COSMOS
SVTG

Planetary gearboxes

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COSMOS
SVTG

Planetary gearboxes

Cost effective | Robust | Compact

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

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

Gear materials	Metal / Polymer
Diameter	from 10mm to 42mm
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.

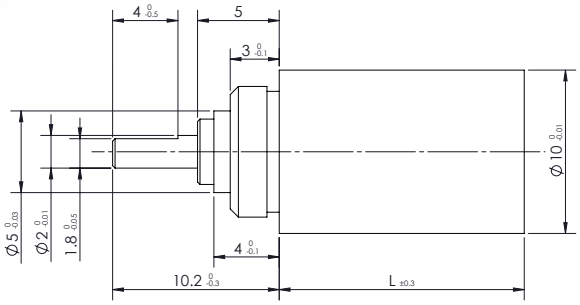
Customizations

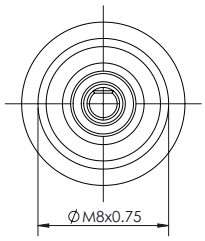
Flange	Shape
Shaft	Length/Diameter/D-Cut/...
Input-stage geartrain	Polymer (for quiet operation)

*With special lubrication

COSMOS Series

SVTG A 10





V 2.6.5

	A 10						
	Values	Unit					
1	Housing material		Metal				
2	Geartrain material		Metal/Polymer				
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	Gearhead Lenght L	mm	11	13.8	16.6	19.4	22.2
14	Continuous torque	Nm	0.01	0.025	0.1	0.15	0.15
15	Intermittent torque	Nm	0.02	0.05	0.15	0.2	0.2
16	Max Efficiency	%	90	81	73	65	59
17	No-Load Backlash	°	1	1.2	1.2	1.5	1.5
18	Weight	g	5	6.3	7.5	8.8	10

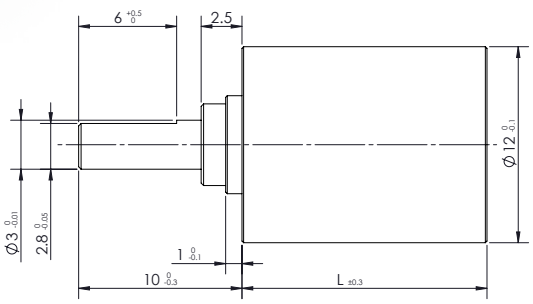
Motor combinations

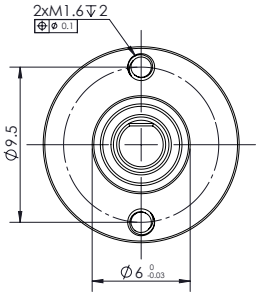
SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-1220*	SVTN B 01-1219*
SVTN A 01-1230*	SVTN B 01-1331*
SVTN A 03-1228*	

*On request

COSMOS Series

SVTG A 12





V 2.6.5

	A 12						
	Values	Unit					
1	Housing material		Metal				
2	Geartrain material		Metal/Polymer				
3	Max input speed (continuous operation)	rpm	≤ 20.000				
4	Bearings on output shaft		Sleeve bearings/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		**3.9:1**	**14:1**	**42:1**	**146:1**	**650:1**
			4.6:1	**16:1**	**54:1**	**187:1**	**946:1**
				18:1	**61:1**	**282:1**	**1345:1**
				21:1	**72:1**	**342:1**	**1661:1**
					84:1	**387:1**	**2094:1**
					98:1	**454:1**	**2586:1**
						560:1	**3194:1**
13	Gearhead Lenght L	mm	13,3	16,1	18,9	21,7	24,5
14	Continuous torque	Nm	0,2	0,2	0,3	0,3	0,35
15	Intermittent torque	Nm	0,3	0,3	0,45	0,45	0,5
16	Max Efficiency	%	90	81	73	65	59
17	No-Load Backlash	°	1	1.2	1.2	1.5	1.5
18	Weight	g	7	10	13	16,5	20

Motor combinations

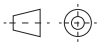
SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-1220*	SVTN B 01-1219*
SVTN A 01-1230*	SVTN B 01-1331*
SVTN A 03-1228*	

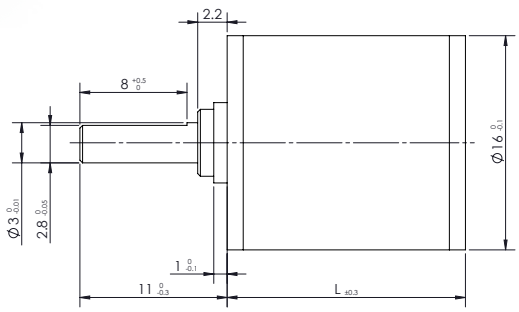
*On request

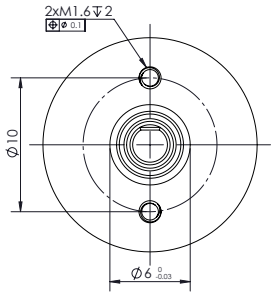
**Optional

COSMOS Series

SVTG A 16







V 2.6.5

	A 16						
	Values	Unit					
1	Housing material		Metal				
2	Geartrain material		Metal/Polymer				
3	Max input speed (continuous operation)	rpm	≤ 20.000				
4	Bearings on output shaft		Sleeve bearings/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		**3.8:1**	**14:1**	**54:1**	**206:1**	**1012:1**
			4.3:1	**16:1**	**70:1**	**267:1**	**1152:1**
			5.1:1	**18:1**	**80:1**	**304:1**	**1311:1**
				22:1	**94:1**	**407:1**	**1492:1**
					111:1	**479:1**	**1596:1**
					131:1	**664:1**	**2067:1**
							2434:1
13	Gearhead Lenght L	mm	17.8	21.4	25.00	28.6	32.2
14	Continuous torque	Nm	0.2	0.2	0.3	0.3	0,35
15	Intermittent torque	Nm	0.3	0.3	0.45	0.45	0.5
16	Max Efficiency	%	90	81	73	65	59
17	Gearhead Lenght L	mm	14.8	18.4	22.00	25.6	29.2
18	No-Load Backlash	°	1	1.5	1.5	2	2
19	Weight	g	15	20	25	30	35

Motor combinations

SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-1630	SVTN B 01-1524
SVTN A 01-1636	SVTN B 01-1640
SVTN A 03-1638	SV TN B 01-1740

*Optional

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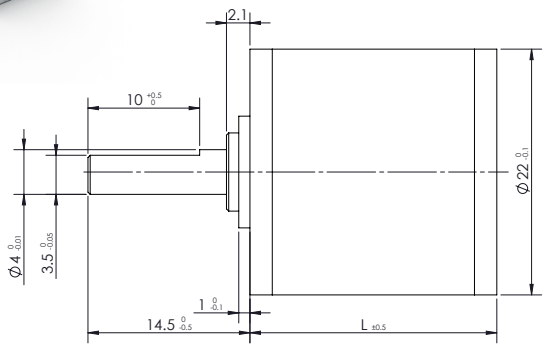
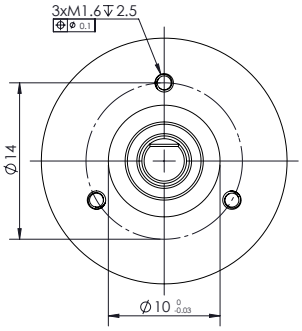
SVTG B 22





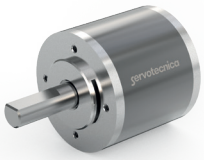
V 2.6.5

	A 22											
	Values	Unit										
1	Housing material		Metal									
2	Geartrain material		Metal/Polymer									
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		**3.6:1**	**5.5:1**	**13:1**	**22:1**	**46:1**	**101:1**	**182:1**	**405:1**	**729:1**	**1936:1**
			4.0:1		**14:1**		**51:1**	**121:1**	**204:1**	**466:1**	**816:1**	**2286:1**
					16:1		**59:1**		**263:1**	**557:1**	**1024:1**	**2662:1**
					18:1		**64:1**		**302:1**		**1209:1**	
							74:1		**339:1**		**1557:1**	
							85:1					
13	Gearhead Lenght L	mm	22.1	28.5	27.6	32.6	31.4	36.4	35.2	40.2	39	44
14	Continuous torque	Nm	0.3		0.3		0.5		0.5		0.75	
15	Intermittent torque	Nm	0.5		0.5		0.8		0.8		1	
16	Max Efficiency	%	90		81		73		65		59	
17	No-Load Backlash	°	1		1.5		1.5		2		2	
18	Weight	g	30		35		46		55		65	

Motor combinations

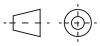
SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-2040	SVTN B 01-2225
SVTN A 01-2232	SVTN B 01-2230
SVTN A 01-2240	
SVTN A 01-2248	
SVTN A 01-2260	
SVTN A 03-2238	
SVTN A 03-2246	

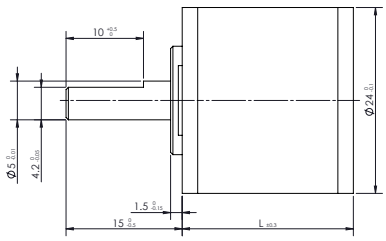
*Optional

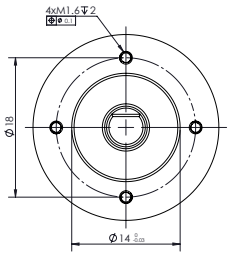


COSMOS Series

SVTG B 24





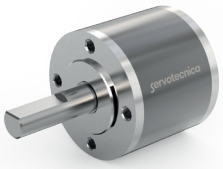


V 2.6.5

	B 24									
	Values	Unit								
1	Housing material		Metal							
2	Geartrain material		Metal/Polymer							
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		**3.3:1**	**12:1**	**17:1**	**36:1**	**56:1**	**119:1**	**408:1**	**660:1**	**1036:1**
			4.3:1	**14:1**	**22:1**	**47:1**	**95:1**	**154:1**	**493:1**	**741:1**	**1346:1**
						61:1		**200:1**		**857:1**	**1628:1**
						79:1		**260:1**			**1748:1**
								337:1			**2114:1**
13	Gearhead Lenght L	mm	22.1	26.2	30.8	32	36.6	36.1	40.7	40.2	44.8
14	Continuous torque	Nm	0.5	0.8		1.5		1.8		2.5	
15	Intermittent torque	Nm	1	1.5		2		2.5		3.5	
16	Max Efficiency	%	90	81		73		65		59	
17	No-Load Backlash	°	1	1.5		1.5		2		2	
18	Weight	g	35	41		52		59		68	

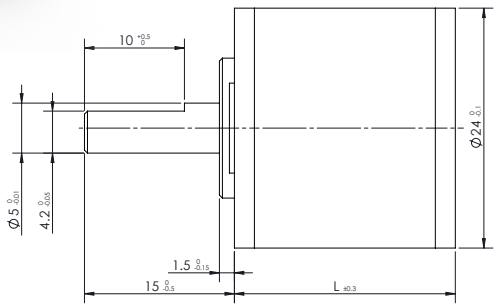
Motor combinations

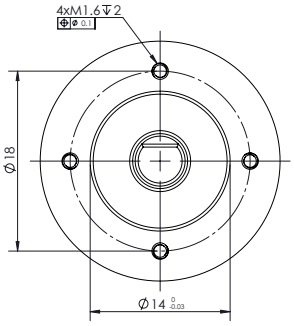
SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-2232	SVTN B 01-2225
SVTN A 01-2240	SVTN B 01-2230
SVTN A 01-2248	
SVTN A 01-2260	
SVTN A 01-2446	
SVTN A 01-2453	
SVTN A 03-2238	
SVTN A 03-2246	
SVTN A 03-2452	
SVTN A 03-2459	



COSMOS Series

SVTG B 28





V 2.6.5

	B 28										
	Values	Unit									
1	Housing material		Metal								
2	Geartrain material		Metal/Polymer								
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	
12a	Reduction ratio (“A” combination)		**3.6:1**	**5.5:1**	**16:1**	**46:1**	**101:1**	**182:1**	**405:1**	**729:1**	**1936:1**
			4.0:1		**18:1**	**51:1**	**121:1**	**204:1**	**466:1**	**816:1**	**2286:1**
					21:1	**59:1**		**263:1**	**557:1**	**1024:1**	**2662:1**
						64:1		**302:1**		**1209:1**	
						74:1		**339:1**		**1557:1**	
						85:1					
13a	Gearhead Lenght L (“A” combination)	mm	28.7	34.2	33.2	37.7	44.2	42.2	48.7	46.7	53.2
12b	Reduction ratio (“B” combination)		**3.6:1**		**16:1**	**46:1**		**182:1**		**729:1**	
			4.0:1		**18:1**	**51:1**		**204:1**		**816:1**	
			5.5:1		**21:1**	**59:1**		**263:1**		**1024:1**	
						64:1		**302:1**		**1209:1**	
						74:1		**339:1**		**1557:1**	
						85:1		**405:1**		**1936:1**	
						101:1		**466:1**		**2286:1**	
						121:1		**557:1**		**2662:1**	
13b	Gearhead Lenght L (“B” combination)	mm	23.7		29.2	33.7		38.2		42.7	
12c	Reduction ratio (“C” combination)		**3.6:1**	**4.0:1**	**16:1**	**46:1**		**182:1**		**729:1**	
				5.5:1	**18:1**	**51:1**		**204:1**		**816:1**	
					21:1	**59:1**		**263:1**		**1024:1**	
						64:1		**302:1**		**1209:1**	
						74:1		**339:1**		**1557:1**	
						85:1		**405:1**		**1936:1**	
						101:1		**466:1**		**2286:1**	
						121:1		**557:1**		**2662:1**	
13c	Gearhead Lenght L (“C” combination)	mm	28.7	34.2	38.7	43.2		47.7		52.2	
14	Continuous torque	Nm	0.5		1	3		3		3	
15	Intermittent torque	Nm	0.8		2	4		4		4	
16	Max Efficiency	%	90		81	73		65		59	
17	No-Load Backlash	°	1		1.2	1.2		1.5		1.5	
18	Weight	g	50		65	85		95		110	

Motor combinations “A”

SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-2845	SVTN B 01-2864
SVTN A 01-2854	
SVTN A 01-2864	
SVTN A 03-2854	
SVTN A 03-2863	

Motor combinations “B”

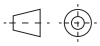
SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-2446	SVTN B 01-2642
SVTN A 01-2453	
SVTN A 03-2452	
SVTN A 03-2459	

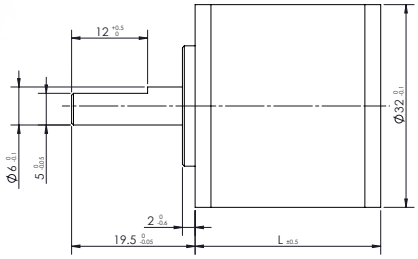
Motor combinations “C”

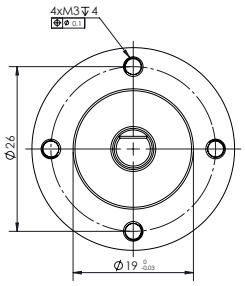
SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-3242	SVTN B 01-3272
SVTN A 01-3260	
SVTN A 01-3270	
SVTN A 03-3270	

COSMOS Series

SVTG B 32







V 2.6.5

	B 32												
	Values	Unit											
1	Housing material		Metal										
2	Geartrain material		Metal/Polymer										
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	
12a	Reduction ratio (“A” combination)		**3.1:1**	**4.8:1**	**10:1**	**15:1**	**30:1**	**46:1**	**159:1**	**223:1**	**412:1**	**694:1**	**2548:1**
			4.0:1			**19:1**	**51:1**	**62:1**	**178:1**	**266:1**		**765:1**	**3174:1**
						23:1		**72:1**		**298:1**		**856:1**	
								80:1		**344:1**		**989:1**	
								92:1				**1429:1**	
								111:1				**1836:1**	
13a	Gearhead Lenght L (“A” combination)	mm	29.3	38.8	38.1	42.6	44.4	48.9	50.7	55.2	57.2	61.5	63.5
12b	Reduction ratio (“B” combination)		**3.1:1**	**5.7:1**	**10:1**	**23:1**	**30:1**		**159:1**	**412:1**		**694:1**	**3174:1**
			4.0:1		**15:1**		**46:1**		**178:1**			**765:1**	
			4.8:1		**19:1**		**51:1**		**223:1**			**856:1**	
							62.1		**266:1**			**989:1**	
							72:1		**298:1**			**1429:1**	
							80:1		**344:1**			**1846:1**	
							92:1					**2548:1**	
							111:1						
13b	Gearhead Lenght L (“B” combination)		29.3	38.8	38.1	44.6	44.4		50.7	57.2		57	63.5
14	Continuous torque	Nm	1		1.5		2.5		3			5	
15	Intermittent torque	Nm	2		3		5		6			7.5	
16	Max Efficiency	%	90		81		73		65			59	
17	No-Load Backlash	°	1		1.5		1.5		2			2	
18	Weight	g	125		147		169		191			213	

Motor combinations “A”

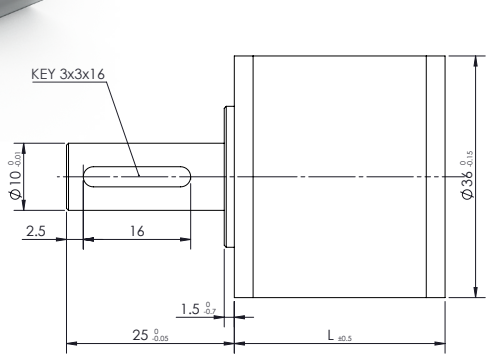
SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-3242	SVTN B 01-3272
SVTN A 01-3260	
SVTN A 01-3270	
SVTN A 03-3270	

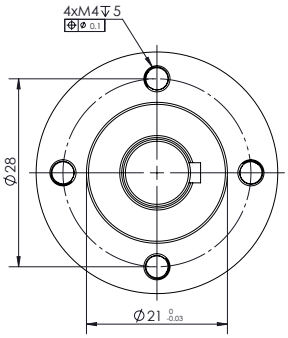
Motor combinations “B”

SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-2845	SVTN B 01-2864
SVTN A 01-2854	
SVTN A 01-2864	
SVTN A 03-2854	
SVTN A 03-2863	

COSMOS Series

SVTG B 36





V 2.6.5

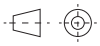
	B 36											
	Values	Unit										
1	Housing material		Metal									
2	Geartrain material		Metal/Polymer									
3	Max input speed (continuous operation)	rpm	≤ 10.000									
4	Bearings on output shaft		Ball bearings									
	Max shaft load											
5	Radial (5mm from mounting face)	N	≤ 100									
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		**3.7:1**	**6.5:1**	**14:1**	**30:1**	**53:1**	**142:1**	**198:1**	**661:1**	**1429:1**	**1285:1**
			4.7:1		**17:1**		**66:1**	**169:1**	**246:1**	**920:1**	**1779:1**	**3083:1**
					22:1		**82:1**	**197:1**	**306:1**		**2213:1**	**4294:1**
							102:1	**241:1**	**381:1**			**5981:1**
								275:1	**474:1**			
13	Gearhead Lenght L	mm	31.4	39.4	42.7	50.7	50	58	57.3	65.3	64.6	72.6
14	Continuous torque	Nm	4		8		16		16		20	
15	Intermittent torque	Nm	5		12		25		25		30	
16	Max Efficiency	%	90		81		73		65		59	
17	No-Load Backlash	°	0.8		1		1		1.2		1.2	
18	Weight	g	210		245		280		315		350	

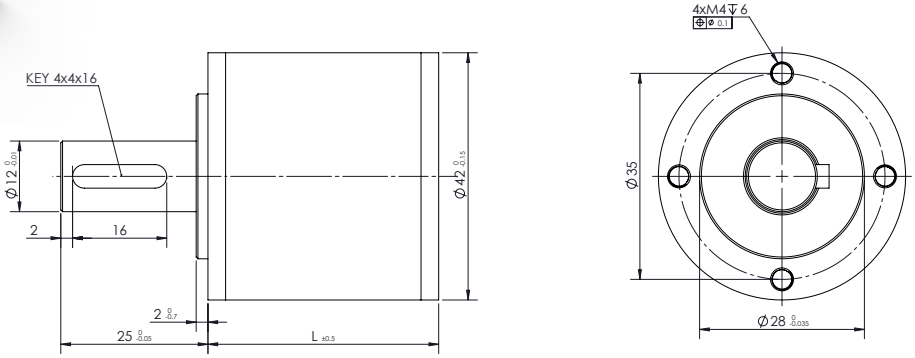
Motor combinations

SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-3242	SVTN B 01-3571
SVTN A 01-3260	
SVTN A 01-3270	
SVTN A 01-3660	
SVTN A 01-3670	
SVTN A 03-3270	
SVTN A 03-3673	
SVTN A 03-3683	

COSMOS Series

SVTG B 42





V 2.6.5

	B 42									
	Values	Unit								
1	Housing material		Metal							
2	Geartrain material		Metal/Polymer							
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	
12a	Reduction ratio (“A” combination)		**3.1:1**	**5.7:1**	**10:1**	**43:1**	**115:1**	**168:1**	**574:1**	**807:1**	**1834:1**
			4.2:1		**12:1**	**54:1**	**159:1**	**225:1**	**661:1**	**1080:1**	**2300:1**
					15:1	**72:1**		**301:1**	**762:1**	**1434:1**	**3301:1**
					20:1	**83:1**		**400:1**			**4060:1**
						96:1		**461:1**			**5247:1**
12b	Gearhead Lenght L (“A” combination)	mm	39.2	41.7	51.2	60.2	62.7	75.2	77.7	84.2	86.7
13a	Reduction ratio (“B” combination)		**3.1:1**	**5.7:1**	**10:1**	**43:1**	**115:1**	**168:1**	**574:1**	**806.5:1**	**1834:1**
			4.2:1		**12:1**	**54:1**	**159:1**	**225:1**	**661:1**	**1080:1**	**2300:1**
					15:1	**72:1**		**301:1**	**762:1**	**1434:1**	**3301:1**
					20:1	**83:1**		**400:1**			**4060:1**
						96:1		**461:1**			**5247:1**
13b	Gearhead Lenght L (“B” combination)	mm	34.2	39.2		46.2		70.2	75.2	79.2	84.2
18	Continuous torque	Nm	3		12	16		25		25	
19	Intermittent torque	Nm	5		20	25		36		36	
20	Max Efficiency	%	90		81	73		65		59	
21	Gearhead Lenght L	mm	41		53	62		77		86	
22	No-Load Backlash	°	0.8		1	1		1.2		1.2	
23	Weight	g	250		345	405		490		580	

Motor combinations “A”

SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-4058	SVTN B 01-4070
SVTN A 01-4070	SVTN B 01-4090
SVTN A 01-4088	

Motor combinations “B”

SVTN A - Brushless	**SVTN B - Brushed**
SVTN A 01-3660	SVTN B 01 3571
SVTN A 01-3670	
SVTN A 03-3673	
SVTN A 03-3683	

Hello,
how can I help you?

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