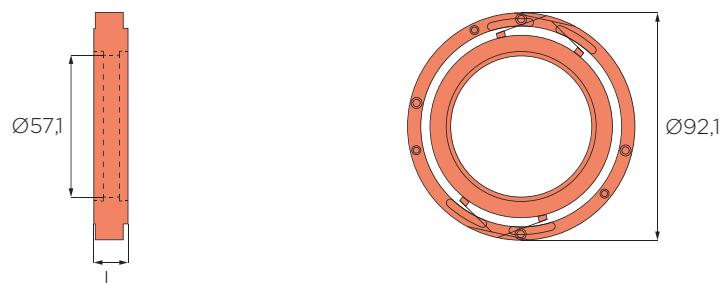
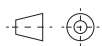
(1) Line-line

(2) At 25° C

(3) With no condensation

All dimensions in millimeters, unless otherwise specified

Specifications subject to change.



Notes

BRUSH TORQUE

SVTM D 07

Values	Unit	SVTM D		
		07-2,30-36-000	07-3,25-31-000	07-3,25-55-000
Frame	Ø mm	114,3	114,3	114,3
Motor length	mm	14,22	17,45	17,45
Peak torque, stalled @Vp	mNm	2300	3250	3250
Power input @Tp	W	248	187	187
Motor constant	mNm/√W	0,146	0,238	0,238
Electrical time constant	ms	0,59	0,573	0,573
No load speed @Vp	rpm	1031	549	549
Break away torque	mNm	56,5	67,8	67,8
Ripple torque	% avg to peak	7	6	6
Max allowable temperate/insulation class		H, 180°C	H, 180°C	H, 180°C
Thermal resitance	°C/W	6,9	3,3	3,3
Mass	g	397	520	520
Rotor inertia	kgm²x10 ⁻⁶	4,19x10 ⁻²	4,88x10 ⁻²	4,88x10 ⁻²
Resistance (1)(2)	Ohm	5,43	5,2	16,4
Inductance (1)	mH	3,19	3	9,4
Torque constant	mNm/A	340	548	963
BEMF constant (1)(2)	V/rad/s	0,34	0,542	0,963
Peak voltage @ Tp	V	36,7	31,2	55,4
Peak current @ Tp	A	6,76	6	3,38
Wires length	mm	300	300	300
Ambient temperature (3)	°C	-40;+70	-40 +70	-40 +70

Values	Unit	SVTM D	
		07-4,59-42-000	07-6,51-33-000
Frame	Ø mm	114,3	114,3
Motor length	mm	21,84	27,28
Peak torque, stalled @Vp	mNm	4590	6510
Power input @Tp	W	275	263
Motor constant	mNm/√W	0,277	0,401
Electrical time constant	ms	0,784	0,83
No load speed @Vp	rpm	573	386
Break away torque	mNm	84,8	136
Ripple torque	% avg to peak	7	5
Max allowable temperate/insulation class		H, 180°C	H, 180°C
Thermal resitance	°C/W	5,2	
Mass	g	697	945
Rotor inertia	kgm²x10 ⁻⁶	7,19x10 ⁻²	9,76x10 ⁻²
Resistance (1)(2)	Ohm	6,68	4,36
Inductance (1)	mH	5,24	3,6
Torque constant	mNm/A	715	838
BEMF constant (1)(2)	V/rad/s	0,715	0,838
Peak voltage @ Tp	V	42,9	33,9
Peak current @ Tp	A	6,42	7,77
Wires length	mm	300	300
Ambient temperature (3)	°C	-40 +70	-40 +70

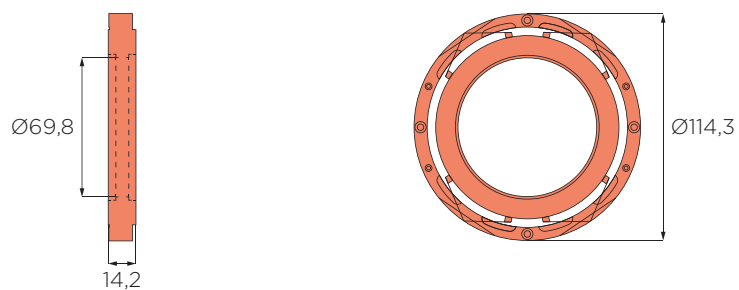
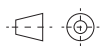
(1) Line-line

(2) At 25° C

(3) With no condensation

All dimensions in millimeters, unless otherwise specified

Specifications subject to change.



Notes

BRUSH TORQUE

SVTM D 08

Values	Unit	SVTM D		
		08-2,80-22-000	08-4,80-24-000	08-10,0-29-000
Frame	Ø mm	130,175	130,175	130,175
Motor length	mm	23,9	25,5	53,34
Peak torque, stalled @Vp	mNm	2800	4800	10000
Power input @Tp	W	44	96	195
Motor constant	mNm/√W	0,422	0,49	0,716
Electrical time constant	ms	0,818	0,8	1,07
No load speed @Vp	rpm	150	191	186
Break away torque	mNm	90	100	310
Ripple torque	% avg to peak	7	7	6
Max allowable temperate/insulation class		F, 155 °C	F, 155 °C	F, 155 °C
Thermal resitance	°C/W	2,8	2,5	0,8
Mass	g	850	920	2050
Rotor inertia	kgm²x10 ⁻⁶	2,1x10 ⁻³	2,25x10 ⁻³	3,18x10 ⁻³
Resistance (1)(2)	Ohm	11	6	4,47
Inductance (1)	mH	9	4,8	4,8
Torque constant	mNm/A	1400	1200	1515
BEMF constant (1)(2)	V/rad/s	1,4	1,2	1,515
Peak voltage @ Tp	V	22	24	29,5
Peak current @ Tp	A	2	4	6,6
Wires length	mm	300	300	300
Ambient temperature (3)	°C	-40 +70	-40 +70	-40 +70

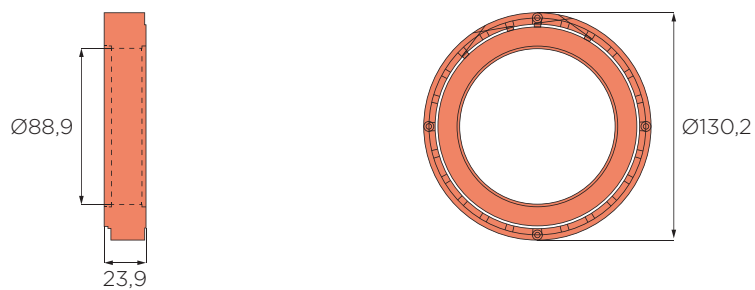
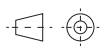
(1) Line-line

(2) At 25° C

(3) With no condensation

Note: Rated values are calculated at 25°C ambient temperature

All dimensions in millimeters, unless otherwise specified



Notes

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SVTM E Series

ATEX Brushless Motors

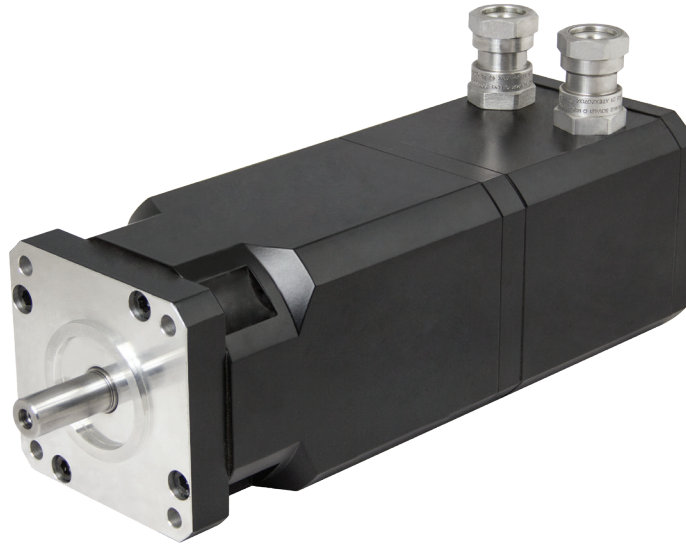
Contents

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SVTM E Series

ATEX Brushless Motors



EXPLOSION PROOF



LOW VOLTAGE



STURDY

Our SVTM E Series Brushless Motors are characterised by an IC 400 type construction, thereby featuring a totally enclosed motor that does not require any type of additional ventilation.

To ensure higher service life, most of the insulating materials are rated in the 200-degree class. In addition, the stator pack design with winding in the groove and using Neodymium magnets ensures high performance with small dimensions generating, as a result, a sinusoidal electromotive force. For enhanced application safety, a temperature sensor is mounted for each winding so as to prevent damage from overheating, thereby increasing motor service life.

Motors are tested in accordance with EN 60034-18-41 relating to partial discharge between windings. To increase the application range, the insulating materials used are UL certified. This motor complies with: ATEX Directive 94/9/EG, EN60079-0, EN60079-1.

Benefits

ATEX II 2G Ex d IIB T4 Gb

Many feedback available

High efficiency

Cable gland

Low voltage

Certifications

CE

RoHS 2011/65/EUv

Product code

SVTM E  -  -  -  -  - ☆☆☆

E Series

 Feedback
resolver [R]; incremental encoder [E]; absolute encoder [A] Frame
01 [88] Brake
no [0]; yes [1] Stall torque Customizations BEMF

Features

Sealing	IP54
Winding	3 phase sinusoidal
Operating temperature	-20° +40° C
Tested	EN 60034-18-41
Insulation class	F, 155° C
Thermal protection	PTC
Construction	IC 400
Connection	cable gland
Magnets	Neodymium
Insulators	UL
Construction technology:	high density fractional-slot concentrated-windings
Standard feedback	resolver
Directives	ATEX Directive 94/9/EG, EN60079-0, EN60079-1

Feedback

Resolver (Standard)	Absolute feedback (on request)
Incremental encoder with hall (standard)	Other on request

Customizations

Shaft with key	Other voltage winding
Specific resolver phasing	

EN 60034-18-41

Partial discharge free electrical insulation systems (type 1) used in rotating electrical machines fed from voltage converters - qualification and quality control test.

SVTM E

Values	Unit	SVTM E			
		02-01.4-12-x-x-000	02-01.6-32-x-x-000	02-02.6-20-x-x-000	02-02.6-56-x-x-000
Size	□ mm	88	88	88	88
Motor lenght	mm	185	185	210	210
Motor lenght with brake	mm	233	233	258	258
Nominal voltage	VDC	60	325/560	60	325/560
Continous stall torque	Nm	1,4	1,6	2,6	2,6
Continous stall current	Arms	7,5	3,2	8,4	3
Nominal torque	Nm	1,3	1,26/1,2	2,6	2,10/1,69
Nominal current	Arms	7,65	2,52/2,4	8,25	2,39/1,92
Nominal speed	rpm	4900	5500/6600	2900	3200/5900
Peak torque	Nm	2,7	3,5	4,5	7,2
Peak current	Arms	14,1	7,1	14,1	8,5
Torque constant	Nm/Arms	0,17	0,5	0,315	0,88
BEMF constant (1)(2)	Vrms/krpm	12,5	32,7	20,5	56,5
Resistance (1)(2)	Ohm	0,85	5,5	0,85	5,8
Inductance (1)	mH	2,05	14,1	2,25	17,2
Rotor inertia	kg/cm ²	1,06	1,06	1,7	1,7
Max. axial load	N	130	130	130	130
Max. radial load	N	250	250	250	250
Mass		4,2	4,2	5,2	5,2
Feedback	Resolver, encoder inc 2048 + hall, absolute single-turn hiperface (SEK 37), absolute multi-turn hiperface (SEL 37)				

Feedback	Unit	SVTM E		
		02-03.4-30-x-x-000	02-03.6-63-x-x-000	02-04.2-76-x-x-000
Size	□ mm	88	88	88
Motor lenght	mm	235	235	250
Motor lenght with brake	mm	283	283	298
Nominal voltage	VDC	60	325/560	325/560
Continous stall torque	Nm	3,4	3,6	4,2
Continous stall current	Arms	7,1	3,7	3,6
Nominal torque	Nm	3,4	2,72/1,99	3,40/2,73
Nominal current	Arms	7,08	2,80/2,05	2,91/2,33
Nominal speed	rpm	3400	2900/5400	2400/4400
Peak torque	Nm	6,9	10,6	12,8
Peak current	Arms	14,1	11,5	11,5
Torque constant	Nm/Arms	0,48	0,97	1,17
BEMF constant (1)(2)	Vrms/krpm	30,5	63	76,4
Resistance (1)(2)	Ohm	1,15	4	4,65
Inductance (1)	mH	3,2	13,35	15,5
Rotor inertia	kg/cm ²	2,32	2,32	2,7
Max. axial load	N	6,2	6,2	6,8
Max. radial load	N	130	130	130
Mass		250	250	250
Feedback	Resolver, encoder inc 2048 + hall, absolute single-turn hiperface (SEK 37), absolute multi-turn hiperface (SEL 37)			

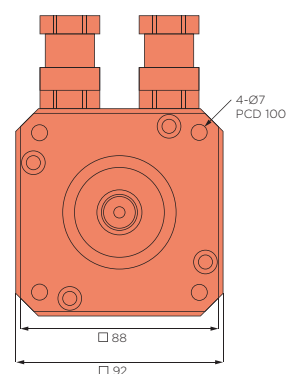
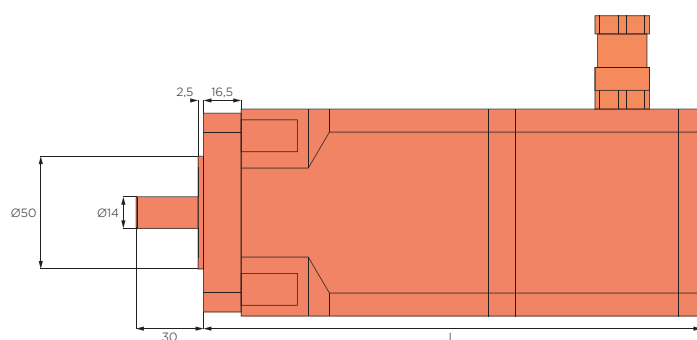
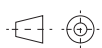
(1) Line-line

(2) At 20° C

(3) With no condensation

All dimensions in millimeters, unless otherwise specified

Specifications subject to change.



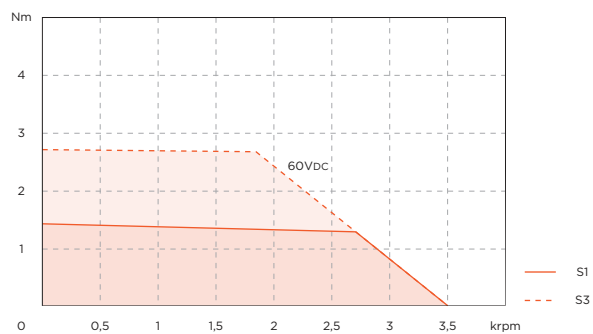
For torque curves see next page.

Notes

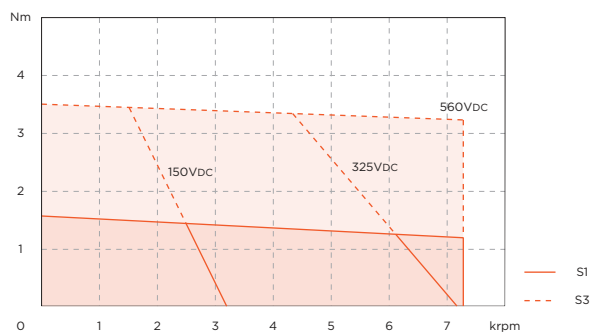
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ATEX BRUSHLESS

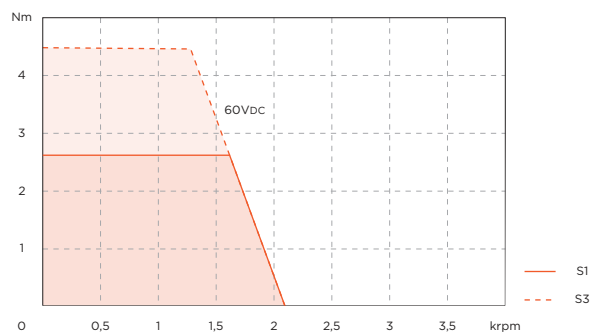
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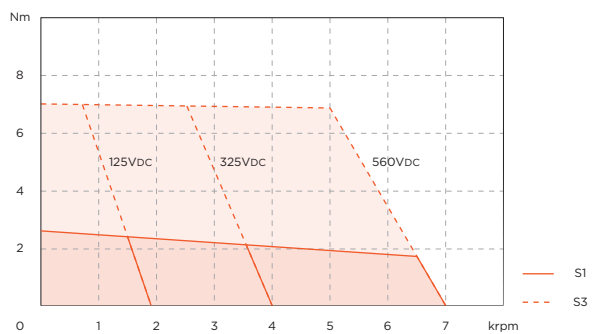
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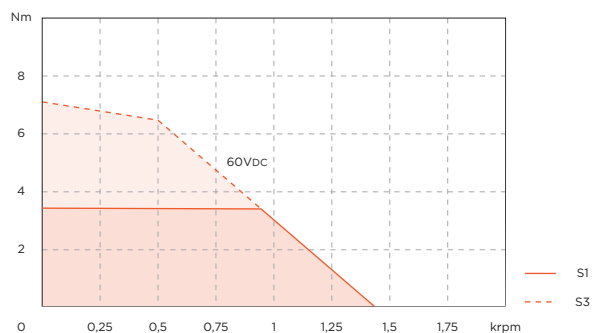
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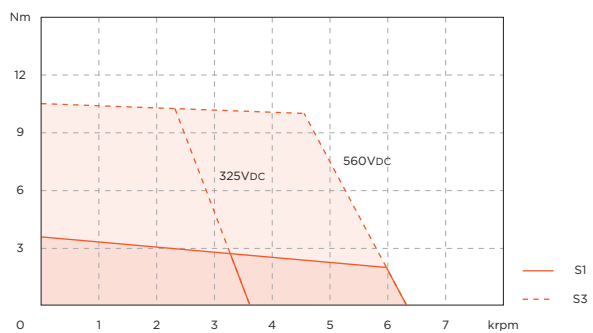
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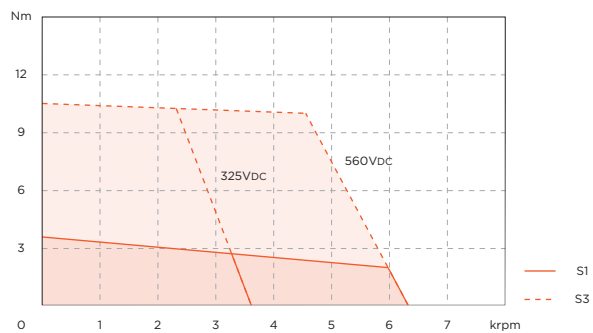
SVTM E 01-03.4-30



SVTM E 01-03.6-63



SVTM E 01-04.2-76

**Note:**

Rated values are calculated at 20°C ambient temperature with an heat sink size of 300x300x20 mm.

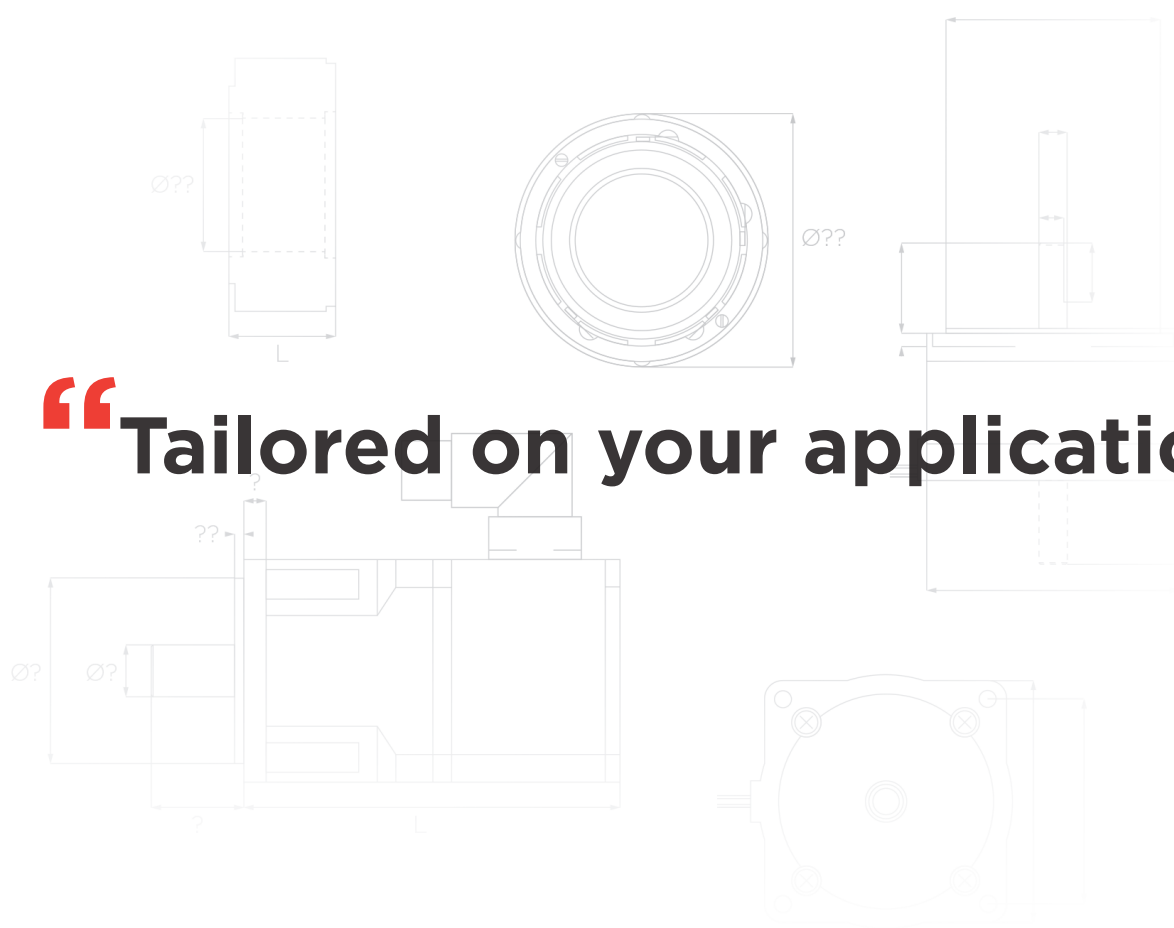
servotecnica

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Custom Motors

Case Histories

“Tailored on your application”



Hand in hand engineering

Thanks to our multi-year application expertise and daily contact with motor designers, we are able to develop systems to be integrated into customers' machines. This is possible thanks to the fact that the customer communicates directly with the designers so that we can develop the best possible technical solution together.

What can we customise?

- Shaft with key
- Wire drawing shaft
- Wire drawing flange
- Specific connectors
- Specific resolver phasing
- Thermal protection type on request
- Low voltage winding
- Feedback
- Other voltage winding
- Brake
- Frameless solutions

Brushless Pancake Motor

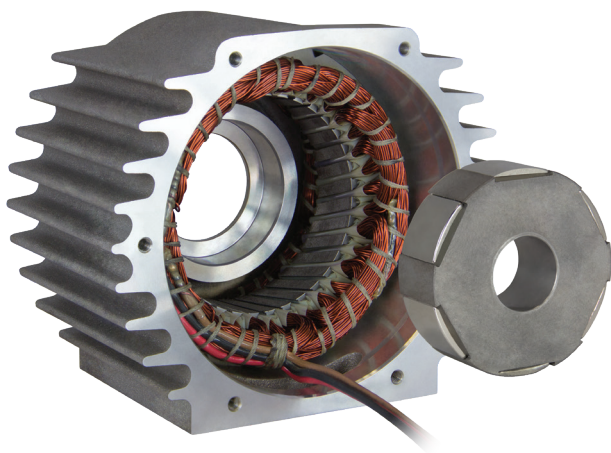
Motor developed for an application in the safety field to directly drive an optical viewing system. It meets shock, vibration and temperature criteria as per MIL-STD-810F standard.



Low voltage
Compact dimension
MIL-STD-810F
Outside diameter: 154 mm
Inside diameter: 101 mm
Torque: 30 Nm
Nominal voltage: 31.2 VDC

Brushless Frameless Motor

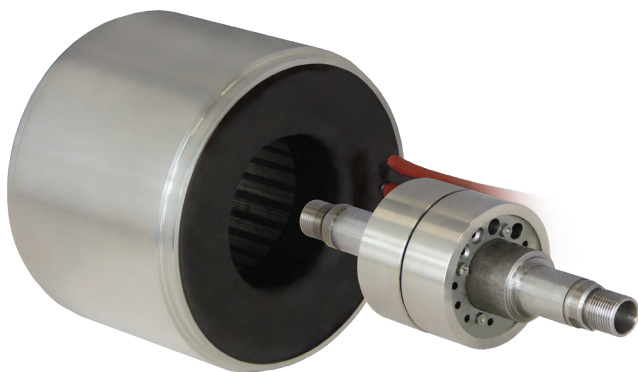
Motor developed for an application in the naval field to control the driving system and especially designed to be integrated into the customer's mechanical systems, with the lowest possible cogging in addition to zero electromagnetic emissions, so as to eliminate the risk of board instrumentation interference



Low cogging
Custom dimension
Hand in hand Engineering
Outside diameter: 120 mm
Inside diameter: 28 mm
Torque: 2.2 Nm
Nominal voltage: 24 VDC

Low Voltage Spindle Motor

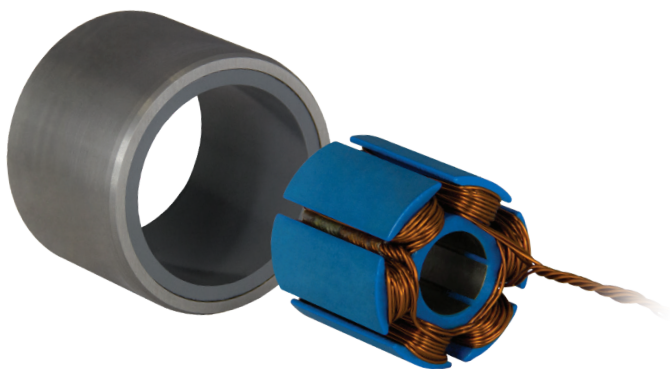
Low voltage motor with a high number of revolutions, developed for a manual cutter application where, for operator safety issues, a 48Vdc supply voltage is recommended.



High speed
Low voltage
Outside diameter: 90 mm
Inside diameter: 15 mm
Torque: 0.26 Nm
Nominal voltage: 48 VDC
Speed: 30.000 rpm

Low Voltage External Rotor Motor

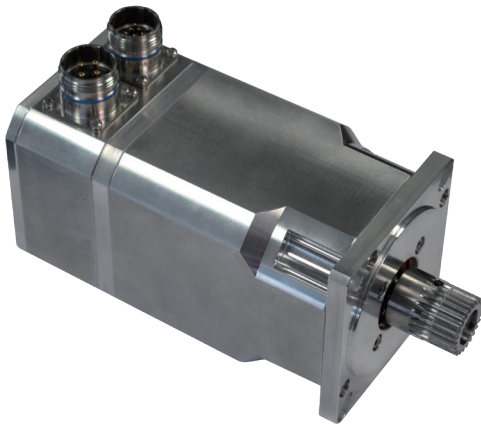
External rotor motor with a small diameter, developed to be integrated into the cooling system of civil and military aircraft on-board electronics. Its specific reverse geometry design (external rotor) makes it possible to provide high torque and speed with respect to dimensions. The Brushless technology eliminates all wear problems.



High speed
Outer diameter
Avionic application
Outside diameter: 38 mm
Inside diameter: 12 mm
Torque: 0.11 Nm
Nominal voltage: 28 VDC
Speed: 15.000 rpm

High Temperature Motor

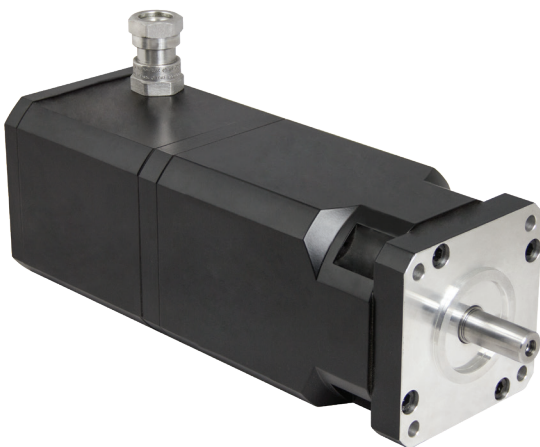
Motor for oven and autoclave applications with 200°C temperatures and environmental pressures of up to 10 bars. The motor is equipped with resolvers and can be supplied with an interface for the installation of a reducer.



Operating temperature: 200° C
Gearbox option
Resolver
Frame: 80 mm
Torque: 2 Nm
Nominal voltage: 60 VDC
Speed: 3.000 rpm

IP67 / IP68 Motor

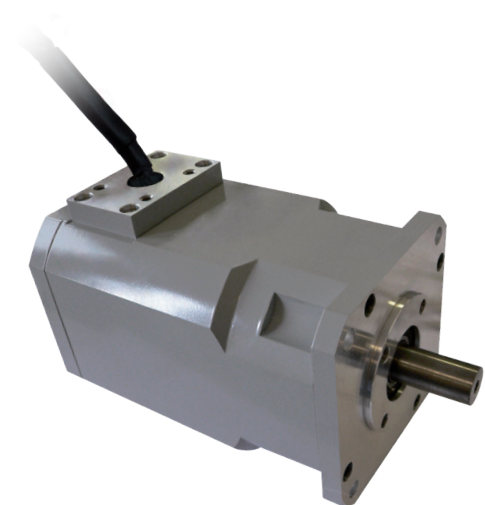
Motor for the directional movement of the flaps of an exploration submarine for scientific purposes. This motor is equipped with hall sensors to control speed.



High pressure
IP68 (200 meters)
Low voltage
Frame: 88 mm
Torque: 1.4 Nm
Nominal voltage: 48 VDC
Speed: 1.300 rpm

IP68 Low Voltage Motor

Completely sealed motor with IP68 protection, developed for a maritime application in contact with salt water and vapour. The engine is equipped with negative brake and resolver.



Low voltage
IP68
Frame: 115 mm
Torque: 4.1 Nm
Nominal voltage: 24 VDC
Speed: 2.200 rpm

IP69K Motor

Motor for the propulsion of a remotely operated underwater vehicle (ROUV). This motors needed to operate under salt water down to 20 meters.



IP69K
Material: stainless steel AISI 316
Frame: $\varnothing$ 115 mm
Torque: 7 Nm
Nominal voltage: 48 VDC
Speed: 1.300 rpm
Shaft axial load: 500 N

Contacts

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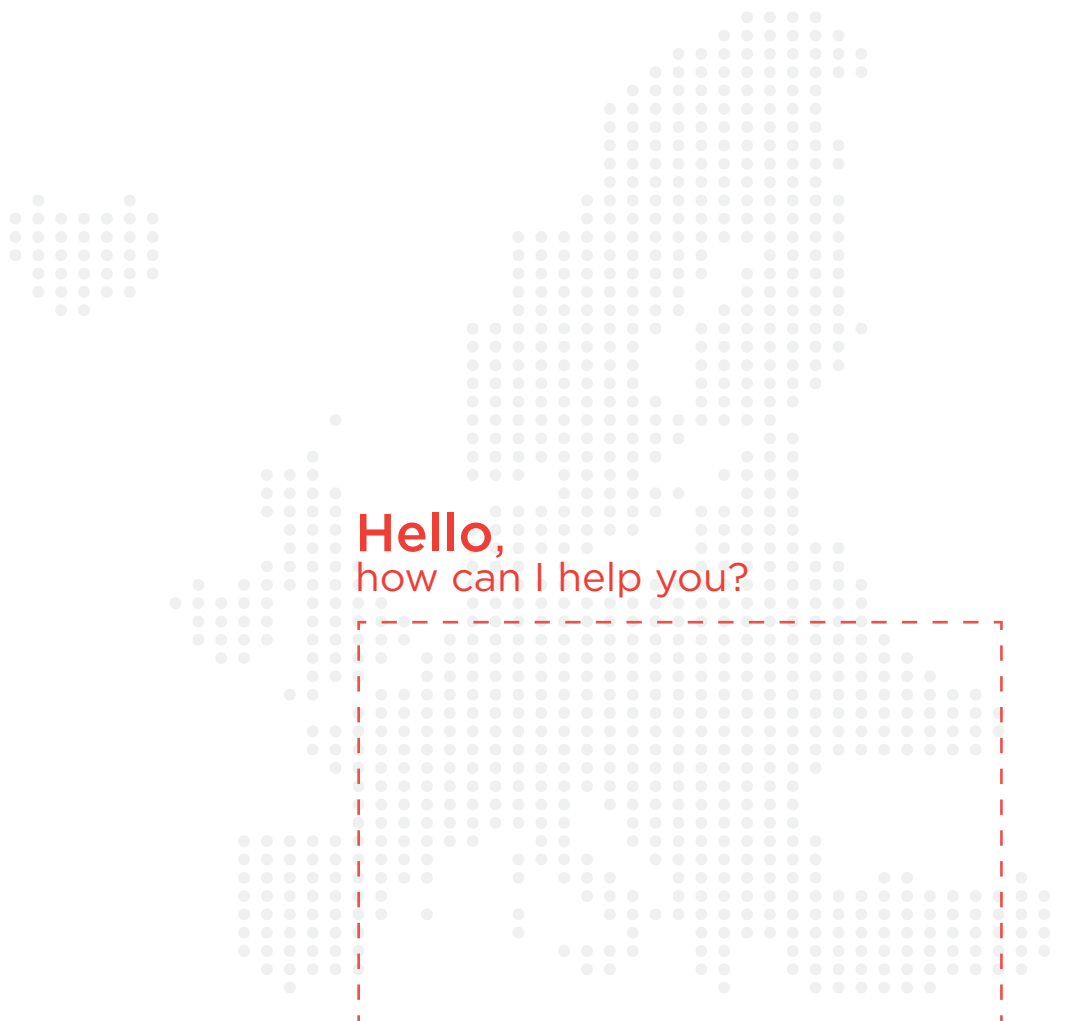


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Notes

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Hello,
how can I help you?

Your local contact