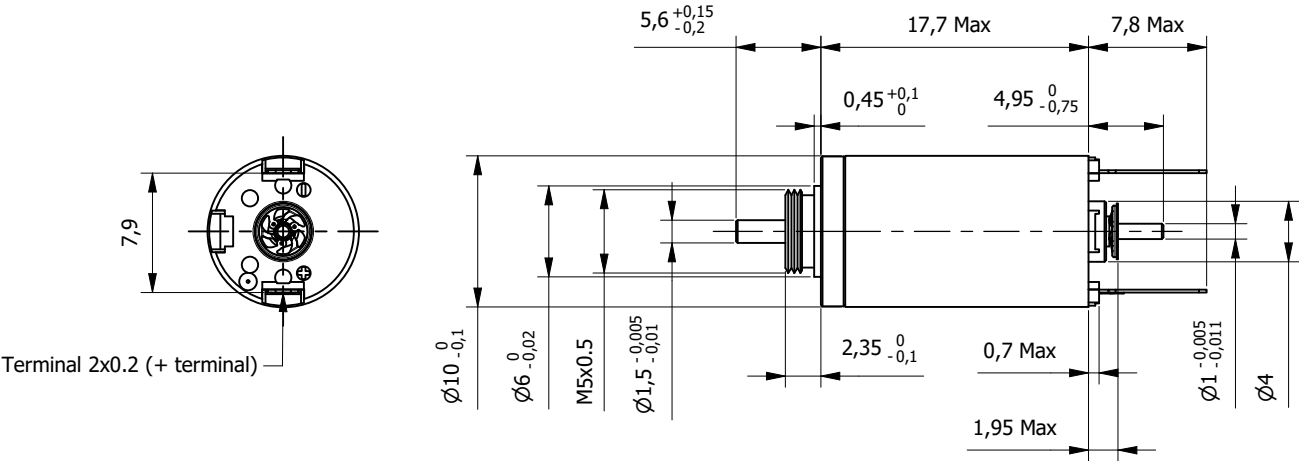


Brushed DC Coreless Motor 10DC17N-PM

Precious Metal brushes

Ø 10mm - 1mNm



Product also available with ball bearings

Specification					
	Model	...4604	...3319	...3874	
1	Rated Voltage	V	3	6	12
2	Rated Speed	rpm	4690	3310	3890
3	Rated Torque	mNm	0,948	0,993	0,905
4	Stall Torque	mNm	1,54	1,46	1,37
5	Torque Constant	mNm/A	2,07	4,74	8,53
6	Motor Regulation	10 ³ /Nms	942,8	867,9	1029,4
7	Rated Current	A	0,49	0,223	0,114
8	Stall Current	A	0,742	0,307	0,16
9	No-load Current	mA	43,8	18,2	10,5
10	No-load Speed	rpm	13000	11400	12500
11	Line to Line Resistance	Ω	4,04	19,5	74,9
12	Line to Line Inductance	mH	0,051	0,268	0,868
13	Rotor Inertia	gcm2	0,077	0,081	0,071
14	Max. Efficiency	%	58	58	56
15	Mechanical Time Constant	ms	7,19	7,03	7,26
16	Length (L)	mm	17,7	17,7	17,7
17	Weight	g	6,3	6,3	6,3

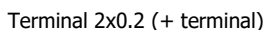
Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	14300rpm
Radial play	0,015mm
Axial play	0 to 0,15mm
Max. Radial force (5mm from flange)	0,8N
Max. Axial force	0,1N
Max. Force for Press fit	30N

Standard Combination	
Gearbox	10GPS
* other options on request	

Operating range: Winding 4.5V



Precious Metal brushes



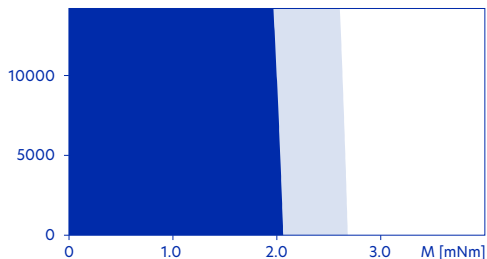
Product also available with ball bearings

Specification					
	Model		...6901	...6606	...5927
1	Rated Voltage	V	3	6	12
2	Rated Speed	rpm	6930	6640	5980
3	Rated Torque	mNm	2,05	1,94	2,03
4	Stall Torque	mNm	4,81	4,32	4,36
5	Torque Constant	mNm/A	2,31	4,61	10
6	Motor Regulation	10 ³ /Nms	269,9	301,1	273,0
7	Rated Current	A	0,922	0,436	0,211
8	Stall Current	A	2,09	0,937	0,439
9	No-load Current	mA	38,7	19,3	8,71
10	No-load Speed	rpm	12200	12200	11300
11	Line to Line Resistance	Ω	1,44	6,4	27,3
12	Line to Line Inductance	mH	0,02	0,078	0,362
13	Rotor Inertia	gcm2	0,132	0,119	0,13
14	Max. Efficiency	%	75	74	74
15	Mechanical Time Constant	ms	3,57	3,58	3,59
16	Length (L)	mm	25,2	25,2	25,2
17	Weight	g	11	11	11

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	14300rpm
Radial play	0,015mm
Axial play	0 to 0,15mm
Max. Radial force (5mm from flange)	0,8N
Max. Axial force	0,1N
Max. Force for Press fit	30N

Standard Combination
Gearbox
10GPS
* other options on request

Operating range: Winding 4.5V

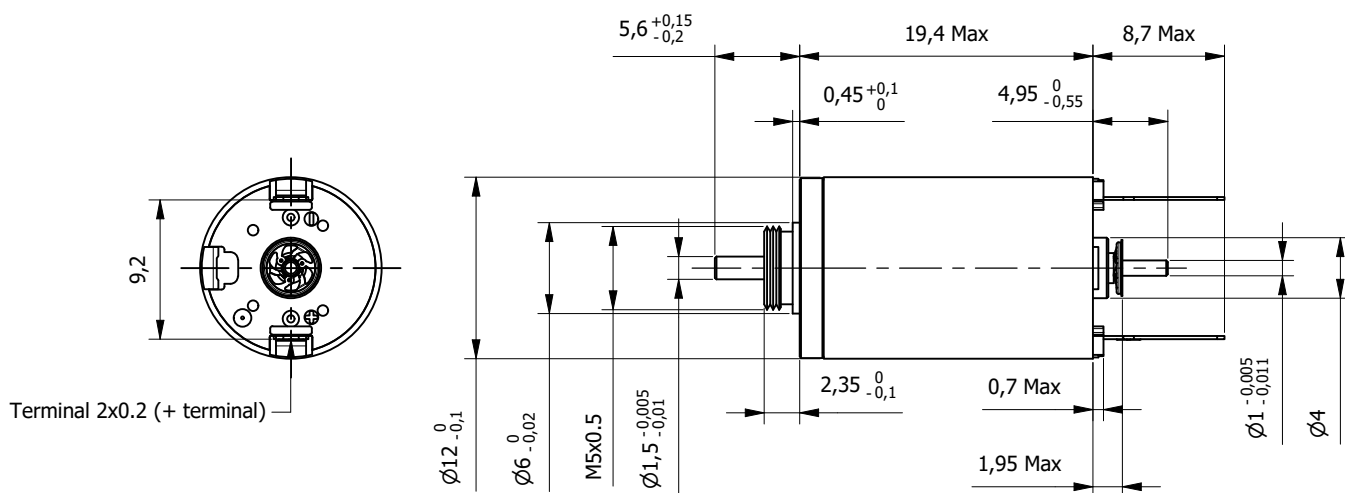


- Continuous operation
- Continuous operation with reduced Line to line Resistance (50%)
- Intermittent operation

Brushed DC Coreless Motor 12DC19N-PM

Precious Metal brushes

Ø 12mm - 1,9mNm



Product also available with ball bearings

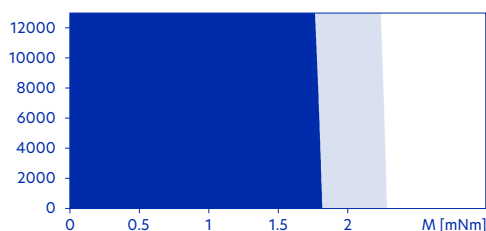
Specification					
	Model		...3702	...3810	...3646
1	Rated Voltage	V	3	6	12
2	Rated Speed	rpm	3760	3870	3620
3	Rated Torque	mNm	1,92	1,95	1,88
4	Stall Torque	mNm	3,35	3,46	3,21
5	Torque Constant	mNm/A	3,06	6,12	12,3
6	Motor Regulation	10³/Nms	292,6	283	304,1
7	Rated Current	A	0,655	0,332	0,159
8	Stall Current	A	1,09	0,566	0,261
9	No-load Current	mA	31,8	15,9	7,88
10	No-load Speed	rpm	9090	9100	9020
11	Line to Line Resistance	Ω	2,74	10,6	46
12	Line to Line Inductance	mH	0,072	0,29	1,17
13	Rotor Inertia	gcm2	0,286	0,293	0,275
14	Max. Efficiency	%	69	70	69
15	Mechanical Time Constant	ms	8,37	8,31	8,33
16	Length (L)	mm	19,4	19,4	19,4
17	Weight	g	11	11	11

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	13000rpm
Radial play	0,015mm
Axial play	0 to 0,15mm
Max. Radial force (5mm from flange)	0,8N
Max. Axial force	0,1N
Max. Force for Press fit	30N

Standard Combination

Standard Configuration
Gearbox
12GPS
* other options on request

Operating range: Winding 4.5V

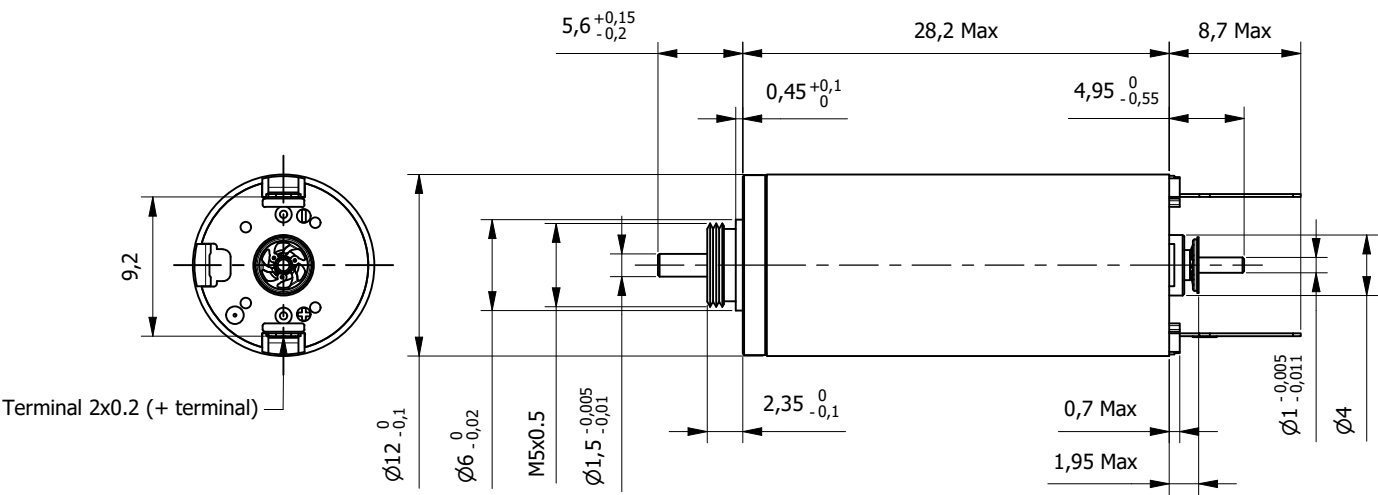


-  Continuous operation
-  Continuous operation with reduced Line to line Resistance (50%)
-  Intermittent operation

Brushed DC Coreless Motor 12DC28N-PM

Precious Metal brushes

Ø 12mm - 3,9mNm



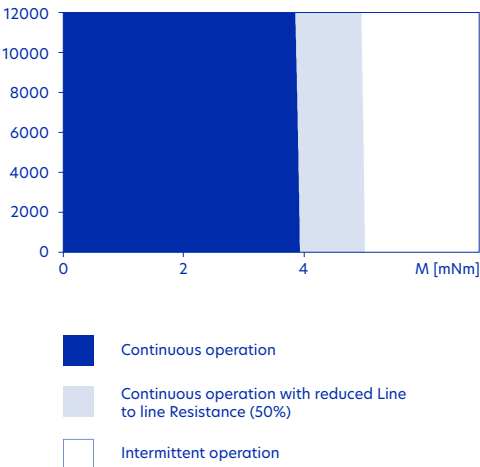
Product also available with ball bearings

Specification		Model	...6209	...5503	...5514
1	Rated Voltage	V	3	6	12
2	Rated Speed	rpm	6230	5540	5560
3	Rated Torque	mNm	2,88	3,88	3,89
4	Stall Torque	mNm	9,9	10,5	10,6
5	Torque Constant	mNm/A	3,22	6,44	12,9
6	Motor Regulation	10 ³ /Nms	94,0	88,7	87,7
7	Rated Current	A	0,924	0,616	0,309
8	Stall Current	A	3,08	1,63	0,824
9	No-load Current	mA	31,3	15,7	7,83
10	No-load Speed	rpm	8810	8810	8810
11	Line to Line Resistance	Ω	0,975	3,68	14,6
12	Line to Line Inductance	mH	0,031	0,125	0,502
13	Rotor Inertia	gcm ²	0,484	0,496	0,498
14	Max. Efficiency	%	81	82	82
15	Mechanical Time Constant	ms	4,55	4,4	4,38
16	Length (L)	mm	28,2	28,2	28,2
17	Weight	g	16	16	16

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	12000rpm
Radial play	0,015mm
Axial play	0 to 0,15mm
Max. Radial force (5mm from flange)	0,8N
Max. Axial force	0,1N
Max. Force for Press fit	30N

Standard Combination	
Gearbox	
12GPS	
* other options on request	

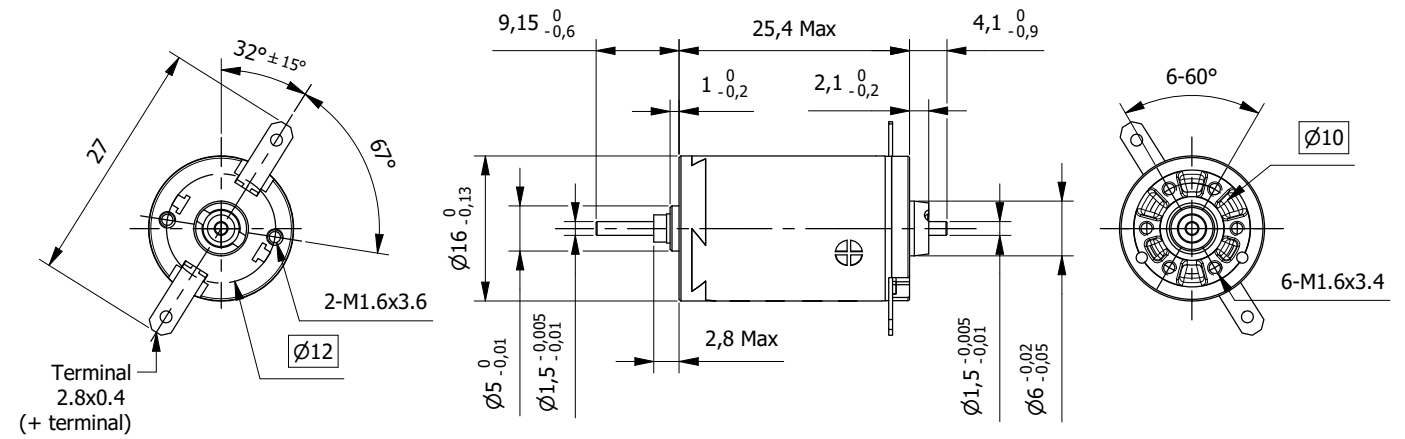
Operating range: Winding 4.5V



Brushed DC Coreless Motor 16DC25P-PM

Precious Metal brushes

Ø 16mm - 4,1mNm



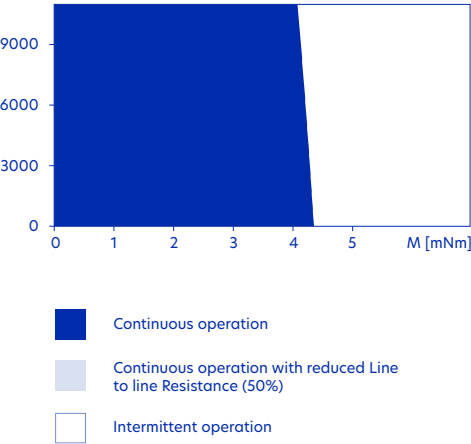
Product also available with ball bearings

Specification			...4804	...4319	...4283
1	Rated Voltage	V	6	12	24
2	Rated Speed	rpm	4830	4390	4210
3	Rated Torque	mNm	4,06	3,92	3,8
4	Stall Torque	mNm	10,5	9,44	8,75
5	Torque Constant	mNm/A	7,19	15	30,3
6	Motor Regulation	10 ³ /Nms	79,3	84,9	90,6
7	Rated Current	A	0,577	0,267	0,128
8	Stall Current	A	1,46	0,629	0,289
9	No-load Current	mA	14,7	6,9	3,4
10	No-load Speed	rpm	7890	7560	7470
11	Line to Line Resistance	Ω	4,1	19,1	83,2
12	Line to Line Inductance	mH	0,14	0,61	2,49
13	Rotor Inertia	gcm ²	1,12	1,05	0,994
14	Max. Efficiency	%	81	80	80
15	Mechanical Time Constant	ms	8,87	8,92	9
16	Length (L)	mm	25,4	25,4	25,4
17	Weight	g	23,3	23,3	23,3

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +65°C
Max. Winding Temperature	+85°C
Max. Speed	11000rpm
Radial play	0,012mm
Axial play	0,05 to 0,15mm
Max. Radial force (5mm from flange)	1,4N
Max. Axial force	0,8N
Max. Force for Press fit	35N

Standard Combination	
Gearbox	
16GPS	
* other options on request	

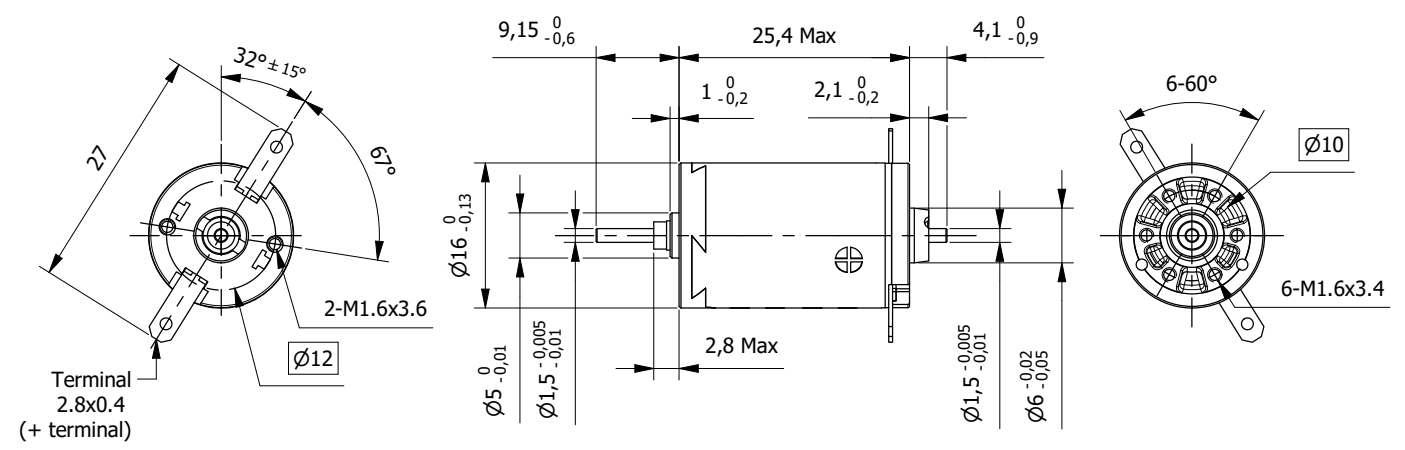
Operating range: Winding 12V



Brushed DC Coreless Motor 16DC25P-G

Graphite brushes

Ø 16mm - 4,8mNm



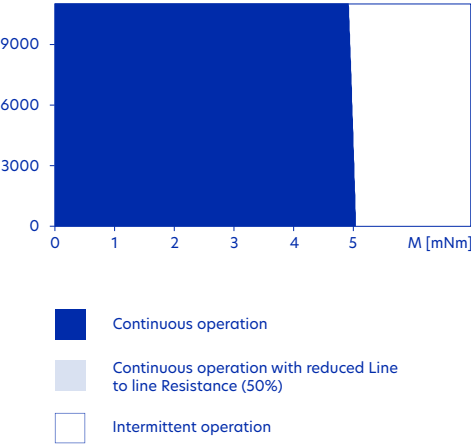
Product also available with ball bearings

Specification					
	Model	...6702	...6211	...6537	
1	Rated Voltage	V	6	12	24
2	Rated Speed	rpm	6770	6200	6580
3	Rated Torque	mNm	3,71	4,31	4,76
4	Stall Torque	mNm	12,1	11,9	14,4
5	Torque Constant	mNm/A	5,62	11,2	22,5
6	Motor Regulation	10 ³ /Nms	88,3	90,9	74,1
7	Rated Current	A	0,72	0,413	0,227
8	Stall Current	A	2,15	1,05	0,64
9	No-load Current	mA	67,3	33,6	16,8
10	No-load Speed	rpm	9870	9860	9920
11	Line to Line Resistance	Ω	2,79	11,4	37,5
12	Line to Line Inductance	mH	0,086	0,343	1,37
13	Rotor Inertia	gcm ²	1	0,993	1,16
14	Max. Efficiency	%	68	68	71
15	Mechanical Time Constant	ms	8,85	8,92	8,57
16	Length (L)	mm	25,4	25,4	25,4
17	Weight	g	23,1	23,1	23,1

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+125°C
Max. Speed	11000rpm
Radial play	0,012mm
Axial play	0,05 to 0,15mm
Max. Radial force (5mm from flange)	1,4N
Max. Axial force	0,8N
Max. Force for Press fit	35N

Standard Combination	
Gearbox	
16GPS	
* other options on request	

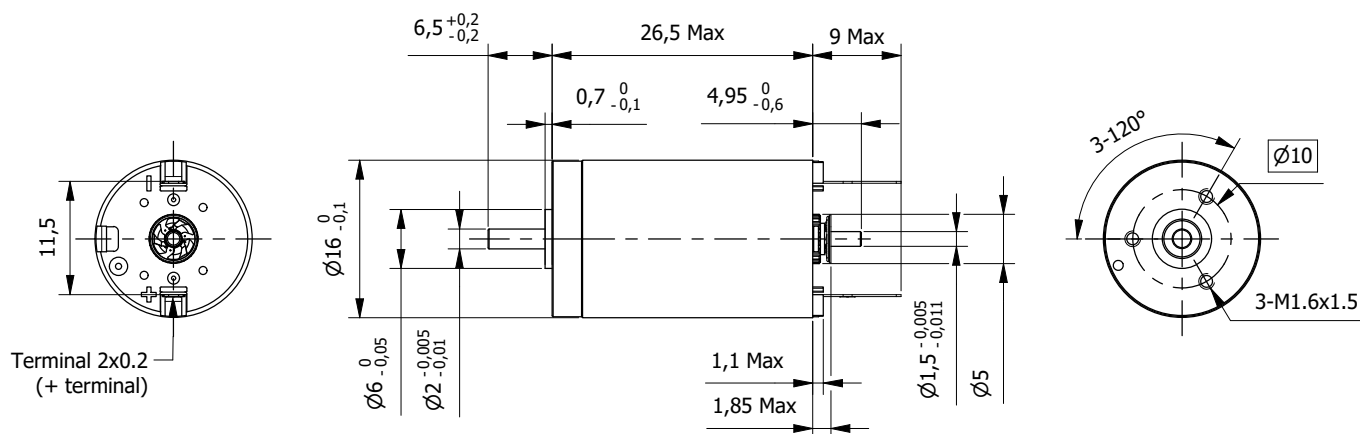
Operating range: Winding 24V



Brushed DC Coreless Motor 16DC26N-PM

Precious Metal brushes

Ø 16mm - 5,4mNm



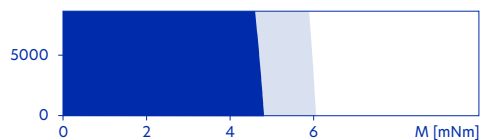
Product also available with ball bearings

Specification						
	Model		...3301	...3704	...3319	...3283
1	Rated Voltage	V	3	6	12	24
2	Rated Speed	rpm	3350	3760	3320	3200
3	Rated Torque	mNm	5,15	5,36	5,19	4,99
4	Stall Torque	mNm	11,1	12,6	11,2	10,4
5	Torque Constant	mNm/A	4,45	8,53	18	36
6	Motor Regulation	10 ³ /Nms	60,6	55,8	59,3	64,1
7	Rated Current	A	1,2	0,65	0,299	0,144
8	Stall Current	A	2,49	1,48	0,624	0,289
9	No-load Current	mA	44,6	23,4	11	5,51
10	No-load Speed	rpm	6320	6610	6260	6250
11	Line to Line Resistance	Ω	1,2	4,06	19,2	83,1
12	Line to Line Inductance	mH	0,036	0,131	0,581	2,32
13	Rotor Inertia	gcm2	1	1,08	1,03	0,96
14	Max. Efficiency	%	75	77	75	74
15	Mechanical Time Constant	ms	6,09	6,05	6,11	6,17
16	Length (L)	mm	26,5	26,5	26,5	26,5
17	Weight	g	26	26	26	26

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	8680rpm
Radial play	0,015mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	2N
Max. Axial force	0,1N
Max. Force for Press fit	60N

Standard Combination	
Gearbox	
16GPS	
* other options on request	

Operating range: Winding 12V

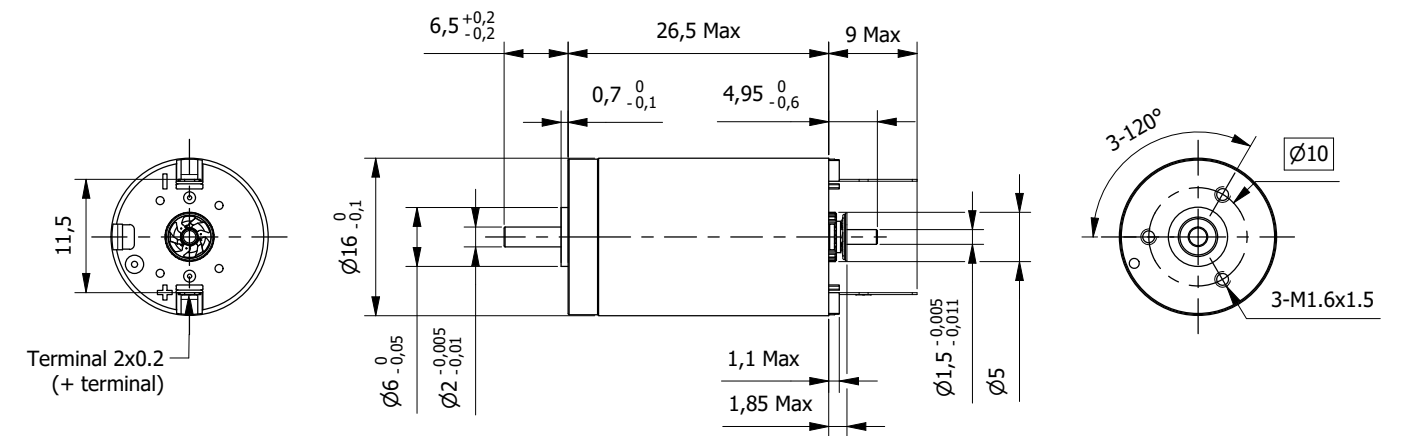


- Continuous operation
- Continuous operation with reduced Line to line Resistance (50%)
- Intermittent operation

Brushed DC Coreless Motor 16DC26N-G

Graphite brushes

Ø 16mm - 5,4mNm



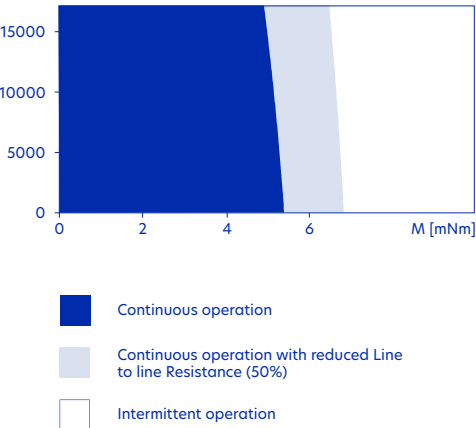
Product also available with ball bearings

Specification					
	Model	...9401	...9804	...9419	
1	Rated Voltage	V	6	12	24
2	Rated Speed	rpm	9400	9850	9430
3	Rated Torque	mNm	5,45	5,36	5,43
4	Stall Torque	mNm	21,3	22,6	21,7
5	Torque Constant	mNm/A	4,45	8,53	17,8
6	Motor Regulation	10 ³ /Nms	63,1	62,3	62,2
7	Rated Current	A	1,28	0,662	0,321
8	Stall Current	A	4,79	2,65	1,22
9	No-load Current	mA	63,9	35,4	16,8
10	No-load Speed	rpm	12700	13200	12700
11	Line to Line Resistance	Ω	1,25	4,53	19,7
12	Line to Line Inductance	mH	0,036	0,131	0,569
13	Rotor Inertia	gcm2	1	1,08	1,02
14	Max. Efficiency	%	78	76	78
15	Mechanical Time Constant	ms	6,35	6,74	6,32
16	Length (L)	mm	26,5	26,5	26,5
17	Weight	g	26	26	26

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +100°C
Max. Winding Temperature	+125°C
Max. Speed	17000rpm
Radial play	0,015mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	2N
Max. Axial force	0,1N
Max. Force for Press fit	60N

Standard Combination	
Gearbox	16GPS
* other options on request	

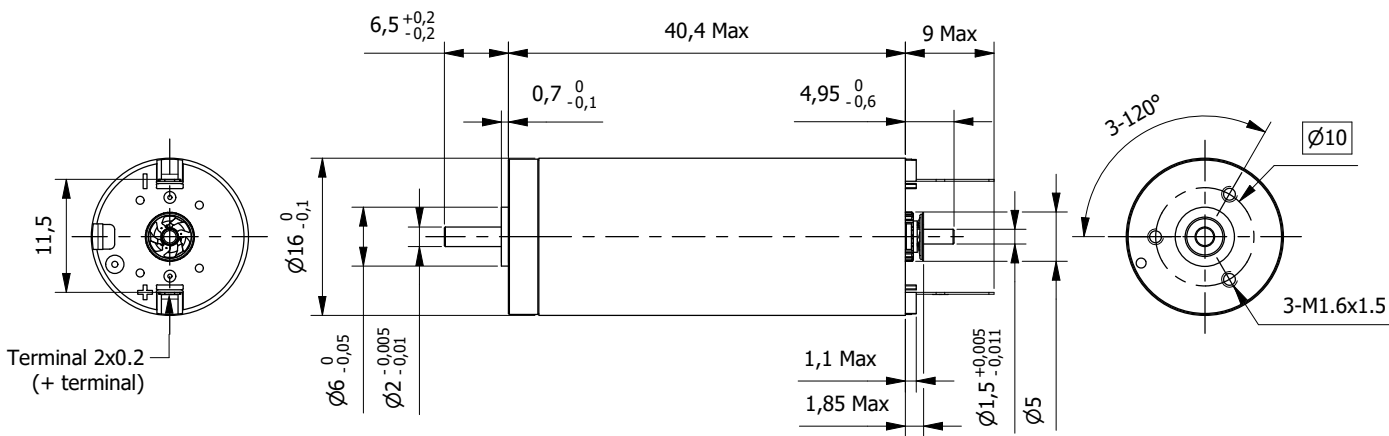
Operating range: Winding 12V



Brushed DC Coreless Motor 16DC40N-PM

Precious Metal brushes

Ø 16mm - 10,8mNm



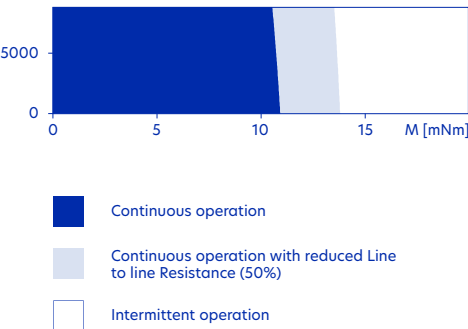
Product also available with ball bearings

Specification		Model	...5403	...4901	...4405	...4622
1	Rated Voltage	V	3	6	12	24
2	Rated Speed	rpm	5450	4920	4490	4630
3	Rated Torque	mNm	5,06	10	10,8	10,7
4	Stall Torque	mNm	34,4	39,3	36,6	36,6
5	Torque Constant	mNm/A	4,44	8,59	17,8	34,7
6	Motor Regulation	10 ³ /Nms	19,7	17,8	18,4	18,9
7	Rated Current	A	1,2	1,2	0,625	0,316
8	Stall Current	A	7,73	4,57	2,06	1,06
9	No-load Current	mA	62,5	32,6	15,6	8,05
10	No-load Speed	rpm	6400	6620	6400	6560
11	Line to Line Resistance	Ω	0,388	1,31	5,82	22,7
12	Line to Line Inductance	mH	0,026	0,096	0,411	1,56
13	Rotor Inertia	gcm ²	2,18	2,36	2,28	2,23
14	Max. Efficiency	%	83	84	83	83
15	Mechanical Time Constant	ms	4,29	4,2	4,19	4,23
16	Length (L)	mm	40,4	40,4	40,4	40,4
17	Weight	g	42	42	42	42

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	8680rpm
Radial play	0,015mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	2N
Max. Axial force	0,1N
Max. Force for Press fit	60N

Standard Combination	
Gearbox	
16GPS	
* other options on request	

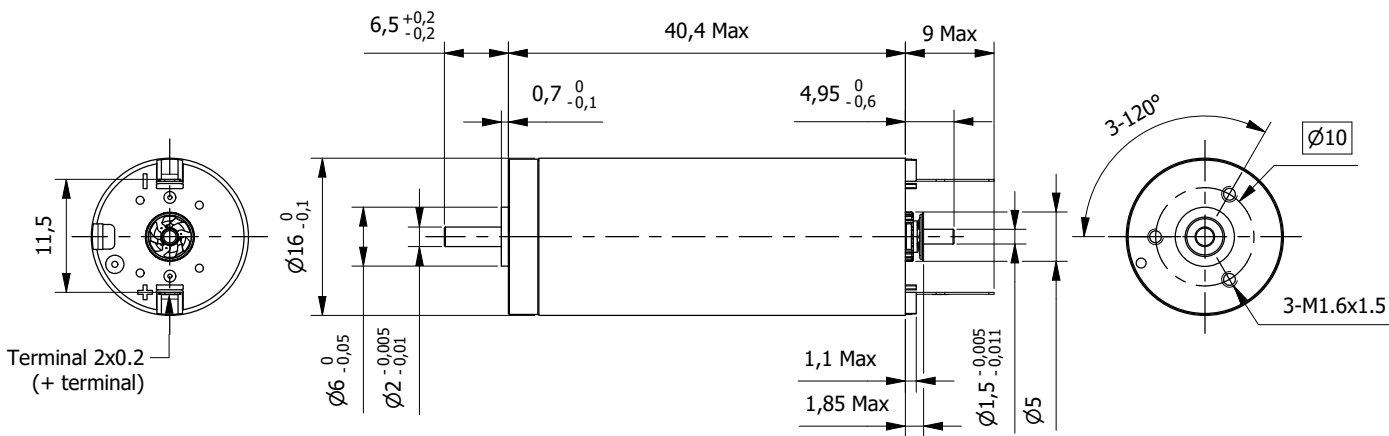
Operating range: Winding 9V



Brushed DC Coreless Motor 16DC40N-G

Graphite brushes

Ø 16mm - 11,3mNm



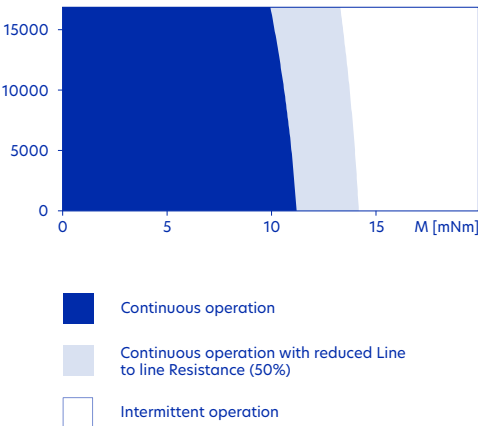
Product also available with ball bearings

Specification					
	Model	...11004	...10701	...10606	
1	Rated Voltage	V	6	12	24
2	Rated Speed	rpm	11000	10700	10600
3	Rated Torque	mNm	8,58	10,4	11,3
4	Stall Torque	mNm	61,8	63,3	68,5
5	Torque Constant	mNm/A	4,44	8,59	17,8
6	Motor Regulation	10 ³ /Nms	21,9	22,1	19,7
7	Rated Current	A	2	1,24	0,651
8	Stall Current	A	13,9	7,37	3,85
9	No-load Current	mA	73,5	38,6	18,4
10	No-load Speed	rpm	12800	13200	12800
11	Line to Line Resistance	Ω	0,431	1,63	6,23
12	Line to Line Inductance	mH	0,026	0,096	0,411
13	Rotor Inertia	gcm2	2,18	2,36	2,28
14	Max. Efficiency	%	85	83	86
15	Mechanical Time Constant	ms	4,77	5,21	4,48
16	Length (L)	mm	40,4	40,4	40,4
17	Weight	g	42	42	42

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +100°C
Max. Winding Temperature	+125°C
Max. Speed	15000rpm
Radial play	0,015mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	2N
Max. Axial force	0,1N
Max. Force for Press fit	60N

Standard Combination	
Gearbox	
16GPS	
* other options on request	

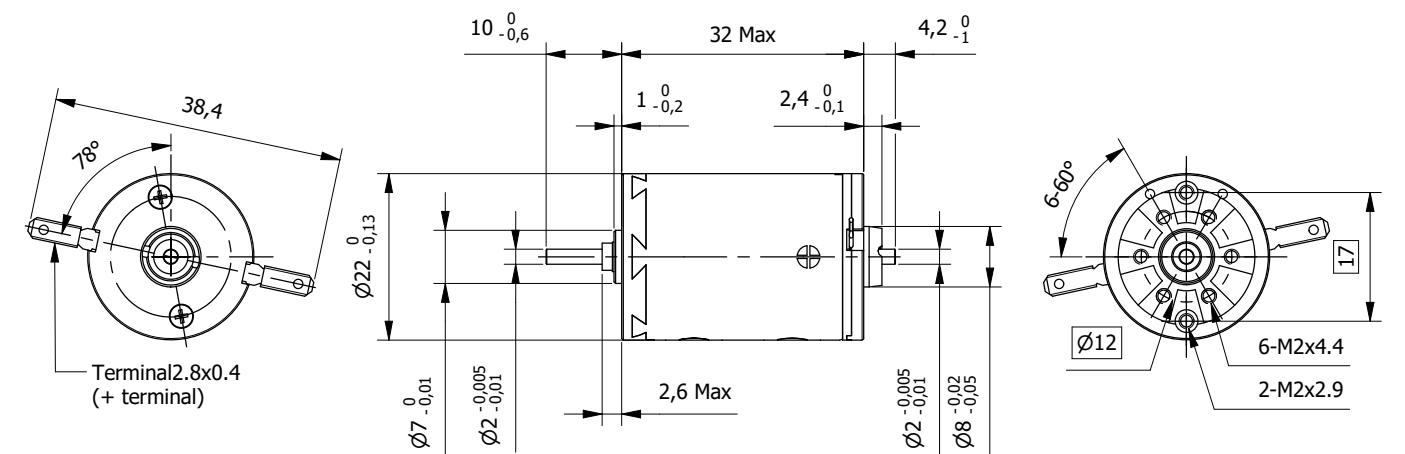
Operating range: Winding 12V



Brushed DC Coreless Motor 22DC32P-PM

Precious Metal brushes

Ø 22mm - 10,4mNm



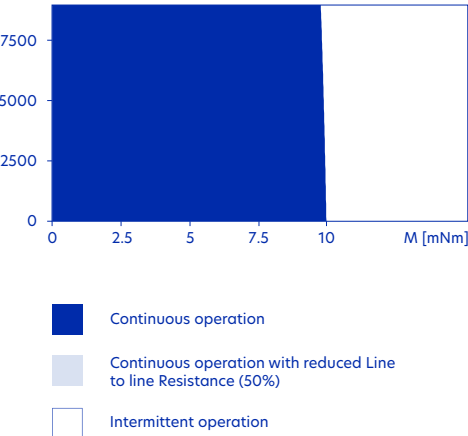
Product also available with ball bearings

Specification					
	Model	...4201	...4206	...3433	
1	Rated Voltage	V	6	12	24
2	Rated Speed	rpm	4280	4240	3440
3	Rated Torque	mNm	8,54	10,3	10,4
4	Stall Torque	mNm	39	36,9	33,3
5	Torque Constant	mNm/A	10,4	19,3	44,8
6	Motor Regulation	10 ³ /Nms	14,8	16,9	16,6
7	Rated Current	A	0,84	0,543	0,236
8	Stall Current	A	3,75	1,91	0,721
9	No-load Current	mA	20,8	11,7	4,62
10	No-load Speed	rpm	5480	5890	5090
11	Line to Line Resistance	Ω	1,6	6,28	33,3
12	Line to Line Inductance	mH	0,119	0,413	2,21
13	Rotor Inertia	gcm2	5,7	4,98	5,05
14	Max. Efficiency	%	87,5	85,2	84,9
15	Mechanical Time Constant	ms	8,44	8,36	8,39
16	Length (L)	mm	32	32	32
17	Weight	g	53,8	53,8	53,8

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +65°C
Max. Winding Temperature	+85°C
Max. Speed	9000rpm
Radial play	0,012mm
Axial play	0,05 to 0,15mm
Max. Radial force (5mm from flange)	2,8N
Max. Axial force	1N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
22GPS	
* other options on request	

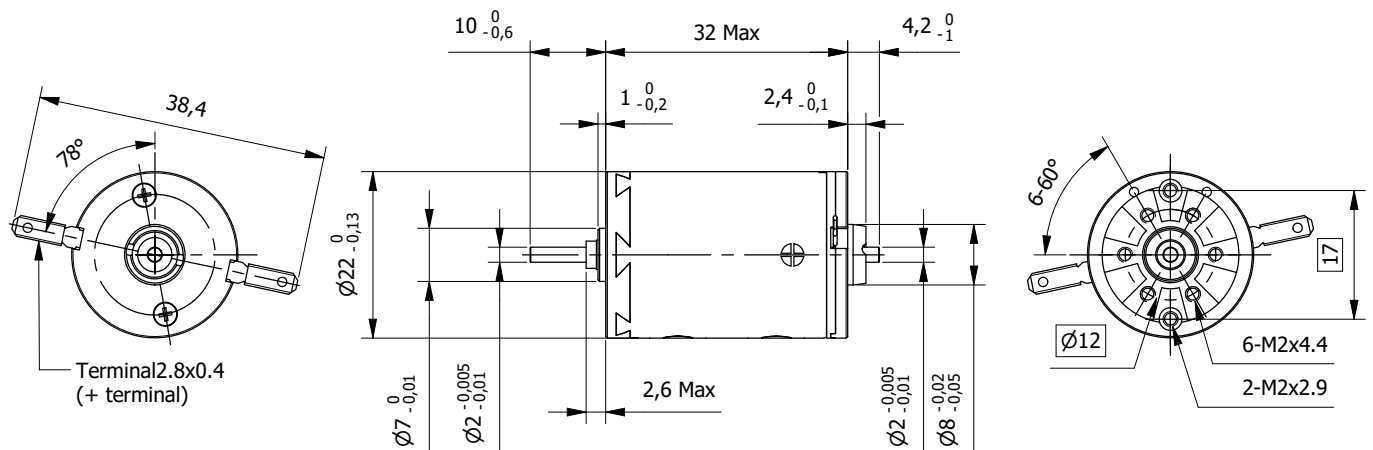
Operating range: Winding 12V



Brushed DC Coreless Motor 22DC32P-G

Graphite brushes

Ø 22mm - 12,6mNm



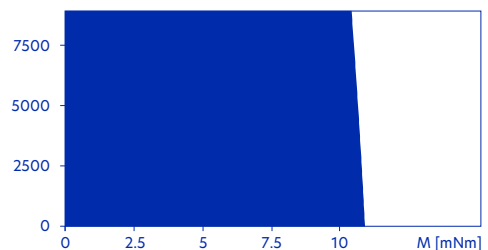
Product also available with ball bearings

Specification					
	Model	...4901	...5203	...5316	
1	Rated Voltage	V	6	12	24
2	Rated Speed	rpm	4950	5240	5350
3	Rated Torque	mNm	11,5	12,6	11,8
4	Stall Torque	mNm	42,4	49,4	44,6
5	Torque Constant	mNm/A	7,88	15,8	30,8
6	Motor Regulation	10 ³ /Nms	17,9	15,3	17,5
7	Rated Current	A	1,52	0,825	0,398
8	Stall Current	A	5,39	3,14	1,45
9	No-load Current	mA	58,8	29,5	15,1
10	No-load Speed	rpm	7030	7140	7330
11	Line to Line Resistance	Ω	1,11	3,83	16,6
12	Line to Line Inductance	mH	0,069	0,274	1,05
13	Rotor Inertia	gcm2	5,07	5,57	4,69
14	Max. Efficiency	%	76	80	80
15	Mechanical Time Constant	ms	9,09	8,57	8,2
16	Length (L)	mm	32	32	32
17	Weight	g	53,8	53,8	53,8

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+125°C
Max. Speed	9000rpm
Radial play	0,012mm
Axial play	0,05 to 0,15mm
Max. Radial force (5mm from flange)	2,8N
Max. Axial force	1N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
22GPS	
* other options on request	

Operating range: Winding 12V



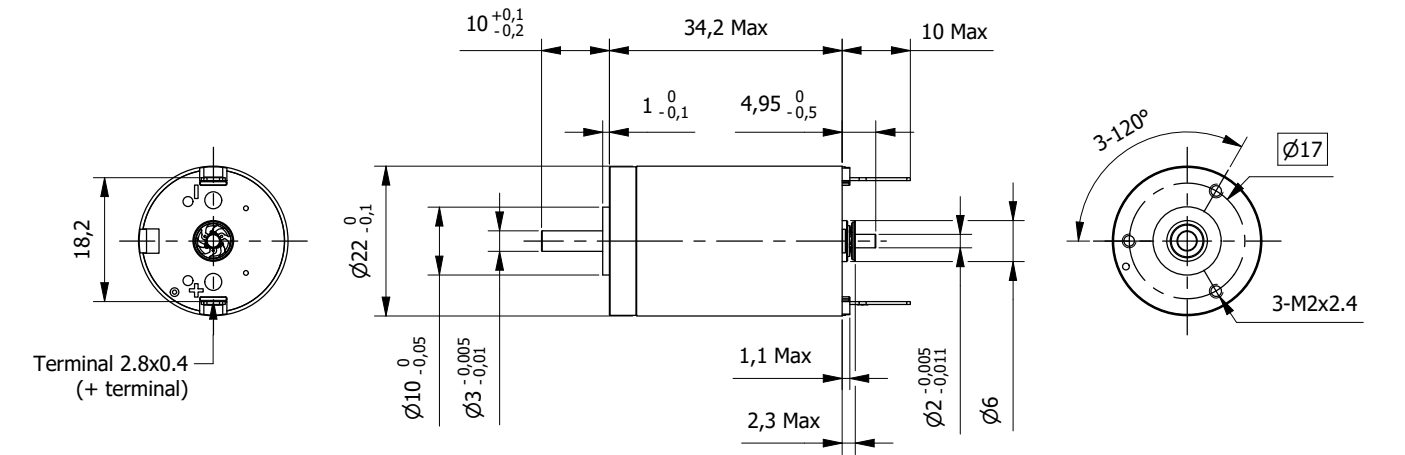
- Continuous operation
- Continuous operation with reduced Line to line Resistance (50%)
- Intermittent operation

Brushed DC Coreless Motor

Precious Metal brushes

22DC34N-PM

Ø 22mm - 14,7mNm



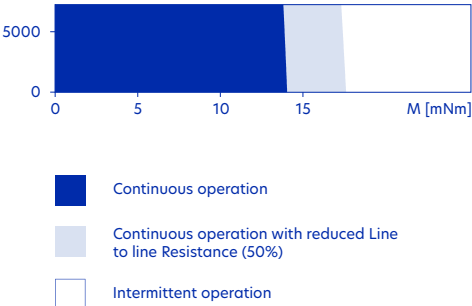
Product also available with ball bearings

Specification		Model	...4901	...4603	...4716	...4276
1	Rated Voltage	V	6	12	24	48
2	Rated Speed	rpm	4960	4670	4700	4240
3	Rated Torque	mNm	10,7	14,7	13,6	13,6
4	Stall Torque	mNm	53,7	59,7	52,7	48,6
5	Torque Constant	mNm/A	9,18	18,4	35,9	77,2
6	Motor Regulation	10 ³ /Nms	12,1	10,9	12,6	12,8
7	Rated Current	A	1,2	0,817	0,388	0,18
8	Stall Current	A	5,85	3,25	1,47	0,63
9	No-load Current	mA	39,2	19,6	10,1	4,55
10	No-load Speed	rpm	6200	6200	6340	5890
11	Line to Line Resistance	Ω	1,02	3,69	16,3	76,2
12	Line to Line Inductance	mH	0,058	0,231	0,881	4,08
13	Rotor Inertia	gcm ²	5,05	5,55	4,67	4,84
14	Max. Efficiency	%	84	85	84	84
15	Mechanical Time Constant	ms	6,14	6,07	5,93	6,19
16	Length (L)	mm	34,2	34,2	34,2	34,2
17	Weight	g	66	66	66	66

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	7160rpm
Radial play	0,02mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	3N
Max. Axial force	0,1N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
22GPS	
* other options on request	

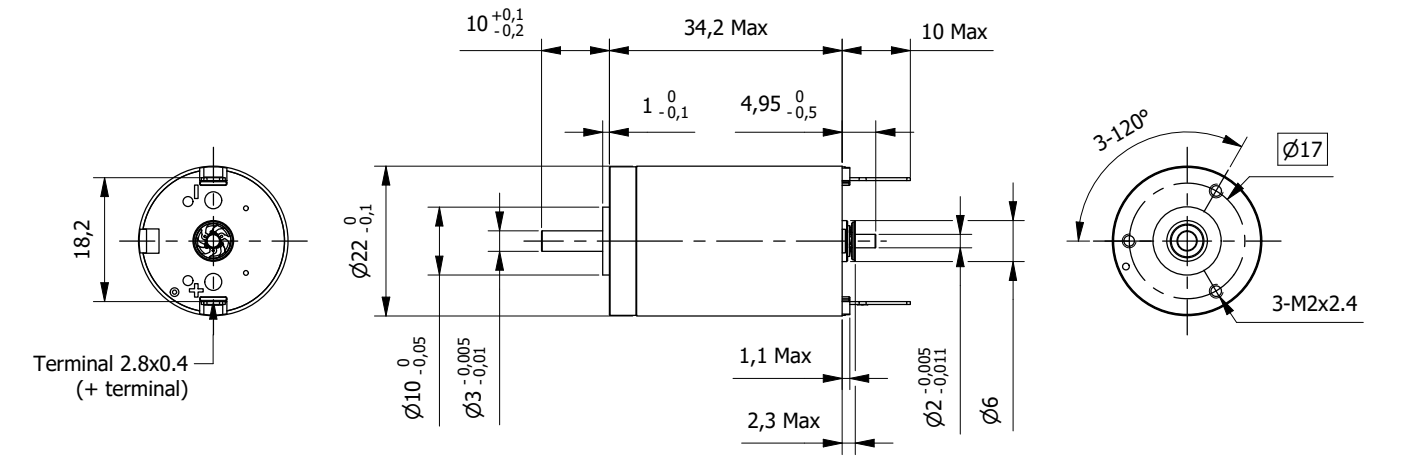
Operating range: Winding 18V



Brushed DC Coreless Motor 22DC34N-G

Graphite brushes

Ø 22mm - 15,3mNm



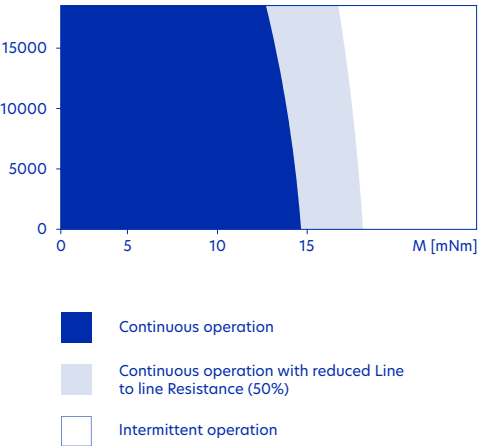
Product also available with ball bearings

Specification						
	Model		...9702	...10701	...10803	...10916
1	Rated Voltage	V	6	12	24	48
2	Rated Speed	rpm	9700	10700	10800	10900
3	Rated Torque	mNm	14,4	14,6	15,3	14
4	Stall Torque	mNm	101	108	120	104
5	Torque Constant	mNm/A	5,01	9,18	18,4	35,9
6	Motor Regulation	10 ³ /Nms	11,8	12,1	10,9	12,9
7	Rated Current	A	3	1,65	0,869	0,406
8	Stall Current	A	20,2	11,8	6,51	2,9
9	No-load Current	mA	126	71,7	35,9	18,5
10	No-load Speed	rpm	11400	12400	12400	12700
11	Line to Line Resistance	Ω	0,297	1,02	3,69	16,6
12	Line to Line Inductance	mH	0,017	0,058	0,231	0,881
13	Rotor Inertia	gcm2	5,27	5,05	5,55	4,67
14	Max. Efficiency	%	85	85	86	84
15	Mechanical Time Constant	ms	6,23	6,12	6,07	6,01
16	Length (L)	mm	34,2	34,2	34,2	34,2
17	Weight	g	66	66	66	66

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +100°C
Max. Winding Temperature	+125°C
Max. Speed	18000rpm
Radial play	0,02mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	3N
Max. Axial force	0,1N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
22GPS	
* other options on request	

Operating range: Winding 18V

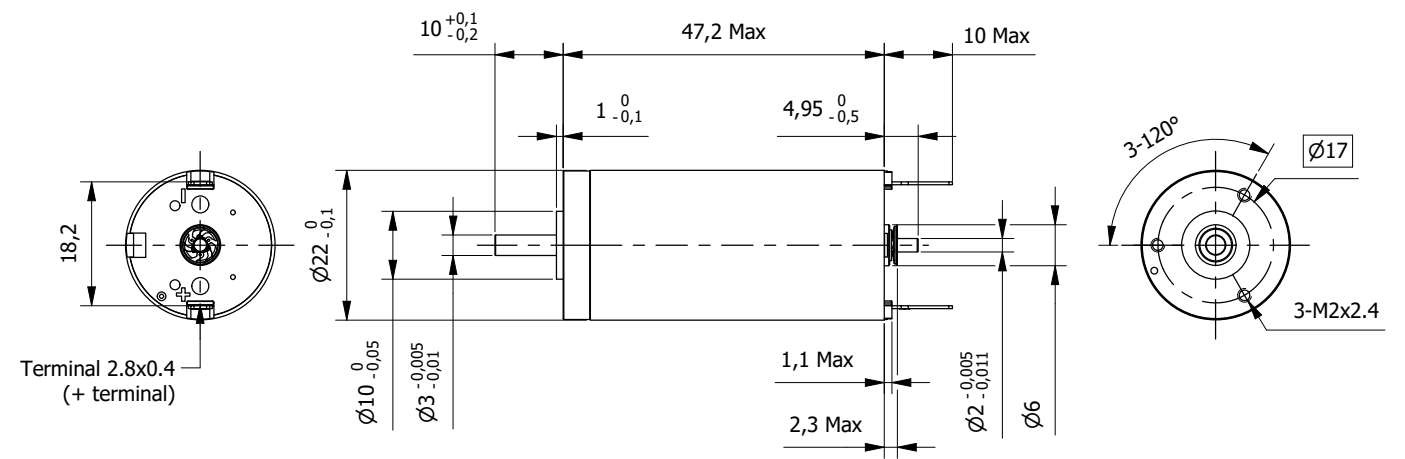


Brushed DC Coreless Motor

Precious Metal brushes

22DC47N-PM

Ø 22mm - 29,5mNm



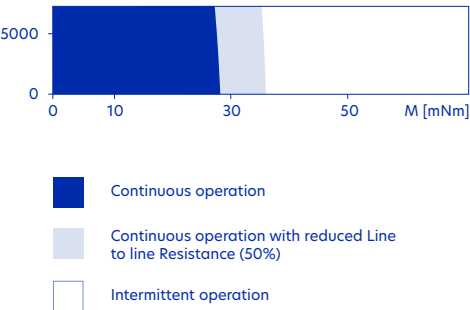
Product also available with ball bearings

Specification		Model	...5303	...4001	...4007	...4129
1	Rated Voltage	V	6	12	24	48
2	Rated Speed	rpm	5380	4000	4070	4180
3	Rated Torque	mNm	14,1	29,5	29,2	27,8
4	Stall Torque	mNm	170	150	150	140
5	Torque Constant	mNm/A	9,73	22,9	45,2	87,6
6	Motor Regulation	10 ³ /Nms	3,6	3,5	3,5	3,9
7	Rated Current	A	1,5	1,3	0,655	0,322
8	Stall Current	A	17,5	6,54	3,31	1,6
9	No-load Current	mA	51	20	10,2	5,36
10	No-load Speed	rpm	5870	4980	5060	5220
11	Line to Line Resistance	Ω	0,343	1,84	7,25	29,9
12	Line to Line Inductance	mH	0,035	0,192	0,746	2,8
13	Rotor Inertia	gcm ²	9,06	9	8,85	8,12
14	Max. Efficiency	%	89	89	89	89
15	Mechanical Time Constant	ms	3,28	3,14	3,14	3,17
16	Length (L)	mm	47,2	47,2	47,2	47,2
17	Weight	g	95	95	95	95

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	7160rpm
Radial play	0,02mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	3N
Max. Axial force	0,1N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
22GPS	
* other options on request	

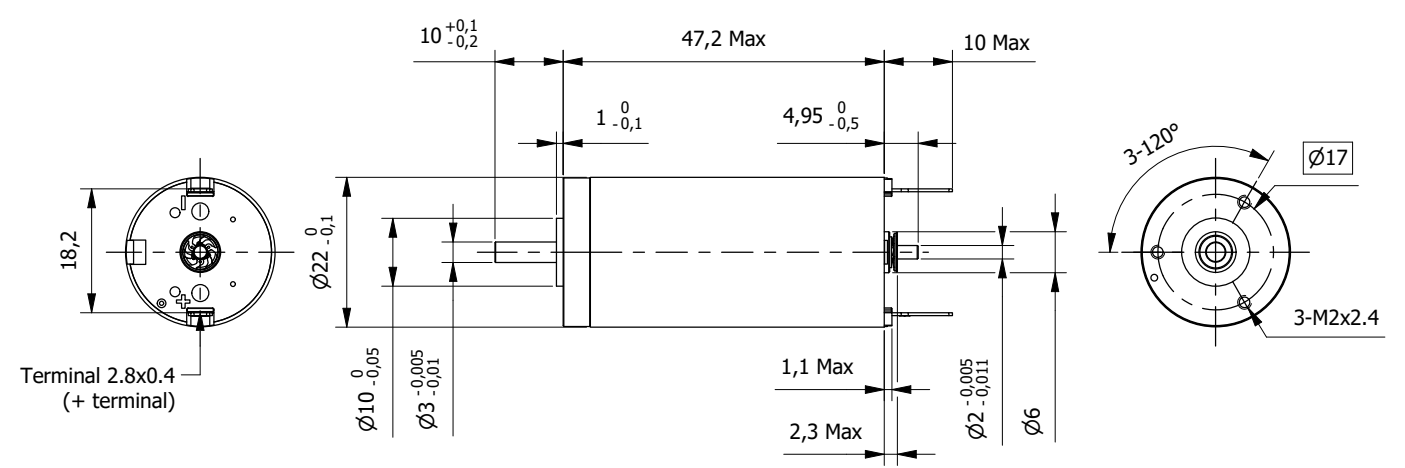
Operating range: Winding 18V



Brushed DC Coreless Motor 22DC47N-G

Graphite brushes

Ø 22mm - 30,5mNm



Product also available with ball bearings

Specification					
	Model	...11401	...10703	...9007	
1	Rated Voltage	V	9	12	48
2	Rated Speed	rpm	11400	10700	9020
3	Rated Torque	mNm	27	30,5	30,3
4	Stall Torque	mNm	371	348	294
5	Torque Constant	mNm/A	6,95	9,73	45,2
6	Motor Regulation	10 ³ /Nms	3,5	3,5	3,6
7	Rated Current	A	4	3,21	0,687
8	Stall Current	A	53,4	35,8	6,5
9	No-load Current	mA	118	81,8	16,2
10	No-load Speed	rpm	12300	11700	10100
11	Line to Line Resistance	Ω	0,168	0,335	7,39
12	Line to Line Inductance	mH	0,018	0,035	0,746
13	Rotor Inertia	gcm2	9,37	9,06	8,85
14	Max. Efficiency	%	90	91	90
15	Mechanical Time Constant	ms	3,27	3,21	3,2
16	Length (L)	mm	47,2	47,2	47,2
17	Weight	g	95	95	95

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +100°C
Max. Winding Temperature	+125°C
Max. Speed	18000rpm
Radial play	0,02mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	3N
Max. Axial force	0,1N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
22GPS	
* other options on request	

Operating range: Winding 18V

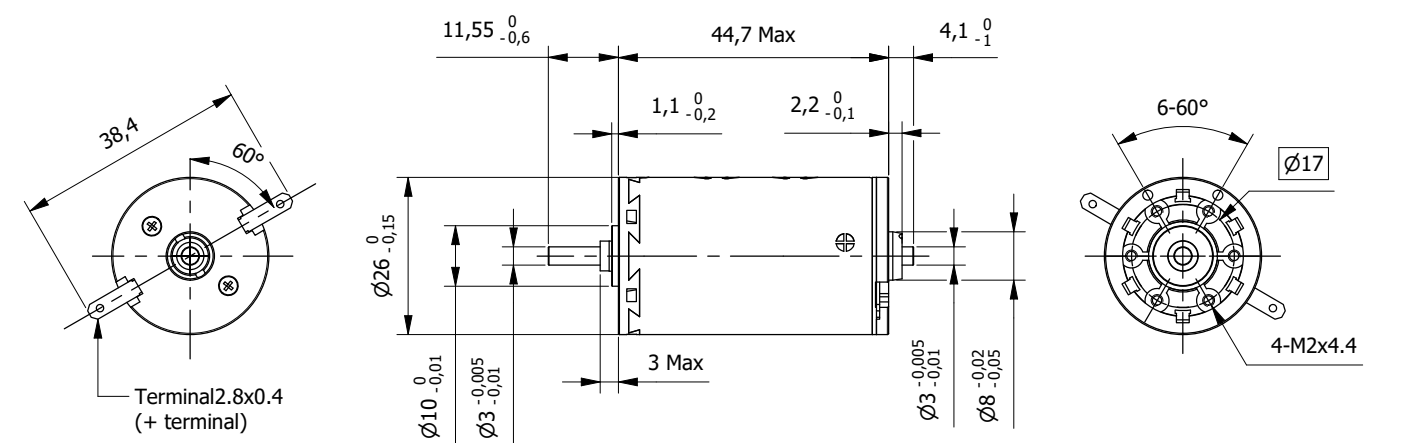


Brushed DC Coreless Motor

Precious Metal brushes

26DC44P-PM

Ø 26mm - 28,8mNm



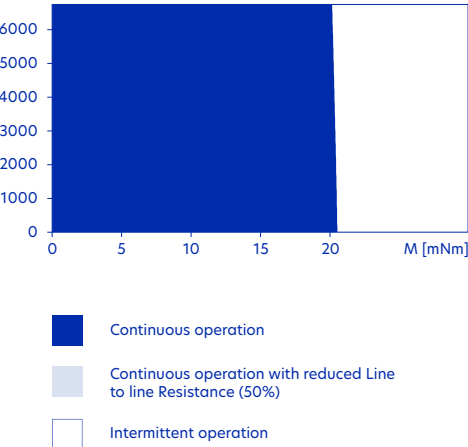
Product also available with ball bearings

Specification				
Model		...3702	...3409	
1	Rated Voltage	V	12	24
2	Rated Speed	rpm	3790	3450
3	Rated Torque	mNm	20,8	28,8
4	Stall Torque	mNm	140	138
5	Torque Constant	mNm/A	25,6	52,2
6	Motor Regulation	10 ³ /Nms	3,3	3,3
7	Rated Current	A	0,84	0,564
8	Stall Current	A	5,49	2,64
9	No-load Current	mA	271	13,2
10	No-load Speed	rpm	4460	4370
11	Line to Line Resistance	Ω	2,19	9,08
12	Line to Line Inductance	mH	0,278	1,16
13	Rotor Inertia	gcm ²	14,9	15,2
14	Max. Efficiency	%	87	87
15	Mechanical Time Constant	ms	4,99	5,06
16	Length (L)	mm	44,7	44,7
17	Weight	g	120	120

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +65°C
Max. Winding Temperature	+85°C
Max. Speed	6700rpm
Radial play	0,012mm
Axial play	0,1 to 0,2mm
Max. Radial force (5mm from flange)	5,5N
Max. Axial force	1,7N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
26GPS	
* other options on request	

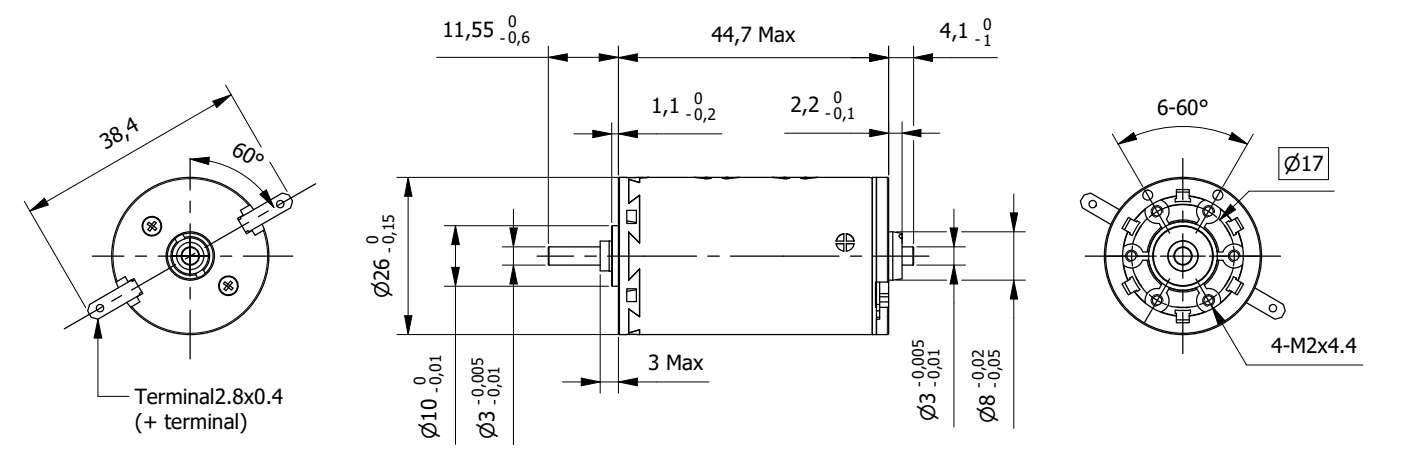
Operating range: Winding 12V



Brushed DC Coreless Motor 26DC44P-G

Graphite brushes

Ø 26mm - 28,3mNm



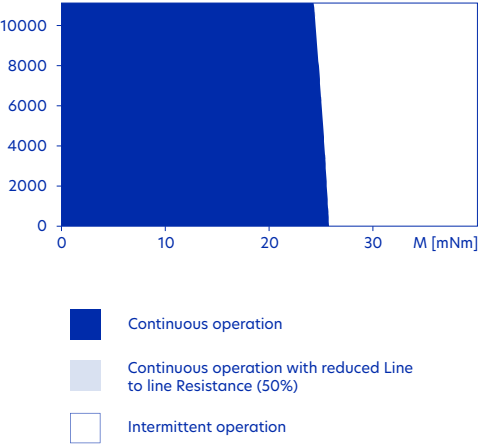
Product also available with ball bearings

Specification				
Model		...8102	...7809	
1	Rated Voltage	V	24	48
2	Rated Speed	rpm	8100	7840
3	Rated Torque	mNm	26,3	28,3
4	Stall Torque	mNm	287	277
5	Torque Constant	mNm/A	25,6	52,2
6	Motor Regulation	10 ³ /Nms	3,3	3,3
7	Rated Current	A	1,08	0,567
8	Stall Current	A	11,2	5,31
9	No-load Current	mA	53	25,7
10	No-load Speed	rpm	8920	8730
11	Line to Line Resistance	Ω	2,14	9,04
12	Line to Line Inductance	mH	0,278	1,16
13	Rotor Inertia	gcm ²	14,9	15,2
14	Max. Efficiency	%	87	87
15	Mechanical Time Constant	ms	4,89	5,04
16	Length (L)	mm	44,7	44,7
17	Weight	g	120	120

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	11000rpm
Radial play	0,012mm
Axial play	0,1 to 0,2mm
Max. Radial force (5mm from flange)	5,5N
Max. Axial force	1,7N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
26GPS	
* other options on request	

Operating range: Winding 24V

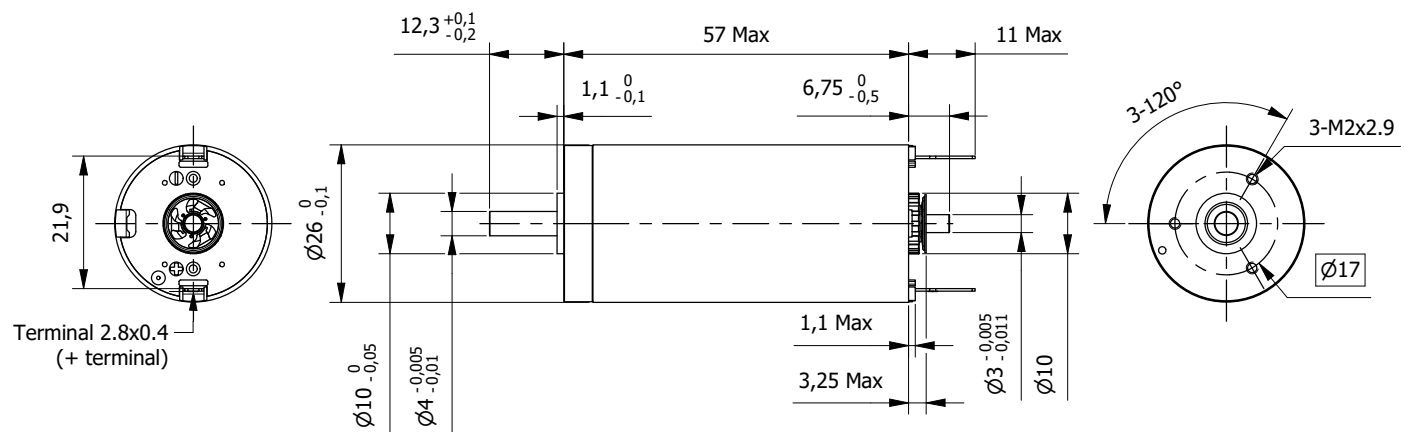


Brushed DC Coreless Motor

Precious Metal brushes

26DC57N-PM

Ø 26mm - 52,3mNm



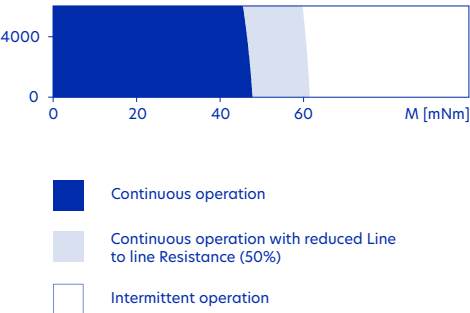
Product also available with ball bearings

Specification		Model	...5003	...4606	...4602	...4511
1	Rated Voltage	V	9	12	24	48
2	Rated Speed	rpm	5060	4690	4600	4570
3	Rated Torque	mNm	32,9	46,1	52,3	50,3
4	Stall Torque	mNm	384	384	384	355
5	Torque Constant	mNm/A	15,5	21,4	42,9	85,8
6	Motor Regulation	10 ³ /Nms	1,5	1,5	1,5	1,5
7	Rated Current	A	2,2	2,2	1,25	0,599
8	Stall Current	A	24,8	17,9	8,95	4,14
9	No-load Current	mA	80,5	56,8	28,4	14,2
10	No-load Speed	rpm	5530	5330	5330	5320
11	Line to Line Resistance	Ω	0,363	0,671	2,68	11,6
12	Line to Line Inductance	mH	0,067	0,129	0,514	2,06
13	Rotor Inertia	gcm ²	21,3	21,4	21,2	19,7
14	Max. Efficiency	%	89	89	89	89
15	Mechanical Time Constant	ms	3,23	3,13	3,09	3,11
16	Length (L)	mm	57	57	57	57
17	Weight	g	170	170	170	170

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +85°C
Max. Winding Temperature	+100°C
Max. Speed	5900rpm
Radial play	0,02mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	5,5N
Max. Axial force	0,1N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
26GPS	
* other options on request	

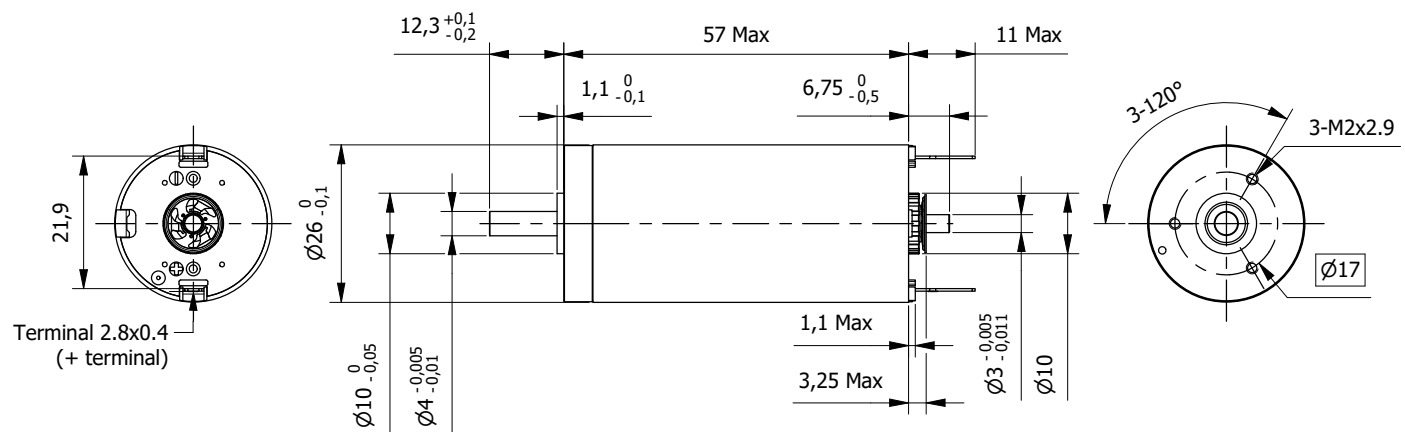
Operating range: Winding 18V



Brushed DC Coreless Motor 26DC57N-G

Graphite brushes

Ø 26mm - 59,1mNm



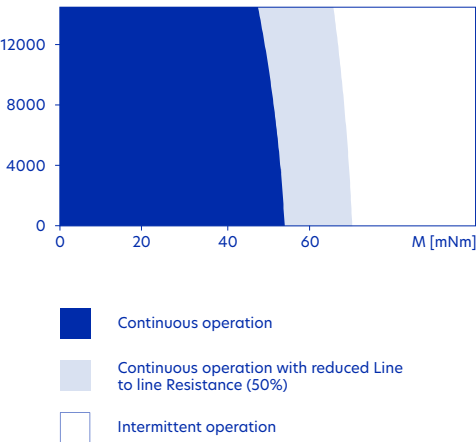
Product also available with ball bearings

Specification					
	Model	...9402	...9607	...9702	
1	Rated Voltage	V	12	24	48
2	Rated Speed	rpm	9460	9690	9730
3	Rated Torque	mNm	46,9	57,8	59,1
4	Stall Torque	mNm	532	695	697
5	Torque Constant	mNm/A	10,7	21,4	42,9
6	Motor Regulation	10 ³ /Nms	2,1	1,6	1,6
7	Rated Current	A	4,5	2,76	1,41
8	Stall Current	A	49,7	32,4	16,2
9	No-load Current	mA	131	65,7	32,9
10	No-load Speed	rpm	10600	10700	10700
11	Line to Line Resistance	Ω	0,242	0,74	2,95
12	Line to Line Inductance	mH	0,032	0,129	0,514
13	Rotor Inertia	gcm2	21,4	21,4	21,2
14	Max. Efficiency	%	88	91	91
15	Mechanical Time Constant	ms	4,5	3,45	3,4
16	Length (L)	mm	57	57	57
17	Weight	g	170	170	170

Characteristics	
Item	
Ambient Temperature Sleeve bearings	-30°C to +100°C
Max. Winding Temperature	+155°C
Max. Speed	8600rpm
Radial play	0,02mm
Axial play	0 to 0,2mm
Max. Radial force (5mm from flange)	5,5N
Max. Axial force	0,1N
Max. Force for Press fit	80N

Standard Combination	
Gearbox	
26GPS	
* other options on request	

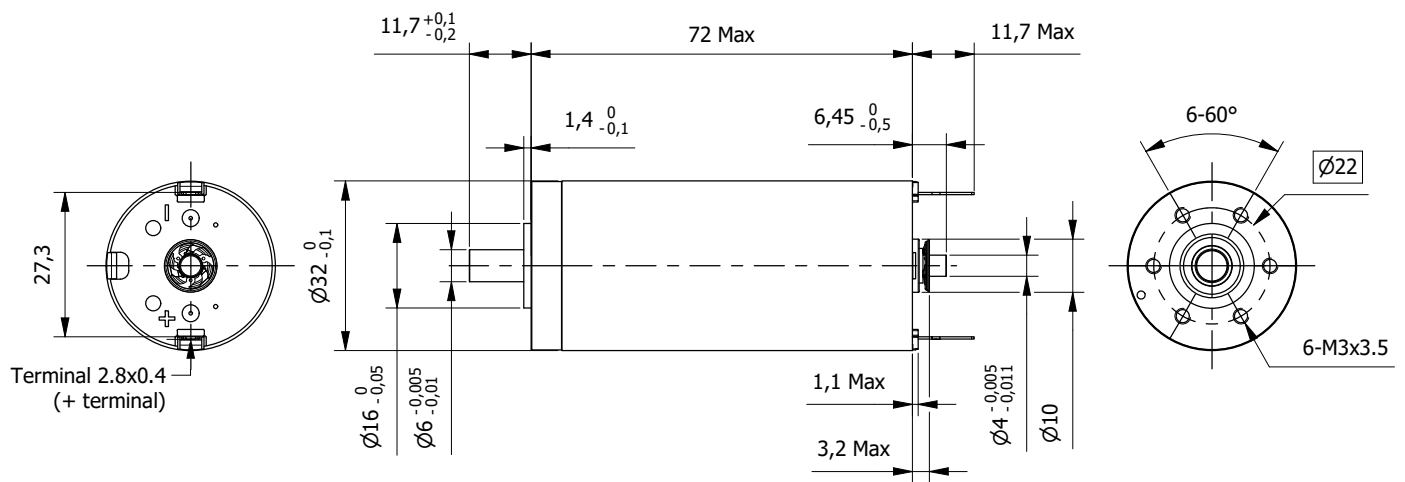
Operating range: Winding 18V



Brushed DC Coreless Motor 32DC72N-G

Graphite brushes

Ø 32mm - 123mNm

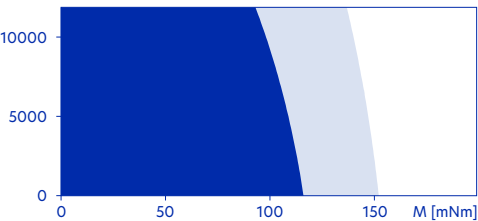


Specification					
	Model		...6501	...7703	...7201
1	Rated Voltage	V	12	24	48
2	Rated Speed	rpm	6560	7710	7260
3	Rated Torque	mNm	89,4	108	123
4	Stall Torque	mNm	1730	1980	2000
5	Torque Constant	mNm/A	15,6	27,3	58,5
6	Motor Regulation	10 ³ /Nms	0,4	0,4	0,4
7	Rated Current	A	6	4,12	2,17
8	Stall Current	A	111	72,5	34,2
9	No-load Current	mA	274	164	75,2
10	No-load Speed	rpm	7120	8270	7780
11	Line to Line Resistance	Ω	0,108	0,331	1,4
12	Line to Line Inductance	mH	0,034	0,103	0,473
13	Rotor Inertia	gcm2	77,6	72,8	75,9
14	Max. Efficiency	%	85	88	90
15	Mechanical Time Constant	ms	3,44	3,24	3,11
16	Length (L)	mm	72	72	72
17	Weight	g	325	325	325

Characteristics	
Item	
Ambient Temperature Ball bearings	-40°C to +100°C
Max. Winding Temperature	+155°C
Max. Speed	11300rpm
Radial play	0,02mm
Axial play	0 to 0,1mm
Max. Radial force (5mm from flange)	65,3N
Max. Axial force	7N
Max. Force for Press fit	22,6N

Standard Combination	
Gearbox	
32GPS	
* other options on request	

Operating range: Winding 36V

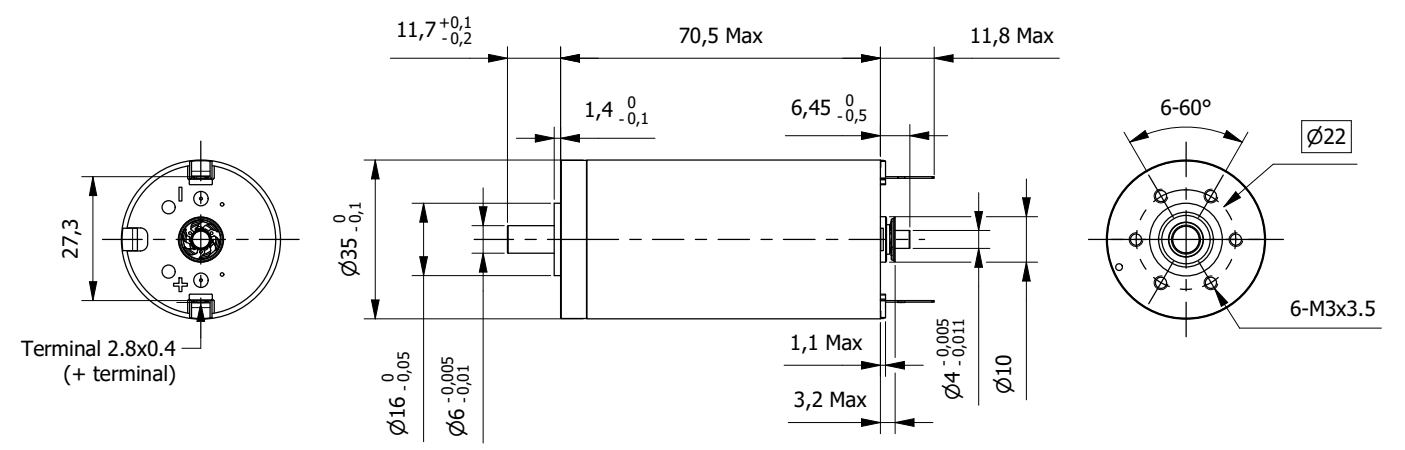


- Continuous operation
- Continuous operation with reduced Line to line Resistance (50%)
- Intermittent operation

Brushed DC Coreless Motor 35DC70N-G

Graphite brushes

Ø 35mm - 138mNm



Specification					
	Model		...7607	...7103	...6101
1	Rated Voltage	V	12	24	48
2	Rated Speed	rpm	7610	7160	6140
3	Rated Torque	mNm	77,7	121	138
4	Stall Torque	mNm	2080	2030	1860
5	Torque Constant	mNm/A	13,7	29,3	68,3
6	Motor Regulation	10 ³ /Nms	0,4	0,4	0,4
7	Rated Current	A	6	4,26	2,08
8	Stall Current	A	152	69,3	27,3
9	No-load Current	mA	320	146	58,6
10	No-load Speed	rpm	8130	7720	6670
11	Line to Line Resistance	Ω	0,079	0,346	1,76
12	Line to Line Inductance	mH	0,026	0,121	0,658
13	Rotor Inertia	gcm ²	99,5	96,6	99,5
14	Max. Efficiency	%	85	89	90
15	Mechanical Time Constant	ms	4,21	3,91	3,76
16	Length (L)	mm	70,5	70,5	70,5
17	Weight	g	385	385	385

Characteristics	
Item	
Ambient Temperature Ball bearings	-40°C to +100°C
Max. Winding Temperature	+155°C
Max. Speed	12300rpm
Radial play	0,02mm
Axial play	0 to 0,1mm
Max. Radial force (5mm from flange)	65,3N
Max. Axial force	7N
Max. Force for Press fit	22,6N

