

CATALOGUE

**PERSONALISE
WITHOUT
COMPROMISE**



Small Custom Gearbox Solutions

Full Mechanical Design

Fast Design, Express Prototyping

Mass Production

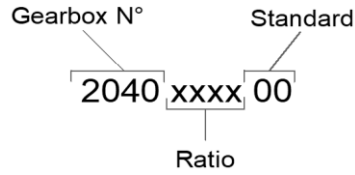


www.mecatix.ch

SUMMARY

Page	Product	Size	Torque	Type	
1	2040	24.6 x 36.6mm -	Output 2xM4	Linear Actuator	
2	2060	32 x 50mm -	Output 2xM4	Linear Actuator	
3	1108	Ø8 mm	0,02Nm	Planetary Gearbox	
4	1016	Ø16 mm	0,5Nm		
5	1021	Ø21 mm	0,4Nm		
6	1022	Ø22 mm	0,8Nm <i>NEMA 8</i>		
7	1222	Ø22 mm	1,5Nm		
8	1031	Ø30,5 mm	5Nm <i>NEMA 11/14</i>		
9	1035	Ø35 mm	15Nm		
10	1042	Ø42mm	35Nm		
11	1043	Ø43 mm	15Nm <i>NEMA 17</i>		
12	1057	Ø57 mm	35Nm <i>NEMA 23/24</i>		
13	1086	Ø86 mm	90Nm <i>NEMA 34</i>		
14	2030	Ø30 mm	0,45Nm		Gearbox with spur gear
15	2038	Ø38 mm	1Nm		
16	2066	□66 mm	4Nm		
17	2090	Ovoïde	2Nm		
18	2138	Ø38 mm	0,45Nm	Gearbox with spur gear no backlash	
19	2148	Ø48 mm	0,45Nm		
20	1208	Ø8 mm		Gearhead Motor 1xxx = Planetary 2xxx = Spur	
21	1021	Ø21 mm			
22	1031	Ø30,5 mm			
23	1035	Ø35 mm			
24	2030	Ø30 mm			
25	2038	Ø38 mm			
26	2066	□ 66 mm			

Part number



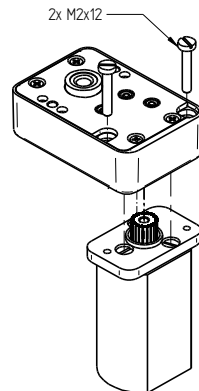
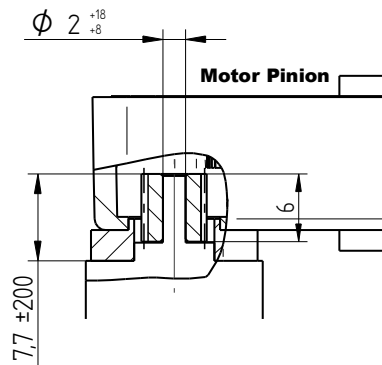
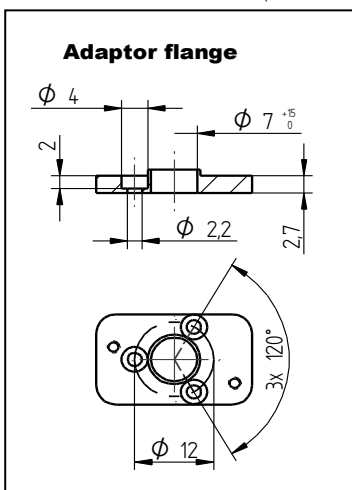
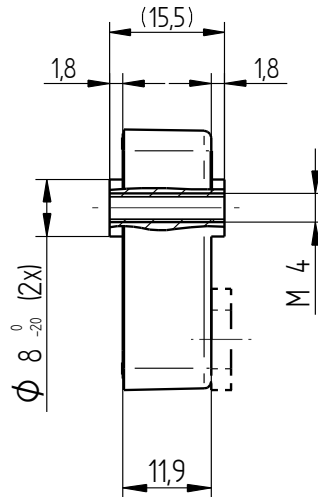
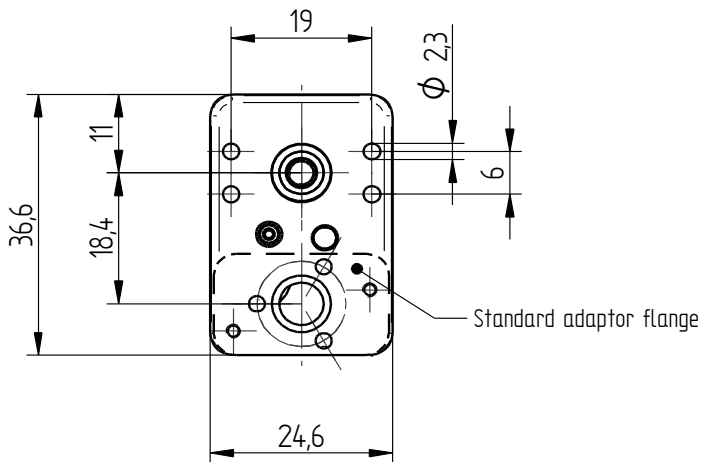
Example with Ratio 10:1
2040 0010 00

Technical data

Ratio		5:1	10:1	20:1	50:1	100:1
Max. holding force	N	100				
Linear force	N	10				
Axial play	mm	0.17 to 0.32				
Recommended input speed	mm/s	0.5 - 20				
Operating temperature		-25°C to 80°C				
Direction of rotation		≠	≠	≠	=	=
Output shaft material		Brass				
Cover material		Aluminium mould				

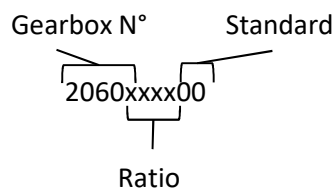
Other output shaft and adaptor flange on request

Dimensions in mm, tolerances in µm



Gearbox 2060

Part number



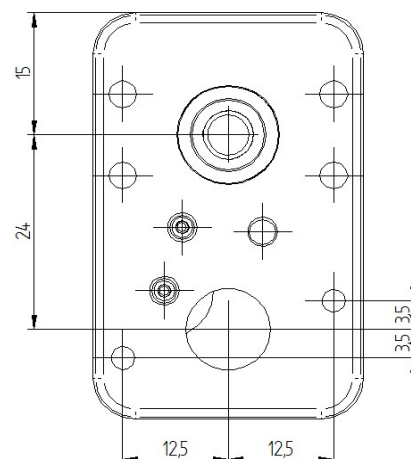
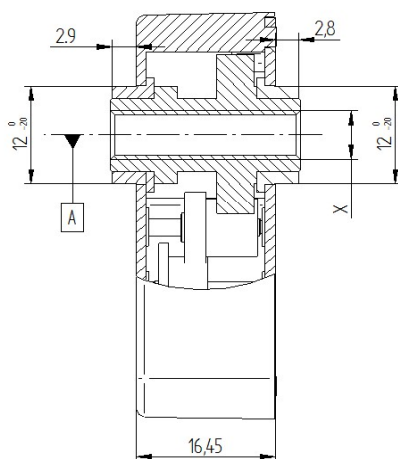
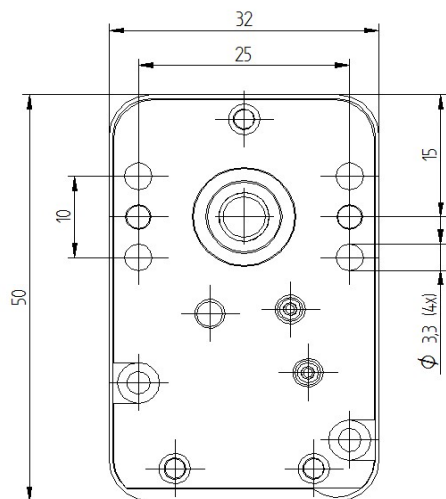
Example with
Ratio 50
2060 0050 00

Technical data

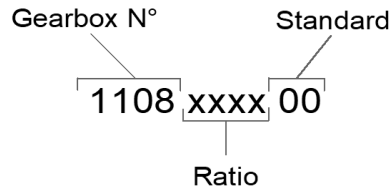
Ratio	5	10	20	50	60	100
No of gear stage	3			4		
Axial play μm	50-240					
Max. radial force at 5mm from bearing N	50					
Radial play at 5mm from bearing	0.02					
Max. axial force N	50					
Average backlash at no load	2°					
Recommended input speed rpm	7000					
Dir. of rotation entrance - exit	≠			=		
Operating temperature	-30/ +60°C					
Cover material	Aluminium, stainless steel					
Output shaft material	POM-H, CuZn, X12Cr					
mass g	95			100		
Length gearbox L mm	16.45					

Other ratio on request

(dimensions in mm, tolerances in μm)



Part number



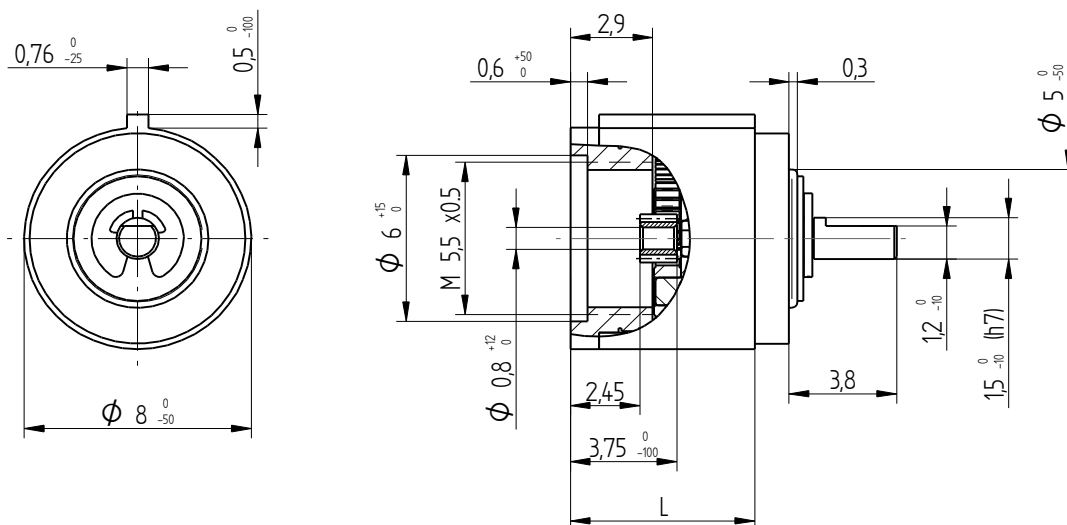
Example with Ratio 75:1
1108 0075 00

Technical data

Ratio		5:1	15:1	25:1	75:1	125:1
No. of gear stages		1	2	2	3	3
Axial play		0.02 ... 0.22				
Max. axial force		5N				
Max. radial force at 5mm from bearing		5N				
Max. torque permanent	Nm	0,02				
Max. torque intermittent	Nm	0,04				
Recommended input speed	rpm	10000				
Dir. of rotation entrance - exit		=				
Output shaft material		Stainless steel				
Cover material		Plastic				
Operating temperature		-50...80°C				
Mass	g	1,8	2,3		2,7	
Lenght	L	6	7,7		9,9	

Other ratio on request
Other adaptor flange on request
Motor pinion provided

(dimensions in mm, tolerances in µm)



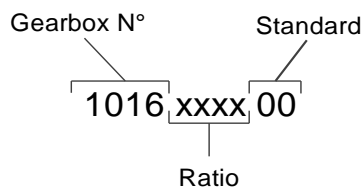
Also available with motor: see page 19



Planetary gearbox 1016

ø16 mm – 0,5Nm

Part number



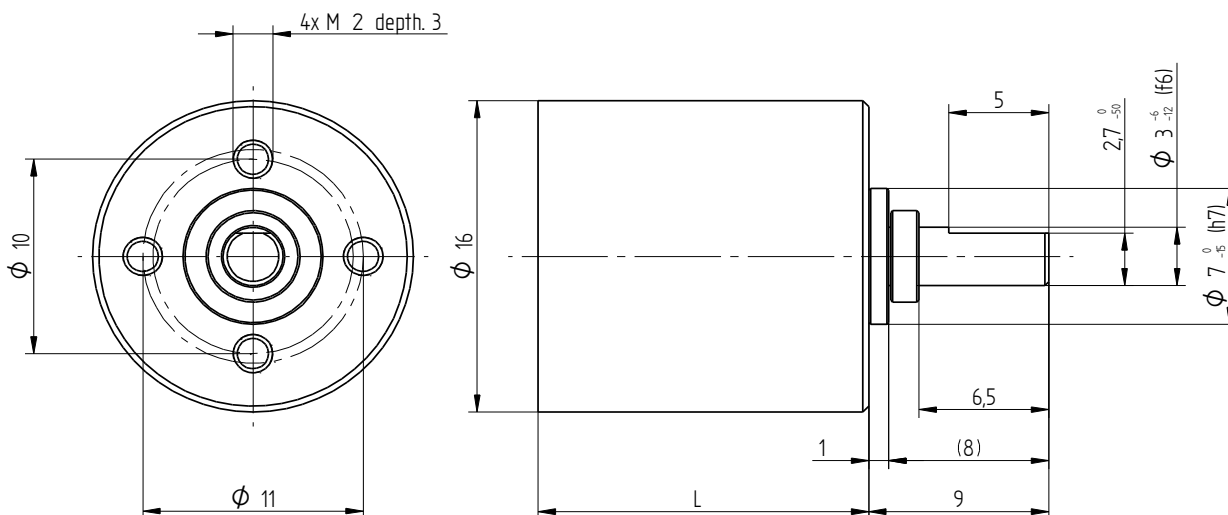
Example with Ratio 81:1
1016 0081 00

Technical data

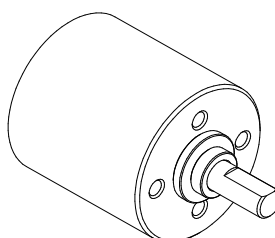
Ratio	6,33:1	9:1	40:1	81:1	254:1	513:1	729:1
No. of gear stages	1		2		3		
Axial play	+10 / +150						
Max. axial shaft load	N		10				
Max. radial force at 6mm from mounting face	N		20				
Max. torque permanent	Nm	0,15	0,2	0,3	0,35	0,5	
Max. torque intermittent	Nm	0,6					
Backlash @ no load for 2 stages	°		1 (max)				
Max input speed for permanent torque	8000 rpm						
Dir. of rotation entrance - exit	=						
Operating range	-30°C - 85°C						
Output shaft material	Stainless steel						
Cover material	Metal						
Lenght gearbox L	mm	11,7	16,5	21,3			

Other ratio on request

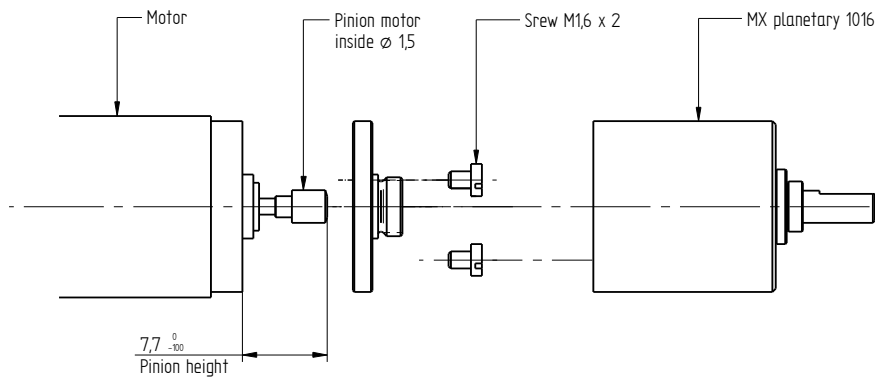
(Dimension in mm, tolerances in µm)



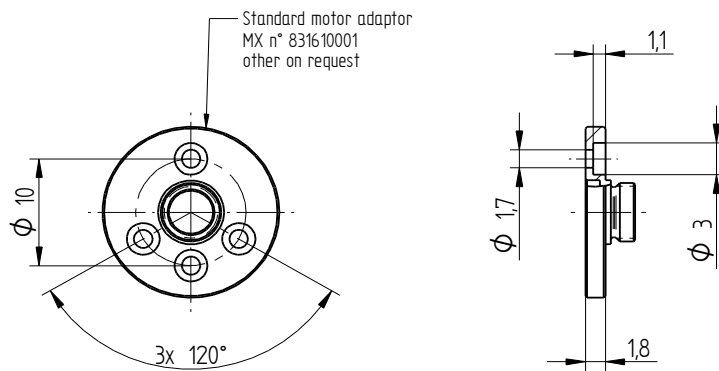
Assembly details on next page



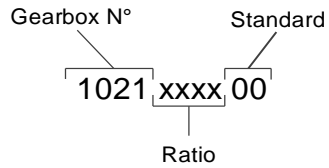
Assembly drawing



Assembly drawing with motor adaptor



Part number



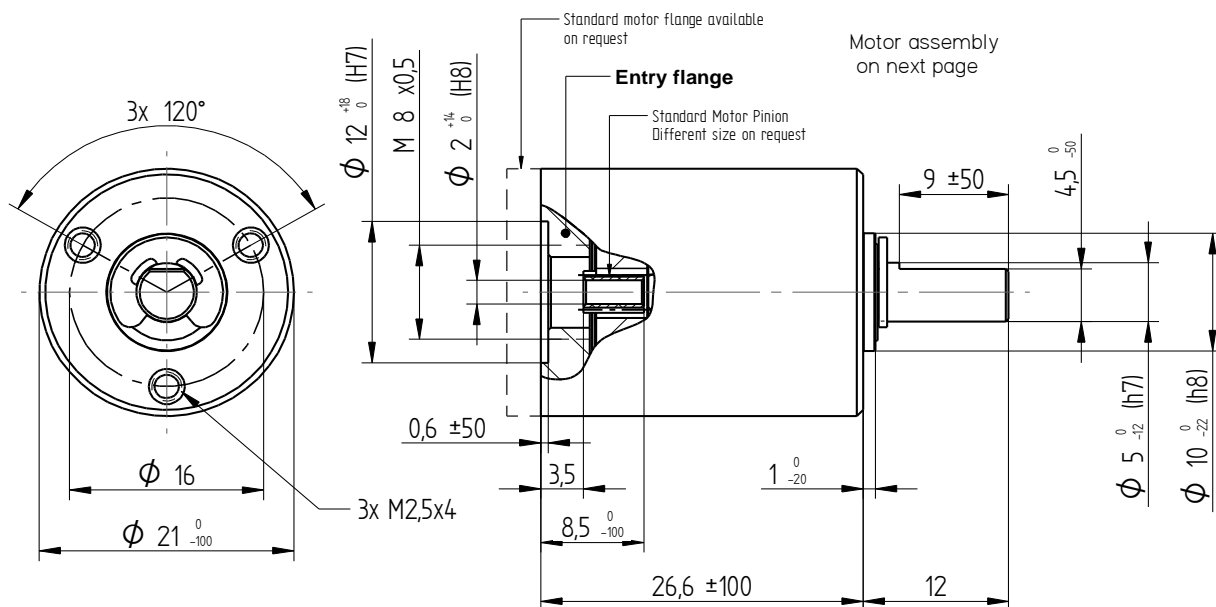
Example with Ratio 49:1
1021 0049 00

Technical data

Ratio	21:1	49:1	63:1
No. of gear stages	2		
Axial play	0,03 ... 0,20		
Max. radial force at 5mm from bearing	20N		
Max. axial force	20N		
Max torque permanent	Nm	0,4	
Max torque intermittent	Nm	0,6	
Recommended input speed	rpm	5000	
Dir. of rotation entrance - exit	=		
Output shaft material	Stainless steel		
Cover material	Plastic		
Operating temperature	-50...80°C		
Mass	g	30	

Other ratio on request

(dimensions in mm, tolerances in µm)



Also available with motor: see page 20



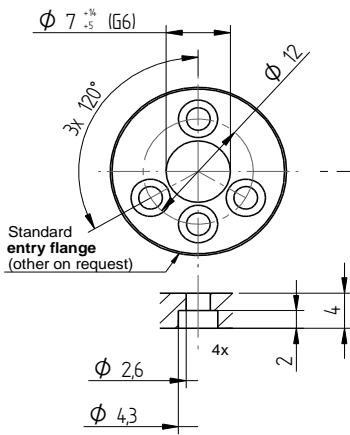
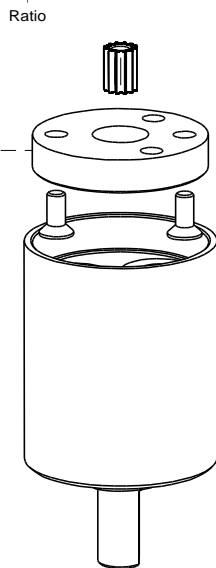
Assembly drawing
2 possibilities

We assemble the motor in Mecatix
Direct mounting, shorter version

Order article 1021

Gearbox N° Standard

1021,xxxx,00

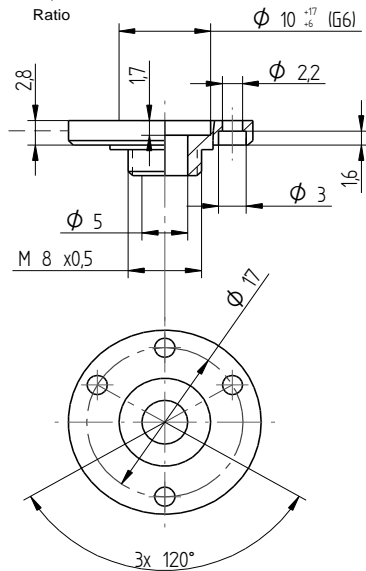
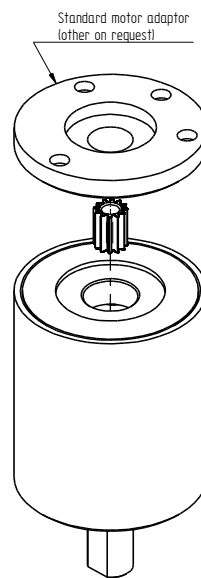


You assemble the motor
You may need an motor adaptor flange

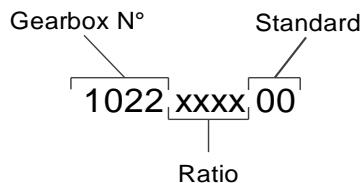
Order article 1121

Gearbox N° Standard

1121,xxxx,00



Part number



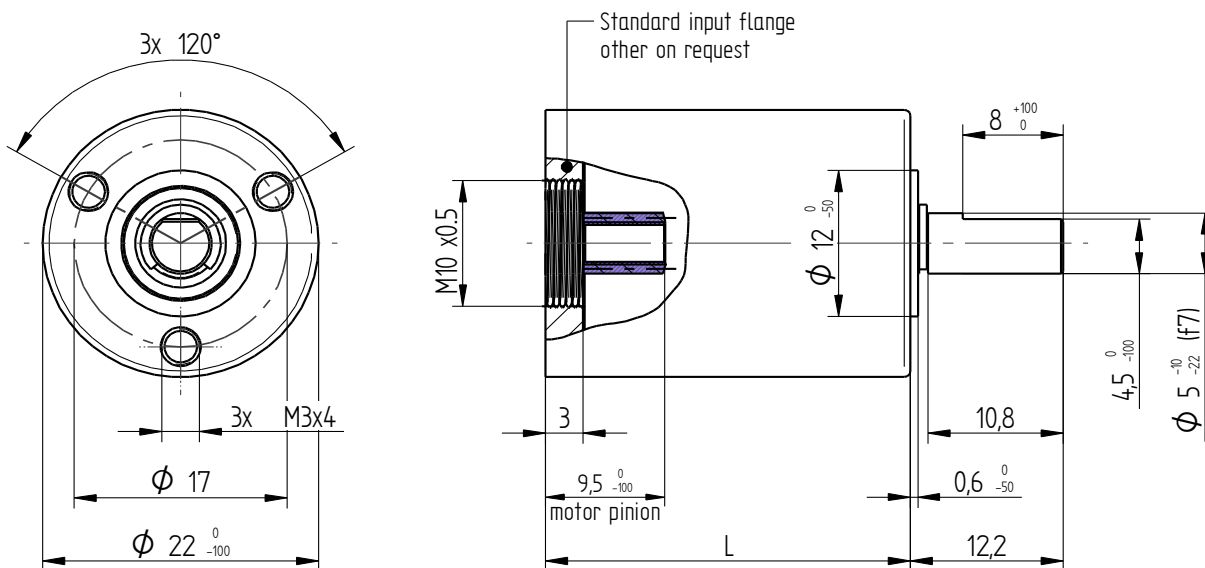
Example with Ratio 28,44:1
1022 0028 00

Technical data

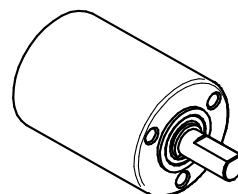
Ratio	3,16:1	5,33:1	10,02:1	16,88:1	28,44:1	53,48:1	90,07:1	151,7:1
No. of gear stages	1		2		3			
Axial play	+10 / +190							
Max. radial force at 6mm from mounting face	70 N							
Max. axial shaft load	20 N							
Max. torque permanent Nm	0,3	0,4	0,6	0,7	0,8			
Max. torque static Nm	1.0							
Max input speed for permanent torque	12000 rpm							
Dir. of rotation entrance - exit	=							
Operating range	-30°C / 85°C							
Output shaft material	Stainless steel							
Cover material	Metal							
Lenght L	19,9	29,1	38,3					

Other ratio on request

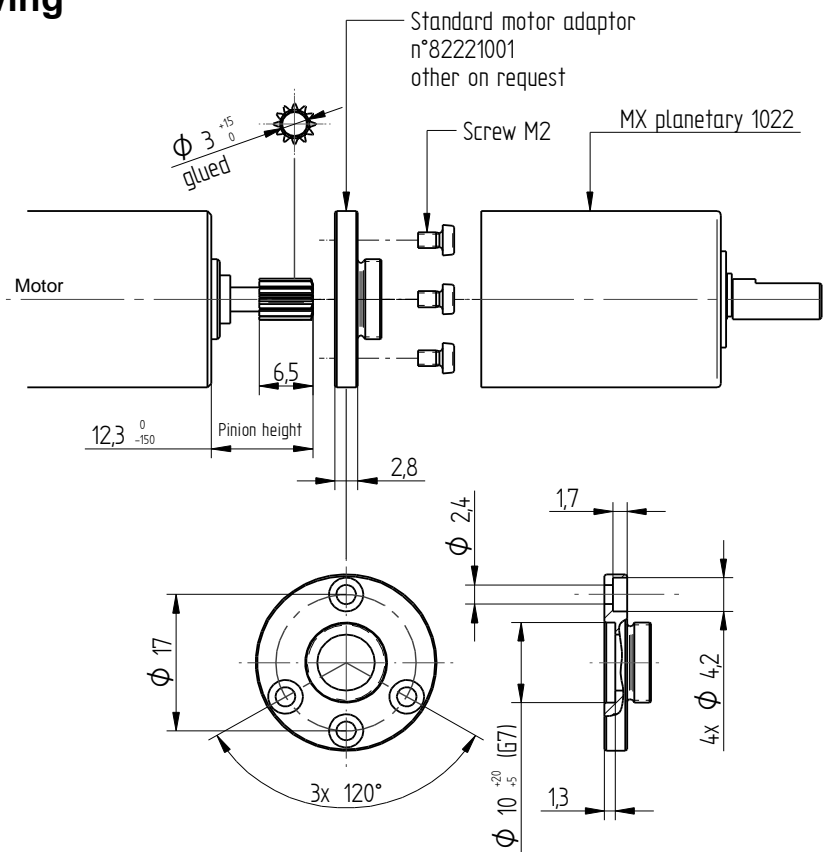
(Dimension in mm, tolerances in µm)



Assembly details on next page



Assembly drawing



Motor pinion selection

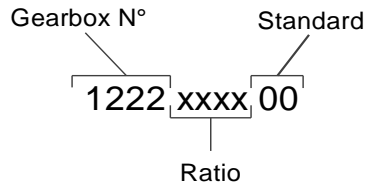
Pinion part N°	Ø	Ratio					
		3,16:1	10,02:1				
4122 1003	3	3,16:1	10,02:1				
4122 1005	3	5,33:1	16,88:1	28,44:1	53,48:1	90,07:1	151,7:1



Planetary gearbox 1222 – High torque version

ø22 mm – 1,5Nm

Part number



Example with
Ratio 28,44:1

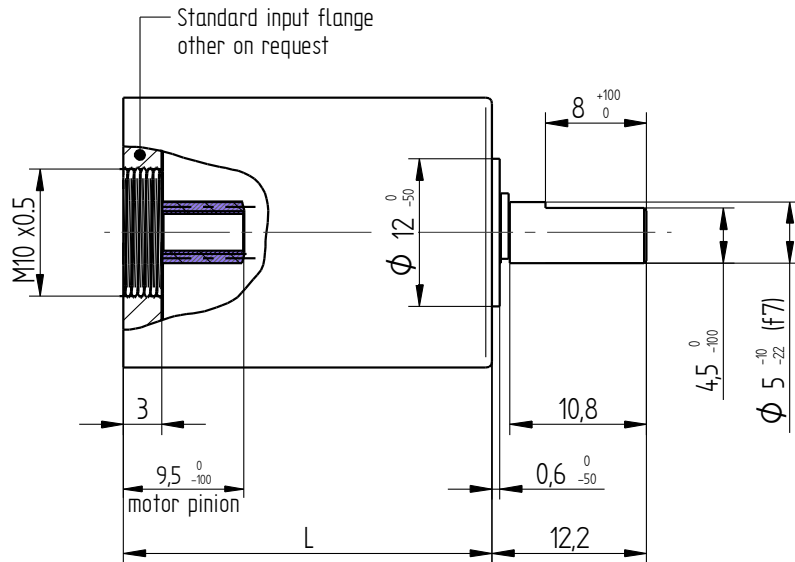
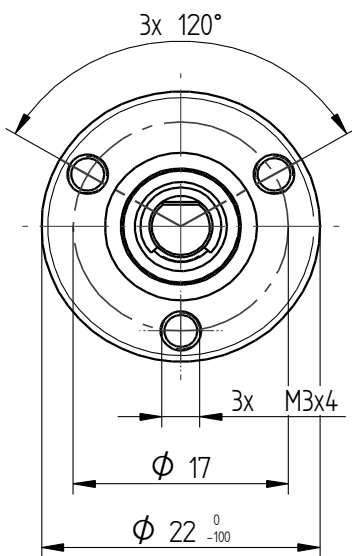
1222 0028 00

Technical data

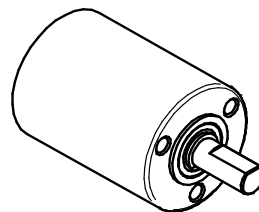
Ratio	3,16:1	5,33:1	10,02:1	16,88:1	28,44:1	53,48:1	90,07:1	151,7:1
No. of gear stages	1		2			3		
Axial play	+10 / +190							
Max. radial force at 6mm from mounting face	70 N							
Max. axial shaft load	20 N							
Max. torque permanent Nm	0,5		0,8		1,2	1,4		1,5
Max. torque static Nm	2,0							
Max input speed for permanent torque	12000 rpm							
Dir. of rotation entrance - exit	=							
Operating range	-30°C / 85°C							
Output shaft material	Stainless steel							
Cover material	Metal							
Lenght L	19,9		29,1				38,3	

Other ratio on request

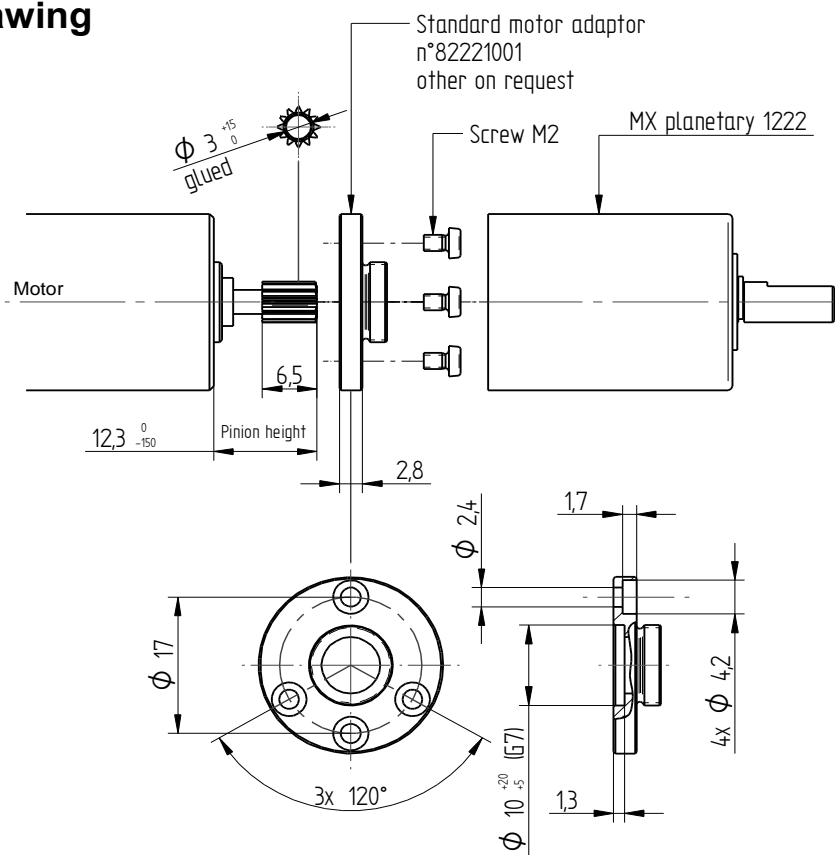
(Dimension in mm, tolerances in µm)



Assembly details on next page



Assembly drawing

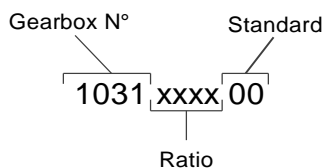


Motor pinion selection

Pinion part N°	Ø	Ratio					
		3,16:1	10,02:1				
4122 1003	3	3,16:1	10,02:1				
4122 1005	3	5,33:1	16,88:1	28,44:1	53,48:1	90,07:1	151,7:1



Part number



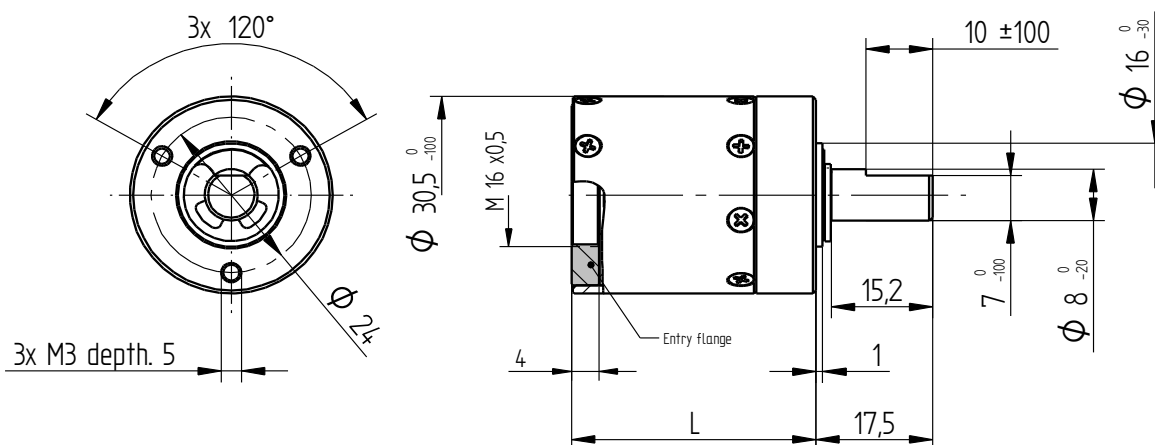
Example with Ratio 19,4:1
1031 0019 00

Technical data

Ratio		3,4:1	4,2:1	11,4:1	14:1	17,4:1	58,6:1	72,3:1	99,8:1	301:1	416:1	574:1
			5,8:1	19,4:1	24:1	33:1	112:1	138:1	190:1	642:1	792:1	1093:1
No. of gear stages		1		2		3			4			
Axial play		0.05 max										
Max. radial force at 5mm from bearing		200 N										
Radial play at 5mm from bearing		0,02										
Max. axial force		180 N										
Max. torque permanent	Nm	1,5		2,4			4,5			5		
Max. torque intermittent	Nm	1,7		2,8			6,5					
Average backlash at no-load		1°										
Recommended input speed	rpm	6000										
Dir. of rotation entrance - exit		=										
Operating temperature		-60 ... 100°C										
Output shaft material		Stainless steel										
Cover material		Steel										
Mass	g	100		120			140			160		
Length gearbox L	mm	30,7		36,7			42,7			48,7		

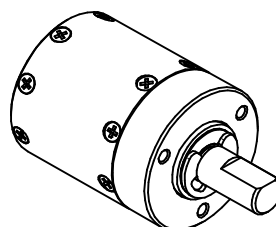
Other ratio on request

(dimensions in mm, tolerances in µm)

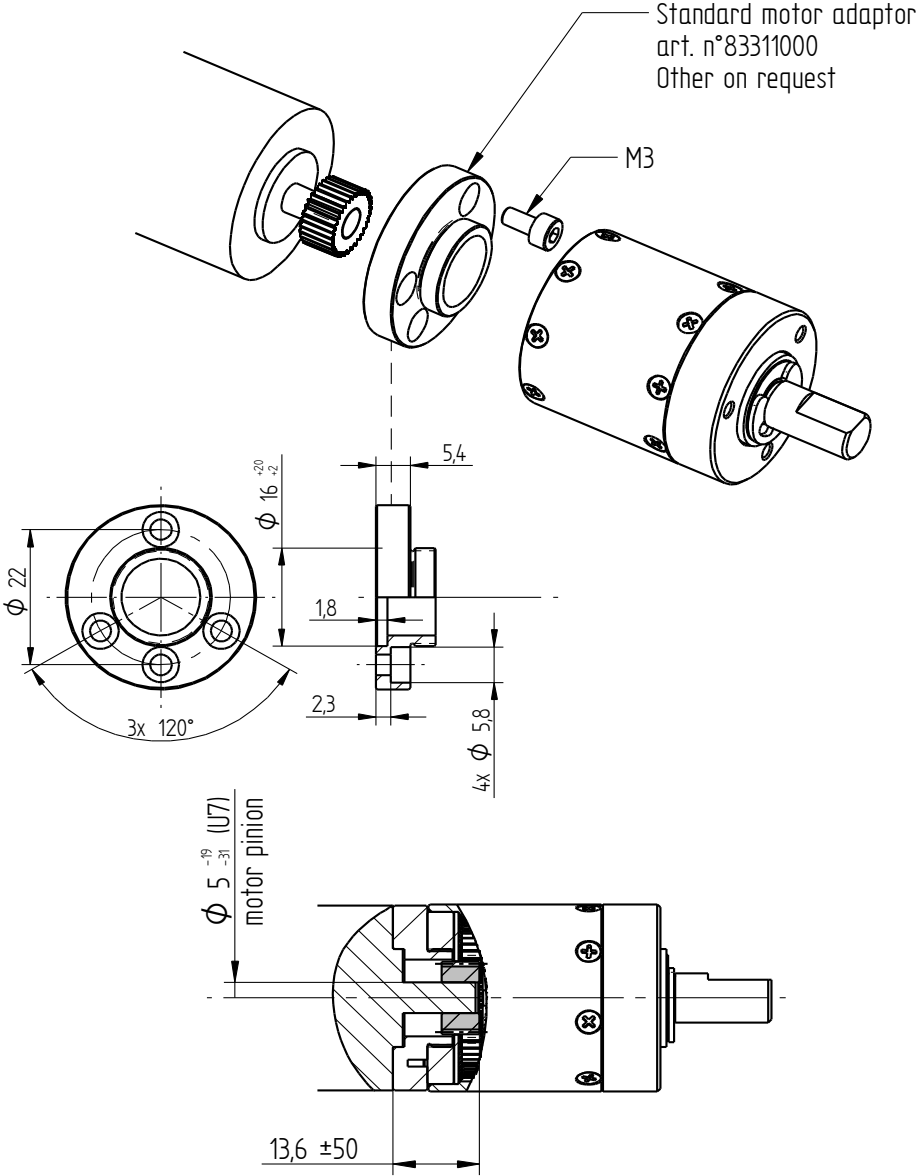


Also available with motor: see page 21

Assembly details on next page



Assembly drawing

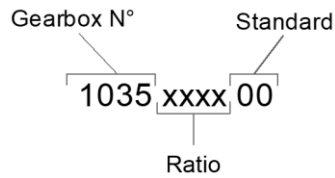


Motor pinion

Pinion part N°	Ø	Ratio										
4132 1053	5	3,4:1	11,4:1	19,4:1	58,6:1	112:1	642:1					
4132 1054	5	4,2:1	14:1	17,4:1	24:1	72,3:1	99,8:1	138:1	301:1	416:1	574:1	792:1
4132 1035	4	5,8:1	33:1	190:1	1093:1							



Part number



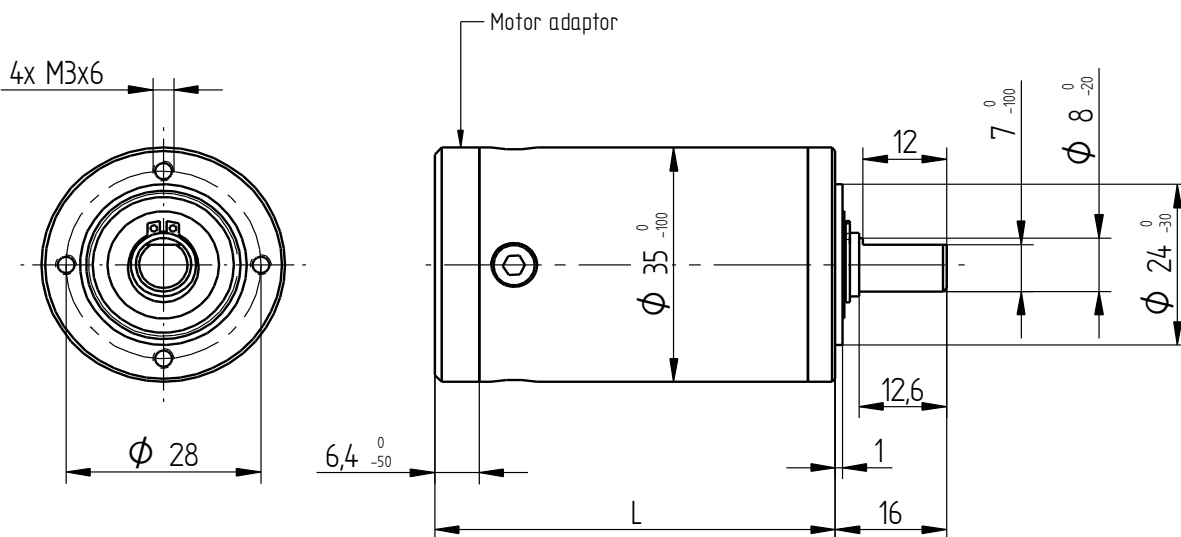
Example with Ratio 100:1
1035 0100 00

Technical data

Ratio		5:1	10:1	20:1	25:1	40:1	50:1	100:1	125:1	200:1	250:1	400:1	500:1
No. of gear stages		1		2				3					
Axial play		~0 (no-load)											
Radial play at 5mm from bearing		30µm											
Max. radial force at 5mm from bearing		500N											
Max. axial force		300N											
Max. torque permanent	Nm	5	5	10	10	10	10	10	15	15	15	15	15
Max. torque intermittent	Nm	7,5	7,5	15	15	15	15	15	22,5	22,5	22,5	22,5	22,5
Average backlash at no-load		0.5°											
Recommended input speed	rpm	6000											
Dir. of rotation entrance - exit		=											
Operating temperature		-60 ... 100°C											
Mass	g	~130		~205				~275					
Output shaft material		Stainless steel											
Cover material		Steel											
Length gearbox L	mm	48,1		57,6				67,1					

Other ratio on request

(dimensions in mm, tolerances in µm)

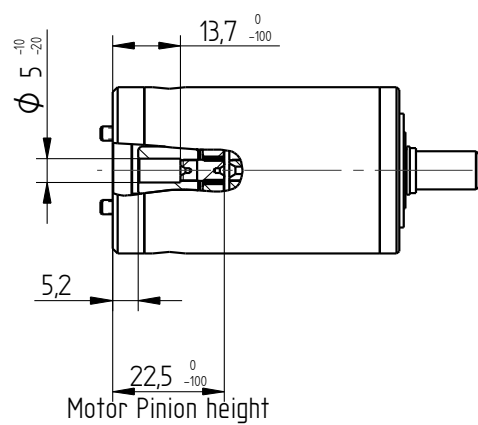
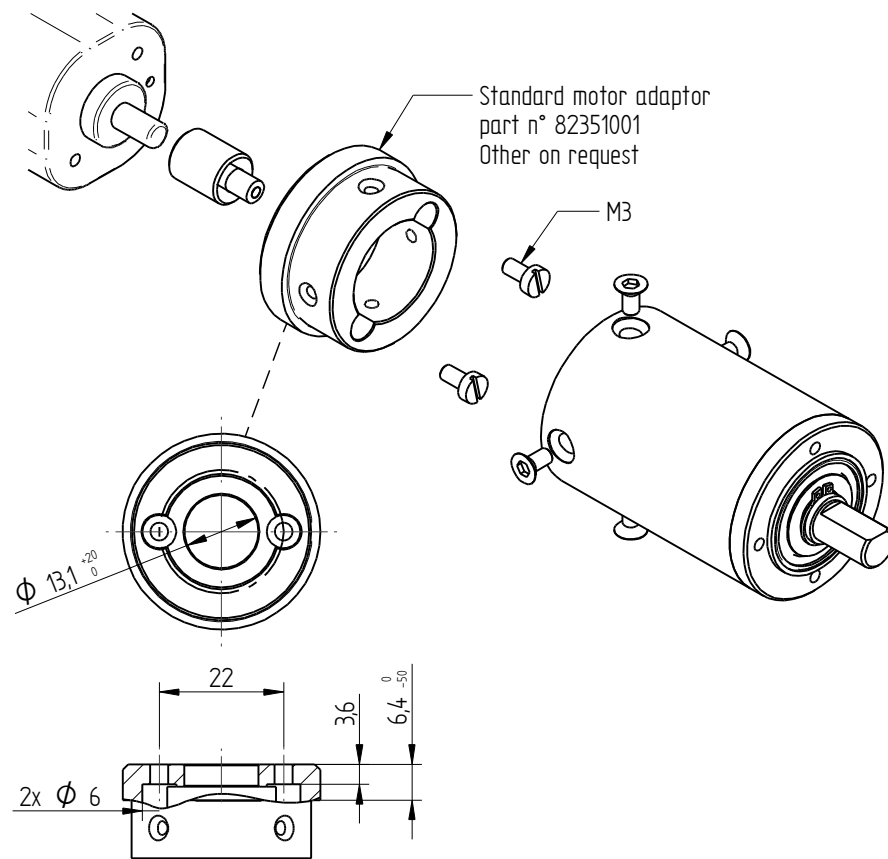


Also available with motor: see page 22

Assembly details on next page



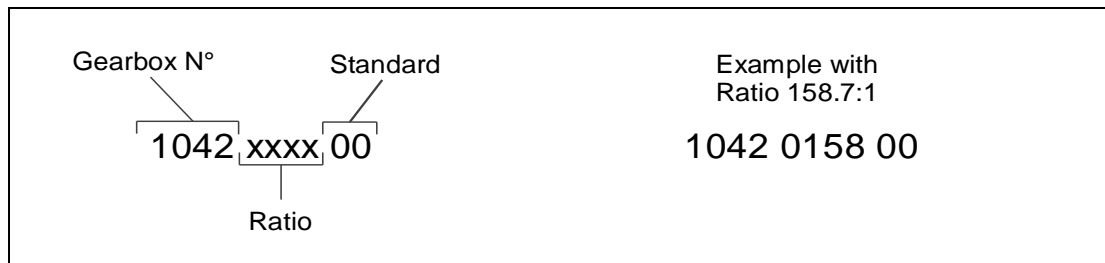
Assembly drawing



Planetary gearbox 1042

ø42 mm – 50Nm

Part number

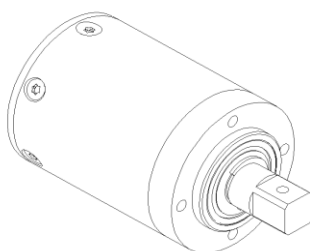
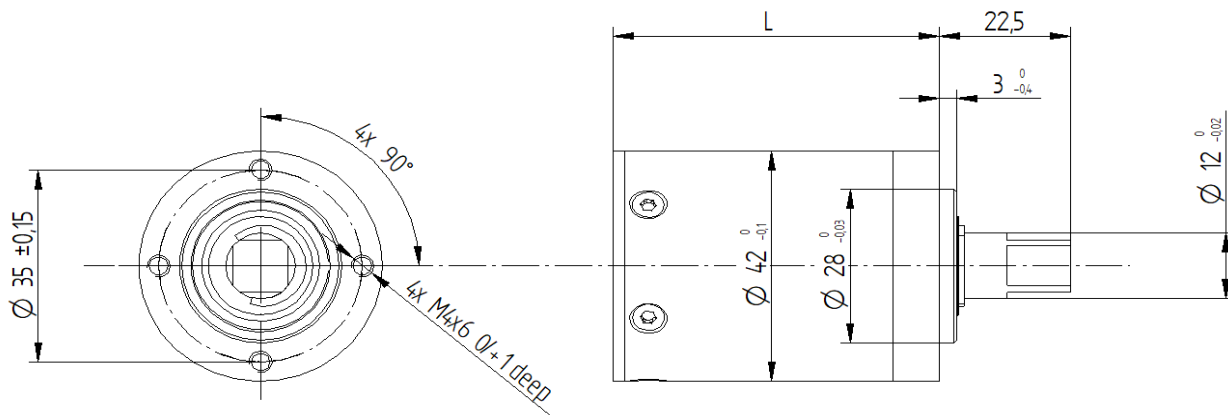


Technical data

Ratio	3,1:1	4,8:1	9,6:1	14,9:1	17,9:1	55,6:1	71,6:1	85,8:1	267:1	412:1	530:1
	5,75:1	23:1	27,6:1	33:1	110,5:1	158,7:1	190:1	635:1	761:1	1093:1	
No. of gear stages	1	2	3	4							
Axial play	0.2 max										
Max. radial force at 5mm from bearing	280 N										
Radial play at 5mm from bearing	0,02										
Max. axial force	250 N										
Max. torque permanent	Nm	10	15	20	35						
Max. torque intermittent	Nm	15	20	35	50						
Average backlash at no-load	1°										
Recommended input speed	rpm	6'000									
Dir. of rotation entrance - exit	=										
Operating temperature	-60 ... 100°C										
Output shaft material	Stainless steel										
Cover material											
Mass	g (-)	230	320	400	470						
Length gearbox L	mm	36,4	46,2	56	65,8						

Other ratio and shaft on request

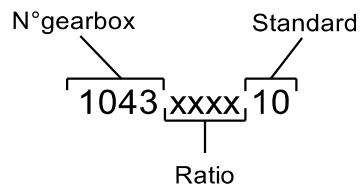
(dimensions in mm, tolerances in mm)



Planetary gearbox 1043 ball bearing - Nema 16-17

ø43mm – 15 Nm

Part number



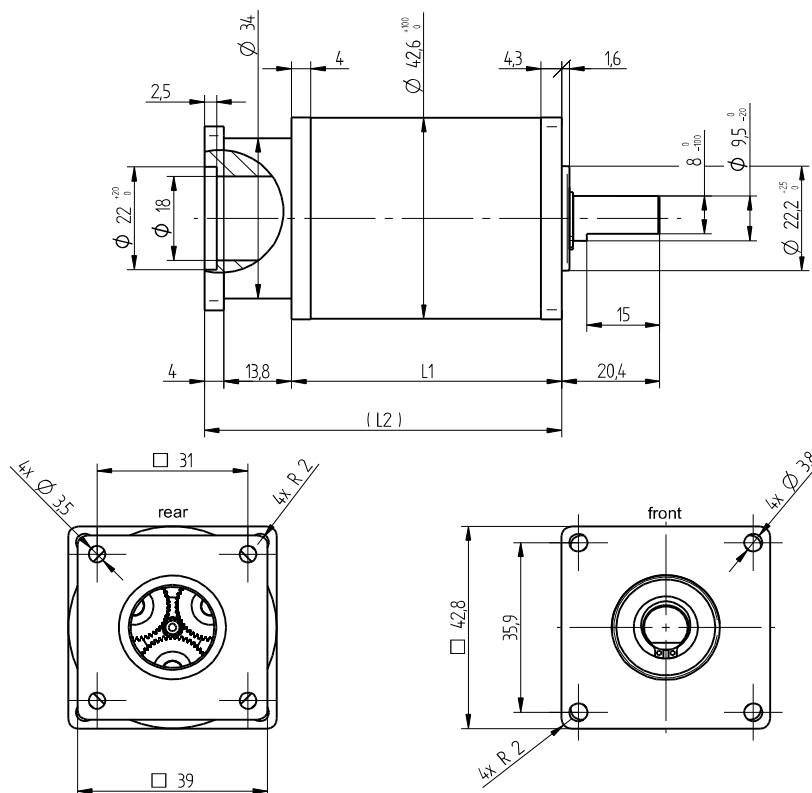
Example with
Ratio 50:1
1043 0050 10

Technical data

Ratio		5:1	10:1	25:1	50:1	100:1	125:1	250:1	500:1
No. of gear stages		1	1	2	2	2	3	3	3
Axial play		~0 (no-load)							
Radial play at 5mm from bearing		30µm							
Max. axial force		300N							
Max. radial force at 5mm from bearing		500N							
Max. torque permanent	Nm	5		10			15		
Max. torque intermittent	Nm	7,5		15			22,5		
Average backlash at no-load		0.5°							
Recommended input speed	rpm	6000							
Dir. of rotation entrance - exit		=							
Output shaft material		Stainless steel							
Cover material		Steel							
Operating temperature		-60 ... 100°C							
Mass	g	~325	~325	~410	~410	~410	~500	~500	~500
Length gearbox L1	mm	46,2		55,6			65		
Length gearbox L2	mm	64		73,4			82,8		

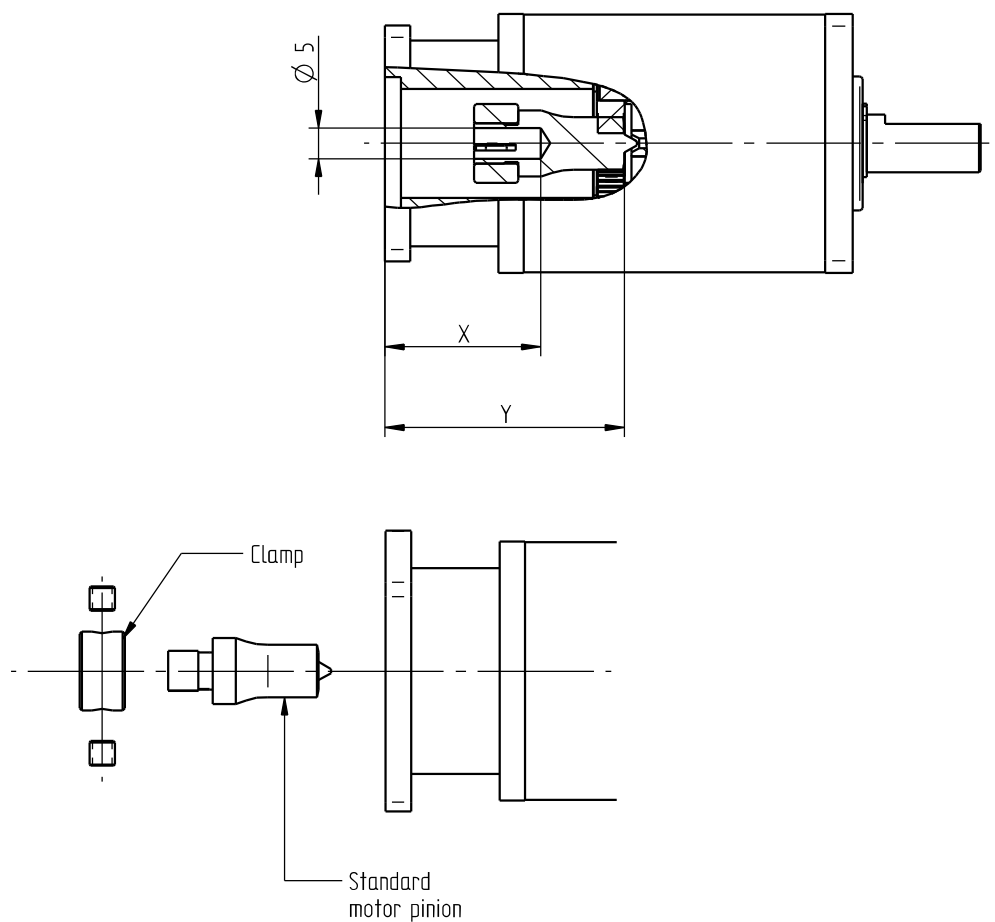
Other ratio on request

(dimensions in mm, tolerances in µm)

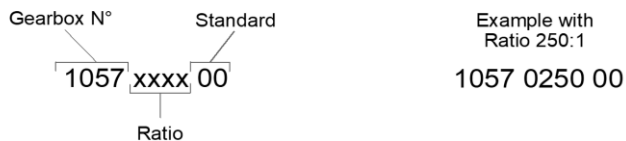


Assembly drawing

X: Motor shaft length = 22 ... 24,5 mm
Y: Pinion motor height,
1 stage = 41.9 ±0,1 mm
2 stages = 37.6 ±0,1 mm



Part number



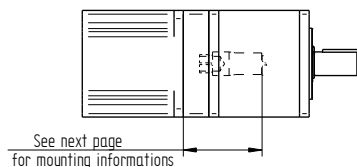
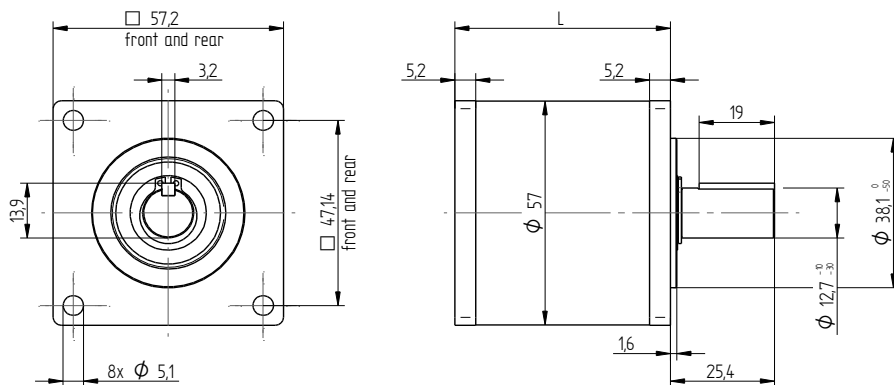
Technical data

Ratio	5:1	10:1	25:1	50:1	100:1	125:1	250:1	500:1	1000:1	
No. of gear stages	1		2			3				
Axial play	~0 (no-load)									
Radial play at 5mm from bearing	30µm									
Max. axial force	490N									
Max. radial force at 5mm from bearing	560N									
Max. torque permanent Nm	10	10	20	20	20	35	35	35	20	
Max. torque intermittent Nm	15	15	30	30	30	45	45	45	30	
Average backlash at no-load	0.5°									
Recommended input speed rpm	5000									
Dir. of rotation entrance - exit	=	=	=	=	=	=	=	=	=	
Output shaft material	Stainless steel									
Cover material	Steel									
Operating temperature	-60 ... 100°C									
Mass g	~660	~660	~880	~880	~880	~1100	~1100	~1100	~1100	
Length gearbox L1 mm	54		66			79				

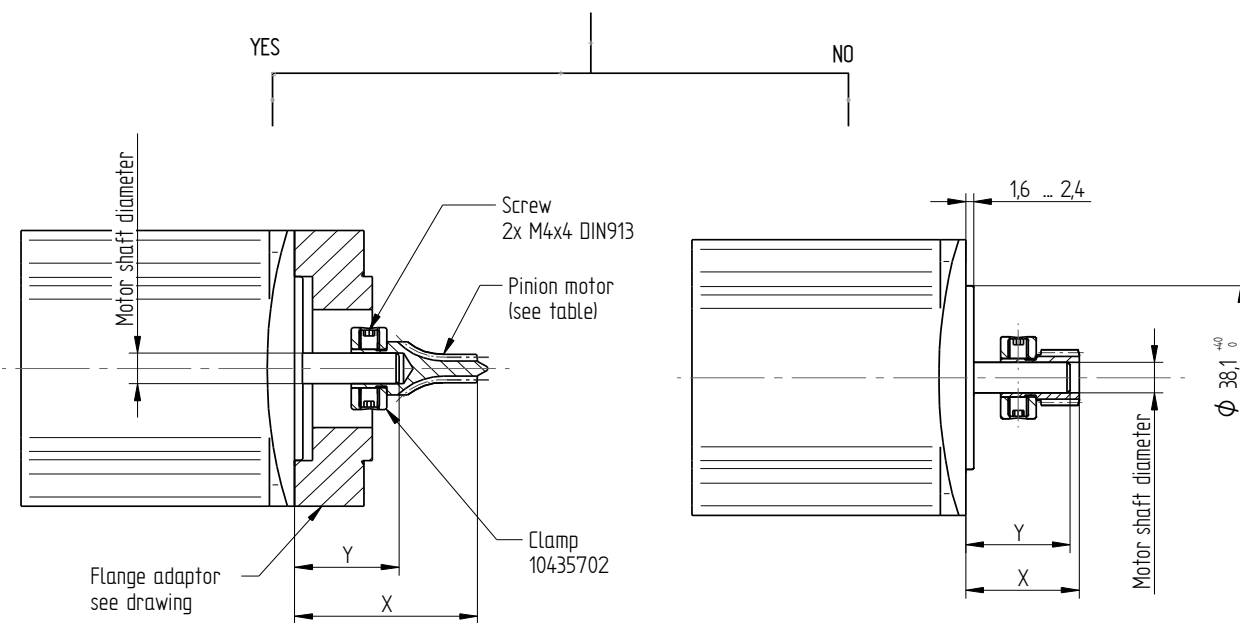
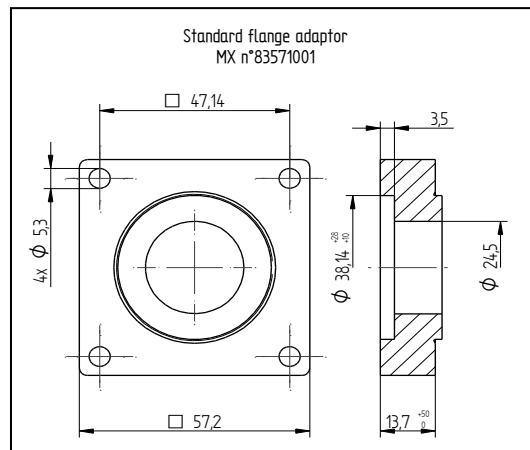
Other ratio available (dimensions in mm, tolerances in µm)

- 1 stage 3, 4, 7
- 2 stages 9, 12, 15, 16, 20, 21, 28, 30, 35,40, 49, 70
- 3 stages 27, 36, 45, 48, 60, 63, 64, 75, 80, 84, 90, 105, 112, 120, 140, 147, 150, 160, 175, 196, 200, 210, 245, 280, 300, 343, 350, 400, 490, 700

Standard adaptor Nema 23
(other adaptor on request)

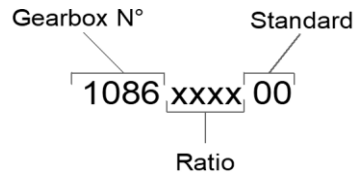


Ratio	Gearbox Lenght (L) [mm]	Standard motor shaft ø	Pinion motor height (X)	Flange adaptor needed	Number of stage
5	54	6	28.3 ±50	no	1
		6,35			
		8	42 ±50	yes	
10	54	6	42 ±50	yes	1
		6,35			
		8			
25	66	6	22.4 ±50	no	2
		6,35			
		8	36.1 ±50	yes	
50, 100	66	6	36.1 ±50	yes	2
		6,35			
		8			
125	79	6	22.4 ±50	no	3
		6,35			
		8	36.1 ±50	yes	
250, 500, 1000	79	6	36.1 ±50	yes	3
		6,35			
		8			



X: Motor pinion height
 Y: Motor shaft length min...max = 18...19 [mm]

Part number



Example with Ratio 100:1
1086 0100 00

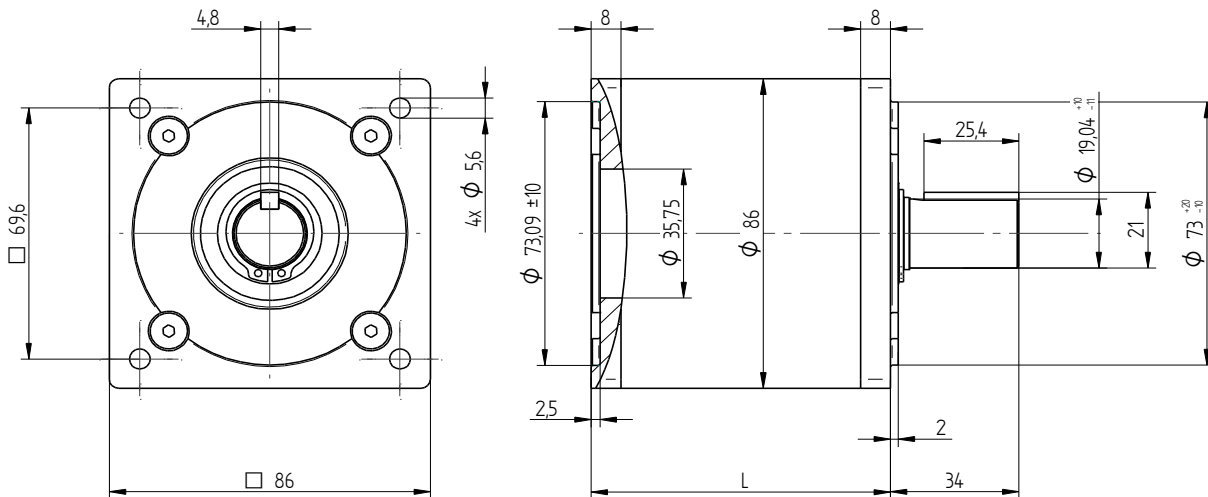
Technical data

Ratio		5:1	10:1	25:1	50:1	100:1	250:1	500:1
No. of gear stages		1	1	2	2	2	3	3
Axial play		~0 (no-load)						
Radial play at 5mm from bearing		30µm						
Max. axial force		600N						
Max. radial force at 19mm from bearing		650N						
Max. torque permanent	Nm	30	30	60	60	60	90	90
Max. torque intermittent	Nm	45	45	90	90	90	150	150
Average backlash at no-load		0.5°						
Recommended input speed	mm/s	4000						
Dir. of rotation entrance - exit		=						
Output shaft material		Stainless steel						
Cover material		Steel						
Operating temperature		-60 ... 100°C						
Mass	g	~2500	~2500	~3500	~3500	~3500	~4500	~4500
Length gearbox L	mm	80	80	98	98	98	114	114

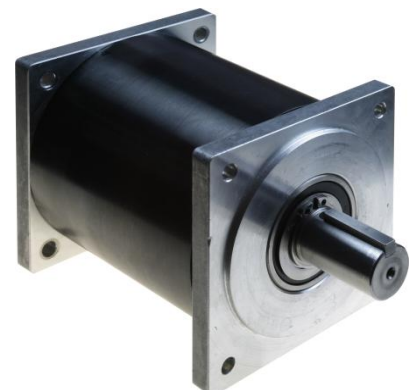
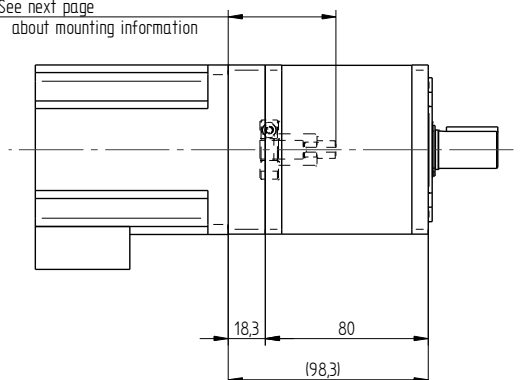
Other ratio on request

(Dimensions in mm, tolerances in µm)

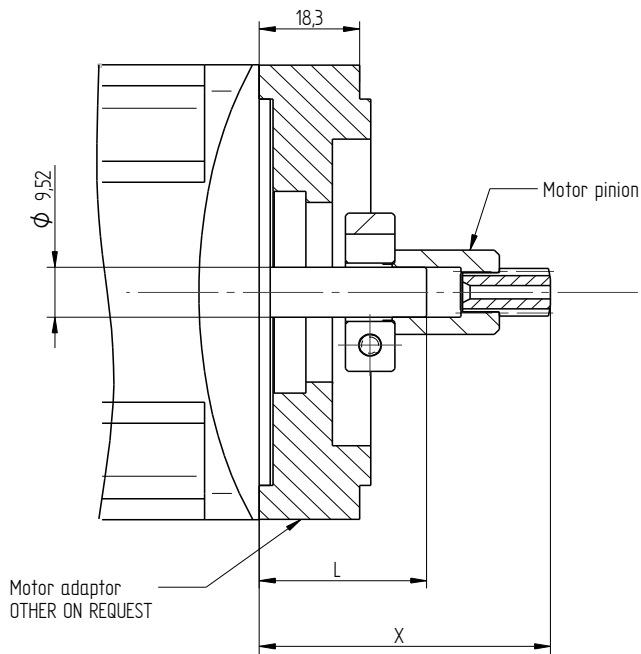
Other adaptor flange on request



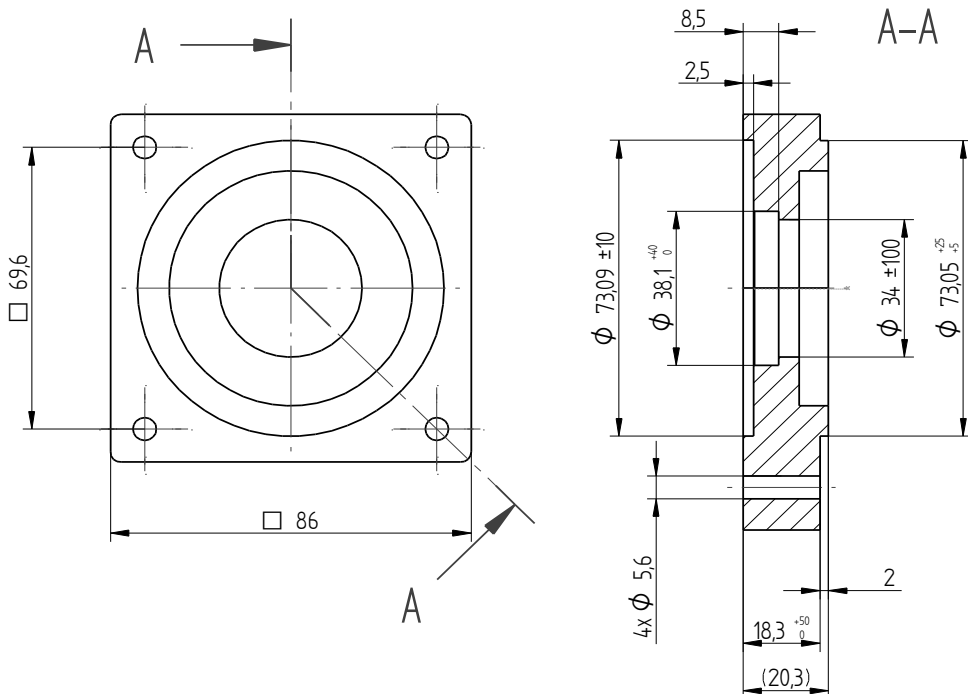
See next page about mounting information



Ratio	Motor shaft length L	Motor shaft ø	Pinion Height X
5:1	31...36	9,52	61,6
10:1			61,6
25:1			53,1
50:1			53,1
100:1			53,1
250:1			53,1
500:1			53,1



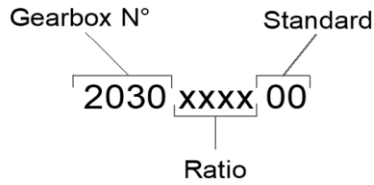
Standard motor flange adaptor



Gearbox with spur gear 2030

ø30mm – 0,45Nm

Part number



Example with
Ratio 360:1
2030 0360 00

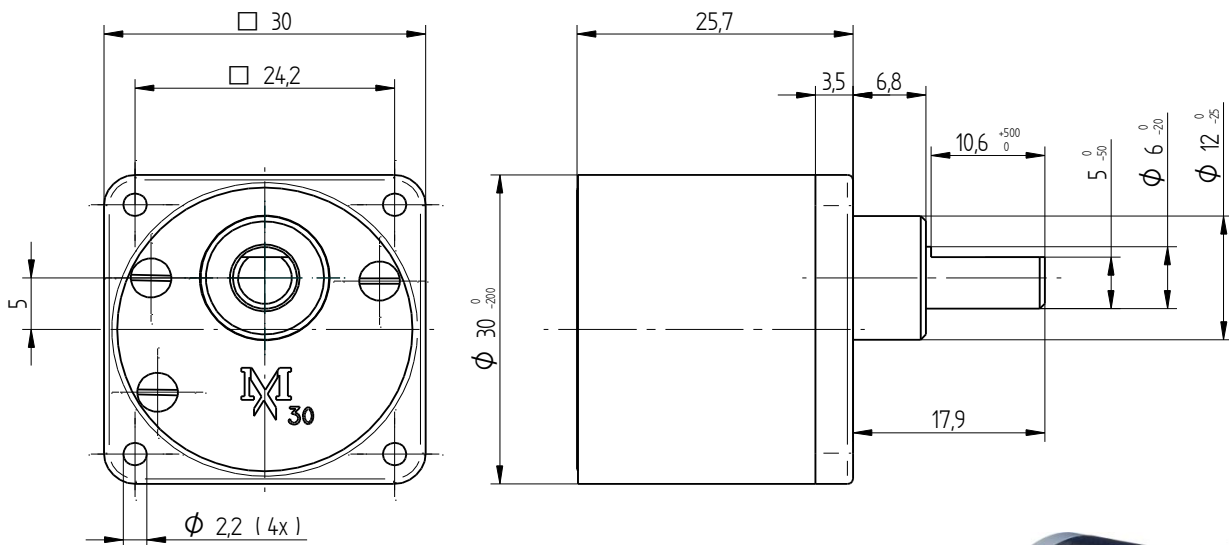
Technical data

Ratio		80:1 120:1 200:1	270:1 300:1	360:1 500:1 540:1	600:1 900:1 1000:1
No. of gear stages		5		6	
Axial play		0.2mm			
Radial play at 5mm from bearing		0.1mm			
Max. axial force		30N			
Max. radial force at 5mm from bearing		50N			
Max. torque permanent	Nm	0,3		0,45	
Max. torque intermittent	Nm	0,6		0,9	
Average backlash at no-load		1.2°			
Recommended input speed	rpm	5000			
Dir. of rotation entrance - exit		≠		=	
Output shaft material		Stainless steel			
Cover material		Plastic			
Operating temperature		-25...80°C			

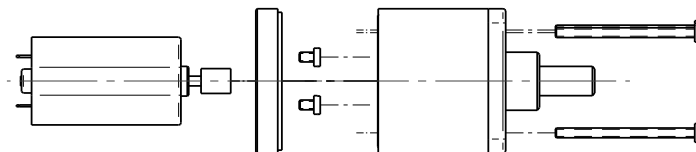
Other ratio on request

(Dimensions in mm, tolerances in µm)

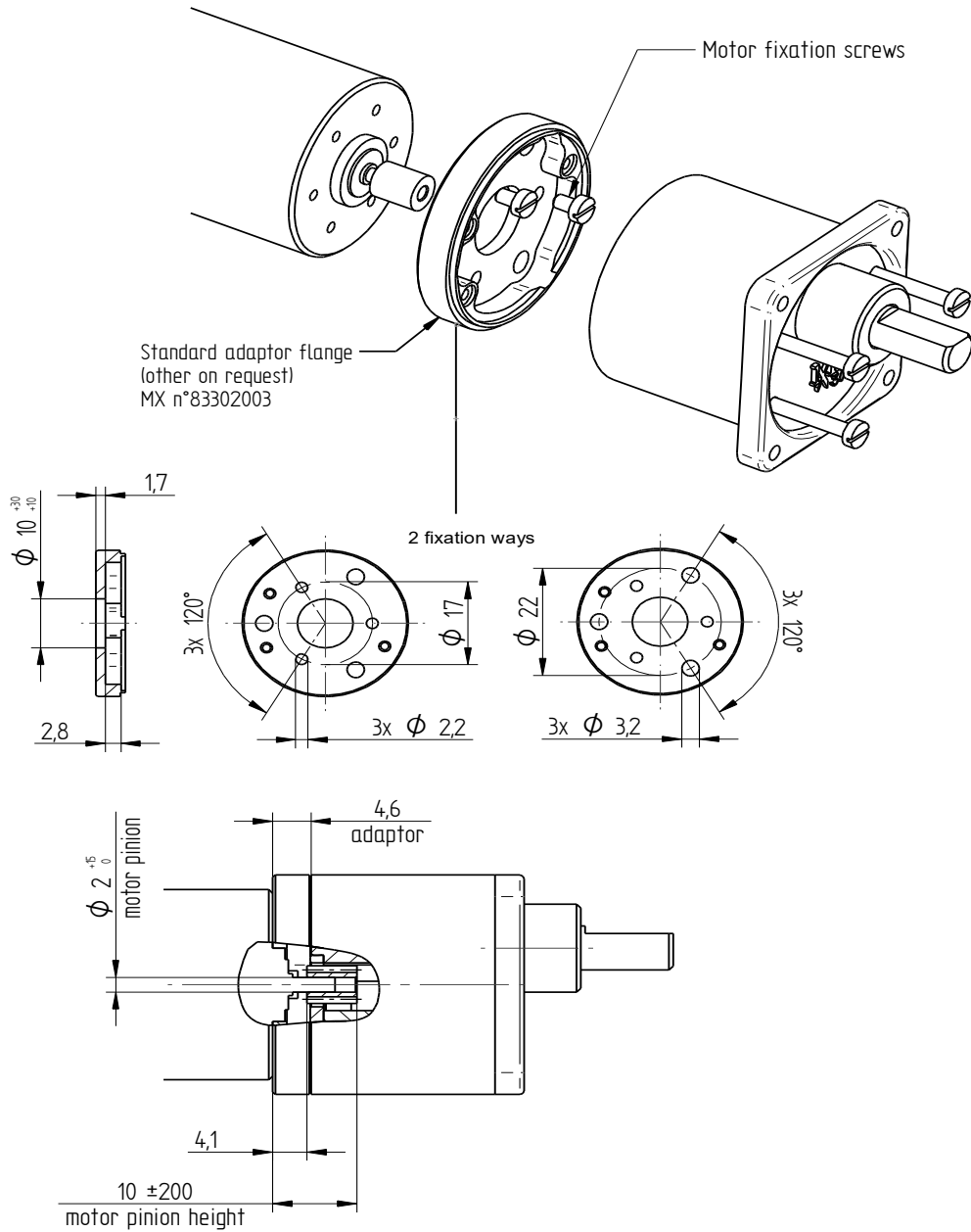
Also available with motor, see page 23



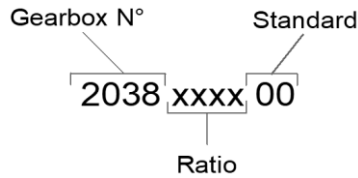
Assembly drawing ON NEXT PAGE



motor mounting process



Part number



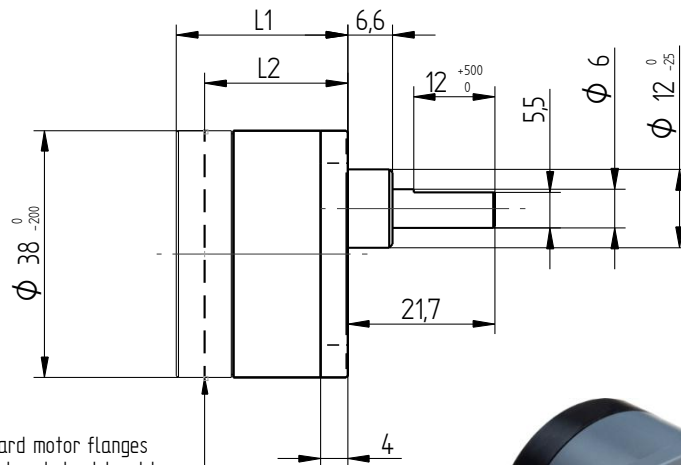
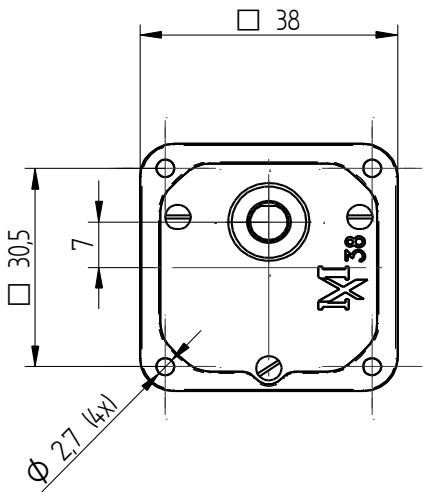
Example with Ratio 60:1
2038 0060 00

Technical data

Ratio	6:1	12:1 21:1 24:1 30:1	60:1 105:1 150:1	210:1 300:1 525:1 750:1	1050:1 1500:1 3750:1
No. of gear stages	2	3	4	5	6
Axial play	0.2mm				
Radial play at 5mm from bearing	0.1mm				
Max. axial force	30N				
Max. radial force at 5mm from bearing	50N				
Max. torque permanent Nm	0,2	0,3	0,5	0,75	1
Max. torque intermittent Nm	0,4	0,6	1	1,5	2
Average backlash at no-load	1.2°				
Recommended input speed rpm	5000				
Dir. of rotation entrance - exit	=	≠	=	≠	=
Output shaft material	Stainless steel				
Cover material	Plastic				
Operating temperature	-25...80°C				
Mass g					
Length gearbox L1 mm	22,6	25,4	28,3	31	33,8
Length gearbox L2 (short version) mm	17,8	20,6	23,5	26,2	29

Other ratio on request
Other adaptor flange on request

(Dimensions in mm, tolerances in µm)

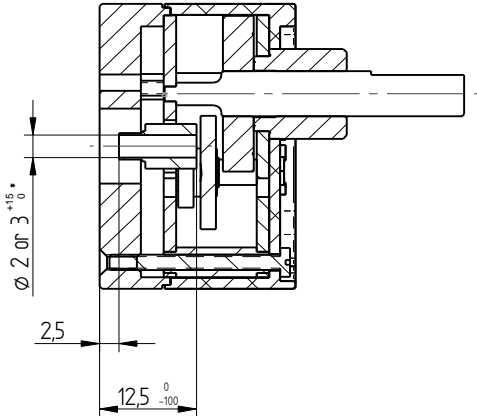
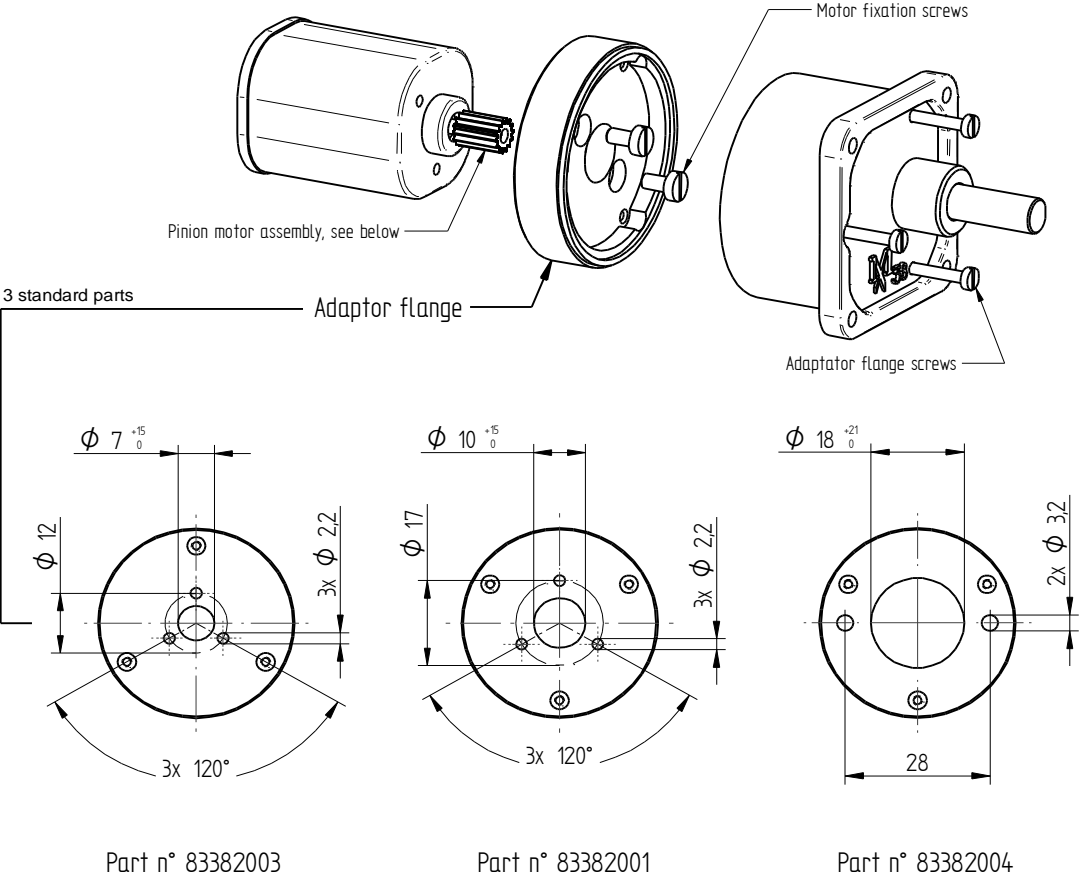


2 standard motor flanges normal and short length
>> See next page for mounting detail



Also available with motor, see page 24

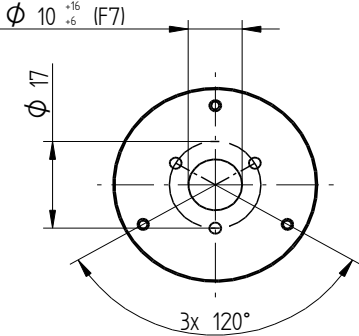
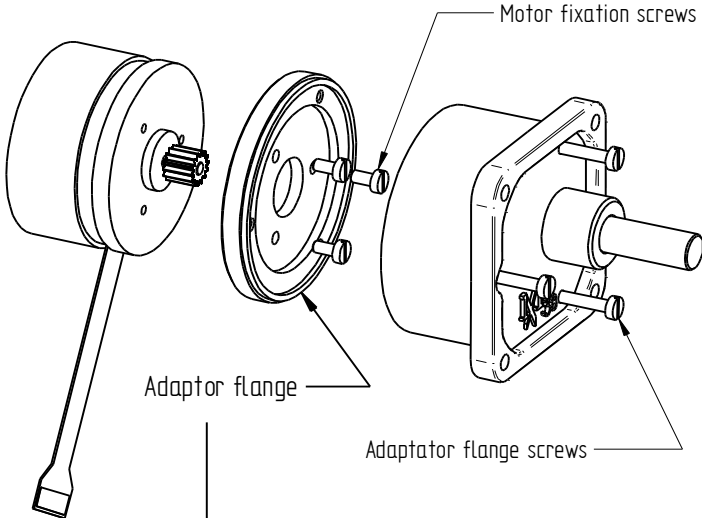
Mounting process - Standard Length L1



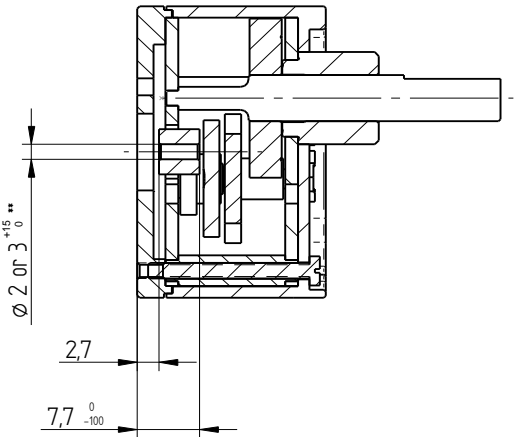
* Standard motor pinion:
 Bore $\phi 2^{+15/0}$ - part n°41382002
 Bore $\phi 3^{+15/0}$ - part n°41382001
 (other on request)



Mounting process - Short Length L2



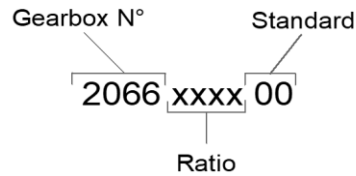
Part n°83382020



** Standard motor pinion:
Bore $\phi 2^{+0.15/0}$ – part n°41382008
Bore $\phi 3^{+0.15/0}$ – part n°41382009
(other on request)



Part number

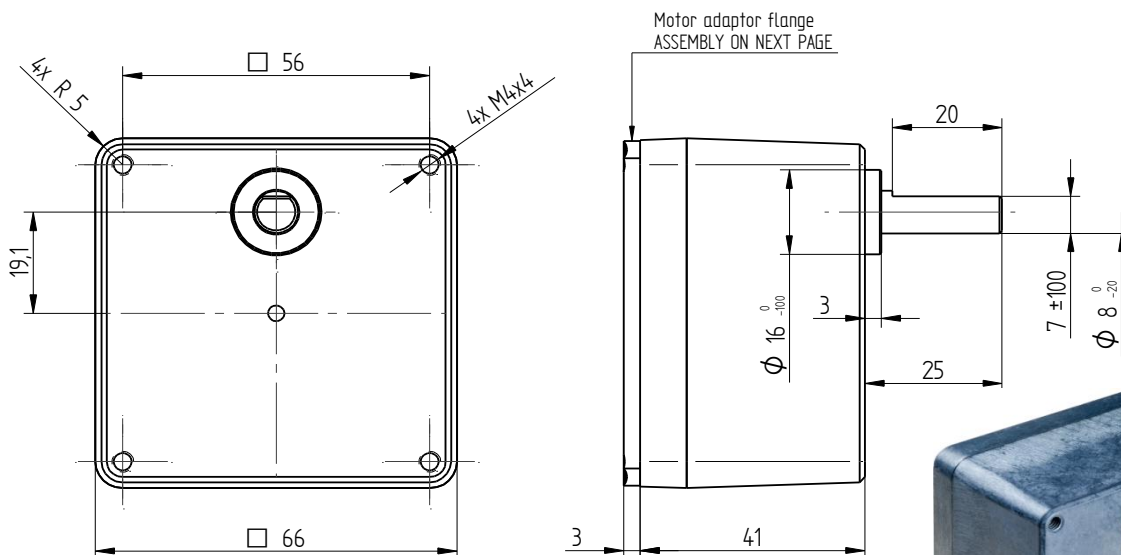


Example with Ratio 50:1
2066 0050 00

Technical data

Ratio	5:1	12.5:1	25:1	50:1	100:1	125:1	250:1	500:1	
No. of gear stages	3	3	4	4	5	5	6	6	
Axial play	0.05 - 0.25mm								
Radial play at 8mm from bearing	< 0.05mm								
Max. axial force	20N								
Max. radial force at 8mm from bearing	80N								
Max. torque permanent	Nm	2	2	3	3	3	3	4	4
Max. torque intermittent	Nm	3	3	4,5	4,5	4,5	4,5	6	6
Average backlash at no-load	2.5°								
Recommended input speed	rpm	3000							
Dir. of rotation entrance - exit	≠	≠	=	=	≠	≠	=	=	
Output shaft material	Stainless steel								
Cover material	Aluminum mould								
Operating temperature	-25...75°C								
Mass	g	~460	~460	~480	~480	~500	~500	~520	~520

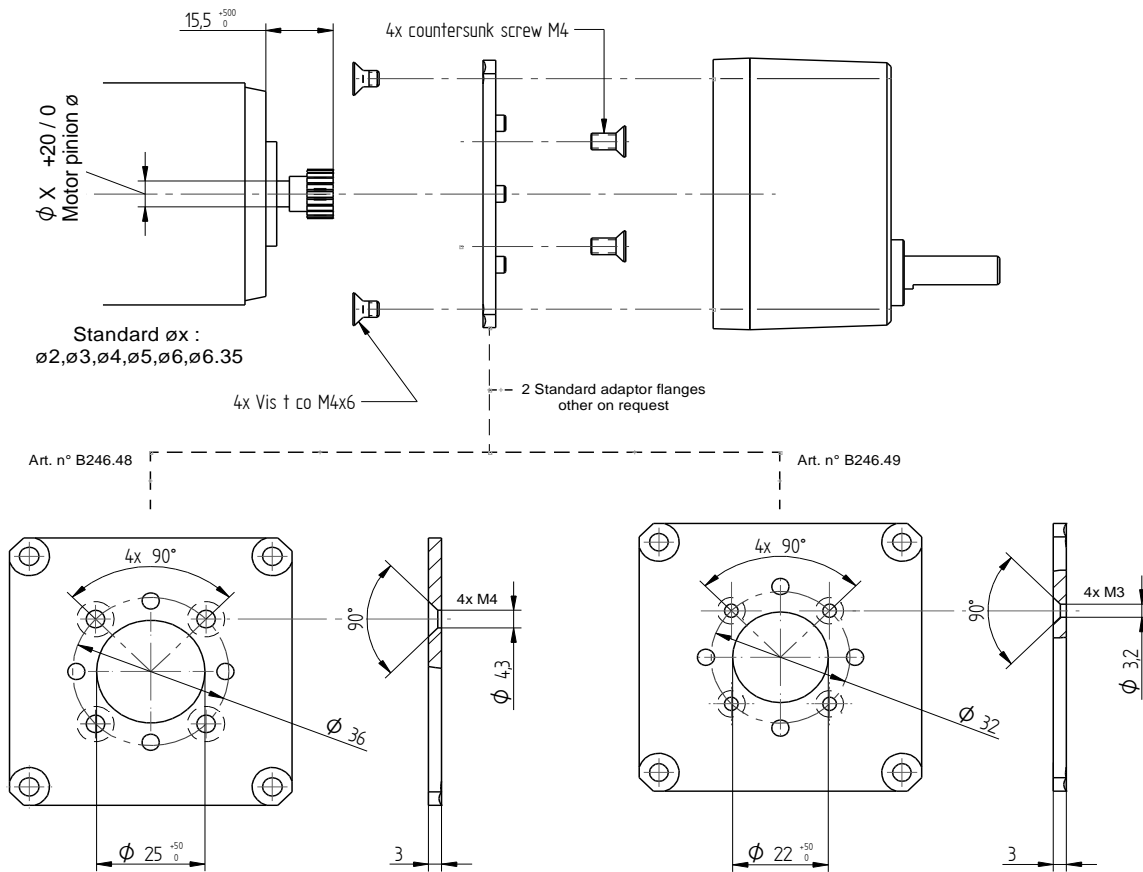
(Dimensions in mm, tolerances in µm)



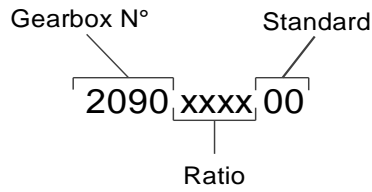
Also available with motor: see page 25



Mounting process



Part number



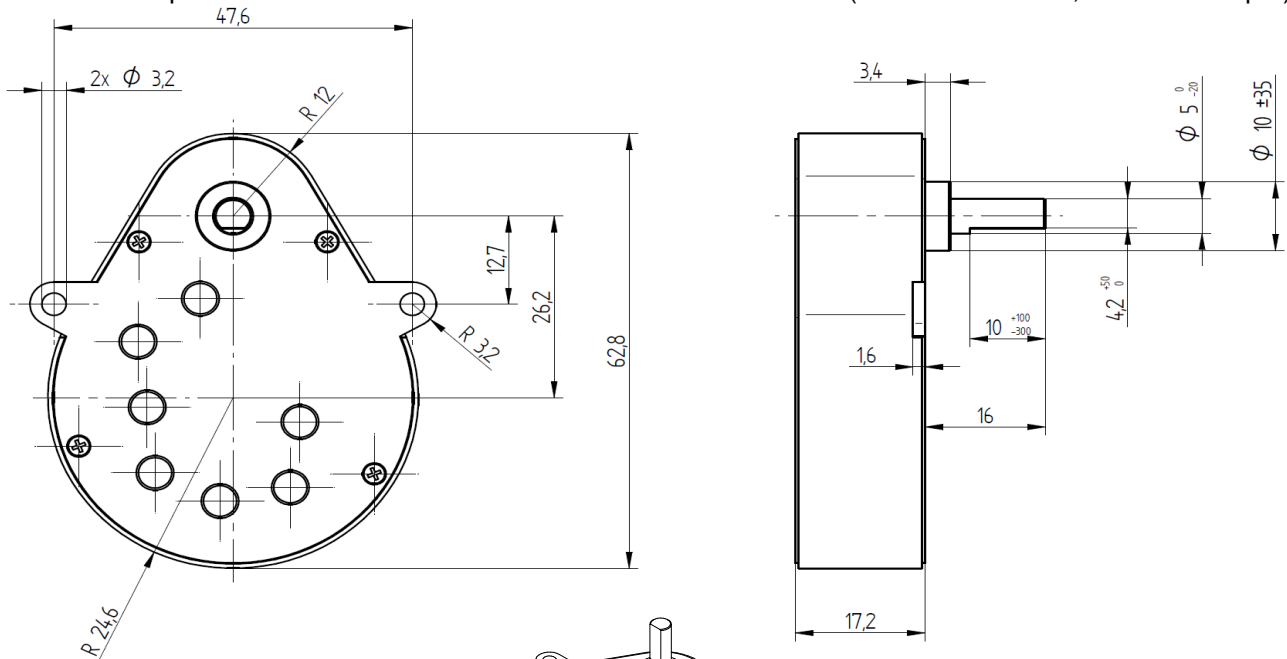
Example with Ratio 24:1
2090 0024 00

Technical data

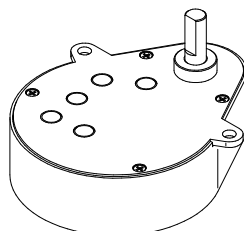
Ratio	4,25:1	9:1	12:1	18:1	24:1	48:1	90:1	180:1	360:1	810:1	1620:1
No. of gear stages	2	3	4	5	6	7	8				
Axial play μm	50-300										
Max. radial force at 5mm from bearing	60N										
Radial play at 5mm from bearing	0,02										
Max. axial force	50 N										
Max. torque permanent Nm	0,3	0,5	0,8	1	1,2	1,5	2				
Max. torque intermittent Nm	0,5	0,8	1,2	1,5	2,5						
Average backlash at no-load	2,5°										
Recommended input speed rpm	5000										
Dir. of rotation entrance - exit	=	≠	=	≠	=	≠	=				
Operating temperature	-30/+65°C										
Output shaft material	Stainless steel										
Cover material	Steel flanges / Plastic body										
Mass g	86	88	90	92	95	98	102				
Length gearbox L mm	17,2										

Other ratio on request

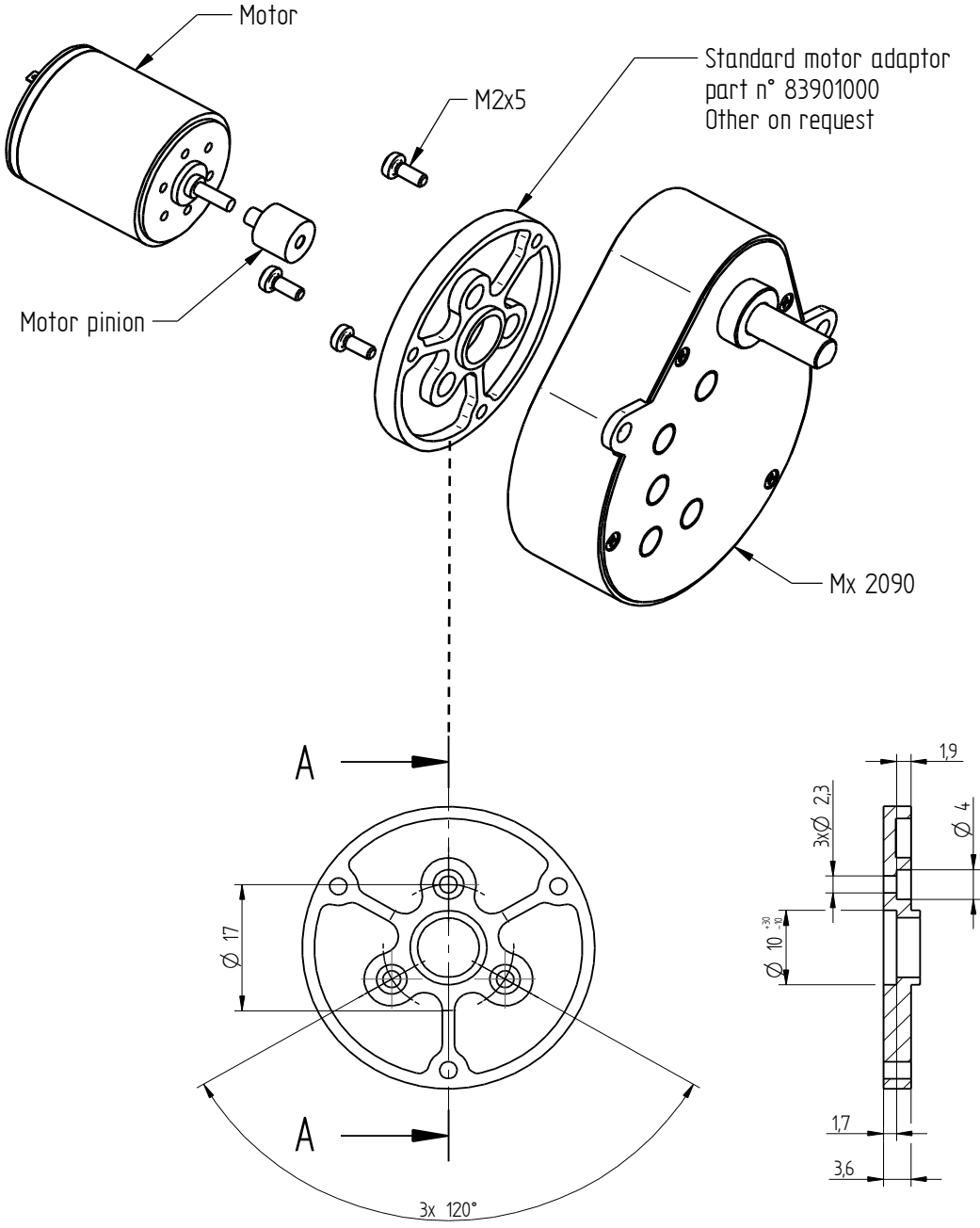
(dimensions in mm, tolerances in μm)



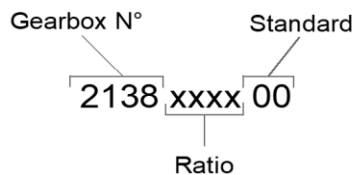
Assembly details on next page



Assembly drawing



Part number



Example with
Ratio 200:1
2138 0200 00

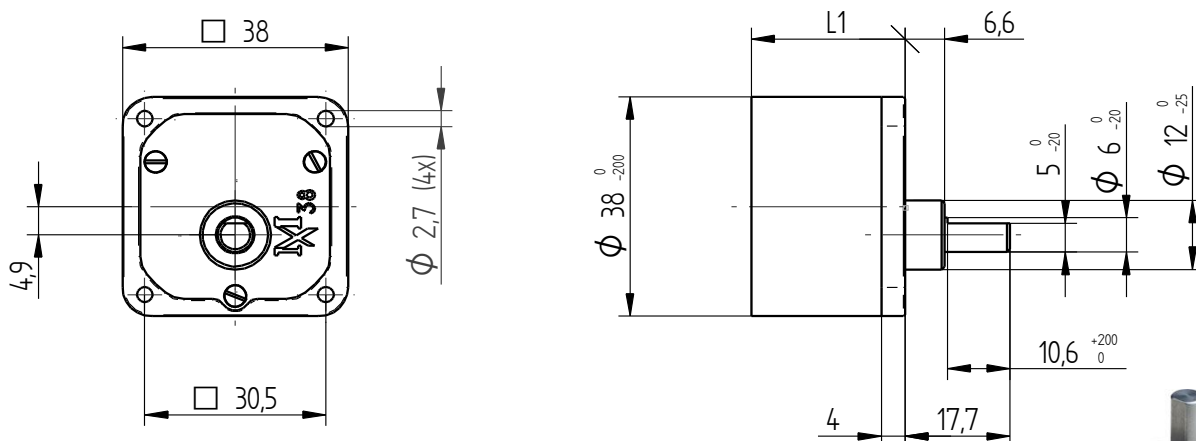
Technical data

Ratio		80:1 120:1 200:1	270:1 300:1	360:1 500:1 540:1	600:1 900:1 1000:1
No. of gear stages		5		6	
Axial play		0.2mm			
Radial play at 5mm from bearing		0.1mm			
Max. axial force		30N			
Max. radial force at 5mm from bearing		50N			
Max. torque permanent	Nm	0,3		0,45	
Max. torque intermittent	Nm	0,6		0,9	
Average backlash at no-load		0°			
Recommended input speed	rpm	5000			
Dir. of rotation entrance - exit		≠		=	
Operating temperature		-25...80°C			
Output shaft material		Stainless steel			
Cover material		Plastic			
Mass	g	73		76	
Length gearbox L1	mm	25,9			
Full Length gearbox (with adaptor flange)	mm	34,3			

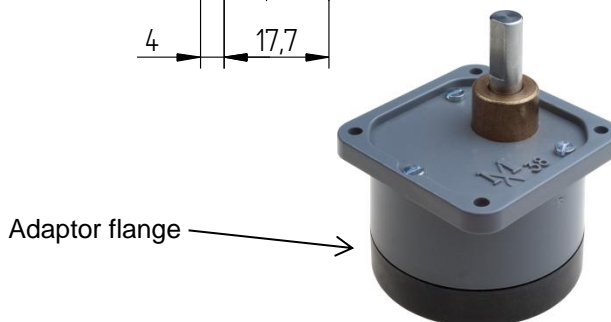
Other ratio on request

(Dimensions in mm, tolerances in µm)

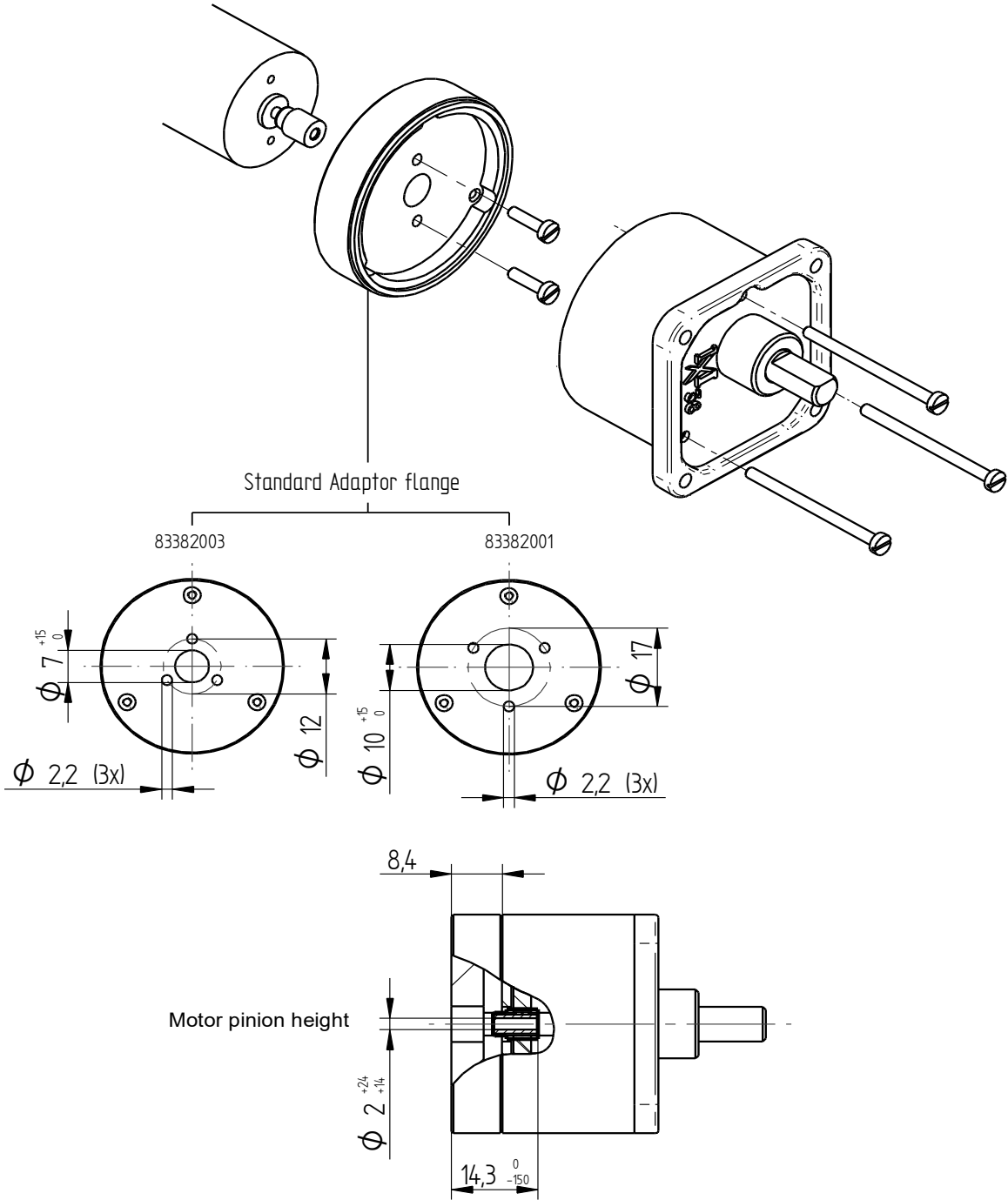
Other adaptor flange on request



See assembly drawing on next page



Assembly drawing with adaptor flange



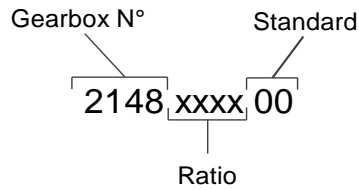
Other adaptor flange, motor pinion on request



Gearbox spur gear no backlash 2148

ø48mm – 0,45Nm

Part number



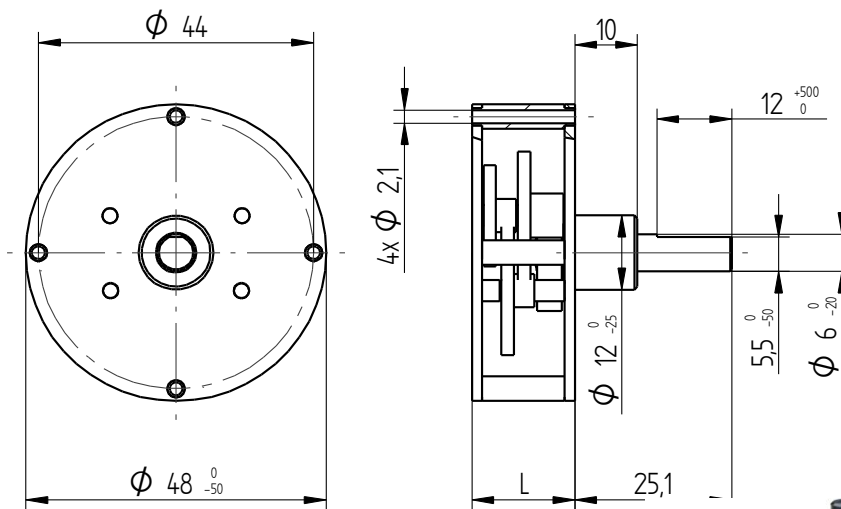
Example with Ratio 150:1
2148 0150 00

Technical data

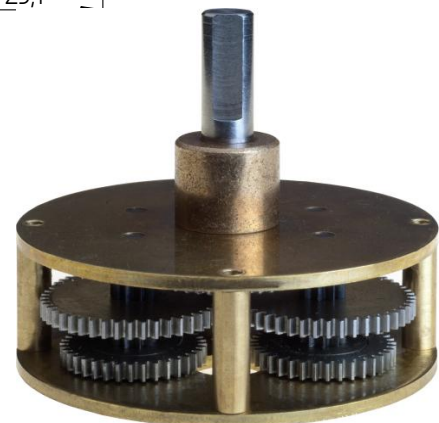
Ratio		75:1	150:1	225:1	250:1	300:1	375:1	1875:1
No. of gear stages		3	4	4	4	4	4	5
Axial play		0.2mm						
Radial play at 5mm from bearing		0.1mm						
Max. axial force		30N						
Max. radial force at 5mm from bearing		50N						
Max. torque permanent	Nm	0,2	0,3	0,3	0,3	0,3	0,3	0,45
Max. torque intermittent	Nm	0,4	0,6	0,6	0,6	0,6	0,6	0,9
Average backlash at no-load		0°						
Recommended input speed	rpm	5000						
Dir. of rotation entrance - exit		≠	=	=	=	=	=	≠
Output shaft material		Stainless steel						
Operating temperature		-25...80°C						
Mass	g	~90	~100	~100	~100	~100	~100	~110
Length gearbox L	mm	13,6	16,45	16,45	16,45	16,45	16,45	19,2

Other ratio on request

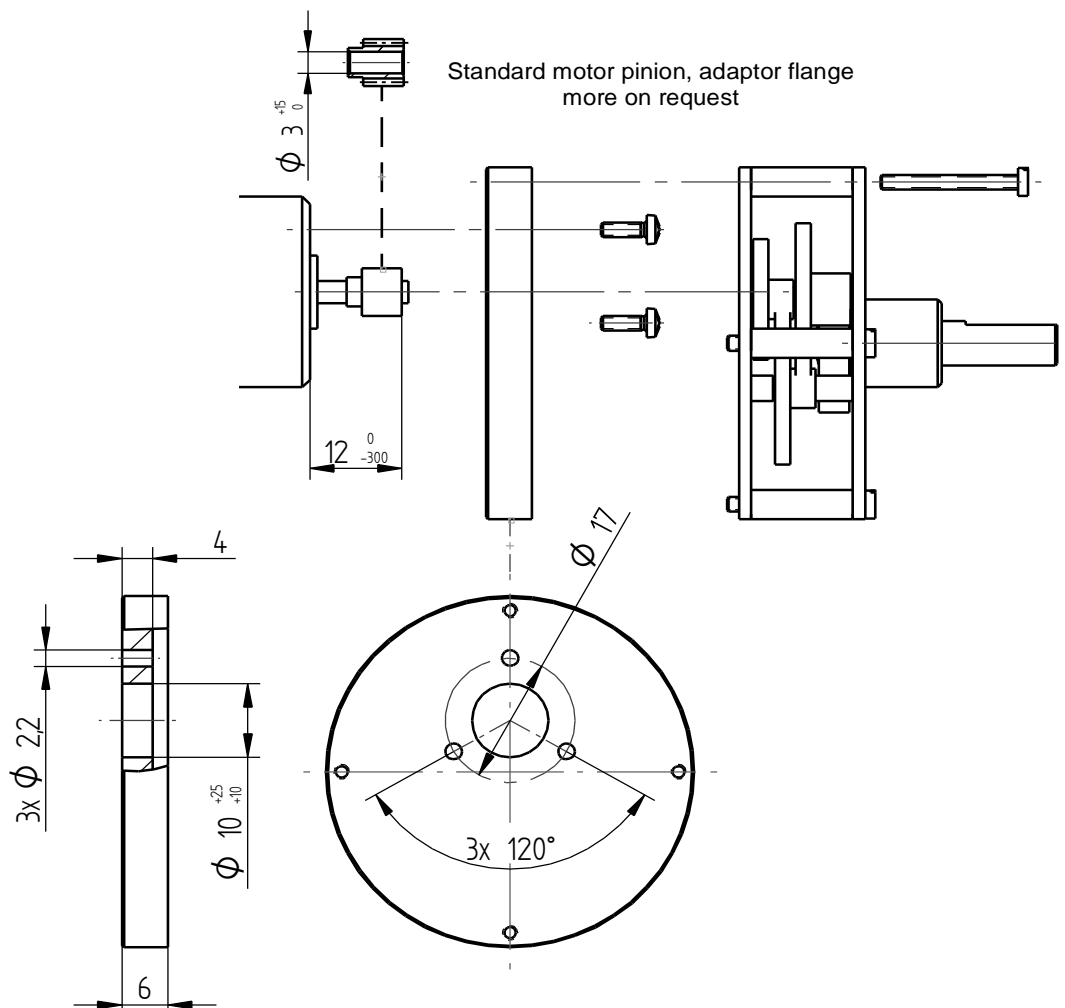
(Dimensions in mm, tolerances in µm)



Mounting process on next page

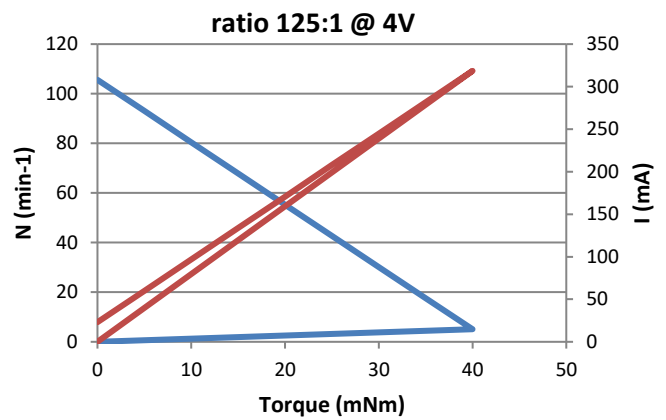
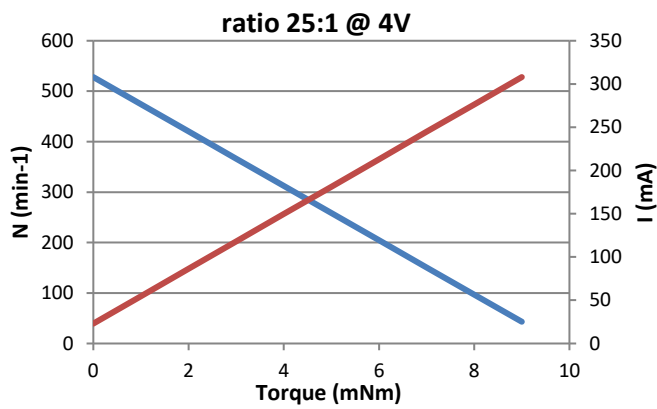


Mounting process



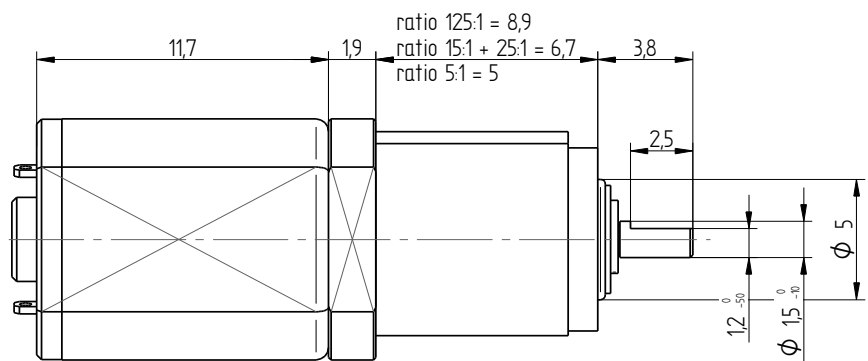
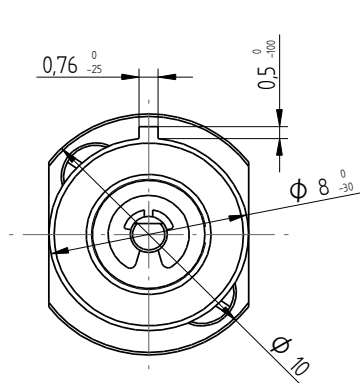
Technical data

Article N°	Ratio	Tension (V)	No load Speed (V)	Torque (mNm)	Rated Speed (rpm)	Current (mA)	Stall Current (mA)
1208000500.10	5	4	2640	1	1382	170	333
1208001500.10	15	4	880	2	580	128	
1208002500.10	25	4	528	4	312	149	
1208007500.10	75	4	176	8	120	121	
1208012500.10	125	4	105	15	68	134	



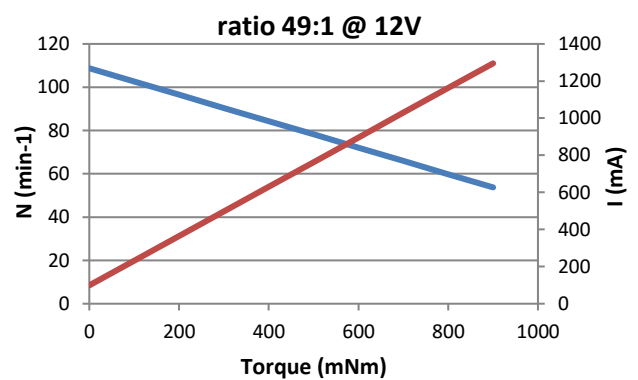
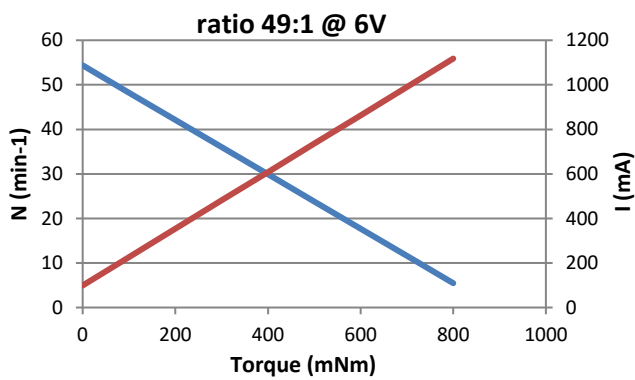
Other ratio on request
Other motor on request

dimensions in mm, tolerances in μm



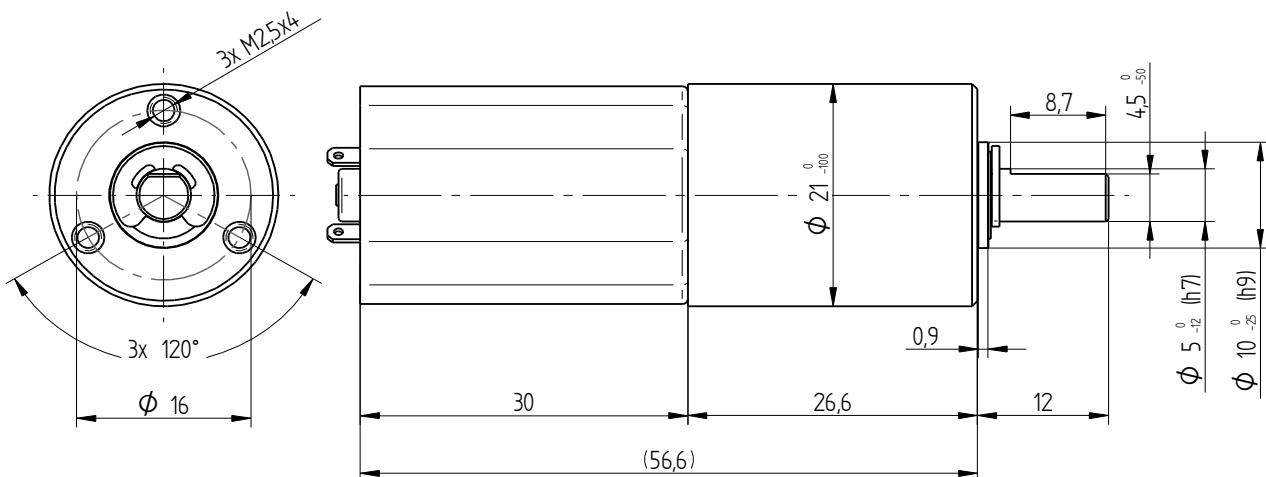
Technical data

Article N°	Ratio	Tension (V)	No load Speed (V)	Torque (mNm)	Rated @ Speed (rpm)	Current (mA)	Stall Current (mA)
1021002100.11	21	6	127	200	60	693	1231
	21	12	254	200	187	719	2463
1021004900.11	49	6	54	400	30	600	1231
	49	12	108	400	85	630	2463
1021006300.12	63	6	42	400	28	495	1231
	63	12	84	400	70	512	2463



Other ratio on request
Other motor on request

(Dimensions in mm, tolerances in μm)



Gearbox specifications on page 5

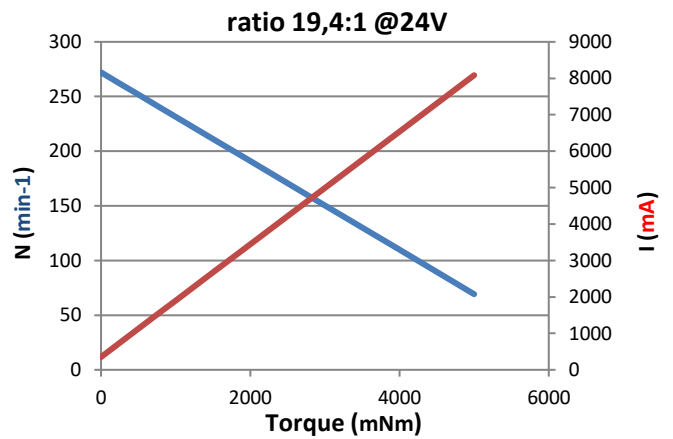
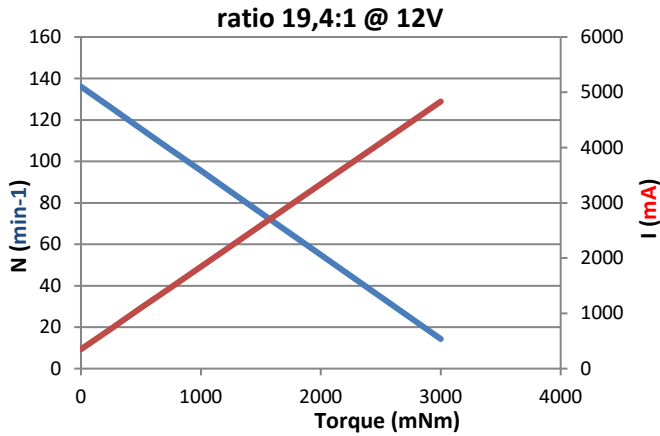


Gearhead motor 1031

∅30,5mm – 5Nm

Technical data

Article N°	Ratio*	Tension (V)	No load Speed (rpm)	Torque (Nm)	Rated @ Speed (rpm)	Current (A)	Stall Current (A)
1031001900.01	19,4	12	136	2	54,9	3,3	5,36
		24	272	2	190,9	3,4	10,72
1031011200.01	112	12	23,6	5	17,5	1,6	5,36
		24	47,1	5	41	1,7	10,72

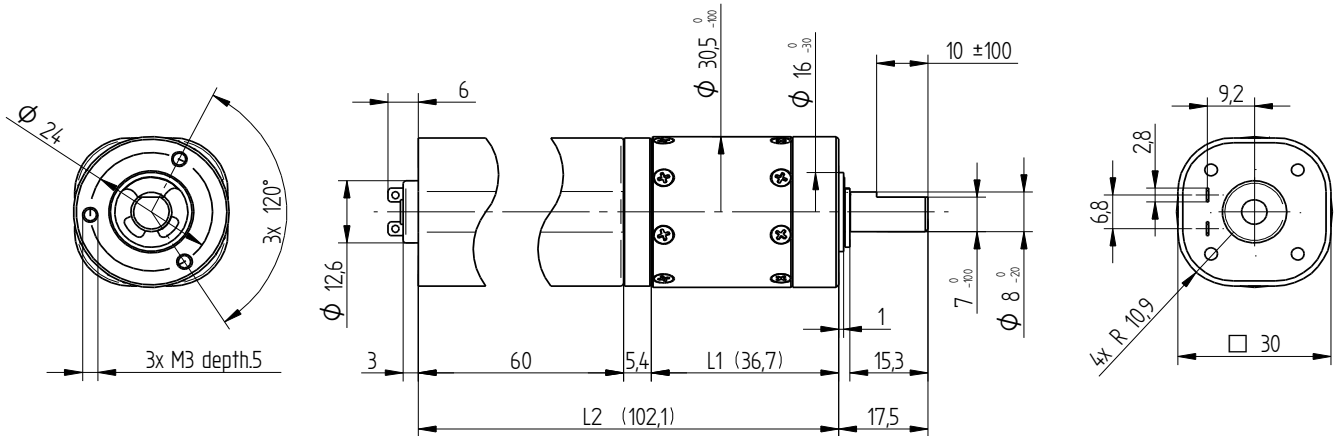


* All Standard ratio are available (see page 6)

Special ratio on request

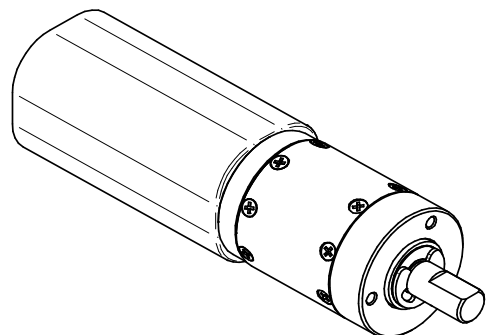
Other motor on request

(cotation mm, tolerances µm)



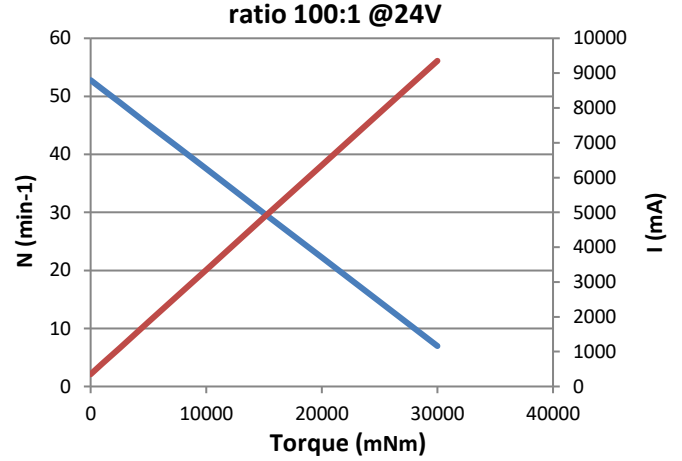
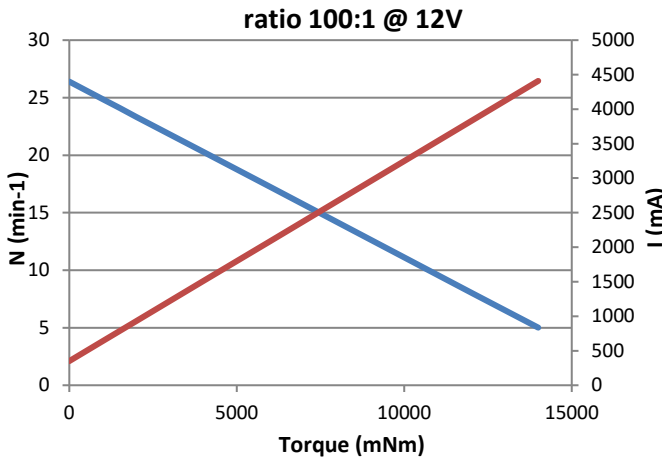
Ratio 11,4 + 19,4 - 2 stages : L1 = 36,7 L2 = 102,1
 Ratio 112 - 3 stages : L1 = 42,7 L2 = 108,1
 Ratio 642 - 4 stages : L1 = 48,7 L2 = 114,1

Gearbox specifications on page 8



Technical data

Article N°	Ratio*	Tension (V)	No load Speed (rpm)	Rated @			Stall Current (A)
				Torque (Nm)	Speed (rpm)	Current (A)	
1015010000.00	100	12	26,4	5	18,75	1,8	5,36
		24	52,8	5	45,15	1,85	10,72
1015025000.00	250	12	10,6	5	9,3	0,93	5,36
		24	21,2	5	19,9	0,95	10,72

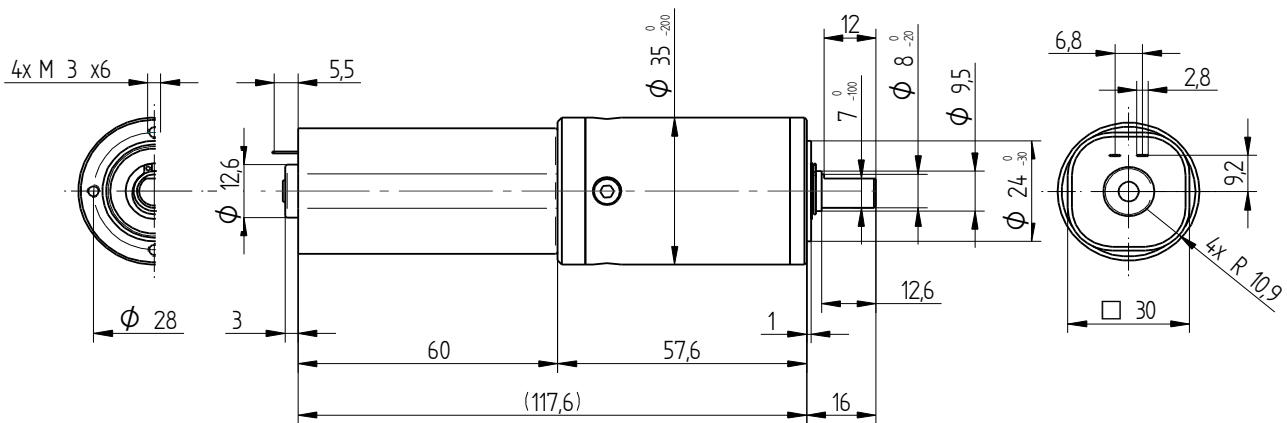


* All Standard ratio are available (see page 7)

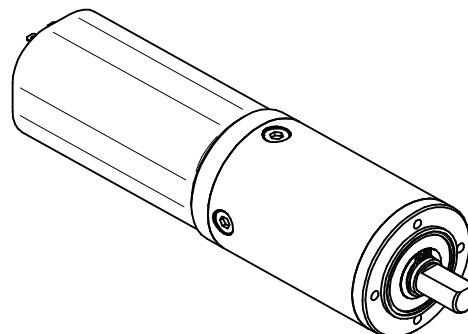
Special ratio on request

Other motor on request

(cotation mm, tolerances μm)

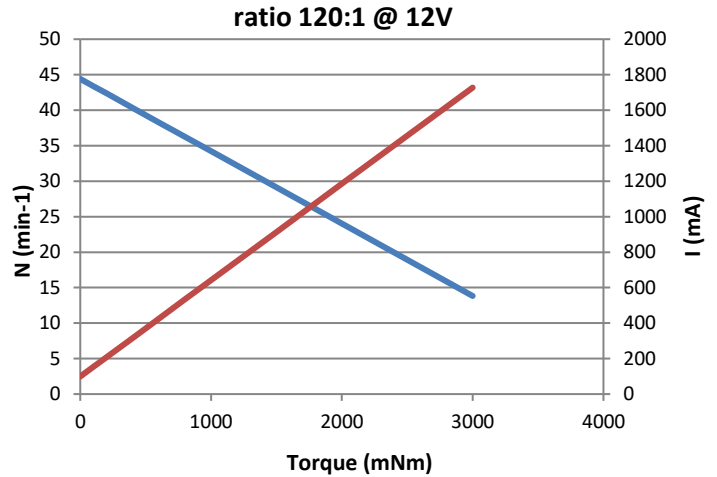
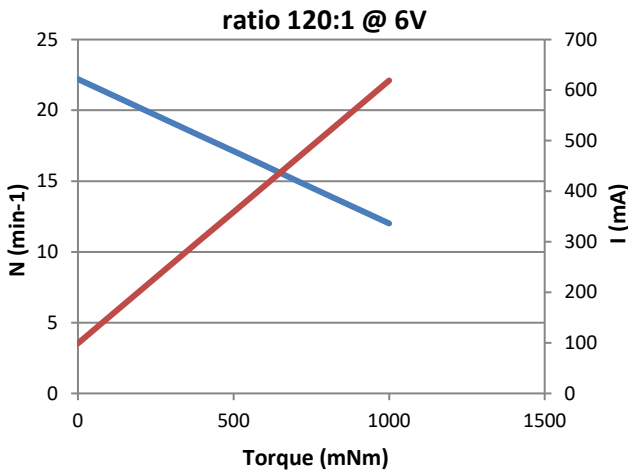


Gearbox specifications on page 9



Technical data

Article N°	Ratio*	Tension (V)	No load Speed (rpm)	Torque (mNm)	Rated @ Speed (rpm)	Current (mA)	Stall Current (mA)
2030012000.00	120	6	22,2	300	19,1	255	1231
		12	44,4	300	41,3	262	2463
2030036000.00	360	6	7,4	400	7	168	1231
		12	14,8	400	14,3	171	2463

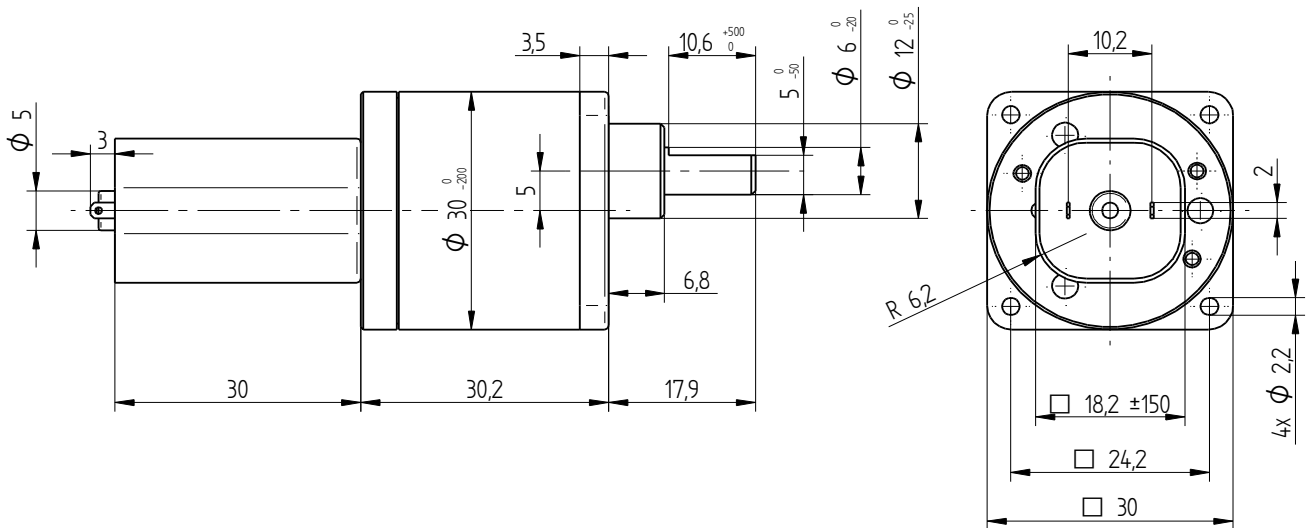


* All Standard ratio are available

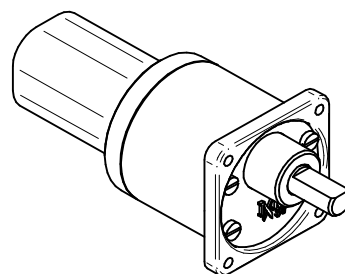
Special ratio on request

Other motor on request

dimensions in mm, tolerances in µm

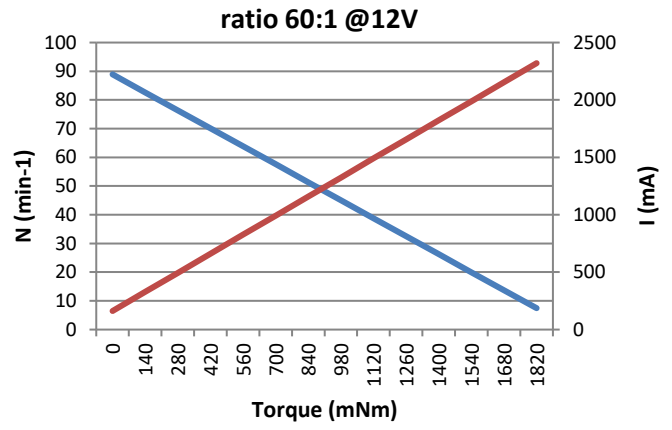
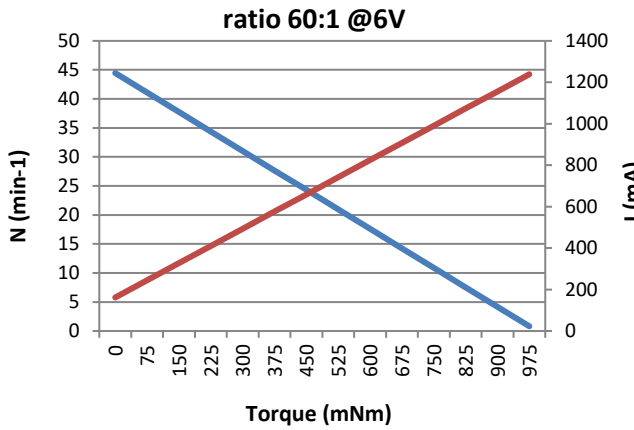


Gearbox specifications on page 13



Technical data

Article N°	Ratio*	Tension (V)	No load Speed (rpm)	Rated @			Stall Current (mA)
				Torque (mNm)	Speed (rpm)	Current (mA)	
2038006000.00	60	6	44,5	400	26,55	604	1259
		12	88,9	400	71	636	2518
2038021000.00	210	6	12,7	600	10,5	351	1259
		12	25,4	600	23,2	365	2518

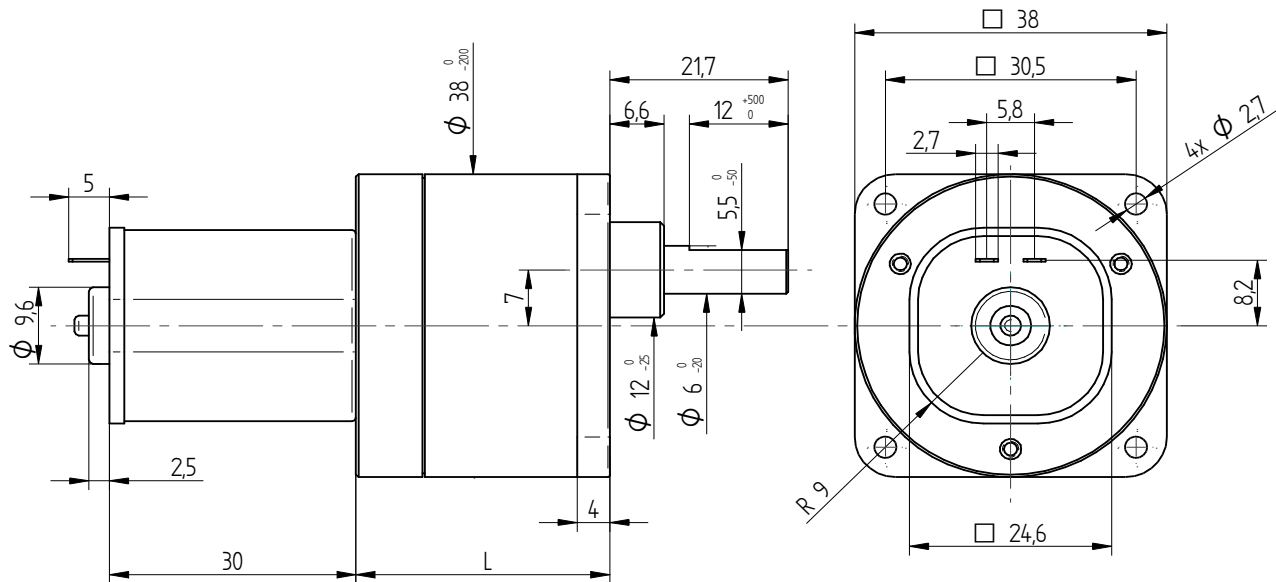


* All Standard ratio are available (see page 12)

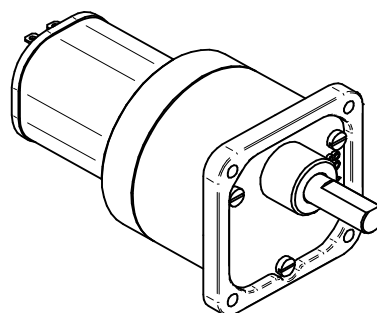
Special ratio on request

Other motor on request

(Dimension in mm, tolerances μm)

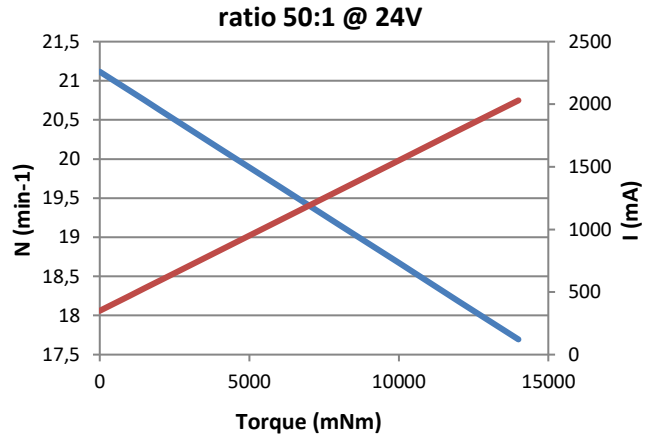
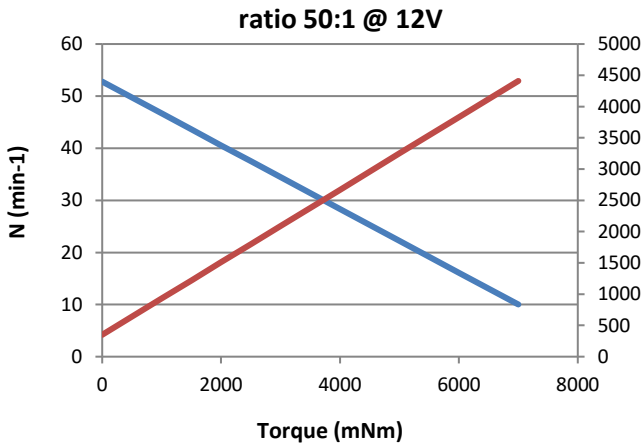


L: ratio 60 = 22.6, ratio 210 = 31
Gearbox specifications on page 14



Technical data

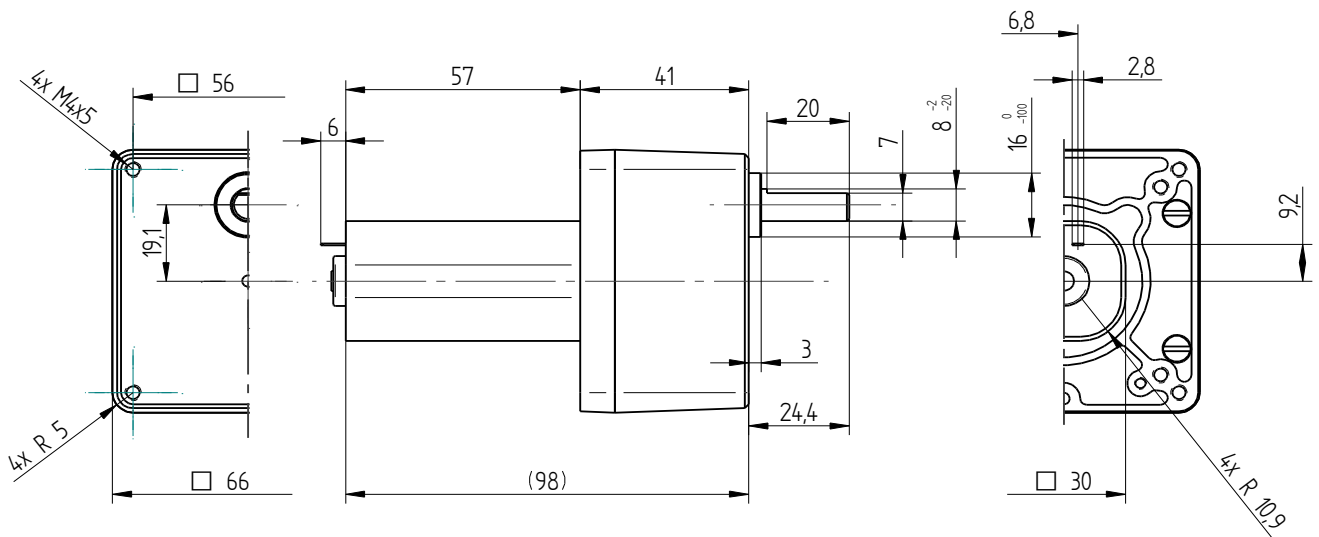
Article N°	Ratio*	Tension (V)	No load Speed (rpm)	Torque (Nm)	Rated @ Speed (rpm)	Current (A)	Stall Current (A)
2066005000.01	50	12	52,8	2	40,6	1,51	5,36
		24	105,6	2	93,4	1,55	10,7
2066025000.01	250	12	10,6	4	9,6	0,81	5,36
		24	21,1	4	20,1	0,83	10,7



* All Standard ratio are available (see page 13)

Special ratio on request
Other motor on request

(Dimension in mm, tolerances in µm)



Gearbox specifications on page 15

