FIMM®

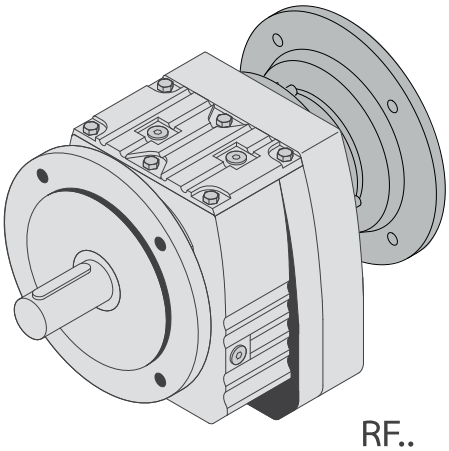
TECHNICAL CATALOG

R & MRV Series
Helical Gear Motor
Worm Gear Motor

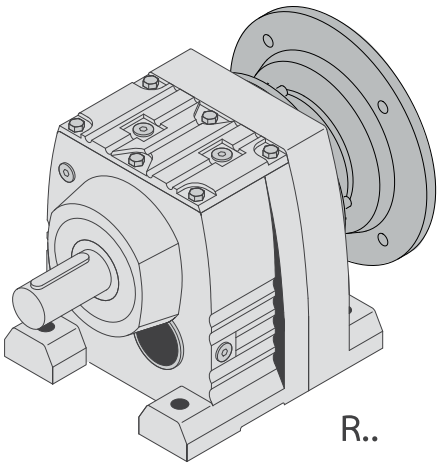
Contents Pages

Helical Gear Motor

Variants



RF..



R..

Description of nameplate

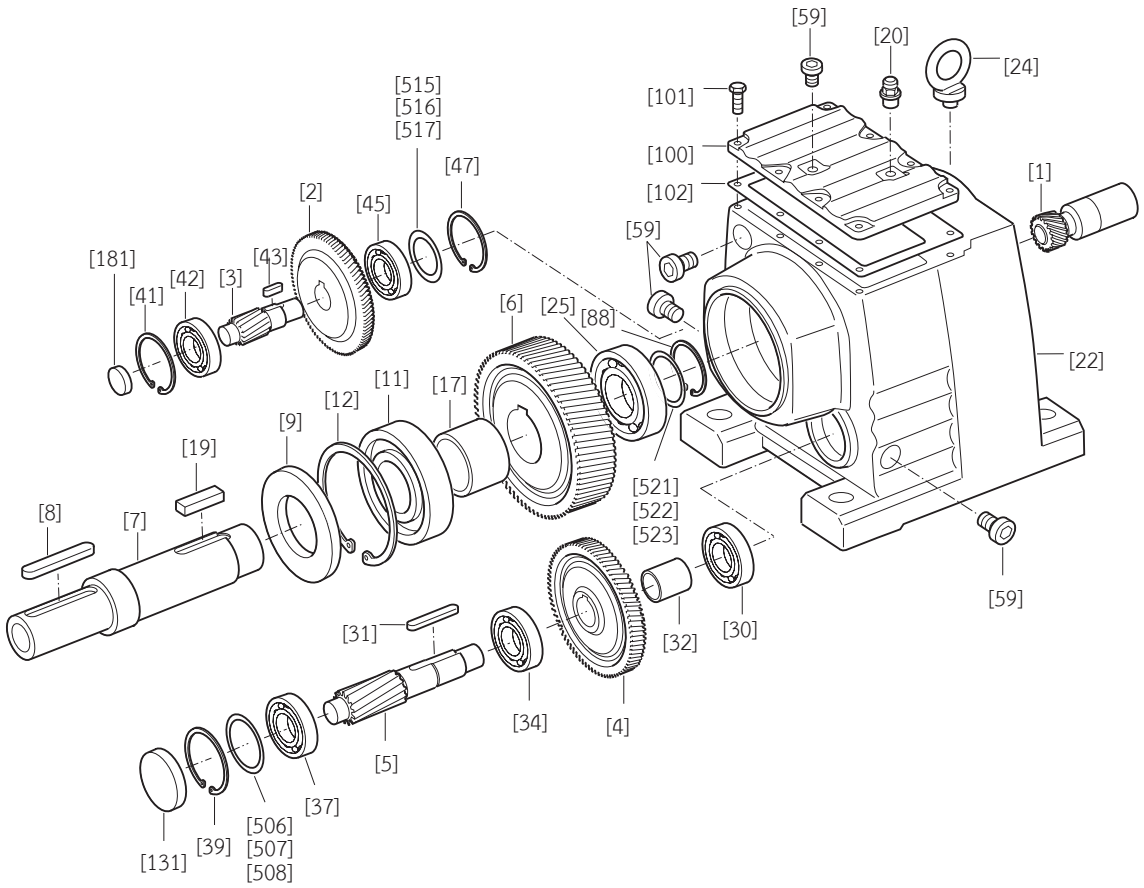
FIMM® GEAR REDUCER		CE
Type		**IE**
Ratio	**S/N**	
50 Hz RPM	**60 Hz RPM**	
kW	**kW**	
V	**V**	
A	**A**	
Mounting Position	**Weight**	**kg**
Lubricant ISO VG 220		

FIMM® GEAR REDUCER		CE
Type (1)		**IE** (2)
Ratio (3)	**S/N** (4)	
50 Hz RPM (5)	**60 Hz RPM** (6)	
kW (7)	**kW** (8)	
V (9)	**V** (10)	
A (11)	**A** (12)	
Mounting Position (13)	**Weight** (14)	**kg**
Lubricant ISO VG 220 (15)		

Description

1. Model
2. Efficiency Class
3. Ratio
4. Serial Number
5. Input Speed / Output Speed (RPM) @50Hz
6. Input Speed / Output Speed (RPM) @60Hz
7. Input Power (kW) @50Hz
8. Input Power (kW) @60Hz
9. Rated Voltage (V) @50Hz
10. Rated Voltage (V) @60Hz
11. Rated Current (A) @50Hz
12. Rated Current (A) @60Hz
13. Mounting Position
14. Weight (kg)
15. Lubricant Specification

Basic structure of helical gear units R..07 – R..167



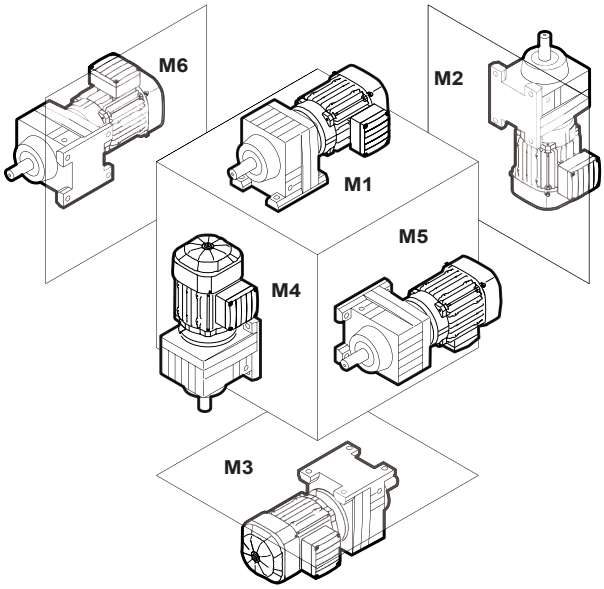
[1]	Pinion	[19]	Key	[42]	Rolling bearing	[507]	Shim
[2]	Gear	[20]	Breather Valve	[43]	Key	[508]	Shim
[3]	Pinion Shaft	[22]	Breather Valve	[45]	Rolling bearing	[515]	Shim
[4]	Gear	[24]	Eyebolt	[47]	Retaining Ring	[516]	Shim
[5]	Pinion Shaft	[25]	Rolling Bearing	[59]	Screw Plug	[517]	Shim
[6]	Gear	[30]	Rolling Bearing	[88]	Retaining Ring	[521]	Shim
[7]	Output Shaft	[31]	Key	[100]	Inspection Cover	[522]	Shim
[8]	Key	[32]	Spacer Tube	[101]	Hex Head Screw	[523]	Shim
[9]	Oil seal	[34]	Rolling Bearing	[102]	Gasket		
[11]	Rolling Bearing	[37]	Rolling Bearing	[131]	Closing Cap		
[12]	Retaining Ring	[39]	Retaining Ring	[181]	Closing Cap		
[17]	Spacer Tube	[41]	Retaining Ring	[506]	Shim		

Mounting position

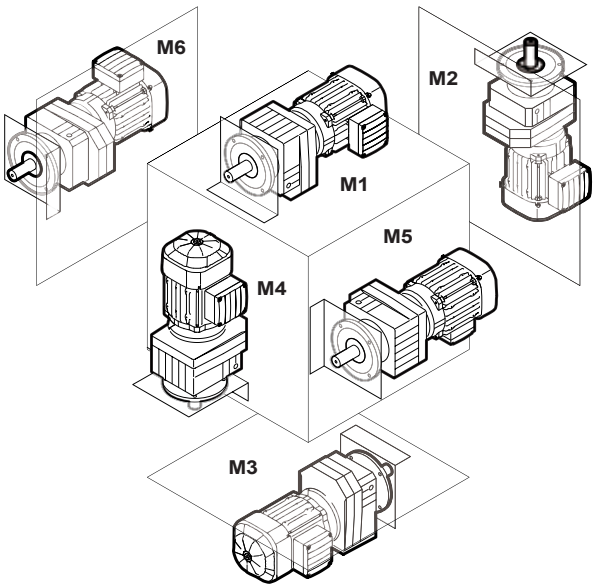
The figure below showshthe gear units in mounitng position from M1 to

M6. For R37-R107, RF37-RF107;

The following illustration shows the FiMM mounting positions M1 – M6:



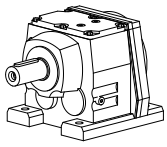
R..

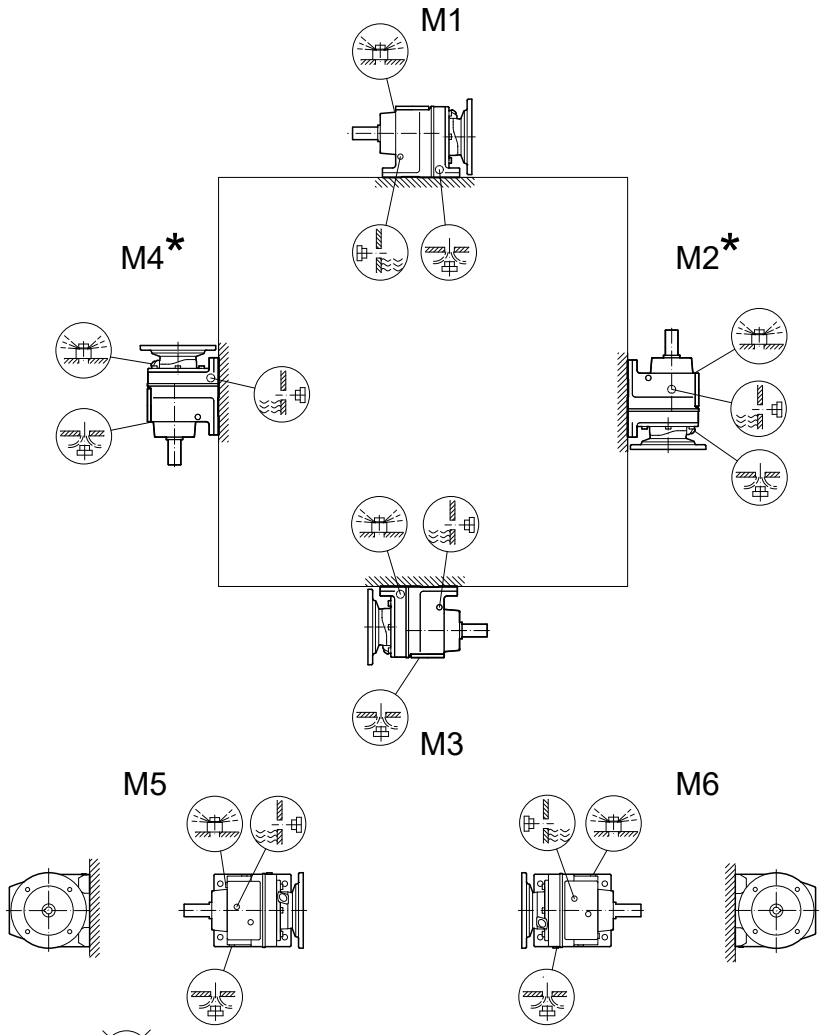


Mounting Position

R...

R07 – R167



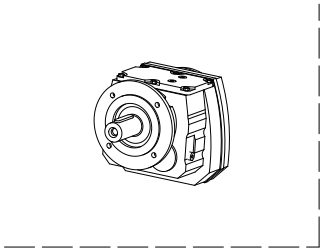


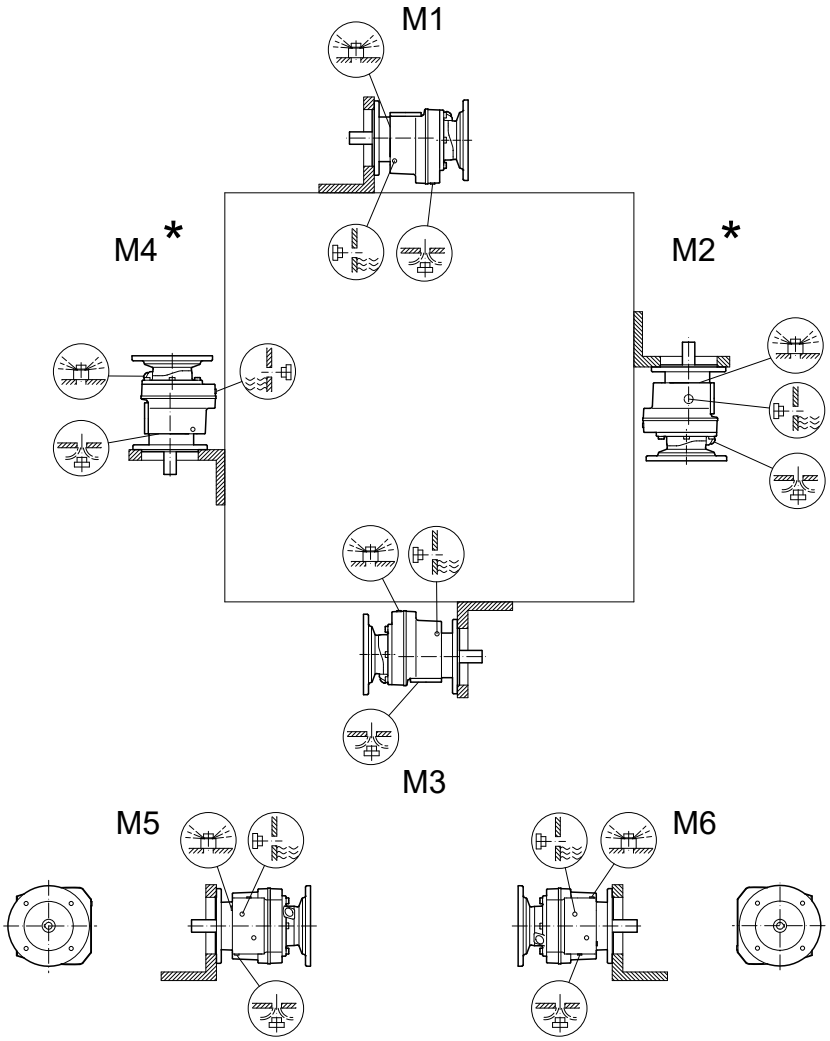
R27		M1, M3 , M5 , M6
R27		
R47, R57		M5

Mounting Position

RF...

RF07 – RF167





RF27	M1, M3 , M5 , M6
RF27	
RF47, 57	M5

Lubricant

R.. RF.	[3] °C -50 0 +50 +100	[1]	[2]	ISO,SAE NLGI	FIMM	bremer & leguil	Castrol	FUCHS	Mobil®	KLÜBER LUBRICATION	Shell	SINOPEC	TOTAL
	[4] -15 +40		CLP	VG 220	-15 +80 GearOil Base 220 E1/US1/CN1/BR1		-15 +80 Optigear BM 220	-15 +80 Renolin CLP 220 Plus	-15 +80 Mobilgear 600 XP 220	-15 +80 Klüberoil GEM 1-220 N	-15 +80 Shell Omala SG 220	-15 +80 AP-SGO 220	-15 +80 Cater EP 220
	-20 +30		CLP	VG 150	-20 +80 GearOil Base 150 E1/US1/CN1/BR1		-20 +80 Optigear BM 150	-20 +80 Renolin CLP150 Plus	-20 +80 Mobilgear 600 XP 150	-20 +80 Klüberoil GEM 1-150 N	-20 +80 Shell Omala SG 150	-20 +80 AP-SGO 150	-20 +80 Cater EP 150
	[4] -15 +40		CLP PSS	VG 220	-15 +80 GearOil Base 220 E1/US1/CN1/BR1			-15 +80 Renolin CLP 220 Plus	-15 +80 Mobilgear 600 XP 220			-15 +80 AP-SGO 220	
	-20 +30		CLP PSS	VG 150	-20 +80 GearOil Base 150 E1/US1/CN1/BR1			-20 +80 Renolin CLP150 Plus	-20 +80 Mobilgear 600 XP 150			-20 +80 AP-SGO 150	

The following table shows the symbols and abbreviations used in the used in the lubricant table and their meaning:

Abbreviation/symbol	Meaning
	Synthetic lubricant (marked gray)
	Mineral lubricant
CLP	Mineral oil
CLP PG	Polyglycol (PG)
rPCF	Reduced Product Carbon Footprint
CLP HC	Synthetic hydrocarbons to polyalphaolefins (PAO)
E	Ester-based oil
	Lubricant for the food processing industry and feed industry. Oils are NSF-H1 registered and compliant in accordance with FDA 21 CFR § 178.357
	Lubricants with particularly reduced CO_2 footprint (cradle-to-gate) with sustainable raw materials.
Oil	Lubricants with slight bio-degradability for environmentally sensitive areas (> 60% according to OECD 301 or according to appendix A of EPA 2013 VGP)
Ex	Lubricant suitable for explosion-protected gear units and gearmotors
1)	Helical-worm gear units with CLP-PG: Contact FiMM.
2)	Low-viscosity grease
3)	With appropriate measures, the gear units can be operated at ambient temperatures as low as -40 °C. Contact FiMM.
Oil seal	Oil seal
Premium Sine Seal	Oil seal of the Premium Sine Seal type. The addendum "PSS" for the lubricant type indicates compatibility with the sealing system.

Lubricant

R Series

GGear unit	Fill quantity in liters					
	M1[1)]	M2[1)]	M3[1)]	M4	M5	M6
R07	0.12	0.20				
R17	0.25	0.55	0.35	0.55	0.35	0.40
R27	0.25/0.40	0.70	0.50	0.70	0.50	
R37	0.30/0.95	0.85	0.95	1.05	0.75	0.95
R47	0.70/1.50	1.60	1.50	1.65	1.50	
R57	0.80/1.70	1.90	1.70	2.10	1.70	
R67	1.10/2.30	2.40	2.80	2.90	1.80	2.00
R77	1.20/3.00	3.30	3.60	3.80	2.50	3.40
R87	2.30/6.0	6.5/8.1	7.4/7.2	7.4	6.4	6.6
R97	4.60/9.8	11.7		13.4	11.3	11.7
R107	6.0/13.7	16.3	16.9	19.2	13.2	15.9
R127	6.4/17	18.3	18.2	22.0	16.8	17.9
R137	10.0/25.0	28.0	29.5	31.5	25.0	
R147	15.4/40.0	46.5	48.0	52.0	39.5	41.0
R167	27.0/70.0	82.0	78.0	88.0	66.0	69.0

1) With compound gear units, the large gear unit must be filled with the larger oil quantity.

Lubricant

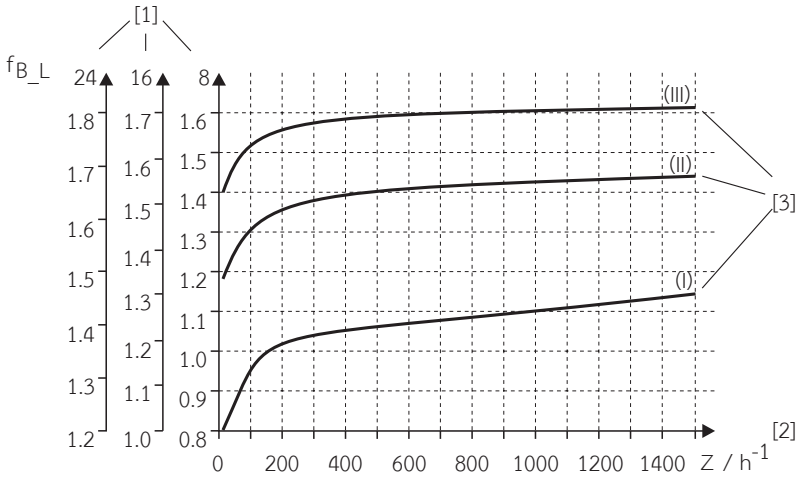
RF Series

Gear unit	Fill quantity in liters					
	M1[1)]	M2[1)]	M3[1)]	M4	M5	M6
RF07	0.12	0.20				
RF17	0.25	0.55	0.35	0.55	0.35	0.40
RF27	0.25/0.40	0.70	0.50	0.70	0.50	
RF37	0.35/0.95	0.90	0.95	1.05	0.75	0.95
RF47	0.65/1.50	1.60	1.50	1.65	1.50	
RF57	0.80/1.70	1.80	1.70	2.00	1.70	
RF67	1.20/2.50	2.50/3.2	2.70	2.80	1.90	2.10
RF77	1.20/2.60	3.10/4.0	3.30	3.60	2.40	3.00
RF87	2.40/6.0	6.5/8.2	7.3	7.4	6.4	6.5
RF97	5.1/10.2	11.9	11.2	14.0	11.2	11.8
RF107	6.3/14.9	15.9	17.0	19.2	13.1	15.9
RF127	6.6/16.0	18.3	18.2	21.4	15.9	17.0
RF137	9.5/25.0	27.0	29.0	32.5	25.0	
RF147	16.4/42.0	47.0	48.0	52.0	42.0	
RF167	26.0/70.0	82.0	78.0	88.0	65.0	71.0

Service Factor

Application service factor

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the application service factor f_{B_L}. The service factor is deter-mined according to the daily operating time and the switching frequency Z. Three load classifications are taken into account depending on the mass acceleration factor. You can read the service factor applicable to your application from the following diagram.



[1] Service factor f_{B_L} in relation to the daily operating time in hours/ day

[2] Switching frequency Z: The cycles include all starting and braking procedures as well as changeovers from low to high speed and vice versa.

[3] Curves for load classification I, II and III

Definition of the load classification

The following 3 load classificatoins are distinguished:

- Load classification I: Uniform, almost no shock load, permitted mass acceleration factor ≤ 0.2
- Load classification II: Non-uniform, moderate shock load, permitted mass acceler-ation factor ≤ 3
- Load classification III: Very non-uniform, severe shock load, permitted mass accel-eration factor ≤ 10

Helical Geared Motors
Permitted Combinations

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R37, 2 Stages										
411	112	900	3,41		X	X	X			
324	126	820	4,32		X	X	X			
277	135	790	5,06		X	X	X			
247	142	760	5,67		X	X	X			
210	144	1000	6,67		X	X	X			
176	156	1720	7,97		X	X	X			
138	170	1820	10,11		X	X	X			
118	183	1810	11,83		X	X	X			
106	190	1880	13,25		X	X	X			
90	200	2010	15,60		X	X	X			
73	200	2570	19,31		X	X	X			
49	200	3690	28,32		X	X	X			

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R37, 3 Stages										
57	200	3240	24,42		X	X	X			
43	200	4120	32,40		X					
38	200	4540	36,72		X					
36	200	4760	39,17		X					
31	200	4950	44,81		X					
29	200	4950	48,08		X					
23	200	4950	61,18		X					
20	200	4950	69,33		X					

Helical Geared Motors
Permitted Combinations

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R37, 3 Stages										
19	200	4950	73,96		X					
17	200	4950	84,61		X					
15	200	4950	90,77		X					

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R47, 2 Stages										
366	144	2090	3,83				X	X	X	
289	150	2280	4,85				X	X	X	
248	155	2410	5,64				X	X	X	
233	156	2470	6,00				X			
201	159	2620	6,96				X	X	X	
180	163	2720	7,76				X			
175	205	2690	8,01				X	X	X	
138	230	2890	10,15				X	X	X	
119	245	3020	11,79				X	X	X	
112	250	3080	12,54				X			
96	265	3230	14,56				X	X	X	
86	275	3350	16,22				X			
73	295	3530	19,27				X			
60	300	3820	23,28				X			

Helical Geared Motors
Permitted Combinations

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R47, 3 Stages										
59	300	3840	23,59			X	X			
47	300	4240	29,88			X	X			
40	300	4520	34,73			X	X			
38	300	4630	36,93			X	X			
33	300	4930	42,87		X	X	X			
29	300	5150	47,75			X	X			
27	300	5350	52,69		X					
25	300	5420	56,73		X	X	X			
20	300	5420	68,54			X	X			
18	300	5420	76,23		X					
15	300	5420	93,68		X					
14	300	5420	100,86		X					

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R57, 2 Stages										
319	280	1900	4,39					X	X	
277	305	1730	5,05					X	X	
241	320	1820	5,82					X	X	
218	335	1770	6,41					X	X	
176	355	2020	7,97					X	X	
150	370	3180	9,35					X	X	
130	390	3330	10,79					X	X	
118	405	3430	11,88					X	X	
95	435	3690	14,77					X	X	
75	450	4050	18,60					X	X	
64	450	4370	21,93					X	X	
56	450	4640	24,99			X	X			

Helical Geared Motors
Permitted Combinations

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R57, 3 Stages										
46	450	5050	30,18			X	X			
40	450	5390	35,07			X	X			
38	450	5530	37,30			X	X			
32	450	5900	43,30			X	X			
29	450	6170	48,23			X	X			
24	450	6630	57,29			X	X			
20	450	7110	69,23			X	X			

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R67, 2 Stages										
326	270	5000	4,29					X	X	
284	290	5210	4,93					X	X	
246	310	5450	5,70					X	X	
223	330	5590	6,27					X	X	
180	380	5830	7,79					X	X	
161	440	5960	8,70					X	X	
140	470	6220	10,00					X	X	
121	500	6500	11,54					X	X	
110	520	6650	12,70					X	X	
89	560	7130	15,79					X	X	
70	600	7560	19,89					X	X	
60	560	8010	23,44					X	X	
52	540	8210	26,72			X	X			

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R67, 3 Stages										
43	540	8210	32,27			X	X			
37	570	7900	37,50			X	X			
35	580	7790	39,88			X	X			
30	600	7560	46,29			X	X			
27	600	7560	51,56			X	X			

Helical Geared Motors
Permitted Combinations

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R67, 3 Stages										
23	600	7560	61,26			X	X			
20	600	7560	69,75			X	X			
19	600	7560	74,17			X	X			
16	600	7560	86,11			X	X			
15	600	7560	95,91			X	X			
12	600	7560	113,94			X	X			
10	600	7560	137,67			X	X			

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R77, 2 Stages										
264	510	3990	5,31					X	X	X
206	580	3850	6,79					X	X	X
181	610	3940	7,74					X	X	X
163	630	4110	8,59					X	X	
145	630	6300	9,64					X	X	X
114	690	6740	12,33					X	X	X
100	720	7050	14,05					X	X	X
90	740	7390	15,60					X	X	
79	780	7620	17,82					X	X	
65	820	8250	21,43					X	X	

Helical Geared Motors
Permitted Combinations

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R77, 3 Stages										
55	780	10100	25,23					X	X	
48	820	9920	29,00					X	X	
42	820	9920	33,47					X	X	
38	820	9920	36,83					X	X	
32	820	9920	43,26			X	X			
31	820	9920	45,81					X	X	
27	820	9920	52,07			X	X			
24	820	9920	57,68			X	X	X	X	
18	820	9920	77,24			X	X			
15	820	9920	92,97			X	X			
14	820	9920	102,99				X			

N_a	$M_{a\ max}$	F_{Ra}	Ratio		90B5	100B5	112B5	132B5	160B5	180B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R87, 2 Stages										
264	910	8980	5,30					X	X	X
219	1020	9450	6,39					X	X	X
196	1070	9780	7,13					X		
170	1160	10200	8,22					X	X	X
153	1210	10500	9,14					X		
141	1180	10400	9,90					X	X	X
117	1230	11200	11,93					X	X	X
105	1280	11600	13,33			X	X	X		
91	1340	12100	15,35			X	X	X	X	X
82	1390	12600	17,08			X	X	X		
73	1440	13000	19,10			X	X	X		
65	1500	13600	21,51			X	X	X		
60	1550	13900	23,40			X	X	X		
50	1550	15000	27,84			X	X	X		
41	1500	9480	34,40			X	X			

Helical Geared Motors
Permitted Combinations

N_a	$M_{a\ max}$	F_{Ra}	Ratio		71B5	80B5	90B5	100B5	112B5	132B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
R87, 3 Stages										
43	1550	16000	32,66					X	X	X
34	1550	16900	41,74					X	X	X
29	1550	16900	47,58					X	X	X
27	1550	13500	52,82					X	X	
23	1550	15200	60,35					X	X	
19	1550	16900	72,57				X	X	X	
17	1550	16900	81,92					X	X	
15	1550	16900	93,38				X	X	X	
14	1550	16900	103,65					X	X	
12	1550	16900	118,43					X	X	
9.8	1550	16900	142,41					X	X	

N_a	$M_{a\ max}$	F_{Ra}	Ratio		160B5	180B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC	
R97, 2 Stages						
269	1780	9850	5,20		X	X
225	1890	10500	6,21		X	X
197	2000	10900	7,12		X	X
167	2030	11700	8,39		X	X
151	2030	12200	9,29		X	X
113	2190	12700	12,39		X	X
96	2300	13400	14,62		X	X
87	2400	13800	16,17		X	X
70	2610	14800	20,14		X	X
56	2830	15900	25,03		X	X

Helical Geared Motors
Permitted Combinations

R97, 3 Stages										
N_a	$M_{a\ max}$	F_{Ra}	Ratio		90B5	100B5	112B5	132B5	160B5	180B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC					
51	2670	16900	27,58					X	X	X
42	2890	17900	33,25					X	X	X
38	3000	18600	37,13			X	X	X		
33	3000	19800	42,78			X	X	X	X	X
29	3000	19800	47,58			X	X	X		
26	3000	19800	53,21			X	X	X		
23	3000	19800	59,92			X	X	X		
21	3000	19800	65,21			X	X	X		
19	3000	18000	72,17			X	X			
17	3000	19800	83,15			X	X			
15	3000	19800	92,48			X	X			
14	3000	19800	103,44			X	X			
12	3000	19800	116,48			X	X			
11	3000	19800	126,75			X	X			
9.3	3000	19800	150,78			X	X			
7.5	3000	19800	186,30			X	X			

Helical Geared Motors
Permitted Combinations

R107, 2 Stages						
N_a	$M_{a\ max}$	F_{Ra}	Ratio		160B5	180B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC	
56	4300	19200	24,90		X	X

N_a	$M_{a\ max}$	F_{Ra}	Ratio		132B5	160B5	180B5
[min^{-1}]	[N.m.]	[N]	[-]		IEC		
R107, 3 Stages							
47	4300	20700	29,49			X	X
40	4300	22400	35,26			X	X
35	4300	23800	40,37			X	X
29	4300	25500	47,63		X	X	X
27	4300	26600	52,68			X	X
24	4300	28000	59,41		X		
21	4300	29200	65,60			X	X
19	4300	29500	72,88		X		
15	4300	29500	92,70		X		
12	4300	29500	115,63		X		
9.9	4300	29500	141,83		X		

Helical Gear Motor

Selection table [kW]

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
0,25	381	6	3,41	17,9	900			
	301	8	4,32	15,9	820			
	257	9	5,06	14,5	790			15
	229	10	5,67	13,6	760			
	195	12	6,67	11,8	1000			
	163	15	7,97	10,7	1720	2 Stages		
	129	1	10,11	9,2	1820	R37/R37F		
	110	22	11,83	8,4	1810			
	98	24	13,25	7,8	1880			16
	83	29	15,60	7,0	2010			
	67	35	19,31	5,6	2570			
	46	52	28,32	3,8	3690			
	53	45	24,42	4,5	3240			
	40	60	32,40	3,4	5230			
	35	67	36,72	3,0	5430		71B5	15
	33	72	39,17	2,8	5540			
	29	82	44,81	2,4	5760	3 Stages		
	27	88	48,08	2,3	5870	R37/R37F		
	21	112	61,18	1,8	5750			
	19	127	69,33	1,55	5650			16
	18	136	73,96	1,45	5590			
	15	155	84,61	1,3	5420			
	14	167	90,77	1,2	5320			
	30	80	42,87	3,8	4930			
	25	97	52,69	3,1	6100			19
	23	104	56,73	2,9	6090	3 Stages		
	17	140	76,23	2,1	6020	R47/R47F		
	14	172	93,68	1,75	5940			19
	13	185	100,86	1,6	5900			
0,37	411	9	3,41	13,0	900			
	324	11	4,32	11,6	820			
	277	13	5,06	10,6	790			16
	247	14	5,67	9,9	760			
	210	17	6,67	8,6	1000			
	176	20	7,97	7,8	1720	2 Stages	71B5	
	138	26	10,11	6,7	1820	R37/R37F		
	117	30	11,83	6,0	3720			
	104	34	13,25	5,6	3850			17
	88	40	15,60	5,0	4050			
	71	49	19,31	4,1	4320			
	49	73	28,32	2,8	4830			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
0,37	57	63	24,42	3,2	4620	3 Stages R37/R37F	71B5	16
	43	83	32,40	2,4	5010			
	38	94	36,72	2,1	5190			
	35	100	39,17	2,0	5290			
	31	115	44,81	1,75	5480			
	29	123	48,08	1,6	5590			17
	23	157	61,18	1,3	5410			
	20	178	69,33	1,15	5210			
	19	189	73,96	1,05	5070			
	16	215	84,61	0,9	4720			
	15	230	90,77	0,85	4250			
	32	110	42,87	2,7	5650	3 Stages R47/R47F		20
	26	135	52,69	2,2	5990			
	24	145	56,73	2,1	6010			
	18	195	76,23	1,55	5870			20
	15	240	93,68	1,25	5700			
	14	260	100,86	1,15	5630			
0,55	396	13	3,41	8,4	900	2 Stages R37/R37F	80B5	18
	313	17	4,32	7,5	820			
	267	20	5,06	6,9	790			
	238	22	5,67	6,4	760			
	202	26	6,67	5,5	1000			
	169	31	7,97	5,0	1720			
	134	39	10,11	4,3	1820			19
	115	46	11,83	4,0	3670			
	103	51	13,25	3,7	3790			
	87	60	15,60	3,3	3970			
	70	75	19,31	2,7	4220			
	47	111	29,32	1,8	3690			
	56	94	24,42	2,1	4500	3 Stages R37/R37F		18
								19
	57	92	23,59	3,3	3820	3 Stages R47/R47F		22
	46	115	29,88	2,6	4970			
	39	134	34,73	2,2	5180			
	37	143	36,93	2,1	5260			
	32	166	42,87	1,8	5470			22
	28	184	47,75	1,65	5630			
	24	220	56,73	1,35	5790			
	20	265	68,54	1,15	5600			
	45	117	30,18	3,8	5050	3 Stages R57/R57F		27
	39	136	35,07	3,3	6580			
	36	144	37,30	3,1	6700			
	31	167	43,30	2,7	6980			31
	28	186	48,23	2,4	7190			
	24	220	57,29	2,0	7530			
	20	265	69,23	1,7	7710			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
0,55	42	126	32,27	4,3	8210			
	36	146	37,50	3,9	7900			
	34	155	39,88	3,7	7790			34
	29	180	46,29	3,3	7650			
	26	201	51,56	3,0	7650			
	22	235	61,26	2,5	10100	3 Stages		
	20	270	69,75	2,2	10000	R67/R67F		
	18	285	74,17	2,1	9940			
	16	335	86,11	1,8	9730		80B5	37
	14	370	95,91	1,6	9520			
	12	440	113,94	1,35	9060			
	9,9	530	137,67	1,15	8290			
	32	164	43,26	5,0	9920			40
	27	195	52,07	4,2	9920	3 Stages		
	24	219	57,68	3,7	9920	R77/R77F		46
	18	300	77,24	2,8	12800			
	15	360	92,97	2,3	12600			
0,75	411	17	3,41	6,4	900			
	324	22	4,32	5,7	820			
	277	26	5,06	5,2	790			19
	247	29	5,67	4,9	760			
	210	34	6,67	4,2	1000			
	176	41	7,97	3,8	1720	2 Stages		
	137	53	10,11	3,2	3420	R37/R37F		
	117	61	11,83	3,0	3570			
	104	69	13,25	2,8	3690			20
	88	81	15,60	2,5	3850			
	71	100	19,31	2,0	4080			
	49	145	28,32	1,4	3690			
	57	127	24,42	1,6	4320	3 Stages		19
						R37/R37F		20
	58	122	23,59	2,5	4510		80B5	
	46	155	29,88	1,95	4800			23
	40	180	34,73	1,65	4980			
	37	192	36,93	1,55	5060	3 Stages		
	32	225	42,87	1,35	5240	R47/R47F		
	29	250	47,75	1,2	5370			23
	24	295	56,73	1,0	5450			
	20	355	68,54	0,85	3660			
	46	157	30,18	2,9	6130			
	39	182	35,07	2,5	6380			28
	37	194	37,30	2,3	6490	3 Stages		
	32	225	43,30	2,0	6740	R57/R57F		
	29	250	48,23	1,8	6930			32
	24	295	57,29	1,5	7220			
	20	360	69,23	1,25	7450			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
0,75	43	165	32,27	3,3	8210	3 Stages R67/R67F	80B5	35
	37	192	37,50	3,0	7900			
	35	204	39,88	2,8	7790			
	30	240	46,29	2,5	10100			
	27	270	51,56	2,2	10000			
	23	320	61,26	1,9	9800			
	20	360	69,75	1,65	9570			38
	19	385	74,17	1,55	9430			
	16	445	86,11	1,35	9010			
	14	500	95,91	1,2	8600			
	12	590	113,94	1,0	7660			
	10	716	137,67	0,8	7650			
	32	225	43,26	3,7	13000	3 Stages R77/R77F		42
	27	270	52,07	3,0	12900			
	24	300	57,68	2,7	12800			48
	18	400	77,24	2,1	12500			
	15	485	92,97	1,7	12200			
1,10	411	26	3,41	4,4	900	2 Stages R37/R37F	90B5	24
	324	32	4,32	3,9	820			
	277	38	5,06	3,6	2700			
	247	43	5,67	3,3	2790			
	210	50	6,67	2,9	2920			
	176	60	7,97	2,6	3090			
	139	76	10,11	2,2	3290			26
	118	89	11,83	2,1	3430			
	106	99	13,25	1,9	3520			
	90	117	15,60	1,7	3660			
	73	145	19,31	1,4	3840			
	49	213	28,32	0,9	3690			
	57	183	24,42	1,1	3720	3 Stages R37/R37F		24
								26
	366	29	3,83	5,0	2090	2 Stages R47/RF47		28
	323	33	4,34	4,4	2190			
	289	36	4,85	4,1	2280			
	248	42	5,64	3,7	2410			
	233	45	6,00	3,5	2470			
	201	52	6,96	3,0	2620			
	180	58	7,76	2,8	2720			
	175	60	8,01	3,4	2690			
	154	68	9,07	3,2	3340			28
	138	76	10,15	3,0	3450			
	119	89	11,79	2,8	3590			
	112	94	12,54	2,7	3650			
	96	109	14,56	2,4	3800			
	86	122	16,22	2,3	3910			
	73	145	19,27	2,0	4080			
	60	175	23,28	1,7	4270			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
1,10	59	177	23,59	1,7	4290	3 Stages R47/R47F	90B5	28
	52	200	26,70	1,5	4410			
	47	225	29,88	1,35	4520			
	40	260	34,73	1,15	4660			
	38	275	36,93	1,1	4720			28
	33	320	42,87	0,95	4850			
	29	360	47,75	0,85	3500			
	56	188	24,99	2,4	5580	2 Stages R57/R57F		34
								37
	52	200	26,97	2,2	5690	3 Stages R57/R57F		34
	46	225	30,18	2,0	5850			
	40	265	35,07	1,7	6060			
	38	280	37,30	1,6	6140			
	32	325	43,30	1,4	6350			37
	29	360	48,23	1,25	6490			
	24	430	57,29	1,05	6700			
	20	520	69,23	0,85	5990			
	52	200	26,72	2,7	10100	2 Stages R67/R67F		40
								43
	49	215	28,83	2,4	10200	3 Stages R67/R67F		
	43	240	32,27	2,2	10100			40
	37	280	37,50	2,0	9970			
	35	300	39,88	1,95	9890			
	30	345	46,29	1,75	9650			
	27	385	51,56	1,55	9420			
	23	460	61,26	1,3	8920			43
	20	525	69,75	1,15	8370			
	19	555	74,17	1,1	8040			
	16	645	86,11	0,95	6820			
	15	700	95,91	0,9	7650			
	32	325	43,26	2,5	12700	3 Stages R77/R77F		47
	27	390	52,07	2,1	12500			
	24	435	57,68	1,9	12400			
	18	580	77,24	1,4	11700			53
	15	700	92,97	1,2	10900			
	14	775	102,99	1,05	10300			
	19	545	72,57	2.9	20000	3 Stages R87/R87F		73
	15	700	93,38	2.2	20000			80
1,50	414	35	3,41	3,2	2360	2 Stages R37/R37F	90B5	25
	326	44	4,32	2,9	2520			
	279	51	5,06	2,6	2630			
	249	58	5,67	2,5	2710			
	211	68	6,67	2,1	2820			
	177	81	7,97	1,95	2980			
	140	103	10,11	1,65	3160			27
	119	120	11,83	1,5	3270			
	106	135	13,25	1,4	3350			
	90	159	15,60	1,25	3160			
	73	196	19,31	1,0	2660			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
1,50	368	39	3,83	3,7	2520	2 Stages R47/RF47	90B5	30
	325	44	4,34	3,3	2610			
	291	49	4,85	3,0	2700			
	250	57	5,64	2,7	2810			
	235	61	6,00	2,6	2860			
	203	71	6,96	2,3	2980			
	182	79	7,76	2,1	3060			
	176	81	8,01	2,5	3140			
	155	92	9,07	2,4	3240			30
	139	103	10,15	2,2	3340			
	120	120	11,79	2,1	3470			
	112	127	12,54	1,95	3520			
	97	148	14,56	1,8	3650			
	87	165	16,22	1,65	3740			
	73	196	19,27	1,5	3890			
	61	235	23,28	1,25	4040			
	60	240	23,59	1,25	4050	3 Stages R47/R47F		30
	53	270	26,70	1,1	4140			
	47	305	29,88	1,0	4220			
	41	355	34,73	0,85	3840			30
	38	375	36,93	0,8	2380			
	56	255	24,99	1,75	5330	2 Stages R57/R57F		39
								39
	52	275	26,97	1,65	5420	3 Stages R57/R57F		
	47	305	30,18	1,45	5540			36
	40	355	35,07	1,25	5710			
	38	380	37,30	1,2	5770			
	33	440	43,30	1,0	5920			39
	29	490	48,23	0,9	6010			
	24	597	57,29	0,8	6630			
	53	270	26,72	2,0	9850	2 Stages R67/R67F		42
								45
	49	295	28,83	1,8	9920	3 Stages R67/R67F		
	44	330	32,27	1,65	9750			42
	38	380	37,50	1,5	9460			
	35	405	39,88	1,45	9300			
	30	470	46,29	1,3	8830			
	27	525	51,56	1,15	8370			45
	23	620	61,26	0,95	7280			
	20	716	69,75	0,8	7650			
	19	754	74,17	0,8	7650			
	33	440	43,26	1,85	12300	3 Stages R77/R77F		48
	27	530	52,07	1,55	11900			
	24	585	57,68	1,4	11600			54
	18	785	77,24	1,05	10200			
	15	940	92,97	0,85	8500			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
1,50	19	735	72,57	2,1	20000	3 Stages	90B5	74
	15	950	93,38	1,65	20000	R87/R87F		81
2,20	368	57	3,83	2,5	2440		100B5	37
	291	72	4,85	2,1	2600			
	250	84	5,64	1,85	2700			
	203	104	6,96	1,55	2840	2 Stages		
	176	119	8,01	1,7	3000	R47/R47F		37
	139	151	10,15	1,5	3160			
	120	176	11,79	1,4	3270			
	97	215	14,56	1,2	3400			
	319	66	4,39	4,3	1900			43
	277	76	5,05	4,0	1730			
	241	87	5,82	3,7	1820			
	218	96	6,41	3,5	1770			
	177	119	7,97	3,0	3850	2 Stages		
	151	139	9,35	2,7	4000	R57/R57F		46
	131	161	10,79	2,4	4140			
	119	177	11,88	2,3	4230			
	95	220	14,77	2,0	4450			
	76	275	18,60	1,6	4660			
	64	325	21,93	1,4	4800			
	326	64	4,29	4,2	5000			49
	284	74	4,93	3,9	5210			
	246	85	5,70	3,6	5450			
	223	94	6,27	3,5	5590			
	181	116	7,79	3,3	6760			
	162	130	8,70	3,4	6960	2 Stages		
	141	149	10,00	3,2	7250	R67/R67F		52
	122	172	11,54	2,9	7560			
	111	189	12,70	2,8	7760			
	89	235	15,79	2,4	8240			
	71	295	19,89	2,0	8760			
	60	350	23,44	1,6	9140			
	264	80	5,31	6,4	3990			55
	206	102	6,79	5,7	3850			
	181	116	7,74	5,3	3940			
	163	129	8,59	4,9	4110			
	145	145	9,64	4,4	6300	2 Stages		
	114	185	12,33	3,7	6740	R77/R77F		61
	100	210	14,05	3,4	9910			
	90	230	15,60	3,2	10200			
	79	265	17,82	2,9	10600			
	66	320	21,43	2,6	11200			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
2,20	56	375	25,23	2,1	11700	3 Stages R77/R77F	100B5	55
	49	430	29,00	1,9	12100			
	42	500	33,47	1,65	12100			
	38	550	36,83	1,5	11800			61
	31	685	45,81	1,2	11000			
	24	860	57,68	1,0	9540			
	105	200	13,33	6,4	11600	2 Stages R87/R87F		82
	91	231	15,35	5,8	12100			
	82	256	17,08	5,4	12600			
	73	288	19,10	5,0	13000			89
	66	320	21,51	4,7	16400			
	60	350	23,40	4,5	16800			
	51	415	27,84	3,7	17700			
	41	515	34,40	2,9	18800			
	43	485	32,66	3,2	18500	3 Stages R87/R87F		82
	34	620	41,74	2,5	19900			
	30	710	47,58	2,2	20000			
	27	785	52,82	1,95	20000			
	23	900	60,35	1,7	20000			89
	19	1080	72,57	1,45	19500			
	17	1220	81,92	1,25	18900			
	15	1390	93,38	1,1	17900			
	14	1540	103,65	1,0	17000			
	12	1760	118,43	0,9	15200			
	38	553	37,13	5,4	18600	3 Stages R97/R97F		125
	33	637	42,78	4,7	19800			
	30	710	47,58	4,2	25300			
	27	795	53,21	3,8	26100			
	24	890	59,92	3,4	27000			
	22	970	65,21	3,1	27700			
	20	1080	72,17	2,8	28200			
	17	1240	83,15	2,4	28000			140
	15	1380	92,48	2,2	27800			
	14	1540	103,44	1,95	27600			
	12	1740	116,48	1,75	27300			
	11	1890	126,75	1,6	26800			
	9,3	2250	150,78	1,35	25300			
	7,6	2780	186,30	1,1	22500			
3,00	365	78	3,83	1,85	2360	2 Stages R47/R47F	100B5	41
	288	99	4,85	1,5	2490			
	248	115	5,64	1,35	2580			
	201	143	6,96	1,1	2680			
	175	164	8,01	1,25	2840			41
	138	210	10,15	1,1	2970			
	119	240	11,79	1,0	3040			
	96	300	14,56	0,9	2500			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
3,00	319	90	4,39	3,1	3190	2 Stages R57/R57F	100B5	47
	277	103	5,05	3,0	3310			
	240	119	5,82	2,7	3430			
	218	131	6,41	2,6	3520			
	176	163	7,97	2,2	3700			
	150	191	9,35	1,95	3820			50
	130	220	10,79	1,75	3940			
	118	245	11,88	1,65	4010			
	95	300	14,77	1,45	4160			
	75	380	18,60	1,2	4300			
	64	450	21,93	1,0	4380			
	326	88	4,29	3,1	5000	2 Stages R67/R67F		52
	284	101	4,93	2,9	5210			
	246	116	5,70	2,7	5450			
	223	128	6,27	2,6	5590			
	180	159	7,79	2,4	5830			
	161	178	8,70	2,5	5960			55
	140	205	10,00	2,3	7090			
	121	235	11,54	2,1	7360			
	110	260	12,70	2,0	7550			
	89	325	15,79	1,75	7980			
	70	405	19,89	1,45	8420			
	60	480	23,44	1,15	8730			
	264	109	5,31	4,7	3990	2 Stages R77/R77F		59
	206	139	6,79	4,2	7920			
	181	158	7,74	3,9	8240			
	163	176	8,59	3,6	8500			
	145	197	9,64	3,2	8720			65
	114	250	12,33	2,7	9350			
	100	290	14,05	2,5	9700			
	90	320	15,60	2,3	9980			
	79	365	17,82	2,1	10300			
	65	440	21,43	1,85	10800			
	55	515	25,23	1,5	11300	3 Stages R77/R77F		59
	48	595	29,00	1,4	11600			
	42	685	33,47	1,2	11000			65
	38	755	36,83	1,1	10500			
	31	940	45,81	0,85	8670			
	105	273	13,33	4,7	11600	2 Stages R87/R87F		86
	91	315	15,35	4,3	14600			
	82	350	17,08	4,0	15100			
	73	390	19,10	3,7	15600			93
	65	440	21,51	3,4	16100			
	60	480	23,40	3,2	16500			
	50	570	27,84	2,7	17400			
	41	705	34,40	2,1	18400			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
3,00	43	670	32,66	2,3	18100	3 Stages R87/R87F	100B5	86
	34	850	41,74	1,8	19400			
	29	970	47,58	1,6	19900			
	27	1080	52,82	1,45	19500			
	23	1230	60,35	1,25	18000			
	19	1490	72,57	1,05	17400			93
	17	1680	81,92	0,9	16000			
	15	1910	93,38	0,8	3630			
	14	2046	103,65	0,8	16900			
	38	760	37,13	4,0	23100	3 Stages R97/R97F		125
	33	880	42,78	3,4	24000			
	29	970	47,58	3,1	24800			
	26	1090	53,21	2,8	25600			
	23	1230	59,92	2,5	26400			
	21	1330	65,21	2,3	27000			
	19	1480	72,17	2,0	27700			
	17	1700	83,15	1,75	27300			145
	15	1890	92,48	1,6	26800			
	14	2120	103,44	1,4	25900			
	12	2380	116,48	1,25	24700			
	11	2590	126,75	1,15	23600			
	9,3	3090	150,78	0,95	16200			
	8,0	3581	186,30	0,8	19800			
4,00	371	103	3,83	1,4	2250	2 Stages R47/R47F	112B5	48
	293	131	4,85	1,15	2350			
	252	152	5,64	1,0	2410			
	204	187	6,96	0,85	2480			48
	177	215	8,01	0,95	2640			
	140	275	10,15	0,85	1960			
	119	119	11,79	0,8	3020			
	323	118	4,39	2,4	3070	2 Stages R57/R57F		53
	281	136	5,05	2,3	3180			
	244	157	5,82	2,0	3280			
	222	172	6,41	1,95	3350			
	178	215	7,97	1,65	3500			
	152	250	9,35	1,45	3580			56
	132	290	10,79	1,35	3660			
	120	320	11,88	1,25	3710			
	96	395	14,77	1,1	3800			
	76	500	18,60	0,9	3520			
	64	597	21,93	0,8	4370			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
4,00	331	116	4,29	2,3	5460			
	288	133	4,93	2,2	5680			
	249	153	5,70	2,0	5920			59
	227	169	6,27	1,95	6070			
	182	210	7,79	1,8	6440			
	163	235	8,70	1,9	6600	2 Stages		
	142	270	10,00	1,75	6840	R67/R67F		
	123	310	11,54	1,6	7080			
	112	340	12,70	1,5	7240			62
	90	425	15,79	1,3	7600			
	71	535	19,89	1,1	7960			
	60	637	23,44	0,9	8010			
	267	143	5,31	3,6	7230			
	209	183	6,79	3,2	7770			
	183	210	7,74	2,9	8070			65
	165	230	8,59	2,7	8320			
	147	260	9,64	2,4	8500	2 Stages		
	115	330	12,33	2,1	9070	R77/R77F		
	101	380	14,05	1,9	9380			
	91	420	15,60	1,75	9630			71
	80	480	17,82	1,65	9950		112B5	
	66	575	21,43	1,4	10400			
	56	680	25,23	1,15	10800			
	49	780	29,00	1,05	10300			65
	42	900	33,47	0,9	9100	3 Stages		
	39	990	36,83	0,85	4070	R77/R77F		71
	107	360	13,33	3,6	13700			
	92	415	15,35	3,2	14300			
	83	460	17,08	3,0	14700			91
	74	515	19,10	2,8	15200	2 Stages		
	66	580	21,51	2,6	15700	R87/R87F		
	61	630	23,40	2,5	16100			98
	51	750	27,84	2,1	16800			
	41	930	34,40	1,6	17600			
	43	880	32,66	1,75	17500			
	34	1120	41,74	1,4	16800			91
	30	1280	47,58	1,2	16000	3 Stages		
	27	1420	52,82	1,1	15200	R87/R87F		
	24	1620	60,35	0,95	13900			98
	19	2011	72,57	0,8	16900			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
4,00	38	1000	37,13	3,0	22500	3 Stages R97/R97F	112B5	135
	33	1150	42,78	2,6	23400			
	30	1280	47,58	2,3	24000			
	27	1430	53,21	2,1	24700			
	24	1310	59,92	1,85	25500			
	22	1750	65,21	1,7	26000			
	20	1940	72,17	1,55	26600			
	17	2240	83,15	1,35	25400			150
	15	2490	92,48	1,2	24100			
	14	2780	103,44	1,1	22400			
	12	3130	116,48	0,95	13800			
	11	3473	126,75	0,9	19800			
5,50	269	195	5,31	2,6	7070	2 Stages R77/R77F	132B5	71
	211	250	6,79	2,3	7580			
	185	285	7,74	2,2	7860			
	148	355	9,64	1,8	8190			77
	116	455	12,33	1,5	8690			
	102	515	14,05	1,4	8950			
	264	199	5,30	4,6	8980	2 Stages R87/R87F		97
	219	240	6,39	4,3	9450			
	200	260	7,13	4,1	11300			
	174	300	8,22	3,8	11800			
	156	335	9,14	3,6	12200			
	144	365	9,90	3,3	12300			
	120	440	11,93	2,8	13000			
	107	490	13,33	2,6	13400			105
	93	565	15,35	2,4	13900			
	84	625	17,08	2,2	14300			
	75	700	19,10	2,1	14700			
	66	790	21,51	1,9	15200			
	61	860	23,40	1,8	15500			
	51	1020	27,84	1,5	16100			
	44	1200	32,66	1,3	16700	3 Stages R87/R87F		97
	34	1530	41,74	1,0	17000			105
	30	1750	47,58	0,9	15400			
	52	1010	27,58	2,6	20100	3 Stages R97/R97F		140
	43	1220	33,25	2,4	21100			
	39	1360	37,13	2,2	21700			
	33	1570	42,78	1,9	22500			
	30	1750	47,58	1,7	23000			155
	27	1950	53,21	1,55	23600			
	24	2200	59,92	1,35	24200			
	22	2390	65,21	1,25	24600			

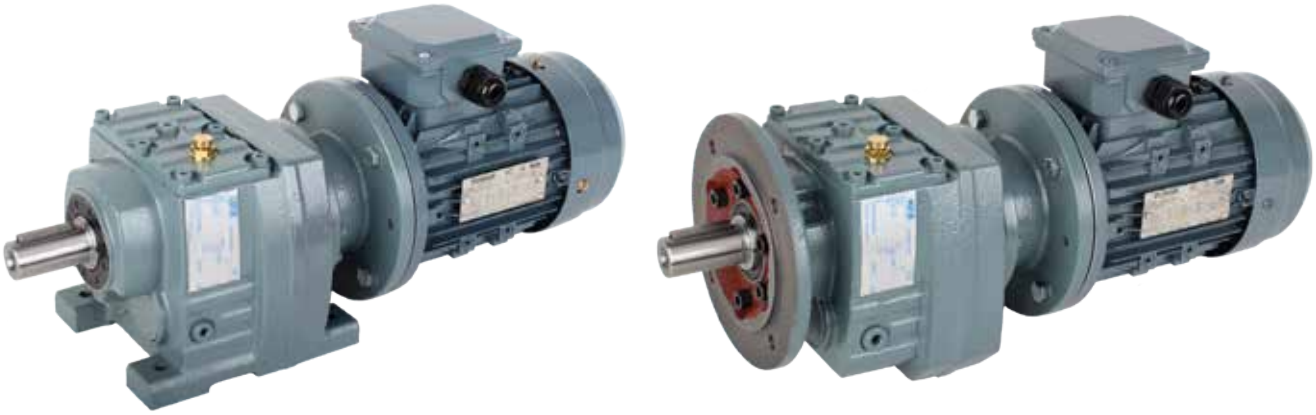
P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
5,50	30	1750	47,63	2,5	29500	3 Stages R107/R107F	132B5	195
	24	2180	59,41	1,95	31300			
	20	2680	72,88	1,6	32900			
	15	3400	92,70	1,25	33500			205
	12	4250	115,63	1,0	29800			
	10	5253	141,83	0,8	29500			
7,50	269	265	5,31	1,9	6890	2 Stages R77/R77F	132B5	92
	211	340	6,79	1,7	7340			
	185	390	7,74	1,55	7590			
	148	485	9,64	1,3	7810			98
	116	615	12,33	1,1	7750			
	102	705	14,05	1,0	7180			
	270	265	5,30	3,4	10200	2 Stages R87/R87F		120
	224	320	6,39	3,2	10800			
	200	355	7,13	3,0	11100			
	174	410	8,22	2,8	11600			
	156	460	9,14	2,6	11900			
	144	495	9,90	2,4	12000			
	120	600	11,93	2,1	12600			
	107	670	13,33	1,9	12900			125
	93	770	15,35	1,75	12500			
	84	860	17,08	1,65	13700			
	75	960	19,10	1,5	14100			
	66	1080	21,51	1,4	14500			
	61	1170	23,40	1,3	14700			
	51	1390	27,84	1,1	15200			
	44	1640	32,66	0,95	15700	3 Stages R87/R87F		120
								125
	52	1380	27,58	1,95	19400	3 Stages R97/R97F		160
	43	1670	33,25	1,75	20200			
	39	1860	37,13	1,6	20700			
	33	2140	42,78	1,4	21300			
	30	2380	47,58	1,25	21800			175
	27	2670	53,21	1,15	22200			
	24	3000	59,92	1,0	19700			
	22	3256	65,21	0,9	19800			
	30	2390	47,63	1,8	28500	3 Stages R107/R107F		215
	24	2980	59,41	1,45	30000			
	20	3650	72,88	1,2	31300			225
	15	4640	92,70	0,95	27500			
11,00	272	385	5,30	2,4	9910	2 Stages R87/R87F	160B5	130
	225	465	6,39	2,2	10400			
	175	600	8,22	1,95	11200			
	145	720	9,90	1,65	11400			140
	121	870	11,93	1,4	11900			
	94	1120	15,35	1,2	12500			

P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
11,00	279	377	5,20	4,7	9850			
	232	455	6,21	4,2	12700			
	202	520	7,12	3,9	13200			170
	172	610	8,39	3,3	13900			
	155	675	9,29	3,0	14300	2 Stages		
	116	900	12,39	2,4	15100	R97/R97F		
	98	1070	14,62	2,2	15700			
	89	1180	16,17	2,0	16100			190
	71	1470	20,14	1,8	16900			
	58	1830	25,03	1,55	17700			
	52	2010	27,58	1,35	18000	3 Stages	160B5	175
	43	2430	33,25	1,2	18600	R97/R97F		190
	32	3120	42,78	0,95	14500			
	72	1460	20,07	2,9	21800	2 Stages		230
	58	1820	24,90	2,4	23100	R107/R107F		235
	49	2150	29,49	2,0	24000			
	41	2570	35,26	1,65	25000			230
	36	2940	40,37	1,45	25700	3 Stages		
	30	3470	47,63	1,25	26600	R107/R107F		
	27	3840	52,68	1,1	27100			235
	22	4790	65,60	0,9	23700			
15,00	275	520	5,30	1,75	9600			
	229	625	6,39	1,65	10100			170
	178	810	8,22	1,45	10700	2 Stages		
	147	970	9,90	1,25	10700	R87/R87F		
	122	1170	11,93	1,05	11100			175
	95	1510	15,35	0,9	11500			
	279	513	5,20	3,5	9850			
	235	610	6,21	3,1	12400			
	205	700	7,12	2,9	12800			215
	174	820	8,39	2,5	13400		160B5	
	157	910	9,29	2,2	13800	2 Stages		
	118	1220	12,39	1,8	14400	R97/R97F		
	100	1430	14,62	1,6	14900			
	90	1590	16,17	1,5	15200			230
	72	1950	20,14	1,3	15800			
	58	2460	25,03	1,15	16300			
	53	2710	27,58	1,0	16500	3 Stages		215
	44	3256	33,25	0,9	17900	R97/R97F		230
	73	1970	20,07	2,2	20900	2 Stages		270
	59	2440	24,90	1.75	21900	R107/R107F		275

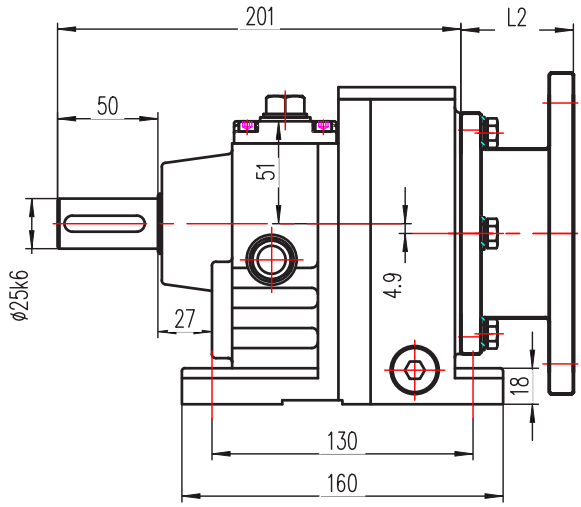
P_m	N_a	M_a	Ratio	S.F.	F_{RA}	Model	PAM IEC	Mass
[kW]	[min^{-1}]	[N.m.]	[-]	[-]	[N]	[-]	[-]	[kg]
4 Poles								
15,00	50	2890	29,49	1,5	22600	3 Stages R107/R107F	160B5	270
	41	3460	35,26	1,25	23400			
	36	3960	40,37	1,1	23900			275
	31	4670	47,63	0,9	24500			
	28	5116	52,68	0,8	26600			
18,50	276	640	5,30	1,4	9350	2 Stages R87/R87F	180B5	190
	229	770	6,39	1,3	9770			
	178	990	8,22	1,15	10300			200
	148	1190	9,90	1,0	10200			
	123	1440	11,93	0,85	10400			
	280	625	5,20	2,8	11600	2 Stages R97/R97F		235
	236	750	6,21	2,5	12100			
	206	860	7,12	2,3	12600			
	175	1010	8,39	2,0	13100			
	158	1120	9,29	1,8	13400			
	118	1490	12,39	1,45	13800			250
	100	1760	14,62	1,3	14200			
	91	1950	16,17	1,25	14500			
	73	2430	20,14	1,05	14900			
	59	2994	25,03	0,9	15900			
	73	2420	20,07	1,8	20100	2 Stages R107/R107F		295
	59	3000	24,90	1,45	20900			300
	50	3560	29,49	1,2	21500	3 Stages R107/R107F		295
	42	4250	35,26	1,0	22000			
	36	4870	40,37	0,9	20200			300
	31	5699	47,63	0,8	25500			
22,00	276	760	5,30	1,2	9110	2 Stages R87/R87F	180B5	205
	229	920	6,39	1,1	9490			
	178	1180	8,22	1,0	9960			215
	148	1420	9,90	0,85	9640			
	282	745	5,20	2,4	11400	2 Stages R97/R97F		245
	236	890	6,21	2,1	11900			
	206	1020	7,12	1,95	12300			
	175	1200	8,39	1,7	12800			
	158	1330	9,29	1,5	13100			
	118	1780	12,39	1,25	13200			265
	100	2100	14,62	1,1	13600			
	91	2320	16,17	1,05	13700			
	73	28902	20,14	0,9	14000			
	59	3561	25,03	0,8	15900			
	73	2880	20,07	1,5	19300	2 Stages R107/R107F		305
	59	3570	24,90	1,2	20000			315
	50	4230	29,49	1,0	20400	3 Stages R107/R107F		305
	42	5060	35,26	0,85	7280			315

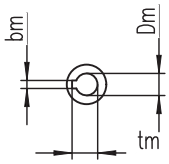
Helical Gear Motor

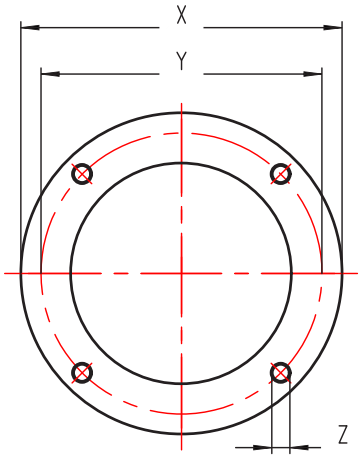
Gearmotor Dimension

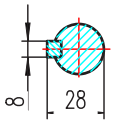


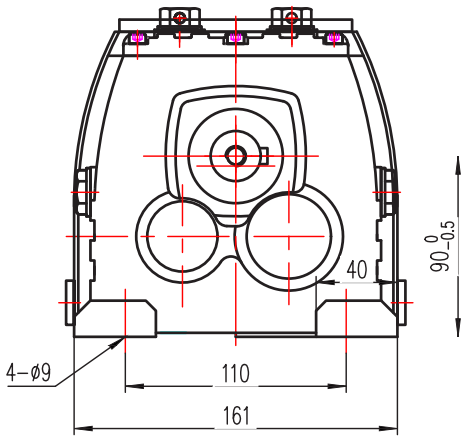
R-37 Dimension



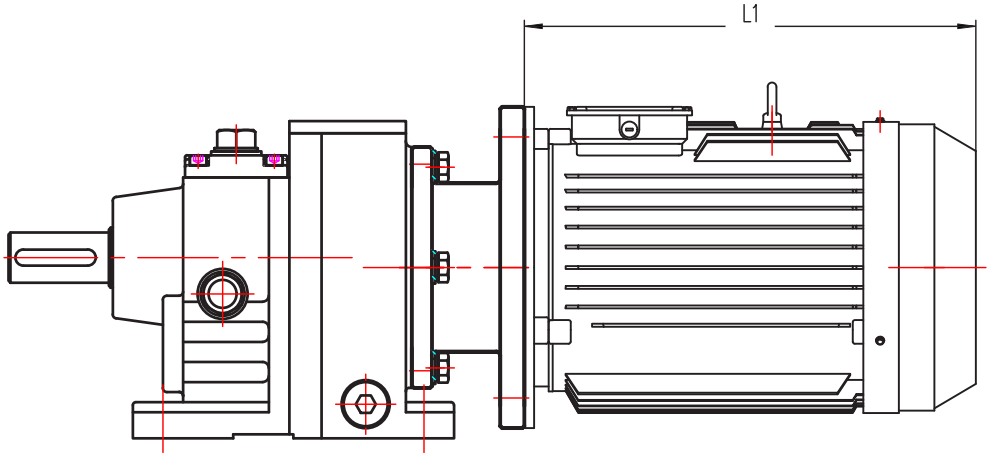




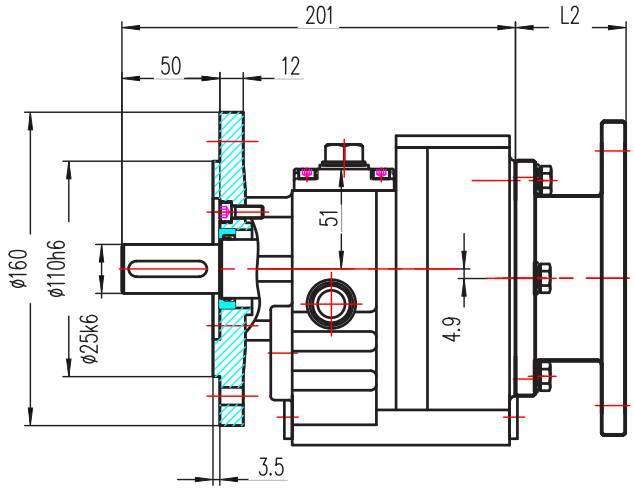


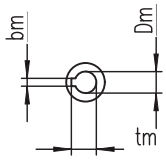


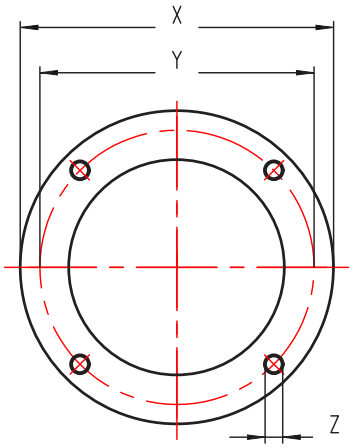
Motor size	71	80	90S	90L
L1	225	255	270	295
L2	54	69	69	69
Dm	14	19	24	24
bm	5	6	8	8
tm	16.3	21.8	27.3	27.3
X	160	200	200	200
Y	130	165	165	165
Z	10	12	12	12

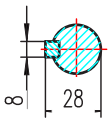


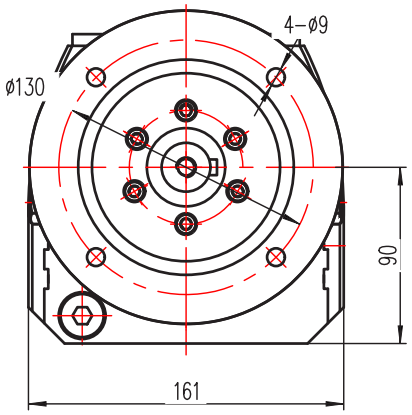
RF-37 Dimension



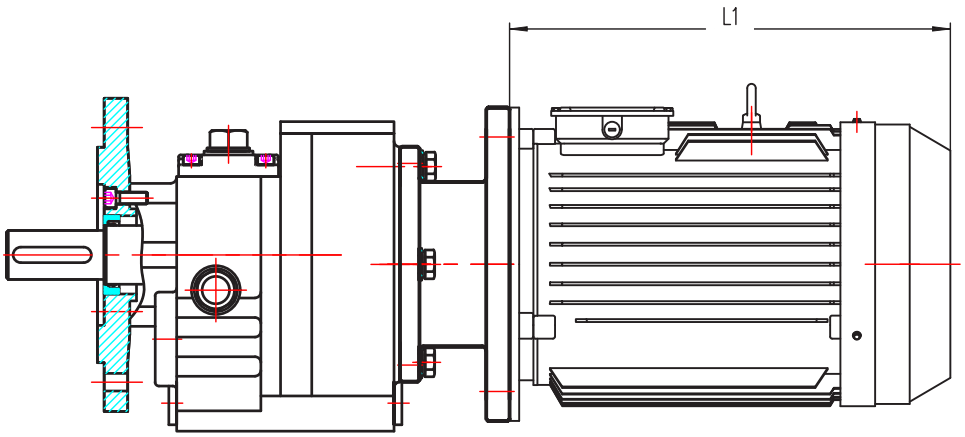




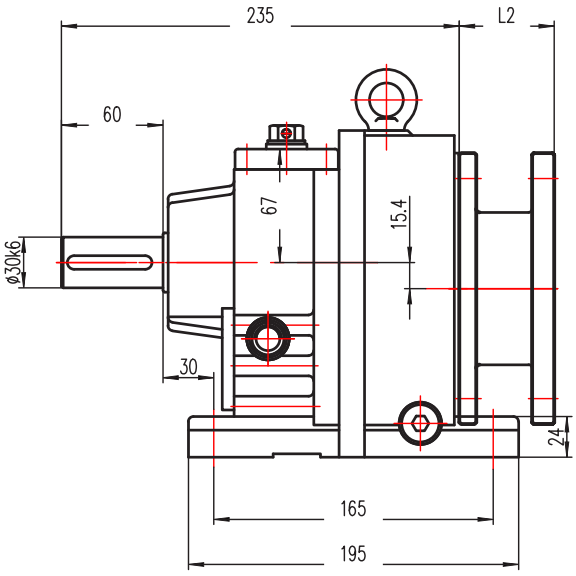


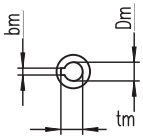


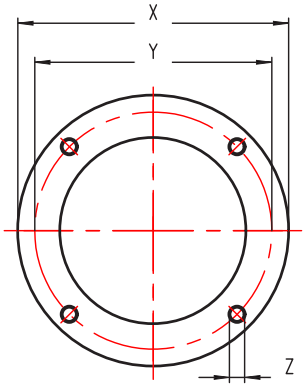
Motor size	71	80	90S	90L
L1	225	255	270	295
L2	54	69	69	69
Dm	14	19	24	24
bm	5	6	8	8
tm	16.3	21.8	27.3	27.3
X	160	200	200	200
Y	130	165	165	165
Z	10	12	12	12

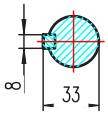


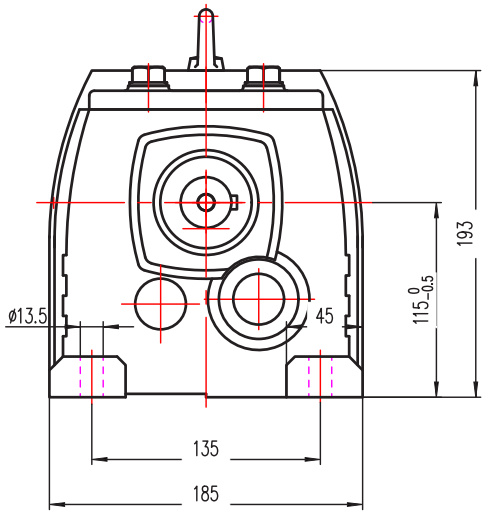
R-47 Dimension



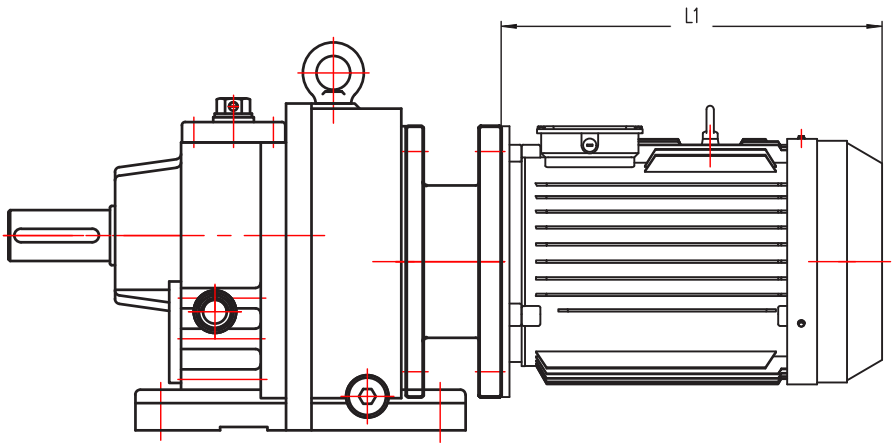




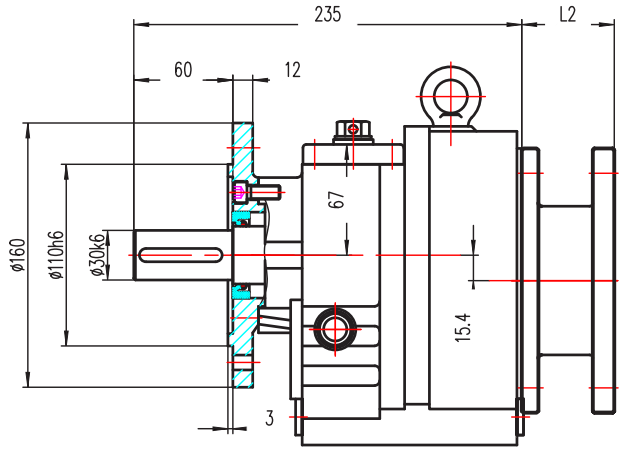


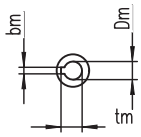


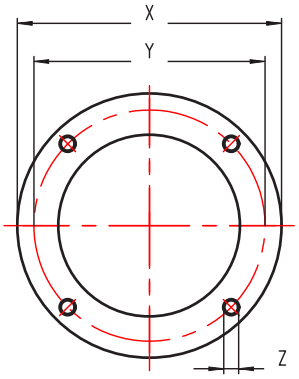
Motor size	71	80	90S	90L	100L	112M
L1	225	255	270	295	325	340
L2	54	69	69	69	81	81
Dm	14	19	24	24	28	28
bm	5	6	8	8	8	8
tm	16.3	21.8	27.3	27.3	31.3	31.3
X	160	200	200	200	250	250
Y	130	165	165	165	215	215
Z	10	12	12	12	15	15

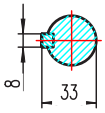


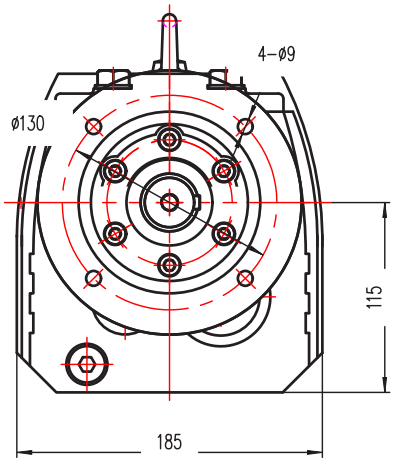
RF-47 Dimension



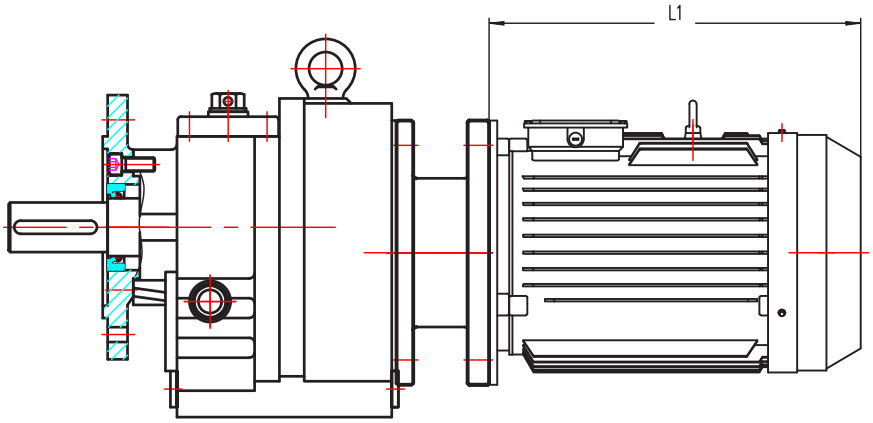




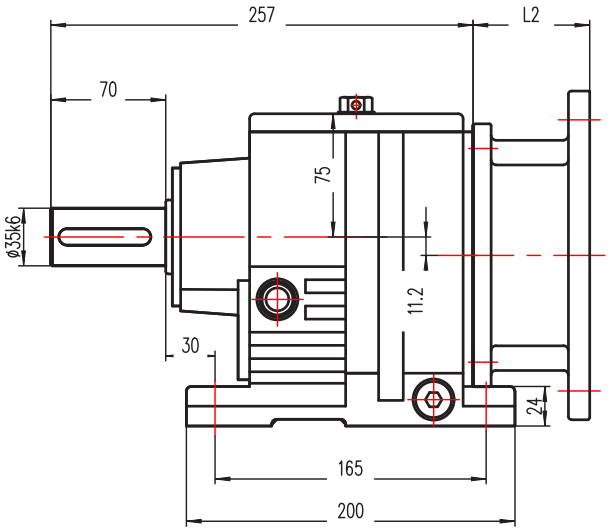


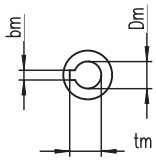


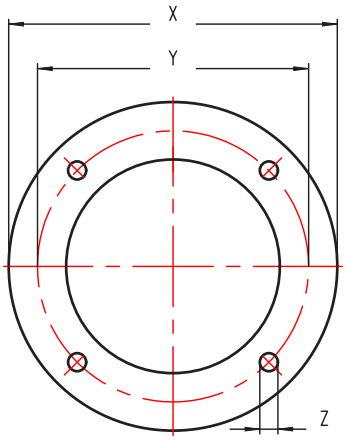
Motor size	71	80	90S	90L	100L	112M
L1	225	255	270	295	325	340
L2	54	69	69	69	81	81
Dm	14	19	24	24	28	28
bm	5	6	8	8	8	8
tm	16.3	21.8	27.3	27.3	31.3	31.3
X	160	200	200	200	250	250
Y	130	165	165	165	215	215
Z	10	12	12	12	15	15

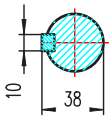


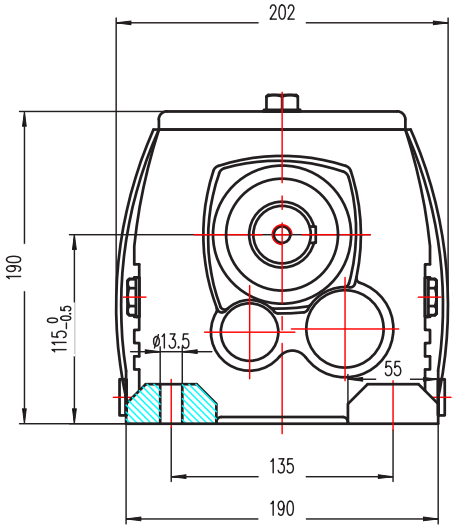
R-57 Dimension



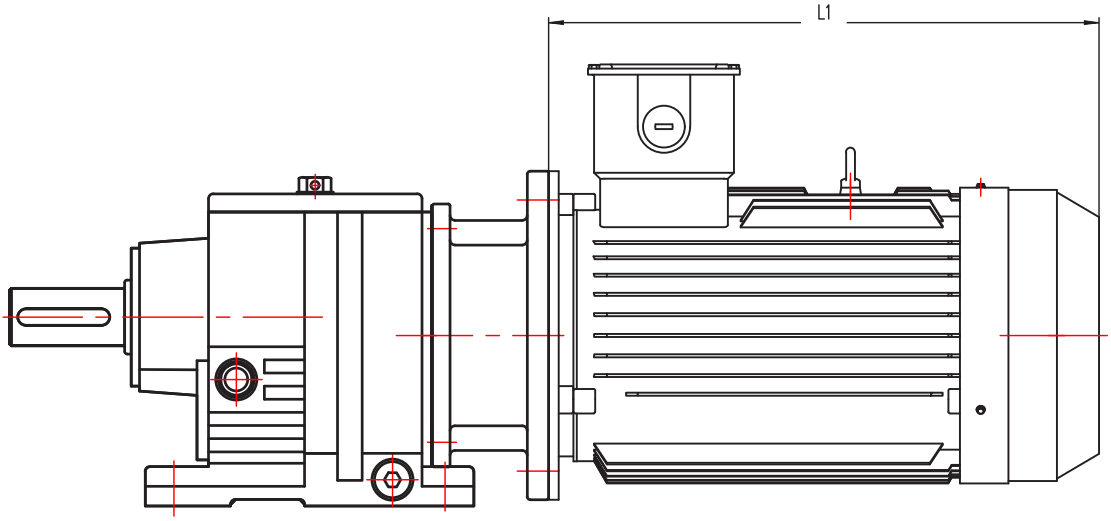




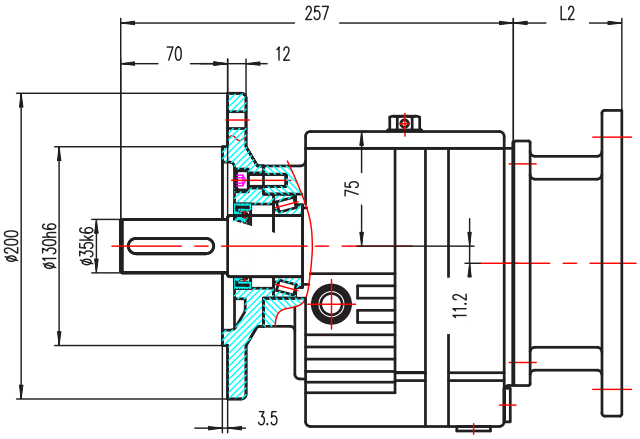


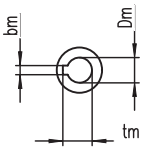


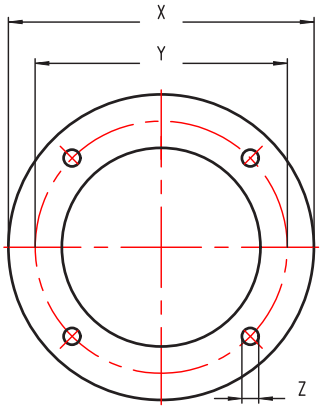
Motor size	80	90S	90L	100L	112M
L1	255	270	295	325	340
L2	69	69	69	81	81
Dm	19	24	24	28	28
bm	6	8	8	8	8
tm	21.8	27.3	27.3	31.3	31.3
X	200	200	200	250	250
Y	165	165	165	215	215
Z	12	12	12	15	15

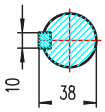


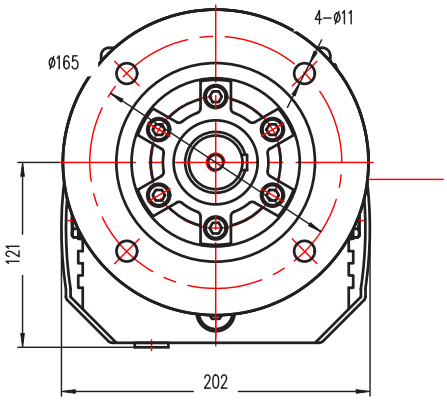
RF-57 Dimension



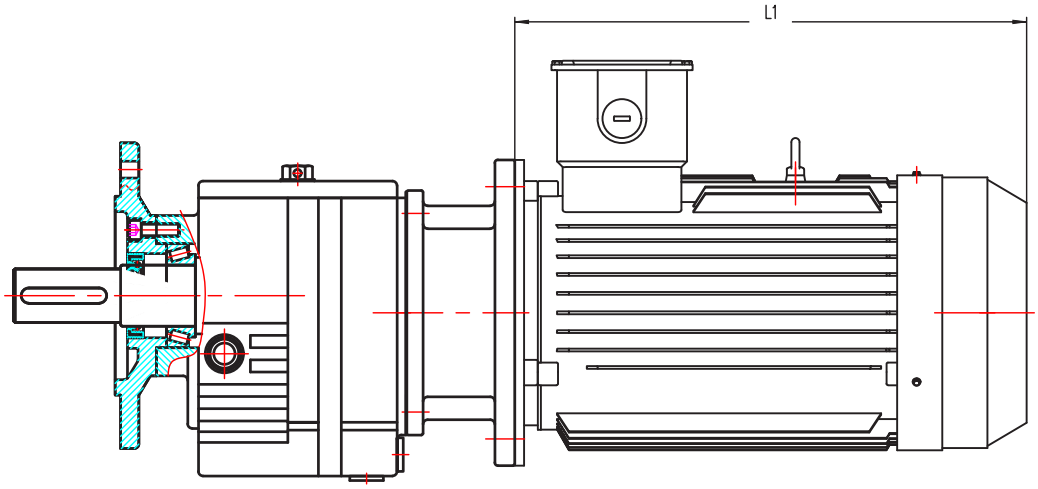




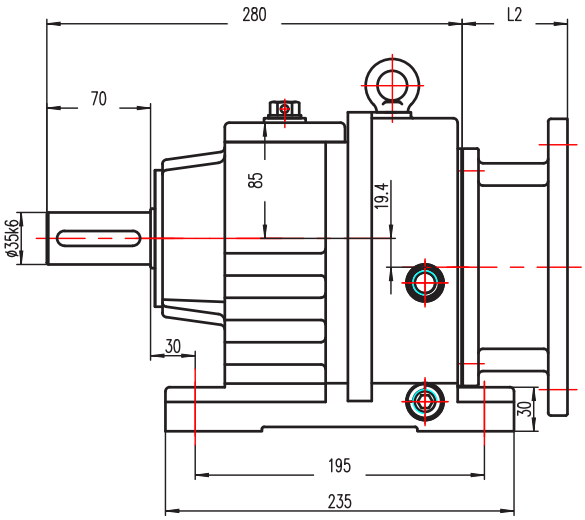


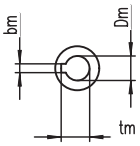


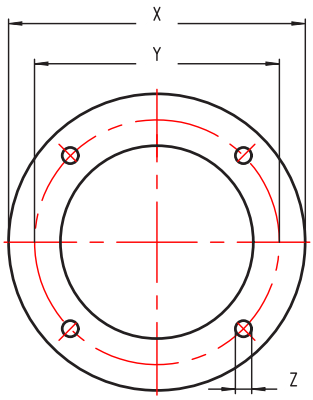
Motor size	80	90S	90L	100L	112M
L1	255	270	295	325	340
L2	69	69	69	81	81
Dm	19	24	24	28	28
bm	6	8	8	8	8
tm	21.8	27.3	27.3	31.3	31.3
X	200	200	200	250	250
Y	165	165	165	215	215
Z	12	12	12	15	15

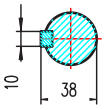


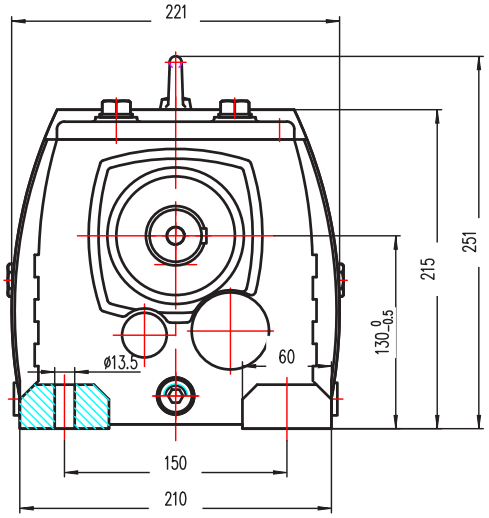
R-67 Dimension



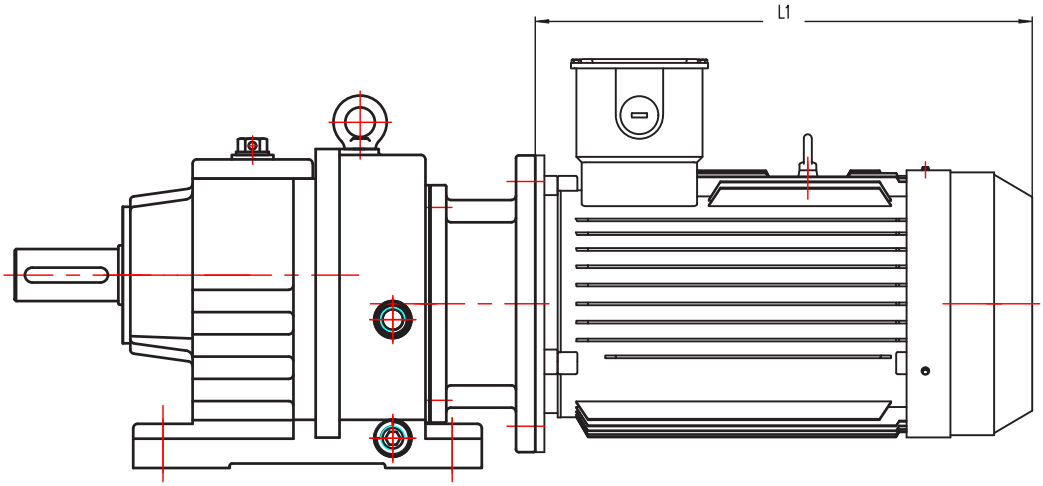






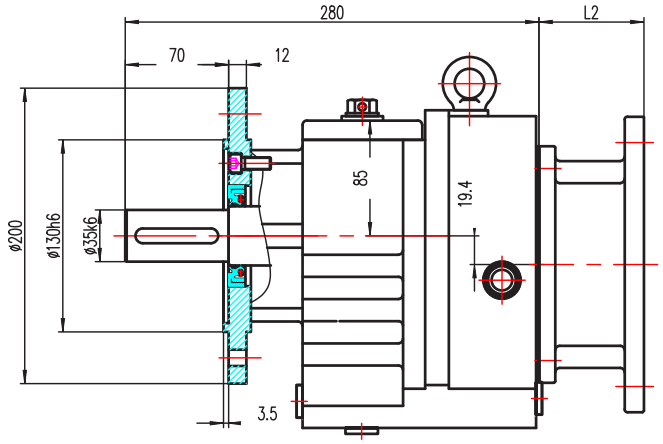


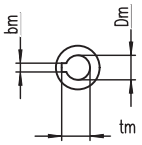
Motor size	80	90S	90L	100L	112M
L1	255	270	295	325	340
L2	69	69	69	81	81
Dm	19	24	24	28	28
bm	6	8	8	8	8
tm	21.8	27.3	27.3	31.3	31.3
X	200	200	200	250	250
Y	165	165	165	215	215
Z	12	12	12	15	15

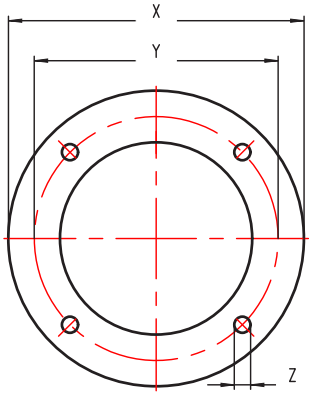


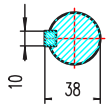
RF-67 Dimension

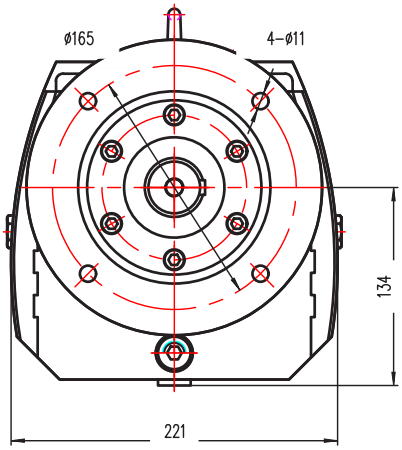
Output Flange Φ200 mm.





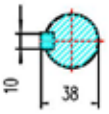


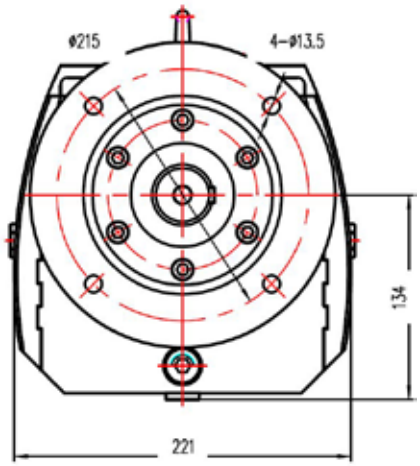


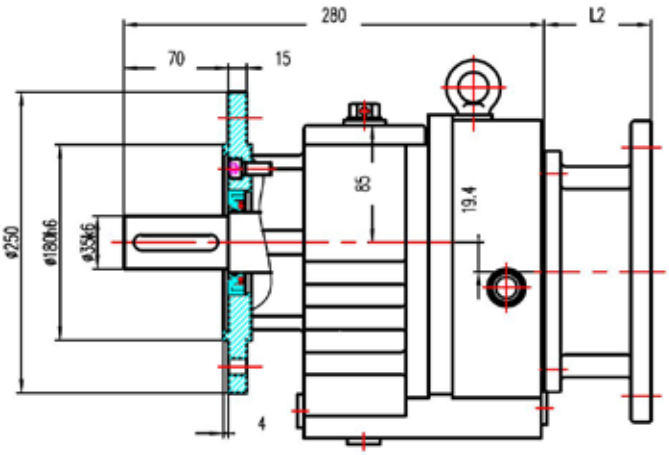


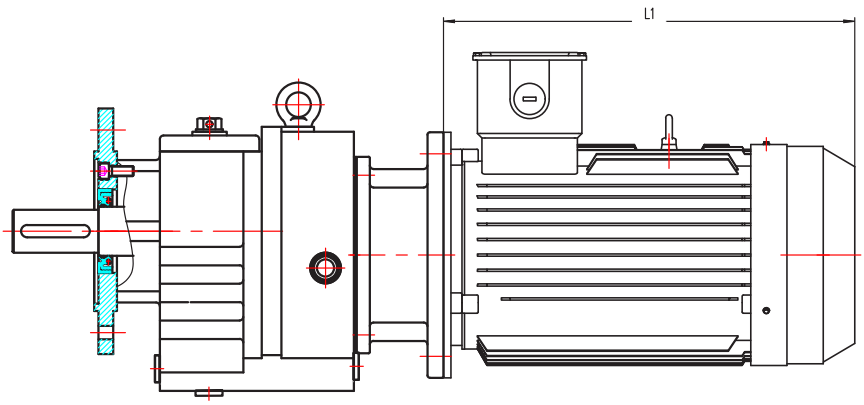
Motor size	80	90S	90L	100L	112M
L1	255	270	295	325	340
L2	69	69	69	81	81
Dm	19	24	24	28	28
bm	6	8	8	8	8
tm	21.8	27.3	27.3	31.3	31.3
X	200	200	200	250	250
Y	165	165	165	215	215
Z	12	12	12	15	15

Output Flange Φ250 mm.

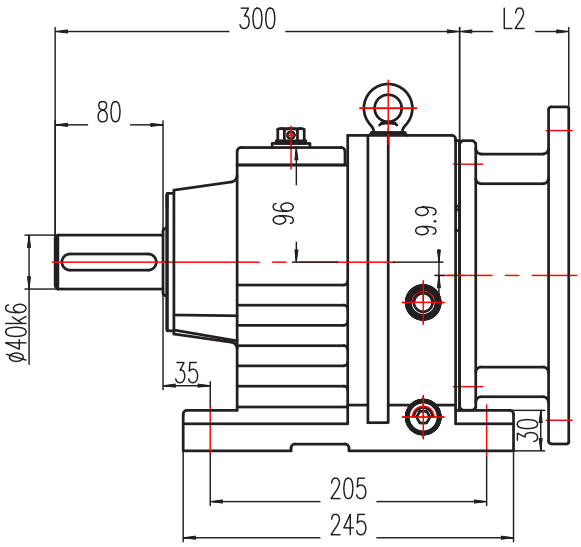


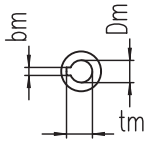


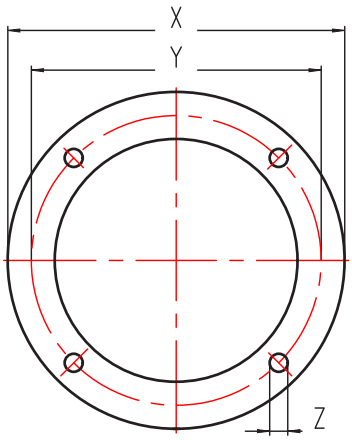


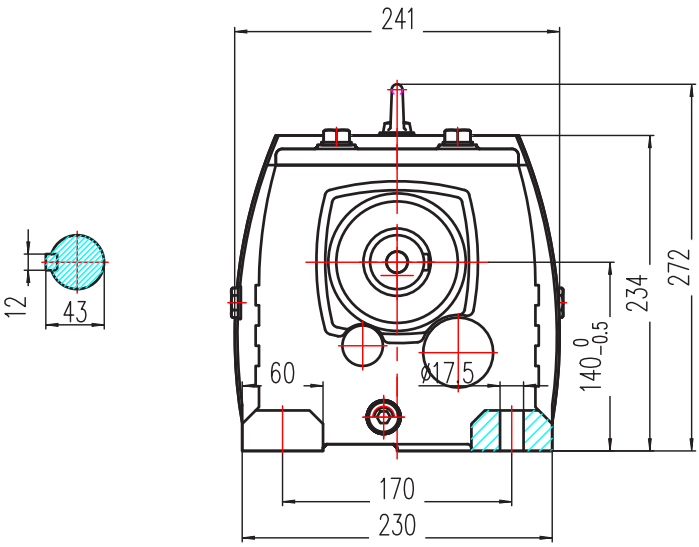


R-77 Dimension

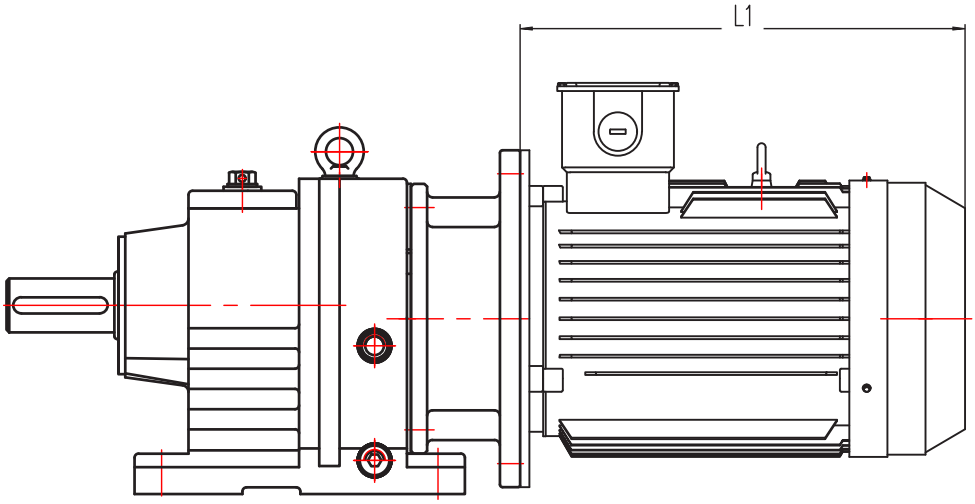




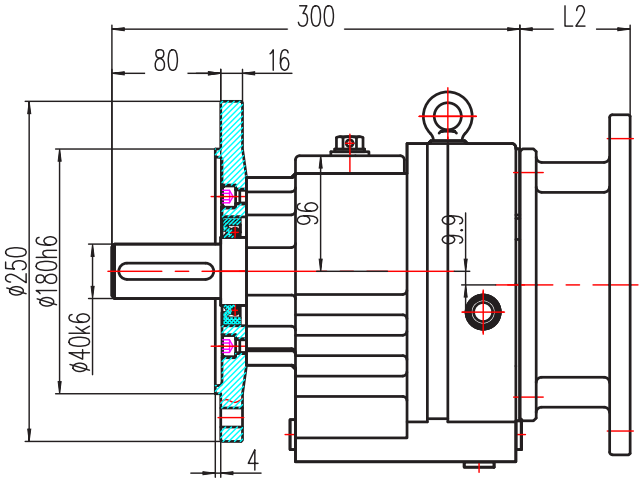


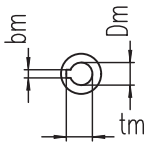


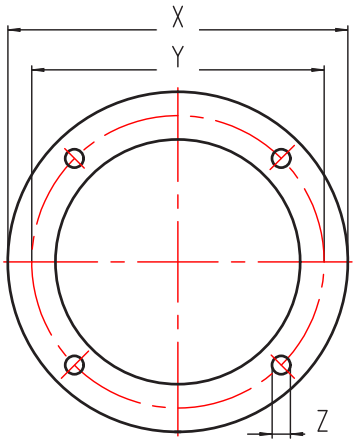
Motor size	90S	90L	100L	112M	132S	132M
L1	270	295	325	340	394	432
L2	69	69	81	81	93	93
Dm	24	24	28	28	38	38
bm	8	8	8	8	10	10
tm	27.3	27.3	31.3	31.3	41.3	41.3
X	200	200	250	250	300	300
Y	165	165	215	215	265	265
Z	12	12	15	15	15	15

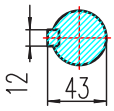


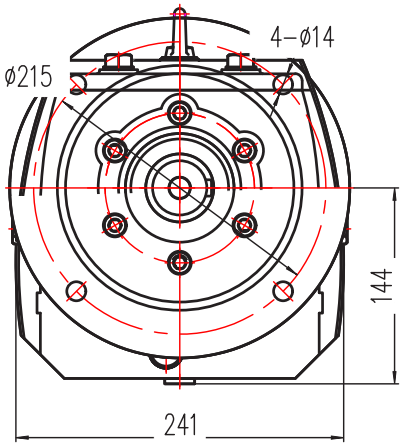
RF-77 Dimension



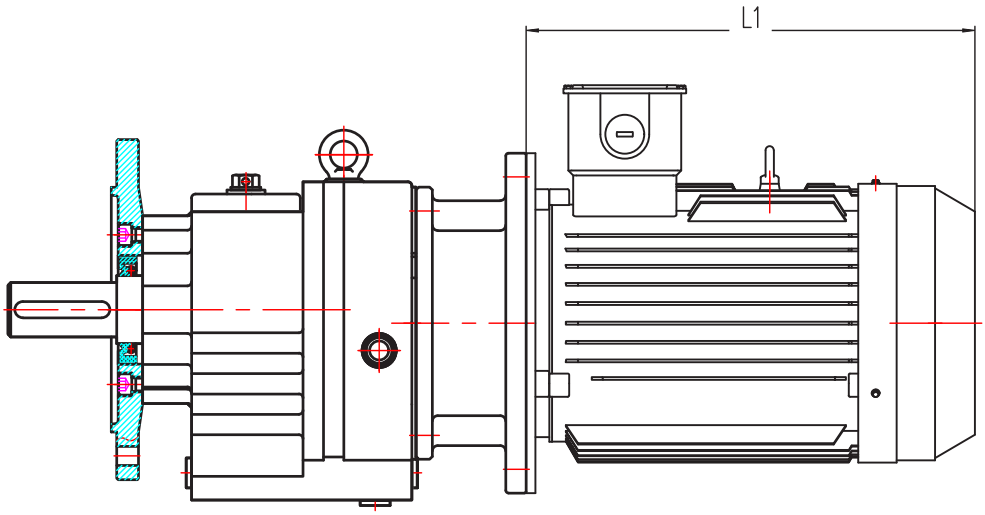




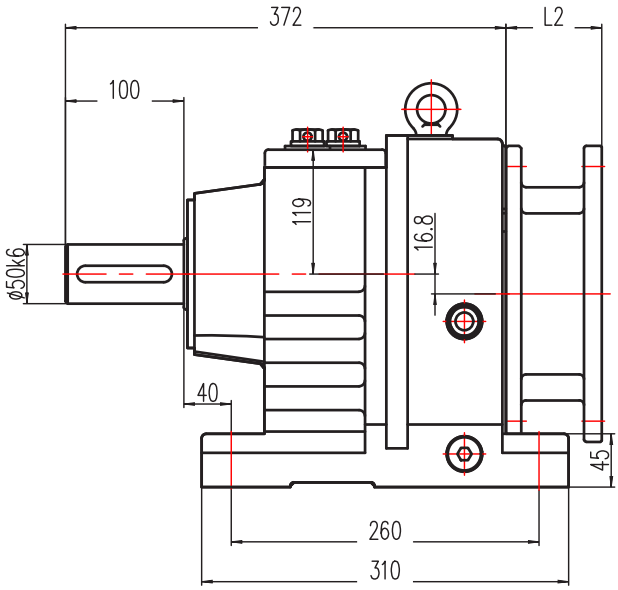


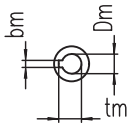


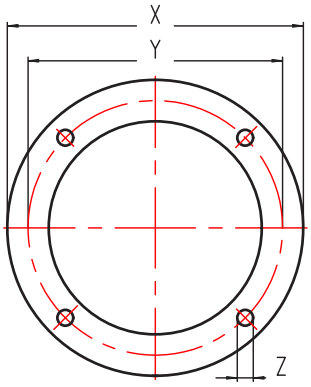
Motor size	90S	90L	100L	112M	132S	132M
L1	270	295	325	340	394	432
L2	69	69	81	81	93	93
Dm	24	24	28	28	38	38
bm	8	8	8	8	10	10
tm	27.3	27.3	31.3	31.3	41.3	41.3
X	200	200	250	250	300	300
Y	165	165	215	215	265	265
Z	12	12	15	15	15	15

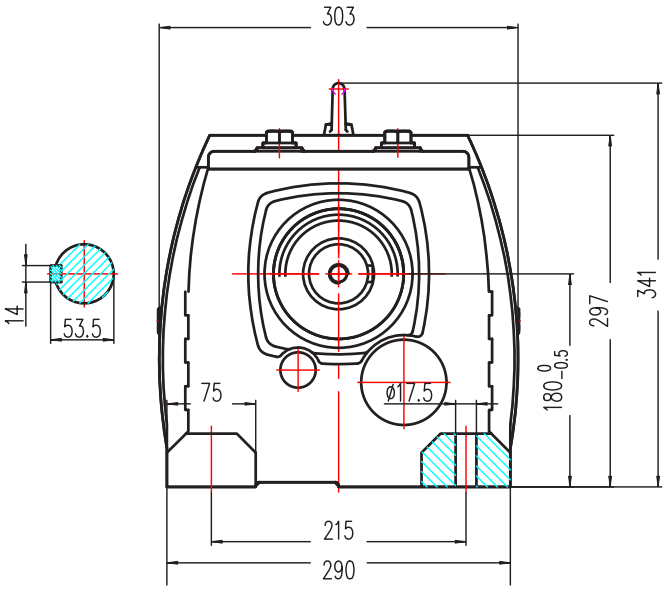


R-87 Dimension

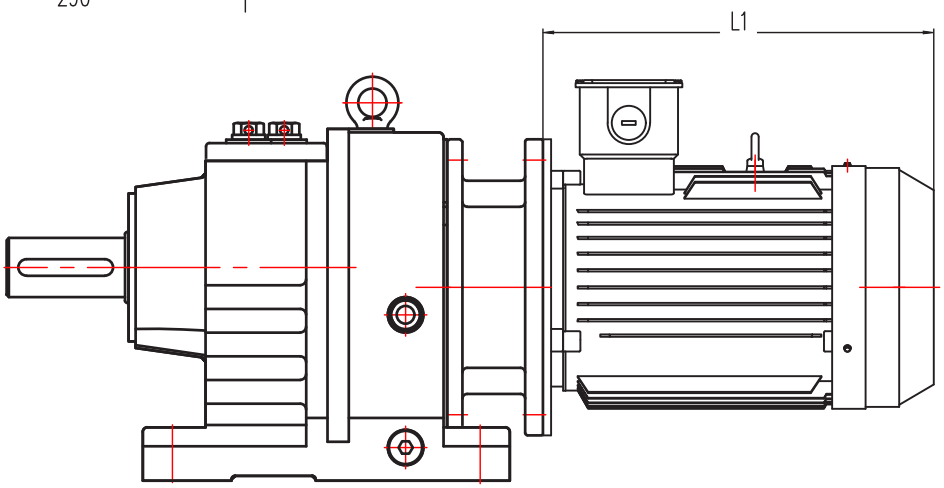




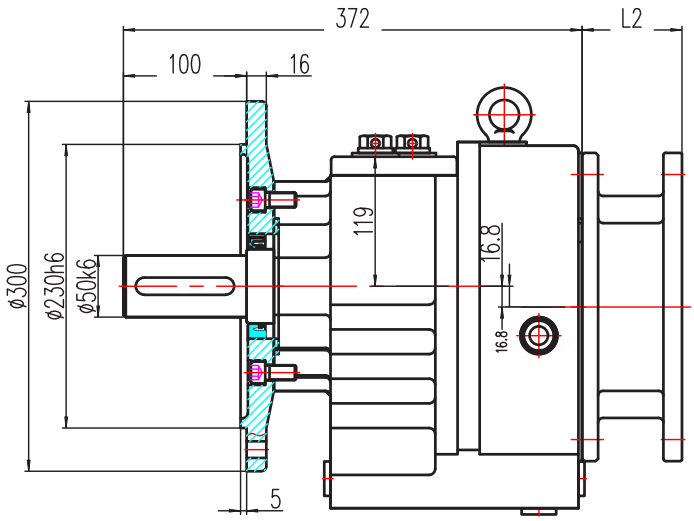


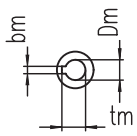


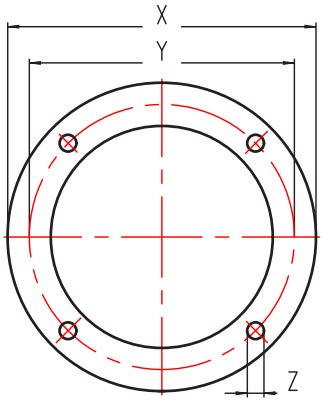
Motor size	90S	90L	100L	112M	132S	132M	160M	160L	180M	180L
L1	270	295	325	340	394	432	504	548	573	611
L2	69	69	81	81	93	93	123	123	123	123
Dm	24	24	28	28	38	38	42	42	48	48
bm	8	8	8	8	10	10	12	12	14	14
tm	27.3	27.3	31.3	31.3	41.3	41.3	45.3	45.3	51.8	51.8
X	200	200	250	250	300	300	350	350	350	350
Y	165	165	215	215	265	265	300	300	300	300
Z	12	12	15	15	15	15	19	19	19	19

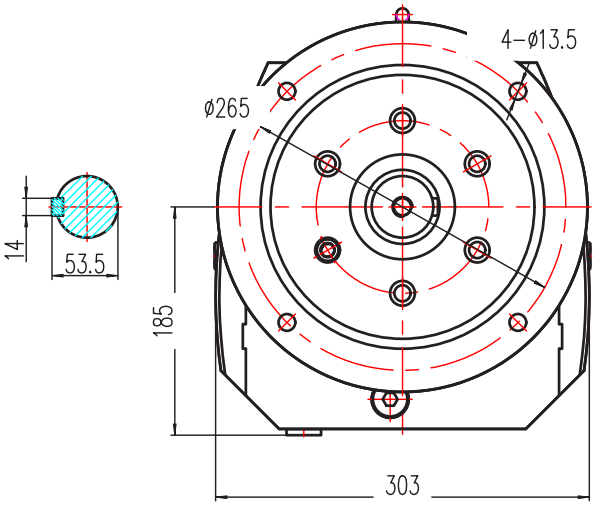


RF-87 Dimension

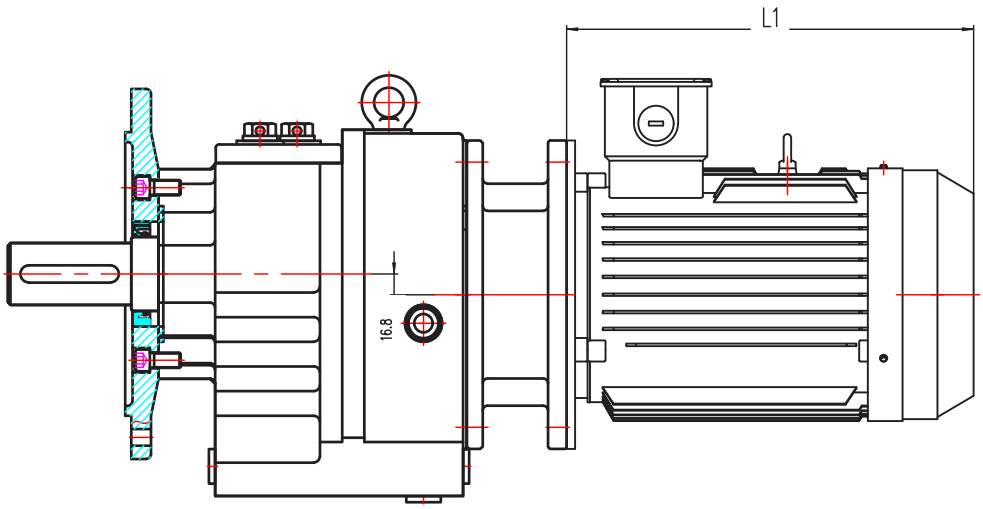




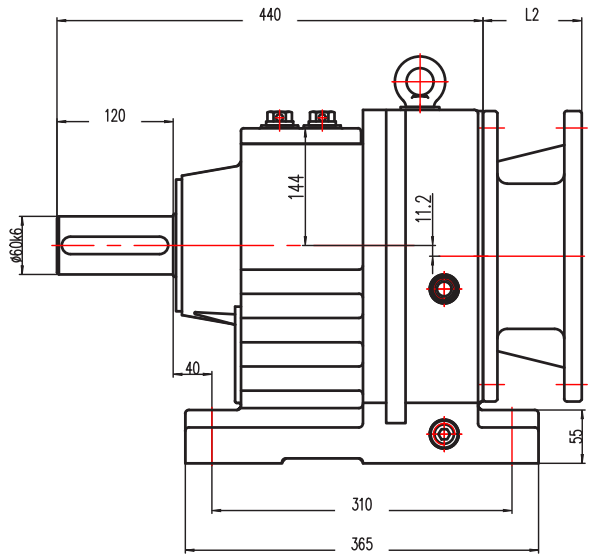


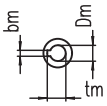


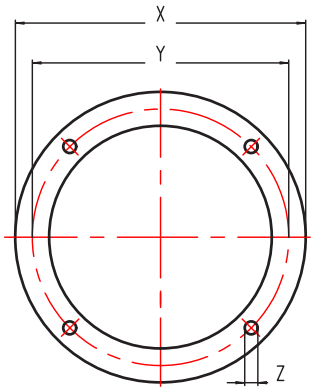
Motor size	90S	90L	100L	112M	132S	132M	160M	160L	180M	180L
L1	270	295	325	340	394	432	504	548	573	611
L2	69	69	81	81	93	93	123	123	123	123
Dm	24	24	28	28	38	38	42	42	48	48
bm	8	8	8	8	10	10	12	12	14	14
tm	27.3	27.3	31.3	31.3	41.3	41.3	45.3	45.3	51.8	51.8
X	200	200	250	250	300	300	350	350	350	350
Y	165	165	215	215	265	265	300	300	300	300
Z	12	12	15	15	15	15	19	19	19	19

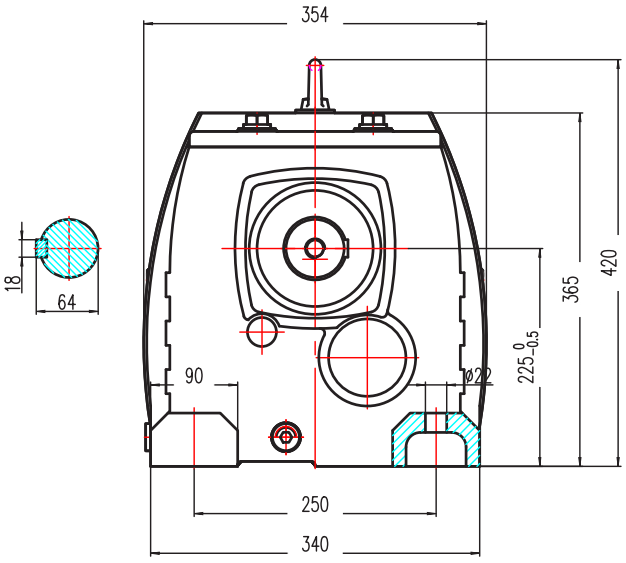


R-97 Dimension

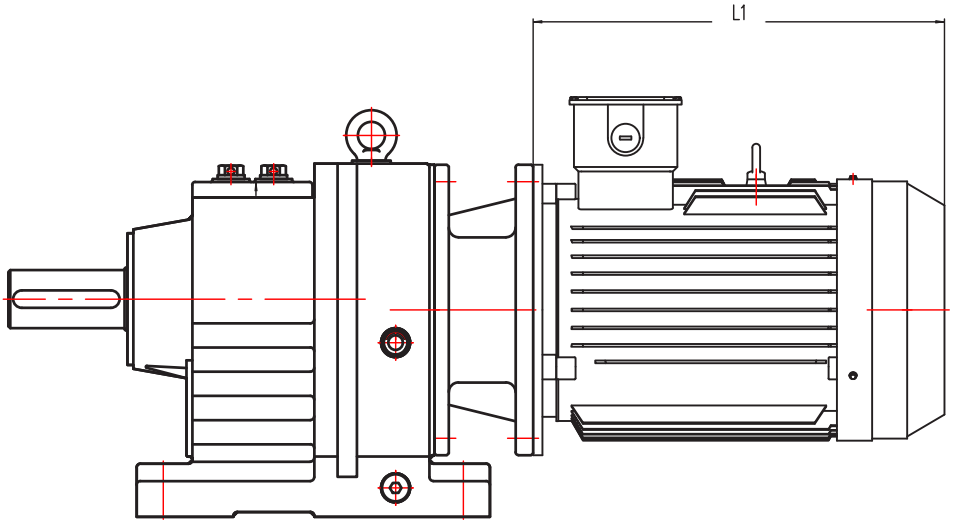




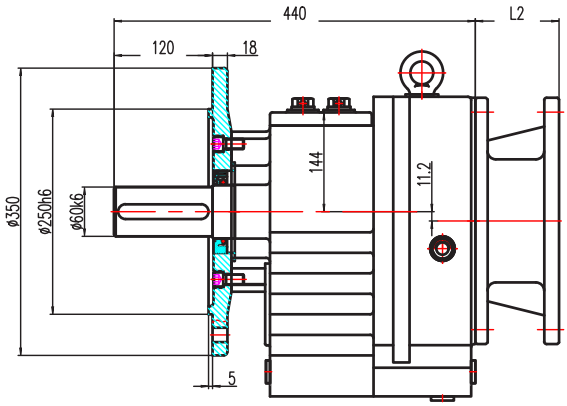


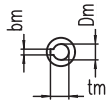


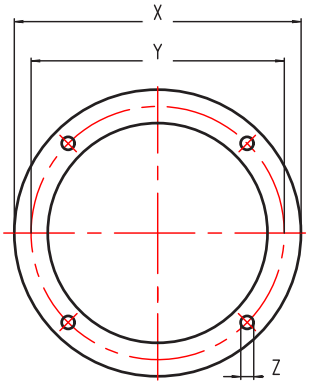
Motor size	100L	112M	132S	132M	160M	160L	180M	180L
L1	325	340	394	432	504	548	573	611
L2	81	81	93	93	123	123	123	123
Dm	28	28	38	38	42	42	48	48
bm	8	8	10	10	12	12	14	14
tm	31.3	31.3	41.3	41.3	45.3	45.3	51.8	51.8
X	250	250	300	300	350	350	350	350
Y	215	215	265	265	300	300	300	300
Z	15	15	15	15	19	19	19	19

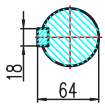


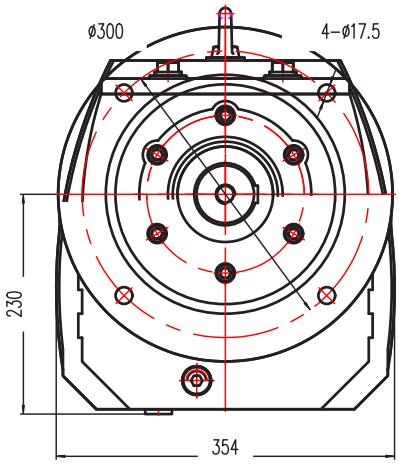
RF-97 Dimension



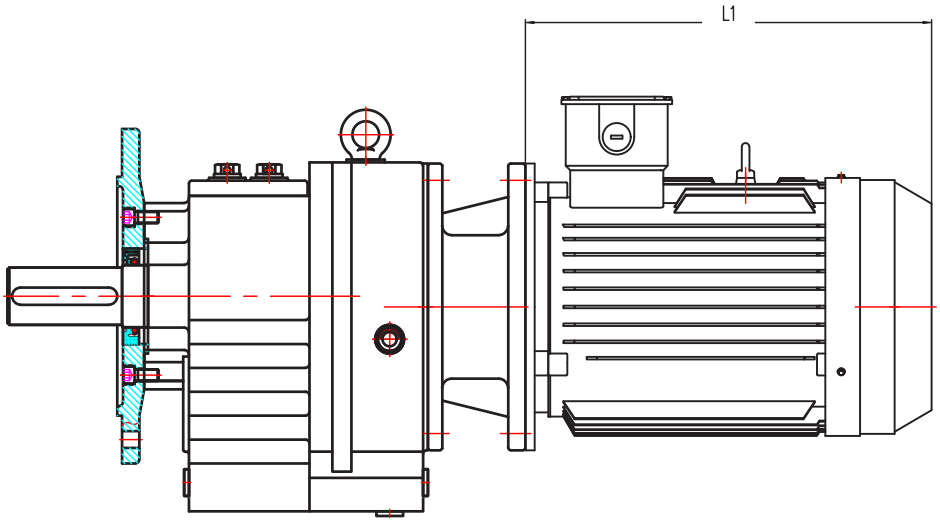




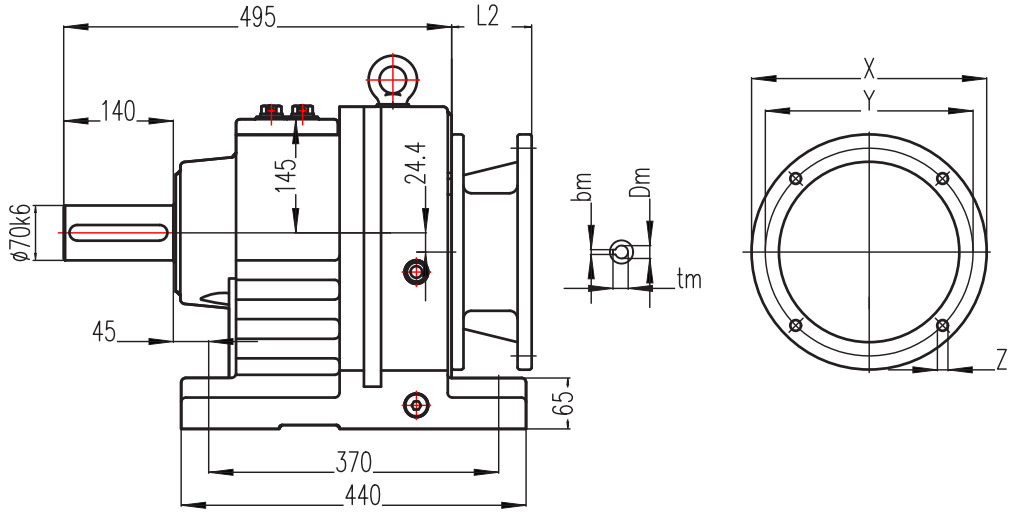


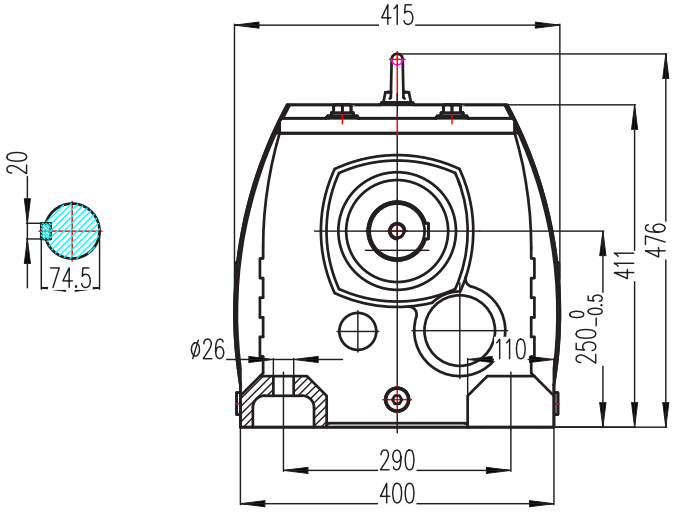


Motor size	100L	112M	132S	132M	160M	160L	180M	180L
L1	325	340	394	432	504	548	573	611
L2	81	81	93	93	123	123	123	123
Dm	28	28	38	38	42	42	48	48
bm	8	8	10	10	12	12	14	14
tm	31.3	31.3	41.3	41.3	45.3	45.3	51.8	51.8
X	250	250	300	300	350	350	350	350
Y	215	215	265	265	300	300	300	300
Z	15	15	15	15	19	19	19	19

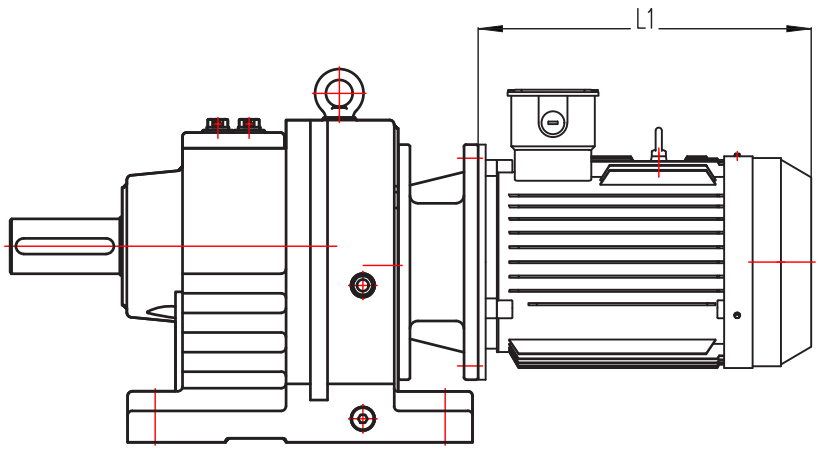


R-107 Dimension

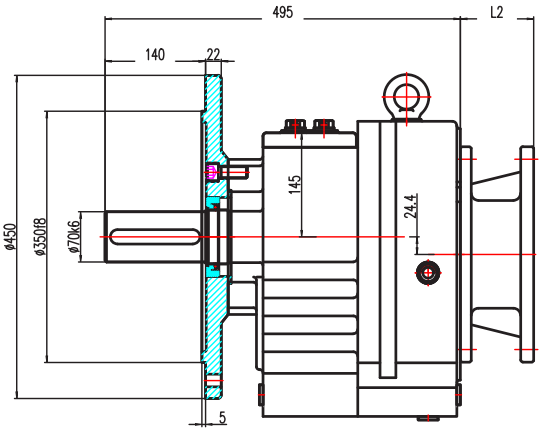


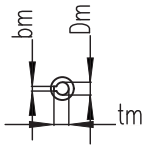


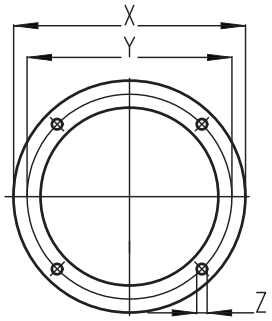
Motor size	132S	132M	160M	160L	180M	180L
L1	394	432	504	548	573	611
L2	93	93	123	123	123	123
Dm	38	38	42	42	48	48
bm	10	10	12	12	14	14
tm	41.3	41.3	45.3	45.3	51.8	51.8
X	300	300	350	350	350	350
Y	265	265	300	300	300	300
Z	15	15	19	19	19	19

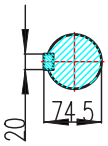


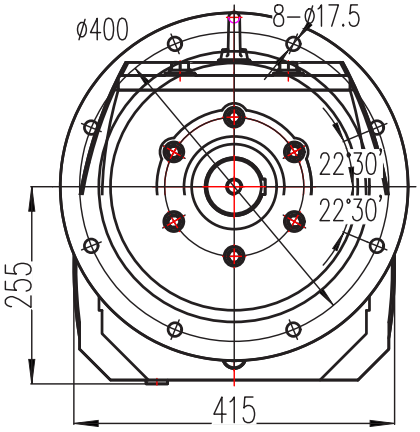
RF-107 Dimension











Motor size	132S	132M	160M	160L	180M	180L
L1	394	432	504	548	573	611
L2	93	93	123	123	123	123
Dm	38	38	42	42	48	48
bm	10	10	12	12	14	14
tm	41.3	41.3	45.3	45.3	51.8	51.8
X	300	300	350	350	350	350
Y	265	265	300	300	300	300
Z	15	15	19	19	19	19