


# Section 9:

## Gearboxes: Series K

The Fenner® Series K incorporates all the core design features in a highly efficient yet flexible bevel helical drive.

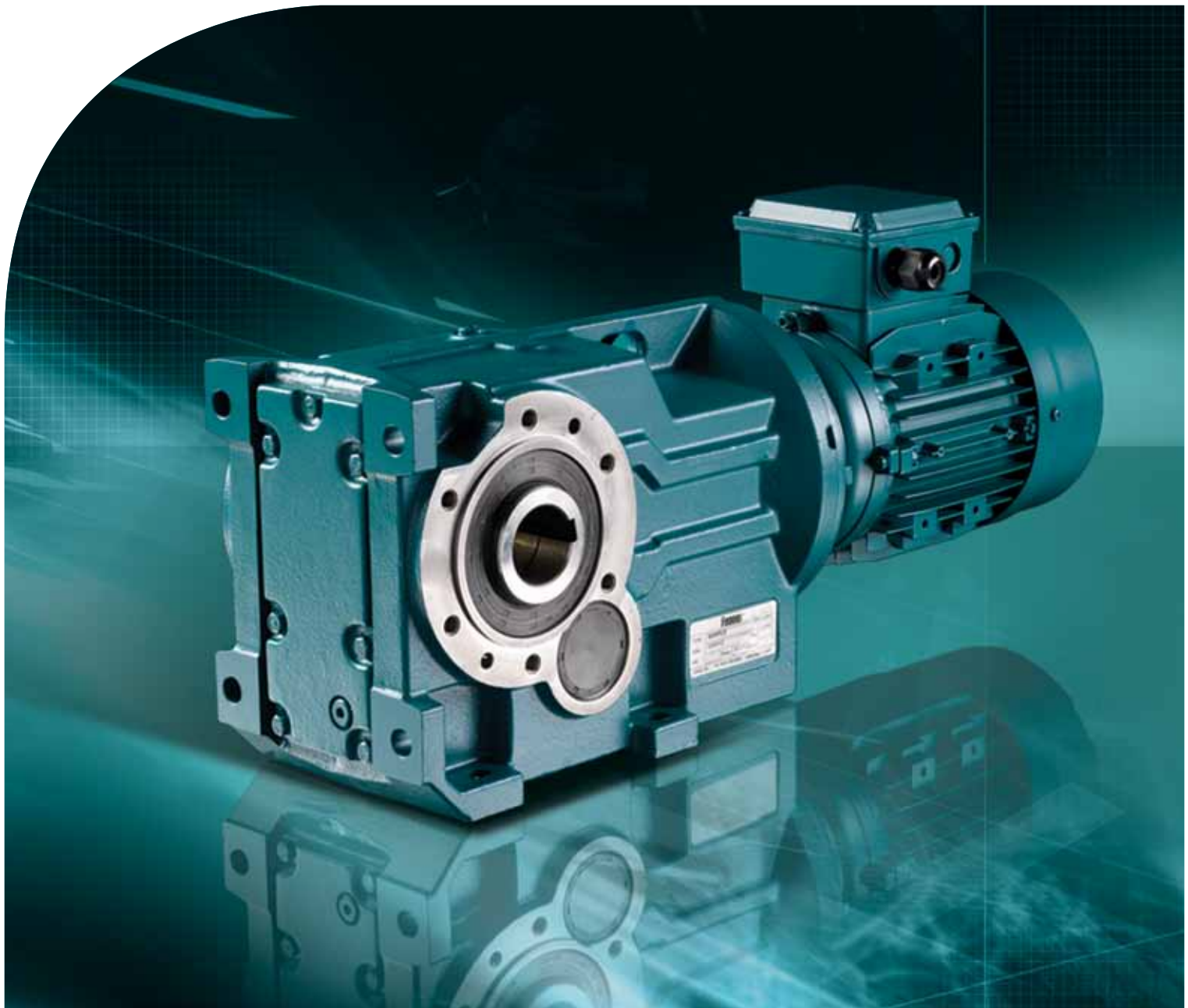


- Drives up to 90kW
- Highly efficient right angled drive
- Ratios from 8:1 to 7250:1 available
- Dimensionally interchangeable with the market leaders
- Accepts standard IEC motors without modification
- ATEX certification available 

Geared Drives: Design Data Required	
Motorised (integral motor) or non-motorised?	<ul style="list-style-type: none"> <li>&gt; If motorised: electrical supply available any special motor features required (brake, thermistors, flameproof etc.)</li> <li>&gt; If non-motorised: type of prime mover rotational speed of prime mover power rating of prime mover is an input shaft coupling required? If so, prime mover shaft dia.</li> </ul>
Shaft mounting or flange mounted?	<ul style="list-style-type: none"> <li>&gt; If shaft mounted, machine shaft diameter/length</li> <li>&gt; if flange mounted, is an output shaft and coupling required?</li> </ul>
Type of driven machine	
Rotational speed of driven machine	> constant or variable over what range?
Power absorbed by driven machine (or required output torque)	
Hours/day duty & start/stop frequency	

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## SERIES K

Highly Efficient, Versatile.  
Compact Solutions

- > Drives up to 90kW
- > Highly efficient right angled drive
- > Ratios from 8:1 to 7250:1 available from stock
- > Dimensionally interchangeable with the market leaders
- > Accepts standard IEC motors without modification
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# Fenner<sup>®</sup>

THE MARK OF ENGINEERING EXCELLENCE

# Series K Gearboxes : Motorised selection

## MOTORISED UNITS SELECTION PROCEDURE

### (a) Service Factor

From Table 1 select the Mechanical Service Factor (Fm) applicable to the drive. If the unit is to be subjected to frequent stop/starts in excess of 10 times per day then multiply factor Fm by Factor Fs from table 2.

### (b) Motor Power

Refer to the selection tables on pages 284 to 291 and choose a motor power equal to or in excess of that required, if the motor power is not known then from the formula below determine the power requirements of the driven machine and select a motor power in excess of the calculated machine absorbed power.

$$P_2 = \frac{M_2 \times n_2}{9550}$$

- P<sub>2</sub> = machine absorbed power (kW)
- M<sub>2</sub> = machine absorbed torque (Nm)
- n<sub>2</sub> = machine speed (rev/min)

### (c) Unit Selection

Refer to the selection tables on page 284 to 291 and choose the closest above that calculated in step (b). Then read down the column headed "Nominal Output" until a speed equal to or near to the required speed is found. On this line read across to the service factor column and check that the service factor exceeds the value from step (a). If the service factor is either lower or much higher than that required check the speeds at each side of the required speed to see if a more suitable unit and factor can be found.

### (d) Overhung Loads

If the unit is to be fitted with an output shaft and an indirect drive attached to the shaft, calculate the overhung load value using the formula on page 305 and compare this value with the maximum allowable value given in column 5 of the selection tables.

If the value exceeds the maximum allowed, then either re-design the indirect drive or select a larger unit capable of supporting the overhung load.

### (e) Shaft Mounted

If the unit is to be shaft mounted determine the relevant machine shaft size from the dimension tables on page 292. Torque arm dimensions can be found on page 306.

## SELECTION EXAMPLE

A series K shaft mounted gearbox is required to drive a variable density mixer, which absorbs 450 Nm at 37 rpm and operates for up to 10 hours per day. The mixer stops and starts on average 4 times a day. Specify the shaft diameter required to fit the unit selected, a torque arm bracket is also required please specify the relevant product code.

### (a) Service Factor

From table 1 a variable density mixer is classed as a moderately loaded machine and when running for up to 10 hours per day requires a service factor of 1.25. The machine stops and starts only 4 times a day therefore an additional stop/start factor is not required.

### (b) Motor Power

To determine the required motor power use the absorbed torque and the machine shaft speed in the formula given.

$$P_2 = \frac{M_2 \times n_2}{9550}$$

Therefore the absorbed Power  

$$P_2 = \frac{450 \times 37}{9550} = 1.743 \text{ kW}$$

### (c) Unit Selection

The nearest standard motor power above 1.743 kW is 2.2 kW therefore we go to the 2.2kW geared motor selections on page 286. Reading down the column headed nominal output it is found that there are 2 units listed at 37 rpm, at the first one of these read across to maximum service factor column, it can be seen that the unit size 893A1436 has a service factor of 1.51. This exceeds the 1.25 Service factor required and therefore is suitable for the application.

### (d) Overhung Loads

The gearbox is to be shaft mounted therefore there are no overhung loads present.

### (e) Shaft Mounted

The unit is to be shaft mounted, referring to page 292 we see that the hub bore size is 40 mm. From page 306 the torque arm bracket to suit the size 893 unit selected has a product code of 893A9600.

TABLE 1 - MECHANICAL SERVICE FACTOR (Fm)

Types of Driven Machine	Operational Hours		
	Under 3	3 to 10	Over 10
<b>Uniform Loads</b> Agitators and Mixers – liquid or semi-liquid Blowers – centrifugal Bottling Machines Conveyors and Elevators – uniformly loaded Cookers Laundry Washing Machines – non-reversing Line Shafts Pumps – centrifugal and gear Wire Drawing Machines	0.80	1.00	1.25
<b>Moderate Shock Loads</b> Agitators and Mixers – variable density Conveyors – not uniformly loaded Cranes travel motion and hoisting Drawbench Feeders – pulsating load Hoists Kilns Laundry Tumblers Lifts Pumps – reciprocating with 3 or more cylinders Pump and Paper Making Machinery Rubber Mixers and Calendars Screens – rotary Textile Machinery	1.00	1.25	1.50
<b>Heavy Shock Loads</b> Brick Presses Briquetting Machines Conveyors – reciprocating and shaker Crushers Feeders – reciprocating Hammer Mills Pumps – reciprocating, 1 or 2 cylinders Rubber Masticators Screens – vibrating	1.50	1.75	2.00

TABLE 2 - STARTING FACTOR (Fs)

Factor Fs	Start/stops per hour					
	Up to 1	5	10	40	60	>200
Factor Fs	1.00	1.03	1.06	1.10	1.15	1.20

For ATEX certified gear units please consult your local Authorised Distributor.

## Series K Gearboxes : Motorised selection

**Bold print indicates a 6 pole motor is used**

Triple reduction, see page

Quadruple reduction see page

## 0.18 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
165	10	13.65	890A0102	4269
122	13	11.39	890A0302	4688
107	15	10.50	890A0402	4882
95	17	9.71	890A0502	5076
74	22	8.19	890A0702	5481
69	24	7.77	890A0802	5606
54	30	6.56	890A1002	5913
48	34	5.98	890A1102	5916
42	39	5.46	890A1202	5917
38	43	5.03	890A1302	5917
34	48	4.63	890A1402	5952
31	53	4.21	890A1502	5957
27	62	3.60	890A1602	5963
22	74	3.00	890A1802	6000
19	87	2.58	890A1902	6000
17	96	2.33	890A2002	6000
14	116	1.60	890A2202	6000
13	127	1.30	891A2302	6000
12	132	1.20	890A2302	6000
11	151	1.03	890A2402	6000
11	147	1.52	890A3002	6000
11	144	3.06	891A2402	6000
10	156	2.83	891A3002	6000
9.4	167	1.34	890A3102	6000
9.3	171	2.57	891A3102	6000
8.3	190	1.18	890A3202	6000
8.0	196	2.25	891A3202	6000
6.9	231	1.20	891A3302	6000
6.5	243	0.92	890A3302	6000
6.0	262	0.86	890A3402	6000
5.3	299	1.48	891A3402	6000
4.8	327	1.35	891A3502	6000
4.2	375	1.18	891A3602	6000
3.9	412	1.07	891A3702	6000
3.4	473	0.93	891A3802	6000
3.1	521	0.85	891A3902	6000
3.1	522	1.58	893A3902	8000
3.0	530	1.24	892A3902	7496
2.9	551	3.03	894A3902	15000
2.8	576	1.43	893A4002	8000
2.7	584	1.13	892A4002	7496
2.7	607	2.75	894A4002	15000
2.4	671	0.98	892A4102	7496
2.4	662	1.25	893A4102	8000
2.3	698	2.39	894A4102	15000
2.2	730	0.90	892A4202	7496
2.2	719	1.15	893A4202	8000
2.1	758	2.20	894A4202	15000
1.9	835	0.99	893A4302	8000
1.9	870	1.92	894A4302	15000
1.7	931	0.89	893A4402	8000
1.6	984	1.70	894A4402	15000
1.5	1088	1.53	894A4502	15000
1.3	1249	1.34	894A4602	15000
1.2	1413	1.18	894A4702	15000
1.1	1488	1.12	894A4802	15000

## 0.25 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
168	13	10.04	890A0106	4223
124	18	8.38	890A0306	4640
109	21	7.72	890A0406	4827
97	23	7.14	890A0506	5013
76	30	6.02	890A0706	5401
70	33	5.72	890A0806	5519
56	41	4.83	890A1006	5812
49	47	4.40	890A1106	5818
43	53	4.02	890A1206	5820

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
39	59	3.70	890A1306	5822
35	65	3.41	890A1406	5896
32	72	3.10	890A1506	5907
27	84	2.65	890A1606	5921
23	101	2.21	890A1806	6000
20	116	3.70	891A1906	6000
19	118	1.90	890A1906	6000
17	131	1.70	890A2006	6000
17	130	3.30	891A2006	6000
15	152	2.69	891A2206	6000
14	158	1.17	890A2206	6000
13	180	0.88	890A2306	6000
13	172	2.43	891A2306	6000
12	195	2.25	891A2406	6000
11	200	1.12	890A3006	6000
10	228	0.98	890A3106	6000
10	212	2.08	891A3006	6000
9.5	233	1.89	891A3106	6000
8.5	258	0.87	890A3206	6000
8.2	266	1.65	891A3206	6000
7.0	315	1.40	891A3306	6000
5.4	406	1.09	891A3406	6000
4.9	444	0.99	891A3506	6000
4.3	509	0.87	891A3606	6000
3.1	720	0.91	892A3906	7496
3.1	710	1.16	893A3906	8000
3.0	749	2.23	894A3906	15000
2.9	783	1.06	893A4006	8000
2.8	794	0.83	892A4006	7496
2.7	825	2.02	894A4006	15000
2.5	900	0.92	893A4106	8000
2.4	949	1.76	894A4106	15000
2.3	978	0.84	893A4206	8000
2.2	1031	1.62	894A4206	15000
1.9	1183	1.41	894A4306	15000
1.7	1338	1.25	894A4406	15000
1.5	1479	1.13	894A4506	15000
1.3	1698	0.98	894A4606	15000
1.2	1921	0.87	894A4706	15000
1.1	2023	0.83	894A4806	15000

## 0.37 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
168	20	6.78	890A0108	4171
124	27	5.66	890A0308	4556
109	31	5.22	890A0408	4732
97	35	4.83	890A0508	4906
76	45	4.07	890A0708	5263
70	48	3.86	890A0808	5372
56	61	3.26	890A1008	5640
49	69	2.97	890A1108	5650
43	79	2.71	890A1208	5655
39	88	2.50	890A1308	5658
35	97	2.30	890A1408	5801
32	107	2.09	890A1508	5821
31	110	3.94	891A1508	6000
28	119	3.68	891A1608	6000
27	125	1.79	890A1608	5849
24	143	3.08	891A1808	6000
23	150	1.49	890A1808	6000
20	171	2.57	891A1908	6000
19	175	1.28	890A1908	6000
17	194	1.16	890A2008	6000
17	193	2.28	891A2008	6000
15	225	1.82	891A2208	6000
13	255	1.64	891A2308	6000
13	263	3.13	<b>893A1912</b>	8000
12	289	1.52	891A2408	6000
12	294	2.24	<b>892A2012</b>	8000
12	290	2.85	<b>893A2012</b>	8000
10	313	1.41	891A3008	6000
10	353	2.34	<b>893A2212</b>	8000
9.5	345	1.28	891A3108	6000
9.4	360	1.83	<b>892A2212</b>	8000

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
8.6	393	2.10	<b>893A2312</b>	8000
8.4	401	1.64	<b>892A2312</b>	8000
8.2	394	1.12	891A3208	6000
7.7	439	1.35	<b>893A2412</b>	8000
7.5	448	1.35	<b>892A2412</b>	8000
7.0	466	0.95	891A3308	6000
3.0	1108	1.51	894A3908	15000
2.7	1222	1.37	894A4008	15000
2.4	1404	1.19	894A4108	15000
2.2	1526	1.09	894A4208	15000
2.0	1672	1.62	<b>895A3912</b>	15674
1.9	1751	0.95	894A4308	15000
1.8	1829	1.48	<b>895A4012</b>	15674
1.7	1980	0.84	894A4408	15000
1.7	1944	1.39	<b>895A4112</b>	15674
1.6	2039	1.85	<b>896A4112</b>	34000
1.4	2317	1.17	<b>895A4212</b>	15674
1.4	2370	1.59	<b>896A4212</b>	34000
1.3	2630	1.44	<b>896A4312</b>	34000
1.2	2743	0.99	<b>895A4312</b>	15674
1.2	2853	1.48	<b>896A4412</b>	34000
1.1	2927	0.93	<b>895A4412</b>	15674
1.0	3203	0.85	<b>895A4512</b>	15674
0.98	3400	1.24	<b>896A4512</b>	34000
0.90	3710	1.02	<b>896A4612</b>	34000
0.83	4025	1.05	<b>896A4712</b>	34000
0.77	4295	0.98	<b>896A4812</b>	34000

## 0.55 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
171	29	4.63	890A0116	4078
126	40	3.86	890A0316	4432
111	45	3.56	890A0416	4590
98	51	3.29	890A0516	4745
77	66	2.78	890A0716	5057
71	71	2.64	890A0816	5150
56	90	2.23	890A1016	5381
51	98	3.85	891A1116	6000
50	102	2.03	890A1116	5398
45	112	3.51	891A1216	6000
43	116	1.85	890A1216	5407
40	127	3.28	891A1316	6000
39	129	1.71	890A1316	5412
36	140	2.97	891A1416	6000
35	143	1.57	890A1416	5658
32	157	1.43	890A1516	5692
31	161	2.69	891A1516	6000
29	175	2.51	891A1616	6000
27	184	1.22	890A1616	5740
24	209	2.10	891A1816	6000
23	220	1.02	890A1816	6000
23	216	3.83	893A1816	8000
20	256	0.88	890A1916	6000
20	251	1.75	891A1916	6000
20	253	3.26	893A1916	8000
19	258	2.55	892A1916	8000
18	283	1.56	891A2016	6000
18	278	2.97	893A2016	8000
16	282	2.33	892A2016	8000
15	330	1.24	891A2216	6000
15	345	1.91	892A2216	8000
15	341	2.42	893A2216	8000
13	374	1.12	891A2316	6000
13	386	1.71	892A2316	8000
13	377	2.19	893A2316	8000
13	401	3.99	894A2316	15000
12	424	1.04	891A2416	6000
12	432	1.41	892A2416	8000
12	423	1.41	893A2416	8000
12	406	1.62	892A3016	7496
12	401	2.06	893A3016	8000
12	420	3.98	894A3016	15000
11	460	0.96	891A3016	6000
11	442	3.12	894A2416	15000
11	467	3.57	894A3116	15000



# Series K Gearboxes : Motorised selection

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
10	505	0.87	891A3116	6000
10	492	1.34	892A3116	7496
10	485	1.70	893A3116	8000
10	515	3.24	894A3216	15000
9.2	535	1.54	893A3216	8000
9.0	542	1.21	892A3216	7496
7.0	704	1.17	893A3316	8000
6.8	713	0.92	892A3316	7496
6.7	737	2.27	894A3316	15000
6.1	816	2.05	894A3416	15000
5.5	895	0.92	893A3416	8000
5.4	927	1.80	894A3516	15000
4.8	1017	0.81	893A3516	8000
4.7	1063	1.57	894A3616	15000
3.8	1305	1.28	894A3716	15000
3.4	1447	1.15	894A3816	15000
3.1	1605	1.69	895A3916	15674
3.0	1625	1.03	894A3916	15000
2.8	1791	0.93	894A4016	15000
2.8	1756	1.54	895A4016	15674
2.6	1867	1.45	895A4116	15674
2.5	1959	1.93	896A4116	34000
2.4	2058	0.81	894A4116	15000
2.2	2226	1.22	895A4216	15674
2.2	2278	1.66	896A4216	34000
2.0	2526	1.49	896A4316	34000
1.9	2637	1.03	895A4316	15674
1.8	2815	0.96	895A4416	15674
1.8	2742	1.54	896A4416	34000
1.6	3079	0.88	895A4516	15674
1.5	3269	1.29	896A4516	34000
1.4	3567	1.06	896A4616	34000
1.3	3871	1.09	896A4716	34000
1.2	4132	1.02	896A4816	34000
0.96	5121	0.82	896A4916	34000

## 0.75 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
170	40	3.38	890A0118	3975
126	54	2.82	890A0318	4293
111	62	2.60	890A0418	4433
98	71	2.41	890A0518	4566
79	87	3.83	891A0718	6000
76	90	2.03	890A0718	4828
71	98	1.93	890A0818	4903
69	99	3.49	891A0818	6000
57	122	3.03	891A1018	6000
56	123	1.63	890A1018	5093
51	135	2.81	891A1118	5945
49	140	1.48	890A1118	5119
45	153	2.56	891A1218	5944
43	158	1.35	890A1218	5132
43	160	3.77	892A1218	7830
39	177	1.25	890A1318	5138
39	174	2.39	891A1318	5939
38	180	3.54	892A1318	8000
36	192	2.17	891A1418	6000
36	192	3.29	892A1418	8000
35	195	1.15	890A1418	5500
32	215	1.04	890A1518	5550
31	221	1.97	891A1518	6000
31	223	3.71	893A1518	8000
30	227	2.89	892A1518	8000
29	240	1.83	891A1618	6000
29	238	3.47	893A1618	8000
28	243	2.71	892A1618	8000
27	252	0.89	890A1618	5620
24	287	1.54	891A1818	6000
23	301	2.19	892A1818	8000
23	295	2.80	893A1818	8000
20	344	1.28	891A1918	6000
20	347	2.38	893A1918	8000
19	354	1.86	892A1918	7667
18	387	1.14	891A2018	6000

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
18	380	2.17	893A2018	8000
16	386	1.70	892A2018	7637
15	452	0.91	891A2218	6000
15	473	1.39	892A2218	7760
15	467	1.77	893A2218	8000
14	476	3.36	894A2218	15000
13	512	0.82	891A2318	6000
13	528	1.25	892A2318	7541
13	516	1.60	893A2318	8000
12	591	1.03	892A2418	8000
12	579	1.03	893A2418	8000
12	555	1.19	892A3018	7496
12	549	1.51	893A3018	8000
12	548	2.91	894A2318	15000
12	574	2.91	894A3018	15000
11	606	2.28	894A2418	15000
11	640	2.61	894A3118	15000
10	673	0.98	892A3118	7496
10	665	1.24	893A3118	8000
10	705	2.37	894A3218	15000
9.2	732	1.13	893A3218	8000
9.0	742	0.89	892A3218	7496
6.9	964	0.86	893A3318	8000
6.7	1009	1.66	894A3318	15000
6.1	1117	1.49	894A3418	15000
5.4	1269	1.32	894A3518	15000
4.7	1455	1.15	894A3618	15000
3.8	1786	0.94	894A3718	15000
3.4	1980	0.84	894A3818	15000
3.1	2197	1.23	895A3918	15674
2.8	2403	1.13	895A4018	15674
2.6	2555	1.06	895A4118	15674
2.5	2681	1.41	896A4118	34000
2.2	3047	0.89	895A4218	15674
2.2	3118	1.21	896A4218	34000
1.9	3457	1.09	896A4318	34000
1.8	3752	1.12	896A4418	34000
1.8	3784	1.90	897A4023	43100
1.7	3907	3.10	898A4023	61368
1.6	4161	1.73	897A4123	43100
1.6	4296	2.81	898A4123	61368
1.5	4473	0.94	896A4518	34000
1.4	4779	1.50	897A4223	43100
1.4	4934	2.45	898A4223	61368
1.3	5303	1.36	897A4323	43100
1.2	5739	1.25	897A4423	43100
1.2	5559	2.18	898A4323	61368
1.1	5937	2.09	898A4423	61293
1.0	6627	1.08	897A4523	43100
0.97	6946	1.74	898A4523	61368
0.94	7172	1.00	897A4623	43100
0.91	7417	1.68	898A4623	61293
0.81	8357	1.49	898A4723	61293
0.79	8568	0.84	897A4723	43100
0.75	8979	1.35	898A4823	61368
0.61	11101	1.12	898A4923	61293
0.54	12510	0.99	898A5023	61293
0.51	13217	0.94	898A5123	61293

## 1.1 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
169	59	2.30	890A0124	3795
125	80	1.92	890A0324	4051
125	81	3.62	891A0324	5740
113	89	3.41	891A0424	5890
110	92	1.77	890A0424	4157
100	101	3.14	891A0524	6000
97	104	1.64	890A0524	4253
79	128	2.67	891A0724	5867
76	133	1.38	890A0724	4427
71	144	1.31	890A0824	4472
69	146	2.44	891A0824	5881
56	181	1.11	890A1024	4590
56	179	2.11	891A1024	5850
51	199	1.96	891A1124	5846

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
50	203	2.86	892A1124	7070
49	206	1.01	890A1124	4630
45	226	1.79	891A1224	5833
44	232	3.55	893A1224	7864
43	233	0.92	890A1224	4650
43	236	2.56	892A1224	7262
39	260	0.85	890A1324	4660
39	256	1.67	891A1324	6000
39	260	3.17	893A1324	7844
38	265	2.40	892A1324	7370
37	277	2.98	893A1424	7830
36	283	1.51	891A1424	6000
36	283	2.24	892A1424	7345
31	326	1.35	891A1524	6000
31	328	2.52	893A1524	7987
30	335	1.96	892A1524	7295
29	353	1.25	891A1624	6000
29	350	2.36	893A1624	7973
28	357	1.84	892A1624	7266
24	422	1.04	891A1824	6000
23	443	1.49	892A1824	7346
23	435	1.90	893A1824	8000
22	449	3.56	894A1824	15000
20	507	0.85	891A1924	6000
20	511	1.62	893A1924	8000
19	521	1.26	892A1924	7085
19	535	2.99	894A1924	15000
18	569	1.16	892A2024	7004
18	560	1.48	893A2024	8000
17	585	2.73	894A2024	15000
15	687	1.20	893A2224	8000
14	696	0.95	892A2224	7340
14	701	2.28	894A2224	14720
14	700	3.83	895A2224	21500
13	778	0.85	892A2324	6740
13	760	1.09	893A2324	8000
13	763	3.51	895A2324	21500
12	818	0.81	892A3024	7496
12	808	1.02	893A3024	8000
12	832	1.97	894A3024	15000
12	808	1.98	894A2324	15000
11	892	1.55	894A2424	15000
11	923	1.77	894A3124	15000
11	876	3.06	895A2424	21500
10	978	0.84	893A3124	8000
10	1019	1.61	894A3224	15000
6.7	1465	1.12	894A3324	15000
6.0	1611	1.02	894A3424	15000
5.3	1846	0.89	894A3524	15000
3.1	3234	0.84	895A3924	15674
2.7	3611	1.99	897A4024	43100
2.7	3733	3.24	898A4024	61368
2.5	3946	0.96	896A4124	34000
2.5	3972	1.81	897A4124	43100
2.4	4105	2.95	898A4124	61368
2.2	4589	0.82	896A4224	34000
2.2	4563	1.57	897A4224	43100
2.1	4715	2.56	898A4224	61368
2.0	5061	1.42	897A4324	43100
1.9	5311	2.28	898A4324	61368
1.8	5477	1.31	897A4424	43100
1.7	5672	2.19	898A4424	61368
1.6	6328	1.14	897A4524	43100
1.5	6638	1.82	898A4524	61368
1.4	6848	1.05	897A4624	43100
1.4	7090	1.75	898A4624	61368
1.3	7985	1.56	898A4724	61368
1.2	8187	0.88	897A4724	43100
1.2	8586	1.41	898A4824	61368
1.1	8860	0.81	897A4824	43100
0.93	10620	1.17	898A4924	61368
0.82	11964	1.04	898A5024	61368
0.78	12650	0.98	898A5124	61368
0.69	14252	0.87	898A5224	61368

## Series K Gearboxes : Motorised selection

**Bold print indicates a 6 pole motor is used**

Triple reduction, see page

Quintuple reduction see page

## 1.5 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
176	78	3.28	891A0128	5080
171	80	1.70	890A0128	3590
126	109	1.42	890A0328	3774
126	109	2.68	891A0328	5514
114	121	2.52	891A0428	5639
111	124	1.31	890A0428	3841
100	137	2.32	891A0528	5745
98	141	1.21	890A0528	3895
79	174	1.97	891A0728	5715
77	180	1.02	890A0728	3970
72	191	2.63	<b>892A0437</b>	6140
71	195	0.97	890A0828	3980
70	198	1.80	891A0828	5746
64	214	2.43	<b>892A0537</b>	6270
57	243	1.56	891A1028	5740
51	269	1.45	891A1128	5735
51	270	3.05	893A1128	7546
50	276	2.12	892A1128	6512
45	306	1.32	891A1228	5712
44	314	2.62	893A1228	7709
43	320	1.89	892A1228	6613
40	346	1.23	891A1328	6000
39	352	2.34	893A1328	7667
38	359	1.78	892A1328	6650
37	375	2.20	893A1428	7637
36	383	1.12	891A1428	6000
36	383	1.65	892A1428	6596
31	441	1.00	891A1528	6000
31	444	1.86	893A1528	7973
30	453	1.45	892A1528	6490
30	465	3.44	894A1528	15000
29	479	0.92	891A1628	6000
29	474	1.74	893A1628	7943
28	484	1.36	892A1628	6427
26	525	3.04	894A1628	15000
23	600	1.10	892A1828	6600
23	589	1.40	893A1828	8000
23	608	2.63	894A1828	14503
20	692	1.19	893A1928	8000
19	705	0.93	892A1928	6420
19	725	2.21	894A1928	14434
19	704	3.81	895A1928	21500
18	770	0.86	892A2028	6280
18	758	1.09	893A2028	8000
18	773	3.47	895A2028	21500
17	793	2.02	894A2028	14393
15	931	0.89	893A2228	8000
14	949	1.68	894A2228	14400
14	948	2.83	895A2228	20713
13	1029	0.80	893A2328	8000
13	1094	1.46	894A2328	15000
13	1033	2.59	895A2328	20672
13	1033	3.66	896A2328	34000
12	1145	1.46	894A3028	15000
12	1186	2.26	895A2428	20437
12	1157	3.26	896A2428	34000
11	1207	1.14	894A2428	15000
11	1275	1.31	894A3128	15000
11	1240	3.39	896A2528	34000
10	1405	1.19	894A3228	15000
10	1389	3.03	896A2628	34000
9.4	1456	1.10	<b>894A2237</b>	12564
9.4	1453	1.84	<b>895A2237</b>	20010
8.6	1586	1.69	<b>895A2337</b>	18640
8.6	1568	2.38	<b>896A2337</b>	34000
8.2	1682	0.95	<b>894A2337</b>	12812
7.7	1777	2.13	<b>896A2437</b>	34000
7.5	1821	1.47	<b>895A2437</b>	17978
7.2	1905	2.21	<b>896A2537</b>	34000
7.0	1930	1.40	<b>895A3037</b>	15674
6.7	2011	0.83	894A3328	15000
6.4	2111	1.28	<b>895A3137</b>	15674

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
6.4	2134	1.97	<b>896A2637</b>	34000
6.4	2144	3.35	<b>897A2637</b>	43400
5.7	2383	1.14	<b>895A3237</b>	15674
5.7	2355	1.60	<b>896A3237</b>	34000
4.5	2968	0.91	<b>895A3337</b>	15674
4.1	3311	1.14	<b>896A3337</b>	34000
3.6	3711	1.02	<b>896A3437</b>	34000
3.3	4116	0.92	<b>896A3537</b>	34000
2.9	4619	0.82	<b>896A3637</b>	34000
2.8	4889	1.47	897A4028	43100
2.7	5054	2.39	898A4028	61368
2.5	5378	1.34	897A4128	43100
2.4	5559	2.18	898A4128	61368
2.2	6179	1.16	897A4228	43100
2.1	6385	1.89	898A4228	61368
2.0	6853	1.05	897A4328	43100
1.9	7191	1.68	898A4328	61368
1.8	7416	0.97	897A4428	43100
1.7	7681	1.62	898A4428	61368
1.6	8568	0.84	897A4528	43100
1.6	8546	1.42	<b>898A4137</b>	61368
1.5	8989	1.35	898A4528	61368
1.4	9600	1.29	898A4628	61368
1.3	10812	1.15	898A4728	61368
1.2	11625	1.04	898A4828	61368
1.1	11810	1.05	<b>898A4437</b>	61293
0.98	13817	0.88	<b>898A4537</b>	61368
0.94	14380	0.86	898A4928	61368
0.91	14755	0.84	<b>898A4637</b>	61293

## 2.2 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
176	114	2.23	891A0136	4800
176	115	3.42	892A0136	4800
171	118	1.16	890A0136	3230
126	160	0.97	890A0336	3290
126	161	1.83	891A0336	5120
125	162	2.77	892A0336	5126
114	177	1.72	891A0436	5200
114	178	3.74	893A0436	7760
111	183	0.89	890A0436	3290
111	181	2.56	892A0436	5223
101	200	3.47	893A0536	7970
100	201	1.58	891A0536	5300
99	204	2.38	892A0536	5310
98	207	0.82	890A0536	3270
80	254	2.94	893A0736	8000
79	255	1.34	891A0736	5450
78	259	2.00	892A0736	5460
70	291	1.23	891A0836	5510
70	288	2.69	893A0836	8000
69	293	1.83	892A0836	5512
59	344	2.37	893A1036	8000
58	350	1.61	892A1036	5541
57	357	1.06	891A1036	5550
54	376	3.95	894A1036	13300
51	395	0.99	891A1136	5540
51	395	2.09	893A1136	7123
50	403	1.45	892A1136	5535
49	414	3.69	894A1136	13500
45	449	0.90	891A1236	5500
44	459	1.80	893A1236	7437
43	468	1.30	892A1236	5477
43	475	3.32	894A1236	13900
39	525	1.22	892A1336	5390
39	515	1.60	893A1336	7357
37	549	1.51	893A1436	7299
37	538	2.97	894A1336	14300
36	560	1.13	892A1436	5286
34	593	2.69	894A1436	14600
31	663	0.99	892A1536	5081
31	649	1.27	893A1536	7948
30	679	2.35	894A1536	13982
29	708	0.93	892A1636	4959
29	693	1.19	893A1636	7890

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
28	729	3.67	895A1636	18855
26	768	2.08	894A1636	13900
24	861	0.96	893A1836	8000
23	888	1.80	894A1836	13634
23	883	3.03	895A1836	19587
20	1011	0.82	893A1936	8000
20	1029	2.60	895A1936	19997
19	1059	1.51	894A1936	13444
18	1129	2.37	895A2036	19929
18	1100	3.44	896A2036	34000
17	1159	1.38	894A2036	13331
17	1196	3.52	896A2136	34000
15	1385	1.93	895A2236	19337
15	1319	3.19	896A2236	34000
14	1388	1.15	894A2236	13840
13	1598	1.00	894A2336	15000
13	1511	1.77	895A2336	19224
13	1511	2.50	896A2336	34000
12	1680	0.99	894A3036	15000
12	1733	1.55	895A2436	18579
12	1692	2.23	896A2436	34000
11	1871	0.89	894A3136	15000
11	1830	1.48	895A3036	15674
11	1812	2.32	896A2536	34000
11	1900	3.78	897A2536	43405
10	2062	0.81	894A3236	15000
10	2000	1.36	895A3136	15674
10	2031	2.07	896A2636	34000
10	2039	3.52	897A2636	43405
8.9	2234	1.69	896A3236	34000
8.7	2256	1.20	895A3236	15674
8.5	2375	3.03	<b>897A2345</b>	43400
7.9	2549	2.82	<b>897A2445</b>	43400
7.0	2812	0.96	895A3336	15674
7.0	2854	2.52	<b>897A2545</b>	43400
6.6	3062	2.35	<b>897A2645</b>	43400
6.5	3082	3.99	<b>898A2645</b>	61700
6.3	3141	1.20	896A3336	34000
5.6	3520	1.07	896A3436	34000
5.1	3902	0.97	896A3536	34000
4.5	4380	0.86	896A3636	34000
2.8	7146	1.01	897A4036	43100
2.7	7387	1.64	898A4036	61368
2.5	7860	0.91	897A4136	43100
2.4	8124	1.49	898A4136	61368
2.1	9332	1.30	898A4236	61368
1.9	10510	1.15	898A4336	61368
1.7	11226	1.11	898A4436	61293
1.5	13137	0.92	898A4536	61368
1.4	14031	0.89	898A4636	61293

## 3.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
179	153	3.64	893A0138	8000
176	157	2.51	892A0138	4480
127	217	2.95	893A0338	8000
125	220	2.03	892A0338	4676
114	243	2.75	893A0438	7333
111	247	1.88	892A0438	4718
111	247	2.87	<b>894A0153</b>	10700
101	273	2.55	893A0538	7490
99	278	1.74	892A0538	4743
80	347	2.16	893A0738	7483
78	353	1.47	892A0738	4740
70	394	1.97	893A0838	7452
69	400	1.34	892A0838	4693
65	425	2.87	<b>894A0553</b>	12100
59	469	1.74	893A1038	7384
58	477	1.18	892A1038	4571
54	513	2.90	894A1038	12530
51	539	1.53	893A1138	6640
50	550	1.06	892A1138	4420
50	555	2.63	<b>894A0753</b>	12700
49	565	2.70	894A1138	12663
44	627	1.32	893A1238	7127

# Series K Gearboxes : Motorised selection

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
44	632	2.40	<b>894A0853</b>	12900
43	638	0.95	892A1238	4180
43	648	2.44	894A1238	12938
39	716	0.89	892A1338	3950
39	703	1.18	893A1338	7003
39	711	3.77	895A1338	15200
37	749	1.10	893A1438	6913
37	734	2.18	894A1338	13207
36	764	0.83	892A1438	3790
35	779	3.44	895A1438	15200
34	809	1.98	894A1438	13387
31	885	0.93	893A1538	7920
31	881	3.04	895A1538	15200
30	926	1.73	894A1538	12819
29	945	0.87	893A1638	7830
28	968	1.65	<b>894A1253</b>	12753
28	995	2.69	895A1638	17609
26	1048	1.53	894A1638	12543
26	1063	2.52	<b>895A1353</b>	19200
24	1157	3.64	896A1838	34000
23	1211	1.32	894A1838	12641
23	1209	1.32	<b>894A1453</b>	12363
23	1204	2.22	895A1838	18084
21	1316	2.04	<b>895A1553</b>	20000
20	1403	1.91	895A1938	18280
20	1359	2.78	896A1938	34000
19	1445	1.11	894A1938	12313
19	1485	1.80	<b>895A1653</b>	18110
18	1540	1.74	895A2038	18134
18	1500	2.52	896A2038	34000
17	1580	1.01	894A2038	12117
17	1630	2.58	896A2138	34000
15	1889	1.42	895A2238	17765
15	1799	2.34	896A2238	34000
14	1893	0.85	894A2238	13200
14	1925	3.73	897A2238	43400
13	2060	1.30	895A2338	17568
13	2060	1.83	896A2338	34000
13	2151	3.34	897A2338	43400
12	2364	1.13	895A2438	16455
12	2307	1.64	896A2438	34000
12	2315	3.11	897A2438	43400
11	2495	1.09	895A3038	15674
11	2471	1.70	896A2538	34000
11	2591	2.77	897A2538	43400
10	2727	0.99	895A3138	15674
10	2769	1.52	896A2638	34000
10	2781	2.58	897A2638	43400
8.9	3046	1.24	896A3238	34000
8.7	3076	0.88	895A3238	15674
8.5	3221	2.23	<b>897A2353</b>	43400
7.9	3458	2.08	<b>897A2453</b>	43400
7.1	3871	1.86	<b>897A2553</b>	43324
7.0	3929	3.13	<b>898A2553</b>	61700
6.6	4153	1.73	<b>897A2653</b>	43250
6.5	4181	2.94	<b>898A2653</b>	61700
6.3	4283	0.88	896A3338	34000
5.7	4731	1.52	<b>897A3253</b>	43100
5.5	4886	2.48	<b>898A3253</b>	61368
4.1	6553	1.10	<b>897A3353</b>	43100
4.0	6768	1.79	<b>898A3453</b>	61368
3.7	7360	0.98	<b>897A3453</b>	43100
3.6	7623	1.59	<b>898A3353</b>	61368
3.3	8093	0.89	<b>897A3553</b>	43100
3.2	8562	1.41	<b>898A3553</b>	61368
3.0	8977	0.80	<b>897A3653</b>	43100
2.9	9414	1.28	<b>898A3653</b>	61368
2.7	10073	1.20	898A4038	61368
2.5	10913	1.11	<b>898A3753</b>	61368
2.4	11079	1.09	898A4138	61368
2.2	12404	0.97	<b>898A3853</b>	61368
2.1	12725	0.95	898A4238	61368
1.9	14333	0.84	898A4338	61368
1.8	15308	0.81	898A4438	61368

## 4.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
180	203	2.75	893A0146	8000
177	207	1.90	892A0146	4080
167	218	3.24	894A0146	9380
128	287	2.23	893A0346	8000
126	292	1.53	892A0346	4113
121	303	3.24	894A0346	10100
114	322	2.07	893A0446	6800
112	328	1.42	892A0446	4086
107	342	3.24	894A0446	10300
101	362	1.92	893A0546	6890
100	368	1.32	892A0546	4034
98	376	3.24	894A0546	10500
81	456	2.16	<b>894A0355</b>	10868
80	459	1.63	893A0746	6838
79	468	1.11	892A0746	3840
75	491	2.75	894A0746	11000
72	513	2.16	<b>894A0455</b>	11080
70	521	1.49	893A0846	6767
69	530	1.01	892A0846	3670
66	560	2.50	894A0846	11200
59	621	1.31	893A1046	6614
58	632	0.89	892A1046	3360
57	648	3.76	895A1046	14500
54	680	2.19	894A1046	11569
51	714	1.16	893A1146	6036
50	730	3.46	895A1146	14900
49	748	2.04	894A1146	11617
44	830	0.99	893A1246	6740
43	858	1.84	894A1246	11737
43	850	3.12	895A1246	15200
40	931	0.89	893A1346	6560
39	941	2.85	895A1346	14811
37	991	0.83	893A1446	6430
37	972	1.65	894A1346	11841
35	1031	2.60	895A1446	14811
34	1072	1.49	894A1446	11872
32	1148	3.29	896A1546	34000
31	1167	2.30	895A1546	14811
30	1227	1.30	894A1546	11365
29	1273	2.97	896A1646	34000
28	1317	2.00	895A1646	16051
27	1383	3.04	896A1746	34000
26	1387	1.15	894A1646	11073
24	1532	2.75	896A1846	34000
23	1604	1.00	894A1846	11400
23	1595	1.68	895A1846	16205
20	1857	1.44	895A1946	16134
20	1799	2.10	896A1946	34000
20	1839	3.91	897A1946	43400
19	1913	0.84	894A1946	10900
18	2039	1.30	895A2046	15890
18	1986	1.90	896A2046	34000
17	2159	1.95	896A2146	34000
17	2121	3.39	897A2046	43400
16	2218	3.24	897A2146	43400
15	2501	1.07	895A2246	15800
15	2383	1.77	896A2246	34000
14	2549	2.82	897A2246	43388
13	2728	0.98	895A2346	15500
13	2728	1.39	896A2346	34000
13	2849	2.52	897A2346	43388
12	3130	0.86	895A2446	13800
12	3055	1.24	896A2446	34000
12	3065	2.35	897A2446	43388
12	3095	3.91	898A2446	61700
11	3304	0.82	895A3046	15674
11	3272	1.29	896A2546	34000
11	3431	2.10	897A2546	43301
11	3476	3.54	898A2546	61700
10	3667	1.15	896A2646	34000
10	3683	1.95	897A2646	43301
10	3710	3.32	898A2646	61700
9.0	4033	0.94	896A3246	34000
8.6	4182	1.72	897A3246	43100
8.3	4325	2.80	898A3246	61368
6.2	5793	1.24	897A3346	43100
6.0	5992	2.00	898A3446	61368

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
5.5	6507	1.10	897A3446	43100
5.3	6746	1.79	898A3346	61368
5.0	7156	1.00	897A3546	43100
4.8	7578	1.60	898A3546	61368
4.5	7933	0.91	897A3646	43100
4.3	8333	1.45	898A3646	61368
3.7	9664	1.25	898A3746	61368
3.3	10986	1.10	898A3846	61368
2.9	12372	0.98	898A3946	61368
2.7	13338	0.91	898A4046	61368
2.5	14669	0.82	898A4146	61368

## 5.5 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
180	280	1.99	893A0154	8000
177	286	1.37	892A0154	3480
167	299	2.37	894A0154	8915
128	396	1.62	893A0354	8000
125	403	1.11	892A0354	3270
121	416	2.37	894A0354	9444
114	445	1.50	893A0454	6000
112	452	1.03	892A0454	3140
107	469	2.37	894A0454	9575
101	499	1.39	893A0554	5990
100	508	0.95	892A0554	2970
98	515	2.37	894A0554	9705
81	627	1.57	<b>894A0357</b>	9920
80	633	1.18	893A0754	5870
78	646	3.56	895A0754	12711
77	646	0.80	892A0754	2490
75	673	2.00	894A0754	9965
72	705	1.57	<b>894A0457</b>	10000
70	719	1.08	893A0854	5740
70	723	3.25	895A0854	12911
66	775	1.57	<b>894A0557</b>	10000
66	787	1.82	894A0854	10027
59	858	0.95	893A1054	5460
57	889	2.74	895A1054	14131
54	932	1.60	894A1054	10127
51	986	0.84	893A1154	5130
50	1000	2.53	895A1154	14477
49	1025	1.49	894A1154	10049
43	1176	1.34	894A1254	9935
43	1164	2.28	895A1254	14722
39	1290	2.08	895A1354	14227
37	1332	1.20	894A1354	9792
35	1413	1.90	895A1454	14227
34	1469	1.09	894A1454	9600
32	1574	2.40	896A1554	34000
31	1599	1.68	895A1554	14227
30	1681	0.95	894A1554	9185
29	1744	2.17	896A1654	34000
28	1805	1.48	895A1654	13715
27	1895	2.22	896A1754	34000
26	1901	0.84	894A1654	8717
26	1914	3.76	897A1754	43400
24	2100	2.00	896A1854	34000
24	2129	3.38	897A1854	43400
23	2185	1.23	895A1854	13387
20	2545	1.05	895A1954	12914
20	2465	1.53	896A1954	34000
20	2520	2.85	897A1954	43400
18	2795	0.96	895A2054	12524
18	2722	1.39	896A2054	34000
18	2865	2.51	<b>897A1757</b>	43400
17	2958	1.42	896A2154	34000
17	2906	2.47	897A2054	43400
16	3039	2.37	897A2154	43400
16	3124	3.94	898A2154	61700
15	3265	1.29	896A2254	34000
14	3492	2.06	897A2254	43372
14	3475	3.54	898A2254	61700
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## Series K Gearboxes : Motorised selection

**Bold print indicates a 6 pole motor is used**

Triple reduction, see page

Quadruple reduction see page

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
12	4200	1.71	897A2454	43372
12	4241	2.85	898A2454	61700
11	4483	0.94	896A2554	34000
11	4701	1.53	897A2554	43215
11	4763	2.58	898A2554	61700
10	5046	1.42	897A2654	43215
10	5083	2.42	898A2654	61700
8.6	5770	1.25	897A3254	43100
8.3	5927	2.04	898A3254	61368
8.0	6307	1.14	<b>897A2457</b>	43400
7.0	7061	1.02	<b>897A2557</b>	43088
7.0	7166	1.72	<b>898A2557</b>	61658
6.2	7993	0.90	897A3354	43100
6.0	8210	1.47	898A3454	61368
5.5	8979	0.80	897A3454	43100
5.3	9244	1.31	898A3354	61368
4.8	10384	1.16	898A3554	61368
4.3	11418	1.06	898A3654	61368
3.7	13242	0.91	898A3754	61368
3.3	15054	0.80	898A3854	61368

## 7.5 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
178	386	3.49	895A0156	10798
168	407	1.74	894A0156	8295
125	549	3.49	895A0356	11458
121	565	1.74	894A0356	8570
118	581	2.32	<b>895A0165</b>	11650
113	611	3.32	895A0456	11738
108	637	1.74	894A0456	8610
101	676	3.15	895A0556	11938
98	700	1.74	894A0556	8645
83	827	2.32	<b>895A0365</b>	12500
78	878	2.62	895A0756	12477
75	915	1.47	894A0756	8595
75	918	2.32	<b>895A0465</b>	12700
70	982	2.39	895A0856	12677
68	1043	1.34	894A0856	8465
67	1026	2.28	<b>895A0565</b>	12950
64	1071	3.76	<b>896A0665</b>	34000
57	1208	2.02	895A1056	13640
54	1267	1.18	894A1056	8204
54	1285	2.89	<b>896A0765</b>	34000
52	1325	1.89	<b>895A0765</b>	13300
50	1394	1.10	894A1156	7957
50	1360	1.86	895A1156	13913
48	1435	2.63	<b>896A0865</b>	34000
46	1488	1.75	<b>895A0865</b>	13450
44	1547	2.72	<b>896A0965</b>	34000
43	1598	0.99	894A1256	7532
43	1582	1.67	895A1256	14086
40	1725	2.44	<b>896A1065</b>	34000
39	1753	1.53	895A1356	13450
38	1810	0.88	894A1356	7060
35	1920	1.40	895A1456	13450
35	1996	1.89	<b>896A1165</b>	34000
34	1996	0.80	894A1456	6570
32	2138	1.77	896A1556	34000
32	2164	3.32	897A1556	35600
31	2173	1.23	895A1556	13450
30	2268	1.67	<b>896A1265</b>	34000
29	2370	1.59	896A1656	34000
29	2392	1.76	<b>896A1365</b>	34000
29	2404	2.99	897A1656	35600
28	2453	1.09	895A1656	10600
27	2575	1.63	896A1756	34000
26	2601	2.76	897A1756	43400
25	2721	1.55	<b>896A1465</b>	34000
24	2854	1.47	896A1856	34000
24	2893	2.48	897A1856	43400
23	2970	0.90	895A1856	9630

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
21	3221	1.17	<b>896A1565</b>	34000
20	3350	1.13	896A1956	34000
20	3424	2.10	897A1956	43400
19	3579	1.06	<b>896A1665</b>	34000
19	3543	3.41	898A1956	61700
18	3699	1.02	896A2056	34000
18	3869	1.09	<b>896A1765</b>	34000
17	4020	1.05	896A2156	34000
17	3949	1.82	897A2056	43400
17	3942	3.07	898A2056	61700
16	4295	0.98	<b>896A1865</b>	34000
16	4130	1.74	897A2156	43400
16	4246	2.90	898A2156	61700
15	4437	0.95	896A2256	34000
14	4746	1.51	897A2256	43350
14	4722	2.60	898A2256	61700
13	5305	1.36	897A2356	43350
13	5388	2.25	898A2356	61700
12	5707	1.26	897A2456	43350
12	5763	2.10	898A2456	61700
11	6388	1.13	897A2556	43100
11	6473	1.90	898A2556	61700
10	6858	1.05	897A2656	43100
10	6908	1.78	898A2656	61700
8.7	7787	0.92	897A3256	43100
8.4	8054	1.50	898A3256	61368
8.0	8642	1.40	<b>898A2465</b>	61670
7.0	9772	1.26	<b>898A2565</b>	61625
6.5	10400	1.18	<b>898A2665</b>	61700
6.1	11157	1.08	898A3456	61368
5.4	12563	0.96	898A3356	61368
4.8	14112	0.86	898A3556	61368

## 11.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
178	564	2.39	895A0166	10612
168	599	1.18	894A0166	7210
131	768	3.89	896A0366	34000
125	803	2.39	895A0366	11197
121	832	1.18	894A0366	7040
120	842	3.45	<b>896A0167</b>	34000
119	849	1.59	<b>895A0167</b>	11000
117	860	3.64	896A0466	34000
113	893	2.27	895A0466	11440
109	938	1.18	894A0466	6920
109	925	3.89	896A0566	34000
101	988	2.15	895A0566	11640
100	1013	3.45	<b>896A0267</b>	34000
98	1031	1.18	894A0566	6790
97	1036	3.64	896A0666	34000
87	1158	2.80	<b>896A0367</b>	34000
84	1207	1.59	<b>895A0367</b>	11600
81	1250	2.78	896A0766	34000
78	1284	1.79	895A0766	12068
78	1299	2.58	<b>896A0467</b>	34000
75	1347	1.00	894A0766	6170
75	1339	1.59	<b>895A0467</b>	11700
72	1393	2.55	896A0866	34000
72	1394	2.80	<b>896A0567</b>	34000
70	1436	1.64	895A0866	12268
68	1535	0.91	894A0866	5730
68	1497	1.56	<b>895A0567</b>	11800
67	1501	2.76	896A0966	34000
65	1563	2.58	<b>896A0667</b>	34000
60	1677	2.51	896A1066	34000
57	1765	1.38	895A1066	12781
54	1875	1.98	<b>896A0767</b>	34000
52	1934	1.30	<b>895A0767</b>	11800
52	1928	1.95	896A1166	34000
50	1987	1.27	895A1166	12927
48	2094	1.80	<b>896A0867</b>	34000
47	2171	1.20	<b>895A0867</b>	11800
46	2211	1.71	896A1266	34000
45	2258	1.86	<b>896A0967</b>	34000
44	2312	3.11	897A1266	35604

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
43	2313	1.15	895A1266	12972
43	2327	1.81	896A1366	34000
43	2341	3.07	<b>897A0967</b>	35600
41	2456	2.93	897A1366	35604
40	2517	1.67	<b>896A1067</b>	34000
40	2529	2.84	<b>897A1067</b>	35600
39	2563	1.05	895A1366	12088
38	2666	1.01	<b>895A1067</b>	11500
38	2646	1.59	896A1466	34000
36	2775	2.59	897A1466	35604
35	2807	0.95	895A1466	12088
35	2912	1.30	<b>896A1167</b>	34000
34	2995	0.89	<b>895A1167</b>	11200
33	3073	2.34	<b>897A1167</b>	35600
32	3126	1.21	896A1566	34000
32	3163	2.27	897A1566	35584
31	3176	0.84	895A1566	12088
31	3262	3.71	898A1566	61800
30	3309	1.14	<b>896A1267</b>	34000
29	3465	1.09	896A1666	34000
29	3490	1.21	<b>896A1367</b>	34000
29	3515	2.05	897A1666	35575
29	3481	2.07	<b>897A1267</b>	35553
28	3693	1.95	<b>897A1367</b>	35553
28	3657	3.36	<b>898A1367</b>	61700
27	3765	1.12	896A1766	34000
27	3802	1.89	897A1766	43400
27	3676	3.29	898A1666	61800
26	3910	3.15	898A1766	61832
25	3971	1.06	<b>896A1467</b>	34000
25	4141	2.97	<b>898A1467</b>	61700
24	4172	1.01	896A1866	34000
24	4229	1.70	897A1866	43400
24	4185	1.72	<b>897A1467</b>	35553
23	4407	2.79	898A1866	61832
21	4700	0.80	<b>896A1567</b>	34000
21	4768	1.51	<b>897A1567</b>	43400
21	4904	2.47	<b>898A1567</b>	61700
20	5005	1.44	897A1966	43400
19	5280	1.36	<b>897A1667</b>	43400
19	5178	2.34	898A1966	61186
18	5772	1.25	897A2066	43400
18	5701	1.26	<b>897A1767</b>	43400
18	5517	2.19	<b>898A1667</b>	61672
17	6037	1.19	897A2166	43400
17	5877	2.09	<b>898A1767</b>	61664
17	5761	2.10	898A2066	61186
16	6345	1.13	<b>897A1867</b>	43361
16	6206	1.98	898A2166	61700
15	6937	1.04	897A2266	43311
15	6630	1.86	<b>898A1867</b>	61664
14	6903	1.78	898A2266	61700
13	7753	0.93	897A2366	43311
13	7565	0.95	<b>897A1967</b>	43351
13	7875	1.54	898A2366	61700
13	7788	1.55	<b>898A1967</b>	61700
12	8665	0.83	<b>897A2067</b>	43266
12	8342	0.86	897A2466	43311
12	8654	1.40	<b>898A2067</b>	61700
12	8424	1.44	898A2466	61700
11	9461	1.30	898A2566	61700
11	9347	1.32	<b>898A2167</b>	61700
10	10353	1.19	<b>898A2267</b>	61700
10	10097	1.22	898A2666	61700
8.5	11822	1.02	<b>898A2367</b>	61651
8.0	12610	0.96	<b>898A2467</b>	61648
7.0	14258	0.86	<b>898A2567</b>	61566
6.5	15174	0.81	<b>898A2667</b>	61700



# Series K Gearboxes : Motorised selection

## 15.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
181	757	3.39	896A0168	34000
179	767	1.76	895A0168	10400
150	914	3.39	896A0268	34000
132	1044	2.86	896A0368	34000
126	1091	1.76	895A0368	10900
121	1142	2.55	<b>896A0174</b>	34000
117	1169	2.68	896A0468	34000
114	1213	1.67	895A0468	11100
109	1257	2.86	896A0568	34000
102	1343	1.59	895A0568	11300
100	1374	2.55	<b>896A0274</b>	34000
97	1408	2.68	896A0668	34000
88	1571	2.06	<b>896A0374</b>	34000
81	1700	2.05	896A0768	34000
79	1745	1.32	895A0768	11600
78	1763	1.90	<b>896A0474</b>	34000
73	1893	1.88	896A0868	34000
73	1892	2.06	<b>896A0574</b>	34000
73	1901	3.77	897A0868	35600
70	1951	1.20	895A0868	11800
70	1974	3.49	<b>897A0574</b>	35600
67	2040	2.03	896A0968	34000
65	2121	1.90	<b>896A0674</b>	34000
65	2115	3.40	897A0968	35600
64	2147	3.35	<b>897A0674</b>	35600
60	2280	1.85	896A1068	34000
60	2281	3.15	897A1068	35600
57	2399	1.02	895A1068	11800
54	2544	1.46	<b>896A0774</b>	34000
52	2621	1.44	896A1168	34000
52	2648	2.71	<b>897A0774</b>	35600
51	2701	0.94	895A1168	11800
50	2777	2.59	897A1168	35600
48	2840	1.33	<b>896A0874</b>	34000
48	2853	2.52	<b>897A0874</b>	35600
46	3005	1.26	896A1268	34000
45	3063	1.37	<b>896A0974</b>	34000
44	3143	0.84	895A1268	11700
44	3142	2.29	897A1268	35588
44	3118	3.88	898A1268	61700
43	3162	1.33	896A1368	34000
43	3176	2.26	<b>897A0974</b>	35536
42	3301	3.73	898A1368	61469
41	3337	2.15	897A1368	35588
40	3415	1.23	<b>896A1074</b>	34000
40	3432	2.09	<b>897A1074</b>	35536
38	3596	1.17	896A1468	34000
37	3771	1.91	897A1468	35583
37	3744	3.28	898A1468	61469
35	3951	0.96	<b>896A1174</b>	34000
33	4169	1.72	<b>897A1174</b>	35536
33	4129	2.93	<b>898A1174</b>	61700
32	4248	0.89	896A1568	34000
32	4299	1.67	897A1568	35566
31	4489	0.84	<b>896A1274</b>	34000
31	4433	2.73	898A1568	61400
30	4677	2.59	<b>898A1274</b>	61700
29	4708	0.80	896A1668	34000
29	4734	0.89	<b>896A1374</b>	34000
29	4776	1.51	897A1668	35548
29	4722	1.52	<b>897A1274</b>	35500
28	5011	1.43	<b>897A1374</b>	35500
28	4996	2.42	898A1668	61400
28	4961	2.48	<b>898A1374</b>	61672
27	5116	0.82	896A1768	34000
27	5167	1.39	897A1768	43400
26	5314	2.31	898A1768	61304
25	5618	2.19	<b>898A1474</b>	61672
24	5747	1.25	897A1868	43400
24	5677	1.27	<b>897A1474</b>	35500
23	5989	2.05	898A1868	61304
21	6468	1.11	<b>897A1574</b>	43400
21	6652	1.82	<b>898A1574</b>	61664
20	6802	1.06	897A1968	43400
19	7163	1.00	<b>897A1674</b>	43400
19	7037	1.72	898A1968	60600
18	7845	0.92	897A2068	43400

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
18	7734	0.93	<b>897A1774</b>	43400
18	7830	1.55	898A2068	60600
18	7484	1.62	<b>898A1674</b>	61640
17	8204	0.88	897A2168	43400
17	7973	1.54	<b>898A1774</b>	61623
16	8607	0.84	<b>897A1874</b>	43338
16	8434	1.46	898A2168	61700
15	9380	1.31	898A2268	61700
15	8994	1.37	<b>898A1874</b>	61623
13	10702	1.13	898A2368	61700
13	10566	1.15	<b>898A1974</b>	61700
12	11740	1.03	<b>898A2074</b>	61700
12	11447	1.06	898A2468	61700
11	12857	0.96	898A2568	61700
11	12680	0.97	<b>898A2174</b>	61700
10	14045	0.88	<b>898A2274</b>	61700
10	13721	0.90	898A2668	61700

## 18.5 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
184	925	2.78	896A0176	34000
152	1115	2.78	896A0276	34000
133	1274	2.35	896A0376	34000
121	1402	2.08	<b>896A0175</b>	34000
119	1427	2.19	896A0476	34000
118	1441	2.84	<b>897A0175</b>	35600
115	1484	3.41	<b>898A0175</b>	61700
110	1534	2.35	896A0576	34000
101	1686	2.08	<b>896A0275</b>	34000
98	1719	2.19	896A0676	34000
98	1730	2.84	<b>897A0275</b>	35600
95	1783	3.41	<b>898A0275</b>	61700
88	1928	1.68	<b>896A0375</b>	34000
84	2014	2.84	<b>897A0375</b>	35600
83	2059	3.41	<b>898A0375</b>	61700
82	2075	1.68	896A0776	34000
79	2163	1.55	<b>896A0475</b>	34000
79	2151	3.27	897A0776	35600
78	2194	2.84	<b>897A0475</b>	35600
75	2264	3.41	<b>898A0475</b>	61700
73	2311	1.54	896A0876	34000
73	2321	1.68	<b>896A0575</b>	34000
73	2320	3.09	897A0876	35588
70	2422	2.84	<b>897A0575</b>	35530
69	2475	3.41	<b>898A0575</b>	61700
68	2491	1.67	896A0976	34000
66	2582	2.78	897A0976	35588
65	2603	1.55	<b>896A0675</b>	34000
65	2635	2.73	<b>897A0675</b>	35530
62	2722	3.41	<b>898A0675</b>	61700
61	2783	1.51	896A1076	34000
61	2785	2.58	897A1076	35588
54	3122	1.19	<b>896A0775</b>	34000
54	3167	3.41	<b>898A0775</b>	61700
53	3199	1.18	896A1176	34000
53	3249	2.21	<b>897A0775</b>	35530
50	3390	2.12	897A1176	35588
49	3485	1.08	<b>896A0875</b>	34000
49	3501	2.05	<b>897A0875</b>	35530
48	3519	3.41	<b>898A0875</b>	61700
46	3669	1.03	896A1276	34000
45	3759	1.12	<b>896A0975</b>	34000
45	3806	3.18	898A1276	61507
44	3860	1.09	896A1376	34000
44	3897	1.84	<b>897A0975</b>	35481
44	3836	1.87	897A1276	35574
44	3823	3.22	<b>898A0975</b>	61700
42	4074	1.76	897A1376	35574
42	4029	3.05	898A1376	61201
40	4190	1.00	<b>896A1075</b>	34000
40	4211	1.71	<b>897A1075</b>	35481
40	4235	2.90	<b>898A1075</b>	61700
39	4390	0.96	896A1476	34000
37	4603	1.56	897A1476	35563

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
37	4571	2.69	898A1476	61201
34	5066	2.39	<b>898A1175</b>	61673
33	5115	1.41	<b>897A1175</b>	35481
32	5248	1.37	897A1576	35551
31	5411	2.24	898A1576	61050
30	5739	2.11	<b>898A1275</b>	61673
29	5831	1.23	897A1676	35524
29	5795	1.24	<b>897A1275</b>	35453
28	6148	1.17	<b>897A1375</b>	35453
28	6099	1.98	898A1676	61050
28	6088	2.02	<b>898A1375</b>	61648
27	6307	1.14	897A1776	43400
26	6487	1.90	898A1776	60842
25	6893	1.78	<b>898A1475</b>	61648
24	7016	1.02	897A1876	43400
24	6966	1.03	<b>897A1475</b>	35453
23	7311	1.68	898A1876	60842
21	7937	0.91	<b>897A1575</b>	43400
21	8163	1.48	<b>898A1575</b>	61633
20	8304	0.87	897A1976	43400
20	8591	1.41	898A1976	60086
19	8789	0.82	<b>897A1675</b>	43400
18	9558	1.27	898A2076	60086
18	9183	1.32	<b>898A1675</b>	61612
17	9783	1.26	<b>898A1775</b>	61588
16	10296	1.19	898A2176	61700
15	11451	1.07	898A2276	61700
15	11036	1.11	<b>898A1875</b>	61588
13	13065	0.93	898A2376	61700
13	12965	0.93	<b>898A1975</b>	61700
12	14405	0.84	<b>898A2075</b>	61700
12	13974	0.87	898A2476	61700

## 22.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
184	1100	2.34	896A0178	34000
179	1134	3.60	897A0178	35600
152	1326	2.34	896A0278	34000
148	1365	3.60	897A0278	35600
133	1516	1.97	896A0378	34000
127	1590	3.60	897A0378	35600
121	1667	1.75	<b>896A0184</b>	34000
119	1698	1.84	896A0478	34000
118	1714	2.39	<b>897A0184</b>	35508
117	1727	3.60	897A0478	35600
115	1765	2.87	<b>898A0184</b>	61700
110	1825	1.97	896A0578	34000
106	1909	3.60	897A0578	35600
101	2005	1.75	<b>896A0284</b>	34000
98	2045	1.84	896A0678	34000
98	2057	2.39	<b>897A0284</b>	35508
97	2077	3.46	897A0678	35586
95	2120	2.87	<b>898A0284</b>	61700
88	2293	1.41	<b>896A0384</b>	34000
84	2396	2.39	<b>897A0384</b>	35508
83	2448	2.87	<b>898A0384</b>	61700
82	2467	1.41	896A0778	34000
79	2573	1.30	<b>896A0484</b>	34000
79	2559	2.75	897A0778	35586
78	2609	2.39	<b>897A0484</b>	35508
75	2692	2.87	<b>898A0484</b>	61700
73	2749	1.29	896A0878	34000
73	2760	1.41	<b>896A0584</b>	34000
73	2759	2.59	897A0878	35576
70	2881	2.39	<b>897A0584</b>	35460
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## Series K Gearboxes : Motorised selection

**Bold print indicates a 6 pole motor is used**

Triple reduction, see page

Quadruple reduction see page

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
54	3767	2.87	<b>898A0784</b>	61680
53	3805	0.99	896A1178	34000
53	3864	2.29	<b>897A0784</b>	35460
51	3996	3.03	898A1178	61700
50	4031	1.78	897A1178	35576
49	4145	0.91	<b>896A0884</b>	34000
49	4164	1.73	<b>897A0884</b>	35460
48	4185	2.87	<b>898A0884</b>	61671
46	4363	0.87	896A1278	34000
45	4470	0.94	<b>896A0984</b>	34000
45	4527	2.67	898A1278	61315
44	4590	0.92	896A1378	34000
44	4635	1.55	<b>897A0984</b>	35426
44	4562	1.58	897A1278	35560
44	4546	2.71	<b>898A0984</b>	61671
42	4845	1.48	897A1378	35560
42	4792	2.57	898A1378	60932
40	4983	0.84	<b>896A1084</b>	34000
40	5007	1.55	<b>897A1084</b>	35426
40	5036	2.44	<b>898A1084</b>	61671
37	5473	1.31	897A1478	35535
37	5436	2.26	898A1478	60932
34	6025	2.01	<b>898A1184</b>	61647
33	6083	1.18	<b>897A1184</b>	35426
32	6241	1.15	897A1578	35535
31	6435	1.88	898A1578	60700
30	6825	1.77	<b>898A1284</b>	61647
29	6934	1.04	897A1678	35500
29	6891	1.04	<b>897A1284</b>	35406
28	7312	0.98	<b>897A1384</b>	35406
28	7253	1.67	898A1678	60700
28	7240	1.70	<b>898A1384</b>	61625
27	7501	0.96	897A1778	43400
26	7714	1.59	898A1778	60380
25	8198	1.50	<b>898A1484</b>	61625
24	8343	0.86	897A1878	43400
23	8694	1.41	898A1878	60380
21	9707	1.25	<b>898A1584</b>	61602
20	10217	1.18	898A1978	59573
18	11367	1.06	898A2078	59573
18	10921	1.11	<b>898A1684</b>	61584
17	11634	1.06	<b>898A1784</b>	61552
16	12243	1.00	898A2178	61700
15	13618	0.90	898A2278	61700

## 30.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
184	1500	1.71	896A0188	34000
179	1547	2.64	897A0188	35556
173	1596	3.17	898A0188	61700
152	1809	1.71	896A0288	34000
148	1861	2.64	897A0288	35556
144	1918	3.17	898A0288	61700
133	2067	1.45	896A0388	34000
127	2168	2.64	897A0388	35556
125	2214	3.17	898A0388	61700
122	2262	1.29	<b>896A0191</b>	34000
119	2315	1.35	896A0488	34000
119	2326	1.76	<b>897A0191</b>	35300
117	2355	2.62	897A0488	35556
115	2394	2.11	<b>898A0191</b>	61700
114	2435	3.17	898A0488	61700
110	2489	1.45	896A0588	34000
106	2603	2.64	897A0588	35556
104	2662	3.17	898A0588	61700
101	2721	1.29	<b>896A0291</b>	34000
99	2791	1.76	<b>897A0291</b>	35300
98	2789	1.35	896A0688	34000
97	2833	2.54	897A0688	35556
96	2877	2.11	<b>898A0291</b>	61700
94	2927	3.17	898A0688	61700

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
89	3111	1.04	<b>896A0391</b>	34000
85	3250	1.76	<b>897A0391</b>	35300
83	3322	2.11	<b>898A0391</b>	61700
82	3365	1.03	896A0788	34000
81	3407	3.17	898A0788	61700
79	3491	0.96	<b>896A0491</b>	34000
79	3489	2.02	897A0788	35556
78	3540	1.76	<b>897A0491</b>	35300
76	3653	2.11	<b>898A0491</b>	61700
74	3745	1.04	<b>896A0591</b>	34000
73	3749	0.95	896A0888	34000
73	3763	1.90	897A0888	35550
73	3787	3.12	898A0888	61700
71	3908	1.76	<b>897A0591</b>	35300
69	3994	2.11	<b>898A0591</b>	61700
68	4039	1.03	896A0988	34000
67	4112	2.99	898A0988	61700
66	4199	0.96	<b>896A0691</b>	34000
66	4188	1.72	897A0988	35550
65	4251	1.69	<b>897A0691</b>	35300
63	4391	2.11	<b>898A0691</b>	61668
61	4513	0.93	896A1088	34000
61	4517	1.59	897A1088	35550
61	4555	2.70	898A1088	61311
54	5110	2.11	<b>898A0791</b>	61636
53	5243	1.37	<b>897A0791</b>	35300
51	5449	2.22	898A1188	61311
50	5497	1.31	897A1188	35550
49	5649	1.27	<b>897A0891</b>	35300
49	5678	2.11	<b>898A0891</b>	61605
45	6173	1.96	898A1288	60875
45	6168	1.99	<b>898A0991</b>	61605
44	6288	1.14	<b>897A0991</b>	35300
44	6221	1.16	897A1288	35528
42	6607	1.09	897A1388	35528
42	6534	1.88	898A1388	60318
41	6794	1.06	<b>897A1091</b>	35300
40	6833	1.80	<b>898A1091</b>	61605
37	7465	0.96	897A1488	35500
37	7413	1.66	898A1488	60318
34	8253	0.87	<b>897A1191</b>	35300
34	8174	1.48	<b>898A1191</b>	61587
32	8510	0.84	897A1588	35500
32	8776	1.38	898A1588	59900
30	9260	1.31	<b>898A1291</b>	61587
28	9891	1.22	898A1688	59900
28	9822	1.25	<b>898A1391</b>	61570
26	10519	1.17	898A1788	59324
25	11122	1.11	<b>898A1491</b>	61570
23	11856	1.04	898A1888	59324
21	13170	0.92	<b>898A1591</b>	61532
20	13932	0.87	898A1988	58400
19	14816	0.82	<b>898A1691</b>	61520

## 37.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
184	1843	1.39	896A0194	34000
179	1902	2.15	897A0194	35534
173	1962	2.58	898A0194	61245
152	2223	1.39	896A0294	34000
148	2288	2.15	897A0294	35534
144	2357	2.58	898A0294	61326
133	2541	1.18	896A0394	34000
127	2665	2.15	897A0394	35534
125	2722	2.58	898A0394	61175
119	2846	1.10	896A0494	34000
117	2895	2.13	897A0494	35534
115	2953	1.71	<b>898A0192</b>	61700
114	2993	2.58	898A0494	61186
110	3059	1.18	896A0594	34000
106	3200	2.15	897A0594	35534
104	3272	2.58	898A0594	61350
98	3428	1.10	896A0694	34000
97	3482	2.06	897A0694	35530
96	3548	1.71	<b>898A0292</b>	61700
94	3598	2.58	898A0694	61373
83	4097	1.71	<b>898A0392</b>	61700
82	4136	0.84	896A0794	34000
81	4187	2.58	898A0794	61198
79	4289	1.64	897A0794	35530
76	4505	1.71	<b>898A0492</b>	61700
73	4625	1.55	897A0894	35526
73	4655	2.53	898A0894	61151
69	4926	1.71	<b>898A0592</b>	61700
68	4965	0.84	896A0994	34000
67	5055	2.43	898A0994	61315
66	5148	1.40	897A0994	35526
63	5416	1.71	<b>898A0692</b>	61649
61	5552	1.29	897A1094	35526
61	5599	2.20	898A1094	60972
54	6303	1.71	<b>898A0792</b>	61598
51	6698	1.81	898A1194	60972
50	6757	1.06	897A1194	35526
49	7003	1.71	<b>898A0892</b>	61547
45	7588	1.59	898A1294	60490
45	7607	1.62	<b>898A0992</b>	61547
44	7646	0.94	897A1294	35500
42	8121	0.84	897A1394	35500
42	8032	1.53	898A1394	59781
40	8427	1.46	<b>898A1092</b>	61547
37	9111	1.35	898A1494	59871
34	10081	1.20	<b>898A1192</b>	61535
32	10787	1.12	898A1594	59200
30	11420	1.06	<b>898A1292</b>	61535
28	12157	1.00	898A1694	59200
28	12114	1.02	<b>898A1392</b>	61522
26	12930	0.95	898A1794	58400
25	13717	0.90	<b>898A1492</b>	61522
23	14572	0.84	898A1894	58400

## Series K Gearboxes : Motorised selection

## 45.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
184	2242	1.15	896A0195	34000
179	2313	1.77	897A0195	35500
173	2386	2.12	898A0195	60725
152	2704	1.15	896A0295	34000
148	2783	1.77	897A0295	35500
144	2867	2.12	898A0295	60900
133	3090	0.97	896A0395	34000
128	3241	1.77	897A0395	35500
125	3310	2.12	898A0395	60575
119	3461	0.90	896A0495	34000
117	3521	1.75	897A0495	35500
115	3591	1.41	<b>898A0193</b>	61700
114	3640	2.12	898A0495	60600
110	3720	0.97	896A0595	34000
106	3891	1.77	897A0595	35500
104	3980	2.12	898A0595	60950
99	4169	0.90	896A0695	34000
98	4235	1.70	897A0695	35500
96	4315	1.41	<b>898A0293</b>	61700
94	4376	2.12	898A0695	61000
83	4983	1.41	<b>898A0393</b>	61700
81	5093	2.12	898A0795	60625
79	5216	1.35	897A0795	35500
76	5480	1.41	<b>898A0493</b>	61700
74	5625	1.27	897A0895	35500
73	5661	2.08	898A0895	60625
69	5991	1.41	<b>898A0593</b>	61700
67	6148	2.00	898A0995	60875
66	6261	1.15	897A0995	35500
63	6587	1.41	<b>898A0693</b>	61627
61	6752	1.06	897A1095	35500
61	6809	1.81	898A1095	60583
54	7666	1.41	<b>898A0793</b>	61554
51	8147	1.49	898A1195	60583
50	8218	0.87	897A1195	35500
49	8518	1.41	<b>898A0893</b>	61482
45	9228	1.31	898A1295	60050
45	9252	1.33	<b>898A0993</b>	61482
42	9768	1.26	898A1395	59167
40	10249	1.20	<b>898A1093</b>	61482
37	11081	1.11	898A1495	59167
34	12261	0.99	<b>898A1193</b>	61475
32	13119	0.92	898A1595	58400
30	13890	0.87	<b>898A1293</b>	61475
28	14786	0.82	898A1695	58400
28	14733	0.83	<b>898A1393</b>	61468

## 55.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
173	2916	1.73	898A0196	60075
144	3504	1.73	898A0296	60366
125	4046	1.73	898A0396	59825
115	4390	1.15	<b>898A0197</b>	61700
114	4449	1.73	898A0496	59866
104	4864	1.73	898A0596	60450
96	5274	1.15	<b>898A0297</b>	61700
94	5349	1.73	898A0696	60533
83	6090	1.15	<b>898A0397</b>	61700
81	6225	1.73	898A0796	59908
76	6697	1.15	<b>898A0497</b>	61700
73	6919	1.71	898A0896	59741
69	7322	1.15	<b>898A0597</b>	61700
67	7514	1.64	898A0996	60325
63	8051	1.15	<b>898A0697</b>	61600
61	8323	1.48	898A1096	60098
54	9370	1.15	<b>898A0797</b>	61500
51	9957	1.22	898A1196	60098
49	10411	1.15	<b>898A0897</b>	61400
45	11279	1.07	898A1296	59500
45	11308	1.09	<b>898A0997</b>	61400
42	11939	1.03	898A1396	58400
40	12527	0.98	<b>898A1097</b>	61400
37	13544	0.91	898A1496	58400
34	14986	0.81	<b>898A1197</b>	61400

## 75.0 KW MOTOR

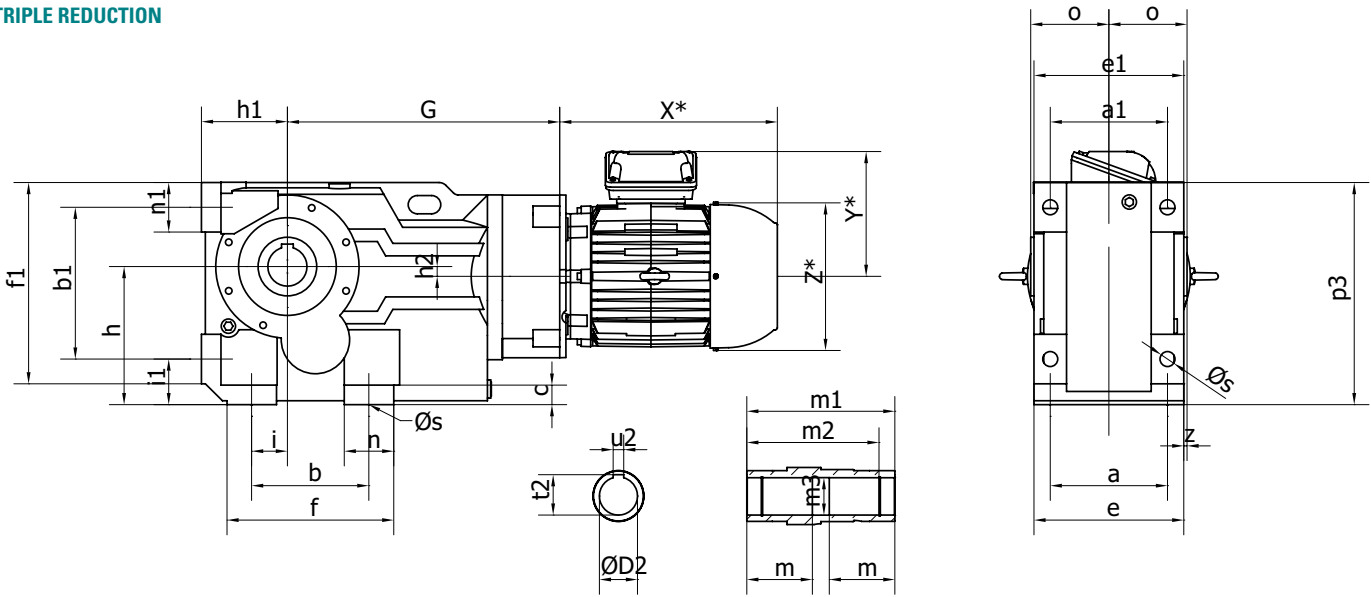
Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
174	3950	1.28	898A0198	58775
145	4746	1.28	898A0298	59300
126	5480	1.28	898A0398	58325
115	6027	1.28	898A0498	58400
104	6589	1.28	898A0598	59450
95	7245	1.28	898A0698	59600
82	8431	1.28	898A0798	58475
74	9372	1.26	898A0898	58175
68	10178	1.21	898A0998	59225
61	11273	1.09	898A1098	59127
51	13487	0.90	898A1198	59127

## 90.0 KW MOTOR

Nominal Output Rev/Min	Output Torque Nm	Service Factor	Unit Selection	Overhung Load N
174	4740	1.07	898A0199	57800
145	5696	1.07	898A0299	58500
126	6576	1.07	898A0399	57200
115	7232	1.07	898A0499	57300
104	7907	1.07	898A0599	58700
95	8694	1.07	898A0699	58900
82	10118	1.07	898A0799	57400
74	11246	1.05	898A0899	5700
68	12213	1.01	898A0999	58400
61	13528	0.91	898A1099	58400

Series K Gearboxes : Dimensions motorised

TRIPLE REDUCTION



TRIPLE REDUCTION

Unit Size	Base Feet								End Feet								h2	o	p3	Øs	z	Hollow Bore Output Details						
	a	b	e	f	h	n	c	i	a1	b1	e1	f1	h1	n1	i1	ØD2						t2	u2	m	m1	m2	m3	
890	100	110	120	143	100	38	11	28	100	115	120	152	63	38	32	16	60	167	11	0	30	33.5	8	52.5	120	105	30.3	
891	120	130	145	168	112	38	16	35	120	130	145	171	71	40	37	13	75	187	11	2.5	35	38.5	10	66.0	150	132	35.3	
892	130	130	157	170	132	40	15	30	130	150	157	192	80	40	45	5	83	217	14	4.5	40	43.5	12	73.0	166	142	40.3	
893	140	120	170	176	140	55	20	30	140	160	170	208	90	48	45	13	90	233	14	5.0	40	43.5	12	80.0	180	156	40.3	
894	165	150	200	210	180	60	27	40	165	200	200	263	112	55	55	25	105	288	18	5.0	50	54.0	14	92.5	210	183	50.5	
895	180	180	230	256	212	76	30	55	180	233	230	309	132	76	70	15	120	341	23	5.0	60	64.5	18	105.0	240	210	60.5	
896	240	240	290	340	265	100	35	75	240	295	290	395	160	100	75	10	150	420	27	5.0	70	75.0	20	132.5	300	270	70.5	
897	270	280	340	390	315	110	40	95	270	360	340	455	200	115	95	41	175	513	34	5.0	80	85.5	22	155.0	350	313	80.5	
898	330	350	400	470	375	120	45	115	330	420	400	540	225	120	110	65	205	590	39	5.0	100	106.5	28	180.0	410	373	100.5	

G DIMENSION AND WEIGHT

Unit Size		Motor Frame Size												
		63	71	80	90	100	112	132	160	180	200	225	250	280
890	G	193	197	210	220	209	209	-	-	-	-	-	-	-
	kg	16	16	16	17	18	18	-	-	-	-	-	-	-
891	G	213	217	230	240	229	229	-	-	-	-	-	-	-
	kg	21	21	22	22	23	23	-	-	-	-	-	-	-
892	G	231	237	255	265	292	292	292	-	-	-	-	-	-
	kg	30	30	31	32	35	35	37	-	-	-	-	-	-
893	G	241	247	265	275	302	302	302	-	-	-	-	-	-
	kg	38	38	39	40	43	43	44	-	-	-	-	-	-
894	G	-	-	302	312	324	324	346	354	-	-	-	-	-
	kg	-	-	58	59	61	61	63	66	-	-	-	-	-
895	G	-	-	412	412	418	418	418	448	-	-	-	-	-
	kg	-	-	114	114	116	116	119	124	-	-	-	-	-
896	G	-	-	413	413	419	419	419	454	454	454	481	-	-
	kg	-	-	167	167	169	169	172	177	190	194	198	-	-
897	G	-	-	-	-	470	470	470	505	505	505	532	-	-
	kg	-	-	-	-	293	293	296	301	314	318	322	-	-
898	G	-	-	-	-	572	572	572	565	565	565	592	764	764
	kg	-	-	-	-	427	427	430	436	448	453	457	471	471

\* For Motor Dimensions X,Y and Z please refer to motor tables on page 314

FIXING BOLTS\*\*

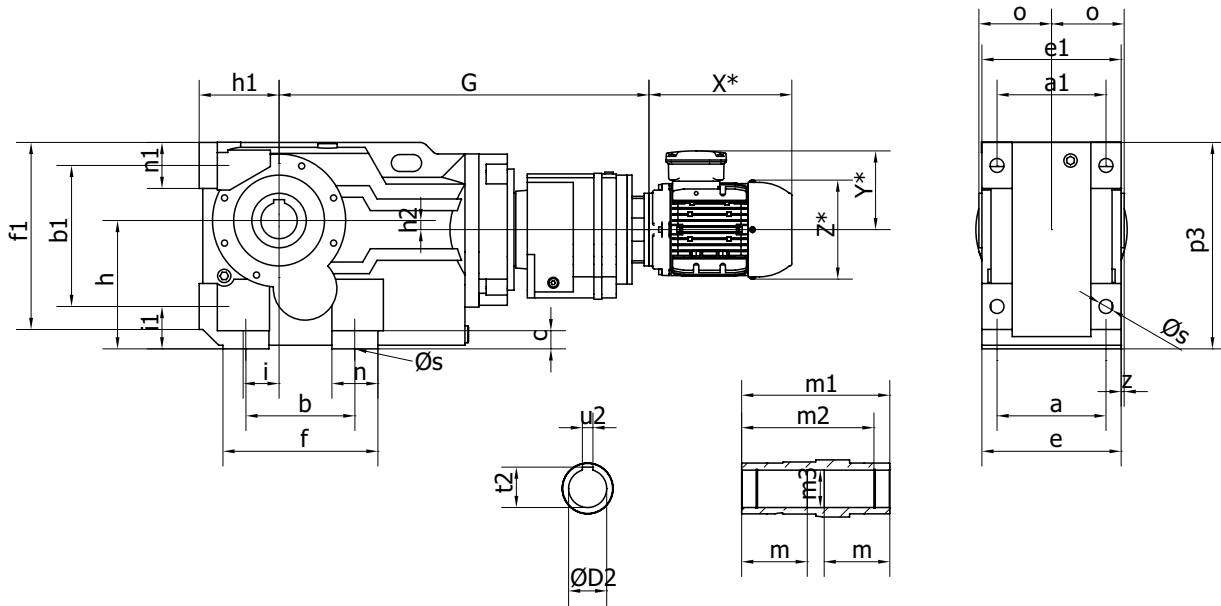
Unit Size	Fasteners & Tightening Torque	
890	Bolt Size	4 x M10 x 25mm long
	Tighten to	Tighten to - 50Nm
891	Bolt Size	4 x M10 x 30mm long
	Tighten to	Tighten to - 50Nm
892	Bolt Size	4 x M12 x 35mm long
	Tighten to	Tighten to - 85Nm
893	Bolt Size	4 x M12 x 40mm long
	Tighten to	Tighten to - 85Nm
894	Bolt Size	4 x M16 x 50mm long
	Tighten to	Tighten to - 200Nm
895	Bolt Size	4 x M20 x 60mm long
	Tighten to	Tighten to - 350Nm
896	Bolt Size	4 x M24 x 70mm long
	Tighten to	Tighten to - 610Nm
897	Bolt Size	4 x M30 x 80mm long
	Tighten to	Tighten to - 1220Nm
898	Bolt Size	4 x M36 x 100mm long
	Tighten to	Tighten to - 2150Nm

\*\* ISO Grade 8.8



# Series K Gearboxes : Dimensions motorised

## QUINTUPLE REDUCTION



## QUINTUPLE REDUCTION

Unit Size	Base Feet								End Feet								h2	o	p3	$\phi_s$	z	Hollow Bore Output Details						
	a	b	e	f	h	n	c	i	a1	b1	e1	f1	h1	n1	i1	$\phi D_2$						t2	u2	m	m1	m2	m3	
890	100	110	120	143	100	38	11	28	100	115	120	152	63	38	32	16	60	167	11	0	30	33.5	8	52.5	120	105	30.3	
891	120	130	145	168	112	38	16	35	120	130	145	171	71	40	37	13	75	187	11	2.5	35	38.5	10	66.0	150	132	35.3	
892	130	130	157	170	132	40	15	30	130	150	157	192	80	40	45	5	83	217	14	4.5	40	43.5	12	73.0	166	142	40.3	
893	140	120	170	176	140	55	20	30	140	160	170	208	90	48	45	13	90	233	14	5.0	40	43.5	12	80.0	180	156	40.3	
894	165	150	200	210	180	60	27	40	165	200	200	263	112	55	55	25	105	288	18	5.0	50	54.0	14	92.5	210	183	50.5	
895	180	180	230	256	212	76	30	55	180	233	230	309	132	76	70	15	120	341	23	5.0	60	64.5	18	105.0	240	210	60.5	
896	240	240	290	340	265	100	35	75	240	295	290	395	160	100	75	10	150	420	27	5.0	70	75.0	20	132.5	300	270	70.5	
897	270	280	340	390	315	110	40	95	270	360	340	455	200	115	95	41	175	513	34	5.0	80	85.5	22	155.0	350	313	80.5	
898	330	350	400	470	375	120	45	115	330	420	400	540	225	120	110	65	205	590	39	5.0	100	106.5	28	180.0	410	373	100.5	

## G DIMENSION AND WEIGHT

Unit Size		Motor Frame Size													
		63	71	80	90	100	112	132	160	180	200	225	250	280	
890	G	442	446	459	469	458	458								
	kg	25	24	25	26	28	28								
891	G	470	474	487	497	486	486								
	kg	30	30	30	31	33	33								
892	G	535	539	552	562	551	551								
	kg	44	44	44	45	47	47								
893	G	555	559	572	582	571	571								
	kg	52	52	52	53	55	55								
894	G	614	618	631	641	630	630								
	kg	70	70	70	71	73	73								
895	G	719	725	743	753	780	780	780							
	kg	139	139	139	140	142	142	145							
896	G	783	789	807	817	844	844	844							
	kg	197	197	197	198	200	200	203							
897	G			952	962	974	974	996	1004						
	kg			321	322	325	325	327	330						
898	G			1079	1089	1101	1101	1123	1131						
	kg			481	482	485	485	487	490						

\* For Motor Dimensions X,Y and Z please refer to motor tables on page 314

## FIXING BOLTS\*\*

Unit Size		
890	Bolt Size	4 x M10 x 25mm long
	Tighten to	Tighten to - 50Nm
891	Bolt Size	4 x M10 x 30mm long
	Tighten to	Tighten to - 50Nm
892	Bolt Size	4 x M12 x 35mm long
	Tighten to	Tighten to - 85Nm
893	Bolt Size	4 x M12 x 40mm long
	Tighten to	Tighten to - 85Nm
894	Bolt Size	4 x M16 x 50mm long
	Tighten to	Tighten to - 200Nm
895	Bolt Size	4 x M20 x 60mm long
	Tighten to	Tighten to - 350Nm
896	Bolt Size	4 x M24 x 70mm long
	Tighten to	Tighten to - 610Nm
897	Bolt Size	4 x M30 x 80mm long
	Tighten to	Tighten to - 1220Nm
898	Bolt Size	4 x M36 x 100mm long
	Tighten to	Tighten to -2150Nm

\*\* ISO Grade 8.8

## Series K Gearboxes : Non-motorised selection

### SELECTION OF NON-MOTORISED REDUCER UNITS

#### (a) Service Factor

From Table 1 select the Mechanical Service Factor (Fm) applicable to the drive. If the unit is to be subjected to frequent stop/starts in excess of 10 times per day then multiply factor Fm by Factor Fs from table 2.

#### (b) Power Required

Determine either the absorbed torque (Nm) or the input power (kW) required by the machine. The absorbed Torque can be calculated using the following formula:

$$M_2 = \frac{P_2 \times 9550}{n_2}$$

$M_2$  = required output torque (Nm)

$P_2$  = absorbed power (kW)

$n_2$  = machine speed (Rev/Min)

#### (c) Design Power

Multiply either the absorbed torque (Nm) or the power (kW) by the service factor determined in (a)

#### (d) Ratio Required

Divide the input shaft speed by the required output shaft speed to determine the gear ratio.

#### (e) Unit Selection

In the selection pages: 295 to 301 refer to the gear ratio closest to the value determined in step (d).

Check in column 3 for the nearest input shaft speed, then read across the table at this speed until a unit is found with either an output torque or input power that equals or exceeds the design power value determined in step (c) above. Column 4 gives the approximate output shaft speed for the selected speed and ratio combination.

TABLE 1 - MECHANICAL SERVICE FACTOR (Fm)

Types of Driven Machine	Operational Hours		
	Under 3	3 to 10	Over 10
<b>Uniform Loads</b> Agitators and Mixers – liquid or semi-liquid Blowers – centrifugal Bottling Machines Conveyors and Elevators – uniformly loaded Cookers Laundry Washing Machines – non-reversing Line Shafts Pumps – centrifugal and gear Wire Drawing Machines	0.80	1.00	1.25
<b>Moderate Shock Loads</b> Agitators and Mixers – variable density Conveyors – not uniformly loaded Cranes travel motion and hoisting Drawbench Feeders – pulsating load Hoists Kilns Laundry Tumblers Lifts Pumps – reciprocating with 3 or more cylinders Pump and Paper Making Machinery Rubber Mixers and Calendars Screens – rotary Textile Machinery	1.00	1.25	1.50
<b>Heavy Shock Loads</b> Brick Presses Briquetting Machines Conveyors – reciprocating and shaker Crushers Feeders – reciprocating Hammer Mills Pumps – reciprocating, 1 or 2 cylinders Rubber Masticators Screens – vibrating	1.50	1.75	2.00

TABLE 2 - STARTING FACTOR (Fs)

	Start/stops per hour					
	Up to 1	5	10	40	60	>200
<b>Factor Fs</b>	1.00	1.03	1.06	1.10	1.15	1.20

For ATEX certified gear units please consult your local Authorised Distributor.

# Series K Gearboxes : Non-motorised selection

## TRIPLE REDUCTION RATINGS SIZES 890 - 895

Ratio Code	Nominal Ratio	Input Speed rpm	Output Speed rpm	890			891			892			893			894			895		
				Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)
01	8	2900	348	4.49	118	2.88	8.48	215	3.23	12.70	323	2.33	18.30	459	3.55	26.10	705	4.10	41.30	1050	6.00
		1450	174	2.60	137	3.46	5.02	256	3.67	7.66	394	2.65	11.10	559	3.92	13.10	709	6.00	20.70	1060	6.00
		960	115	1.87	150	4.04	3.61	279	4.33	5.50	429	3.20	7.95	608	4.71	8.65	711	7.40	13.70	1060	6.00
		725	87	1.50	159	4.49	2.88	296	4.84	4.37	451	3.66	6.31	640	5.27	6.53	712	8.50	10.30	1060	6.00
03	11	2900	258	3.78	135	3.02	7.16	255	3.33	10.60	381	2.35	15.40	545	3.56	25.80	968	4.12	41.30	1500	6.00
		1450	129	2.17	155	3.71	4.10	294	3.93	6.19	448	2.84	9.01	641	4.20	13.10	985	6.02	20.70	1500	6.00
		960	85	1.57	170	4.34	2.95	320	4.65	4.42	484	3.45	6.43	693	5.05	8.65	987	7.42	13.70	1510	6.00
		725	64	1.25	179	4.83	2.35	338	5.13	3.52	511	3.94	5.12	731	5.73	6.53	988	8.53	10.30	1510	6.00
04	12	2900	227	3.47	141	3.15	6.73	265	3.44	9.93	401	2.37	14.50	574	3.57	24.20	1020	4.13	41.30	1660	6.00
		1450	113	2.00	163	3.97	3.86	305	4.20	5.74	466	3.04	8.38	669	4.47	13.10	1110	6.04	20.70	1670	6.00
		960	75	1.44	177	4.65	2.77	331	4.97	4.09	503	3.69	5.98	721	5.40	8.65	1110	7.44	13.70	1680	6.00
		725	57	1.14	187	5.17	2.20	349	5.42	3.26	531	4.23	4.76	761	6.20	6.53	1110	8.55	10.30	1680	6.00
05	14	2900	200	3.21	147	3.29	6.19	277	3.54	9.29	421	2.38	13.60	605	3.57	23.10	1070	4.15	41.10	1840	6.00
		1450	100	1.85	171	4.22	3.55	319	4.46	5.32	485	3.23	7.77	696	4.75	13.10	1220	6.06	20.70	1860	6.00
		960	66	1.33	185	4.95	2.54	346	5.28	3.78	522	3.94	5.54	750	5.74	8.65	1220	7.46	13.70	1860	6.40
		725	50	1.06	195	5.50	2.02	364	5.71	3.01	551	4.51	4.41	791	6.66	6.53	1220	8.58	10.30	1870	6.80
07	18	2900	156	2.71	159	3.42	5.27	299	3.64	7.88	454	2.40	11.60	655	3.58	19.60	1190	4.16	34.70	2010	6.00
		1450	78	1.56	184	4.47	3.02	344	4.72	4.48	519	3.42	6.58	748	5.02	11.10	1350	6.08	19.70	2300	6.00
		960	52	1.12	200	5.25	2.16	372	5.60	3.20	561	4.18	4.70	809	6.08	7.93	1460	7.48	13.70	2410	6.80
		725	39	0.89	210	5.84	1.67	382	6.00	2.55	592	4.79	3.63	827	7.12	6.32	1540	8.60	10.30	2410	8.50
08	20	2900	145	2.57	163	3.61	4.83	312	3.84	7.21	471	2.57	10.60	681	3.82	17.90	1240	4.43	31.60	2060	6.00
		1450	73	1.48	189	4.72	2.76	358	4.99	4.09	537	3.65	6.02	777	5.44	10.10	1400	6.46	17.90	2350	6.40
		960	48	1.06	204	5.55	1.98	387	5.80	2.92	581	4.46	4.24	826	6.56	7.25	1520	7.99	13.10	2590	7.40
		725	36	0.85	217	6.00	1.54	400	6.00	2.33	613	5.18	3.20	827	7.56	5.77	1600	9.30	10.30	2700	9.20
10	25	2900	115	2.19	175	3.80	4.19	332	4.04	6.35	495	2.73	9.36	718	4.05	15.70	1320	4.70	26.70	2140	6.00
		1450	57	1.25	201	4.97	2.39	380	5.26	3.60	563	3.89	5.31	817	5.85	8.85	1490	6.83	15.20	2440	6.80
		960	38	0.90	218	5.84	1.71	411	6.00	2.57	609	4.74	3.55	827	7.04	6.33	1610	8.50	11.10	2700	8.10
		725	29	0.70	225	6.00	1.37	438	6.00	2.05	644	5.56	2.68	827	8.00	4.96	1670	10.00	8.39	2700	9.90
11	28	2900	101	2.01	182	3.98	3.89	342	4.24	5.73	514	2.90	8.46	747	4.29	14.70	1350	4.96	24.30	2190	6.00
		1450	51	1.14	208	5.22	2.22	391	5.52	3.24	584	4.12	4.67	826	6.27	8.26	1530	7.21	14.00	2530	6.80
		960	34	0.82	225	6.00	1.59	423	6.00	2.32	632	5.02	3.09	827	7.52	5.91	1650	9.00	9.87	2700	8.70
		725	25	0.62	225	6.00	1.22	430	6.00	1.82	659	5.95	2.33	827	8.00	4.51	1670	10.70	7.45	2700	10.70
12	32	2900	89	1.82	189	4.17	3.55	354	4.44	5.09	532	3.06	7.54	774	4.52	13.20	1390	5.23	21.50	2250	6.00
		1450	44	1.04	215	5.47	2.02	404	5.79	2.90	607	4.35	4.02	826	6.68	7.44	1580	7.58	12.60	2640	7.60
		960	29	0.71	225	6.00	1.44	435	6.00	2.08	658	5.30	2.66	827	8.00	5.20	1670	9.51	8.48	2700	9.30
		725	22	0.54	225	6.00	1.09	435	6.00	1.57	659	6.33	2.01	827	8.00	3.92	1670	11.40	6.40	2700	11.40
13	36	2900	80	1.69	194	3.42	3.31	375	3.42	4.79	559	3.13	7.02	805	4.68	12.10	1450	5.49	19.80	2300	6.30
		1450	40	0.96	221	5.74	1.89	428	6.00	2.72	638	4.42	3.59	827	7.15	6.90	1660	7.96	11.60	2700	8.00
		960	26	0.64	225	6.00	1.29	441	6.00	1.86	659	5.68	2.38	827	8.00	4.59	1670	10.40	7.66	2700	10.60
		725	20	0.49	225	6.00	0.97	441	6.00	1.40	659	6.76	1.80	827	8.00	3.47	1670	12.10	5.78	2700	12.50
14	40	2900	72	1.56	198	3.80	3.00	375	3.99	4.46	555	3.37	6.63	811	5.12	11.10	1470	5.88	18.30	2340	6.40
		1450	36	0.88	225	6.00	1.71	428	6.00	2.53	634	4.83	3.37	827	7.36	6.29	1670	8.69	10.60	2700	8.60
		960	24	0.58	225	6.00	1.17	441	6.00	1.74	659	6.06	2.23	827	8.00	4.16	1670	11.40	6.99	2700	12.00
		725	18	0.44	225	6.00	0.88	441	6.00	1.32	659	7.02	1.68	827	8.00	3.14	1670	12.80	5.28	2700	13.60
15	45	2900	66	1.45	203	4.19	2.70	388	4.56	3.91	578	3.61	5.70	826	5.55	10.00	1520	6.27	16.60	2390	6.60
		1450	33	0.80	225	6.00	1.53	441	6.00	2.22	658	5.24	2.85	827	7.58	5.49	1670	9.43	9.35	2700	9.20
		960	22	0.53	225	6.00	1.01	441	6.00	1.47	659	6.43	1.88	827	8.00	3.64	1670	12.30	6.18	2700	13.30
		725	16	0.40	225	6.00	0.77	441	6.00	1.11	659	7.50	1.42	827	8.00	2.74	1670	13.50	4.67	2700	14.80
16	50	2900	56	1.29	211	4.57	2.53	395	5.12	3.72	586	3.85	5.34	826	5.99	9.10	1560	6.66	15.10	2450	6.70
		1450	28	0.69	225	6.00	1.41	441	6.00	2.08	658	5.64	2.67	827	7.79	4.86	1670	10.20	8.29	2700	9.90
		960	19	0.45	225	6.00	0.93	441	6.00	1.38	659	6.81	1.76	827	8.00	3.22	1670	13.20	5.48	2700	14.60
		725	14	0.34	225	6.00	0.70	441	6.00	1.04	659	7.50	1.33	827	8.00	2.43	1670	14.20	4.14	2700	15.70
18	63	2900	47	1.12	219	4.95	2.20	412	5.69	3.15	615	4.09	4.31	826	6.42	8.13	1620	7.05	13.20	2590	6.80
		1450	23	0.57	225	6.00	1.18	441	6.00	1.68	659	6.05	2.15	827	8.00	4.20	1670	10.90	6.84	2700	10.60
		960	15	0.38	225	6.00	0.78	441	6.00	1.11	659	7.16	1.42	827	8.00	2.78	1670	13.90	4.53	2700	15.70
		725	12	0.29	225	6.00	0.59	441	6.00	0.84	659	7.50	1.07	827	8.00	2.10	1670	15.00	3.42	2700	15.70
19	71	2900	40	0.98	225	5.64	1.91	429	6.00	2.77	638	4.37	3.66	827	6.95	7.06	1670	7.91	11.80	2700	7.70
		1450	20	0.49	225	6.00	0.96	431	6.00	1.43	659	6.55	1.83	827	8.00	3.52	1670	11.90	5.87	2700	11.70
		960	13	0.32	225	6.00	0.64	431	6.00	0.94	659	7.50	1.21	827	8.00	2.33	1670	14.60	3.89	2700	15.70
		725	10	0.25	225	6.00	0.48	431	6.00	0.71	659	7.50	0.91	827	8.00	1.76	1670	15.00	2.93	2700	15.70
20	80	2900	36	0.89	225	6.00	1.72	433	6.00	2.58	650	4.66	3.34	827	7.48	6.45	1670	8.78	10.70	2700	8.70
		1450	18	0.44	225	6.00	0.86	433	6.00	1.31	659	7.04	1.67	827	8.00	3.22	1670	12.80	5.35	2700	12.80
		960	12	0.29	225	6.00	0.57	434	6.00	0.86	659	7.50	1.10	827	8.00	2					

## Series K Gearboxes : Non-motorised selection

## TRIPLE REDUCTION RATINGS SIZES 896 - 898

Ratio Code	Nominal Ratio	Input Speed Rev/Min	Output Speed Rev/Min	896			897			898		
				Input Power kW	Output Torque Nm	OHL Fra (kN)	Output Torque Nm	Input Power kW	OHL Fra (kN)	Output Torque Nm	Input Power kW	OHL Fra (kN)
01	8	2900	361	82.80	2090	22.90	156.00	4070	22.90	195.00	5240	56.50
		1450	180	50.70	2570	25.20	78.20	4090	25.20	97.40	5260	56.50
		960	119	37.80	2910	27.70	51.80	4100	34.00	64.50	5260	56.50
		725	90	30.00	3050	30.00	39.10	4100	34.00	48.70	5260	56.60
02	10	2900	300	82.80	2510	22.90	156.00	4890	22.90	195.00	6300	56.50
		1450	150	50.70	3100	25.20	78.20	4920	25.20	97.40	6320	56.50
		960	99	37.80	3500	27.70	51.80	4920	34.00	64.50	6320	56.50
		725	75	29.90	3670	30.00	39.10	4930	34.00	48.70	6330	56.60
03	11	2900	262	69.80	2430	23.50	132.00	4820	25.70	195.00	7290	56.50
		1450	131	42.80	2990	26.50	78.20	5730	29.60	97.40	7300	56.50
		960	87	30.60	3240	29.00	51.80	5730	35.80	64.50	7300	56.50
		725	66	24.00	3370	31.00	39.10	5740	36.30	48.70	7310	57.80
04	12	2900	234	65.50	2560	24.10	126.00	5010	28.50	195.00	8010	56.50
		1450	117	40.00	3130	27.70	77.50	6170	34.00	97.40	8020	56.50
		960	77	28.20	3350	30.30	51.80	6240	37.60	64.50	8020	56.50
		725	58	22.30	3510	32.00	39.10	6240	38.60	48.70	8030	59.00
05	14	2900	218	69.80	2920	24.60	132.00	5790	31.20	195.00	8760	56.50
		1450	109	42.80	3600	29.00	78.20	6880	35.80	97.40	8770	56.50
		960	72	28.80	3670	31.70	51.80	6890	40.10	64.50	8780	57.70
		725	54	21.70	3670	34.00	39.10	6890	43.10	48.70	8780	60.10
06	16	2900	194	65.50	3070	24.60	126.00	6020	31.20	195.00	9630	56.50
		1450	97	38.90	3670	29.50	75.10	7190	36.40	97.40	9640	56.50
		960	64	25.70	3670	32.50	49.70	7190	41.50	64.50	9640	57.80
		725	49	19.40	3670	34.00	37.50	7190	43.10	48.70	9650	61.30
07	18	2900	162	52.80	2980	25.20	101.00	5920	34.00	163.00	9410	56.50
		1450	81	30.60	3480	30.30	59.70	7040	37.60	97.40	11300	56.50
		960	54	21.30	3670	33.10	40.30	7190	42.50	64.50	11300	58.90
		725	40	16.10	3670	34.00	30.40	7190	43.10	48.70	11300	61.30
08	20	2900	145	49.30	3110	26.50	96.10	6100	34.90	153.00	9800	56.50
		1450	72	28.10	3560	31.20	56.30	7160	39.00	92.20	11800	57.70
		960	48	19.10	3670	34.00	37.40	7190	43.10	62.40	12100	61.30
		725	36	14.40	3670	34.00	28.20	7190	43.10	47.10	12100	61.30
09	22	2900	134	52.80	3590	27.00	101.00	7110	35.40	163.00	11300	56.60
		1450	67	26.90	3670	32.50	50.80	7190	41.50	88.50	12300	59.80
		960	44	17.80	3670	34.00	33.60	7190	43.10	58.60	12300	61.30
		725	34	13.40	3670	34.00	25.40	7190	43.10	44.20	12300	61.30
10	25	2900	120	48.30	3670	27.80	94.30	7190	35.80	153.00	11800	56.50
		1450	60	24.10	3670	32.20	47.10	7190	40.40	79.90	12300	58.90
		960	40	15.90	3670	34.00	31.10	7190	43.10	52.90	12300	61.30
		725	30	12.00	3670	34.00	23.50	7190	43.10	39.90	12300	61.30
11	28	2900	104	39.40	3460	29.00	76.10	7050	36.70	124.00	11400	56.50
		1450	52	20.80	3670	34.00	38.70	7190	43.10	65.70	12100	61.30
		960	35	13.80	3670	34.00	25.60	7190	43.10	43.50	12100	61.30
		725	26	10.40	3670	34.00	19.30	7190	43.10	32.80	12100	61.30
12	32	2900	92	35.60	3550	30.30	68.60	7190	37.60	112.00	11700	56.50
		1450	46	18.30	3670	34.00	34.20	7190	43.10	58.00	12100	61.30
		960	30	12.10	3670	34.00	22.60	7190	43.10	38.40	12100	61.30
		725	23	9.10	3670	34.00	17.10	7190	43.10	29.00	12100	61.30
13	36	2900	87	34.80	3670	31.80	64.70	7190	39.50	111.00	12300	59.30
		1450	43	17.30	3670	34.00	32.20	7190	43.10	55.70	12300	61.30
		960	29	11.50	3670	34.00	21.30	7190	43.10	36.80	12300	61.30
		725	22	8.70	3670	34.00	16.10	7190	43.10	27.80	12300	61.30
14	40	2900	73	30.50	3670	32.40	57.10	7190	40.40	98.40	12300	59.80
		1450	36	15.20	3670	34.00	28.50	7190	43.10	49.10	12300	61.30
		960	24	10.10	3670	34.00	18.80	7190	43.10	32.50	12300	61.30
		725	18	7.60	3670	34.00	14.20	7190	43.10	24.50	12300	61.30
15	45	2900	64	25.90	3670	32.90	50.10	7190	41.30	81.80	12100	60.30
		1450	32	12.90	3670	34.00	25.00	7190	43.10	40.80	12100	61.30
		960	21	8.50	3670	34.00	16.50	7190	43.10	27.00	12100	61.30
		725	16	6.50	3670	34.00	12.50	7190	43.10	20.40	12100	61.30
16	50	2900	58	23.30	3670	33.50	45.10	7190	42.20	72.50	12100	60.80
		1450	29	11.60	3670	34.00	22.50	7190	43.10	36.20	12100	61.30
		960	19	7.70	3670	34.00	14.90	7190	43.10	24.00	12100	61.30
		725	15	5.80	3670	34.00	11.20	7190	43.10	18.10	12100	61.30
17	56	2900	52	21.60	3670	34.00	41.70	7190	43.10	69.30	12300	61.30
		1450	26	10.70	3670	34.00	20.80	7190	43.10	34.60	12300	61.30
		960	17	7.10	3670	34.00	13.80	7190	43.10	22.90	12300	61.30
		725	13	5.40	3670	34.00	10.40	7190	43.10	17.30	12300	61.30



# Series K Gearboxes : Non-motorised selection

## TRIPLE REDUCTION RATINGS SIZES 896 - 898

Ratio Code	Nominal Ratio	Input Speed Rev/Min	Output Speed Rev/Min	896			897			898		
				Input Power kW	Output Torque Nm	OHL Fra (kN)	Output Torque Nm	Input Power kW	OHL Fra (kN)	Output Torque Nm	Input Power kW	OHL Fra (kN)
18	63	2900	46	19.40	3670	34.00	37.60	7190	43.10	61.40	12300	61.30
		1450	23	9.70	3670	34.00	18.70	7190	43.10	30.70	12300	61.30
		960	15	6.40	3670	34.00	12.40	7190	43.10	20.30	12300	61.30
		725	12	4.80	3670	34.00	9.40	7190	43.10	15.30	12300	61.30
19	71	2900	41	16.50	3670	34.00	31.60	7190	43.10	51.50	12100	61.30
		1450	20	8.30	3670	34.00	15.80	7190	43.10	25.70	12100	61.30
		960	14	5.50	3670	34.00	10.40	7190	43.10	17.00	12100	61.30
		725	10	4.10	3670	34.00	7.90	7190	43.10	12.90	12100	61.30
20	80	2900	36	15.00	3670	34.00	27.50	7190	43.10	46.30	12100	61.30
		1450	18	7.50	3670	34.00	13.70	7190	43.10	23.10	12100	61.30
		960	12	4.90	3670	34.00	9.10	7190	43.10	15.30	12100	61.30
		725	9	3.70	3670	34.00	6.90	7190	43.10	11.60	12100	61.30
21	90	2900	32	13.80	3670	34.00	26.30	7190	43.10	43.60	12300	61.30
		1450	16	6.90	3670	34.00	13.10	7190	43.10	21.80	12300	61.30
		960	11	4.50	3670	34.00	8.70	7190	43.10	14.40	12300	61.30
		725	8	3.40	3670	34.00	6.60	7190	43.10	10.90	12300	61.30
22	100	2900	29	12.50	3670	34.00	22.90	7190	43.10	39.20	12300	61.30
		1450	15	6.20	3670	34.00	11.40	7190	43.10	19.60	12300	61.30
		960	10	4.10	3670	34.00	7.60	7190	43.10	13.00	12300	61.30
		725	7	3.10	3670	34.00	5.70	7190	43.10	9.80	12300	61.30
23	112	2900	26	10.90	3670	34.00	20.40	7190	43.10	33.70	12100	61.30
		1450	13	5.40	3670	34.00	10.20	7190	43.10	16.90	12100	61.30
		960	9	3.60	3670	34.00	6.70	7190	43.10	11.20	12100	61.30
		725	6	2.70	3670	34.00	5.10	7190	43.10	8.40	12100	61.30
24	125	2900	23	9.70	3670	34.00	19.00	7190	43.10	31.70	12100	61.30
		1450	12	4.90	3670	34.00	9.50	7190	43.10	15.80	12100	61.30
		960	8	3.20	3670	34.00	6.30	7190	43.10	10.50	12100	61.30
		725	6	2.40	3670	34.00	4.70	7190	43.10	7.90	12100	61.30
25	140	2900	21	9.10	3670	34.00	17.00	7190	43.10	28.60	12300	61.30
		1450	10	4.50	3670	34.00	8.50	7190	43.10	14.30	12300	61.30
		960	7	3.00	3670	34.00	5.60	7190	43.10	9.40	12300	61.30
		725	5	2.30	3670	34.00	4.20	7190	43.10	7.10	12300	61.30
26	160	2900	18	8.10	3670	34.00	15.80	7190	43.10	26.80	12300	61.30
		1450	9	4.00	3670	34.00	7.90	7190	43.10	13.40	12300	61.30
		960	6	2.70	3670	34.00	5.20	7190	43.10	8.90	12300	61.30
		725	5	2.00	3670	34.00	3.90	7190	43.10	6.70	12300	61.30

## Series K Gearboxes : Non-motorised selection

## QUINTUPLE REDUCTION RATINGS SIZES 890 - 895

Ratio Code	Nominal Ratio	Input Speed rpm	Output Speed rpm	890			891			892			893			894			895		
				Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)
30	125	2900	22.69	0.560	225	6.00	1.050	440	6.00	1.780	660	7.50	2.270	825	8.00	4.250	1600	15.00	6.550	2710	15.70
		1450	11.35	0.280	225	6.00	0.520	440	6.00	0.890	660	7.50	1.130	825	8.00	2.130	1600	15.00	3.280	2710	15.70
		960	7.51	0.190	225	6.00	0.350	440	6.00	0.590	660	7.50	0.750	825	8.00	1.410	1600	15.00	2.170	2710	15.70
		725	5.63	0.140	225	6.00	0.260	440	6.00	0.440	660	7.50	0.560	825	8.00	1.060	1600	15.00	1.630	2710	15.70
31	140	2900	19.95	0.490	225	6.00	0.950	440	6.00	1.480	660	7.50	1.880	825	8.00	3.830	1600	15.00	5.990	2710	15.70
		1450	9.98	0.250	225	6.00	0.480	440	6.00	0.740	660	7.50	0.940	825	8.00	1.920	1600	15.00	2.990	2710	15.70
		960	6.6	0.160	225	6.00	0.310	440	6.00	0.490	660	7.50	0.620	825	8.00	1.270	1600	15.00	1.980	2710	15.70
32	160	2900	17.61	0.440	225	6.00	0.830	440	6.00	1.340	660	7.50	1.710	825	8.00	3.480	1600	15.00	5.290	2710	15.70
		1450	8.81	0.220	225	6.00	0.410	440	6.00	0.670	660	7.50	0.850	825	8.00	1.740	1600	15.00	2.650	2710	15.70
		960	5.83	0.140	225	6.00	0.270	440	6.00	0.440	660	7.50	0.570	825	8.00	1.150	1600	15.00	1.750	2710	15.70
33	200	2900	13.77	0.340	225	6.00	0.700	440	6.00	1.020	660	7.50	1.290	825	8.00	2.420	1600	15.00	3.800	2420	15.70
		1450	6.89	0.170	225	6.00	0.350	440	6.00	0.510	660	7.50	0.650	825	8.00	1.210	1600	15.00	1.900	2420	15.70
		960	4.56	0.110	225	6.00	0.230	440	6.00	0.340	660	7.50	0.430	825	8.00	0.800	1600	15.00	1.260	2420	15.70
		725	3.42	0.080	225	6.00	0.170	440	6.00	0.250	660	7.50	0.320	825	8.00	0.600	1600	15.00	0.940	2420	15.70
34	250	2900	12.78	0.320	225	6.00	0.550	440	6.00	0.800	660	7.50	1.020	825	8.00	2.190	1600	15.00	3.800	2710	15.70
		1450	6.39	0.160	225	6.00	0.270	440	6.00	0.400	660	7.50	0.510	825	8.00	1.100	1600	15.00	1.900	2710	15.70
		960	4.23	0.100	225	6.00	0.180	440	6.00	0.260	660	7.50	0.340	825	8.00	0.730	1600	15.00	1.260	2710	15.70
35	280	2900	10.12	0.250	225	6.00	0.490	440	6.00	0.700	660	7.50	0.900	825	8.00	1.930	1600	15.00	3.230	2710	15.70
		1450	5.06	0.130	225	6.00	0.250	440	6.00	0.350	660	7.50	0.450	825	8.00	0.960	1600	15.00	1.620	2710	15.70
		960	3.35	0.083	225	6.00	0.160	440	6.00	0.230	660	7.50	0.300	825	8.00	0.640	1600	15.00	1.070	2710	15.70
		725	2.51	0.062	225	6.00	0.120	440	6.00	0.170	660	7.50	0.220	825	8.00	0.480	1600	15.00	0.800	2710	15.70
36	320	2900	8.93	0.220	225	6.00	0.440	440	6.00	0.670	660	7.50	0.850	825	8.00	1.680	1600	15.00	2.920	2710	15.70
		1450	4.46	0.110	225	6.00	0.220	440	6.00	0.330	660	7.50	0.420	825	8.00	0.840	1600	15.00	1.460	2710	15.70
		960	2.96	0.073	225	6.00	0.140	440	6.00	0.220	660	7.50	0.280	825	8.00	0.560	1600	15.00	0.970	2710	15.70
37	360	2900	7.81	0.190	225	6.00	0.400	440	6.00	0.600	660	7.50	0.770	825	8.00	1.370	1600	15.00	2.570	2710	15.70
		1450	3.91	0.097	225	6.00	0.200	440	6.00	0.300	660	7.50	0.380	825	8.00	0.680	1600	15.00	1.290	2710	15.70
		960	2.59	0.064	225	6.00	0.130	440	6.00	0.200	660	7.50	0.250	825	8.00	0.450	1600	15.00	0.850	2710	15.70
		725	1.94	0.048	225	6.00	0.098	440	6.00	0.150	660	7.50	0.190	825	8.00	0.340	1600	15.00	0.640	2710	15.70
38	400	2900	7.02	0.170	225	6.00	0.350	440	6.00	0.530	660	7.50	0.670	825	8.00	1.270	1650	15.00	2.160	2710	15.70
		1450	3.51	0.087	225	6.00	0.170	440	6.00	0.260	660	7.50	0.340	825	8.00	0.640	1650	15.00	1.080	2710	15.70
		960	2.32	0.058	225	6.00	0.110	440	6.00	0.180	660	7.50	0.220	825	8.00	0.420	1650	15.00	0.710	2710	15.70
		725	1.74	0.043	225	6.00	0.086	440	6.00	0.130	660	7.50	0.170	825	8.00	0.320	1650	15.00	0.540	2710	15.70
39	450	2900	6.37	0.160	225	6.00	0.310	440	6.00	0.470	660	7.50	0.590	825	8.00	1.130	1650	15.00	1.870	2710	15.70
		1450	3.19	0.079	225	6.00	0.160	440	6.00	0.230	660	7.50	0.300	825	8.00	0.570	1650	15.00	0.940	2710	15.70
		960	2.11	0.052	225	6.00	0.104	440	6.00	0.150	660	7.50	0.200	825	8.00	0.370	1650	15.00	0.620	2710	15.70
		725	1.58	0.039	225	6.00	0.078	440	6.00	0.120	660	7.50	0.150	825	8.00	0.280	1650	15.00	0.470	2710	15.70
40	500	2900	5.62	0.140	225	6.00	0.280	440	6.00	0.420	660	7.50	0.540	825	8.00	1.030	1650	15.00	1.710	2710	15.70
		1450	2.81	0.070	225	6.00	0.140	440	6.00	0.210	660	7.50	0.270	825	8.00	0.510	1650	15.00	0.860	2710	15.70
		960	1.86	0.046	225	6.00	0.092	440	6.00	0.140	660	7.50	0.180	825	8.00	0.340	1650	15.00	0.570	2710	15.70
		725	1.4	0.035	225	6.00	0.069	440	6.00	0.110	660	7.50	0.130	825	8.00	0.260	1650	15.00	0.430	2710	15.70
41	560	2900	5.11	0.130	225	6.00	0.240	440	6.00	0.370	660	7.50	0.470	825	8.00	0.890	1650	15.00	1.610	2710	15.70
		1450	2.55	0.063	225	6.00	0.120	440	6.00	0.180	660	7.50	0.230	825	8.00	0.450	1650	15.00	0.810	2710	15.70
		960	1.69	0.042	225	6.00	0.080	440	6.00	0.120	660	7.50	0.160	825	8.00	0.300	1650	15.00	0.530	2710	15.70
		725	1.27	0.031	225	6.00	0.060	440	6.00	0.090	660	7.50	0.120	825	8.00	0.220	1650	15.00	0.400	2710	15.70
42	630	2900	4.47	0.110	225	6.00	0.220	440	6.00	0.340	660	7.50	0.430	825	8.00	0.820	1650	15.00	1.350	2710	15.70
		1450	2.23	0.055	225	6.00	0.110	440	6.00	0.170	660	7.50	0.220	825	8.00	0.410	1650	15.00	0.680	2710	15.70
		960	1.48	0.037	225	6.00	0.072	440	6.00	0.110	660	7.50	0.140	825	8.00	0.270	1650	15.00	0.450	2710	15.70
		725	1.11	0.028	225	6.00	0.054	440	6.00	0.084	660	7.50	0.110	825	8.00	0.200	1650	15.00	0.340	2710	15.70
43	700	2900	4.12	0.100	225	6.00	0.200	440	6.00	0.290	660	7.50	0.370	825	8.00	0.720	1650	15.00	1.140	2710	15.70
		1450	2.06	0.051	225	6.00	0.100	440	6.00	0.150	660	7.50	0.190	825	8.00	0.360	1650	15.00	0.570	2710	15.70
		960	1.36	0.034	225	6.00	0.065	440	6.00	0.096	660	7.50	0.120	825	8.00	0.240	1650	15.00	0.380	2710	15.70
		725	1.02	0.025	225	6.00	0.049	440	6.00	0.072	660	7.50	0.092	825	8.00	0.180	1650	15.00	0.280	2710	15.70
44	800	2900	3.63	0.090	225	6.00	0.170	440	6.00	0.260	660	7.50	0.330	825	8.00	0.630	1650	15.00	1.070	2710	15.70
		1450	1.82	0.045	225	6.00	0.087	440	6.00	0.130	660	7.50	0.170	825	8.00	0.320	1650	15.00	0.530	2710	15.70
		960	1.2	0.030	225	6.00	0.058	440	6.00	0.086	660	7.50	0.110	825	8.00	0.210	1650	15.00	0.350	2710	15.70
		725	0.9	0.022	225	6.00	0.043	440	6.00	0.065	660	7.50	0.082	825	8.00	0.160	1650	15.00	0.270	2710	15.70
45	900	2900	3.18	0.079	225	6.00	0.160	440	6.00	0.230	660	7.50	0.300	825	8.00	0.570	1650	15.00	0.980	2710	15.70
		1450	1.59	0.039	225	6.00	0.079	440	6.00	0.120	660	7.50	0.150	825	8.00	0.290	1650	15.00	0.490	2710	15.70
		960	1.05	0.026	225	6.00	0.052	440	6.00	0.078	660	7.50	0.099	825	8.00	0.190	1650	15.00	0.320	2710	15.70
		725	0.79	0.020	225	6.00	0.039	440	6.00	0.058	660	7.50	0.074	825	8.00	0.140	1650	15.00	0.240	2710	15.70
46	1000	2900	2.86	0.071	225	6.00	0.140	440	6.00	0.200	660	7.50	0.260	825	8.00	0.500	1650	15.00	0.860	2710	15.70
		1450																			

# Series K Gearboxes : Non-motorised selection

## QUINTUPLE REDUCTION RATINGS SIZES 890 - 895

Ratio Code	Nominal Ratio	Input Speed rpm	Output Speed rpm	890			891			892			893			894			895		
				Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)	Input Power kW	Output Torque Nm	OHL Fra (kN)
49	1400	2900	2.04	0.051	225	6.00	0.099	440	6.00	0.140	660	7.50	0.180	825	8.00	0.350	1650	15.00	0.590	2710	15.70
		1450	1.02	0.025	225	6.00	0.049	440	6.00	0.071	660	7.50	0.091	825	8.00	0.170	1650	15.00	0.290	2710	15.70
		960	0.68	0.017	225	6.00	0.033	440	6.00	0.047	660	7.50	0.060	825	8.00	0.110	1650	15.00	0.200	2710	15.70
		725	0.51	0.013	225	6.00	0.024	440	6.00	0.035	660	7.50	0.045	825	8.00	0.086	1650	15.00	0.150	2710	15.70
50	1600	2900	1.83	0.045	225	6.00	0.088	440	6.00	0.130	660	7.50	0.170	825	8.00	0.310	1650	15.00	0.520	2710	15.70
		1450	0.92	0.023	225	6.00	0.044	440	6.00	0.067	660	7.50	0.085	825	8.00	0.150	1650	15.00	0.260	2710	15.70
		960	0.61	0.015	225	6.00	0.029	440	6.00	0.044	660	7.50	0.056	825	8.00	0.100	1650	15.00	0.170	2710	15.70
51	1800	2900	1.61	0.040	225	6.00	0.079	440	6.00	0.120	660	7.50	0.150	825	8.00	0.270	1650	15.00	0.480	2710	15.70
		1450	0.81	0.020	225	6.00	0.039	440	6.00	0.059	660	7.50	0.076	825	8.00	0.140	1650	15.00	0.240	2710	15.70
		960	0.53	0.013	225	6.00	0.026	440	6.00	0.039	660	7.50	0.050	825	8.00	0.090	1650	15.00	0.160	2710	15.70
52	2000	2900	1.45	0.036	225	6.00	0.071	440	6.00	0.110	660	7.50	0.140	825	8.00	0.260	1650	15.00	0.430	2710	15.70
		1450	0.73	0.018	225	6.00	0.036	440	6.00	0.054	660	7.50	0.069	825	8.00	0.130	1650	15.00	0.220	2710	15.70
		960	0.48	0.012	225	6.00	0.024	440	6.00	0.036	660	7.50	0.045	825	8.00	0.088	1650	15.00	0.140	2710	15.70
53	2200	2900	1.29	0.032	225	6.00	0.062	440	6.00	0.096	660	7.50	0.120	825	8.00	0.230	1650	15.00	0.390	2710	15.70
		1450	0.64	0.016	225	6.00	0.031	440	6.00	0.048	660	7.50	0.061	825	8.00	0.120	1650	15.00	0.200	2710	15.70
		960	0.43	0.011	225	6.00	0.021	440	6.00	0.032	660	7.50	0.040	825	8.00	0.078	1650	15.00	0.130	2710	15.70
54	2500	2900	1.12	0.028	225	6.00	0.057	440	6.00	0.082	660	7.50	0.100	825	8.00	0.200	1650	15.00	0.320	2710	15.70
		1450	0.56	0.014	225	6.00	0.029	440	6.00	0.041	660	7.50	0.052	825	8.00	0.100	1650	15.00	0.160	2710	15.70
		960	0.37	0.009	225	6.00	0.019	440	6.00	0.027	660	7.50	0.035	825	8.00	0.067	1650	15.00	0.110	2710	15.70
55	2800	2900	1.07	0.027	225	6.00	0.050	440	6.00	0.074	660	7.50	0.094	825	8.00	0.180	1650	15.00	0.310	2710	15.70
		1450	0.54	0.013	225	6.00	0.025	440	6.00	0.037	660	7.50	0.047	825	8.00	0.090	1650	15.00	0.150	2710	15.70
		960	0.36	0.009	225	6.00	0.017	440	6.00	0.025	660	7.50	0.031	825	8.00	0.060	1650	15.00	0.100	2710	15.70
56	3200	2900	0.94	0.023	225	6.00	0.042	440	6.00	0.064	660	7.50	0.081	825	8.00	0.150	1650	15.00	0.280	2710	15.70
		1450	0.47	0.012	225	6.00	0.021	440	6.00	0.032	660	7.50	0.041	825	8.00	0.077	1650	15.00	0.140	2710	15.70
		960	0.31	0.008	225	6.00	0.014	440	6.00	0.021	660	7.50	0.027	825	8.00	0.051	1650	15.00	0.091	2710	15.70
57	3600	2900	0.83	0.020	225	6.00	0.040	440	6.00	0.056	660	7.50	0.072	825	8.00	0.140	1650	15.00	0.220	2710	15.70
		1450	0.41	0.010	225	6.00	0.020	440	6.00	0.028	660	7.50	0.036	825	8.00	0.068	1650	15.00	0.110	2710	15.70
		960	0.27	0.007	225	6.00	0.013	440	6.00	0.019	660	7.50	0.024	825	8.00	0.045	1650	15.00	0.074	2710	15.70
58	4000	2900	0.72	0.018	225	6.00	0.035	440	6.00	0.052	660	7.50	0.066	825	8.00	0.130	1650	15.00	0.200	2710	15.70
		1450	0.36	0.009	225	6.00	0.018	440	6.00	0.026	660	7.50	0.033	825	8.00	0.064	1650	15.00	0.100	2710	15.70
		960	0.24	0.006	225	6.00	0.012	440	6.00	0.017	660	7.50	0.022	825	8.00	0.043	1650	15.00	0.068	2710	15.70
59	4500	2900	0.64	0.016	225	6.00	0.031	440	6.00	0.046	660	7.50	0.058	825	8.00	0.110	1650	15.00	0.180	2710	15.70
		1450	0.32	0.008	225	6.00	0.015	440	6.00	0.023	660	7.50	0.029	825	8.00	0.057	1650	15.00	0.092	2710	15.70
		960	0.21	0.005	225	6.00	0.010	440	6.00	0.015	660	7.50	0.019	825	8.00	0.038	1650	15.00	0.061	2710	15.70
60	5000	2900	0.6	0.012	187	6.00	0.030	440	6.00	0.041	660	7.50	0.052	825	8.00	0.100	1650	15.00	0.170	2710	15.70
		1450	0.3	0.006	187	6.00	0.015	440	6.00	0.021	660	7.50	0.026	825	8.00	0.050	1650	15.00	0.084	2710	15.70
		960	0.2	0.004	187	6.00	0.010	440	6.00	0.014	660	7.50	0.017	825	8.00	0.033	1650	15.00	0.056	2710	15.70
61	5600	2900	0.53	0.011	187	6.00	0.027	440	6.00	0.040	660	7.50	0.051	825	8.00	0.100	1650	15.00	0.160	2710	15.70
		1450	0.26	0.005	187	6.00	0.013	440	6.00	0.020	660	7.50	0.026	825	8.00	0.049	1650	15.00	0.082	2710	15.70
		960	0.18	0.004	187	6.00	0.009	440	6.00	0.013	660	7.50	0.017	825	8.00	0.033	1650	15.00	0.054	2710	15.70
62	6300	2900	0.46	0.008	160	6.00	0.023	440	6.00	0.036	660	7.50	0.046	825	8.00	0.087	1650	15.00	0.150	2710	15.70
		1450	0.23	0.004	160	6.00	0.012	440	6.00	0.018	660	7.50	0.023	825	8.00	0.043	1650	15.00	0.075	2710	15.70
		960	0.15	0.003	160	6.00	0.008	440	6.00	0.012	660	7.50	0.015	825	8.00	0.029	1650	15.00	0.050	2710	15.70
63	7100	2900	0.41	0.007	158	6.00	0.021	440	6.00	0.030	605	7.50	0.030	605	8.00	0.064	1360	15.00	0.013	2710	15.70
		1450	0.2	0.004	158	6.00	0.010	440	6.00	0.015	605	7.50	0.015	605	8.00	0.032	1360	15.00	0.065	2710	15.70
		960	0.13	0.002	158	6.00	0.007	440	6.00	0.010	605	7.50	0.010	605	8.00	0.021	1360	15.00	0.043	2710	15.70
		725	0.1	0.002	158	6.00	0.005	440	6.00	0.007	605	7.50	0.007	605	8.00	0.016	1360	15.00	0.032	2710	15.70

## Series K Gearboxes : Non-motorised selection

## QUINTUPLE REDUCTION RATINGS SIZES 896 - 898

Ratio Code	Nominal Ratio	Input Speed Rev/Min	Output Speed Rev/Min	896			897			898		
				Input Power kW	Output Torque Nm	OHL Fra (kN)	Output Torque Nm	Input Power kW	OHL Fra (kN)	Output Torque Nm	Input Power kW	OHL Fra (kN)
32	160	2900	18.02	8.160	4110	34	13.890	7250	43.1	22.470	12100	61.3
		1450	9.01	4.080	4110	34	6.940	7250	43.1	11.230	12100	61.3
		960	5.97	2.700	4110	34	4.600	7250	43.1	7.440	12100	61.3
		725	4.47	2.030	4110	34	3.450	7250	43.1	5.580	12100	61.3
33	200	2900	12.82	6.070	4300	34	10.030	7250	43.1	14.390	12100	61.3
		1450	6.41	3.040	4300	34	5.010	7250	43.1	7.190	12100	61.3
		960	4.24	2.010	4300	34	3.320	7250	43.1	4.760	12100	61.3
		725	3.18	1.510	4300	34	2.490	7250	43.1	3.570	12100	61.3
34	250	2900	11.44	5.180	4110	34	8.930	7250	43.1	16.220	12100	61.3
		1450	5.72	2.590	4110	34	4.460	7250	43.1	8.110	12100	61.3
		960	3.79	1.710	4110	34	2.960	7250	43.1	5.370	12100	61.3
		725	2.84	1.290	4110	34	2.220	7250	43.1	4.030	12100	61.3
35	280	2900	10.29	4.880	4300	34	8.120	7250	43.1	12.810	12100	61.3
		1450	5.15	2.440	4300	34	4.060	7250	43.1	6.400	12100	61.3
		960	3.41	1.610	4300	34	2.690	7250	43.1	4.240	12100	61.3
		725	2.56	1.210	4300	34	2.020	7250	43.1	3.180	12100	61.3
36	320	2900	9.72	4.610	4300	34	7.310	7250	43.1	11.650	12100	61.3
		1450	4.86	2.300	4300	34	3.650	7250	43.1	5.830	12100	61.3
		960	3.22	1.530	4300	34	2.420	7250	43.1	3.860	12100	61.3
		725	2.41	1.140	4300	34	1.810	7250	43.1	2.890	12100	61.3
37	360	2900	8.75	3.970	4110	34	6.220	7250	43.1	10.050	12100	61.3
		1450	4.38	1.980	4110	34	3.110	7250	43.1	5.030	12100	61.3
		960	2.9	1.310	4110	34	2.060	7250	43.1	3.330	12100	61.3
		725	2.17	0.980	4110	34	1.540	7250	43.1	2.500	12100	61.3
38	400	2900	7.22	3.270	4110	34	5.590	7250	43.1	8.840	12100	61.3
		1450	3.61	1.640	4110	34	2.800	7250	43.1	4.420	12100	61.3
		960	2.39	1.080	4110	34	1.850	7250	43.1	2.930	12100	61.3
		725	1.79	0.810	4110	34	1.390	7250	43.1	2.200	12100	61.3
39	450	2900	6.37	3.020	4300	34	4.920	7250	43.1	7.840	12100	61.3
		1450	3.18	1.510	4300	34	2.460	7250	43.1	3.920	12100	61.3
		960	2.11	1.000	4300	34	1.630	7250	43.1	2.600	12100	61.3
		725	1.58	0.750	4300	34	1.220	7250	43.1	1.950	12100	61.3
40	500	2900	5.93	2.810	4300	34	4.500	7250	43.1	7.280	12100	61.3
		1450	2.97	1.410	4300	34	2.250	7250	43.1	3.640	12100	61.3
		960	1.96	0.930	4300	34	1.490	7250	43.1	2.410	12100	61.3
		725	1.47	0.700	4300	34	1.120	7250	43.1	1.810	12100	61.3
41	560	2900	5.15	2.330	4110	34	4.090	7250	43.1	6.620	12100	61.3
		1450	2.58	1.170	4110	34	2.050	7250	43.1	3.310	12100	61.3
		960	1.71	0.770	4110	34	1.350	7250	43.1	2.190	12100	61.3
		725	1.28	0.580	4110	34	1.020	7250	43.1	1.640	12100	61.3
42	630	2900	4.43	2.010	4110	34	3.560	7250	43.1	5.760	12100	61.3
		1450	2.22	1.000	4110	34	1.780	7250	43.1	2.880	12100	61.3
		960	1.47	0.660	4110	34	1.180	7250	43.1	1.910	12100	61.3
		725	1.1	0.500	4110	34	0.880	7250	43.1	1.430	12100	61.3
43	700	2900	3.99	1.810	4110	34	3.210	7250	43.1	5.110	12100	61.3
		1450	1.99	0.900	4110	34	1.600	7250	43.1	2.560	12100	61.3
		960	1.32	0.600	4110	34	1.060	7250	43.1	1.690	12100	61.3
		725	0.99	0.450	4110	34	0.800	7250	43.1	1.270	12100	61.3
44	800	2900	3.68	1.740	4300	34	2.960	7250	43.1	4.860	12300	61.3
		1450	1.84	0.870	4300	34	1.480	7250	43.1	2.430	12300	61.3
		960	1.22	0.580	4300	34	0.980	7250	43.1	1.610	12300	61.3
		725	0.913	0.430	4300	34	0.730	7250	43.1	1.210	12300	61.3
45	900	2900	3.08	1.460	4300	34	2.560	7250	43.1	4.090	12100	61.3
		1450	1.54	0.730	4300	34	1.280	7250	43.1	2.040	12100	61.3
		960	1.02	0.480	4300	34	0.850	7250	43.1	1.350	12100	61.3
		725	0.766	0.360	4300	34	0.640	7250	43.1	1.010	12100	61.3
46	1000	2900	2.82	1.280	4110	34	2.370	7250	43.1	3.890	12300	61.3
		1450	1.41	0.640	4110	34	1.180	7250	43.1	1.940	12300	61.3
		960	0.934	0.420	4110	34	0.780	7250	43.1	1.290	12300	61.3
		725	0.701	0.320	4110	34	0.590	7250	43.1	0.960	12300	61.3
47	1100	2900	2.6	1.230	4300	34	1.980	7250	43.1	3.450	12300	61.3
		1450	1.3	0.620	4300	34	0.990	7250	43.1	1.720	12300	61.3
		960	0.861	0.410	4300	34	0.660	7250	43.1	1.140	12300	61.3
		725	0.646	0.310	4300	34	0.490	7250	43.1	0.860	12300	61.3
48	1200	2900	2.44	1.160	4300	34	1.830	7250	43.1	3.160	12100	61.3
		1450	1.22	0.580	4300	34	0.910	7250	43.1	1.580	12100	61.3
		960	0.807	0.380	4300	34	0.600	7250	43.1	1.040	12100	61.3
		725	0.605	0.290	4300	34	0.450	7250	43.1	0.780	12100	61.3
49	1400	2900	1.96	0.930	4300	34	1.580	7250	43.1	2.590	12300	61.3
		1450	0.98	0.470	4300	34	0.790	7250	43.1	1.290	12300	61.3
		960	0.65	0.310	4300	34	0.520	7250	43.1	0.860	12300	61.3
		725	0.488	0.230	4300	34	0.390	7250	43.1	0.640	12300	61.3
50	1600	2900	1.77	0.840	4300	34	1.420	7250	43.1	2.300	12300	61.3
		1450	0.884	0.420	4300	34	0.710	7250	43.1	1.150	12300	61.3
		960	0.585	0.280	4300	34	0.470	7250	43.1	0.760	12300	61.3
		725	0.439	0.210	4300	34	0.350	7250	43.1	0.570	12300	61.3



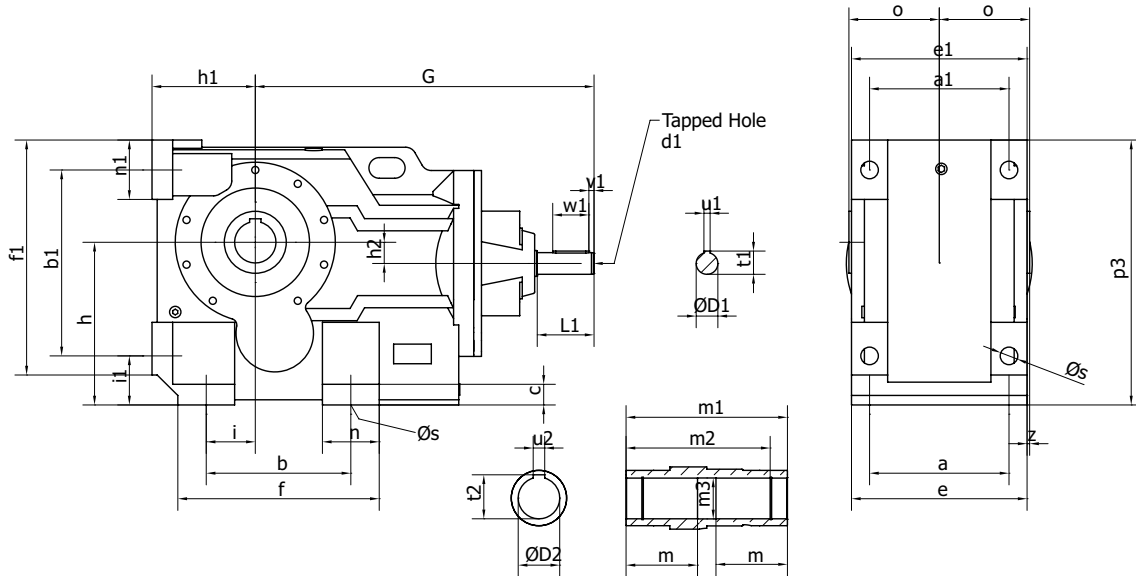
# Series K Gearboxes : Non-motorised selection

## QUINTUPLE REDUCTION RATINGS SIZES 896 - 898

Ratio Code	Nominal Ratio	Input Speed Rev/Min	Output Speed Rev/Min	896			897			898		
				Input Power kW	Output Torque Nm	OHL Fra (kN)	Output Torque Nm	Input Power kW	OHL Fra (kN)	Output Torque Nm	Input Power kW	OHL Fra (kN)
51	1800	2900	1.67	0.790	4300	34	1.320	7250	43.1	2.170	12300	61.3
		1450	0.833	0.390	4300	34	0.660	7250	43.1	1.090	12300	61.3
		960	0.551	0.260	4300	34	0.440	7250	43.1	0.720	12300	61.3
		725	0.413	0.200	4300	34	0.330	7250	43.1	0.540	12300	61.3
52	2000	2900	1.5	0.710	4300	34	1.190	7250	43.1	1.930	12300	61.3
		1450	0.75	0.360	4300	34	0.590	7250	43.1	0.960	12300	61.3
		960	0.496	0.240	4300	34	0.390	7250	43.1	0.640	12300	61.3
		725	0.372	0.180	4300	34	0.300	7250	43.1	0.480	12300	61.3
53	2200	2900	1.37	0.650	4300	34	1.090	7250	43.1	1.760	12300	61.3
		1450	0.684	0.320	4300	34	0.540	7250	43.1	0.880	12300	61.3
		960	0.453	0.210	4300	34	0.360	7250	43.1	0.580	12300	61.3
		725	0.34	0.160	4300	34	0.270	7250	43.1	0.440	12300	61.3
54	2500	2900	1.12	0.530	4300	34	0.900	7250	43.1	1.470	12300	61.3
		1450	0.559	0.260	4300	34	0.450	7250	43.1	0.730	12300	61.3
		960	0.37	0.180	4300	34	0.300	7250	43.1	0.490	12300	61.3
		725	0.277	0.130	4300	34	0.220	7250	43.1	0.360	12300	61.3
55	2800	2900	1.06	0.500	4300	34	0.830	7250	43.1	1.360	12300	61.3
		1450	0.531	0.250	4300	34	0.420	7250	43.1	0.680	12300	61.3
		960	0.351	0.170	4300	34	0.280	7250	43.1	0.450	12300	61.3
		725	0.263	0.120	4300	34	0.210	7250	43.1	0.340	12300	61.3
56	3200	2900	0.969	0.460	4300	34	0.760	7250	43.1	1.240	12300	61.3
		1450	0.485	0.230	4300	34	0.380	7250	43.1	0.620	12300	61.3
		960	0.321	0.150	4300	34	0.250	7250	43.1	0.410	12300	61.3
		725	0.241	0.110	4300	34	0.190	7250	43.1	0.310	12300	61.3
57	3600	2900	0.791	0.370	4300	34	0.630	7250	43.1	1.040	12300	61.3
		1450	0.395	0.190	4300	34	0.320	7250	43.1	0.520	12300	61.3
		960	0.262	0.120	4300	34	0.210	7250	43.1	0.340	12300	61.3
		725	0.196	0.090	4300	34	0.160	7250	43.1	0.260	12300	61.3
58	4000	2900	0.716	0.340	4300	34	0.550	7250	43.1	0.930	12300	61.3
		1450	0.358	0.170	4300	34	0.280	7250	43.1	0.470	12300	61.3
		960	0.237	0.110	4300	34	0.180	7250	43.1	0.310	12300	61.3
		725	0.178	0.080	4300	34	0.140	7250	43.1	0.230	12300	61.3
59	4500	2900	0.643	0.300	4300	34	0.480	7250	43.1	0.810	12300	61.3
		1450	0.321	0.150	4300	34	0.240	7250	43.1	0.400	12300	61.3
		960	0.213	0.100	4300	34	0.160	7250	43.1	0.270	12300	61.3
		725	0.16	0.076	4300	34	0.120	7250	43.1	0.200	12300	61.3
60	5000	2900	0.573	0.270	4300	34	0.430	7250	43.1	0.760	12100	61.3
		1450	0.287	0.140	4300	34	0.220	7250	43.1	0.380	12100	61.3
		960	0.19	0.090	4300	34	0.140	7250	43.1	0.250	12100	61.3
		725	0.142	0.067	4300	34	0.110	7250	43.1	0.190	12100	61.3
61	5600	2900	0.501	0.230	4110	34	0.400	7250	43.1	0.660	12100	61.3
		1450	0.25	0.110	4110	34	0.200	7250	43.1	0.330	12100	61.3
		960	0.166	0.075	4110	34	0.130	7250	43.1	0.220	12100	61.3
		725	0.124	0.056	4110	34	0.100	7250	43.1	0.160	12100	61.3
62	6300	2900	0.467	0.220	4300	34	0.350	7250	43.1	0.590	12300	61.3
		1450	0.234	0.110	4300	34	0.180	7250	43.1	0.300	12300	61.3
		960	0.155	0.073	4300	34	0.120	7250	43.1	0.200	12300	61.3
		725	0.116	0.055	4300	34	0.088	7250	43.1	0.150	12300	61.3
63	7100	2900	0.415	0.200	4300	34	0.320	7250	43.1	0.560	12300	61.3
		1450	0.208	0.100	4300	34	0.160	7250	43.1	0.280	12300	61.3
		960	0.138	0.065	4300	34	0.110	7250	43.1	0.180	12300	61.3
		725	0.103	0.049	4300	34	0.079	7250	43.1	0.140	12300	61.3

## Series K Gearboxes : Non-motorised dimensions

## TRIPLE REDUCTION



## TRIPLE REDUCTION

Unit Size	Base Feet								End Feet								h2	o	p3	$\varnothing s$	z	Hollow Bore Output Details						
	a	b	e	f	h	n	c	i	a1	b1	e1	f1	h1	n1	i1	$\varnothing D2$						t2	u2	m	m1	m2	m3	
890	100	110	120	143	100	38	11	28	100	115	120	152	63	38	32	16	60	167	11	0	30	33.5	8	52.5	120	105	30.3	
891	120	130	145	168	112	38	16	35	120	130	145	171	71	40	37	13	75	187	11	2.5	35	38.5	10	66.0	150	132	35.3	
892	130	130	157	170	132	40	15	30	130	150	157	192	80	40	45	5	83	217	14	4.5	40	43.5	12	73.0	166	142	40.3	
893	140	120	170	176	140	55	20	30	140	160	170	208	90	48	45	13	90	233	14	5.0	40	43.5	12	80.0	180	156	40.3	
894	165	150	200	210	180	60	27	40	165	200	200	263	112	55	55	25	105	288	18	5.0	50	54.0	14	92.5	210	183	50.5	
895	180	180	230	256	212	76	30	55	180	233	230	309	132	76	70	15	120	341	23	5.0	60	64.5	18	105.0	240	210	60.5	
896	240	240	290	340	265	100	35	75	240	295	290	395	160	100	75	10	150	420	27	5.0	70	75.0	20	132.5	300	270	70.5	
897	270	280	340	390	315	110	40	95	270	360	340	455	200	115	95	41	175	513	34	5.0	80	85.5	22	155.0	350	313	80.5	
898	330	350	400	470	375	120	45	115	330	420	400	540	225	120	110	65	205	590	39	5.0	100	106.5	28	180.0	410	373	100.5	

## INPUT SHAFT

Unit Size	Input Shaft Details									
	$\varnothing D1$	L1	t1	u1	v1	w1	d1	G	kg	
890	16 k6	40	18.0	5	4	32	M5 x 0.8 x 12 deep	270	16	
891	16 k6	40	18.0	5	4	32	M5 x 0.8 x 12 deep	290	21	
892	19 k6	40	21.5	6	4	32	M6 x 1.0 x 16 deep	330	32	
893	19 k6	40	21.5	6	4	32	M6 x 1.0 x 16 deep	340	40	
894	24 k6	50	27.0	8	5	40	M8 x 1.25 x 19 deep	380	61	
895	28 k6	60	31.0	8	5	50	M10 x 1.5 x 22 deep	490	113	
896	38 k6	80	41.0	10	5	70	M12 x 1.75 x 28 deep	550	174	
897	42 k6	110	45.0	12	10	70	M16 x 2.0 x 36 deep	656	306	
898	55 k6	110	59.0	16	10	90	M20 x 2.5 x 42 deep	762	458	

\* For Motor Dimensions X,Y and Z please refer to motor tables on page 314

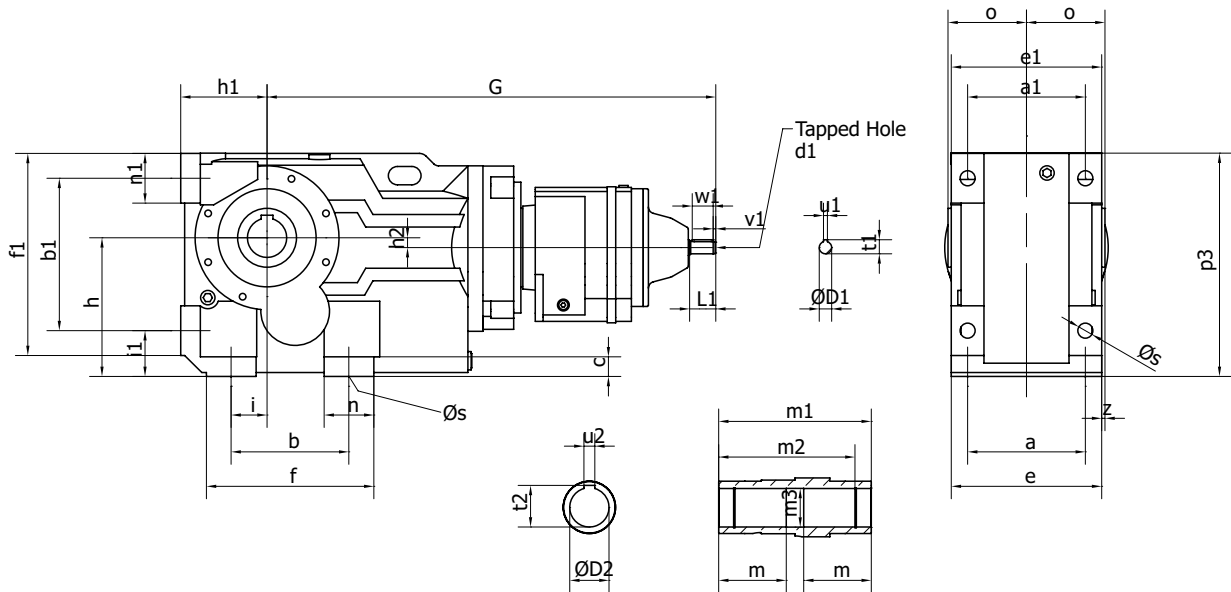
## FIXING BOLTS\*\*

Unit Size	Bolt Size	Tightening Torque
890	4 x M10 x 25mm long	Tighten to - 50Nm
891	4 x M10 x 30mm long	Tighten to - 50Nm
892	4 x M12 x 35mm long	Tighten to - 85Nm
893	4 x M12 x 40mm long	Tighten to - 85Nm
894	4 x M16 x 50mm long	Tighten to - 200Nm
895	4 x M20 x 60mm long	Tighten to - 350Nm
896	4 x M24 x 70mm long	Tighten to - 610Nm
897	4 x M30 x 80mm long	Tighten to - 1220Nm
898	4 x M36 x 100mm long	Tighten to - 2150Nm

\*\* ISO Grade 8.8

# Series K Gearboxes : Non-motorised dimensions

## QUINTUPLE REDUCTION



## QUINTUPLE REDUCTION

Unit Size	Base Feet								End Feet								h2	o	p3	$\varnothing_s$	z	Hollow Bore Output Details						
	a	b	e	f	h	n	c	i	a1	b1	e1	f1	h1	n1	i1	$\varnothing_2$						t2	u2	m	m1	m2	m3	
890	100	110	120	143	100	38	11	28	100	115	120	152	63	38	32	16	60	167	11	0	30	33.5	8	52.5	120	105	30.3	
891	120	130	145	168	112	38	16	35	120	130	145	171	71	40	37	13	75	187	11	2.5	35	38.5	10	66.0	150	132	35.3	
892	130	130	157	170	132	40	15	30	130	150	157	192	80	40	45	5	83	217	14	4.5	40	43.5	12	73.0	166	142	40.3	
893	140	120	170	176	140	55	20	30	140	160	170	208	90	48	45	13	90	233	14	5.0	40	43.5	12	80.0	180	156	40.3	
894	165	150	200	210	180	60	27	40	165	200	200	263	112	55	55	25	105	288	18	5.0	50	54.0	14	92.5	210	183	50.5	
895	180	180	230	256	212	76	30	55	180	233	230	309	132	76	70	15	120	341	23	5.0	60	64.5	18	105.0	240	210	60.5	
896	240	240	290	340	265	100	35	75	240	295	290	395	160	100	75	10	150	420	27	5.0	70	75.0	20	132.5	300	270	70.5	
897	270	280	340	390	315	110	40	95	270	360	340	455	200	115	95	41	175	513	34	5.0	80	85.5	22	155.0	350	313	80.5	
898	330	350	400	470	375	120	45	115	330	420	400	540	225	120	110	65	205	590	39	5.0	100	106.5	28	180.0	410	373	100.5	

## INPUT SHAFT

Unit Size	Input Shaft Details									
	$\varnothing D_1$	L1	t1	u1	v1	w1	d1	G	kg	
890	16 k6	40	18.0	5	4	32	M5 x 0.8 x 12 deep	567	24	
891	16 k6	40	18.0	5	4	32	M5 x 0.8 x 12 deep	587	29	
892	16 k6	40	18.0	5	4	32	M5 x 0.8 x 12 deep	643	43	
893	16 k6	40	18.0	5	4	32	M5 x 0.8 x 12 deep	653	51	
894	16 k6	40	18.0	5	4	32	M5 x 0.8 x 12 deep	690	70	
895	19 k6	40	21.5	6	4	32	M6 x 1.0 x 16 deep	797	139	
896	19 k6	40	21.5	6	4	32	M6 x 1.0 x 16 deep	833	197	
897	24 k6	50	27.0	8	5	40	M8 x 1.25 x 19 deep	945	321	
898	24 k6	50	27.0	8	5	40	M8 x 1.25 x 19 deep	1047	485	

## FIXING BOLTS\*\*

Unit Size	Bolt Size	Tightening Torque
890	4 x M10 x 25mm long	Tighten to - 50Nm
891	4 x M10 x 30mm long	Tighten to - 50Nm
892	4 x M12 x 35mm long	Tighten to - 85Nm
893	4 x M12 x 40mm long	Tighten to - 85Nm
894	4 x M16 x 50mm long	Tighten to - 200Nm
895	4 x M20 x 60mm long	Tighten to - 350Nm
896	4 x M24 x 70mm long	Tighten to - 610Nm
897	4 x M30 x 80mm long	Tighten to - 1220Nm
898	4 x M36 x 100mm long	Tighten to - 2150Nm

## Series K Gearboxes : Exact Ratios

## EXACT RATIOS

Ratio Code	Nominal Ratio	Nominal Output Speed	Gear Unit Size								
			890	891	892	893	894	895	896	897	898
01	8	173	8.328	8.054	8.112	7.961	8.595	8.128	8.035	8.263	8.513
02	10	143	-	-	-	-	-	-	9.681	9.946	10.256
03	11	125	11.250	11.296	11.405	11.192	11.906	11.522	11.061	11.542	11.799
04	12	112	12.796	12.448	12.783	12.545	13.374	12.800	12.398	12.553	12.96
05	14	101	14.497	14.135	14.349	14.081	14.705	14.238	13.328	13.893	14.214
06	16	94	-	-	-	-	-	-	14.938	15.11	15.613
07	18	78	18.540	17.953	18.222	17.882	19.208	18.410	17.933	18.571	18.203
08	20	70	19.980	20.396	20.657	20.272	21.838	20.668	20.035	20.05	20.166
09	22	65	-	-	-	-	-	-	21.608	22.354	21.93
10	25	57	25.225	25.031	24.636	24.177	26.518	25.345	24.140	24.134	24.294
11	28	50	28.597	27.762	28.367	27.838	29.170	28.560	27.777	29.239	28.995
12	32	44	32.679	31.539	32.993	32.378	33.519	33.244	31.672	33.099	32.831
13	36	40	36.352	35.834	36.913	36.225	38.009	36.877	33.469	35.195	34.931
14	40	36	40.078	39.461	39.343	38.610	41.923	40.357	38.162	39.841	39.553
15	45	31	44.107	45.390	46.627	45.758	48.011	45.657	44.892	45.366	46.81
16	50	28	51.676	49.347	49.784	48.855	54.284	51.537	49.875	50.412	52.764
17	56	26	-	-	-	-	-	-	54.091	54.607	56.394
18	63	23	61.997	59.241	61.777	60.625	62.936	62.475	60.095	60.681	63.567
19	71	20	72.268	71.089	72.848	71.489	75.066	72.857	70.450	71.889	74.616
20	80	18	80.298	80.100	79.767	78.279	82.205	80.031	77.775	82.832	83.103
21	90	16	-	-	-	-	-	-	84.887	86.533	89.893
22	100	15	96.696	93.116	97.757	95.934	98.646	98.077	93.713	99.705	100.119
23	112	13	110.833	105.688	108.958	106.926	113.496	107.100	106.992	112.026	113.789
24	125	12	125.960	120.150	122.196	119.917	126.107	123.327	120.310	120.359	121.064
25	140	11	-	-	-	-	-	-	128.917	134.846	137.087
26	160	10	-	-	-	-	-	-	144.964	144.876	145.852
30	<b>125</b>	<b>12</b>	128	134	118	116	120	132	-	-	-
31	<b>140</b>	<b>11</b>	145	148	143	140	133	145	-	-	-
32	<b>160</b>	<b>10</b>	165	170	157	154	147	164	161	167	172
33	<b>200</b>	<b>6.6</b>	211	200	208	204	211	203	226	226	269
34	<b>250</b>	<b>5.8</b>	227	258	264	259	233	228	254	260	238
35	<b>280</b>	<b>5.0</b>	287	284	300	294	265	268	282	285	302
36	<b>320</b>	<b>4.5</b>	325	322	316	310	305	297	298	317	332
37	<b>360</b>	<b>4.0</b>	371	355	351	344	374	337	331	373	385
38	<b>400</b>	<b>3.5</b>	413	407	399	391	415	401	402	414	437
39	<b>450</b>	<b>3.1</b>	455	448	453	445	466	462	455	471	493
40	<b>500</b>	<b>2.8</b>	516	508	499	489	513	506	489	515	531
41	<b>560</b>	<b>2.5</b>	568	581	574	563	590	538	563	566	584
42	<b>630</b>	<b>2.2</b>	649	646	624	612	641	641	655	651	671
43	<b>700</b>	<b>2.0</b>	704	712	725	712	737	760	727	723	757
44	<b>800</b>	<b>1.8</b>	798	808	812	797	836	811	789	783	809
45	<b>900</b>	<b>1.6</b>	912	891	899	882	924	888	940	904	946
46	<b>1000</b>	<b>1.4</b>	1015	1000	1045	1026	1062	1007	1028	980	1012
47	<b>1100</b>	<b>1.2</b>	1119	1102	1169	1147	1204	1102	1115	1171	1140
48	<b>1200</b>	<b>1.2</b>	1183	1267	1231	1208	1267	1246	1190	1268	1226
49	<b>1400</b>	<b>1.0</b>	1423	1427	1477	1449	1521	1470	1477	1470	1519
50	<b>1600</b>	<b>0.87</b>	1583	1606	1577	1548	1720	1659	1641	1634	1712
51	<b>1800</b>	<b>0.79</b>	1800	1784	1777	1744	1938	1817	1741	1754	1811
52	<b>2000</b>	<b>0.71</b>	2000	2250	1957	1920	1994	2011	1935	1949	2042
53	<b>2200</b>	<b>0.65</b>	2250	2265	2205	2164	2246	2202	2118	2134	2236
54	<b>2500</b>	<b>0.55</b>	2579	2463	2563	2515	2611	2699	2596	2561	2683
55	<b>2800</b>	<b>0.51</b>	2699	2799	2847	2794	2934	2821	2733	2779	2887
56	<b>3200</b>	<b>0.45</b>	3094	3360	3310	3248	3411	3147	2992	3044	3162
57	<b>3600</b>	<b>0.38</b>	3516	3548	3757	3686	3871	3853	3667	3652	3794
58	<b>4000</b>	<b>0.35</b>	4007	3998	4056	3981	4093	4237	4048	4208	4226
59	<b>4500</b>	<b>0.31</b>	4554	4543	4604	4518	4646	4722	4512	4842	4862
60	<b>5000</b>	<b>0.28</b>	4826	4647	5131	5036	5281	5157	5060	5380	5110
61	<b>5600</b>	<b>0.26</b>	5485	5281	5234	5136	5345	5296	5793	5845	5879
62	<b>6300</b>	<b>0.23</b>	6286	5994	5833	5725	6076	5783	6207	6548	6657
63	<b>7100</b>	<b>0.21</b>	7144	6815	6542	6420	6752	6660	6980	7276	7083

Bold print denotes quintuple reduction gearbox.



# Series K Gearboxes : Overhung Load Capacities

## ALLOWABLE OVERHUNG LOADS

Units are fitted with input and output bearings of ample proportions to cater for the radial and thrust loads imposed by the gears, leaving sufficient capacity for taking additional overhung loads. The calculated overhung load should be compared with the value in the selection tables.

These values may be exceeded at lower input speeds or if limited bearing lives are acceptable. In cases where higher overhung load capacities are necessary consult your distributor, quoting details of power, speed, direction of gearbox rotation, angle of application of load, distance of load application from gearbox and acceptable bearing life.

Permissible overhung loads vary according to the direction of rotation. The values tabulated are for the most unfavourable direction with the unit transmitting full rated power and the load applied midway along the shaft extension. Hence they can sometimes be increased for a more favourable direction of rotation, or if the power transmitted is less than the rated capacity of the gear unit, or if the load is applied nearer to the gear unit case. Refer to your Distributor for further details.

In any event, the sprocket, pulley or gear etc. should be positioned as close as possible to the gear unit case in order to reduce bearing loads and shaft stresses, and to prolong the life of the bearing. All units will accept a 100% momentary overload on stated capacities.

To determine the overhung load when a sprocket, gear or 'V' pulley is fitted to the output shaft, one of the following formulae may be used in the absence of accurate information.

### (1) Calculation on the basis of Torque

$$\text{Overhung load (N)} = \frac{M_2 \times 1000 \times K}{r}$$

### (2) Calculation on a basis of Power

$$\text{Overhung load (N)} = \frac{P_2 \times 9550 \times 1000 \times K}{n_2 \times r}$$

Where:

- M<sub>2</sub> = Absorbed torque at shaft in Nm.
- P<sub>2</sub> = Absorbed power in kW.
- r = Pitch radius of sprocket, gear or 'V' pulley in mm.
- n<sub>2</sub> = Rev/min of shaft.
- K = Application factor -  
1.00 for a sprocket  
1.25 for a gear or timing pulley  
1.50 for a 'V' pulley

Overhung loads may be reduced by one of the following methods:

- (1) Increase the diameter of the sprocket, gear or pulley within reasonable limits.
- (2) Mount the sprocket, gear or pulley on a separate shaft, supported on its own bearings and couple it to the gear unit output shaft by means of a Fenner shaft coupling.
- (3) Use a special extended output shaft and support the free end with an outrigger bearing.

### Axial Thrust Capacities (N)

No check or calculation is required for axial loads towards or away from the unit up to 50% of the permissible overhung load. If the axial thrust exceeds these values or if there is a combination of axial thrust loads and overhung loads please refer to your local Authorised Distributor.

## DISTANCE MIDWAY ALONG SHAFT EXTENSION

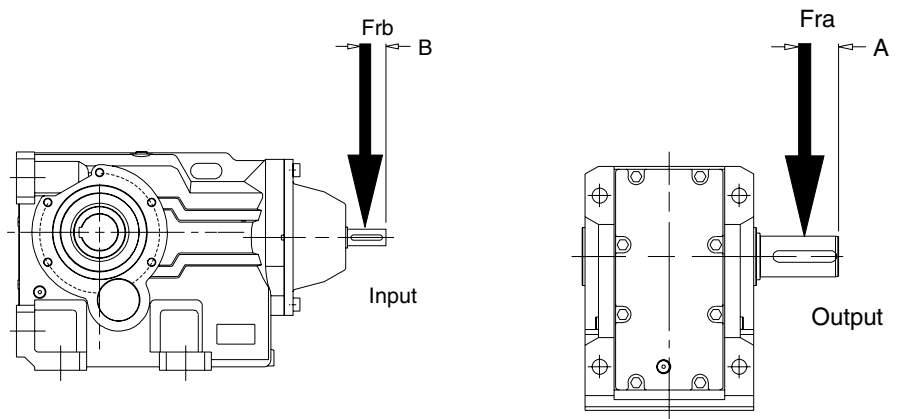
Unit Size	No. of Reductions	Dimension A (mm)	Dimension B (mm)
890	3	23.5	20
	5	23.5	20
891	3	28	20
	5	28	20
892	3	33	20
	5	33	20
893	3	38	20
	5	38	20
894	3	47.5	25
	5	47.5	20
895	3	50	30
	5	50	20
896	3	55	40
	5	55	20
897	3	70	55
	5	70	25
898	3	90	55
	5	90	25

## ALLOWABLE INPUT SHAFT OVERHUNG LOADS

F<sub>rb</sub> (KN) @1450 Rev/Min.

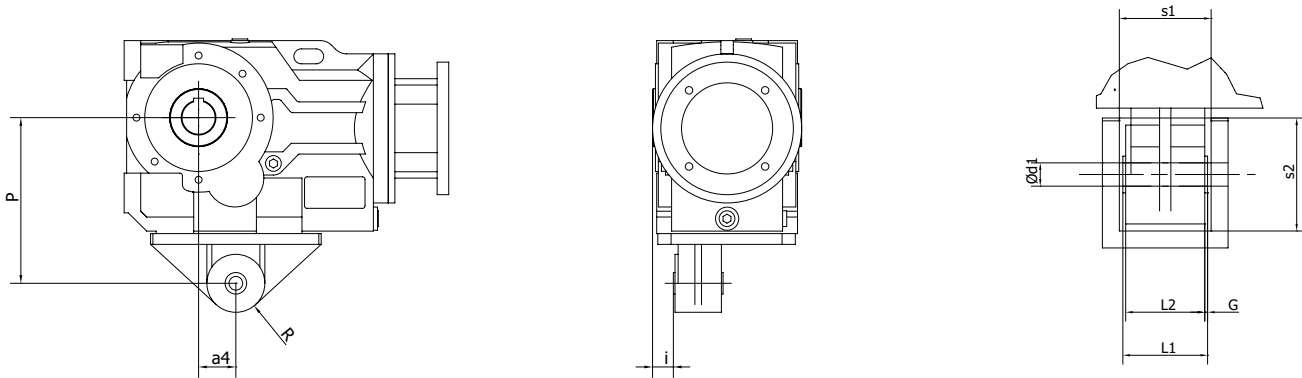
Unit Size	2 Stage	3 Stage
890	1.5	1.5
891	1.5	1.5
892	1.25	1.5
893	1.05	1.5
894	2.1	1.5
895	3.1	1.5
896	3.5	1.5
897	4.5	1.8
898	12	1.8

\*For Output Shaft Overhung Load Capacities see the relevant selection tables



## Series K Gearboxes : Accessories

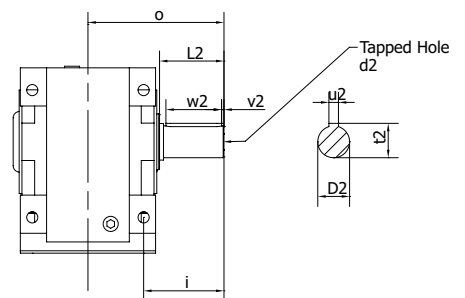
## TORQUE ARM



Unit Size	P	a4	d1	R	i	l1	l2	G	s1	s2	kg	Part Number
890	140	23.5	10.5/10.3	20	20	36	32	2	41	50	1.0	890A9600
891	160	30.0	10.5/10.3	20	20	36	32	2	41	50	2.0	891A9600
892	192	40.0	16.5/16.3	35	18	60	56	2	65	80	3.8	892A9600
893	200	45.0	16.5/16.3	35	25	60	56	2	65	80	4.1	893A9600
894	250	52.5	16.5/16.3	35	25	60	56	2	65	80	6.3	894A9600
895	300	60.0	25.25/24.75	40	30	80	70	5	85	95	14.0	895A9600
896	350	70.0	25.25/24.75	40	40	100	90	5	105	95	18.0	896A9600
897	450	74.0	25.25/24.75	40	45	100	90	5	105	95	27.0	897A9600
898	550	60.0	38.25/37.75	58	10	126	110	8	131	130	32.0	898A9600

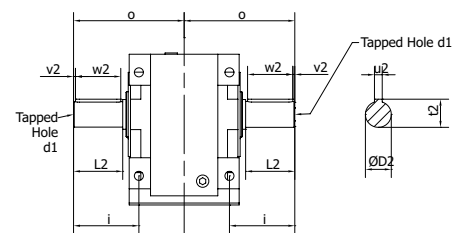
## SINGLE OUTPUT SHAFT

Unit Size	ØD2	L2	t2	u2	v2	w2	i	o	d1	kg	Part Number
890	25	47	28.0	8	3	40	60.0	110	M10x1.5 x 22	0.7	890A9700
891	30	56	33.0	8	3	50	75.0	135	M12x1.75 x 28	1.1	891A9700
892	35	66	38.0	10	3	56	88.0	153	M16x2.0 x 38	1.3	892A9700
893	40	76	43.0	12	3	70	101.0	171	M16x2.0 x 38	1.8	893A9700
894	50	95	53.5	14	3	80	123.5	206	M16x2.0 x 38	3.5	894A9700
895	60	114	64.0	18	3	100	150.0	240	M20x2.5 x 42	6.1	895A9700
896	70	135	74.5	20	3	110	171.0	291	M20x2.5 x 42	10.8	896A9700
897	90	172	95.0	25	5	140	212.0	347	M20x2.5 x 42	18.5	897A9700
898	110	213	116.0	28	5	180	253.0	418	M24x3.0 x 55	34.6	898A9700

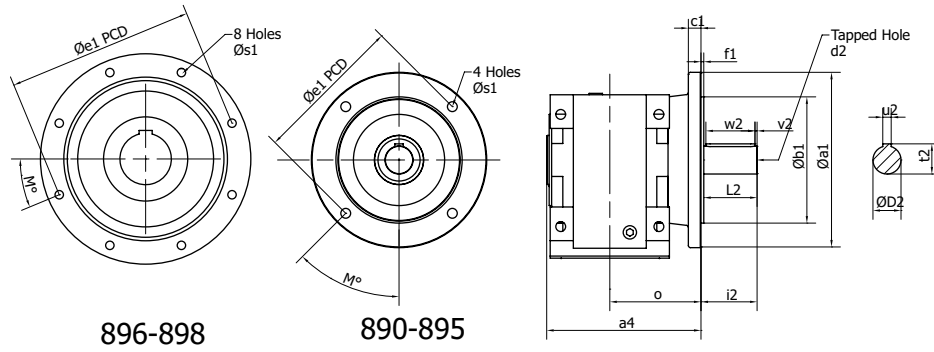


## DOUBLE OUTPUT SHAFT

Unit Size	ØD2	L2	t2	u2	v2	w2	i	o	d1	kg	Part Number
890	25	47	28.0	8	3	40	60.0	110	M10x1.5 x 22	1.0	890A9800
891	30	56	33.0	8	3	50	75.0	135	M12x1.75 x 28	1.7	891A9800
892	35	66	38.0	10	3	56	88.0	153	M16x2.0 x 38	2.5	892A9800
893	40	76	43.0	12	3	70	101.0	171	M16x2.0 x 38	3.1	893A9800
894	50	95	53.5	14	3	80	123.5	206	M16x2.0 x 38	5.9	894A9800
895	60	114	64.0	18	3	100	150.0	240	M20x2.5 x 42	9.0	895A9800
896	70	135	74.5	20	3	110	171.0	291	M20x2.5 x 42	18.0	896A9800
897	75	163	79.5	20	5	110	203.0	347	M20x2.5 x 42	25.0	897A9800
898	95	200	100.0	25	5	140	240.0	418	M20x2.5 x 42	50.0	898A9800



Series K Gearboxes : Accessories



OUTPUT FLANGE

Unit Size	Øa1	b1	e1	f1	c1	o	a4	M°	s1	kg	Part Number
890	160	110 j6	130	3.5	10	84	144	45°	4 holes Ø9	1.3	871A9900
891	200	130 j6	165	3.5	12	115	190	45°	4 holes Ø11	2.8	872A9900
892	250	180 j6	215	4.0	16	106	189	45°	4 holes Ø14	4.0	892A9300
893	250	180 j6	215	4.0	18	130	220	45°	4 holes Ø14	5.4	893A9300
894	250*	180 j6	215	4.0	18	142	247	45°	4 holes Ø14	5.4	893A9300
	300	230 j6	265	4.0	18	142	247	45°	4 holes Ø14	7.0	894A9300
895	350	250 h6	300	5.0	18	165	285	45°	4 holes Ø18	15.0	875A9900
896	450	350 h6	400	5.0	20	201	351	22.5°	8 holes Ø18	17.0	876A9900
897	450	350 h6	400	5.0	22	405	410	22.5°	8 holes Ø18	26.0	877A9900
898	450	350 h6	400	5.0	22	478	473	22.5°	8 holes Ø18	26.0	877A9900

EXTENDED OUTPUT SHAFT DIMENSIONS

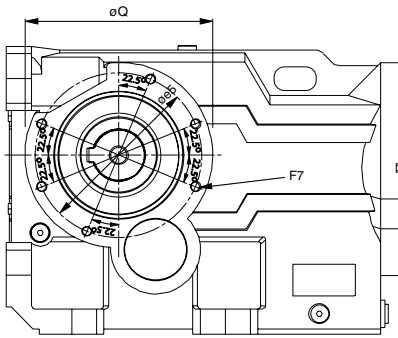
Unit Size	ØD2	L2	v2	w2	i2	t2	u2	d2	kg	Part Number
890	25 k6	50	3.0	40	50	28.0	8	M10 x 1.5 x 22 deep	0.8	890A9900
891	30 k6	60	3.0	50	60	33.0	8	M12 x 1.75 x 28 deep	1.3	891A9900
892	35 k6	70	3.0	60	70	38.0	10	M16 x 2.0 x 36 deep	1.8	892A9900
893	40 k6	80	3.0	70	80	43.0	12	M16 x 2.0 x 36 deep	2.1	893A9900
894	50 k6	100	3.0	80	100	53.5	14	M16 x 2.0 x 36 deep	4.4	894A9900
895	60 m6	120	3.0	100	120	64.0	18	M20 x 2.5 x 42 deep	6.0	895A9900
896	70 m6	140	3.0	110	140	74.5	20	M20 x 2.5 x 42 deep	13.0	896A9900
897	90 m6	170	5.0	140	170	95.0	25	M20 x 2.5 x 42 deep	22.5	897A9900
898	110 m6	210	5.0	180	210	116.0	28	M24 x 3.0 x 55 deep	41.5	898A9900

## Series K Gearboxes : Accessories

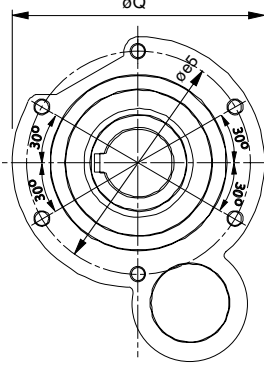
## B14 FLANGE DIMENSIONS

Unit Size	Øe5	F7	ø2	Q	Ør h7 Spigot Ø	ØR H7	Spigot f	Recess F
890	107 pcd	6 Holes M8 x 1.25, 12 Deep	55	122	85	-	2.5	-
891	130 pcd	6 Holes M8 x 1.25, 12 Deep	70	146	105	-	2.5	-
892	125 pcd	6 Holes M10 x 1.5, 17 Deep	75	150	105	-	3.0	-
893	150 pcd	6 Holes M10 x 1.5, 17 Deep	83	180	130	-	3.5	-
894	150 pcd	8 Holes M10 x 1.5, 17 Deep	95	180	130	-	6.0	-
895	195 pcd	6 Holes M12 x 1.75, 20 Deep	115	220	-	150	-	5.0
896	230 pcd	5 Holes M16 x 2.0, 27 Deep	145	260	-	180	-	6.0
897	280 pcd	8 Holes M16 x 2.0, 27 Deep	170	310	-	210	-	7.0
898	280 pcd	9 Holes M16 x 2.0, 27 Deep	200	310	-	210	-	7.0

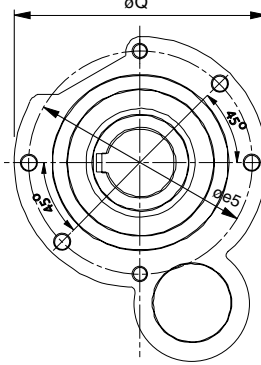
## 890, 891 &amp; 895



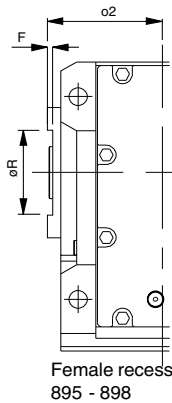
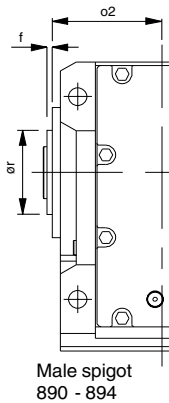
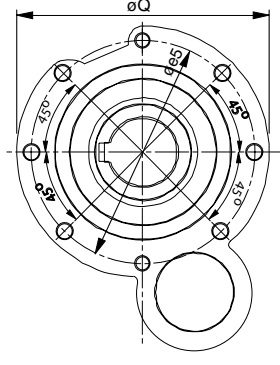
## 892



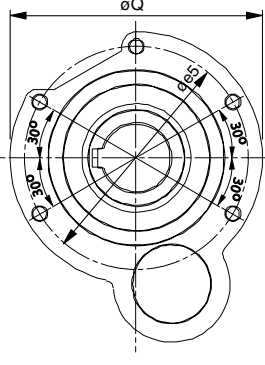
## 893



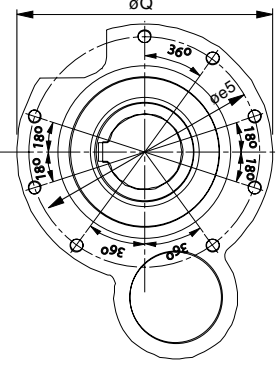
## 894



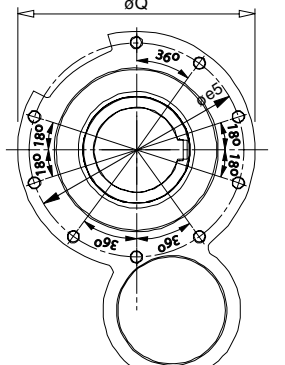
## 896



## 897

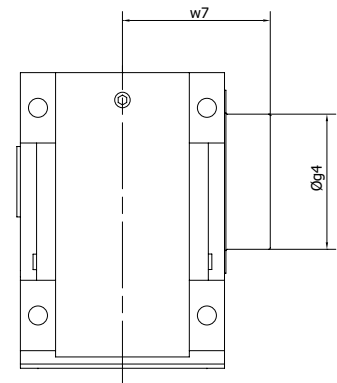


## 898



## PROTECTIVE COVER

Unit Size	Øg4	w7	kg	Part Number
890	89	91	0.2	890A9400
891	108	113	0.3	891A9400
892	108	118	0.3	891A9400
893	133	140	0.4	893A9400
894	133	152	0.4	893A9400
895	162	175	1.0	895A9400
896	192	210	1.3	896A9400
897	242	265	2.0	897A9400
898	242	295	2.0	898A9400



# Series K Gearboxes : Installation and Maintenance

Satisfactory performance depends on proper installation, lubrication and maintenance. All instructions given in the installation leaflet must be followed carefully.

## SHAFT MOUNTING

Ensure that the shaft on to which the gear unit is to be mounted and the gear unit bore are clean and free from burrs.

Liberal smear the shaft and bore with a suitable lubricant to aid assembly and prevent fretting corrosion. Slide the unit on to the driven shaft. Fit side fitting key. **DO NOT USE TAPER OR TOP FITTING KEY.**

## FOOT MOUNTING

Mount the unit securely to a rigid structure. Fit the output extension shaft as required. Use flexible couplings such as Fenaflex for shaft to shaft connections and ensure that shaft misalignment is within the coupling's capacity. When a pulley or sprocket is fitted to either shaft, mount it as close as possible to the gearcase.

When fitting or removing drive components do not hammer on shaft as this will damage the bearings, Fenner Taper Lock bushes permit easy fixing and dismantling without undue force.

## LUBRICATION

Sizes 890 to 893 will be supplied with a quantity of EP mineral oil (VG 320 grade) for mounting position B3. Other mountings must be specified on order. However if, the unit is supplied without lubricant then the oil quantity can be

obtained from Tables 1 & 2 on page 310. Sizes 894 to 898 are supplied without oil. Before running they should be filled with an appropriate amount of the correct lubricant shown in tables 1 & 2 page 310, dependent on the mounting position, see below.

**WARNING** Do not overfill as excess lubricant may cause overheating and leakage.

## OIL CHANGES

Sizes 890, 891 and 892 are lubricated for life except when the units are required to work in an explosive atmosphere. (94/9/EC Atex 100a Group II category 2 zones 1 & 21 & category 3 zones 2 & 22). See separate leaflet for recommendations. All other sizes will require an oil change depending on the unit operating temperature. Initial fill of oil should be changed in a new gear unit after 1000 hours operation or one year or half the life in the table below whichever is the soonest.

Operating Temp °C	Renewal Period (Hours)	
	Mineral Oil	Synthetic Oil
75 or less	17000 or 3 yrs	26000 or 3 yrs
80	12000 or 3 yrs	26000 or 3 yrs
85	8500 or 3 yrs	21000 or 3 yrs
90	6000 or 2 yrs	15000 or 3 yrs
95	4200 or 17 mths	10500 or 3 yrs
100	3000 or 12 mths	7500 or 2.5 yrs
105	2100 or 8 mths	6200 or 2 yrs
110	1500 or 6 mths	2100 or 18 mths

## TEMPERATURE LIMITATIONS

The standard lubricant is suitable for operation in ambient temperatures of 0 to 35°C, outside of this consult your local Authorised Distributor.

## BREATHERS/MOUNTING POSITIONS

Sizes 890, 891 & 892 are supplied for operation without breathers.

Size 893 is supplied for operation with a breather but to prevent leakage during transit this unit is fitted with blanking plugs. It is essential that when the unit is in its operating position the relevant blanking plug is removed and replaced by the breather plug (supplied) in the position indicated on the installation leaflet.

Sizes 894 to 898 are supplied for operation with a breather but are despatched without oil.

It is essential that when the unit is in its operating position the relevant blanking plug is removed and replaced by the breather plug (supplied) in the position indicated on the installation leaflet.

## STARTING UP

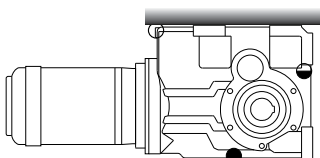
Prior to starting up the following procedure should be followed:

- 1: Ensure Ventilator is fitted (size 893 and above)
- 2: Check Oil level (893 and above) top up if necessary
- 3: Ensure all safety devices are in place (i.e. guards fitted)
- 4: Remove any devices fitted to prevent machine rotation

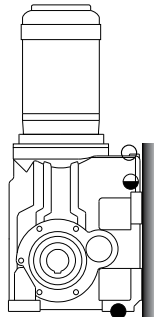
Starting up should be performed or supervised by suitably qualified personnel.

## MOUNTING POSITIONS

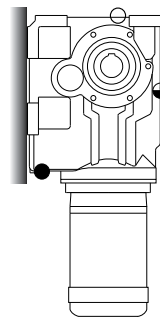
Ceiling Mounted (B8)



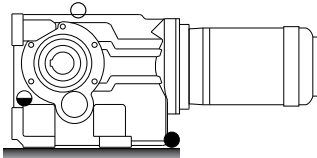
Right Hand Wall Mounting (B7)†



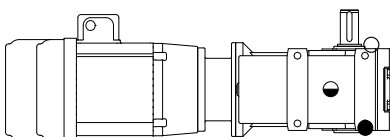
Left Hand Wall Mounting (B6)†\*



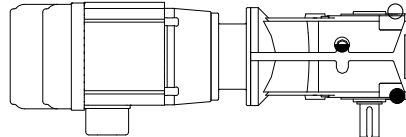
Flange Mounting Shaft Up (V3)



Vertical Mounting Shaft Up (V6)  
Standard Floor Mounting (B3)



Wall Mounting Shaft Down (V5)  
Shaft Down Flange Mounting (V1)



† Gear units for use in mounting positions B6 & B7 should only be selected with overall ratios greater than or equal to those shown in the table below.

\* Mounting position B6 is not recommended for geared motors. Consult your local authorised distributor.

Unit Size	Input Speed (rpm)				Consult your local distributor
	1000	1500	1800	>1800	
890-895	All	All	All		
896	All	11:1	14:1		
897	11:1	20:1	25:1		
898	16:1	32:1	36:1		

Plug positions apply for sizes 893 and larger.

- Ventilator/Filling Position
- Level Position
- Drain Position

## Series K Gearboxes : Installation and Maintenance

### LUBRICATION QUANTITY (LITRES)

Lubricant quantities are intended as a guide only.  
Fill gearbox until oil escapes from level plug.

**TABLE 1: TRIPLE REDUCTION**

Unit Size	Mounting Position					
	B3	V6/V3	V5/V1	B8	B7	B6
890	0.5	0.8	0.7	1.0	1.2	0.9
891	0.7	1.1	0.9	1.3	1.7	1.2
892	1.1	1.7	1.5	1.9	2.5	2.0
893	1.5	2.8	1.8	2.7	3.6	2.6
894	2.7	4.0	3.6	4.5	5.7	4.5
895	4.4	7.6	3.7	7.5	9.6	7.6
896	9.3	18.0	8.3	17.0	21.0	16.0
897	15.0	28.0	15.0	30.0	34.0	25.0
898	23.0	33.0	27.0	39.0	50.0	35.0

**TABLE 2: LUBRICATION QUANTITY (LITRES) QUINTUPLE REDUCTION**

ISO Viscosity	Mounting Position											
	B3		V5/V1		V6/V3		B8		B7		B6	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
890	0.5	0.5	0.5	0.8	0.5	0.7	0.5	1.0	0.7	1.2	1.0	0.9
891	0.5	0.7	0.5	1.1	0.5	0.9	0.5	1.3	0.7	1.7	1.0	1.2
892	0.8	1.1	0.8	1.7	0.8	1.5	0.8	1.9	1.1	2.5	1.4	2.0
893	0.8	1.5	0.8	2.8	0.8	1.8	0.8	2.7	1.1	3.6	1.4	2.6
894	0.8	2.7	0.8	2.7	0.8	2.7	0.8	2.7	1.1	5.7	1.4	4.5
895	1.5	4.4	1.5	7.6	1.5	3.7	1.5	7.5	2.0	9.6	2.6	7.6
896	1.5	9.3	1.5	18	1.5	8.3	1.5	17.0	2.0	21.0	2.6	16.0
897	2.6	15.0	2.6	28	2.6	15	2.6	30.0	3.2	34.0	4.7	25.0
898	2.6	23.0	2.6	33	2.6	27	2.6	39.0	3.2	50.0	4.7	35.0

### LUBRICANT TYPE

ISO Viscosity	Ambient Temperature °C			
	-30°C to 20°C	-5°C to 20°C	0°C to 35°C	20°C to 50°C
EP Mineral Oil	-	220	320	460
Synthetic Oil 1	220	-	220	320
Synthetic Oil 2	220	-	320	460

Synthetic Oil 1 = Polyalphaolefin based.

Synthetic Oil 2 = Polyglycol based

### RECOMMENDED OIL GRADES

Supplier	Mineral Oils Containing EP Additives	Synthetic Lubricants Polyglycol Based	Synthetic Lubricants Polyalphaolefin based
BP	Energol GR-XP or XF	Energol SG-XP	Energol EPX
Castrol	Alpha Max or SP	Alphasyn PG	Alphasyn EP or T
Esso	Spartan EP	Glycolube	Spartan Synthetic EP
Fuchs	Renogear V or WE	Renolin PG	Renogear SG
Mobil	Mobilgear 600	Glygoyle	Mobilgear SHC
Shell	Omala or Omala F	Tivela or Tivela S	Omala HD
Texaco	Meropa or Meropa WM	Synlube CLP	Pinnacle EP
Total	Carter EP	Carter SY	Carter EP/HT
Rocol	Sapphire Hi-Torque	-	-



## Series K Gearboxes : Ordering Instructions

All Fenner Series K geared motors are identified by a product code number; this can consist of an eight or nine digit number depending on the type of motor fitted or the style of unit.

The basic 8 digit code giving the unit type, size, ratio and motor power should be taken from the selection tables. A break down of the coding system for the basic unit and the other options is given below. If a special motor is required a ninth digit is usually added to the end of the normal 8 digit code, see the table below.

These codes should be included on all enquiries, correspondence and orders.

**First Two digits:** Product prefix  
Constant for Series K = 89

**Third digit:** Unit size 0–8

**Fourth digit:** Mounting Type:

A: Motorised with Standard Hollow Bore  
D: Input Reducer Assembly with Standard Hollow Bore  
G: Standard Hollow Bore unmotorised (ready to fit motor)

**Fifth/Sixth digit:** Gear Ratio Code (for exact ratio see page 304).

**Seventh/Eighth digit:** Type of drive code

1. Motorised units - use complete code from selection tables with if applicable, additional ninth digit for motor type.
2. Input Reducer assembly - use 00.
3. Unmotorised units ready for a motor fitting by a third party - use the three digit code as shown in the table below:

Code	Frame	Flange
63C	63	B14
63D	63	B5
71C	71	B14
71D	71	B5
80C	80	B14
80D	80	B5
90C	90	B14
90D	90	B5
10C	100	B14
10D	100	B5
11C	112	B14
11D	112	B5
13C	132	B14
13D	132	B5
16D	160	B5
18D	180	B5
20D	200	B5
22D	225	B5
25D	250	B5

Use eight digit code obtained from selection tables for required motor power and speed and then add the relevant letter code from table below of the motor variant required.

Code	Additional Feature
A	Anti-condensation heaters fitted
B	Backstop Fitted
E	Fitted with encoder
M	Brake motor
N	Brake motor with Hand Release
Q	Refer to Original Quote - Special
S	Single Phase motor
T	Fitted with Thermistors
X	Fitted with Variator
Z	Fitted with Force Vent unit

### SUFFIX CODES

Code	Additional Feature
/TA	with torque arm
/SOS	with single output shaft
/DOS	with double output shaft
/FL	Output flange (hollow)
/FLS	Output flange and extended shaft
/PC	Protective Cover

## Fenner Geared Motors: Backstop Module

To compliment the Fenner Series, M, C, F & K range of gearboxes a range of backstops suitable for all sizes and types.

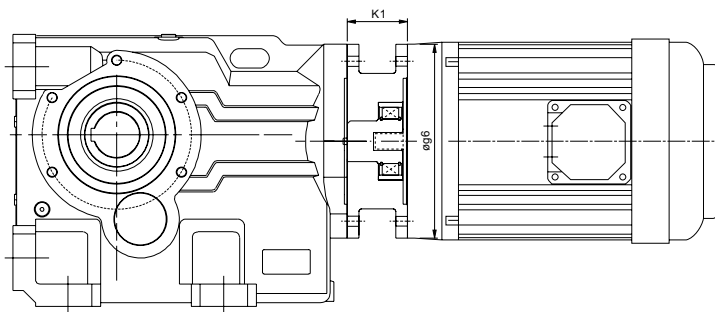
### MOTORISED BACKSTOP MODULE

Motorised backstop modules can be fitted between the gear unit and motor of all the gearbox types shown in this catalogue. The backstop device incorporates high quality centrifugal lift off sprag which does not wear until the lift off speed (n min) is reached.

To ensure correct operation motor speed must exceed lift off speed. Suitable for ambient temperature - 40°C + 50°C

When a backstop module is fitted dimension K1 should be added to the overall length of the geared motor assembly.

Rotation of outputshaft must be specified when ordering as viewed from the output shaft end (as shown in the diagram below). Please request a 'Direction of Rotation' form at point of order.



Motor Frame Size	Lift off speed (n min) (rev/min)	Rated Locking torque (T max) at motor (Nm)	og6	K1	kg
100	670	170	250	70	15
112	670	170	250	70	15
132	620	940	300	95	22
160	620	940	350	130	56
180	620	940	350	130	38
200	550	1260	400	130	46

WARNING: Removal of motor or backstop will release the drive.  
Ensure all driven machinery is secure prior to any maintenance work.

## Fenner Geared Motors: Reducer Backstop Module

### REDUCER BACKSTOP MODULE

The reducer units listed below can be fitted with an internal backstop, this has no effect on the external unit size. The backstop device incorporates high quality centrifugal lift off sprags which are wear free above the lift off speed (n min). To ensure correct operation input speed must exceed lift off speed.

Suitable for ambient temperature -40°C to + 50°C

Rotation of output shaft must be advised at point of ordering. Please request additional information from your local authorised distributor.

### SERIES M

Gear Unit Size	Lift off Speed ('n' min) (at inputshaft) (rev/min)	Rated Locking Torque ('T Max) (at inputshaft) (Nm)
802	800	100
862	800	100
803	800	100
<b>863</b>	<b>670</b>	<b>170</b>
863	800	100
<b>864</b>	<b>670</b>	<b>300</b>
864	670	170
<b>865</b>	<b>620</b>	<b>940</b>
865	670	300
<b>866</b>	<b>550</b>	<b>1260</b>
866	670	300
867	550	2400
867	550	2400
868	550	2400
<b>868</b>	<b>550</b>	<b>2400</b>

Bold typeface indicates triple reduction ratios

### SERIES C

Gear Unit Size	Lift off Speed ('n' min) (at inputshaft) (rev/min)	Rated Locking Torque ('T Max) (at inputshaft) (Nm)
873	800	100
874	670	170
875	670	300
876	620	940
877	550	1260

### SERIES F

Gear Unit Size	Lift off Speed ('n' min) (at inputshaft) (rev/min)	Rated Locking Torque ('T Max) (at inputshaft) (Nm)
882	670	170
883	670	300
<b>883</b>	<b>670</b>	<b>170</b>
884	620	940
<b>884</b>	<b>670</b>	<b>300</b>
885	550	1260
<b>885</b>	<b>670</b>	<b>300</b>

Bold typeface indicates triple reduction ratios

### SERIES K

Gear Unit Size	Lift off Speed ('n' min) (at inputshaft) (rev/min)	Rated Locking Torque ('T Max) (at inputshaft) (Nm)
892	800	100
893	800	100
894	670	170
895	670	170
896	670	300
897	670	300
898	550	2400

# Fenner Geared Drives: Electric Motors

## Standard Motor Specification

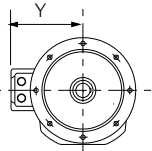
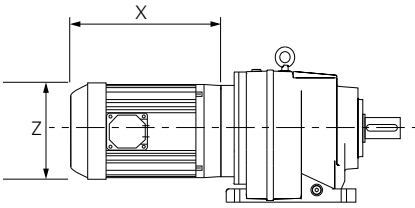
Motors used on all Fenner gearboxes conform in performance to BS5000 and IEC34-1 and in dimensions to BS4999 and IEC72-1/2

Motors are of a squirrel cage type and TEFC (Totally Enclosed Fan Cooled) design.

Motors are protected to IP55 as standard and are designed to operate with a Class B temperature rise with Class F Insulation at 40°C ambient.

\*Motor Code relates to the last 2 digits of the unit reference in the selection tables

\*\* Dimensions shown apply to the standard motor normally supplied by Fenner. Consult your local Authorised Fenner Distributor for details of other motors.



Code	Motor Type
A	Anti-condensation Heaters Fitted (please specify 110V or 220V on order)
E56	IP56 Enclosure - Washdown Duty (see page 316)
E65	IP65 Enclosure - Very Dusty Environments (see page 316)
M	Fitted with standard Failsafe Brake - DC rectified (see page 174)
N	Fitted with standard Failsafe Brake (DC rectified) and Manual Hand release lever
T	Fitted with PTC Thermistors
Z	Fitted with Force Vent Blower (see page 175)

## OTHER OPTIONS

All Geared motor units can be supplied with a number of additional options. When ordering, please use the letter code given as a suffix at the end of the 8 digit code from the selection tables.

Code	Motor Type
B	Fitted with Integrated Modular Backstop between gearbox and motor (see page 312)
L	Fitted with Modular Clutch/Brake assembly between gearbox and motor (see page 176)
X	Fitted with Disc variator between gearbox and motor (see page 177-178)
S	Fitted with single phase motor (please consult FPT)
Q	Special production - Refer to serial number records (please consult FPT)
T	Fitted with PTC Thermistors

## ORDERING INSTRUCTIONS

When ordering a Geared Motor with an IE3 motor fitted, please add the suffix "/IE3" to the 8 or 9 digit code from the selection tables. Motor options listed above are available for both IE2 and IE3 motors - please use the suffix shown before the "/IE3" addition.

## IE2 PREMIUM EFFICIENCY 2 POLE - 3000RPM

Motor Code *	Frame	Output Power		Speed rpm	FL Amps 400V	FL Torque Nm	Motor Efficiency (%)			Dimensions **			Mass kg
		kW	HP				1/2 Load	3/4 Load	Full Load	X	Y	Z	
47	63	0.12	0.16	2790	0.38	0.4	53.0	60.0	61.0	193	122	125	5.7
01	63	0.18	0.25	2770	0.53	0.6	56.0	62.0	63.0	193	122	125	6.2
03	63	0.25	0.33	2760	0.71	0.9	58.0	64.0	65.0	193	122	125	6.7
09	71	0.37	0.50	2800	0.88	1.3	68.0	71.0	71.0	218	130	141	6.5
10	71	0.55	0.75	2780	1.25	1.9	70.0	72.0	72.0	218	130	141	8.5
19	80	0.75	1.0	2790	1.63	2.6	77.0	78.0	78.0	236	139	159	12.5
20	80	1.1	1.5	2790	2.32	3.8	79.5	80.5	80.5	236	139	159	14.0
26	90S	1.5	2.0	2825	3.14	5.1	81.5	82.0	82.0	254	157	179	17.5
29	90L	2.2	3.0	2840	4.58	7.4	83.0	83.6	83.6	279	157	179	21.0
39	100L	3.0	4.0	2880	5.92	10.0	84.0	85.0	85.0	316	167	199	28.5
44	112M	4.0	5.5	2870	7.72	13.3	86.0	86.0	86.0	333	192	222	38.0
52	132S	5.5	7.5	2910	10.6	18.1	86.5	88.0	88.0	372	218	271	60.0
58	132S	7.5	10.0	2910	14.1	24.6	88.0	88.5	88.5	372	218	271	63.0
63	160M	11.0	15.0	2935	20.4	35.8	90.0	90.6	90.5	488	264	329	104.0
64	160M	15.0	20.0	2930	27.6	48.9	91.0	91.3	91.3	488	264	329	112.0
69	160L	18.50	25.0	2940	33.7	60.1	91.3	92.0	92.0	532	264	329	124.0
77	180M	22.00	30.0	2945	39.1	71.4	92.0	92.4	92.2	554	279	360	164.0

## IE2 PREMIUM EFFICIENCY 4 POLE - 1500RPM

Motor Code *	Frame	Output Power		Speed rpm	FL Amps 400V	FL Torque Nm	Motor Efficiency (%)			Dimensions **			Mass kg
		kW	HP				1/2 Load	3/4 Load	Full Load	X	Y	Z	
48	63	0.12	0.16	1380	0.38	0.83	55.0	58.0	59.0	193	122	125	5.7
02	63	0.18	0.25	1380	0.55	1.25	59.0	61.0	61.0	193	122	125	7.2
06	71	0.25	0.33	1360	0.72	1.76	63.0	66.0	66.0	218	130	141	7.0
08	71	0.37	0.50	1365	1.08	2.59	65.0	68.0	68.0	218	130	141	8.0
16	80	0.55	0.75	1410	1.27	3.73	75.0	76.5	76.5	236	139	159	10.5
18	80	0.75	1.00	1410	1.63	5.08	79.0	79.6	79.8	236	139	159	13.5
24	90S	1.10	1.50	1440	2.40	7.30	81.0	81.8	81.8	254	157	179	19.0
28	90L	1.50	2.00	1440	3.26	9.95	81.5	83.0	83.0	279	157	179	22.0
36	100L	2.20	3.00	1425	4.64	14.8	84.0	84.5	84.5	316	167	199	30.5
38	100L	3.0	4.00	1420	6.17	20.2	85.0	85.6	85.6	316	167	199	33.0
46	112M	4.0	5.50	1440	8.12	26.5	86.0	86.7	86.7	333	192	222	42.0
54	132S	5.50	7.50	1460	10.5	36.0	88.0	88.1	88.1	372	218	271	63.0
56	132M	7.50	10.0	1455	14.1	49.3	88.7	89.0	89.0	410	218	271	72.0
66	160M	11.0	15.0	1470	21.2	71.5	89.0	90.2	90.2	488	264	329	105
68	160L	15.0	20.0	1465	28.7	97.8	90.6	91.0	91.0	532	264	329	125
76	180M	18.50	25.0	1465	35.1	121	91.5	91.8	91.6	554	279	360	164
78	180L	22.0	30.0	1465	40.5	143	92.2	92.5	92.3	592	279	360	186
88	200L	30.0	40.0	1470	56.2	195	92.6	93.0	92.8	657	317	402	222
94	225S/M	37.0	50.0	1475	66.6	240	93.0	93.2	93.2	746	384	455	342
95	225S/M	45.0	60.0	1475	80.7	292	93.2	93.7	93.6	746	384	455	363
96	250S/M	55.0	75.0	1475	97.1	356	93.6	93.9	94.0	825	402	486	444
98	280S/M	75.0	100.0	1485	133	483	93.8	94.4	94.4	931	472	599	639
99	280S/M	90.0	120.0	1485	158	579	94.1	94.7	94.7	931	472	599	673

## IE2 PREMIUM EFFICIENCY 6 POLE - 1000RPM

Motor Code *	Frame	Output Power		Speed rpm	FL Amps 400V	FL Torque Nm	Motor Efficiency (%)			Dimensions **			Mass kg
		kW	HP				1/2 Load	3/4 Load	Full Load	X	Y	Z	
13	63	0.12	0.16	905	0.529	1.27	42.0	50.0	52.0	193	122	125	7.2
05	71	0.18	0.25	890	0.722	1.93	52.0	58.0	59.0	218	130	141	9.5
07	71	0.25	0.33	900	1.02	2.65	53.0	60.0	61.0	218	130	141	11.5
12	80	0.37	0.50	910	1.05	3.88	63.0	67.0	67.0	236	139	159	10.5
17	80	0.55	0.75	910	1.49	5.77	65.0	71.0	71.0	236	139	159	14
23	90S	0.75	1.00	925	1.95	7.75	74.5	76.0	76.0	254	157	179	19
27	90L	1.1	1.50	925	2.78	11.4	76.0	78.1	78.1	279	157	179	23
37	100L	1.5	2.00	940	3.71	15.3	79.5	80.0	80.0	316	167	199	28.5
45	112M	2.2	3.00	940	5.3	22.4	81.0	82.5	82.0	333	192	222	38
53	132S	3.0	4.00	960	7.3	29.9	82.5	83.6	83.6	372	218	271	61
55	132M	4.0	5.50	960	9.46	39.8	84.0	84.8	84.8	410	218	271	68
57	132M	5.5	7.50	960	12.8	54.7	85.5	86.1	86.1	410	218	271	72
65	160M	7.5	10.0	970	15	73.9	88.3	88.7	88.3	488	264	329	113
67	160L	11.0	15.0	970	22	108	89.0	89.5	89.2	532	264	329	136
74	180L	15.0	20.0	970	27.9	148	90.3	90.5	90.3	592	279	360	174
75	200L	18.5	25.0	975	35.7	181	91.0	91.4	91.2	657	317	402	214
84	200L	22.0	30.0	975	42.3	216	91.4	91.7	91.5	657	317	402	225
91	225S/M	30.0	40.0	985	54.4	291	92.6	92.7	92.6	746	384	455	359
92	250S/M	37.0	50.0	985	66.8	359	93.0	93.2	93.0	825	402	486	438
93	280S/M	45.0	60.0	985	84.8	437	93.4	93.6	93.4	931	472	599	596
97	280S/M	55.0	75.0	985	102	534	93.6	93.9	93.8	931	472	599	629

## Series Geared Drives: Electric Motors

## IE3 PREMIUM EFFICIENCY 2 POLE - 3000RPM

Motor Code *	Frame	Output Power		Speed rpm	FL Amps 400V	FL Torque Nm	Motor Efficiency (%)			Dimensions **			Mass kg
		kW	HP				1/2 Load	3/4 Load	Full Load	X	Y	Z	
19	80	0.75	1.0	2825	1.61	2.54	80.0	82.0	82.0	236	139	159	13.5
20	80	1.1	1.5	2830	2.32	3.71	81.0	83.5	83.5	236	139	159	15
26	90S	1.5	2.0	2875	3.07	4.99	83.0	85.0	85.0	254	157	179	18.5
29	90L	2.2	3.0	2870	4.43	7.32	86.0	86.5	86.3	279	157	179	23.5
39	100L	3.0	4.0	2910	5.77	9.85	85.5	87.3	87.3	316	167	199	32
44	112M	4.0	5.5	2900	7.5	13.2	88.1	89.1	89.5	333	192	222	41
52	132S	5.5	7.5	2930	10.1	17.9	88.3	89.7	90.0	372	218	271	65
58	132S	7.5	10.0	2935	13.9	24.4	89.1	90.5	90.8	372	218	271	69
63	160M	11.0	15.0	2950	20.1	35.6	91.0	92.3	92.7	488	264	329	115
64	160M	15.0	20.0	2950	27.1	48.6	91.5	92.5	92.9	488	264	329	119
69	160L	18.5	25.0	2950	33.3	59.9	92.0	92.9	93.2	532	264	329	136
77	180M	22.0	30.0	2955	39	71.1	92.5	93.3	93.7	554	279	360	176

## IE3 PREMIUM EFFICIENCY 4 POLE - 1500RPM

Motor Code *	Frame	Output Power		Speed rpm	FL Amps 400V	FL Torque Nm	Motor Efficiency (%)			Dimensions **			Mass kg
		kW	HP				1/2 Load	3/4 Load	Full Load	X	Y	Z	
18	80	0.75	1.0	1420	1.6	5.05	80.0	82.0	82.5	236	139	159	14.5
24	90S	1.1	1.5	1455	2.34	7.22	83.0	84.5	84.8	254	157	179	19.5
28	90L	1.5	2.0	1450	3.15	9.88	84.0	86.0	86.0	279	157	179	23
36	100L	2.2	3.0	1435	4.56	14.7	86.5	87.0	87.0	316	167	199	31.5
38	L100L	3.0	4.0	1440	6.15	19.9	87.0	88.0	88.0	360	167	199	37.5
46	112M	4.0	5.5	1450	8	26.4	88.7	89.1	89.1	333	192	222	44
54	132S	5.5	7.5	1465	10.3	35.9	90.0	90.7	90.7	372	218	271	69
56	132M	7.5	10.0	1465	13.9	48.9	91.0	91.5	91.5	410	218	271	78
66	160M	11.0	15.0	1470	20.7	71.5	91.0	91.8	92.2	488	264	329	123
68	160L	15.0	20.0	1470	28.4	97.5	91.8	92.5	93.0	532	264	329	145
76	180M	18.5	25.0	1470	34.9	120	92.2	92.9	93.3	554	279	360	180
78	180L	22.0	30.0	1470	40.9	143	92.4	93.0	93.6	592	279	360	198
88	200L	30.0	40.0	1480	56.1	194	92.8	93.6	94.2	657	317	402	243
94	225S/M	37.0	50.0	1480	65.6	239	94.0	94.6	94.6	746	384	455	392
95	225S/M	45.0	60.0	1480	79.4	291	94.2	94.8	94.8	746	384	455	420
96	250S/M	55.0	75.0	1480	96.9	355	94.6	95.0	95.3	825	402	486	507
98	280S/M	75.0	100.0	1485	130	483	94.7	95.2	95.6	931	472	599	729
99	280S/M	90.0	120.0	1485	158	579	95.0	95.5	95.8	931	472	599	777

## IE3 PREMIUM EFFICIENCY 6 POLE - 1000RPM

Motor Code *	Frame	Output Power		Speed rpm	FL Amps 400V	FL Torque Nm	Motor Efficiency (%)			Dimensions **			Mass kg
		kW	HP				1/2 Load	3/4 Load	Full Load	X	Y	Z	
23	90S	0.75	1.0	940	1.93	7.62	76.5	79.0	79.0	254	157	179	22
27	100L	1.1	1.5	945	2.69	11.1	80.5	81.0	81.0	316	167	199	29
37	100L	1.5	2.0	950	3.7	15.1	81.5	82.5	82.5	316	167	199	32
45	112M	2.2	3.0	950	5.22	22.1	83.0	84.5	84.5	333	192	222	42
53	132S	3.0	4.0	970	6.74	29.6	86.5	88.0	88.0	372	218	271	61
55	132M	4.0	5.5	960	8.99	39.8	86.0	86.8	86.8	410	218	271	66
57	132M	5.5	7.5	965	12.5	54.5	86.5	88.0	88.0	410	218	271	80
65	160M	7.5	10.0	975	14.7	73.5	89.3	90.3	90.7	488	264	329	122
67	160L	11.0	15.0	975	21.5	108	90.0	90.8	91.2	532	264	329	143
74	180L	15.0	20.0	975	28	147	91.3	91.7	92.0	592	279	360	193
75	200L	18.5	25.0	980	35.2	180	91.7	92.3	92.5	657	317	402	223
84	200L	22.0	30.0	980	41.7	215	92.0	92.6	92.9	657	317	402	240
91	225S/M	30.0	40.0	985	54.2	291	93.7	94.0	94.0	746	384	455	401
92	250S/M	37.0	50.0	985	66.6	359	94.0	94.4	94.4	825	402	486	486
93	280S/M	45.0	60.0	990	83.4	434	94.1	94.8	95.0	931	472	599	678
97	280S/M	55.0	75.0	990	102	531	94.5	95.0	95.3	931	472	599	723

## Fenner Geared Drives: Enclosures

### DEGREE OF PROTECTION

IEC60034-5 defines the degrees of Ingress Protection (IP) for electrical equipment by two numerals.

The first character indicates the degree of protection against the ingress of SOLID OBJECTS

Number	Definition
0	No protection
1	Protection against solid objects greater than 50mm
2	Protection against solid objects greater than 12mm
3	Protection against solid objects greater than 2.5mm
4	Protection against solid objects greater than 1.0mm
5	Basic Protection against Dust
6	Dust Tight – Fully protected against Dust

The second character indicates the degree of protection against the ingress of LIQUIDS

Number	Definition
0	No protection
1	Protected against dripping water
2	Protected against dripping water when tilted up at 15°
3	Protected against falling spray at any angle up to 60° from vertical
4	Protected against water splashing against the machine from any direction
5	Protected against low pressure wash-down from any direction
6	Protected against high pressure wash-down from any direction
7	Protected against the effects of immersion
8	Protected against the effects of continuous submersion

The current Fenner standard for IEC motors is IP55 “Weatherproof” which is protected against low pressure jets of water and low levels of dust in the environment.

For “High pressure wash-down” environments, IP56 enclosures are recommended.

For “Extremely Dusty” environments IP65 enclosures are recommended.