SMC
(주)신명전기



F Parallel Shaft Helical Gear Units

Note!

1. The structure scheme, appearance diagram and other attached diagrams in sample are examples, there is no strict proportion requirement. If you need exact dimension of certain types, please contact our sales dept.. (The unmarked dimension units are mm).
2. Gear unit has been tested before delivered, users should add lubrication oil before running.
3. We can only refer to the marked oil in the mannul. Actual oil filling level should be the same with the mark on oil immersion lens.
4. Lubrication oil viscosity should be selected according to working conditions and ambient temperature.
5. To prevent accidents, all the rotation parts should be added with protective covers according to safety regulation of the nation and region.
6. The solid shaft input structure gear unit is not equipped with any motor.
7. Unless otherwise specified, you will receive the terminal box at 0°.

1. 샘플에 포함된 구조도, 외형도 및 기타 첨부 도면은 예시용이며, 엄격한 비율 기준은 적용되지 않습니다. 특정 모델의 정확한 치수가 필요한 경우 당사 영업부로 문의해 주시기 바랍니다. (별도 표기가 없는 치수 단위는 mm입니다.)
2. 기어 유닛은 출고 전에 시험 운전을 완료하였으며, 사용 전 반드시 윤활유를 주입한 후 운전해야 합니다.
3. 매뉴얼에 표시된 오일만 참고용으로 제공됩니다. 실제 오일 주입량은 오일 레벨 게이지의 표시선과 동일한 수준으로 맞춰야 합니다.
4. 윤활유의 점도는 사용 조건 및 주변 환경 온도에 따라 적절히 선택해야 합니다.
5. 사고 방지를 위해 모든 회전 부위에는 해당 국가 및 지역의 안전 규정에 따라 보호 커버를 설치해야 합니다.
6. 중실축 입력 구조의 기어 유닛에는 모터가 포함되어 있지 않습니다.
7. 별도 지정이 없는 경우, 단자함은 0° 위치로 제공됩니다.

Guidelines for the selection

▫ Gear units are designed under the circumstance of steady load, stated operating time per day and a few starting times.but the practical condition will be not as perfect as the designed circumstance.so we must confirm driven machine factor f1,prime mover factor f2,starting factor f3 according to actual load type, operating time,starting frequency.let it less than or equale to the service factor fb of selection table,viz f1×f2×f3≤fb.the needed torque of service machine multiply the service factor (f1×f2×f3) should less than or equale to gear units' permissible torque.

Viz $T_n \geq T2 \times f1 \times f2 \times f3$

f1 — Driven machine factor(See table 1)
f2 — Prime mover factor(See table 2)
f3 — Start factor(See table 3)
T2— The torque required by driven machine
T_n— Gear unit permissible torque(See page 03)

▫ We accept the orders of products of special specification, and provide our customer with exclusive design service.

▫ Along with the technology advanced etc., the product of the mannul of SMC will be changed, please forgive.

선정 가이드라인

▫ 기어 유닛은 일정한 부하 조건, 규정된 일일 운전 시간 및 적은 기동 횟수를 기준으로 설계되었습니다. 그러나 실제 사용 환경은 설계 조건만큼 이상적이지 않을 수 있으므로, 실제 부하 유형, 운전 시간 및 기동 빈도에 따라 구동 기계 계수 f1, 원동기 계수 f2, 기동 계수 f3를 반드시 확인해야 합니다.
또한 f1 × f2 × f3의 값은 선정표의 서비스 계수 fb 이하이어야 합니다.
즉:
f1×f2×f3≤fb
서비스 기계에 필요한 토크에 서비스 계수(f1 × f2 × f3)를 곱한 값은 기어 유닛의 허용 토크 이하이어야 합니다.
즉:
Tn≥T2×f1×f2×f3

- f1 — 구동 기계 계수 (표 1 참조)
- f2 — 원동기 계수 (표 2 참조)
- f3 — 기동 계수 (표 3 참조)
- T2 — 구동 기계에 필요한 토크
- T_n — 기어 유닛의 허용 토크 (3페이지 참조)

▫ 당사는 특수 사양 제품 주문을 접수하며, 고객 맞춤형 전용 설계 서비스를 제공합니다.
▫ 기술 발전 등에 따라 SMC 매뉴얼에 기재된 제품 내용은 예고 없이 변경될 수 있으니 양해 부탁드립니다.

Service factor:

Table 1 Driven machine factor f1

Driven equipment	Daily operating time with load(hour) ≤ 2	> 2–10	> 10
Sewage treatment			
Concentrator(Central Transmission)	–	–	1.2
Compressed filter	1.0	1.3	1.5
Flocculator	0.8	1.0	1.3
Aerator	–	1.8	2.0
Collector	1.0	1.2	1.3
Vertical,rotary group			
Blended collector	1.0	1.3	1.5
Concentrator	–	1.1	1.3
Screw pump	–	1.3	1.5
Water wheel machine	–	–	2.0
Pump			
Centrifugal pump	1.0	1.2	1.3
Volume–down pump			
1Piston	1.3	1.4	1.8
>1Piston	1.2	1.4	1.5
Dredge			
Bucket conveyor	–	1.6	1.6
Unloading device	–	1.3	1.5
Carterpillar traveling mechanism	1.2	1.6	1.8
Bucket digger			
Be used for picking up	–	1.7	1.7
Be used for rough materials	–	2.2	2.2
Chopper	–	2.2	2.2
Traveling mechanism*	–	1.4	1.8
Plate blender	–	1.0	1.0
Chemical industry			
Extruder	–	–	1.6
Paste mixer	–	1.8	1.8
Rubber calendar	–	1.5	1.5
Cooling cylinder	–	1.3	1.4
Material mixer,be used for			
Uniform medium	1.0	1.3	1.4
Non–uniform medium	1.4	1.6	1.7
Blender,be used for			
Uniform density medium	1.0	1.3	1.5
Un–uniformed medium	1.2	1.4	1.6
Un–uniformed gas absorption	1.4	1.6	1.8
Oven	1.0	1.3	1.5
Centrifugal machine	1.0	1.2	1.3
Metal processing equipment			
Plate turnover	1.0	1.0	1.2
Steel pushing device	1.0	1.2	1.2
Winding machine	–	1.6	1.6
Cooling bed transverse frame	–	1.5	1.5
Roller leveler	–	1.6	1.6
Roller path			
Continuous	–	1.5	1.5
Interval	–	2.0	2.0
Reversing mill	–	1.8	1.8
Cutter			
Continuous*	–	1.5	1.5
Crank type*	1.0	1.0	1.0
Continuous casting driving device	–	1.4	1.4
Rolling mill			
Reversing cogging mill	–	2.5	2.5
Reversing plate slab mill	–	2.5	2.5
Reversing wire mill	–	1.8	1.8
Reversing thin plate mill	–	2.0	2.0
Reversing middle thickness plate mill	–	1.8	1.8
Roll gap adjusting and driving device	0.9	1.0	–

Driven equipment	Daily operating time with load(hour) ≤ 2	> 2–10	> 10
Conveyingmachine			
Bucket conveyor	–	1.4	1.5
Winch	1.4	1.6	1.6
Hoist	–	1.5	1.8
Belt conveyor≤150kW	1.0	1.2	1.3
Belt conveyor≥150kW	1.1	1.3	1.4
Elevators for goods*	–	1.2	1.5
Elevators for customers*	–	1.5	1.8
Scraper conveyor	–	1.2	1.5
Automatic ladder	1.0	1.2	1.4
Rail traveling mechanism	–	1.5	–
Various frequency device	–	1.8	2.0
Reciprocating compressor	–	1.8	1.9
Hoisting mechanism**			
Rotary mechanism*		1.4	1.8
Pitching mechanism		1.1	1.4
Traveling mechanism		1.6	2.0
Lifting mechanism		1.1	1.4
Jibcrane		1.2	1.6
Cooling tower			
Cooling tower fan	–	–	2.0
Fan (Shaft flow and centrifugal type)	–	1.4	1.5
Food industry			
Sugar production			
Sugar–cane cutter*	–	–	1.7
Sugar crane mill			
Beet sugar production	–	–	1.7
Beet masher			
Squeeze machine,	–	–	1.2
mechanical refrigerator,			
cooking machine	–	–	1.4
Beet cleaner			
Beet chopper	–	–	1.5
Paper-making machinery			
Various kinds***	–	1.8	2.0
Pulper driving device	Supply goods according to customer requirements		
Centrifugal compressor	–	1.4	1.5
Rope way cable car			
Delivery ropeway	–	1.3	1.4
Cableway of shuttle system	–	1.6	1.8
T rod elevator	–	1.3	1.4
Continuous cableway	–	1.4	1.6
Cement industry			
Concrete blender	–	1.5	1.5
Crusher*	–	1.2	1.4
Rotary kiln	–	–	2.0
Tube mill	–	–	2.0
Powder concentrator	–	1.6	1.6
Roller press	–	–	2.0

Table 1	Driven machine factor			f1			
Driven equipment	Daily running time with load(hour)			Driven equipment	Daily running time with load(hour)		
	⩽ 2	> 2–10	> 10		⩽ 2	> 2–10	> 10
Wood industry				**Plastics industry**			
Barking machine				Miller, compound grinding			
Feed drive	1.25	1.25	1.50	Coating, film	1.25	1.25	1.25
Main drive	1.75	1.75	1.75	Conveying pipe, Pulling rod, thin type			
Conveyor				Pipe type, Pile drawer	1.25	1.25	1.50
Burner,repeating saw	1.25	1.25	1.50	Continuous mixer, Calender	1.50	1.50	1.50
Rotary tower,transit transport	1.50	1.50	1.50	Blow film, to plasticizing			
Main loading,heavy loading	1.75	1.75	2.00	Batch mixer	1.75	1.75	1.75
Main original wood,land base				**Rubber industry**			
Conveying chain	1.50	1.50	1.50	Continuous strong inner mixer,Mix roller,			
Floor	1.50	1.50	1.75	Batch feeding mixer (except for double sticks)	1.50	1.50	1.50
Green–wood				Refiner, calender			
Cutting Chain	1.50	1.50	1.75	Double roller clamp feeding and mixed miller	1.25	1.25	1.50
Saw transmission,traction	1.75	1.75	2.00	Batch strong inner mixer,			
Peeling barrel				Double stick single groove grain stick	1.75	1.75	1.75
Feed drive				Miller heater, double sticks			
Edging,wood trimmer	1.25	1.25	1.50	Batch feeding mixer			
Planer feed,assorting table,				Wave stick miller	2.00	2.00	2.00
Automatic incline lifting	1.75	1.75	1.75	**Generator and exciter**	1.00	1.00	1.25
Multi–shaft feed,raw wood				**Hammer crusher**	1.75	1.75	2.00
Transportation and rotation				**Sand miller**	1.25	1.25	1.50
Transportation							
Charging tray							
Plywood lathe drive	1.50	1.50	1.75				
Conveying chain,Lifting							

⚠ Note: Determine required power P_2 of the driven equipment:

*)Determine rated power according to maximum torque.

**)It's necessary to check thermal capacity.

Prime mover factor

Table 2 Factor for prime mover	f2
Electric motors,hydraulic motors,turbines	1.0
Piston engines 4–6 cylinders	1.25
Piston engines 1–3 cylinders	1.5

Table 3 Start factor				f3
f3 / f1xf2 / Starts per hour	1	1.25 –1.75	2– 2.75	⩾3
⩽5	1	1	1	1
6–25	1.2	1.12	1.06	1
26–60	1.3	1.2	1.12	1.06
61–180	1.5	1.3	1.2	1.12
>180	1.7	1.5	1.3	1.2



F series gear units are available in the following designs:



F..Y..

Foot-mounted solid shaft parallel shaft gear units



FA..Y..

Hollow shaft helical parallel shaft helical gear units



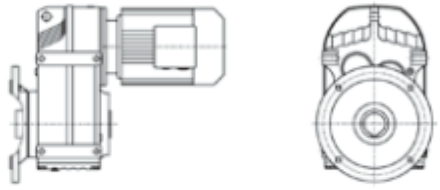
FAZ..Y..

Short-flange-mounted hollow shaft parallel shaft helical gear units



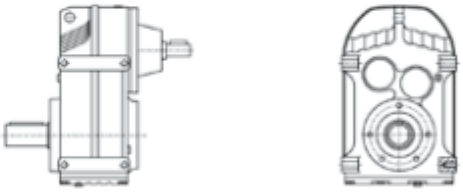
FF..Y..

Flange-mounted solid shaft parallel shaft helical gear units



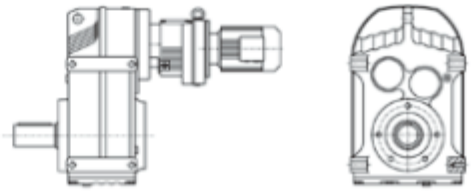
FAF Y

Flanged-mounted hollow shaft parallel shaft helical gear units



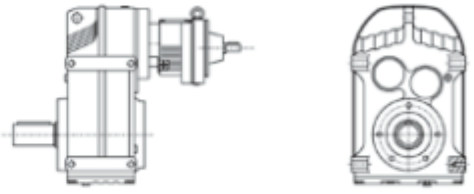
F (FF, FA, FAF, FAZ) S...

Parallel shaft helical gear units with solid shaft input



F (FF, FA, FAF, FAZ) ...R...Y...

Combi-type parallel shaft helical gear units



F (FF, FA, FAF, FAZ) S...R...

Combi-type parallel shaft helical gear units with solid shaft input

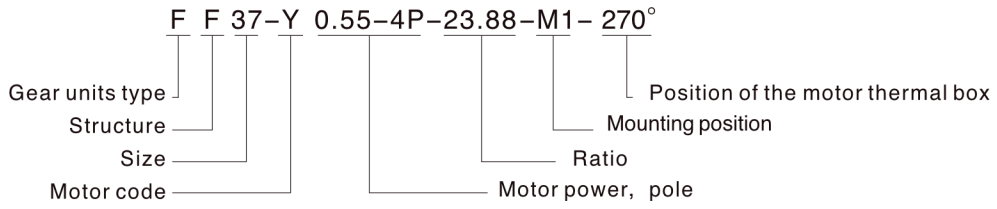


F (FF, FA, FAF, FAZ) ...Y...

Customers provide the motor by themselves need connected flange.

F

Type Designations:



Gear units type:
Parallel shaft helical gear units

Structure:

Foot-mounted solid shaft	(–)
Hollow shaft	A
Flange-mounted solid shaft	F
Flange-mounted hollow shaft	AF
Short-flange-mounted hollow shaft	AZ
Foot-mounted solid shaft with solid shaft input	S
Hollow shaft with solid shaft input	AS
Flange-mounted solid shaft with solid shaft input	FS
Flange-mounted hollow shaft with solid shaft input	AFS
*Hollow shaft with shrink disc	H..(H,HF,HZ,HT)

Size:
(see selection table)

Motor code:

Common motor	Y(Y2)
Flameproof motor	B
Direct current motor	Z
Brake motor	YEJ
Multi-speed motor	D
Variable frequency motor	YVP
Electromagnetic variable speed motor	YCT
Metallurgy hoisting motor	R
Transduction braking motor	YVPJ
Roller way	G

Motor power, pole :
See selection table

Ratio:
See selection table

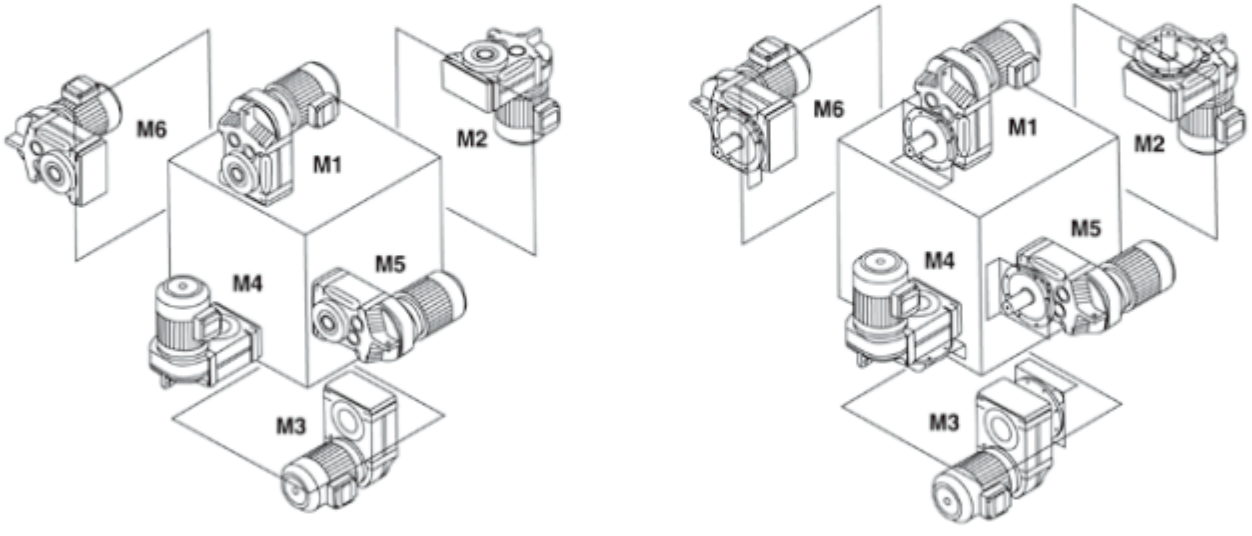
Mounting position:
M1, M2, M3, M4, M5, M6(See page 03)

Position of the motor thermal box:
0°, 90°, 180°, 270°(See page 03)

*Dimensions of hollow shaft with shrink disc, see page 34-35.

F

Mounting positions



Positions of motor terminal box



0° 90° 180° 270°

F

Input power rating and permissible torque

Size	37	47	57	67	77	87	97	107	127	157
Structure	F FA FF FAF FAZ									
Input power rating(kW)	0.18~3	0.18~3	0.18~5.5	0.18~5.5	0.37~11	0.75~22	1.1~30	2.2~45	7.5~90	11~200
Ratio	3.81~ 128.51	5.06~ 189.39	5.18~ 199.70	4.21~ 228.99	4.30~ 281.71	4.12~ 270.68	4.68~ 280.76	6.20~ 254.40	4.63~ 172.17	11.92~ 267.43
(n.m) Permissible torque	200	400	600	820	1500	3000	4300	7840	12000	18000

Gear unit weight

Size	37	47	57	67	77	87	97	107	127	157
(kgs) Weight	13	18	34	55	90	150	260	402	700	950

The marked weight is average value, it has no constraint force.

Oil

F...:

Size	Oil level (L)					
	M1	M2	M3	M4	M5	M6
F37	1	1.2	0.7	1.2	1	1.1
F47	1.5	1.8	1.1	1.9	1.5	1.7
F57	2.6	3.7	2.1	3.5	2.8	2.9
F67	2.7	3.8	1.9	3.8	2.9	3.2
F77	5	7.3	4.3	8	6	6.3
F87	10	13.0	7.7	13.8	10.8	11
F97	18.5	22.5	12.6	25.2	18.5	20
F107	24.5	32	19.5	37.5	27	27
F127	40.5	55	34	61	46.5	47
F157	69	104	63	105	86	78

FF...:

Size	Oil level (L)					
	M1	M2	M3	M4	M5	M6
FF37	1	1.2	0.7	1.3	1	1.1
FF47	1.6	1.9	1.1	1.9	1.5	1.7
FF57	2.8	3.8	2.1	3.7	2.9	3
FF67	2.7	3.8	1.9	3.8	2.9	3.2
FF77	5.1	7.3	4.3	8.1	6	6.3
FF87	10.3	13.2	7.8	14.1	11	11.2
FF97	19	22.5	12.6	25.5	18.9	20.5
FF107	25.5	32	19.5	38.5	27.5	28
FF127	41.5	56	34	63	46.5	49
FF157	72	105	64	106	87	79

FA.., FAF.., FAZ...:

Size	Oil level (L)					
	M1	M2	M3	M4	M5	M6
F..37	1	1.2	0.7	1.2	1	1.1
F..47	1.5	1.8	1.1	1.9	1.5	1.7
F..57	2.7	3.8	2.1	3.6	2.9	3
F..67	2.7	3.8	1.9	3.8	2.9	3.2
F..77	5	7.3	4.3	8	6	6.3
F..87	10	13.0	7.7	13.8	10.8	11
F..97	18.5	22.5	12.6	25.0	18.5	20
F..107	24.5	32	19.5	37.5	27	27
F..127	39	55	34	61	45	46.5
F..157	68	103	62	104	85	77

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.18kW					
0.11	14324	13014	0.79	FA 127R77	4
0.12	12930	11748	0.87	FAF127R77	4
0.14	11305	10271	1.00	F 127R77	4
0.16	9797	8901	1.15	FF 127R77	4
0.18	8478	7703	1.33		
0.21	7449	6768	1.51		
0.16	9408	8548	0.78		
0.18	8448	7675	0.87		
0.21	7281	6615	1.01		
0.24	6406	5820	1.15	FA 107R77	4
0.27	5749	5223	1.28	FAF107R77	4
0.30	5027	4567	1.47	F 107R77	4
0.39	3875	3521	1.90	FF 107R77	4
0.46	3343	3037	2.2		
0.50	3033	2756	2.4		
0.59	2607	2369	2.8		
0.67	2276	2068	3.2		
0.32	4815	4375	0.84		
0.35	4343	3946	0.9		
0.41	3743	3401	1.1		
0.47	3246	2949	1.2	FA 97R57	4
0.54	2851	2590	1.4	FAF97R57	4
0.61	2495	2267	1.6	F 97R57	4
0.70	2189	1989	1.8	FF 97R57	4
0.80	1914	1739	2.1		
0.90	1697	1542	2.4		
1.0	1475	1340	2.7		
1.2	1301	1182	3.1		
0.48	3171	2881	0.9		
0.54	2834	2575	1.0		
0.63	2420	2199	1.2		
0.72	2124	1930	1.3	FA 87R57	4
0.81	1881	1709	1.5	FAF87R57	4
0.93	1643	1493	1.7	F 87R57	4
1.1	1431	1300	2.0	FF 87R57	4
1.2	1264	1148	2.2		
1.4	1112	1010	2.5		
1.6	976	887	2.9		
1.8	859	780	3.3		
0.8	1902	1728	0.7		
0.9	1698	1543	0.8		
1.0	1490	1354	0.9	FA 77R37	4
1.2	1316	1196	1.1	FAF77R37	4
1.3	1156	1050	1.2	F 77R37	4
1.5	998	907	1.4	FF 77R37	4
1.7	892	810	1.6		
2.0	781	710	1.8		
2.3	660	600	2.1		
1.6	944	858	0.82		
1.9	812	738	0.95		
2.2	689	626	1.12		
2.4	630	572	1.22		
2.8	550	500	1.40		
2.8	547	497	1.41		
3.1	500	454	1.54	FA 67R37	4
3.3	470	427	1.64	FAF67R37	4
3.5	431	392	1.79	F 67R37	4
3.8	403	366	1.91	FF 67R37	4
4.2	367	333	2.1		
4.7	327	297	2.4		
5.3	287	261	2.7		
5.8	262	238	2.9		
7.0	220	200	3.5		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.18kW					
2.5	616	560	0.92		
2.7	558	507	1.01		
3.1	499	453	1.13		
3.3	469	426	1.20	FA 57R37	4
3.6	426	387	1.32	FAF57R37	4
4.2	363	330	1.55	F 57R37	4
4.7	328	298	1.72	FF 57R37	4
5.3	288	262	1.96		
6.2	249	226	2.3		
7.0	220	200	2.6		
4.1	371	337	1.01		
4.6	331	301	1.13		
4.7	322	293	1.17		
4.9	314	285	1.20	FA 47R17	4
6.0	253	230	1.49	FAF47R17	4
6.1	250	227	1.50	F 47R17	4
6.4	238	216	1.58	FF 47R17	4
7.4	207	188	1.82		
7.9	194	176	1.94		
8.2	187	170	1.00	FA 37R17	4
8.3	185	168	1.02	FAF37R17	4
10	146	133	1.28	F 37R17	4
11	142	129	1.32	FF 37R17	4
3.0	536	281.71	2.6	FA 77	6
3.2	500	262.93	2.8	FAF77	6
3.8	429	225.79	3.3	F 77	6
				FF 77	6
3.7	435	228.99	1.77	FA 67	6
4.4	371	195.39	2.1	FAF67	6
5.0	325	170.85	2.4	F 67	6
				FF 67	6
6.1	266	228.99	2.9	FA 67	4
7.1	227	195.39	3.4	FAF67	4
8.1	199	170.85	3.9	F 67	4
				FF 67	4
4.3	380	199.70	1.49		
4.6	349	183.60	1.62	FA 57	6
5.4	299	157.09	1.89	FAF57	6
6.2	259	136.16	2.2	F 57	6
6.7	242	127.27	2.3	FF 57	6
7.7	209	110.01	2.7		
7.0	232	199.70	2.4	FA 57	4
7.6	213	183.60	2.6	FAF57	4
8.8	183	157.09	3.1	F 57	4
10	158	136.16	3.6	FF 57	4
11	148	127.27	3.8		
4.5	360	189.39	1.0	FA 47	6
4.9	331	174.13	1.1	FAF47	6
5.7	283	148.98	1.3	F 47	6
6.6	245	129.14	1.5	FF 47	6
7.0	229	120.70	2.5		
7.3	220	189.39	1.71	FA 47	4
8.0	202	174.13	1.86	FAF47	4
9.3	173	148.98	2.2	F 47	4
11	150	129.14	2.5	FF 47	4
12	140	120.70	2.7		

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.18kW					
7.2	224	117.88	0.84	FA 37	6
8.5	191	100.36	0.99	FAF37	6
9.8	164	86.53	1.14	F 37	6
11	153	80.65	1.23	FF 37	6
12	134	70.50	1.40		
11	149	128.51	1.26		
12	137	117.88	1.37		
14	117	100.36	1.61		
16	101	86.53	1.87		
17	94	80.65	2.0		
20	82	70.50	2.3		
21	77	66.09	2.4		
24	68	58.32	2.8		
25	63	54.54	3.0		
27	60	51.70	3.1		
30	55	47.02	3.4		
32	51	43.83	3.7		
36	45	38.31	4.2		
39	42	35.91	4.5	FA 37	4
44	37	31.69	5.1	FAF37	4
49	33	28.09	5.8	F 37	4
58	28	23.88	6.8	FF 37	4
59	27	23.63	6.8		
68	24	20.57	7.9		
72	22	19.27	8.4		
82	20	17.03	9.5		
88	18	15.81	10.2		
97	17	14.33	11		
108	15	12.87	13		
125	13	11.08	14		
133	12	10.42	14		
155	10	8.97	16		
185	8.7	7.51	16		
204	7.9	6.81	17		
227	7.1	6.11	18		
264	6.1	5.27	19		
281	5.8	4.95	20		
326	5.0	4.26	21		
0.25kW					
0.16	13607	8901	0.83		
0.18	11775	7703	0.96	FA 127R77	4
0.21	10346	6768	1.09	FAF127R77	4
0.23	9131	5973	1.24	F 127R77	4
0.27	7760	5076	1.45	FF 127R77	4
0.31	6827	4466	1.7		
0.24	8897	5820	0.83		
0.27	7984	5223	0.92		
0.30	6982	4567	1.06		
0.40	5262	3442	1.40	FA 107R77	4
0.46	4643	3037	1.59	FAF107R77	4
0.50	4213	2756	1.75	F 107R77	4
0.59	3621	2369	2.0	FF 107R77	4
0.67	3161	2068	2.3		
0.87	2441	1597	3.0		
0.99	2142	1401	3.4		
0.47	4508	2949	0.90		
0.54	3959	2590	1.02		
0.61	3466	2267	1.17	FA 97R57	4
0.63	3362	2199	1.20	FAF97R57	4
0.80	2658	1739	1.52	F 97R57	4
0.90	2357	1542	1.71	FF 97R57	4
1.0	2032	1329	2.0		
1.2	1807	1182	2.2		
1.3	1578	1032	2.6		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.25kW					
0.72	2950	1930	1.0		
0.81	2613	1709	1.1		
0.93	2282	1493	1.2		
1.1	1987	1300	1.4	FA 87R57	4
1.2	1755	1148	1.6	FAF87R57	4
1.4	1544	1010	1.8	F 87R57	4
1.6	1356	887	2.1	FF 87R57	4
1.8	1192	780	2.4		
2.1	1030	674	2.7		
1.3	1605	1050	0.88		
1.5	1387	907	1.02		
1.7	1238	810	1.14	FA 77R37	4
2.0	1085	710	1.30	FAF77R37	4
2.3	917	600	1.54	F 77R37	4
2.6	803	525	1.76	FF 77R37	4
3.0	717	469	1.97		
3.4	630	412	2.2		
2.2	980	641	0.79		
2.4	874	572	0.88		
2.7	778	509	0.99		
2.8	764	500	1.01	FA 67R37	4
3.1	694	454	1.11	FAF67R37	4
3.2	668	437	1.15	F 67R37	4
3.5	599	392	1.29	FF 67R37	4
4.2	509	333	1.51		
4.7	454	297	1.70		
5.3	399	261	1.93		
5.8	364	238	2.1		
3.6	592	387	0.95		
4.2	504	330	0.97		
5.6	381	249	1.11		
3.6	584	382	1.12	FA 57R37	4
4.2	505	330	1.21	FAF57R37	4
4.7	456	298	1.24	F 57R37	4
5.3	401	262	1.48	FF 57R37	4
6.2	345	226	1.63		
7.0	306	200	1.84		
8.4	254	166	2.2		
6.0	352	230	1.07		
6.1	347	227	1.08		
6.4	330	216	1.14		
7.2	294	192	1.28	FA 47R17	4
7.4	287	188	1.31	FAF47R17	4
7.9	269	176	1.40	F 47R17	4
8.0	264	173	1.42	FF 47R17	4
9.4	226	148	1.66		
11	199	130	1.89		
10	203	133	0.92	FA 37R17	4
11	197	129	0.95	FAF37R17	4
12	180	118	1.04	F 37R17	4
14	150	98	1.25	FF 37R17	4
16	133	87	1.41		
3.0	744	281.71	1.9	FA 77	6
3.2	694	262.93	2.0	FAF77	6
3.8	596	225.79	2.4	F 77	6
4.3	524	198.31	2.7	FF 77	6
4.5	497	188.40	2.8		

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.25kW					
3.7	605	228.99	1.3	FA 67	6
4.4	516	195.39	1.5	FAF67	6
5.0	451	170.85	1.7	F 67	6
5.2	429	162.31	1.8	FF 67	6
6.0	376	142.40	2.1		
6.1	370	228.99	2.1	FA 67	4
7.1	315	195.39	2.4	FAF67	4
8.1	276	170.85	2.8	F 67	4
8.6	262	162.31	2.9	FF 67	4
9.8	230	142.40	3.4		
4.3	527	199.70	1.07		
4.6	485	183.60	1.16	FA 57	6
5.4	415	157.09	1.4	FAF57	6
6.2	360	136.16	1.6	F 57	6
6.7	336	127.27	1.7	FF 57	6
7.7	290	110.01	1.9		
7.0	322	199.70	1.7		
7.6	296	183.60	1.9	FA 57	4
8.8	254	157.09	2.2	FAF57	4
10	220	136.16	2.6	F 57	4
11	205	127.27	2.7	FF 57	4
13	178	110.01	3.2		
5.7	393	148.98	1.0	FA 47	6
6.6	341	129.14	1.1	FAF47	6
7.0	319	120.70	1.2	F 47	6
8.1	275	104.33	1.4	FF 47	6
7.3	306	189.39	1.2		
8.0	281	174.13	1.3	FA 47	4
9.3	241	148.98	1.6	FAF47	4
11	209	129.14	1.8	F 47	4
12	195	120.70	1.9	FF 47	4
13	168	104.33	2.2		
16	143	88.65	2.6		
11	207	128.51	0.9		
12	190	117.88	1.0		
14	162	100.36	1.2		
16	140	86.53	1.3		
17	130	80.65	1.4		
20	114	70.50	1.7		
21	107	66.09	1.8		
24	94	58.32	2.0		
25	88	54.54	2.1		
27	83	51.70	2.3		
30	76	47.02	2.5		
32	71	43.83	2.7		
36	62	38.31	3.0	FA 37	4
39	58	35.91	3.2	FAF37	4
44	51	31.69	3.7	F 37	4
49	45	28.09	4.1	FF 37	4
58	39	23.88	4.9		
59	38	23.63	4.9		
68	33	20.57	5.7		
72	31	19.27	6.0		
82	27	17.03	6.8		
88	26	15.81	7.4		
97	23	14.33	8.1		
108	21	12.87	9.0		
125	18	11.08	10		
133	17	10.42	10		
155	14	8.97	11		
185	12	7.51	11		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.25kW					
204	11	6.81	12	FA 37	4
227	10	6.11	13	FAF37	4
264	8.5	5.27	14	F 37	4
281	8.0	4.95	14	FF 37	4
326	6.9	4.26	15		
0.37kW					
0.21	15312	6768	0.74		
0.23	13514	5973	0.83	FA 127R77	4
0.27	11484	5076	0.98	FAF127R77	4
0.31	10104	4466	1.12	F 127R77	4
0.36	8751	3868	1.29	FF 127R77	4
0.41	7699	3403	1.47		
0.47	6758	2987	1.67		
0.46	6871	3037	1.07	FA 107R77	4
0.50	6235	2756	1.16	FAF107R77	4
0.59	5360	2369	1.35	F 107R77	4
0.67	4679	2068	1.54	FF 107R77	4
0.87	3613	1597	2.0		
0.61	5129	2267	0.79		
0.70	4505	1991	0.90		
0.80	3934	1739	1.03	FA 97R57	4
0.90	3489	1542	1.16	FAF97R57	4
1.0	3032	1340	1.3	F 97R57	4
1.2	2674	1182	1.5	FF 97R57	4
1.3	2335	1032	1.7		
1.5	2052	907	2.0		
1.1	2941	1300	1.0		
1.2	2597	1148	1.1		
1.4	2285	1010	1.2	FA 87R57	4
1.6	2007	887	1.4	FAF87R57	4
1.8	1765	780	1.6	F 87R57	4
2.1	1525	674	1.8	FF 87R57	4
2.3	1378	609	2.0		
2.7	1165	515	2.4		
3.1	1023	452	2.8		
1.7	1833	810	0.77		
2.0	1606	710	0.88		
2.3	1357	600	1.04	FA 77R37	4
2.6	1188	525	1.19	FAF77R37	4
3.0	1061	469	1.33	F 77R37	4
3.4	932	412	1.51	FF 77R37	4
3.9	808	357	1.75		
4.4	710	314	1.98		
3.3	966	427	0.80		
3.8	828	366	0.93	FA 67R37	4
4.3	731	323	1.05	FAF67R37	4
4.8	656	290	1.17	F 67R37	4
5.4	581	257	1.33	FF 67R37	4
6.3	498	220	1.55		
5.3	593	262	0.95		
5.6	563	249	1.00		
6.2	511	226	1.10	FA 57R37	4
7.0	452	200	1.25	FAF57R37	4
7.1	446	197	1.27	F 57R37	4
7.7	410	181	1.38	FF 57R37	4
8.4	376	166	1.50		
9.1	344	152	1.64		
10	303	134	1.86		

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.37kW					
8.0	391	173	0.96	FA 47R17	4
9.5	330	146	1.14	FAF47R17	4
11	292	129	1.29	F 47R17	4
				FF 47R17	4
2.4	1400	271.92	2.0	FA 87	8
2.5	1313	254.93	2.1	FAF87	8
2.8	1177	228.57	2.4	F 87	8
3.3	1014	196.85	2.8	FF 87	8
3.1	1063	271.92	2.7	FA 87	6
3.3	996	254.93	2.8	FAF87	6
3.7	893	228.57	3.2	F 87	6
				FF 87	6
3.8	882	225.79	1.6	FA 77	6
4.3	775	198.31	1.8	FAF77	6
4.5	736	188.40	1.9	F 77	6
5.1	651	166.47	2.2	FF 77	6
6.0	556	142.27	2.5		
4.9	673	281.71	2.1	FA 77	4
5.3	628	262.93	2.2	FAF77	4
6.2	540	225.79	2.6	F 77	4
7.0	474	198.31	3.0	FF 77	4
4.4	764	195.39	1.01	FA 67	6
5.0	668	170.85	1.15	FAF67	6
5.2	634	162.31	1.22	F 67	6
6.0	556	142.40	1.4	FF 67	6
7.0	472	120.79	1.6		
6.1	547	228.99	1.41		
7.1	467	195.39	1.65	FA 67	4
8.1	408	170.85	1.89	FAF67	4
8.6	388	162.31	1.99	F 67	4
9.8	340	142.40	2.3	FF 67	4
12	289	120.79	2.7		
5.4	614	157.09	0.92	FA 57	6
6.2	532	136.16	1.06	FAF57	6
6.7	497	127.27	1.13	F 57	6
7.7	430	110.01	1.31	FF 57	6
7.0	477	199.70	1.18		
7.6	439	183.60	1.29		
8.8	375	157.09	1.50	FA 57	4
10	325	136.16	1.73	FAF57	4
11	304	127.27	1.85	F 57	4
13	263	110.01	2.1	FF 57	4
15	223	93.47	2.5		
17	199	83.46	2.8		
9	356	148.98	1.06		
11	309	129.14	1.22	FA 47	4
13	249	104.33	1.51	FAF47	4
16	212	88.65	1.77	F 47	4
18	189	79.15	2.0	FF 47	4
21	162	67.61	2.3		
21	155	64.89	2.4		
16	207	86.53	0.91		
17	193	80.65	0.98		
20	168	70.50	1.12	FA 37	4
21	158	66.09	1.19	FAF37	4
24	139	58.32	1.35	F 37	4
25	130	54.54	1.44	FF 37	4
27	124	51.70	1.52		
30	112	47.02	1.67		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.37kW					
32	105	43.83	1.80		
36	92	38.31	2.1		
39	86	35.91	2.2		
44	76	31.69	2.5		
49	67	28.09	2.8		
58	57	23.88	3.3		
59	56	23.63	3.3		
68	49	20.57	3.8		
72	46	19.27	4.1		
82	41	17.03	4.6	FA 37	4
88	38	15.81	5.0	FAF37	4
97	34	14.33	5.5	F 37	4
108	31	12.87	6.1	FF 37	4
125	26	11.08	6.7		
133	25	10.42	7.0		
155	21	8.97	7.6		
185	18	7.51	7.7		
204	16	6.81	8.1		
227	15	6.11	8.7		
264	13	5.27	9.3		
281	12	4.95	9.5		
326	10	4.26	10		
0.55kW					
0.22	21141	6286	0.80		
0.26	18174	5404	0.93	FA 157R97	4
0.50	9336	2776	1.81	FAF157R97	4
0.57	8162	2427	2.1	F 157R97	4
0.83	5630	1674	3.0	FF 157R97	4
1.1	4399	1308	3.8		
1.2	3931	1169	4.3		
0.36	13009	3868	0.87	FA 127R77	4
0.41	11445	3403	0.99	FAF127R77	4
0.47	10046	2987	1.12	F 127R77	4
				FF 127R77	4
0.59	7967	2369	0.92		
0.67	6955	2068	1.06		
0.76	6141	1826	1.20		
0.87	5371	1597	1.37	FA 107R77	4
0.99	4712	1401	1.56	FAF107R77	4
1.19	3921	1166	1.88	F 107R77	4
1.28	3656	1087	2.0	FF 107R77	4
1.46	3195	950	2.3		
1.67	2805	834	2.6		
2.17	2152	640	3.4		
1.04	4507	1340	0.90		
1.18	3975	1182	1.02		
1.35	3471	1032	1.16		
1.5	3050	907	1.33	FA 97R57	4
1.7	2677	796	1.5	FAF97R57	4
2.0	2354	700	1.7	F 97R57	4
2.3	2055	611	2.0	FF 97R57	4
2.6	1796	534	2.3		
2.9	1587	472	2.5		
3.4	1379	410	2.9		
3.8	1234	367	3.3		
1.6	2983	887	0.95		
1.8	2623	780	1.08	FA 87R57	4
2.1	2267	674	1.24	FAF87R57	4
2.3	2048	609	1.38	F 87R57	4
2.7	1732	515	1.63	FF 87R57	4
3.1	1520	452	1.86		
4.0	1160	345	2.4		

F

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p
0.55kW					
2.6	1766	525	0.80	FA 77R37	4
3.0	1577	469	0.89	FAF77R37	4
3.4	1386	412	1.02	F 77R37	4
3.9	1201	357	1.17	FF 77R37	4
4.4	1056	314	1.34		
5.4	864	257	0.89	FA 67R37	4
6.3	740	220	1.04	FAF67R37	4
7.1	659	196	1.17	F 67R37	4
8.3	562	167	1.37	FF 67R37	4
2.4	2039	276.64	1.98	FA 97	8
2.6	1878	254.79	2.2	FAF97	8
3.0	1668	226.34	2.4	F 97	8
				FF 97	8
2.5	2004	271.92	1.41	FA 87	8
2.6	1875	254.93	1.50	FAF87	8
2.9	1684	228.57	1.67	F 87	8
3.4	1450	196.85	1.94	FF 87	8
3.3	1517	271.92	1.86	FA 87	6
3.5	1422	254.93	1.98	FAF87	6
3.9	1275	228.57	2.2	F 87	6
4.5	1098	196.85	2.6	FF 87	6
4.9	998	178.95	2.8		
3.9	1260	225.79	1.12		
4.5	1106	198.31	1.27	FA 77	6
4.7	1051	188.40	1.34	FAF77	6
5.3	929	166.47	1.52	F 77	6
6.2	794	142.27	1.78	FF 77	6
6.8	728	130.42	1.94		
6.2	802	225.79	1.76		
7.0	704	198.31	2.0		
7.4	669	188.40	2.1	FA 77	4
8.3	591	166.47	2.4	FAF77	4
9.8	505	142.27	2.8	F 77	4
11	463	130.42	3.0	FF 77	4
12	407	114.45	3.5		
13	385	108.46	3.7		
15	337	94.93	4.2		
7.1	694	195.39	1.11		
8.1	607	170.85	1.27		
8.6	577	162.31	1.34	FA 67	4
9.8	506	142.40	1.52	FAF67	4
12	429	120.79	1.80	F 67	4
13	387	109.04	2.0	FF 67	4
14	341	95.94	2.3		
15	322	90.59	2.4		
18	277	77.97	2.8		
8.8	558	157.09	1.01		
10	484	136.16	1.17		
11	452	127.27	1.25	FA 57	4
13	391	110.01	1.44	FAF57	4
15	332	93.47	1.70	F 57	4
17	296	83.46	1.90	FF 57	4
19	260	73.16	2.2		
20	243	68.38	2.3		
24	210	59.10	2.7		
13	371	104.33	1.01	FA 47	4
16	315	88.65	1.19	FAF47	4
18	281	79.15	1.34	F 47	4
21	240	67.61	1.57	FF 47	4

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p
0.55kW					
21	230	64.89	1.63	FA 47	4
25	199	56.09	1.89	FAF47	4
29	169	47.66	2.2	F 47	4
33	151	42.55	2.5	FF 47	4
24	207	58.32	0.91		
25	194	54.54	0.97		
27	184	51.70	1.02		
30	167	47.02	1.13		
32	156	43.83	1.21		
36	136	38.31	1.38		
39	128	35.91	1.47		
44	113	31.69	1.67		
49	100	28.09	1.88		
58	85	23.88	2.2		
59	84	23.63	2.2		
68	73	20.57	2.6	FA 37	4
72	68	19.27	2.7	FAF37	4
82	60	17.03	3.1	F 37	4
97	51	14.33	3.7	FF 37	4
108	46	12.87	4.1		
125	39	11.08	4.5		
133	37	10.42	4.7		
155	32	8.97	5.1		
174	28	8.01	5.2		
185	27	7.51	5.4		
204	24	6.81	5.6		
227	22	6.11	5.8		
264	19	5.27	6.3		
281	18	4.95	6.4		
326	15	4.26	6.8		
365	14	3.81	7.3		
0.75kW					
0.50	12731	2776	1.33	FA 157R97	4
0.57	11130	2427	1.52	FAF157R97	4
0.83	7677	1674	2.2	F 157R97	4
1.1	5999	1308	2.8	FF 157R97	4
1.2	5361	1169	3.2		
0.47	13699	2987	0.82		
0.52	12350	2693	0.91	FA 127R77	4
0.59	10896	2376	1.04	FAF127R77	4
0.68	9420	2054	1.20	F 127R77	4
0.77	8246	1798	1.37	FF 127R77	4
0.86	7425	1619	1.52		
0.76	8374	1826	0.88		
0.88	7241	1597	1.02		
0.99	6425	1401	1.15	FA 107R77	4
1.1	5700	1243	1.29	FAF107R77	4
1.3	4985	1087	1.48	F 107R77	4
1.5	4357	950	1.69	FF 107R77	4
1.7	3825	834	1.93		
2.2	2875	627	2.6		
3.3	1958	427	3.8		
1.3	4733	1032	0.85		
1.5	4160	907	0.97		
1.7	3651	796	1.1	FA 97R57	4
2.0	3210	700	1.3	FAF97R57	4
2.3	2802	611	1.4	F 97R57	4
2.6	2449	534	1.7	FF 97R57	4
2.9	2165	472	1.9		
3.4	1880	410	2.1		
3.8	1683	367	2.4		

F

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.75kW					
2.1	3091	674	0.91	FA 87R57	4
2.3	2793	609	1.01	FAF87R57	4
2.7	2362	515	1.19	F 87R57	4
3.1	2073	452	1.36	FF 87R57	4
4.0	1582	345	1.78		
3.9	1637	357	0.86	FA 77R37	4
4.4	1440	314	0.98	FAF77R37	4
5.1	1247	272	1.13	F 77R37	4
				FF 77R37	4
2.7	2519	255.25	2.9	FA 107	8
				FAF107	8
				F 107	8
				FF 107	8
2.5	2739	276.64	1.5	FA 97	8
2.7	2523	254.79	1.6	FAF97	8
3.0	2241	226.34	1.8	F 97	8
				FF 97	8
3.3	2047	276.64	2.0	FA 97	6
3.6	1885	254.79	2.1	FAF97	6
4.0	1675	226.34	2.4	F 97	6
				FF 97	6
3.3	2012	271.92	1.40		
3.6	1886	254.93	1.50	FA 87	6
4.0	1691	228.57	1.67	FAF87	6
4.6	1456	196.85	1.94	F 87	6
5.1	1324	178.95	2.1	FF 87	6
5.7	1181	159.61	2.4		
5.1	1317	271.92	2.1	FA 87	4
5.4	1235	254.93	2.3	FAF87	4
6.1	1107	228.57	2.5	F 87	4
				FF 87	4
4.6	1467	198.31	0.96	FA 77	6
4.8	1394	188.40	1.01	FAF77	6
5.5	1232	166.47	1.14	F 77	6
6.4	1053	142.27	1.34	FF 77	6
7.0	965	130.42	1.46		
6.2	1094	225.79	1.29		
7.0	961	198.31	1.47		
7.4	913	188.40	1.55	FA 77	4
8.3	806	166.47	1.75	FAF77	4
9.8	689	142.27	2.0	F 77	4
11	632	130.42	2.2	FF 77	4
12	554	114.45	2.5		
13	525	108.46	2.7		
8.1	828	170.85	0.93		
8.6	786	162.31	0.98		
9.8	690	142.40	1.12		
12	585	120.79	1.32	FA 67	4
13	528	109.04	1.46	FAF67	4
14	465	95.94	1.66	F 67	4
15	439	90.59	1.76	FF 67	4
18	378	77.97	2.0		
21	320	66.13	2.4		
23	289	59.70	2.7		
11	616	127.27	0.91	FA 57	4
13	533	110.01	1.06	FAF57	4
15	453	93.47	1.25	F 57	4
17	404	83.46	1.40	FF 57	4

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
0.75kW					
19	354	73.16	1.59	FA 57	4
20	331	68.38	1.70	FAF57	4
24	286	59.10	1.97	F 57	4
28	243	50.22	2.3	FF 57	4
31	217	44.84	2.6		
17	386	79.72	0.97		
20	330	68.09	1.14		
21	317	65.36	1.19	FA 47	4
25	272	56.09	1.38	FAF47	4
29	231	47.66	1.63	F 47	4
33	206	42.55	1.82	FF 47	4
38	176	36.34	2.1		
41	165	34.04	2.3		
48	139	28.67	2.7		
30	228	47.02	0.83		
32	212	43.83	0.89		
36	186	38.31	1.01		
39	174	35.91	1.08		
44	153	31.69	1.22		
49	136	28.09	1.38		
58	116	23.88	1.63		
59	114	23.63	1.6		
68	100	20.57	1.9		
72	93	19.27	2.0	FA 37	4
82	82	17.03	2.3	FAF37	4
97	69	14.33	2.7	F 37	4
108	62	12.87	3.0	FF 37	4
125	54	11.08	3.3		
133	50	10.42	3.4		
155	43	8.97	3.8		
204	33	6.81	4.0		
227	30	6.11	4.3		
264	26	5.27	4.6		
281	24	4.95	4.7		
326	21	4.26	5.0		
365	18	3.81	5.3		
1.1kW					
0.50	18539	2776	0.91		
0.58	16208	2427	1.04		
0.64	14592	2185	1.16		
0.72	12982	1944	1.30	FA 157R97	4
0.84	11179	1674	1.51	FAF157R97	4
1.1	8735	1308	1.94	F 157R97	4
1.2	7807	1169	2.2	FF 157R97	4
1.5	6364	953	2.7		
1.7	5643	845	3.0		
3.1	2978	446	5.7		
4.7	2010	301	8.4		
0.68	13717	2054	0.82		
0.78	12007	1798	0.94	FA 127R77	4
0.86	10812	1619	1.04	FAF127R77	4
1.0	9356	1401	1.21	F 127R77	4
1.1	8214	1230	1.37	FF 127R77	4
1.3	7246	1085	1.56		
1.1	8301	1243	0.89		
1.3	7259	1087	1.02	FA 107R77	4
1.5	6344	950	1.16	FAF107R77	4
1.7	5570	834	1.32	F 107R77	4
1.9	4915	736	1.50	FF 107R77	4
2.2	4274	640	1.72		

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p
1.1kW					
2.0	4675	700	0.86		
2.3	4080	611	0.99	FA 97R57	4
2.6	3566	534	1.13	FAF97R57	4
3.0	3152	472	1.28	F 97R57	4
3.4	2738	410	1.48	FF 97R57	4
3.8	2451	367	1.65		
3.1	3019	452	0.93	FA 87R57	4
4.1	2304	345	1.22	FAF87R57	4
4.7	2003	300	1.41	F 87R57	4
5.6	1663	249	1.70	FF 87R57	4
2.7	3707	255.25	1.95	FA 107	8
3.2	3123	215.04	2.3	FAF107	8
3.4	2894	199.31	2.5	F 107	8
3.8	2594	178.64	2.8	FF 107	8
3.3	3002	276.64	1.35	FA 97	6
3.6	2765	254.79	1.46	FAF97	6
4.0	2456	226.34	1.65	F 97	6
4.8	2045	188.50	2.0	FF 97	6
5.2	1908	175.83	2.1		
5.1	1951	276.64	2.1	FA 97	4
5.5	1797	254.79	2.2	FAF97	4
6.2	1596	226.34	2.5	F 97	4
				FF 97	4
3.3	2951	271.92	0.96		
3.6	2766	254.93	1.02	FA 87	6
4.0	2480	228.57	1.14	FAF87	6
4.6	2136	196.85	1.32	F 87	6
5.1	1942	178.95	1.45	FF 87	6
5.7	1732	159.61	1.63		
5.2	1911	271.92	1.48		
5.5	1798	254.93	1.57		
6.1	1612	228.57	1.75	FA 87	4
7.1	1388	196.85	2.0	FAF87	4
7.8	1262	178.95	2.2	F 87	4
8.8	1126	159.61	2.5	FF 87	4
10	946	134.16	3.0		
11	870	123.29	3.2		
7.1	1399	198.31	1.01		
7.4	1329	188.40	1.06		
8.4	1174	166.47	1.20		
9.8	1003	142.27	1.41	FA 77	4
11	920	130.42	1.53	FAF77	4
12	807	114.45	1.75	F 77	4
13	765	108.46	1.84	FF 77	4
15	670	94.93	2.1		
16	603	85.52	2.3		
19	529	75.02	2.7		
12	853	120.79	0.9		
13	769	109.04	1.0		
15	677	95.94	1.1		
16	639	90.59	1.2		
18	550	77.97	1.4	FA 67	4
21	466	66.13	1.7	FAF67	4
23	421	59.70	1.8	F 67	4
27	371	52.53	2.1	FF 67	4
28	350	49.60	2.2		
33	298	42.23	2.6		
36	271	38.38	2.7		
42	234	33.24	3.0		

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p
1.1kW					
17	589	83.46	0.96		
19	516	73.16	1.09		
20	482	68.38	1.17	FA 57	4
24	417	59.10	1.35	FAF57	4
28	354	50.22	1.59	F 57	4
31	316	44.84	1.78	FF 57	4
37	270	38.30	2.1		
39	253	35.87	2.2		
46	213	30.22	2.6		
25	396	56.09	0.95		
29	336	47.66	1.12		
33	300	42.55	1.25		
39	256	36.34	1.47	FA 47	4
41	240	34.04	1.57	FAF47	4
46	216	30.64	1.74	F 47	4
48	205	29.11	1.83	FF 47	4
49	202	28.67	1.86		
55	180	25.54	2.1		
65	153	21.66	2.5		
72	138	19.56	2.7		
44	224	31.69	0.84		
50	198	28.09	0.95		
59	168	23.88	1.12		
68	145	20.57	1.30		
73	136	19.27	1.38		
82	120	17.03	1.57		
98	101	14.33	1.86		
109	91	12.87	2.1	FA 37	4
126	78	11.08	2.3	FAF37	4
134	73	10.42	2.4	F 37	4
156	63	8.97	2.6	FF 37	4
175	56	8.01	2.7		
206	48	6.81	2.8		
229	43	6.11	2.9		
266	37	5.27	3.2		
283	35	4.95	3.2		
329	30	4.26	3.4		
367	27	3.81	3.7		
1.5kW					
0.58	22102	2427	0.77		
0.64	19898	2185	0.85		
0.72	17703	1944	0.96		
0.84	15244	1674	1.11	FA 157R97	4
1.1	11911	1308	1.42	FAF157R97	4
1.2	10646	1169	1.59	F 157R97	4
1.5	8679	953	1.95	FF 157R97	4
1.7	7695	845	2.2		
3.1	4062	446	4.2		
4.7	2741	301	6.2		
0.86	14744	1619	0.77		
1.0	12758	1401	0.88	FA 127R77	4
1.1	11201	1230	1.01	FAF127R77	4
1.3	9881	1085	1.14	F 127R77	4
1.5	8533	937	1.32	FF 127R77	4
1.7	7531	827	1.50		
1.9	6675	733	1.69		
2.2	5828	640	1.94		
1.5	8651	950	0.83	FA 107R77	4
1.7	7595	834	0.95	FAF107R77	4
1.9	6702	736	1.08	F 107R77	4
2.2	5710	627	1.26	FF 107R77	4

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
1.5kW					
2.5	5100	560	1.42	FA 107R77	4
2.9	4453	489	1.62	FAF107R77	4
3.3	3889	427	1.86	F 107R77	4
3.8	3369	370	2.1	FF 107R77	4
2.6	4863	534	0.83	FA 97R57	4
3.0	4298	472	0.94	FAF97R57	4
3.4	3734	410	1.08	F 97R57	4
3.8	3342	367	1.21	FF 97R57	4
4.1	3142	345	0.90	FA 87R57	4
4.7	2732	300	1.03	FAF87R57	4
5.6	2268	249	1.24	F 87R57	4
				FF 87R57	4
2.7	4981	255.25	1.48	FA 107	8
3.2	4197	215.04	1.76	FAF107	8
3.5	3890	199.31	1.89	F 107	8
3.9	3486	178.64	2.1	FF 107	8
3.6	3736	255.25	2.0	FA 107	6
4.3	3147	215.04	2.3	FAF107	6
4.6	2917	199.31	2.5	F 107	6
5.2	2615	178.64	2.8	FF 107	6
3.3	4049	276.64	1.00	FA 97	6
3.6	3729	254.79	1.08	FAF97	6
4.1	3313	226.34	1.22	F 97	6
4.9	2759	188.50	1.47	FF 97	6
5.2	2574	178.83	1.57		
5.1	2661	276.64	1.52	FA 97	4
5.5	2451	254.79	1.65	FAF97	4
6.2	2177	226.34	1.86	F 97	4
7.4	1813	188.50	2.2	FF 97	4
8.0	1691	178.83	2.4		
5.2	2615	271.92	1.08		
5.5	2452	254.93	1.15		
6.1	2198	228.57	1.28	FA 87	4
7.1	1893	196.85	1.49	FAF87	4
7.8	1721	178.95	1.63	F 87	4
8.8	1535	159.61	1.84	FF 87	4
10	1290	134.16	2.2		
13	1053	109.49	2.7		
14	942	97.89	3.0		
8.4	1601	166.47	0.88		
9.8	1368	142.27	1.03		
11	1254	130.42	1.12		
12	1101	114.45	1.28		
13	1043	108.46	1.35		
15	913	94.93	1.54		
16	823	85.52	1.71	FA 77	4
19	722	75.02	1.95	FAF77	4
19	695	72.29	2.0	F 77	4
21	637	66.28	2.2	FF 77	4
24	559	58.16	2.5		
25	530	55.12	2.7		
29	464	48.24	3.0		
32	418	43.46	3.0		
37	367	38.12	3.4		
38	352	36.52	3.8		
44	303	31.45	4.3		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
1.5kW					
15	871	90.59	0.88		
18	750	77.97	1.03		
21	636	66.13	1.21		
23	574	59.70	1.34		
27	505	52.53	1.53	FA 67	4
28	477	49.60	1.62	FAF67	4
33	406	42.23	1.90	F 67	4
36	369	38.38	1.99	FF 67	4
39	349	36.30	2.2		
44	309	32.08	2.5		
51	264	27.41	2.9		
56	242	25.13	3.2		
24	568	59.10	0.99		
28	483	50.22	1.17	FA 57	4
31	431	44.84	1.31	FAF57	4
37	368	38.30	1.53	F 57	4
39	345	35.87	1.63	FF 57	4
46	291	30.22	1.94		
33	409	42.55	0.92		
39	350	36.34	1.08		
41	327	34.04	1.15		
46	295	30.64	1.28		
48	280	29.11	1.34	FA 47	4
49	276	28.67	1.36	FAF47	4
55	246	25.54	1.53	F 47	4
65	208	21.66	1.80	FF 47	4
72	188	19.56	2.0		
81	166	17.21	2.3		
86	156	16.25	2.4		
101	133	13.83	2.8		
68	198	20.57	0.95		
73	185	19.27	1.01		
82	164	17.03	1.15		
98	138	14.33	1.36		
109	124	12.87	1.52		
126	107	11.08	1.68	FA 37	4
134	100	10.42	1.74	FAF37	4
156	86	8.97	1.91	F 37	4
175	77	8.01	2.1	FF 37	4
206	66	6.81	2.0		
229	59	6.11	2.2		
266	51	5.27	2.3		
283	48	4.95	2.4		
329	41	4.26	2.5		
367	37	3.81	2.7		
2.2kW					
1.00	18699	1420	0.90		
1.09	17224	1308	0.98		
1.21	15394	1169	1.10		
1.49	12549	953	1.35		
1.68	11127	845	1.52	FA 157R97	4
1.86	10061	764	1.68	FAF157R97	4
2.1	8954	680	1.89	F 157R97	4
2.5	7585	576	2.2	FF 157R97	4
3.2	5873	446	2.9		
4.7	3964	301	4.3		
5.2	3582	272	4.7		
6.1	3042	231	5.6		
7.2	2581	196	6.6		
1.31	14288	1085	0.79	FA 127R77	4
1.52	12339	937	0.91	FAF127R77	4
1.72	10890	827	1.04	F 127R77	4
1.94	9652	733	1.17	FF 127R77	4

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
2.2kW					
2.22	8428	640	1.34	FA 127R77	4
2.62	7137	542	1.58	FAF127R77	4
2.90	6439	489	1.75	F 127R77	4
3.36	5570	428	2.0	FF 127R77	4
2.3	8256	627	0.89		
2.5	7374	560	1.00	FA 107R77	4
2.9	6439	489	1.14	FAF107R77	4
3.3	5623	427	1.31	F 107R77	4
3.9	4767	362	1.55	FF 107R77	4
4.3	4306	327	1.71		
3.9	4833	367	0.84	FA 97R57	4
4.9	3792	288	1.07	FAF97R57	4
5.7	3253	247	1.24	F 97R57	4
				FF 97R57	4
2.8	7100	255.25	1.02	FA 107	8
3.3	5982	215.04	1.21	FAF107	8
3.6	5544	199.31	1.30	F 107	8
4.0	4969	178.64	1.45	FF 107	8
3.7	5363	255.25	1.35	FA 107	6
4.4	4518	215.04	1.60	FAF107	6
4.7	4188	199.31	1.72	F 107	6
5.3	3753	178.64	1.92	FF 107	6
5.6	3550	255.25	2.0	FA 107	4
6.6	2991	215.04	2.4	FAF107	4
7.1	2772	199.31	2.6	F 107	4
7.9	2485	178.64	2.9	FF 107	4
4.2	4755	226.34	0.85	FA 97	6
5.0	3960	188.50	1.02	FAF97	6
5.3	3694	175.83	1.09	F 97	6
6.0	3302	157.16	1.22	FF 97	6
5.1	3848	276.64	1.05		
5.6	3544	254.79	1.14		
6.3	3148	226.34	1.28	FA 97	4
7.5	2622	188.50	1.54	FAF97	4
8.1	2445	175.83	1.65	F 97	4
9.0	2186	157.16	1.85	FF 97	4
10	1968	141.47	2.1		
11	1782	128.12	2.3		
7.2	2738	196.85	1.03		
7.9	2489	178.95	1.13		
8.9	2220	159.61	1.27		
11	1866	134.16	1.51		
12	1715	123.29	1.64	FA 87	4
13	1523	109.49	1.85	FAF87	4
15	1361	97.89	2.1	F 87	4
16	1224	88.01	2.3	FF 87	4
19	1062	76.39	2.7		
21	951	68.40	3.0		
25	789	56.75	3.6		
28	699	50.29	4.0		
31	629	45.22	4.2		
12	1592	114.45	0.89		
13	1508	108.46	0.93	FA 77	4
15	1320	94.93	1.07	FAF77	4
17	1189	85.52	1.19	F 77	4
19	1043	75.02	1.35	FF 77	4
21	922	66.28	1.53		
24	809	58.16	1.74		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
2.2kW					
26	767	55.12	1.84		
29	671	48.24	2.1	FA 77	4
33	604	43.46	2.1	FAF77	4
39	509	36.52	2.3	F 77	4
45	438	31.45	3.0	FF 77	4
49	400	28.59	3.4		
56	355	25.50	4.0		
24	830	59.70	0.93		
27	731	52.53	1.06		
29	690	49.60	1.12		
34	587	42.23	1.31		
37	534	38.38	1.37	FA 67	4
43	462	33.24	1.50	FAF67	4
44	446	32.08	1.73	F 67	4
52	381	27.41	2.0	FF 67	4
57	350	25.13	2.2		
64	307	22.05	2.5		
68	291	20.90	2.7		
78	254	18.29	3.0		
32	624	44.84	0.90		
37	533	38.30	1.06		
40	499	35.87	1.13	FA 57	4
47	420	30.22	1.32	FAF57	4
57	347	24.96	1.56	F 57	4
67	294	21.17	1.92	FF 57	4
74	266	19.11	2.1		
84	234	16.81	2.4		
89	221	15.88	2.6		
56	355	25.54	1.06		
66	301	21.66	1.25		
73	272	19.56	1.38	FA 47	4
83	239	17.21	1.57	FAF47	4
87	226	16.25	1.66	F 47	4
103	192	13.83	1.95	FF 47	4
113	175	12.57	2.2		
130	151	10.89	2.5		
156	126	9.08	2.5		
99	199	14.33	0.94		
110	179	12.87	1.05		
128	154	11.08	1.16		
136	145	10.42	1.20		
158	125	8.97	1.32	FA 37	4
177	111	8.01	1.39	FAF37	4
209	95	6.81	1.43	F 37	4
232	85	6.11	1.49	FF 37	4
269	73	5.27	1.60		
287	69	4.95	1.64		
333	59	4.26	1.75		
373	53	3.81	1.86		
3kW					
1.2	20991	1169	0.81		
1.5	17113	953	0.99		
1.7	15173	845	1.12	FA 157R97	4
1.9	13719	764	1.23	FAF157R97	4
2.1	12211	680	1.39	F 157R97	4
2.5	10343	576	1.64	FF 157R97	4
3.2	8009	446	2.1		
4.7	5405	304	3.1		
5.2	4884	272	3.5		
6.1	4148	231	4.1		
7.2	3520	196	4.8		

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
3kW					
1.9	13162	733	0.86	FA 127R77	4
2.2	11492	640	0.98	FAF127R77	4
2.6	9733	542	1.16	F 127R77	4
2.9	8781	489	1.28	FF 127R77	4
3.3	7668	427	0.96	FA 107R77	4
3.9	6500	362	1.13	FAF107R77	4
4.3	5872	327	1.26	F 107R77	4
5.0	5118	285	1.44	FF 107R77	4
3.8	7161	255.25	1.03	FA 107	6
4.5	6033	215.04	1.22	FAF107	6
4.8	5591	199.31	1.32	F 107	6
5.4	5011	178.64	1.47	FF 107	6
5.6	4841	255.25	1.52	FA 107	4
6.6	4078	215.04	1.81	FAF107	4
7.1	3780	199.31	1.95	F 107	4
7.9	3388	178.64	2.2	FF 107	4
8.8	3059	161.28	2.4		
6.3	4293	226.34	0.94		
7.5	3575	188.50	1.13		
8.1	3335	175.83	1.21	FA 97	4
9.0	2981	157.16	1.36	FAF97	4
10	2683	141.47	1.51	F 97	4
11	2430	128.12	1.66	FF 97	4
12	2155	113.61	1.88		
14	1948	102.72	2.1		
16	1721	90.77	2.3		
11	2544	134.16	1.11		
12	2338	123.29	1.21		
13	2077	109.49	1.36		
15	1857	97.89	1.52	FA 87	4
16	1669	88.01	1.69	FAF87	4
19	1449	76.39	1.9	F 87	4
21	1297	68.40	2.2	FF 87	4
25	1076	56.75	2.6		
28	954	50.29	2.9		
17	1622	85.52	0.87		
19	1423	75.02	0.99		
21	1257	66.28	1.12		
24	1103	58.16	1.28		
26	1045	55.12	1.35	FA 77	4
29	915	48.24	1.5	FAF77	4
33	824	43.46	1.54	F 77	4
37	723	38.12	1.71	FF 77	4
39	694	36.52	1.95		
45	598	31.45	2.2		
49	545	28.59	2.5		
56	484	25.50	2.9		
66	406	21.43	3.5		
33	819	43.20	0.94		
36	745	39.26	0.98		
42	645	34.01	1.08		
44	608	32.08	1.27	FA 67	4
52	520	27.41	1.48	FAF67	4
57	477	25.13	1.62	F 67	4
64	418	22.05	1.84	FF 67	4
68	396	20.90	1.94		
78	347	18.29	2.2		
86	313	16.48	2.5		
98	274	14.46	2.8		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
3kW					
57	473	24.96	1.19		
67	401	21.17	1.40		
74	362	19.11	1.56	FA 57	4
84	319	16.81	1.77	FAF57	4
89	301	15.88	1.87	F 57	4
105	256	13.52	2.2	FF 57	4
116	233	12.29	2.4		
133	202	10.64	2.8		
73	371	19.56	1.01		
83	326	17.21	1.15	FA 47	4
87	308	16.25	1.22	FAF47	4
103	262	13.83	1.43	F 47	4
113	238	12.57	1.58	FF 47	4
130	207	10.89	1.80		
156	172	9.08	1.82		
128	210	11.08	0.85		
136	198	10.42	0.88		
158	170	8.97	0.97		
177	152	8.01	1.02	FA 37	4
209	129	6.81	1.05	FAF37	4
232	116	6.11	1.10	F 37	4
269	100	5.27	1.18	FF 37	4
287	94	4.95	1.20		
333	81	4.26	1.28		
373	72	3.81	1.37		
4kW					
1.7	19950	845	0.85		
1.9	18038	764	0.94		
2.1	16055	680	1.05	FA 157R97	4
2.5	13599	576	1.24	FAF157R97	4
3.2	10530	446	1.61	F 157R97	4
4.8	7107	304	2.4	FF 157R97	4
5.3	6422	272	2.6		
6.2	5454	231	3.1		
7.3	4628	196	3.7		
2.7	12796	542	0.88	FA 127R77	4
2.9	11545	489	0.98	FAF127R77	4
3.4	9987	423	1.13	F 127R77	4
3.9	8759	371	1.29	FF 127R77	4
4.4	7720	327	0.94	FA 107R77	4
5.1	6729	285	1.07	FAF107R77	4
6.5	5218	221	1.38	F 107R77	4
				FF 107R77	4
4.2	8594	172.33	1.31	FA 127	8
4.6	7721	154.81	1.46	FAF127	8
5.7	6269	125.71	1.80	F 127	8
				FF 127	8
5.6	6365	255.25	1.16		
6.7	5363	215.04	1.37	FA 107	4
7.2	4970	199.31	1.48	FAF107	4
8.1	4455	178.64	1.65	F 107	4
8.9	4022	161.28	1.83	FF 107	4
9.8	3653	146.49	2.02		
11	3241	129.97	2.3		
12	2941	117.94	2.5		
14	2528	101.38	2.9		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
4kW					
8.2	4385	175.83	0.92		
9.2	3919	157.16	1.03		
10	3528	141.47	1.15		
11	3195	128.12	1.27		
13	2833	113.61	1.43	FA 97	4
14	2561	102.72	1.58	FAF97	4
15	2427	97.31	1.67	F 97	4
16	2263	90.77	1.79	FF 97	4
18	2023	81.13	2.0		
20	1821	73.03	2.2		
22	1649	66.14	2.5		
13	2730	109.49	1.03		
15	2441	97.89	1.16		
16	2195	88.01	1.28	FA 87	4
19	1905	76.39	1.48	FAF87	4
21	1706	68.40	1.65	F 87	4
25	1415	56.75	1.99	FF 87	4
29	1254	50.29	2.2		
32	1128	45.22	2.5		
22	1653	66.28	0.85		
25	1450	58.16	0.97		
26	1374	55.12	1.03		
30	1203	48.24	1.17		
33	1084	43.46	1.30		
38	951	38.12	1.48	FA 77	4
43	839	33.64	1.68	FAF77	4
48	744	29.82	1.90	F 77	4
50	717	28.59	1.97	FF 77	4
56	636	25.50	2.2		
57	635	25.47	2.2		
67	534	21.43	2.6		
73	491	19.70	2.9		
53	683	27.41	1.13		
57	627	25.13	1.23		
65	550	22.05	1.40		
69	521	20.90	1.48		
79	456	18.29	1.69		
87	411	16.48	1.88		
100	361	14.46	2.1	FA 67	4
113	318	12.76	2.4	FAF67	4
127	282	11.31	2.7	F 67	4
149	241	9.66	3.2	FF 67	4
150	240	9.61	2.1		
158	227	9.11	2.4		
181	199	7.97	2.9		
201	179	7.18	3.3		
229	157	6.30	3.6		
259	139	5.56	4.0		
292	123	4.93	4.3		
342	105	4.21	4.5		
68	528	21.17	1.07		
75	477	19.11	1.18		
86	419	16.81	1.35		
91	396	15.88	1.42		
107	337	13.52	1.67		
117	306	12.29	1.84	FA 57	4
135	265	10.64	2.1	FAF57	4
155	232	9.31	1.70	F 57	4
176	204	8.19	1.93	FF 57	4
186	193	7.73	2.0		
219	164	6.58	2.4		
241	149	5.98	2.6		
278	129	5.18	3.0		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
5.5kW					
2.5	18699	576	0.90		
2.9	16329	503	1.04		
3.2	14479	446	1.17		
4.1	11460	353	1.48	FA 157R97	4
4.8	9771	301	1.73	FAF157R97	4
5.3	8830	272	1.92	F 157R97	4
6.2	7499	231	2.3	FF 157R97	4
7.1	6558	202	2.6		
7.3	6363	196	2.7		
3.5	13537	417	0.83		
3.9	12109	373	0.93	FA 127R87	4
4.6	10129	312	1.11	FAF127R87	4
4.9	9512	293	1.19	F 127R87	4
5.5	8505	262	1.33	FF 127R87	4
6.4	7337	226	1.54		
				FA 127R77	4
3.4	13732	423	0.82	FAF127R77	4
3.9	12044	371	0.94	F 127R77	4
				FF 127R77	4
2.7	18293	266.76	0.92		
3.3	14977	218.40	1.1		
4.0	12149	177.17	1.4		
4.4	11269	164.33	1.5		
5.1	9724	141.80	1.7	FA 157	8
5.8	8581	125.14	2.0	FAF157	8
6.6	7440	108.49	2.3	F 157	8
7.5	6619	96.53	2.6	FF 157	8
8.3	5959	86.90	2.8		
9.1	5450	79.47	3.1		
10	4742	69.15	3.6		
4.2	11817	172.33	0.95	FA 127	8
4.7	10616	154.81	1.06	FAF127	8
5.7	8620	125.71	1.31	F 127	8
6.2	7555	116.00	1.42	FF 127	8
6.7	7373	215.04	0.98		
7.2	6834	199.31	1.06	FA 107	4
8.1	6125	178.64	1.18	FAF107	4
8.9	5530	161.28	1.31	F 107	4
9.8	5023	146.49	1.44	FF 107	4
11	4456	129.97	1.62		
12	4044	117.94	1.79		
14	3476	101.38	2.1	FA 107	4
16	3171	92.47	2.3	FAF107	4
16	3034	88.49	2.4	F 107	4
17	2880	83.99	2.5	FF 107	4
11	4393	128.12	0.92		
13	3895	113.61	1.04		
14	3522	102.72	1.15		
15	3336	97.31	1.21		
16	3112	90.77	1.30	FA 97	4
17	2985	87.06	1.35	FAF97	4
18	2782	81.13	1.45	F 97	4
19	2620	76.40	1.54	FF 97	4
21	2504	73.03	1.68		
22	2268	66.14	1.78		
25	2011	58.65	2.0		
27	1818	53.03	2.2		
16	3018	88.01	0.93	FA 87	4
19	2619	76.39	1.08	FAF87	4
21	2345	68.40	1.20	F 87	4
25	1946	56.75	1.45	FF 87	4

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
5.5kW					
29	1724	50.29	1.64		
32	1550	45.22	1.82		
37	1346	39.25	2.1	FA 87	4
41	1205	35.14	2.3	FAF87	4
49	1000	29.16	2.8	F 87	4
42	1170	34.11	2.1	FF 87	4
51	974	28.41	2.4		
54	909	26.50	3.1		
61	812	23.68	3.5		
30	1654	48.24	0.85		
33	1490	43.46	0.95		
38	1307	38.12	1.08		
43	1153	33.64	1.22		
48	1022	29.82	1.38	FA 77	4
56	874	25.50	1.61	FAF77	4
57	873	25.47	1.61	F 77	4
67	735	21.43	1.92	FF 77	4
73	675	19.70	2.1		
82	600	17.49	2.4		
92	536	15.64	2.6		
102	482	14.06	2.9		
118	418	12.20	3.4		
65	756	22.05	1.02		
69	717	20.9	1.08		
79	627	18.29	1.23		
87	565	16.48	1.36		
100	496	14.46	1.50		
113	438	12.76	1.55	FA 67	4
127	388	11.31	1.70	FAF67	4
149	331	9.66	1.76	F 67	4
150	329	9.61	2.0	FF 67	4
158	312	9.11	2.1		
181	273	7.97	2.3		
201	246	7.18	2.4		
229	216	6.30	2.7		
259	191	5.56	2.9		
292	169	4.93	3.1		
342	144	4.21	3.3		
86	576	16.81	0.98		
91	544	15.88	1.04		
107	464	13.52	1.22		
117	421	12.29	1.34	FA 57	4
135	365	10.64	1.55	FAF57	4
176	281	8.19	1.41	F 57	4
186	265	7.73	1.49	FF 57	4
219	226	6.58	1.75		
241	205	5.98	1.93		
278	178	5.18	2.2		
7.5kW					
4.6	13812	312	0.82	FA 127R87	4
4.9	12971	293	0.87	FAF127R87	4
5.5	11598	262	0.97	F 127R87	4
6.4	10005	226	1.13	FF 127R87	4
7.2	8854	200	1.27		
3.3	20350	217.62	0.83		
4.0	16664	178.20	1.02		
4.4	15238	162.96	1.11	FA 157	8
5.1	13260	141.80	1.28	FAF157	8
5.8	11702	125.14	1.45	F 157	8
6.6	10145	108.49	1.67	FF 157	8
7.5	9027	96.53	1.87		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
7.5kW					
8.4	8023	85.80	2.1		
9.2	7337	78.46	2.3	FA 157	8
10.5	6385	68.28	2.7	FAF157	8
12	5634	60.25	3.0	F 157	8
13.8	4885	52.24	3.5	FF 157	8
15.5	4346	46.48	3.9		
18	3746	40.06	4.5		
3.6	18709	266.76	0.90		
4.4	15317	218.40	1.11		
5.4	12425	177.17	1.36		
5.8	11525	164.33	1.47		
6.8	9945	141.80	1.70		
7.7	8776	125.14	1.93	FA 157	6
8.8	7609	108.49	2.2	FAF157	6
9.9	6770	96.53	2.5	F 157	6
11	6095	86.90	2.8	FF 157	6
12	5573	79.47	3.0		
14	4850	69.15	3.5		
16	4280	61.02	4.0		
18	3711	52.91	4.6		
5.7	11816	126.36	0.95	FA 127	8
6.2	10776	115.24	1.05	FAF127	8
7.2	9326	99.73	1.21	F 127	8
8.2	8229	88.00	1.37	FF 127	8
5.6	12086	172.33	0.93	FA 127	6
6.2	10857	154.81	1.04	FAF127	6
7.6	8816	125.71	1.28	F 127	6
8.3	8135	116.00	1.39	FF 127	6
8.5	7947	172.33	1.42	FA 127	4
9.4	7139	154.81	1.58	FAF127	4
12	5797	125.71	1.95	F 127	4
				FF 127	4
8.2	8238	178.64	0.88		
9.1	7437	161.28	0.97		
10	6755	146.49	1.07		
11	5994	129.97	1.20	FA 107	4
12	5439	117.94	1.33	FAF107	4
14	4675	101.38	1.54	F 107	4
16	4264	92.47	1.69	FF 107	4
16	4081	88.49	1.77		
17	3873	83.99	1.86		
20	3436	74.52	2.1		
22	3118	67.62	2.3		
15	4487	97.31	0.90		
16	4186	90.77	0.97		
17	4015	87.06	1.01		
18	3741	81.13	1.08		
19	3523	76.40	1.15		
21	3229	70.03	1.25	FA 97	4
22	3050	66.14	1.33	FAF97	4
25	2705	58.65	1.49	F 97	4
28	2445	53.03	1.65	FF 97	4
32	2072	44.94	1.95		
33	2023	43.87	2.0		
37	1810	39.26	2.2		
40	1704	36.96	2.4		
43	1580	34.26	2.6		
44	1514	32.83	2.7		
48	1416	30.70	2.9		

F

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p
7.5kW					
26	2617	56.75	1.08		
29	2319	50.29	1.19		
32	2085	45.22	1.27		
37	1810	39.25	1.41		
42	1620	35.14	1.51		
50	1345	29.16	1.75	FA 87	4
51	1327	28.41	1.74	FAF87	4
55	1222	26.50	2.3	F 87	4
62	1092	23.68	2.6	FF 87	4
68	983	21.32	2.9		
76	890	19.31	3.2		
85	789	17.12	3.6		
94	714	15.48	4.0		
43	1551	33.64	0.91		
49	1375	29.82	1.03		
57	1176	25.50	1.16		
57	1175	25.47	1.20		
68	988	21.43	1.43		
74	908	19.70	1.55		
83	807	17.49	1.75		
93	721	15.64	1.95	FA 77	4
104	648	14.06	2.2	FAF77	4
120	563	12.20	2.5	F 77	4
134	504	10.93	2.8	FF 77	4
156	431	9.35	2.4		
176	383	8.30	2.7		
197	342	7.42	3.0		
219	308	6.67	3.3		
252	267	5.79	3.8		
281	239	5.19	4.2		
340	198	4.30	4.8		
11kW					
4.9	19275	301	0.88	FA 157R97	4
5.4	17418	272	0.97	FAF157R97	4
6.3	14793	231	1.14	F 157R97	4
7.2	12936	202	1.31	FF 157R97	4
7.4	12551	196	1.35		
6.5	14472	226	0.78	FA 127R87	4
7.3	12807	200	0.88	FAF127R87	4
8.7	10758	168	1.05	F 127R87	4
				FF 127R87	4
5.1	19181	141.80	0.88	FA 157	8
5.8	16928	125.14	1.00	FAF157	8
6.7	14675	108.49	1.15	F 157	8
7.6	13058	96.53	1.30	FF 157	8
5.5	18036	177.17	0.94		
5.9	16729	164.33	1.01		
6.8	14435	141.80	1.17	FA 157	6
7.8	12739	125.14	1.33	FAF157	6
8.9	11044	108.49	1.53	F 157	6
10	9827	96.53	1.72	FF 157	6
11	8847	86.90	1.91		
12	8090	79.47	2.1		
5.5	18042	266.76	0.94		
6.7	14776	218.46	1.15		
8.2	12053	177.17	1.40	FA 157	4
8.9	11114	164.33	1.52	FAF157	4
10	9591	141.80	1.76	F 157	4
12	8464	125.14	2.0	FF 157	4
13	7338	108.49	2.3		

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p
11kW					
15	6529	96.53	2.6	FA 157	4
17	5877	86.90	2.9	FAF157	4
18	5375	79.47	3.1	F 157	4
21	4677	69.15	3.6	FF 157	4
7.7	12864	125.71	0.88		
8.4	11732	116.00	0.96	FA 127	6
10	10153	99.73	1.11	FAF127	6
11	8958	88.00	1.26	F 127	6
13	7737	76.00	1.46	FF 127	6
8.5	11656	172.33	0.97		
9.4	10471	154.81	1.08		
12	8502	125.71	1.33	FA 127	4
13	7846	116.00	1.44	FAF127	4
15	6745	99.73	1.67	F 127	4
17	5952	88.00	1.90	FF 127	4
19	5140	76.00	2.2		
12	7977	117.94	0.91		
14	6857	101.38	1.05		
16	6254	92.47	1.15		
17	5681	83.99	1.27		
20	5040	74.52	1.43	FA 107	4
22	4573	67.62	1.58	FAF107	4
25	3931	58.12	1.84	F 107	4
29	3431	50.73	2.1	FF 107	4
34	2910	43.03	2.5		
43	2285	33.78	3.2		
53	1855	27.43	3.9		
58	1712	25.31	4.2		
22	4473	66.14	0.90		
25	3967	58.65	1.02		
28	3587	53.03	1.13		
32	3040	44.94	1.33		
37	2655	39.26	1.52	FA 97	4
43	2317	34.26	1.74	FAF97	4
44	2220	32.83	1.82	F 97	4
48	2076	30.70	1.95	FF 97	4
53	1875	27.72	2.2		
58	1703	25.18	2.4		
65	1511	22.34	2.7		
37	2655	39.25	0.96		
42	2377	35.14	1.03		
50	1972	29.16	1.20		
55	1792	26.50	1.57	FA 87	4
62	1602	23.68	1.76	FAF87	4
68	1442	21.32	1.96	F 87	4
76	1306	19.31	2.16	FF 87	4
85	1158	17.12	2.4		
94	1047	15.48	2.7		
111	887	13.12	3.2		
74	1332	19.70	1.06		
83	1183	17.49	1.19		
93	1058	15.64	1.33		
104	951	14.06	1.48		
120	825	12.20	1.61		
134	739	10.93	1.71	FA 77	4
156	632	9.35	1.81	FAF77	4
176	561	8.30	1.91	F 77	4
197	502	7.42	2.0	FF 77	4
219	451	6.67	2.3		
252	392	5.79	2.6		
281	351	5.19	2.9		
340	291	4.30	3.3		

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
15kW					
				FA 157R97	4
6.3	20172	231	0.84	FAF157R97	4
7.2	17639	202	0.96	F 157R97	4
7.4	17115	196	0.99	FF 157R97	4
6.8	19685	141.80	0.86		
7.8	17372	125.14	0.97	FA 157	6
8.9	15061	108.49	1.12	FAF157	6
10	13400	96.53	1.26	F 157	6
11	12063	86.90	1.40	FF 157	6
6.7	20143	218.40	0.84		
8.2	16340	177.17	1.04		
8.9	15156	164.33	1.12		
10	13078	141.80	1.29		
12	11542	125.14	1.47	FA 157	4
13	10006	108.49	1.69	FAF157	4
15	8903	96.53	1.90	F 157	4
17	8015	86.90	2.1	FF 157	4
18	7329	79.47	2.3		
21	6378	69.15	2.7		
24	5628	61.02	3.0		
9.7	13844	99.73	0.81		
11	12216	88.00	0.92	FA 127	6
13	10550	76.00	1.07	FAF127	6
14	9803	70.62	1.15	F 127	6
15	8941	64.41	1.26	FF 127	6
12	11594	125.71	0.97		
13	10699	116.00	1.05	FA 127	4
15	9198	99.73	1.23	FAF127	4
17	8116	88.00	1.39	F 127	4
19	7009	76.00	1.61	FF 127	4
21	6513	70.62	1.73		
16	8528	92.47	0.85		
16	8161	88.49	0.88		
17	7746	83.99	0.93		
20	6873	74.52	1.05		
22	6237	67.62	1.16		
25	5360	58.12	1.35	FA 107	4
29	4679	50.73	1.54	FAF107	4
34	3969	43.03	1.82	F 107	4
39	3469	37.61	2.1	FF 107	4
43	3116	33.78	2.3		
46	2933	31.80	2.5		
53	2530	27.43	2.8		
58	2334	25.31	3.1		
67	2007	21.76	3.6		
32	4145	44.94	0.98		
37	3621	39.26	1.12		
43	3160	34.26	1.28		
44	3028	32.83	1.33		
48	2831	30.70	1.43	FA 97	4
53	2557	27.72	1.58	FAF97	4
58	2322	25.18	1.74	F 97	4
65	2060	22.34	1.96	FF 97	4
72	1869	20.27	2.2		
84	1607	17.42	2.5		
96	1403	15.21	2.9		
113	1190	12.90	3.4		
129	1040	11.28	3.9		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
15kW					
55	2444	26.50	1.15		
62	2184	23.68	1.29		
68	1966	21.32	1.43		
76	1781	19.31	1.58		
85	1579	17.12	1.79		
94	1428	15.48	1.84		
111	1210	13.12	1.98	FA 87	4
127	1057	11.46	2.1	FAF87	4
152	884	9.58	2.3	F 87	4
173	780	8.46	2.5	FF 87	4
195	692	7.50	2.7		
215	625	6.78	2.8		
254	530	5.75	2.8		
291	463	5.02	3.1		
348	387	4.20	3.5		
18.5kW					
				FA 157R97	4
				FAF157R97	4
7.3	21607	202	0.78	F 157R97	4
7.5	20965	196	0.81	FF 157R97	4
8.3	20016	177.17	0.85		
8.9	18565	164.33	0.91		
10	16020	141.80	1.06		
12	14138	125.14	1.20		
14	12257	108.49	1.38	FA 157	4
15	10906	96.53	1.55	FAF157	4
17	9818	86.90	1.72	F 157	4
18	8978	79.47	1.88	FF 157	4
21	7812	69.15	2.2		
24	6894	61.02	2.5		
28	5978	52.91	2.8		
13	13105	116.00	0.86		
15	11267	99.73	1.00		
17	9942	88.00	1.13	FA 127	4
19	8586	76.00	1.31	FAF127	4
21	7978	70.62	1.41	F 127	4
23	7277	64.41	1.55	FF 127	4
26	6297	55.74	1.79		
30	5557	49.19	2.0		
20	8419	74.52	0.86		
22	7639	67.62	0.94		
25	6566	58.12	1.10		
29	5731	50.73	1.26		
34	4861	43.03	1.49	FA 107	4
39	4249	37.61	1.70	FAF107	4
44	3817	33.78	1.89	F 107	4
46	3593	31.80	2.0	FF 107	4
53	3099	27.43	2.3		
58	2859	25.31	2.5		
68	2458	21.76	2.9		
37	4435	39.26	0.91		
45	3709	32.83	1.09		
53	3132	27.72	1.29		
58	2845	25.18	1.42	FA 97	4
66	2524	22.34	1.60	FAF97	4
73	2290	20.27	1.77	F 97	4
84	1274	17.42	2.35	FF 97	4
97	1718	15.21	2.77		
114	1457	12.90	3.17		
130	1274	11.28	3.17		

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p
18.5kW					
69	2409	21.32	1.17		
76	2182	19.31	1.29		
86	1934	17.12	1.46		
95	1749	15.48	1.50		
112	1482	13.12	1.61		
128	1295	11.46	1.70	FA 87	4
153	1082	9.58	1.80	FAF87	4
174	956	8.46	1.88	F 87	4
196	847	7.50	1.90	FF 87	4
217	766	6.78	2.0		
256	650	5.75	2.2		
296	567	5.02	2.5		
350	474	4.20	2.9		
22kW					
10	19654	96.53	0.86	FA 157	6
11	17693	86.90	0.96	FAF157	6
12	16180	79.47	1.05	F 157	6
14	14079	69.15	1.20	FF 157	6
10	19051	141.80	0.89		
12	16813	125.14	1.01		
14	14576	108.49	1.16		
15	12969	96.53	1.30		
17	11675	86.90	1.45	FA 157	4
18	10677	79.47	1.58	FAF157	4
21	9290	69.15	1.82	F 157	4
24	8198	61.02	2.1	FF 157	4
28	7108	52.91	2.4		
31	6324	47.07	2.7		
36	5451	40.57	3.1		
45	4430	32.97	3.8		
15	13399	99.73	0.84		
17	11823	88.00	0.95		
19	10211	76.00	1.10	FA 127	4
21	9488	70.62	1.19	FAF127	4
23	8653	64.41	1.30	F 127	4
26	7489	55.74	1.51	FF 127	4
30	6609	49.19	1.71		
35	5707	42.48	1.98		
25	7808	58.12	0.92		
29	6816	50.73	1.06		
34	5781	43.03	1.25		
39	5053	37.61	1.43	FA 107	4
44	4540	33.78	1.59	FAF107	4
46	4272	31.08	1.69	F 107	4
54	3685	27.43	1.96	FF 107	4
58	3400	25.31	2.1		
68	2923	21.76	2.5		
77	2580	19.20	2.8		
53	3724	27.72	1.09		
58	3383	25.18	1.19		
66	3001	22.34	1.35	FA 97	4
73	2723	20.27	1.48	FAF97	4
84	2340	17.42	1.73	F 97	4
97	2043	15.21	2.0	FF 97	4
114	1733	12.90	2.3		
130	1515	11.28	2.7		
69	2864	21.32	0.98	FA 87	4
76	2594	19.31	1.09	FAF87	4
86	2300	17.12	1.23	F 87	4
95	2080	15.48	1.36	FF 87	4

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p
22kW					
112	1763	13.12	1.27		
128	1540	11.46	1.43		
153	1287	9.58	1.58	FA 87	4
174	1137	8.46	1.60	FAF87	4
196	1008	7.50	1.70	F 87	4
217	911	6.78	1.83	FF 87	4
256	773	5.75	1.86		
293	674	5.02	2.1		
350	564	4.20	2.4		
30kW					
14	19876	108.49	0.85		
15	17685	96.53	0.96		
17	15920	86.90	1.06		
18	14559	79.47	1.16	FA 157	4
21	12669	69.15	1.34	FAF157	4
24	11179	61.02	1.51	F 157	4
28	9693	52.91	1.75	FF 157	4
31	8623	47.07	2.0		
36	7433	40.57	2.3		
19	13924	76.00	0.81		
21	12938	70.62	0.87		
23	11800	64.41	0.96		
26	10212	55.74	1.10		
30	9012	49.19	1.25	FA 127	4
35	7783	42.48	1.45	FAF127	4
39	6883	37.57	1.58	F 127	4
47	5786	31.58	1.6	FF 127	4
54	4961	26.92	1.95		
58	4672	25.50	2.4		
59	4536	24.97	2.8		
68	3948	21.55	2.9		
77	3483	19.01	3.2		
34	7883	43.03	0.92		
39	6890	37.61	1.05		
46	5826	31.80	1.24		
54	5025	27.43	1.44	FA 107	4
58	4637	25.31	1.56	FAF107	4
68	3987	21.76	1.81	F 107	4
77	3518	19.20	2.1	FF 107	4
89	3038	16.58	2.4		
100	2688	14.67	2.7		
119	2259	12.33	2.9		
148	1825	9.96	3.3		
66	4093	22.34	0.99		
73	3714	20.27	1.09		
84	3191	17.42	1.27		
97	2787	15.21	1.31	FA 97	4
114	2363	12.90	1.44	FAF97	4
130	2067	11.28	1.45	F 97	4
159	1698	9.27	1.67	FF 97	4
175	1541	8.41	1.83		
203	1325	7.23	1.85		
233	1156	6.31	1.86		
275	980	5.35	2.1		
314	857	4.68	2.2		

F

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
37kW					
17	19503	86.90	0.87		
19	17835	79.47	0.95		
21	15519	69.15	1.09	FA 157	4
24	13694	61.02	1.24	FAF157	4
28	11874	52.91	1.42	F 157	4
31	10564	47.07	1.60	FF 157	4
36	9105	40.57	1.86		
45	7399	32.97	2.3		
53	6275	27.96	2.7		
15	22261	99.19	0.51		
27	12509	55.74	0.90		
35	9534	42.48	1.18		
39	8432	37.57	1.31		
47	7087	31.58	1.34		
55	6077	26.92	1.86		
60	5557	24.97	1.45	FA 127	4
69	4836	21.55	2.3	FAF127	4
78	4266	19.01	2.4	F 127	4
90	3699	16.48	2.8	FF 127	4
101	3292	14.67	3.1		
117	2837	12.64	3.2		
144	2305	10.27	3.3		
169	1966	8.76	3.3		
190	1748	7.79	3.9		
54	6156	27.43	1.20		
58	5680	25.31	1.30		
68	4883	21.76	1.51		
77	4309	19.20	1.7		
89	3721	16.58	2.0	FA 107	4
101	3292	14.67	2.1	FAF107	4
120	2767	12.33	2.2	F 107	4
149	2235	9.96	2.3	FF 107	4
153	2166	9.65	2.4		
177	1872	8.34	2.6		
201	1654	7.37	2.7		
239	1391	6.20	3.1		
45kW					
21	18874	69.15	0.90		
24	16655	61.02	1.02	FA 157	4
28	14442	52.91	1.17	FAF157	4
31	12848	47.07	1.32	F 157	4
36	11074	40.57	1.53	FF 157	4
45	8999	32.97	1.88		
53	7632	27.96	2.2		
30	13426	49.19	0.84		
35	11595	42.48	0.97		
39	10255	37.57	1.08		
47	8620	31.58	1.10		
55	7391	26.92	1.18		
58	6960	25.50	1.31		
60	6758	24.97	1.62	FA 127	4
69	5882	21.55	1.92	FAF127	4
78	5189	19.01	2.0	F 127	4
90	4498	16.48	2.3	FF 127	4
101	4004	14.67	2.6		
117	3450	12.64	2.7		
144	2803	10.27	2.8		
169	2391	8.76	2.9		
190	2126	7.79	3.2		
220	1834	6.72	3.6		
271	1490	5.46	3.8		

Output speed r/min	Output torque Nm	Ratio i	Service factor f_B	Type Type	Pole p
45kW					
54	7525	27.57	0.98		
59	6862	25.14	1.07		
68	5939	21.76	1.24		
77	5241	19.2	1.41		
89	4525	16.58	1.63	FA 107	4
101	4004	14.67	1.80	FAF107	4
120	3365	12.33	1.90	F 107	4
149	2719	9.96	2.0	FF 107	4
153	2634	9.65	2.1		
177	2276	8.34	2.2		
201	2012	7.37	2.3		
239	1692	6.20	2.6		
55kW					
24	20357	61.02	0.83		
28	17651	52.91	0.96		
31	15703	47.07	1.08	FA 157	4
36	13534	40.57	1.25	FAF157	4
45	10999	32.97	1.54	F 157	4
53	9328	27.96	1.66	FF 157	4
58	8484	25.43	1.81		
67	7393	22.16	2.3		
75	6595	19.77	2.4		
88	5621	16.85	3.0		
39	12534	37.57	0.90		
47	10535	31.58	1.07		
58	8507	25.5	1.33		
69	7189	21.55	1.57		
78	6342	19.01	1.63		
90	5498	16.48	1.88	FA 127	4
101	4894	14.67	2.1	FAF127	4
117	4217	12.64	2.2	F 127	4
144	3426	10.27	2.3	FF 127	4
169	2922	8.76	2.4		
190	2599	7.79	2.6		
220	2242	6.72	2.9		
271	1821	5.46	3.1		
320	1545	4.63	3.7		
75kW					
31	21413	47.07	0.79		
36	18456	40.57	0.92		
45	14999	32.97	1.13		
53	12719	27.96	1.22	FA 157	4
58	11569	25.43	1.33	FAF157	4
67	10081	22.16	1.68	F 157	4
75	8994	19.77	1.78	FF 157	4
88	7665	16.85	2.2		
106	6351	13.96	2.5		
124	5423	11.92	2.8		
58	11600	25.50	0.97		
69	9803	21.55	1.2		
78	8648	19.01	1.2		
90	7497	16.48	1.4		
101	6674	14.67	1.5	FA 127	4
117	5750	12.64	1.6	FAF127	4
144	4672	10.27	1.6	F 127	4
169	3985	8.76	1.7	FF 127	4
190	3544	7.79	1.9		
220	3057	6.72	2.2		
271	2484	5.46	2.3		
320	2106	4.63	2.7		

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p
90kW					
45	17998	32.97	0.94		
53	15263	27.96	1.02		
58	13882	25.43	1.11	FA 157	4
67	12097	22.16	1.40	FAF157	4
75	10792	19.77	1.48	F 157	4
88	9198	16.85	1.84	FF 157	4
106	7621	13.96	2.1		
124	6507	11.92	2.3		
58	13920	25.50	0.81		
69	11764	21.55	0.96		
78	10378	19.01	1.00		
90	8953	16.48	1.15		
101	8008	14.67	1.29	FA 127	4
117	6900	12.64	1.33	FAF127	4
144	5606	10.27	1.36	F 127	4
169	4782	8.76	1.59	FF 127	4
190	4253	7.79	1.60		
220	3668	6.72	1.79		
271	2981	5.46	1.89		
320	2528	4.63	2.2		
110kW					
53	18530	27.96	0.91		
67	14686	22.16	1.15	FA 157	4
75	13102	19.77	1.22	FAF157	4
88	11167	16.85	1.52	F 157	4
107	9252	13.96	1.73	FF 157	4
125	7900	11.92	1.90		
132kW					
67	17623	22.16	0.96	FA 157	4
75	15723	19.77	1.02	FAF157	4
88	13400	16.85	1.26	F 157	4
107	11102	13.96	1.44	FF 157	4
125	9480	11.92	1.59		
160kW					
				FA 157	4
88	16243	16.85	1.04	FAF157	4
107	13457	13.96	1.19	F 157	4
125	11491	11.92	1.31	FF 157	4
200kW					
				FA 157	4
88	20304	16.85	0.83	FAF157	4
107	16821	13.96	0.95	F 157	4
125	14363	11.92	1.05	FF 157	4

Output speed	Output torque	Ratio	Service factor	Type	Pole
r/min	Nm	i	f_B	Type	p

F

Permissible torque Nm	Output speed r/min	Ratio i	Type Type	Power kW/4p
200	5.3	262	FA 37R17 FAF37R17 F 37R17 FF 37R17	0.18
	6.1	229		
	7.0	200		
	8.2	170		
	9.1	153		0.25
	10	133		
	11	129		
400	2.5	563	FA 47R17 FAF47R17 F 47R17 FF 47R17	0.18
	2.9	477		
	3.1	445		
	3.6	389		
	4.0	346		
	4.6	304		0.25
	4.7	293		
	6.0	230		
	6.4	216		0.37
	7.4	188		
	7.9	176		
	9.4	148		0.55
	11	130		
600	1.6	856	FA 57R37 FAF57R37 F 57R37 FF 57R37	0.18
	1.9	749		
	2.1	658		
	2.5	549		0.25
	2.9	483		
	3.3	426		
	3.6	382		
	4.2	330		0.37
	4.7	298		
	5.3	262		
	6.2	226		0.55
	7.0	200		
	8.4	166		0.75
	9.1	152		
	10	134		
820	1.2	1126	FA 67R37 FAF67R37 F 67R37 FF 67R37	0.18
	1.4	984		
	1.6	864		
	1.9	722		0.25
	2.2	633		
	2.6	527		
	2.8	500		0.37
	3.1	454		
	3.5	392		
	4.2	333		0.55
	4.7	297		
	5.3	261		
	5.8	238		
	7.0	200		0.75
1500	0.7	2024	FA 77R37 FAF77R37 F 77R37 FF 77R37	0.18
	0.81	1728		
	0.91	1543		
	1.03	1354		
	1.2	1196		0.25
	1.3	1050		
	1.5	907		0.37
	1.7	810		
	2.0	710		

Permissible torque Nm	Output speed r/min	Ratio i	Type Type	Power kW/4p
1500	2.3	600	FA 77R37 FAF77R37 F 77R37 FF 77R37	0.55
	2.6	525		
	3.0	469		
	3.4	412		0.75
	3.9	357		
	4.4	314		
3000	0.33	4245	FA 87R57 FAF87R57 F 87R57 FF 87R57	0.18
	0.37	3721		
	0.43	3244		
	0.48	2881		
	0.54	2575		0.25
	0.63	2199		
	0.72	1930		
	0.81	1709		0.37
	0.93	1493		
	1.1	1300		0.55
	1.2	1148		
	1.4	1010		
	1.6	887		
	1.8	780		0.75
	2.1	674		
	2.3	609		1.1
	2.7	515		
	3.1	452		
	4.0	345		1.5
4300	0.21	6532	FA 97R57 FAF97R57 F 97R57 FF 97R57	0.18
	0.24	5696		
	0.28	5032		
	0.32	4375		
	0.35	3946		0.25
	0.41	3404		
	0.47	2949		
	0.54	2590		0.37
	0.61	2267		
	0.70	1989		
	0.80	1739		0.55
	0.90	1542		
	1.0	1340		
	1.2	1182		0.75
	1.3	1032		
	1.5	907		1.1
	1.8	796		
	2.0	700		
	2.3	611		1.5
	2.6	534		
	3.0	472		
	3.5	410		2.2
	3.9	367		
	4.9	288		3
	5.7	247		
7840	0.12	11347	FA 107R77 FAF107R77 F 107R77 FF 107R77	0.18
	0.14	10039		
	0.16	8548		
	0.18	7675		
	0.21	6615		0.25
	0.24	5820		
	0.27	5223		

All gear units are overloaded in above table. Determination of operating torque should not higher than the gear unit's nominal torque.

Permissible torque Nm	Output speed r/min	Ratio i	Type Type	Power kW/4p
7840	0.30	4567	FA 107R77 FAF107R77 F 107R77 FF 107R77	0.37
	0.40	3442		
	0.46	3037		0.55
	0.50	2756		
	0.59	2369		
	0.67	2068		0.75
	0.76	1826		
	0.88	1597		1.1
	1.0	1401		
	1.1	1243		
	1.3	1087		1.5
	1.5	950		
	1.7	834		2.2
	1.9	736		
	2.3	627		
	2.5	560		3
	2.9	489		
	3.3	427		
	4.0	362		4
	4.3	333		
12000	0.08	16787	FA 127R77 FAF127R77 F 127R77 FF 127R77	0.18
	0.09	14838		
	0.11	13014		
	0.12	11748		
	0.14	10271		0.25
	0.16	8901		
	0.18	7703		0.37
	0.21	6768		
	0.23	5975		
	0.27	5076		0.55
	0.31	4466		
	0.36	3868		
	0.41	3403		0.75
	0.47	2987		
	0.52	2693		
	0.59	2376		1.1
	0.68	2054		
	0.78	1798		
	0.86	1619		1.5
	1.0	1401		
	1.2	1230		2.2
	1.3	1085		
	1.5	937		
	1.7	827		3
	1.9	733		
	2.2	640		
	2.7	542		4
	2.9	489		
	3.4	423		5.5
	3.9	371		
	3.0	483	FA 127R87 FAF127R87 F 127R87 FF 127R87	5.5
	3.5	417		
	3.9	373		
	4.7	312		7.5
	5.0	293		
	7.3	200		11

Permissible torque Nm	Output speed r/min	Ratio i	Type Type	Power kW/4p
18000	0.04	31434	FA 157R97 FAF157R97 F 157R97 FF 157R97	0.55
	0.05	26173		
	0.06	23464		
	0.07	20212		
	0.08	17984		
	0.09	16358		
	0.10	13751		
	0.11	12235		
	0.20	7065		
	0.22	6286		
	0.26	5404		0.75
	0.14	10033		1.1
	0.16	9021		
	0.17	8026		
	0.29	4831		
	0.34	4124		
	0.50	2776		
	0.57	2427		1.5
	0.64	2185		
	0.39	3602		2.2
	0.44	3205		
	0.73	1944		
	0.85	1674		
	1.00	1420		
	1.1	1308		3
	1.2	1169		
	1.5	953		4
	1.7	845		
	1.9	764		
	2.1	680		5.5
	2.5	576		
	2.9	503		7.5
	3.3	446		
	4.9	301		11
	5.4	272		
	6.3	231		15
	7.2	202		
	4.9	196		18.5

All gear units are overloaded in above table. Determination of operating torque should not higher than the gear unit's nominal torque.

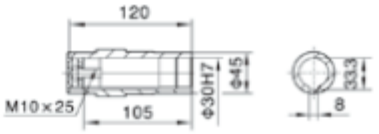
F

F

F37



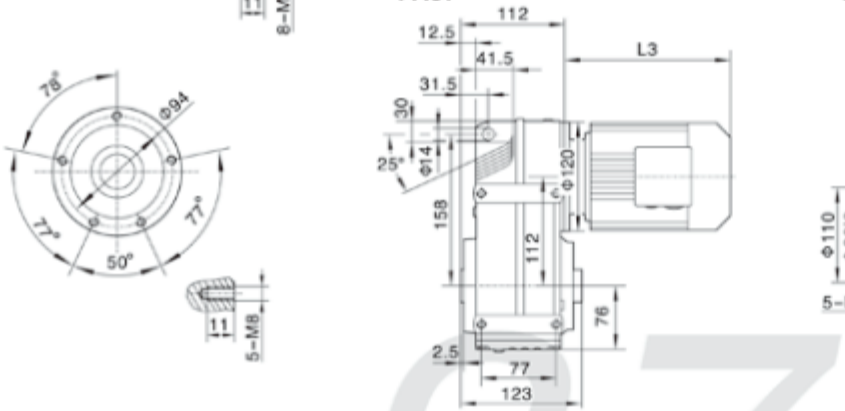
FA37/FAF37/FAZ37 /Hollow shaft



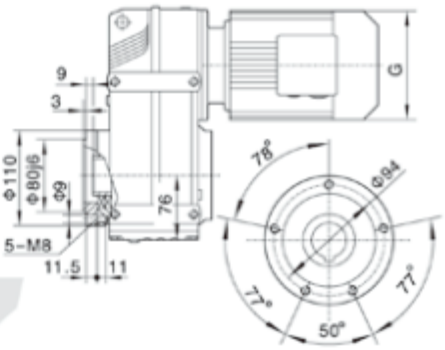
F..T37



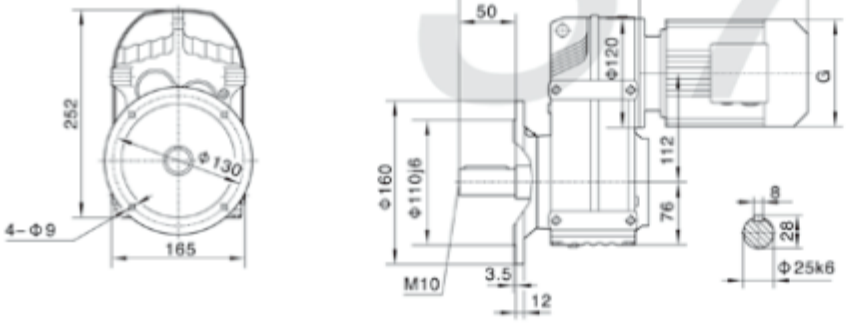
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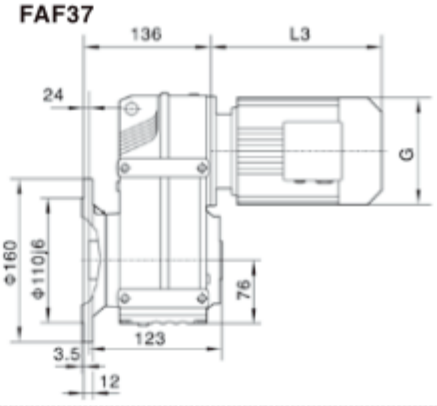
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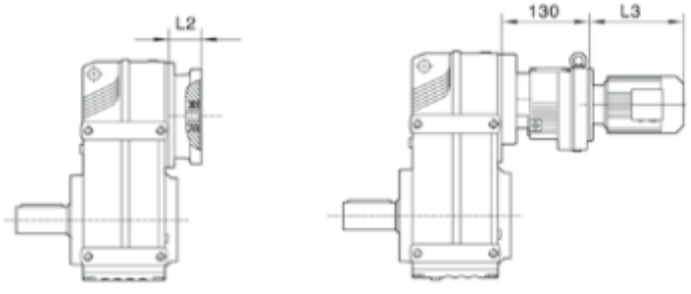
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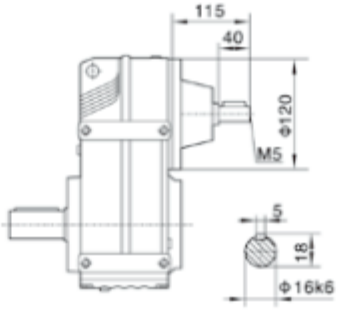
FAF37



F..37R17



F..S37

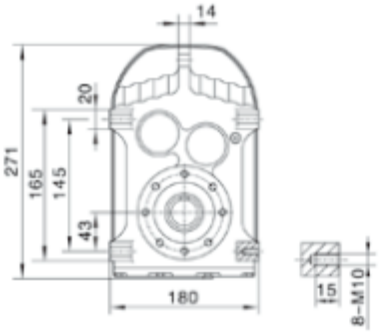


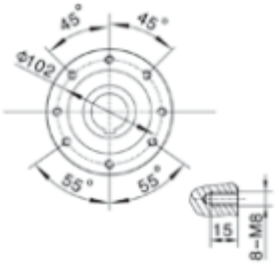
Note: For other values please refer to relevant structure.

Customers provide the motor by themselves need connected flange.

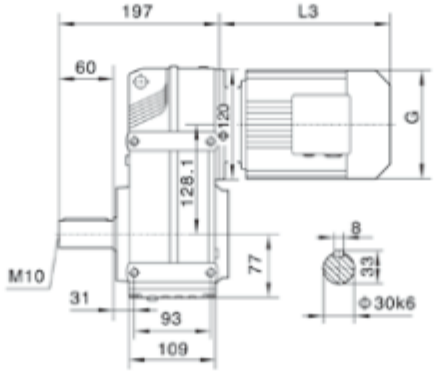
Motor size	63	71		80		90S	90L	100		
Power/(kW)	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	
L3	235	245		278		304	328	340		
G	130	145		175		195	195	215		
L2	71	71		71		71	71	93		

Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.

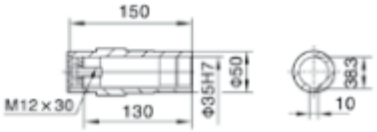




F47



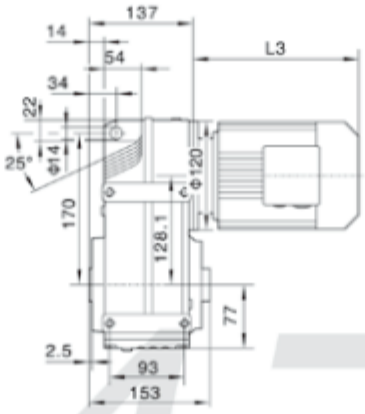
FA47/FAF47/FAZ47
/Hollow shaft



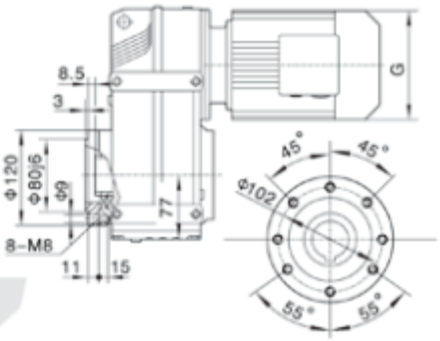
F..T47

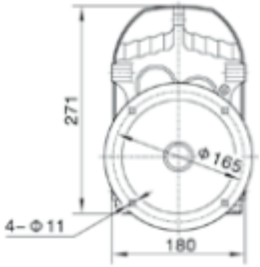


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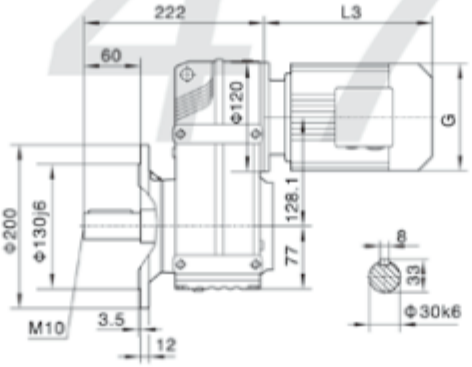


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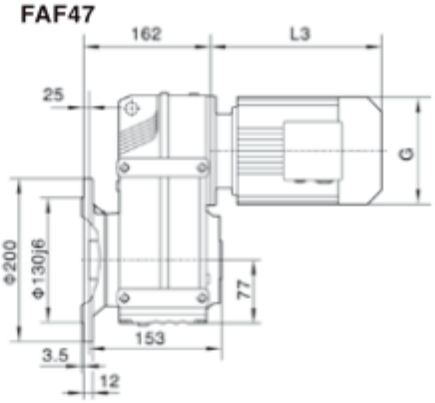




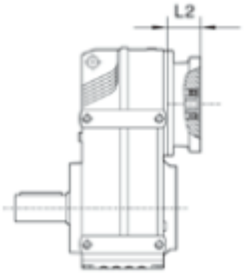
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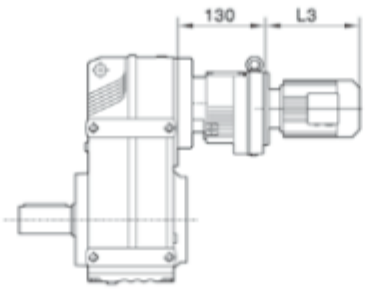


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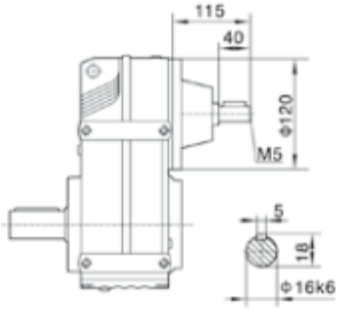


F..47R17





F..S47



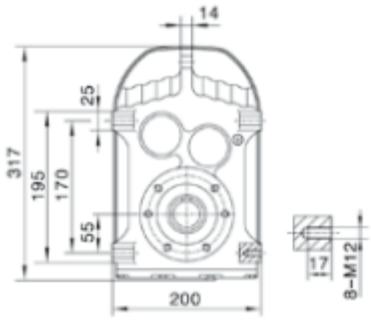
Note: For other values please refer to relevant structure.

Customers provide the motor by themselves need connected flange.

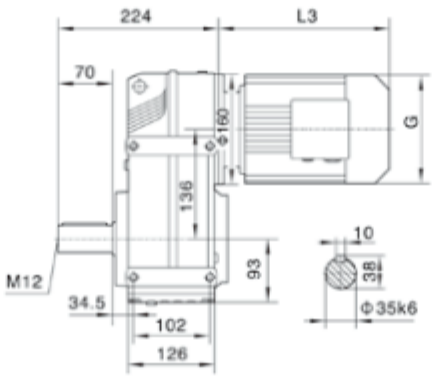
Motor size	63	71		80		90S	90L	100	
Power/(kW)	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3
L3	235	245		278		304	328	340	
G	130	145		175		195	195	215	
L2	71	71		71		71	71	93	

Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.

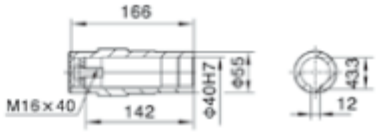
F



F57

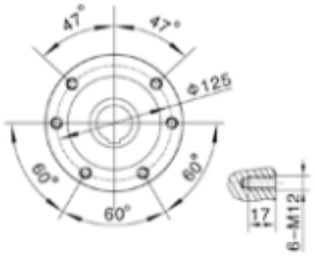


FA57/FAF57/FAZ57
/Hollow shaft

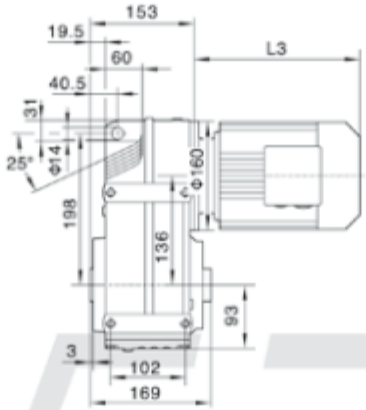


F..T57

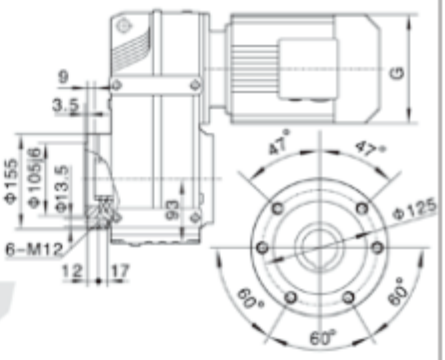


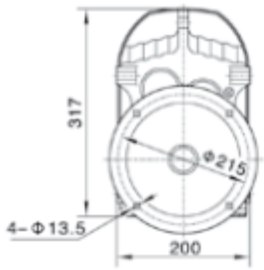


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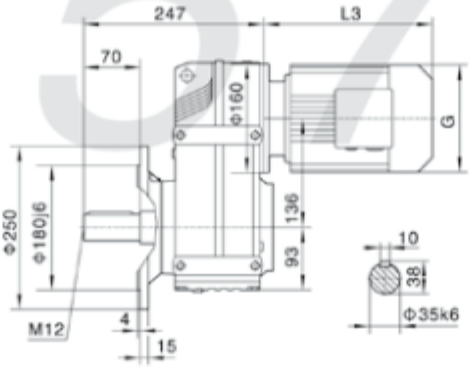


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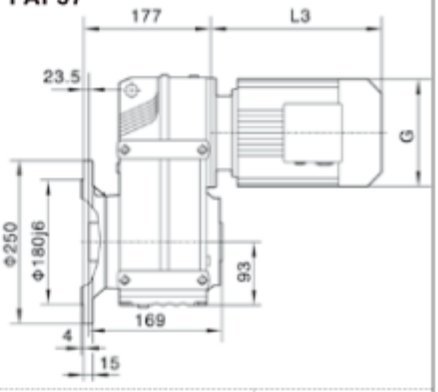




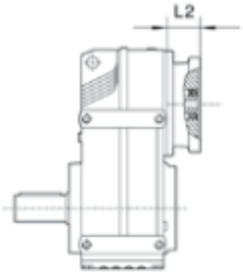
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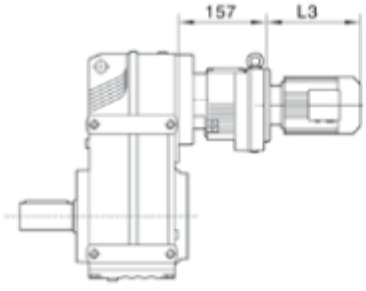


FAF57

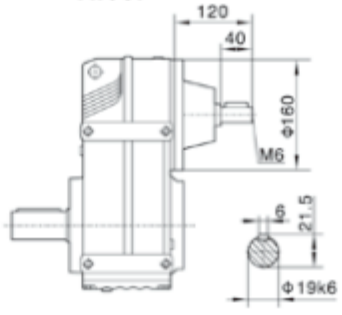


F..57R37





F..S57

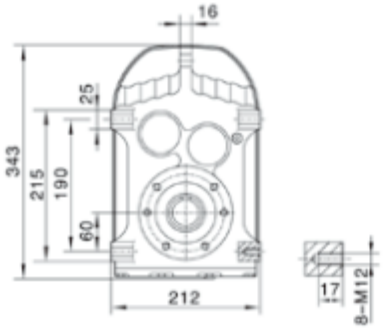


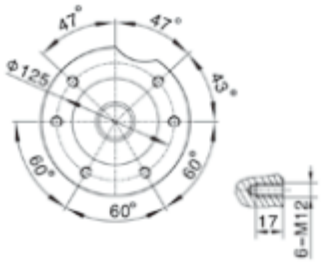
Note: For other values please refer to relevant structure.

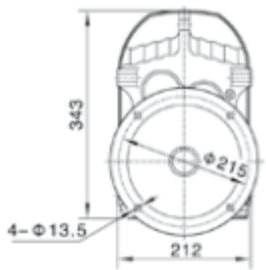
Customers provide the motor by themselves need connected flange.

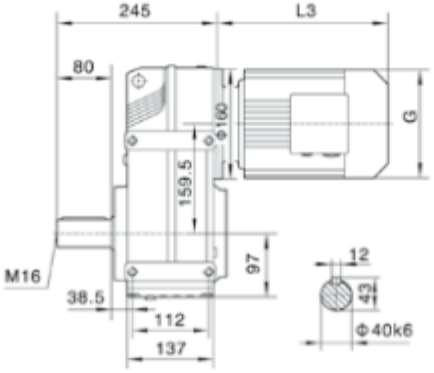
Motor size	63	71		80		90S	90L	100		112M	132S
Power/(kW)	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5
L3	223	245		278		304	328	350		380	425
G	130	145		175		195	195	215		240	275
L2	81	81		81		81	81	93		93	101

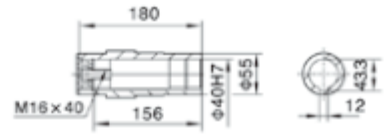
Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.

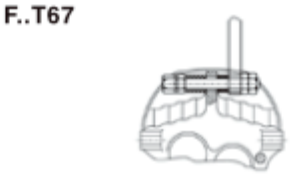


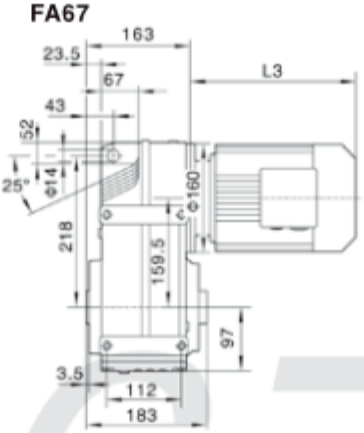


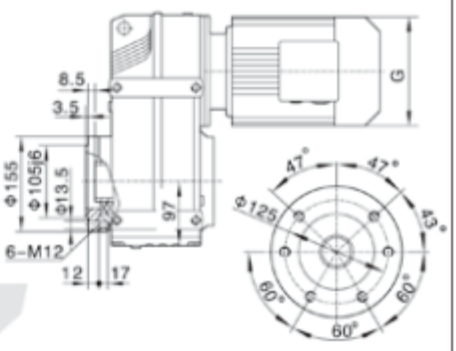


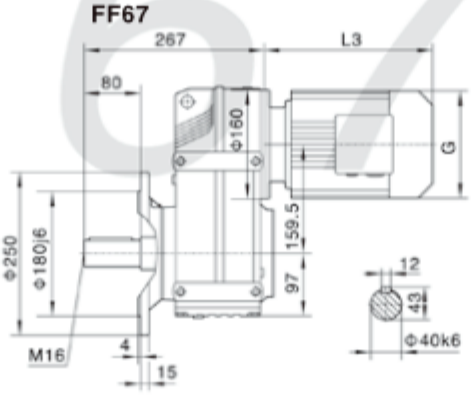


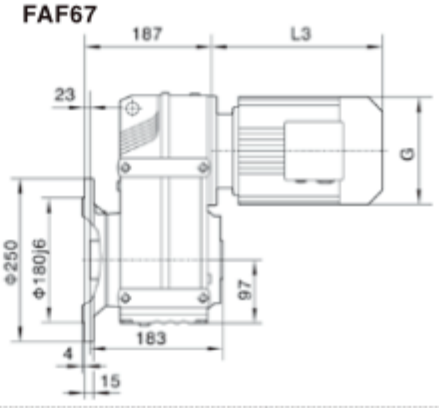


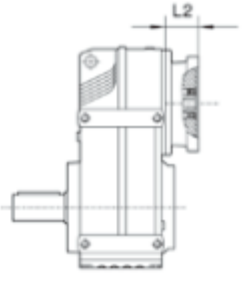


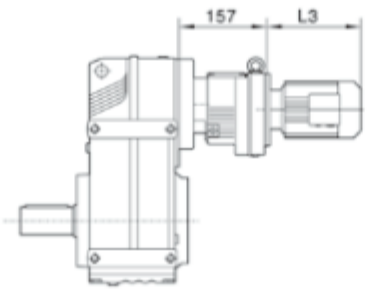


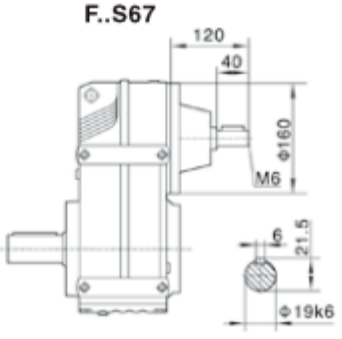












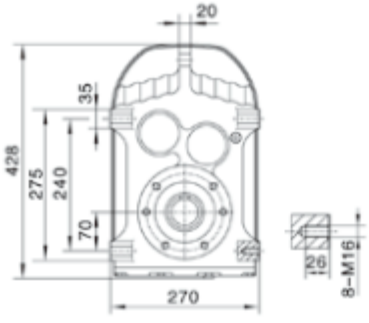
Note: For other values please refer to relevant structure.

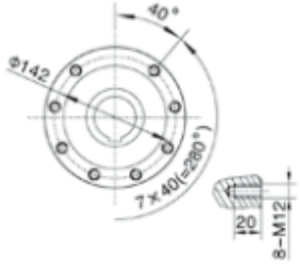
Customers provide the motor by themselves need connected flange.

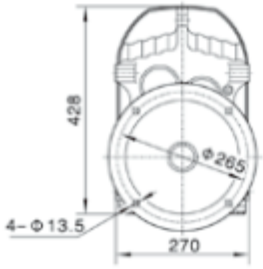
Motor size	63	71		80		90S	90L	100		112M	132S
Power/(kW)	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5
L3	223	245		278		304	328	350		380	425
G	130	145		175		195	195	215		240	275
L2	81	81		81		81	81	93		93	101

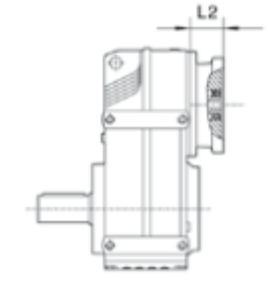
Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.

F

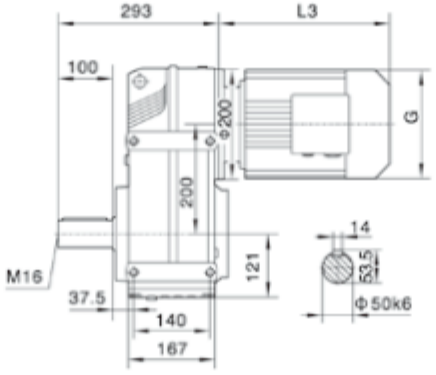




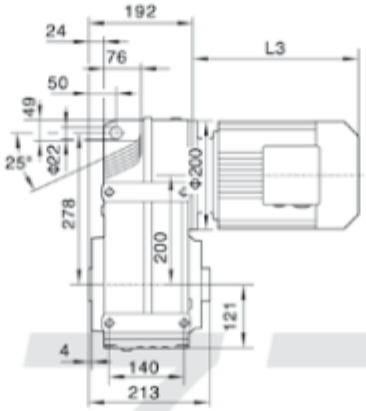




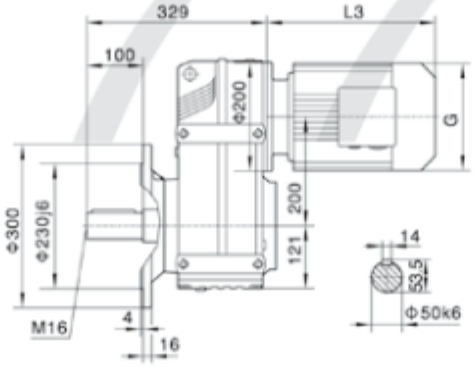
F77



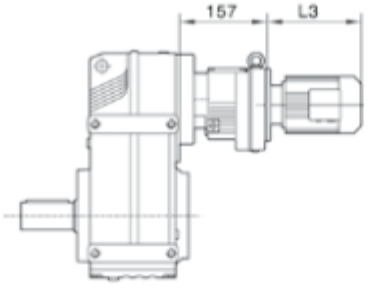
FA77



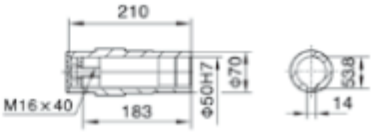
FF77



F..77R37



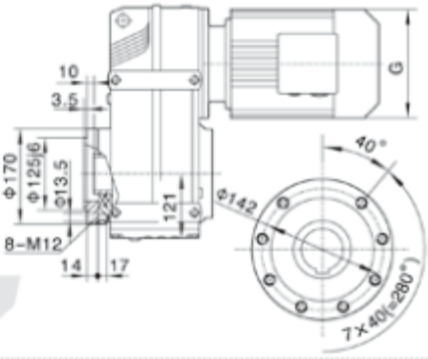
FA77/FAF77/FAZ77
/Hollow shaft



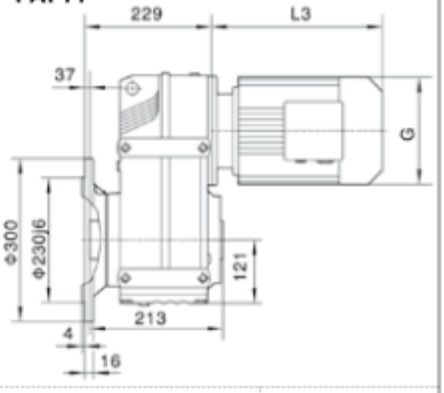
F..T77



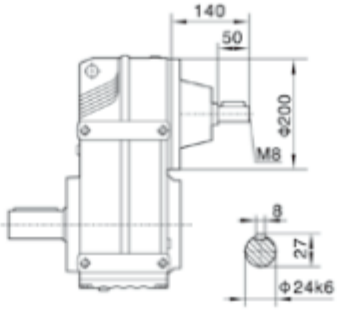
FAZ77



FAF77



F..S77

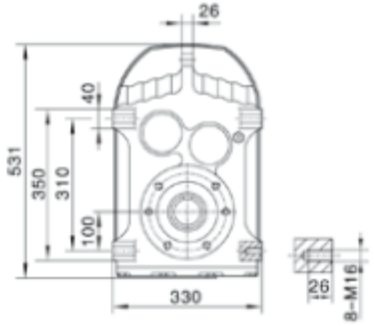


Note: For other values please refer to relevant structure.

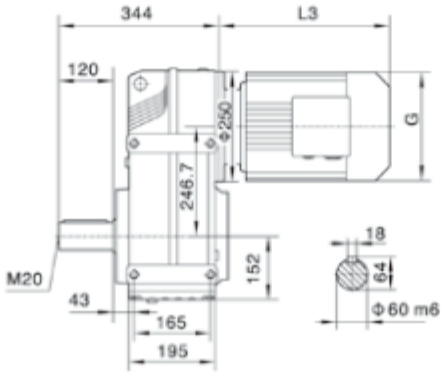
Customers provide the motor by themselves need connected flange.

Motor size	71	80		90S	90L	100		112M	132S	132M	160M
Power/(kW)	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11
L3	233	278		304	328	350		380	425	461	524
G	145	175		195	195	215		240	275	275	330
L2	81	81		81	81	93		93	101	101	126

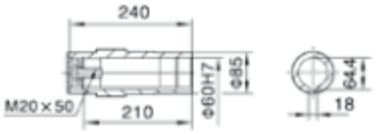
Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.



F87

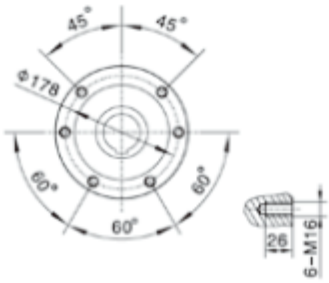


FA87/FAF87/FAZ87
/Hollow shaft

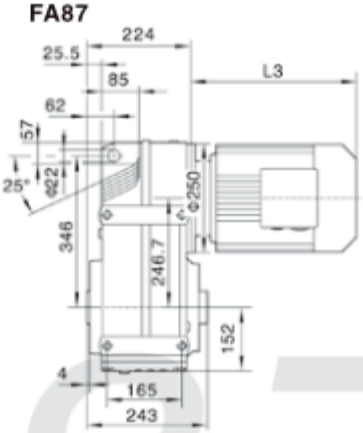


F..T87

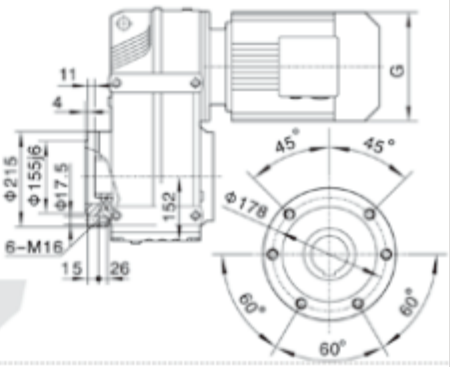


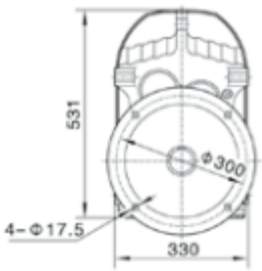


FA87

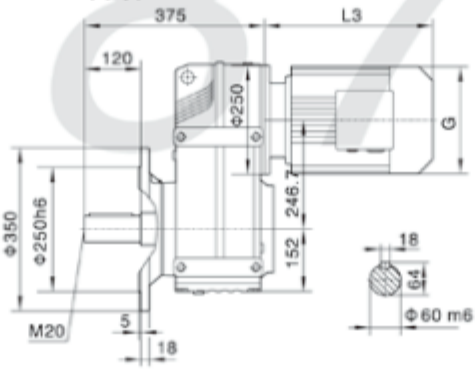


FAZ87

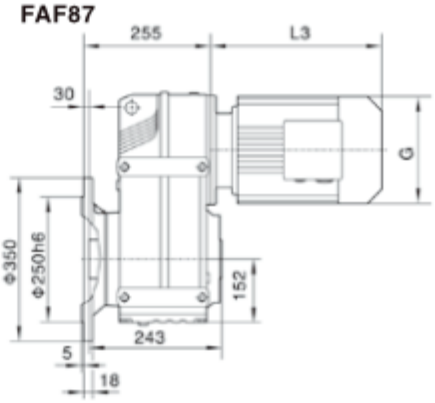


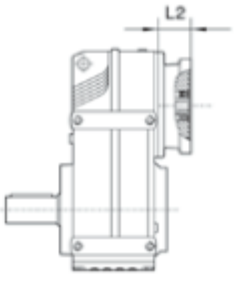


FF87

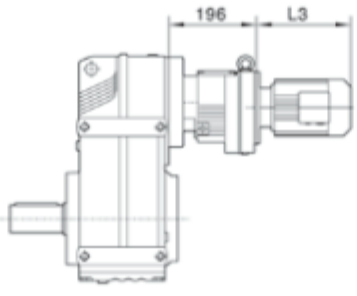


FAF87

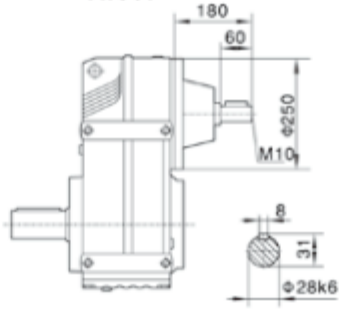




F..87R57



F..S87



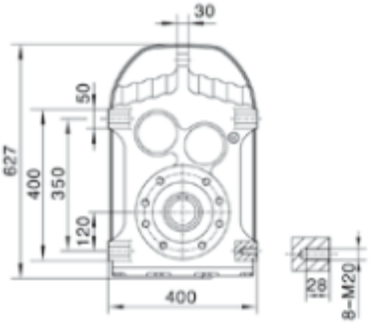
Note: For other values please refer to relevant structure.

Customers provide the motor by themselves need connected flange.

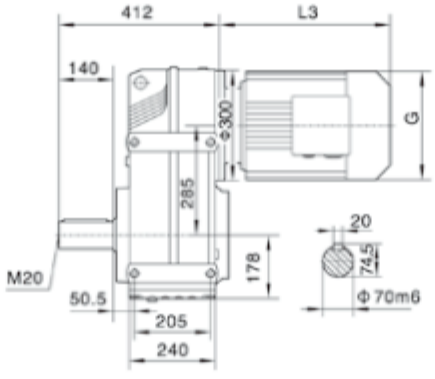
Motor size	80	90S	90L	100		112M	132S	132M	160M	160L	180M	180L
Power/(kW)	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22
L3	246	280	304	350		380	425	461	524	547	583	616
G	175	195	195	215		240	275	275	330	330	380	380
L2	86	86	86	71		71	101	101	126	126	126	126

Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.

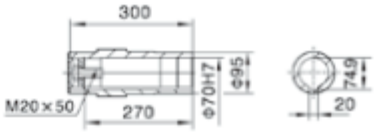
F



F97



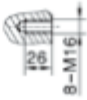
FA97/FAF97/FAZ97
/Hollow shaft



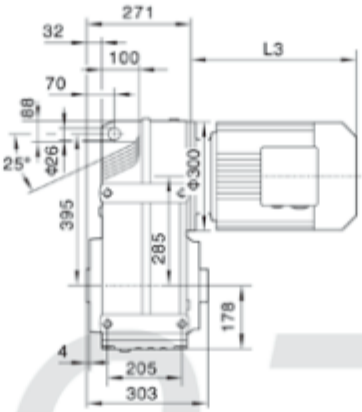
F..T97



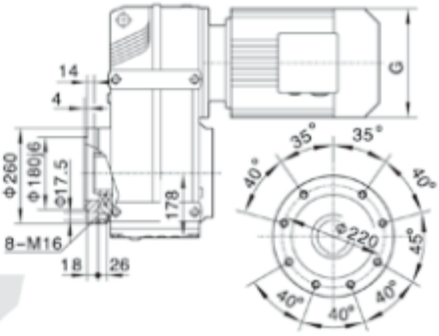


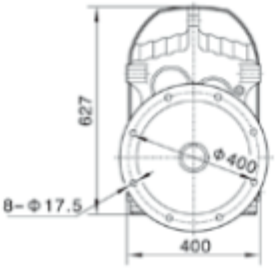


FA97

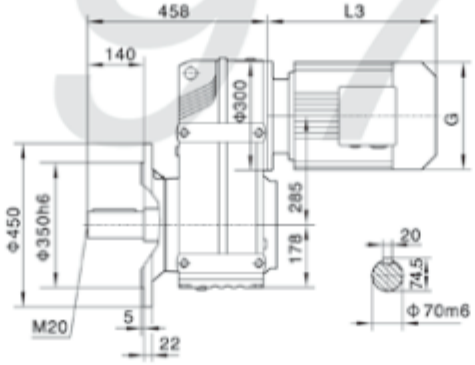


FAZ97

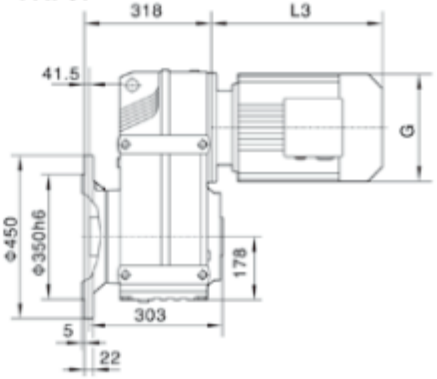




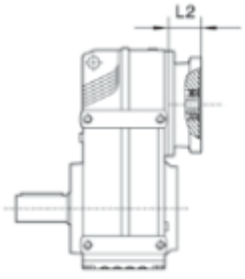
FF97

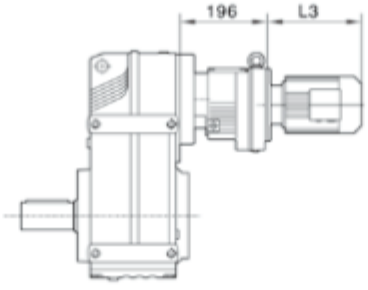


FAF97

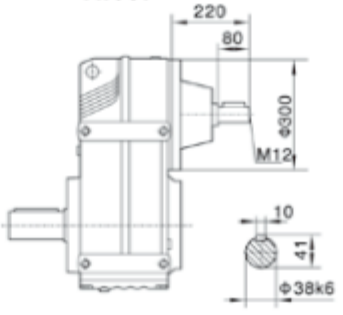


F..97R57





F..S97

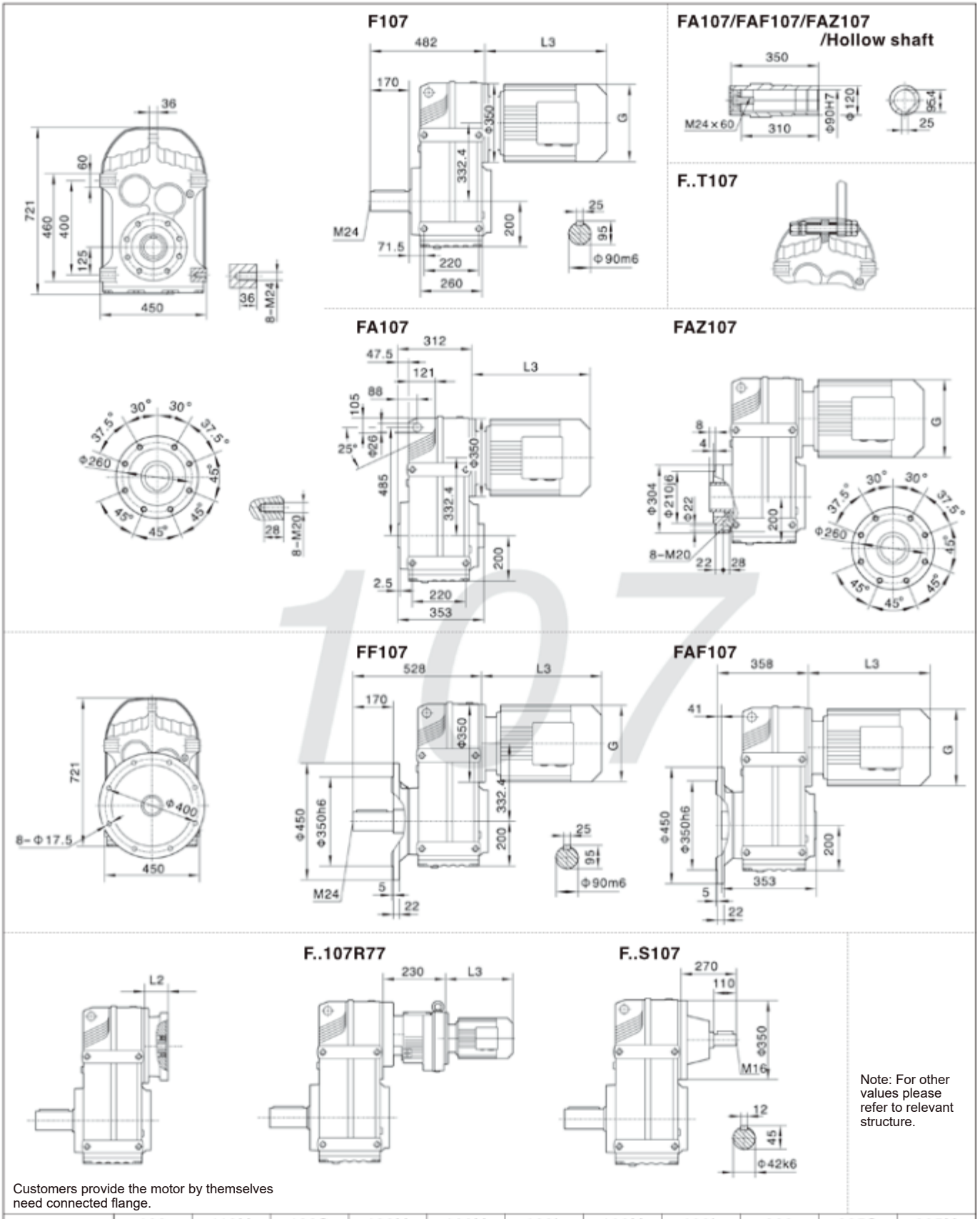


Note: For other values please refer to relevant structure.

Customers provide the motor by themselves need connected flange.

Motor size	90S	90L	100	112M	132S	132M	160M	160L	180M	180L	200
Power/(kW)	1.1	1.5	2.2 3	4	5.5	7.5	11	15	18.5	22	30
L3	280	304	315	334	425	461	524	547	555	588	654
G	195	195	215	240	275	275	330	330	380	380	420
L2	86	86	101	101	101	101	126	126	126	126	132

Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.



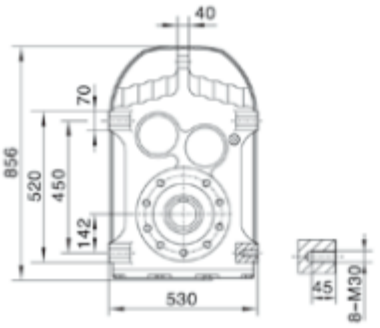
Note: For other values please refer to relevant structure.

Customers provide the motor by themselves need connected flange.

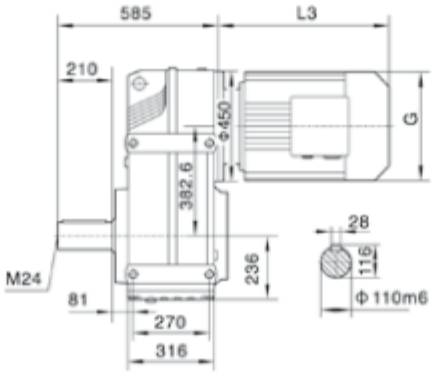
Motor size	100	112M	132S	132M	160M	160L	180M	180L	200	225S	225M
Power/(kW)	2.2 3	4	5.5	7.5	11	15	18.5	22	30	37	45
L3	318	334	386	422	504	519	555	588	654	680	702
G	215	240	275	275	330	330	380	380	420	470	470
L2	101	101	101	101	126	126	126	126	132	132	132

Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.

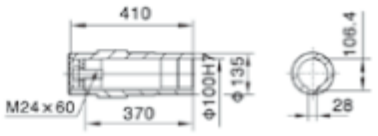
F



F127

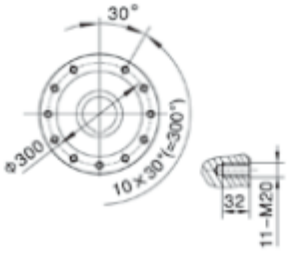


FA127/FAF127/FAZ127
/Hollow shaft

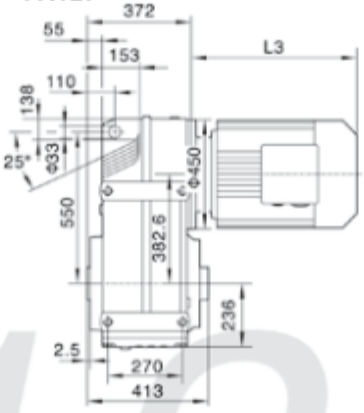


F..T127

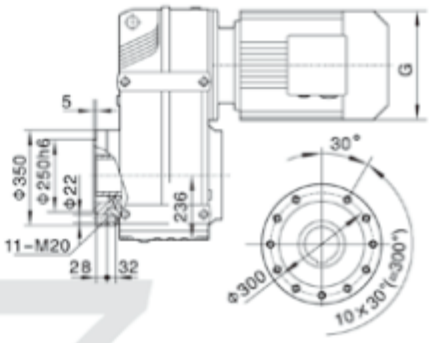


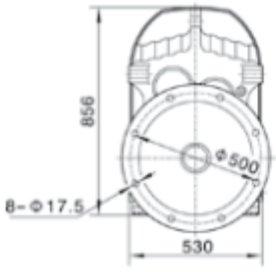


FA127

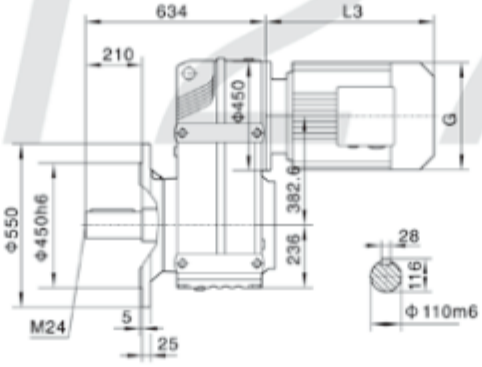


FAZ127

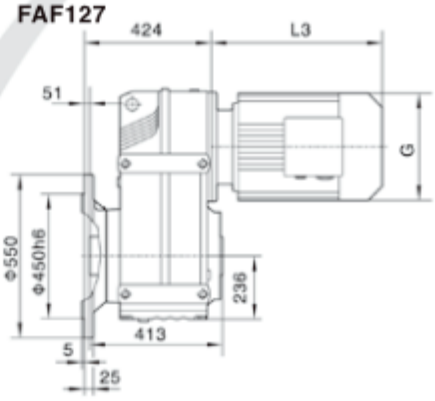




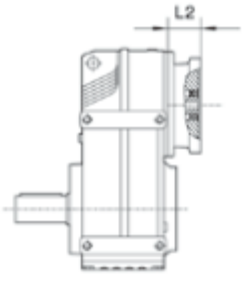
FF127

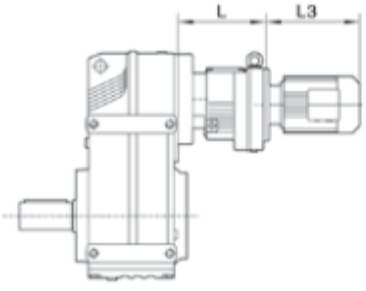


FAF127

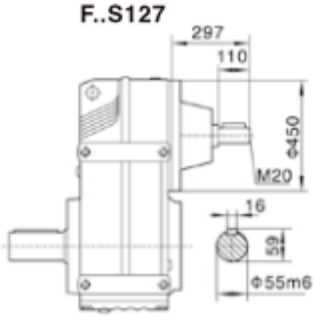


F..127R77(R87)





F..S127



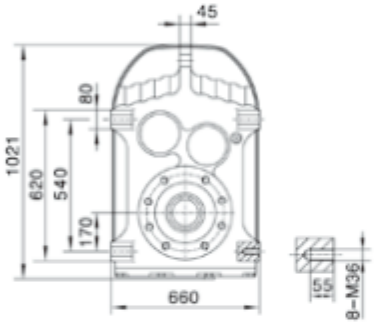
Note: For other values please refer to relevant structure.

Customers provide the motor by themselves need connected flange.

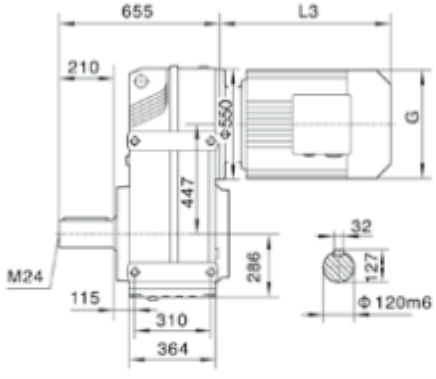
	F..127R77	F..127R87
L	230	275

Motor size	132M	160M	160L	180M	180L	200	225S	225M	250	280S	280M
Power/(kW)	7.5	11	15	18.5	22	30	37	45	55	75	90
L3	424	567	602	583	616	654	674	696	775	847	847
G	275	330	330	380	380	420	470	470	510	580	580
L2	132	132	132	132	132	132	143	143	174	174	174

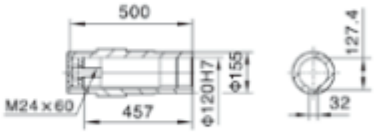
Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.



F157



FA157/FAF157/FAZ157
/Hollow shaft

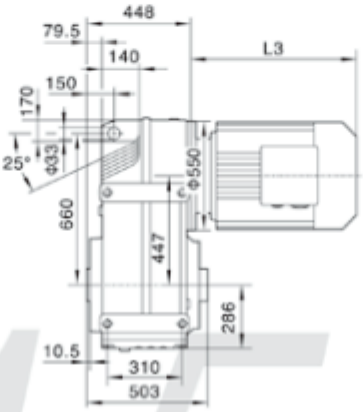


F..T157

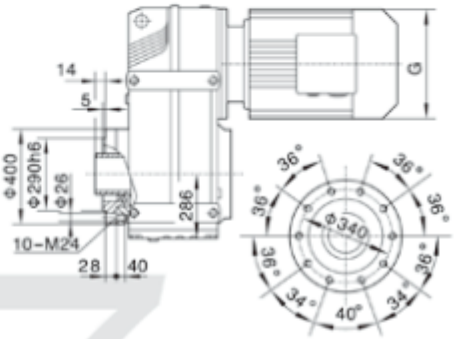


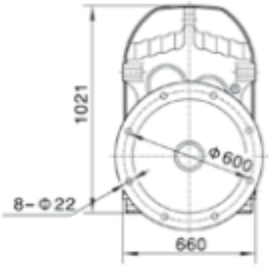


FA157

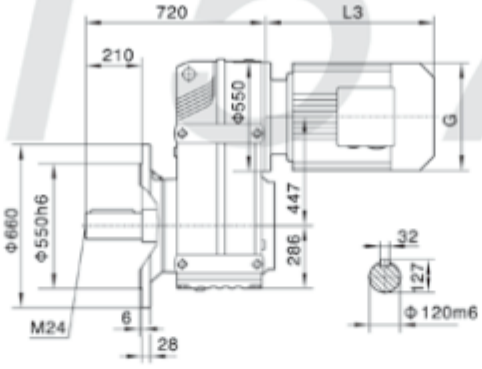


FAZ157

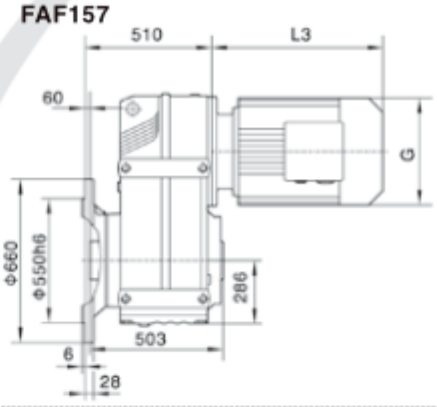




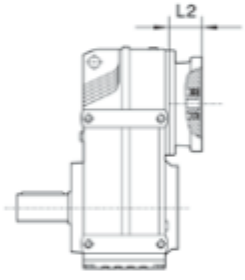
FF157

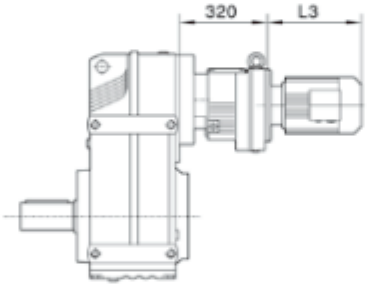


FAF157

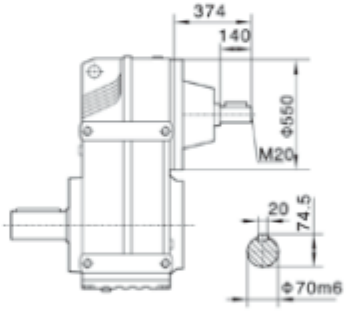


F..157R97





F..S157



Note: For other values please refer to relevant structure.

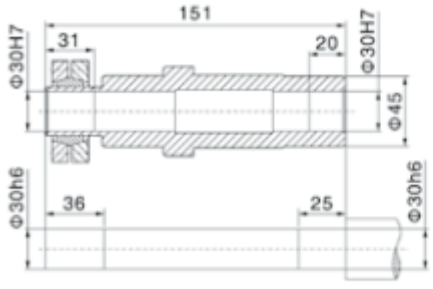
Customers provide the motor by themselves need connected flange.

Motor size	160M	160L	180M	180L	200	225S	225M	250	280S	280M	315S	315M	315L
Power/(kW)	11	15	18.5	22	30	37	45	55	75	90	110	132	160
L3	567	602	635	666	642	669	691	770	828	879	1100	1180	1270
G	330	330	380	380	420	470	470	510	580	580	645	645	645
L2	143	143	143	143	143	143	143	143	143	143	145	145	145

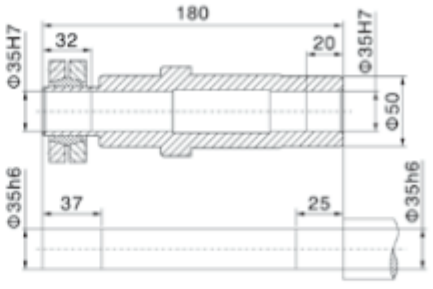
Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.

Dimensions of shrink disc

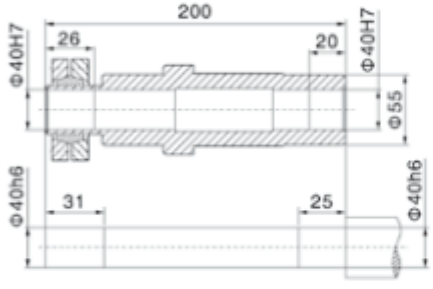
FH..37..



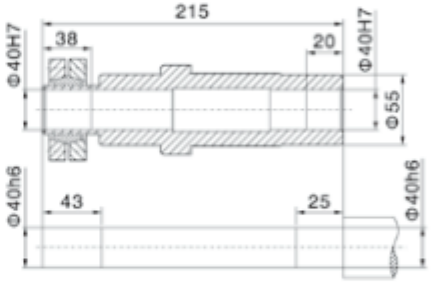
FH..47..



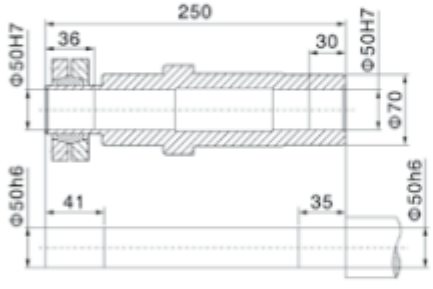
FH..57..



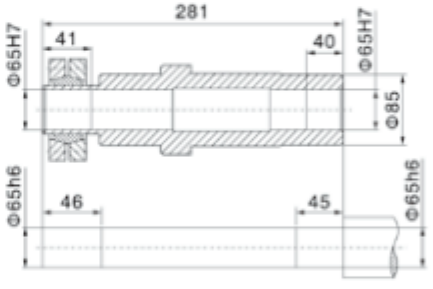
FH..67..



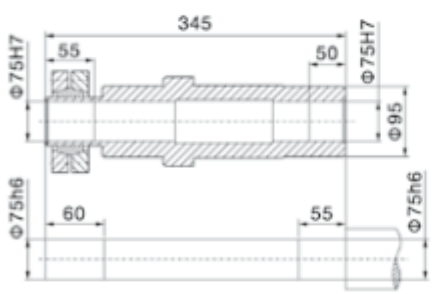
FH..77..



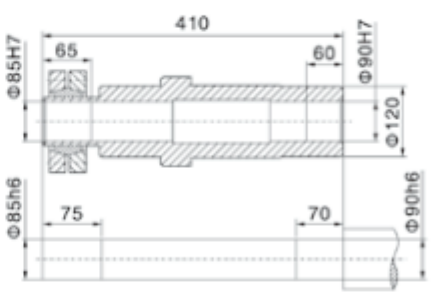
FH..87..



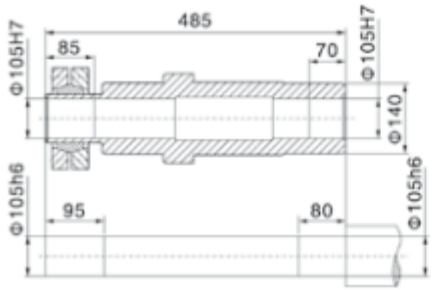
FH..97..



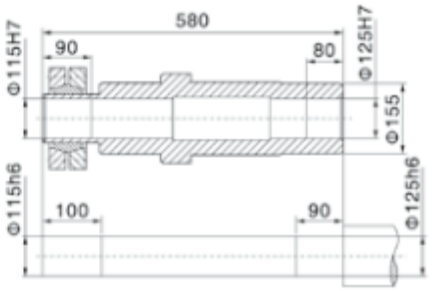
FH..107..



FH..127..



FH..157..



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