

MICROMOTORS



WAGNER GMBH
Elektrotechnische Systemlösungen

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Connecting dots. Providing solutions.



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SVTN A 01 Series

Coreless BLDC motors
2 Pole Brushless DC Motors



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Contents

Model	W	Max rpm	Page
SVTN A 01-1220	up to 8	37.000	10
SVTN A 01-1230	up to 15	25.000	11
SVTN A 01-1630	up to 12	23.000	12
SVTN A 01-1636	up to 21	14.500	13
SVTN A 01-2040	up to 32	18.500	14
SVTN A 01-2232	up to 20	23.500	15
SVTN A 01-2240	up to 39	17.000	16
SVTN A 01-2248	up to 43	13.000	17
SVTN A 01-2260	up to 70	16.000	18
SVTN A 01-2446	up to 42	14.000	19
SVTN A 01-2453	up to 54	15.000	20
SVTN A 01-2845	up to 35	13.500	21
SVTN A 01-2854	up to 72	8.500	22
SVTN A 01-2864	up to 88	8.000	23
SVTN A 01-3242	up to 60	9.500	24
SVTN A 01-3260	up to 120	11.000	25
SVTN A 01-3270	up to 130	9.000	26
SVTN A 01-3660	up to 140	8.000	27
SVTN A 01-3670	up to 250	6.500	28
SVTN A 01-4058	up to 150	8.000	29
SVTN A 01-4070	up to 210	8.000	30
SVTN A 01-4088	up to 400	8.000	31



SVTN A 01

Coreless BLDC motor
2 Pole Brushless DC Motors



HIGH-POWER DENSITY



HIGH-EFFICIENCY



COST-EFFECTIVE

The benefits of this new technology are torque and high-speed when compared to same sizing. The lack of cogging, a reduced ripple torque, a linear correlation between speed and torque, low inertia bring performance to greater level in terms of power, dynamics by means of reduced weights and reduced dimensions.

Servotecnica's brushless motors apply hall sensors as a standard option, in addition to having the magnetic encoder option. Thanks to the sensors it is possible to control rotation speed, and, thanks to the lack of cogging, provide high performance and accuracy.

Benefits

High power density	Long operational lifetime
High efficiency	No cogging
High reliability	Low inertia
Low noise	Robust
Low inductance	Cost-effective
Good heat dissipation	



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Product code

SVTN A 01 - ○ ○ ◇ ◇ - □ □ - ◇ - ◇ ☆ ☆ ☆

A Series

01 Brushless DC Motors

○ Diameter

◇ Length

□ Nominal Voltage

◇ Shaft
Single shaft [S]; Double shaft [D]

◇ Sensor
Sensorless [0]; Hall sensor [H]

☆ Customizations

Features

Winding	3 phase
Operating temperature	-30° +100° C
Connectors	JST PHR-8 1630; 1636; 2040; 2232; 2240; 2248; 2260; 2446; 2453; 2845; 2854; 2864 MOLEX 39-01-2080 3242; 3260; 3270; 3660; 3670; 4058; 4070; 4088
Magnets	Neodymium
Construction technology	Coreless winding system
Estimated operating lifetime	Lifetime depends on motor working conditions. It can reach 20.000 work hours under optimal conditions (almost 100 hours under extreme conditions).

Feedback

Hall Sensor (standard)	
Magnetic encoder*	3 channels, from 25 to 1000/1024 ppr

Customizations

Hall Sensor (standard)	
Shaft	Length/Diameter/D-Cut/double shaft
Leadwire	PVC/Silicon/Teflon/UL No/Dimension/length
Connector	JST/MOLEX



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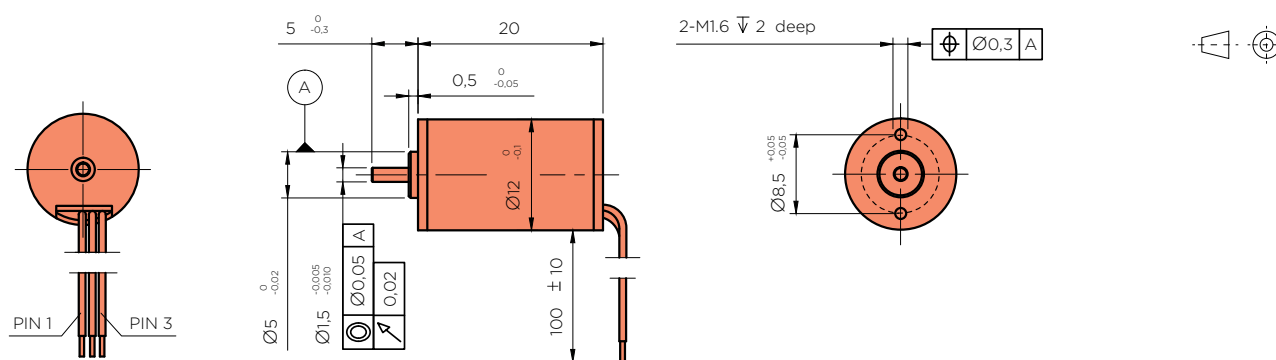
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*See page 93 for more information

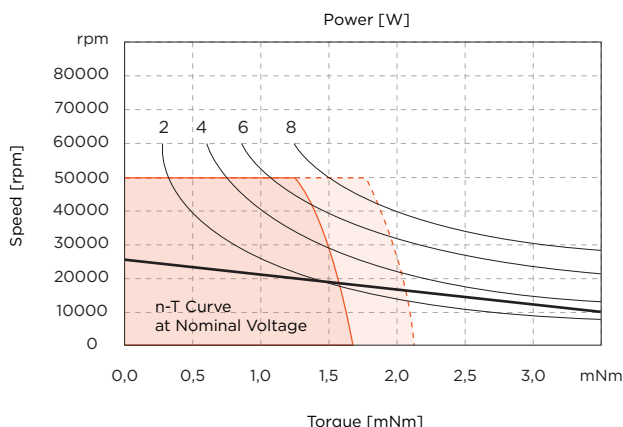
SVTN A 01-1220

8 Watt



Values	Unit	SVTN A 01 1220-06..	1220-09..
Motor Data			
1 Nominal voltage	V	6	9
2 No load speed	rpm	36890	36890
3 No load current	mA	69	83
4 Nominal speed	rpm	29888	29888
5 Nominal torque	mNm	1,5	1,3
6 Nominal current	A	0,75	0,66
7 Stall torque	mNm	4,43	6,85
8 Stall current	A	2,07	3,10
9 Max. efficiency	%	66,81	69,97
Characteristics			
10 Terminal resistance*	Ω	2,9	2,9
11 Terminal inductance*	mH	0,19	0,19
12 Torque constant	mNm/A	2,22	2,27
13 Speed constant	rpm/V	4310	4212
14 Speed/torque gradient	rpm/mNm	5642	5386
15 Mechanical time constant	ms	10,0	9,6
16 Rotor inertia	gcm ²	0,17	0,17
Mechanical data			
17 Thermal resistance housing-ambient	38,3 K/W		
18 Thermal resistance winding-housing	9,6 K/W		
19 Thermal time constant winding	5 s		
20 Thermal time constant motor	196 s		
21 Ambient temperature	-30...+100°C		
22 Max. permissible winding temperature	+125°C		
23 Max. permissible speed	50000 rpm		
24 Radial play	preloaded		
25 Max. axial load (dynamic)	0,3		
26 Max. force for press fits (static)	11N		
27 Max. radial loading, 5mm from flange	4.3 N		
Other specifications			
28 Number of poles	2		
29 Number of phases	3		
30 Weight	9,8g		

*The diagram based on ambient temperature of 25°.



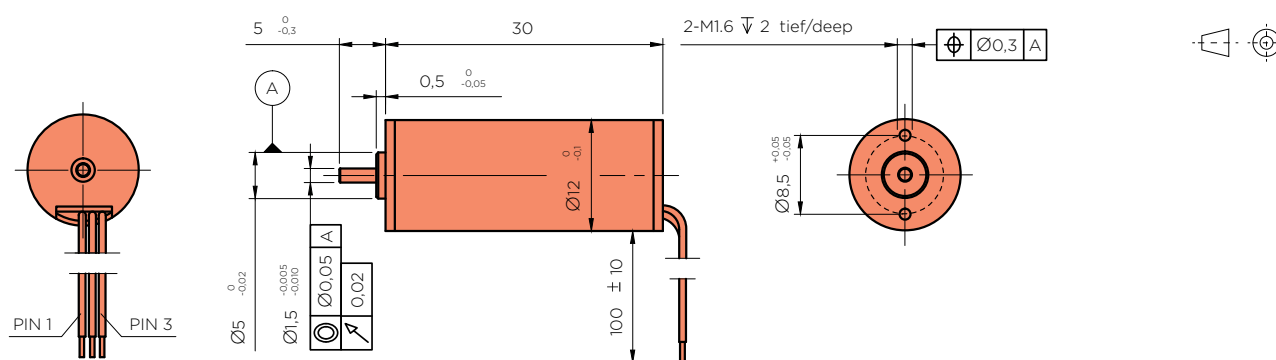
Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection	Configuration
Connection 0 (Sensorless) PVC Pin 1 Motor winding MA AWG28 yellow Pin 2 Motor winding MB AWG28 green Pin 3 Motor winding MC AWG28 blue	PERFORMANCE: Customized in the continuous operating range BALL BEARING: Preload FLANGE: Standard frange front&back/customize the frange SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length CONNECTOR: JST/MOLEX/TE

SVTN A 01-1230

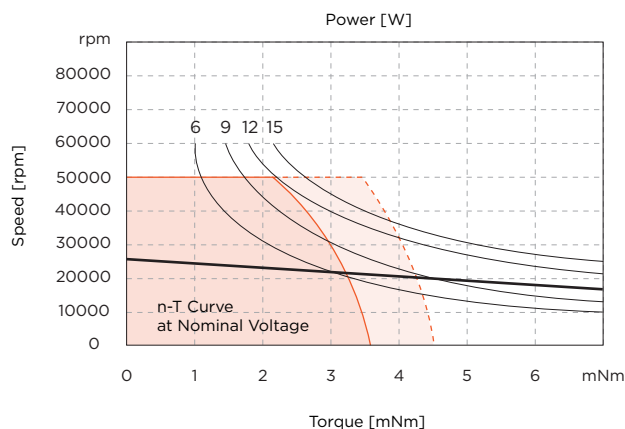
15 Watt

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CORELESS
BRUSHLESS

Values	Unit	SVTN A 01 1230-06..	1230-09..	1230-12..
Motor Data				
1 Nominal voltage	V	6	9	12
2 No load speed	rpm	25310	25100	24930
3 No load current	mA	122	90	72
4 Nominal speed	rpm	20719	20565	20449
5 Nominal torque	mNm	3	3	3
6 Nominal current	A	1,47	0,98	0,74
7 Stall torque	mNm	17	17	17
8 Stall current	A	7,5	5,0	3,8
9 Max. efficiency	%	76,2	75,0	74,3
Characteristics				
10 Terminal resistance*	Ω	0,8	1,8	3,2
11 Terminal inductance*	mH	0,02	0,04	0,08
12 Torque constant	mNm/A	2,23	3,36	4,51
13 Speed constant	rpm/V	4288	2840	2118
14 Speed/torque gradient	rpm/mNm	1530,5	1511,6	1493,7
15 Mechanical time constant	ms	5,1	5,1	5,0
16 Rotor inertia	gcm ²	0,32	0,32	0,32
Mechanical data				
17 Thermal resistance housing-ambient	28.4 K/W			
18 Thermal resistance winding-housing	7.1 K/W			
19 Thermal time constant winding	4 s			
20 Thermal time constant motor	240 s			
21 Ambient temperature	-30...+100°C			
22 Max. permissible winding temperature	+125°C			
23 Max. permissible speed	50000 rpm			
24 Radial play	preloaded			
25 Max. axial load (dynamic)	0,3			
26 Max. force for press fits (static)	11N			
27 Max. radial loading, 5mm from flange	4.3 N			
Other specifications				
28 Number of poles	2			
29 Number of phases	3			
30 Weight	16.3 g			

*The diagram based on ambient temperature of 25°.

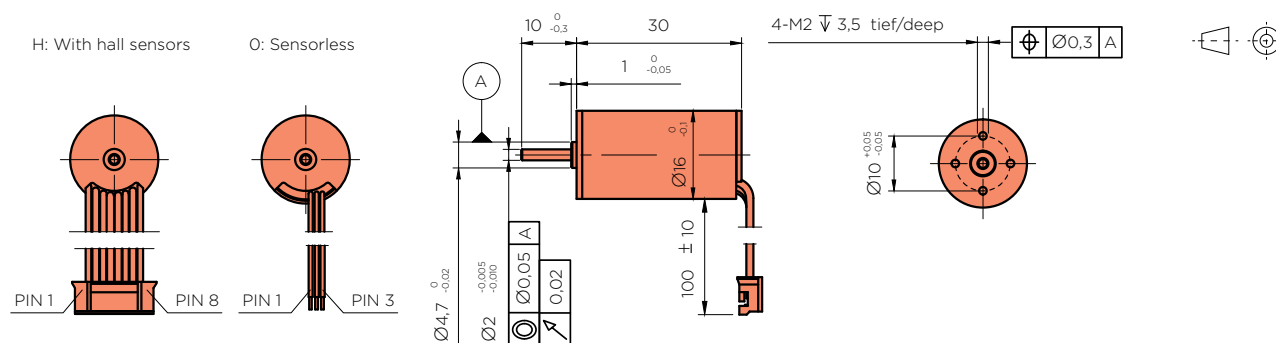
Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

Connection 0	(Sensorless)	PVC
Pin 1	Motor winding MA	AWG28 yellow
Pin 2	Motor winding MB	AWG28 green
Pin 3	Motor winding MC	AWG28 blue

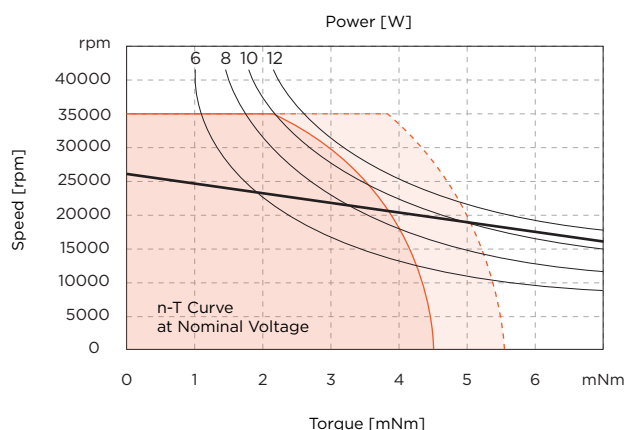
Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE



Values	Unit	SVTN A 01	1630-12..	1630-18..	1630-24..
Motor Data					
1	Nominal voltage	V	12	18	24
2	No load speed	rpm	23220	23511	23760
3	No load current	mA	210	150	100
4	Nominal speed	rpm	19138	19506	19203
5	Nominal torque	mNm	3,5	3,5	3,5
6	Nominal current	A	0,95	0,65	0,48
7	Stall torque	mNm	20	21	18
8	Stall current	A	4,4	3,1	2,1
9	Max. efficiency	%	61,3	60,9	61,0
Characteristics					
10	Terminal resistance*	Ω	2,7	5,8	11,5
11	Terminal inductance*	mH	0,08	0,17	0,33
12	Torque constant	mNm/A	4,70	6,96	9,18
13	Speed constant	rpm/V	2031	1373	1040
14	Speed/torque gradient	rpm/mNm	1166,3	1144,2	1302,1
15	Mechanical time constant	ms	5,8	5,7	6,5
16	Rotor inertia	gcm ²	0,48	0,48	0,48
Mechanical data					
17	Thermal resistance housing-ambient	20.0 K/W			
18	Thermal resistance winding-housing	8.8 K/W			
19	Thermal time constant winding	8 s			
20	Thermal time constant motor	236 s			
21	Ambient temperature	-30...+100°C			
22	Max. permissible winding temperature	+150°C			
23	Max. permissible speed	35000 rpm			
24	Radial play	preloaded			
25	Max. axial load (dynamic)	1.3 N			
26	Max. force for press fits (static)	15 N			
27	Max. radial loading, 5mm from flange	5 N			
Other specifications					
28	Number of poles	2			
29	Number of phases	3			
30	Weight	25 g			

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection

Connection H	(Sensor)	PVC	
Pin 1	Vhall 3-18 VDC	AWG26	black
Pin 2	Hall sensor HA	AWG26	black
Pin 3	Hall sensor HB	AWG26	black
Pin 4	Hall sensor HC	AWG26	black
Pin 5	GND	AWG26	black
Pin 6	Motor winding MA	AWG26	black
Pin 7	Motor winding MB	AWG26	black
Pin 8	Motor winding MC	AWG26	black
Connector			
JST	PHR-8		
Connection O	(Sensorless)		
Pin 1	Motor winding MA	AWG26	yellow
Pin 2	Motor winding MB	AWG26	green
Pin 3	Motor winding MC	AWG26	blue

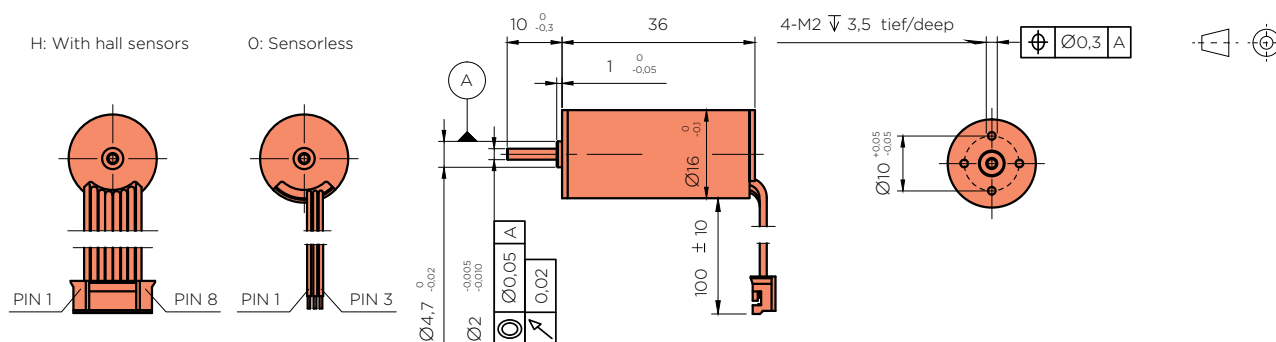
Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard flange front&back/customize the flange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE

SVTN A 01-1636

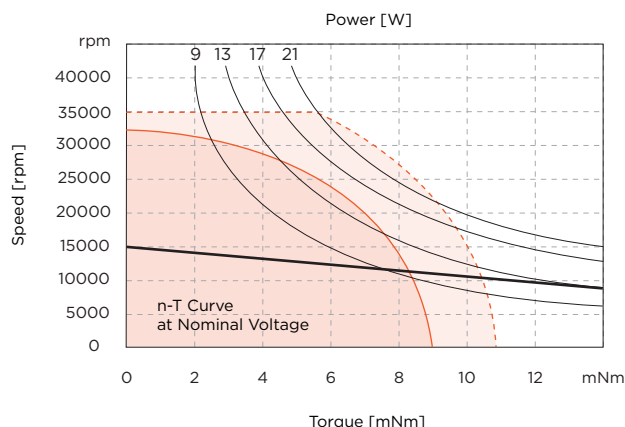
21 Watt

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CORELESS
BRUSHLESS

Values	Unit	SVTN A 01	1636-06..	1636-09..	1636-12..	1636-24..
Motor Data						
1 Nominal voltage	V	6	9	12	24	
2 No load speed	rpm	13835	14533	14460	14668	
3 No load current	mA	150	110	70	50	
4 Nominal speed	rpm	11412	11930	11615	12005	
5 Nominal torque	mNm	6	6	6	6	
6 Nominal current	A	1,62	1,14	0,84	0,44	
7 Stall torque	mNm	34	33	30	33	
8 Stall current	A	8,6	5,9	4,0	2,2	
9 Max. efficiency	%	75,3	74,5	75,3	72,2	
Characteristics						
10 Terminal resistance*	Ω	0,7	1,5	3,0	10,8	
11 Terminal inductance*	mH	0,04	0,08	0,15	0,81	
12 Torque constant	mNm/A	4,07	5,80	7,79	15,27	
13 Speed constant	rpm/V	2347	1646	1227	625	
14 Speed/torque gradient	rpm/mNm	403,8	433,9	474,2	443,8	
15 Mechanical time constant	ms	2,6	2,8	3,1	2,9	
16 Rotor inertia	gcm ²	0,62	0,62	0,62	0,62	
Mechanical data						
17 Thermal resistance housing-ambient	17,1 K/W					
18 Thermal resistance winding-housing	5,3 K/W					
19 Thermal time constant winding	6 s					
20 Thermal time constant motor	252 s					
21 Ambient temperature	-30...+100°C					
22 Max. permissible winding temperature	+150°C					
23 Max. permissible speed	35000 rpm					
24 Radial play	preloaded					
25 Max. axial load (dynamic)	1,3 N					
26 Max. force for press fits (static)	15 N					
27 Max. radial loading, 5mm from flange	5 N					
Other specifications						
28 Number of poles	2					
29 Number of phases	3					
30 Weight	32 g					

*The diagram based on ambient temperature of 25°.

Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

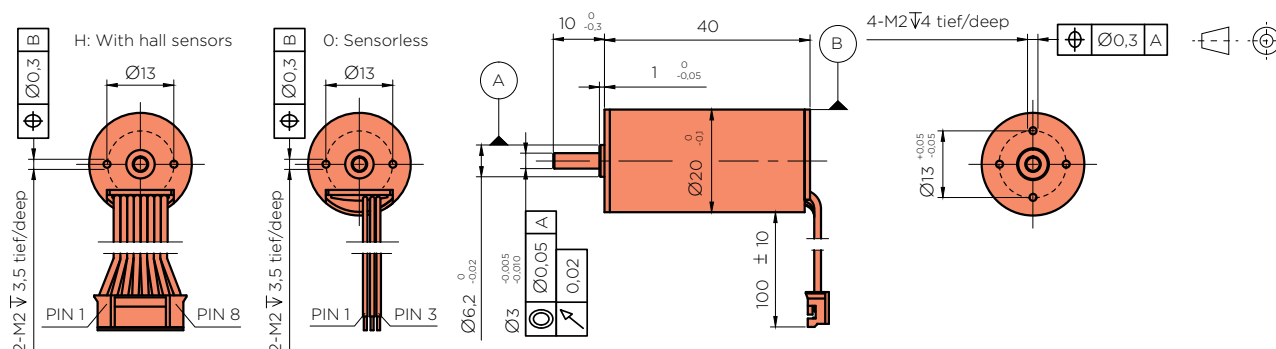
Connection H	(Sensor)	PVC	
Pin 1	Vhall 3-18 VDC	AWG26	black
Pin 2	Hall sensor HA	AWG26	black
Pin 3	Hall sensor HB	AWG26	black
Pin 4	Hall sensor HC	AWG26	black
Pin 5	GND	AWG26	black
Pin 6	Motor winding MA	AWG26	black
Pin 7	Motor winding MB	AWG26	black
Pin 8	Motor winding MC	AWG26	black
Connector			
JST	PHR-8		
Connection O	(Sensorless)		
Pin 1	Motor winding MA	AWG26	yellow
Pin 2	Motor winding MB	AWG26	green
Pin 3	Motor winding MC	AWG26	blue

Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE

SVTN A 01-2040

32 Watt



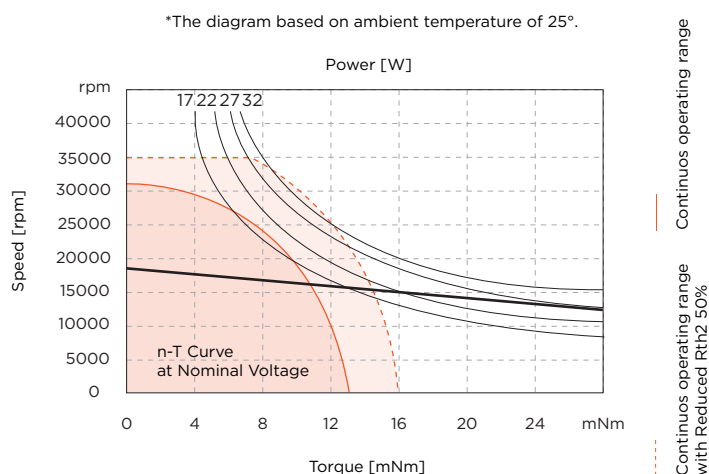
Values		Unit	SVTN A 01			
			2040-12..	2040-18..	2040-24..	2040-36..
Motor Data						
1	Nominal voltage	V	12	18	24	36
2	No load speed	rpm	17780	18360	18500	18880
3	No load current	mA	149	137	105	83
4	Nominal speed	rpm	15083	16171	16042	16164
5	Nominal torque	mNm	10	10	10	10
6	Nominal current	A	1,72	1,22	0,93	0,64
7	Stall torque	mNm	66	84	75	70
8	Stall current	A	10,5	9,2	6,3	4,0
9	Max. efficiency	%	77,6	77,1	75,8	73,2
Characteristics						
10	Terminal resistance*	Ω	1,1	2,0	3,8	9,0
11	Terminal inductance*	mH	0,08	0,17	0,30	0,62
12	Torque constant	mNm/A	6,35	9,22	12,18	17,83
13	Speed constant	rpm/V	1503	1035	784	536
14	Speed/torque gradient	rpm/mNm	269,7	218,9	245,8	271,6
15	Mechanical time constant	ms	6,4	5,2	5,8	6,4
16	Rotor inertia	gcm ²	2,25	2,25	2,25	2,25
Mechanical data						
17	Thermal resistance housing-ambient		13.8 K/W			
18	Thermal resistance winding-housing		4.3 K/W			
19	Thermal time constant winding		8 s			
20	Thermal time constant motor		366 s			
21	Ambient temperature		-30...+100°C			
22	Max. permissible winding temperature		+150°C			
23	Max. permissible speed		35000 rpm			
24	Radial play		preloaded			
25	Max. axial load (dynamic)		3.5 N			
26	Max.force for press fits (static)		44 N			
27	Max. radial loading, 5mm from flange		15 N			
Other specifications						
28	Number of poles		2			
29	Number of phases		3			
30	Weight		56 g			

*The diagram based on ambient temperature of 25°.

The graph plots Speed [rpm] on the y-axis (0 to 40,000) against Power [W] on the x-axis (0 to 100). It shows four n-T curves for different motor models, labeled with their nominal speeds: 1722, 2273, 2732, and 32. The curves show that as power increases, the speed decreases. A red shaded area represents the operating range, and a black line indicates the n-T curve at nominal voltage.

Continuos operating range

operating range



Connection

Configuration

Connection H	(Sensor)	PVC	
Pin 1	Vhall 3-18 VDC	AWG26	black
Pin 2	Hall sensor HA	AWG26	black
Pin 3	Hall sensor HB	AWG26	black
Pin 4	Hall sensor HC	AWG26	black
Pin 5	GND	AWG26	black
Pin 6	Motor winding MA	AWG26	black
Pin 7	Motor winding MB	AWG26	black
Pin 8	Motor winding MC	AWG26	black
Connector			
JST	PHR-8		
Connection O	(Sensorless)		
Pin 1	Motor winding MA	AWG26	yellow
Pin 2	Motor winding MB	AWG26	green
Pin 3	Motor winding MC	AWG26	blue

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE



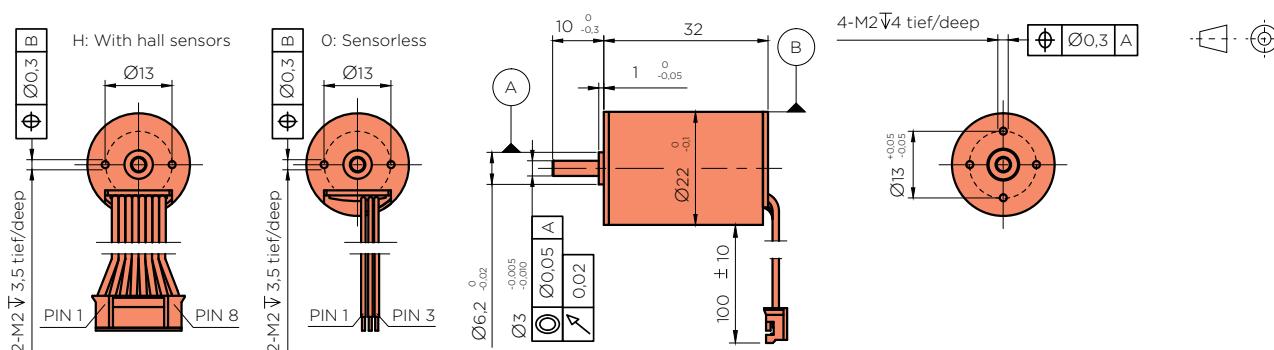
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SVTN A 01-2232

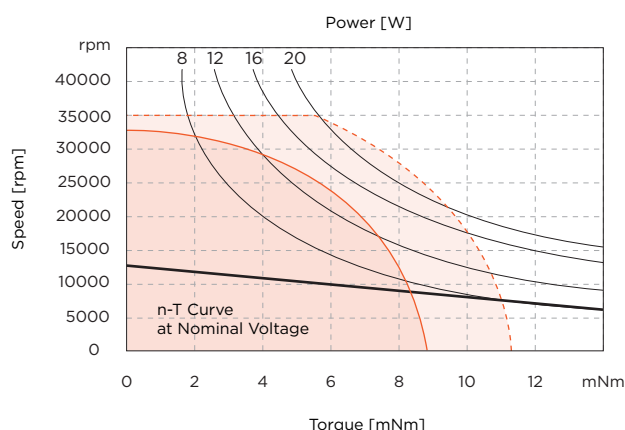
20 Watt

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CORELESS
BRUSHLESS

Values	Unit	SVTN A 01			
		2232-06..	2232-12..	2232-18..	2232-24..
Motor Data					
1 Nominal voltage	V	6	12	18	24
2 No load speed	rpm	11700	11184	12080	12164
3 No load current	mA	230	150	86	60
4 Nominal speed	rpm	9585	9023	9937	9358
5 Nominal torque	mNm	6	6	6	6
6 Nominal current	A	1.5	0.76	0.52	0.39
7 Stall torque	mNm	33.2	31.1	33.8	26
8 Stall current	A	7.23	3.32	2.55	1.5
9 Max. efficiency	%	67.5	62	66.6	64
Characteristics					
10 Terminal resistance*	Ω	0.83	3.61	7.07	16
11 Terminal inductance*	mH	0.08	0.28	0.66	1.72
12 Torque constant	mNm/A	4.74	9.78	13.7	18.1
13 Speed constant	rpm/V	2014	976	695	528
14 Speed/torque gradient	rpm/mNm	353	360	357	468
15 Mechanical time constant	ms	5.5	5.6	5.6	7.3
16 Rotor inertia	gcm ²	1.5	1.5	1.5	1.5
Mechanical data					
17 Thermal resistance housing-ambient	15.2 K/W				
18 Thermal resistance winding-housing	6.0 K/W				
19 Thermal time constant winding	11 s				
20 Thermal time constant motor	383 s				
21 Ambient temperature	-30...+100°C				
22 Max. permissible winding temperature	+150°C				
23 Max. permissible speed	35000 rpm				
24 Radial play	preloaded				
25 Max. axial load (dynamic)	3.5 N				
26 Max. force for press fits (static)	44 N				
27 Max. radial loading, 5mm from flange	15 N				
Other specifications					
28 Number of poles	2				
29 Number of phases	3				
30 Weight	48 g				

*The diagram based on ambient temperature of 25°.

Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

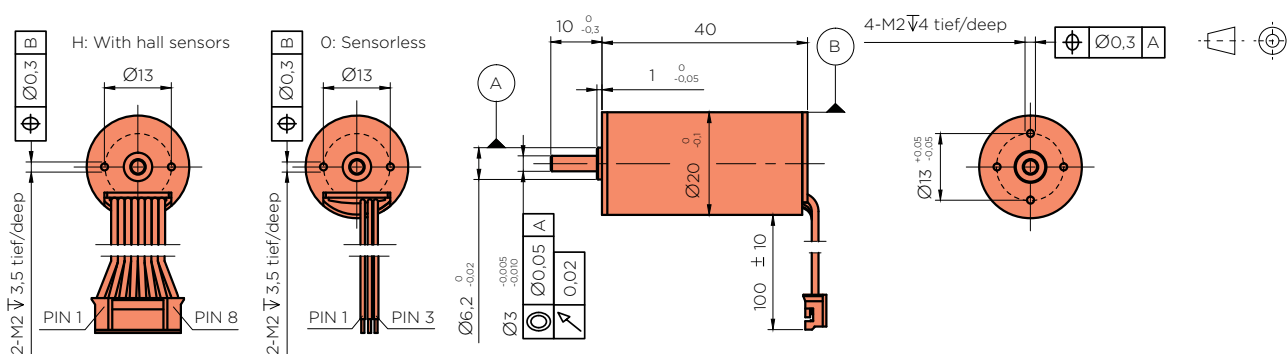
Connection H	(Sensor)	PVC	
Pin 1	Vhall 3-18 VDC	AWG26	black
Pin 2	Hall sensor HA	AWG26	black
Pin 3	Hall sensor HB	AWG26	black
Pin 4	Hall sensor HC	AWG26	black
Pin 5	GND	AWG26	black
Pin 6	Motor winding MA	AWG26	black
Pin 7	Motor winding MB	AWG26	black
Pin 8	Motor winding MC	AWG26	black
Connector			
JST	PHR-8		
Connection O	(Sensorless)		
Pin 1	Motor winding MA	AWG26	yellow
Pin 2	Motor winding MB	AWG26	green
Pin 3	Motor winding MC	AWG26	blue

Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE

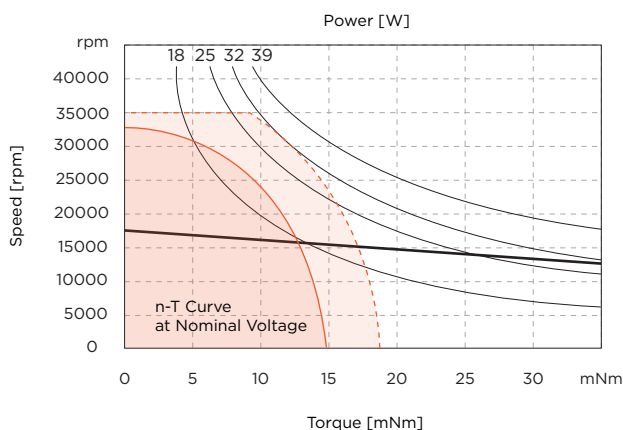
SVTN A 01-2240

39 Watt



Values	Unit	SVTN A 01	2240-12..	2240-24..	2240-30..	2240-36..
Motor Data						
1 Nominal voltage	V		12	24	30	36
2 No load speed	rpm		16748	16768	16713	16679
3 No load current	mA		183	115	87	73
4 Nominal speed	rpm		14354	14337	14360	14128
5 Nominal torque	mNm		12	12	12	12
6 Nominal current	A		1,96	1,01	0,80	0,67
7 Stall torque	mNm		84	83	85	78
8 Stall current	A		12,6	6,3	5,1	4,0
9 Max. efficiency	%		77,4	74,8	75,7	74,7
Characteristics						
10 Terminal resistance*	Ω		1,0	3,8	5,8	9,1
11 Terminal inductance*	mH		0,07	0,28	0,44	0,64
12 Torque constant	mNm/A		6,74	13,42	16,85	20,23
13 Speed constant	rpm/V		1416	712	567	472
14 Speed/torque gradient	rpm/mNm		199,5	202,6	196,1	212,6
15 Mechanical time constant	ms		4,7	4,8	4,7	5,1
16 Rotor inertia	gcm ²		2,27	2,27	2,27	2,27
Mechanical data						
17 Thermal resistance housing-ambient	12.7 K/W					
18 Thermal resistance winding-housing	5.0 K/W					
19 Thermal time constant winding	12 s					
20 Thermal time constant motor	420 s					
21 Ambient temperature	-30...+100°C					
22 Max. permissible winding temperature	+150°C					
23 Max. permissible speed	35000 rpm					
24 Radial play	preloaded					
25 Max. axial load (dynamic)	3.5 N					
26 Max. force for press fits (static)	44 N					
27 Max. radial loading, 5mm from flange	15 N					
Other specifications						
28 Number of poles	2					
29 Number of phases	3					
30 Weight	64 g					

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection Configuration

Connection H	(Sensor)	PVC
Pin 1	Vhall 3-18 VDC	AWG26 black
Pin 2	Hall sensor HA	AWG26 black
Pin 3	Hall sensor HB	AWG26 black
Pin 4	Hall sensor HC	AWG26 black
Pin 5	GND	AWG26 black
Pin 6	Motor winding MA	AWG26 black
Pin 7	Motor winding MB	AWG26 black
Pin 8	Motor winding MC	AWG26 black
Connector	JST	PHR-8
Connection O	(Sensorless)	
Pin 1	Motor winding MA	AWG26 yellow
Pin 2	Motor winding MB	AWG26 green
Pin 3	Motor winding MC	AWG26 blue

PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard frange front&back/customize the frange
SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
CONNECTOR: JST/MOLEX/TE

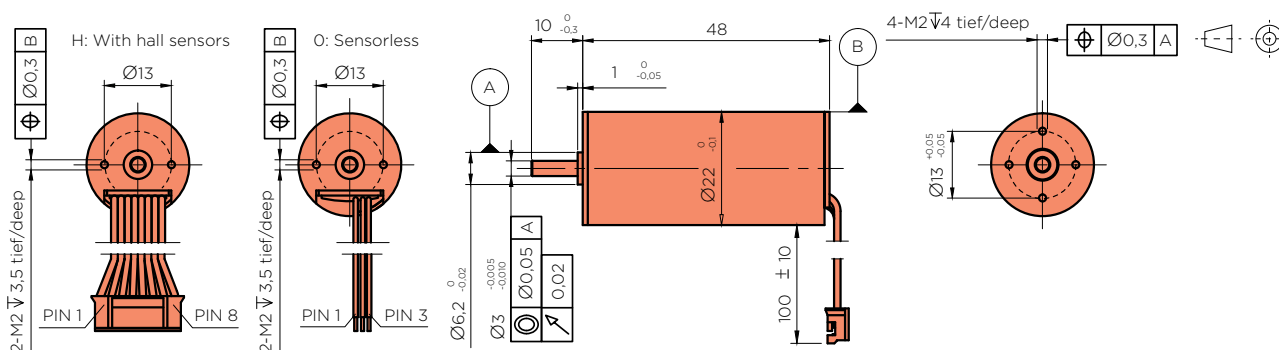


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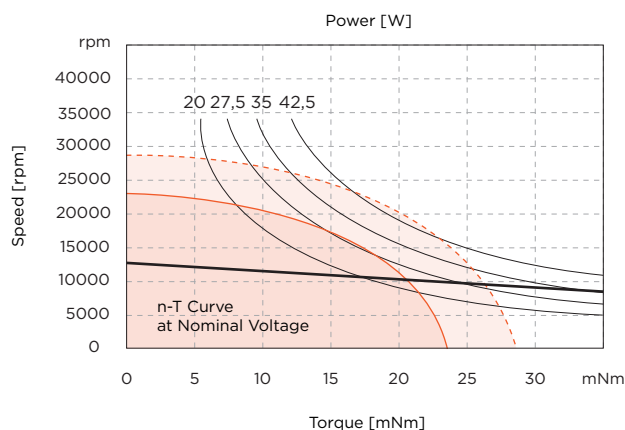
SVTN A 01-2248

43 Watt



Values	Unit	SVTN A 01	2248-12..	2248-24..	2248-36..	2248-48..
Motor Data						
1 Nominal voltage	V		12	24	36	48
2 No load speed	rpm		13004	12930	13390	13641
3 No load current	mA		179	102	82	69
4 Nominal speed	rpm		11426	11413	11749	12159
5 Nominal torque	mNm		18	18	18	18
6 Nominal current	A		2,24	1,13	0,79	0,61
7 Stall torque	mNm		148	153	147	166
8 Stall current	A		17,2	8,9	5,9	5,1
9 Max. efficiency	%		80,6	79,7	77,8	78,0
Characteristics						
10 Terminal resistance*	Ω		0,7	2,7	6,1	9,5
11 Terminal inductance*	mH		0,07	0,28	0,58	0,97
12 Torque constant	mNm/A		8,72	17,52	25,32	33,14
13 Speed constant	rpm/V		1095	545	377	288
14 Speed/torque gradient	rpm/mNm		87,7	84,3	91,2	82,3
15 Mechanical time constant	ms		2,9	2,8	3,0	2,7
16 Rotor inertia	gcm ²		3,14	3,14	3,14	3,14
Mechanical data						
17 Thermal resistance housing-ambient	11.8 K/W					
18 Thermal resistance winding-housing	4.7 K/W					
19 Thermal time constant winding	21 s					
20 Thermal time constant motor	504 s					
21 Ambient temperature	-30...+100°C					
22 Max. permissible winding temperature	+150°C					
23 Max. permissible speed	30000 rpm					
24 Radial play	preloaded					
25 Max. axial load (dynamic)	3.5 N					
26 Max. force for press fits (static)	44 N					
27 Max. radial loading, 5mm from flange	15 N					
Other specifications						
28 Number of poles	2					
29 Number of phases	3					
30 Weight	85 g					

*The diagram based on ambient temperature of 25°.

Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

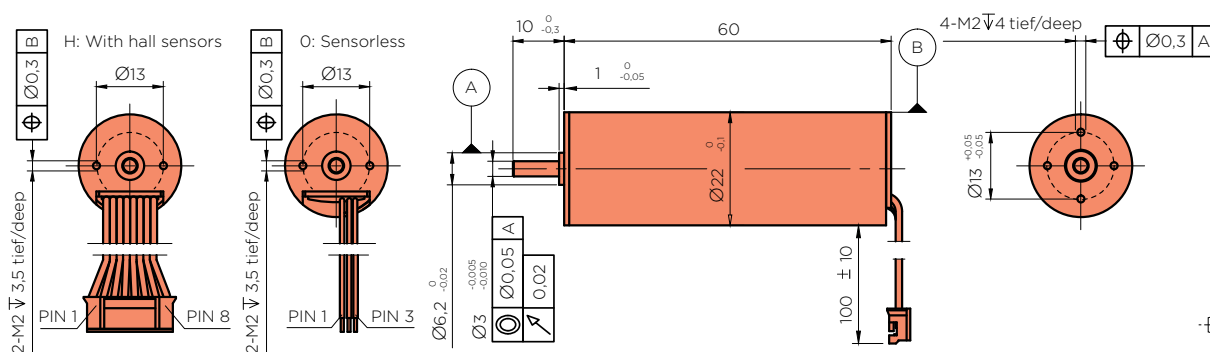
Connection H	(Sensor)	PVC	
Pin 1	Vhall 3-18 VDC	AWG26	black
Pin 2	Hall sensor HA	AWG26	black
Pin 3	Hall sensor HB	AWG26	black
Pin 4	Hall sensor HC	AWG26	black
Pin 5	GND	AWG26	black
Pin 6	Motor winding MA	AWG26	black
Pin 7	Motor winding MB	AWG26	black
Pin 8	Motor winding MC	AWG26	black
Connector			
JST	PHR-8		
Connection O	(Sensorless)		
Pin 1	Motor winding MA	AWG26	yellow
Pin 2	Motor winding MB	AWG26	green
Pin 3	Motor winding MC	AWG26	blue

Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE

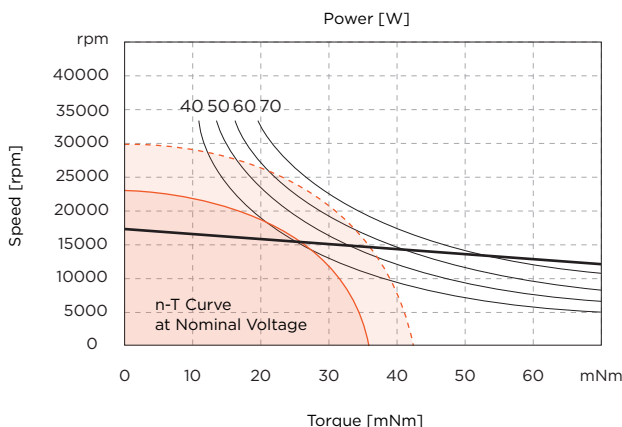
SVTN A 01-2260

70 Watt



Values	Unit	SVTN A 01	2260-12..	2260-24..	2260-36..	2260-48..
Motor Data						
1 Nominal voltage	V		12	24	36	48
2 No load speed	rpm		16360	16086	16030	16200
3 No load current	mA		440	230	170	110
4 Nominal speed	rpm		14517	14441	14364	14530
5 Nominal torque	mNm		28	28	28	28
6 Nominal current	A		4,49	2,22	1,49	1,11
7 Stall torque	mNm		249	274	269	272
8 Stall current	A		36,4	19,7	12,9	9,8
9 Max. efficiency	%		79,2	79,5	78,4	79,9
Characteristics						
10 Terminal resistance*	Ω		0,3	1,2	2,8	4,9
11 Terminal inductance*	mH		0,03	0,13	0,30	0,52
12 Torque constant	mNm/A		6,92	14,08	21,16	27,98
13 Speed constant	rpm/V		1380	678	451	341
14 Speed/torque gradient	rpm/mNm		65,8	58,8	59,5	59,7
15 Mechanical time constant	ms		3,1	2,8	2,8	2,8
16 Rotor inertia	gcm ²		4,50	4,50	4,50	4,50
Mechanical data						
17 Thermal resistance housing-ambient	7.6 K/W					
18 Thermal resistance winding-housing	4.6 K/W					
19 Thermal time constant winding	29 s					
20 Thermal time constant motor	533 s					
21 Ambient temperature	-30...+100°C					
22 Max. permissible winding temperature	+150°C					
23 Max. permissible speed	30000 rpm					
24 Radial play	preloaded					
25 Max. axial load (dynamic)	3.5 N					
26 Max. force for press fits (static)	44 N					
27 Max. radial loading, 5mm from flange	15 N					
Other specifications						
28 Number of poles	2					
29 Number of phases	3					
30 Weight	122 g					

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection	Configuration
Connection H (Sensor) PVC Pin 1 Vhall 3-18 VDC AWG26 black Pin 2 Hall sensor HA AWG26 black Pin 3 Hall sensor HB AWG26 black Pin 4 Hall sensor HC AWG26 black Pin 5 GND AWG26 black Pin 6 Motor winding MA AWG26 black Pin 7 Motor winding MB AWG26 black Pin 8 Motor winding MC AWG26 black Connector JST PHR-8 Connection O (Sensorless) Pin 1 Motor winding MA AWG26 yellow Pin 2 Motor winding MB AWG26 green Pin 3 Motor winding MC AWG26 blue	PERFORMANCE: Customized in the continuous operating range BALL BEARING: Preload FLANGE: Standard frange front&back/customize the frange SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length CONNECTOR: JST/MOLEX/TE

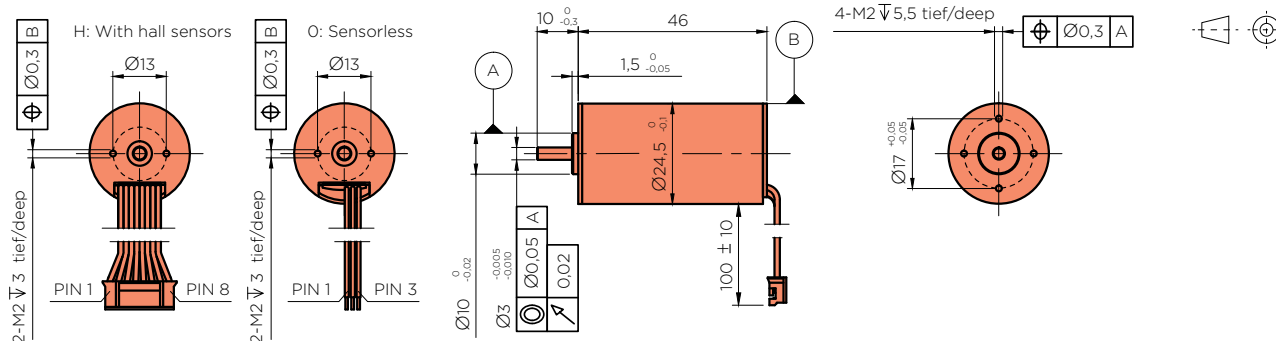


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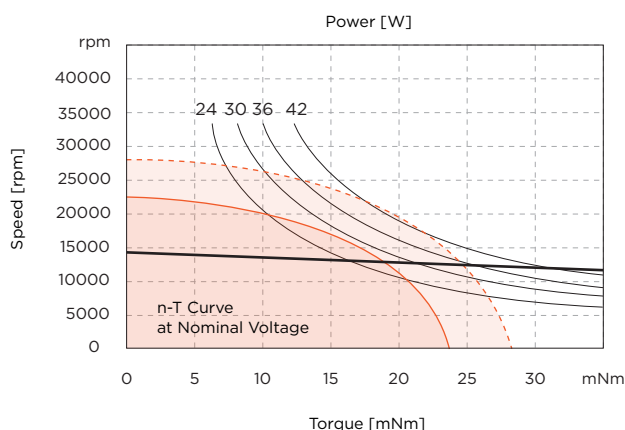
SVTN A 01-2446

42 Watt



Values	Unit	SVTN A 01	2446-12..	2446-24..	2446-36..	2446-48..
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	14150	13872	13920	13870
3	No load current	mA	249	124	106	79
4	Nominal speed	rpm	12678	12487	12662	12446
5	Nominal torque	mNm	18	18	18	18
6	Nominal current	A	2,50	1,23	0,84	0,63
7	Stall torque	mNm	173	180	199	175
8	Stall current	A	21,9	11,2	8,3	5,5
9	Max. efficiency	%	79,8	80,0	78,6	77,4
Characteristics						
10	Terminal resistance*	Ω	0,5	2,2	4,4	8,8
11	Terminal inductance*	mH	0,07	0,29	0,62	1,14
12	Torque constant	mNm/A	8,01	16,34	24,38	32,57
13	Speed constant	rpm/V	1193	584	392	293
14	Speed/torque gradient	rpm/mNm	81,8	76,9	69,9	79,1
15	Mechanical time constant	ms	3,6	3,4	3,1	3,5
16	Rotor inertia	gcm ²	4,20	4,20	4,20	4,20
Mechanical data						
17	Thermal resistance housing-ambient	11.6 K/W				
18	Thermal resistance winding-housing	5.6 K/W				
19	Thermal time constant winding	30 s				
20	Thermal time constant motor	557 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	30000 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	3.5 N				
26	Max. force for press fits (static)	44 N				
27	Max. radial loading, 5mm from flange	15 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	92 g				

*The diagram based on ambient temperature of 25°.

Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

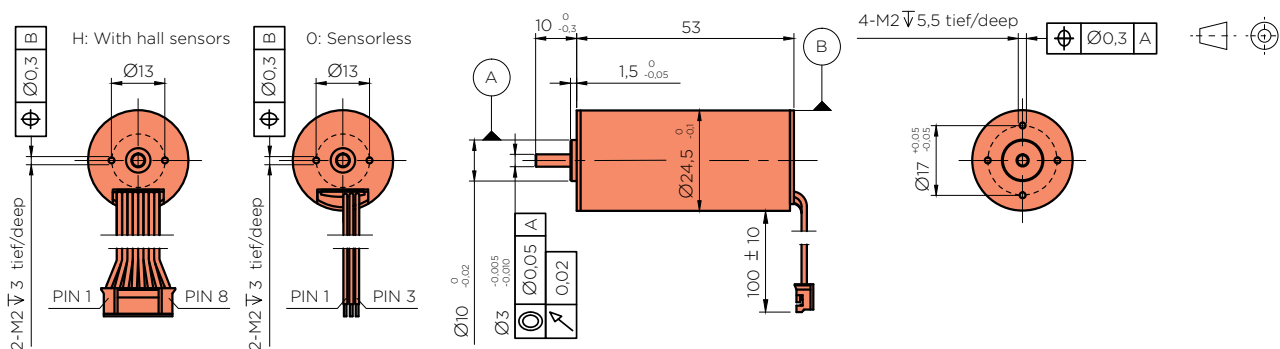
Connection H	(Sensor)	PVC	
Pin 1	Vhall 3-18 VDC	AWG26	black
Pin 2	Hall sensor HA	AWG26	black
Pin 3	Hall sensor HB	AWG26	black
Pin 4	Hall sensor HC	AWG26	black
Pin 5	GND	AWG26	black
Pin 6	Motor winding MA	AWG26	black
Pin 7	Motor winding MB	AWG26	black
Pin 8	Motor winding MC	AWG26	black
Connector			
JST	PHR-8		
Connection O	(Sensorless)		
Pin 1	Motor winding MA	AWG26	yellow
Pin 2	Motor winding MB	AWG26	green
Pin 3	Motor winding MC	AWG26	blue

Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE

SVTN A 01-2453

54 Watt



Values	Unit	SVTN A 01	2453-12..	2453-24..	2453-36..	2453-48..
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	15083	15398	15202	15310
3	No load current	mA	308	156	115	94
4	Nominal speed	rpm	13938	14347	14211	14263
5	Nominal torque	mNm	20	20	20	20
6	Nominal current	A	2,96	1,51	1,01	0,77
7	Stall torque	mNm	263	293	307	293
8	Stall current	A	35,3	20,0	13,8	10,0
9	Max. efficiency	%	82,2	83,1	82,6	81,5
Characteristics						
10	Terminal resistance*	Ω	0,3	1,2	2,6	4,8
11	Terminal inductance*	mH	0,05	0,19	0,44	0,76
12	Torque constant	mNm/A	7,53	14,77	22,43	29,66
13	Speed constant	rpm/V	1268	647	426	322
14	Speed/torque gradient	rpm/mNm	57,2	52,5	49,6	52,3
15	Mechanical time constant	ms	3,5	3,2	3,1	3,2
16	Rotor inertia	gcm²	5,90	5,90	5,90	5,90
Mechanical data						
17	Thermal resistance housing-ambient	10.2 K/W				
18	Thermal resistance winding-housing	6.4 K/W				
19	Thermal time constant winding	36 s				
20	Thermal time constant motor	555 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	30000 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	3.5 N				
26	Max.force for press fits (static)	44 N				
27	Max. radial loading, 5mm from flange	15 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	110 g				

*The diagram based on ambient temperature of 25°.

The graph plots Speed [rpm] on the y-axis (0 to 40,000) against Power [W] on the x-axis (0 to 300). It shows four solid black n-T curves for temperatures 30, 33, 46, and 54. Dashed red lines represent the continuous operating range, and solid red lines represent the maximum operating range. The curves show that as temperature increases, the permissible speed and power decrease for a given torque.

Speed [rpm]

Power [W]

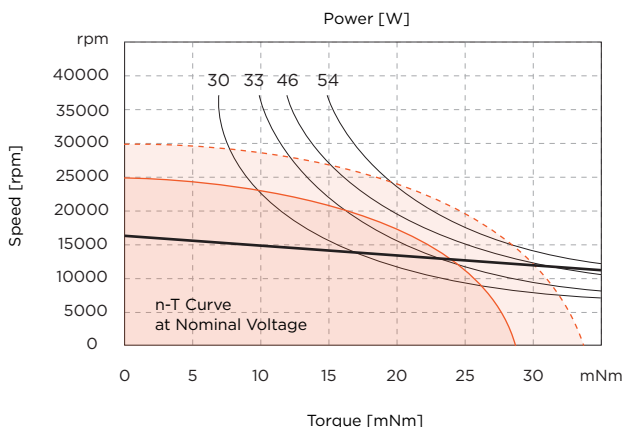
30 33 46 54

n-T Curve at Nominal Voltage

Continuous operating range

Maximum operating range

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection Configuration

Connection H	(Sensor)	PVC
Pin 1	Vhall 3-18 VDC	AWG26 black
Pin 2	Hall sensor HA	AWG26 black
Pin 3	Hall sensor HB	AWG26 black
Pin 4	Hall sensor HC	AWG26 black
Pin 5	GND	AWG26 black
Pin 6	Motor winding MA	AWG26 black
Pin 7	Motor winding MB	AWG26 black
Pin 8	Motor winding MC	AWG26 black
Connector	JST	PHR-8
Connection O	(Sensorless)	
Pin 1	Motor winding MA	AWG26 yellow
Pin 2	Motor winding MB	AWG26 green
Pin 3	Motor winding MC	AWG26 blue

PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard flange front&back/customize the flange
SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
CONNECTOR: JST/MOLEX/TE

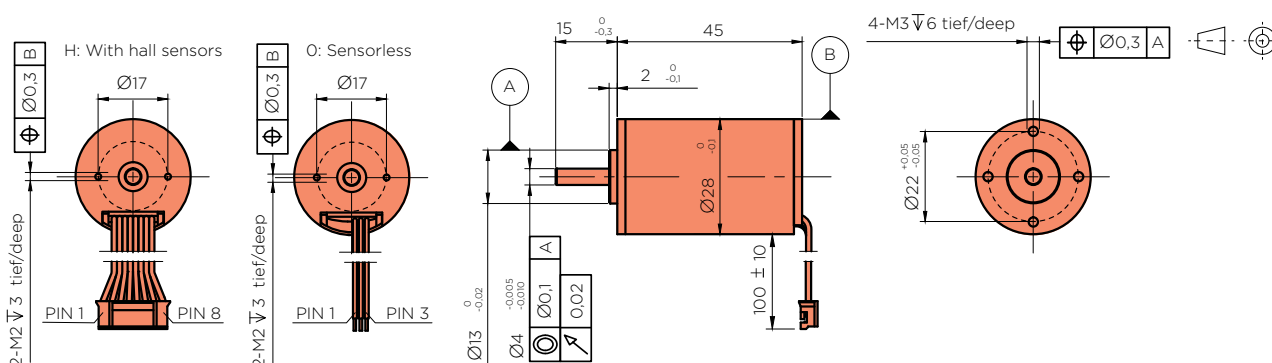


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SVTN A 01-2845

35 Watt



Values	Unit	SVTN A 01	2845-12..	2845-24..	2845-36..	2845-48..
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	13737	13756	13783	13400
3	No load current	mA	202	128	84	79
4	Nominal speed	rpm	12232	12342	12432	11903
5	Nominal torque	mNm	18	18	18	18
6	Nominal current	A	2,38	1,22	0,81	0,61
7	Stall torque	mNm	164	175	184	161
8	Stall current	A	20,1	10,8	7,5	4,9
9	Max. efficiency	%	81,0	79,4	80,0	76,1
Characteristics						
10	Terminal resistance*	Ω	0,6	2,2	4,8	9,9
11	Terminal inductance*	mH	0,08	0,34	0,73	1,47
12	Torque constant	mNm/A	8,26	16,46	24,66	33,65
13	Speed constant	rpm/V	1156	580	387	284
14	Speed/torque gradient	rpm/mNm	83,6	78,6	75,0	83,1
15	Mechanical time constant	ms	4,5	4,3	4,1	4,5
16	Rotor inertia	gcm²	5,19	5,19	5,19	5,19
Mechanical data						
17	Thermal resistance housing-ambient	9.6 K/W				
18	Thermal resistance winding-housing	6.3 K/W				
19	Thermal time constant winding	37 s				
20	Thermal time constant motor	584 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	25000 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	7.5 N				
26	Max. force for press fits (static)	100 N				
27	Max. radial loading, 5mm from flange	25 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	120 g				

*The diagram based on ambient temperature of 25°.

rpm

Power [W]

Speed [rpm]

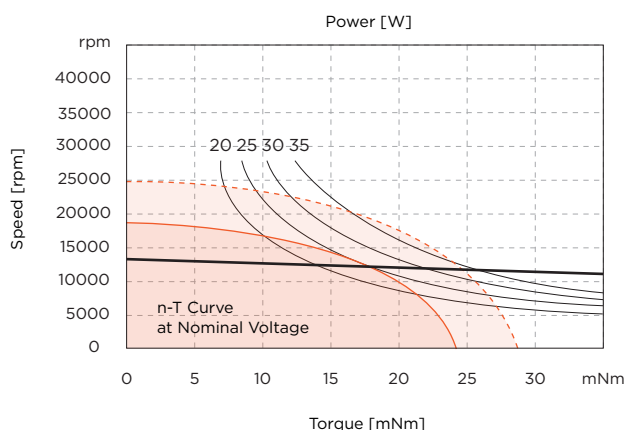
20 25 30 35

n-T Curve at Nominal Voltage

Continuous operating range

Maximum operating range

*The diagram based on ambient temperature of 25°.

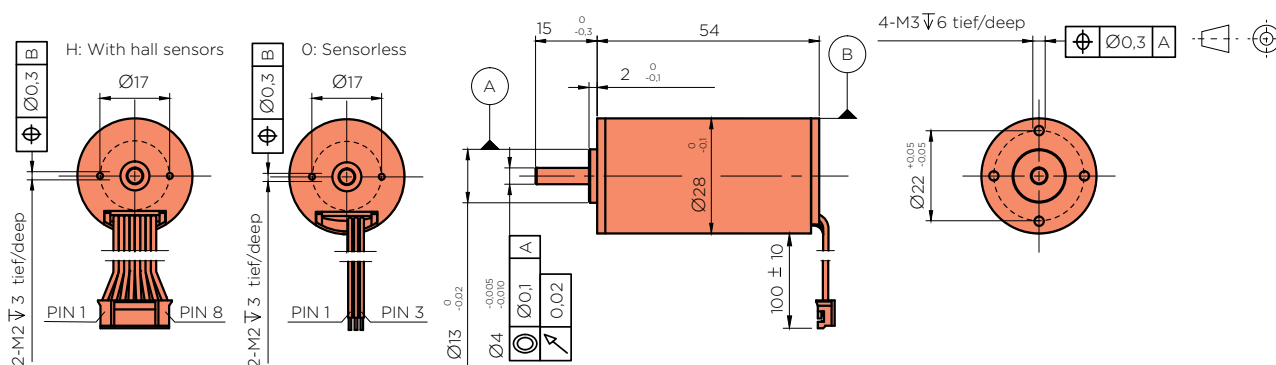
Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

Connection H	(Sensor)	PVC
Pin 1	Vhall 3-18 VDC	AWG26 black
Pin 2	Hall sensor HA	AWG26 black
Pin 3	Hall sensor HB	AWG26 black
Pin 4	Hall sensor HC	AWG26 black
Pin 5	GND	AWG26 black
Pin 6	Motor winding MA	AWG26 black
Pin 7	Motor winding MB	AWG26 black
Pin 8	Motor winding MC	AWG26 black
Connector		
JST	PHR-8	
Connection O	(Sensorless)	
Pin 1	Motor winding MA	AWG26 yellow
Pin 2	Motor winding MB	AWG26 green
Pin 3	Motor winding MC	AWG26 blue

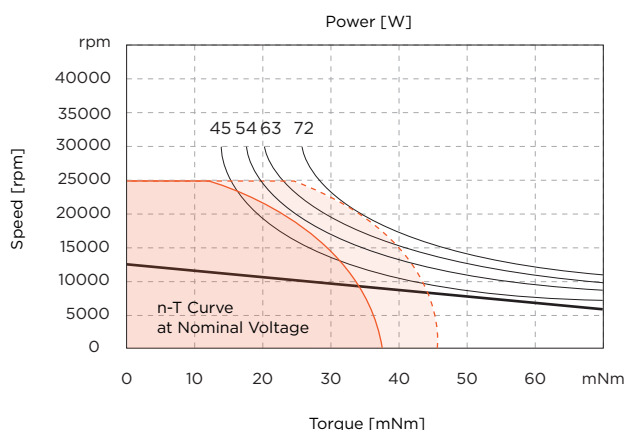
Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE



Values	Unit	SVTN A 01			
		2854-12..	2854-24..	2854-36..	2854-48..
Motor Data					
1 Nominal voltage	V	12	24	36	48
2 No load speed	rpm	8031	8336	8175	8325
3 No load current	mA	142	94	65	51
4 Nominal speed	rpm	6646	7084	6891	6805
5 Nominal torque	mNm	35	35	35	35
6 Nominal current	A	2,62	1,38	0,91	0,70
7 Stall torque	mNm	203	233	223	192
8 Stall current	A	14,5	8,7	5,4	3,6
9 Max. efficiency	%	81,2	80,3	79,3	77,6
Characteristics					
10 Terminal resistance*	Ω	0,8	2,8	6,6	13,4
11 Terminal inductance*	mH	0,16	0,61	1,41	2,56
12 Torque constant	mNm/A	14,13	27,19	41,55	54,28
13 Speed constant	rpm/V	676	351	230	176
14 Speed/torque gradient	rpm/mNm	39,6	35,8	36,7	43,4
15 Mechanical time constant	ms	3,5	3,2	3,3	3,9
16 Rotor inertia	gcm ²	8,50	8,50	8,50	8,50
Mechanical data					
17 Thermal resistance housing-ambient	7.1 K/W				
18 Thermal resistance winding-housing	5 K/W				
19 Thermal time constant winding	51 s				
20 Thermal time constant motor	552 s				
21 Ambient temperature	-30...+100°C				
22 Max. permissible winding temperature	+150°C				
23 Max. permissible speed	25000 rpm				
24 Radial play	preloaded				
25 Max. axial load (dynamic)	7.5 N				
26 Max. force for press fits (static)	100 N				
27 Max. radial loading, 5mm from flange	25 N				
Other specifications					
28 Number of poles	2				
29 Number of phases	3				
30 Weight	156 g				

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection

Connection H	(Sensor)	PVC	
Pin 1	Vhall 3-18 VDC	AWG26	black
Pin 2	Hall sensor HA	AWG26	black
Pin 3	Hall sensor HB	AWG26	black
Pin 4	Hall sensor HC	AWG26	black
Pin 5	GND	AWG26	black
Pin 6	Motor winding MA	AWG26	black
Pin 7	Motor winding MB	AWG26	black
Pin 8	Motor winding MC	AWG26	black
Connector			
JST	PHR-8		
Connection O	(Sensorless)		
Pin 1	Motor winding MA	AWG26	yellow
Pin 2	Motor winding MB	AWG26	green
Pin 3	Motor winding MC	AWG26	blue

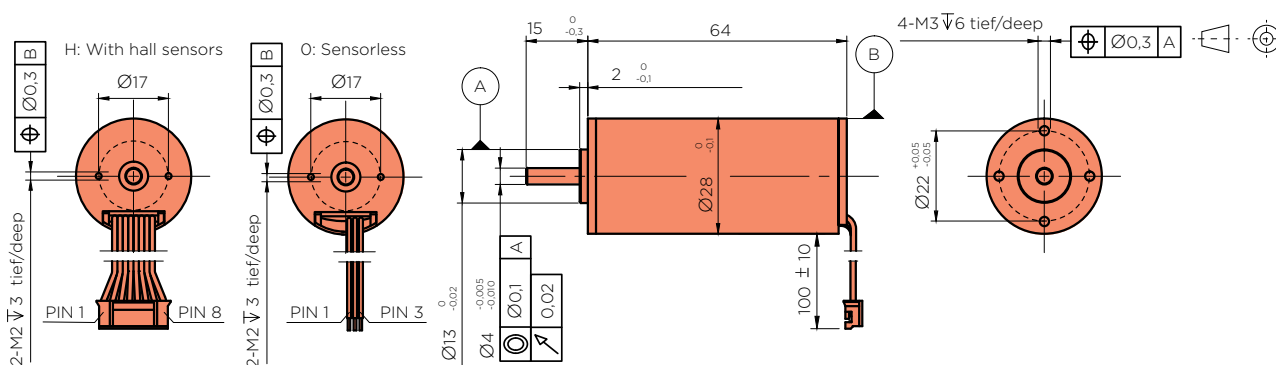
Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE

SVTN A 01-2864

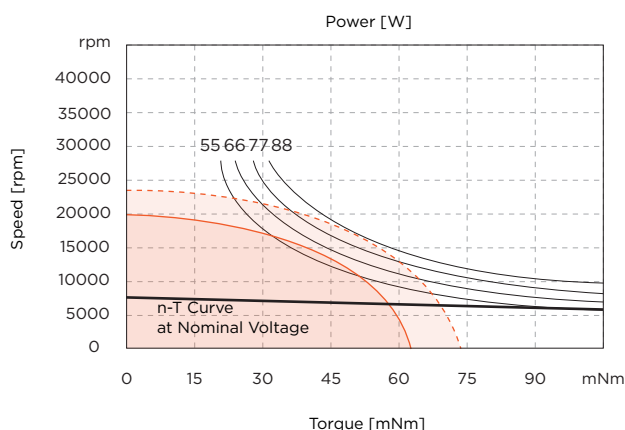
88 Watt

servotecnica

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Values	Unit	SVTN A 01	2864-12..	2864-24..	2864-36..	2864-48..
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	7956	8014	8275	7960
3	No load current	mA	182	104	92	59
4	Nominal speed	rpm	6712	6840	7053	6782
5	Nominal torque	mNm	50	50	50	50
6	Nominal current	A	3,68	1,87	1,31	0,94
7	Stall torque	mNm	320	341	339	338
8	Stall current	A	22,6	12,1	8,3	6,0
9	Max. efficiency	%	82,8	82,3	80,1	81,1
Characteristics						
10	Terminal resistance*	Ω	0,5	2,0	4,3	8,0
11	Terminal inductance*	mH	0,11	0,46	0,96	1,83
12	Torque constant	mNm/A	14,29	28,35	41,09	57,02
13	Speed constant	rpm/V	668	337	232	167
14	Speed/torque gradient	rpm/mNm	24,9	23,5	24,4	23,6
15	Mechanical time constant	ms	2,5	2,4	2,5	2,4
16	Rotor inertia	gcm ²	9,62	9,62	9,62	9,62
Mechanical data						
17	Thermal resistance housing-ambient	5.5 K/W				
18	Thermal resistance winding-housing	4 K/W				
19	Thermal time constant winding	56 s				
20	Thermal time constant motor	521 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	25000 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	7.5 N				
26	Max. force for press fits (static)	100 N				
27	Max. radial loading, 5mm from flange	25 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	195 g				

*The diagram based on ambient temperature of 25°.

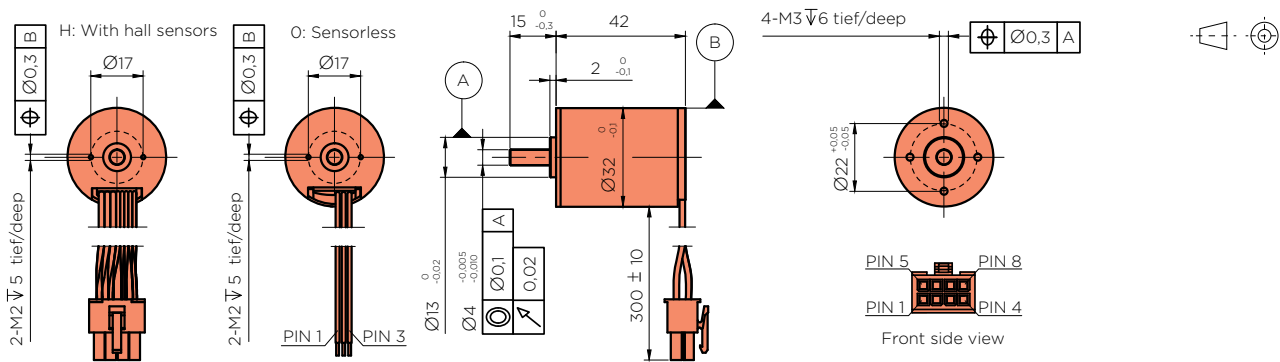
Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

Connection H	(Sensor)	PVC	
Pin 1	Vhall 3-18 VDC	AWG26	black
Pin 2	Hall sensor HA	AWG26	black
Pin 3	Hall sensor HB	AWG26	black
Pin 4	Hall sensor HC	AWG26	black
Pin 5	GND	AWG26	black
Pin 6	Motor winding MA	AWG26	black
Pin 7	Motor winding MB	AWG26	black
Pin 8	Motor winding MC	AWG26	black
Connector			
JST	PHR-8		
Connection O	(Sensorless)		
Pin 1	Motor winding MA	AWG26	yellow
Pin 2	Motor winding MB	AWG26	green
Pin 3	Motor winding MC	AWG26	blue

Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE



Values	Unit	SVTN A 01				
		3242-12..	3242-24..	3242-36..	3242-48..	
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	9319	9516	9269	9389
3	No load current	mA	380	210	120	90
4	Nominal speed	rpm	8198	8364	8219	8124
5	Nominal torque	mNm	25	25	25	25
6	Nominal current	A	2,46	1,27	0,81	0,61
7	Stall torque	mNm	208	206	221	186
8	Stall current	A	17,6	9,0	6,2	4,0
9	Max. efficiency	%	72,8	71,8	74,1	72,2
Characteristics						
10	Terminal resistance*	Ω	0,7	2,7	5,8	12,1
11	Terminal inductance*	mH	0,11	0,40	0,98	1,79
12	Torque constant	mNm/A	12,03	23,52	36,37	47,72
13	Speed constant	rpm/V	794	406	263	200
14	Speed/torque gradient	rpm/mNm	44,9	46,1	42,0	50,6
15	Mechanical time constant	ms	4,4	4,5	4,1	5,0
16	Rotor inertia	gcm²	9,40	9,40	9,40	9,40
Mechanical data						
17	Thermal resistance housing-ambient	8.8 K/W				
18	Thermal resistance winding-housing	2.7 K/W				
19	Thermal time constant winding	23.5 s				
20	Thermal time constant motor	560 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	25000 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	7.5 N				
26	Max. force for press fits (static)	100 N				
27	Max. radial loading, 5mm from flange	25 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	147 g				

*The diagram based on ambient temperature of 25°.

Speed [rpm]

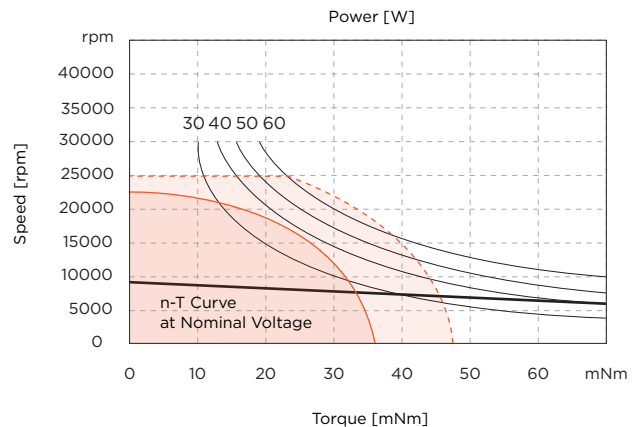
Power [W]

30 40 50 60

n-T Curve at Nominal Voltage

Continuous operating range

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection

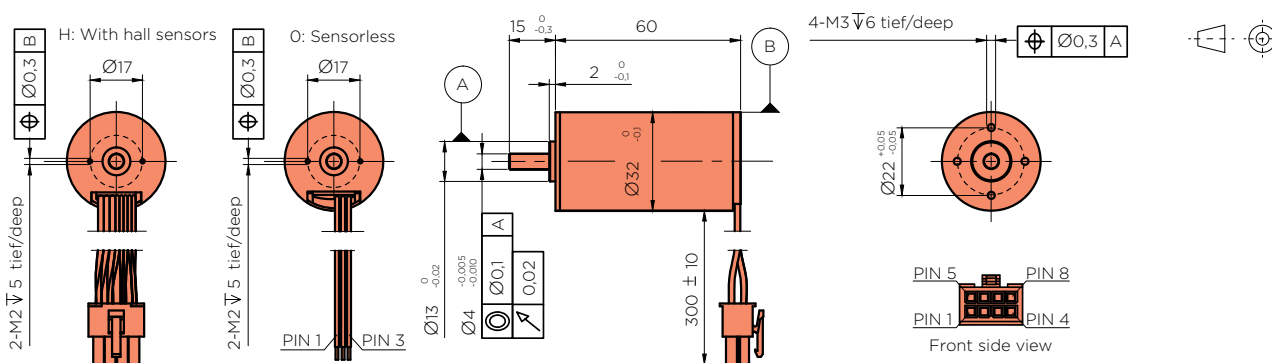
Connection H	(Sensor)	PTFE	
Pin 1	Motor winding MB	AWG20	green
Pin 2	Vhall 3-18 VDC	AWG26	red
Pin 3	Hall sensor HA	AWG26	yellow
Pin 4	Hall sensor HC	AWG26	blue
Pin 5	Motor winding MA	AWG20	yellow
Pin 6	Motor winding MC	AWG20	blue
Pin 7	GND	AWG26	black
Pin 8	Hall sensor HB	AWG26	green
Connector			
Molex	39-01-2080		
Connection O	(Sensorless)	PTFE	
Pin 1	Motor winding MA	AWG20	yellow
Pin 2	Motor winding MB	AWG20	green
Pin 3	Motor winding MC	AWG20	blue

Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE

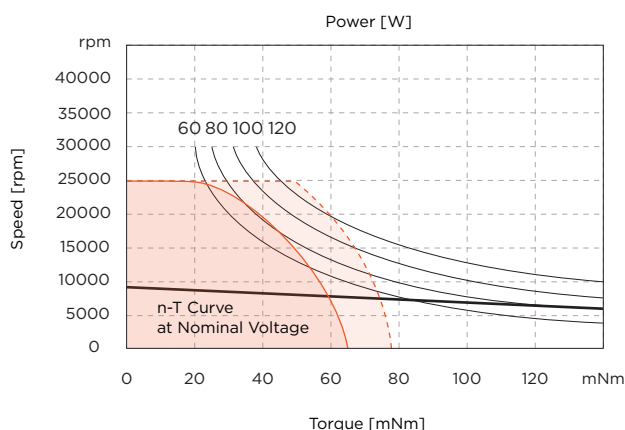
SVTN A 01-3260

120 Watt


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Values	Unit	SVTN A 01	3260-12..	3260-24..	3260-36..	3260-48..
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	10845	11038	10937	11125
3	No load current	mA	430	190	130	90
4	Nominal speed	rpm	9889	10027	9931	10087
5	Nominal torque	mNm	50	50	50	50
6	Nominal current	A	5,20	2,62	1,73	1,31
7	Stall torque	mNm	567	546	544	536
8	Stall current	A	54,5	26,7	17,6	13,2
9	Max. efficiency	%	83,0	83,8	83,5	84,2
Characteristics						
10	Terminal resistance*	Ω	0,2	0,9	2,1	3,6
11	Terminal inductance*	mH	0,08	0,32	0,90	1,22
12	Torque constant	mNm/A	10,48	20,62	31,20	40,92
13	Speed constant	rpm/V	911	463	306	233
14	Speed/torque gradient	rpm/mNm	19,1	20,2	20,1	20,8
15	Mechanical time constant	ms	3,1	3,3	3,3	3,4
16	Rotor inertia	gcm ²	15,50	15,50	15,50	15,50
Mechanical data						
17	Thermal resistance housing-ambient	6 K/W				
18	Thermal resistance winding-housing	3.2 K/W				
19	Thermal time constant winding	36 s				
20	Thermal time constant motor	626 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	25000 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	7.5 N				
26	Max. force for press fits (static)	100 N				
27	Max. radial loading, 5mm from flange	25 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	217 g				

*The diagram based on ambient temperature of 25°.


 Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

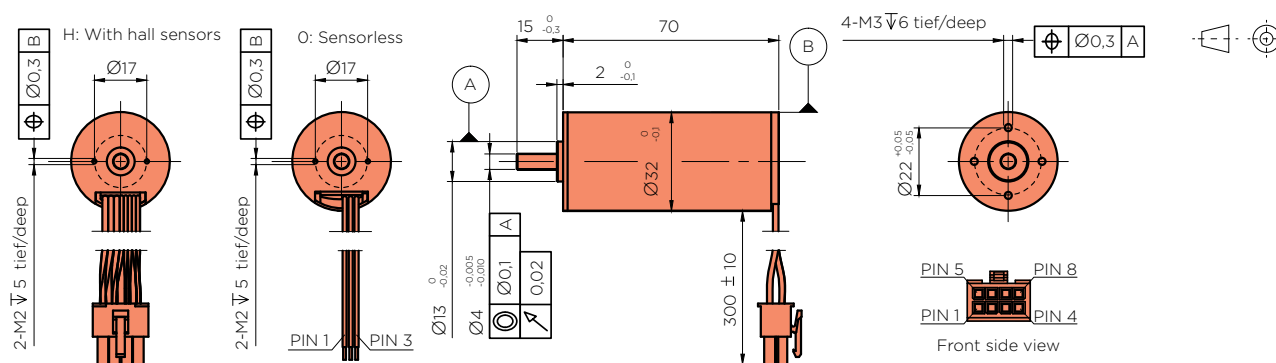
Connection H	(Sensor)	PTFE
Pin 1	Motor winding MB	AWG20 green
Pin 2	Vhall 3-18 VDC	AWG26 red
Pin 3	Hall sensor HA	AWG26 yellow
Pin 4	Hall sensor HC	AWG26 blue
Pin 5	Motor winding MA	AWG20 yellow
Pin 6	Motor winding MC	AWG20 blue
Pin 7	GND	AWG26 black
Pin 8	Hall sensor HB	AWG26 green
Connector		
Molex	39-01-2080	
Connection O	(Sensorless)	PTFE
Pin 1	Motor winding MA	AWG20 yellow
Pin 2	Motor winding MB	AWG20 green
Pin 3	Motor winding MC	AWG20 blue

Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE

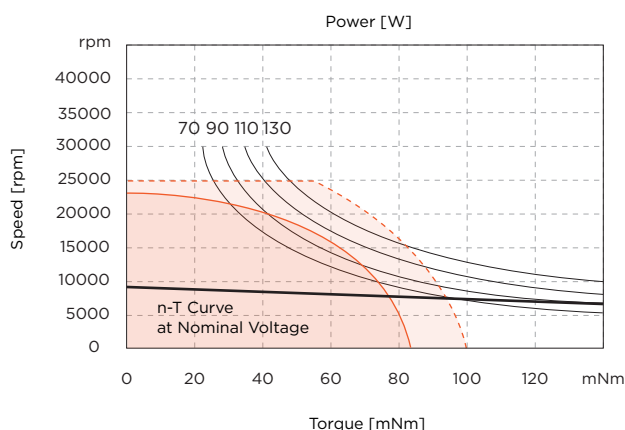
SVTN A 01-3270

130 Watt



Values	Unit	SVTN A 01	3270-12..	3270-24..	3270-36..	3270-48..
Motor Data						
1 Nominal voltage	V	12	24	36	48	
2 No load speed	rpm	8998	9055	9252	9080	
3 No load current	mA	450	180	100	90	
4 Nominal speed	rpm	7991	7963	8129	8077	
5 Nominal torque	mNm	70	70	70	70	
6 Nominal current	A	6,00	2,97	2,00	1,49	
7 Stall torque	mNm	625	581	577	634	
8 Stall current	A	50,0	23,3	15,7	12,7	
9 Max. efficiency	%	81,9	83,2	84,7	83,9	
Characteristics						
10 Terminal resistance*	Ω	0,2	1,0	2,3	3,8	
11 Terminal inductance*	mH	0,09	0,35	0,75	1,33	
12 Torque constant	mNm/A	12,62	25,11	36,92	50,12	
13 Speed constant	rpm/V	757	380	259	191	
14 Speed/torque gradient	rpm/mNm	14,4	15,6	16,0	14,3	
15 Mechanical time constant	ms	2,8	3,0	3,1	2,8	
16 Rotor inertia	gcm ²	18,52	18,52	18,52	18,52	
Mechanical data						
17 Thermal resistance housing-ambient	4.7 K/W					
18 Thermal resistance winding-housing	2.9 K/W					
19 Thermal time constant winding	38 s					
20 Thermal time constant motor	568 s					
21 Ambient temperature	-30...+100°C					
22 Max. permissible winding temperature	+150°C					
23 Max. permissible speed	25000 rpm					
24 Radial play	preloaded					
25 Max. axial load (dynamic)	7.5 N					
26 Max. force for press fits (static)	100 N					
27 Max. radial loading, 5mm from flange	25 N					
Other specifications						
28 Number of poles	2					
29 Number of phases	3					
30 Weight	256 g					

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range
with Reduced Rth2 50%

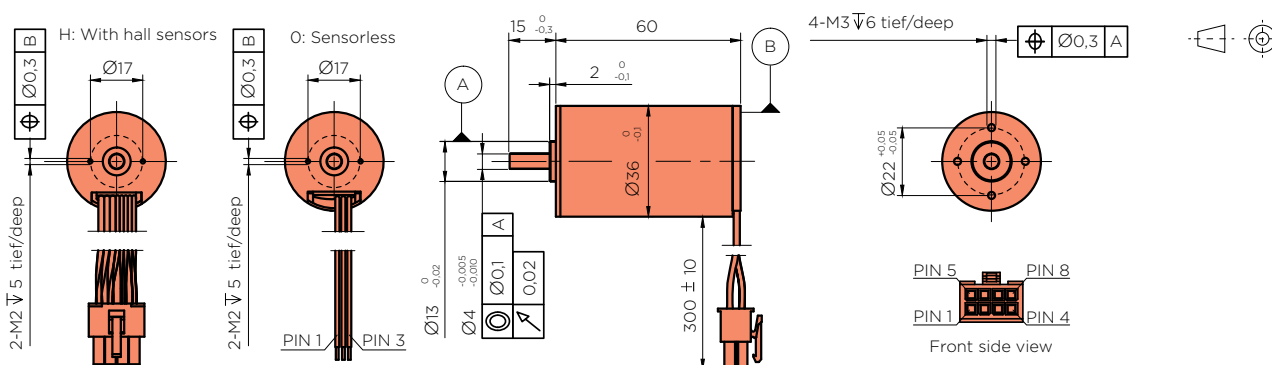
Connection	Configuration
Connection H (Sensor) PTFE Pin 1 Motor winding MB AWG20 green Pin 2 Vhall 3-18 VDC AWG26 red Pin 3 Hall sensor HA AWG26 yellow Pin 4 Hall sensor HC AWG26 blue Pin 5 Motor winding MA AWG20 yellow Pin 6 Motor winding MC AWG20 blue Pin 7 GND AWG26 black Pin 8 Hall sensor HB AWG26 green Connector Molex 39-01-2080 Connection O (Sensorless) PTFE Pin 1 Motor winding MA AWG20 yellow Pin 2 Motor winding MB AWG20 green Pin 3 Motor winding MC AWG20 blue	PERFORMANCE: Customized in the continuous operating range BALL BEARING: Preload FLANGE: Standard frange front&back/customize the frange SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length CONNECTOR: JST/MOLEX/TE



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SVTN A 01-3660

140 Watt

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Values	Unit	SVTN A 01				
		3660-12..	3660-24..	3660-36..	3660-48..	
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	8050	8140	8014	8083
3	No load current	mA	288	148	101	84
4	Nominal speed	rpm	6794	6784	6804	6766
5	Nominal torque	mNm	82	82	82	82
6	Nominal current	A	6,09	3,08	2,03	1,54
7	Stall torque	mNm	526	492	543	503
8	Stall current	A	37,5	17,8	12,9	9,0
9	Max. efficiency	%	83,2	82,6	83,1	81,6
Characteristics						
10	Terminal resistance*	Ω	0,3	1,4	2,8	5,3
11	Terminal inductance*	mH	0,09	0,38	0,88	1,60
12	Torque constant	mNm/A	14,13	27,92	42,56	56,18
13	Speed constant	rpm/V	676	342	224	170
14	Speed/torque gradient	rpm/mNm	15,3	16,5	14,8	16,1
15	Mechanical time constant	ms	3,1	3,4	3,0	3,3
16	Rotor inertia	gcm²	19,50	19,50	19,50	19,50
Mechanical data						
17	Thermal resistance housing-ambient	4.4 K/W				
18	Thermal resistance winding-housing	1.3 K/W				
19	Thermal time constant winding	15 s				
20	Thermal time constant motor	582 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	20000 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	7.5 N				
26	Max. force for press fits (static)	100 N				
27	Max. radial loading, 5mm from flange	25 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	272 g				

*The diagram based on ambient temperature of 25°.

rpm

Power [W]

Speed [rpm]

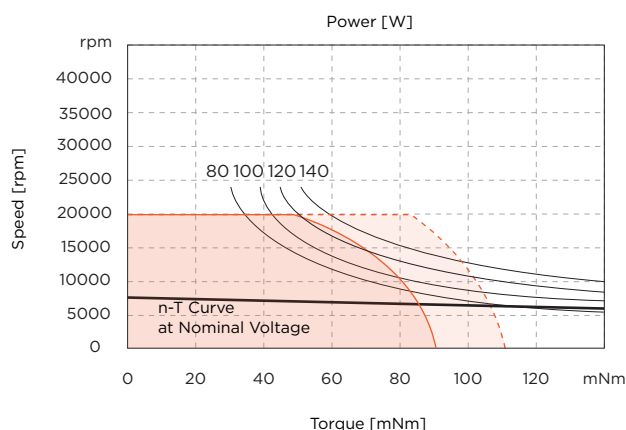
80 100 120 140

n-T Curve at Nominal Voltage

Continuos operating range

operating range

*The diagram based on ambient temperature of 25°.

Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

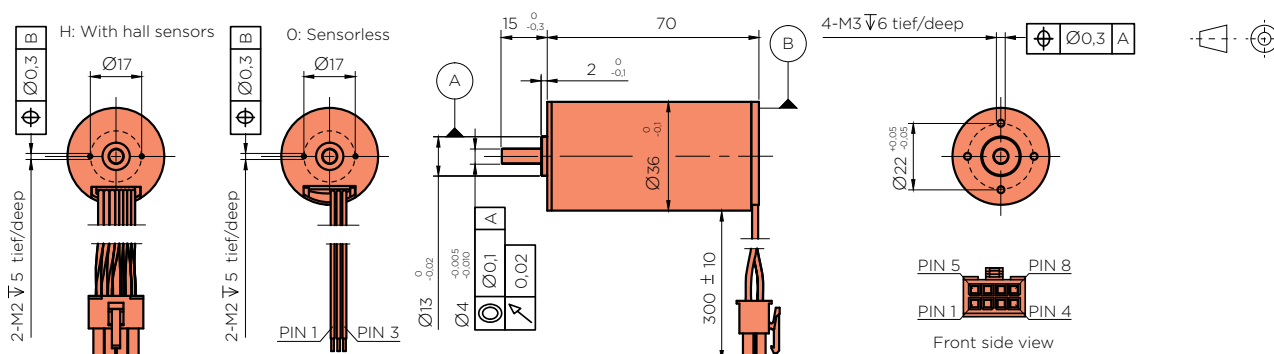
Connection H	(Sensor)	PTFE
Pin 1	Motor winding MB	AWG20 green
Pin 2	Vhall 3-18 VDC	AWG26 red
Pin 3	Hall sensor HA	AWG26 yellow
Pin 4	Hall sensor HC	AWG26 blue
Pin 5	Motor winding MA	AWG20 yellow
Pin 6	Motor winding MC	AWG20 blue
Pin 7	GND	AWG26 black
Pin 8	Hall sensor HB	AWG26 green
Connector		
Molex	39-01-2080	
Connection O	(Sensorless)	PTFE
Pin 1	Motor winding MA	AWG20 yellow
Pin 2	Motor winding MB	AWG20 green
Pin 3	Motor winding MC	AWG20 blue

Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE

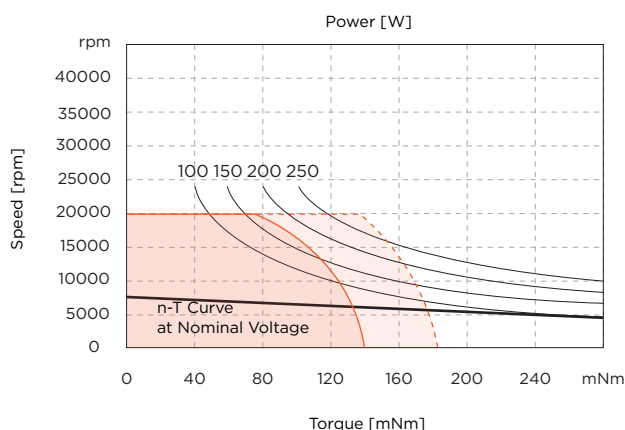
SVTN A 01-3670

250 Watt



Values	Unit	SVTN A 01	3670-12..	3670-24..	3670-36..	3670-48..
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	6578	6555	6675	6545
3	No load current	mA	293	137	101	78
4	Nominal speed	rpm	5300	5391	5455	5401
5	Nominal torque	mNm	120	120	120	120
6	Nominal current	A	7,24	3,59	2,45	1,81
7	Stall torque	mNm	618	676	657	687
8	Stall current	A	36,0	19,6	12,9	10,0
9	Max. efficiency	%	82,8	84,0	83,1	83,1
Characteristics						
10	Terminal resistance*	Ω	0,3	1,2	2,8	4,8
11	Terminal inductance*	mH	0,09	0,38	0,85	1,52
12	Torque constant	mNm/A	17,28	34,72	51,10	69,48
13	Speed constant	rpm/V	553	275	187	137
14	Speed/torque gradient	rpm/mNm	10,7	9,7	10,2	9,5
15	Mechanical time constant	ms	2,4	2,2	2,3	2,1
16	Rotor inertia	gcm ²	21,50	21,50	21,50	21,50
Mechanical data						
17	Thermal resistance housing-ambient	3.5 K/W				
18	Thermal resistance winding-housing	0.9 K/W				
19	Thermal time constant winding	14.3 s				
20	Thermal time constant motor	558 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	20000 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	7.5 N				
26	Max. force for press fits (static)	100 N				
27	Max. radial loading, 5mm from flange	25 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	331 g				

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection Configuration

Connection H	(Sensor)	PTFE
Pin 1	Motor winding MB	AWG26 green
Pin 2	Vhall 3-18 VDC	AWG26 red
Pin 3	Hall sensor HA	AWG26 yellow
Pin 4	Hall sensor HC	AWG26 blue
Pin 5	Motor winding MA	AWG26 yellow
Pin 6	Motor winding MC	AWG26 blue
Pin 7	GND	AWG26 black
Pin 8	Hall sensor HB	AWG26 green
Connector		
Molex	39-01-2080	
Connection O	(Sensorless)	PTFE
Pin 1	Motor winding MA	AWG26 yellow
Pin 2	Motor winding MB	AWG26 green
Pin 3	Motor winding MC	AWG26 blue

PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard flange front&back/customize the flange
SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
CONNECTOR: JST/MOLEX/TE

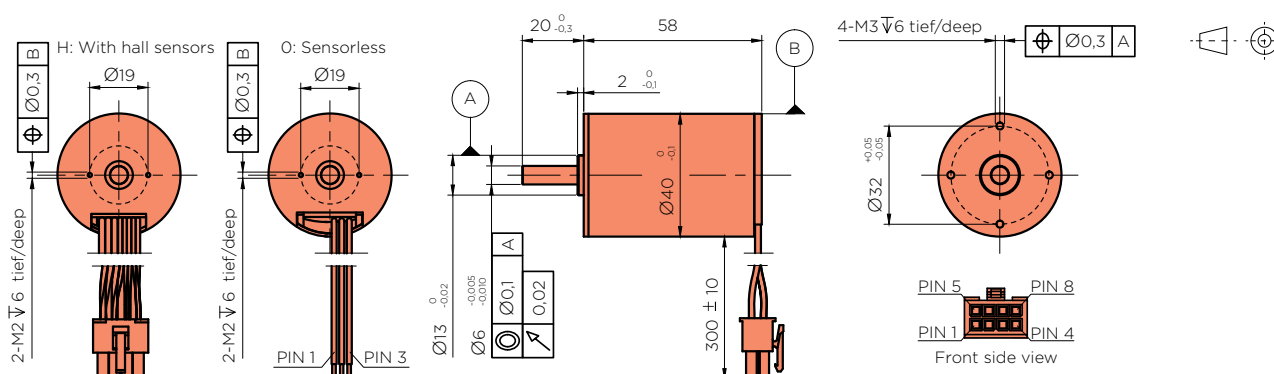


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www.wagnergmbh.de

SVTN A 01-4058

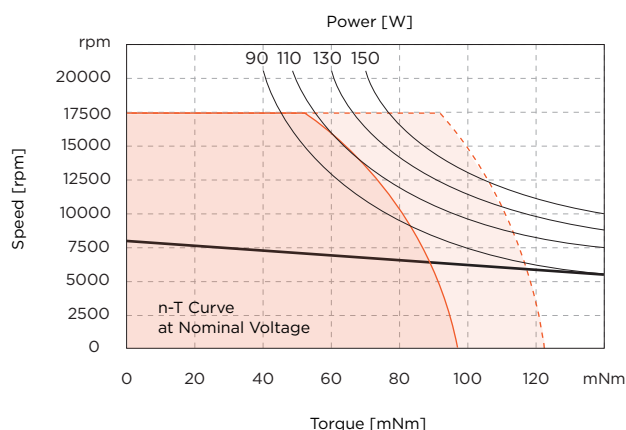
150 Watt

servotecnica

CORELESS
BRUSHLESS

Values	Unit	SVTN A 01	4058-12..	4058-24..	4058-36..	4058-48..
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	7958	7890	7962	8001
3	No load current	mA	480	200	170	110
4	Nominal speed	rpm	7000	6912	6943	6986
5	Nominal torque	mNm	85	85	85	85
6	Nominal current	A	6,44	3,15	2,16	1,61
7	Stall torque	mNm	706	686	664	670
8	Stall current	A	50,0	24,0	15,7	11,9
9	Max. efficiency	%	81,4	82,6	80,3	81,7
Characteristics						
10	Terminal resistance*	Ω	0,2	1,0	2,3	4,0
11	Terminal inductance*	mH	0,11	0,46	0,97	1,67
12	Torque constant	mNm/A	14,26	28,81	42,71	56,76
13	Speed constant	rpm/V	670	332	224	168
14	Speed/torque gradient	rpm/mNm	11,3	11,5	12,0	11,9
15	Mechanical time constant	ms	3,5	3,6	3,7	3,7
16	Rotor inertia	gcm ²	29,62	29,62	29,62	29,62
Mechanical data						
17	Thermal resistance housing-ambient	4.7 K/W				
18	Thermal resistance winding-housing	2.2 K/W				
19	Thermal time constant winding	35 s				
20	Thermal time constant motor	777 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	17500 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	9 N				
26	Max. force for press fits (static)	170 N				
27	Max. radial loading, 5mm from flange	80 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	338 g				

*The diagram based on ambient temperature of 25°.

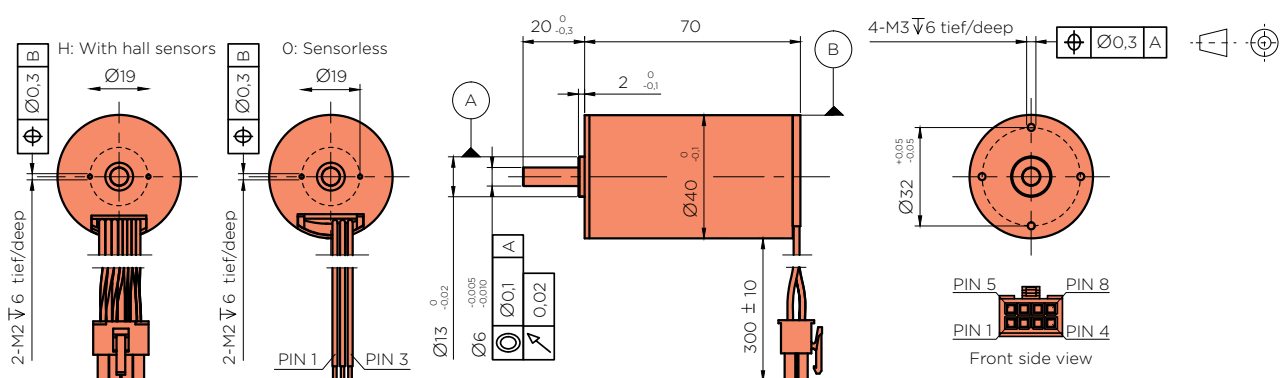
Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection

Connection H	(Sensor)	PTFE
Pin 1	Motor winding MB	AWG20 green
Pin 2	Vhall 3-18 VDC	AWG26 red
Pin 3	Hall sensor HA	AWG26 yellow
Pin 4	Hall sensor HC	AWG26 blue
Pin 5	Motor winding MA	AWG20 yellow
Pin 6	Motor winding MC	AWG20 blue
Pin 7	GND	AWG26 black
Pin 8	Hall sensor HB	AWG26 green
Connector		
Molex	39-01-2080	
Connection O	(Sensorless)	PTFE
Pin 1	Motor winding MA	AWG20 yellow
Pin 2	Motor winding MB	AWG20 green
Pin 3	Motor winding MC	AWG20 blue

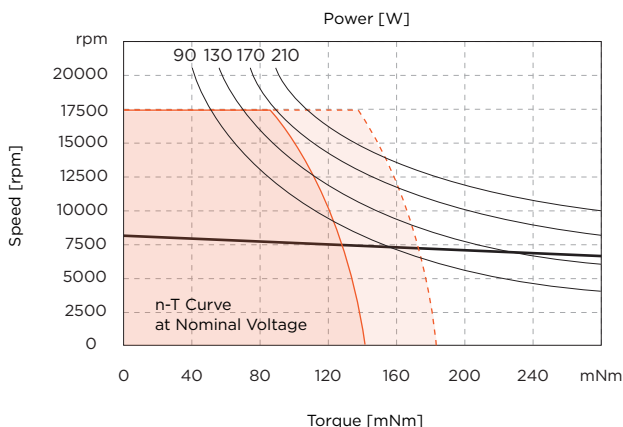
Configuration

PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE



Values	Unit	SVTN A 01	4070-12..	4070-24..	4070-36..	4070-48..
Motor Data						
1	Nominal voltage	V	12	24	36	48
2	No load speed	rpm	6154	8102	8113	8061
3	No load current	mA	264	200	190	130
4	Nominal speed	rpm	5084	7304	7266	7238
5	Nominal torque	mNm	130	130	130	130
6	Nominal current	A	7,29	4,82	3,28	2,43
7	Stall torque	mNm	748	1320	1245	1273
8	Stall current	A	40,7	47,1	29,8	22,6
9	Max. efficiency	%	84,5	87,4	84,7	85,4
Characteristics						
10	Terminal resistance*	Ω	0,3	0,5	1,2	2,1
11	Terminal inductance*	mH	0,11	0,30	0,66	1,20
12	Torque constant	mNm/A	18,50	28,17	42,10	56,54
13	Speed constant	rpm/V	516	339	227	169
14	Speed/torque gradient	rpm/mNm	8,2	6,1	6,5	6,3
15	Mechanical time constant	ms	3,4	2,5	2,7	2,6
16	Rotor inertia	gcm ²	39,43	39,43	39,43	39,43
Mechanical data						
17	Thermal resistance housing-ambient	3.8 K/W				
18	Thermal resistance winding-housing	1.5 K/W				
19	Thermal time constant winding	33 s				
20	Thermal time constant motor	775 s				
21	Ambient temperature	-30...+100°C				
22	Max. permissible winding temperature	+150°C				
23	Max. permissible speed	17500 rpm				
24	Radial play	preloaded				
25	Max. axial load (dynamic)	9 N				
26	Max. force for press fits (static)	170 N				
27	Max. radial loading, 5mm from flange	80 N				
Other specifications						
28	Number of poles	2				
29	Number of phases	3				
30	Weight	415 g				

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection

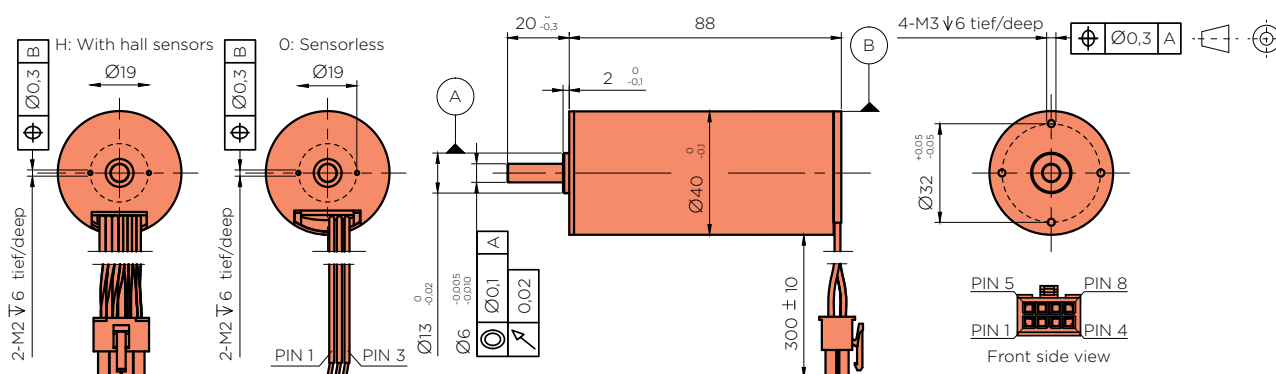
Connection H	(Sensor)	PTFE
Pin 1	Motor winding MB	AWG26 green
Pin 2	Vhall 3-18 VDC	AWG26 red
Pin 3	Hall sensor HA	AWG26 yellow
Pin 4	Hall sensor HC	AWG26 blue
Pin 5	Motor winding MA	AWG26 yellow
Pin 6	Motor winding MC	AWG26 blue
Pin 7	GND	AWG26 black
Pin 8	Hall sensor HB	AWG26 green
Connector		
Molex	39-01-2080	
Connection O	(Sensorless)	PTFE
Pin 1	Motor winding MA	AWG26 yellow
Pin 2	Motor winding MB	AWG26 green
Pin 3	Motor winding MC	AWG26 blue

Configuration

PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard frange front&back/customize the frange
SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
CONNECTOR: JST/MOLEX/TE

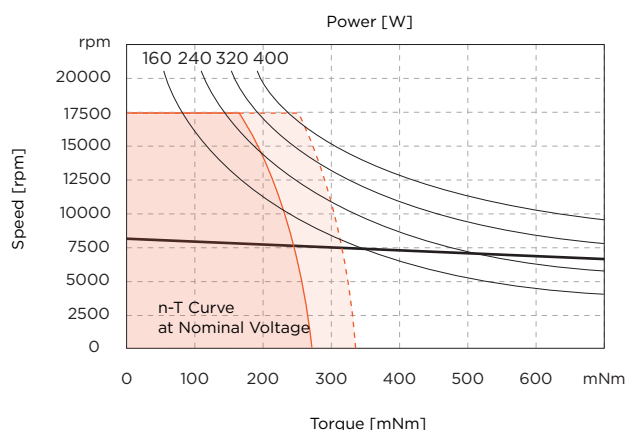
SVTN A 01-4088

400 Watt

servotecnica
CORELESS
BRUSHLESS

Values	Unit	SVTN A 01 4088-24..	4088-36..	4088-48..
Motor Data				
1 Nominal voltage	V	24	36	48
2 No load speed	rpm	7921	8032	8081
3 No load current	mA	440	290	200
4 Nominal speed	rpm	7299	7379	7452
5 Nominal torque	mNm	200	200	200
6 Nominal current	A	7,39	4,99	3,74
7 Stall torque	mNm	2546	2460	2570
8 Stall current	A	88,9	58,1	45,7
9 Max. efficiency	%	86,4	86,4	87,2
Characteristics				
10 Terminal resistance*	Ω	0,3	0,6	1,1
11 Terminal inductance*	mH	0,18	0,38	0,78
12 Torque constant	mNm/A	28,79	42,59	56,47
13 Speed constant	rpm/V	332	224	169
14 Speed/torque gradient	rpm/mNm	3,1	3,3	3,1
15 Mechanical time constant	ms	1,8	1,9	1,8
16 Rotor inertia	gcm ²	54,14	54,14	54,14
Mechanical data				
17 Thermal resistance housing-ambient	3.0 K/W			
18 Thermal resistance winding-housing	0.6 K/W			
19 Thermal time constant winding	48 s			
20 Thermal time constant motor	996 s			
21 Ambient temperature	-30...+100°C			
22 Max. permissible winding temperature	+150°C			
23 Max. permissible speed	17500 rpm			
24 Radial play	preloaded			
25 Max. axial load (dynamic)	9 N			
26 Max. force for press fits (static)	170 N			
27 Max. radial loading, 5mm from flange	80 N			
Other specifications				
28 Number of poles	2			
29 Number of phases	3			
30 Weight	571 g			

*The diagram based on ambient temperature of 25°.

Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection	Configuration
Connection H (Sensor) PTFE Pin 1 Motor winding MB AWG20 green Pin 2 Vhall 3-18 VDC AWG26 red Pin 3 Hall sensor HA AWG26 yellow Pin 4 Hall sensor HC AWG26 blue Pin 5 Motor winding MA AWG20 yellow Pin 6 Motor winding MC AWG20 blue Pin 7 GND AWG26 black Pin 8 Hall sensor HB AWG26 green Connector Molex 39-01-2080 Connection O (Sensorless) PTFE Pin 1 Motor winding MA AWG20 yellow Pin 2 Motor winding MB AWG20 green Pin 3 Motor winding MC AWG20 blue	PERFORMANCE: Customized in the continuous operating range BALL BEARING: Preload FLANGE: Standard frange front&back/customize the frange SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length CONNECTOR: JST/MOLEX/TE

SVTN A 02 Series

Coreless BLDC motor
2 Pole High-Speed Brushless DC Motors



WAGNER GMBH
Elektrotechnische Systemlösungen

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HIGH SPEED

HIGH SPEED

SVTN A 02

Slotless BLDC motor

2 Pole High-Speed Brushless DC Motors



HIGH-SPEED



LOW-NOISE



COST-EFFECTIVE

Typically employed in the medical field for surgical tools, these motors merge the SVTN A Series characteristics to a optimized project for high-speed functions.

Thanks to a precise balancing of the rotor and the use of special bearings, maximum stability and low noise are guaranteed.

Benefits

High-speed

Long lifespan

Cost-effective

Low inertia

High efficiency

Low noise

High reliability



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Product code

SVTN A 02 ○○◇◇ - □□ - ◇ - ◇☆☆

A	Series	□	Nominal Voltage
02	Brushless DC Motors	◇	Shaft Single shaft [S]; Double shaft [D]
○	Diameter	◇	Sensor Sensorless [0]; Hall sensor [H]
◇	Length	☆	Customizations

Features

Winding	3 phase
Operating temperature	-30° +100° C
Connectors	JST PHR-8 1636; 1644; 1656; 2040
Magnets	Neodymium
Design technology	Coreless winding system
Estimated operating lifetime	Lifetime depends on motor working conditions. It can reach 20.000 hours under optimal conditions.

Feedback

Hall Sensor (standard)

Customizations

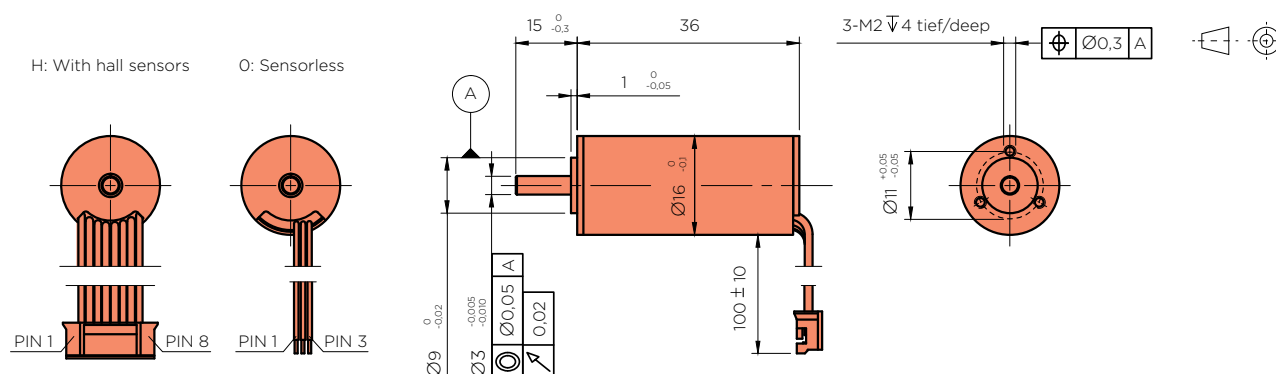
Flange	Shape
Shaft	Length/Diameter/D-Cut
Leadwire	PVC/Silicon/Teflon/UL No/Dimension/length
Connector	JST



WAGNER GMBH
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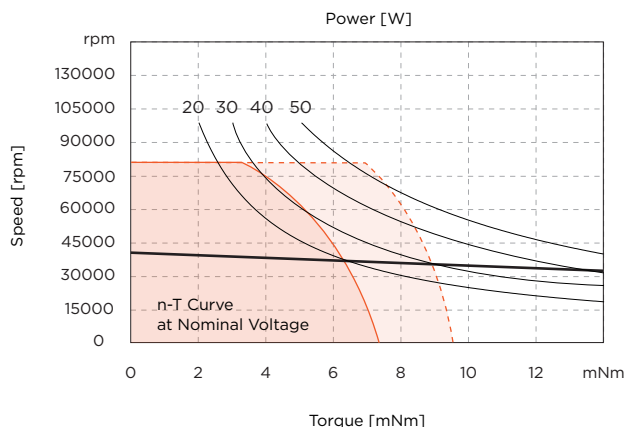
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Values	Unit	SVTN A 02	1636-24..	1636-30..	1636-36..
Motor Data					
1	Nominal voltage	V	24	30	36
2	No load speed	rpm	40273	40225	40760
3	No load current	mA	90	77	72
4	Nominal speed	rpm	37067	36958	37406
5	Nominal torque	mNm	5	5	5
6	Nominal current	A	0,98	0,79	0,67
7	Stall torque	mNm	62,8	61,6	60,8
8	Stall current	A	11,2	8,8	7,3
9	Max. efficiency	%	82,9	82,2	81,2
Characteristics					
10	Terminal resistance*	Ω	2,14	3,41	4,9
11	Terminal inductance*	mH	0,11	0,17	0,24
12	Torque constant	mNm/A	5,65	7,06	8,35
13	Speed constant	rpm/V	1692	1353	1143
14	Speed/torque gradient	rpm/mNm	641	653	671
15	Mechanical time constant	ms	3,7	3,8	3,9
16	Rotor inertia	gcm ²	0,55	0,55	0,55
Mechanical data					
17	Thermal resistance housing-ambient	18.6 K/W			
18	Thermal resistance winding-housing	3.44 K/W			
19	Thermal time constant winding	6 s			
20	Thermal time constant motor	298 s			
21	Ambient temperature	-30...+100°C			
22	Max. permissible winding temperature	+150°C			
23	Max. permissible speed	80000 rpm			
24	Radial play	preloaded			
25	Max. axial load (dynamic)	2.5 N			
26	Max. force for press fits (static)	44 N			
27	Max. radial loading, 5mm from flange	11 N			
Other specifications					
28	Number of poles	2			
29	Number of phases	3			
30	Weight	32 g			

*The diagram based on ambient temperature of 25°.

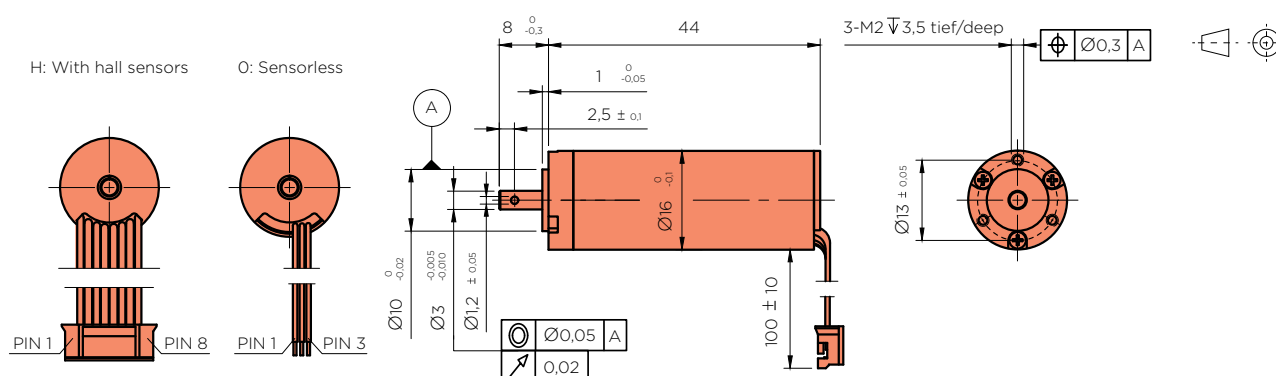


Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection	Configuration
Connection H (Sensor) PVC Pin 1 Vhall 3-18 VDC AWG26 black Pin 2 Hall sensor HA AWG26 black Pin 3 Hall sensor HB AWG26 black Pin 4 Hall sensor HC AWG26 black Pin 5 GND AWG26 black Pin 6 Motor winding MA AWG26 black Pin 7 Motor winding MB AWG26 black Pin 8 Motor winding MC AWG26 black Connector JST PHR-8 Connection O (Sensorless) Pin 1 Motor winding MA AWG26 yellow Pin 2 Motor winding MB AWG26 green Pin 3 Motor winding MC AWG26 blue	PERFORMANCE: Customized in the continuous operating range BALL BEARING: Preload FLANGE: Standard frange front&back/customize the frange SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length CONNECTOR: JST/MOLEX/TE

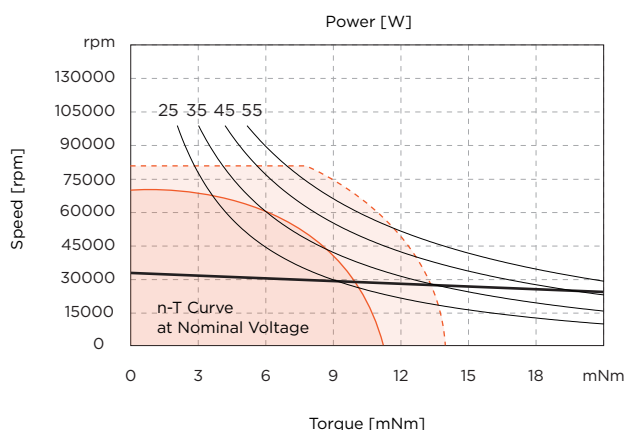
SVTN A 02 1644

55 Watt



Values	Unit	SVTN A 02	1644-24..	1644-30..	1644-36..
Motor Data					
1	Nominal voltage	V	24	30	36
2	No load speed	rpm	30580	30900	30160
3	No load current	mA	95	80	76
4	Nominal speed	rpm	28134	28403	27632
5	Nominal torque	mNm	7,5	7,5	7,5
6	Nominal current	A	1,1	0,9	0,74
7	Stall torque	mNm	93,8	92,8	89,5
8	Stall current	A	12,7	10,2	8,0
9	Max. efficiency	%	83,4	83,0	81,5
Characteristics					
10	Terminal resistance*	Ω	1,9	3,0	4,5
11	Terminal inductance*	mH	0,12	0,19	0,28
12	Torque constant	mNm/A	7,44	9,20	11,29
13	Speed constant	rpm/V	1284	1038	846
14	Speed/torque gradient	rpm/mNm	326	333	337
15	Mechanical time constant	ms	2,8	2,9	2,9
16	Rotor inertia	gcm ²	0,82	0,82	0,82
Mechanical data					
17	Thermal resistance housing-ambient	16.2 K/W			
18	Thermal resistance winding-housing	3.5 K/W			
19	Thermal time constant winding	4 s			
20	Thermal time constant motor	339 s			
21	Ambient temperature	-30...+100°C			
22	Max. permissible winding temperature	+150°C			
23	Max. permissible speed	80000 rpm			
24	Radial play	preloaded			
25	Max. axial load (dynamic)	2.5 N			
26	Max. force for press fits (static)	44 N			
27	Max. radial loading, 5mm from flange	11 N			
Other specifications					
28	Number of poles	2			
29	Number of phases	3			
30	Weight	43g			

*The diagram based on ambient temperature of 25°.



Continuous operating range

Continuous operating range with Reduced Rth2 50%

Connection

Connection H	(Sensor)	PVC
Pin 1	Vhall 3-18 VDC	AWG26 black
Pin 2	Hall sensor HA	AWG26 black
Pin 3	Hall sensor HB	AWG26 black
Pin 4	Hall sensor HC	AWG26 black
Pin 5	GND	AWG26 black
Pin 6	Motor winding MA	AWG26 black
Pin 7	Motor winding MB	AWG26 black
Pin 8	Motor winding MC	AWG26 black
Connector		
JST	PHR-8	
Connection O	(Sensorless)	
Pin 1	Motor winding MA	AWG26 yellow
Pin 2	Motor winding MB	AWG26 green
Pin 3	Motor winding MC	AWG26 blue

Configuration

PERFORMANCE: Customized in the continuous operating range

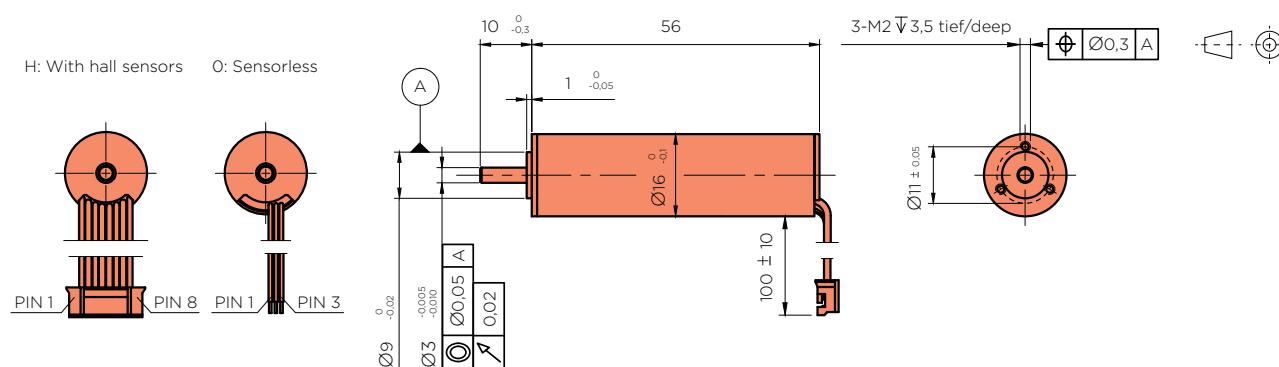
BALL BEARING: Preload

FLANGE: Standard frange front&back/customize the frange

SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft

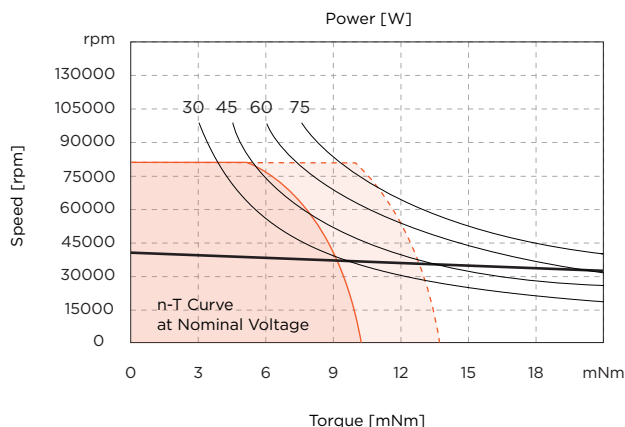
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length

CONNECTOR: JST/MOLEX/TE



Values	Unit	SVTN A 02	1656-24..	1656-30..	1656-36..
Motor Data					
1	Nominal voltage	V	24	30	36
2	No load speed	rpm	41670	40775	41311
3	No load current	mA	103	89	79
4	Nominal speed	rpm	39232	38438	38898
5	Nominal torque	mNm	6	6	6
6	Nominal current	A	1,2	0,95	0,8
7	Stall torque	mNm	103	105	103
8	Stall current	A	18,9	15,1	12,5
9	Max. efficiency	%	85,8	85,2	84,7
Characteristics					
10	Terminal resistance*	Ω	1,27	1,99	2,88
11	Terminal inductance*	mH	0,09	0,14	0,20
12	Torque constant	mNm/A	5,47	6,98	8,27
13	Speed constant	rpm/V	1746	1367	1155
14	Speed/torque gradient	rpm/mNm	406	390	402
15	Mechanical time constant	ms	2,6	2,5	2,6
16	Rotor inertia	gcm ²	0,61	0,61	0,61
Mechanical data					
17	Thermal resistance housing-ambient	16.2 K/W			
18	Thermal resistance winding-housing	1.9 K/W			
19	Thermal time constant winding	5 s			
20	Thermal time constant motor	397 s			
21	Ambient temperature	-30...+100°C			
22	Max. permissible winding temperature	+150°C			
23	Max. permissible speed	80000 rpm			
24	Radial play	preloaded			
25	Max. axial load (dynamic)	2.5 N			
26	Max. force for press fits (static)	44 N			
27	Max. radial loading, 5mm from flange	11 N			
Other specifications					
28	Number of poles	2			
29	Number of phases	3			
30	Weight	50 g			

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection

Connection H	(Sensor)	PVC	
Pin 1	Vhall 3-18 VDC	AWG26	black
Pin 2	Hall sensor HA	AWG26	black
Pin 3	Hall sensor HB	AWG26	black
Pin 4	Hall sensor HC	AWG26	black
Pin 5	GND	AWG26	black
Pin 6	Motor winding MA	AWG26	black
Pin 7	Motor winding MB	AWG26	black
Pin 8	Motor winding MC	AWG26	black
Connector			
JST	PHR-8		
Connection O	(Sensorless)		
Pin 1	Motor winding MA	AWG26	yellow
Pin 2	Motor winding MB	AWG26	green
Pin 3	Motor winding MC	AWG26	blue

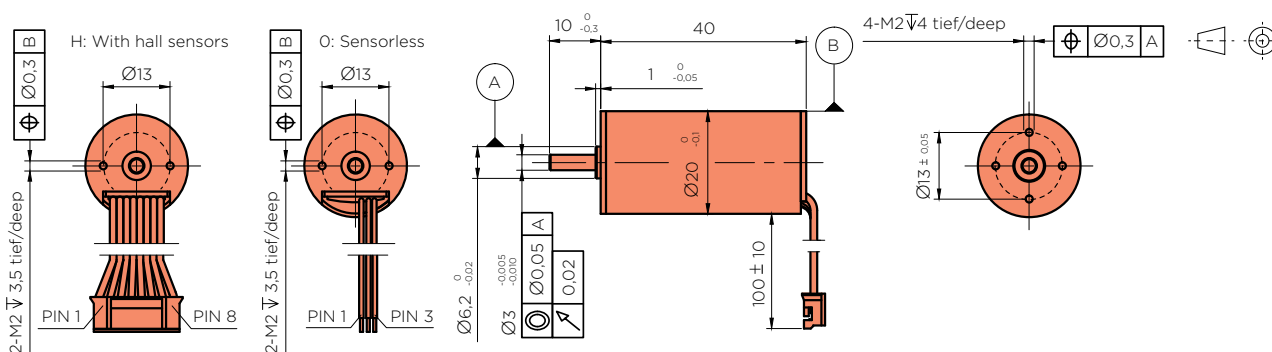
Configuration

PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard frange front&back/customize the frange
SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
CONNECTOR: JST/MOLEX/TE

Continuous operating range

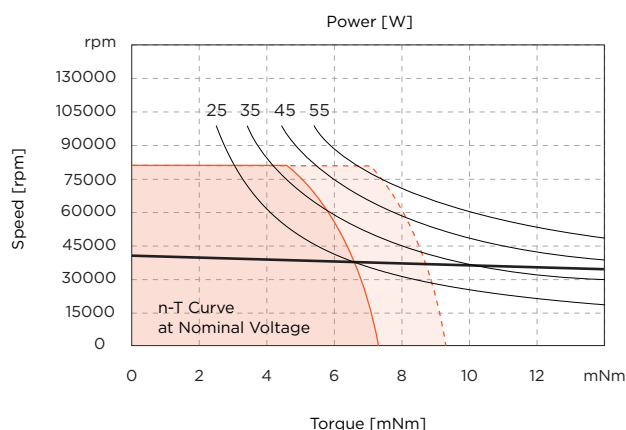
SVTN A 02 2040

55 Watt



Values	Unit	SVTN A 02		
		2040-24..	2040-30..	2040-36..
Motor Data				
1 Nominal voltage	V	24	30	36
2 No load speed	rpm	41392	40700	40020
3 No load current	mA	69	60	55
4 Nominal speed	rpm	37500	36777	36049
5 Nominal torque	mNm	6,3	6,3	6,3
6 Nominal current	A	1,21	0,96	0,79
7 Stall torque	mNm	67	65	63
8 Stall current	A	12,2	9,4	7,5
9 Max. efficiency	%	85,5	84,7	83,6
Characteristics				
10 Terminal resistance*	Ω	1,96	3,19	4,80
11 Terminal inductance*	mH	0,21	0,47	0,47
12 Torque constant	mNm/A	5,51	6,99	8,53
13 Speed constant	rpm/V	1734	1365	1120
14 Speed/torque gradient	rpm/mNm	617,8	622,8	630,4
15 Mechanical time constant	ms	4,5	4,5	4,6
16 Rotor inertia	gcm ²	0,69	0,69	0,69
Mechanical data				
17 Thermal resistance housing-ambient	18.7 K/W			
18 Thermal resistance winding-housing	1.9 K/W			
19 Thermal time constant winding	5 s			
20 Thermal time constant motor	397 s			
21 Ambient temperature	-30...+100°C			
22 Max. permissible winding temperature	+150°C			
23 Max. permissible speed	80000 rpm			
24 Radial play	preloaded			
25 Max. axial load (dynamic)	2.5 N			
26 Max. force for press fits (static)	44 N			
27 Max. radial loading, 5mm from flange	11 N			
Other specifications				
28 Number of poles	2			
29 Number of phases	3			
30 Weight	53 g			

*The diagram based on ambient temperature of 25°.



Continuous operating range

Continuous operating range with Reduced Rth2 50%

Connection

Configuration

Connection H	(Sensor)	PVC
Pin 1	Vhall 3-18 VDC	AWG26 black
Pin 2	Hall sensor HA	AWG26 black
Pin 3	Hall sensor HB	AWG26 black
Pin 4	Hall sensor HC	AWG26 black
Pin 5	GND	AWG26 black
Pin 6	Motor winding MA	AWG26 black
Pin 7	Motor winding MB	AWG26 black
Pin 8	Motor winding MC	AWG26 black

Connector

JST

PHR-8

Connection O

	(Sensorless)	
Pin 1	Motor winding MA	AWG26 yellow
Pin 2	Motor winding MB	AWG26 green
Pin 3	Motor winding MC	AWG26 blue

PERFORMANCE: Customized in the continuous operating range

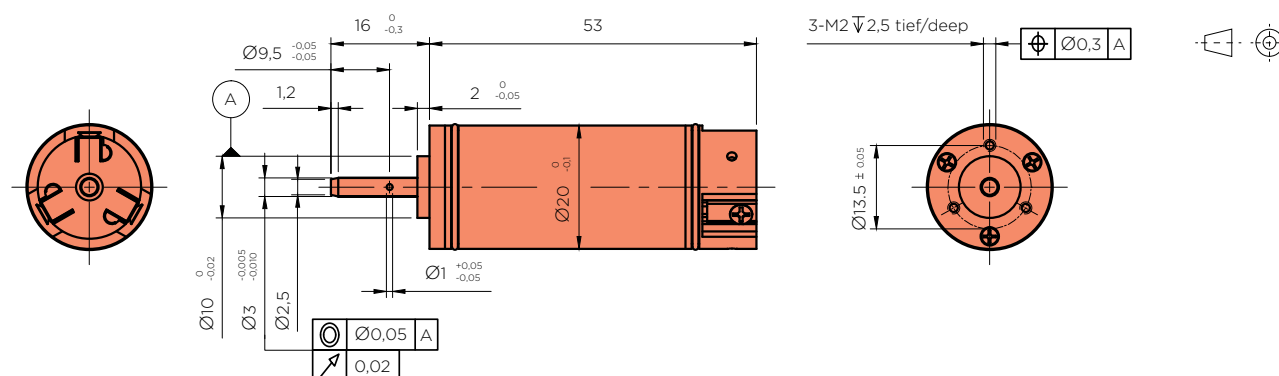
BALL BEARING: Preload

FLANGE: Standard frange front&back/customize the frange

SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft

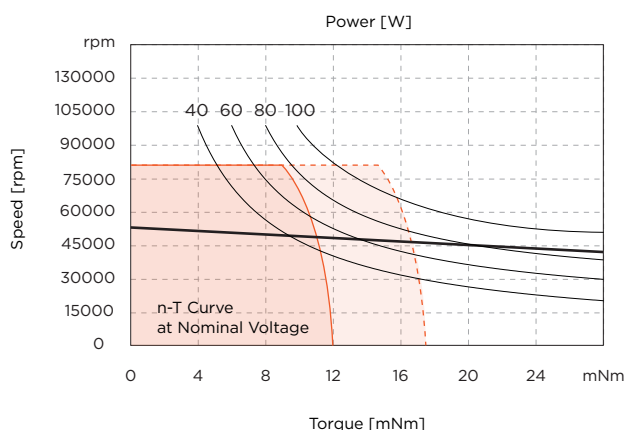
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length

CONNECTOR: JST/MOLEX/TE



Values	Unit	SVTN A 02	2053-18..	2053-24..	2053-36..	2053-48..
Motor Data						
1 Nominal voltage	V		18	24	36	48
2 No load speed	rpm		50202	50832	51448	50700
3 No load current	mA		136	107	81	68
4 Nominal speed	rpm		45684	46379	46936	46188
5 Nominal torque	mNm		10	10	10	10
6 Nominal current	A		3,07	2,33	1,58	1,18
7 Stall torque	mNm		111	114	114	112
8 Stall current	A		32,7	25,5	17,2	12,6
9 Max. efficiency	%		87,5	87,5	86,8	85,8
Characteristics						
10 Terminal resistance*	Ω		0,55	0,94	2,09	3,82
11 Terminal inductance*	mH		0,06	0,10	0,23	0,38
12 Torque constant	mNm/A		3,41	4,49	6,65	8,99
13 Speed constant	rpm/V		2801	2127	1436	1062
14 Speed/torque gradient	rpm/mNm		452	445	451	451
15 Mechanical time constant	ms		3,9	3,9	3,9	3,9
16 Rotor inertia	gcm ²		0,83	0,83	0,83	0,83
Mechanical data						
17 Thermal resistance housing-ambient	K/W		11,8			
18 Thermal resistance winding-housing	K/W		0,8			
19 Thermal time constant winding	s		2			
20 Thermal time constant motor	s		386			
21 Ambient temperature	°C		-30...+100			
22 Max. permissible winding temperature	°C		+150			
23 Max. permissible speed	rpm		80000			
24 Radial play			preloaded			
25 Max. axial load (dynamic)	N		2,5			
26 Max. force for press fits (static)	N		44			
27 Max. radial loading, 5mm from flange	N		11			
Other specifications						
28 Number of poles			2			
29 Number of phases			3			
30 Weight	g		63			

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection

Connection
Special connector
Please contact sales engineer

Configuration

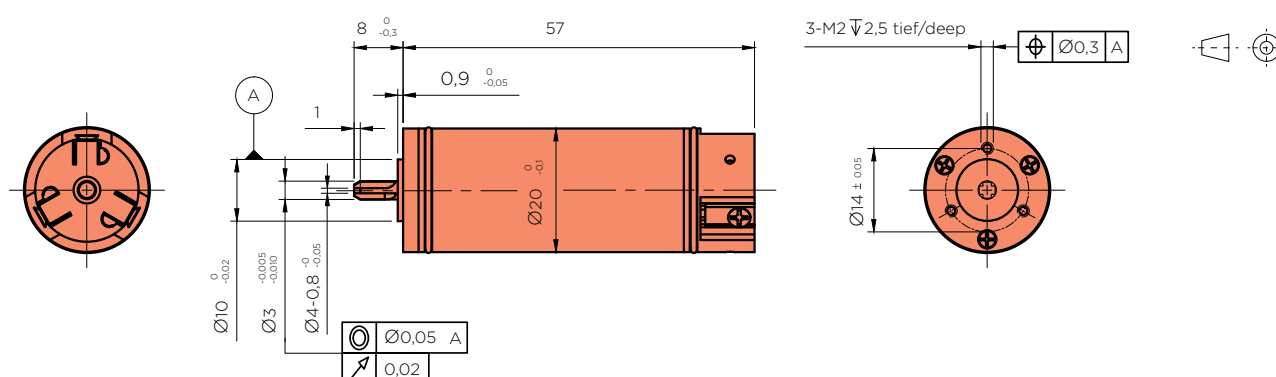
PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard flange front&back/customize the flange
SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft

SVTN A 02 2057

150 Watt

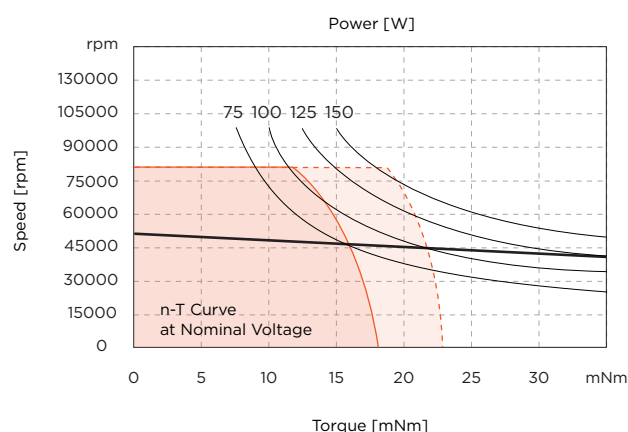
servotecnica

HIGH SPEED



Values	Unit	SVTN A 02	2057-18..	2057-24..	2057-36..	2057-48..
Motor Data						
1 Nominal voltage	V		18	24	36	48
2 No load speed	rpm		50202	50832	51286	50700
3 No load current	mA		210	158	113	94
4 Nominal speed	rpm		46263	46714	47328	46436
5 Nominal torque	mNm		15	15	15	15
6 Nominal current	A		4,61	3,50	2,36	1,76
7 Stall torque	mNm		191	185	194	178
8 Stall current	A		56,3	41,4	29,2	19,9
9 Max. efficiency	%		88,2	88,0	87,9	86,7
Characteristics						
10 Terminal resistance*	Ω		0,32	0,58	1,23	2,41
11 Terminal inductance*	mH		0,04	0,06	0,14	0,25
12 Torque constant	mNm/A		3,41	4,49	6,68	9
13 Speed constant	rpm/V		2799	2126	1430	1061
14 Speed/torque gradient	rpm/mNm		263	275	264	284
15 Mechanical time constant	ms		2,5	2,6	2,5	2,7
16 Rotor inertia	gcm ²		0,91	0,91	0,91	0,91
Mechanical data						
17 Thermal resistance housing-ambient	K/W		7,6			
18 Thermal resistance winding-housing	K/W		1,6			
19 Thermal time constant winding	s		5			
20 Thermal time constant motor	s		410			
21 Ambient temperature	°C		-30...+100			
22 Max. permissible winding temperature	°C		+150			
23 Max. permissible speed	rpm		80000			
24 Radial play			preloaded			
25 Max. axial load (dynamic)	N		2,5			
26 Max. force for press fits (static)	N		44			
27 Max. radial loading, 5mm from flange	N		11			
Other specifications						
28 Number of poles			2			
29 Number of phases			3			
30 Weight	g		69			

*The diagram based on ambient temperature of 25°.


Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection

Connection
Special connector
Please contact sales engineer

Configuration

PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard flange front&back/customize the flange
SHAFT: Length/Diameter/Cut face/double shaft/hollow shaft

SVTN A 03 Series

Coreless BLDC motors

2 Pole Brushless DC Motors with Integrated Electronics



WAGNER GMBH
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WITH INTEGRATED
ELECTRONICS

WITH INTEGRATED
ELECTRONICS

SVTN A 03

Coreless BLDC motor

2 Pole Brushless DC Motors with Integrated Electronics



EASY-TO-USE



LONG SERVICE LIFE



COST-EFFECTIVE

The benefits of this build technology join the simplicity of use of a brushed DC motor with the longevity of a brushless motor, maintaining cost-effectiveness and ease of integration.

The lack of cogging is typical of the coreless motors and guarantees a reduce ripple torque, a linear correlation between torque, speed and low inertia.

The miniaturization of the electronics allows to maintain the diameter of the motor unvaried with a slight increase in length.

Benefits

Long lifetime

High efficiency

Low noise

High reliability

No cogging

Low inertia

Cost-effective



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www.wagnergmbh.de

Product code

SVTN A 03 ○ ○ ◇ ◇ - □ □ - ◇ - ◇ ☆ ☆

A Series

03 Brushless DC Motors

○ Diameter

◇ Length

□ Voltage

◇ Shaft
Single shaft [S]; Double shaft [D]◇ Direction of rotation
CW [0]; CCW [1]

☆ Customizations

Features

Winding	3 phase (2-wires DC regulated)
Operating temperature	-30° +100° C
Connectors	Flying leads or JST* or MOLEX*
Magnets	Neodymium
Construction technology	Coreless winding system
Estimated operating lifetime	Lifetime depends on motor working conditions. It can reach 20.000 work hours under optimal conditions (almost 100 hours under extreme conditions).

Customizations

Flange	Shape
Shaft	Length/Diameter/D-Cut
Leadwire	PVC/Silicon/Teflon/UL No/Dimension/length
Connector	JST/MOLEX

*Optional

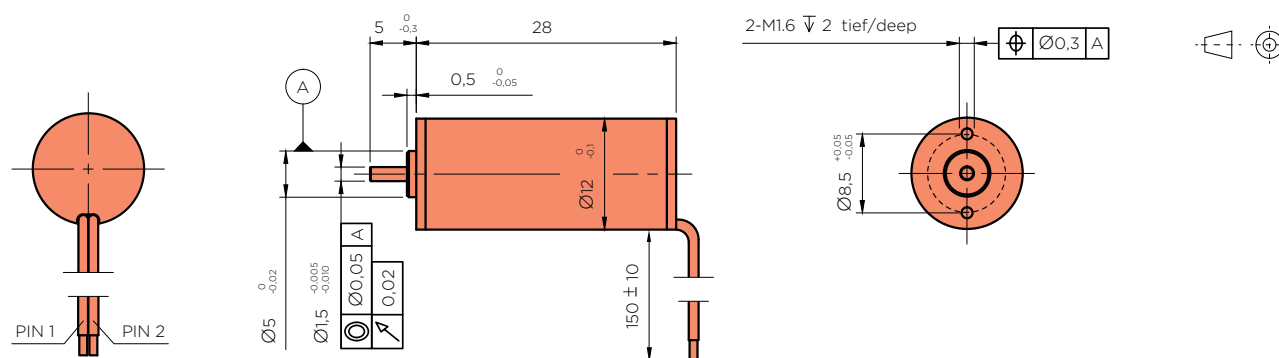

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SVTN A 03 1228

8 Watt



Values	Unit	SVTN A 03 1228-06..
--------	------	------------------------

Motor Data

1	Nominal voltage	V	6
2	No load speed	rpm	31000
3	No load current	mA	140
4	Nominal speed	rpm	27755
5	Nominal torque	mNm	0,5
6	Nominal current	A	0,42
7	Stall torque	mNm	4,78
8	Stall current	A	2,86
9	Max. efficiency	%	60,6

Characteristics

10	Supply Voltage +Vcc	V	4.5..7
11	Direction of rotation		CCW viewed from shaft end
12	Torque constant	mNm/A	1,78
13	Speed constant	rpm/V	5374
14	Speed/torque gradient	rpm/mNm	6350
15	Mechanical time constant	ms	11,3
16	Rotor inertia	gcm ²	0,2

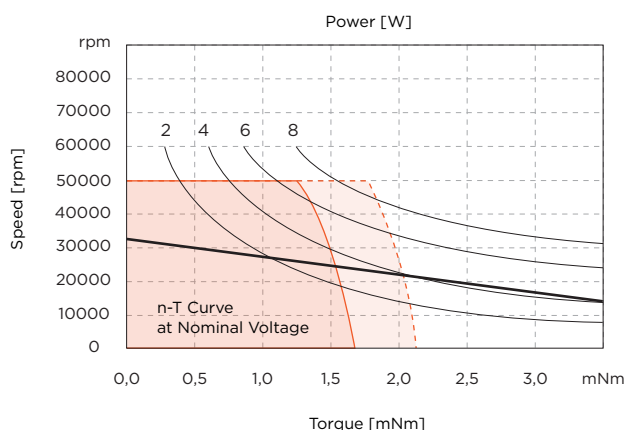
Mechanical data

17	Thermal resistance housing-ambient	38,3 K/W
18	Thermal resistance winding-housing	9,6 K/W
19	Thermal time constant winding	5 s
20	Thermal time constant motor	196 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+125°C
23	Max. permissible speed	50000 rpm
24	Radial play	preloaded
25	Max. axial load (dynamic)	0,3
26	Max. force for press fits (static)	11N
27	(static, shaft supported)	200 N
28	Max. radial loading, 5mm from flange	4,3 N

Other specifications

29	Number of poles	2
30	Number of phases	3
31	Weight	12,2 g

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection	Configuration
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Connection	PTFE
Pin 1	+VCC
Pin 2	GND

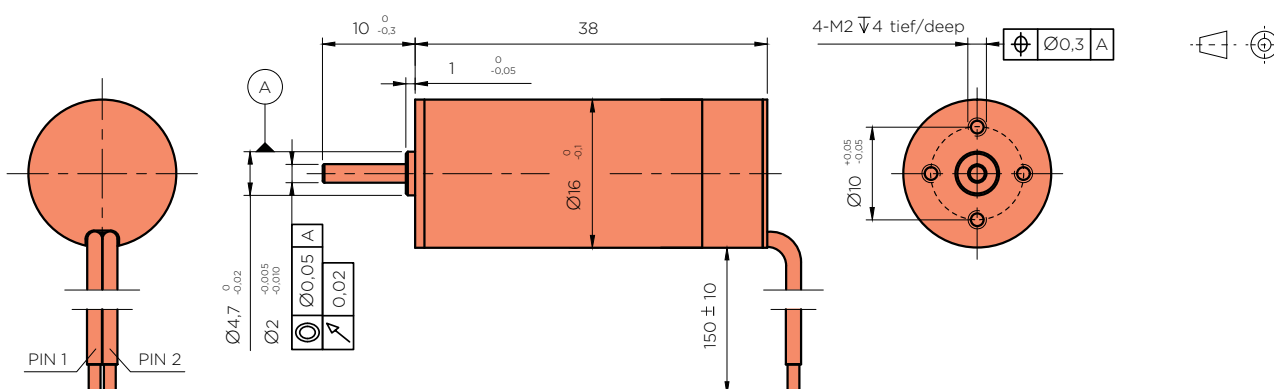
AWG24	red
AWG24	black

FUNCTION: On&Off/Direction/Speed control/Brake
Speed closed&open-loop Control/Speed feedback
PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard frange front&back/customize the frange
SHAFT: Length/Diameter/Cut face
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
CONNECTOR: JST/MOLEX/TE
MORE: Please contact our sales engineers

Caution
Incorrect lead connection will damage the controller!

SVTN A 03 1638

18 Watt



Values	Unit	SVTN A 03 1638-06..	1638-12..
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Motor Data

1	Nominal voltage	V	6	12
2	No load speed	rpm	8832	17664
3	No load current	mA	110	100
4	Nominal speed	rpm	6102	14491
5	Nominal torque	mNm	1,5	2
6	Nominal current	A	0,37	0,43
7	Stall torque	mNm	4,85	11,13
8	Stall current	A	0,96	1,91
9	Max. efficiency	%	43,7	59,5

Characteristics

10	Supply Voltage +Vcc	V	4.5..7	8..13
11	Direction of rotation		CCW viewed from shaft end	
12	Torque constant	mNm/A	5,74	6,11
13	Speed constant	rpm/V	1664	1562
14	Speed/torque gradient	rpm/mNm	1820	1604
15	Mechanical time constant	ms	8,2	7,2
16	Rotor inertia	gcm ²	0,4	0,4

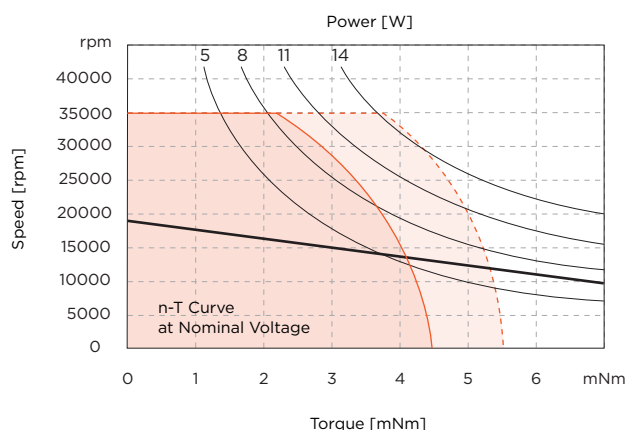
Mechanical data

17	Thermal resistance housing-ambient	20.2 K/W
18	Thermal resistance winding-housing	8.7 K/W
19	Thermal time constant winding	7 s
20	Thermal time constant motor	238 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+150°C
23	Max. permissible speed	35000 rpm
24	Radial play	preloaded
25	Max. axial load (dynamic)	1.3 N
26	Max. force for press fits (static)	15 N
27	(static, shaft supported)	350 N
28	Max. radial loading, 5mm from flange	5 N

Other specifications

29	Number of poles	2
30	Number of phases	3
31	Weight	27 g

*The diagram based on ambient temperature of 25°.



Continuous operating range

Continuous operating range with Reduced Rth 50%

Connection

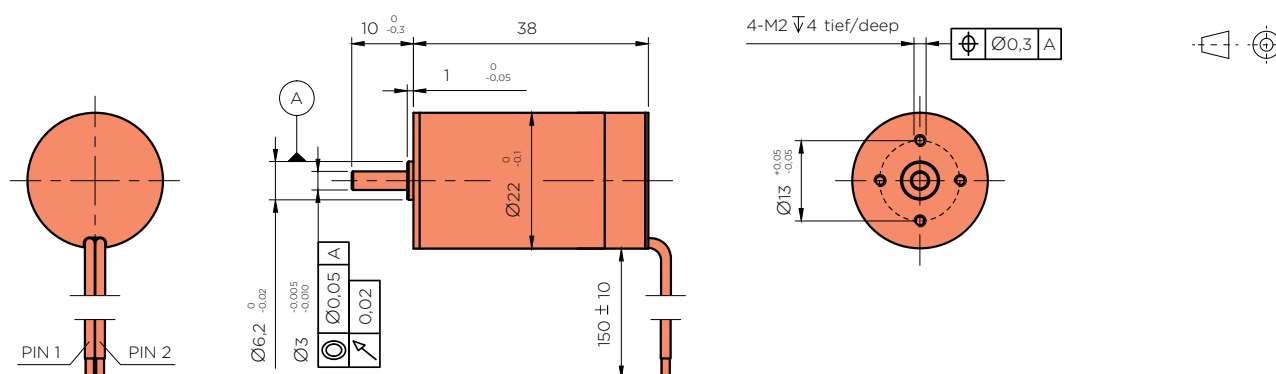
Connection		PTFE
Pin 1	+VCC	AWG24 red
Pin 2	GND	AWG24 black

Caution

Incorrect lead connection will damage the controller!

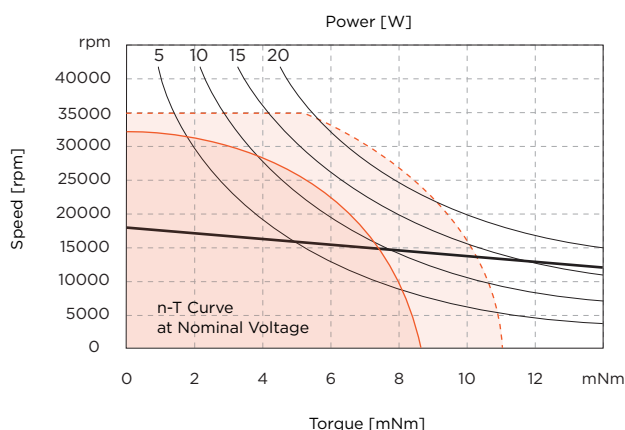
Configuration

FUNCTION: On&Off/Direction/Speed control/Brake
 Speed closed&open-loop Control/Speed feedback
 PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE
 MORE: Please contact our sales engineers



Values	Unit	SVTN A 03	2238-12..	2238-18..	2238-24..
Motor Data					
1 Nominal voltage	V	12	18	24	
2 No load speed	rpm	17445	17830	17721	
3 No load current	mA	220	150	110	
4 Nominal speed	rpm	14292	14700	14260	
5 Nominal torque	mNm	6	6	6	
6 Nominal current	A	1,13	0,75	0,57	
7 Stall torque	mNm	45	45	41	
8 Stall current	A	7,44	4,96	3,39	
9 Max. efficiency	%	70,2	70,3	67,7	
Characteristics					
10 Supply Voltage +Vcc	V	10..28	10..28	10..28	
11 Direction of rotation		CCW viewed from shaft end			
12 Torque constant	mNm/A	6,15	9,32	12,29	
13 Speed constant	rpm/V	1553	1024	777	
14 Speed/torque gradient	rpm/mNm	407	399	447	
15 Mechanical time constant	ms	6,4	6,2	7,0	
16 Rotor inertia	gcm ²	1,5	1,5	1,5	
Mechanical data					
17 Thermal resistance housing-ambient	15.2 K/W				
18 Thermal resistance winding-housing	6.0 K/W				
19 Thermal time constant winding	11 s				
20 Thermal time constant motor	383 s				
21 Ambient temperature	-30...+100°C				
22 Max. permissible winding temperature	+150°C				
23 Max. permissible speed	35000 rpm				
24 Radial play	preloaded				
25 Max. axial load (dynamic)	3.5 N				
26 Max. force for press fits (static)	44 N				
27 Max. radial loading, 5mm from flange	15 N				
Other specifications					
28 Number of poles	2				
29 Number of phases	3				
30 Weight	63 g				

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection

Connection	PTFE
Pin 1	+VCC
Pin 2	GND

AWG24	red
AWG24	black

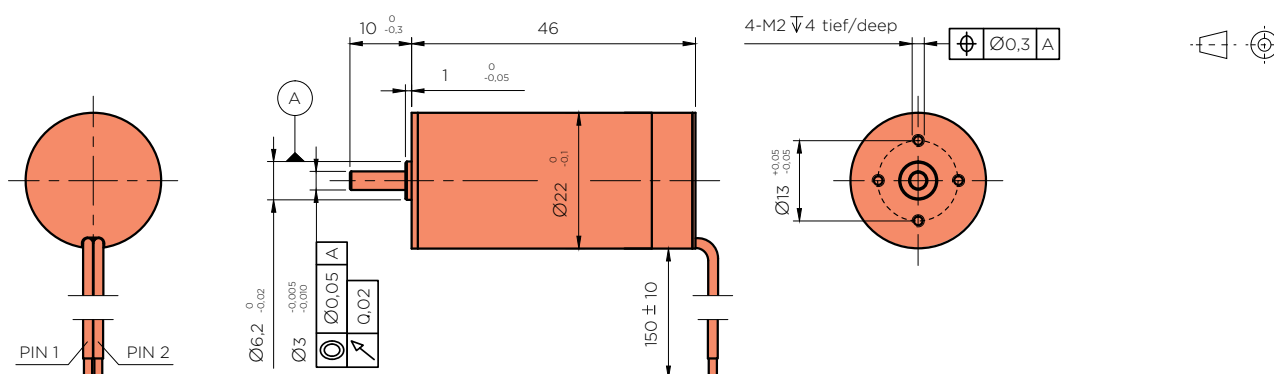
Configuration

FUNCTION: On&Off/Direction/Speed control/Brake
Speed closed&open-loop Control/Speed feedback
PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard frange front&back/customize the frange
SHAFT: Length/Diameter/Cut face
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
CONNECTOR: JST/MOLEX/TE
MORE: Please contact our sales engineers

Caution
Incorrect lead connection will damage the controller!

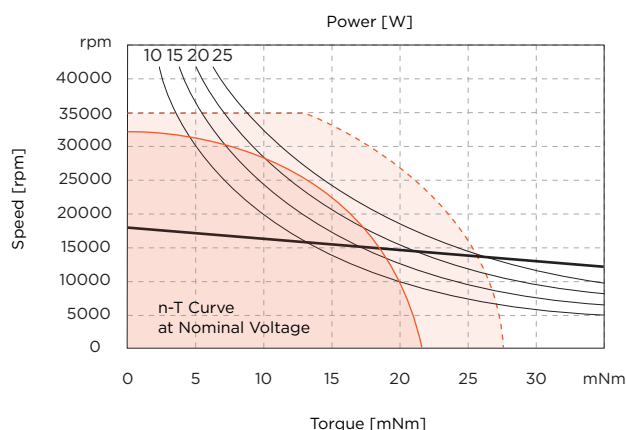
SVTN A 03 2246

25 Watt



Values	Unit	SVTN A 03 2246-12..	2246-24..
Motor Data			
1 Nominal voltage	V	12	24
2 No load speed	rpm	11570	15627
3 No load current	mA	170	140
4 Nominal speed	rpm	10085	12771
5 Nominal torque	mNm	8	12
6 Nominal current	A	1,01	1,01
7 Stall torque	mNm	60,4	82,8
8 Stall current	A	6,7	6,3
9 Max. efficiency	%	70,5	71,8
Characteristics			
10 Supply Voltage +Vcc	V	10..28	10..28
11 Direction of rotation		CCW viewed from shaft end	
12 Torque constant	mNm/A	9,2	13,4
13 Speed constant	rpm/V	1038	712
14 Speed/torque gradient	rpm/mNm	202	203
15 Mechanical time constant	ms	4,8	4,8
16 Rotor inertia	gcm ²	2,3	2,3
Mechanical data			
17 Thermal resistance housing-ambient	12.7 K/W		
18 Thermal resistance winding-housing	5.0 K/W		
19 Thermal time constant winding	12 s		
20 Thermal time constant motor	420 s		
21 Ambient temperature	-30...+100°C		
22 Max. permissible winding temperature	+150°C		
23 Max. permissible speed	35000 rpm		
24 Radial play	preloaded		
25 Max. axial load (dynamic)	3.5 N		
26 Max. force for press fits (static)	44 N		
27 Max. radial loading, 5mm from flange	15 N		
Other specifications			
28 Number of poles	2		
29 Number of phases	3		
30 Weight	79 g		

*The diagram based on ambient temperature of 25°.



Continuous operating range

Continuous operating range with Reduced Rth2 50%

Connection

Connection	PTFE
Pin 1	+VCC
Pin 2	GND

AWG24	red
AWG24	black

Caution

Incorrect lead connection will damage the controller!

Configuration

FUNCTION: On&Off/Direction/Speed control/Brake

Speed closed&open-loop Control/Speed feedback

PERFORMANCE: Customized in the continuous operating range

BALL BEARING: Preload

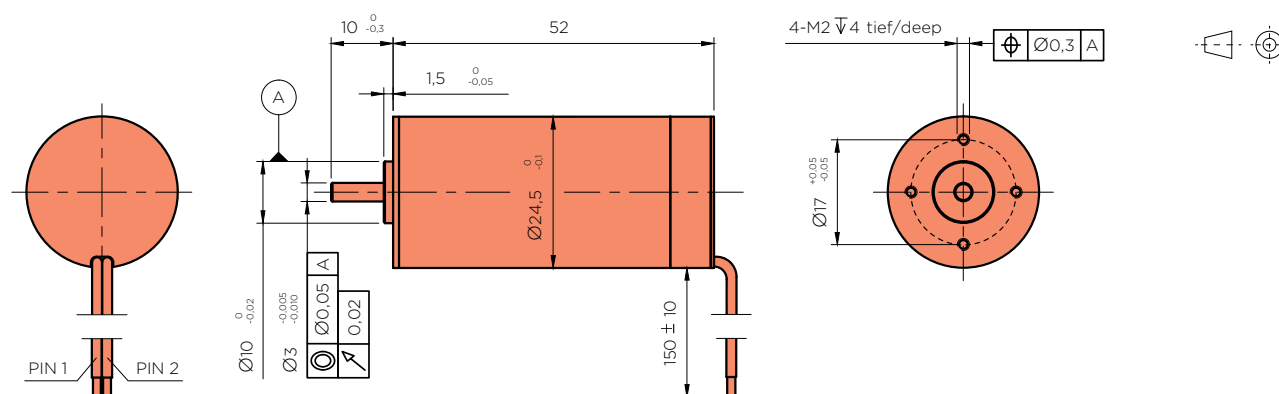
FLANGE: Standard frange front&back/customize the frange

SHAFT: Length/Diameter/Cut face

LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length

CONNECTOR: JST/MOLEX/TE

MORE: Please contact our sales engineers



Values	Unit	SVTN A 03 2452-12..	2452-24..
--------	------	------------------------	-----------

Motor Data

1	Nominal voltage	V	12	24
2	No load speed	rpm	6904	6980
3	No load current	mA	103	70
4	Nominal speed	rpm	5087	5089
5	Nominal torque	mNm	14	14
6	Nominal current	A	0,98	0,51
7	Stall torque	mNm	87	85
8	Stall current	A	5,58	2,73
9	Max. efficiency	%	71,7	67,9

Characteristics

10	Supply Voltage +Vcc	V	10..28	10..28
11	Direction of rotation		CCW viewed from shaft end	
12	Torque constant	mNm/A	15,9	32,0
13	Speed constant	rpm/V	601	298
14	Speed/torque gradient	rpm/mNm	81,3	81,9
15	Mechanical time constant	ms	3,6	3,6
16	Rotor inertia	gcm ²	4,2	4,2

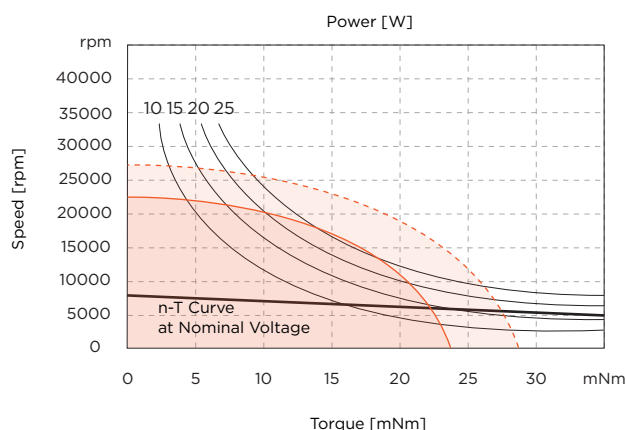
Mechanical data

17	Thermal resistance housing-ambient	11.6 K/W
18	Thermal resistance winding-housing	5.6 K/W
19	Thermal time constant winding	30 s
20	Thermal time constant motor	557 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+150°C
23	Max. permissible speed	30000 rpm
24	Radial play	preloaded
25	Max. axial load (dynamic)	3.5 N
26	Max. force for press fits (static)	44 N
27	Max. radial loading, 5mm from flange	15 N

Other specifications

28	Number of poles	2
29	Number of phases	3
30	Weight	112 g

*The diagram based on ambient temperature of 25°.

Continuous operating range
Continuous operating range
with Reduced Rth2 50%**Connection**

Connection		PTFE
Pin 1	+VCC	AWG24 red
Pin 2	GND	AWG24 black

Caution

Incorrect lead connection will damage the controller!

Configuration

FUNCTION: On&Off/Direction/Speed control/Brake
 Speed closed&open-loop Control/Speed feedback
 PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE
 MORE: Please contact our sales engineers



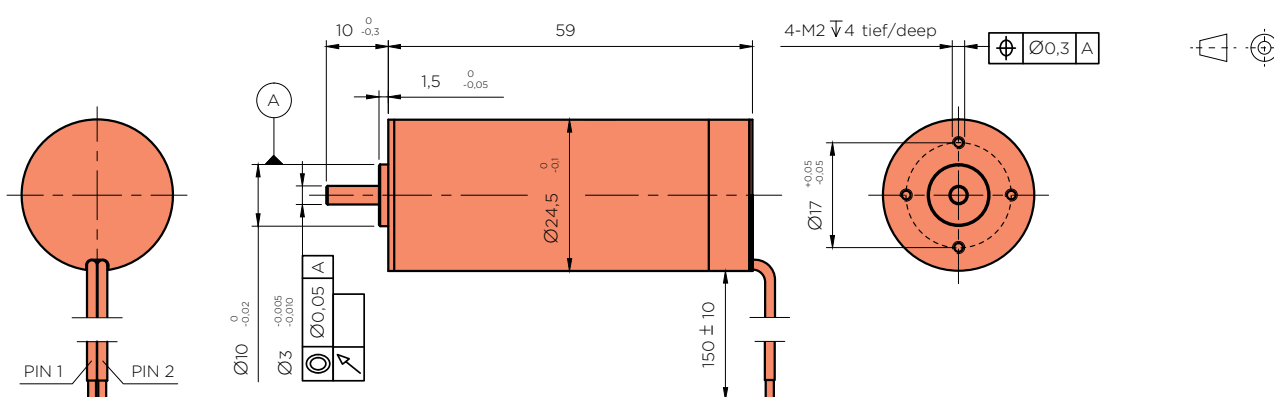
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SVTN A 03 2459

25 Watt



Values	Unit	SVTN A 03 2459-12..	2459-24..
--------	------	------------------------	-----------

Motor Data

1	Nominal voltage	V	12	24
2	No load speed	rpm	7699	7655
3	No load current	mA	114	73
4	Nominal speed	rpm	6958	6597
5	Nominal torque	mNm	14	20
6	Nominal current	A	1,07	0,75
7	Stall torque	mNm	145	145
8	Stall current	A	10	4,98
9	Max. efficiency	%	79,8	77,2

Characteristics

10	Supply Voltage +Vcc	V	10..28	10..28
11	Direction of rotation		CCW viewed from shaft end	
12	Torque constant	mNm/A	14,7	29,5
13	Speed constant	rpm/V	649	324
14	Speed/torque gradient	rpm/mNm	52,9	52,9
15	Mechanical time constant	ms	3,3	3,3
16	Rotor inertia	gcm ²	5,9	5,9

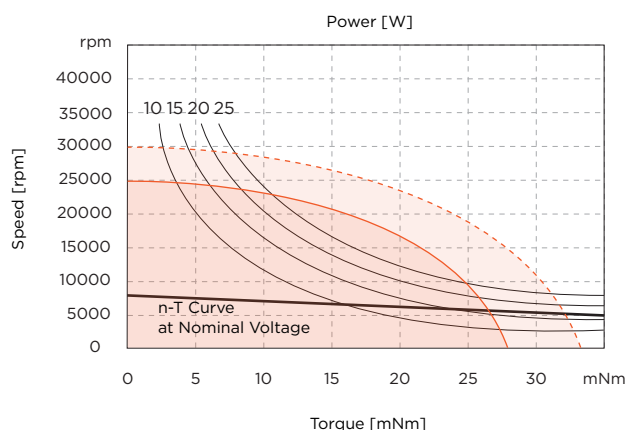
Mechanical data

17	Thermal resistance housing-ambient	10.2 K/W
18	Thermal resistance winding-housing	6.4 K/W
19	Thermal time constant winding	36 s
20	Thermal time constant motor	555 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+150°C
23	Max. permissible speed	30000 rpm
24	Radial play	preloaded
25	Max. axial load (dynamic)	3,5 N
26	Max. force for press fits (static)	44 N
27	Max. radial loading, 5mm from flange	15 N

Other specifications

28	Number of poles	2
29	Number of phases	3
30	Weight	130 g

*The diagram based on ambient temperature of 25°.



Continuous operating range

Continuous operating range with Reduced Rth2 50%

Connection

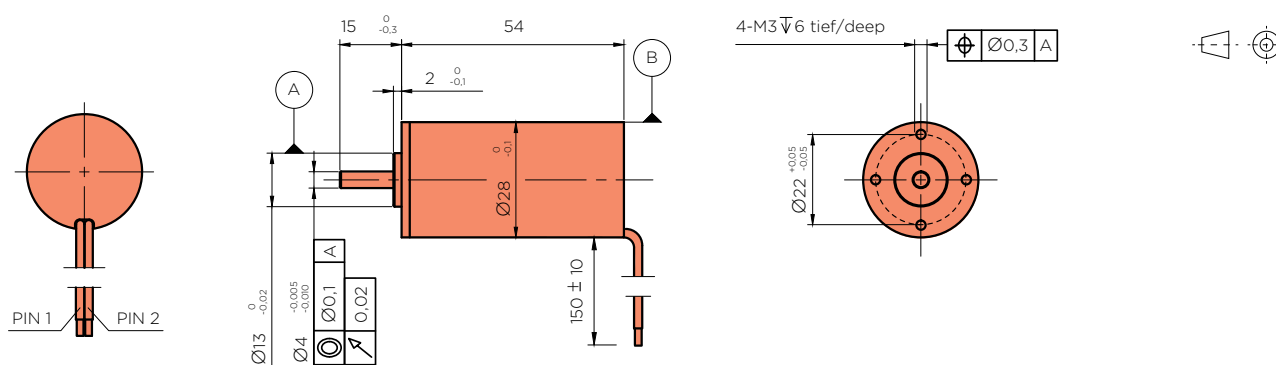
Connection		PTFE
Pin 1	+VCC	AWG24 red
Pin 2	GND	AWG24 black

Caution

Incorrect lead connection will damage the controller!

Configuration

FUNCTION: On&Off/Direction/Speed control/Brake
 Speed closed&open-loop Control/Speed feedback
 PERFORMANCE: Customized in the continuous operating range
 BALL BEARING: Preload
 FLANGE: Standard frange front&back/customize the frange
 SHAFT: Length/Diameter/Cut face
 LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
 CONNECTOR: JST/MOLEX/TE
 MORE: Please contact our sales engineers



Values	Unit	SVTN A 03 2854-12...	2854-24...	
Motor Data				
1	Nominal voltage	V	12	24
2	No load speed	rpm	6878	6700
3	No load current	mA	121	76
4	Nominal speed	rpm	5674	5157
5	Nominal torque	mNm	15	18
6	Nominal current	A	1,04	0,62
7	Stall torque	mNm	85,7	78,1
8	Stall current	A	5,38	2,43
9	Max. efficiency	%	72,3	67,8
Characteristics				
10	Supply Voltage +Vcc	V	10..28	10..28
11	Direction of rotation		CCW viewed from shaft end	
12	Torque constant	mNm/A	16,3	33,1
13	Speed constant	rpm/V	586	288
14	Speed/torque gradient	rpm/mNm	80,3	85,7
15	Mechanical time constant	ms	4,4	4,7
16	Rotor inertia	gcm²	5,2	5,2
Mechanical data				
17	Thermal resistance housing-ambient	9.6 K/W		
18	Thermal resistance winding-housing	6.3 K/W		
19	Thermal time constant winding	37 s		
20	Thermal time constant motor	584 s		
21	Ambient temperature	-30...+100°C		
22	Max. permissible winding temperature	+150°C		
23	Max. permissible speed	25000 rpm		
24	Radial play	preloaded		
25	Max. axial load (dynamic)	7.5 N		
26	Max. force for press fits (static)	100 N		
27	Max. radial loading, 5mm from flange	25 N		
Other specifications				
28	Number of poles	2		
29	Number of phases	3		
30	Weight	153 g		

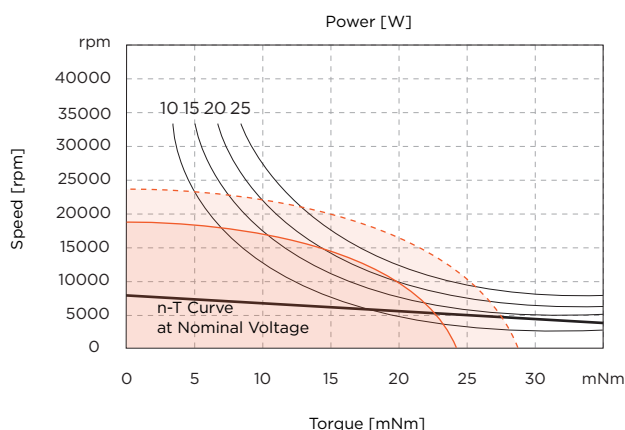
*The diagram based on ambient temperature of 25°.

The graph plots Speed [rpm] against Power [W]. The y-axis ranges from 0 to 40,000 rpm in increments of 5,000. The x-axis represents power, with labels at 10, 15, 20, and 25 W. Four solid black curves represent the n-T characteristics for nominal voltages of 10V, 15V, 20V, and 25V. A red dashed curve represents the maximum permissible speed. A shaded area under the curves indicates the continuous operating range. A red line at the bottom of the graph is labeled 'n-T Curve at Nominal Voltage'.

Continuos operating range

operating range

*The diagram based on ambient temperature of 25°.

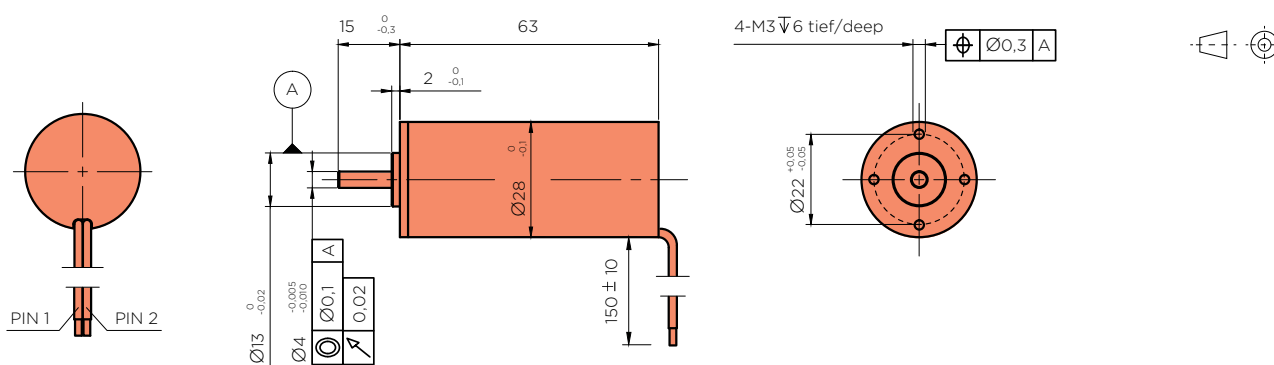


Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection	Configuration
Connection Pin 1 +VCC Pin 2 GND	PTFE AWG20 red AWG20 black
Caution Incorrect lead connection will damage the controller!	FUNCTION: On&Off/Direction/Speed control/Brake Speed closed&open-loop Control/Speed feedback PERFORMANCE: Customized in the continuous operating range BALL BEARING: Preload FLANGE: Standard frange front&back/customize the frange SHAFT: Length/Diameter/Cut face LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length CONNECTOR: JST/MOLEX/TE MORE: Please contact our sales engineers

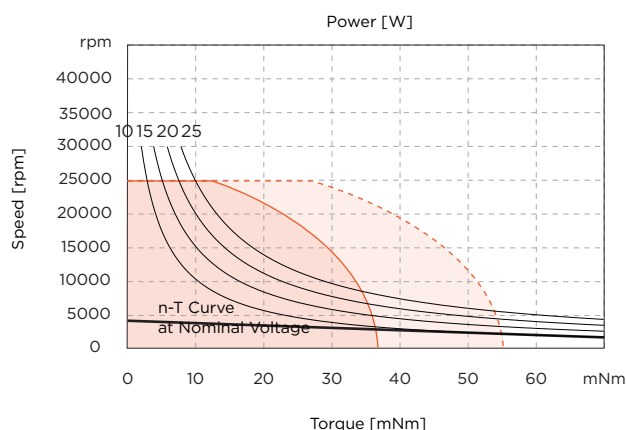
SVTN A 03 2863

25 Watt



Values	Unit	SVTN A 03 2863-12..	2863-24..
Motor Data			
1 Nominal voltage	V	12	24
2 No load speed	rpm	4168	4162
3 No load current	mA	70	60
4 Nominal speed	rpm	3264	3033
5 Nominal torque	mNm	25	25
6 Nominal current	A	0,99	0,53
7 Stall torque	mNm	115	92
8 Stall current	A	4,33	1,79
9 Max. efficiency	%	76,2	66,7
Characteristics			
10 Supply Voltage +Vcc	V	10..28	10..28
11 Direction of rotation		CCW viewed from shaft end	
12 Torque constant	mNm/A	27	53
13 Speed constant	rpm/V	353	179
14 Speed/torque gradient	rpm/mNm	36,2	45,2
15 Mechanical time constant	ms	3,2	4,0
16 Rotor inertia	gcm ²	8,5	8,5
Mechanical data			
17 Thermal resistance housing-ambient	7,1 K/W		
18 Thermal resistance winding-housing	5 K/W		
19 Thermal time constant winding	51 s		
20 Thermal time constant motor	552 s		
21 Ambient temperature	-30...+100°C		
22 Max. permissible winding temperature	+150°C		
23 Max. permissible speed	25000 rpm		
24 Radial play	preloaded		
25 Max. axial load (dynamic)	7,5 N		
26 Max. force for press fits (static)	100 N		
27 Max. radial loading, 5mm from flange	25 N		
Other specifications			
28 Number of poles	2		
29 Number of phases	3		
30 Weight	188 g		

*The diagram based on ambient temperature of 25°.



Continuous operating range

Continuous operating range with Reduced Rth2 50%

Connection

Connection		PTFE
Pin 1	+VCC	AWG20 red
Pin 2	GND	AWG20 black

Caution

Incorrect lead connection will damage the controller!

Configuration

FUNCTION: On&Off/Direction/Speed control/Brake

Speed closed&open-loop Control/Speed feedback

PERFORMANCE: Customized in the continuous operating range

BALL BEARING: Preload

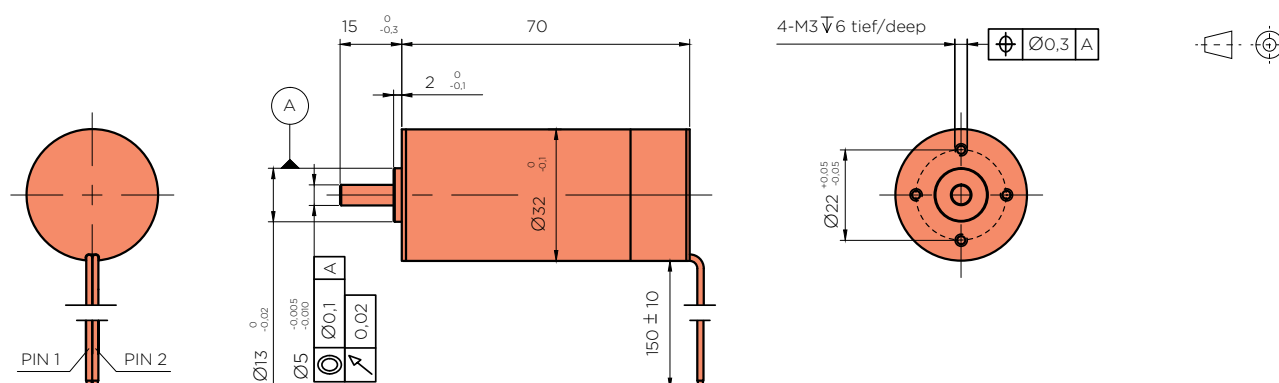
FLANGE: Standard frange front&back/customize the frange

SHAFT: Length/Diameter/Cut face

LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length

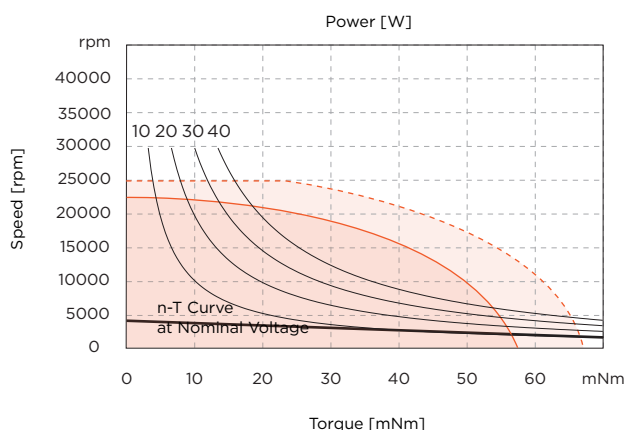
CONNECTOR: JST/MOLEX/TE

MORE: Please contact our sales engineers



Values	Unit	SVTN A 03 3270-12..	3270-24..
Motor Data			
1 Nominal voltage	V	12	24
2 No load speed	rpm	7200	7100
3 No load current	mA	194	110
4 Nominal speed	rpm	6623	6243
5 Nominal torque	mNm	25	40
6 Nominal current	A	1,78	1,36
7 Stall torque	mNm	312	331
8 Stall current	A	20	10,5
9 Max. efficiency	%	81,3	80,6
Characteristics			
10 Supply Voltage +Vcc	V	10..28	10..28
11 Direction of rotation		CCW viewed from shaft end	
12 Torque constant	mNm/A	15,8	31,9
13 Speed constant	rpm/V	606	299
14 Speed/torque gradient	rpm/mNm	23,1	21,4
15 Mechanical time constant	ms	3,7	3,5
16 Rotor inertia	gcm ²	15,5	15,5
Mechanical data			
17 Thermal resistance housing-ambient	5 K/W		
18 Thermal resistance winding-housing	4 K/W		
19 Thermal time constant winding	52 s		
20 Thermal time constant motor	540 s		
21 Ambient temperature	-30...+100°C		
22 Max. permissible winding temperature	+150°C		
23 Max. permissible speed	25000 rpm		
24 Radial play	preloaded		
25 Max. axial load (dynamic)	7.5 N		
26 Max. force for press fits (static)	100 N		
27 Max. radial loading, 5mm from flange	25 N		
Other specifications			
28 Number of poles	2		
29 Number of phases	3		
30 Weight	255g		

*The diagram based on ambient temperature of 25°.



Continuous operating range
Continuous operating range with Reduced Rth2 50%

Connection	Configuration
Connection Pin 1 +VCC Pin 2 GND	PTFE AWG20 red AWG20 black
Caution Incorrect lead connection will damage the controller!	FUNCTION: On&Off/Direction/Speed control/Brake Speed closed&open-loop Control/Speed feedback PERFORMANCE: Customized in the continuous operating range BALL BEARING: Preload FLANGE: Standard frange front&back/customize the frange SHAFT: Length/Diameter/Cut face LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length CONNECTOR: JST/MOLEX/TE MORE: Please contact our sales engineers



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60 Watt



*The diagram based on ambient temperature of 25°.

Power [W]

Speed [rpm]

15 30 45 60

n-T Curve at Nominal Voltage

Continuous operating range

Continuous operating range with Reduced R_{th2} 50%

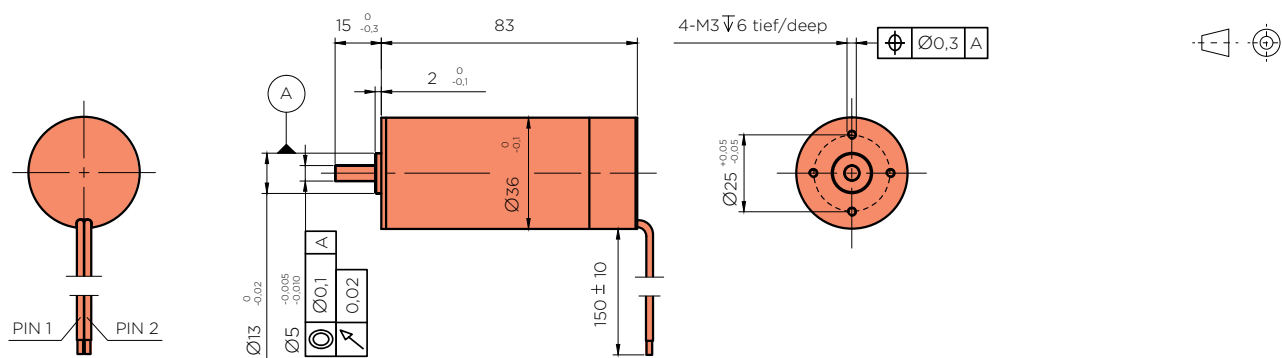
Torque [mNm]



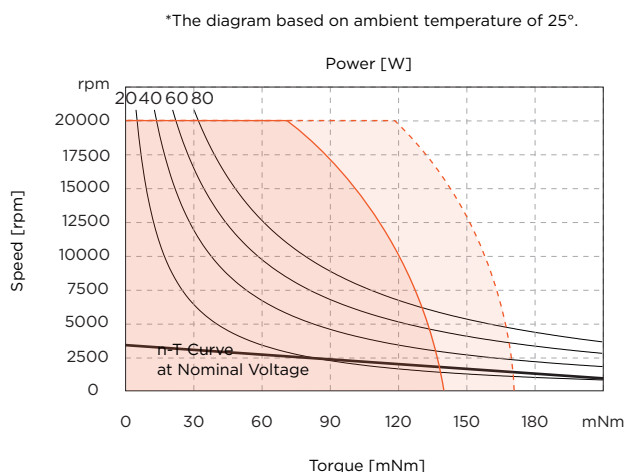
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SVTN A 03 3683

80 Watt



Values	Unit	SVTN A 03 3683-12..	3683-24..
Motor Data			
1 Nominal voltage	V	12	24
2 No load speed	rpm	3277	3272
3 No load current	mA	137	78
4 Nominal speed	rpm	2294	2304
5 Nominal torque	mNm	100	100
6 Nominal current	A	3,04	1,53
7 Stall torque	mNm	333	338
8 Stall current	A	9,8	5,0
9 Max. efficiency	%	77,8	76,5
Characteristics			
10 Supply Voltage +Vcc	V	10..28	10..28
11 Direction of rotation		CCW viewed from shaft end	
12 Torque constant	mNm/A	34,5	68,9
13 Speed constant	rpm/V	277	139
14 Speed/torque gradient	rpm/mNm	9,83	9,69
15 Mechanical time constant	ms	2,2	2,2
16 Rotor inertia	gcm ²	21,5	21,5
Mechanical data			
17 Thermal resistance housing-ambient	K/W	5	
18 Thermal resistance winding-housing	K/W	2.3	
19 Thermal time constant winding	s	46	
20 Thermal time constant motor	s	816	
21 Ambient temperature	°C	-30...+100	
22 Max. permissible winding temperature	°C	+150	
23 Max. permissible speed	rpm	20000	
24 Radial play		preloaded	
25 Max. axial load (dynamic)	N	7.5	
26 Max. force for press fits (static)	N	100	
27 Max. radial loading, 5mm from flange	N	25	
Other specifications			
28 Number of poles		2	
29 Number of phases		3	
30 Weight		366 g	



Continuous operating range
Continuous operating range
with Reduced Rth2 50%

Connection Configuration

Connection	PTFE
Pin 1	+VCC
Pin 2	GND

AWG20	red
AWG20	black

FUNCTION: On&Off/Direction/Speed control/Brake
Speed closed&open-loop Control/Speed feedback
PERFORMANCE: Customized in the continuous operating range
BALL BEARING: Preload
FLANGE: Standard frange front&back/customize the frange
SHAFT: Length/Diameter/Cut face
LEADWIRE: PVC/Silicon/Teflon/UL No/Dimension/length
CONNECTOR: JST/MOLEX/TE
MORE: Please contact our sales engineers

Caution
Incorrect lead connection will damage the controller!



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SVTN B 01 Series

Coreless DC Motors
2 Pole Brushed DC Motors



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CORELESS
BRUSHED DC

CORELESS
BRUSHED DC

SVTN B 01

Coreless DC Motors
2 Pole Brushed DC Motors



LONG LIFETIME



HIGH POWER-DENSITY



COST-EFFECTIVE

The specific design construction of a coreless DC motor provides several advantages over traditional, iron core, technology. A first added value it is given from rotor lower mass and inertia, so very rapid acceleration and deceleration rates are possible. Furthermore the lack of iron reduce "iron losses" to provide higher efficiencies (up to 90 percent) than traditional DC motors. Last, but not least, coreless design reduces winding inductance, so sparking between the brushes and commutator is reduced, increasing motor life and reducing electromagnetic interference (EMI).

Servotecnica's Coreless DC Motors are available on a wide range of sizes and high flexibility on mechanical custom requirements.

Benefits

High power density

Long operational lifetime

High efficiency

Cost-effective

High reliability

No cogging

Low inductance

Low inertia

Good heat dissipation



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Product code

SVTN B 01 - ○ ○ ◇ ◇ - □ □ - ⬡ - ⬠ △ ☆

B 01 Series

○ Diameter

◇ Length

□ Nominal Voltage

⬡ Shaft
Single shaft [S]; Double shaft [D]

⬠ Connection
Wires [W]; Terminals [O]

△ Commutator
Graphite brushes [G]; Metal brushes [M]

☆ Customizations

Features

Operating temperature	-30° +100° C
Connections	Terminals or cables
Magnets	Neodymium
Construction technology	Coreless winding system
Estimated operating lifetime	Lifetime depends on motor working conditions. It can reach 10.000 work hours under optimal conditions (almost 100 hours under extreme conditions).

Feedback

Magnetic encoder* 3 channels, from 25 to 1000/1024 ppr

Customizations

Flange	Shape
Shaft	Length/Diameter/D-Cut/double shaft
Leadwire	PVC/Silicon/Teflon/UL No/Dimension/length

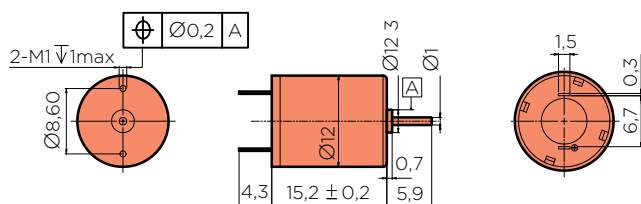
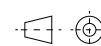


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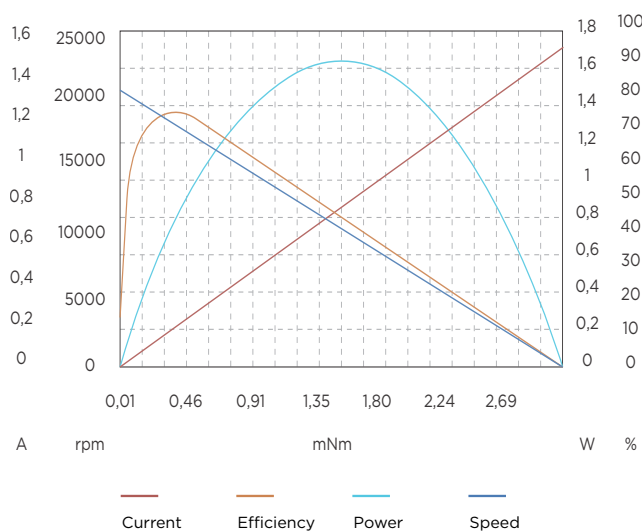
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*See page 93 for more information



1:1

Values	Unit	SVTN B 01	1215-4.5..	1215-7.4..	1215-12..	1215-24..
Motor Data						
1 Nominal voltage	V	4.5	7.4	12	24	
2 No-load speed	rpm	21000	28000	14000	34000	
3 No-load current	mA	25.0	35.0	15.0	30.0	
4 Nominal speed	rpm	16800	22400	11200	27200	
5 Nominal torque	mNm	0.6	0.7	0.5	1.2	
6 Nominal current	A	0.3	0.3	0.1	0.2	
7 Stall torque	mNm	3.0	3.6	2.6	5.9	
8 Stall current	A	1.5	1.5	0.3	0.9	
9 Max. efficiency	%	75.8	68.4	69.7	76.6	
Characteristics						
10 Terminal resistance	Ω	3.00	4.93	36.36	26.67	
11 Terminal inductance	mH	18.00	23.00	118.00	100.00	
12 Torque constant	mNm/A	2.01	2.45	7.96	6.64	
13 Speed constant	rpm/V	4666.7	3783.8	1166.7	1416.7	
14 Speed/torque gradient	rpm/mNm	7075.6	7861.0	5477.8	5783.0	
15 Mechanical time constant	ms	7.9	9.1	6.1	7.8	
16 Rotor inertia	gcm ²	0.11	0.11	0.13	0.12	
Mechanical data						
17 Thermal resistance housing-ambient	37.5 K/W					
18 Thermal resistance winding-housing	9.0 K/W					
19 Thermal time constant winding	2.22 s					
20 Thermal time constant motor	135 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	34000 rpm					
24 Max. axial load (dynamic)	0,1 N					
25 Max. force for press fits (static)	20 N					
26 Max. radial loading, 5mm from flange	5 N					
Other specifications						
27 Number of poles	2					
28 Weight	6,9 gr					



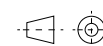
Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

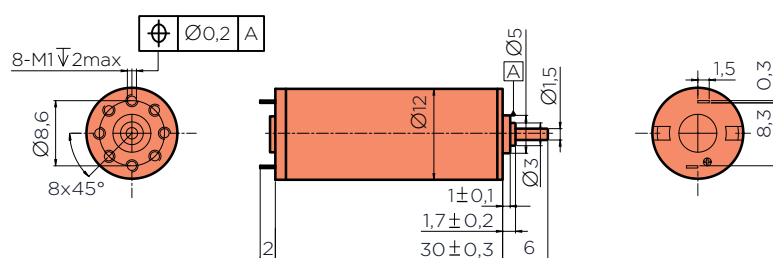
SVTN B 01-1230 Metal brushes

2.5 Watt

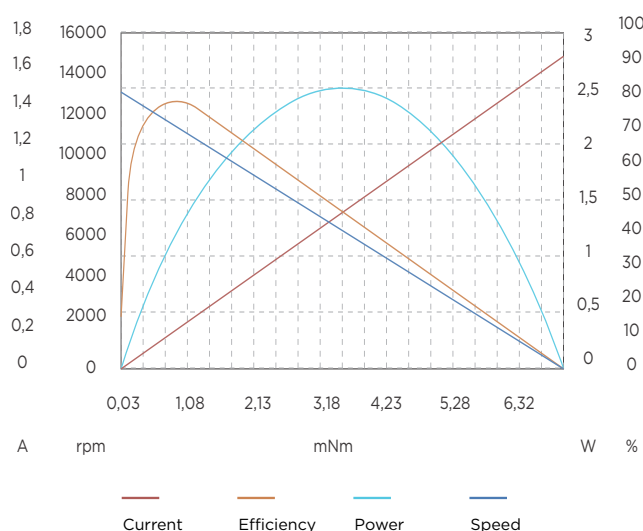
servotecnica



1:1



Values	Unit	SVTN B 01 1230-06..	1230-12..	1230-15..	1230-24..
Motor Data					
1 Nominal voltage	V	6	12	15	24
2 No-load speed	rpm	13500	11400	13500	15000
3 No-load current	mA	22.0	16.0	15.0	8.0
4 Nominal speed	rpm	10800	9120	10800	12000
5 Nominal torque	mNm	1.4	1.5	1.8	2.7
6 Nominal current	A	0.4	0.2	0.2	0.2
7 Stall torque	mNm	7.0	7.6	9.2	13.4
8 Stall current	A	1.69	0.78	0.89	0.90
9 Max. efficiency	%	78.5	77.7	79.9	80.0
Characteristics					
10 Terminal resistance	Ω	3.55	15.38	16.85	26.67
11 Terminal inductance	mH	0.25	0.59	0.65	0.98
12 Torque constant	mNm/A	4.19	9.91	10.49	15.11
13 Speed constant	rpm/V	2250.0	950.0	900.0	625.0
14 Speed/torque gradient	rpm/mNm	1932.1	1495.9	1462.3	1115.5
15 Mechanical time constant	ms	5.7	4.3	4.5	3.2
16 Rotor inertia	gcm ²	0.28	0.27	0.29	0.27
Mechanical data					
17 Thermal resistance housing-ambient	33 K/W				
18 Thermal resistance winding-housing	7.0 K/W				
19 Thermal time constant winding	4.88 s				
20 Thermal time constant motor	229 s				
21 Ambient temperature	-20...+85°C				
22 Max. permissible winding temperature	+100°C				
23 Max. permissible speed	15000 rpm				
24 Max. axial load (dynamic)	0,1 N				
25 Max. force for press fits (static)	20 N				
26 Max. radial loading, 5mm from flange	5 N				
Other specifications					
27 Number of poles	2				
28 Weight	17 gr				

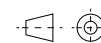
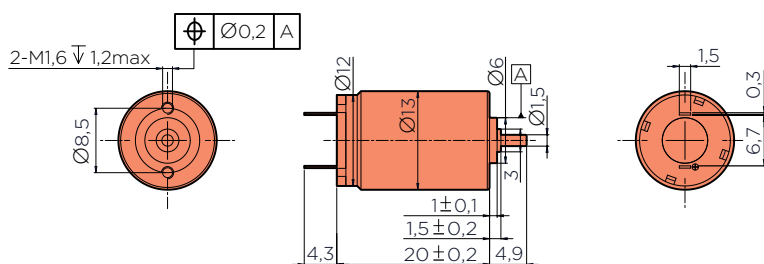


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

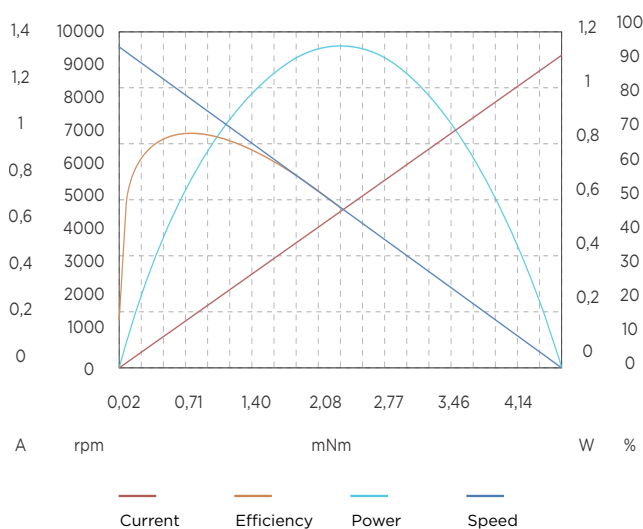
SVTN B 01-1320 Metal brushes

2.5 Watt



1:1

Values	Unit	SVTN B 01	1320-3.7..	1320-06..	1320-12..	1320-24..
Motor Data						
1 Nominal voltage	V	3.7	6	12	24	
2 No-load speed	rpm	9500	12000	13000	12000	
3 No-load current	mA	35.0	30	16	10	
4 Nominal speed	rpm	7600	9600	10400	9600	
5 Nominal torque	mNm	0.9	1.5	1.0	1.19	
6 Nominal current	A	0.288	0.358	0.133	0.074	
7 Stall torque	mNm	4.58	7.41	5.01	5.93	
8 Stall current	A	1.30	1.63	0.60	0.33	
9 Max. efficiency	%	69.9	71.1	70.0	68.21	
Characteristics						
10 Terminal resistance	Ω	2.85	3.68	20	72.73	
11 Terminal inductance	mH	0.09	0.12	0.50	1.30	
12 Torque constant	mNm/A	3.62	4.66	8.58	18.52	
13 Speed constant	rpm/V	2567.6	2000.0	1083.3	500.00	
14 Speed/torque gradient	rpm/mNm	2075.1	1620.4	2594.5	2024.85	
15 Mechanical time constant	ms	5.3	4.2	5.6	4.63	
16 Rotor inertia	gcm ²	0.25	0.25	0.20	0.22	
Mechanical data						
17 Thermal resistance housing-ambient	46 K/W					
18 Thermal resistance winding-housing	14 K/W					
19 Thermal time constant winding	5.18 s					
20 Thermal time constant motor	76.1 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	19000 rpm					
24 Max. axial load (dynamic)	0.2 N					
25 Max. force for press fits (static)	20 N					
26 Max. radial loading, 5mm from flange	1.4 N					
Other specifications						
27 Number of poles	2					
28 Weight	13 gr					

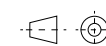
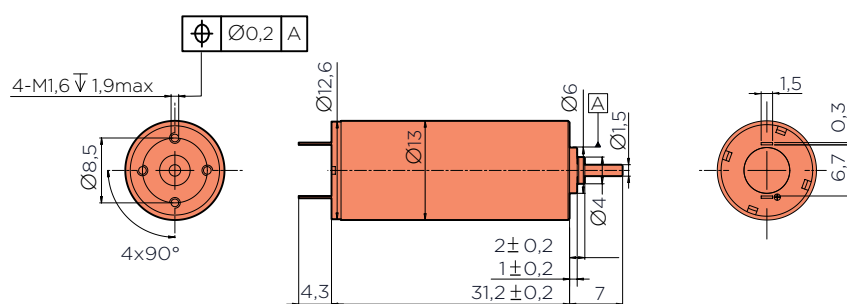


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

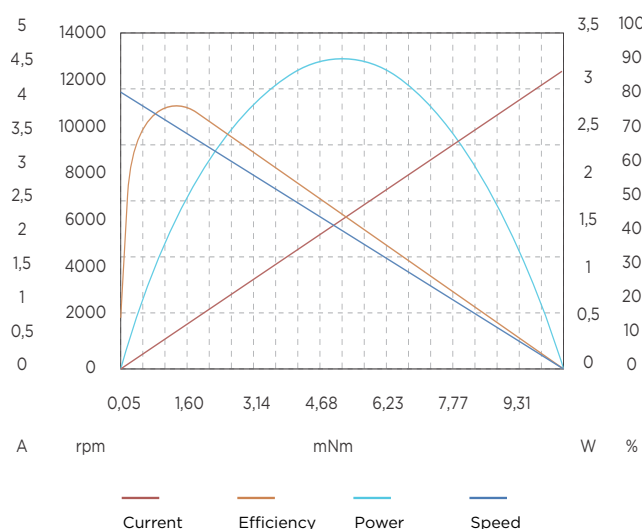
SVTN B 01-1331 Metal brushes

3.5 Watt



1:1

Values	Unit	SVTN B 01	1331-3..	1331-06..	1331-12..	1331-24..
Motor Data						
1 Nominal voltage	V	3	6	12	24	
2 No-load speed	rpm	12000	11000	11600	16200	
3 No-load current	mA	45.0	30.0	18.0	12.0	
4 Nominal speed	rpm	9600	8800	9280	12960	
5 Nominal torque	mNm	2.1	2.4	2.0	4.1	
6 Nominal current	A	0.9	0.5	0.2	0.4	
7 Stall torque	mNm	10.3	12.1	10.1	21.0	
8 Stall current	A	4.400	2.400	1.080	1.570	
9 Max. efficiency	%	80.8	75.8	69.4	70.5	
Characteristics						
10 Terminal resistance	Ω	0.68	2.50	11.11	12.31	
11 Terminal inductance	mH	0.05	0.12	0.27	0.75	
12 Torque constant	mNm/A	2.36	5.12	9.60	13.78	
13 Speed constant	rpm/V	4000.0	1833.3	966.7	675.0	
14 Speed/torque gradient	rpm/mNm	1166.1	910.0	1150.3	618.5	
15 Mechanical time constant	ms	8.0	6.2	7.9	4.2	
16 Rotor inertia	gcm ²	0.65	0.65	0.65	0.65	
Mechanical data						
17 Thermal resistance housing-ambient	33 K/W					
18 Thermal resistance winding-housing	7.0 K/W					
19 Thermal time constant winding	4.88 s					
20 Thermal time constant motor	259 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	16200 rpm					
24 Max. axial load (dynamic)	0.2 N					
25 Max. force for press fits (static)	20 N					
26 Max. radial loading, 5mm from flange	1.4 N					
Other specifications						
27 Number of poles	2					
28 Weight	20 gr					

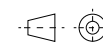
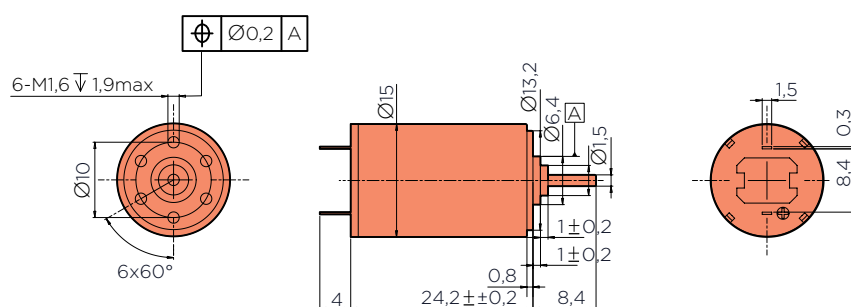


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

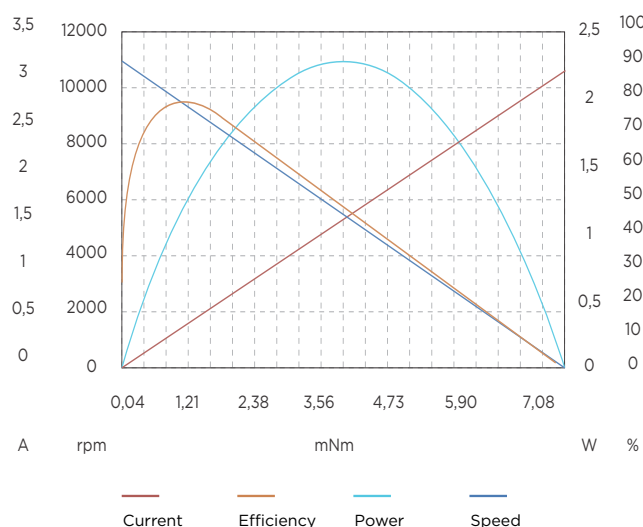
SVTN B 01-1524 Metal brushes

3 Watt



1:1

Values	Unit	SVTN B 01	1524-03..	1524-06..	1524-12..	1524-24..
Motor Data						
1 Nominal voltage	V	3	6	12	24	
2 No-load speed	rpm	10700	12300	11800	9500	
3 No-load current	mA	40	20	11	4	
4 Nominal speed	rpm	8560	9840	9440	7600	
5 Nominal torque	mNm	1.6	1.8	1.7	1.4	
6 Nominal current	A	0.6	0.4	0.2	0.1	
7 Stall torque	mNm	7.8	9.1	8.7	7.0	
8 Stall current	A	3.0	2.0	0.9	0.3	
9 Max. efficiency	%	78.2	81.0	79.3	78.2	
Characteristics						
10 Terminal resistance	Ω	1.00	3.00	13.04	80.00	
11 Terminal inductance	mH	0.02	0.05	0.23	1.05	
12 Torque constant	mNm/A	2.64	4.61	9.60	23.80	
13 Speed constant	rpm/V	3566.7	2050.0	983.3	395.8	
14 Speed/torque gradient	rpm/mNm	1368.4	1347.1	1352.9	1348.3	
15 Mechanical time constant	ms	11.0	10.1	11.9	11.9	
16 Rotor inertia	gcm ²	0.77	0.72	0.84	0.84	
Mechanical data						
17 Thermal resistance housing-ambient	4.5 K/W					
18 Thermal resistance winding-housing	31 K/W					
19 Thermal time constant winding	2.4 s					
20 Thermal time constant motor	300 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	12300 rpm					
24 Max. axial load (dynamic)	0.2 N					
25 Max. force for press fits (static)	20 N					
26 Max. radial loading, 5mm from flange	1.4 N					
Other specifications						
27 Number of poles	2					
28 Weight	22 gr					

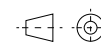
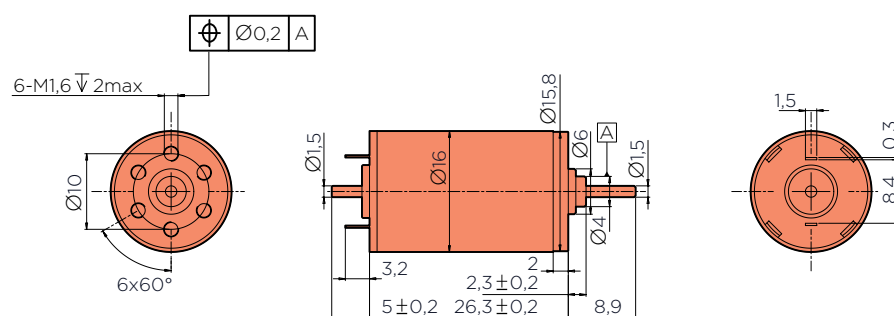


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

SVTN B 01-1625 Metal brushes

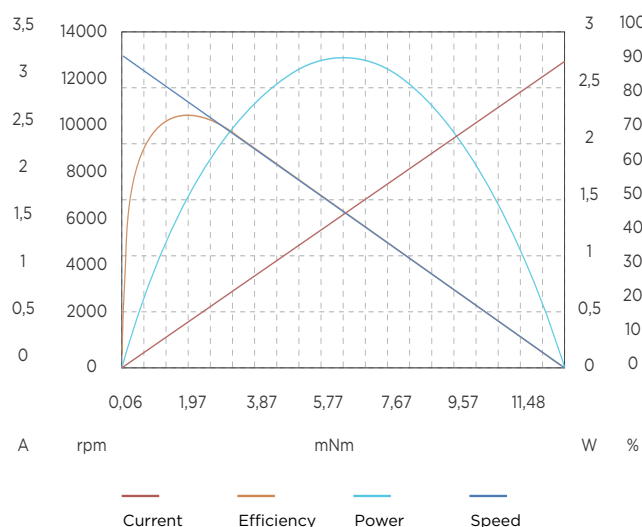
3.5 Watt



1:1

Values	Unit	SVTN B 01 1625-3.7..	1625-06.. 1625-12.. 1625-24..			
Motor Data						
1	Nominal voltage	V	3.7	6	12	24
2	No-load speed	rpm	8500	9800	10800	11000
3	No-load current	mA	50	20	15	6
4	Nominal speed	rpm	6800	7840	8640	8800
5	Nominal torque	mNm	2.5	2.8	2.7	3.0
6	Nominal current	A	0.67	0.50	0.27	0.15
7	Stall torque	mNm	12.7	14.0	13.5	15.2
8	Stall current	A	3.15	2.43	1.30	0.74
9	Max. efficiency	%	76.4	82.7	79.7	82.8
Characteristics						
10	Terminal resistance	Ω	1.17	2.47	9.23	32.43
11	Terminal inductance	mH	0.105	0.210	0.510	1.320
12	Torque constant	mNm/A	4.09	5.80	10.49	20.67
13	Speed constant	rpm/V	2297.3	1633.3	900.0	458.3
14	Speed/torque gradient	rpm/mNm	670.3	701.3	801.4	725.2
15	Mechanical time constant	ms	6.3	6.6	7.5	6.8
16	Rotor inertia	gcm²	0.90	0.90	0.90	0.90
Mechanical data						
17	Thermal resistance housing-ambient	40.6 K/W				
18	Thermal resistance winding-housing	9.5 K/W				
19	Thermal time constant winding	5.33 s				
20	Thermal time constant motor	268 s				
21	Ambient temperature	-20...+85°C				
22	Max. permissible winding temperature	+100°C				
23	Max. permissible speed	11000 rpm				
24	Max. axial load (dynamic)	1.3 N				
25	Max.force for press fits (static)	15 N				
26	Max. radial loading, 5mm from flange	5 N				
Other specifications						
27	Number of poles	2				
28	Weight	24 gr				

Speed (rpm)	Torque (Nm)	Efficiency (%)
0	12.7	0
11000	0	82.8

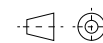
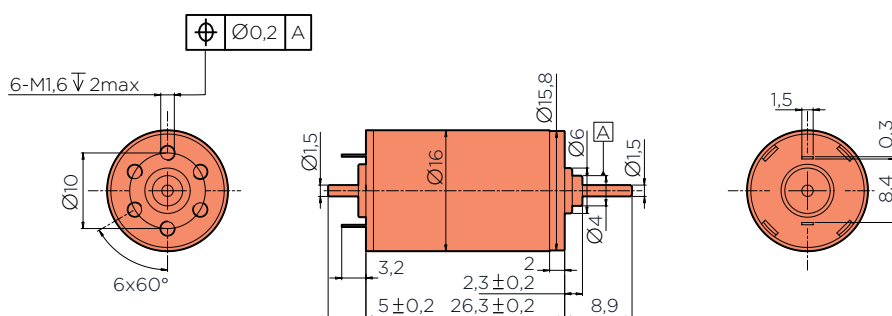


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

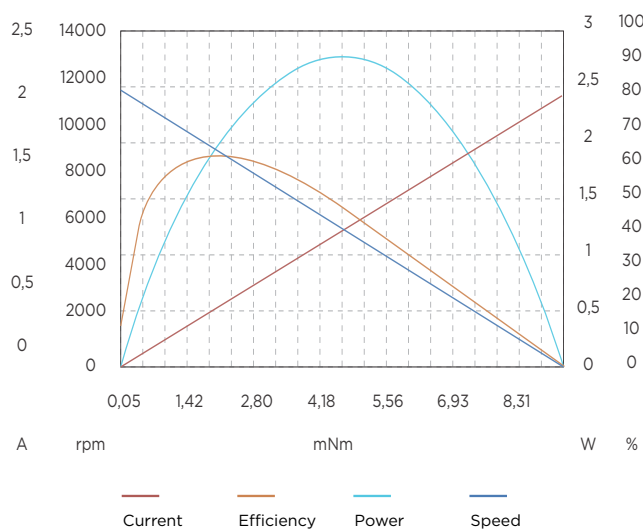
SVTN B 01-1625 Graphite brushes

3.5 Watt



1:1

Values	Unit	SVTN B 01	1625-06-..	1625-09-..	1625-12-..	1625-24-..
Motor Data						
1 Nominal voltage	V	6	9	12	24	
2 No-load speed	rpm	11500	12500	13600	11800	
3 No-load current	mA	80	65	50	32	
4 Nominal speed	rpm	8108	9125	9928	8614	
5 Nominal torque	mNm	2.71	3.10	3.19	3.64	
6 Nominal current	A	0.65	0.53	0.44	0.23	
7 Stall torque	mNm	9.2	11.5	11.8	13.5	
8 Stall current	A	2.00	1.80	1.50	0.82	
9 Max. efficiency	%	64.0	65.6	66.8	66.2	
Characteristics						
10 Terminal resistance	Ω	3.00	5.00	8.00	29.30	
11 Terminal inductance	mH	0.10	0.18	0.34	1.10	
12 Torque constant	mNm/A	4.78	6.63	8.14	18.75	
13 Speed constant	rpm/V	1916.7	1388.9	1133.3	491.7	
14 Speed/torque gradient	rpm/mNm	1252.3	1087.1	1151.5	708.8	
15 Mechanical time constant	ms	12.6	10.7	10.8	7.6	
16 Rotor inertia	gcm ²	0.96	0.94	0.90	1.03	
Mechanical data						
17 Thermal resistance housing-ambient	40.6 K/W					
18 Thermal resistance winding-housing	9.5 K/W					
19 Thermal time constant winding	5.33 s					
20 Thermal time constant motor	268 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	13600 rpm					
24 Max. axial load (dynamic)	1.3 N					
25 Max. force for press fits (static)	15 N					
26 Max. radial loading, 5mm from flange	5 N					
Other specifications						
27 Number of poles	2					
28 Weight	24 gr					

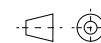
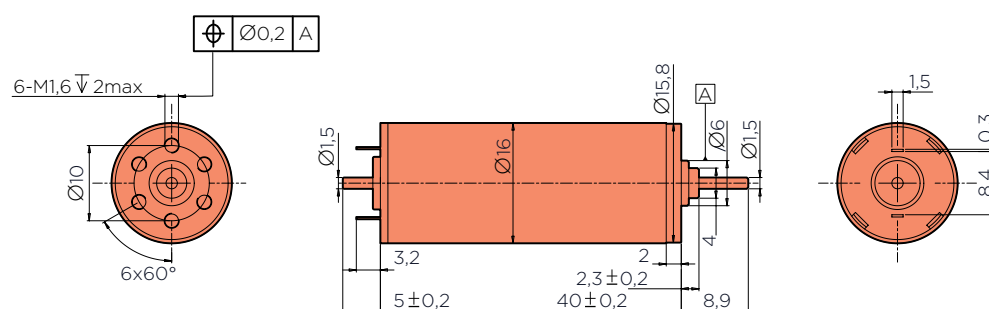


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

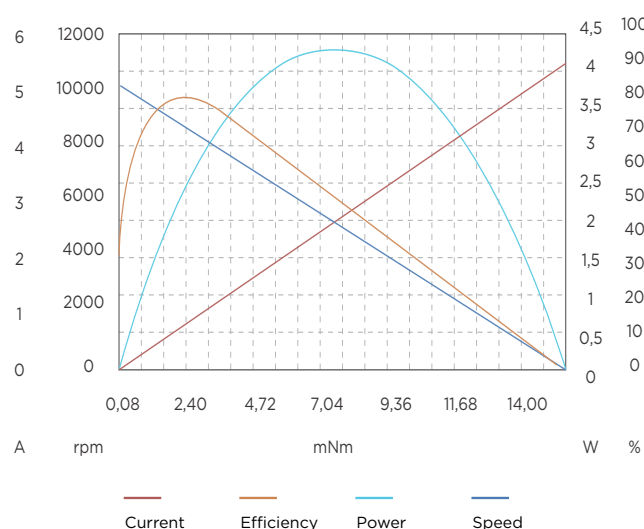
SVTN B 01-1640 Metal brushes

4.5 Watt



1:1

Values	Unit	SVTN B 01	1640-03..	1640-06..	1640-12..	1640-24..
Motor Data						
1 Nominal voltage	V	3	6	12	24	
2 No-load speed	rpm	10000	9200	14000	13000	
3 No-load current	mA	50	28	60	25	
4 Nominal speed	rpm	8000	7360	11200	10400	
5 Nominal torque	mNm	3.1	3.3	10.0	10.4	
6 Nominal current	A	1.14	0.56	1.29	0.62	
7 Stall torque	mNm	15.5	16.3	49.8	52.0	
8 Stall current	A	5.5	2.7	6.2	3.0	
9 Max. efficiency	%	81.8	80.6	81.3	82.6	
Characteristics						
10 Terminal resistance	Ω	0.55	2.25	1.94	8.00	
11 Terminal inductance	mH	0.01	0.06	0.15	0.56	
12 Torque constant	mNm/A	2.84	6.16	8.11	17.48	
13 Speed constant	rpm/V	3333.3	1533.3	1166.7	541.7	
14 Speed/torque gradient	rpm/mNm	646.4	565.1	281.3	249.9	
15 Mechanical time constant	ms	11.3	9.9	4.9	4.4	
16 Rotor inertia	gcm ²	1.67	1.67	0.90	1.67	
Mechanical data						
17 Thermal resistance housing-ambient	30 K/W					
18 Thermal resistance winding-housing	8.5 K/W					
19 Thermal time constant winding	10.6 s					
20 Thermal time constant motor	436 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	14000 rpm					
24 Max. axial load (dynamic)	1.3 N					
25 Max. force for press fits (static)	15 N					
26 Max. radial loading, 5mm from flange	5 N					
Other specifications						
27 Number of poles	2					
28 Weight	40.5 gr					

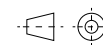
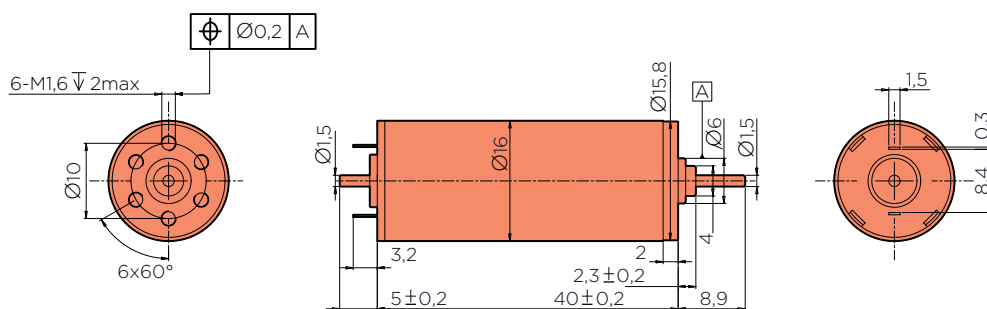


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

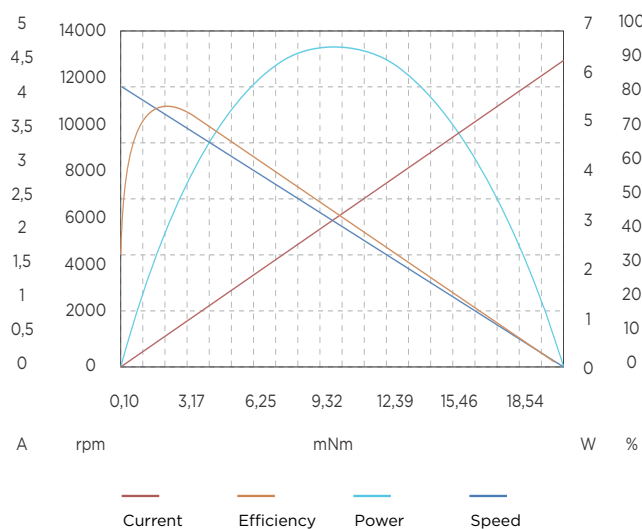
SVTN B 01-1640 Graphite brushes

4.5 Watt



1:1

Values	Unit	SVTN B 01	1640-06..	1640-12..	1640-24..
Motor Data					
1 Nominal voltage	V	6	12	24	
2 No-load speed	rpm	12200	10400	10000	
3 No-load current	mA	70	45	30	
4 Nominal speed	rpm	9516	8112	7550	
5 Nominal torque	mNm	4.5	6.6	8.7	
6 Nominal current	A	1.04	0.65	0.41	
7 Stall torque	mNm	20.5	29.9	35.3	
8 Stall current	A	4.50	2.80	1.60	
9 Max. efficiency	%	76.6	76.2	74.5	
Characteristics					
10 Terminal resistance	Ω	1.33	4.29	15.00	
11 Terminal inductance	mH	0.029	0.141	0.506	
12 Torque constant	mNm/A	4.62	10.84	22.49	
13 Speed constant	rpm/V	2033.3	866.7	416.7	
14 Speed/torque gradient	rpm/mNm	595.7	348.2	283.2	
15 Mechanical time constant	ms	10.4	6.1	5.0	
16 Rotor inertia	gcm ²	1.67	1.67	1.69	
Mechanical data					
17 Thermal resistance housing-ambient	30 K/W				
18 Thermal time constant winding	10.6 s				
19 Thermal time constant motor	436 s				
20 Ambient temperature	-20...+85°C				
21 Max. permissible winding temperature	+100°C				
22 Max. permissible speed	12200 rpm				
23 Max. axial load (dynamic)	1.3 N				
24 Max. force for press fits (static)	15 N				
25 Max. radial loading, 5mm from flange	5 N				
Other specifications					
26 Number of poles	2				
27 Weight	42 gr				



Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables



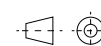
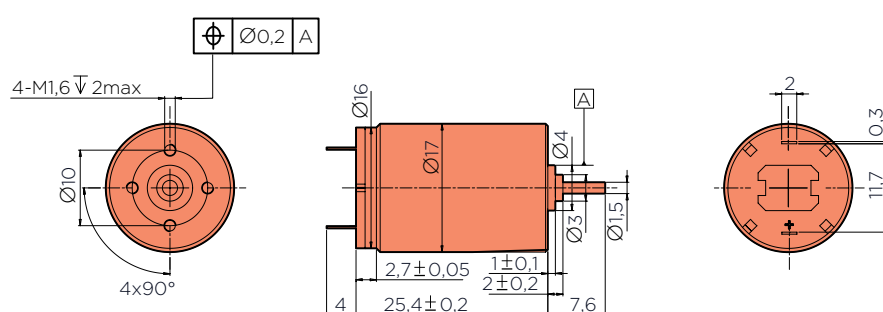
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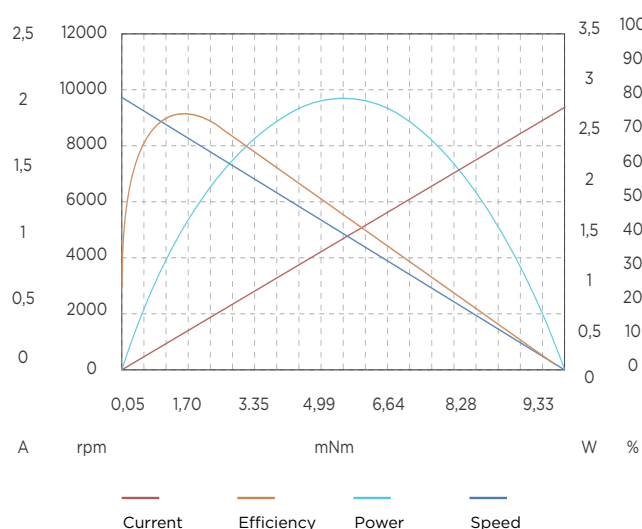
SVTN B 01-1725 Metal brushes

4 Watt



1:1

Values	Unit	SVTN B 01 1725-06..	1725-09..	1725-12..	1725-24..
Motor Data					
1 Nominal voltage	V	6	9	12	24
2 No-load speed	rpm	10000	10000	10000	10000
3 No-load current	mA	23	30	20	8
4 Nominal speed	rpm	8000	8000	8000	8000
5 Nominal torque	mNm	2.19	2.06	2.68	2.72
6 Nominal current	A	0.41	0.28	0.24	0.14
7 Stall torque	mNm	11.0	10.3	13.4	13.6
8 Stall current	A	1.96	1.26	1.21	0.61
9 Max. efficiency	%	79.5	71.5	77.5	81.4
Characteristics					
10 Terminal resistance	Ω	3.06	7.14	5.71	22.86
11 Terminal inductance	mH	0.10	0.20	0.28	0.93
12 Torque constant	mNm/A	5.66	8.39	11.30	22.70
13 Speed constant	rpm/V	1666.7	1111.1	833.3	416.7
14 Speed/torque gradient	rpm/mNm	911.7	969.1	746.0	735.0
15 Mechanical time constant	ms	7.4	7.9	4.2	3.6
16 Rotor inertia	gcm ²	0.78	0.78	0.80	0.82
Mechanical data					
17 Thermal resistance housing-ambient	4 K/W				
18 Thermal resistance winding-housing	24.5 K/W				
19 Thermal time constant winding	2.6 s				
20 Thermal time constant motor	270 s				
21 Ambient temperature	-20...+85°C				
22 Max. permissible winding temperature	+100°C				
23 Max. permissible speed	10000 rpm				
24 Max. axial load (dynamic)	1.3 N				
25 Max. force for press fits (static)	15 N				
26 Max. radial loading, 5mm from flange	5 N				
Other specifications					
27 Number of poles	2				
28 Weight	28 gr				

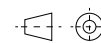
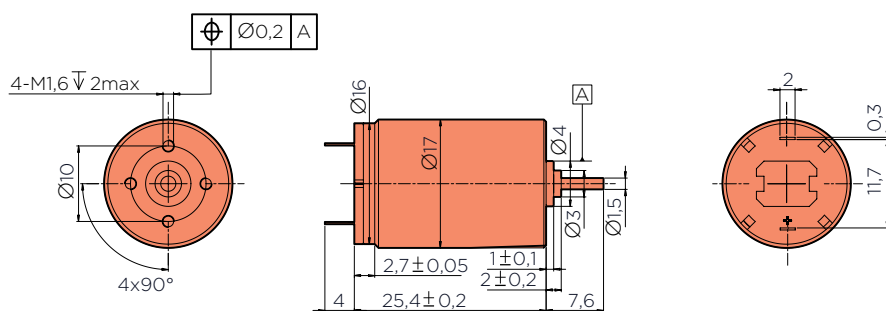


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Sleeve or ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

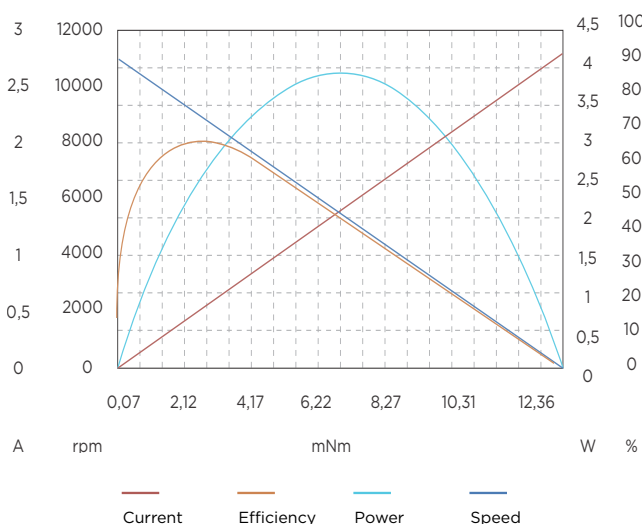
SVTN B 01-1725 Graphite brushes

4 Watt



1:1

Values	Unit	SVTN B 01	1725-06..	1725-12..	1725-24..
Motor Data					
1 Nominal voltage	V	6	12	24	
2 No-load speed	rpm	11000	10000	10000	
3 No-load current	mA	90	50	22	
4 Nominal speed	rpm	8140	7400	7300	
5 Nominal torque	mNm	3.55	3.28	3.81	
6 Nominal current	A	0.79	0.35	0.19	
7 Stall torque	mNm	13.66	12.60	14.10	
8 Stall current	A	2.80	1.17	0.66	
9 Max. efficiency	%	67.4	67.8	66.6	
Characteristics					
10 Terminal resistance	Ω	2.14	10.20	36.40	
11 Terminal inductance	mH	0.08	0.31	1.18	
12 Torque constant	mNm/A	5.04	11.10	22.14	
13 Speed constant	rpm/V	1833.3	833.3	416.7	
14 Speed/torque gradient	rpm/mNm	805.2	793.6	584.2	
15 Mechanical time constant	ms	7.6	5.5	5.5	
16 Rotor inertia	gcm ²	0.90	0.90	0.90	
Mechanical data					
17 Thermal resistance housing-ambient	K/W	4			
18 Thermal resistance winding-housing	K/W	24.5			
19 Thermal time constant winding	s	2.6			
20 Thermal time constant motor	s	270			
21 Ambient temperature	°C	-20...+85			
22 Max. permissible winding temperature	°C	+100			
23 Max. permissible speed	rpm	11000			
24 Max. axial load (dynamic)	N	1.3			
25 Max. force for press fits (static)	N	15			
26 Max. radial loading, 5mm from flange	N	5			
Other specifications					
27 Number of poles		2			
28 Weight	gr	28			



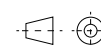
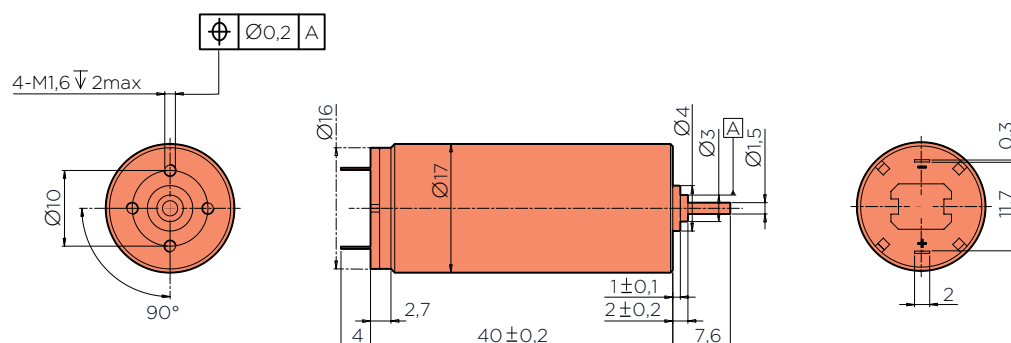
Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

SVTN B 01-1740 Graphite brushes

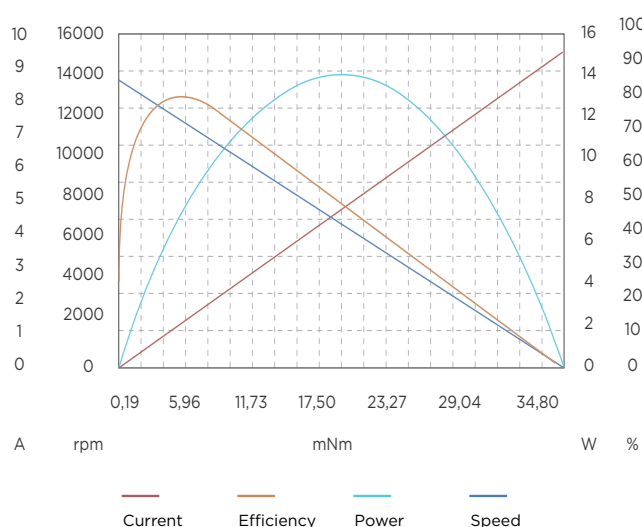
5 Watt

servotecnica



1:1

Values	Unit	SVTN B 01 1740-06..	1740-12..	1740-24..
Motor Data				
1 Nominal voltage	V	6	12	24
2 No-load speed	rpm	13500	22000	16000
3 No-load current	mA	120	130	48
4 Nominal speed	rpm	11408	18590	13520
5 Nominal torque	mNm	6.0	9.5	9.8
6 Nominal current	A	1.54	1.97	0.74
7 Stall torque	mNm	38.5	61.2	63.1
8 Stall current	A	9.30	12.00	4.50
9 Max. efficiency	%	78.6	80.3	80.4
Characteristics				
10 Terminal resistance	Ω	0.65	1.00	5.33
11 Terminal inductance	mH	0.028	0.075	0.290
12 Torque constant	mNm/A	4.19	5.15	14.17
13 Speed constant	rpm/V	2250.0	1833.3	666.7
14 Speed/torque gradient	rpm/mNm	351.0	359.7	253.6
15 Mechanical time constant	ms	6.2	6.4	4.5
16 Rotor inertia	gcm ²	1.69	1.69	1.69
Mechanical data				
17 Thermal resistance housing-ambient	7 K/W			
18 Thermal resistance winding-housing	23 K/W			
19 Thermal time constant winding	8 s			
20 Thermal time constant motor	440 s			
21 Ambient temperature	-20...+85°C			
22 Max. permissible winding temperature	+100°C			
23 Max. permissible speed	22000 rpm			
24 Max. axial load (dynamic)	1.3 N			
25 Max. force for press fits (static)	15 N			
26 Max. radial loading, 5mm from flange	5 N			
Other specifications				
27 Number of poles	2			
28 Weight	48 gr			

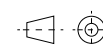
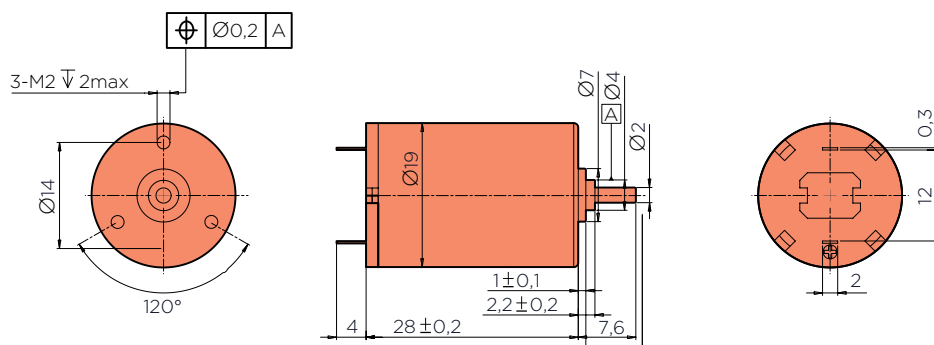


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

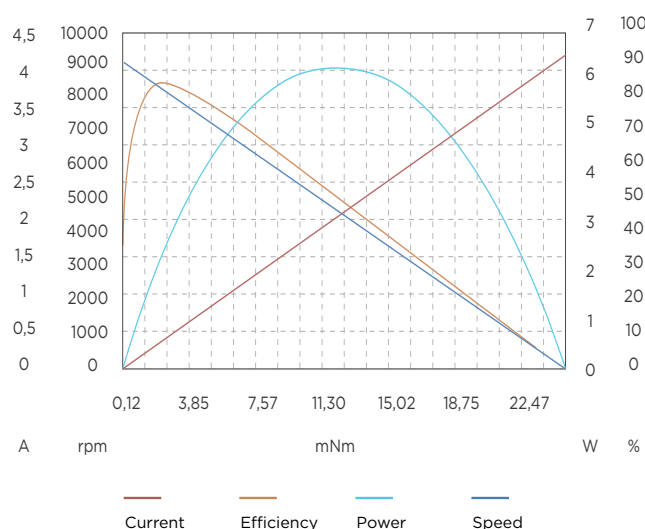
SVTN B 01-1928 Graphite brushes

6 Watt



1:1

Values	Unit	SVTN B 01	1928-06..	1928-09..	1928-12..	1928-24..
Motor Data						
1 Nominal voltage	V	6	9	12	24	
2 No-load speed	rpm	9000	10000	10000	15200	
3 No-load current	mA	40	30	20	35	
4 Nominal speed	rpm	7965	8850	8000	12160	
5 Nominal torque	mNm	2.9	4.1	7.1	10.8	
6 Nominal current	A	0.49	0.51	0.65	0.75	
7 Stall torque	mNm	24.8	35.6	35.6	54.5	
8 Stall current	A	3.98	4.20	3.15	3.65	
9 Max. efficiency	%	81.0	83.8	84.7	83.3	
Characteristics						
10 Terminal resistance	Ω	1.51	2.14	3.81	6.55	
11 Terminal inductance	mH	0.08	0.16	0.26	0.51	
12 Torque constant	mNm/A	6.30	8.53	11.39	14.96	
13 Speed constant	rpm/V	1500.0	1111.1	833.3	633.3	
14 Speed/torque gradient	rpm/mNm	362.5	281.0	280.6	278.8	
15 Mechanical time constant	ms	8.7	6.7	6.7	5.3	
16 Rotor inertia	gcm ²	2.29	2.29	2.29	2.29	
Mechanical data						
17 Thermal resistance housing-ambient	21.3 K/W					
18 Thermal resistance winding-housing	10.5 K/W					
19 Thermal time constant winding	11.0 s					
20 Thermal time constant motor	201 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	15200 rpm					
24 Max. axial load (dynamic)	3.5 N					
25 Max. force for press fits (static)	44 N					
26 Max. radial loading, 5mm from flange	15 N					
Other specifications						
27 Number of poles	2					
28 Weight	40 gr					

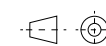
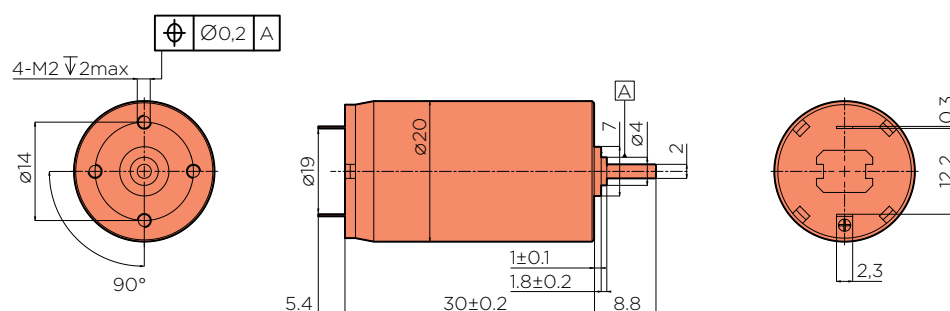


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

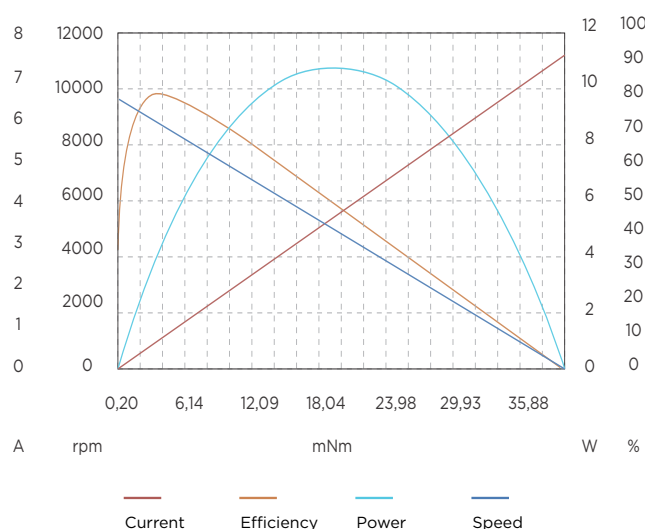
SVTN B 01-2030 Graphite brushes

10 Watt



1:1

Values	Unit	SVTN B 01	2030-06..	2030-09..	2030-12..	2030-15..	2030-24..
Motor Data							
1 Nominal voltage	V	6	9	12	15	24	
2 No-load speed	rpm	9800	10000	12000	10000	9100	
3 No-load current	mA	60	38	40	20	8	
4 Nominal speed	rpm	8379	8550	10260	8550	7781	
5 Nominal torque	mNm	5.75	6.29	5.71	3.76	3.78	
6 Nominal current	A	1.05	0.77	0.64	0.29	0.16	
7 Stall torque	mNm	39.6	43.4	39.3	25.9	26.0	
8 Stall current	A	6.90	5.12	4.20	1.85	1.05	
9 Max. efficiency	%	82.2	83.5	81.4	80.3	83.3	
Characteristics							
10 Terminal resistance	Ω	0.87	1.76	2.86	8.11	22.9	
11 Terminal inductance	mH	0.14	0.29	0.51	0.86	1.9	
12 Torque constant	mNm/A	5.80	8.53	9.46	14.17	25.0	
13 Speed constant	rpm/V	1633.3	1111.1	1000.0	666.7	379.2	
14 Speed/torque gradient	rpm/mNm	247.2	230.7	305.0	385.7	349.4	
15 Mechanical time constant	ms	6.51	6.08	7.63	9.65	8.74	
16 Rotor inertia	gcm ²	2.52	2.52	2.39	2.39	2.42	
Mechanical data							
17 Thermal resistance housing-ambient	20 K/W						
18 Thermal resistance winding-housing	6.0 K/W						
19 Thermal time constant winding	10.2 s						
20 Thermal time constant motor	313 s						
21 Ambient temperature	-20...+85°C						
22 Max. permissible winding temperature	+100°C						
23 Max. permissible speed	12000 rpm						
24 Max. axial load (dynamic)	3.5 N						
25 Max. force for press fits (static)	44 N						
26 Max. radial loading, 5mm from flange	15 N						
Other specifications							
27 Number of poles	2						
28 Weight	48 gr						

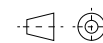
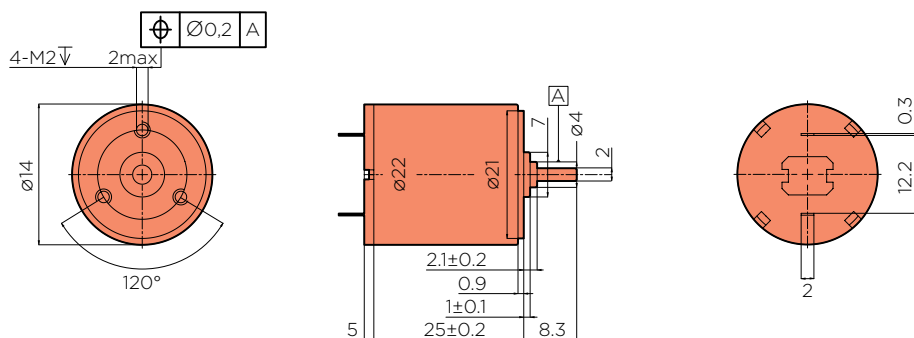


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

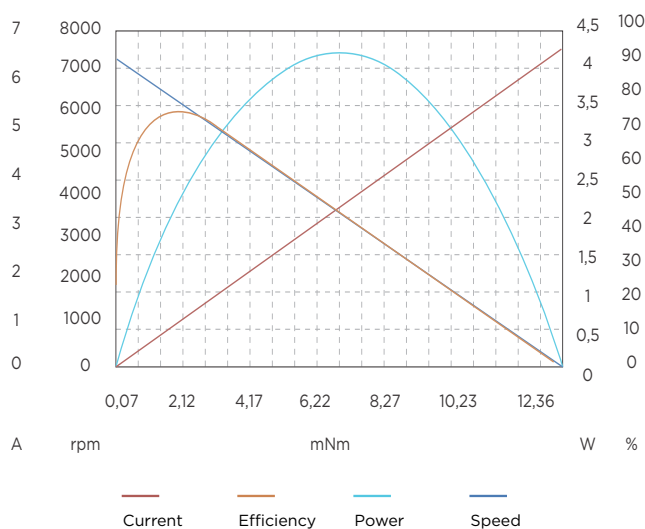
SVTN B 01-2225 Metal brushes

10 Watt



1:1

Values	Unit	SVTN B 01	2225-03..	2225-06..	2225-09..	2225-12..	2225-24..
Motor Data							
1 Nominal voltage	V	3	6	9	12	24	
2 No-load speed	rpm	7600	8200	8500	8300	7800	
3 No-load current	mA	70	30	25	20	6	
4 Nominal speed	rpm	6764	6806	7480	6889	6474	
5 Nominal torque	mNm	2.35	3.28	2.60	4.13	3.44	
6 Nominal current	A	0.70	0.50	0.29	0.32	0.12	
7 Stall torque	mNm	21.3	19.3	21.7	24.3	20.2	
8 Stall current	A	5.80	2.82	2.20	1.80	0.70	
9 Max. efficiency	%	79.2	80.4	79.5	80.0	82.3	
Characteristics							
10 Terminal resistance	Ω	0.52	2.13	4.09	6.67	34.29	
11 Terminal inductance	mH	0.013	0.045	0.095	0.240	0.800	
12 Torque constant	mNm/A	3.72	6.91	10.00	13.65	29.13	
13 Speed constant	rpm/V	2533.3	1366.7	944.0	691.7	325.0	
14 Speed/torque gradient	rpm/mNm	356.2	425.2	390.9	341.5	385.8	
15 Mechanical time constant	ms	9.93	12.30	10.20	10.61	11.84	
16 Rotor inertia	gcm ²	2.66	2.76	2.79	2.97	2.93	
Mechanical data							
17 Thermal resistance housing-ambient	20 K/W						
18 Thermal resistance winding-housing	6.0 K/W						
19 Thermal time constant winding	10.2 s						
20 Thermal time constant motor	313 s						
21 Ambient temperature	-20...+85°C						
22 Max. permissible winding temperature	+100°C						
23 Max. permissible speed	8300 rpm						
24 Max. axial load (dynamic)	3.5 N						
25 Max. force for press fits (static)	44 N						
26 Max. radial loading, 5mm from flange	15 N						
Other specifications							
27 Number of poles	2						
28 Weight	48 gr						



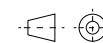
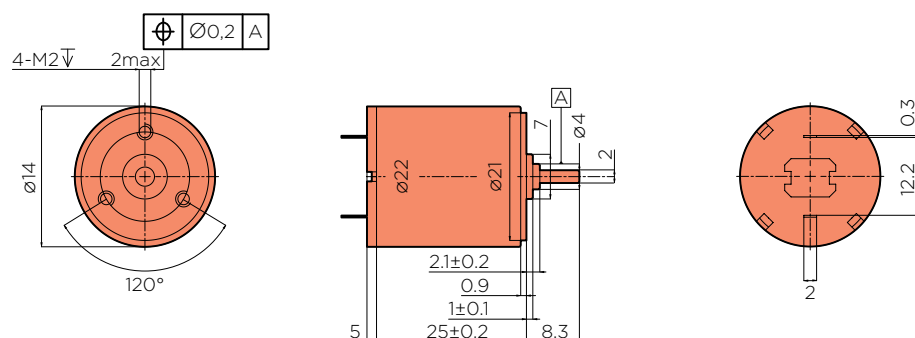
Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

SVTN B 01-2225 Graphite brushes

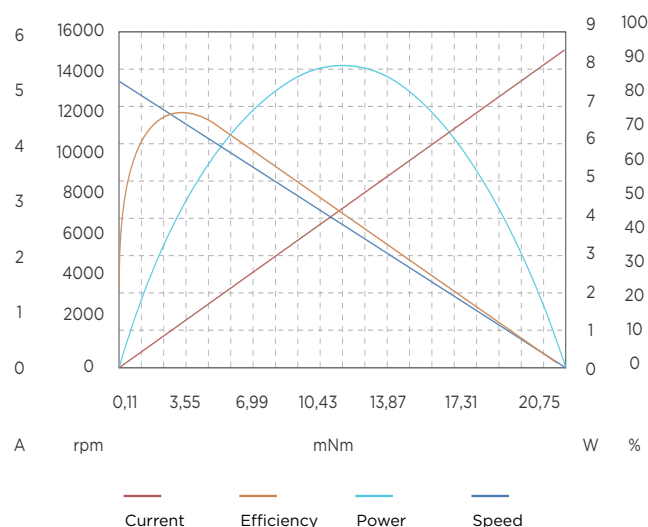
10 Watt

servotecnica



1:1

Values	Unit	SVTN B 01	2225-06..	2225-12..	2225-18..	2225-24..
Motor Data						
1 Nominal voltage	V	6	12	18	24	
2 No-load speed	rpm	13500	15800	11800	12000	
3 No-load current	mA	100	90	60	45	
4 Nominal speed	rpm	11340	13272	9676	9960	
5 Nominal torque	mNm	3.67	5.13	6.24	5.56	
6 Nominal current	A	0.98	0.81	0.50	0.34	
7 Stall torque	mNm	22.9	32.1	34.7	32.7	
8 Stall current	A	5.60	4.60	2.50	1.80	
9 Max. efficiency	%	75.1	74.0	71.4	70.9	
Characteristics						
10 Terminal resistance	Ω	1.07	2.61	7.20	13.33	
11 Terminal inductance	mH	0.025	0.090	0.265	0.550	
12 Torque constant	mNm/A	4.17	7.11	14.22	18.62	
13 Speed constant	rpm/V	2250.0	1316.7	655.6	500.0	
14 Speed/torque gradient	rpm/mNm	588.9	492.7	340.2	367.2	
15 Mechanical time constant	ms	18.07	15.12	10.44	11.27	
16 Rotor inertia	gcm ²	2.93	2.93	2.97	2.93	
Mechanical data						
17 Thermal resistance housing-ambient	20 K/W					
18 Thermal resistance winding-housing	6.0 K/W					
19 Thermal time constant winding	10.2 s					
20 Thermal time constant motor	313 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	15800 rpm					
24 Max. axial load (dynamic)	3.5 N					
25 Max. force for press fits (static)	44 N					
26 Max. radial loading, 5mm from flange	15 N					
Other specifications						
27 Number of poles	2					
28 Weight	48 gr					

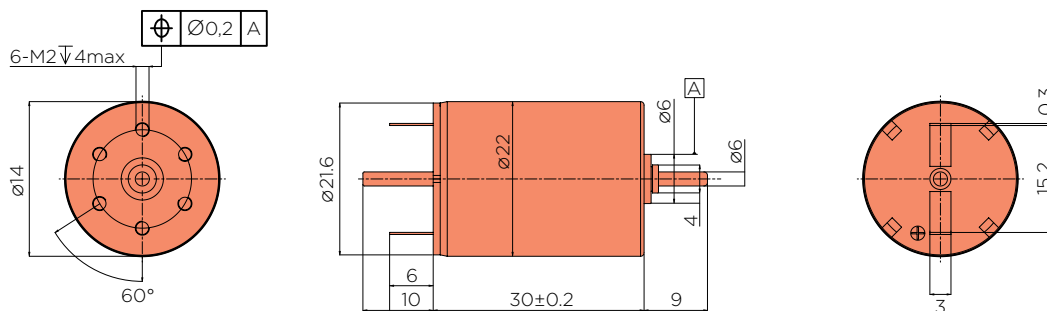


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

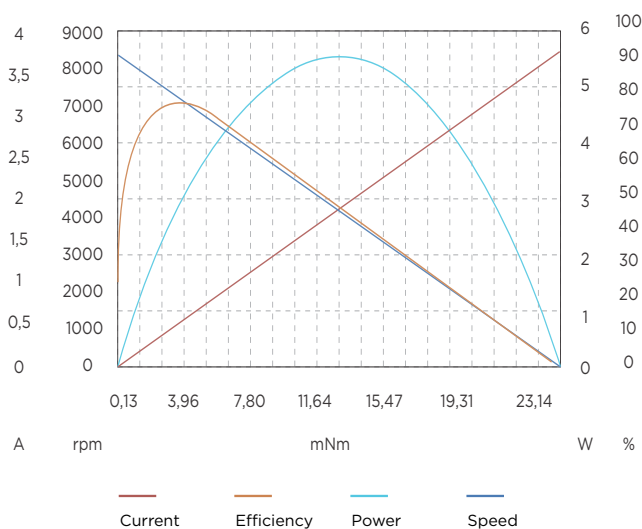
SVTN B 01-2230 Metal brushes

12 Watt



1:1

Values	Unit	SVTN B 01	2230-06..	2230-09..	2230-12..	2230-15..	2230-24..
Motor Data							
1 Nominal voltage	V	6	9	12	15	24	
2 No-load speed	rpm	8300	12200	10200	11000	9000	
3 No-load current	mA	48	60	24	8	6	
4 Nominal speed	rpm	7387	10858	9078	9790	8010	
5 Nominal torque	mNm	2,81	2,39	2,73	2,7	1,37	
6 Nominal current	A	0,46	0,41	0,27	0,22	0,06	
7 Stall torque	mNm	25,6	21,7	24,9	24,5	12,4	
8 Stall current	A	3,8	3,2	2,26	1,9	0,5	
9 Max. efficiency	%	78,8	74,5	80,4	87,4	79,3	
Characteristics							
10 Terminal resistance	Ω	1,58	2,81	5,31	7,89	48	
11 Terminal inductance	mH	0,095	0,16	0,36	0,58	3,1	
12 Torque constant	mNm/A	6,82	6,91	11,12	12,97	25,2	
13 Speed constant	rpm/V	1383,3	1355,6	850	733,3	375	
14 Speed/torque gradient	rpm/mNm	324,6	562,1	410,4	448,4	724,1	
15 Mechanical time constant	ms	8,94	13,83	10,63	11,9	20,18	
16 Rotor inertia	gcm ²	2,63	2,35	2,47	2,54	2,75	
Mechanical data							
17 Thermal resistance housing-ambient	20 K/W						
18 Thermal resistance winding-housing	6.0 K/W						
19 Thermal time constant winding	10.2 s						
20 Thermal time constant motor	313 s						
21 Ambient temperature	-20...+85°C						
22 Max. permissible winding temperature	+100°C						
23 Max. permissible speed	12200 rpm						
24 Max. axial load (dynamic)	3,5 N						
25 Max. force for press fits (static)	44 N						
26 Max. radial loading, 5mm from flange	15 N						
Other specifications							
27 Number of poles	2						
28 Weight	54 gr						

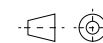
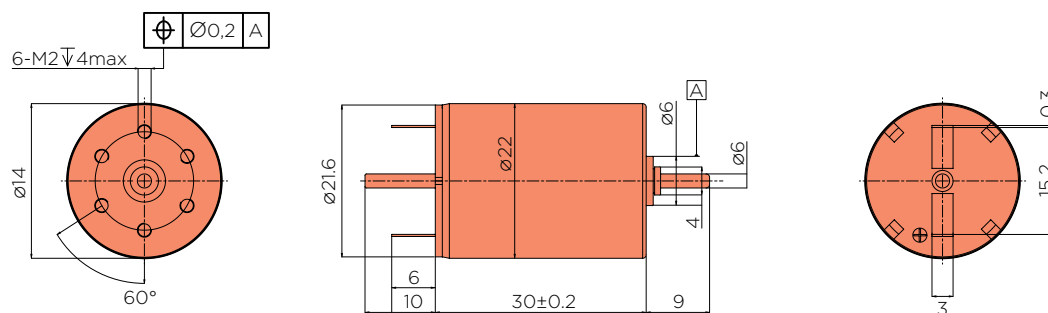


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

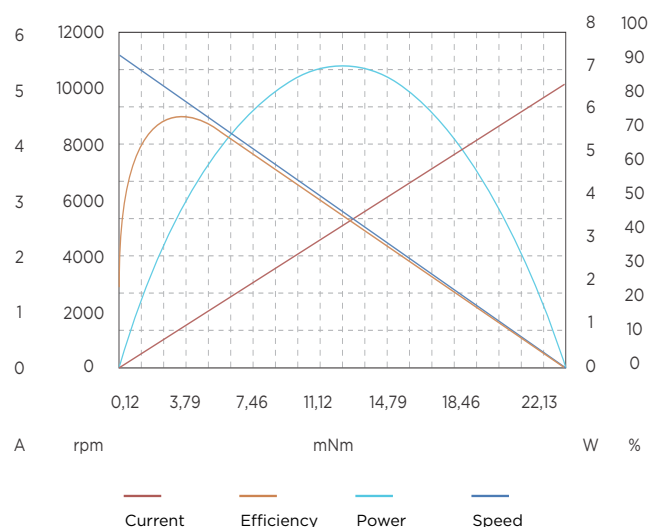
SVTN B 01-2230 Graphite brushes

12 Watt



1:1

Values	Unit	SVTN B 01 2230-06..	2230-12..	2230-18..	2230-24..
Motor Data					
1 Nominal voltage	V	6	12	18	24
2 No-load speed	rpm	11300	12200	10800	11000
3 No-load current	mA	90	65	45	30
4 Nominal speed	rpm	9492	10248	9234	9405
5 Nominal torque	mNm	3,91	5,22	5,79	5,26
6 Nominal current	A	0,88	0,63	0,42	0,29
7 Stall torque	mNm	24,45	32,6	39,96	36,26
8 Stall current	A	5	3,6	2,6	1,8
9 Max. efficiency	%	74,97	74,93	75,42	75,85
Characteristics					
10 Terminal resistance	Ω	1,2	3,33	6,92	13,33
11 Terminal inductance	mH	0,19	0,403	0,85	1,6
12 Torque constant	mNm/A	4,98	9,22	15,64	20,49
13 Speed constant	rpm/V	1883,3	1016,7	600	458,3
14 Speed/torque gradient	rpm/mNm	462,2	374,2	270,3	303,3
15 Mechanical time constant	ms	13,05	11,08	7,9	9,09
16 Rotor inertia	gcm ²	2,7	2,83	2,79	2,54
Mechanical data					
17 Thermal resistance housing-ambient	20 K/W				
18 Thermal resistance winding-housing	6.0 K/W				
19 Thermal time constant winding	10.2 s				
20 Thermal time constant motor	314 s				
21 Ambient temperature	-20...+85°C				
22 Max. permissible winding temperature	+100°C				
23 Max. permissible speed	12200 rpm				
24 Max. axial load (dynamic)	3,5 N				
25 Max. force for press fits (static)	44 N				
26 Max. radial loading, 5mm from flange	15 N				
Other specifications					
27 Number of poles	2				
28 Weight	54 gr				

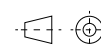
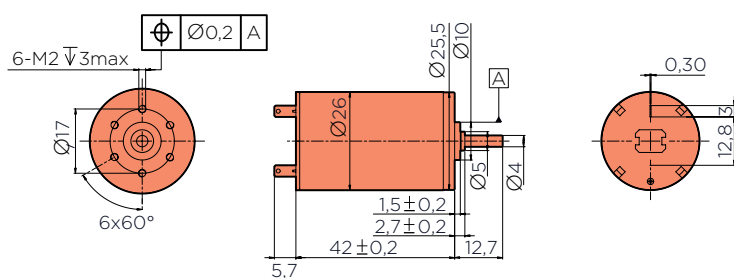


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

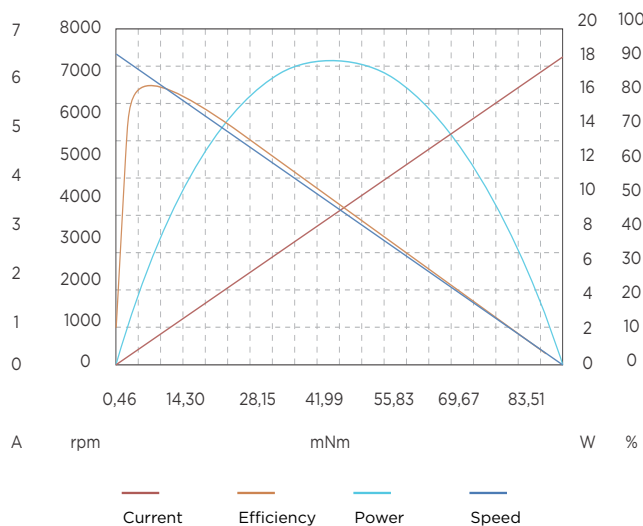
SVTN B 01-2642 Graphite brushes

20 Watt



1:2

Values	Unit	SVTN B 01	2642-06..	2642-09..	2642-12..	2642-24..
Motor Data						
1 Nominal voltage	V	6	9	12	24	
2 No-load speed	rpm	5500	8400	8100	8800	
3 No-load current	mA	50	50	45	30	
4 Nominal speed	rpm	4895	7476	7452	7700	
5 Nominal torque	mNm	4,01	5,97	5,44	9,25	
6 Nominal current	A	0,44	0,64	0,43	0,39	
7 Stall torque	mNm	36,5	54,2	68,1	74	
8 Stall current	A	3,6	5,4	4,9	2,9	
9 Max. efficiency	%	77,8	81,7	81,7	80,7	
Characteristics						
10 Terminal resistance	Ω	1,67	1,67	2,45	8,28	
11 Terminal inductance	mH	0,062	0,07	0,16	0,29	
12 Torque constant	mNm/A	10,27	10,14	14,02	25,77	
13 Speed constant	rpm/V	916,7	933,3	675	366,7	
14 Speed/torque gradient	rpm/mNm	150,8	154,9	119	119	
15 Mechanical time constant	ms	9,11	7,68	5,9	5,79	
16 Rotor inertia	gcm ²	5,77	4,73	4,73	4,65	
Mechanical data						
17 Thermal resistance housing-ambient	16 K/W					
18 Thermal resistance winding-housing	5 K/W					
19 Thermal time constant winding	18 s					
20 Thermal time constant motor	700 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	8800 rpm					
24 Max. axial load (dynamic)	3,5 N					
25 Max. force for press fits (static)	44 N					
26 Max. radial loading, 5mm from flange	15 N					
Other specifications						
27 Number of poles	2					
28 Weight	105 gr					



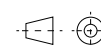
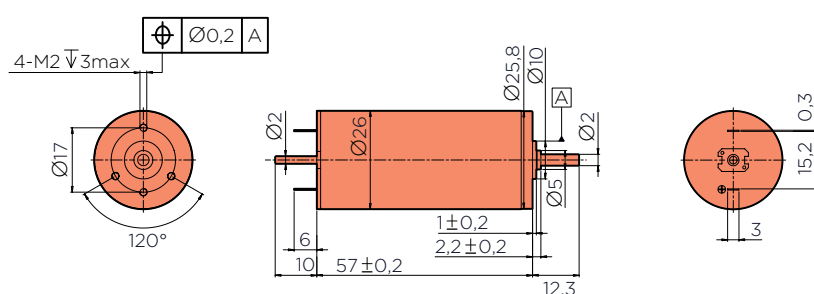
Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

SVTN B 01-2657 Graphite brushes

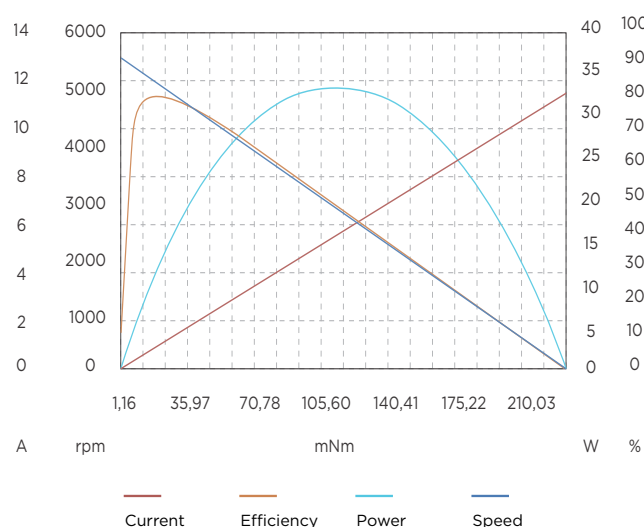
25 Watt

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1:2

Values	Unit	SVTN B 01 2657-12..	2657-24..	2657-48..
Motor Data				
1 Nominal voltage	V	12	24	48
2 No-load speed	rpm	5600	5600	5800
3 No-load current	mA	130	60	20
4 Nominal speed	rpm	4984	4984	5162
5 Nominal torque	mNm	25,53	25,57	36,16
6 Nominal current	A	1,39	0,69	0,48
7 Stall torque	mNm	232,1	232,5	328,8
8 Stall current	A	11,6	5,8	4,2
9 Max. efficiency	%	79,9	80,7	86,7
Characteristics				
10 Terminal resistance	Ω	1,03	4,14	11,43
11 Terminal inductance	mH	0,083	0,31	1,43
12 Torque constant	mNm/A	20,23	40,5	78,65
13 Speed constant	rpm/V	466,7	233,3	120,8
14 Speed/torque gradient	rpm/mNm	24,1	24,1	17,6
15 Mechanical time constant	ms	3,34	3,45	2,56
16 Rotor inertia	gcm ²	13,22	13,69	5,13
Mechanical data				
17 Thermal resistance housing-ambient	10.2 K/W			
18 Thermal resistance winding-housing	3.01 K/W			
19 Thermal time constant winding	24s			
20 Thermal time constant motor	620 s			
21 Ambient temperature	-20...+85°C			
22 Max. permissible winding temperature	+100°C			
23 Max. permissible speed	5800 rpm			
24 Max. axial load (dynamic)	3,5 N			
25 Max. force for press fits (static)	44 N			
26 Max. radial loading, 5mm from flange	15 N			
Other specifications				
27 Number of poles	2			
28 Weight	149 gr			

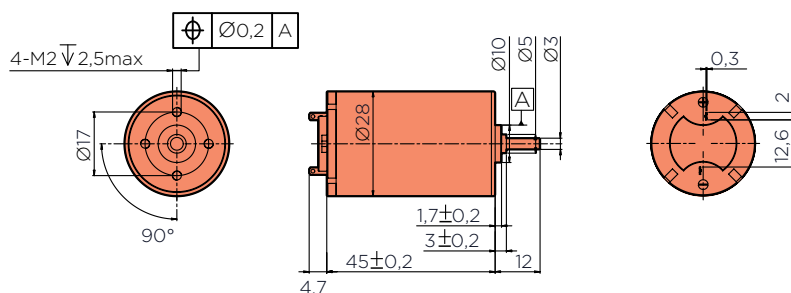


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

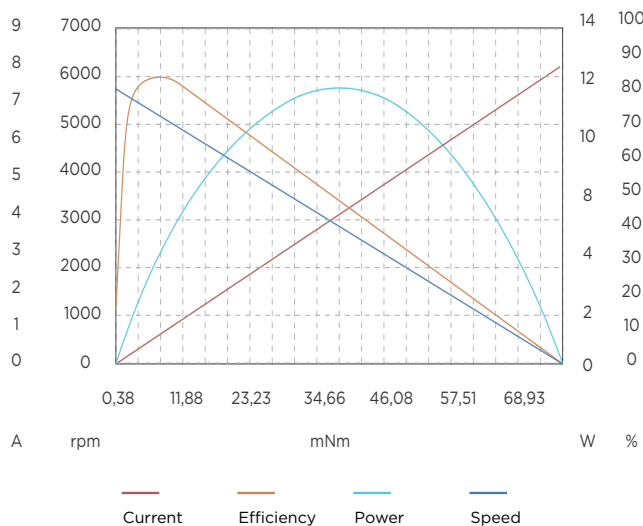
SVTN B 01-2845 Metal brushes

25 Watt



1:2

Values	Unit	SVTN B 01	2845-06..	2845-12..	2845-24..	2845-48..
Motor Data						
1 Nominal voltage	V	6	12	24	48	
2 No-load speed	rpm	5800	6200	6400	7000	
3 No-load current	mA	45	25	16	10	
4 Nominal speed	rpm	5336	5394	5568	6090	
5 Nominal torque	mNm	6,09	14,3	20,33	18,56	
6 Nominal current	A	0,67	0,8	0,59	0,29	
7 Stall torque	mNm	76,2	110	156,4	142,8	
8 Stall current	A	7,8	6	4,4	2,2	
9 Max. efficiency	%	85,4	87,5	88,3	87	
Characteristics						
10 Terminal resistance	Ω	0,77	2	5,45	21,82	
11 Terminal inductance	mH	0,053	0,16	0,55	2,1	
12 Torque constant	mNm/A	9,82	18,41	35,68	65,18	
13 Speed constant	rpm/V	966,7	516,7	266,7	145,8	
14 Speed/torque gradient	rpm/mNm	76,1	56,4	40,9	49	
15 Mechanical time constant	ms	6,66	6,28	4,78	6	
16 Rotor inertia	gcm ²	8,35	11,47	11,16	11,69	
Mechanical data						
17 Thermal resistance housing-ambient	9 K/W					
18 Thermal resistance winding-housing	2 K/W					
19 Thermal time constant winding	9 s					
20 Thermal time constant motor	570 s					
21 Ambient temperature	-20...+85°C					
22 Max. permissible winding temperature	+100°C					
23 Max. permissible speed	8500 rpm					
24 Max. axial load (dynamic)	7,5 N					
25 Max. force for press fits (static)	100 N					
26 Max. radial loading, 5mm from flange	25 N					
Other specifications						
27 Number of poles	2					
28 Weight	145 gr					



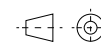
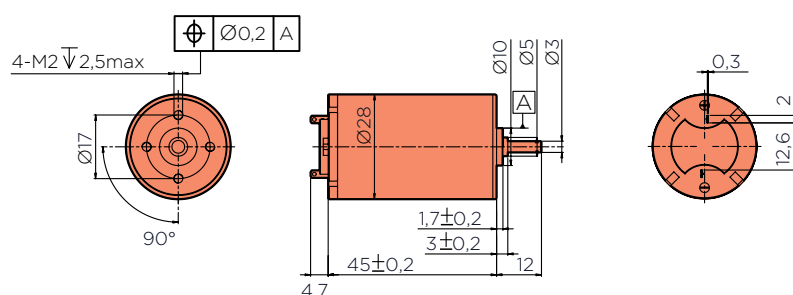
Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

SVTN B 01 2845 Graphite brushes

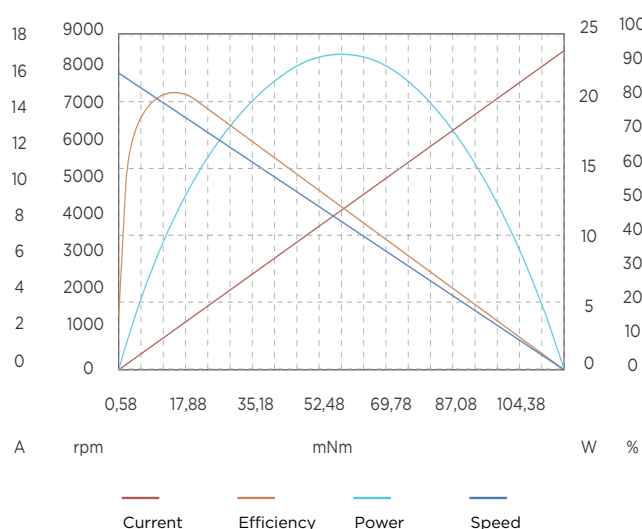
25 Watt

servotecnica



1:2

Values	Unit	SVTN B 01 2845-06..	2845-12..	2845-24..	2845-48..
Motor Data					
1 Nominal voltage	V	6	12	24	48
2 No-load speed	rpm	7800	8400	8500	8200
3 No-load current	mA	150	120	75	45
4 Nominal speed	rpm	6942	7476	7565	7298
5 Nominal torque	mNm	12,69	15,85	17,65	17,9
6 Nominal current	A	1,89	1,29	0,74	0,37
7 Stall torque	mNm	115,3	144,1	160,5	162,7
8 Stall current	A	16	10,8	6,1	3
9 Max. efficiency	%	81,6	80	79,1	77
Characteristics					
10 Terminal resistance	Ω	0,38	1,11	3,93	16
11 Terminal inductance	mH	0,03	0,12	0,42	1,8
12 Torque constant	mNm/A	7,28	13,49	26,63	55,06
13 Speed constant	rpm/V	1300	700	354,2	170,8
14 Speed/torque gradient	rpm/mNm	67,6	58,3	53	50,4
15 Mechanical time constant	ms	7,53	7	6,49	6,73
16 Rotor inertia	gcm ²	10,63	11,47	11,69	12,75
Mechanical data					
17 Thermal resistance housing-ambient	9 K/W				
18 Thermal resistance winding-housing	2 K/W				
19 Thermal time constant winding	9 s				
20 Thermal time constant motor	570 s				
21 Ambient temperature	-20...+85°C				
22 Max. permissible winding temperature	+100°C				
23 Max. permissible speed	8500 rpm				
24 Max. axial load (dynamic)	7,5 N				
25 Max. force for press fits (static)	100 N				
26 Max. radial loading, 5mm from flange	25 N				
Other specifications					
27 Number of poles	2				
28 Weight	145 gr				

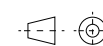
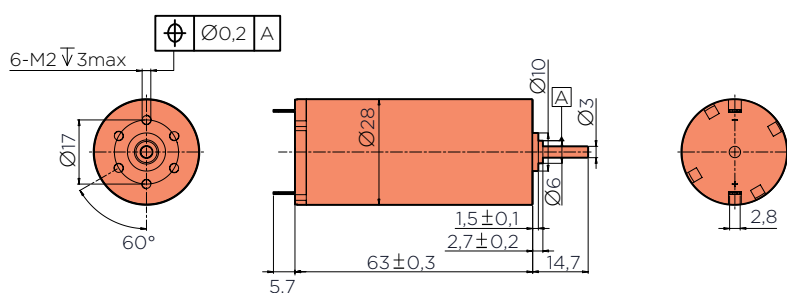


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

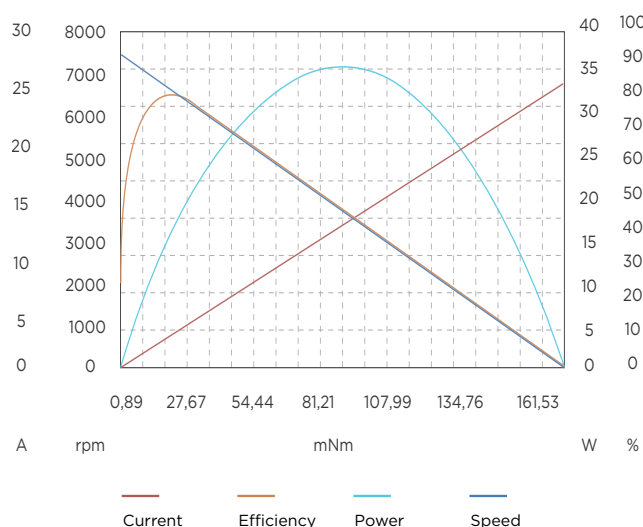
SVTN B 01-2863 Graphite brushes

40 Watt



1:2

Values	Unit	SVTN B 01	2863-06..	2863-12..	2863-24..
Motor Data					
1 Nominal voltage	V	6	12	24	
2 No-load speed	rpm	7500	7300	7300	
3 No-load current	mA	320	240	64	
4 Nominal speed	rpm	6675	6497	6497	
5 Nominal torque	mNm	19,63	26,46	32,71	
6 Nominal current	A	2,92	1,95	1,11	
7 Stall torque	mNm	178,5	240,5	297,4	
8 Stall current	A	24	15,8	9,6	
9 Max. efficiency	%	78,2	76,9	84,3	
Characteristics					
10 Terminal resistance	Ω	0,25	0,76	2,5	
11 Terminal inductance	mH	0,03	0,09	0,28	
12 Torque constant	mNm/A	7,54	15,46	31,19	
13 Speed constant	rpm/V	1250	608,3	304,2	
14 Speed/torque gradient	rpm/mNm	42	30,3	24,5	
15 Mechanical time constant	ms	7,02	6,56	4,97	
16 Rotor inertia	gcm ²	15,94	20,63	19,32	
Mechanical data					
17 Thermal resistance housing-ambient	K/W	8			
18 Thermal resistance winding-housing	K/W	3			
19 Thermal time constant winding	s	30			
20 Thermal time constant motor	s	600			
21 Ambient temperature	°C	-20...+85			
22 Max. permissible winding temperature	°C	+100			
23 Max. permissible speed	rpm	7500			
24 Max. axial load (dynamic)	N	7,5			
25 Max. force for press fits (static)	N	100			
26 Max. radial loading, 5mm from flange	N	25			
Other specifications					
27 Number of poles		2			
28 Weight	gr	200			

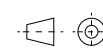
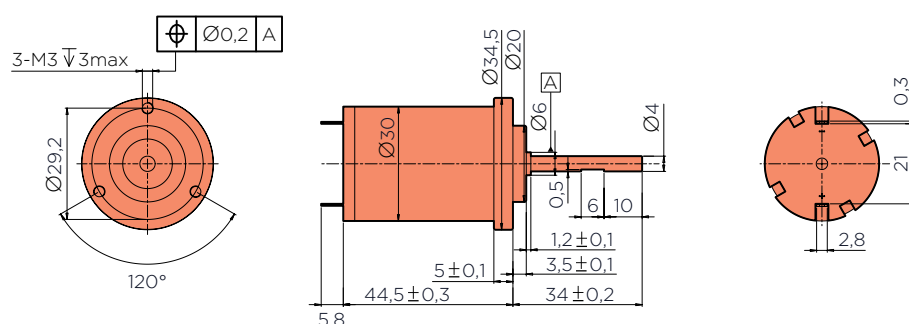


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

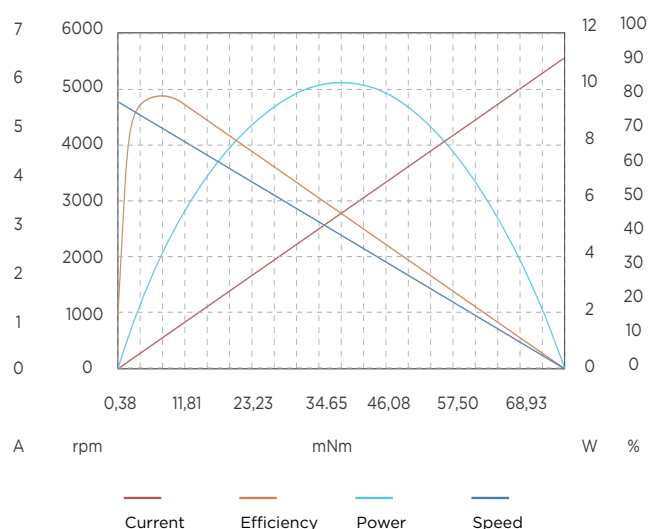
SVTN B 01-3045 Graphite brushes

40 Watt



1:2

Values	Unit	SVTN B 01 3045-06..	3045-12..	3045-24..
Motor Data				
1 Nominal voltage	V	6	12	24
2 No-load speed	rpm	4800	7800	6000
3 No-load current	mA	95	140	35
4 Nominal speed	rpm	4272	6942	5340
5 Nominal torque	mNm	12,62	18,3	17,35
6 Nominal current	A	1,16	1,4	0,49
7 Stall torque	mNm	114,7	166,3	157,8
8 Stall current	A	9,8	11,6	4,2
9 Max. efficiency	%	81,3	79,2	82,6
Characteristics				
10 Terminal resistance	Ω	0,61	1,03	5,71
11 Terminal inductance	mH	0,072	0,11	0,46
12 Torque constant	mNm/A	11,82	14,51	37,88
13 Speed constant	rpm/V	800	650	250
14 Speed/torque gradient	rpm/mNm	41,8	46,9	38
15 Mechanical time constant	ms	6,57	9,14	8,25
16 Rotor inertia	gcm ²	14,99	18,62	20,72
Mechanical data				
17 Thermal resistance housing-ambient	10,5 K/W			
18 Thermal resistance winding-housing	3,1 K/W			
19 Thermal time constant winding	15 s			
20 Thermal time constant motor	630 s			
21 Ambient temperature	-20...+85°C			
22 Max. permissible winding temperature	+100°C			
23 Max. permissible speed	7800 rpm			
24 Max. axial load (dynamic)	7,5 N			
25 Max. force for press fits (static)	100 N			
26 Max. radial loading, 5mm from flange	25 N			
Other specifications				
27 Number of poles	2			
28 Weight	175 gr			

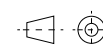
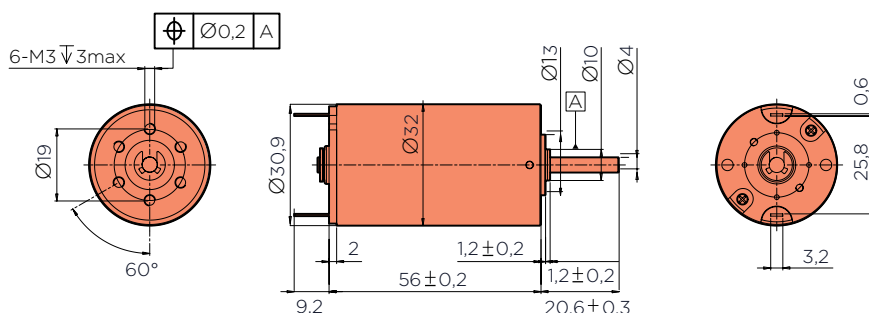


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

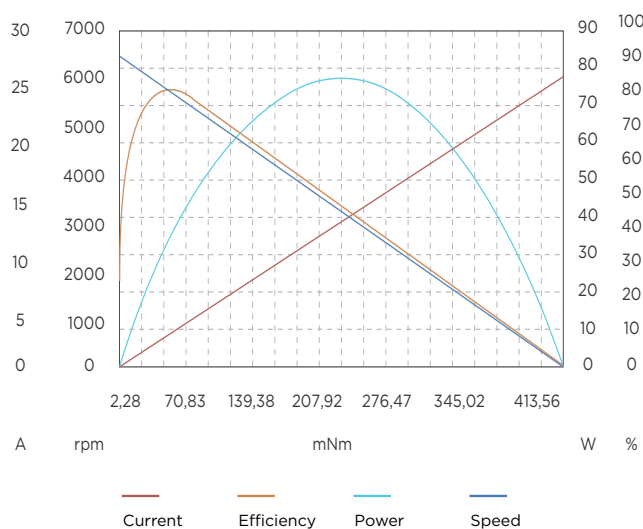
SVTN B 01-3256 Graphite brushes

60 Watt



1:2

Values	Unit	SVTN B 01	3256-12..	3256-24..	3256-48..
Motor Data					
1 Nominal voltage	V	12	24	48	
2 No-load speed	rpm	6400	6100	6800	
3 No-load current	mA	240	85	50	
4 Nominal speed	rpm	5696	5429	6052	
5 Nominal torque	mNm	50,27	53,03	57,1	
6 Nominal current	A	3,07	1,51	0,9	
7 Stall torque	mNm	457	482,1	519,1	
8 Stall current	A	26	13	7,8	
9 Max. efficiency	%	81,7	84,5	84,6	
Characteristics					
10 Terminal resistance	Ω	0,46	1,85	6,15	
11 Terminal inductance	mH	0,075	0,265	0,96	
12 Torque constant	mNm/A	17,74	37,33	66,97	
13 Speed constant	rpm/V	533,3	254,2	141,7	
14 Speed/torque gradient	rpm/mNm	14	12,7	13,1	
15 Mechanical time constant	ms	4,06	3,67	3,8	
16 Rotor inertia	gcm ²	27,68	27,68	27,68	
Mechanical data					
17 Thermal resistance housing-ambient	8,5 K/W				
18 Thermal resistance winding-housing	2,3 K/W				
19 Thermal time constant winding	18 s				
20 Thermal time constant motor	670 s				
21 Ambient temperature	-20...+85°C				
22 Max. permissible winding temperature	+100°C				
23 Max. permissible speed	6800 rpm				
24 Max. axial load (dynamic)	7,5 N				
25 Max. force for press fits (static)	100 N				
26 Max. radial loading, 5mm from flange	25 N				
Other specifications					
27 Number of poles	2				
28 Weight	225 gr				



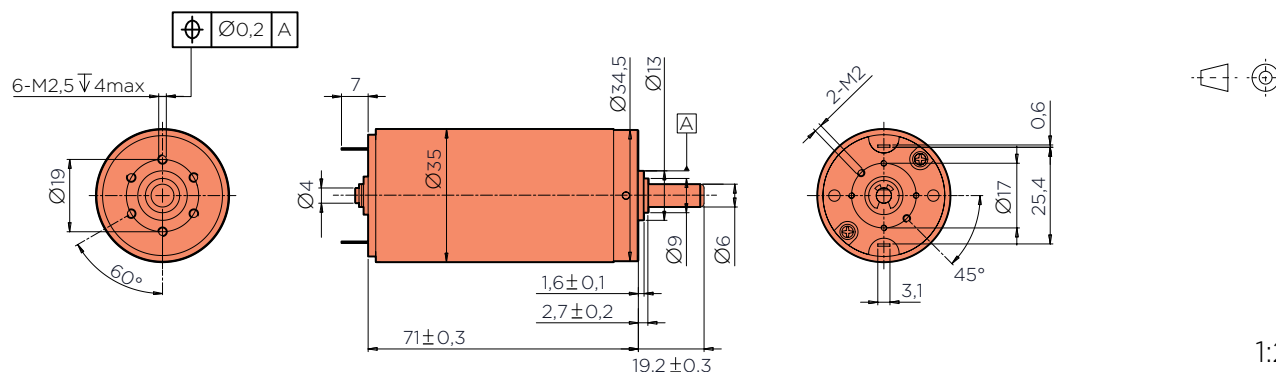
Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

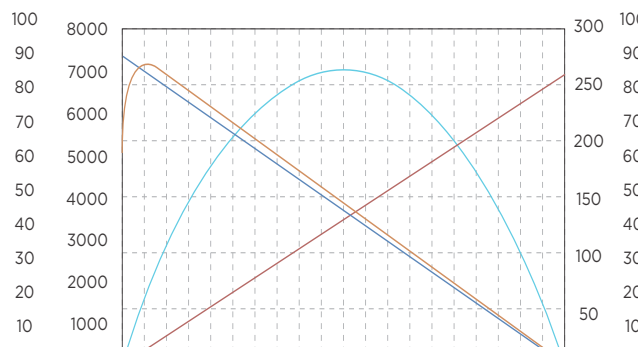
SVTN B 01-3571 Graphite brushes

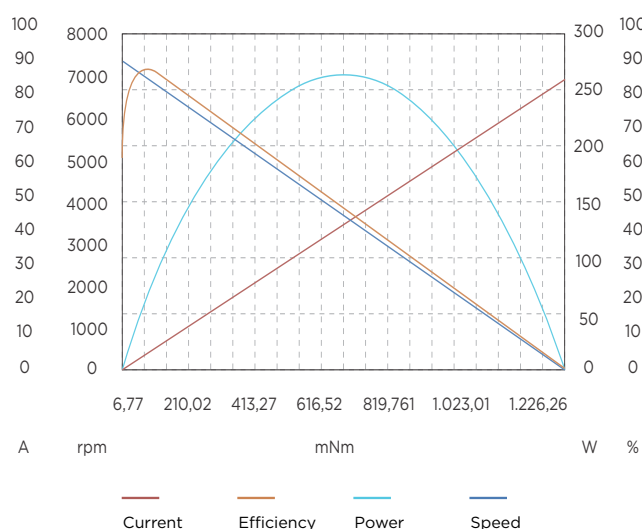
90 Watt

servotecnica



1:2

Values	Unit	SVTN B 01	3571-12..	3571-15..	3571-18..	3571-24..	3571-48..
Motor Data							
1	Nominal voltage	V	12	15	18	24	48
2	No-load speed	rpm	7400	7100	6600	7900	7600
3	No-load current	mA	250	160	150	150	80
4	Nominal speed	rpm	6771	6497	6039	7229	6118
5	Nominal torque	mNm	115,17	81,76	82,35	117,62	245,1
6	Nominal current	A	7,71	4,23	3,32	4,22	4,16
7	Stall torque	mNm	1355	961,9	968,8	1383,8	1256,9
8	Stall current	A	88	48	37,5	48	21
9	Max. efficiency	%	89,6	88,8	87,8	89,1	88
Characteristics							
10	Terminal resistance	Ω	0,14	0,31	0,48	0,5	2,3
11	Terminal inductance	mH	0,05	0,12	0,17	0,19	0,7
12	Torque constant	mNm/A	15,44	20,11	25,94	28,92	60,1
13	Speed constant	rpm/V	616,7	473,3	366,7	329,2	158,3
14	Speed/torque gradient	rpm/mNm	5,5	7,4	6,8	5,7	6
15	Mechanical time constant	ms	4,57	5,87	5,43	4,48	4,61
16	Rotor inertia	gcm²	79,98	76,01	76,06	74.80	72,85
Mechanical data							
17	Thermal resistance housing-ambient	6.2 K/W					
18	Thermal resistance winding-housing	2 K/W					
19	Thermal time constant winding	30.1 s					
20	Thermal time constant motor	707 s					
21	Ambient temperature	-20...+85°C					
22	Max. permissible winding temperature	+100°C					
23	Max. permissible speed	7900 rpm					
24	Max. axial load (dynamic)	7.5 N					
25	Max.force for press fits (static)	100 N					
26	Max. radial loading, 5mm from flange	25 N					
Other specifications							
27	Number of poles	2					
28	Weight	360 gr					

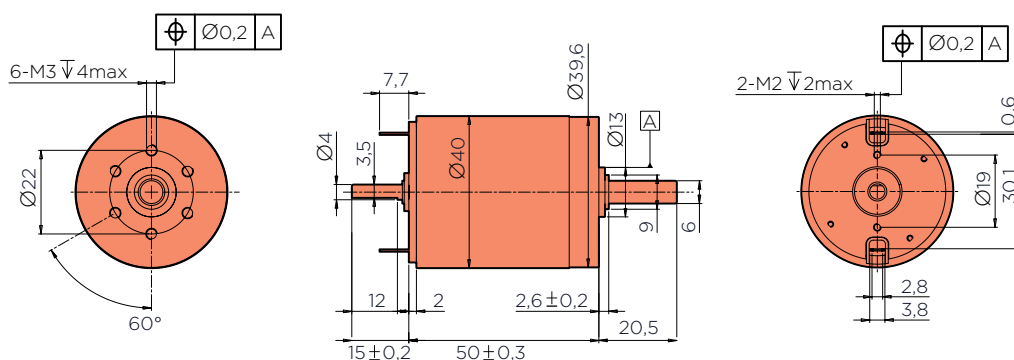


Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

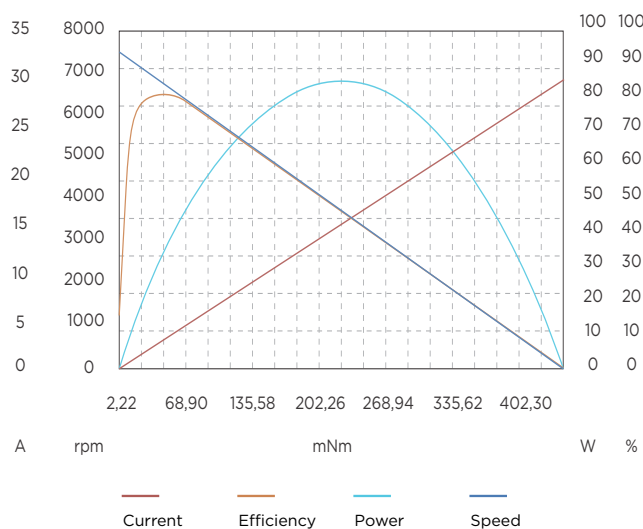
SVTN B 01-4050 Graphite brushes

110 Watt



1:2

Values	Unit	SVTN B 01	4050-12..	4050-15..	4050-24..	4050-36..	4050-48..
Motor Data							
1 Nominal voltage	V	12	15	24	36	48	
2 No-load speed	rpm	7600	7600	7850	8000	9500	
3 No-load current	mA	260	200	150	60	40	
4 Nominal speed	rpm	6612	6612	6712	6640	8075	
5 Nominal torque	mNm	57,79	57,83	77,05	72,18	75,41	
6 Nominal current	A	4,13	3,29	2,81	1,75	1,61	
7 Stall torque	mNm	444,5	444,8	531,4	424,6	502,8	
8 Stall current	A	30	24	18,5	10	10,5	
9 Max. efficiency	%	82,2	82,6	82,8	85,1	88	
Characteristics							
10 Terminal resistance	Ω	0,4	0,63	1,3	3,6	4,6	
11 Terminal inductance	mH	0,043	0,087	0,18	0,32	0,51	
12 Torque constant	mNm/A	14,95	18,69	28,96	42,71	48,1	
13 Speed constant	rpm/V	633,3	506,7	327,1	222,2	197,9	
14 Speed/torque gradient	rpm/mNm	17,1	17,1	14,8	18,8	18,9	
15 Mechanical time constant	ms	6	6,56	5,75	6,92	6,94	
16 Rotor inertia	gcm ²	33,54	36,66	37,14	35,08	35,08	
Mechanical data							
17 Thermal resistance housing-ambient	4.9 K/W						
18 Thermal resistance winding-housing	2 K/W						
19 Thermal time constant winding	38 s						
20 Thermal time constant motor	780 s						
21 Ambient temperature	-20...+85°C						
22 Max. permissible winding temperature	+100°C						
23 Max. permissible speed	9500 rpm						
24 Max. axial load (dynamic)	9 N						
25 Max. force for press fits (static)	170 N						
26 Max. radial loading, 5mm from flange	80 N						
Other specifications							
27 Number of poles	2						
28 Weight	290 gr						



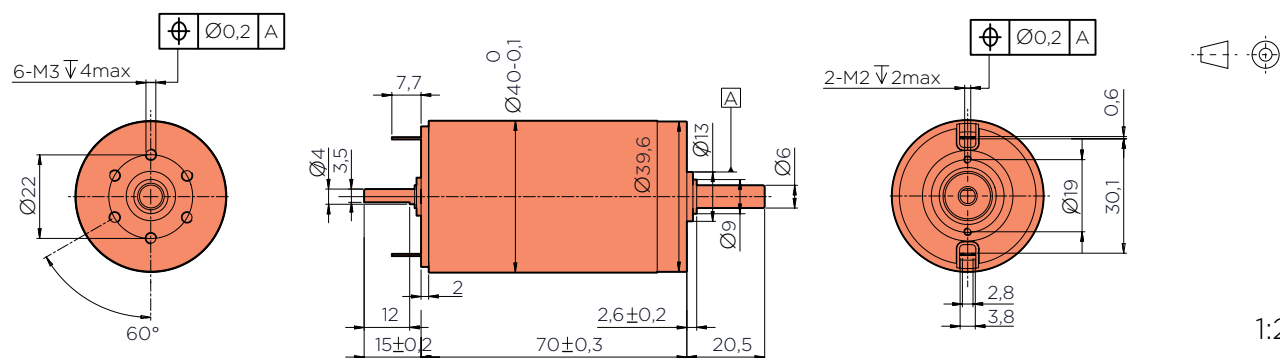
Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

SVTN B 01-4070 Graphite brushes

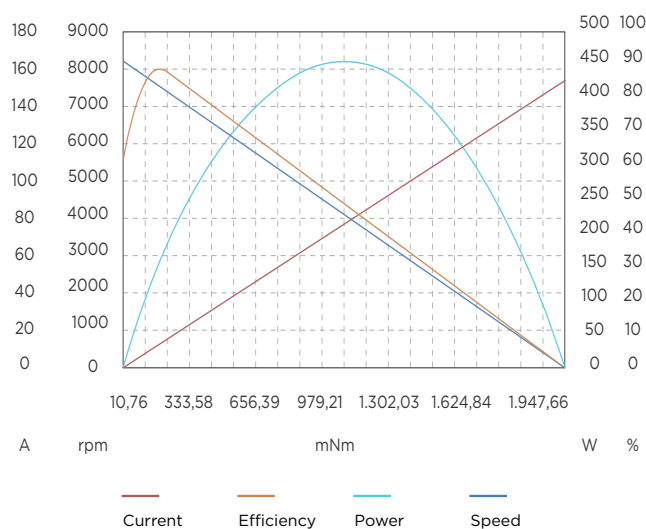
150 Watt

servotecnica



1:2

Values	Unit	SVTN B 01	4070-12..	4070-24..	4070-36..	4070-48..	4070-48..
Motor Data							
1	Nominal voltage	V	12	24	36	48	48
2	No-load speed	rpm	8200	7600	7500	7600	2200
3	No-load current	mA	500	180	180	100	18
4	Nominal speed	rpm	7585	7030	6900	6992	1606
5	Nominal torque	mNm	161,41	181,25	189,36	196,86	172,37
6	Nominal current	A	12,09	6,2	4,33	3,37	0,85
7	Stall torque	mNm	2152,1	2416,7	2367	2460,7	638,4
8	Stall current	A	155	80,5	52	41	3,1
9	Max. efficiency	%	89	90,8	88,6	90,4	85,3
Characteristics							
10	Terminal resistance	Ω	0,08	0,3	0,69	1,17	15,5
11	Terminal inductance	mH	0,016	0,083	0,18	0,34	4,08
12	Torque constant	mNm/A	13,93	30,09	45,68	60,16	207,1
13	Speed constant	rpm/V	683,3	316,7	208,3	158,3	45,8
14	Speed/torque gradient	rpm/mNm	3,8	3,1	3,2	3,1	3,4
15	Mechanical time constant	ms	5,6	4,42	4,3	4,05	4,31
16	Rotor inertia	gcm ²	140,23	134,1	137,14	125,21	119,52
Mechanical data							
17	Thermal resistance housing-ambient	4.7 K/W					
18	Thermal resistance winding-housing	1.9 K/W					
19	Thermal time constant winding	41.5 s					
20	Thermal time constant motor	809 s					
21	Ambient temperature	-20...+85°C					
22	Max. permissible winding temperature	+100°C					
23	Max. permissible speed	7600 rpm					
24	Max. axial load (dynamic)	9 N					
25	Max. force for press fits (static)	170 N					
26	Max. radial loading, 5mm from flange	80 N					
Other specifications							
27	Number of poles	2					
28	Weight	485 gr					

CORELESS
BRUSHED DC

Configuration

PERFORMANCE: Customized in the continuous operating range
 BEARINGS: Ball bearings (preloaded)
 FLANGE (front/back): Standard or customized
 SHAFT (front/back): Length/Diameter/Cut face/double shaft
 CONNECTION: Terminals or cables

Encoders

Magnetic Incremental Encoders



WAGNER GMBH
Elektrotechnische Systemlösungen

Robert-Bosch-Straße 35
42489 Wülfrath
T 02058 - 78 28 00 - 0

F 02058 - 78 28 00 - 49
info@wagnergmbh.de
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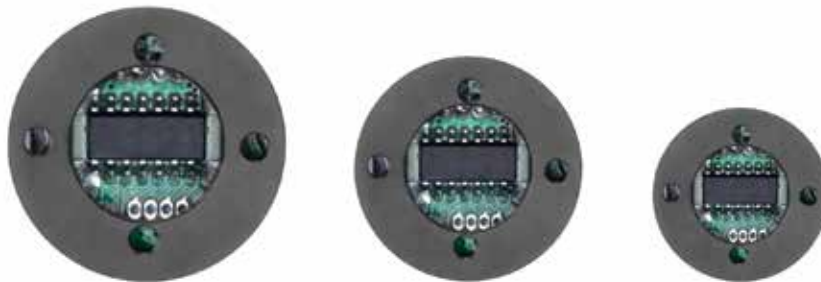
ENCODERS



F 02058 - 78 28 00 - 49
info@wagnergmbh.de
www.wagnergmbh.de

Encoders

Magnetic Incremental Encoders*



ROBUST



COMPACT



COST-EFFECTIVE

Thanks to incremental magnetic encoders (single ended and line driver), you can obtain a reliable control of speed and position.

*As an option, incremental optic encoders are available for high resolution needs.

Features

Housing	Engineering plastic
Operating temperature	-40° +125° C
Signal	3 or 5 channels: AB1; A A/, B B/, I I/
Resolution	from 25 to 1000/1024 ppr
Supply Voltage	5 VDC
Max speed	28.000 rpm



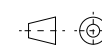
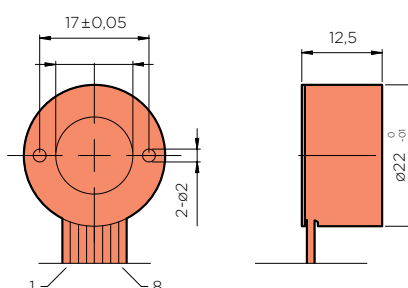
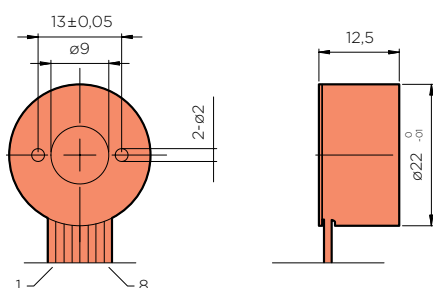
WAGNER GMBH
Elektrotechnische Systemlösungen

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EN 22A, EN 22AL

EN 22B, EN 22BL



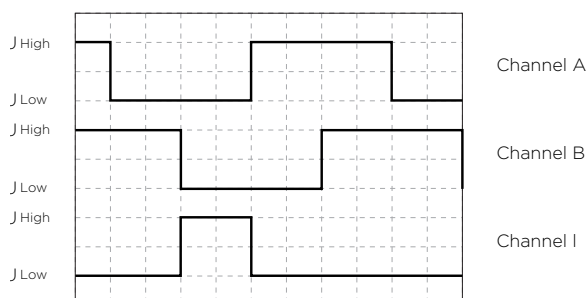
Electric Data	Unit	EN 22A	EN 22AL	EN 22B	EN 22BL
1 Counts per revolution	ppr	1024	1024	1024	1024
2 Number of channels	#	3	5	3	5
3 Max. speed	rpm	28000	28000	28000	28000
4 Supply voltage	VDC	5	5	5	5
5 Output signal		TTL single ended	TTL line driver	TTL single ended	TTL line driver
6 Index pulse width	deg.	90	90	90	90
7 Phase shift, Channel A to B	deg.	90	90	90	90
8 Interia of code disc	g/cm ²	0,7	0,7	0,7	0,7
9 Operating temperature range	°C	-40..+125	-40..+125	-40..+125	-40..+125

Features & Configuration

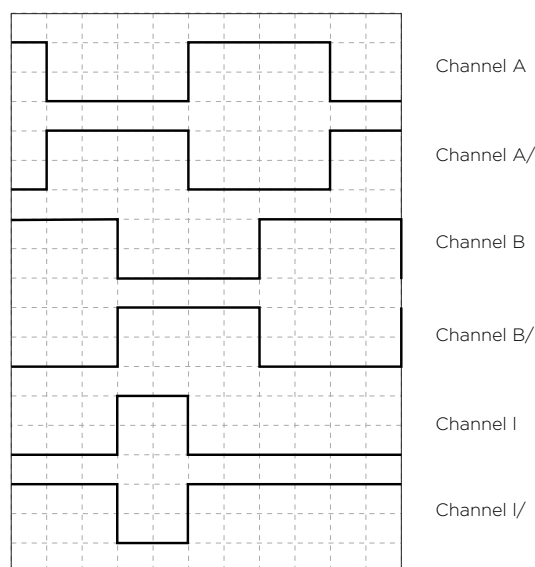
- Magnetic rotary encoder chip
- Output interface: ABI
- Configuration programmable : Zero position, ABI line per revolution
- ABI binary programmable decimal and binary pulse count: 1000, 500, 400, 300, 200, 100, 50, 25, 1024, 512, 256 ppr

Connection

Output signal



Connection	EN22A; EN22A	EN22AL; EN22BL	PVC
Pin 1	GND	GND	AWG28
Pin 2	Vcc	Vcc	AWG28
Pin 3	I	I/	AWG28
Pin 4	B	I	AWG28
Pin 5	A	B/	AWG28
Pin 6	NC	B	AWG28
Pin 7	NC	A/	AWG28
Pin 8	NC	A	AWG28



Direction of rotation: CCW viewed from front shaft end

Gearboxes

Planetary gearboxes



WAGNER GMBH
Elektrotechnische Systemlösungen

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GEARBOXES

GEARBOXES

Gearboxes

Planetary gearboxes



ROBUST



COMPACT



COST-EFFECTIVE

The planetary gearboxes are characterized by a robust design and are employed for uses where high-performance and reduce dimensions are required.

The gear trains can be made of steel or plastic polymers, also in blended configurations when needed.

The gearboxes are lubricated according to the needs with reference to temperature and functionality. They are available with sleeve, ball or customized bearings.

Available also in personalized options designed upon request.

Benefits

Robust

Compact

Cost-effective

Low Noise



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Product code

SVTG    -  -     -   

 Bearings
Sleeve [A]; Ball [B]

 Diameter

 Number of gear stages

 Ratio

 Type of motor
Brushless [A]; Brushed [B]; Flat [F]

 Motor diameter

Features

Materials	Metal / Polymer
Diameter	from 10mm to 52mm
Torque	from 0.2Nm to 45Nm
Operating temperature	-20° +100°C*
Estimated operating lifetime	Lifetime depends on gearbox working conditions. Operating life span can vary between 1.000 to 3.000 work hours.

Customizations

Flange	Shape
Shaft	Length/Diameter/D-Cut/...
Input-stage geartrain	Plastic (for quiet running)

*With special lubrication

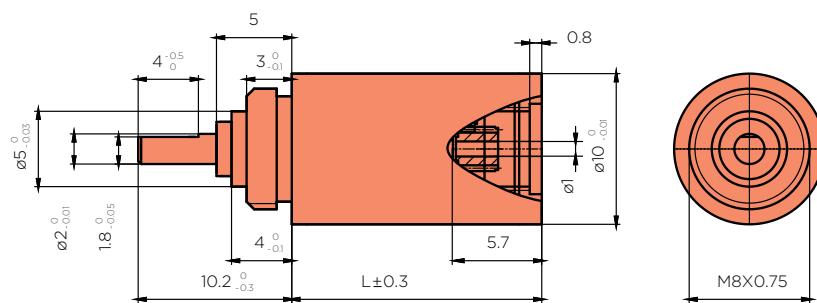


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SVTG A 10



A 10							
Values		Unit					
1	Housing material		Metal				
2	Geartrain material		Metal/Plastic				
3	Max input speed (continuous operation)	rpm	≤ 20.000				
4	Bearings on output shaft		Sleeve bearings				
	Max shaft load						
5	Radial (5mm from mounting face)	N	≤ 10				
6	Axial	N	≤ 8				
7	Max shaft press fit force	N	≤ 10				
	Shaft play						
8	Radial	mm	≤ 0.1				
9	Axial	mm	≤ 0.2				
10	Operating temperature range	°C	-20 +125				
11	Number of gear stages		1	2	3	4	5
12	Reduction ratio		4:1	16:1	64:1	256:1	1024:1
13	Continuous torque	Nm	0.01	0.025	0.1	0.15	0.15
14	Intermittent torque	Nm	0.02	0.05	0.15	0.2	0.2
15	Max Efficiency	%	90	81	73	65	59
16	Gearhead Lenght L	mm	11	13.8	16.6	19.4	22.2
17	No-Load Backlash	°	1	1.2	1.2	1.5	1.5
18	Weight	g	5	6.3	7.5	8.8	10

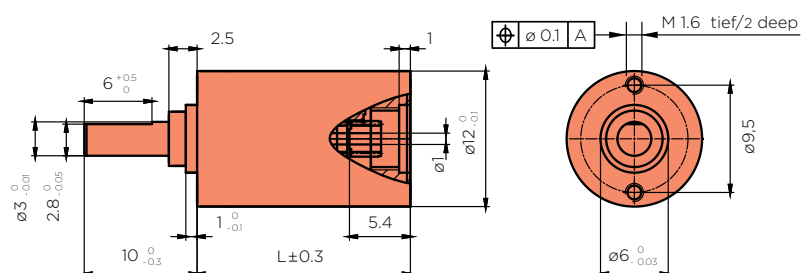


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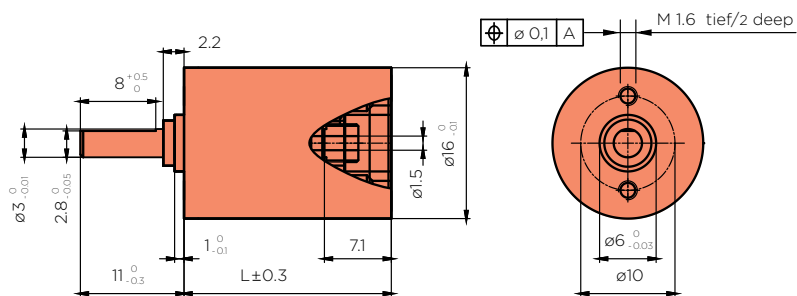
SVTG A 12



A 12							
Values		Unit					
1	Housing material		Metal				
2	Geartrain material		Metal/Plastic				
3	Max input speed (continuous operation)	rpm	≤ 20.000				
4	Bearings on output shaft		Sleeve/Ball* bearings				
	Max shaft load						
5	Radial (5mm from mounting face)	N	≤ 10				
6	Axial	N	≤ 8				
7	Max shaft press fit force	N	≤ 10				
	Shaft play						
8	Radial	mm	≤ 0.1				
9	Axial	mm	≤ 0.2				
10	Operating temperature range	°C	-20 +125				
11	Number of gear stages		1	2	3	4	5
12	Reduction ratio		3.94:1	14:1	42:1	146:1	650:1
13			4.62 :1	16:1	54:1	187:1	946:1
14				18:1	61:1	282:1	1345:1
15				21:1	72:1	342:1	1661:1
16					84:1	387:1	2094:1
17					98:1	454:1	2586:1
18						560:1	3194:1
19	Continuous torque	Nm	0,2	0,2	0,3	0,3	0,35
20	Intermittent torque	Nm	0,3	0,3	0,45	0,45	0,5
21	Max Efficiency	%	90	81	73	65	59
22	Gearhead Lenght L	mm	13,3	16,1	18,9	21,7	24,5
23	No-Load Backlash	°	1	1.2	1.2	1.5	1.5
24	Weight	g	7	10	13	16,5	20

*Optional

SVTG A 16



A 16							
Values	Unit						
1	Housing material		Metal				
2	Geartrain material		Metal/Plastic				
3	Max input speed (continuous operation)	rpm	≤ 20.000				
4	Bearings on output shaft		Sleeve/Ball* bearings				
	Max shaft load						
5	Radial (5mm from mounting face)	N	≤ 10				
6	Axial	N	≤ 8				
7	Max shaft press fit force	N	≤ 10				
	Shaft play						
8	Radial	mm	≤ 0.1				
9	Axial	mm	≤ 0.2				
10	Operating temperature range	°C	-20 +125				
11	Number of gear stages		1	2	3	4	5
12	Reduction ratio		3,79:1	14:1	54:1	206:1	1012:1
13			4,31:1	16:1	70:1	267:1	1152:1
14			5,08:1	18:1	80:1	304:1	1311:1
15				22:1	94:1	407:1	1492:1
16					111:1	479:1	1596:1
17					131:1	664:1	2067:1
18							2434:1
19	Continuous torque	Nm	0.2	0.2	0.3	0.3	0,35
20	Intermittent torque	Nm	0.3	0.3	0.45	0.45	0.5
21	Max Efficiency	%	90	81	73	65	59
22	Gearhead Lenght L	mm	14.8	18.4	22.00	25.6	29.2
23	No-Load Backlash	°	1	1.5	1.5	2	2
24	Weight	g	15	20	25	30	35



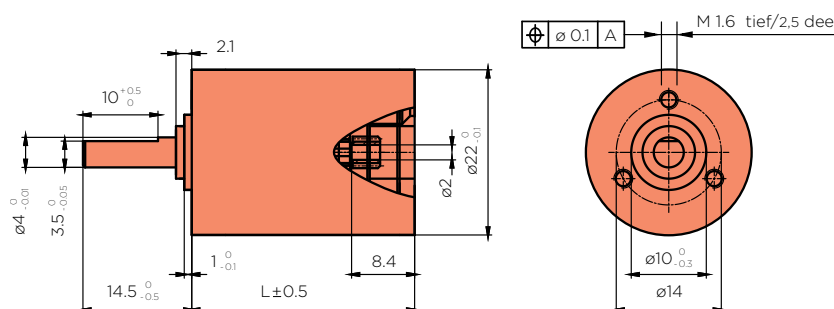
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*Optional

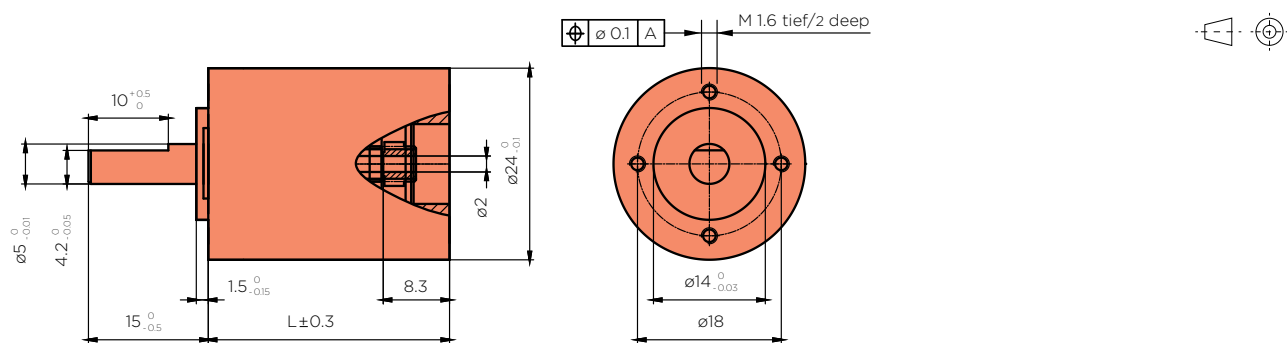
SVTG B 22



A 22							
Values		Unit					
1	Housing material	Metal					
2	Geartrain material	Metal/Plastic					
3	Max input speed (continuous operation)	rpm	≤ 10.000				
4	Bearings on output shaft	Sleeve*/Ball bearings					
Max shaft load							
5	Radial (5mm from mounting face)	N	≤ 50				
6	Axial	N	≤ 50				
7	Max shaft press fit force	N	≤ 100				
Shaft play							
8	Radial	mm	≤ 0.1				
9	Axial	mm	≤ 0.2				
10	Operating temperature range	°C	-20 +125				
11	Number of gear stages	1	2	3	4	5	
12	Reduction ratio	3.57:1	14:1	46:1	182:1	729:1	
13		4:1	16:1	51:1	205:1	817:1	
14		5.5:1	18:1	59:1	263:1	1024:1	
15			22:1	64:1	303:1	1209:1	
16				74:1	338:1	1558:1	
17				84:1	405:1	1936:1	
18				101:1	466:1	2287:1	
19				121:1	557:1	2662:1	
20	Continuous torque	Nm	0.3	0.3	0.5	0.5	0.75
21	Intermittent torque	Nm	0.5	0.5	0.8	0.8	1
22	Max Efficiency	%	90	81	73	65	59
23	Gearhead Lenght L	mm	22,1	25,9	29,7	33,5	37,3
24	No-Load Backlash	°	1	1.5	1.5	2	2
25	Weight	g	30	35	46	55	65

*Optional

SVTG B 24



B 24							
Values		Unit					
1	Housing material		Metal				
2	Geartrain material		Metal/Plastic				
3	Max input speed (continuous operation)	rpm	≤ 10.000				
4	Bearings on output shaft		Ballb bearings				
	Max shaft load						
5	Radial (5mm from mounting face)	N	≤ 50				
6	Axial	N	≤ 50				
7	Max shaft press fit force	N	≤ 100				
	Shaft play						
8	Radial	mm	≤ 0.1				
9	Axial	mm	≤ 0.2				
10	Operating temperature range	°C	-20 +125				
11	Number of gear stages		1	2	3	4	5
12	Reduction ratio		3,3:1	12:1	36:1	119:1	660:1
13			4,29:1	14:1	47:1	154:1	741:1
14				17:1	56:1	200:1	857:1
15				22:1	61:1	260:1	1036:1
16					79:1	337:1	1346:1
17					95:1	408:1	1628:1
18						493:1	1748:1
19							2114:1
20	Continuous torque	Nm	0.5	0.8	1.5	1.8	2.5
21	Intermittent torque	Nm	1	1.5	2	2.5	3.5
22	Max Efficiency	%	90	81	73	65	59
23	Gearhead Lenght L	mm	20.3	24.4	30.2	34.3	38.4
24	No-Load Backlash	°	1	1.5	1.5	2	2
25	Weight	g	35	41	52	59	68

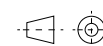
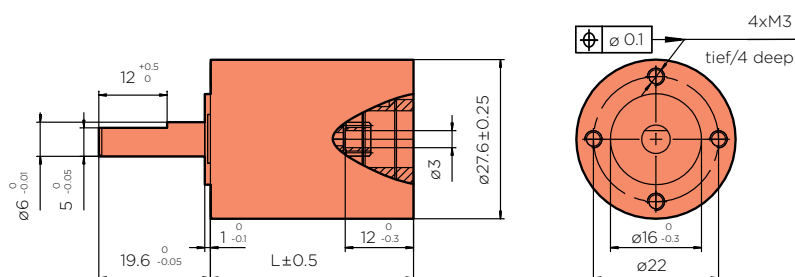


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SVTG B 28



B 28							
Values		Unit					
1	Housing material		Metal				
2	Geartrain material		Metal/Plastic				
3	Max input speed (continuous operation)	rpm	≤ 10.000				
4	Bearings on output shaft		Ball bearings				
Max shaft load							
5	Radial (5mm from mounting face)	N	≤ 50				
6	Axial	N	≤ 50				
7	Max shaft press fit force	N	≤ 100				
Shaft play							
8	Radial	mm	≤ 0.1				
9	Axial	mm	≤ 0.2				
10	Operating temperature range	°C	-20 +125				
11	Number of gear stages		1	2	3	4	5
12	Reduction ratio		3.57:1	14:1	46:1	182:1	729:1
13			4:1	16:1	51:1	205:1	817:1
14			5.5:1	18:1	59:1	263:1	1024:1
15				21:1	64:1	303:1	1209:1
16					74:1	338:1	1558:1
17					85:1	405:1	1936:1
18					101:1	466:1	2287:1
19					121:1	557:1	2662:1
20	Continuous torque	Nm	0.5	1	3	3	3
21	Intermittent torque	Nm	0.8	2	4	4	4
22	Max Efficiency	%	90	81	73	65	59
23	Gearhead Lenght L	mm	26.7	31.2	35.7	40.2	44.7
24	No-Load Backlash	°	1	1.2	1.2	1.5	1.5
25	Weight	g	50	65	85	95	110

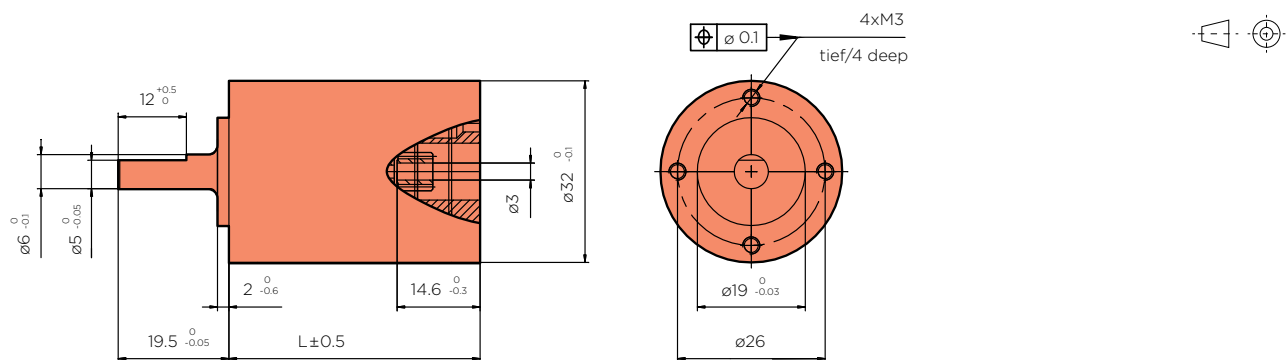


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SVTG B 32



B 32							
Values	Unit						
1	Housing material		Metal				
2	Geartrain material		Metal/Plastic				
3	Max input speed (continuous operation)	rpm	≤ 10.000				
4	Bearings on output shaft		Ball bearings				
	Max shaft load						
5	Radial (5mm from mounting face)	N	≤ 100				
6	Axial	N	≤ 80				
7	Max shaft press fit force	N	≤ 120				
	Shaft play						
8	Radial	mm	≤ 0.1				
9	Axial	mm	≤ 0.2				
10	Operating temperature range	°C	-20 +125				
11	Number of gear stages		1	2	3	4	5
12	Reduction ratio		3.11:1	10:1	30:1	159:1	694:1
13			4:1	15:1	46:1	179:1	765:1
14			4.8:1	19:1	51:1	223:1	856:1
15				23:1	62:1	266:1	989:1
16					72:1	298:1	1428:1
17					80:1	344:1	1846:1
18					92:1	412:1	2548:1
19					111:1	531:1	3174:1
20	Continuous torque	Nm	1	1.5	2.5	3	5
21	Intermittent torque	Nm	2	3	5	6	7.5
22	Max Efficiency	%	90	81	73	65	59
23	Gearhead Lenght L	mm	31.6	37.9	44.2	50.5	56.8
24	No-Load Backlash	°	1	1.5	1.5	2	2
25	Weight	g	125	147	169	191	213

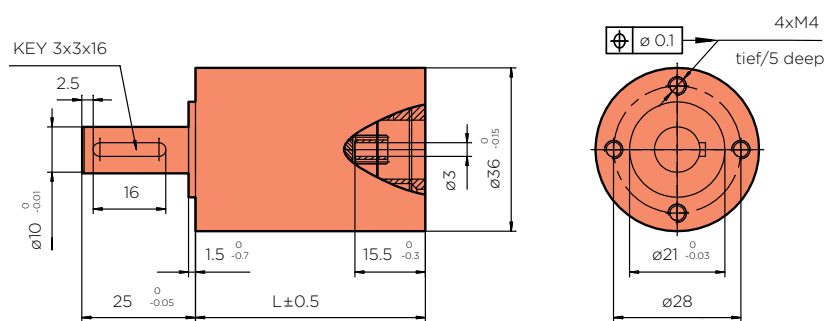


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SVTG B 36



B 36							
Values		Unit					
1	Housing material		Metal				
2	Geartrain material		Metal/Plastic				
3	Max input speed (continuous operation)	rpm	≤ 10.000				
4	Bearings on output shaft		Ball bearings				
Max shaft load							
5	Radial (5mm from mounting face)	N	≤ 100				
6	Axial	N	≤ 80				
7	Max shaft press fit force	N	≤ 120				
Shaft play							
8	Radial	mm	≤ 0.1				
9	Axial	mm	≤ 0.2				
10	Operating temperature range	°C	-20 +125				
11	Number of gear stages		1	2	3	4	5
12	Reduction ratio		3.75:1	14:1	53:1	198:1	1249:1
13			4.67:1	17:1	66:1	246:1	1429:1
14			6.5:1	22:1	82:1	306:1	1779:1
15				30:1	102:1	381:1	2213:1
16					141:1	475:1	3083:1
17					169:1	661:1	4294:1
18						920:1	5981:1
19	Continuous torque	Nm	4	8	16	16	20
20	Intermittent torque	Nm	5	12	25	25	30
21	Max Efficiency	%	90	81	73	65	59
22	Gearhead Lenght L	mm	36	43.3	50.6	57.9	65.2
23	No-Load Backlash	°	0.8	1	1	1.2	1.2
24	Weight	g	210	245	280	315	350



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KEY 4x4x16

2

16

ø12⁰_{-0.01}

25⁰_{-0.05}

2⁰_{-0.7}

L±0.5

22⁰_{-0.3}

2.5

ø4⁰_{-0.15}

ø42⁰_{-0.15}

ø0.1

tief/6 deep

4xM4

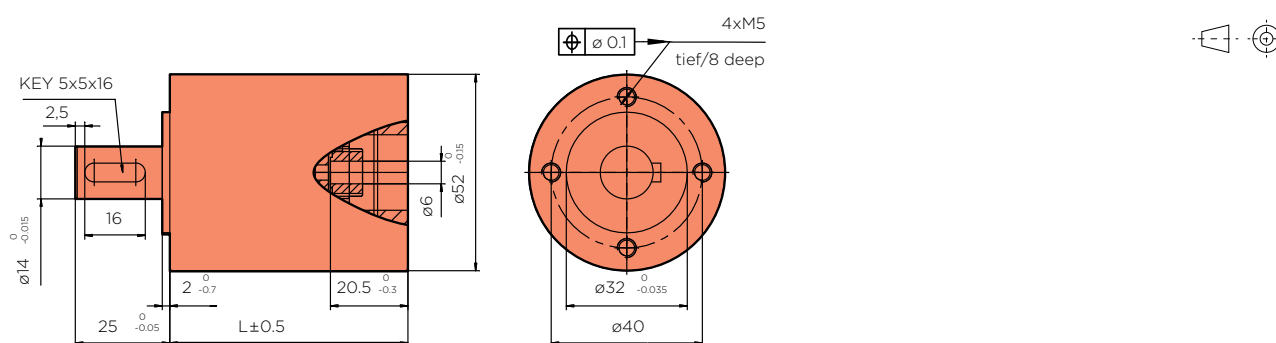
ø28⁰_{-0.035}

ø35



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SVTG B 52



B 52							
Values	Unit						
1	Housing material		Metal				
2	Geartrain material		Metal/Plastic				
3	Max input speed (continuous operation)	rpm	≤ 10.000				
4	Bearings on output shaft		Ball bearings				
	Max shaft load						
5	Radial (5mm from mounting face)	N	≤ 200				
6	Axial	N	≤ 100				
7	Max shaft press fit force	N	≤ 120				
	Shaft play						
8	Radial	mm	≤ 0.1				
9	Axial	mm	≤ 0.2				
10	Operating temperature range	°C	-20 +125				
11	Number of gear stages		1	2	3	4	5
12	Reduction ratio		3.56:1	13:1	45:1	252:1	1003:1
13			4.29:1	15:1	54:1	337:1	1889:1
14			5.60:1	24:1	79:1	441:1	2048:1
15			6.75:1	31:1	86:1	576:1	3226:1
16					103:1	753:1	4214:1
17					134:1	837:1	5648:1
18					176:1	983:1	6638:1
19					212:1	1185:1	8001:1
20	Continuous torque	Nm	4	15	30	30	30
21	Intermittent torque	Nm	6	22.5	45	45	45
22	Max Efficiency	%	90	81	73	65	59
25	Gearhead Lenght L	mm	46	54.5	63	71.5	80
23	No-Load Backlash	°	1	1.5	1.5	2	2
24	Weight	g	475	575	675	775	875

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[illegible]

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how can I help you?



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Your local contact



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