SVTM C Series
Stepper Motors

Contents

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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

Product code

1	2		3		4		5		6		7
SVTM	C	BB	-	CCC	-	DD	-	E	-	F	-	GGG

1 Series: C
2 Frame: 01 [82]; 02 [92]; 03 [115]
3 Holding torque
4 Rated current
5 Shaft: single [S]; double [D]; terminal box with PG13,5 [M]*; terminal box with 3/8gas [I]*
6 Brake: no [0]
7 Customisations: 8 wires connection [8xx]*

* SVTM C 01 only

Certifications

CE
RoHS 2011/65/EU

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°

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	L [mm]	65	65	65	92
Rated current	[Arms]	2	4	6	4
Holding torque	[Nm]	2,8	2,8	2,8	4,8
Phase resistence	[Ohm]	2,5	0,65	0,28	0,85
Phase inductance	[mH]	21	5,1	2,1	7,7
Rotor inertia	J [kgm^2x10^-3]	0,065	0,065	0,065	0,12
Mass	W [kg]	1,5	1,5	1,5	2,5
Insualtion class		B, 130°C	B, 130°C	B, 130°C	B, 130°C
Ambient temperature (1)	Ta [°C]	-20 +40	-20 +40	-20 +40	-20 +40

Values		SVTM C		
	Unit	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	L [mm]	92	129	129
Rated current	[Arms]	6	5	9
Holding torque	[Nm]	4,8	7,2	7,2
Phase resistence	[Ohm]	0,37	0,75	0,25
Phase inductance	[mH]	3,5	8,5	2,5
Rotor inertia	J [kgm^2x10^-3]	0,12	0,18	0,18
Mass	W [kg]	2,5	3,5	3,5
Insualtion class		B, 130°C	B, 130°C	B, 130°C
Ambient temperature (1)	Ta [°C]	-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	L [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 resistence	[Ohm]	5	1,3	0,56	1,17
Phase inductance	[mH]	21	5,1	2,1	7,7
Rotor inertia	J [kgm^2x10^-3]	0,065	0,065	0,065	0,12
Mass	W [kg]	1,5	1,5	1,5	2,5
Insualtion class		B, 130°C	B, 130°C	B, 130°C	B, 130°C
Ambient temperature (1)	Ta [°C]	-20 +40	-20 +40	-20 +40	-20 +40

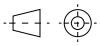
Values		SVTM C		
	Unit	01-4.8-04-x-0-800	01-3.5-03-x-0-800	01-7.2-06-x-0-800
Frame	Ø [mm]	82	82	82
Length	L [mm]	92	129	129
Rated current	[Arms]	4,3	3,5	6,4
Holding torque	[Nm]	4,8	6	7,2
Phase resistence	[Ohm]	0,75	1,5	0,5
Phase inductance	[mH]	3,5	8,5	2,5
Rotor inertia	J [kgm^2x10^-3]	0,12	0,18	0,18
Mass	W [kg]	2,5	3,5	3,5
Insualtion class		B, 130°C	B, 130°C	B, 130°C
Ambient temperature (1)	Ta [°C]	-20 +40	-20 +40	-20 +40

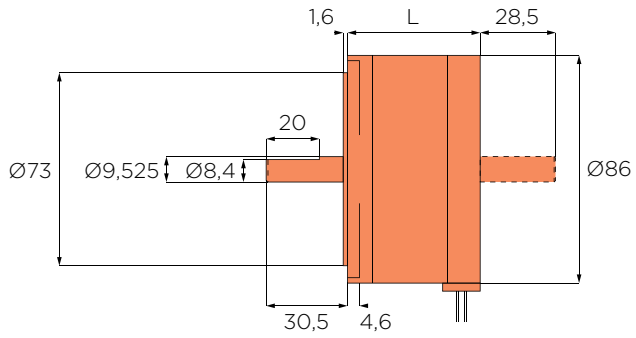
(1) With no condansation

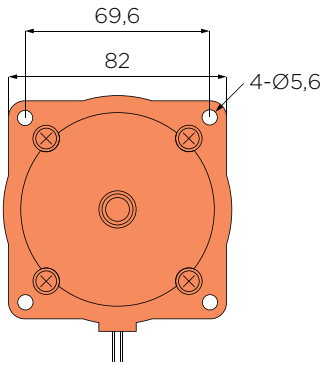
Note: Rated values are calculated at 20°C ambient temperature

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

All dimensions in millimeters, unless otherwise specified







SVTM C 01

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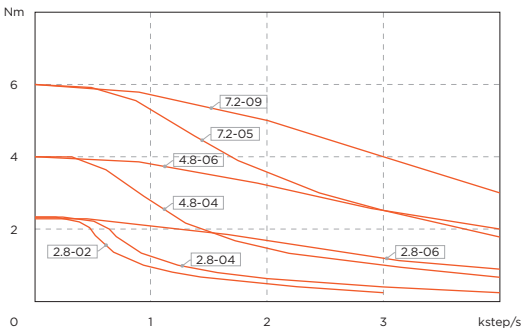


Note:

Rated values are calculated at 20°C ambient temperature.

All dimensions in millimeters, unless otherwise specified

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	□ [mm]	92	92	92
Length	L [mm]	78	116	154
Rated current	[Arms]	8,7	10	10
Holding torque	[Nm]	4,6	8,8	12
Phase resistence	[Ohm]	0,18	0,18	0,24
Phase inductance	[mH]	1,1	1,5	2,3
Rotor inertia	J [kgm^2x10^-3]	0,23	0,45	0,68
Mass	W [kg]	2,3	3,8	5,4
Isualtion class		B, 130°C	B, 130°C	B, 130°C
Ambient temperature (1)	Ta [°C]	-20 +40	-20 +40	-20 +40

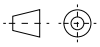
(1) With no condansation

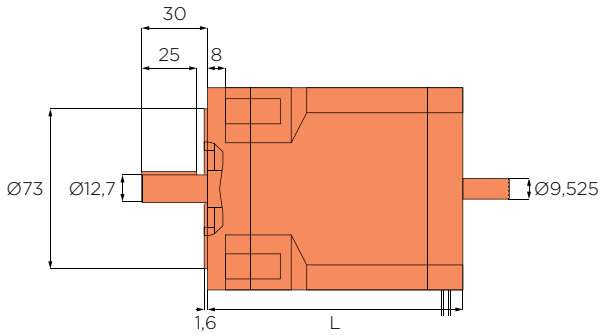
Note: Rated values are calculated at 20°C ambient temperature

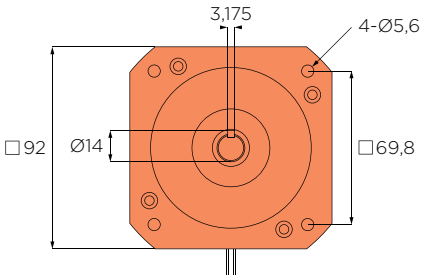
Customisation

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

All dimensions in millimeters, unless otherwise specified

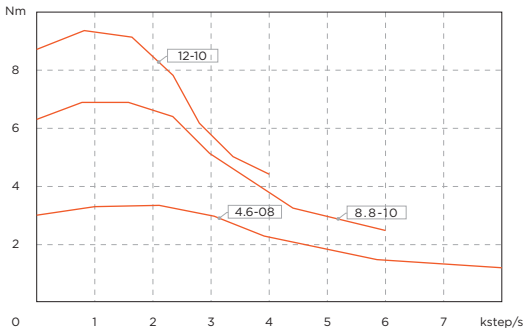






SVTM C 02

SVTM C 02



Note:

Rated values are calculated at 20°C ambient temperature.

All dimensions in millimeters, unless otherwise specified

SVTM C 03

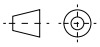
Values	Unit	SVTM C		
		03-11-10-x-0-000	03-21-15-x-0-000	03-29-15-x-0-000
Frame	□ [mm]	115	115	115
Length	L [mm]	100	150	200
Rated current	[Arms]	10,7	15,8	15,4
Holding torque	[Nm]	11	21	29
Phase resistence	[Ohm]	0,16	0,1	0,14
Phase inductance	[mH]	1,3	1,3	2
Rotor inertia	J [kgm^2x10^-3]	0,96	1,92	2,88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

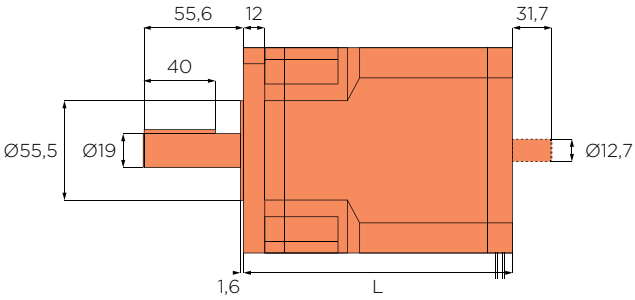
(1) With no condansation

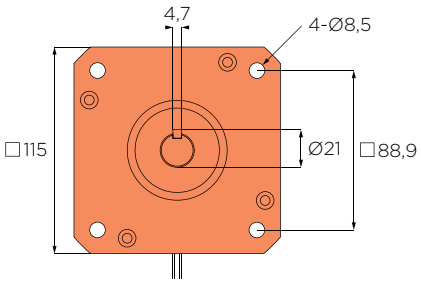
Note: Rated values are calculated at 20°C ambient temperature

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

All dimensions in millimeters, unless otherwise specified







SVTM C 03

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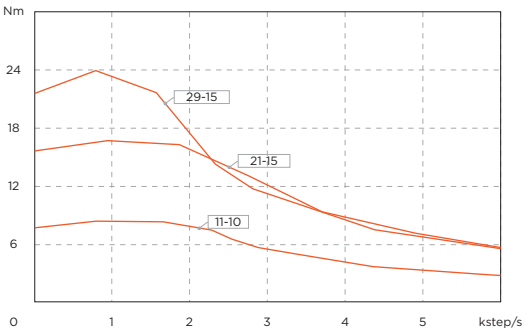

Note:

Rated values are calculated at 20°C ambient temperature.

All dimensions in millimeters, unless otherwise specified