# **REDSUN** 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. Motors of Y series are supplied with protection grade of IP54 unless otherwise specified.

8. Unless otherwise specified, you will receive the terminal box at 0°.



#### **Guidelines for the selection**

- Gear units are designed under the circumstance of steady load, stated operating time per day and a few sarting 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.
  - $Viz \quad T_N {\geqslant} T_2 \times f_1 \times f_2 \times f_3$ 
    - f1 Driven machine factor(See table 1)
    - f2 Prime mover factor(See table 2)
    - f3 Start factor(See table 3)
    - T<sub>2</sub> The torque required by driven machine
    - TN-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 prouct of the mannul of RED SUN will be changed, please forgive.



#### Service factor:

Table 1	D	riven	machir	ne factor			<b>f</b> 1
Driven equipment		operati h load(h	ng time 10ur)	Driven equipment		operatin 1 load(h	
	≤ 2	> 2-10 > 10			≤ 2	> 2-10	> 10
Sewage treatment Concentrator(Central Transmission) Compressed filter Flocculator Aerator Collector Vertical,rotary group	_ 1.0 0.8 _ 1.0	- 1.3 1.0 1.8 1.2	1.2 1.5 1.3 2.0 1.3	Conveyingmachine Bucket conveyor Winch Hoist Belt conveyor≤150kW Belt conveyor≥150kW Elevators for goods*	- 1.4 - 1.0 1.1	1.4 1.6 1.5 1.2 1.3 1.2	1.5 1.6 1.8 1.3 1.4 1.5
Blended collector Concentrator Screw pump Water wheel machine Pump	1.0 _ _ _	1.3 1.1 1.3 -	1.5 1.3 1.5 2.0	Elevators for customers* Scraper conveyor Automatic ladder Rail traveling mechanism	_  1.0 _	1.5 1.2 1.2 1.2 1.5	1.8 1.5 1.4 _
Centrifugal pump Volume-down pump 1Piston	1.0 1.3	1.2	1.3 1.8	Various frequency device	-	1.8	2.0
>1Piston Dredge	1.2	1.4	1.5	Reciprocating compressor	-	1.8	1.9
Bicket conveyor Unloading device Carterpillar traveling mechanism Bucket digger Be used for picking up Be used for rough materials Chopper Traveling mechanism*	- - 1.2 - - -	1.6 1.3 1.6 1.7 2.2 2.2 1.4	1.6 1.5 1.8 1.7 2.2 2.2 1.8	Hoisting mechanism** Rotary mechanism* Pitching mechanism Traveling mechanism Lifting mechanism Jibcrane		1.4 1.1 1.6 1.1 1.2	1.8 1.4 2.0 1.4 1.6
Plate blender	_	1.0	1.0	Cooling tower Cooling tower fan	-	-	2.0
Chemical industry Extruder Paste mixer Rubber calendar Cooling cylinder Material mixer,be used for Uniform medium Blender,be used for Uniform density medium Un-uniformed medium Un-uniformed gas absorption Oven Centrifugal machine	- - - 1.0 1.4 1.0 1.2 1.4 1.0 1.0	- 1.8 1.5 1.3 1.3 1.6 1.3 1.4 1.6 1.3 1.4 1.6 1.3 1.2	1.6 1.8 1.5 1.4 1.4 1.7 1.5 1.6 1.8 1.5 1.3	Fan (Shaft flow and centrifugal type) Food industry Sugar production Sugar-cane cutter* Sugar crane mill Beet sugar production Beet masher Squeeze machine, mechanical refrigerator, cooking machine Beet cleaner Beet chopper Paper-making machinery	- - - - - -	1.4 - - - -	1.5 1.7 1.7 1.2 1.4 1.5
Metal processing equipment Plate turnover Steel pushing device Winding machine	1.0	1.0 1.2 1.6	1.2 1.2 1.6	Various kinds*** Pulper driving device Centrifugal compressor		1.8 goods acc er requiren   1.4	
Cooling bed transverse frame Roller leveler Roller path Continuous Interval Reversing mill Cutter Continuous*	- - - - -	1.5 1.6 1.5 2.0 1.8 1.5	1.5 1.6 1.5 2.0 1.8 1.5	Rope way cable car Delivery ropeway Cableway of shuttle system T rod elevator Continuous cableway		1.3 1.6 1.3 1.4	1.4 1.8 1.4 1.6
Crank type* Continuous casting driving device Rolling mill Reversing cogging mill Reversing plate slab mill Reversing wire mill Reversing thin plate mill Reversing middle thickness plate mill Roll gap adjusting and driving device	1.0 - - - - - 0.9	1.0 1.4 2.5 2.5 1.8 2.0 1.8 1.0	1.0 1.4 2.5 2.5 1.8 2.0 1.8 -	Cement industry Concrete blender Crusher* Rotary kiln Tube mill Powder concentrator Roller press		1.5 1.2 - 1.6 -	1.5 1.4 2.0 2.0 1.6 2.0





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

Note: Determine required power P2 of the driven equipment: \*)Determine rated power according to maximum torque. \*\*)It's necessary to check thermal capacity.

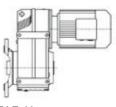
#### Prime mover factor

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

Table 3	Sta	fз		
f 3 Starts per hour	1	1.25 -1.75	2 - 2.75	≥3
≤ 5	1	1	1	1
6 – 2 5	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
> 1 8 0	1.7	1.5	1.3	1.2





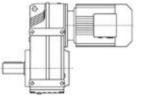




FAF Y

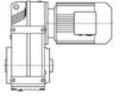
Flanged-mounted hollow shaft parallel shaft helical gear units

F series gear units are available in the following designs:





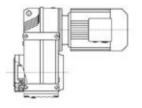
Foot-mounted solid shaft parallel shaft gear units





FA..Y..

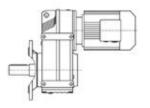
Hollow shaft helical parallel shaft helical gear units

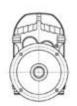




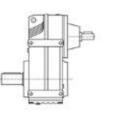
FAZ..Y..

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





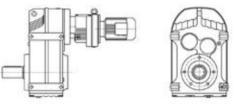
FF..Y.. Flange-mounted solid shaft parallel shaft helical gear units



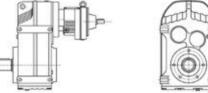


F(FF, FA, FAF, FAZ)S...

Parallel shaft helical gear units with solid shaft input

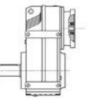


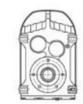
F(FF, FA, FAF, FAZ)...R...Y... Combi-type parallel shaft helical gear units

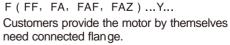




F(FF, FA, FAF, FAZ)S...R... Combi-type parallel shaft helical gear units with solid shaft input









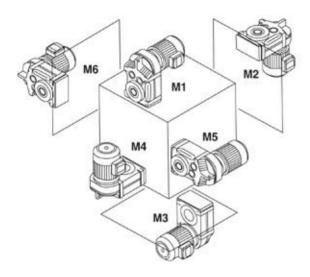
## Type Designations:

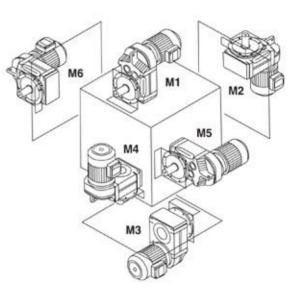
E E 37-Y (	0.55–4P–23.88–M1– 270°
Gear units type	Position of the motor thermal box
Structure	Mounting position
Size	Ratio
Motor code	Motor power, pole
Wotor oodo	
Gear units type:	
Parallel shaft helical gear units	
Structure:	
Foot-mounted solid shaft	(-)
Hollow shaft Flange-mounted solid shaft	A F
Flange-mounted hollow shaft	AF
Short-flange-mounted hollow shaft	AZ
Foot-mounted solid shaft with solid shaft i	
Hollow shaft with solid shaft input	AS
Flange-mounted solid shaft with solid sha	ft input FS
Flange-mounted hollow shaft with solid sh	
*Hollow shaft with shrink disc	H(H,HF,HZ,HT)
Size	
Size: (see selection table)	
· · ·	
Motor code:	
Common motor	Y(Y2)
Flameproof motor	В
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.

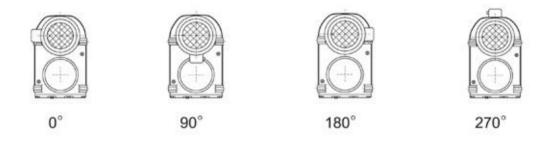


## Mounting positions





#### Positions of motor terminal box



## 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...:

0:70		Oil level (L)										
Size	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...:

			Oilley	vel (L)		
Size	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			Oille	vel (L)		
5120	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	2.7	3.8	2.1	3.6	2.9	3
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	25.0	18.5	20
F107	24.5	32	19.5	37.5	27	27
F127	39	55	34	61	45	46.5
F157	68	103	62	104	85	77





Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
0.18k 0.11 0.12 0.14 0.16 0.18 0.21	H 14324 12930 11305 9797 8478 7449	13014 11748 10271 8901 7703 6768	0.79 0.87 1.00 1.15 1.33 1.51	FA 127R77 FAF127R77 F 127R77 FF 127R77	4 4 4 4	0.18k 2.5 2.7 3.1 3.3 3.6 4.2	616 558 499 469 426 363	560 507 453 426 387 330	0.92 1.01 1.13 1.20 1.32 1.55	FA 57R37 FAF57R37 F 57R37	4 4 4
0.16 0.18 0.21 0.24	9408 8448 7281 6406	8548 7675 6615 5820	0.78 0.87 1.01 1.15	FA 107R77	4	4.7 5.3 6.2 7.0	328 288 249 220	298 262 226 200	1.72 1.96 2.3 2.6	FF 57R37	4
0.27 0.30 0.39 0.46 0.50 0.59 0.67	5749 5027 3875 3343 3033 2607 2276 4815	5223 4567 3521 3037 2756 2369 2068 4375	1.28 1.47 1.90 2.2 2.4 2.8 3.2 0.84	FAF107R77 F 107R77 FF 107R77 FF 107R77	4 4 4	4.1 4.6 4.7 4.9 6.0 6.1 6.4 7.4	371 331 322 314 253 250 238 207	337 301 293 285 230 227 216 188	1.01 1.13 1.17 1.20 1.49 1.50 1.58 1.82	FA 47R17 FAF47R17 F 47R17 FF 47R17	4 4 4 4
0.35 0.41 0.47 0.54 0.61 0.70	4343 3743 3246 2851 2495 2189	3946 3401 2949 2590 2267 1989	0.9 1.1 1.2 1.4 1.6 1.8	FA 97R57 FAF97R57 F 97R57 FF 97R57	4 4 4	7.9 8.2 8.3 10 11	194 187 185 146 142	176 170 168 133 129	1.94 1.00 1.02 1.28 1.32	FA 37R17 FAF37R17 F 37R17 FF 37R17	4 4 4 4
0.80 0.90 1.0 1.2	1914 1697 1475 1301	1739 1542 1340 1182	2.1 2.4 2.7 3.1	FF 97R57	Т	3.0 3.2 3.8	536 500 429	281.71 262.93 225.79	2.6 2.8 3.3	FA 77 FAF77 F 77 FF 77	6 6 6
0.48 0.54 0.63 0.72 0.81	3171 2834 2420 2124 1881	2881 2575 2199 1930 1709	0.9 1.0 1.2 1.3 1.5	FA 87R57 FAF87R57	4	3.7 4.4 5.0	435 371 325	228.99 195.39 170.85	1.77 2.1 2.4	FA 67 FAF67 F 67 FF 67	6 6 6
0.93 1.1 1.2 1.4 1.6	1643 1431 1264 1112 976	1493 1300 1148 1010 887	1.7 2.0 2.2 2.5 2.9	F 87R57 F 87R57 FF 87R57	4 4 4	6.1 7.1 8.1	266 227 199	228.99 195.39 170.85	2.9 3.4 3.9	FA 67 FAF67 F 67 FF 67	4 4 4 4
1.8 0.8 0.9 1.0 1.2 1.3	859 1902 1698 1490 1316 1156	780 1728 1543 1354 1196 1050	3.3 0.7 0.8 0.9 1.1 1.2	FA 77R37 FAF77R37 F 77R37	4 4 4	4.3 4.6 5.4 6.2 6.7 7.7	380 349 299 259 242 209	199.70 183.60 157.09 136.16 127.27 110.01	1.49 1.62 1.89 2.2 2.3 2.7	FA 57 FAF57 F 57 FF 57	6 6 6 6
1.5 1.7 2.0 2.3	998 892 781 660	907 810 710 600	1.4 1.6 1.8 2.1	FF 77R37	4	7.0 7.6 8.8 10 11	232 213 183 158 148	199.70 183.60 157.09 136.16 127.27	2.4 2.6 3.1 3.6 3.8	FA 57 FAF57 F 57 FF 57	4 4 4 4
1.6 1.9 2.2 2.4 2.8 2.8 3.1	944 812 689 630 550 547 500	858 738 626 572 500 497 454	0.82 0.95 1.12 1.22 1.40 1.41 1.54	FA 67R37	4	4.5 4.9 5.7 6.6 7.0	360 331 283 245 229	189.39 174.13 148.98 129.14 120.70	1.0 1.1 1.3 1.5 2.5	FA 47 FAF47 F 47 FF 47	6 6 6 6
3.3 3.5 3.8 4.2 4.7 5.3 5.8 7.0	470 431 403 367 327 287 262 220	427 392 366 333 297 261 238 200	1.64 1.79 1.91 2.1 2.4 2.7 2.9 3.5	FAF67R37 F 67R37 FF 67R37	4 4 4	7.3 8.0 9.3 11 12	220 202 173 150 140	189.39 174.13 148.98 129.14 120.70	1.71 1.86 2.2 2.5 2.7	FA 47 FAF47 F 47 FF 47	4 4 4 4





Output speed	Output torque	Ratio	Service factor	туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
0.18k	W					0.25k	W				
7.2 8.5 9.8 11 12 11	224 191 164 153 134 149	117.88 100.36 86.53 80.65 70.50 128.51	0.84 0.99 1.14 1.23 1.40 1.26	FA 37 FAF37 F 37 FF 37	6 6 6	0.72 0.81 0.93 1.1 1.2 1.4	2950 2613 2282 1987 1755 1544	1930 1709 1493 1300 1148 1010	1.0 1.1 1.2 1.4 1.6 1.8	FA 87R57 FAF87R57 F 87R57 FF 87R57	4 4 4 4
12 14 16	137 117 101	117.88 100.36 86.53	1.37 1.61 1.87			1.6 1.8 2.1	1356 1192 1030	887 780 674	2.1 2.4 2.7	11 0/110/	•
17 20 21 24 25 27 30 32 36	94 82 77 68 63 60 55 51 45	80.65 70.50 66.09 58.32 54.54 51.70 47.02 43.83 38.31	2.0 2.3 2.4 2.8 3.0 3.1 3.4 3.7 4.2	FA 37 FAF37 F 37 FF 37		1.3 1.5 1.7 2.0 2.3 2.6 3.0 3.4	1605 1387 1238 1085 917 803 717 630	1050 907 810 710 600 525 469 412	0.88 1.02 1.14 1.30 1.54 1.76 1.97 2.2	FA 77R37 FAF77R37 F 77R37 FF 77R37	4 4 4
39 44 49 58 59 68 72 82 82 88 97 108 125	42 37 33 28 27 24 22 20 18 17 15 13	35.91 31.69 28.09 23.88 23.63 20.57 19.27 17.03 15.81 14.33 12.87 11.08	4.5 5.1 5.8 6.8 6.8 7.9 8.4 9.5 10.2 11 13 14		FAF37 F 37	4 4 4	2.2 2.4 2.7 2.8 3.1 3.2 3.5 4.2 4.7 5.3 5.8	980 874 778 764 694 668 599 509 454 399 364	641 572 509 500 454 437 392 333 297 261 238	0.79 0.88 0.99 1.01 1.11 1.15 1.29 1.51 1.70 1.93 2.1	FA 67R37 FAF67R37 F 67R37 FF 67R37
133 155 185 204 227 264 281 326	12 10 8.7 7.9 7.1 6.1 5.8 5.0	10.42 8.97 7.51 6.81 6.11 5.27 4.95 4.26	14 16 17 18 19 20 21			3.6 4.2 5.6 3.6 4.2 4.7 5.3 6.2	592 504 381 584 505 456 401 345	387 330 249 382 330 298 262 226	0.95 0.97 1.11 1.12 1.21 1.24 1.48 1.63	FA 57R37 FAF57R37 F 57R37 FF 57R37	4 4 4 4
0.25k	W					7.0 8.4	306 254	200 166	1.84 2.2		
0.16 0.18 0.21 0.23 0.27 0.31	13607 11775 10346 9131 7760 6827	8901 7703 6768 5973 5076 4466	0.83 0.96 1.09 1.24 1.45 1.7	FA 127R77 FAF127R77 F 127R77 FF 127R77	4 4 4 4	6.0 6.1 6.4 7.2 7.4 7.9	352 347 330 294 287 269	230 227 216 192 188 176	1.07 1.08 1.14 1.28 1.31 1.40	FA 47R17 FAF47R17 F 47R17	4 4 4
0.24 0.27 0.30	8897 7984 6982	5820 5223 4567	0.83 0.92 1.06			8.0 9.4 11	264 226 199	173 148 130	1.42 1.66 1.89	FF 47R17	4
0.40 0.46 0.50 0.59 0.67 0.87	5262 4643 4213 3621 3161 2441	3442 3037 2756 2369 2068 1597	1.40 1.59 1.75 2.0 2.3 3.0	FA 107R77 FAF107R77 F 107R77 FF 107R77	4 4 4 4	10 11 12 14 16	203 197 180 150 133	133 129 118 98 87	0.92 0.95 1.04 1.25 1.41	FA 37R17 FAF37R17 F 37R17 FF 37R17	4 4 4 4
0.99 0.47 0.54 0.61 0.63 0.80 0.90 1.0 1.2 1.3	2142 4508 3959 3466 3362 2658 2357 2032 1807 1578	1401 2949 2590 2267 2199 1739 1542 1329 1182 1032	3.4 0.90 1.02 1.17 1.20 1.52 1.71 2.0 2.2 2.6	FA 97R57 FAF97R57 F 97R57 FF 97R57	4 4 4 4	3.0 3.2 3.8 4.3 4.5	744 694 596 524 497	281.71 262.93 225.79 198.31 188.40	1.9 2.0 2.4 2.7 2.8	FA 77 FAF77 F 77 FF 77	6 6 6





Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
0.25k	W					0.25k	W				
3.7	605	228.99	1.3	FA 67	6	204	11	6.81	12	FA 37	4
4.4 5.0	516 451	195.39 170.85	1.5 1.7	FAF67	6	227 264	10 8.5	6.11 5.27	13 14	FAF37	4
5.2	429	162.31	1.8	F 67	6	281	8.0	4.95	14	F 37	4
6.0	376	142.40	2.1	FF 67	6	326	6.9	4.26	15	FF 37	4
6.1	370	228.99	2.1	FA 67	4	0.37k	W				
7.1 8.1	315 276	195.39 170.85	2.4 2.8	FAF67	4	0.21	15312	6768	0.74		
8.6	262	162.31	2.9	F 67	4	0.23	13514	5973	0.83		4
9.8	230	142.40	3.4	FF 67	4	0.27	11484	5076	0.98	FA 127R77 FAF127R77	4 4
						0.31	10104	4466	1.12	F 127R77	4
4.3 4.6	527 485	199.70 183.60	1.07 1.16		<u> </u>	0.36	8751	3868	1.29	FF 127R77	4
4.0 5.4	405	157.09	1.10	FA 57 FAF57	6 6	0.41 0.47	7699 6758	3403 2987	1.47 1.67		
6.2	360	136.16	1.6	F 57	6	7.77	0,00	2007	1.07		
6.7	336	127.27	1.7	FF 57	6	0.46	6871	3037	1.07	FA 107R77	4
7.7	290	110.01	1.9			0.50	6235	2756	1.16	FA 107R77 FAF107R77	4
7.0	0.00	100 70				0.59	5360	2369	1.35	F 107R77	4
7.0	322	199.70	1.7		л	0.67	4679	2068	1.54	FF 107R77	4
7.6 8.8	296 254	183.60 157.09	1.9 2.2	FA 57 FAF57	4 4	0.87	3613	1597	2.0		
10	220	136.16	2.6	F 57	4	0.61	5129	2267	0.79		
11	205	127.27	2.7	FF 57	4	0.70	4505	1991	0.90		
13	178	110.01	3.2			0.80	3934	1739	1.03	FA 97R57	4
						0.90	3489	1542	1.16	FAF97R57	4
5.7	393	148.98	1.0	FA 47	6	1.0	3032	1340	1.3	F 97R57	4
6.6 7.0	341 319	129.14 120.70	1.1 1.2	FAF47 F 47	6 6	1.2	2674	1182	1.5	FF 97R57	4
8.1	275	104.33	1.4	F 47 FF 47	6	1.3 1.5	2335 2052	1032 907	1.7 2.0		
7.3	306	189.39	1.2			1.1	2941	1300	1.0		
8.0	281	174.13	1.3	FA 47	4	1.2	2597	1148	1.1		
9.3	241	148.98	1.6	FAF47	4	1.4	2285	1010	1.2	FA 87R57	4
11 12	209	129.14	1.8	F 47	4	1.6	2007	887	1.4	FAF87R57	4
13	195 168	120.70 104.33	1.9 2.2	FF 47	4	1.8 2.1	1765 1525	780 674	1.6 1.8	F 87R57	4
16	143	88.65	2.6			2.3	1378	609	2.0	FF 87R57	4
						2.7	1165	515	2.4		
11 12	207 190	128.51 117.88	0.9 1.0			3.1	1023	452	2.8		
14	162	100.36	1.2			1.7	1833	810	0.77		
16	140	86.53	1.3			2.0	1606	710	0.88		
17	130	80.65	1.4			2.3	1357	600	1.04	FA 77R37	4
20	114	70.50	1.7			2.6	1188	525	1.19	FAF77R37	4
21 24	107 94	66.09 58.32	1.8 2.0			3.0 3.4	1061 932	469 412	1.33 1.51	F 77R37 FF 77R37	4 4
24 25	94 88	56.32 54.54	2.0			3.4	932 808	412 357	1.75	11 // 5/	4
27	83	51.70	2.3			4.4	710	314	1.98		
30	76	47.02	2.5								
32	71 62	43.83	2.7	EA 07	л	3.3	966	427	0.80		А
36 39	62 58	38.31 35.91	3.0 3.2	FA 37 FAF37	4 4	3.8 4.3	828 731	366 323	0.93 1.05	FA 67R37 FAF67R37	4 4
39 44	58 51	35.91	3.2	F 37	4	4.3	656	323 290	1.05	FAF67R37 F 67R37	4
49	45	28.09	4.1	FF 37	4	5.4	581	257	1.33	FF 67R37	4
58	39	23.88	4.9			6.3	498	220	1.55		
59	38	23.63	4.9			F 0	500	000	0.05		
68 70	33	20.57	5.7			5.3	593 562	262	0.95		
72	31 27	19.27	6.0			5.6 6.2	563 511	249 226	1.00 1.10		
82 88	27 26	17.03 15.81	6.8 7.4			7.0	452	220	1.25	FA 57R37	4
97	20	14.33	7.4 8.1			7.1	446	197	1.27	FAF57R37	4
108	21	12.87	9.0			7.7	410	181	1.38	F 57R37	4
125	18	11.08	10			8.4	376	166	1.50	FF 57R37	4
100	17	10.42	10			9.1	344	152	1.64		
133						10	303	134	1.86		
133	14	8.97	11			10					





Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
0.37k	W					0.37k	W				
8.0	391	173	0.96	FA 47R17	4	32	105	43.83	1.80		
9.5	330	146	1.14	FAF47R17	4	36	92	38.31	2.1		
11	292	129	1.29	F 47R17	4	39	86	35.91	2.2		
				FF 47R17	4	44	76	31.69	2.5		
2.4	1400	271.92	2.0	FA 87	8	49	67	28.09	2.8		
2.5	1313	254.93	2.1	FAF87	8	58	57	23.88	3.3		
2.8	1177	228.57	2.4	F 87	8	59	56	23.63	3.3		
3.3	1014	196.85	2.8	FF 87	8	68	49	20.57	3.8		
				<b>-</b> • •-		72	46	19.27	4.1		
3.1	1063	271.92	2.7	FA 87 FAF87	6	82 88	41	17.03	4.6	FA 37	4
3.3	996	254.93	2.8	FAF87 F 87	6 6	97	38 34	15.81 14.33	5.0 5.5	FAF37 F 37	4
3.7	893	228.57	3.2	FF 87	6	108	34	12.87	6.1	FF 37	4 4
				11 07		125	26	11.08	6.7	11 57	-
3.8	882	225.79	1.6		0	133	25	10.42	7.0		
4.3	775	198.31	1.8	FA 77 FAF77	6 6	155	21	8.97	7.6		
4.5	736	188.40	1.9	F 77	6	185	18	7.51	7.7		
5.1	651	166.47	2.2	FF 77	6	204	16	6.81	8.1		
6.0	556	142.27	2.5		0	227	15	6.11	8.7		
1.0	070	001 71	0.1		4	264	13	5.27	9.3		
4.9 5.3	673 628	281.71 262.93	2.1 2.2	FA 77 FAF77	4 4	281 326	12 10	4.95 4.26	9.5 10		
6.2	540	202.93	2.6	F 77	4	320	10	4.20	10		
7.0	474	198.31	3.0	FF 77	4	0.55k	<b>XX</b> 7				
					-	0.55K					
4.4	764	195.39	1.01	FA 67	6	0.22	21141	6286	0.80		
5.0	668	170.85	1.15	FAF67	6	0.26	18174	5404	0.93	FA 157R97	4
5.2	634	162.31	1.22	F 67	6	0.50	9336	2776	1.81	FAF157R97	4
6.0	556	142.40	1.4	FF 67	6	0.57	8162	2427	2.1	F 157R97	4
7.0	472	120.79	1.6			0.83	5630 4399	1674 1308	3.0 3.8	FF 157R97	4
6.1	547	228.99	1.41			1.2	3931	1169	4.3		
7.1	467	195.39	1.65	FA 67	4						
8.1	408	170.85	1.89	FAF67	4	0.36	13009	3868	0.87	FA 127R77	4
8.6	388	162.31	1.99	F 67	4	0.30	11445	3403	0.87	FAF127R77	4
9.8	340	142.40	2.3	FF 67	4	0.47	10046	2987	1.12	F 127R77	4
12	289	120.79	2.7					2007	=	FF 127R77	4
5.4	614	157.09	0.92	FA 57	6	0.59	7967	2369	0.92		
6.2	532	136.16	1.06	FAF57	6	0.67	6955	2068	1.06		
6.7	497	127.27	1.13	F 57	6	0.76	6141	1826	1.20		
7.7	430	110.01	1.31	FF 57	6	0.87	5371	1597	1.37	FA 107R77	4
= 0	4.7.7	400 70				0.99	4712	1401	1.56	FAF107R77	4
7.0	477	199.70	1.18			1.19	3921	1166	1.88	F 107R77 FF 107R77	4
7.6 8.8	439 375	183.60 157.09	1.29 1.50	FA 57	4	1.28	3656	1087	2.0	FF IU/H//	4
0.0 10	325	136.16	1.50	FAF57	4	1.46 1.67	3195 2805	950 834	2.3 2.6		
11	304	127.27	1.85	F 57	4	2.17	2005	640	2.0		
13	263	110.01	2.1	FF 57	4	4.17	2152	040	0.+		
15	223	93.47	2.5			1.04	4507	1340	0.90		
17	199	83.46	2.8			1.18	3975	1182	1.02		
						1.35	3471	1032	1.16		
9	356	148.98	1.06			1.5	3050	907	1.33	FA 97R57	4
11	309	129.14	1.22	FA 47	4	1.7	2677	796	1.5	FAF97R57	4
13 16	249 212	104.33 88.65	1.51 1.77	FAF47	4	2.0	2354	700 611	1.7	F 97R57	4
18	189	88.65 79.15	2.0	F 47	4	2.3 2.6	2055 1796	611 534	2.0 2.3	FF 97R57	4
21	162	79.15 67.61	2.0	FF 47	4	2.6	1587	534 472	2.3		
21	155	64.89	2.3			3.4	1379	410	2.9		
						3.8	1234	367	3.3		
16 17	207	86.53	0.91			1.6	2983	887	0.95		
17 20	193 168	80.65 70.50	0.98 1.12	FA 37	А	1.6 1.8	2983	887 780	1.08		
20	158	66.09	1.12	FA 37 FAF37	4 4	2.1	2267	674	1.00	FA 87R57	4
24	139	58.32	1.35	F 37	4	2.3	2048	609	1.38	FAF87R57	4
25	130	54.54	1.44	FF 37	4	2.7	1732	515	1.63	F 87R57	4
27	124	51.70	1.52			3.1	1520	452	1.86	FF 87R57	4
30	112	47.02	1.67			4.0	1160	345	2.4		





	Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pole
	r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
	0.55k	W					0.55k	W				
	2.6	1766	525	0.80	FA 77R37	4	21	230	64.89	1.63	FA 47	4
	3.0 3.4	1577 1386	469 412	0.89 1.02	FAF77R37	4	25	199	56.09	1.89	FAF47	4
	3.4 3.9	1201	357	1.17	F 77R37	4	29 33	169 151	47.66 42.55	2.2 2.5	F 47 FF 47	4 4
	4.4	1056	314	1.34	FF 77R37	4		101	42.00	2.5	11 47	4
-							24	207	58.32	0.91		
	5.4	864	257	0.89	FA 67R37	4	25	194	54.54	0.97		
	6.3	740	220	1.04	FAF67R37	4	27	184	51.70	1.02		
	7.1 8.3	659 562	196 167	1.17 1.37	F 67R37 FF 67R37	4 4	30	167	47.02	1.13		
	0.0	502	107	1.07	11 0/110/	-	32 36	156 136	43.83 38.31	1.21 1.38		
			070.04	4 00	FA 97	8	39	128	35.91	1.47		
	2.4 2.6	2039 1878	276.64 254.79	1.98 2.2	FAF97	8	44	113	31.69	1.67		
	2.0	1668	226.34	2.2	F 97	8	49	100	28.09	1.88		
	010	1000	LLOIO		FF 97	8	58	85	23.88	2.2		
	2.5	2004	271.92	1.41	FA 87	8	59 68	84 73	23.63 20.57	2.2 2.6		
	2.6	1875	254.93	1.50	FA 87 FAF87	8	72	68	19.27	2.0	FA 37	4
	2.9	1684	228.57	1.67	F 87	8	82	60	17.03	3.1	FAF37	4
	3.4	1450	196.85	1.94	FF 87	8	97	51	14.33	3.7	F 37 FF 37	4 4
	3.3	1517	271.92	1.86			108	46	12.87	4.1	11 07	-
	3.5	1422	254.93	1.98	FA 87	6	125 133	39 37	11.08 10.42	4.5 4.7		
	3.9	1275	228.57	2.2	FAF87	6	155	32	8.97	5.1		
	4.5	1098	196.85	2.6	F 87 FF 87	6 6	174	28	8.01	5.2		
	4.9	998	178.95	2.8	11 07	0	185	27	7.51	5.4		
	3.9	1260	225.79	1.12			204	24	6.81	5.6		
	3.9 4.5	1200	198.31	1.12	FA 77	6	227	22	6.11	5.8		
	4.7	1051	188.40	1.34	FAF77	6	264 281	19 18	5.27 4.95	6.3 6.4		
	5.3	929	166.47	1.52	F 77	6	326	15	4.33	6.8		
	6.2	794	142.27	1.78	FF 77	6	365	14	3.81	7.3		
	6.8	728	130.42	1.94								
	6.2	802	225.79	1.76			0.75k	W				
	7.0	704	198.31	2.0			0.50	12731	2776	1.33	FA 157R97	4
	7.4	669	188.40	2.1	FA 77	4	0.57	11130	2427	1.52	FAF157R97	4
	8.3	591	166.47	2.4	FAF77	4	0.83	7677	1674	2.2	F 157R97	4
	9.8	505	142.27	2.8	F 77	4	1.1	5999	1308	2.8	FF 157R97	4
	11 12	463 407	130.42 114.45	3.0 3.5	FF 77	4	1.2	5361	1169	3.2		
	13	385	108.46	3.7			0.47	13699	2987	0.82		
	15	337	94.93	4.2			0.52	12350	2693	0.91	FA 127R77	4
-							0.59	10896	2376	1.04	FAF127R77	4
	7.1	694 607	195.39	1.11			0.68	9420	2054	1.20	F 127R77	4
	8.1 8.6	607 577	170.85 162.31	1.27 1.34			0.77 0.86	8246 7425	1798 1619	1.37 1.52	FF 127R77	4
	9.8	506	142.40	1.52	FA 67	4	0.00	1420	1019	1.02		
	12	429	120.79	1.80	FAF67 F 67	4 4	0.76	8374	1826	0.88		
	13	387	109.04	2.0	FF 67	4	0.88	7241	1597	1.02		
	14 15	341	95.94	2.3			0.99	6425	1401	1.15	FA 107R77	4
	15 18	322 277	90.59 77.97	2.4 2.8			1.1 1.3	5700 4985	1243 1087	1.29 1.48	FAF107R77	4
-							1.5	4985 4357	950	1.69	F 107R77	4
	8.8	558	157.09	1.01			1.7	3825	834	1.93	FF 107R77	4
	10	484	136.16	1.17			2.2	2875	627	2.6		
	11 13	452 391	127.27 110.01	1.25 1.44	FA_57	4	3.3	1958	427	3.8		
	15	332	93.47	1.70	FAF57	4	1.3	4733	1032	0.85		
	17	296	83.46	1.90	F 57 FF 57	4 4	1.5	4160	907	0.03		
1	19	260	73.16	2.2	11 37	4	1.7	3651	796	1.1		А
1	20	243	68.38	2.3			2.0	3210	700	1.3	FA 97R57 FAF97R57	4 4
	24	210	59.10	2.7			2.3	2802	611	1.4	F 97R57	4
	13	371	104.33	1.01	FA 47	4	2.6 2.9	2449 2165	534 472	1.7 1.9	FF 97R57	4
	16	315	88.65	1.19	FAF47	4	2.9	2165 1880	472 410	2.1		
	18	281	79.15	1.34	F 47	4						
	21	240	67.61	1.57	FF 47	4	3.8	1683	367	2.4		





Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pol
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
0.75k	W					0.75k	W				
2.1	3091	674	0.91	FA 87R57	4	19	354	73.16	1.59	FA 57	4
2.3	2793	609	1.01	FAF87R57	4	20	331	68.38	1.70	FAF57	4
2.7 3.1	2362 2073	515 452	1.19 1.36	F 87R57	4	24	286	59.10	1.97	F 57 FF 57	4 4
4.0	1582	452 345	1.78	FF 87R57	4	28 31	243 217	50.22 44.84	2.3 2.6	FF 37	4
3.9	1637	357	0.86	FA 77R37	4	17	386	79.72	0.97		
4.4	1440	314	0.98	FAF77R37 F 77R37	4 4	20 21	330 317	68.09 65.36	1.14 1.19		
5.1	1247	272	1.13	FF 77R37	4	25	272	56.09	1.38	FA 47 FAF47	4 4
				FA 107	8	29 33	231 206	47.66 42.55	1.63 1.82	F 47 FF 47	4 4
2.7	2519	255.25	2.9	FAF107 F 107	8 8	38 41	176 165	36.34 34.04	2.1 2.3		
				FF 107	8	48	139	28.67	2.7		
2.5	2739	276.64	1.5	FA 97 FAF97	8 8	30 32	228 212	47.02 43.83	0.83 0.89		
2.7	2523	254.79	1.6	FAF97 F 97	о 8	36	186	43.83 38.31	1.01		
3.0	2241	226.34	1.8	FF 97	8	39	174	35.91	1.08		
				FA 97	6	44 49	153 136	31.69 28.09	1.22 1.38		
3.3	2047	276.64	2.0	FA 97 FAF97	6	49 58	136	28.09 23.88	1.38		
3.6	1885	254.79	2.1	F 97	6	59	114	23.63	1.6		
4.0	1675	226.34	2.4	FF 97	6	68 72	100 93	20.57 19.27	1.9 2.0	FA 37	4
3.3	2012	271.92	1.40			82	82	17.03	2.3	FAF37	4
3.6	1886	254.93	1.50	FA 87	6	97	69	14.33	2.7	F 37	4
4.0 4.6	1691 1456	228.57 196.85	1.67 1.94	FAF87 F 87	6 6	108	62 54	12.87	3.0	FF 37	4
4.6 5.1	1324	196.85	1.94 2.1	F 87	6	125 133	54 50	11.08 10.42	3.3 3.4		
5.7	1181	159.61	2.4			155 204	43 33	8.97 6.81	3.8 4.0		
5.1	1317	271.92	2.1	FA 87 FAF87	4 4	227	30	6.11	4.3		
5.4	1235	254.93	2.3	F 87	4	264 281	26 24	5.27 4.95	4.6 4.7		
6.1	1107	228.57	2.5	FF 87	4	326	21	4.26	5.0		
4.6	1467	198.31	0.96	FA 77	6	365	18	3.81	5.3		
4.8 5.5	1394 1232	188.40 166.47	1.01 1.14	FAF77	6	1.1kV	V				
5.5 6.4	1053	142.27	1.34	F 77	6	0.50	18539	2776	0.91		
7.0	965	130.42	1.46	FF 77	6	0.58	16208	2427	1.04		
6.0	1004	005 70	1 00			0.64	14592	2185	1.16		
6.2 7.0	1094 961	225.79 198.31	1.29 1.47			0.72	12982 11179	1944 1674	1.30 1.51	FA_157R97	4
7.4	913	188.40	1.55	FA 77	4	1.1	8735	1308	1.94	FAF157R97	4
8.3	806	166.47	1.75	FAF77	4	1.2	7807	1169	2.2	F 157R97 FF 157R97	4
9.8	689	142.27	2.0	F 77	4	1.5	6364	953	2.7		7
11 12	632 554	130.42 114.45	2.2 2.5	FF 77	4	1.7 3.1	5643 2978	845 446	3.0 5.7		
13	525	108.46	2.5			4.7	2978	448 301	8.4		
8.1	828 786	170.85 162.31	0.93			0.68	13717	2054	0.82		
8.6 9.8	690	142.40	0.98 1.12			0.78 0.86	12007 10812	1798 1619	0.94 1.04	FA 127R77 FAF127R77	4 4
12	585	120.79	1.32	FA 67	4	1.0	9356	1401	1.21	F 127R77	4
13 14	528 465	109.04 95.94	1.46 1.66	FAF67 F 67	4 4	1.1	8214	1230	1.37	FF 127R77	4
15	439	90.59	1.76	FF 67	4	1.3	7246	1085	1.56		
18 21	378 320	77.97 66.13	2.0 2.4			1.1	8301	1243	0.89		
23	289	59.70	2.7			1.3	7259	1087	1.02	FA 107R77	4
11	616	107.07	0.01		1	1.5 1.7	6344 5570	950 834	1.16 1.32	FAF107R77	4
11 13	616 533	127.27 110.01	0.91 1.06	FA 57 FAF57	4 4	1.9	5570 4915	834 736	1.32	F 107R77	4
15	453	93.47	1.25	F 57	4	2.2	4274	640	1.72	FF 107R77	4
		83.46		FF 57							





O <sup>utput</sup> speed	o <sup>utput</sup> torque	Ratio	s <sup>erv,ce</sup> factor	Туре	Pole	o <sup>utput</sup> speed	o <sup>utput</sup> torque	Ratio	s <sup>erv.ce</sup> factor	Туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
1.1kW 2.0 2.3 2.6	4675 4080 3566	700 611 534	0.86 0.99 1.13	FA 97R57 FAF97R57	4	1.1kW 17 19 20	589 516 482	83.46 73.16 68.38	0.96 1.09 1.17	FA 57	4
3.0 3.4 3.8 3.1 4.1	3152 2738 2451 3019 2304	472 410 367 452 345	1.28 1.48 1.65 0.93 1.22	F 97R57 FF 97R57 FA 87R57 FAF87R57	4 4 4 4	24 28 31 37 39 46	417 354 316 270 253 213	59.10 50.22 44.84 38.30 35.87 30.22	1.35 1.59 1.78 2.1 2.2 2.6	FAF57 F 57 FF 57	4 4 4
4.7 5.6 2.7	2003 1663 3707	300 249 255.25	1.41 1.70 1.95	F 87R57 FF 87R57 FA 107	4 4 8	25 29 33	396 336 300	56.09 47.66 42.55	0.95 1.12 1.25		
3.2 3.4 3.8 3.3	3123 2894 2594 3002	215.04 199.31 178.64 276.64	2.3 2.5 2.8 1.35	FAF107 F 107 FF 107 FA 97	8 8 8 6	39 41 46 48 49	256 240 216 205 202	36.34 34.04 30.64 29.11 28.67	1.47 1.57 1.74 1.83 1.86	FA 47 FAF47 F 47 FF 47	4 4 4 4
3.6 4.0 4.8 5.2	2765 2456 2045 1908	254.79 226.34 188.50 175.83	1.46 1.65 2.0 2.1	FAF97 F 97 FF 97	6 6 6	55 65 72 44	180 153 138 224	25.54 21.66 19.56 31.69	2.1 2.5 2.7 0.84		
5.1 5.5 6.2	1951 1797 1596	276.64 254.79 226.34	2.1 2.2 2.5	FA 97 FAF97 F 97 FF 97	4 4 4 4	50 59 68 73 82	198 168 145 136 120	28.09 23.88 20.57 19.27 17.03	0.95 1.12 1.30 1.38 1.57		
3.3 3.6 4.0 4.6 5.1 5.7	2951 2766 2480 2136 1942 1732	271.92 254.93 228.57 196.85 178.95 159.61	0.96 1.02 1.14 1.32 1.45 1.63	FA 87 FAF87 F 87 FF 87	6 6 6	98 109 126 134 156 175 206	101 91 78 73 63 56 48	14.33 12.87 11.08 10.42 8.97 8.01 6.81	1.86 2.1 2.3 2.4 2.6 2.7 2.8	FA 37 FAF37 F 37 FF 37	4 4 4 4
5.2 5.5 6.1 7.1 7.8 8.8 10	1911 1798 1612 1388 1262 1126 946	271.92 254.93 228.57 196.85 178.95 159.61 134.16	1.48 1.57 1.75 2.0 2.2 2.5 3.0	FA 87 FAF87 F 87 FF 87	4 4 4 4	229 266 283 329 367	43 37 35 30 27	6.11 5.27 4.95 4.26 3.81	2.9 3.2 3.2 3.4 3.7		
11 7.1 7.4 8.4 9.8 11 12 13 15 16 19	870 1399 1329 1174 1003 920 807 765 670 603 529	123.29 198.31 188.40 166.47 142.27 130.42 114.45 108.46 94.93 85.52 75.02	3.2 1.01 1.06 1.20 1.41 1.53 1.75 1.84 2.1 2.3 2.7	FA 77 FAF77 F 77 FF 77	4 4 4 4	1.5kW 0.58 0.64 0.72 0.84 1.1 1.2 1.5 1.7 3.1 4.7	22102 19898 17703 15244 11911 10646 8679 7695 4062 2741	2427 2185 1944 1674 1308 1169 953 845 446 301	0.77 0.85 0.96 1.11 1.42 1.59 1.95 2.2 4.2 6.2	FA 157R97 FAF157R97 F 157R97 FF 157R97	4 4 4 4
12 13 15 16 18 21 23 27	853 769 677 639 550 466 421 271	120.79 109.04 95.94 90.59 77.97 66.13 59.70	0.9 1.0 1.1 1.2 1.4 1.7 1.8 2.1	FA 67 FAF67 F 67 FF 67	4 4 4 4	0.86 1.0 1.1 1.3 1.5 1.7 1.9 2.2	14744 12758 11201 9881 8533 7531 6675 5828	1619 1401 1230 1085 937 827 733 640	0.77 0.88 1.01 1.14 1.32 1.50 1.69 1.94	FA 127R77 FAF127R77 F 127R77 FF 127R77 FF 127R77	4 4 4 4
27 28 33 36 42	371 350 298 271 234	52.53 49.60 42.23 38.38 33.24	2.1 2.2 2.6 2.7 3.0	ר טו	4	1.5 1.7 1.9 2.2	8651 7595 6702 5710	950 834 736 627	0.83 0.95 1.08 1.26	FA 107R77 FAF107R77 F 107R77 FF 107R77	4 4 4 4





Output speed	Output torque	Ratio	Service factor	туре	Pole	Output speed	Output torque	Ratio	Service factor	туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
1.5kW	V					1.5kW	V				
2.5 2.9 3.3 3.8	5100 4453 3889 3369	560 489 427 370	1.42 1.62 1.86 2.1	FA 107R77 FAF107R77 F 107R77 FF 107R77	4 4 4 4	15 18 21 23	871 750 636 574	90.59 77.97 66.13 59.70	0.88 1.03 1.21 1.34		
2.6 3.0 3.4 3.8	4863 4298 3734 3342	534 472 410 367	0.83 0.94 1.08 1.21	FA 97R57 FAF97R57 F 97R57 FF 97R57	4 4 4 4	27 28 33 36 39 44	505 477 406 369 349 309	52.53 49.60 42.23 38.38 36.30 32.08	1.53 1.62 1.90 1.99 2.2 2.5	FA 67 FAF67 F 67 FF 67	4 4 4 4
4.1 4.7 5.6	3142 2732 2268	345 300 249	0.90 1.03 1.24	FA 87R57 FAF87R57 F 87R57 FF 87R57	4 4 4 4	51 56	264 242	27.41 25.13	2.9 3.2		
2.7 3.2 3.5 3.9	4981 4197 3890 3486	255.25 215.04 199.31 178.64	1.48 1.76 1.89 2.1	FA 107 FAF107 F 107 FF 107	8 8 8 8	24 28 31 37 39 46	568 483 431 368 345 291	59.10 50.22 44.84 38.30 35.87 30.22	0.99 1.17 1.31 1.53 1.63 1.94	FA 57 FAF57 F 57 FF 57	4 4 4 4
3.6 4.3 4.6 5.2	3736 3147 2917 2615	255.25 215.04 199.31 178.64	2.0 2.3 2.5 2.8	FA 107 FAF107 F 107 FF 107	6 6 6	33 39 41 46 48	409 350 327 295 280	42.55 36.34 34.04 30.64 29.11	0.92 1.08 1.15 1.28 1.34		
3.3 3.6 4.1 4.9 5.2	4049 3729 3313 2759 2574	276.64 254.79 226.34 188.50 178.83	1.00 1.08 1.22 1.47 1.57	FA 97 FAF97 F 97 FF 97	6 6 6	40 49 55 65 72 81 86	276 246 208 188 166 156	29.11 28.67 25.54 21.66 19.56 17.21 16.25	1.34 1.53 1.80 2.0 2.3 2.4	FA 47 FAF47 F 47 FF 47	4 4 4 4
5.1 5.5 6.2 7.4 8.0	2661 2451 2177 1813 1691	276.64 254.79 226.34 188.50 178.83	1.52 1.65 1.86 2.2 2.4	FA 97 FAF97 F 97 FF 97	4 4 4 4	101 68 73 82	133 198 185 164	13.83 20.57 19.27 17.03	2.8 0.95 1.01 1.15		
5.2 5.5 6.1 7.1 7.8 8.8 10 13 14	2615 2452 2198 1893 1721 1535 1290 1053 942	271.92 254.93 228.57 196.85 178.95 159.61 134.16 109.49 97.89	1.08 1.15 1.28 1.49 1.63 1.84 2.2 2.7 3.0	FA 87 FAF87 F 87 FF 87	4 4 4 4	98 109 126 134 156 175 206 229 266 283 329 367	138 124 107 100 86 77 66 59 51 48 41 27	14.33 12.87 11.08 10.42 8.97 8.01 6.81 6.81 6.11 5.27 4.95 4.26 2.91	1.36 1.52 1.68 1.74 1.91 2.1 2.0 2.2 2.3 2.4 2.5 2.5	FA 37 FAF37 F 37 FF 37	4 4 4
8.4 9.8 11 12 13	1601 1368 1254 1101 1043	166.47 142.27 130.42 114.45 108.46	0.88 1.03 1.12 1.28 1.35			2.2kW 1.00 1.09	37 7 18699 17224	3.81 1420 1308	2.7 0.90 0.98		
15 16 19 21 24 25 29 32 37 38 44	913 823 722 695 637 559 530 464 418 367 352 303	94.93 85.52 75.02 72.29 66.28 58.16 55.12 48.24 43.46 38.12 36.52 31.45	1.54 1.71 1.95 2.0 2.2 2.5 2.7 3.0 3.0 3.4 3.8 4.3	FA 77 FAF77 F 77 FF 77	4 4 4 4	1.21 1.49 1.68 2.1 2.5 3.2 4.7 5.2 6.1 7.2	15394 12549 11127 10061 8954 7585 5873 3964 3582 3042 2581	1169 953 845 764 680 576 446 301 272 231 196	$ \begin{array}{r} 1.10\\ 1.35\\ 1.52\\ 1.68\\ 1.89\\ 2.2\\ 2.9\\ 4.3\\ 4.7\\ 5.6\\ 6.6\end{array} $	FA 157R97 FAF157R97 F 157R97 FF 157R97	4 4 4
44	505	51.40	4.0			1.31 1.52 1.72 1.94	14288 12339 10890 9652	1085 937 827 733	0.79 0.91 1.04 1.17	FA 127R77 FAF127R77 F 127R77 FF 127R77	4 4 4





Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
2.2kW						2.2kW	7				
2.22 2.62 2.90 3.36	8428 7137 6439 5570	640 542 489 428	1.34 1.58 1.75 2.0	FA 127R77 FAF127R77 F 127R77 FF 127R77	4 4 4	26 29 33 39 45	767 671 604 509 438	55.12 48.24 43.46 36.52 31.45	1.84 2.1 2.3 3.0	FA 77 FAF77 F 77	4 4 4
2.3 2.5 2.9 3.3	8256 7374 6439 5623	627 560 489 427	0.89 1.00 1.14 1.31	FA 107R77 FAF107R77 F 107R77	4 4 4	49 56 24	400 355 830	28.59 25.50 59.70	3.4 4.0 0.93	FF 77	4
3.9 4.3	4767 4306	362 327	1.55	FF 107R77 FA 97R57	4	27 29 34 37	731 690 587 534	52.53 49.60 42.23 38.38	1.06 1.12 1.31 1.37	FA 67	4
3.9 4.9 5.7	4833 3792 3253	367 288 247	0.84 1.07 1.24	FAF97R57 F 97R57 FF 97R57	4 4 4	43 44 52 57	462 446 381 350	33.24 32.08 27.41 25.13	1.50 1.73 2.0 2.2	FAF67 F 67 FF 67	4 4 4
2.8 3.3 3.6 4.0	7100 5982 5544 4969	255.25 215.04 199.31 178.64	1.02 1.21 1.30 1.45	FA 107 FAF107 F 107 FF 107	8 8 8 8	64 68 78	307 291 254	22.05 20.90 18.29	2.5 2.7 3.0		
3.7 4.4 4.7 5.3	5363 4518 4188 3753	255.25 215.04 199.31 178.64	1.35 1.60 1.72 1.92	FA 107 FAF107 F 107 FF 107	6 6 6 6	32 37 40 47 57	624 533 499 420 347	44.84 38.30 35.87 30.22 24.96	0.90 1.06 1.13 1.32 1.56	FA 57 FAF57 F 57	4 4 4
5.6 6.6 7.1 7.9	3550 2991 2772 2485	255.25 215.04 199.31 178.64	2.0 2.4 2.6 2.9	FA 107 FAF107 F 107 FF 107	4 4 4 4	67 74 84 89	294 266 234 221	21.17 19.11 16.81 15.88	1.92 2.1 2.4 2.6	F 57 FF 57	4
4.2 5.0 5.3 6.0	4755 3960 3694 3302	226.34 188.50 175.83 157.16	0.85 1.02 1.09 1.22	FA 97 FAF97 F 97 FF 97	6 6 6	56 66 73 83 87	355 301 272 239 226	25.54 21.66 19.56 17.21 16.25	1.06 1.25 1.38 1.57 1.66	FA 47 FAF47 F 47	4 4 4
5.1 5.6 6.3 7.5	3848 3544 3148 2622	276.64 254.79 226.34 188.50	1.05 1.14 1.28 1.54	FA 97 FAF97	4 4	103 113 130 156	192 175 151 126	13.83 12.57 10.89 9.08	1.95 2.2 2.5 2.5	FF 47	4
8.1 9.0 10 11	2445 2186 1968 1782	175.83 157.16 141.47 128.12	1.65 1.85 2.1 2.3	F 97 FF 97	4 4	99 110 128 136	199 179 154 145	14.33 12.87 11.08 10.42	0.94 1.05 1.16 1.20	FA 07	4
7.2 7.9 8.9 11 12 13 15	2738 2489 2220 1866 1715 1523 1361	196.85 178.95 159.61 134.16 123.29 109.49 97.89	1.03 1.13 1.27 1.51 1.64 1.85 2.1	FA 87 FAF87 F 87	4 4 4	158 177 209 232 269 287 333 373	125 111 95 85 73 69 59 53	8.97 8.01 6.81 6.11 5.27 4.95 4.26 3.81	1.32 1.39 1.43 1.49 1.60 1.64 1.75 1.86	FA 37 FAF37 F 37 FF 37	4 4 4
16 19 21 25 28 31	1224 1062 951 789 699 629	88.01 76.39 68.40 56.75 50.29 45.22	2.3 2.7 3.0 3.6 4.0 4.2	FF 87	4	3kW 1.2 1.5 1.7	20991 17113 15173	1169 953 845	0.81 0.99 1.12	FA_157R97	4
12 13 15 17 19 21 24	1592 1508 1320 1189 1043 922 809	114.45 108.46 94.93 85.52 75.02 66.28 58.16	0.89 0.93 1.07 1.19 1.35 1.53 1.74	FA 77 FAF77 F 77 FF 77	4 4 4 4	1.9 2.1 2.5 3.2 4.7 5.2 6.1 7.2	13719 12211 10343 8009 5405 4884 4148 3520	764 680 576 446 304 272 231 196	1.23 1.39 1.64 2.1 3.1 3.5 4.1 4.8	FAF157R97 F 157R97 FF 157R97	4 4 4





Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
3kW						3kW					
1.9	13162	733	0.86	FA 127R77	4	57	473	24.96	1.19		
2.2 2.6	11492 9733	640 542	0.98 1.16	FAF127R77 F 127R77	4 4	67 74	401 362	21.17 19.11	1.40 1.56	FA 57	4
2.9	8781	489	1.28	FF 127R77	4	84	319	16.81	1.77	FAF57	4
3.3	7668	427	0.96	FA 107R77	4	89 105	301 256	15.88 13.52	1.87 2.2	F 57 FF 57	4 4
3.9	6500	362	1.13	FAF107R77	4	116	233	12.29	2.4		
4.3 5.0	5872 5118	327 285	1.26 1.44	F 107R77 FF 107R77	4 4	133	202	10.64	2.8		
						73	371	19.56	1.01		
3.8 4.5	7161 6033	255.25 215.04	1.03 1.22	FA 107 FAF107	6 6	83 87	326 308	17.21 16.25	1.15 1.22	FA 47	4
4.8	5591	199.31	1.32	F 107	6	103	262	13.83	1.43	FAF47 F 47	4 4
5.4	5011	178.64	1.47	FF 107	6	113	238	12.57	1.58	F 47 FF 47	4
5.6	4841	255.25	1.52		4	130 156	207 172	10.89 9.08	1.80 1.82		
6.6	4078	215.04	1.81	FA 107 FAF107	4 4						
7.1 7.9	3780 3388	199.31 178.64	1.95 2.2	F 107	4	128 136	210 198	11.08 10.42	0.85 0.88		
8.8	3059	161.28	2.4	FF 107	4	158	170	8.97	0.97		
	4000	000.04	0.04			177	152	8.01	1.02	FA 37 FAF37	4 4
6.3 7.5	4293 3575	226.34 188.50	0.94 1.13			209 232	129 116	6.81 6.11	1.05 1.10	F 37	4 4
8.1	3335	175.83	1.21	FA 97	4	269	100	5.27	1.18	FF 37	4
9.0	2981 2683	157.16	1.36	FAF97	4	287 333	94	4.95	1.20		
10 11	2003	141.47 128.12	1.51 1.66	F 97	4	373	81 72	4.26 3.81	1.28 1.37		
12	2155	113.61	1.88	FF 97	4	41 777					
14 16	1948 1721	102.72 90.77	2.1 2.3			4kW					
						1.7	19950	845	0.85		
11 12	2544 2338	134.16 123.29	1.11 1.21			1.9 2.1	18038 16055	764 680	0.94 1.05		
13	2077	109.49	1.36			2.5	13599	576	1.24	FA 157R97 FAF157R97	4 4
15 16	1857 1669	97.89 88.01	1.52 1.69	FA 87	4	3.2 4.8	10530 7107	446 304	1.61 2.4	F 157R97	4
19	1449	76.39	1.09	FAF87	4	5.3	6422	272	2.4	FF 157R97	4
21	1297	68.40	2.2	F 87 FF 87	4 4	6.2	5454	231	3.1		
25 28	1076 954	56.75 50.29	2.6 2.9			7.3	4628	196	3.7		
						2.7	12796	542	0.88	FA 127R77	4
17 19	1622 1423	85.52 75.02	0.87 0.99			2.9 3.4	11545 9987	489 423	0.98 1.13	FAF127R77 F 127R77	4 4
21	1257	66.28	1.12			3.9	8759	371	1.29	FF 127R77	4
24 26	1103 1045	58.16 55.12	1.28 1.35							FA 107R77	4
20 29	915	48.24	1.55	FA 77 FAF77	4 4	4.4	7720	327 285	0.94	FAF107R77	4
33	824	43.46	1.54	FAF77 F 77	4 4	5.1 6.5	6729 5218	285 221	1.07 1.38	F 107R77	4
37 39	723 694	38.12 36.52	1.71 1.95	FF 77	4					FF 107R77	4
45	598	31.45	2.2			4.2	8594	172.33	1.31	FA 127	8
49 56	545 484	28.59 25.50	2.5 2.9			4.6	7721	154.81	1.46	FAF127 F 127	8 8
66	406	25.50	3.5			5.7	6269	125.71	1.80	FF 127	8
33	819	43.20	0.94			5.6	6365	255.25	1.16		
36	745	39.26	0.98			6.7	5363	215.04	1.37	FA 107	4
42 44	645 608	34.01 32.08	1.08 1.27			7.2	4970 4455	199.31 178.64	1.48 1.65	FAF107	4
52	520	27.41	1.48	FA 67	4	8.9	4022	161.28	1.83	F 107	4
57	477	25.13	1.62	FAF67 F 67	4 4	9.8	3653	146.49	2.02	FF 107	4
64 68	418 396	22.05 20.90	1.84 1.94	FF 67	4	11 12	3241 2941	129.97 117.94	2.3 2.5		
78	347	18.29	2.2			14	2528	101.38	2.9		
86	313	16.48	2.5								



R	E	5	U	N

Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
4kW						$5.5 \mathrm{kW}$	V				
8.2 9.2 10 11 13 14 15 16 18 20	4385 3919 3528 3195 2833 2561 2427 2263 2023 1821	175.83 157.16 141.47 128.12 113.61 102.72 97.31 90.77 81.13 73.03	0.92 1.03 1.15 1.27 1.43 1.58 1.67 1.79 2.0 2.2	FA 97 FAF97 F 97 FF 97	4 4 4 4	2.5 2.9 3.2 4.1 4.8 5.3 6.2 7.1 7.3	18699 16329 14479 11460 9771 8830 7499 6558 6363	576 503 446 353 301 272 231 202 196	0.90 1.04 1.17 1.48 1.73 1.92 2.3 2.6 2.7	FA 157R97 FAF157R97 F 157R97 FF 157R97	4 4 4 4
22 13 15 16 19 21	1649 2730 2441 2195 1905 1706	66.14 109.49 97.89 88.01 76.39 68.40	2.5 1.03 1.16 1.28 1.48 1.65	FA 87 FAF87 F 87	4 4 4	3.5 3.9 4.6 4.9 5.5 6.4	13537 12109 10129 9512 8505 7337	417 373 312 293 262 226	0.83 0.93 1.11 1.19 1.33 1.54	FA 127R87 FAF127R87 F 127R87 FF 127R87	4 4 4 4
25 29 32	1415 1254 1128	56.75 50.29 45.22	1.99 2.2 2.5	F 87	4	3.4 3.9	13732 12044	423 371	0.82 0.94	FA 127R77 FAF127R77 F 127R77 FF 127R77	4 4 4 4
22 25 26 30 33 43 48 50 56 57 67	1653 1450 1374 1203 1084 951 839 744 717 636 635 534	66.28 58.16 55.12 48.24 43.46 38.12 33.64 29.82 28.59 25.50 25.47 21.43	0.85 0.97 1.03 1.17 1.30 1.48 1.68 1.90 1.97 2.2 2.2 2.2 2.6	FA 77 FAF77 F 77 FF 77	4 4 4 4	2.7 3.3 4.0 4.4 5.1 5.8 6.6 7.5 8.3 9.1 10	18293 14977 12149 9724 8581 7440 6619 5959 5450 4742	266.76 218.40 177.17 164.33 141.80 125.14 108.49 96.53 86.90 79.47 69.15	0.92 1.1 1.4 1.5 1.7 2.0 2.3 2.6 2.8 3.1 3.6	FA 157 FAF157 F 157 FF 157	8 8 8 8
73 53 57 65	491 683 627 550	19.70 27.41 25.13 22.05	2.9 1.13 1.23 1.40			4.2 4.7 5.7 6.2	11817 10616 8620 7555	172.33 154.81 125.71 116.00	0.95 1.06 1.31 1.42	FA 127 FAF127 F 127 FF 127	8 8 8
69 79 87 100 113 127 149	521 456 411 361 318 282 241	20.90 18.29 16.48 14.46 12.76 11.31 9.66	1.48 1.69 1.88 2.1 2.4 2.7 3.2	FA 67 FAF67 F 67 FF 67	4 4 4	6.7 7.2 8.1 8.9 9.8 11	7373 6834 6125 5530 5023 4456	215.04 199.31 178.64 161.28 146.49 129.97	0.98 1.06 1.18 1.31 1.44 1.62	FA 107 FAF107 F 107 FF 107	4 4 4
150 158 181 201 229 259	240 227 199 179 157 139	9.61 9.11 7.97 7.18 6.30 5.56	2.1 2.4 2.9 3.3 3.6 4.0	11 07	7	12 14 16 16 17	4044 3476 3171 3034 2880	117.94 101.38 92.47 88.49 83.99	1.79 2.1 2.3 2.4 2.5	FA 107 FAF107 F 107 FF 107	4 4 4 4
239 292 342 68 75 86 91 107 117 135 155 176	133 123 105 528 477 419 396 337 306 265 232 204	4.93 4.21 21.17 19.11 16.81 15.88 13.52 12.29 10.64 9.31 8.19	4.0 4.3 4.5 1.07 1.18 1.35 1.42 1.67 1.84 2.1 1.70 1.93	FA 57 FAF57 F 57 FF 57	4 4 4 4	11 13 14 15 16 17 18 19 21 22 25 27	4393 3895 3522 3336 3112 2985 2782 2620 2504 2268 2011 1818	128.12 113.61 102.72 97.31 90.77 87.06 81.13 76.40 73.03 66.14 58.65 53.03	0.92 1.04 1.15 1.21 1.30 1.35 1.45 1.54 1.68 1.78 2.0 2.2	FA 97 FAF97 F 97 FF 97	4 4 4
186 219 241 278	193 164 149 129	7.73 6.58 5.98 5.18	2.0 2.4 2.6 3.0			16 19 21 25	3018 2619 2345 1946	88.01 76.39 68.40 56.75	0.93 1.08 1.20 1.45	FA 87 FAF87 F 87 FF 87	4 4 4 4





Output speed r/min	Output torque Nm	Ratio i	Service factor f <sub>B</sub>	Туре Туре	Pole p	Output speed r/min	Output torque Nm	Ratio i	Service factor f <sub>B</sub>	Туре Туре	Pole p
			• B	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	۲				. В	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Ρ
5.5kW 29 32 37 41 49 42 51 51 54	1724 1550 1346 1205 1000 1170 974 909	50.29 45.22 39.25 35.14 29.16 34.11 28.41 26.50	1.64 1.82 2.1 2.3 2.8 2.1 2.4 3.1	FA 87 FAF87 F 87 FF 87	4 4 4 4	7.5kW 8.4 9.2 10.5 12 13.8 15.5 18	8023 7337 6385 5634 4885 4346 3746	85.80 78.46 68.28 60.25 52.24 46.48 40.06	2.1 2.3 2.7 3.0 3.5 3.9 4.5	FA 157 FAF157 F 157 FF 157	8 8 8
61 30 33 38 43 48 56 57 67 73 82 92 102	812 1654 1490 1307 1153 1022 874 873 735 675 600 536 482	23.68 48.24 43.46 38.12 33.64 29.82 25.50 25.47 21.43 19.70 17.49 15.64 14.06	3.5 0.85 0.95 1.08 1.22 1.38 1.61 1.61 1.92 2.1 2.4 2.6 2.9	FA 77 FAF77 F 77 FF 77	4 4 4 4	3.6 4.4 5.8 6.8 7.7 8.8 9.9 11 12 14 16 18	18709 15317 12425 11525 9945 8776 7609 6770 6095 5573 4850 4280 3711	266.76 218.40 177.17 164.33 141.80 125.14 108.49 96.53 86.90 79.47 69.15 61.02 52.91	$\begin{array}{c} 0.90\\ 1.11\\ 1.36\\ 1.47\\ 1.70\\ 1.93\\ 2.2\\ 2.5\\ 2.8\\ 3.0\\ 3.5\\ 4.0\\ 4.6\end{array}$	FA 157 FAF157 F 157 FF 157	6 6 6
118 65 69	418 756 717	12.20 22.05 20.9	3.4 1.02 1.08			5.7 6.2 7.2 8.2	11816 10776 9326 8229	126.36 115.24 99.73 88.00	0.95 1.05 1.21 1.37	FA 127 FAF127 F 127 FF 127	8 8 8 8
79 87 100 113 127	627 565 496 438 388	18.29 16.48 14.46 12.76 11.31	1.23 1.36 1.50 1.55 1.70	FA 67 FAF67	4 4	5.6 6.2 7.6 8.3	12086 10857 8816 8135	172.33 154.81 125.71 116.00	0.93 1.04 1.28 1.39	FA 127 FAF127 F 127 FF 127	6 6 6
149 150 158 181 201	331 329 312 273 246	9.66 9.61 9.11 7.97 7.18	1.76 2.0 2.1 2.3 2.4	F 67 FF 67	4 4	8.5 9.4 12	7947 7139 5797	172.33 154.81 125.71	1.42 1.58 1.95	FA 127 FAF127 F 127 FF 127	4 4 4 4
229 259 292 342 86 91 107 117	216 191 169 144 576 544 464 421	6.30 5.56 4.93 4.21 16.81 15.88 13.52 12.29	2.7 2.9 3.1 3.3 0.98 1.04 1.22 1.34	FA 57	4	8.2 9.1 10 11 12 14 16 16	8238 7437 6755 5994 5439 4675 4264 4081	178.64 161.28 146.49 129.97 117.94 101.38 92.47 88.49	0.88 0.97 1.07 1.20 1.33 1.54 1.69 1.77	FA 107 FAF107 F 107 FF 107	4 4 4 4
135 176 186 219 241 278	365 281 265 226 205 178	10.64 8.19 7.73 6.58 5.98 5.18	1.55 1.41 1.49 1.75 1.93 2.2	FA 57 FAF57 F 57 FF 57	4 4 4	17 20 22 15 16	3873 3436 3118 4487 4186	83.99 74.52 67.62 97.31 90.77	1.86 2.1 2.3 0.90 0.97		
4.6 4.9 5.5 6.4 7.2		312 293 262 226 200	0.82 0.87 0.97 1.13 1.27	FA 127R87 FAF127R87 F 127R87 FF 127R87 FF 127R87	4 4 4 4	17 18 21 22 25 28 32	4015 3741 3523 3229 3050 2705 2445 2072	87.06 81.13 76.40 70.03 66.14 58.65 53.03 44.94	1.01 1.08 1.15 1.25 1.33 1.49 1.65 1.95	FA 97 FAF97 F 97 FF 97	4 4 4
3.3 4.0 4.4 5.1 5.8 6.6 7.5	20350 16664 15238 13260 11702 10145 9027	217.62 178.20 162.96 141.80 125.14 108.49 96.53	0.83 1.02 1.11 1.28 1.45 1.67 1.87	FA 157 FAF157 F 157 FF 157	8 8 8 8	33 37 40 43 44 48	2023 1810 1704 1580 1514 1416	43.87 39.26 36.96 34.26 32.83 30.70	2.0 2.2 2.4 2.6 2.7 2.9		





Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
7.5kW 26 29 32 37 42	2617 2319 2085 1810 1620	56.75 50.29 45.22 39.25 35.14	1.08 1.19 1.27 1.41 1.51			11kW 15 17 18 21	6529 5877 5375 4677	96.53 86.90 79.47 69.15	2.6 2.9 3.1 3.6	FA 157 FAF157 F 157 FF 157	4 4 4 4
50 51 55 62 68 76	1345 1327 1222 1092 983 890	29.16 28.41 26.50 23.68 21.32 19.31	1.75 1.74 2.3 2.6 2.9 3.2	FA 87 FAF87 F 87 FF 87	4 4 4 4	7.7 8.4 10 11 13	12864 11732 10153 8958 7737	125.71 116.00 99.73 88.00 76.00	0.88 0.96 1.11 1.26 1.46	FA 127 FAF127 F 127 FF 127	6 6 6 6
85 94 43 49 57 57	789 714 1551 1375 1176 1175	17.12 15.48 33.64 29.82 25.50 25.47	3.6 4.0 0.91 1.03 1.16 1.20			8.5 9.4 12 13 15 17 19	11656 10471 8502 7846 6745 5952 5140	172.33 154.81 125.71 116.00 99.73 88.00 76.00	0.97 1.08 1.33 1.44 1.67 1.90 2.2	FA 127 FAF127 F 127 FF 127	4 4 4 4
68 74 83 93 104 120 134 156 176 197 219 252 281 340	988 908 807 721 648 563 504 431 383 342 308 267 239 198	21.43 19.70 17.49 15.64 14.06 12.20 10.93 9.35 8.30 7.42 6.67 5.79 5.19 4.30	1.43 1.55 1.75 2.2 2.5 2.8 2.4 2.7 3.0 3.3 3.8 4.2 4.8	FA 77 FAF77 F 77 FF 77	4 4 4 4	12 14 16 17 20 22 25 29 34 43 53 58	7977 6857 6254 5681 5040 4573 3931 3431 2910 2285 1855 1712	117.94 101.38 92.47 83.99 74.52 67.62 58.12 50.73 43.03 33.78 27.43 25.31	0.91 1.05 1.15 1.27 1.43 1.58 1.84 2.1 2.5 3.2 3.9 4.2	FA 107 FAF107 F 107 FF 107	4 4 4 4
11kW 4.9 5.4 6.3 7.2 7.4		301 272 231 202 196	0.88 0.97 1.14 1.31 1.35	FA 157R97 FAF157R97 F 157R97 FF 157R97	4 4 4 4	22 25 28 32 37 43 44 48 53	4473 3967 3587 3040 2655 2317 2220 2076 1875	66.14 58.65 53.03 44.94 39.26 34.26 32.83 30.70 27.72	0.90 1.02 1.13 1.52 1.74 1.82 1.95 2.2	FA 97 FAF97 F 97 FF 97	4 4 4 4
6.5 7.3 8.7	14472 12807 10758	226 200 168	0.78 0.88 1.05	FA 127R87 FAF127R87 F 127R87 FF 127R87	4 4 4 4	58 65 37	1703 1511 2655	25.18 22.34 39.25	2.4 2.7 0.96		
5.1 5.8 6.7 7.6	19181 16928 14675 13058	141.80 125.14 108.49 96.53	0.88 1.00 1.15 1.30	FA 157 FAF157 F 157 FF 157	8 8 8 8	42 50 55 62 68 76	2377 1972 1792 1602 1442 1306	35.14 29.16 26.50 23.68 21.32 19.31	1.03 1.20 1.57 1.76 1.96 2.16	FA 87 FAF87 F 87 FF 87	4 4 4 4
5.5 5.9 6.8 7.8	18036 16729 14435 12739	177.17 164.33 141.80 125.14	0.94 1.01 1.17 1.33	FA 157 FAF157	6 6	85 94 111	1158 1047 887	17.12 15.48 13.12	2.10 2.4 2.7 3.2		
8.9 10 11 12	11044 9827 8847 8090	108.49 96.53 86.90 79.47	1.53 1.72 1.91 2.1	F 157 FF 157	6	74 83 93 104 120	1332 1183 1058 951 825	19.70 17.49 15.64 14.06 12.20	1.06 1.19 1.33 1.48 1.61		
5.5 6.7 8.2 8.9 10 12 13	18042 14776 12053 11114 9591 8464 7338	266.76 218.46 177.17 164.33 141.80 125.14 108.49	0.94 1.15 1.40 1.52 1.76 2.0 2.3	FA 157 FAF157 F 157 FF 157	4 4 4 4	134 156 176 197 219 252 281 340	739 632 561 502 451 392 351 291	10.93 9.35 8.30 7.42 6.67 5.79 5.19 4.30	1.71 1.81 1.91 2.0 2.3 2.6 2.9 3.3	FA 77 FAF77 F 77 FF 77	4 4 4 4





Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pol
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
15kW 6.3	20172	231	0.84	FA 157R97 FAF157R97	4	15kW 55	2444	26.50	1.15		
7.2 7.4	17639 17115	202 196	0.96 0.99	F 157R97 FF 157R97	4 4	62 68 76	2184 1966 1781	23.68 21.32 19.31	1.29 1.43 1.58		
6.8 7.8	19685 17372	141.80 125.14	0.86 0.97	FA 157	6	85 94	1579 1428	17.12 15.48	1.58 1.79 1.84		
8.9	15061	108.49	1.12	FAF157 F 157	6 6	111	1210	13.12	1.98	FA 87	4
10 11	13400 12063	96.53 86.90	1.26 1.40	F 157 FF 157	6	127 152	1057 884	11.46 9.58	2.1 2.3	FAF87 F 87	4 4
						173	780	8.46	2.5	FF 87	4
6.7 8.2	20143 16340	218.40 177.17	0.84 1.04			195 215	692 625	7.50 6.78	2.7 2.8		
8.9	15156	164.33	1.12			213	530	5.75	2.8		
10	13078	141.80	1.29	FA 157	4	291	463	5.02	3.1		
12	11542	125.14	1.47	FA 157 FAF157	4	348	387	4.20	3.5		
13 15	10006 8903	108.49 96.53	1.69 1.90	F 157	4	18.5k	<b>X</b> 7				
17	8015	86.90	2.1	FF 157	4	10.5K	vv				4
18	7329	79.47	2.3			7.0	01007	000	0.70	FA 157R97 FAF157R97	4 4
21 24	6378 5628	69.15 61.02	2.7 3.0			7.3 7.5	21607 20965	202 196	0.78 0.81	F 157R97	4
						1.0	20000		5.01	FF 157R97	4
9.7 11	13844 12216	99.73 88.00	0.81 0.92	FA 127	6	8.3	20016	177.17	0.85		
13	10550	76.00	1.07	FAF127	6	8.3	18565	164.33	0.85		
14	9803	70.62	1.15	F 127 FF 127	6 6	10	16020	141.80	1.06		
15	8941	64.41	1.26	11 127	0	12	14138	125.14	1.20	FA 157	4
12	11594	125.71	0.97			14 15 17	12257	108.49	1.38	FAF157	4
13	10699	125.71	1.05	FA 127	4		10906 9818	96.53 86.90	1.55 1.72	F 157 FF 157	4 4
15	9198	99.73	1.23	FAF127	4	18	8978	79.47	1.88 2.2 2.5		
17	8116	88.00	1.39	F_127	4	21	7812	69.15			
19	7009	76.00	1.61	FF 127	4	24	6894	61.02 52.91			
21	6513	70.62	1.73			28	5978	52.91	2.8		
16 16	8528	92.47	0.85			13	13105	116.00	0.86		
16 17	8161 7746	88.49 83.99	0.88 0.93			15 17	11267 9942	99.73 88.00	1.00 1.13	FA 127	4
20	6873	74.52	1.05			19	9942 8586	76.00	1.31	FAF127	4
22	6237	67.62	1.16	FA 107	4	21	7978	70.62	1.41	F 127	4
25	5360	58.12	1.35	FAF107	4	23	7277	64.41	1.55	FF 127	4
29 34	4679 3969	50.73 43.03	1.54 1.82	F 107	4	26 30	6297 5557	55.74 49.19	1.79 2.0		
34 39	3469	43.03 37.61	2.1	FF 107	4		0007	43.13	2.0		
43	3116	33.78	2.3			20	8419	74.52	0.86		
46	2933	31.80	2.5			22	7639	67.62	0.94		
53 58	2530 2334	27.43 25.31	2.8 3.1			25 29	6566 5731	58.12 50.73	1.10 1.26		
58 67	2007	21.76	3.6			34	4861	43.03	1.49	FA 107	4
						39	4249	37.61	1.70	FAF107 F 107	4 4
32	4145	44.94	0.98			44	3817	33.78	1.89	FF 107	4
37 43	3621 3160	39.26 34.26	1.12 1.28			46 53	3593 3099	31.80 27.43	2.0 2.3		
43 44	3028	34.26 32.83	1.28			58	2859	27.43	2.5		
48	2831	30.70	1.43	FA 97	4	68	2458	21.76	2.9		
53 58	2557 2322	27.72 25.18	1.58 1.74	FAF97 F 97	4 4	37	4435	39.26	0.91		
58 65	2060	22.34	1.96	FF 97	4	45	3709	32.83	1.09		
72	1869	20.27	2.2			53	3132	27.72	1.29		
84	1607	17.42	2.5			58 66	2845	25.18	1.42	FA 97	4
96 113	1403 1190	15.21 12.90	2.9 3.4			66 73	2524 2290	22.34 20.27	1.60 1.77	FAF97 F 97	4 4
129	1040	12.90	3.4 3.9			84	1274	17.42	2.35	F 97 FF 97	4
			0.0			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	Туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
18.5k	W					22kW					
69 76 86 95 112 128 153 174 196 217	2409 2182 1934 1749 1482 1295 1082 956 847 766	21.32 19.31 17.12 15.48 13.12 11.46 9.58 8.46 7.50 6.78	1.17 1.29 1.46 1.50 1.61 1.70 1.80 1.88 1.90 2.0	FA 87 FAF87 F 87 FF 87	4 4 4 4	112 128 153 174 196 217 256 293 350	1763 1540 1287 1137 1008 911 773 674 564	13.12 11.46 9.58 8.46 7.50 6.78 5.75 5.02 4.20	1.27 1.43 1.58 1.60 1.70 1.83 1.86 2.1 2.4	FA 87 FAF87 F 87 FF 87	4 4 4
256 296	650 567	5.75 5.02	2.2 2.5			30kW					
350 22kW 10 11 12 14	474 19654 17693 16180 14079	4.20 96.53 86.90 79.47 69.15	2.9 0.86 0.96 1.05 1.20	FA 157 FAF157 F 157 FF 157	6 6 6	14 15 17 28 24 28 31 36	19876 17685 15920 14559 12669 11179 9693 8623 7433	108.49 96.53 86.90 79.47 69.15 61.02 52.91 47.07 40.57	0.85 0.96 1.06 1.34 1.51 1.75 2.0 2.3	FA 157 FAF157 F 157 FF 157	4 4 4 4
10 12 14 15 17 18 21 24 28 31 36 45	19051 16813 14576 12969 11675 10677 9290 8198 7108 6324 5451 4430	141.80 125.14 108.49 96.53 86.90 79.47 69.15 61.02 52.91 47.07 40.57 32.97	0.89 1.01 1.16 1.30 1.45 1.58 1.82 2.1 2.4 2.7 3.1 3.8	FA 157 FAF157 F 157 FF 157	4 4 4 4	19 21 23 26 30 35 39 47 54 54 58 59 68	13924 12938 11800 10212 9012 7783 6883 5786 4961 4672 4536 3948	76.00 70.62 64.41 55.74 49.19 42.48 37.57 31.58 26.92 25.50 24.97 21.55	0.81 0.87 0.96 1.10 1.25 1.45 1.58 1.6 1.95 2.4 2.8 2.9	FA 127 FAF127 F 127 FF 127	4 4 4 4
15 17 19 21 23 26 30 35	13399 11823 10211 9488 8653 7489 6609 5707	99.73 88.00 76.00 70.62 64.41 55.74 49.19 42.48	0.84 0.95 1.10 1.19 1.30 1.51 1.71 1.98	FA 127 FAF127 F 127 FF 127	4 4 4 4	68 77 34 39 46 54 58 68	3483 7883 6890 5826 5025 4637 3987	19.01 43.03 37.61 31.80 27.43 25.31 21.76	3.2 0.92 1.05 1.24 1.44 1.56 1.81 2.1	FA 107 FAF107 F 107	4 4 4
25 29 34 39 44	7808 6816 5781 5053 4540	58.12 50.73 43.03 37.61 33.78	0.92 1.06 1.25 1.43 1.59	FA 107 FAF107	4	77 89 100 119 148	3518 3038 2688 2259 1825	19.20 16.58 14.67 12.33 9.96	2.1 2.4 2.7 2.9 3.3	FF 107	4
44 46 54 58 68 77	4272 3685 3400 2923 2580	31.08 27.43 25.31 21.76 19.20	1.69 1.96 2.1 2.5 2.8	F 107 FF 107	4 4 4	66 73 84 97 114	4093 3714 3191 2787 2363	22.34 20.27 17.42 15.21 12.90	0.99 1.09 1.27 1.31 1.44	FA 97 FAF97	4
53 58 66 73 84 97 114 130	3724 3383 3001 2723 2340 2043 1733 1515	27.72 25.18 22.34 20.27 17.42 15.21 12.90 11.28	1.09 1.19 1.35 1.48 1.73 2.0 2.3 2.7	FA 97 FAF97 F 97 FF 97	4 4 4 4	130 159 175 203 233 275 314	2067 1698 1541 1325 1156 980 857	11.28 9.27 8.41 7.23 6.31 5.35 4.68	1.45 1.67 1.83 1.85 1.86 2.1 2.2	F 97 FF 97	4
69 76 86 95	2864 2594 2300 2080	21.32 19.31 17.12 15.48	0.98 1.09 1.23 1.36	FA 87 FAF87 F 87 FF 87	4 4 4 4						





Output speed r/min	Output torque Nm	Ratio i	Service factor f <sub>B</sub>	Туре Туре	Pole p	Output speed r/min	Output torque Nm	Ratio i	Service factor f <sub>B</sub>	Туре Туре	Pole p
37kW						45kW					
17 19 21 24 28 31 36 45 53	19503 17835 15519 13694 11874 10564 9105 7399 6275	86.90 79.47 69.15 61.02 52.91 47.07 40.57 32.97 27.96	0.87 0.95 1.09 1.24 1.42 1.60 1.86 2.3 2.7	FA 157 FAF157 F 157 FF 157	4 4 4 4	54 59 68 77 89 101 120 149 153 177	7525 6862 5939 5241 4525 4004 3365 2719 2634 2276	27.57 25.14 21.76 19.2 16.58 14.67 12.33 9.96 9.65 8.34	0.98 1.07 1.24 1.41 1.63 1.80 1.90 2.0 2.1 2.2	FA 107 FAF107 F 107 FF 107	4 4 4 4
15 27 35	22261 12509 9534	99.19 55.74 42.48	0.51 0.90 1.18			201 239	2012 1692	7.37 6.20	2.3 2.6		
39 47	8432 7087	37.57 31.58	1.31 1.34			55kW					
55 60 69 78 90 101 117 144 169 190	6077 5557 4836 4266 3699 3292 2837 2305 1966 1748	26.92 24.97 21.55 19.01 16.48 14.67 12.64 10.27 8.76 7.79	1.86 1.45 2.3 2.4 2.8 3.1 3.2 3.3 3.3 3.9	FA 127 FAF127 F 127 FF 127	4 4 4 4	24 28 31 36 45 53 58 67 75 88	20357 17651 15703 13534 10999 9328 8484 7393 6595 5621	61.02 52.91 47.07 40.57 32.97 27.96 25.43 22.16 19.77 16.85	0.83 0.96 1.08 1.25 1.54 1.66 1.81 2.3 2.4 3.0	FA 157 FAF157 F 157 FF 157	4 4 4 4
54 58 68 77 89 101 120 149 153 177 201 239	6156 5680 4883 4309 3721 3292 2767 2235 2166 1872 1654 1391	27.43 25.31 21.76 19.20 16.58 14.67 12.33 9.96 9.65 8.34 7.37 6.20	1.20 1.30 1.51 1.7 2.0 2.1 2.2 2.3 2.4 2.6 2.7 3.1	FA 107 FAF107 F 107 FF 107	4 4 4 4	39 47 58 69 78 90 101 117 144 169 190 220 221 320	12534 10535 8507 7189 6342 5498 4894 4217 3426 2922 2599 2242 1821 1545	37.57 31.58 25.5 19.01 16.48 14.67 12.64 10.27 8.76 7.79 6.72 5.46 4.63	0.90 1.07 1.33 1.57 1.63 1.88 2.1 2.2 2.3 2.4 2.6 2.9 3.1 3.7	FA 127 FAF127 F 127 FF 127	4 4 4 4
45kW	18874	69.15	0.90			75kW					
24 28 31 36 45 53 30	16655 14442 12848 11074 8999 7632 13426	61.02 52.91 47.07 40.57 32.97 27.96	0.30 1.02 1.17 1.32 1.53 1.88 2.2 0.84	FA 157 FAF157 F 157 FF 157	4 4 4 4	31 36 45 53 58 67 75	21413 18456 14999 12719 11569 10081 8994	47.07 40.57 32.97 27.96 25.43 22.16 19.77	0.79 0.92 1.13 1.22 1.33 1.68 1.78	FA 157 FAF157 F 157 FF 157	4 4 4 4
30 35 39	13426 11595 10255	49.19 42.48 37.57	0.84 0.97 1.08			88 106 124	7665 6351 5423	16.85 13.96 11.92	2.2 2.5 2.8		
47 55 58 60 69 78 90 101 117 144 169 190 220 271	8620 7391 6960 6758 5882 5189 4498 4004 3450 2803 2391 2126 1834 1490	31.58 26.92 25.50 24.97 21.55 19.01 16.48 14.67 12.64 10.27 8.76 7.79 6.72 5.46	1.10 1.18 1.31 1.62 2.0 2.3 2.6 2.7 2.8 2.9 3.2 3.6 3.8	FA 127 FAF127 F 127 FF 127 FF 127	4 4 4	58 69 78 90 101 117 144 169 190 220 271 320	11600 9803 8648 7497 6674 5750 4672 3985 3544 3057 2484 2106	25.50 21.55 19.01 16.48 14.67 12.64 10.27 8.76 7.79 6.72 5.46 4.63	0.97 1.2 1.4 1.5 1.6 1.6 1.6 1.7 1.9 2.2 2.3 2.7	FA 127 FAF127 F 127 FF 127 FF 127	4 4 4 4





<b>.</b>	<u> </u>						<u>.</u>		• ·		
Output speed	Output torque	Ratio	Service factor	Туре	Pole	Output speed	Output torque	Ratio	Service factor	Туре	Pole
r/min	Nm	i	f <sub>B</sub>	Туре	р	r/min	Nm	i	f <sub>B</sub>	Туре	р
90kW											
45 53 58 67 75 88 106 124	17998 15263 13882 12097 10792 9198 7621 6507	32.97 27.96 25.43 22.16 19.77 16.85 13.96 11.92	0.94 1.02 1.11 1.40 1.48 1.84 2.1 2.3	FA 157 FAF157 F 157 FF 157	4 4 4						
58 69 78 90 101 117 144 169 190 220 271 320	13920 11764 10378 8953 8008 6900 5606 4782 4253 3668 2981 2528	$\begin{array}{c} 25.50\\ 21.55\\ 19.01\\ 16.48\\ 14.67\\ 12.64\\ 10.27\\ 8.76\\ 7.79\\ 6.72\\ 5.46\\ 4.63\end{array}$	$\begin{array}{c} 0.81 \\ 0.96 \\ 1.00 \\ 1.15 \\ 1.29 \\ 1.33 \\ 1.36 \\ 1.59 \\ 1.60 \\ 1.79 \\ 1.89 \\ 2.2 \end{array}$	FA 127 FAF127 F 127 FF 127	4 4 4 4						
110kW	V										
53 67 75 88 107 125	18530 14686 13102 11167 9252 7900	27.96 22.16 19.77 16.85 13.96 11.92	0.91 1.15 1.22 1.52 1.73 1.90	FA 157 FAF157 F 157 FF 157	4 4 4 4						
132kV	V										
67 75 88 107 125	17623 15723 13400 11102 9480	22.16 19.77 16.85 13.96 11.92	0.96 1.02 1.26 1.44 1.59	FA 157 FAF157 F 157 FF 157	4 4 4 4						
160kW	V				4						
88 107 125	16243 13457 11491	16.85 13.96 11.92	1.04 1.19 1.31	FA 157 FAF157 F 157 FF 157	4 4 4 4						
200kW	v										
88 107 125	20304 16821 14363	16.85 13.96 11.92	0.83 0.95 1.05	FA 157 FAF157 F 157 FF 157	4 4 4 4						
						1					





Permissible torque	Output speed	Ratio	Туре	Power	Permissible torque	Output speed	Ratio	Туре	Powe
Nm	r/min	i	Т <sub>ур</sub> е	kW/4 p	Nm	r/min	i	Т <sub>ур</sub> е	kW/4
	5.3 6.1 7.0 8.2	262 229 200 170	FA 37R17 FAF37R17	0.18	1500	2.3 2.6 3.0	600 525 469	FA 77R37 FAF77R37	0.55
200	9.1 10 11	153 133 129	F 37R17 FF 37R17	0.25		3.4 3.9 4.4	412 357 314	F 77R37 FF 77R37	0.75
	2.5 2.9 3.1 3.6	563 477 445 389		0.18	-	0.33 0.37 0.43 0.48	4245 3721 3244 2881		0.18
400	4.0 4.6 4.7	346 304 293	FA 47R17 FAF47R17	0.25		0.54 0.63 0.72	2575 2199 1930		0.25
	6.0 6.4	230 216	F 47R17 FF 47R17		2000	0.81 0.93	1709 1493	FA 87R57 FAF87R57 F 87R57 FF 87R57	0.37
	7.4 7.9 9.4 11	188 176 148 130		0.37	3000	1.1 1.2 1.4 1.6	1300 1148 1010 887		0.55
	1.6 1.9	856 749		0.18		1.8 2.1	780 674		0.75
	2.1 2.5 2.9 3.3	658 549 483 426		0.25		2.3 2.7 3.1 4.0	609 515 452 345		1.1
600	3.6 4.2 4.7	382 330 298	FA 57R37 FAF57R37 F 57R37 FF 57R37	0.37		0.21 0.24	6532 5696		0.18
	5.3 6.2 7.0	262 226 200		0.55		0.28 0.32 0.35	5032 4375 3946		
	8.4 9.1	166 152		0.75		0.41 0.47	3404 2949		0.25
	10 1.2 1.4	134 1126 984		0.18	4200	0.54 0.61 0.70	2590 2267 1989	FA 97R57 FAF97R57 F 97R57 FF 97R57	0.37
	1.6 1.9	864 722				0.80 0.90 1.0	1739 1542 1340		0.55
000	2.2 2.6	633 527	FA 67R37 FAF67R37	0.25	4300	1.2 1.3	1182 1032		0.75
820	2.8 3.1 3.5	500 454 392	F 67R37 FF 67R37	0.37		1.5 1.8 2.0	907 796 700		1.1
	4.2 4.7 5.3 5.8	333 297 261 238		0.55		2.3 2.6 3.0	611 534 472		1.5
	7.0	200		0.75	_	3.5 3.9	410 367		2.2
	0.7 0.81 0.91	2024 1728 1543 1354	FA 77837	0.18		4.9 5.7	288 247		3
1500	1.03 1.2 1.3	1196 1050	FA 77R37 FAF77R37 F 77R37 FF 77R37	0.25		0.12 0.14 0.16 0.18	11347 10039 8548 7675	FA 107R77 FAF107R77	0.18
	1.5 1.7 2.0	907 810 710		0.37	7840	0.18 0.21 0.24 0.27	6615 5820 5223	F 107R77 FF 107R77	0.25

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

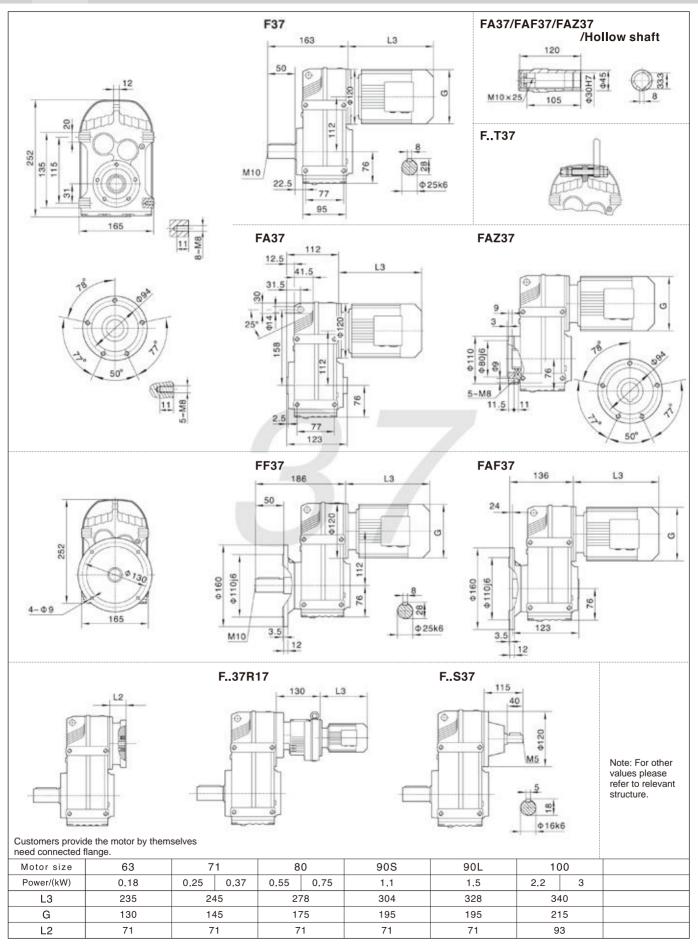




	)utput peed	Ratio	Туре	Power	Permissible torque	Output speed	Ratio	Туре	Power
r	r/min	i	Туре	kW/4p	Nm	r/min	i	Туре	kW/4p
	0.30 0.40	4567 3442		0.37		0.04 0.05 0.06 0.07 0.08 0.09	31434 26173 23464 20212 17984 16358 13751 12235 7065		
-	0.46 0.50 0.59	3037 2756 2369		0.55					0.55
-	0.67 0.76	2068 1826	FA 107R77 FAF107R77 F 107R77	0.75		0.10 0.11 0.20			
)	0.88 1.0 1.1	1597 1401 1243		1.1		0.20	6286 5404		0.75
-	1.3 1.5	1087 950	FF 107R77	1.5		0.14 0.16	10033 9021		
-	1.7 1.9 2.3	834 736 627		2.2		0.1780260.2948310.3441240.502776		1.1	
	2.5 2.9 3.3	560 489 427		3		0.57 0.64	2427 2185	FA 157R97 FAF157R97 F 157R97 FF 157R97	1.5
	4.0 4.3	362 333		4		0.39 0.44 0.73 0.85	4 3205 3 1944		2.2
	0.08 0.09 0.11 0.12	16787 14838 13014 11748	FA 127R77 FAF127R77 F 127R77 FF 127R77	0.18		1.00 1.1 1.2	1420 1308 1169		3
-	0.14 0.16	10271 8901		0.25		1.5 1.7 1.9	953 845 764		4
-	0.18 0.21 0.23	7703 6768 5975		0.37		2.1 2.5	680 576		5.5
-	0.27 0.31 0.36	5076 4466 3868		0.55		2.9 3.3 4.9	503 446 301		7.5
-	0.41 0.47 0.52	3403 2987 2693		0.75		5.4 6.3 7.2	272 231 202		11 15
-	0.59 0.68 0.78	2376 2054 1798		1.1		4.9 196	196		18.5
)0	0.86 1.0	1619 1401		1.5					
-	1.2 1.3 1.5	1230 1085 937		2.2					
-	1.7 1.9 2.2	827 733 640		3					
-	2.7 2.9	542 489		4					
	3.4 3.9	423 371		5.5	_				
	3.0 3.5 3.9	483 417 373	FA 127R87 FAF127R87	5.5					
-	4.7 5.0	312 293	F 127R87 FF 127R87	7.5					
are overle	3.5 3.9 4.7 5.0 7.3	417 373 312 293 200	FAF127R87 F 127R87	7.5 11	  uld not higher than tl	ne gear unit's r		minal torque	minal torque.

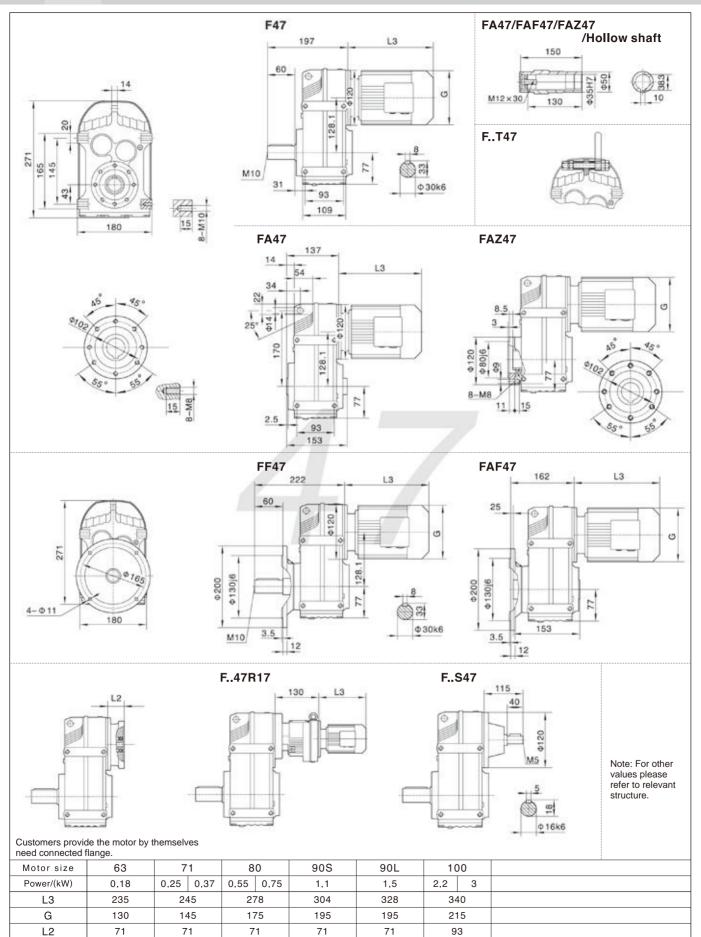
All gear units are overloaded in above table. Determination of operating torque should not higher than the gear unit's nominal torque.





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

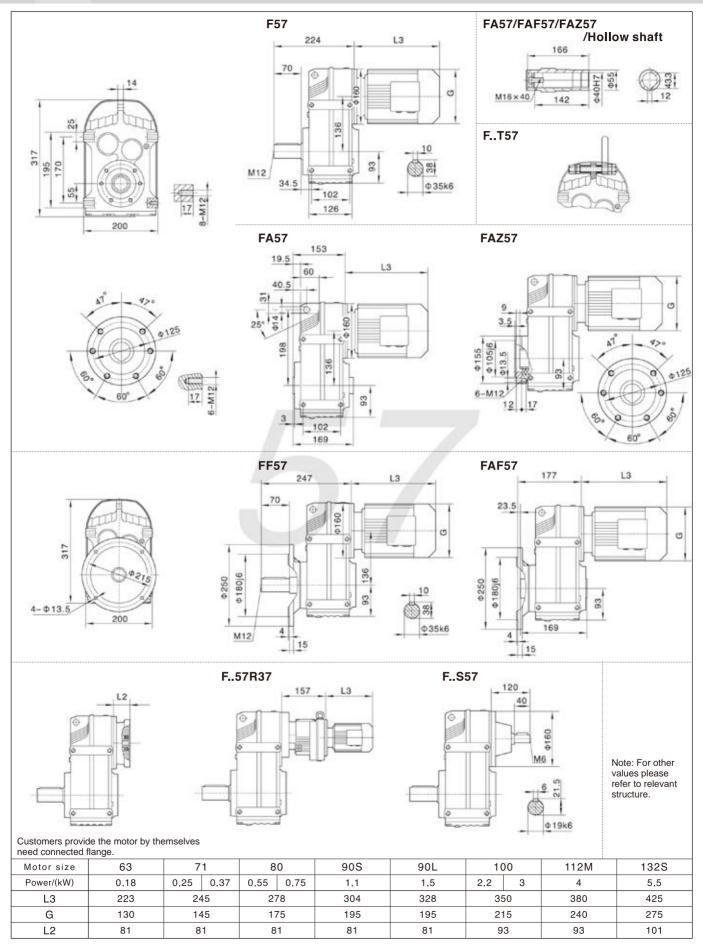




Note:1. The above housings are common parts. The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.

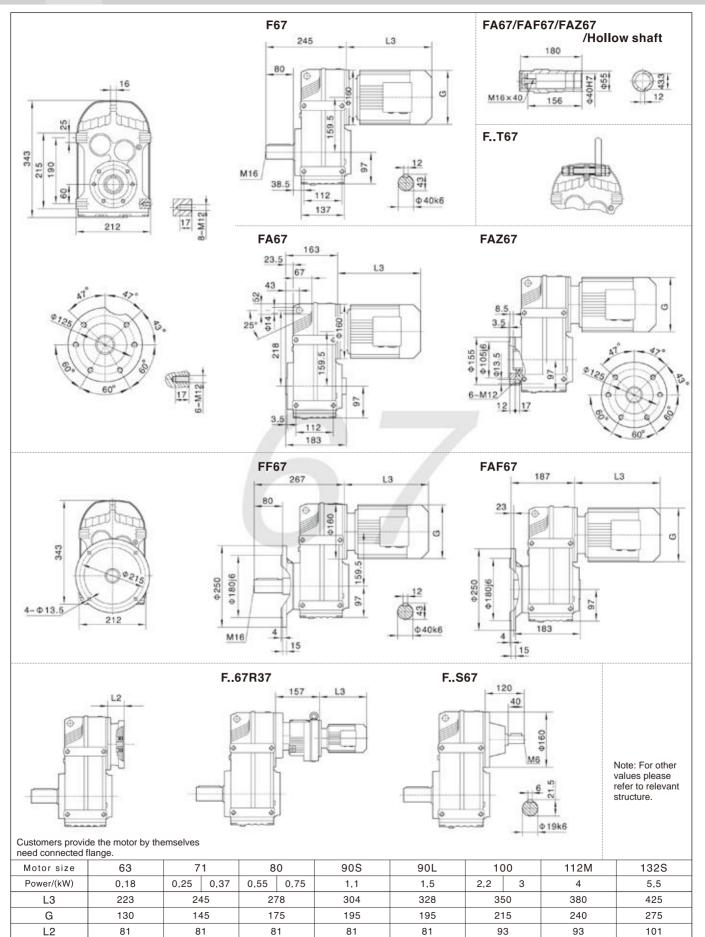
25





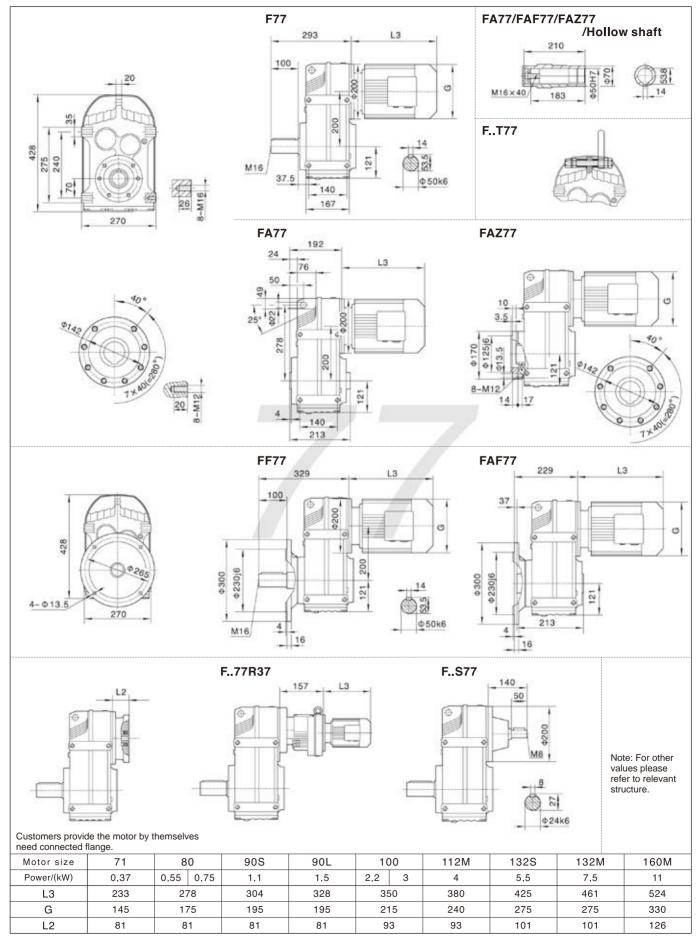
Note:1. The above housings are common parts. The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.





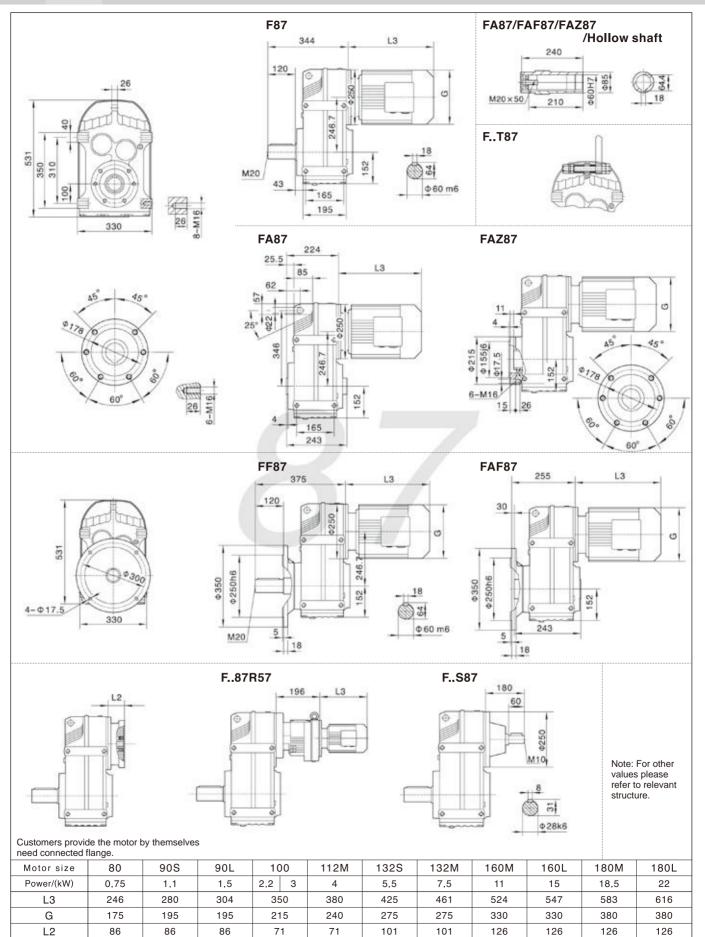
Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.





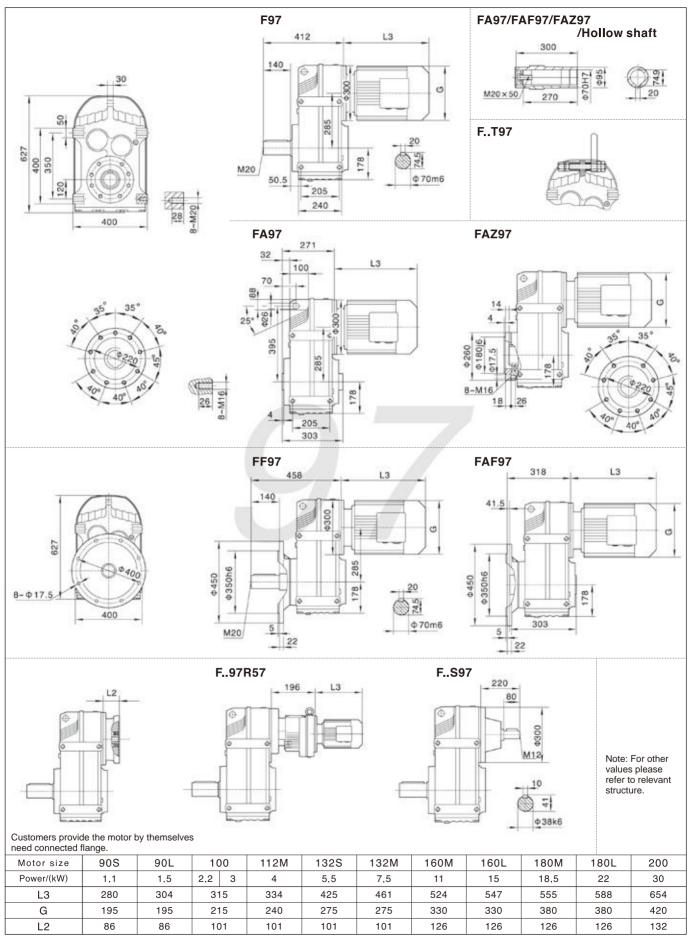
Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.





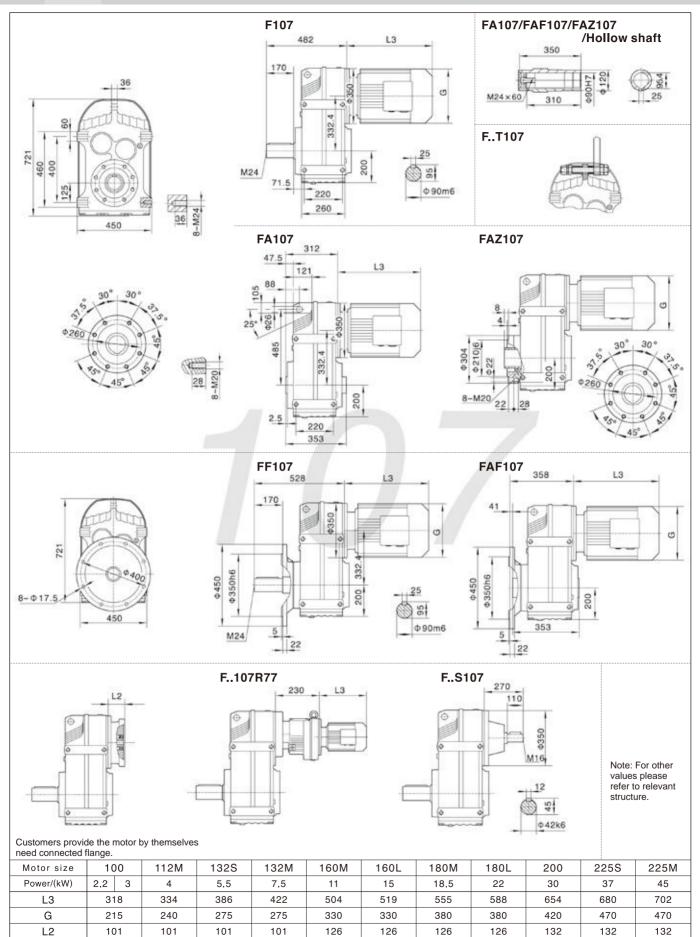
Note:1. The above housings are common parts. The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.





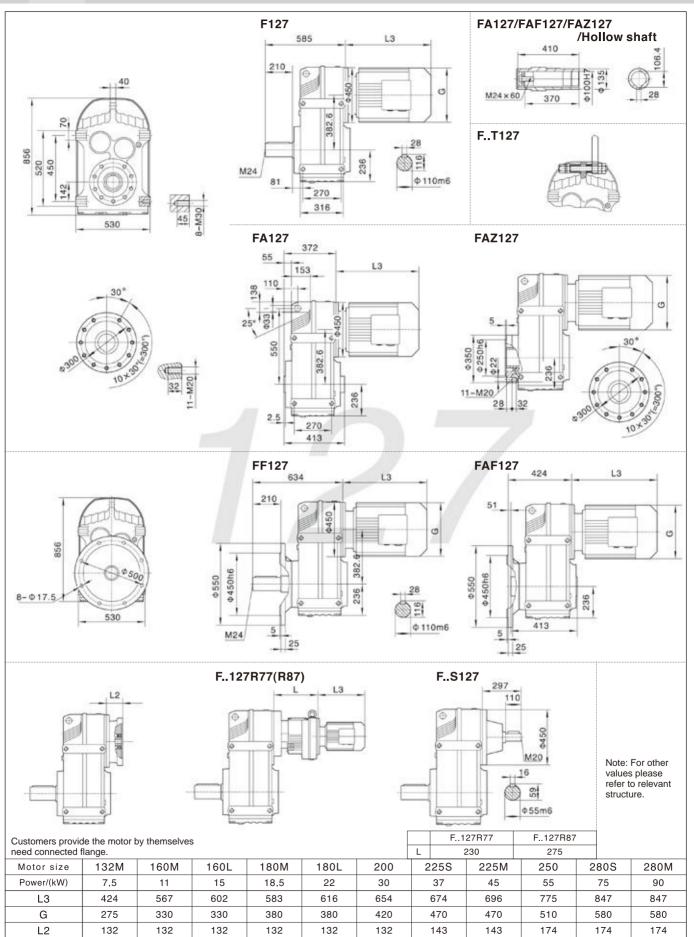
Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.





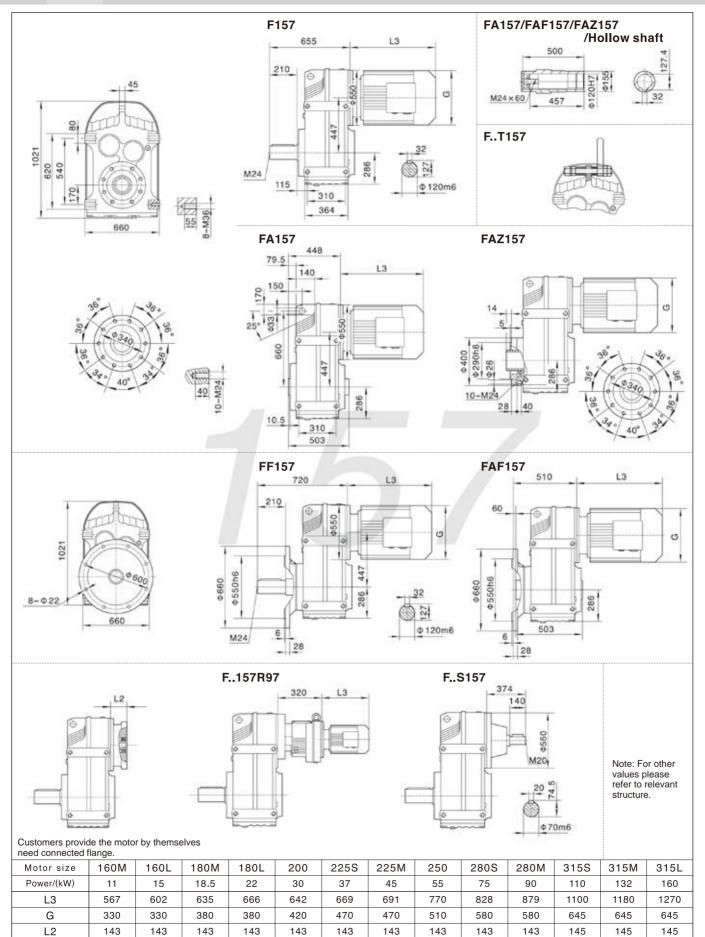
Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.





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

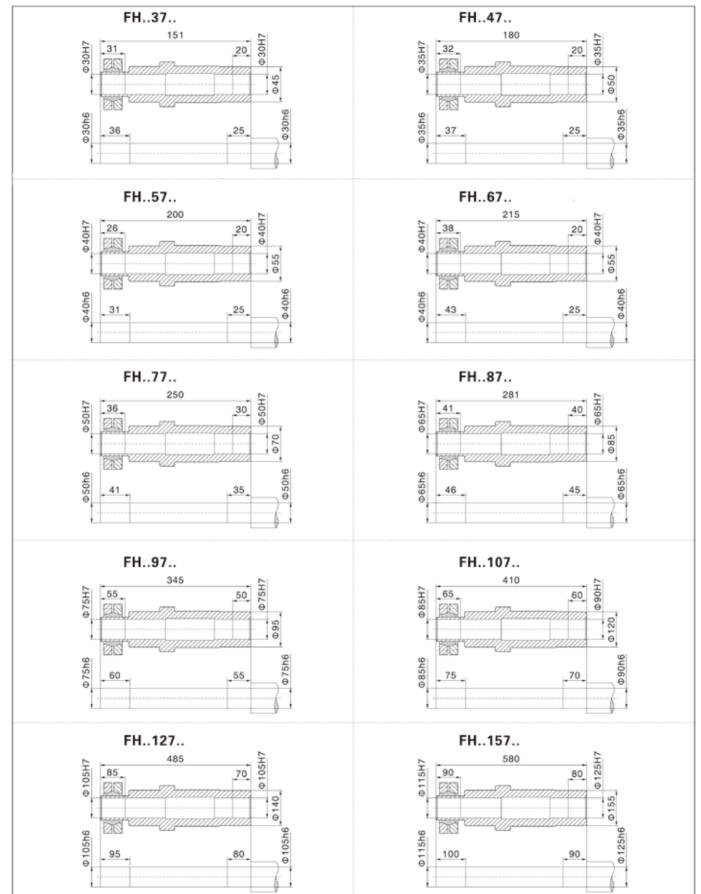


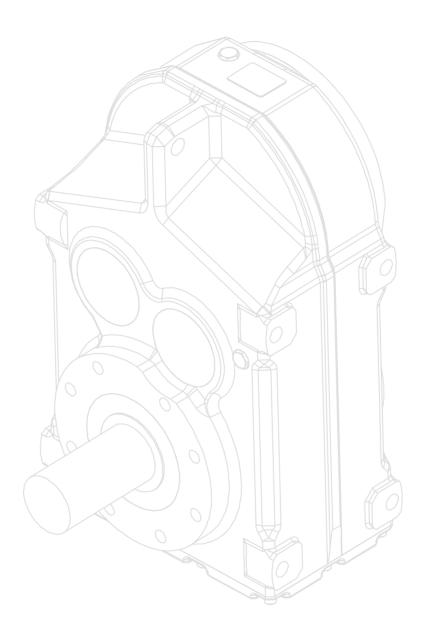


Note:1.The above housings are common parts.The mounting dimensions may consult each other. 2. "F..." means F, FA, FF, FAF, FAZ.



#### **Dimensions of shrink disc**







#### ZHEJIANG RED SUN MACHINERY CO., LTD

Add: No. A07, North Side Of The 57 Provincial Road, Mabu Town, Wenzhou City, Zhejiang Province, China Tel: +86-577-58113212 Fax: +86-577-58113207 E-mail: info@cn-redsun.com Web: www.cn-redsun.com