KEB Gear units & Motors 2014

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Introduction

Type designation

The type designation for geared motors describes the construction of the unit starting from the output side.

Gear unit

K	**4**	**3**	**C V**
Gear Type	Size	Number of stages	Options
G–Helical gear unit			A – Foot mounted version C – Flange mounted version E – Foot-flange mounted version
F–Shaft Mounted Helical Gear unit			A – Shaft mounted version B – Shaft mounted version C – Flange mounted version D – Shaft mounted version + side areas E – Flange mounted version + side areas S – Hollow shaft with shrink disc V – Output shaft with key Z – Splined hollow shaft G - Rubber elements
S–Helical worm gear unit K–Helical bevel gear unit			A – Foot mounted version B – Shaft mounted version C – Flange mounted version D – Shaft mounted version + foot area E – Flange mounted version + foot area S – Hollow shaft with shrink disc V – Output shaft with key Z – Splined hollow shaft T1 – Torque arm

Double gearbox

F43	**G12**	**C V**
Gear unit 1	Gear unit 2	Options Gear unit 1

Gearbox input

-W2	Free input shaft, Size 2
-W3F	Free input shaft and Flange, Size 3
-M IEC112	adapter for IEC-motors, Frame size 112
-M NEMA180	adapter for Nema-motors, Frame size 180
-M S90/1	adapter for Servo-motors, Frame size 90/1

Three phase motor

DM	**90S**	**4**	**F TW**
Range	Frame size	Number of poles	Options
			IE2 – Efficiency class B - Brake B MB – Brake with hand release F - Forced ventilation I - Incremental encoder EAM – Absolute encoder multiturn TW – PTC thermistor sensor TS - Thermorelay (closed)

Servo motor

TA	**43**	**V30**	**ER TW**
Range	Frame size	Type of motor winding	Options
			BP.. - Brake ER – Resolver EAS – Absolute encoder singleturn EAM – Absolute encoder multiturn F - Forced ventilation TW – PTC thermistor sensor

Example
G23C DM80G4 B TW
G12A –M IEC71
S32G12AV DM63K4
K43BT1 TA51 V30 ER TW
DM80G6
TA42 VD0 EAM TW
F63 -W5
For full identification of geared motors, additional information has to be added to the type designation.

Product description

Values of the selection tables

Pn	Nominal power of the motor
T2	Nominal output torque of the geared motor (Mounting position M1)
n1	Input speed of the gear unit
n2	Output speed of the gear unit related to the nominal speed of the motor or the given input speed of the gearbox
cG	Gear coefficient
i	Ratio of gear unit
is	Ratio of the worm gear stage
~kg	approximate weight of the geared motor at mounting position M1
T2max	Maximum permissible continuous output torque of the gear unit for cG=1
T1max	Maximum permissible continuous input torque of the gear unit or of the input component of the gear unit
P1max	Maximum permissible continuous input power of the gear unit for cG=1
Jg	Inertia Gear unit (applied to input shaft of gearbox)
Jad	Inertia Motor adapter
η	Efficiency

Selection table Gear units

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
G52			
31.19	45	1130	5.3
28.45	49	1120	5.8
26.17	53	1330	7.4

Please consider T2max and P1max of gearbox when combining the drive.
For drives with motor adapter or free input shaft, additional consider T1max.

Selection table Helical worm gear units

S12

		n1=3400 1/min				n1=2800 1/min				n1=1700 1/min				n1=1400 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
168.00	1/40	20	151	0.49	0.66	17	156	0.43	0.64	10	168	0.30	0.59	8.3	171	0.26	0.57
143.53	1/40	24	146	0.54	0.67	20	152	0.47	0.65	12	164	0.33	0.61	9.8	168	0.29	0.59

With new helical-worm gear units the tooth flanks are not completely smoothed down. The efficiency is lower than after the running in process. For a two start worm the decrease is about 6%. The running-in process is essentially concluded after 24 hours. The rated efficiencies are achieved if:
- the gear unit has been run in completely,
- the gear unit has reached the nominal operating temperature,
- the recommended lubribant is used,
- the gear unit is working with rated load.

Selection table Geared motors

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
3.0 kW				
K53A DM112M4 IE2				77
17	1690	0.85	83.01	
19	1510	0.95	74.48	
21	1370	1.05	67.22	

The selection table contains standard geared motors with
- Three phase motor DM/DA, 4 pole, Pn=0.12..45kW
- Ratio of gear unit i<500
- Gear coefficient cG<2.5 (DM63..DM80 cG<2.0)

Additional geared motors can be combined with help of corresponding selection table for gearboxes.

Efficiency of gearbox

The efficiency of the gear unit for helical gear units G, shaft mounted helical gear units F and helical bevel gear units K depends on the number of gear stages, 2-stage (0.96) and 3-stage (0.94).
The efficiency of helical worm gear units S depends on the ratio of the worm gear stage, the input speed into the gear unit and the temperature of the gear unit.
The efficiency of helical worm gear units S is shown in the selection table for gear units.
The efficiency of helical worm gear units S for back driving is significantly lower than the normal efficiency. In certain cases the worm gear unit can be self-locking.
At certain mounting positions the gearbox is completely filled with lubricant. At high input speed mixing losses can reduce the efficiency of the gear unit.

Dimension sheet notes

If not stated differently in the dimension sheet, the following tolerances are used:

Tolerance of shaft height	<250mm: -0.5mm	>250mm: -1mm
Tolerance of shaft diameter	≤50mm: ISO k6	>50mm: ISO m6
Flanges - Tolerance of spigot	≤230mm: ISO j6	>230mm: ISO h6

Coating and Corrosion Protection

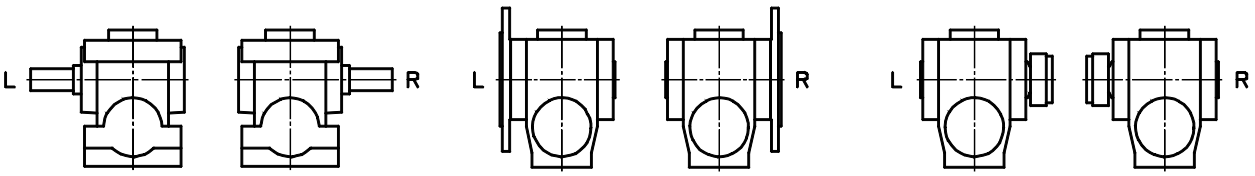
execution	is oriented towards corrosivity category (EN ISO 12944)	typical ambient conditions	Example
normal indoor installation	C1 - insignificant	Inside of buildings, neutral atmosphere	Transport systems in factories, Logistic areas, Tool or textile machines
P1 Outdoor installation, Covered	C2 - low	Outdoor installation with low contamination, e.g. with roof, Not heated buildings with possible condensation	Sawmills, Trimming lines, Agitators
P2 Outdoor installation	C3 - moderate	Environments with high humidity and moderate contamination, Outdoor installations with direct weathering	Facade cleaning systems, Cableways, Gravel plants
P3 Outdoor installation,Wet conditions	C4 - strong	Environments with high humidity and occasional severe atmospheric or chemical contamination	Wastewater treatment plants, Mining equipment

1) Standard color RAL7031 bluegrey
Different colors on request.

For the operation of the geared motors under corrosive environment the following additional options are available:
Dust- and water protection IP65 for normal and braked motors
Output shaft / hollow shaft from stainless steel
Viton seals

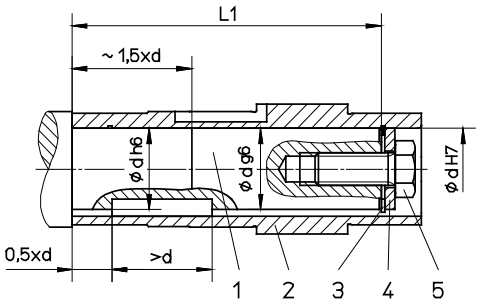
Mounting face

For helical-worm and helical bevel geared motors with flange, with solid shaft or with shrink disk the position of mounting face has to be specified.

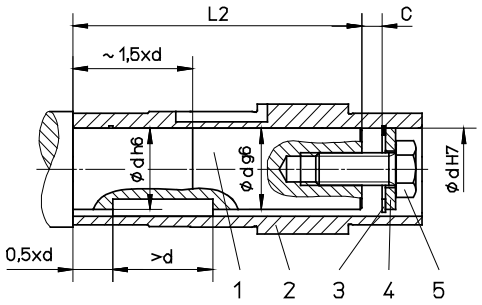


Example: Mounting face R

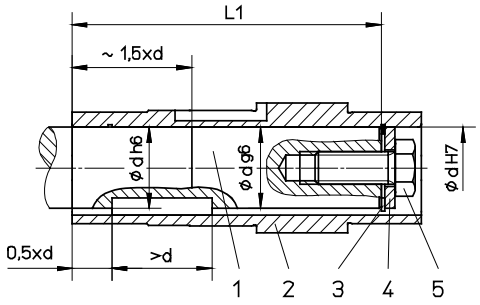
Assembly / Disassembly notes when using gear units with hollow shaft



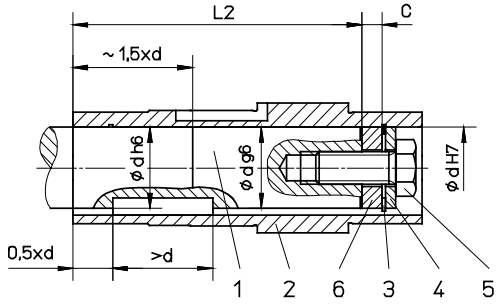
Assembly on shaft with shoulder
Length of customers shaft: L1-1mm



Assembly on shaft with shoulder
Disassembly with turn safe nut possible
Length of customers shaft: L2



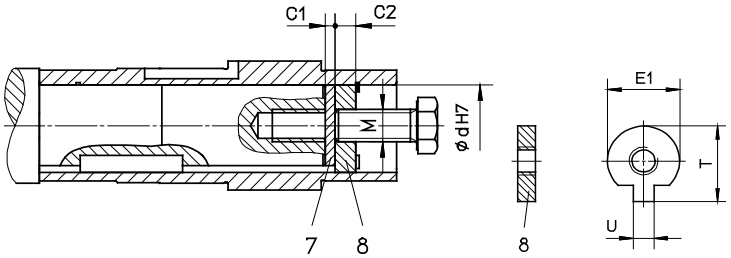
Assembly on shaft without shoulder
Length of customers shaft: L1



Assembly on shaft without shoulder
Disassembly with turn safe nut possible
Length of customers shaft: L2

Gear unit	d	L1	L2	C	C1	C2	E1	M	T	U
S0	20	76	64	12	5	6	19.7	M6	22.5	5.5
K0	20	91	79	12	5	6	19.7	M6	22.5	5.5
S1, F2, K1, K2	25	105	89	16	5	10	24.7	M10	28	7.5
S2, F3, K3	30	132	116	16	5	10	29.7	M10	33	7.5
S2, F3, K3	35	132	116	16	5	10	34.7	M12	38	9.5
S3, F4, K4	40	155	137	18	5	12	39.7	M16	43	11.5
S4, F5, K5	50	185	167	18	5	12	49.7	M16	53.5	13.5
F6, K6	60	210	188	22	5	16	59.7	M20	64	17.5
F7, K7	70	270	248	22	5	16	69.7	M20	74.5	19.5
F8, K8	90	315	289	26	5	20	89.7	M24	95	24.5
K9	100	375	349	26	5	20	99.7	M24	106	27.5

1 Customer's shaft
2 Hollow shaft
3 Circlip DIN472
4 Washer
5 Screw DIN933
6 Spacer
7 Washer
8 Nut with tang



Drive selection

Selection conditions

The following conditions must be considered in the selection of the geared motor:

	T2	[Nm]	Torque of geared motor (see selection table)
T2 ≥ TA	TA	[Nm]	Counter-torque of driven machine
cG ≥ fB	cG		Gear coefficient (see selection table)
	fB		Application factor of driven machine

Further, the selection of the gearmotor is influenced by the following factors:

- Duty cycle of the motor
- Application of forces on the output shaft
- Ambient temperature and altitude
- Environment conditions

Please consult the manufacturer in the case of complicated drive applications.

Application factor fB

The service factor of the driven machine is given from the shock grade, the average operating time / day and the number of switches per hour. The shock grade is given from the mass accelleration factor of the driven machine.

$$FJ = \frac{Jred}{Jmot}$$

FJ	Mass acceleration factor
Jred	All external inertias corrected to motor input
Jmot	Inertia (Motor)

Shock grade	FJ	Operating time hours/day	Operations per hour			
			< 10	10 ... 100	100 ... 200	> 200
I - uniform	0 … 0.2	< 8	0.8	1.0	1.2	1.3
		8 ... 16	1.0	1.2	1.3	1.4
		16 ... 24	1.2	1.3	1.4	1.5
II - moderate shocks	0.2 … 3	< 8	1.1	1.3	1.4	1.5
		8 ... 16	1.3	1.4	1.5	1.7
		16 ... 24	1.5	1.6	1.7	1.8
III - severe shocks	3 … 10	< 8	1.4	1.6	1.7	1.8
		8 ... 16	1.6	1.7	1.8	2.0
		16 ... 24	1.8	1.9	2.0	2.1

Radial force on gear output shaft

$$F_R = \frac{M_{ab} \cdot 2000}{d_0} \cdot f_z$$

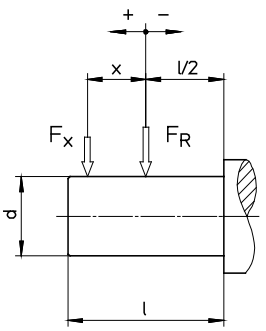
Transmission element	fz	Remarks
Gears	1.1	< 17 teeth
Sprockets	1.4	< 13 teeth
	1.2	< 20 teeth
V-belt pulleys	1.7	Influence of initial pretensioning force
Flat belt pulleys	2.5	Influence of initial pretensioning force

F_R	[N]	Radial force on gear output shaft
Mab	[Nm]	Torque of geared motor (see selection table)
d0	[mm]	Effective diameter of fitted drive element
fz		Incremental factor (see table)

The radial force determined must not exceed the permissible radial force for the gear unit.

Permissible Radial Forces for the Output Shaft

If there are radial loads on the output shaft, they should be compared with the permissible values for radial forces.
The values in the table for the permissible radial forces apply under the following conditions
gear unit with solid output shaft, normal shaft ends
constant load in continuous operation
radial load on the middle of the output shaft in the case of worst load direction
- no axial forces



If the radial force is not applied to the middle of the shaft, use the following formula for the conversion of the permissible radial force:

$$F_{Rx1} = F_{R1} \cdot \frac{1}{1 + \frac{x}{K_1}}$$

$$F_{Rx2} = F_{R2} \cdot \frac{1}{1 + \frac{x}{K_2}}$$

$$F_{Rxp} = \min(F_{Rx1}, F_{Rx2})$$

F_{R1}	[N]	permissible radial force for bearing lifetime application at middle of output shaft (table)
F_{R2}	[N]	permissible radial force for shaft strength application at middle of output shaft (table)
K1, K2	[mm]	Constant (table)
x	[mm]	Distance (subject to sign, see sketch)
F_{Rx1}	[N]	permissible radial force for bearing lifetime application at point x
F_{Rx2}	[N]	permissible radial force for shaft strength application at point x
F_{Rxp}	[N]	total value of permissible radial force application at point x

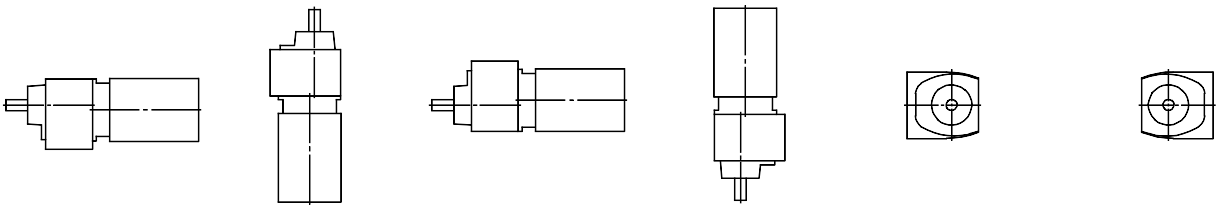
					FR1 [N]							
Gear unit	**Output shaft dxl [mm]**	**K1 [mm]**	**K2 [mm]**	**FR2 [N]**	**<16 1/min**	**<25 1/min**	**<40 1/min**	**<63 1/min**	**<100 1/min**	**<160 1/min**	**<250 1/min**	**<400 1/min**
G0	20x40	81.5	32.5	2540	2850	2430	1950	1630	1460	1200	1080	950
G1	20x40	90	20	4030	4450	3600	3040	2420	2020	1770	1600	1440
G2	25x50	110.5	25	5900	6000	4920	4180	3410	2860	2440	2240	2040
G3	30x60	132	30	7050	10400	8650	7100	5800	4700	4300	3900	3550
G3	35x70	137	54.5	6760	10000	8330	6840	5600	4530	4140	3760	3420
G4	40x80	159	60.5	11500	16500	13600	11300	9400	7950	6650	6050	5500
G5	50x100	191.5	73.5	17600	21200	17900	14700	12800	10200	9000	8150	7450
G6	60x120	218.5	83.5	24000	27400	22500	19200	16300	14000	12600	11400	10300
G7	75x140	287	97.5	30700	36100	31900	22200	20700	19600	18200	16300	14700
G8	90x170	347.5	117	50000	101000	84500	70000	62000	60500	56000	51000	
G9	110x210	410	140	63000	179000	150000	128000	119000	112000	100000	89000	
F2	25x50	131	25	5830	6250	5300	4100	3450	3250	3050	2700	2350
F3	30x60	161	30	8000	9600	8050	6250	5150	4350	4250	3900	3600
F3	35x70	166	80	7960	9300	7800	6050	5000	4200	4150	3800	3500
F4	40x80	193.5	40	12700	10100	8000	6250	5800	3900	4200	4000	3800
F5	50x100	234.5	50	18200	15100	12100	9350	7300	5500	5750	5850	5650
F6	60x120	256	60	26200	15700	12800	9350	7750	5350	6550	6700	6700
F7	75x140	313	70	41700	50300	41600	34200	29600	28600	27200	24900	22800
F8	90x170	372.5	85	61000	64700	55700	45500	40500	39700	36700	33600	
S02A	20x40	91	20	4030	5370	4410	3750	3100	2380	2080	1910	
S02C	20x40	109	20	4030	4490	3680	3130	2590	1980	1740	1590	
S1	25x50	128	25	5830	6400	5470	4170	3430	2510	2470	2230	
S2	30x60	161	30	8000	10500	8060	6700	5730	3170	3530	3230	
S2	35x70	166	80	7960	10200	7820	6500	5560	3080	3430	3130	
S3	40x80	193.5	40	12700	11800	10400	7950	6150	5450	5200	5000	
S4	50x100	234.5	50	18200	16900	15100	10500	8900	8250	7950	7650	
K0A	20x40	105.5	20	4180	4690	3870	3230	2710	2500	1850	1690	1550
K0C	20x40	124	20	4180	3990	3300	2740	2300	2130	1580	1430	1320
K1A	25x50	124	25	6020	6020	4960	4230	3380	2530	2220	2030	1950
K1C	25x50	144	25	6020	5180	4270	3640	2910	2180	1910	1750	1680
K2	25x50	131	25	5830	6200	5200	4300	3350	3100	2820	2600	2530
K3	30x60	161	30	8000	9650	7800	6600	5150	4050	3800	3750	3650
K3	35x70	166	80	7960	9350	7550	6400	5000	3900	3700	3650	3550
K4	40x80	193.5	40	12700	10500	8200	6400	4700	3950	3750	3600	3600
K5	50x100	234.5	50	18200	15200	12100	9400	7800	4900	5050	5350	5350
K6	60x120	256	60	26200	15800	12100	8500	5800	4700	5100	5750	
K7	75x140	313	70	41700	49100	42600	36700	33200	27200	25400	24500	
K8	90x170	372.5	85	61000	65700	55200	46700	41000	38900	35600	34900	
K9	110x210	444.5	105	77300	87200	73300	62800	57300	55100	49300	48100	

The radial force determined from the application must not exceed the permissible radial force for the gear unit.
In certain conditions, the gear unit is able to accept higher radial forces.
If no radial force is applied, the permissible axial force for the gear unit is 50% of the calculated permissible radial force.
If the radial forces found for a special drive application are higher than the values in the table, or if radial and axial forces are acting at the same time, consultation with the manufacturer is necessary.

Mounting position

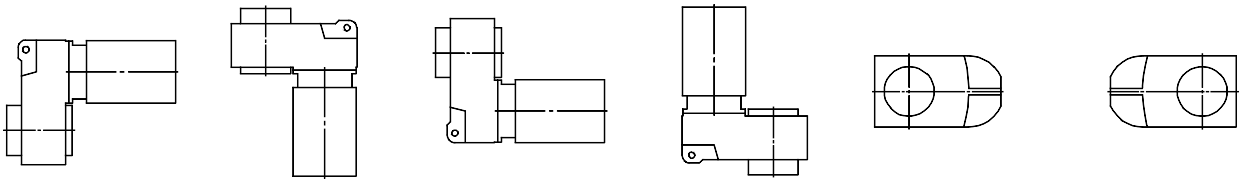
Helical gear units G

M1 M2 M3 M4 M5 M6



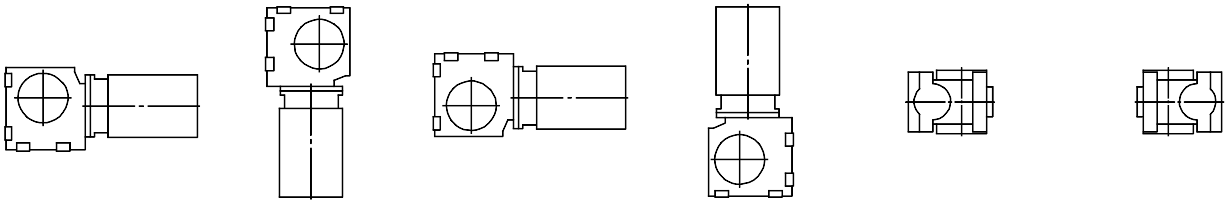
Shaft mounted helical gear units F

M1 M2 M3 M4 M5 M6



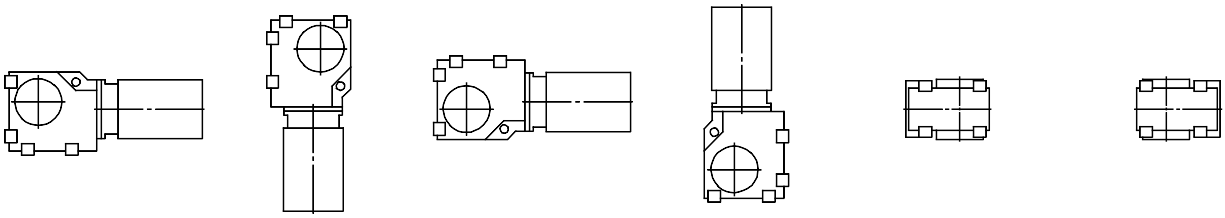
Helical worm gear units S

M1 M2 M3 M4 M5 M6



Helical bevel gear units K

M1 M2 M3 M4 M5 M6



Lubrication

The geared motors are supplied oil filled for the mounting position and ambient temperature of the order.
If the gear unit is to be used in a different mounting position as given on the nameplate, the quantity of lubricant has to be adjusted.

Type of lubricant	Designation	Area of use			
		Gear unit	θ [°C]	1)	2)
Mineraloil	CLP VG220	G,F,K	-10... +40	O	O
		S	-20... +20	O	O
	CLP VG680	S	0... +40	O	O
Synthetic oil – PG	CLP PG VG460	G,F,K	-20... +80	+	+
		S	-20... +80	++	+
Synthetic oil – HC	CLP HC VG220	G,F,K,S	-40... +60	+	++
Synthetic oil Food grade	CLP HC VG220 USDA-H1	G,F,K,S	-20... +40	+	+

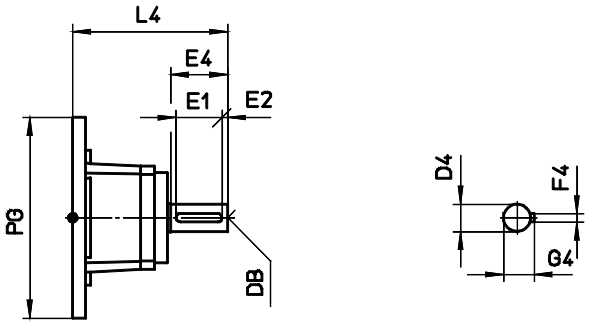
θ Ambient temperature
1) Load capacity O=normal, +=high, ++=very high
2) Resistance to ageing O=normal, +=high, ++=very high

Quantities of lubricant [l]

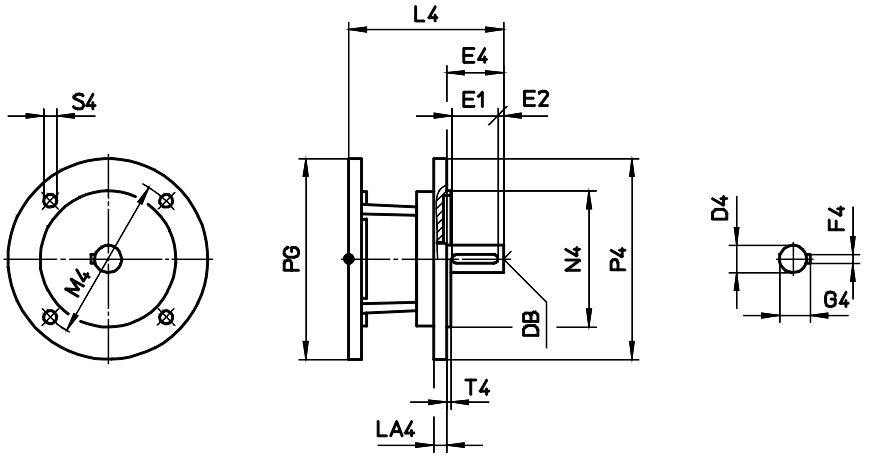
Mounting position / Gear unit	M1	M2	M3	M4	M5	M6
G0	0.1	0.45	0.35	0.4	0.25	0.25
G1	0.15	0.65	0.55	0.65	0.4	0.4
G2	0.25	1.1	0.9	1.1	0.65	0.65
G3	0.35	1.8	1.2	1.8	1.0	1.0
G4	0.5	2.7	1.9	2.6	1.7	1.7
G5	1.1	5.2	4.1	4.8	3.1	3.1
G6	1.9	8.8	8.1	8.2	7.0	7.0
G7	3.0	14.5	13.4	12.7	12.2	12.2
G8	4.8	23.2	22.2	21.5	21.0	21.0
G9	8.1	38.2	28.5	37.0	22.0	20.7
F2	0.75	1.1	0.6	1.0	0.7	0.65
F3	1.5	2.1	1.2	1.7	1.4	1.3
F4	2.7	3.5	1.9	3.0	2.3	2.1
F5	4.6	6.4	3.6	5.9	4.1	4.0
F6	7.6	11.5	6.2	10.4	7.7	6.2
F7	11.4	18.0	9.8	16.6	10.8	10.5
F8	19.9	30.1	17.4	29.8	17.4	17.1
S0	0.1	0.35	0.25	0.35	0.25	0.25
S1	0.3	0.75	0.55	1.0	0.6	0.6
S2	0.5	1.2	0.85	1.7	1.0	1.0
S3	0.8	2.0	1.6	3.0	1.8	1.8
S4	1.4	3.5	2.8	5.1	3.0	3.0
K0	0.1	0.4	0.3	0.55	0.35	0.3
K1	0.2	0.6	0.4	0.95	0.55	0.5
K2	0.3	0.7	0.8	1.0	0.75	0.75
K3	0.6	1.1	1.7	2.0	1.4	1.4
K4	1.0	1.8	2.9	3.2	2.5	2.5
K5	1.9	3.4	5	6.5	4.6	4.6
K6	3.1	5.7	7.6	10.5	7.1	7.1
K7	4.7	9.7	11.3	18.5	13.1	13.1
K8	7.5	14.5	18.0	28.0	20.5	20.5
K9	12.0	22.6	30.7	46.7	35.8	35.8

Free input shaft -W

-W

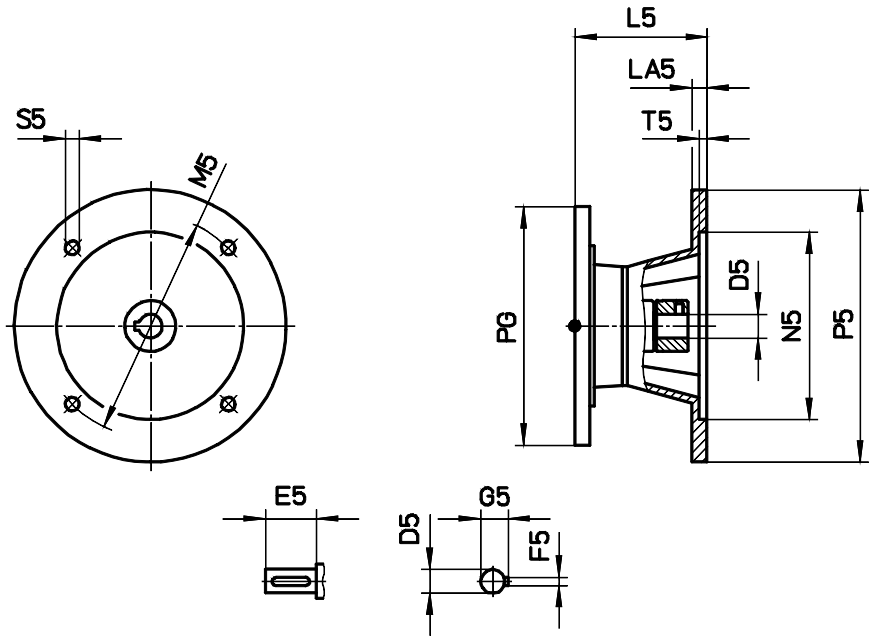


-WF



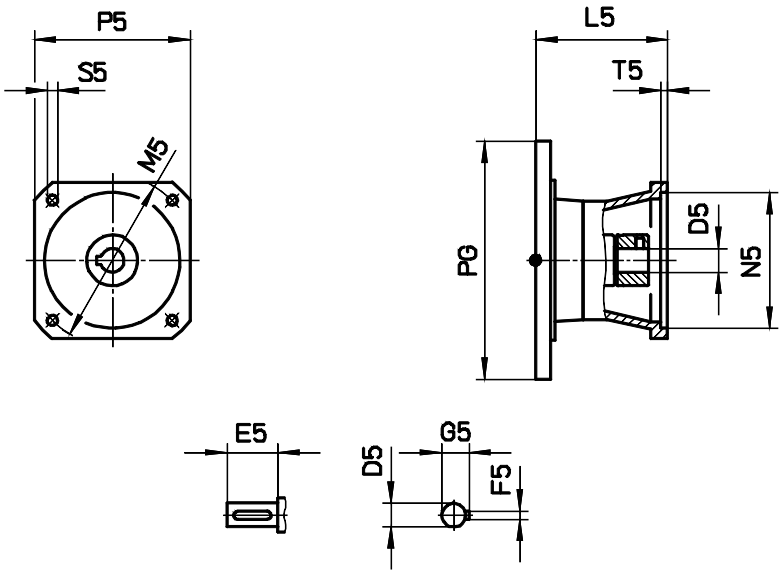
Adapter	-W1	-W2	-W3	-W4	-W5	PG	Gear unit
T1max [Nm]	4	12	30	60	180		
D4	14	19	28	38	48		
DB	M5	M6	M10	M12	M16		
E1	22	32	50	70	100		
E2	4	4	5	5	5		
E4	30	40	60	80	110		
F4	5	6	8	10	14		
G4	16	21.5	31	41	51.5		
LA4	8	9	9	10	12		
M4	100	115	130	165	265		
N4	80	95	110	130	230		
P4	120	140	160	200	300		
S4	6.6	9	9	11	14		
T4	3	3	3.5	3.5	4		
L4	79.5					105	G0, S0, K0
	78.5	113.5				120	G1, S1, F2, K1, K2
	75.5	108.5	153.5			140	G2, S2, F3, K3
	75	110	154	192.5		160	G3, S3, F4, K4
	71.5	106.5	149.5	189		200	G4, S4, F5, K5
		101.5	146	185.5	243.5	250	G5, F6, K6
			139	178.5	237.5	300	G6, F7, K7
			132	170.5	230	350	G7, F8, K8
				154	215	400	G8, K9

Motor adapter -M IEC



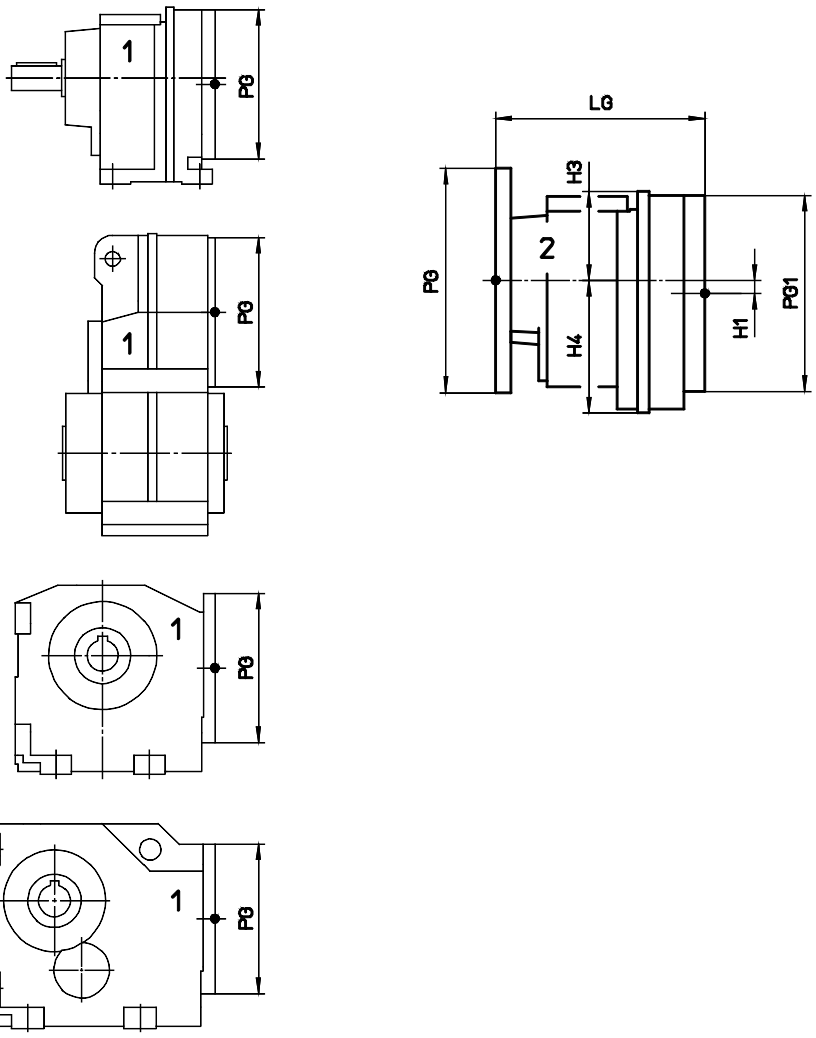
Adapter -M	IEC63	IEC71	IEC80	IEC90	IEC100	IEC112	IEC132	IEC160	IEC180		
T1max [Nm]	4	4	8	12	21	30	60	120	180		
Jad [kgcm²]	0.1	0.1	0.69	0.69	2.3	2.3	7.7	54.3	54.3		
D5	11	14	19	24	28	28	38	42	48		
E5	23	30	40	50	60	60	80	110	110		
F5	4	5	6	8	8	8	10	12	14		
G5	12.5	16	21.5	27	31	31	41	45	51.5		
LA5	12	12	15	15	18	18	18	24	24		
M5	115	130	165	165	215	215	265	300	300		
N5	95	110	130	130	180	180	230	250	250		
P5	140	160	200	200	250	250	300	350	350		
S5	M8	M8	M10	M10	M12	M12	M12	M16	M16		
T5	4	4.5	4.5	4.5	5	5	5	6	6	**PG**	**Gear unit**
L5	75	82								105	**G0, S0, K0**
	74	81	118	128						120	**G1, S1, F2, K1, K2**
	71	78	113	123	156.5	156.5				140	**G2, S2, F3, K3**
	70.5	77.5	114.5	124.5	157	157	196			160	**G3, S3, F4, K4**
	67	74	111	121	152.5	152.5	192.5			200	**G4, S4, F5, K5**
			106	116	149	149	189	249	249	250	**G5, F6, K6**
					142	142	182	243	243	300	**G6, F7, K7**
					135	135	174	235.5	235.5	350	**G7, F8, K8**
							157.5	223.5	223.5	400	**G8, K9**

Motor adapter -M S



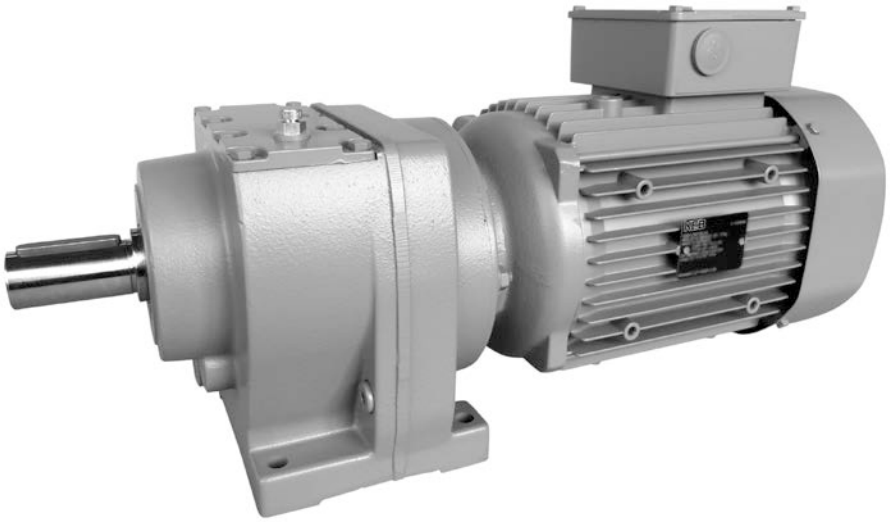
Adapter -M	S70/1	S70/2	S90/1	S90/2	S110/1	S110/2	S140/1	S140/2	S190/1	S190/2	S190/5	S190/6		
T1max [Nm]	4	4	8	8	12	12	30	30	60	60	60	60		
Jad [kgcm²]	0.1	0.1	0.69	0.69	0.69	0.69	2.3	2.3	7.7	7.7	7.7	7.7		
D5	11	14	14	19	19	19	24	24	32	32	28	38		
E5	23	30	30	40	40	40	50	50	58	58	58	80		
F5	4	5	5	6	6	6	8	8	10	10	8	10		
G5	12.5	16	16	21.5	21.5	21.5	27	27	35	35	31	41		
M5	75	75	100	100	115	130	165	130	215	165	165	215		
N5	60	60	80	80	95	95	130	110	180	130	130	180		
P5	70	70	92	92	110	110	140	140	190	190	190	190		
S5	M5	M5	M6	M6	M8	M8	M10	M8	M12	M10	M10	M12		
T5	3.5	3.5	4	4	4	4	4.5	4.5	5	4.5	4.5	5	**PG**	**Gear unit**
L5	75	82											105	**G0, S0, K0**
	74	81	108	118	118	118							120	**G1, S1, F2, K1, K2**
	71	78	103	113	113	113	146.5	146.5					140	**G2, S2, F3, K3**
	70.5	77.5	104.5	114.5	114.5	114.5	147	147	174	174	174	196	160	**G3, S3, F4, K4**
	67	74	101	111	111	111	142.5	142.5	170.5	170.5	170.5	192.5	200	**G4, S4, F5, K5**
			96	106	106	106	139	139	167	167	167	189	250	**G5, F6, K6**
							132	132	160	160	160	182	300	**G6, F7, K7**
							125	125	152	152	152	174	350	**G7, F8, K8**
									135.5	135.5	135.5	157.5	400	**G8, K9**

Double gearbox - Dimensions

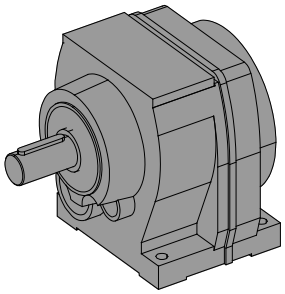


Gear unit 1	Gear unit 2	H1	H3	H4	LG	PG	PG1
G1, S1, F2, K1, K2	**G0**	7	47.5	71	111.5	120	105
G2, S2, F3, K3	**G1**	5	57.5	85	123	140	120
G3, S3, F4, K4	**G1**	5	57.5	85	123	160	120
G4, S4, F5, K5	**G2**	11	62.5	100.5	145	200	140
G5, F6, K6	**G2**	11	62.5	100.5	142.5	250	140
G6, F7, K7	**G3**	11	72.5	120	173	300	160
G7, K8, F8	**G3**	11	72.5	120	168	350	160
G8, K9	**G4**	16	88	144.5	201	400	200
G9	**G4**	16	88	144.5	189	450	200

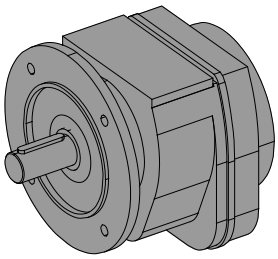
Helical gear units G



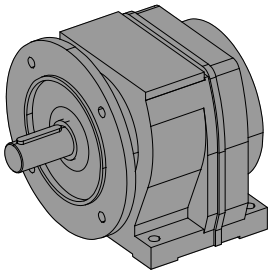
Type of construction



Foot mounted version
Example: G02**A**



Flange mounted version
Example: G33**C**



Foot-flange mounted version
Example: G22**E**

Selection table - Gear units

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
G03			
72.52	19	60	0.12
61.26	23	60	0.14
52.38	27	60	0.17
45.19	31	60	0.19
39.24	36	60	0.22
34.25	41	60	0.26
29.57	47	60	0.30
25.51	55	60	0.34
22.15	63	60	0.40
19.33	72	60	0.45
G02			
16.97	82	60	0.52
14.34	98	60	0.61
12.26	114	60	0.72
10.58	132	60	0.75
9.18	152	60	0.75
8.02	175	60	0.75
7.02	199	60	0.75
6.04	232	59	0.75
5.21	269	56	0.75
4.52	310	53	0.75
3.95	355	49	0.75
3.46	405	47	0.75
G13G03			
6085.3	0.23	117	<0.05
5140.9	0.27	117	<0.05
4395.3	0.32	117	<0.05
3791.8	0.37	117	<0.05
3293.2	0.43	117	<0.05
2874.3	0.49	117	<0.05
2481.0	0.56	117	<0.05
2140.3	0.65	117	<0.05
1858.8	0.75	117	<0.05
1622.4	0.86	117	<0.05
G13G02			
1424.2	0.98	117	<0.05
1203.2	1.2	117	<0.05
1028.7	1.4	117	<0.05
887.43	1.6	117	<0.05
770.74	1.8	117	<0.05
672.72	2.1	117	<0.05
589.22	2.4	117	<0.05
506.43	2.8	117	<0.05
436.89	3.2	117	<0.05
379.44	3.7	117	<0.05
331.18	4.2	117	0.05
290.08	4.8	117	0.06
251.28	5.6	117	0.07
219.23	6.4	117	0.08
192.31	7.3	117	0.09
169.38	8.3	117	0.10
145.94	9.6	117	0.12
127.83	11	117	0.13

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
G13			
115.34	12	117	0.15
97.78	14	117	0.18
83.91	17	117	0.20
72.69	19	117	0.24
63.42	22	117	0.27
55.63	25	117	0.31
49.00	29	117	0.35
43.09	32	117	0.40
36.98	38	117	0.46
32.03	44	117	0.54
27.95	50	117	0.61
24.52	57	117	0.70
21.59	65	117	0.79
G12			
24.88	56	117	0.69
21.25	66	117	0.81
18.39	76	117	0.93
16.08	87	117	1.07
14.16	99	117	1.21
12.56	111	117	1.37
11.19	125	117	1.50
10.04	139	112	1.50
8.77	160	106	1.50
7.68	182	100	1.50
7.06	198	97	1.50
6.22	225	92	1.50
5.51	254	87	1.50
4.91	285	83	1.50
4.41	318	79	1.50
3.85	364	74	1.50
3.37	415	69	1.50
G22G13			
1960.4	0.71	235	<0.05
1661.9	0.84	235	<0.05
1426.3	0.98	235	<0.05
1235.5	1.1	235	<0.05
1078.0	1.3	235	<0.05
945.59	1.5	235	<0.05
832.84	1.7	235	<0.05
732.34	1.9	235	<0.05
628.51	2.2	235	0.05
544.45	2.6	235	0.06
475.02	2.9	235	0.07
G22G12			
422.82	3.3	235	0.08
361.24	3.9	235	0.09
312.61	4.5	235	0.11
273.25	5.1	235	0.13
240.74	5.8	235	0.14
213.43	6.6	235	0.16
190.16	7.4	235	0.18
170.71	8.2	235	0.20

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
G23			
153.41	9.1	235	0.22
131.06	11	235	0.26
113.42	12	235	0.30
99.14	14	235	0.34
87.34	16	235	0.39
77.43	18	235	0.44
69.48	20	235	0.49
60.74	23	235	0.56
53.51	26	235	0.64
47.44	30	235	0.72
41.53	34	235	0.82
36.59	38	235	0.93
32.44	43	235	1.05
28.90	48	235	1.18
25.95	54	235	1.32
22.65	62	230	1.49
19.83	71	235	1.72
G22			
29.22	48	235	1.17
25.09	56	235	1.36
21.82	64	235	1.57
19.18	73	235	1.78
17.00	82	235	2.01
15.16	92	235	2.25
13.60	103	235	2.51
12.36	113	235	2.76
10.90	128	235	3.00
9.65	145	230	3.00
8.64	162	220	3.00
7.52	186	210	3.00
7.04	199	167	3.00
6.31	222	164	3.00
5.74	244	197	3.00
5.06	277	183	3.00
4.48	312	169	3.00
4.01	349	157	3.00
3.49	401	142	3.00
G23G13			
10074	0.14	235	<0.05
8540.3	0.16	235	<0.05
7329.5	0.19	235	<0.05
6349.2	0.22	235	<0.05
5539.5	0.25	235	<0.05
4859.3	0.29	235	<0.05
4279.9	0.33	235	<0.05
3763.4	0.37	235	<0.05
3229.8	0.43	235	<0.05
2797.9	0.50	235	<0.05
2441.1	0.57	235	<0.05
2164.1	0.65	235	<0.05
G33G13			
11893	0.12	480	<0.05
10082	0.14	480	<0.05
8652.7	0.16	480	<0.05
7495.5	0.19	480	<0.05
6539.6	0.21	480	<0.05
5736.6	0.24	480	<0.05
5052.5	0.28	480	<0.05
4442.9	0.32	480	<0.05
3813.0	0.37	480	<0.05
3303.0	0.42	480	<0.05
2881.8	0.49	480	<0.05

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
G33G12			
2565.1	0.55	480	<0.05
2191.5	0.64	480	<0.05
1896.5	0.74	480	<0.05
1657.7	0.84	480	<0.05
1460.5	0.96	480	<0.05
1294.8	1.1	480	0.05
1153.6	1.2	480	0.06
1035.6	1.4	480	0.07
903.90	1.5	480	0.08
791.71	1.8	480	0.09
727.68	1.9	480	0.10
641.09	2.2	480	0.11
568.36	2.5	480	0.12
506.40	2.8	480	0.14
454.59	3.1	480	0.16
396.78	3.5	480	0.18
347.53	4.0	480	0.20
310.04	4.5	480	0.23
278.10	5.0	480	0.25
252.75	5.5	480	0.28
222.84	6.3	480	0.32
197.36	7.1	480	0.36
G33			
177.27	7.9	480	0.40
152.19	9.2	480	0.46
132.39	11	480	0.53
116.36	12	480	0.61
103.11	14	480	0.69
91.99	15	480	0.77
82.51	17	480	0.86
74.99	19	480	0.94
66.12	21	480	1.07
58.56	24	480	1.21
51.70	27	480	1.37
45.82	31	480	1.54
40.87	34	480	1.73
36.66	38	475	1.90
33.32	42	460	2.02
29.38	48	440	2.20
26.02	54	420	2.37
23.28	60	405	2.55
20.27	69	385	2.79
G32			
25.67	55	480	2.75
22.92	61	480	3.08
20.61	68	480	3.43
18.65	75	480	3.79
17.00	82	480	4.16
15.16	92	480	4.66
13.60	103	480	5.2
12.34	113	480	5.5
10.93	128	470	5.5
9.92	141	285	4.18
9.63	145	440	5.5
8.43	166	415	5.5
7.40	189	390	5.5
7.30	192	330	5.5
6.54	214	320	5.5
5.94	236	325	5.5
5.26	266	305	5.5
4.63	302	290	5.5
4.06	345	275	5.5
3.56	393	260	5.5

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]

G43G23

12756	0.11	875	<0.05
10898	0.13	875	<0.05
9431.2	0.15	875	<0.05
8243.8	0.17	875	<0.05
7262.8	0.19	875	<0.05
6438.8	0.22	875	<0.05
5777.7	0.24	875	<0.05
5050.2	0.28	875	<0.05
4449.3	0.31	875	<0.05
3944.5	0.35	875	<0.05
3453.5	0.41	875	<0.05
3042.5	0.46	875	<0.05
2697.3	0.52	875	<0.05

G43G22

2429.7	0.58	875	0.05
2085.9	0.67	875	0.06
1814.5	0.77	875	0.07
1594.8	0.88	875	0.08
1413.3	0.99	875	0.09
1260.8	1.1	875	0.10
1131.0	1.2	875	0.11
1027.9	1.4	875	0.12
906.23	1.5	875	0.14
802.62	1.7	875	0.16
719.94	1.9	875	0.18
653.17	2.1	875	0.20
585.39	2.4	875	0.22
525.09	2.7	875	0.24
477.22	2.9	875	0.27
420.75	3.3	875	0.30
372.64	3.8	875	0.34
334.26	4.2	875	0.38
303.26	4.6	875	0.42
268.73	5.2	875	0.48
240.42	5.8	875	0.53

G43

210.05	6.7	875	0.61
181.51	7.7	875	0.71
158.99	8.8	875	0.81
140.75	9.9	875	0.91
125.69	11	875	1.02
113.03	12	875	1.13
102.26	14	875	1.25
93.21	15	875	1.38
83.15	17	875	1.54
74.59	19	875	1.72
67.67	21	875	1.90
59.97	23	875	2.14
56.95	25	875	2.25
51.52	27	875	2.49
46.96	30	875	2.73
41.89	33	875	3.06
37.58	37	875	3.41
34.09	41	875	3.76
30.21	46	875	4.25
26.59	53	860	4.74
23.29	60	800	5.0
20.45	68	735	5.3

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]

G42

26.83	52	875	4.78
24.23	58	865	5.2
22.01	64	850	5.7
20.12	70	860	6.3
18.06	78	875	7.1
16.30	86	845	7.6
15.00	93	815	8.0
13.41	104	805	8.8
11.90	118	760	9.4
10.55	133	725	10.1
9.39	149	680	10.6
8.04	174	635	11.0
7.09	197	600	11.0
6.82	205	470	10.1
6.05	231	455	11.0
5.36	261	440	11.0
4.77	293	425	11.0
4.09	342	405	11.0
3.61	388	385	11.0

G53G23

13862	0.10	1630	<0.05
11843	0.12	1630	<0.05
10249	0.14	1630	<0.05
8958.3	0.16	1630	<0.05
7892.3	0.18	1630	<0.05
6996.9	0.20	1630	<0.05
6278.4	0.22	1630	<0.05
5487.9	0.26	1630	<0.05
4834.9	0.29	1630	<0.05
4286.4	0.33	1630	0.06
3752.8	0.37	1630	0.06
3306.2	0.42	1630	0.07
2931.1	0.48	1630	0.08

G53G22

2640.3	0.53	1630	0.09
2266.7	0.62	1630	0.11
1971.8	0.71	1630	0.12
1733.0	0.81	1630	0.14
1535.8	0.91	1630	0.16
1370.1	1.0	1630	0.17
1229.0	1.1	1630	0.19
1116.9	1.3	1630	0.21
984.77	1.4	1630	0.24
872.18	1.6	1630	0.27
802.80	1.7	1630	0.30
717.52	2.0	1630	0.33
636.13	2.2	1630	0.38
570.60	2.5	1630	0.42
518.58	2.7	1630	0.46
457.21	3.1	1630	0.52
404.94	3.5	1630	0.59
372.73	3.8	1630	0.64
333.14	4.2	1630	0.72
295.82	4.7	1630	0.81
262.14	5.3	1630	0.91
229.46	6.1	1630	1.04
207.08	6.8	1630	1.15
190.61	7.3	1630	1.25

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]

G53

186.77	7.5	1630	1.28
165.96	8.4	1630	1.44
148.78	9.4	1630	1.60
134.34	10	1630	1.78
122.04	11	1630	1.96
111.58	13	1630	2.14
100.12	14	1630	2.38
90.36	15	1630	2.64
83.17	17	1630	2.87
74.34	19	1630	3.21
66.01	21	1630	3.62
58.49	24	1630	4.08
51.20	27	1630	4.66
46.21	30	1630	5.2
42.53	33	1630	5.6
38.01	37	1630	6.3
33.76	41	1630	7.1
29.91	47	1560	7.6
26.62	53	1500	8.3
22.80	61	1430	9.2
20.11	70	1350	9.8

G52

31.19	45	1130	5.3
28.45	49	1120	5.8
26.17	53	1330	7.4
23.62	59	1310	8.1
21.45	65	1290	8.8
19.83	71	1390	10.3
17.86	78	1430	11.7
16.01	87	1360	12.5
14.33	98	1330	13.6
12.90	109	1260	14.3
11.25	124	1190	15.5
10.08	139	1140	16.6
8.94	157	1070	17.5
7.86	178	1000	18.5
7.02	199	815	17.0
6.32	221	790	18.3
5.51	254	760	18.5
4.94	283	735	18.5
4.38	319	700	18.5
3.85	364	660	18.5

G63G33

14755	0.095	2800	<0.05
12667	0.11	2800	<0.05
11019	0.13	2800	<0.05
9684.6	0.14	2800	<0.05
8582.4	0.16	2800	<0.05
7656.6	0.18	2800	0.05
6867.9	0.20	2800	0.06
6241.8	0.22	2800	0.07
5503.1	0.25	2800	0.07
4874.0	0.29	2800	0.08
4386.6	0.32	2800	0.09
3827.0	0.37	2800	0.11
3402.1	0.41	2800	0.12
3051.7	0.46	2800	0.13
2773.5	0.50	2800	0.15
2445.3	0.57	2800	0.17

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]

G63G32

2136.3	0.66	2800	0.19
1907.7	0.73	2800	0.22
1715.6	0.82	2800	0.24
1552.0	0.90	2800	0.26
1414.7	0.99	2800	0.29
1262.1	1.1	2800	0.33
1132.1	1.2	2800	0.36
1018.9	1.4	2800	0.40
888.88	1.6	2800	0.46
796.35	1.8	2800	0.52
686.91	2.0	2800	0.60
612.80	2.3	2800	0.67
549.68	2.5	2800	0.75
494.71	2.8	2800	0.83
431.60	3.2	2800	0.95
386.67	3.6	2800	1.06
343.00	4.1	2800	1.20
301.31	4.6	2800	1.36
271.16	5.2	2800	1.51
237.47	5.9	2800	1.73

G63

221.95	6.3	2800	1.85
199.76	7.0	2800	2.05
181.12	7.7	2800	2.27
165.23	8.5	2800	2.48
151.99	9.2	2800	2.70
137.17	10	2800	2.99
124.54	11	2800	3.30
115.14	12	2800	3.57
103.72	13	2800	3.96
92.94	15	2800	4.42
83.23	17	2800	4.93
74.91	19	2800	5.5
65.35	21	2800	6.3
58.55	24	2800	7.0
51.94	27	2690	7.6
45.13	31	2520	8.2
40.41	35	2450	8.9
36.37	38	2350	9.5
31.73	44	2240	10.3
28.43	49	2160	11.1
25.22	56	2080	12.1
22.15	63	1990	13.2

G62

31.16	45	2040	9.6
28.42	49	2020	10.4
26.36	53	2120	11.8
23.88	59	2200	13.5
21.72	64	2110	14.2
19.60	71	2100	15.7
17.78	79	2010	16.6
15.40	91	1930	18.4
13.94	100	1860	19.6
12.65	111	1780	20.6
11.28	124	1690	22.0
9.57	146	1570	22.0
8.16	171	1460	22.0
7.47	187	1220	22.0
6.76	207	1180	22.0
6.13	228	1150	22.0
5.47	256	1110	22.0
4.64	302	1050	22.0
3.96	354	1000	22.0

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
G73G33			
19566	0.072	4880	<0.05
16797	0.083	4880	<0.05
14612	0.096	4880	<0.05
12842	0.11	4880	0.06
11381	0.12	4880	0.06
10153	0.14	4880	0.07
9107.3	0.15	4880	0.08
8277.0	0.17	4880	0.09
7297.6	0.19	4880	0.10
6463.2	0.22	4880	0.11
5863.6	0.24	4880	0.12
5079.2	0.28	4880	0.14
4511.4	0.31	4880	0.16
4046.7	0.35	4880	0.18
3677.8	0.38	4880	0.19
3242.6	0.43	4880	0.22
G73G32			
2832.9	0.49	4880	0.25
2529.7	0.55	4880	0.28
2275.0	0.62	4880	0.31
2058.1	0.68	4880	0.35
1876.0	0.75	4880	0.38
1673.6	0.84	4880	0.43
1501.2	0.93	4880	0.48
1361.9	1.0	4880	0.53
1179.7	1.2	4880	0.61
1067.4	1.3	4880	0.67
969.05	1.4	4880	0.74
864.03	1.6	4880	0.83
805.28	1.7	4880	0.89
722.33	1.9	4880	0.99
655.31	2.1	4880	1.09
567.65	2.5	4880	1.26
513.62	2.7	4880	1.39
466.28	3.0	4880	1.54
415.75	3.4	4880	1.72
351.79	4.0	4880	2.04
318.30	4.4	4880	2.25
288.96	4.8	4880	2.48
257.65	5.4	4880	2.78
G73			
250.97	5.6	4880	2.85
228.26	6.1	4880	3.14
208.90	6.7	4880	3.43
193.61	7.2	4880	3.70
175.48	8.0	4880	4.08
160.04	8.7	4880	4.47
148.43	9.4	4880	4.82
134.48	10	4880	5.3
122.32	11	4880	5.9
110.37	13	4880	6.5
100.13	14	4880	7.2
86.74	16	4880	8.3
78.48	18	4880	9.1
71.25	20	4880	10.1
63.53	22	4880	11.3
53.88	26	4880	13.3
47.41	30	4880	15.1
41.07	34	4800	17.1
37.16	38	4640	18.3
33.74	41	4510	19.6
30.08	47	4360	21.2
25.51	55	4150	23.8
21.77	64	3960	26.7

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
G72			
26.11	54	4130	23.2
23.65	59	4160	25.8
21.55	65	3970	27.0
18.87	74	3910	30.0
17.17	82	3730	30.0
15.46	91	3540	30.0
13.88	101	3360	30.0
11.91	118	3130	30.0
10.29	136	2930	30.0
9.15	153	2450	30.0
8.95	156	2740	30.0
8.32	168	2350	30.0
7.50	187	2240	30.0
6.73	208	2140	30.0
5.77	242	2000	30.0
4.99	280	1880	30.0
4.34	323	1760	30.0
G83G43			
19895	0.070	8900	0.07
17193	0.081	8900	0.08
15059	0.093	8900	0.09
13332	0.11	8900	0.10
11905	0.12	8900	0.11
10707	0.13	8900	0.12
9685.6	0.14	8900	0.13
8828.6	0.16	8900	0.15
7876.1	0.18	8900	0.17
7064.8	0.20	8900	0.18
6426.4	0.22	8900	0.20
5788.3	0.24	8900	0.23
5393.9	0.26	8900	0.24
4879.5	0.29	8900	0.27
4447.7	0.31	8900	0.29
3967.9	0.35	8900	0.33
3559.2	0.39	8900	0.37
3237.5	0.43	8900	0.40
2916.1	0.48	8900	0.45
G83G42			
2541.6	0.55	8900	0.51
2294.9	0.61	8900	0.57
2084.8	0.67	8900	0.63
1906.2	0.73	8900	0.68
1710.4	0.82	8900	0.76
1543.6	0.91	8900	0.85
1404.1	1.00	8900	0.93
1264.7	1.1	8900	1.03
1135.5	1.2	8900	1.15
974.05	1.4	8900	1.34
841.95	1.7	8900	1.55
731.87	1.9	8900	1.78
645.52	2.2	8900	2.02
573.21	2.4	8900	2.28
507.95	2.8	8900	2.57
462.05	3.0	8900	2.82
416.17	3.4	8900	3.13
373.66	3.7	8900	3.49
320.53	4.4	8900	4.07
285.24	4.9	8900	4.57
244.36	5.7	8900	5.3
215.53	6.5	8900	6.1

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
G83			
186.96	7.5	8900	7.0
170.93	8.2	8900	7.6
158.00	8.9	8900	8.3
143.59	9.8	8900	9.1
131.06	11	8900	10.0
118.71	12	8900	11.0
108.13	13	8900	12.1
94.72	15	8900	13.8
86.16	16	8900	15.1
77.61	18	8900	16.8
69.68	20	8900	18.7
59.77	23	8900	21.8
51.67	27	8900	25.2
44.91	31	8900	29.0
38.61	36	8590	32.6
34.66	40	8310	35.1
29.74	47	7940	39.1
25.70	54	7600	43.3
22.34	63	7290	45.0
G82			
18.81	74	6040	45.0
17.01	82	5920	45.0
14.76	95	5640	45.0
12.91	108	5440	45.0
11.37	123	5250	45.0
9.79	143	4560	45.0
8.85	158	4360	45.0
7.68	182	4100	45.0
6.72	208	3870	45.0
5.92	236	3650	45.0
5.06	277	3850	45.0
4.40	318	3690	45.0
G93G43			
22255	0.063	13600	0.09
19232	0.073	13600	0.10
16845	0.083	13600	0.12
14913	0.094	13600	0.13
13317	0.11	13600	0.15
11976	0.12	13600	0.17
10834	0.13	13600	0.18
9875.6	0.14	13600	0.20
8810.2	0.16	13600	0.23
7902.7	0.18	13600	0.25
7223.9	0.19	13600	0.28
6595.1	0.21	13600	0.30
6033.5	0.23	13600	0.33
5458.2	0.26	13600	0.37
4975.2	0.28	13600	0.40
4438.5	0.32	13600	0.45
3981.3	0.35	13600	0.50
3639.3	0.38	13600	0.55
3322.5	0.42	13600	0.60
3004.0	0.47	13600	0.66

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
G93G42			
2843.0	0.49	13600	0.70
2567.1	0.55	13600	0.78
2332.1	0.60	13600	0.86
2132.2	0.66	13600	0.94
1913.2	0.73	13600	1.04
1726.6	0.81	13600	1.16
1578.3	0.89	13600	1.26
1441.0	0.97	13600	1.38
1302.8	1.1	13600	1.53
1130.2	1.2	13600	1.77
988.90	1.4	13600	2.02
871.17	1.6	10800	1.82
803.56	1.7	13600	2.48
722.07	1.9	13600	2.76
641.18	2.2	13600	3.11
568.19	2.5	13600	3.51
519.38	2.7	13600	3.84
474.18	3.0	13600	4.21
428.72	3.3	13600	4.65
371.90	3.8	13600	5.4
325.42	4.3	13600	6.1
288.28	4.9	13600	6.9
250.07	5.6	13600	8.0
218.81	6.4	13600	9.1
192.77	7.3	13600	10.4
177.81	7.9	10000	8.2
G93			
157.04	8.9	13600	12.7
144.12	9.7	13600	13.8
131.03	11	13600	15.2
119.82	12	13600	16.7
105.95	13	13600	18.8
96.85	14	13600	20.6
88.42	16	13600	22.6
79.95	18	13600	25.0
69.35	20	13600	28.8
60.68	23	13600	32.9
53.46	26	13600	37.3
49.31	28	13600	40.5
45.02	31	13600	44.3
40.70	34	13600	49.0
35.31	40	13600	56.5
30.89	45	13500	64.1
27.22	51	13000	70.0
23.27	60	12300	77.5
20.23	69	11700	84.8
G92			
17.34	81	11600	90.0
15.26	92	11100	90.0
13.53	104	10600	90.0
11.74	119	10200	90.0
10.30	136	9760	90.0
9.15	153	6610	90.0
8.05	174	6350	90.0
7.14	196	6120	90.0
6.19	226	5850	90.0
5.43	258	5620	90.0

Selection table - Geared motors

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
0.12 kW				
G33G12A DM63K4				25
3.0	360	1.35	454.59	
3.5	315	1.50	396.78	
4.0	275	1.75	347.53	
4.5	245	1.95	310.04	
G22G12A DM63K4				18
3.8	295	0.80	361.24	
4.4	255	0.90	312.61	
5.1	220	1.05	273.25	
5.7	196	1.20	240.74	
6.5	174	1.35	213.43	
7.3	155	1.50	190.16	
8.1	139	1.70	170.71	
G23A DM63K4				13
9.0	127	1.85	153.41	
G13G02A DM63K4				13
8.1	135	0.85	169.38	
9.5	116	1.00	145.94	
11	102	1.15	127.83	
G13A DM63K4				10
12	96	1.20	115.34	
14	81	1.45	97.78	
16	70	1.70	83.91	
19	60	1.95	72.69	
G03A DM63K4				8
19	60	1.00	72.52	
23	51	1.20	61.26	
26	43	1.40	52.38	
31	38	1.60	45.19	
35	33	1.85	39.24	
40	28	2.1	34.25	
47	25	2.4	29.57	
54	21	2.8	25.51	
62	18	3.3	22.15	
71	16	3.7	19.33	
G02A DM63K4				8
81	14	4.3	16.97	
96	12	5.0	14.34	
113	10	5.9	12.26	
130	8.8	6.8	10.58	
150	7.6	7.9	9.18	
172	6.7	9.0	8.02	
197	5.8	10	7.02	
229	5.0	12	6.04	
265	4.3	13	5.21	
305	3.8	14	4.52	
350	3.3	15	3.95	
399	2.9	16	3.46	
0.18 kW				
G43G22A DM63G4				39
2.9	570	1.55	477.22	
3.3	505	1.75	420.75	
3.7	445	1.95	372.64	
G33G12A DM63G4				25
3.0	545	0.90	454.59	
3.5	475	1.00	396.78	
4.0	415	1.15	347.53	
4.5	370	1.30	310.04	
5.0	335	1.45	278.10	
5.5	300	1.60	252.75	
6.2	265	1.80	222.84	
G22G12A DM63G4				19
5.7	295	0.80	240.74	
6.5	260	0.90	213.43	
7.3	230	1.00	190.16	
8.1	210	1.10	170.71	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G23A DM63G4				14
9.0	191	1.20	153.41	
11	163	1.45	131.06	
12	141	1.65	113.42	
14	123	1.90	99.14	
G13A DM63G4				10
12	144	0.80	115.34	
14	122	0.95	97.78	
16	105	1.10	83.91	
19	91	1.30	72.69	
22	79	1.50	63.42	
25	69	1.70	55.63	
28	61	1.90	49.00	
G03A DM63G4				8
23	76	0.80	61.26	
26	65	0.90	52.38	
31	56	1.05	45.19	
35	49	1.25	39.24	
40	43	1.40	34.25	
47	37	1.65	29.57	
54	32	1.90	25.51	
62	28	2.2	22.15	
71	24	2.5	19.33	
G02A DM63G4				8
81	21	2.8	16.97	
96	18	3.4	14.34	
113	15	3.9	12.26	
130	13	4.6	10.58	
150	11	5.2	9.18	
172	10.0	6.0	8.02	
197	8.7	6.9	7.02	
229	7.5	7.8	6.04	
265	6.5	8.6	5.21	
305	5.6	9.4	4.52	
350	4.9	10.0	3.95	
399	4.3	11	3.46	
0.25 kW				
G43G22A DM71K4				40
3.0	775	1.15	477.22	
3.4	685	1.30	420.75	
3.8	605	1.45	372.64	
4.2	545	1.60	334.26	
4.6	495	1.80	303.26	
5.2	435	2.0	268.73	
G33G12A DM71K4				26
4.1	565	0.85	347.53	
4.5	505	0.95	310.04	
5.1	450	1.05	278.10	
5.6	410	1.15	252.75	
6.3	360	1.35	222.84	
7.1	320	1.50	197.36	
G33A DM71K4				21
8.0	300	1.60	177.27	
9.3	260	1.85	152.19	
G22G12A DM71K4				20
8.3	285	0.80	170.71	
G23A DM71K4				14
9.2	260	0.90	153.41	
11	220	1.05	131.06	
12	192	1.20	113.42	
14	168	1.40	99.14	
16	148	1.60	87.34	
18	131	1.80	77.43	
20	118	2.00	69.48	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G13A DM71K4				11
17	142	0.80	83.91	
19	123	0.95	72.69	
22	107	1.10	63.42	
25	94	1.25	55.63	
29	83	1.40	49.00	
33	73	1.60	43.09	
38	63	1.85	36.98	
G03A DM71K4				9
31	77	0.80	45.19	
36	66	0.90	39.24	
41	58	1.05	34.25	
48	50	1.20	29.57	
55	43	1.40	25.51	
64	38	1.60	22.15	
73	33	1.85	19.33	
G02A DM71K4				9
83	29	2.1	16.97	
98	24	2.5	14.34	
115	21	2.9	12.26	
133	18	3.4	10.58	
154	16	3.9	9.18	
176	14	4.4	8.02	
201	12	5.0	7.02	
234	10	5.8	6.04	
271	8.8	6.4	5.21	
312	7.7	6.9	4.52	
357	6.7	7.3	3.95	
408	5.9	8.0	3.46	
0.37 kW				
G53G22A DM71G4				62
3.1	1100	1.50	457.21	
3.5	975	1.65	404.94	
3.8	895	1.80	372.73	
4.2	800	2.0	333.14	
G43G22A DM71G4				41
3.4	1010	0.85	420.75	
3.8	895	1.00	372.64	
4.2	805	1.10	334.26	
4.6	730	1.20	303.26	
5.2	645	1.35	268.73	
5.9	580	1.50	240.42	
G43A DM71G4				32
6.7	525	1.65	210.05	
7.8	455	1.90	181.51	
G33G12A DM71G4				27
5.6	610	0.80	252.75	
6.3	535	0.90	222.84	
7.1	475	1.00	197.36	
G33A DM71G4				21
8.0	445	1.10	177.27	
9.3	380	1.25	152.19	
11	330	1.45	132.39	
12	290	1.65	116.36	
14	260	1.85	103.11	
G23A DM71G4				15
12	285	0.80	113.42	
14	250	0.95	99.14	
16	220	1.05	87.34	
18	194	1.20	77.43	
20	174	1.35	69.48	
23	152	1.55	60.74	
26	134	1.75	53.51	
30	119	1.95	47.44	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G13A DM71G4				12
25	139	0.85	55.63	
29	123	0.95	49.00	
33	108	1.10	43.09	
38	93	1.25	36.98	
44	80	1.45	32.03	
50	70	1.65	27.95	
58	61	1.90	24.52	
G12A DM71G4				12
57	62	1.90	24.88	
G03A DM71G4				10
48	74	0.80	29.57	
55	64	0.95	25.51	
64	56	1.10	22.15	
73	48	1.25	19.33	
G02A DM71G4				10
83	43	1.40	16.97	
98	36	1.65	14.34	
115	31	1.95	12.26	
133	27	2.3	10.58	
154	23	2.6	9.18	
176	20	3.0	8.02	
201	18	3.4	7.02	
234	15	3.9	6.04	
271	13	4.3	5.21	
312	11	4.7	4.52	
357	9.9	5.0	3.95	
408	8.7	5.4	3.46	
0.55 kW				
G63G32A DM80K4				100
2.8	1780	1.60	494.71	
3.3	1550	1.80	431.60	
3.6	1390	2.0	386.67	
G53G22A DM80K4				63
3.1	1640	1.00	457.21	
3.5	1450	1.10	404.94	
3.8	1340	1.20	372.73	
4.2	1200	1.35	333.14	
4.7	1060	1.55	295.82	
5.4	940	1.75	262.14	
6.1	825	2.00	229.46	
G43G22A DM80K4				43
4.6	1090	0.80	303.26	
5.2	965	0.90	268.73	
5.8	865	1.00	240.42	
G43A DM80K4				34
8.8	595	1.45	158.99	
10.0	525	1.65	140.75	
11	470	1.85	125.69	
G33A DM80K4				23
11	495	0.95	132.39	
12	435	1.10	116.36	
14	385	1.25	103.11	
15	345	1.40	91.99	
17	310	1.55	82.51	
19	280	1.70	74.99	
21	245	1.95	66.12	
G23A DM80K4				17
20	260	0.90	69.48	
23	225	1.05	60.74	
26	200	1.15	53.51	
30	177	1.30	47.44	
34	155	1.50	41.53	
38	137	1.70	36.59	
43	121	1.90	32.44	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G13A DM80K4				14
38	138	0.85	36.98	
44	120	1.00	32.03	
50	104	1.10	27.95	
57	92	1.30	24.52	
65	81	1.45	21.59	
G12A DM80K4				14
76	69	1.70	18.39	
87	60	1.95	16.08	
G03A DM80K4				12
73	72	0.85	19.33	
G02A DM80K4				12
115	46	1.30	12.26	
133	40	1.50	10.58	
153	34	1.75	9.18	
175	30	2.0	8.02	
200	26	2.3	7.02	
233	23	2.6	6.04	
270	19	2.9	5.21	
311	17	3.1	4.52	
356	15	3.3	3.95	
406	13	3.6	3.46	

0.75 kW

G63G32A DM80GC4				101
2.9	2410	1.15	494.71	
3.3	2100	1.35	431.60	
3.6	1890	1.50	386.67	
4.1	1670	1.65	343.00	
4.7	1470	1.90	301.31	
G53G22A DM80GC4				65
3.5	1970	0.80	404.94	
3.8	1820	0.90	372.73	
4.2	1620	1.00	333.14	
4.8	1440	1.15	295.82	
5.4	1280	1.25	262.14	
6.1	1120	1.45	229.46	
6.8	1010	1.60	207.08	
7.4	930	1.75	190.61	
G53A DM80GC4				57
7.5	950	1.70	186.77	
8.5	845	1.95	165.96	
G43A DM80GC4				35
8.9	810	1.10	158.99	
10	715	1.20	140.75	
11	640	1.35	125.69	
12	575	1.50	113.03	
14	520	1.70	102.26	
15	475	1.85	93.21	
G33A DM80GC4				25
12	590	0.80	116.36	
14	525	0.90	103.11	
15	465	1.05	91.99	
17	420	1.15	82.51	
19	380	1.25	74.99	
21	335	1.45	66.12	
24	295	1.60	58.56	
27	265	1.85	51.70	
G23A DM80GC4				19
26	270	0.85	53.51	
30	240	0.95	47.44	
34	210	1.10	41.53	
39	186	1.25	36.59	
43	165	1.40	32.44	
49	147	1.60	28.90	
54	132	1.75	25.95	
62	115	2.00	22.65	
G13A DM80GC4				15
50	142	0.80	27.95	
58	125	0.95	24.52	
65	110	1.05	21.59	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G12A DM80GC4				15
77	93	1.25	18.39	
88	82	1.45	16.08	
100	72	1.65	14.16	
112	64	1.85	12.56	
G02A DM80GC4				13
115	62	0.95	12.26	
133	54	1.10	10.58	
154	47	1.30	9.18	
176	41	1.45	8.02	
201	36	1.70	7.02	
234	31	1.90	6.04	
271	26	2.1	5.21	
312	23	2.3	4.52	
357	20	2.4	3.95	
408	18	2.7	3.46	

1.1 kW

G73G32A DM90SC4				154
3.0	3320	1.45	466.28	
3.4	2960	1.65	415.75	
4.0	2510	1.95	351.79	
4.4	2270	2.2	318.30	
4.9	2060	2.4	288.96	
G63G32A DM90SC4				104
2.9	3530	0.80	494.71	
3.3	3080	0.90	431.60	
3.7	2760	1.00	386.67	
4.1	2440	1.15	343.00	
4.7	2150	1.30	301.31	
5.2	1930	1.45	271.16	
6.0	1690	1.65	237.47	
G63A DM90SC4				90
6.4	1650	1.70	221.95	
7.1	1480	1.90	199.76	
7.8	1340	2.1	181.12	
8.6	1230	2.3	165.23	
9.3	1130	2.5	151.99	
G53G22A DM90SC4				68
5.4	1870	0.85	262.14	
6.2	1640	1.00	229.46	
6.8	1480	1.10	207.08	
7.4	1360	1.20	190.61	
G53A DM90SC4				60
8.5	1230	1.30	165.96	
9.5	1100	1.45	148.78	
11	995	1.65	134.34	
12	905	1.80	122.04	
13	830	1.95	111.58	
14	745	2.2	100.12	
16	670	2.4	90.36	
G43A DM90SC4				38
10	1040	0.85	140.75	
11	935	0.95	125.69	
13	840	1.05	113.03	
14	760	1.15	102.26	
15	690	1.25	93.21	
17	615	1.40	83.15	
19	555	1.60	74.59	
21	500	1.75	67.67	
24	445	1.95	59.97	
25	425	2.1	56.95	
27	380	2.3	51.52	
30	350	2.5	46.96	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G33A DM90SC4				28
17	615	0.80	82.51	
19	555	0.85	74.99	
21	490	1.00	66.12	
24	435	1.10	58.56	
27	385	1.25	51.70	
31	340	1.40	45.82	
35	305	1.60	40.87	
39	270	1.75	36.66	
42	245	1.85	33.32	
48	220	2.0	29.38	
54	193	2.2	26.02	
61	173	2.3	23.28	
G32A DM90SC4				27
55	191	2.5	25.67	
G23A DM90SC4				21
39	270	0.85	36.59	
44	240	0.95	32.44	
49	215	1.10	28.90	
55	193	1.20	25.95	
62	168	1.35	22.65	
71	147	1.60	19.83	
G22A DM90SC4				21
74	142	1.65	19.18	
83	126	1.85	17.00	
93	113	2.1	15.16	
104	101	2.3	13.60	
114	92	2.5	12.36	
G12A DM90SC4				18
88	119	1.00	16.08	
100	105	1.10	14.16	
113	93	1.25	12.56	
126	83	1.40	11.19	
141	75	1.50	10.04	
161	65	1.65	8.77	
184	57	1.75	7.68	
201	52	1.85	7.06	
228	46	2.00	6.22	
257	41	2.1	5.51	
288	36	2.3	4.91	
321	33	2.4	4.41	
368	29	2.6	3.85	
420	25	2.8	3.37	

1.5 kW

G83G42A DM90LC4				238
3.1	4510	1.95	462.05	
3.4	4060	2.2	416.17	
3.8	3640	2.4	373.66	
G73G32A DM90LC4				156
3.0	4550	1.05	466.28	
3.4	4050	1.20	415.75	
4.0	3430	1.40	351.79	
4.4	3100	1.55	318.30	
4.9	2820	1.75	288.96	
5.5	2510	1.95	257.65	
G63G32A DM90LC4				106
4.1	3350	0.85	343.00	
4.7	2940	0.95	301.31	
5.2	2640	1.05	271.16	
5.9	2320	1.20	237.47	
G63A DM90LC4				93
6.4	2250	1.25	221.95	
7.1	2030	1.40	199.76	
7.8	1840	1.50	181.12	
8.5	1680	1.65	165.23	
9.3	1540	1.80	151.99	
10	1390	2.0	137.17	
11	1270	2.2	124.54	
12	1170	2.4	115.14	
G53G22A DM90LC4				70
6.8	2020	0.80	207.08	
7.4	1860	0.90	190.61	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G53A DM90LC4				63
8.5	1690	0.95	165.96	
9.5	1510	1.10	148.78	
10	1360	1.20	134.34	
12	1240	1.30	122.04	
13	1130	1.45	111.58	
14	1020	1.60	100.12	
16	920	1.75	90.36	
17	845	1.95	83.17	
19	755	2.2	74.34	
21	670	2.4	66.01	
G43A DM90LC4				41
14	1040	0.85	102.26	
15	945	0.90	93.21	
17	845	1.05	83.15	
19	760	1.15	74.59	
21	685	1.25	67.67	
24	610	1.45	59.97	
25	580	1.50	56.95	
27	525	1.65	51.52	
30	475	1.85	46.96	
34	425	2.1	41.89	
38	380	2.3	37.58	
41	345	2.5	34.09	
G33A DM90LC4				30
24	595	0.80	58.56	
27	525	0.90	51.70	
31	465	1.05	45.82	
34	415	1.15	40.87	
38	370	1.30	36.66	
42	340	1.35	33.32	
48	300	1.45	29.38	
54	265	1.60	26.02	
61	235	1.70	23.28	
70	205	1.85	20.27	
G32A DM90LC4				30
55	260	1.85	25.67	
62	235	2.1	22.92	
68	210	2.3	20.61	
G23A DM90LC4				24
49	295	0.80	28.90	
54	265	0.90	25.95	
62	230	1.00	22.65	
71	200	1.15	19.83	
G22A DM90LC4				24
74	195	1.20	19.18	
83	173	1.35	17.00	
93	154	1.50	15.16	
104	138	1.70	13.60	
114	126	1.85	12.36	
129	111	2.1	10.90	
146	98	2.3	9.65	
163	88	2.5	8.64	
200	72	2.3	7.04	
G12A DM90LC4				21
100	144	0.80	14.16	
112	128	0.90	12.56	
126	114	1.05	11.19	
140	102	1.10	10.04	
161	89	1.20	8.77	
184	78	1.30	7.68	
200	72	1.35	7.06	
227	63	1.45	6.22	
256	56	1.55	5.51	
287	50	1.65	4.91	
320	45	1.75	4.41	
366	39	1.90	3.85	
418	34	2.0	3.37	

2.2 kW

G93G42A DM100LC4				354
3.0	6780	2.0	474.18	
3.3	6130	2.2	428.72	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G83G42A DM100LC4				245
3.1	6610	1.35	462.05	
3.4	5950	1.50	416.17	
3.8	5350	1.65	373.66	
4.4	4590	1.95	320.53	
4.9	4080	2.2	285.24	
G73G32A DM100LC4				163
3.4	5950	0.80	415.75	
4.0	5030	0.95	351.79	
4.4	4550	1.05	318.30	
4.9	4130	1.20	288.96	
5.5	3690	1.35	257.65	
G73A DM100LC4				149
5.6	3740	1.30	250.97	
6.2	3400	1.45	228.26	
6.7	3110	1.55	208.90	
7.3	2880	1.70	193.61	
8.0	2610	1.85	175.48	
8.8	2380	2.0	160.04	
9.5	2210	2.2	148.43	
10	2000	2.4	134.48	
G63G32A DM100LC4				113
5.9	3400	0.80	237.47	
G63A DM100LC4				99
7.1	2980	0.95	199.76	
7.8	2700	1.05	181.12	
8.5	2460	1.15	165.23	
9.3	2260	1.25	151.99	
10	2040	1.35	137.17	
11	1860	1.50	124.54	
12	1720	1.65	115.14	
14	1550	1.80	103.72	
15	1380	2.0	92.94	
17	1240	2.3	83.23	
19	1120	2.5	74.91	
G53A DM100LC4				69
10	2000	0.80	134.34	
12	1820	0.90	122.04	
13	1660	1.00	111.58	
14	1490	1.10	100.12	
16	1350	1.20	90.36	
17	1240	1.30	83.17	
19	1110	1.45	74.34	
21	985	1.65	66.01	
24	870	1.85	58.49	
28	765	2.1	51.20	
31	690	2.4	46.21	
G52A DM100LC4				67
45	465	2.4	31.19	
G43A DM100LC4				48
19	1110	0.80	74.59	
21	1010	0.85	67.67	
24	895	1.00	59.97	
25	850	1.05	56.95	
27	770	1.15	51.52	
30	700	1.25	46.96	
34	625	1.40	41.89	
38	560	1.55	37.58	
41	510	1.70	34.09	
47	450	1.95	30.21	
53	395	2.2	26.59	
61	345	2.3	23.29	
69	305	2.4	20.45	
G42A DM100LC4				48
53	400	2.2	26.83	
58	360	2.4	24.23	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G33A DM100LC4				37
34	610	0.80	40.87	
38	545	0.85	36.66	
42	495	0.95	33.32	
48	440	1.00	29.38	
54	390	1.10	26.02	
61	345	1.15	23.28	
70	300	1.25	20.27	
G32A DM100LC4				37
62	340	1.40	22.92	
68	305	1.55	20.61	
76	280	1.75	18.65	
83	255	1.90	17.00	
93	225	2.1	15.16	
104	205	2.4	13.60	
142	148	1.90	9.92	
G22A DM100LC4				31
83	255	0.90	17.00	
93	225	1.05	15.16	
104	205	1.15	13.60	
114	184	1.25	12.36	
129	162	1.45	10.90	
146	144	1.60	9.65	
163	129	1.70	8.64	
188	112	1.85	7.52	
200	105	1.60	7.04	
223	94	1.75	6.31	
246	86	2.3	5.74	
279	75	2.4	5.06	
315	67	2.5	4.48	
352	60	2.6	4.01	
404	52	2.7	3.49	

3.0 kW

G93G42A DM100LD4				356
3.0	9250	1.45	474.18	
3.3	8360	1.65	428.72	
3.8	7250	1.90	371.90	
4.3	6350	2.1	325.42	
G83G42A DM100LD4				248
3.1	9010	1.00	462.05	
3.4	8120	1.10	416.17	
3.8	7290	1.20	373.66	
4.4	6250	1.40	320.53	
4.9	5560	1.60	285.24	
G73G32A DM100LD4				167
4.4	6210	0.80	318.30	
4.9	5640	0.85	288.96	
5.5	5030	0.95	257.65	
G73A DM100LD4				153
5.6	5100	0.95	250.97	
6.2	4640	1.05	228.26	
6.7	4240	1.15	208.90	
7.3	3930	1.25	193.61	
8.0	3570	1.35	175.48	
8.8	3250	1.50	160.04	
9.5	3020	1.60	148.43	
10	2730	1.80	134.48	
12	2490	1.95	122.32	
13	2240	2.2	110.37	
14	2030	2.4	100.13	
G63A DM100LD4				102
8.5	3360	0.85	165.23	
9.3	3090	0.90	151.99	
10	2790	1.00	137.17	
11	2530	1.10	124.54	
12	2340	1.20	115.14	
14	2110	1.35	103.72	
15	1890	1.50	92.94	
17	1690	1.65	83.23	
19	1520	1.85	74.91	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G53A DM100LD4				72
14	2030	0.80	100.12	
16	1840	0.90	90.36	
17	1690	0.95	83.17	
19	1510	1.10	74.34	
21	1340	1.20	66.01	
24	1190	1.35	58.49	
28	1040	1.55	51.20	
31	940	1.75	46.21	
33	865	1.90	42.53	
37	770	2.1	38.01	
42	685	2.4	33.76	
G52A DM100LD4				71
45	635	1.80	31.19	
50	580	1.95	28.45	
54	530	2.5	26.17	
G43A DM100LD4				52
27	1050	0.85	51.52	
30	955	0.90	46.96	
34	850	1.05	41.89	
38	765	1.15	37.58	
41	695	1.25	34.09	
47	615	1.45	30.21	
53	540	1.60	26.59	
61	475	1.70	23.29	
69	415	1.75	20.45	
G42A DM100LD4				51
53	545	1.60	26.83	
58	490	1.75	24.23	
64	445	1.90	22.01	
70	410	2.1	20.12	
78	365	2.4	18.06	
G33A DM100LD4				41
54	530	0.80	26.02	
61	475	0.85	23.28	
70	410	0.95	20.27	
G32A DM100LD4				41
62	465	1.05	22.92	
68	420	1.15	20.61	
76	380	1.25	18.65	
83	345	1.40	17.00	
93	310	1.55	15.16	
104	275	1.75	13.60	
114	250	1.90	12.34	
129	220	2.1	10.93	
142	200	1.40	9.92	
146	196	2.2	9.63	
167	171	2.4	8.43	
193	148	2.2	7.30	
215	133	2.4	6.54	
G22A DM100LD4				34
104	275	0.85	13.60	
114	250	0.95	12.36	
129	220	1.05	10.90	
146	196	1.15	9.65	
163	176	1.25	8.64	
188	153	1.35	7.52	
200	143	1.15	7.04	
223	128	1.30	6.31	
246	117	1.70	5.74	
279	103	1.80	5.06	
315	91	1.85	4.48	
352	81	1.95	4.01	
404	71	2.0	3.49	

4.0 kW

G93G42A DM112MX4				365
3.0	12200	1.10	474.18	
3.3	11000	1.25	428.72	
3.8	9570	1.40	371.90	
4.4	8370	1.65	325.42	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G83G42A DM112MX4				256
3.4	10700	0.85	416.17	
3.8	9620	0.95	373.66	
4.4	8250	1.10	320.53	
5.0	7340	1.20	285.24	
G73A DM112MX4				161
6.2	6120	0.80	228.26	
6.8	5600	0.85	208.90	
7.4	5190	0.95	193.61	
8.1	4700	1.05	175.48	
8.9	4290	1.15	160.04	
9.6	3980	1.25	148.43	
11	3600	1.35	134.48	
12	3280	1.50	122.32	
13	2960	1.65	110.37	
14	2680	1.80	100.13	
G63A DM112MX4				110
11	3340	0.85	124.54	
12	3090	0.90	115.14	
14	2780	1.00	103.72	
15	2490	1.10	92.94	
17	2230	1.25	83.23	
19	2010	1.40	74.91	
32	1210	2.1	45.13	
35	1080	2.3	40.41	
39	975	2.4	36.37	
G62A DM112MX4				109
46	835	2.4	31.16	
G53A DM112MX4				81
19	1990	0.80	74.34	
22	1770	0.90	66.01	
24	1570	1.05	58.49	
28	1370	1.20	51.20	
31	1240	1.30	46.21	
34	1140	1.45	42.53	
37	1020	1.60	38.01	
42	905	1.80	33.76	
48	800	1.95	29.91	
54	715	2.1	26.62	
G52A DM112MX4				79
46	835	1.35	31.19	
50	765	1.45	28.45	
54	700	1.90	26.17	
60	635	2.1	23.62	
66	575	2.2	21.45	
G43A DM112MX4				60
34	1120	0.80	41.89	
38	1010	0.85	37.58	
42	915	0.95	34.09	
47	810	1.10	30.21	
54	715	1.20	26.59	
61	625	1.30	23.29	
70	550	1.35	20.45	
G42A DM112MX4				60
59	650	1.35	24.23	
65	590	1.45	22.01	
71	540	1.60	20.12	
79	485	1.80	18.06	
87	435	1.95	16.30	
95	400	2.0	15.00	
106	360	2.2	13.41	
120	320	2.4	11.90	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G32A DM112MX4				49
69	555	0.85	20.61	
76	500	0.95	18.65	
84	455	1.05	17.00	
94	405	1.20	15.16	
105	365	1.30	13.60	
115	330	1.45	12.34	
130	295	1.60	10.93	
144	265	1.05	9.92	
148	260	1.70	9.63	
169	225	1.85	8.43	
192	198	1.95	7.40	
195	196	1.70	7.30	
218	175	1.80	6.54	
240	159	2.0	5.94	
271	141	2.2	5.26	
308	124	2.3	4.63	
351	109	2.5	4.06	
400	96	2.7	3.56	

5.5 kW

G93G42A DA132S4				384
3.1	16400	0.85	474.18	
3.4	14900	0.90	428.72	
3.9	12900	1.05	371.90	
4.5	11300	1.20	325.42	
5.0	9990	1.35	288.28	
5.8	8670	1.55	250.07	
6.6	7580	1.80	218.81	
7.5	6680	2.0	192.77	
8.2	6160	1.60	177.81	
G83G42A DA132S4				275
4.5	11100	0.80	320.53	
5.1	9890	0.90	285.24	
6.0	8470	1.05	244.36	
6.8	7470	1.20	215.53	
G83A DA132S4				252
7.8	6750	1.30	186.96	
8.5	6170	1.45	170.93	
9.2	5700	1.55	158.00	
10	5180	1.70	143.59	
11	4730	1.90	131.06	
12	4290	2.1	118.71	
13	3900	2.3	108.13	
G73A DA132S4				181
9.1	5780	0.85	160.04	
9.8	5360	0.90	148.43	
11	4850	1.00	134.48	
12	4420	1.10	122.32	
13	3980	1.25	110.37	
15	3610	1.35	100.13	
17	3130	1.55	86.74	
19	2830	1.70	78.48	
20	2570	1.90	71.25	
23	2290	2.1	63.53	
27	1940	2.5	53.88	
G63A DA132S4				130
16	3360	0.85	92.94	
17	3000	0.95	83.23	
19	2700	1.05	74.91	
22	2360	1.20	65.35	
25	2110	1.30	58.55	
28	1870	1.45	51.94	
32	1630	1.55	45.13	
36	1460	1.70	40.41	
40	1310	1.80	36.37	
46	1150	1.95	31.73	
51	1030	2.1	28.43	
58	910	2.3	25.22	
66	800	2.5	22.15	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G62A DA132S4				128
47	1120	1.80	31.16	
51	1030	1.95	28.42	
55	950	2.2	26.36	
G53A DA132S4				99
28	1850	0.90	51.20	
31	1670	1.00	46.21	
34	1540	1.05	42.53	
38	1370	1.20	38.01	
43	1220	1.35	33.76	
49	1080	1.45	29.91	
55	960	1.55	26.62	
64	825	1.75	22.80	
72	725	1.85	20.11	
G52A DA132S4				98
62	855	1.55	23.62	
68	775	1.65	21.45	
73	715	1.95	19.83	
81	645	2.2	17.86	
91	580	2.4	16.01	
G43A DA132S4				79
48	1090	0.80	30.21	
55	960	0.90	26.59	
62	840	0.95	23.29	
71	740	1.00	20.45	
G42A DA132S4				79
81	650	1.35	18.06	
89	590	1.45	16.30	
97	540	1.50	15.00	
109	485	1.65	13.41	
122	430	1.75	11.90	
138	380	1.90	10.55	
155	340	2.0	9.39	
181	290	2.2	8.04	
205	255	2.3	7.09	
213	245	1.90	6.82	
240	220	2.1	6.05	
271	194	2.3	5.36	
305	172	2.5	4.77	
G32A DA132S4				68
96	545	0.90	15.16	
107	490	1.00	13.60	
118	445	1.10	12.34	
133	395	1.20	10.93	
151	345	1.25	9.63	
173	305	1.35	8.43	
197	265	1.45	7.40	
199	265	1.25	7.30	
222	235	1.35	6.54	
245	215	1.50	5.94	
277	190	1.60	5.26	
314	167	1.75	4.63	
359	146	1.90	4.06	
408	129	2.0	3.56	

7.5 kW

G93G42A DA132MX4				397
4.5	15400	0.90	325.42	
5.0	13600	1.00	288.28	
5.8	11800	1.15	250.07	
6.6	10300	1.30	218.81	
7.5	9110	1.50	192.77	
8.2	8400	1.20	177.81	
G83G42A DA132MX4				289
6.8	10200	0.85	215.53	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G83A DA132MX4				266
7.8	9200	0.95	186.96	
8.5	8410	1.05	170.93	
9.2	7780	1.15	158.00	
10	7070	1.25	143.59	
11	6450	1.40	131.06	
12	5840	1.50	118.71	
13	5320	1.65	108.13	
15	4660	1.90	94.72	
17	4240	2.1	86.16	
19	3820	2.3	77.61	
G73A DA132MX4				194
12	6020	0.80	122.32	
13	5430	0.90	110.37	
15	4930	1.00	100.13	
17	4270	1.15	86.74	
19	3860	1.25	78.48	
20	3510	1.40	71.25	
23	3130	1.55	63.53	
27	2650	1.85	53.88	
31	2330	2.1	47.41	
35	2020	2.4	41.07	
39	1830	2.5	37.16	
G63A DA132MX4				143
22	3220	0.85	65.35	
25	2880	0.95	58.55	
28	2560	1.05	51.94	
32	2220	1.15	45.13	
36	1990	1.25	40.41	
40	1790	1.30	36.37	
46	1560	1.45	31.73	
51	1400	1.55	28.43	
58	1240	1.70	25.22	
66	1090	1.80	22.15	
G62A DA132MX4				142
47	1530	1.35	31.16	
51	1400	1.45	28.42	
55	1300	1.65	26.36	
61	1180	1.85	23.88	
67	1070	1.95	21.72	
74	965	2.2	19.60	
82	875	2.3	17.78	
G53A DA132MX4				113
34	2090	0.80	42.53	
38	1870	0.85	38.01	
43	1660	1.00	33.76	
49	1470	1.05	29.91	
55	1310	1.15	26.62	
64	1120	1.25	22.80	
72	990	1.35	20.11	
G52A DA132MX4				112
62	1160	1.15	23.62	
68	1060	1.20	21.45	
73	975	1.40	19.83	
81	880	1.65	17.86	
91	790	1.75	16.01	
102	705	1.90	14.33	
113	635	2.00	12.90	
129	555	2.1	11.25	
144	495	2.3	10.08	
163	440	2.4	8.94	
207	345	2.4	7.02	
230	310	2.5	6.32	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G42A DA132MX4				92
81	890	1.00	18.06	
89	800	1.05	16.30	
97	740	1.10	15.00	
109	660	1.20	13.41	
122	585	1.30	11.90	
138	520	1.40	10.55	
155	460	1.45	9.39	
181	395	1.60	8.04	
205	350	1.70	7.09	
213	335	1.40	6.82	
240	300	1.55	6.05	
271	265	1.65	5.36	
305	235	1.80	4.77	
356	200	2.0	4.09	
404	178	2.2	3.61	

9.2 kW

G93G42A DA160MS4				413
5.1	16500	0.80	288.28	
5.9	14300	0.95	250.07	
6.7	12600	1.10	218.81	
7.6	11100	1.25	192.77	
8.3	10200	1.00	177.81	
G93A DA160MS4				387
9.4	9390	1.45	157.04	
10	8610	1.60	144.12	
11	7830	1.75	131.03	
12	7160	1.90	119.82	
14	6330	2.1	105.95	
15	5790	2.4	96.85	
G83A DA160MS4				280
10	8580	1.05	143.59	
11	7830	1.15	131.06	
12	7100	1.25	118.71	
14	6460	1.40	108.13	
16	5660	1.55	94.72	
17	5150	1.75	86.16	
19	4640	1.90	77.61	
21	4160	2.1	69.68	
25	3570	2.5	59.77	
G73A DA160MS4				209
15	5980	0.80	100.13	
17	5180	0.95	86.74	
19	4690	1.05	78.48	
21	4260	1.15	71.25	
23	3800	1.30	63.53	
27	3220	1.50	53.88	
31	2830	1.70	47.41	
36	2450	1.95	41.07	
40	2220	2.1	37.16	
44	2020	2.2	33.74	
49	1800	2.4	30.08	
G63A DA160MS4				159
25	3500	0.80	58.55	
28	3100	0.85	51.94	
33	2700	0.95	45.13	
36	2420	1.00	40.41	
40	2170	1.10	36.37	
46	1900	1.20	31.73	
52	1700	1.25	28.43	
58	1510	1.40	25.22	
66	1320	1.50	22.15	
G62A DA160MS4				157
62	1430	1.55	23.88	
68	1300	1.65	21.72	
75	1170	1.80	19.60	
83	1060	1.90	17.78	
95	920	2.1	15.40	
105	835	2.2	13.94	
116	755	2.4	12.65	
130	675	2.5	11.28	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G53A DA160MS4				128
44	2020	0.80	33.76	
49	1790	0.85	29.91	
55	1590	0.95	26.62	
64	1360	1.05	22.80	
73	1200	1.10	20.11	
G52A DA160MS4				127
82	1070	1.35	17.86	
92	955	1.40	16.01	
103	855	1.55	14.33	
114	770	1.65	12.90	
131	675	1.75	11.25	
146	605	1.90	10.08	
164	535	2.0	8.94	
187	470	2.1	7.86	
209	420	1.95	7.02	
233	380	2.1	6.32	
267	330	2.3	5.51	
298	295	2.5	4.94	
G42A DA160MS4				108
110	800	1.00	13.41	
123	710	1.05	11.90	
139	630	1.15	10.55	
157	560	1.20	9.39	
183	480	1.30	8.04	
207	425	1.40	7.09	
216	405	1.15	6.82	
243	360	1.25	6.05	
274	320	1.35	5.36	
308	285	1.50	4.77	
360	245	1.65	4.09	
408	215	1.80	3.61	

11.0 kW

G93G42A DA160M4				418
5.9	17200	0.80	250.07	
6.7	15100	0.90	218.81	
7.6	13300	1.05	192.77	
8.2	12200	0.80	177.81	
G93A DA160M4				392
9.3	11300	1.20	157.04	
10	10300	1.30	144.12	
11	9400	1.45	131.03	
12	8590	1.60	119.82	
14	7600	1.80	105.95	
15	6940	1.95	96.85	
17	6340	2.1	88.42	
18	5730	2.4	79.95	
G83A DA160M4				285
10	10300	0.85	143.59	
11	9400	0.95	131.06	
12	8510	1.05	118.71	
14	7750	1.15	108.13	
15	6790	1.30	94.72	
17	6180	1.45	86.16	
19	5560	1.60	77.61	
21	5000	1.80	69.68	
25	4290	2.1	59.77	
28	3700	2.4	51.67	
G73A DA160M4				214
17	6220	0.80	86.74	
19	5630	0.85	78.48	
21	5110	0.95	71.25	
23	4560	1.05	63.53	
27	3860	1.25	53.88	
31	3400	1.45	47.41	
36	2950	1.65	41.07	
39	2660	1.75	37.16	
43	2420	1.85	33.74	
49	2160	2.0	30.08	
57	1830	2.3	25.51	
67	1560	2.5	21.77	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G72A DA160M4				210
56	1870	2.2	26.11	
62	1700	2.5	23.65	
G63A DA160M4				163
32	3240	0.80	45.13	
36	2900	0.85	40.41	
40	2610	0.90	36.37	
46	2280	1.00	31.73	
52	2040	1.05	28.43	
58	1810	1.15	25.22	
66	1590	1.25	22.15	
G62A DA160M4				161
61	1710	1.30	23.88	
67	1560	1.35	21.72	
75	1410	1.50	19.60	
82	1270	1.60	17.78	
95	1100	1.75	15.40	
105	1000	1.85	13.94	
116	905	1.95	12.65	
130	810	2.1	11.28	
153	685	2.3	9.57	
179	585	2.5	8.16	
196	535	2.3	7.47	
217	485	2.4	6.76	
G53A DA160M4				133
55	1910	0.80	26.62	
64	1640	0.85	22.80	
73	1440	0.95	20.11	
G52A DA160M4				132
82	1280	1.10	17.86	
92	1150	1.20	16.01	
102	1030	1.30	14.33	
114	925	1.35	12.90	
130	805	1.45	11.25	
145	725	1.60	10.08	
164	640	1.65	8.94	
186	565	1.75	7.86	
209	505	1.60	7.02	
232	455	1.75	6.32	
266	395	1.90	5.51	
297	355	2.1	4.94	
334	315	2.2	4.38	
381	275	2.4	3.85	
G42A DA160M4				113
109	960	0.85	13.41	
123	855	0.90	11.90	
139	755	0.95	10.55	
156	675	1.00	9.39	
182	575	1.10	8.04	
207	510	1.20	7.09	
215	490	0.95	6.82	
242	435	1.05	6.05	
273	385	1.15	5.36	
307	340	1.25	4.77	
358	295	1.40	4.09	
406	260	1.50	3.61	

15.0 kW

G93A DA160L4				408
9.3	15400	0.90	157.04	
10	14100	0.95	144.12	
11	12800	1.05	131.03	
12	11700	1.15	119.82	
14	10400	1.30	105.95	
15	9470	1.45	96.85	
17	8650	1.55	88.42	
18	7820	1.75	79.95	
21	6780	2.0	69.35	
24	5930	2.3	60.68	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
G83A DA160L4				301
14	10600	0.85	108.13	
15	9260	0.95	94.72	
17	8420	1.05	86.16	
19	7590	1.15	77.61	
21	6810	1.30	69.68	
25	5840	1.50	59.77	
28	5050	1.75	51.67	
38	3780	2.3	38.61	
42	3390	2.5	34.66	
G73A DA160L4				229
23	6210	0.80	63.53	
27	5270	0.95	53.88	
31	4640	1.05	47.41	
36	4020	1.20	41.07	
39	3630	1.30	37.16	
43	3300	1.35	33.74	
49	2940	1.50	30.08	
57	2490	1.65	25.51	
67	2130	1.85	21.77	
G72A DA160L4				227
56	2550	1.60	26.11	
62	2310	1.80	23.65	
68	2110	1.90	21.55	
78	1850	2.1	18.87	
85	1680	2.2	17.17	
95	1510	2.3	15.46	
106	1360	2.5	13.88	
G63A DA160L4				179
52	2780	0.80	28.43	
58	2470	0.85	25.22	
66	2170	0.90	22.15	
G62A DA160L4				178
61	2330	0.95	23.88	
67	2120	1.00	21.72	
75	1920	1.10	19.60	
82	1740	1.15	17.78	
95	1510	1.30	15.40	
105	1360	1.35	13.94	
116	1240	1.45	12.65	
130	1100	1.55	11.28	
153	935	1.70	9.57	
179	800	1.85	8.16	
196	730	1.65	7.47	
217	660	1.80	6.76	
239	600	1.90	6.13	
268	535	2.1	5.47	
316	455	2.3	4.64	
G52A DA160L4				149
82	1750	0.80	17.86	
92	1570	0.85	16.01	
102	1400	0.95	14.33	
114	1260	1.00	12.90	
130	1100	1.10	11.25	
145	985	1.15	10.08	
164	875	1.20	8.94	
186	770	1.30	7.86	
209	685	1.20	7.02	
232	620	1.30	6.32	
266	540	1.40	5.51	
297	485	1.50	4.94	
334	430	1.65	4.38	
381	375	1.75	3.85	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	

18.5 kW

G93A DA180MC4				413
11	15800	0.85	131.03	
12	14400	0.95	119.82	
14	12800	1.05	105.95	
15	11700	1.15	96.85	
17	10700	1.30	88.42	
18	9640	1.40	79.95	
21	8360	1.65	69.35	
24	7320	1.85	60.68	
27	6450	2.1	53.46	
30	5950	2.3	49.31	
33	5430	2.5	45.02	
G83A DA180MC4				306
15	11400	0.80	94.72	
17	10400	0.85	86.16	
19	9360	0.95	77.61	
21	8400	1.05	69.68	
25	7210	1.25	59.77	
28	6230	1.45	51.67	
33	5420	1.65	44.91	
38	4660	1.85	38.61	
42	4180	2.00	34.66	
49	3590	2.2	29.74	
57	3100	2.5	25.70	
G73A DA180MC4				235
31	5720	0.85	47.41	
36	4950	0.95	41.07	
39	4480	1.05	37.16	
43	4070	1.10	33.74	
49	3630	1.20	30.08	
57	3080	1.35	25.51	
67	2630	1.50	21.77	
G72A DA180MC4				232
62	2850	1.45	23.65	
68	2600	1.55	21.55	
78	2280	1.70	18.87	
85	2070	1.80	17.17	
95	1860	1.90	15.46	
106	1670	2.0	13.88	
123	1440	2.2	11.91	
142	1240	2.4	10.29	
160	1100	2.2	9.15	
164	1080	2.5	8.95	
176	1000	2.3	8.32	
195	905	2.5	7.50	
G62A DA180MC4				183
75	2360	0.90	19.60	
82	2140	0.95	17.78	
95	1860	1.05	15.40	
105	1680	1.10	13.94	
116	1530	1.15	12.65	
130	1360	1.25	11.28	
153	1150	1.35	9.57	
179	985	1.50	8.16	
196	900	1.35	7.47	
217	815	1.45	6.76	
239	740	1.55	6.13	
268	660	1.70	5.47	
316	560	1.90	4.64	
370	475	2.1	3.96	

Type				~kg
n2 [1/min]		T2 [Nm]	cG i	
G52A DA180MC4				154
114	1560	0.80	12.90	
130	1360	0.90	11.25	
145	1220	0.95	10.08	
164	1080	1.00	8.94	
186	950	1.05	7.86	
209	845	0.95	7.02	
232	760	1.05	6.32	
266	665	1.15	5.51	
297	595	1.25	4.94	
334	530	1.30	4.38	
381	465	1.40	3.85	

22.0 kW

G93A DA180LC4				424
12	17200	0.80	119.82	
14	15200	0.90	105.95	
15	13900	1.00	96.85	
17	12700	1.05	88.42	
18	11500	1.20	79.95	
21	9950	1.35	69.35	
24	8700	1.55	60.68	
27	7670	1.80	53.46	
30	7070	1.90	49.31	
33	6460	2.1	45.02	
36	5840	2.3	40.70	
G83A DA180LC4				316
19	11100	0.80	77.61	
21	9990	0.90	69.68	
25	8570	1.05	59.77	
28	7410	1.20	51.67	
33	6440	1.40	44.91	
38	5540	1.55	38.61	
42	4970	1.65	34.66	
49	4260	1.85	29.74	
57	3690	2.1	25.70	
66	3200	2.3	22.34	
G82A DA180LC4				311
78	2700	2.2	18.81	
86	2440	2.4	17.01	
G73A DA180LC4				245
36	5890	0.80	41.07	
39	5330	0.85	37.16	
43	4840	0.95	33.74	
49	4310	1.00	30.08	
57	3660	1.15	25.51	
67	3120	1.25	21.77	
G72A DA180LC4				242
62	3390	1.25	23.65	
68	3090	1.30	21.55	
78	2710	1.45	18.87	
85	2460	1.50	17.17	
95	2220	1.60	15.46	
106	1990	1.70	13.88	
123	1710	1.85	11.91	
142	1480	2.00	10.29	
160	1310	1.85	9.15	
164	1280	2.1	8.95	
176	1190	1.95	8.32	
195	1080	2.1	7.50	
218	965	2.2	6.73	
254	830	2.4	5.77	

Type				~kg
n2 [1/min]		T2 [Nm]	cG i	
G62A DA180LC4				194
82	2550	0.80	17.78	
95	2210	0.85	15.40	
105	2000	0.95	13.94	
116	1810	1.00	12.65	
130	1620	1.05	11.28	
153	1370	1.15	9.57	
179	1170	1.25	8.16	
196	1070	1.15	7.47	
217	970	1.20	6.76	
239	880	1.30	6.13	
268	785	1.40	5.47	
316	665	1.60	4.64	
370	570	1.75	3.96	

30.0 kW

G93A DA200L4				495
17	17100	0.80	88.42	
19	15500	0.90	79.95	
21	13400	1.00	69.35	
24	11700	1.15	60.68	
28	10300	1.30	53.46	
30	9550	1.45	49.31	
33	8710	1.55	45.02	
36	7880	1.75	40.70	
42	6830	2.00	35.31	
48	5980	2.3	30.89	
54	5270	2.5	27.22	
G83A DA200L4				388
29	10000	0.90	51.67	
33	8690	1.00	44.91	
38	7470	1.15	38.61	
43	6710	1.25	34.66	
50	5760	1.40	29.74	
58	4980	1.55	25.70	
66	4320	1.70	22.34	
G82A DA200L4				383
79	3640	1.65	18.81	
87	3290	1.80	17.01	
100	2860	1.95	14.76	
115	2500	2.2	12.91	
130	2200	2.4	11.37	
151	1900	2.4	9.79	
G73A DA200L4				317
58	4940	0.85	25.51	
68	4210	0.95	21.77	
G72A DA200L4				314
78	3650	1.05	18.87	
86	3320	1.10	17.17	
96	2990	1.20	15.46	
107	2690	1.25	13.88	
124	2310	1.35	11.91	
144	1990	1.45	10.29	
162	1770	1.40	9.15	
165	1730	1.60	8.95	
178	1610	1.45	8.32	
197	1450	1.55	7.50	
220	1300	1.65	6.73	
256	1120	1.80	5.77	
297	965	1.95	4.99	
341	840	2.1	4.34	

Type				~kg
n2 [1/min]		T2 [Nm]	cG i	

37.0 kW

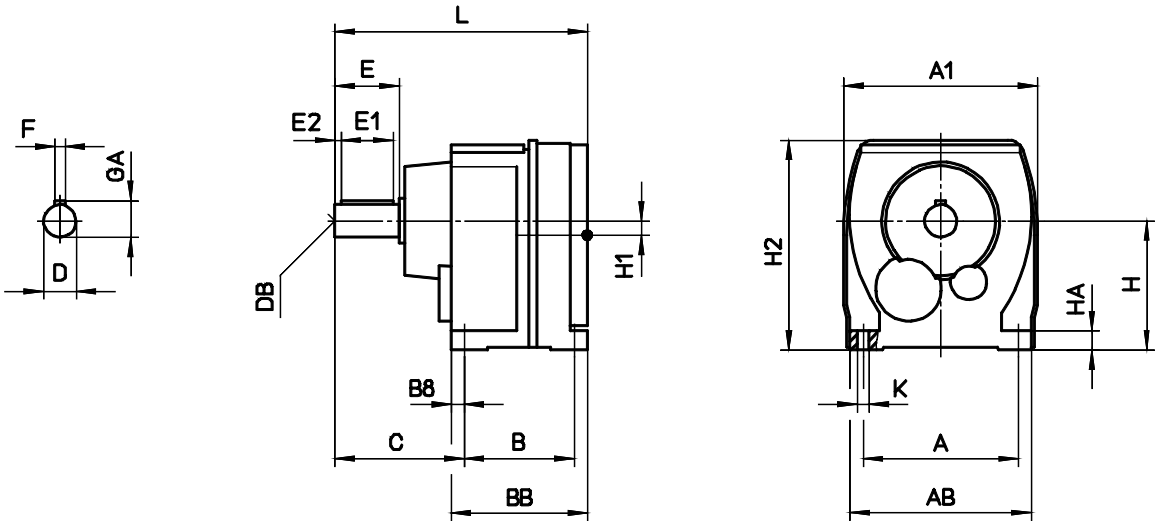
G93A DA225SX4				552
21	16600	0.80	69.35	
24	14500	0.95	60.68	
28	12800	1.05	53.46	
30	11800	1.15	49.31	
33	10800	1.25	45.02	
36	9750	1.40	40.70	
42	8460	1.60	35.31	
48	7400	1.80	30.89	
54	6520	2.00	27.22	
63	5570	2.2	23.27	
73	4850	2.4	20.23	
G83A DA225SX4				444
33	10800	0.85	44.91	
38	9250	0.95	38.61	
43	8300	1.00	34.66	
50	7120	1.10	29.74	
57	6160	1.25	25.70	
66	5350	1.35	22.34	
G82A DA225SX4				441
78	4510	1.35	18.81	
87	4070	1.45	17.01	
100	3530	1.60	14.76	
114	3090	1.75	12.91	
130	2720	1.95	11.37	
151	2350	1.95	9.79	
167	2120	2.1	8.85	
192	1840	2.2	7.68	
219	1610	2.4	6.72	
249	1420	2.6	5.92	
291	1210	3.2	5.06	
335	1050	3.5	4.40	

45.0 kW

G93A DA225MX4				582
28	15600	0.85	53.46	
30	14400	0.95	49.31	
33	13100	1.05	45.02	
36	11900	1.15	40.70	
42	10300	1.30	35.31	
48	9000	1.50	30.89	
54	7930	1.65	27.22	
63	6780	1.80	23.27	
73	5890	2.00	20.23	
G92A DA225MX4				575
85	5050	2.3	17.34	
97	4450	2.5	15.26	
161	2670	2.5	9.15	
G83A DA225MX4				476
43	10100	0.80	34.66	
50	8660	0.90	29.74	
57	7490	1.00	25.70	
66	6510	1.10	22.34	
G82A DA225MX4				473
78	5480	1.10	18.81	
87	4960	1.20	17.01	
100	4300	1.30	14.76	
114	3760	1.45	12.91	
130	3310	1.60	11.37	
151	2850	1.60	9.79	
167	2580	1.70	8.85	
192	2240	1.85	7.68	
219	1960	2.00	6.72	
249	1720	2.1	5.92	
291	1470	2.6	5.06	
335	1280	2.9	4.40	

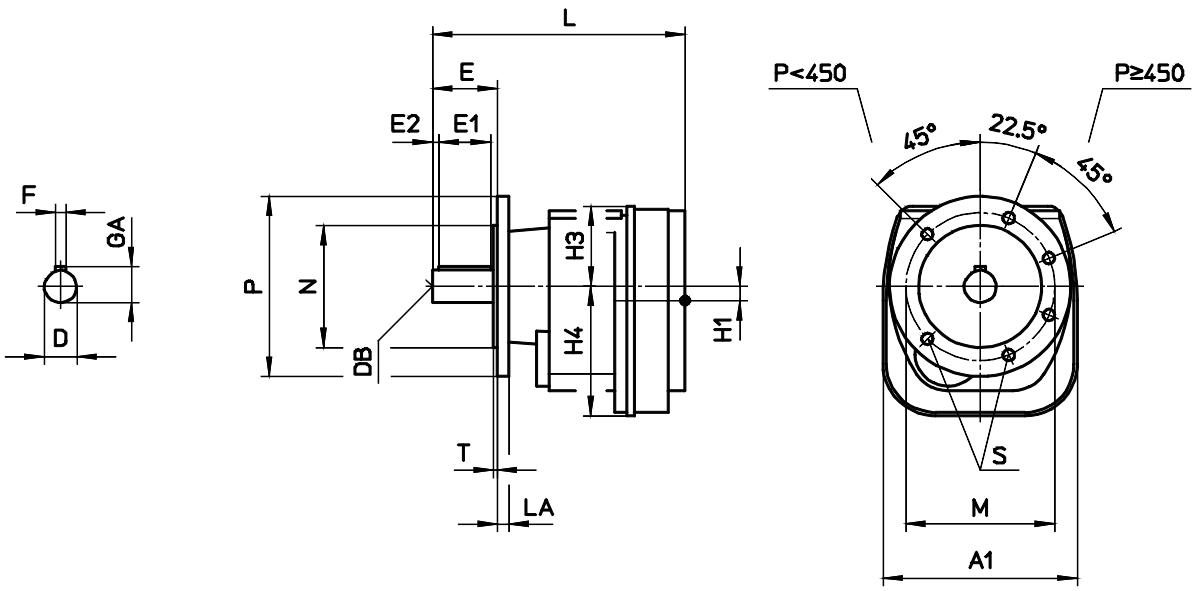
Dimensions

A - Foot mounted version



	A	AB	A1	B	BB	B8	C	H	HA	H1	H2	K	L	D	DB	E	E1	E2	F	GA
G0	90	105	109	70	90	12.5	80	70-0.5	10	7	117.5	Ø6.6	151.5	Ø20k6	M6	40	32	4	6	22.5
G1	100	120	125	70	90	10	81	85-0.5	12	5	142.5	Ø6.6	163	Ø20k6	M6	40	32	4	6	22.5
G2	120	140	150	85	105	10	100	100-0.5	18	11	162.5	Ø9	195	Ø25k6	M10	50	40	5	8	28
G3	135	160	177	110	135	12.5	116.5 126.5	120-0.5	24	11	192.5	Ø11	234 244	Ø30k6 Ø35k6	M10 M12	60 70	50 60	5 5	8 10	33 38
G4	170	200	208	135	165	15	146	145-0.5	30	16	233	Ø13.5	281	Ø40k6	M16	80	70	5	12	43
G5	215	250	259	170	205	17.5	181	180-0.5	35	20	289.5	Ø17.5	335	Ø50k6	M16	100	80	10	14	53.5
G6	255	300	309	200	245	23	207	220-0.5	45	20	354.5	Ø22	392	Ø60m6	M20	120	100	10	18	64
G7	290	350	360	280	330	25	239	250-1	55	28.5	401.5	Ø26	485	Ø75m6	M20	140	125	7.5	20	79.5
G8	330	400	412	330	395	32.5	290	290-1	65	32	464	Ø33	585.5	Ø90m6	M24	170	140	15	25	95
G9	390	460	466	400	480	40	335	340-1	75	39	534	Ø39	695	Ø110m6	M24	210	180	15	28	116

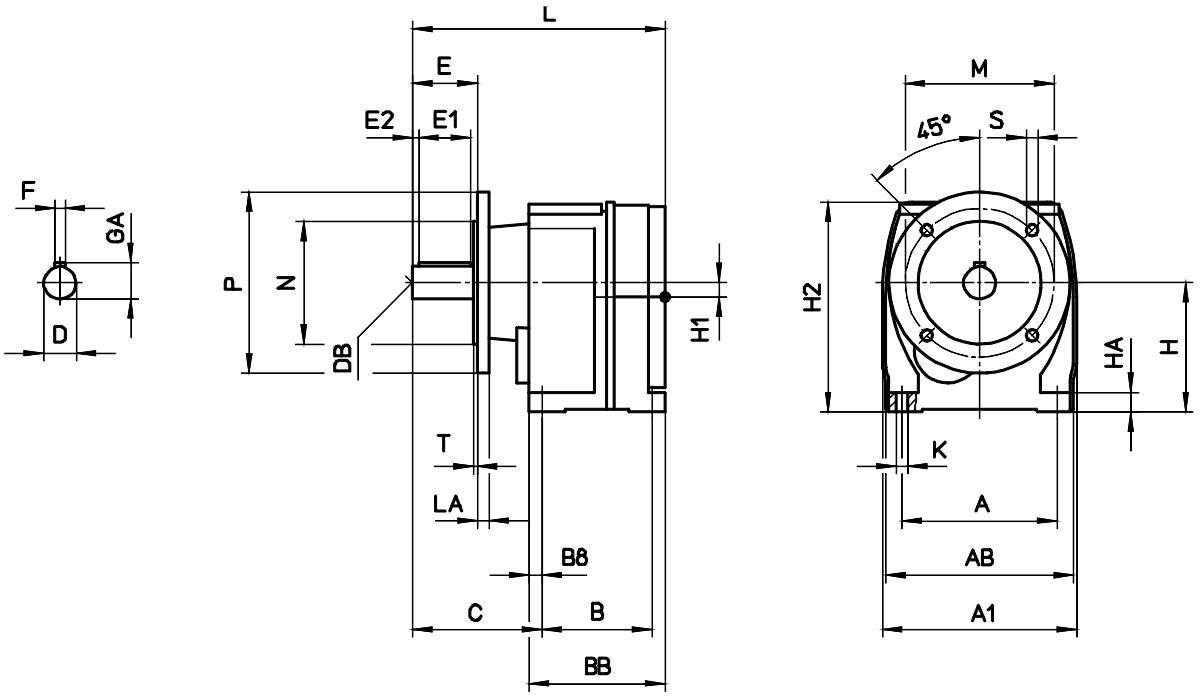
C - Flange mounted version



	A1	H1	L	H3	H4	D	DB	E	E1	E2	F	GA
G0	109	7	151.5	47.5	71	Ø20k6	M6	40	32	4	6	22.5
G1	125	5	163	57.5	85	Ø20k6	M6	40	32	4	6	22.5
G2	150	11	195	62.5	100.5	Ø25k6	M10	50	40	5	8	28
G3	177	11	234	72.5	120	Ø30k6	M10	60	50	5	8	33
			244			Ø35k6	M12	70	60	5	10	38
G4	208	16	281	88	144.5	Ø40k6	M16	80	70	5	12	43
G5	259	20	335	109.5	179	Ø50k6	M16	100	80	10	14	53.5
G6	309	20	392	134.5	218.5	Ø60m6	M20	120	100	10	18	64
G7	360	28.5	485	151.5	248.5	Ø75m6	M20	140	125	7.5	20	79.5
G8	412	32	585.5	174	289	Ø90m6	M24	170	140	15	25	95
G9	466	39	695	194	338.5	Ø110m6	M24	210	180	15	28	116

	M	N	P	LA	T	S
G0	Ø100	Ø80 j6	Ø120	8	3	Ø6.6
G1	Ø100	Ø80 j6	Ø120	8	3	Ø6.6
	Ø115	Ø95 j6	Ø140	9	3	Ø9
G2	Ø115	Ø95 j6	Ø140	9	3	Ø9
	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
G3	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
G4	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
G5	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
G6	Ø265	Ø230 j6	Ø300	12	4	Ø13.5
G7	Ø300	Ø250 h6	Ø350	13	5	Ø17.5
G8	Ø400	Ø350 h6	Ø450	16	5	Ø17.5
G9	Ø400	Ø350 h6	Ø450	16	5	Ø17.5

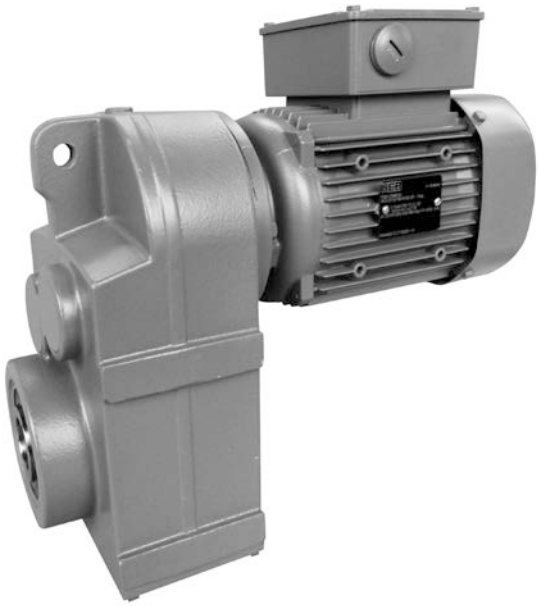
E - Foot-flange mounted version



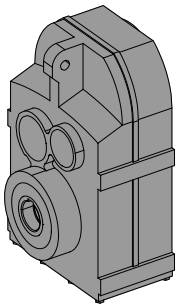
	A	AB	A1	B	BB	B8	C	H	HA	H1	H2	K	L	D	DB	E	E1	E2	F	GA
G0	90	105	109	70	90	12.5	80	70-0.5	10	7	117.5	Ø6.6	151.5	Ø20k6	M6	40	32	4	6	22.5
G1	100	120	125	70	90	10	81	85-0.5	12	5	142.5	Ø6.6	163	Ø20k6	M6	40	32	4	6	22.5
G2	120	140	150	85	105	10	100	100-0.5	18	11	162.5	Ø9	195	Ø25k6	M10	50	40	5	8	28
G3	135	160	177	110	135	12.5	116.5 126.5	120-0.5	24	11	192.5	Ø11	234 244	Ø30k6 Ø35k6	M10 M12	60 70	50 60	5 5	8 10	33 38
G4	170	200	208	135	165	15	146	145-0.5	30	16	233	Ø13.5	281	Ø40k6	M16	80	70	5	12	43
G5	215	250	259	170	205	17.5	181	180-0.5	35	20	289.5	Ø17.5	335	Ø50k6	M16	100	80	10	14	53.5

	M	N	P	LA	T	S
G0	Ø100	Ø80 j6	Ø120	8	3	Ø6.6
G1	Ø100	Ø80 j6	Ø120	8	3	Ø6.6
	Ø115	Ø95 j6	Ø140	9	3	Ø9
G2	Ø115	Ø95 j6	Ø140	9	3	Ø9
	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
G3	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
G4	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
G5	Ø215	Ø180 j6	Ø250	11	4	Ø13.5

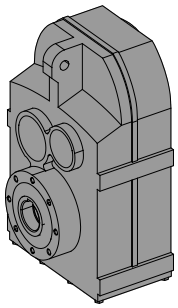
Shaft mounted helical gear units F



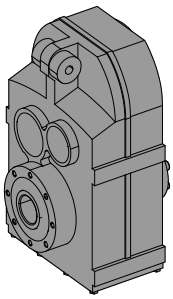
Type of construction

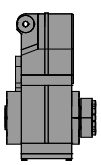


Shaft mounted version
Hollow shaft with keyway
Example: F42**A**

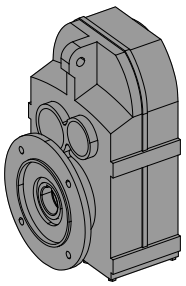


Shaft mounted version
Hollow shaft with keyway
Example: F53**B**

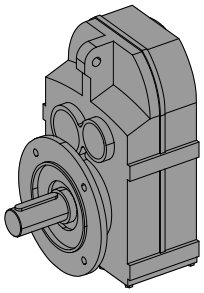




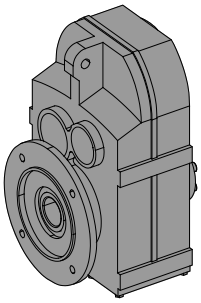
Shaft mounted version
Hollow shaft with shrink disc
Rubber elements
Example: F32**BSG**

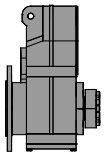


Flange mounted version
Hollow shaft with keyway
Example: F33**C**

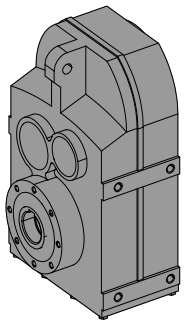


Flange mounted version
Output shaft with key
Example: F42**CV**

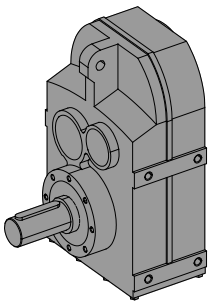




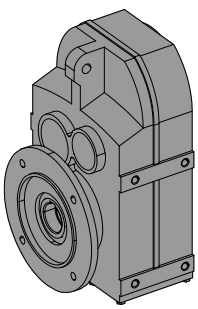
Flange mounted version
Hollow shaft with shrink disc
Example: F52**CS**



Shaft mounted version + side areas
Hollow shaft with keyway
Example: F43**D**



Shaft mounted version + side areas
Output shaft with key
Example: F32**DV**



Flange mounted version + side areas
Hollow shaft with keyway
Example: F42**E**

Selection table - Gear units

F23G03

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
9125.4	0.15	245	<0.05
7709.2	0.18	245	<0.05
6591.1	0.21	245	<0.05
5686.0	0.25	245	<0.05
4938.4	0.28	245	<0.05
4310.3	0.32	245	<0.05
3720.4	0.38	245	<0.05
3209.5	0.44	245	<0.05
2787.5	0.50	245	<0.05
2433.0	0.58	245	<0.05

F23G02

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
2135.7	0.66	245	<0.05
1804.3	0.78	245	<0.05
1542.6	0.91	245	<0.05
1330.8	1.1	245	<0.05
1155.8	1.2	245	<0.05
1008.8	1.4	245	<0.05
883.58	1.6	245	<0.05
759.44	1.8	245	<0.05
655.15	2.1	245	0.05
569.00	2.5	245	0.06
496.64	2.8	245	0.07
434.99	3.2	245	0.08
380.22	3.7	245	0.09
334.98	4.2	245	0.11
296.97	4.7	245	0.12
266.48	5.3	245	0.13
232.93	6.0	245	0.15
205.21	6.8	245	0.18
181.93	7.7	245	0.20

F23

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
170.20	8.2	245	0.21
145.41	9.6	245	0.25
125.84	11	245	0.29
109.99	13	245	0.33
96.90	14	245	0.37
85.91	16	245	0.42
77.09	18	245	0.47
67.38	21	245	0.53
59.37	24	245	0.61
52.63	27	245	0.68
46.08	30	245	0.78
40.60	34	245	0.88
35.99	39	245	1.00
32.07	44	245	1.12
28.79	49	245	1.25
25.12	56	245	1.43
22.01	64	230	1.53

F22

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
32.42	43	245	1.11
27.83	50	245	1.29
24.21	58	245	1.48
21.28	66	245	1.69
18.86	74	245	1.90
16.82	83	245	2.13
15.09	93	240	2.33
13.71	102	235	2.51
12.09	116	225	2.73
10.71	131	215	2.94
9.58	146	205	3.00
8.34	168	193	3.00
7.62	184	165	3.00
6.80	206	160	3.00
6.10	230	150	3.00
5.54	253	142	3.00
4.89	287	132	3.00
4.33	324	122	3.00
3.87	362	114	3.00
3.37	415	104	3.00

F33G13

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
12764	0.11	470	<0.05
10821	0.13	470	<0.05
9286.8	0.15	470	<0.05
8044.8	0.17	470	<0.05
7018.8	0.20	470	<0.05
6157.0	0.23	470	<0.05
5422.8	0.26	470	<0.05
4768.5	0.29	470	<0.05
4092.4	0.34	470	<0.05
3545.1	0.39	470	<0.05
3092.9	0.45	470	<0.05

F33G12

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
2753.1	0.51	470	<0.05
2352.1	0.60	470	<0.05
2035.5	0.69	470	<0.05
1779.2	0.79	470	<0.05
1567.5	0.89	470	<0.05
1389.7	1.0	470	<0.05
1238.2	1.1	470	0.06
1111.5	1.3	470	0.06
970.15	1.4	470	0.07
849.73	1.6	470	0.08
781.01	1.8	470	0.09
688.08	2.0	470	0.10
610.01	2.3	470	0.11
543.51	2.6	470	0.13
487.91	2.9	470	0.14
425.86	3.3	470	0.16
373.00	3.8	470	0.19
332.76	4.2	470	0.21
298.48	4.7	470	0.23
271.27	5.2	470	0.25
239.17	5.9	470	0.29
211.83	6.6	470	0.33

F33

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
190.26	7.4	470	0.36
163.34	8.6	470	0.42
142.09	9.9	470	0.49
124.88	11	470	0.55
110.67	13	470	0.62
98.73	14	470	0.70
88.56	16	470	0.78
80.49	17	470	0.86
70.96	20	470	0.97
62.85	22	470	1.10
56.24	25	470	1.23
49.17	28	470	1.40
43.87	32	470	1.57
39.35	36	470	1.75
35.76	39	470	1.93
31.53	44	470	2.19
27.93	50	470	2.47
24.99	56	470	2.76
21.75	64	465	3.13

F32

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
27.55	51	470	2.51
24.60	57	470	2.81
22.12	63	470	3.12
20.01	70	465	3.41
18.24	77	450	3.62
16.27	86	435	3.92
14.60	96	425	4.00
13.24	106	415	4.00
11.74	119	400	4.00
10.33	136	385	4.00
9.05	155	375	4.00
8.50	165	245	4.00
7.95	176	360	4.00
7.58	185	235	4.00
6.80	206	225	4.00
6.17	227	215	4.00
5.47	256	205	4.00
4.81	291	192	4.00
4.21	332	181	4.00
3.70	378	170	4.00

F43G13

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
16236	0.086	885	<0.05
13764	0.10	885	<0.05
11813	0.12	885	<0.05
10233	0.14	885	<0.05
8927.9	0.16	885	<0.05
7831.6	0.18	885	<0.05
6897.8	0.20	885	<0.05
6065.5	0.23	885	<0.05
5205.5	0.27	885	<0.05
4509.3	0.31	885	<0.05
3934.2	0.36	885	<0.05

F43G12

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
3501.9	0.40	885	<0.05
2991.9	0.47	885	<0.05
2589.2	0.54	885	<0.05
2263.2	0.62	885	0.06
1993.9	0.70	885	0.06
1767.6	0.79	885	0.07
1574.9	0.89	885	0.08
1413.8	0.99	885	0.09
1234.0	1.1	885	0.10
1080.8	1.3	885	0.12
993.44	1.4	885	0.13
875.23	1.6	885	0.15
775.93	1.8	885	0.17
691.34	2.0	885	0.19
620.62	2.3	885	0.21
541.69	2.6	885	0.24
474.45	3.0	885	0.27
426.68	3.3	885	0.30
386.00	3.6	885	0.34
351.84	4.0	885	0.37
313.88	4.5	885	0.41
281.55	5.0	885	0.46
255.44	5.5	885	0.51
226.36	6.2	885	0.57
199.24	7.0	885	0.65

F43

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
235.25	6.0	885	0.55
203.29	6.9	885	0.64
178.07	7.9	885	0.73
157.64	8.9	885	0.82
140.77	9.9	885	0.92
126.60	11	885	1.02
114.53	12	885	1.13
104.39	13	885	1.24
93.13	15	885	1.39
83.54	17	885	1.55
75.79	18	885	1.71
67.16	21	885	1.93
59.12	24	885	2.19
51.77	27	885	2.50
46.92	30	885	2.76
42.08	33	885	3.08
38.18	37	885	3.39
33.83	41	885	3.83
29.78	47	885	4.35
26.08	54	850	4.78
22.91	61	785	5.0

F42

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
30.05	47	885	4.31
27.14	52	885	4.77
24.65	57	885	5.3
22.54	62	885	5.7
20.22	69	885	6.4
18.25	77	885	7.1
16.80	83	885	7.5
15.02	93	885	7.5
13.33	105	885	7.5
11.82	118	885	7.5
10.51	133	885	7.5
9.01	155	885	7.5
7.94	176	885	7.5
7.36	190	440	7.5
6.77	207	570	7.5
6.05	231	555	7.5
5.38	260	565	7.5
4.76	294	535	7.5
4.24	330	505	7.5
3.63	385	470	7.5
3.20	437	440	7.5

F53G23

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
16911	0.083	1580	<0.05
14448	0.097	1580	<0.05
12503	0.11	1580	<0.05
10929	0.13	1580	<0.05
9628.5	0.15	1580	<0.05
8536.1	0.16	1580	<0.05
7659.6	0.18	1580	<0.05
6695.2	0.21	1580	<0.05
5898.5	0.24	1580	<0.05
5229.3	0.27	1580	<0.05
4578.3	0.31	1580	0.05
4033.5	0.35	1580	0.06
3575.9	0.39	1580	0.06

F53G22

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
3221.2	0.43	1580	0.07
2765.4	0.51	1580	0.08
2405.6	0.58	1580	0.10
2114.3	0.66	1580	0.11
1873.6	0.75	1580	0.12
1671.5	0.84	1580	0.14
1499.3	0.93	1580	0.15
1362.7	1.0	1580	0.17
1201.4	1.2	1580	0.19
1064.0	1.3	1580	0.22
960.29	1.5	1580	0.24
883.90	1.6	1580	0.26
776.06	1.8	1580	0.30
696.12	2.0	1580	0.33
632.66	2.2	1580	0.37
557.80	2.5	1580	0.42
494.02	2.8	1580	0.47
445.85	3.1	1580	0.52
410.38	3.4	1580	0.57
366.79	3.8	1580	0.63
325.70	4.3	1580	0.71
288.62	4.9	1580	0.80
252.64	5.5	1580	0.92
228.00	6.1	1580	1.02
209.86	6.7	1580	1.11
196.76	7.1	1580	1.18

F53

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
205.64	6.8	1580	1.13
182.73	7.7	1580	1.27
163.81	8.5	1580	1.42
147.91	9.5	1580	1.57
134.37	10	1580	1.73
122.86	11	1580	1.89
110.24	13	1580	2.11
99.49	14	1580	2.33
91.57	15	1580	2.54
81.85	17	1580	2.84
72.68	19	1580	3.20
64.40	22	1580	3.61
56.37	25	1580	4.12
50.88	28	1580	4.56
46.83	30	1580	4.96
41.85	33	1580	5.5
37.17	38	1580	6.2
32.93	43	1580	7.1
29.31	48	1580	7.9
25.11	56	1580	9.2
22.15	63	1480	9.8

F52

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
34.34	41	1460	6.2
31.33	45	1450	6.8
28.82	49	1580	8.1
26.01	54	1580	8.9
23.61	59	1580	9.8
21.83	64	1580	10.6
19.67	71	1580	11.8
17.62	79	1580	13.2
15.78	89	1580	14.7
14.20	99	1580	15.0
12.39	113	1580	15.0
11.10	126	1530	15.0
9.85	142	1480	15.0
8.65	162	1430	15.0
7.74	181	910	15.0
6.94	202	870	15.0
6.24	224	835	15.0
5.45	257	785	15.0
4.88	287	750	15.0
4.33	323	710	15.0
3.80	368	665	15.0

F63G23

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
20876	0.067	2800	<0.05
17836	0.078	2800	<0.05
15435	0.091	2800	<0.05
13492	0.10	2800	<0.05
11886	0.12	2800	<0.05
10538	0.13	2800	<0.05
9455.6	0.15	2800	<0.05
8265.1	0.17	2800	<0.05
7281.6	0.19	2800	0.06
6455.5	0.22	2800	0.06
5651.9	0.25	2800	0.07
4979.3	0.28	2800	0.08
4414.4	0.32	2800	0.09

F63G22

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
3976.5	0.35	2800	0.10
3413.8	0.41	2800	0.12
2969.6	0.47	2800	0.14
2610.0	0.54	2800	0.16
2313.0	0.61	2800	0.18
2063.5	0.68	2800	0.20
1850.9	0.76	2800	0.22
1682.2	0.83	2800	0.24
1483.1	0.94	2800	0.28
1313.5	1.1	2800	0.31
1214.4	1.2	2800	0.34
1094.0	1.3	2800	0.38
958.03	1.5	2800	0.43
859.35	1.6	2800	0.48
781.01	1.8	2800	0.53
688.59	2.0	2800	0.60
609.86	2.3	2800	0.67
563.82	2.5	2800	0.73
507.91	2.8	2800	0.81
455.13	3.1	2800	0.90
407.58	3.4	2800	1.01
366.82	3.8	2800	1.12
320.02	4.4	2800	1.28
286.71	4.9	2800	1.43
254.33	5.5	2800	1.62

F63

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
242.53	5.8	2800	1.69
218.27	6.4	2800	1.88
197.90	7.1	2800	2.08
180.55	7.8	2800	2.28
166.08	8.4	2800	2.47
149.88	9.3	2800	2.74
136.08	10	2800	3.02
125.81	11	2800	3.27
113.33	12	2800	3.63
101.56	14	2800	4.05
90.95	15	2800	4.52
81.85	17	2800	5.0
71.41	20	2800	5.8
63.98	22	2800	6.4
56.75	25	2800	7.2
49.31	28	2800	8.3
44.16	32	2800	9.3
39.74	35	2800	10.3
34.67	40	2800	11.9
31.06	45	2780	13.1
27.56	51	2590	13.8
24.21	58	2390	14.5

F62

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
34.05	41	2550	11.0
31.05	45	2520	11.9
28.80	49	2800	14.3
26.09	54	2800	15.7
23.73	59	2800	17.3
21.42	65	2800	19.2
19.43	72	2760	20.8
16.83	83	2650	22.0
15.23	92	2580	22.0
13.82	101	2510	22.0
12.33	114	2430	22.0
10.45	134	2320	22.0
8.92	157	2220	22.0
7.70	182	1440	22.0
6.97	201	1400	22.0
6.33	221	1340	22.0
5.64	248	1280	22.0
4.78	293	1190	22.0
4.08	343	1100	22.0

F73G33

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
21379	0.065	4880	<0.05
18354	0.076	4880	<0.05
15966	0.088	4880	<0.05
14033	0.100	4880	0.05
12436	0.11	4880	0.06
11094	0.13	4880	0.06
9951.3	0.14	4880	0.07
9044.1	0.15	4880	0.08
7973.9	0.18	4880	0.09
7062.2	0.20	4880	0.10
6407.0	0.22	4880	0.11
5550.0	0.25	4880	0.13
4929.5	0.28	4880	0.15
4421.8	0.32	4880	0.16
4018.7	0.35	4880	0.18
3543.1	0.40	4880	0.20

F73G32

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
3095.5	0.45	4880	0.23
2764.2	0.51	4880	0.26
2485.9	0.56	4880	0.29
2248.8	0.62	4880	0.32
2049.8	0.68	4880	0.35
1828.7	0.77	4880	0.39
1640.3	0.85	4880	0.44
1488.1	0.94	4880	0.48
1289.1	1.1	4880	0.55
1166.4	1.2	4880	0.61
1058.9	1.3	4880	0.68
944.12	1.5	4880	0.76
879.92	1.6	4880	0.81
789.28	1.8	4880	0.91
716.05	2.0	4880	1.00
620.27	2.3	4880	1.15
561.22	2.5	4880	1.27
509.49	2.7	4880	1.40
454.28	3.1	4880	1.57
385.26	3.6	4880	1.86
347.80	4.0	4880	2.06
315.75	4.4	4880	2.26
281.53	5.0	4880	2.54
238.76	5.9	4880	2.99

F73

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
274.23	5.1	4880	2.61
249.41	5.6	4880	2.87
228.27	6.1	4880	3.13
211.55	6.6	4880	3.38
191.74	7.3	4880	3.73
174.87	8.0	4880	4.09
162.19	8.6	4880	4.41
146.94	9.5	4880	4.87
133.66	10	4880	5.3
120.60	12	4880	5.9
109.41	13	4880	6.5
94.78	15	4880	7.5
85.76	16	4880	8.3
77.85	18	4880	9.2
69.41	20	4880	10.3
58.87	24	4880	12.1
51.81	27	4880	13.8
44.88	31	4880	15.9
40.61	34	4810	17.4
36.86	38	4630	18.4
32.87	43	4410	19.7
27.88	50	4100	21.6
23.79	59	3810	23.5

F72

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
28.53	49	4430	22.8
25.85	54	4300	24.4
23.54	59	4190	26.1
20.62	68	4030	28.6
18.76	75	3920	30.0
16.90	83	3800	30.0
15.17	92	3690	30.0
13.01	108	3530	30.0
11.25	124	3390	30.0
9.78	143	3260	30.0
9.11	154	2240	30.0
8.29	169	2160	30.0
7.46	188	2070	30.0
6.70	209	1980	30.0
5.75	244	1860	30.0
4.97	282	1740	30.0
4.32	324	1630	30.0

F83G33

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
22582	0.062	8900	0.06
19387	0.072	8900	0.07
16864	0.083	8900	0.08
14822	0.094	8900	0.09
13135	0.11	8900	0.10
11718	0.12	8900	0.11
10511	0.13	8900	0.12
9552.8	0.15	8900	0.14
8422.4	0.17	8900	0.15
7459.4	0.19	8900	0.17
6586.0	0.21	8900	0.20
5836.4	0.24	8900	0.22
5206.8	0.27	8900	0.25
4670.4	0.30	8900	0.28
4244.7	0.33	8900	0.31
3742.4	0.37	8900	0.35

F83G32

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
3269.6	0.43	8900	0.40
2919.6	0.48	8900	0.45
2625.7	0.53	8900	0.50
2375.3	0.59	8900	0.55
2165.1	0.65	8900	0.60
1931.5	0.72	8900	0.68
1732.6	0.81	8900	0.75
1578.2	0.89	8900	0.83
1382.4	1.0	8900	0.94
1257.5	1.1	8900	1.04
1132.6	1.2	8900	1.15
1016.9	1.4	8900	1.28
929.40	1.5	8900	1.40
833.66	1.7	8900	1.57
756.35	1.9	8900	1.73
670.24	2.1	8900	1.95
589.95	2.4	8900	2.21
516.64	2.7	8900	2.53
470.60	3.0	8900	2.77
412.22	3.4	8900	3.17
374.97	3.7	8900	3.48
337.74	4.1	8900	3.86
303.24	4.6	8900	4.30
260.13	5.4	8900	5.0
228.49	6.1	8900	5.7

F83

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
200.61	7.0	8900	6.5
183.42	7.6	8900	7.1
169.54	8.3	8900	7.7
154.08	9.1	8900	8.5
140.63	10.0	8900	9.3
127.39	11	8900	10.2
116.03	12	8900	11.2
101.64	14	8900	12.8
92.45	15	8900	14.1
83.27	17	8900	15.7
74.77	19	8900	17.5
64.14	22	8900	20.3
55.44	25	8900	23.5
48.19	29	8850	26.9
41.43	34	8540	30.2
37.20	38	8260	32.6
31.91	44	7890	36.3
27.58	51	7550	40.1
23.97	58	7240	44.3

F82

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
20.19	69	6480	45.0
18.25	77	6290	45.0
15.83	88	6040	45.0
13.85	101	5810	45.0
12.20	115	5600	45.0
10.08	139	3790	45.0
9.11	154	3650	45.0
7.90	177	3450	45.0
6.92	202	3270	45.0
6.09	230	3100	45.0

Selection table - Geared motors

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
0.12 kW				
F33G12A DM63K4				26
2.8	390	1.20	487.91	
3.2	340	1.40	425.86	
3.7	295	1.60	373.00	
4.1	265	1.80	332.76	
4.6	240	2.00	298.48	
F23G02A DM63K4				18
3.6	305	0.80	380.22	
4.1	265	0.90	334.98	
4.6	235	1.05	296.97	
5.2	210	1.15	266.48	
5.9	186	1.30	232.93	
6.7	164	1.50	205.21	
7.6	145	1.70	181.93	
F23A DM63K4				14
8.1	141	1.75	170.20	
9.5	121	2.0	145.41	
11	104	2.3	125.84	
13	91	2.7	109.99	
14	80	3.0	96.90	
16	71	3.4	85.91	
18	64	3.8	77.09	
20	56	4.4	67.38	
23	49	5.0	59.37	
26	44	5.6	52.63	
30	38	6.4	46.08	
34	34	7.3	40.60	
38	30	8.2	35.99	
43	27	9.2	32.07	
48	24	10	28.79	
55	21	12	25.12	
63	18	13	22.01	
F22A DM63K4				14
43	27	9.1	32.42	
50	23	11	27.83	
57	20	12	24.21	
65	18	14	21.28	
73	16	16	18.86	
82	14	18	16.82	
91	13	19	15.09	
101	11	21	13.71	
114	10	22	12.09	
129	8.9	24	10.71	
181	6.3	26	7.62	
203	5.6	28	6.80	
226	5.1	30	6.10	
249	4.6	31	5.54	
282	4.1	33	4.89	
319	3.6	34	4.33	
0.18 kW				
F43G12A DM63G4				38
2.9	565	1.55	474.45	
3.2	510	1.75	426.68	
3.6	460	1.90	386.00	
F33G12A DM63G4				27
2.8	585	0.80	487.91	
3.2	510	0.90	425.86	
3.7	445	1.05	373.00	
4.1	400	1.20	332.76	
4.6	355	1.30	298.48	
5.1	325	1.45	271.27	
5.8	285	1.65	239.17	
6.5	255	1.85	211.83	
F33A DM63G4				21
7.3	235	2.00	190.26	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F23G02A DM63G4				18
5.9	280	0.90	232.93	
6.7	245	1.00	205.21	
7.6	220	1.15	181.93	
F23A DM63G4				15
8.1	210	1.15	170.20	
9.5	181	1.35	145.41	
11	157	1.55	125.84	
13	137	1.80	109.99	
14	121	2.0	96.90	
16	107	2.3	85.91	
18	96	2.6	77.09	
20	84	2.9	67.38	
23	74	3.3	59.37	
26	66	3.7	52.63	
30	57	4.3	46.08	
34	51	4.8	40.60	
38	45	5.5	35.99	
43	40	6.1	32.07	
48	36	6.8	28.79	
55	31	7.8	25.12	
63	27	8.4	22.01	
F22A DM63G4				15
43	40	6.1	32.42	
50	35	7.1	27.83	
57	30	8.1	24.21	
65	27	9.2	21.28	
73	23	10	18.86	
82	21	12	16.82	
91	19	13	15.09	
101	17	14	13.71	
114	15	15	12.09	
129	13	16	10.71	
181	9.5	17	7.62	
203	8.5	19	6.80	
226	7.6	20	6.10	
249	6.9	21	5.54	
282	6.1	22	4.89	
319	5.4	23	4.33	
0.25 kW				
F53G22A DM71K4				63
2.9	805	1.95	494.02	
F43G12A DM71K4				38
3.0	770	1.15	474.45	
3.3	695	1.25	426.68	
3.7	625	1.40	386.00	
4.0	570	1.55	351.84	
4.5	510	1.75	313.88	
5.0	460	1.95	281.55	
F33G12A DM71K4				28
3.8	605	0.80	373.00	
4.2	540	0.85	332.76	
4.7	485	0.95	298.48	
5.2	440	1.05	271.27	
5.9	390	1.20	239.17	
6.7	345	1.35	211.83	
F33A DM71K4				22
7.4	320	1.45	190.26	
8.6	275	1.70	163.34	
9.9	240	1.95	142.09	
F23G02A DM71K4				19
7.8	295	0.85	181.93	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F23A DM71K4				16
8.3	290	0.85	170.20	
9.7	245	1.00	145.41	
11	215	1.15	125.84	
13	186	1.30	109.99	
15	164	1.50	96.90	
16	145	1.70	85.91	
18	131	1.90	77.09	
21	114	2.1	67.38	
24	101	2.4	59.37	
27	89	2.7	52.63	
31	78	3.1	46.08	
35	69	3.6	40.60	
39	61	4.0	35.99	
44	54	4.5	32.07	
49	49	5.0	28.79	
56	43	5.8	25.12	
64	37	6.2	22.01	
F22A DM71K4				16
43	55	4.5	32.42	
51	47	5.2	27.83	
58	41	6.0	24.21	
66	36	6.8	21.28	
75	32	7.7	18.86	
84	28	8.6	16.82	
93	26	9.4	15.09	
103	23	10	13.71	
117	20	11	12.09	
132	18	12	10.71	
185	13	13	7.62	
207	12	14	6.80	
231	10	15	6.10	
254	9.4	15	5.54	
289	8.3	16	4.89	
326	7.3	17	4.33	
0.37 kW				
F53G22A DM71G4				63
2.9	1190	1.35	494.02	
3.2	1070	1.50	445.85	
3.4	985	1.60	410.38	
3.8	880	1.80	366.79	
4.3	785	2.0	325.70	
F43G12A DM71G4				39
3.3	1030	0.85	426.68	
3.7	930	0.95	386.00	
4.0	845	1.05	351.84	
4.5	755	1.15	313.88	
5.0	675	1.30	281.55	
5.5	615	1.45	255.44	
6.2	545	1.60	226.36	
7.1	480	1.85	199.24	
F43A DM71G4				34
6.0	590	1.50	235.25	
6.9	510	1.75	203.29	
7.9	445	2.00	178.07	
F33G12A DM71G4				28
5.9	575	0.80	239.17	
6.7	510	0.90	211.83	
F33A DM71G4				23
7.4	475	1.00	190.26	
8.6	410	1.15	163.34	
9.9	355	1.30	142.09	
11	315	1.50	124.88	
13	275	1.70	110.67	
14	245	1.90	98.73	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F23A DM71G4				17
11	315	0.80	125.84	
13	275	0.90	109.99	
15	245	1.00	96.90	
16	215	1.15	85.91	
18	193	1.25	77.09	
21	169	1.45	67.38	
24	149	1.65	59.37	
27	132	1.85	52.63	
31	115	2.1	46.08	
35	102	2.4	40.60	
39	90	2.7	35.99	
44	80	3.0	32.07	
49	72	3.4	28.79	
56	63	3.9	25.12	
64	55	4.2	22.01	
F22A DM71G4				16
43	81	3.0	32.42	
51	70	3.5	27.83	
58	61	4.0	24.21	
66	53	4.6	21.28	
75	47	5.2	18.86	
84	42	5.8	16.82	
93	38	6.3	15.09	
103	34	6.8	13.71	
117	30	7.4	12.09	
132	27	8.0	10.71	
185	19	8.6	7.62	
207	17	9.4	6.80	
231	15	9.8	6.10	
254	14	10	5.54	
289	12	11	4.89	
326	11	11	4.33	
0.55 kW				
F63G22A DM80K4				97
3.1	1630	1.70	455.13	
3.4	1460	1.90	407.58	
F53G22A DM80K4				65
2.8	1770	0.90	494.02	
3.2	1600	1.00	445.85	
3.4	1470	1.10	410.38	
3.8	1320	1.20	366.79	
4.3	1170	1.35	325.70	
4.9	1040	1.55	288.62	
5.6	905	1.75	252.64	
6.2	820	1.95	228.00	
F43G12A DM80K4				41
4.5	1130	0.80	313.88	
5.0	1010	0.85	281.55	
5.5	915	0.95	255.44	
6.2	810	1.10	226.36	
7.1	715	1.25	199.24	
F43A DM80K4				35
7.9	665	1.35	178.07	
8.9	590	1.50	157.64	
10.0	525	1.70	140.77	
11	475	1.85	126.60	
F33A DM80K4				25
9.9	530	0.90	142.09	
11	465	1.00	124.88	
13	415	1.15	110.67	
14	370	1.30	98.73	
16	330	1.40	88.56	
17	300	1.55	80.49	
20	265	1.80	70.96	
22	235	2.0	62.85	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F23A DM80K4				18
18	290	0.85	77.09	
21	250	0.95	67.38	
24	220	1.10	59.37	
27	197	1.25	52.63	
30	172	1.40	46.08	
35	152	1.60	40.60	
39	135	1.80	35.99	
44	120	2.0	32.07	
49	108	2.3	28.79	
56	94	2.6	25.12	
64	82	2.8	22.01	
F22A DM80K4				18
58	91	2.7	24.21	
66	80	3.1	21.28	
75	70	3.5	18.86	
84	63	3.9	16.82	
93	56	4.3	15.09	
102	51	4.6	13.71	
116	45	5.0	12.09	
131	40	5.4	10.71	
184	28	5.8	7.62	
207	25	6.3	6.80	
230	23	6.6	6.10	
254	21	6.9	5.54	
288	18	7.2	4.89	
325	16	7.5	4.33	

0.75 kW

F63G22A DM80GC4				98
3.1	2220	1.25	455.13	
3.5	1990	1.40	407.58	
3.8	1790	1.55	366.82	
4.4	1560	1.80	320.02	
4.9	1400	2.0	286.71	
F53G22A DM80GC4				67
3.4	2000	0.80	410.38	
3.8	1790	0.90	366.79	
4.3	1590	1.00	325.70	
4.9	1410	1.15	288.62	
5.6	1230	1.30	252.64	
6.2	1110	1.40	228.00	
6.7	1020	1.55	209.86	
F53A DM80GC4				58
6.9	1040	1.50	205.64	
7.7	930	1.70	182.73	
8.6	830	1.90	163.81	
F43G12A DM80GC4				42
6.2	1100	0.80	226.36	
7.1	970	0.90	199.24	
F43A DM80GC4				37
7.9	905	1.00	178.07	
8.9	800	1.10	157.64	
10	715	1.25	140.77	
11	645	1.35	126.60	
12	580	1.50	114.53	
14	530	1.65	104.39	
15	475	1.85	93.13	
F33A DM80GC4				26
13	560	0.85	110.67	
14	500	0.95	98.73	
16	450	1.05	88.56	
18	410	1.15	80.49	
20	360	1.30	70.96	
22	320	1.50	62.85	
29	250	1.90	49.17	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F23A DM80GC4				20
24	300	0.80	59.37	
27	265	0.90	52.63	
31	235	1.05	46.08	
35	205	1.20	40.60	
39	183	1.35	35.99	
44	163	1.50	32.07	
49	146	1.70	28.79	
56	128	1.90	25.12	
64	112	2.1	22.01	
F22A DM80GC4				20
58	123	2.00	24.21	
66	108	2.3	21.28	
75	96	2.6	18.86	
84	85	2.9	16.82	
93	77	3.1	15.09	
103	70	3.4	13.71	
117	61	3.7	12.09	
132	54	4.0	10.71	
185	39	4.3	7.62	
207	35	4.6	6.80	
231	31	4.8	6.10	
254	28	5.0	5.54	
289	25	5.3	4.89	
326	22	5.6	4.33	

1.1 kW

F73G32A DM90SC4				156
3.1	3240	1.50	454.28	
3.7	2750	1.80	385.26	
4.1	2480	1.95	347.80	
4.5	2250	2.2	315.75	
5.0	2010	2.4	281.53	
F73A DM90SC4				143
5.2	2040	2.4	274.23	
F63G22A DM90SC4				101
3.1	3240	0.85	455.13	
3.5	2900	0.95	407.58	
3.9	2610	1.05	366.82	
4.4	2280	1.25	320.02	
4.9	2040	1.35	286.71	
5.6	1810	1.55	254.33	
F63A DM90SC4				93
5.8	1800	1.55	242.53	
6.5	1620	1.75	218.27	
7.2	1470	1.90	197.90	
7.8	1340	2.1	180.55	
8.5	1230	2.3	166.08	
9.4	1110	2.5	149.88	
F53G22A DM90SC4				69
5.6	1800	0.90	252.64	
6.2	1620	0.95	228.00	
6.7	1500	1.05	209.86	
7.2	1400	1.15	196.76	
F53A DM90SC4				61
7.7	1360	1.15	182.73	
8.6	1220	1.30	163.81	
9.6	1100	1.45	147.91	
11	1000	1.60	134.37	
12	910	1.75	122.86	
13	820	1.95	110.24	
14	740	2.1	99.49	
15	680	2.3	91.57	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F43A DM90SC4				40
10	1050	0.85	140.77	
11	940	0.95	126.60	
12	850	1.05	114.53	
14	775	1.15	104.39	
15	690	1.30	93.13	
17	620	1.40	83.54	
19	565	1.55	75.79	
21	500	1.75	67.16	
24	440	2.0	59.12	
27	385	2.3	51.77	
30	350	2.5	46.92	
F33A DM90SC4				29
18	600	0.80	80.49	
20	525	0.90	70.96	
23	465	1.00	62.85	
25	420	1.15	56.24	
29	365	1.30	49.17	
32	325	1.45	43.87	
36	290	1.60	39.35	
40	265	1.75	35.76	
45	235	2.0	31.53	
51	205	2.3	27.93	
57	186	2.5	24.99	
F32A DM90SC4				29
51	205	2.3	27.55	
F23A DM90SC4				23
35	300	0.80	40.60	
39	265	0.90	35.99	
44	240	1.05	32.07	
49	215	1.15	28.79	
56	187	1.30	25.12	
64	163	1.40	22.01	
F22A DM90SC4				22
66	158	1.55	21.28	
75	140	1.75	18.86	
84	125	1.95	16.82	
94	112	2.1	15.09	
103	102	2.3	13.71	
117	90	2.5	12.09	
132	80	2.7	10.71	
148	71	2.9	9.58	
170	62	3.1	8.34	
186	57	2.9	7.62	
208	50	3.2	6.80	
232	45	3.3	6.10	
255	41	3.5	5.54	
290	36	3.6	4.89	
327	32	3.8	4.33	
365	29	4.0	3.87	
420	25	4.2	3.37	

1.5 kW

F83G32A DM90LC4				239
3.0	4590	1.95	470.60	
3.4	4020	2.2	412.22	
3.8	3660	2.4	374.97	
F73G32A DM90LC4				158
3.1	4430	1.10	454.28	
3.7	3760	1.30	385.26	
4.1	3390	1.45	347.80	
4.5	3080	1.60	315.75	
5.0	2750	1.80	281.53	
5.9	2330	2.1	238.76	
F73A DM90LC4				146
5.1	2790	1.75	274.23	
5.7	2530	1.90	249.41	
6.2	2320	2.1	228.27	
6.7	2150	2.3	211.55	
7.4	1950	2.5	191.74	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F63G22A DM90LC4				103
3.8	3580	0.80	366.82	
4.4	3120	0.90	320.02	
4.9	2800	1.00	286.71	
5.5	2480	1.15	254.33	
F63A DM90LC4				96
5.8	2460	1.15	242.53	
6.5	2220	1.25	218.27	
7.1	2010	1.40	197.90	
7.8	1830	1.55	180.55	
8.5	1690	1.65	166.08	
9.4	1520	1.85	149.88	
10	1380	2.0	136.08	
11	1280	2.2	125.81	
12	1150	2.4	113.33	
F53G22A DM90LC4				71
7.2	1920	0.85	196.76	
F53A DM90LC4				63
7.7	1860	0.85	182.73	
8.6	1660	0.95	163.81	
9.5	1500	1.05	147.91	
10	1370	1.15	134.37	
11	1250	1.25	122.86	
13	1120	1.40	110.24	
14	1010	1.55	99.49	
15	930	1.70	91.57	
17	830	1.90	81.85	
19	740	2.1	72.68	
22	655	2.4	64.40	
F43A DM90LC4				42
14	1060	0.85	104.39	
15	945	0.95	93.13	
17	850	1.05	83.54	
19	770	1.15	75.79	
21	680	1.30	67.16	
24	600	1.45	59.12	
27	525	1.70	51.77	
30	475	1.85	46.92	
34	430	2.1	42.08	
37	390	2.3	38.18	
F33A DM90LC4				32
25	570	0.80	56.24	
29	500	0.95	49.17	
32	445	1.05	43.87	
36	400	1.20	39.35	
39	365	1.30	35.76	
45	320	1.45	31.53	
50	285	1.65	27.93	
56	255	1.85	24.99	
65	220	2.1	21.75	
F32A DM90LC4				31
51	280	1.70	27.55	
57	250	1.90	24.60	
64	225	2.1	22.12	
70	205	2.3	20.01	
77	185	2.4	18.24	
F23A DM90LC4				25
49	290	0.85	28.79	
56	255	0.95	25.12	
64	225	1.05	22.01	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F22A DM90LC4				25
66	215	1.15	21.28	
75	192	1.30	18.86	
84	171	1.45	16.82	
93	153	1.55	15.09	
103	139	1.70	13.71	
117	123	1.85	12.09	
132	109	2.00	10.71	
147	97	2.1	9.58	
169	85	2.3	8.34	
185	77	2.1	7.62	
207	69	2.3	6.80	
231	62	2.4	6.10	
254	56	2.5	5.54	
289	50	2.7	4.89	
326	44	2.8	4.33	
364	39	2.9	3.87	
418	34	3.0	3.37	

2.2 kW

F83G32A DM100LC4				246
3.0	6730	1.30	470.60	
3.4	5900	1.50	412.22	
3.8	5360	1.65	374.97	
4.2	4830	1.85	337.74	
4.6	4340	2.1	303.24	
5.4	3720	2.4	260.13	
F73G32A DM100LC4				165
3.7	5510	0.90	385.26	
4.1	4980	1.00	347.80	
4.5	4520	1.10	315.75	
5.0	4030	1.20	281.53	
5.9	3420	1.45	238.76	
F73A DM100LC4				152
5.1	4090	1.20	274.23	
5.7	3720	1.30	249.41	
6.2	3400	1.45	228.27	
6.7	3150	1.55	211.55	
7.4	2860	1.70	191.74	
8.1	2610	1.85	174.87	
8.7	2420	2.0	162.19	
9.6	2190	2.2	146.94	
11	1990	2.4	133.66	
F63A DM100LC4				102
6.5	3250	0.85	218.27	
7.1	2950	0.95	197.90	
7.8	2690	1.05	180.55	
8.5	2470	1.15	166.08	
9.4	2230	1.25	149.88	
10	2030	1.40	136.08	
11	1870	1.50	125.81	
12	1690	1.65	113.33	
14	1510	1.85	101.56	
16	1360	2.1	90.95	
17	1220	2.3	81.85	
F53A DM100LC4				71
10	2000	0.80	134.37	
11	1830	0.85	122.86	
13	1640	0.95	110.24	
14	1480	1.05	99.49	
15	1360	1.15	91.57	
17	1220	1.30	81.85	
19	1080	1.45	72.68	
22	960	1.65	64.40	
25	840	1.90	56.37	
28	760	2.1	50.88	
30	700	2.3	46.83	
34	625	2.5	41.85	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F43A DM100LC4				49
19	1130	0.80	75.79	
21	1000	0.90	67.16	
24	880	1.00	59.12	
27	770	1.15	51.77	
30	700	1.25	46.92	
34	625	1.40	42.08	
37	570	1.55	38.18	
42	505	1.75	33.83	
47	445	2.00	29.78	
54	390	2.2	26.08	
62	340	2.3	22.91	
F42A DM100LC4				49
47	450	1.95	30.05	
52	405	2.2	27.14	
57	365	2.4	24.65	
F33A DM100LC4				39
36	585	0.80	39.35	
39	535	0.90	35.76	
45	470	1.00	31.53	
50	415	1.15	27.93	
56	370	1.25	24.99	
65	325	1.45	21.75	
F32A DM100LC4				38
57	365	1.30	24.60	
64	330	1.45	22.12	
70	300	1.55	20.01	
77	270	1.65	18.24	
87	240	1.80	16.27	
97	220	1.95	14.60	
106	197	2.1	13.24	
120	175	2.3	11.74	
136	154	2.5	10.33	
166	127	1.95	8.50	
186	113	2.1	7.58	
207	101	2.2	6.80	
229	92	2.3	6.17	
258	81	2.5	5.47	
F22A DM100LC4				32
75	280	0.85	18.86	
84	250	1.00	16.82	
93	225	1.05	15.09	
103	205	1.15	13.71	
117	180	1.25	12.09	
132	160	1.35	10.71	
147	143	1.45	9.58	
169	124	1.55	8.34	
185	114	1.45	7.62	
207	101	1.60	6.80	
231	91	1.65	6.10	
254	83	1.70	5.54	
289	73	1.80	4.89	
326	64	1.90	4.33	
364	58	2.00	3.87	
418	50	2.1	3.37	

3.0 kW

F83G32A DM100LD4				250
3.0	9180	0.95	470.60	
3.4	8040	1.10	412.22	
3.8	7310	1.20	374.97	
4.2	6590	1.35	337.74	
4.6	5920	1.50	303.24	
5.4	5070	1.75	260.13	
6.2	4460	2.00	228.49	
F83A DM100LD4				236
7.0	4080	2.2	200.61	
7.7	3730	2.4	183.42	
F73G32A DM100LD4				169
4.5	6160	0.80	315.75	
5.0	5490	0.90	281.53	
5.9	4660	1.05	238.76	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F73A DM100LD4				156
5.1	5570	0.90	274.23	
5.7	5070	0.95	249.41	
6.2	4640	1.05	228.27	
6.7	4300	1.15	211.55	
7.4	3900	1.25	191.74	
8.1	3550	1.35	174.87	
8.7	3300	1.50	162.19	
9.6	2990	1.65	146.94	
11	2720	1.80	133.66	
12	2450	2.00	120.60	
13	2220	2.2	109.41	
F63A DM100LD4				106
8.5	3370	0.85	166.08	
9.4	3050	0.90	149.88	
10	2770	1.00	136.08	
11	2560	1.10	125.81	
12	2300	1.20	113.33	
14	2060	1.35	101.56	
16	1850	1.50	90.95	
17	1660	1.70	81.85	
F53A DM100LD4				74
14	2020	0.80	99.49	
15	1860	0.85	91.57	
17	1660	0.95	81.85	
19	1480	1.05	72.68	
22	1310	1.20	64.40	
25	1150	1.40	56.37	
28	1030	1.55	50.88	
30	950	1.65	46.83	
34	850	1.85	41.85	
38	755	2.1	37.17	
43	670	2.4	32.93	
F52A DM100LD4				72
41	700	2.1	34.34	
45	635	2.3	31.33	
F43A DM100LD4				53
27	1050	0.85	51.77	
30	955	0.95	46.92	
34	855	1.05	42.08	
37	775	1.15	38.18	
42	685	1.30	33.83	
47	605	1.45	29.78	
54	530	1.60	26.08	
62	465	1.70	22.91	
F42A DM100LD4				52
47	610	1.45	30.05	
52	550	1.60	27.14	
57	500	1.75	24.65	
63	460	1.95	22.54	
70	410	2.1	20.22	
77	370	2.4	18.25	
F33A DM100LD4				42
50	565	0.85	27.93	
56	510	0.95	24.99	
65	440	1.05	21.75	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F32A DM100LD4				42
57	500	0.95	24.60	
64	450	1.05	22.12	
70	405	1.15	20.01	
77	370	1.20	18.24	
87	330	1.30	16.27	
97	295	1.45	14.60	
106	270	1.55	13.24	
120	240	1.70	11.74	
136	210	1.85	10.33	
156	184	2.0	9.05	
166	173	1.40	8.50	
177	161	2.2	7.95	
186	154	1.55	7.58	
207	138	1.65	6.80	
229	125	1.70	6.17	
258	111	1.85	5.47	
293	98	1.95	4.81	
335	86	2.1	4.21	
381	75	2.3	3.70	
F22A DM100LD4				36
93	305	0.80	15.09	
103	280	0.85	13.71	
117	245	0.90	12.09	
132	220	1.00	10.71	
147	195	1.05	9.58	
169	169	1.15	8.34	
185	155	1.05	7.62	
207	138	1.15	6.80	
231	124	1.20	6.10	
254	113	1.25	5.54	
289	99	1.35	4.89	
326	88	1.40	4.33	
364	79	1.45	3.87	
418	68	1.50	3.37	

4.0 kW

F83G32A DM112MX4				258
3.5	10600	0.85	412.22	
3.8	9650	0.90	374.97	
4.2	8690	1.00	337.74	
4.7	7800	1.15	303.24	
5.5	6690	1.35	260.13	
6.2	5880	1.50	228.49	
F83A DM112MX4				244
7.1	5380	1.65	200.61	
7.8	4920	1.80	183.42	
8.4	4540	1.95	169.54	
9.2	4130	2.2	154.08	
10	3770	2.4	140.63	
F73G32A DM112MX4				177
6.0	6140	0.80	238.76	
F73A DM112MX4				164
6.2	6120	0.80	228.27	
6.7	5670	0.85	211.55	
7.4	5140	0.95	191.74	
8.1	4690	1.05	174.87	
8.8	4350	1.10	162.19	
9.7	3940	1.25	146.94	
11	3580	1.35	133.66	
12	3230	1.50	120.60	
13	2930	1.65	109.41	
F63A DM112MX4				114
11	3370	0.85	125.81	
13	3040	0.90	113.33	
14	2720	1.05	101.56	
16	2440	1.15	90.95	
17	2190	1.30	81.85	
29	1320	2.1	49.31	
32	1180	2.4	44.16	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F53A DM112MX4				82
20	1950	0.80	72.68	
22	1730	0.90	64.40	
25	1510	1.05	56.37	
28	1360	1.15	50.88	
30	1260	1.25	46.83	
34	1120	1.40	41.85	
38	995	1.60	37.17	
43	885	1.80	32.93	
49	785	2.0	29.31	
F52A DM112MX4				81
41	920	1.60	34.34	
45	840	1.70	31.33	
49	775	2.1	28.82	
55	695	2.3	26.01	
60	635	2.5	23.61	
F43A DM112MX4				61
34	1130	0.80	42.08	
37	1020	0.85	38.18	
42	905	0.95	33.83	
48	800	1.10	29.78	
55	700	1.20	26.08	
62	615	1.30	22.91	
F42A DM112MX4				61
53	725	1.20	27.14	
58	660	1.35	24.65	
63	605	1.45	22.54	
70	540	1.65	20.22	
78	490	1.80	18.25	
85	450	1.95	16.80	
95	405	2.2	15.02	
107	355	2.5	13.33	
194	197	2.2	7.36	
F33A DM112MX4				51
66	585	0.80	21.75	
F32A DM112MX4				50
64	595	0.80	22.12	
71	535	0.85	20.01	
78	490	0.90	18.24	
88	435	1.00	16.27	
98	390	1.10	14.60	
108	355	1.15	13.24	
121	315	1.25	11.74	
138	275	1.40	10.33	
158	245	1.55	9.05	
168	230	1.10	8.50	
179	215	1.70	7.95	
188	205	1.15	7.58	
210	182	1.25	6.80	
231	165	1.30	6.17	
261	147	1.40	5.47	
296	129	1.50	4.81	
338	113	1.60	4.21	
385	99	1.70	3.70	

5.5 kW

F83G32A DA132S4				276
4.8	10500	0.85	303.24	
5.6	9010	1.00	260.13	
6.4	7920	1.10	228.49	
F83A DA132S4				264
7.3	7240	1.25	200.61	
7.9	6620	1.35	183.42	
8.6	6120	1.45	169.54	
9.4	5560	1.60	154.08	
10	5080	1.75	140.63	
11	4600	1.95	127.39	
13	4190	2.1	116.03	
14	3670	2.4	101.64	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F73A DA132S4				183
9.0	5850	0.85	162.19	
9.9	5300	0.90	146.94	
11	4820	1.00	133.66	
12	4350	1.10	120.60	
13	3950	1.25	109.41	
15	3420	1.45	94.78	
17	3100	1.60	85.76	
19	2810	1.75	77.85	
21	2510	1.95	69.41	
25	2130	2.3	58.87	
F63A DA132S4				133
16	3280	0.85	90.95	
18	2950	0.95	81.85	
20	2580	1.10	71.41	
23	2310	1.20	63.98	
26	2050	1.35	56.75	
30	1780	1.55	49.31	
33	1590	1.75	44.16	
37	1430	1.95	39.74	
42	1250	2.2	34.67	
47	1120	2.5	31.06	
F62A DA132S4				131
43	1230	2.1	34.05	
47	1120	2.2	31.05	
F53A DA132S4				101
26	2040	0.80	56.37	
29	1840	0.85	50.88	
31	1690	0.95	46.83	
35	1510	1.05	41.85	
39	1340	1.20	37.17	
44	1190	1.35	32.93	
50	1060	1.50	29.31	
58	905	1.75	25.11	
66	800	1.85	22.15	
F52A DA132S4				100
56	940	1.70	26.01	
62	850	1.85	23.61	
67	790	2.0	21.83	
74	710	2.2	19.67	
83	635	2.5	17.62	
F43A DA132S4				80
49	1080	0.80	29.78	
56	940	0.90	26.08	
64	825	0.95	22.91	
F42A DA132S4				80
72	730	1.20	20.22	
80	660	1.35	18.25	
87	605	1.45	16.80	
97	540	1.65	15.02	
109	480	1.85	13.33	
123	425	2.1	11.82	
138	380	2.3	10.51	
162	325	2.7	9.01	
183	285	3.1	7.94	
198	265	1.65	7.36	
215	245	2.3	6.77	
240	220	2.5	6.05	
271	194	2.9	5.38	
305	172	3.1	4.76	
343	153	3.3	4.24	
401	131	3.6	3.63	
454	116	3.8	3.20	

7.5 kW

F83G32A DA132MX4				290
6.4	10800	0.80	228.49	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F83A DA132MX4				277
7.3	9880	0.90	200.61	
7.9	9030	1.00	183.42	
8.6	8350	1.05	169.54	
9.4	7580	1.15	154.08	
10	6920	1.30	140.63	
11	6270	1.40	127.39	
13	5710	1.55	116.03	
14	5000	1.80	101.64	
16	4550	1.95	92.45	
17	4100	2.2	83.27	
19	3680	2.4	74.77	
F73A DA132MX4				197
12	5940	0.80	120.60	
13	5390	0.90	109.41	
15	4670	1.05	94.78	
17	4220	1.15	85.76	
19	3830	1.25	77.85	
21	3420	1.45	69.41	
25	2900	1.70	58.87	
28	2550	1.90	51.81	
32	2210	2.2	44.88	
36	2000	2.4	40.61	
F63A DA132MX4				146
20	3520	0.80	71.41	
23	3150	0.90	63.98	
26	2790	1.00	56.75	
30	2430	1.15	49.31	
33	2170	1.30	44.16	
37	1960	1.45	39.74	
42	1710	1.65	34.67	
47	1530	1.80	31.06	
53	1360	1.90	27.56	
60	1190	2.0	24.21	
F62A DA132MX4				144
43	1680	1.50	34.05	
47	1530	1.65	31.05	
51	1420	2.00	28.80	
56	1280	2.2	26.09	
61	1170	2.4	23.73	
F53A DA132MX4				115
39	1830	0.85	37.17	
44	1620	1.00	32.93	
50	1440	1.10	29.31	
58	1240	1.30	25.11	
66	1090	1.35	22.15	
F52A DA132MX4				114
56	1280	1.25	26.01	
62	1160	1.35	23.61	
67	1070	1.45	21.83	
74	970	1.65	19.67	
83	865	1.85	17.62	
92	775	2.0	15.78	
102	700	2.3	14.20	
188	380	2.4	7.74	
F42A DA132MX4				93
72	995	0.90	20.22	
80	900	1.00	18.25	
87	825	1.05	16.80	
97	740	1.20	15.02	
109	655	1.35	13.33	
123	580	1.50	11.82	
138	520	1.70	10.51	
162	445	2.00	9.01	
183	390	2.3	7.94	
198	360	1.20	7.36	
215	335	1.70	6.77	
240	300	1.85	6.05	
271	265	2.1	5.38	
305	235	2.3	4.76	
343	210	2.4	4.24	
401	179	2.6	3.63	
454	158	2.8	3.20	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	

9.2 kW

F83A DA160MS4				292
9.5	9210	0.95	154.08	
10	8410	1.05	140.63	
12	7610	1.15	127.39	
13	6940	1.30	116.03	
14	6070	1.45	101.64	
16	5530	1.60	92.45	
18	4980	1.80	83.27	
20	4470	2.00	74.77	
23	3830	2.3	64.14	
F73A DA160MS4				211
16	5660	0.85	94.78	
17	5130	0.95	85.76	
19	4650	1.05	77.85	
21	4150	1.20	69.41	
25	3520	1.40	58.87	
28	3100	1.55	51.81	
33	2680	1.80	44.88	
36	2430	2.00	40.61	
40	2200	2.1	36.86	
45	1960	2.2	32.87	
53	1670	2.5	27.88	
F63A DA160MS4				162
26	3390	0.85	56.75	
30	2950	0.95	49.31	
33	2640	1.05	44.16	
37	2380	1.20	39.74	
42	2070	1.35	34.67	
47	1860	1.50	31.06	
53	1650	1.55	27.56	
61	1450	1.65	24.21	
F62A DA160MS4				160
56	1560	1.80	26.09	
62	1420	2.00	23.73	
69	1280	2.2	21.42	
76	1160	2.4	19.43	
F53A DA160MS4				130
45	1970	0.80	32.93	
50	1750	0.90	29.31	
59	1500	1.05	25.11	
66	1320	1.10	22.15	
F52A DA160MS4				129
75	1180	1.35	19.67	
83	1050	1.50	17.62	
93	945	1.70	15.78	
103	850	1.85	14.20	
119	740	2.1	12.39	
132	665	2.3	11.10	
149	590	2.5	9.85	
170	515	2.8	8.65	
190	465	1.95	7.74	
212	415	2.1	6.94	
236	375	2.2	6.24	
270	325	2.4	5.45	
301	290	2.6	4.88	
340	260	2.7	4.33	
387	225	2.9	3.80	

11.0 kW

F83A DA160M4				297
9.5	11000	0.80	154.08	
10	10100	0.90	140.63	
12	9130	0.95	127.39	
13	8320	1.05	116.03	
14	7290	1.20	101.64	
16	6630	1.35	92.45	
18	5970	1.50	83.27	
20	5360	1.65	74.77	
23	4600	1.95	64.14	
26	3980	2.2	55.44	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F73A DA160M4				216
17	6150	0.80	85.76	
19	5580	0.85	77.85	
21	4980	1.00	69.41	
25	4220	1.15	58.87	
28	3720	1.30	51.81	
33	3220	1.50	44.88	
36	2910	1.65	40.61	
40	2640	1.75	36.86	
45	2360	1.85	32.87	
53	2000	2.1	27.88	
62	1710	2.2	23.79	
F72A DA160M4				212
51	2050	2.2	28.53	
57	1850	2.3	25.85	
62	1690	2.5	23.54	
F63A DA160M4				166
30	3540	0.80	49.31	
33	3170	0.90	44.16	
37	2850	1.00	39.74	
42	2490	1.15	34.67	
47	2230	1.25	31.06	
53	1980	1.30	27.56	
61	1740	1.40	24.21	
F62A DA160M4				164
56	1870	1.50	26.09	
62	1700	1.65	23.73	
68	1540	1.85	21.42	
75	1390	2.00	19.43	
87	1210	2.2	16.83	
96	1090	2.4	15.23	
106	990	2.5	13.82	
F53A DA160M4				135
58	1800	0.90	25.11	
66	1590	0.95	22.15	
F52A DA160M4				134
74	1410	1.10	19.67	
83	1260	1.25	17.62	
93	1130	1.40	15.78	
103	1020	1.55	14.20	
118	890	1.80	12.39	
132	795	1.90	11.10	
149	705	2.1	9.85	
169	620	2.3	8.65	
189	555	1.65	7.74	
211	495	1.75	6.94	
235	450	1.85	6.24	
269	390	2.0	5.45	
300	350	2.1	4.88	
339	310	2.3	4.33	
385	275	2.4	3.80	

15.0 kW

F83A DA160L4				313
13	11300	0.80	116.03	
14	9940	0.90	101.64	
16	9040	1.00	92.45	
18	8140	1.10	83.27	
20	7310	1.20	74.77	
23	6270	1.40	64.14	
26	5420	1.65	55.44	
35	4050	2.1	41.43	
39	3640	2.3	37.20	
46	3120	2.5	31.91	
F73A DA160L4				232
25	5760	0.85	58.87	
28	5070	0.95	51.81	
33	4390	1.10	44.88	
36	3970	1.20	40.61	
40	3600	1.30	36.86	
45	3210	1.35	32.87	
53	2730	1.50	27.88	
62	2330	1.65	23.79	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F72A DA160L4				228
51	2790	1.60	28.53	
57	2530	1.70	25.85	
62	2300	1.80	23.54	
71	2020	2.00	20.62	
78	1830	2.1	18.76	
87	1650	2.3	16.90	
97	1480	2.5	15.17	
161	890	2.5	9.11	
F63A DA160L4				183
42	3390	0.85	34.67	
47	3040	0.90	31.06	
53	2690	0.95	27.56	
61	2370	1.00	24.21	
F62A DA160L4				181
56	2550	1.10	26.09	
62	2320	1.20	23.73	
68	2090	1.35	21.42	
75	1900	1.45	19.43	
87	1650	1.60	16.83	
96	1490	1.75	15.23	
106	1350	1.85	13.82	
119	1210	2.0	12.33	
140	1020	2.3	10.45	
190	755	1.90	7.70	
210	680	2.1	6.97	
232	620	2.2	6.33	
260	550	2.3	5.64	
F52A DA160L4				150
74	1920	0.80	19.67	
83	1720	0.90	17.62	
93	1540	1.05	15.78	
103	1390	1.15	14.20	
118	1210	1.30	12.39	
132	1090	1.40	11.10	
149	965	1.55	9.85	
169	845	1.70	8.65	
189	755	1.20	7.74	
211	680	1.30	6.94	
235	610	1.35	6.24	
269	530	1.45	5.45	
300	475	1.55	4.88	
339	425	1.70	4.33	
385	370	1.80	3.80	

18.5 kW

F83A DA180MC4				318
16	11100	0.80	92.45	
18	10000	0.90	83.27	
20	9020	1.00	74.77	
23	7730	1.15	64.14	
26	6690	1.35	55.44	
30	5810	1.50	48.19	
35	5000	1.70	41.43	
39	4490	1.85	37.20	
46	3850	2.1	31.91	
53	3330	2.3	27.58	
61	2890	2.5	23.97	
F73A DA180MC4				237
28	6250	0.80	51.81	
33	5410	0.90	44.88	
36	4900	1.00	40.61	
40	4450	1.05	36.86	
45	3960	1.10	32.87	
53	3360	1.20	27.88	
62	2870	1.35	23.79	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F72A DA180MC4				233
57	3120	1.40	25.85	
62	2840	1.50	23.54	
71	2490	1.60	20.62	
78	2260	1.75	18.76	
87	2040	1.85	16.90	
97	1830	2.0	15.17	
113	1570	2.2	13.01	
130	1360	2.5	11.25	
161	1100	2.0	9.11	
177	1000	2.2	8.29	
196	900	2.3	7.46	
219	810	2.4	6.70	
F63A DA180MC4				188
53	3320	0.80	27.56	
61	2920	0.80	24.21	
F62A DA180MC4				186
68	2580	1.10	21.42	
75	2340	1.20	19.43	
87	2030	1.30	16.83	
96	1840	1.40	15.23	
106	1670	1.50	13.82	
119	1490	1.65	12.33	
140	1260	1.85	10.45	
164	1080	2.1	8.92	
190	930	1.55	7.70	
210	840	1.65	6.97	
232	765	1.75	6.33	
260	680	1.90	5.64	
306	575	2.1	4.78	
359	490	2.2	4.08	

22.0 kW

F83A DA180LC4				328
20	10700	0.85	74.77	
23	9200	0.95	64.14	
26	7950	1.10	55.44	
30	6910	1.30	48.19	
35	5940	1.45	41.43	
39	5330	1.55	37.20	
46	4580	1.70	31.91	
53	3960	1.90	27.58	
61	3440	2.1	23.97	
F82A DA180LC4				322
73	2900	2.2	20.19	
80	2620	2.4	18.25	
F73A DA180LC4				248
36	5820	0.85	40.61	
40	5290	0.90	36.86	
45	4710	0.95	32.87	
53	4000	1.05	27.88	
62	3410	1.10	23.79	
F72A DA180LC4				244
57	3710	1.15	25.85	
62	3380	1.25	23.54	
71	2960	1.35	20.62	
78	2690	1.45	18.76	
87	2420	1.55	16.90	
97	2180	1.70	15.17	
113	1870	1.90	13.01	
130	1610	2.1	11.25	
150	1400	2.3	9.78	
161	1310	1.70	9.11	
177	1190	1.80	8.29	
196	1070	1.95	7.46	
219	960	2.1	6.70	
255	825	2.3	5.75	
295	715	2.4	4.97	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
F62A DA180LC4				197
68	3070	0.90	21.42	
75	2790	1.00	19.43	
87	2410	1.10	16.83	
96	2180	1.20	15.23	
106	1980	1.25	13.82	
119	1770	1.35	12.33	
140	1500	1.55	10.45	
164	1280	1.75	8.92	
190	1100	1.30	7.70	
210	1000	1.40	6.97	
232	905	1.50	6.33	
260	810	1.60	5.64	
306	685	1.75	4.78	
359	585	1.90	4.08	

30.0 kW

F83A DA200L4				400
27	10700	0.85	55.44	
31	9330	0.95	48.19	
36	8020	1.05	41.43	
40	7200	1.15	37.20	
46	6180	1.30	31.91	
54	5340	1.40	27.58	
62	4640	1.55	23.97	
F82A DA200L4				393
73	3910	1.65	20.19	
81	3530	1.80	18.25	
93	3070	1.95	15.83	
107	2680	2.2	13.85	
121	2360	2.4	12.20	
147	1950	1.95	10.08	
162	1760	2.1	9.11	
187	1530	2.3	7.90	
214	1340	2.4	6.92	
F73A DA200L4				320
62	4610	0.85	23.79	
F72A DA200L4				316
72	3990	1.00	20.62	
79	3630	1.10	18.76	
88	3270	1.15	16.90	
98	2940	1.25	15.17	
114	2520	1.40	13.01	
132	2180	1.55	11.25	
151	1890	1.70	9.78	
162	1760	1.25	9.11	
179	1600	1.35	8.29	
198	1450	1.45	7.46	
221	1300	1.55	6.70	
257	1110	1.65	5.75	
298	960	1.80	4.97	
343	835	1.95	4.32	

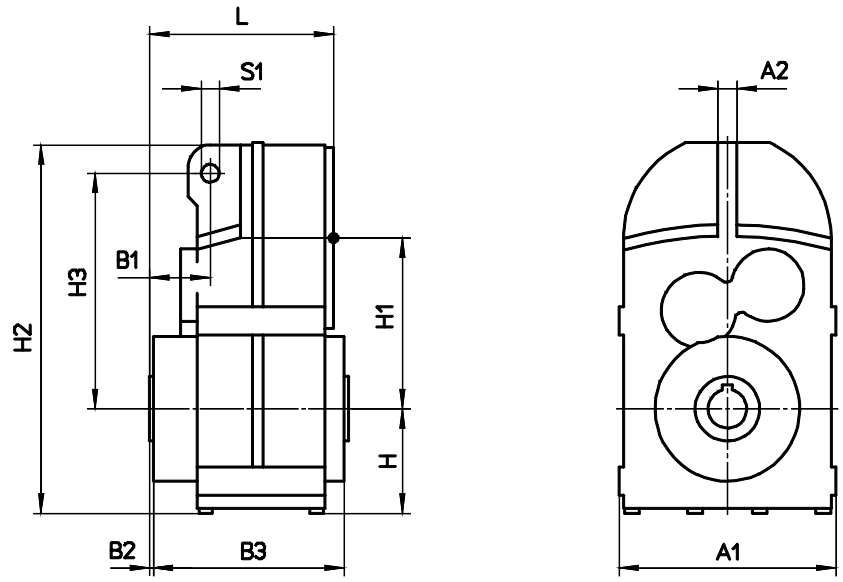
37.0 kW

F83A DA225SX4				456
36	9920	0.85	41.43	
40	8910	0.95	37.20	
46	7640	1.05	31.91	
53	6610	1.15	27.58	
62	5740	1.25	23.97	
F82A DA225SX4				451
73	4840	1.35	20.19	
81	4370	1.45	18.25	
93	3790	1.60	15.83	
106	3320	1.75	13.85	
121	2920	1.90	12.20	
146	2410	1.55	10.08	
162	2180	1.65	9.11	
187	1890	1.80	7.90	
213	1660	1.95	6.92	
242	1460	2.1	6.09	

Type					~kg
n2 [1/min]		T2 [Nm]	cG	i	
45.0 kW					
F83A DA225MX4					488
46	9300	0.85	31.91		
53	8040	0.95	27.58		
62	6980	1.05	23.97		
F82A DA225MX4					483
73	5880	1.10	20.19		
81	5320	1.20	18.25		
93	4610	1.30	15.83		
106	4040	1.45	13.85		
121	3560	1.55	12.20		
146	2940	1.30	10.08		
162	2650	1.35	9.11		
187	2300	1.50	7.90		
213	2020	1.60	6.92		
242	1780	1.75	6.09		

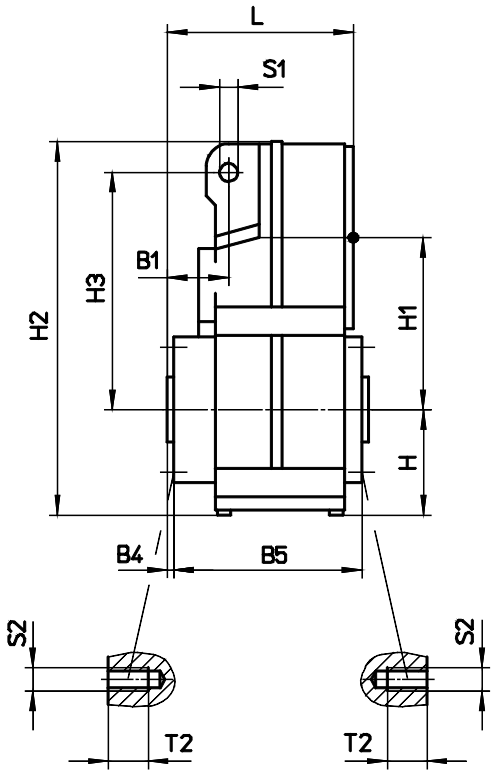
Dimensions

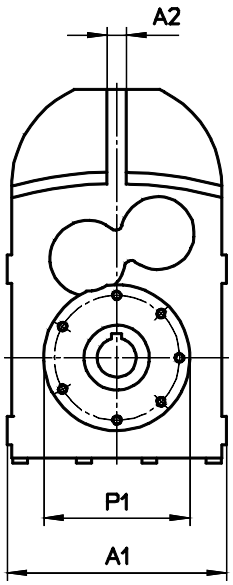
A - Shaft mounted version

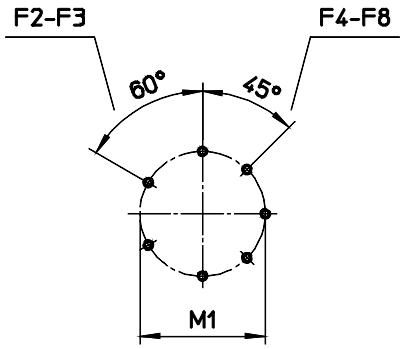


	A1	A2	B1	B2	B3	H	H1	H2	H3	L	S1
F2	150	12	40	1	119	70.5	110	243	156	109	Ø14
F3	168	15	45	1	148	81	132	286.5	182	140.5	Ø14
F4	210	20	47.5	1.5	172	98.5	159	341	217	158.5	Ø14
F5	263	25	53	1.5	207	120.5	196	421	270	184	Ø22
F6	313	30	62	2.5	235	144.5	234	508	328	215	Ø22
F7	367	35	76	3.5	293	171.5	273	599.5	382	250.5	Ø26
F8	417	40	93	3.5	343	191.5	324	696.5	458	301	Ø26

B - Shaft mounted version

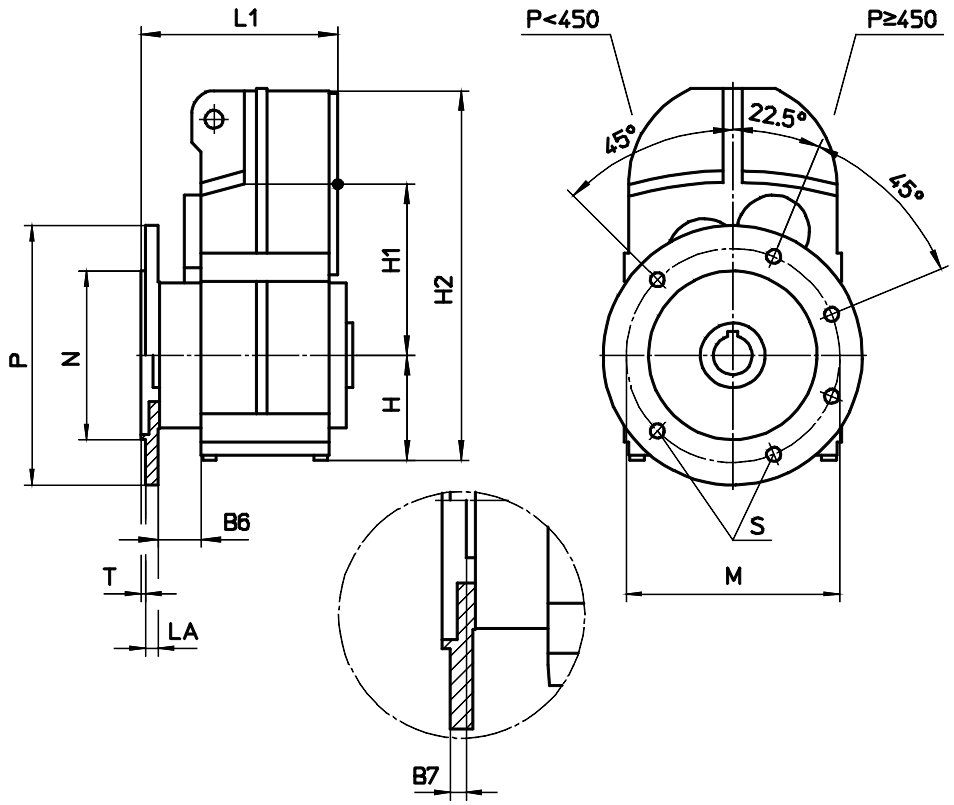






	A1	A2	B1	B4	B5	H	H1	H2	H3	L	S1	M1	P1	S2	T2
F2	150	12	40	2	116	70.5	110	243	156	109	Ø14	87	99	M6	9
F3	168	15	45	3	144	81	132	286.5	182	140.5	Ø14	96	112	M8	12
F4	210	20	47.5	3.5	168	98.5	159	341	217	158.5	Ø14	106	122	M8	12
F5	263	25	53	4	202	120.5	196	421	270	184	Ø22	130	150	M10	15
F6	313	30	62	5	230	144.5	234	508	328	215	Ø22	154	178	M12	18
F7	367	35	76	6	288	171.5	273	599.5	382	250.5	Ø26	182	214	M16	24
F8	417	40	93	6	338	191.5	324	696.5	458	301	Ø26	220	260	M20	30

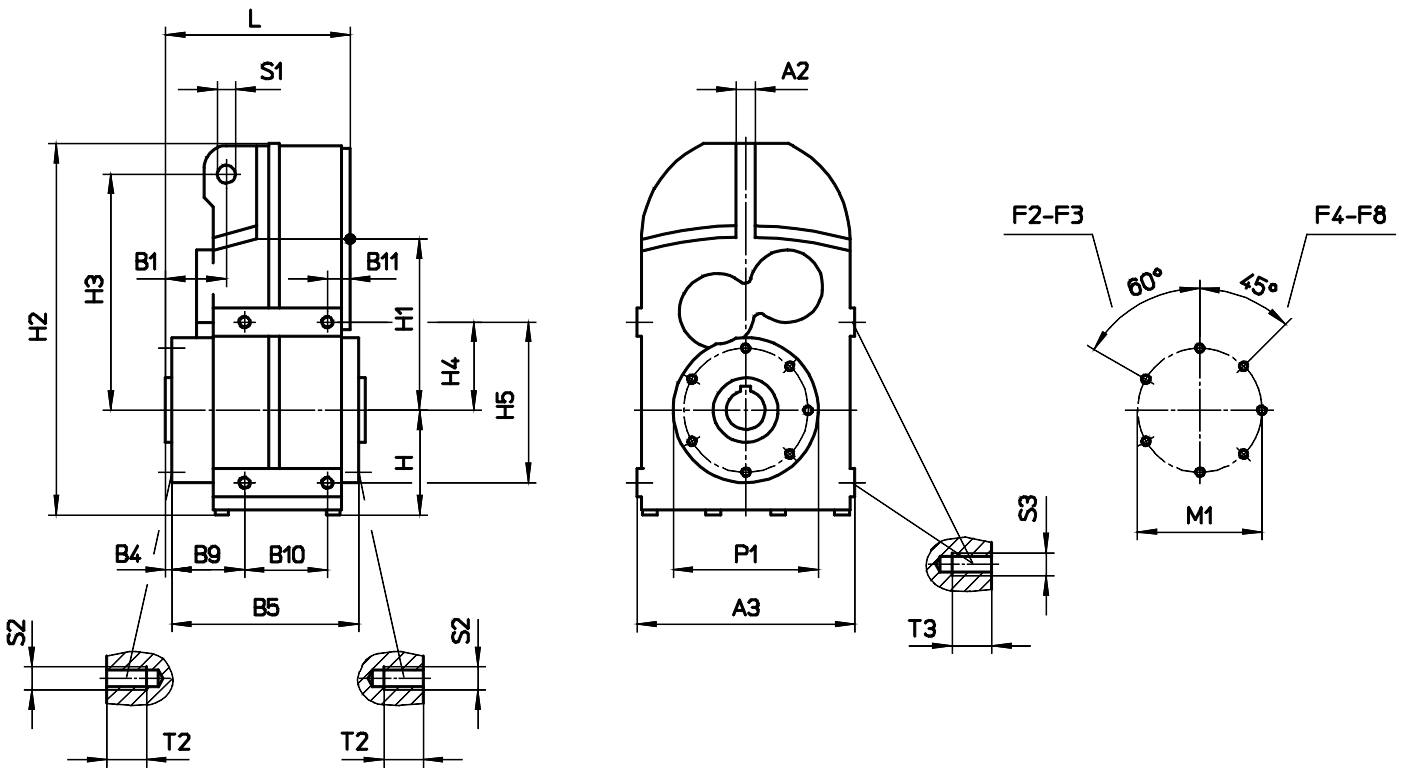
C - Flange mounted version



	B6	B7	H	H1	H2	L1
F2	26	10	70.5	110	243	122.5
F3	33	8	81	132	286.5	152
F4	34	7.5	98.5	159	341	169.5
F5	42	8	120.5	196	421	196
F6	46	8	144.5	234	508	227
F7	55.5	10	171.5	273	599.5	265.5
F8	60	15	191.5	324	696.5	321

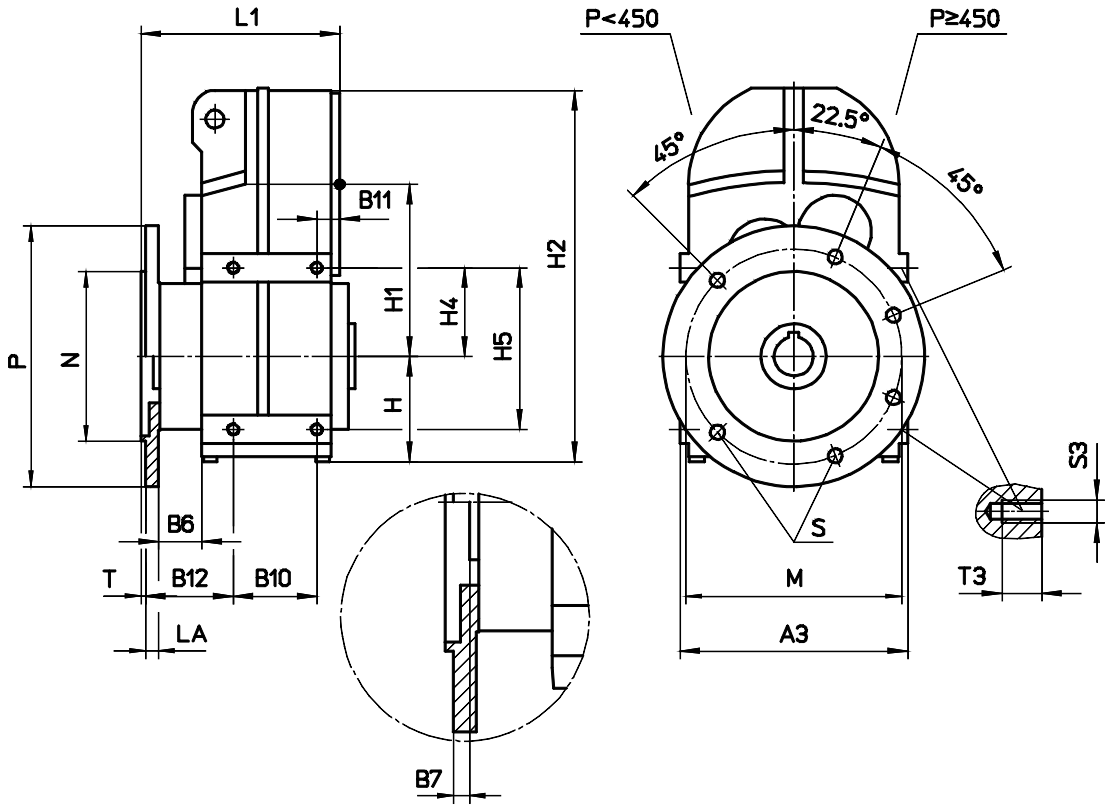
	M	N	P	LA	T	S
F2	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
F3	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
F4	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
F5	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
	Ø265	Ø230 j6	Ø300	12	4	Ø13.5
F6	Ø265	Ø230 j6	Ø300	12	4	Ø13.5
	Ø300	Ø250 h6	Ø350	13	5	Ø17.5
F7	Ø300	Ø250 h6	Ø350	13	5	Ø17.5
	Ø400	Ø350 h6	Ø450	16	5	Ø17.5
F8	Ø400	Ø350 h6	Ø450	16	5	Ø17.5

D - Shaft mounted version + side areas



	A2	A3	B1	B4	B5	B9	B10	B11	H	H1	H2	H3	H4	H5	L	S1	M1	P1	S2	T2	S3	T3
F2	12	146	40	2	116	31	64	12	70.5	110	243	156	55	100	109	Ø14	87	99	M6	9	M8	12
F3	15	164	45	3	144	56	64	17.5	81	132	286.5	182	68	124	140.5	Ø14	96	112	M8	12	M10	15
F4	20	206	47.5	3.5	168	57	80	18	98.5	159	341	217	87	158	158.5	Ø14	106	122	M8	12	M12	18
F5	25	258	53	4	202	60	104	16	120.5	196	421	270	112	202	184	Ø22	130	150	M10	15	M12	18
F6	30	308	62	5	230	70	120	20	144.5	234	508	328	134	244	215	Ø22	154	178	M12	18	M16	24
F7	35	362	76	6	288	75.5	145	24	171.5	273	599.5	382	245	370	250.5	Ø26	182	214	M16	24	M20	30
F8	40	412	93	6	338	81	185	29	191.5	324	696.5	458	298	440	301	Ø26	220	260	M20	30	M24	36

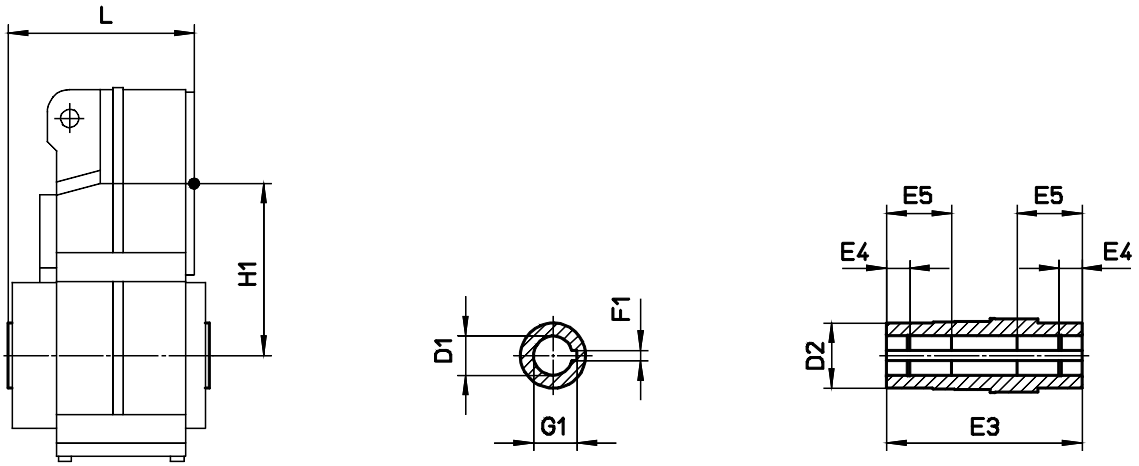
E - Flange mounted version + side areas



	A3	B6	B7	B10	B11	B12	H	H1	H2	H4	H5	L1	S3	T3
F2	146	26	10	64	12	43	70.5	110	243	55	100	122.5	M8	12
F3	164	33	8	64	17.5	67	81	132	286.5	68	124	152	M10	15
F4	206	34	7.5	80	18	68	98.5	159	341	87	158	169.5	M12	18
F5	258	42	8	104	16	72	120.5	196	421	112	202	196	M12	18
F6	308	46	8	120	20	83	144.5	234	508	134	244	227	M16	24
F7	362	55.5	10	145	24	91.5	171.5	273	599.5	245	370	265.5	M20	30
F8	412	60	15	185	29	102	191.5	324	696.5	298	440	321	M24	36

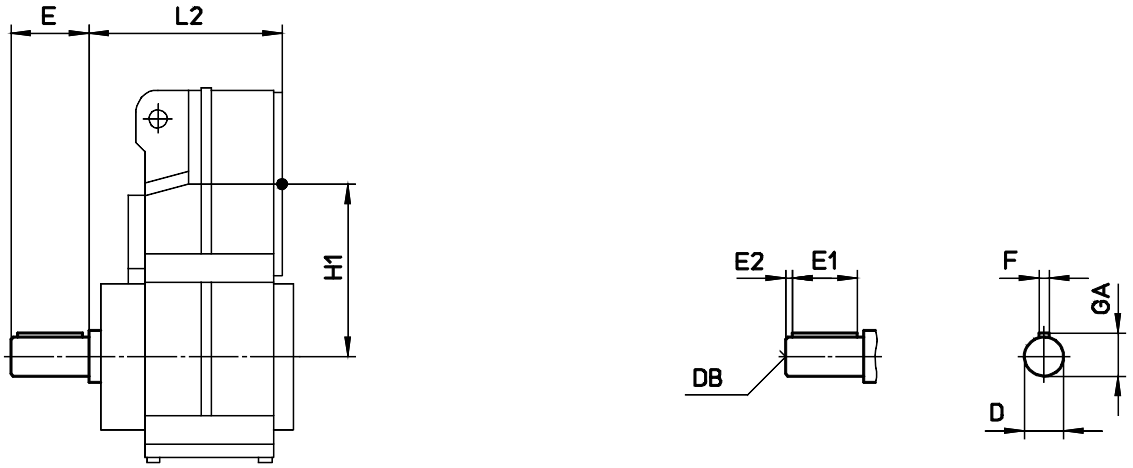
	M	N	P	LA	T	S
F2	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
F3	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
F4	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
F5	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
	Ø265	Ø230 j6	Ø300	12	4	Ø13.5
F6	Ø265	Ø230 j6	Ø300	12	4	Ø13.5
	Ø300	Ø250 h6	Ø350	13	5	Ø17.5
F7	Ø300	Ø250 h6	Ø350	13	5	Ø17.5
	Ø400	Ø350 h6	Ø450	16	5	Ø17.5
F8	Ø400	Ø350 h6	Ø450	16	5	Ø17.5

Hollow shaft with keyway



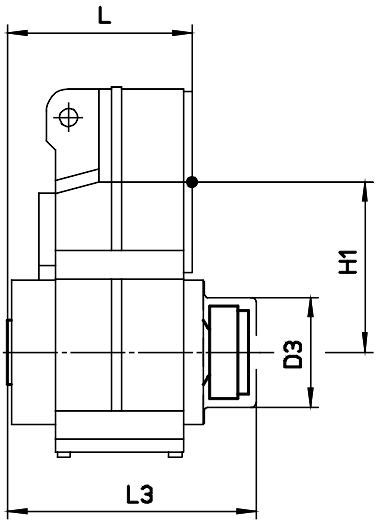
	D1	D2	E3	E4	E5	F1	G1	H1	L
F2	Ø25H7	45	120	15	-	8	28.3	110	109
F3	Ø30H7 Ø35H7	50	150	18	-	8 10	33.3 38.3	132	140.5
F4	Ø40H7	55	175	20	-	12	43.3	159	158.5
F5	Ø50H7	70	210	25	70	14	53.8	196	184
F6	Ø60H7	85	240	30	80	18	64.4	234	215
F7	Ø70H7	100	300	30	100	20	74.9	273	250.5
F8	Ø90H7	120	350	35	120	25	95.4	324	301

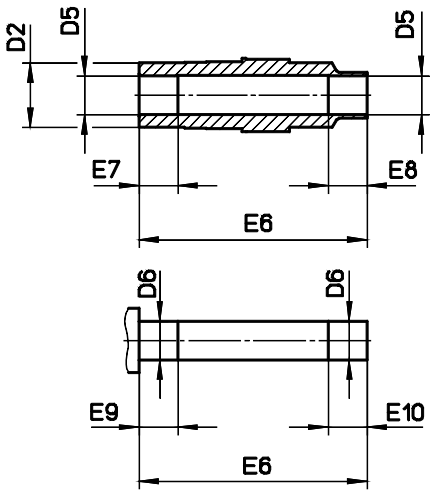
V - Output shaft with key



	D	DB	E	E1	E2	F	GA	H1	L2
F2	Ø25k6	M10	50	40	5	8	28	110	119
F3	Ø30k6 Ø35k6	M10 M12	60 70	50 60	5	8 10	33 38	132	148.5
F4	Ø40k6	M16	80	70	5	12	43	159	166
F5	Ø50k6	M16	100	80	10	14	53.5	196	192
F6	Ø60m6	M20	120	100	10	18	64	234	223
F7	Ø75m6	M20	140	125	7.5	20	79.5	273	260.5
F8	Ø90m6	M24	170	140	15	25	95	324	316

S - Hollow shaft with shrink disc

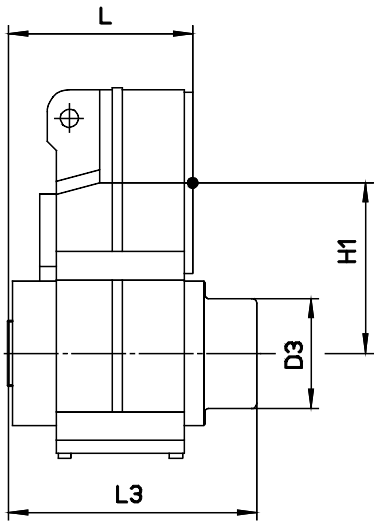


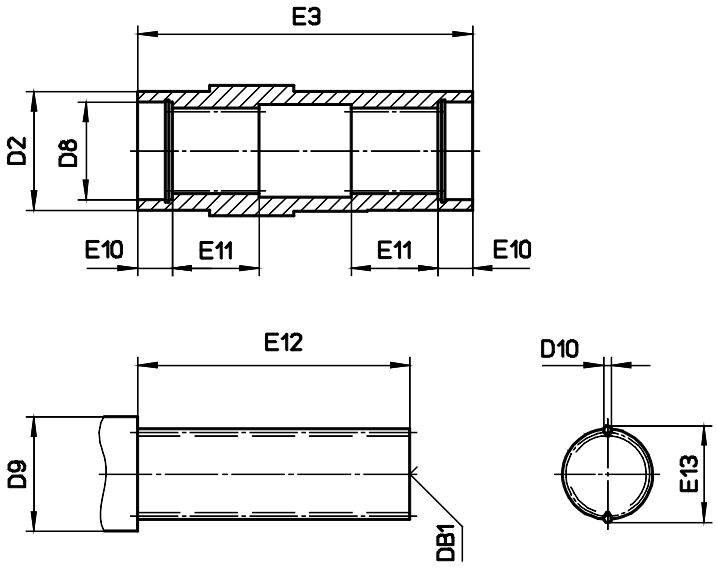


	*)	D2	D3	D5	D6	E6	E7	E8	E9	E10	H1	L	L3
F2	DM80 (DM100)	45	77	Ø25H7	Ø25h6	143	25	25	27	27	110	109	158
F3	DM100 (DM112)	50	86	Ø30H7 Ø35H7	Ø30h6 Ø35h6	176	20	30	22	32	132	140.5	188
F4	DM112 (DA132)	55	96	Ø40H7	Ø40h6	202	20	40	22	42	159	158.5	214.5
F5	DA132	70	117	Ø50H7	Ø50h6	242	30	50	32	52	196	184	255
F6	DA180	85	148	Ø60H7	Ø60h6	274	40	60	42	62	234	215	292
F7	DA200	100	180	Ø70H7	Ø70h6	343	50	70	52	72	273	250.5	359
F8	DA225	120	225	Ø95H7	Ø95h6	402	60	80	62	82	324	301	422

*) largest possible motor size (without protection cover)

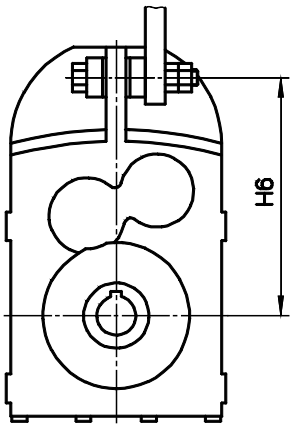
Z - Splined hollow shaft

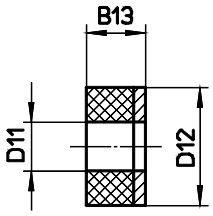




	DIN5480	D2	D3	D8	D9	D10	DB1	E3	E10	E11	E12	E13	H1	L	L3
F2	30x1.25x30x22	45	77	35	40	2.75	M10	120	18	25	88	$33.05^{-0.04}$	110	109	157
F3	35x2x30x16	50	86	40	46	4	M12	150	18	32	118	$38.94^{-0.04}$	132	140.5	188
F4	40x2x30x18	55	96	42	50	4.5	M16	175	23	42	140	$45.08^{-0.04}$	159	158.5	214.5
F5	50x2x30x24	70	117	52	62	4	M16	210	23	52	174	$54.16^{-0.05}$	196	184	255
F6	65x2x30x31	85	148	70	82	4	M20	240	25	62	195	$68.99^{-0.06}$	234	215	292
F7	70x2x30x34	100	180	72	85	4	M20	300	25	72	255	$74.18^{-0.06}$	273	250.5	359
F8	85x3x30x27	120	225	90	105	6	M20	350	27	88	298	$91.02^{-0.06}$	324	301	422

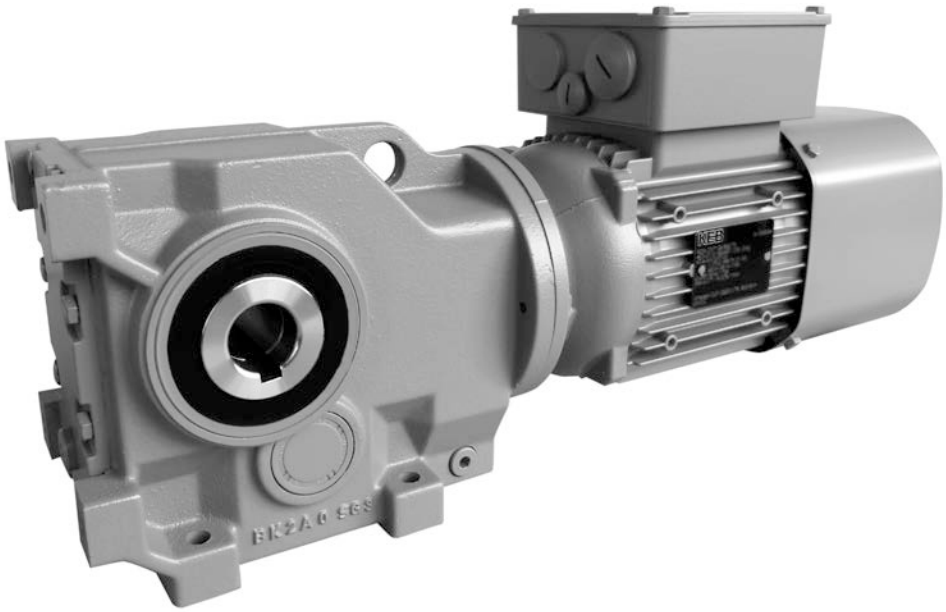
G - Rubber elements



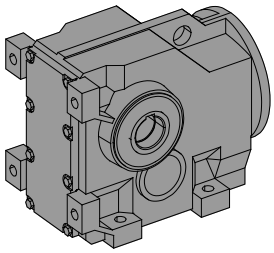


Gear unit	B13	D11	D12	H6
F2	15	12.5	30	156
F3	15	12.5	30	182
F4	20	12.5	40	217
F5	30	21	50	270
F6	30	21	60	328
F7	40	25	80	382
F8	40	25	80	458

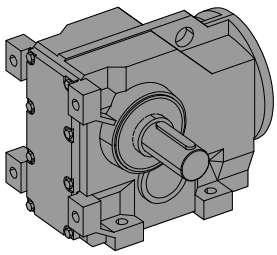
Helical bevel gear units K



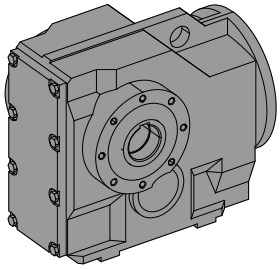
Type of construction



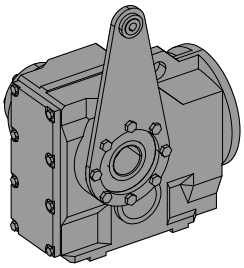
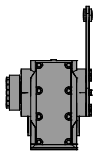
Foot mounted version
Hollow shaft with keyway
Example: K43**A**



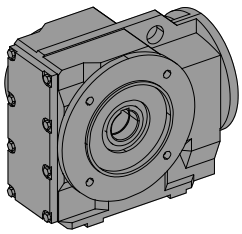
Foot mounted version
Output shaft with key
Example: K33**AV**



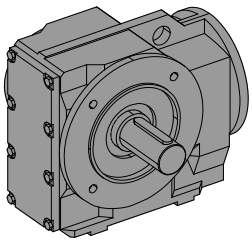
Shaft mounted version
Hollow shaft with keyway
Example: K53**B**

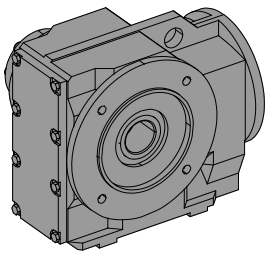
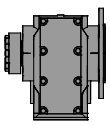
Shaft mounted version
Hollow shaft with shrink disc
Torque arm T1
Example: K53**BT1S**



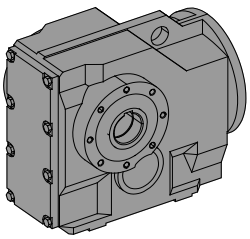
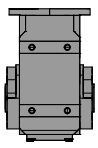
Flange mounted version
Hollow shaft with keyway
Example: K43**C**



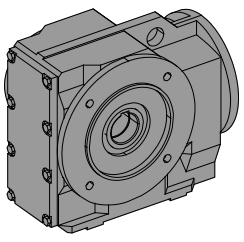
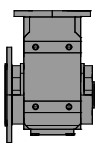
Flange mounted version
Output shaft with key
Example: K33**CV**

Flange mounted version
Hollow shaft with shrink disc
Example: K43**CS**

Shaft mounted version + foot area
Hollow shaft with keyway
Example: K53**D**

Flange mounted version + foot area
Hollow shaft with keyway
Example: K33**E**

Selection table - Gear units

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
K02			
44.20	32	58	0.19
37.47	37	58	0.23
32.16	44	58	0.26
27.86	50	56	0.29
24.30	58	53	0.32
21.32	66	51	0.35
18.78	75	49	0.38
16.58	84	50	0.44
14.05	100	48	0.50
12.06	116	45	0.55
10.45	134	43	0.60
9.11	154	41	0.66
8.00	175	40	0.73
7.04	199	38	0.75
6.10	229	41	0.75
5.29	265	39	0.75
4.61	304	38	0.75
4.05	346	36	0.75
3.56	393	35	0.75
K12G03			
3959.5	0.35	110	<0.05
3345.0	0.42	110	<0.05
2859.9	0.49	110	<0.05
2467.1	0.57	110	<0.05
2142.7	0.65	110	<0.05
1870.2	0.75	110	<0.05
1614.3	0.87	110	<0.05
1392.6	1.0	110	<0.05
1209.5	1.2	110	<0.05
1055.7	1.3	110	<0.05
K12G02			
926.68	1.5	110	<0.05
782.87	1.8	110	<0.05
669.33	2.1	110	<0.05
577.42	2.4	110	<0.05
501.49	2.8	110	<0.05
437.71	3.2	110	<0.05
383.38	3.7	110	<0.05
329.52	4.2	110	<0.05
284.27	4.9	110	0.06
246.89	5.7	110	0.07
215.49	6.5	110	0.07
188.74	7.4	110	0.09
161.25	8.7	110	0.10
139.55	10	110	0.12
121.98	11	110	0.13
107.46	13	110	0.15
95.27	15	110	0.17
84.88	16	110	0.19
76.20	18	110	0.22
66.51	21	100	0.22
58.25	24	88	0.22

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
K12			
54.60	26	110	0.30
46.65	30	110	0.35
40.37	35	110	0.40
35.29	40	110	0.46
31.09	45	110	0.52
27.56	51	107	0.57
24.56	57	103	0.61
22.04	64	100	0.67
19.24	73	97	0.74
16.85	83	93	0.81
15.08	93	109	1.06
13.29	105	105	1.16
11.78	119	102	1.27
10.49	133	98	1.37
9.42	149	95	1.48
8.22	170	92	1.50
7.20	194	88	1.50
6.24	224	112	1.50
5.54	253	109	1.50
4.93	284	106	1.50
4.43	316	103	1.50
3.86	362	100	1.50
3.38	414	97	1.50
K23G03			
5483.4	0.26	205	<0.05
4632.4	0.30	205	<0.05
3960.6	0.35	205	<0.05
3416.7	0.41	205	<0.05
2967.4	0.47	205	<0.05
2590.0	0.54	205	<0.05
2235.6	0.63	205	<0.05
1928.6	0.73	205	<0.05
1675.0	0.84	205	<0.05
1462.0	0.96	205	<0.05
K23G02			
1283.3	1.1	205	<0.05
1084.2	1.3	205	<0.05
926.94	1.5	205	<0.05
799.65	1.8	205	<0.05
694.50	2.0	205	<0.05
606.18	2.3	205	<0.05
530.94	2.6	205	0.06
456.34	3.1	205	0.07
393.68	3.6	205	0.08
341.91	4.1	205	0.09
298.43	4.7	205	0.10
261.38	5.4	205	0.11
228.47	6.1	205	0.13
201.29	7.0	205	0.15
178.45	7.8	205	0.17
159.00	8.8	205	0.19
142.73	9.8	205	0.21
124.58	11	205	0.24
109.11	13	205	0.27

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
K23			
102.27	14	205	0.29
87.38	16	205	0.34
75.61	19	205	0.40
66.09	21	205	0.45
58.23	24	205	0.51
51.62	27	205	0.58
46.00	30	205	0.65
41.29	34	205	0.72
36.04	39	205	0.83
31.57	44	205	0.95
26.14	54	205	1.14
22.85	61	205	1.31
20.13	70	205	1.49
17.84	78	205	1.68
15.90	88	205	1.88
14.27	98	205	2.10
12.46	112	205	2.40
10.91	128	205	2.74
9.34	150	161	2.53
8.28	169	161	2.85
7.38	190	161	3.00
6.63	211	161	3.00
5.78	242	161	3.00
5.07	276	161	3.00
K33G13			
8059.3	0.17	400	<0.05
6832.3	0.20	400	<0.05
5863.6	0.24	400	<0.05
5079.4	0.28	400	<0.05
4431.6	0.32	400	<0.05
3887.4	0.36	400	<0.05
3423.9	0.41	400	<0.05
3010.7	0.47	400	<0.05
2583.9	0.54	400	<0.05
2238.3	0.63	400	<0.05
1952.8	0.72	400	<0.05
K33G12			
1738.3	0.81	400	<0.05
1485.1	0.94	400	<0.05
1285.2	1.1	400	<0.05
1123.4	1.2	400	0.05
989.70	1.4	400	0.06
877.42	1.6	400	0.07
781.77	1.8	400	0.07
701.79	2.0	400	0.08
612.54	2.3	400	0.10
536.51	2.6	400	0.11
493.12	2.8	400	0.12
434.44	3.2	400	0.13
385.15	3.6	400	0.15
343.16	4.1	400	0.17
308.06	4.5	400	0.19
268.88	5.2	400	0.22
235.51	5.9	400	0.25
210.10	6.7	400	0.28
188.46	7.4	400	0.31
171.28	8.2	400	0.34
151.01	9.3	400	0.39
133.74	10	400	0.44
119.69	12	400	0.49
104.17	13	400	0.56

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
K33			
120.13	12	400	0.49
103.13	14	400	0.57
89.71	16	400	0.65
78.85	18	400	0.74
69.88	20	400	0.84
62.34	22	400	0.94
55.92	25	400	1.05
50.82	28	400	1.15
44.80	31	400	1.31
39.68	35	400	1.47
35.51	39	400	1.65
30.91	45	400	1.89
27.26	51	400	2.15
24.15	58	400	2.42
21.55	65	400	2.71
19.33	72	400	3.03
17.57	80	400	3.33
15.49	90	400	3.78
13.72	102	400	4.00
12.27	114	390	4.00
10.68	131	375	4.00
9.30	151	240	3.80
8.45	166	300	4.00
7.45	188	285	4.00
6.60	212	275	4.00
5.91	237	300	4.00
5.14	272	290	4.00
K43G13			
10485	0.13	745	<0.05
8888.4	0.16	745	<0.05
7628.2	0.18	745	<0.05
6608.0	0.21	745	<0.05
5765.3	0.24	745	<0.05
5057.3	0.28	745	<0.05
4454.3	0.31	745	<0.05
3916.8	0.36	745	<0.05
3361.5	0.42	745	<0.05
2911.9	0.48	745	<0.05
2540.6	0.55	745	<0.05

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]

K43G12

2261.4	0.62	745	<0.05
1932.0	0.72	745	0.06
1672.0	0.84	745	0.07
1461.5	0.96	745	0.07
1287.6	1.1	745	0.08
1141.5	1.2	745	0.10
1017.0	1.4	745	0.11
912.99	1.5	745	0.12
796.88	1.8	745	0.14
697.97	2.0	745	0.16
641.52	2.2	745	0.17
565.19	2.5	745	0.19
501.06	2.8	745	0.22
446.44	3.1	745	0.24
400.77	3.5	745	0.27
349.80	4.0	745	0.31
306.38	4.6	745	0.36
275.54	5.1	745	0.40
249.26	5.6	745	0.44
227.20	6.2	745	0.48
202.69	6.9	745	0.54
181.81	7.7	745	0.60
164.95	8.5	745	0.66
146.17	9.6	745	0.75
128.66	11	745	0.85

K43

151.92	9.2	745	0.72
131.28	11	745	0.83
114.99	12	745	0.95
101.80	14	745	1.07
90.90	15	745	1.20
81.75	17	745	1.33
73.96	19	745	1.47
67.41	21	745	1.62
60.14	23	745	1.81
53.94	26	745	2.02
48.94	29	745	2.23
43.37	32	745	2.51
38.17	37	745	2.85
33.43	42	745	3.26
29.37	48	745	3.71
25.56	55	745	4.26
23.30	60	745	4.67
20.79	67	745	5.2
18.65	75	745	5.8
16.92	83	745	6.4
14.99	93	745	7.3
13.20	106	745	7.5
11.56	121	745	7.5
10.15	138	745	7.5
8.60	163	565	7.5
7.62	184	550	7.5
6.71	209	580	7.5
5.87	238	550	7.5
5.16	271	520	7.5

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]

K53G23

11426	0.12	1430	<0.05
9761.9	0.14	1430	<0.05
8447.9	0.17	1430	<0.05
7384.3	0.19	1430	<0.05
6505.6	0.22	1430	<0.05
5767.5	0.24	1430	<0.05
5175.3	0.27	1430	<0.05
4523.7	0.31	1430	<0.05
3985.4	0.35	1430	0.05
3533.2	0.40	1430	0.06
3093.4	0.45	1430	0.07
2725.3	0.51	1430	0.08
2416.1	0.58	1430	0.09

K53G22

2176.4	0.64	1430	0.10
1868.5	0.75	1430	0.11
1625.3	0.86	1430	0.13
1428.5	0.98	1430	0.15
1266.0	1.1	1430	0.17
1129.4	1.2	1430	0.19
1013.0	1.4	1430	0.21
920.69	1.5	1430	0.23
811.74	1.7	1430	0.26
718.94	1.9	1430	0.29
648.83	2.2	1430	0.32
597.22	2.3	1430	0.35
524.36	2.7	1430	0.40
470.34	3.0	1430	0.45
427.46	3.3	1430	0.49
376.88	3.7	1430	0.56
333.79	4.2	1430	0.63
301.24	4.6	1430	0.69
277.28	5.0	1430	0.75
247.82	5.6	1430	0.84
220.06	6.4	1430	0.95
195.01	7.2	1430	1.07
173.54	8.1	1430	1.21
148.66	9.4	1430	1.41
135.16	10	1430	1.55

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]

K53

138.94	10	1430	1.51
123.46	11	1430	1.70
110.68	13	1430	1.89
99.94	14	1430	2.09
90.79	15	1430	2.31
83.01	17	1430	2.52
74.48	19	1430	2.81
67.22	21	1430	3.11
61.87	23	1430	3.38
55.30	25	1430	3.79
49.10	29	1430	4.26
43.51	32	1430	4.81
38.72	36	1430	5.4
33.17	42	1430	6.3
29.56	47	1430	7.1
26.68	52	1430	7.8
24.56	57	1430	8.5
21.95	64	1430	9.5
19.49	72	1420	10.7
17.27	81	1370	11.6
15.37	91	1320	12.6
13.17	106	1260	14.0
11.61	121	1220	15.0
10.75	130	985	13.4
9.55	147	985	15.0
8.46	165	985	15.0
7.53	186	985	15.0
6.45	217	960	15.0
5.69	246	925	15.0

K63G23

13818	0.10	2550	<0.05
11805	0.12	2550	<0.05
10216	0.14	2550	<0.05
8930.1	0.16	2550	<0.05
7867.5	0.18	2550	<0.05
6974.9	0.20	2550	0.05
6258.7	0.22	2550	0.06
5470.7	0.26	2550	0.07
4819.7	0.29	2550	0.08
4272.9	0.33	2550	0.09
3741.0	0.37	2550	0.10
3295.8	0.42	2550	0.11
2921.9	0.48	2550	0.13

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]

K63G22

2632.0	0.53	2550	0.14
2259.6	0.62	2550	0.17
1965.6	0.71	2550	0.19
1727.6	0.81	2550	0.22
1531.0	0.91	2550	0.24
1365.8	1.0	2550	0.27
1225.1	1.1	2550	0.31
1113.4	1.3	2550	0.34
981.68	1.4	2550	0.38
869.44	1.6	2550	0.43
803.80	1.7	2550	0.47
724.09	1.9	2550	0.52
634.13	2.2	2550	0.59
568.80	2.5	2550	0.66
516.95	2.7	2550	0.72
455.78	3.1	2550	0.82
403.67	3.5	2550	0.93
373.19	3.8	2550	1.00
336.18	4.2	2550	1.11
301.25	4.6	2550	1.24
269.78	5.2	2550	1.39
242.80	5.8	2550	1.54
211.83	6.6	2550	1.77
189.77	7.4	2550	1.97

K63

160.53	8.7	2550	2.33
144.48	9.7	2550	2.59
130.99	11	2550	2.86
119.50	12	2550	3.13
109.93	13	2550	3.40
99.21	14	2550	3.77
90.07	16	2550	4.15
83.27	17	2550	4.49
75.02	19	2550	4.99
67.22	21	2550	5.6
60.20	23	2550	6.2
54.18	26	2550	6.9
47.27	30	2550	7.9
42.35	33	2550	8.8
37.56	37	2550	10.0
33.00	42	2490	11.1
29.77	47	2550	12.6
26.68	52	2550	14.0
23.89	59	2470	15.2
21.50	65	2390	16.3
18.76	75	2300	18.0
16.81	83	2220	19.4
14.91	94	2140	21.0
13.10	107	2060	22.0
11.58	121	1700	21.5
10.43	134	1670	22.0
9.10	154	1700	22.0
8.15	172	1700	22.0
7.23	194	1640	22.0
6.35	220	1570	22.0

K73G33

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
14283	0.098	4330	<0.05
12262	0.11	4330	0.05
10667	0.13	4330	0.06
9375.1	0.15	4330	0.07
8308.2	0.17	4330	0.08
7411.9	0.19	4330	0.09
6648.4	0.21	4330	0.10
6042.3	0.23	4330	0.11
5327.3	0.26	4330	0.12
4718.2	0.30	4330	0.13
4280.5	0.33	4330	0.15
3707.9	0.38	4330	0.17
3293.4	0.43	4330	0.19
2954.1	0.47	4330	0.21
2684.8	0.52	4330	0.24
2367.1	0.59	4330	0.27

K73G32

2068.0	0.68	4330	0.31
1846.7	0.76	4330	0.34
1660.8	0.84	4330	0.38
1502.4	0.93	4330	0.42
1369.5	1.0	4330	0.46
1221.7	1.1	4330	0.52
1095.9	1.3	4330	0.58
994.22	1.4	4330	0.64
861.22	1.6	4330	0.74
779.24	1.8	4330	0.81
707.41	2.0	4330	0.90
630.75	2.2	4330	1.01
587.86	2.4	4330	1.08
527.31	2.7	4330	1.20
478.39	2.9	4330	1.33
414.39	3.4	4330	1.53
374.95	3.7	4330	1.69
340.39	4.1	4330	1.86
303.50	4.6	4330	2.09
256.81	5.5	4330	2.47
232.36	6.0	4330	2.73
210.95	6.6	4330	3.01
188.09	7.4	4330	3.37

K73

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
183.21	7.6	4330	3.46
166.63	8.4	4330	3.81
152.50	9.2	4330	4.16
141.34	9.9	4330	4.49
128.10	11	4330	4.95
116.83	12	4330	5.4
108.36	13	4330	5.9
98.17	14	4330	6.5
89.29	16	4330	7.1
80.57	17	4330	7.9
73.10	19	4330	8.7
63.32	22	4330	10.0
57.29	24	4330	11.1
52.01	27	4330	12.2
46.38	30	4330	13.7
43.99	32	4330	14.4
40.01	35	4330	15.9
36.10	39	4330	17.6
32.75	43	4330	19.4
28.37	49	4330	22.4
25.67	55	4330	24.7
23.31	60	4330	27.2
20.78	67	4330	30.0
17.62	79	4330	30.0
15.04	93	4160	30.0
13.76	102	3100	30.0
12.45	112	3090	30.0
11.30	124	3100	30.0
10.08	139	3100	30.0
8.54	164	3100	30.0
7.29	192	3100	30.0

K83G33

16285	0.086	7960	0.07
13981	0.10	7960	0.08
12162	0.12	7960	0.10
10689	0.13	7960	0.11
9472.7	0.15	7960	0.12
8450.8	0.17	7960	0.14
7580.3	0.18	7960	0.15
6889.3	0.20	7960	0.17
6074.0	0.23	7960	0.19
5379.6	0.26	7960	0.22
4900.2	0.29	7960	0.24
4292.3	0.33	7960	0.27
3755.0	0.37	7960	0.31
3368.2	0.42	7960	0.35
3061.2	0.46	7960	0.38
2698.9	0.52	7960	0.43

K83G32

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
2357.9	0.59	7960	0.49
2105.6	0.66	7960	0.55
1893.6	0.74	7960	0.62
1713.0	0.82	7960	0.68
1561.4	0.90	7960	0.75
1393.0	1.0	7960	0.84
1249.5	1.1	7960	0.93
1138.2	1.2	7960	1.02
996.96	1.4	7960	1.17
906.86	1.5	7960	1.29
816.82	1.7	7960	1.43
774.35	1.8	7960	1.51
705.34	2.0	7960	1.65
617.84	2.3	7960	1.89
545.46	2.6	7960	2.14
483.36	2.9	7960	2.41
425.46	3.3	7960	2.74
372.59	3.8	7960	3.13
327.28	4.3	7960	3.56
298.11	4.7	7960	3.91
261.13	5.4	7960	4.47
237.53	5.9	7960	4.91
213.95	6.5	7960	5.5
192.10	7.3	7960	6.1
187.60	7.5	7680	6.0
164.78	8.5	7060	6.3

K83

144.68	9.7	7960	8.1
132.28	11	7960	8.8
122.27	11	7960	9.5
111.12	13	7960	10.5
101.42	14	7960	11.5
91.87	15	7960	12.7
83.68	17	7960	13.9
73.30	19	7960	15.9
66.68	21	7960	17.5
60.06	23	7960	19.4
53.92	26	7960	21.6
46.25	30	7960	25.2
39.98	35	7960	29.2
34.75	40	7960	33.6
32.84	43	7960	35.5
29.88	47	7960	39.0
26.91	52	7960	43.3
24.16	58	7960	45.0
20.73	68	7740	45.0
17.91	78	7400	45.0
15.57	90	7100	45.0
14.01	100	4850	45.0
12.58	111	4850	45.0
10.79	130	4850	45.0
9.32	150	4850	45.0
8.11	173	4850	45.0

K93G43

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
19466	0.072	12300	0.09
16822	0.083	12300	0.11
14735	0.095	12300	0.12
13045	0.11	12300	0.14
11648	0.12	12300	0.15
10476	0.13	12300	0.17
9476.8	0.15	12300	0.19
8638.2	0.16	12300	0.21
7706.3	0.18	12300	0.23
6912.5	0.20	12300	0.26
6318.8	0.22	12300	0.28
5768.8	0.24	12300	0.31
5277.6	0.27	12300	0.34
4774.3	0.29	12300	0.38
4351.8	0.32	12300	0.41
3882.4	0.36	12300	0.46
3482.4	0.40	12300	0.52
3183.3	0.44	12300	0.56
2906.2	0.48	12300	0.62
2627.7	0.53	12300	0.68

K93G42

2486.8	0.56	12300	0.72
2245.4	0.62	12300	0.80
2039.9	0.69	12300	0.88
1865.1	0.75	12300	0.96
1673.5	0.84	12300	1.07
1510.3	0.93	12300	1.19
1380.6	1.0	12300	1.30
1260.4	1.1	12300	1.42
1139.6	1.2	12300	1.58
988.56	1.4	12300	1.82
864.99	1.6	12300	2.08
762.02	1.8	12300	2.36
651.55	2.1	12300	2.76
631.60	2.2	12300	2.84
560.85	2.5	12300	3.20
497.00	2.8	12300	3.61
454.31	3.1	12300	3.95
414.77	3.4	12300	4.33
375.01	3.7	12300	4.79
325.31	4.3	12300	5.5
284.64	4.9	12300	6.3
252.16	5.6	12300	7.1
218.74	6.4	12300	8.2
191.40	7.3	12300	9.4
168.61	8.3	12300	10.7
144.17	9.7	12300	12.5

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
K93			
137.36	10	12300	13.1
126.06	11	12300	14.2
114.62	12	12300	15.7
104.80	13	12300	17.1
92.68	15	12300	19.4
84.72	17	12300	21.2
77.34	18	12300	23.2
69.93	20	12300	25.7
60.66	23	12300	29.6
53.08	26	12300	33.8
46.76	30	12100	37.9
39.98	35	11700	42.9
34.75	40	11300	47.7
31.33	45	12300	57.3
27.18	52	12300	66.1
23.78	59	11800	72.7
20.95	67	11400	79.8
17.91	78	10800	88.4
15.57	90	10400	90.0
14.34	98	7320	74.8
12.55	112	7320	85.5
11.06	127	7320	90.0
9.45	148	7320	90.0
8.22	170	7230	90.0

Selection table - Geared motors

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
0.12 kW				
K33G12A DM63K4				24
2.8	395	1.00	493.12	
3.2	345	1.15	434.44	
3.6	305	1.30	385.15	
4.0	275	1.45	343.16	
4.5	245	1.60	308.06	
5.1	215	1.85	268.88	
K23G02A DM63K4				17
4.6	240	0.85	298.43	
5.3	210	1.00	261.38	
6.0	182	1.10	228.47	
6.9	160	1.25	201.29	
7.7	142	1.45	178.45	
8.7	127	1.60	159.00	
9.7	114	1.80	142.73	
K12G02A DM63K4				13
8.6	122	0.90	161.25	
9.9	105	1.05	139.55	
11	92	1.20	121.98	
13	81	1.35	107.46	
14	72	1.55	95.27	
16	64	1.70	84.88	
18	58	1.90	76.20	
21	50	2.00	66.51	
24	44	2.00	58.25	
K02A DM63K4				7
31	33	1.75	44.20	
37	28	2.0	37.47	
43	24	2.4	32.16	
50	21	2.7	27.86	
57	18	2.9	24.30	
65	16	3.2	21.32	
73	14	3.5	18.78	
83	13	3.9	16.58	
98	11	4.4	14.05	
114	9.3	4.8	12.06	
132	8.1	5.3	10.45	
151	7.0	5.8	9.11	
173	6.2	6.5	8.00	
196	5.4	7.0	7.04	
226	4.8	8.5	6.10	
261	4.2	9.4	5.29	
299	3.6	10	4.61	
341	3.2	11	4.05	
387	2.8	12	3.56	
0.18 kW				
K43G12A DM63G4				33
3.1	535	1.40	446.44	
3.4	480	1.55	400.77	
3.9	420	1.80	349.80	
4.5	365	2.0	306.38	
K33G12A DM63G4				24
3.6	460	0.85	385.15	
4.0	410	0.95	343.16	
4.5	370	1.10	308.06	
5.1	320	1.25	268.88	
5.9	280	1.40	235.51	
6.6	250	1.60	210.10	
7.3	225	1.75	188.46	
8.1	205	1.95	171.28	
K23G02A DM63G4				17
6.9	240	0.85	201.29	
7.7	215	0.95	178.45	
8.7	190	1.05	159.00	
9.7	171	1.20	142.73	
11	149	1.35	124.58	
13	130	1.55	109.11	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K23A DM63G4				14
13	127	1.60	102.27	
16	109	1.85	87.38	
K12G02A DM63G4				13
11	138	0.80	121.98	
13	122	0.90	107.46	
14	108	1.00	95.27	
16	96	1.15	84.88	
18	86	1.25	76.20	
21	75	1.35	66.51	
24	66	1.35	58.25	
K12A DM63G4				10
25	62	1.80	54.60	
K02A DM63G4				8
31	50	1.15	44.20	
37	42	1.35	37.47	
43	36	1.60	32.16	
50	32	1.75	27.86	
57	28	1.90	24.30	
65	24	2.1	21.32	
73	21	2.3	18.78	
83	19	2.6	16.58	
98	16	2.9	14.05	
114	14	3.2	12.06	
132	12	3.6	10.45	
151	11	3.9	9.11	
173	9.3	4.3	8.00	
196	8.2	4.7	7.04	
226	7.2	5.7	6.10	
261	6.3	6.2	5.29	
299	5.5	7.0	4.61	
341	4.8	7.5	4.05	
387	4.2	8.3	3.56	
0.25 kW				
K53G22A DM71K4				56
3.0	765	1.85	470.34	
K43G12A DM71K4				34
3.2	725	1.00	446.44	
3.5	650	1.15	400.77	
4.0	570	1.30	349.80	
4.6	500	1.50	306.38	
5.1	450	1.65	275.54	
5.7	405	1.85	249.26	
6.2	370	2.0	227.20	
K33G12A DM71K4				25
4.6	500	0.80	308.06	
5.2	435	0.90	268.88	
6.0	385	1.05	235.51	
6.7	340	1.15	210.10	
7.5	305	1.30	188.46	
8.2	280	1.45	171.28	
9.3	245	1.65	151.01	
11	215	1.85	133.74	
K33A DM71K4				20
12	205	1.95	120.13	
K23G02A DM71K4				18
8.9	260	0.80	159.00	
9.9	230	0.90	142.73	
11	205	1.00	124.58	
13	177	1.15	109.11	
K23A DM71K4				15
14	173	1.20	102.27	
16	148	1.40	87.38	
19	128	1.60	75.61	
21	112	1.80	66.09	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K12G02A DM71K4				14
17	131	0.85	84.88	
19	117	0.95	76.20	
21	102	1.00	66.51	
24	90	1.00	58.25	
K12A DM71K4				11
26	84	1.30	54.60	
30	72	1.55	46.65	
35	62	1.75	40.37	
40	54	2.0	35.29	
K02A DM71K4				9
32	68	0.85	44.20	
38	58	1.00	37.47	
44	50	1.15	32.16	
51	43	1.30	27.86	
58	37	1.40	24.30	
66	33	1.55	21.32	
75	29	1.70	18.78	
85	26	1.90	16.58	
100	22	2.2	14.05	
117	19	2.4	12.06	
135	16	2.6	10.45	
155	14	2.9	9.11	
176	13	3.2	8.00	
200	11	3.4	7.04	
231	9.8	4.2	6.10	
267	8.5	4.6	5.29	
306	7.4	5.1	4.61	
349	6.5	5.5	4.05	
396	5.7	6.1	3.56	
0.37 kW				
K53G22A DM71G4				57
3.0	1130	1.25	470.34	
3.3	1030	1.40	427.46	
3.7	905	1.55	376.88	
4.2	805	1.80	333.79	
4.7	725	1.95	301.24	
K43G12A DM71G4				34
4.0	840	0.90	349.80	
4.6	735	1.00	306.38	
5.1	665	1.10	275.54	
5.7	600	1.25	249.26	
6.2	545	1.35	227.20	
7.0	490	1.50	202.69	
7.8	435	1.70	181.81	
8.5	395	1.85	164.95	
K43A DM71G4				29
9.3	380	1.95	151.92	
K33G12A DM71G4				26
6.7	505	0.80	210.10	
7.5	455	0.90	188.46	
8.2	410	0.95	171.28	
9.3	365	1.10	151.01	
11	320	1.25	133.74	
12	290	1.40	119.69	
14	250	1.60	104.17	
K33A DM71G4				21
12	300	1.35	120.13	
14	260	1.55	103.13	
16	225	1.75	89.71	
18	198	2.0	78.85	
K23G02A DM71G4				19
13	265	0.80	109.11	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K23A DM71G4				15
14	255	0.80	102.27	
16	220	0.95	87.38	
19	189	1.10	75.61	
21	166	1.25	66.09	
24	146	1.40	58.23	
27	129	1.60	51.62	
31	115	1.75	46.00	
34	103	1.95	41.29	
K12A DM71G4				11
26	125	0.90	54.60	
30	106	1.05	46.65	
35	92	1.20	40.37	
40	80	1.35	35.29	
45	71	1.55	31.09	
51	63	1.70	27.56	
57	56	1.85	24.56	
64	50	2.00	22.04	
K02A DM71G4				9
44	73	0.80	32.16	
51	64	0.90	27.86	
58	55	0.95	24.30	
66	49	1.05	21.32	
75	43	1.15	18.78	
85	39	1.30	16.58	
100	33	1.45	14.05	
117	28	1.60	12.06	
135	24	1.75	10.45	
155	21	1.95	9.11	
176	19	2.1	8.00	
200	16	2.3	7.04	
231	15	2.8	6.10	
267	13	3.1	5.29	
306	11	3.5	4.61	
349	9.6	3.7	4.05	
396	8.5	4.1	3.56	
0.55 kW				
K63G22A DM80K4				85
3.1	1640	1.55	455.78	
3.5	1450	1.75	403.67	
3.8	1340	1.90	373.19	
K53G22A DM80K4				58
3.0	1690	0.85	470.34	
3.3	1530	0.95	427.46	
3.7	1350	1.05	376.88	
4.2	1200	1.20	333.79	
4.7	1080	1.30	301.24	
5.1	995	1.45	277.28	
5.7	890	1.60	247.82	
6.4	790	1.80	220.06	
K43G12A DM80K4				36
5.6	895	0.85	249.26	
6.2	815	0.90	227.20	
6.9	725	1.00	202.69	
7.7	655	1.15	181.81	
8.5	590	1.25	164.95	
9.6	525	1.40	146.17	
11	460	1.60	128.66	
K43A DM80K4				31
12	430	1.75	114.99	
14	380	1.95	101.80	
K33G12A DM80K4				28
11	480	0.85	133.74	
12	430	0.95	119.69	
13	375	1.05	104.17	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K33A DM80K4				22
16	335	1.20	89.71	
18	295	1.35	78.85	
20	260	1.55	69.88	
23	235	1.70	62.34	
25	210	1.90	55.92	
K23A DM80K4				17
21	245	0.85	66.09	
24	220	0.95	58.23	
27	193	1.05	51.62	
31	172	1.20	46.00	
34	154	1.30	41.29	
39	135	1.50	36.04	
45	118	1.75	31.57	
K12A DM80K4				13
35	137	0.80	40.37	
40	120	0.90	35.29	
45	106	1.05	31.09	
51	94	1.15	27.56	
57	84	1.25	24.56	
64	75	1.35	22.04	
73	65	1.50	19.24	
83	57	1.60	16.85	
K02A DM80K4				11
117	42	1.05	12.06	
134	36	1.20	10.45	
154	32	1.30	9.11	
176	28	1.45	8.00	
200	24	1.55	7.04	
230	22	1.90	6.10	
266	19	2.1	5.29	
305	16	2.3	4.61	
347	14	2.5	4.05	
394	13	2.8	3.56	

0.75 kW

K73G32A DM80GC4				136
2.9	2330	1.85	478.39	
K63G22A DM80GC4				86
3.1	2220	1.15	455.78	
3.5	1970	1.30	403.67	
3.8	1820	1.40	373.19	
4.2	1640	1.55	336.18	
4.7	1470	1.75	301.25	
5.2	1320	1.95	269.78	
K53G22A DM80GC4				60
3.7	1840	0.80	376.88	
4.2	1630	0.90	333.79	
4.7	1470	0.95	301.24	
5.1	1350	1.05	277.28	
5.7	1210	1.20	247.82	
6.4	1070	1.35	220.06	
7.2	950	1.50	195.01	
8.1	845	1.70	173.54	
9.5	725	1.95	148.66	
K53A DM80GC4				51
10	705	2.0	138.94	
K43G12A DM80GC4				38
7.8	885	0.85	181.81	
8.5	805	0.90	164.95	
9.6	715	1.05	146.17	
11	625	1.20	128.66	
K43A DM80GC4				32
12	585	1.25	114.99	
14	515	1.45	101.80	
16	460	1.60	90.90	
17	415	1.80	81.75	
19	375	2.00	73.96	
K33G12A DM80GC4				29
14	510	0.80	104.17	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K33A DM80GC4				24
16	455	0.90	89.71	
18	400	1.00	78.85	
20	355	1.10	69.88	
23	315	1.25	62.34	
25	285	1.40	55.92	
28	260	1.55	50.82	
31	230	1.75	44.80	
36	200	2.00	39.68	
K23A DM80GC4				19
27	260	0.80	51.62	
31	235	0.85	46.00	
34	210	0.95	41.29	
39	183	1.10	36.04	
45	160	1.25	31.57	
54	133	1.55	26.14	
62	116	1.75	22.85	
70	102	2.00	20.13	
K12A DM80GC4				15
51	127	0.85	27.56	
57	114	0.90	24.56	
64	102	1.00	22.04	
73	89	1.10	19.24	
84	78	1.20	16.85	
94	71	1.55	15.08	
106	63	1.65	13.29	
120	56	1.85	11.78	
134	50	2.00	10.49	
K02A DM80GC4				13
117	57	0.80	12.06	
135	49	0.85	10.45	
155	43	0.95	9.11	
176	38	1.05	8.00	
200	33	1.15	7.04	
231	29	1.40	6.10	
267	26	1.55	5.29	
306	22	1.70	4.61	
349	20	1.85	4.05	
396	17	2.0	3.56	

1.1 kW

K83G32A DM90SC4				202
2.9	3440	2.3	483.36	
K73G32A DM90SC4				139
3.0	3410	1.25	478.39	
3.4	2950	1.45	414.39	
3.8	2670	1.60	374.95	
4.2	2430	1.80	340.39	
4.7	2160	2.0	303.50	
5.5	1830	2.4	256.81	
K63G22A DM90SC4				89
3.1	3250	0.80	455.78	
3.5	2880	0.90	403.67	
3.8	2660	0.95	373.19	
4.2	2400	1.05	336.18	
4.7	2150	1.20	301.25	
5.2	1920	1.35	269.78	
5.8	1730	1.45	242.80	
6.7	1510	1.70	211.83	
7.5	1350	1.90	189.77	
K63A DM90SC4				82
8.8	1190	2.1	160.53	
9.8	1070	2.4	144.48	
K53G22A DM90SC4				63
5.7	1770	0.80	247.82	
6.4	1570	0.90	220.06	
7.3	1390	1.05	195.01	
8.2	1240	1.15	173.54	
9.5	1060	1.35	148.66	
10	965	1.50	135.16	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K53A DM90SC4				54
11	915	1.55	123.46	
13	820	1.75	110.68	
14	740	1.90	99.94	
16	675	2.1	90.79	
17	615	2.3	83.01	
K43G12A DM90SC4				40
11	915	0.80	128.66	
K43A DM90SC4				35
14	755	1.00	101.80	
16	675	1.10	90.90	
17	605	1.20	81.75	
19	550	1.35	73.96	
21	500	1.50	67.41	
24	445	1.65	60.14	
26	400	1.85	53.94	
29	365	2.0	48.94	
33	320	2.3	43.37	
K33A DM90SC4				27
23	465	0.85	62.34	
25	415	0.95	55.92	
28	375	1.05	50.82	
32	335	1.20	44.80	
36	295	1.35	39.68	
40	265	1.50	35.51	
46	230	1.75	30.91	
52	200	1.95	27.26	
59	179	2.2	24.15	
66	160	2.5	21.55	
K23A DM90SC4				21
45	235	0.85	31.57	
62	170	1.20	22.85	
70	149	1.35	20.13	
79	132	1.55	17.84	
89	118	1.75	15.90	
99	106	1.95	14.27	
114	92	2.2	12.46	
130	81	2.5	10.91	
151	69	2.3	9.34	
K12A DM90SC4				17
84	114	0.80	16.85	
94	104	1.05	15.08	
107	92	1.15	13.29	
120	81	1.25	11.78	
135	72	1.35	10.49	
150	65	1.45	9.42	
172	57	1.60	8.22	
196	50	1.75	7.20	
227	44	2.5	6.24	
256	39	2.8	5.54	
287	35	3.0	4.93	
320	31	3.3	4.43	
366	27	3.7	3.86	
418	24	4.1	3.38	

1.5 kW

K93G42A DM90LC4				315
2.8	4850	2.5	497.00	
K83G32A DM90LC4				205
2.9	4710	1.70	483.36	
3.3	4150	1.90	425.46	
3.8	3630	2.2	372.59	
K73G32A DM90LC4				141
2.9	4670	0.95	478.39	
3.4	4040	1.05	414.39	
3.8	3660	1.20	374.95	
4.1	3320	1.30	340.39	
4.6	2960	1.45	303.50	
5.5	2500	1.75	256.81	
6.1	2270	1.90	232.36	
6.7	2060	2.1	210.95	
7.5	1830	2.4	188.09	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K73A DM90LC4				128
7.7	1860	2.3	183.21	
K63G22A DM90LC4				92
4.2	3280	0.80	336.18	
4.7	2940	0.85	301.25	
5.2	2630	0.95	269.78	
5.8	2370	1.10	242.80	
6.7	2070	1.25	211.83	
7.4	1850	1.40	189.77	
K63A DM90LC4				84
8.8	1630	1.55	160.53	
9.8	1470	1.75	144.48	
11	1330	1.90	130.99	
12	1210	2.1	119.50	
13	1120	2.3	109.93	
14	1010	2.5	99.21	
K53G22A DM90LC4				65
8.1	1690	0.85	173.54	
9.5	1450	1.00	148.66	
10	1320	1.10	135.16	
K53A DM90LC4				57
11	1250	1.15	123.46	
13	1120	1.25	110.68	
14	1020	1.40	99.94	
16	920	1.55	90.79	
17	845	1.70	83.01	
19	755	1.90	74.48	
21	685	2.1	67.22	
23	630	2.3	61.87	
K43A DM90LC4				37
16	925	0.80	90.90	
17	830	0.90	81.75	
19	750	1.00	73.96	
21	685	1.10	67.41	
23	610	1.20	60.14	
26	550	1.35	53.94	
29	495	1.50	48.94	
33	440	1.70	43.37	
37	390	1.90	38.17	
42	340	2.2	33.43	
K33A DM90LC4				29
31	455	0.90	44.80	
36	405	1.00	39.68	
40	360	1.10	35.51	
46	315	1.25	30.91	
52	275	1.45	27.26	
58	245	1.65	24.15	
65	220	1.80	21.55	
73	196	2.0	19.33	
80	178	2.2	17.57	
91	157	2.5	15.49	
K23A DM90LC4				24
62	230	0.90	22.85	
70	205	1.00	20.13	
79	181	1.15	17.84	
89	162	1.25	15.90	
99	145	1.40	14.27	
113	127	1.60	12.46	
129	111	1.85	10.91	
151	95	1.70	9.34	
170	84	1.90	8.28	
191	75	2.1	7.38	
213	67	2.4	6.63	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K12A DM90LC4				20
106	126	0.85	13.29	
120	111	0.90	11.78	
134	99	1.00	10.49	
150	89	1.05	9.42	
171	78	1.20	8.22	
196	68	1.30	7.20	
226	60	1.85	6.24	
255	53	2.0	5.54	
286	48	2.2	4.93	
318	43	2.4	4.43	
365	37	2.7	3.86	
417	33	3.0	3.38	

2.2 kW

K93G42A DM100LC4				322
2.8	7110	1.70	497.00	
3.1	6500	1.90	454.31	
3.4	5930	2.1	414.77	
3.8	5360	2.3	375.01	
K83G32A DM100LC4				212
2.9	6910	1.15	483.36	
3.3	6090	1.30	425.46	
3.8	5330	1.50	372.59	
4.3	4680	1.70	327.28	
4.7	4260	1.85	298.11	
5.4	3740	2.1	261.13	
5.9	3400	2.3	237.53	
K73G32A DM100LC4				148
3.8	5360	0.80	374.95	
4.1	4870	0.90	340.39	
4.6	4340	1.00	303.50	
5.5	3670	1.20	256.81	
6.1	3320	1.30	232.36	
6.7	3020	1.45	210.95	
7.5	2690	1.60	188.09	
K73A DM100LC4				134
7.7	2730	1.60	183.21	
8.5	2480	1.75	166.63	
9.2	2270	1.90	152.50	
10.0	2110	2.1	141.34	
11	1910	2.3	128.10	
12	1740	2.5	116.83	
K63G22A DM100LC4				99
6.7	3030	0.85	211.83	
7.4	2710	0.95	189.77	
K63A DM100LC4				90
9.8	2150	1.20	144.48	
11	1950	1.30	130.99	
12	1780	1.45	119.50	
13	1640	1.55	109.93	
14	1480	1.75	99.21	
16	1340	1.90	90.07	
17	1240	2.1	83.27	
19	1120	2.3	75.02	
K53A DM100LC4				64
13	1650	0.85	110.68	
14	1490	0.95	99.94	
16	1350	1.05	90.79	
17	1240	1.15	83.01	
19	1110	1.30	74.48	
21	1000	1.45	67.22	
23	920	1.55	61.87	
25	825	1.75	55.30	
29	730	1.95	49.10	
32	650	2.2	43.51	
36	575	2.5	38.72	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K43A DM100LC4				44
23	895	0.85	60.14	
26	805	0.90	53.94	
29	730	1.00	48.94	
33	645	1.15	43.37	
37	570	1.30	38.17	
42	500	1.50	33.43	
48	440	1.70	29.37	
55	380	1.95	25.56	
61	345	2.1	23.30	
68	310	2.4	20.79	
K33A DM100LC4				36
46	460	0.85	30.91	
58	360	1.10	24.15	
65	320	1.25	21.55	
73	290	1.40	19.33	
80	260	1.50	17.57	
91	230	1.75	15.49	
103	205	1.95	13.72	
115	183	2.1	12.27	
132	159	2.4	10.68	
152	139	1.75	9.30	
167	126	2.4	8.45	
K23A DM100LC4				31
89	235	0.85	15.90	
99	215	0.95	14.27	
113	186	1.10	12.46	
129	163	1.25	10.91	
151	139	1.15	9.34	
170	123	1.30	8.28	
191	110	1.45	7.38	
213	99	1.65	6.63	
244	86	1.85	5.78	
278	75	2.1	5.07	

3.0 kW

K93G42A DM100LD4				325
2.8	9690	1.25	497.00	
3.1	8860	1.40	454.31	
3.4	8090	1.50	414.77	
3.8	7320	1.65	375.01	
4.3	6350	1.95	325.31	
5.0	5550	2.2	284.64	
K83G32A DM100LD4				215
2.9	9430	0.85	483.36	
3.3	8300	0.95	425.46	
3.8	7270	1.10	372.59	
4.3	6380	1.25	327.28	
4.7	5820	1.35	298.11	
5.4	5090	1.55	261.13	
5.9	4630	1.70	237.53	
6.6	4170	1.90	213.95	
7.3	3750	2.1	192.10	
7.5	3660	2.1	187.60	
8.6	3210	2.2	164.78	
K73G32A DM100LD4				152
5.5	5010	0.85	256.81	
6.1	4530	0.95	232.36	
6.7	4110	1.05	210.95	
7.5	3670	1.20	188.09	
K73A DM100LD4				138
7.7	3720	1.15	183.21	
8.5	3390	1.30	166.63	
9.2	3100	1.40	152.50	
10.0	2870	1.50	141.34	
11	2600	1.65	128.10	
12	2370	1.80	116.83	
13	2200	1.95	108.36	
14	1990	2.2	98.17	
16	1810	2.4	89.29	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K63A DM100LD4				94
9.8	2940	0.85	144.48	
11	2660	0.95	130.99	
12	2430	1.05	119.50	
13	2230	1.15	109.93	
14	2020	1.25	99.21	
16	1830	1.40	90.07	
17	1690	1.50	83.27	
19	1520	1.65	75.02	
21	1370	1.85	67.22	
23	1220	2.1	60.20	
26	1100	2.3	54.18	
K53A DM100LD4				68
17	1690	0.85	83.01	
19	1510	0.95	74.48	
21	1370	1.05	67.22	
23	1260	1.15	61.87	
25	1120	1.25	55.30	
29	1000	1.45	49.10	
32	885	1.60	43.51	
36	785	1.80	38.72	
48	600	2.4	29.56	
K43A DM100LD4				48
33	880	0.85	43.37	
37	775	0.95	38.17	
42	680	1.10	33.43	
48	595	1.25	29.37	
55	520	1.45	25.56	
61	475	1.55	23.30	
68	420	1.75	20.79	
76	380	1.95	18.65	
83	345	2.2	16.92	
94	305	2.4	14.99	
K33A DM100LD4				40
58	490	0.80	24.15	
65	440	0.90	21.55	
73	395	1.00	19.33	
80	355	1.10	17.57	
91	315	1.25	15.49	
103	280	1.45	13.72	
115	250	1.55	12.27	
132	215	1.75	10.68	
152	189	1.30	9.30	
167	172	1.75	8.45	
189	151	1.90	7.45	
214	134	2.1	6.60	
239	120	2.5	5.91	
K23A DM100LD4				35
113	255	0.80	12.46	
129	220	0.90	10.91	
151	190	0.85	9.34	
170	168	0.95	8.28	
191	150	1.05	7.38	
213	135	1.20	6.63	
244	118	1.35	5.78	
278	103	1.55	5.07	

4.0 kW

K93G42A DM112MX4				334
2.9	12800	0.95	497.00	
3.1	11700	1.05	454.31	
3.4	10700	1.15	414.77	
3.8	9650	1.25	375.01	
4.4	8370	1.45	325.31	
5.0	7330	1.65	284.64	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K83G32A DM112MX4				223
3.8	9590	0.85	372.59	
4.4	8420	0.95	327.28	
4.8	7670	1.05	298.11	
5.5	6720	1.20	261.13	
6.0	6110	1.30	237.53	
6.7	5510	1.45	213.95	
7.4	4940	1.60	192.10	
7.6	4830	1.60	187.60	
8.6	4240	1.65	164.78	
K83A DM112MX4				209
9.8	3880	2.1	144.68	
11	3550	2.2	132.28	
12	3280	2.4	122.27	
K73G32A DM112MX4				160
6.8	5430	0.80	210.95	
7.6	4840	0.90	188.09	
K73A DM112MX4				146
8.6	4470	0.95	166.63	
9.3	4090	1.05	152.50	
10	3790	1.15	141.34	
11	3430	1.25	128.10	
12	3130	1.40	116.83	
13	2900	1.50	108.36	
15	2630	1.65	98.17	
16	2390	1.80	89.29	
18	2160	2.0	80.57	
19	1960	2.2	73.10	
K63A DM112MX4				102
12	3200	0.80	119.50	
13	2950	0.85	109.93	
14	2660	0.95	99.21	
16	2410	1.05	90.07	
17	2230	1.15	83.27	
19	2010	1.25	75.02	
21	1800	1.40	67.22	
24	1610	1.60	60.20	
26	1450	1.75	54.18	
K53A DM112MX4				76
21	1800	0.80	67.22	
23	1660	0.85	61.87	
26	1480	0.95	55.30	
29	1320	1.10	49.10	
33	1170	1.20	43.51	
37	1040	1.40	38.72	
48	790	1.80	29.56	
53	715	2.00	26.68	
58	660	2.2	24.56	
65	590	2.4	21.95	
K43A DM112MX4				57
43	895	0.85	33.43	
49	785	0.95	29.37	
56	685	1.10	25.56	
61	625	1.20	23.30	
69	555	1.35	20.79	
76	500	1.50	18.65	
84	455	1.65	16.92	
95	400	1.85	14.99	
108	355	2.1	13.20	
123	310	2.4	11.56	
166	230	2.5	8.60	
K33A DM112MX4				48
81	470	0.85	17.57	
92	415	0.95	15.49	
104	370	1.10	13.72	
116	330	1.20	12.27	
133	285	1.30	10.68	
153	250	0.95	9.30	
169	225	1.30	8.45	
191	200	1.45	7.45	
216	177	1.55	6.60	
241	158	1.90	5.91	
277	138	2.1	5.14	

5.5 kW

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K93G42A DA132S4				352
3.2	15700	0.80	454.31	
3.5	14400	0.85	414.77	
3.9	13000	0.95	375.01	
4.5	11300	1.10	325.31	
5.1	9860	1.25	284.64	
5.8	8740	1.40	252.16	
6.7	7580	1.60	218.74	
7.6	6630	1.85	191.40	
8.6	5840	2.1	168.61	
10	5000	2.5	144.17	
K93A DA132S4				328
11	4960	2.5	137.36	
K83G32A DA132S4				242
5.6	9050	0.90	261.13	
6.1	8230	0.95	237.53	
6.8	7410	1.05	213.95	
7.6	6660	1.20	192.10	
7.8	6500	1.20	187.60	
8.8	5710	1.25	164.78	
K83A DA132S4				229
10	5220	1.50	144.68	
11	4780	1.65	132.28	
12	4410	1.80	122.27	
13	4010	2.00	111.12	
14	3660	2.2	101.42	
16	3320	2.4	91.87	
K73A DA132S4				166
11	4620	0.95	128.10	
12	4220	1.05	116.83	
13	3910	1.10	108.36	
15	3540	1.20	98.17	
16	3220	1.35	89.29	
18	2910	1.50	80.57	
20	2640	1.65	73.10	
23	2290	1.90	63.32	
25	2070	2.1	57.29	
28	1880	2.3	52.01	
K63A DA132S4				121
16	3250	0.80	90.07	
17	3010	0.85	83.27	
19	2710	0.95	75.02	
22	2430	1.05	67.22	
24	2170	1.15	60.20	
27	1960	1.30	54.18	
31	1710	1.50	47.27	
34	1530	1.65	42.35	
39	1360	1.90	37.56	
44	1190	2.1	33.00	
49	1070	2.4	29.77	
K53A DA132S4				95
30	1770	0.80	49.10	
33	1570	0.90	43.51	
38	1400	1.00	38.72	
44	1200	1.20	33.17	
49	1070	1.35	29.56	
55	965	1.50	26.68	
59	885	1.60	24.56	
66	790	1.80	21.95	
75	705	2.0	19.49	
84	625	2.2	17.27	
95	555	2.4	15.37	
135	390	2.5	10.75	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K43A DA132S4				76
70	750	1.00	20.79	
78	675	1.10	18.65	
86	610	1.20	16.92	
97	540	1.35	14.99	
110	475	1.55	13.20	
126	415	1.80	11.56	
143	365	2.0	10.15	
169	310	1.85	8.60	
191	275	2.00	7.62	
217	240	2.4	6.71	
248	210	2.6	5.87	
282	186	2.8	5.16	

7.5 kW

K93G42A DA132MX4				366
4.5	15400	0.80	325.31	
5.1	13500	0.90	284.64	
5.8	11900	1.05	252.16	
6.7	10300	1.20	218.74	
7.6	9050	1.35	191.40	
8.6	7970	1.55	168.61	
10	6810	1.80	144.17	
K93A DA132MX4				342
11	6760	1.80	137.36	
12	6210	1.95	126.06	
13	5640	2.2	114.62	
14	5160	2.4	104.80	
K83G32A DA132MX4				255
6.8	10100	0.80	213.95	
7.6	9080	0.90	192.10	
7.8	8870	0.85	187.60	
8.8	7790	0.90	164.78	
K83A DA132MX4				242
10	7120	1.10	144.68	
11	6510	1.20	132.28	
12	6020	1.30	122.27	
13	5470	1.45	111.12	
14	4990	1.60	101.42	
16	4520	1.75	91.87	
17	4120	1.95	83.68	
20	3610	2.2	73.30	
22	3280	2.4	66.68	
K73A DA132MX4				179
13	5330	0.80	108.36	
15	4830	0.90	98.17	
16	4400	1.00	89.29	
18	3970	1.10	80.57	
20	3600	1.20	73.10	
23	3120	1.40	63.32	
25	2820	1.55	57.29	
28	2560	1.70	52.01	
31	2280	1.90	46.38	
33	2170	2.00	43.99	
36	1970	2.2	40.01	
40	1780	2.4	36.10	
K63A DA132MX4				135
24	2960	0.85	60.20	
27	2670	0.95	54.18	
31	2330	1.10	47.27	
34	2080	1.20	42.35	
39	1850	1.40	37.56	
44	1620	1.55	33.00	
49	1470	1.75	29.77	
55	1310	1.95	26.68	
61	1180	2.1	23.89	
68	1060	2.3	21.50	
78	925	2.5	18.76	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K53A DA132MX4				109
44	1630	0.85	33.17	
49	1460	1.00	29.56	
55	1310	1.10	26.68	
59	1210	1.20	24.56	
66	1080	1.30	21.95	
75	960	1.50	19.49	
84	850	1.60	17.27	
95	755	1.75	15.37	
111	650	1.95	13.17	
125	570	2.1	11.61	
135	530	1.85	10.75	
152	470	2.1	9.55	
172	415	2.4	8.46	
K43A DA132MX4				89
78	920	0.80	18.65	
86	835	0.90	16.92	
97	740	1.00	14.99	
110	650	1.15	13.20	
126	570	1.30	11.56	
143	500	1.50	10.15	
169	425	1.35	8.60	
191	375	1.45	7.62	
217	330	1.75	6.71	
248	290	1.90	5.87	
282	255	2.1	5.16	

9.2 kW

K93G42A DA160MS4				382
5.8	14500	0.85	252.16	
6.7	12600	1.00	218.74	
7.7	11000	1.10	191.40	
8.7	9670	1.25	168.61	
10	8270	1.50	144.17	
K93A DA160MS4				357
11	8210	1.50	137.36	
12	7530	1.65	126.06	
13	6850	1.80	114.62	
14	6260	1.95	104.80	
16	5540	2.2	92.68	
17	5060	2.4	84.72	
K83A DA160MS4				257
13	6640	1.20	111.12	
14	6060	1.30	101.42	
16	5490	1.45	91.87	
18	5000	1.60	83.68	
20	4380	1.80	73.30	
22	3990	2.00	66.68	
24	3590	2.2	60.06	
27	3220	2.5	53.92	
K73A DA160MS4				194
16	5340	0.80	89.29	
18	4820	0.90	80.57	
20	4370	1.00	73.10	
23	3780	1.15	63.32	
26	3420	1.25	57.29	
28	3110	1.40	52.01	
32	2770	1.55	46.38	
33	2630	1.65	43.99	
37	2390	1.80	40.01	
41	2160	2.0	36.10	
45	1960	2.2	32.75	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K63A DA160MS4				151
27	3240	0.80	54.18	
31	2830	0.90	47.27	
35	2530	1.00	42.35	
39	2250	1.15	37.56	
45	1970	1.25	33.00	
49	1780	1.45	29.77	
55	1590	1.60	26.68	
62	1430	1.75	23.89	
68	1290	1.85	21.50	
78	1120	2.1	18.76	
87	1000	2.2	16.81	
99	890	2.4	14.91	
127	690	2.5	11.58	
K53A DA160MS4				124
67	1310	1.10	21.95	
75	1160	1.20	19.49	
85	1030	1.35	17.27	
96	920	1.45	15.37	
112	785	1.60	13.17	
127	695	1.75	11.61	
137	645	1.55	10.75	
154	570	1.75	9.55	
174	505	1.95	8.46	
195	450	2.2	7.53	
228	385	2.5	6.45	
258	340	2.7	5.69	

11.0 kW

K93G42A DA160M4				386
6.7	15100	0.80	218.74	
7.7	13200	0.95	191.40	
8.7	11600	1.05	168.61	
10	9920	1.25	144.17	
K93A DA160M4				362
11	9850	1.25	137.36	
12	9040	1.35	126.06	
13	8220	1.50	114.62	
14	7520	1.65	104.80	
16	6650	1.85	92.68	
17	6070	2.0	84.72	
19	5550	2.2	77.34	
21	5010	2.4	69.93	
K83A DA160M4				261
13	7970	1.00	111.12	
14	7270	1.10	101.42	
16	6590	1.20	91.87	
18	6000	1.35	83.68	
20	5260	1.50	73.30	
22	4780	1.65	66.68	
24	4310	1.85	60.06	
27	3870	2.1	53.92	
32	3320	2.4	46.25	
K73A DA160M4				198
20	5240	0.85	73.10	
23	4540	0.95	63.32	
26	4110	1.05	57.29	
28	3730	1.15	52.01	
32	3330	1.30	46.38	
33	3150	1.35	43.99	
37	2870	1.50	40.01	
41	2590	1.65	36.10	
45	2350	1.85	32.75	
52	2030	2.1	28.37	
57	1840	2.4	25.67	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K63A DA160M4				155
35	3040	0.85	42.35	
39	2690	0.95	37.56	
44	2370	1.05	33.00	
49	2130	1.20	29.77	
55	1910	1.35	26.68	
61	1710	1.45	23.89	
68	1540	1.55	21.50	
78	1350	1.70	18.76	
87	1210	1.85	16.81	
98	1070	2.0	14.91	
112	940	2.2	13.10	
126	830	2.0	11.58	
141	750	2.2	10.43	
K53A DA160M4				128
67	1570	0.90	21.95	
75	1400	1.00	19.49	
85	1240	1.10	17.27	
95	1100	1.20	15.37	
111	945	1.35	13.17	
126	835	1.45	11.61	
136	770	1.30	10.75	
153	685	1.45	9.55	
173	605	1.60	8.46	
195	540	1.85	7.53	
227	465	2.1	6.45	
257	410	2.3	5.69	

15.0 kW

K93G42A DA160L4				402
10	13500	0.90	144.17	
K93A DA160L4				378
11	13400	0.90	137.36	
12	12300	1.00	126.06	
13	11200	1.10	114.62	
14	10200	1.20	104.80	
16	9060	1.35	92.68	
17	8280	1.50	84.72	
19	7560	1.60	77.34	
21	6840	1.80	69.93	
24	5930	2.1	60.66	
28	5190	2.4	53.08	
K83A DA160L4				278
14	9920	0.80	101.42	
16	8980	0.90	91.87	
18	8180	0.95	83.68	
20	7170	1.10	73.30	
22	6520	1.20	66.68	
24	5870	1.35	60.06	
27	5270	1.50	53.92	
32	4520	1.75	46.25	
37	3910	2.0	39.98	
45	3210	2.5	32.84	
K73A DA160L4				215
28	5090	0.85	52.01	
32	4530	0.95	46.38	
33	4300	1.00	43.99	
37	3910	1.10	40.01	
41	3530	1.25	36.10	
45	3200	1.35	32.75	
52	2770	1.55	28.37	
57	2510	1.70	25.67	
63	2280	1.90	23.31	
71	2030	2.1	20.78	
83	1720	2.5	17.62	
106	1350	2.3	13.76	
118	1220	2.5	12.45	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K63A DA160L4				171
49	2910	0.90	29.77	
55	2610	1.00	26.68	
61	2340	1.05	23.89	
68	2100	1.15	21.50	
78	1830	1.25	18.76	
87	1640	1.35	16.81	
98	1460	1.45	14.91	
112	1280	1.60	13.10	
126	1130	1.50	11.58	
141	1020	1.65	10.43	
161	890	1.90	9.10	
180	795	2.1	8.15	
203	705	2.3	7.23	
231	620	2.5	6.35	
K53A DA160L4				145
85	1690	0.80	17.27	
95	1500	0.90	15.37	
111	1290	1.00	13.17	
126	1140	1.05	11.61	
136	1050	0.95	10.75	
153	935	1.05	9.55	
173	825	1.20	8.46	
195	735	1.35	7.53	
227	630	1.50	6.45	
257	555	1.65	5.69	

18.5 kW

K93A DA180MC4				383
13	13800	0.90	114.62	
14	12600	0.95	104.80	
16	11200	1.10	92.68	
17	10200	1.20	84.72	
19	9330	1.30	77.34	
21	8430	1.45	69.93	
24	7320	1.65	60.66	
28	6400	1.90	53.08	
31	5640	2.1	46.76	
K83A DA180MC4				283
18	10100	0.80	83.68	
20	8840	0.90	73.30	
22	8040	1.00	66.68	
24	7240	1.10	60.06	
27	6500	1.20	53.92	
32	5580	1.45	46.25	
37	4820	1.65	39.98	
42	4190	1.90	34.75	
45	3960	2.0	32.84	
49	3600	2.2	29.88	
54	3250	2.5	26.91	
K73A DA180MC4				220
41	4350	1.00	36.10	
45	3950	1.10	32.75	
52	3420	1.25	28.37	
57	3100	1.40	25.67	
63	2810	1.55	23.31	
71	2510	1.75	20.78	
83	2130	2.0	17.62	
97	1810	2.3	15.04	
106	1660	1.85	13.76	
118	1500	2.1	12.45	
130	1360	2.3	11.30	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
K63A DA180MC4				176
61	2880	0.85	23.89	
68	2590	0.90	21.50	
78	2260	1.00	18.76	
87	2030	1.10	16.81	
98	1800	1.20	14.91	
112	1580	1.30	13.10	
126	1400	1.20	11.58	
141	1260	1.35	10.43	
161	1100	1.55	9.10	
180	985	1.75	8.15	
203	870	1.90	7.23	
231	765	2.1	6.35	

22.0 kW

K93A DA180LC4				394
14	15000	0.80	104.80	
16	13300	0.90	92.68	
17	12100	1.00	84.72	
19	11100	1.10	77.34	
21	10000	1.20	69.93	
24	8700	1.40	60.66	
28	7610	1.60	53.08	
31	6710	1.80	46.76	
K83A DA180LC4				293
22	9560	0.85	66.68	
24	8610	0.90	60.06	
27	7730	1.05	53.92	
32	6630	1.20	46.25	
37	5730	1.40	39.98	
42	4980	1.60	34.75	
45	4710	1.70	32.84	
49	4280	1.85	29.88	
54	3860	2.1	26.91	
61	3470	2.3	24.16	
105	2010	2.4	14.01	
K73A DA180LC4				231
41	5180	0.85	36.10	
45	4700	0.90	32.75	
52	4070	1.05	28.37	
57	3680	1.20	25.67	
63	3340	1.30	23.31	
71	2980	1.45	20.78	
83	2530	1.70	17.62	
97	2160	1.95	15.04	
106	1970	1.55	13.76	
118	1790	1.75	12.45	
130	1620	1.90	11.30	
145	1440	2.1	10.08	
171	1230	2.5	8.54	
K63A DA180LC4				187
68	3080	0.80	21.50	
78	2690	0.85	18.76	
87	2410	0.90	16.81	
98	2140	1.00	14.91	
112	1880	1.10	13.10	
126	1660	1.00	11.58	
141	1500	1.10	10.43	
161	1300	1.30	9.10	
180	1170	1.45	8.15	
203	1040	1.60	7.23	
231	910	1.70	6.35	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	

30.0 kW

K93A DA200L4				465
19	15000	0.80	77.34	
21	13500	0.90	69.93	
24	11700	1.05	60.66	
28	10300	1.20	53.08	
32	9050	1.35	46.76	
37	7740	1.50	39.98	
43	6730	1.70	34.75	
47	6070	2.0	31.33	
54	5260	2.3	27.18	
K83A DA200L4				365
32	8950	0.90	46.25	
37	7740	1.05	39.98	
43	6730	1.20	34.75	
45	6360	1.25	32.84	
50	5780	1.40	29.88	
55	5210	1.55	26.91	
61	4680	1.70	24.16	
71	4010	1.95	20.73	
83	3470	2.1	17.91	
95	3010	2.4	15.57	
106	2710	1.80	14.01	
118	2430	2.00	12.58	
137	2090	2.3	10.79	
K73A DA200L4				303
52	5490	0.80	28.37	
58	4970	0.85	25.67	
64	4510	0.95	23.31	
71	4020	1.10	20.78	
84	3410	1.25	17.62	
98	2910	1.45	15.04	
108	2660	1.15	13.76	
119	2410	1.30	12.45	
131	2190	1.40	11.30	
147	1950	1.60	10.08	
173	1650	1.90	8.54	
203	1410	2.2	7.29	

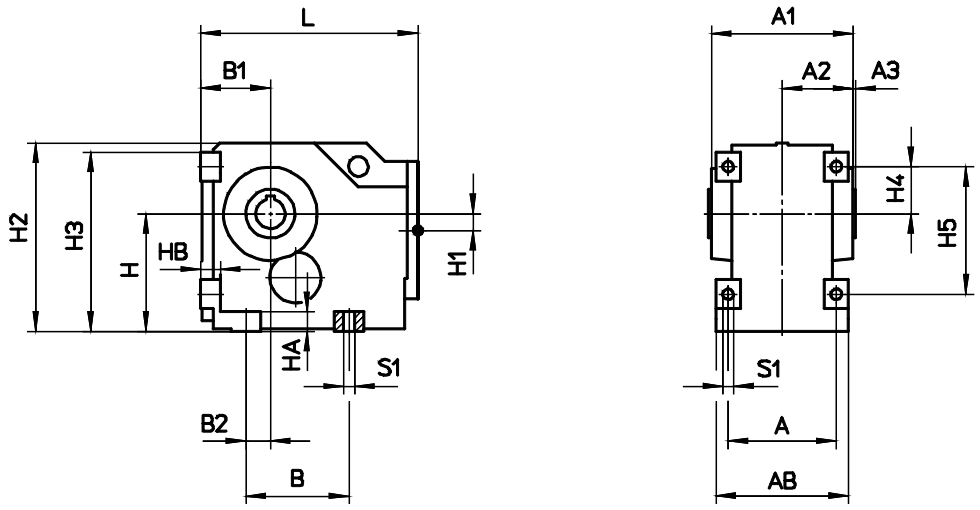
37.0 kW

K93A DA225SX4				522
24	14500	0.85	60.66	
28	12700	0.95	53.08	
32	11200	1.10	46.76	
37	9580	1.20	39.98	
42	8330	1.35	34.75	
47	7510	1.65	31.33	
54	6510	1.90	27.18	
62	5700	2.1	23.78	
70	5020	2.3	20.95	
82	4290	2.5	17.91	
103	3440	2.1	14.34	
118	3010	2.4	12.55	
K83A DA225SX4				422
37	9580	0.85	39.98	
42	8330	0.95	34.75	
45	7870	1.00	32.84	
49	7160	1.10	29.88	
55	6450	1.25	26.91	
61	5790	1.35	24.16	
71	4970	1.55	20.73	
82	4290	1.70	17.91	
95	3730	1.90	15.57	
105	3360	1.45	14.01	
117	3010	1.60	12.58	
137	2580	1.90	10.79	
158	2230	2.2	9.32	
182	1940	2.5	8.11	

Type					~kg
n2 [1/min]		T2 [Nm]	cG	i	
45.0 kW					
K93A DA225MX4					553
28	15500	0.80	53.08		
32	13600	0.90	46.76		
37	11600	1.00	39.98		
42	10100	1.10	34.75		
47	9130	1.35	31.33		
54	7920	1.55	27.18		
62	6930	1.70	23.78		
70	6100	1.85	20.95		
82	5220	2.1	17.91		
95	4540	2.3	15.57		
103	4180	1.75	14.34		
118	3660	2.0	12.55		
133	3220	2.3	11.06		
K83A DA225MX4					454
42	10100	0.80	34.75		
45	9570	0.85	32.84		
49	8700	0.90	29.88		
55	7840	1.00	26.91		
61	7040	1.15	24.16		
71	6040	1.30	20.73		
82	5220	1.40	17.91		
95	4540	1.55	15.57		
105	4080	1.20	14.01		
117	3660	1.30	12.58		
137	3140	1.55	10.79		
158	2720	1.80	9.32		
182	2360	2.1	8.11		

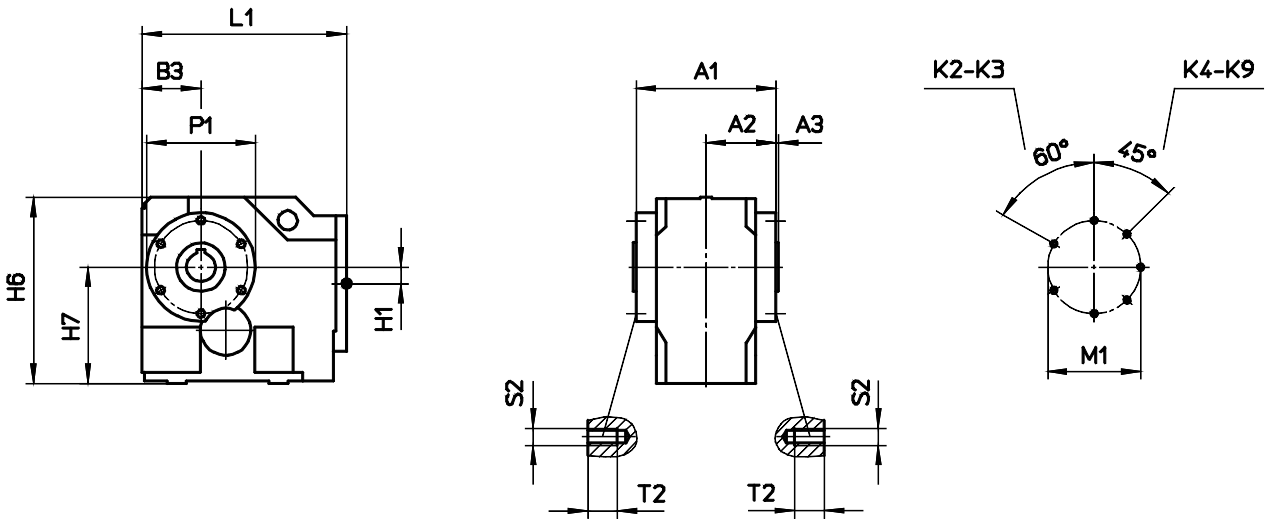
Dimensions

A - Foot mounted version



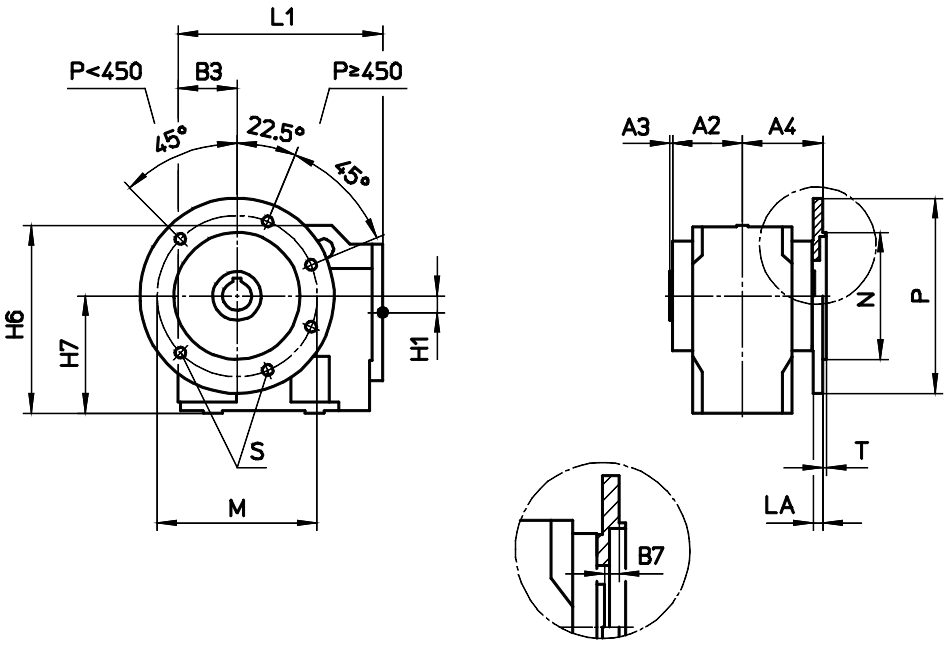
	A	AB	A1	A2	A3	B	B1	B2	H	HA	HB	H1	H2	H3	H4	H5	L	S1
K2	90	110	116	58	2	90	65-0.5	25	100-0.5	20	20	12	163.5	160.5	48	110	192	Ø9
K3	110	135	144	72	3	105	75-0.5	25	120-0.5	20	20	17	192	183	48	130	225	Ø11
K4	125	155	168	84	3.5	125	90-0.5	25	145-0.5	25	25	18	230	223	58	150	266	Ø13.5
K5	150	190	202	101	4	160	110-0.5	40	180-0.5	30	30	23.5	283.5	274.5	72	190	322	Ø17.5
K6	175	220	230	115	5	200	130-0.5	49	220-0.5	35	35	29	344.5	334.5	87	230	370	Ø22
K7	220	280	288	144	6	240	150-0.5	75	250-1	40	40	31	398.5	396	120	280	430	Ø26
K8	270	330	338	169	6	270	180-0.5	70	290-1	45	45	39	463	447.5	120	310	510	Ø33
K9	300	370	398	199	6	320	200-0.5	90	340-1	50	50	42	537	525	140	360	578	Ø39

B - Shaft mounted version



	A1	A2	A3	B3	H1	H6	H7	L1	M1	P1	S2	T2
K2	116	58	2	61	12	165.5	102	188	87	99	M6	9
K3	144	72	3	70.5	17	194	122	220.5	96	112	M8	12
K4	168	84	3.5	85	18	232	147	261	106	122	M8	12
K5	202	101	4	106.5	23.5	286	182.5	318.5	130	150	M10	15
K6	230	115	5	126	29	347	222.5	366	154	178	M12	18
K7	288	144	6	146	31	398.5	250	426	182	214	M16	24
K8	338	169	6	171.5	39	463	290	501.5	220	260	M20	30
K9	398	199	6	193.5	42	537	340	571.5	258	306	M24	36

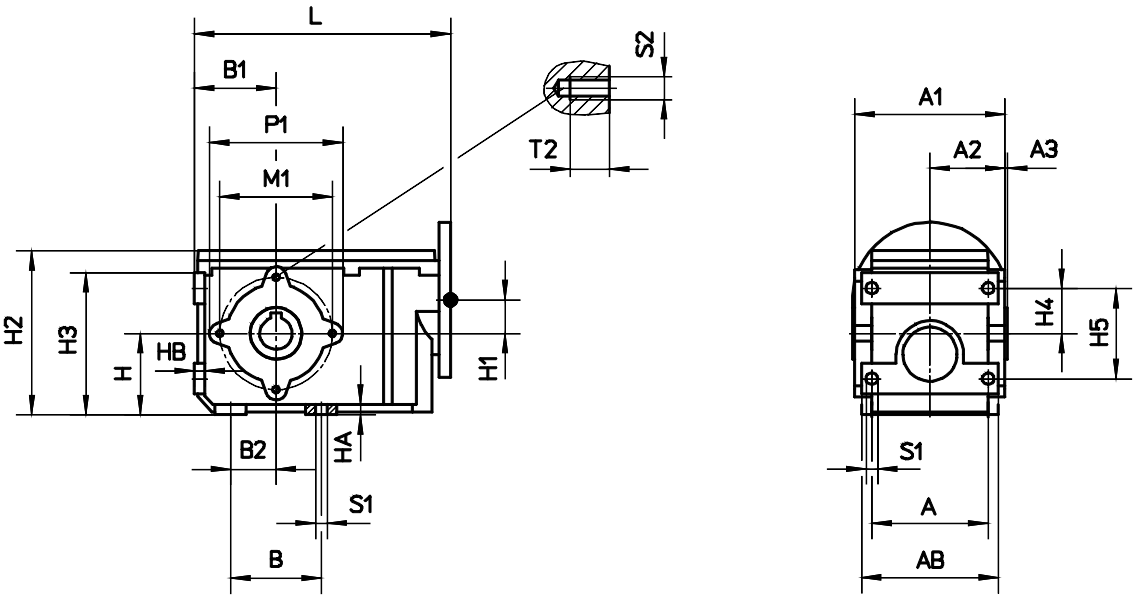
C - Flange mounted version



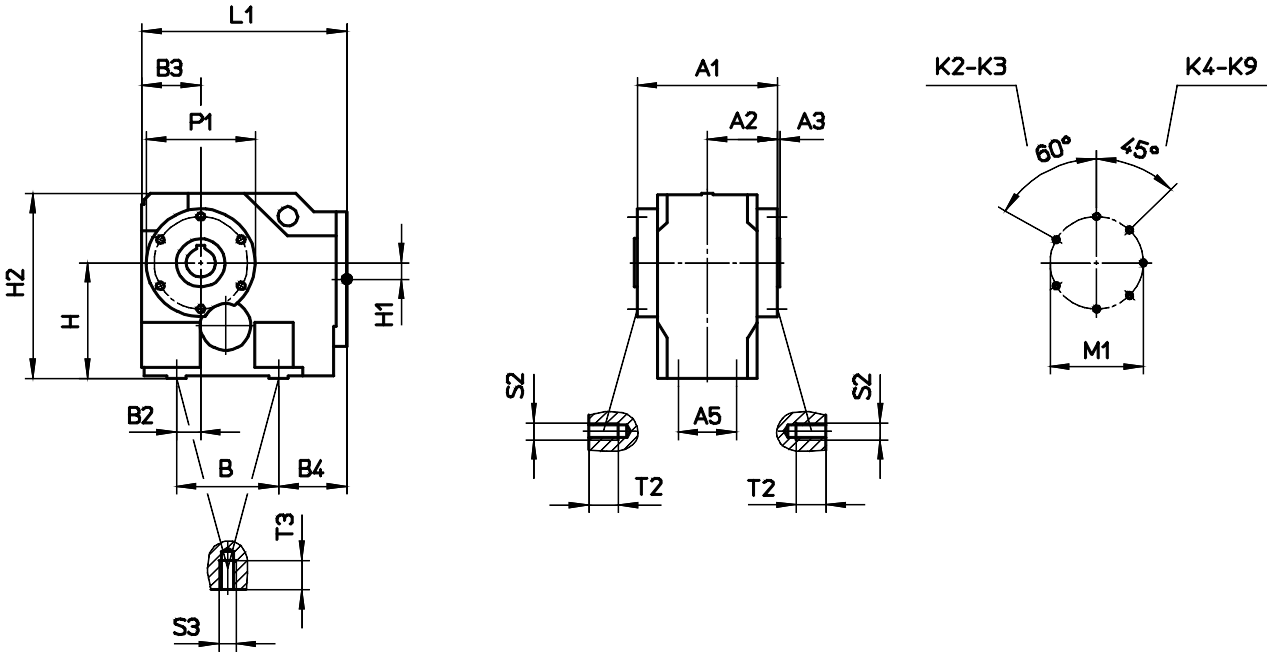
	A2	A3	A4	B3	B7	H1	H6	H7	L1
K2	58	2	70	61	10	12	165.5	102	188
K3	72	3	83	70.5	8	17	194	122	220.5
K4	84	3.5	95	85	7.5	18	232	147	261
K5	101	4	113	106.5	8	23.5	286	182.5	318.5
K6	115	5	128	126	8	29	347	222.5	366
K7	144	6	160	146	10	31	398.5	250	426
K8	169	6	190	171.5	15	39	463	290	501.5
K9	199	6	222	193.5	17	42	537	340	571.5

	M	N	P	LA	T	S
K2	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
K3	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
K4	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
K5	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
	Ø265	Ø230 j6	Ø300	12	4	Ø13.5
K6	Ø265	Ø230 j6	Ø300	12	4	Ø13.5
	Ø300	Ø250 h6	Ø350	13	5	Ø17.5
K7	Ø300	Ø250 h6	Ø350	13	5	Ø17.5
	Ø400	Ø350 h6	Ø450	16	5	Ø17.5
K8	Ø400	Ø350 h6	Ø450	16	5	Ø17.5
K9	Ø400	Ø350 h6	Ø450	16	5	Ø17.5
	Ø500	Ø450 h6	Ø550	18	5	Ø17.5

D - Shaft mounted version + foot area

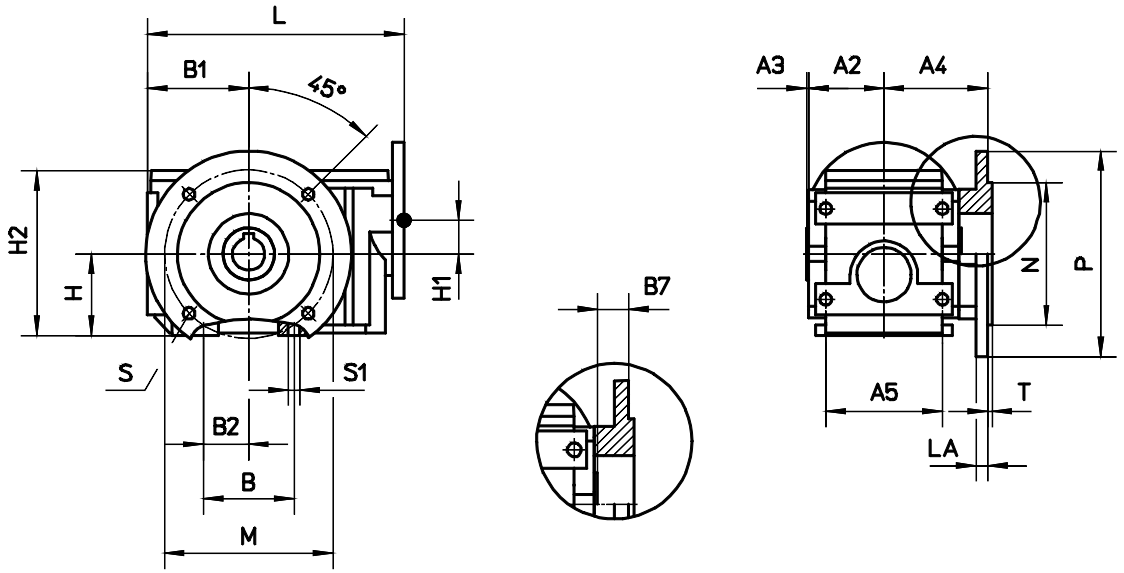


	A	AB	A1	A2	A3	B	B1	B2	H	H1	H2	H3	H4	H5	HA	HB	L	M1	P1	S1	S2	T2
K0	80	95	102	51	1.5	60	50	30	50	23.7	108.5	89	30	60	7	7	165	74	88	Ø6.6	M6	9
K1	90	106	116	58	2	70	63	35	63	26	128	108	35	70	8	8	198	87	103	Ø9	M6	9

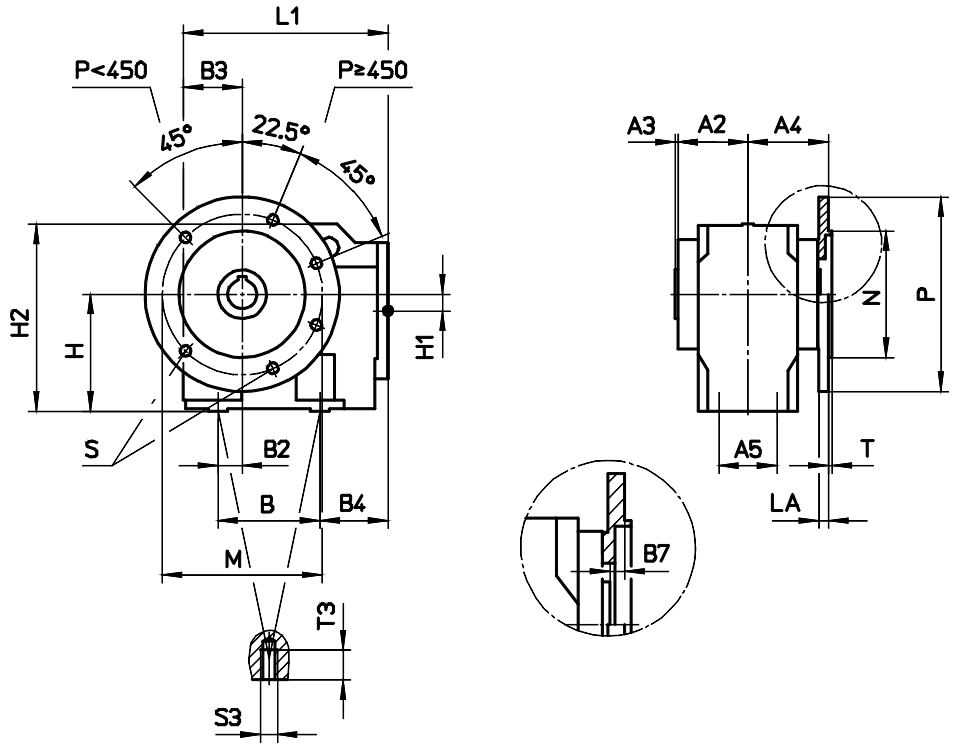


	A1	A2	A3	A5	B	B2	B3	B4	H	H1	H2	L1	M1	P1	S2	T2	S3	T3
K2	116	58	2	50	90	25	61	62	100	12	163.5	188	87	99	M6	9	M8	12
K3	144	72	3	60	105	25	70.5	70	120	17	192	220.5	96	112	M8	12	M10	15
K4	168	84	3.5	70	125	25	85	76	145	18	230	261	106	122	M8	12	M12	18
K5	202	101	4	80	160	40	106.5	92	180	23.5	283.5	318.5	130	150	M10	15	M16	24
K6	230	115	5	95	200	49	126	89	220	29	344.5	366	154	178	M12	18	M16	24
K7	288	144	6	125	240	75	146	115	250	31	398.5	426	182	214	M16	24	M20	30
K8	338	169	6	150	270	70	171.5	130	290	39	463	501.5	220	260	M20	30	M24	36
K9	398	199	6	160	320	90	193.5	148	340	42	537	571.5	258	306	M24	36	M30	45

E - Flange mounted version + foot area

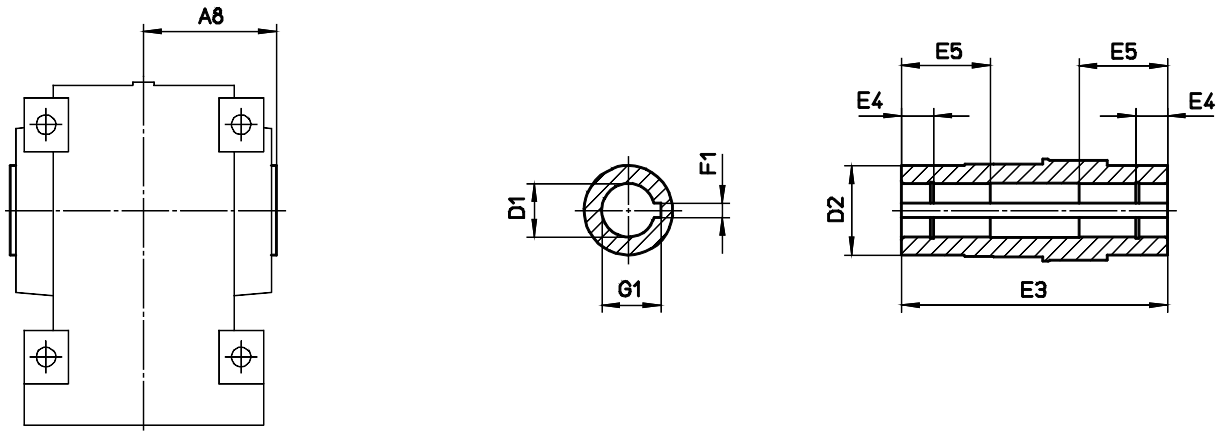


	A2	A3	A4	A5	B	B1	B2	B7	H	H1	H2	L	LA	M	N	P	T	S	S1
K0	51	1.5	71	80	60	50	30	18.5	50	23.7	108.5	165	8	Ø100	Ø80 j6	Ø120	3	Ø6.6	Ø6.6
K1	58	2	80	90	70	63	35	20	63	26	128	198	9	Ø130	Ø110 j6	Ø160	3.5	Ø9	Ø9



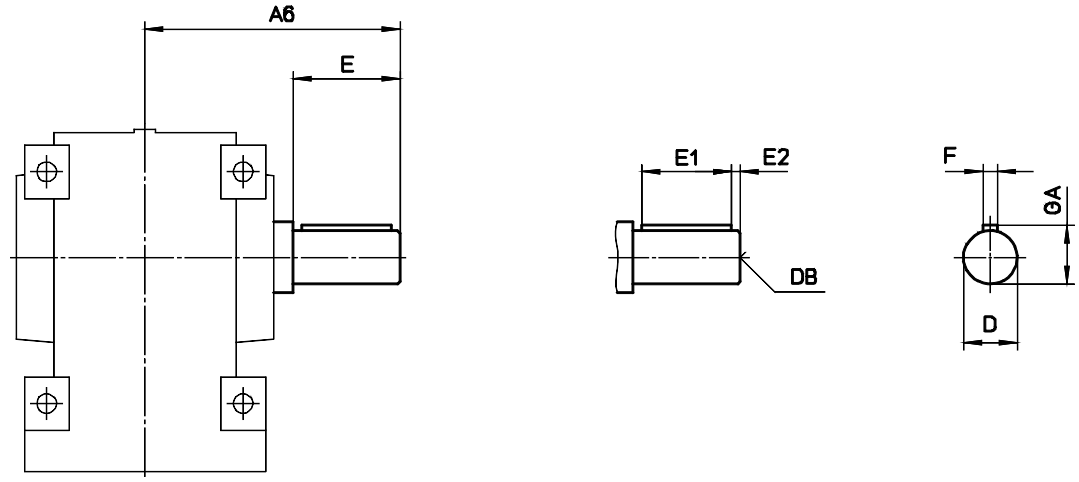
	A2	A3	A4	A5	B	B2	B3	B4	B7	H	H1	H2	L1	LA	M	N	P	T	T3	S	S3
K2	58	2	70	50	90	25	61	62	10	100	12	163.5	188	9	Ø130	Ø110 j6	Ø160	3.5	12	Ø9	M8
K3	72	3	83	60	105	25	70.5	70	8	120	17	192	220.5	10	Ø165	Ø130 j6	Ø200	3.5	15	Ø11	M10
K4	84	3.5	95	70	125	25	85	76	7.5	145	18	230	261	10	Ø165	Ø130 j6	Ø200	3.5	18	Ø11	M12
K5	101	4	113	80	160	40	106.5	92	8	180	23.5	283.5	318.5	11	Ø215	Ø180 j6	Ø250	4	24	Ø13.5	M16
K6	115	5	128	95	200	49	126	89	8	220	29	344.5	366	12	Ø265	Ø230 j6	Ø300	4	24	Ø13.5	M16
K7	144	6	160	125	240	75	146	115	10	250	31	398.5	426	13	Ø300	Ø250 h6	Ø350	5	30	Ø17.5	M20
K8	169	6	190	150	270	70	171.5	130	15	290	39	463	501.5	16	Ø400	Ø350 h6	Ø450	5	36	Ø17.5	M24
K9	199	6	222	160	320	90	193.5	148	17	340	42	537	571.5	16	Ø400	Ø350 h6	Ø450	5	45	Ø17.5	M30

Hollow shaft with keyway



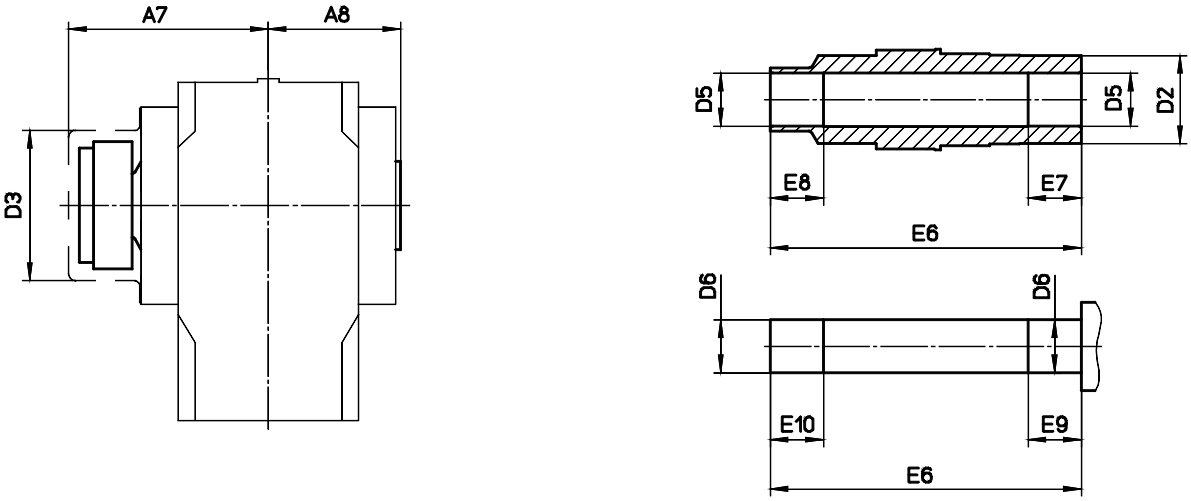
	A8	D1	D2	E3	E4	E5	F1	G1
K0	52.5	Ø20H7	30	105	14	-	6	22.8
K1	60	Ø25H7	40	120	15	-	8	28.3
K2	60	Ø25H7	45	120	15	-	8	28.3
K3	75	Ø30H7 Ø35H7	50	150	18	-	8 10	33.3 38.3
K4	87.5	Ø40H7	55	175	20	-	12	43.3
K5	105	Ø50H7	70	210	25	70	14	53.8
K6	120	Ø60H7	85	240	30	80	18	64.4
K7	150	Ø70H7	100	300	30	100	20	74.9
K8	175	Ø90H7	120	350	35	120	25	95.4
K9	205	Ø100H7	140	410	35	140	28	106.4

V - Output shaft with key



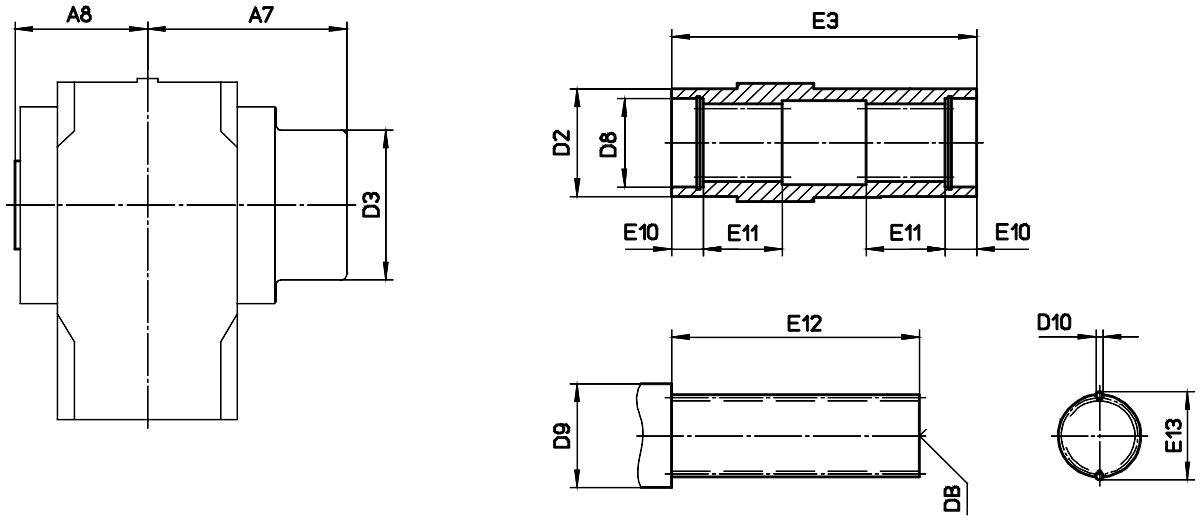
	A6	D	DB	E	E1	E2	F	GA
K02D **K02E**	92.5 111	Ø20k6	M6	40	32	4	6	22.5
K12D **K12E**	110 130	Ø25k6	M10	50	40	5	8	28
K2	120	Ø25k6	M10	50	40	5	8	28
K3	143 153	Ø30k6 Ø35k6	M10 M12	60 70	50 60	5	8 10	33 38
K4	175	Ø40k6	M16	80	70	5	12	43
K5	213	Ø50k6	M16	100	80	10	14	53.5
K6	248	Ø60m6	M20	120	100	10	18	64
K7	300	Ø75m6	M20	140	125	7.5	20	79.5
K8	360	Ø90m6	M24	170	140	15	25	95
K9	432	Ø110m6	M24	210	180	15	28	116

S - Hollow shaft with shrink disc



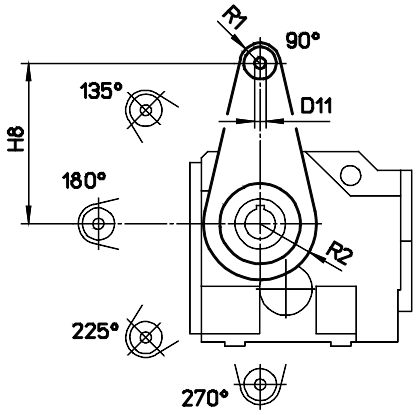
	A7	A8	D2	D3	D5	D6	E6	E7	E8	E9	E10
K0	86	52.5	30	64	Ø20H7	Ø20h6	126	25	25	27	27
K1	98	60	40	77	Ø25H7	Ø25h6	143	25	25	27	27
K2	98	60	45	77	Ø25H7	Ø25h6	143	25	25	27	27
K3	113	75	50	86	Ø30H7 Ø35H7	Ø30h6 Ø35h6	176	20	30	22	32
K4	127	87.5	55	96	Ø40H7	Ø40h6	202	20	40	22	42
K5	150	105	70	117	Ø50H7	Ø50h6	242	30	50	32	52
K6	172	120	85	148	Ø60H7	Ø60h6	274	40	60	42	62
K7	209	150	100	180	Ø70H7	Ø70h6	343	50	70	52	72
K8	247	175	120	225	Ø95H7	Ø95h6	402	60	80	62	82
K9	288	205	140	242	Ø110H7	Ø110h6	473	70	100	72	102

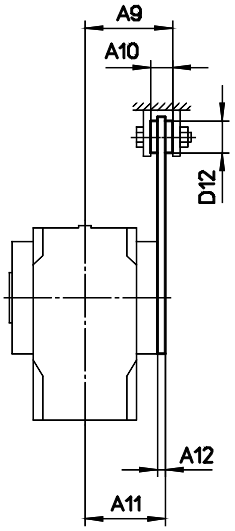
Z - Splined hollow shaft



	DIN5480	A7	A8	D2	D3	D8	D9	D10	E3	E10	E11	E12	E13	DB
K2	30x1.25x30x22	97	60	45	77	35	40	2.75	120	18	25	88	$33.05^{-0.04}$	M10
K3	35x2x30x16	113	75	50	86	40	46	4	150	18	32	118	$38.94^{-0.04}$	M12
K4	40x2x30x18	127	87.5	55	96	42	50	4.5	175	23	42	140	$45.08^{-0.04}$	M16
K5	50x2x30x24	150	105	70	117	52	62	4	210	23	52	174	$54.16^{-0.05}$	M16
K6	65x2x30x31	172	120	85	148	70	82	4	240	25	62	195	$68.99^{-0.06}$	M20
K7	70x2x30x34	209	150	100	180	72	85	4	300	25	72	255	$74.18^{-0.06}$	M20
K8	85x3x30x27	247	175	120	225	90	105	6	350	27	88	298	$91.02^{-0.06}$	M20

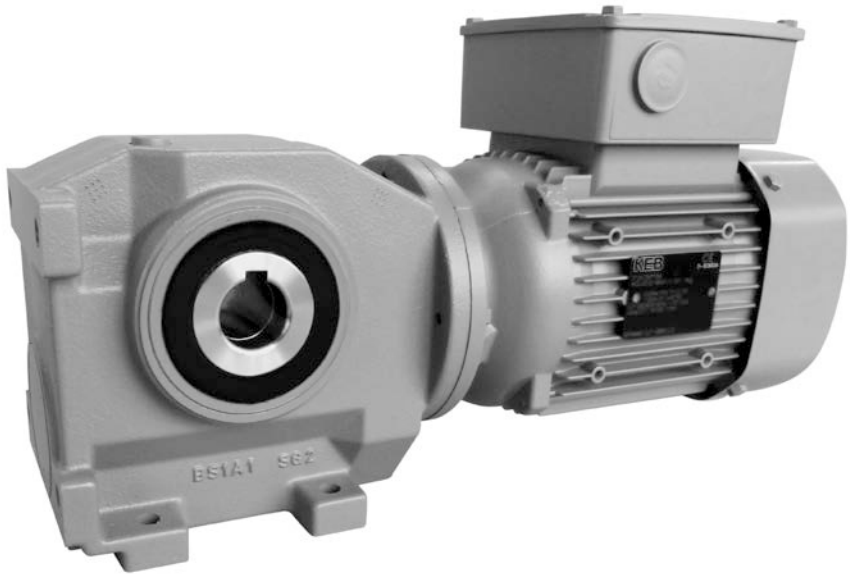
T1 - Torque arm



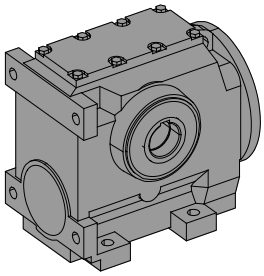


	A9	A10	A11	A12	D11	D12	H8	R1	R2
K0	60.5	15	55	4	11	32	100	20	43
K1	68.5	15	64	6	11	32	130	20	49.5
K2	68.5	15	64	6	11	32	130	20	49.5
K3	87	22	80	8	11	32	160	20	56
K4	99	22	92	8	11	32	200	23	61
K5	121	32	109	8	17	40	250	30	75
K6	155.5	66	130	15	16	32	300	30	89
K7	202	96	164	20	24	42	350	36	107
K8	229.5	96	194	25	24	42	450	36	130
K9	281.5	135	229	30	38	64	550	56	153

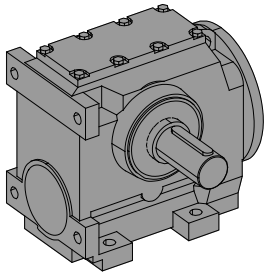
Helical worm gear units S



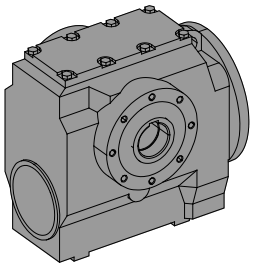
Type of construction



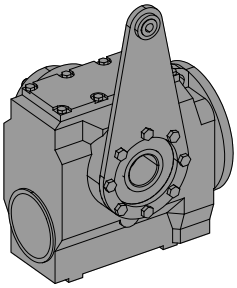
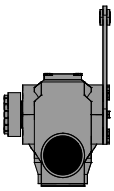
Foot mounted version
Hollow shaft with keyway
Example: S32**A**



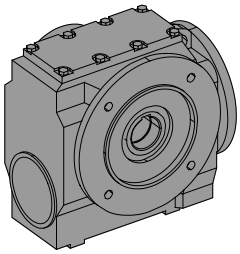
Foot mounted version
Output shaft with key
Example: S12**AV**



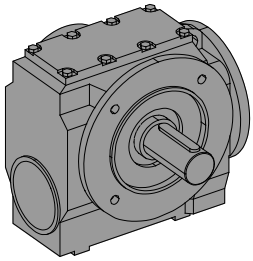
Shaft mounted version
Hollow shaft with keyway
Example: S22**B**

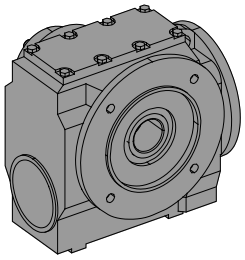
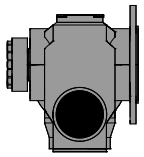
Shaft mounted version
Hollow shaft with shrink disc
Torque arm T1
Example: S22**BT1S**



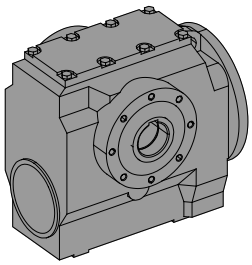
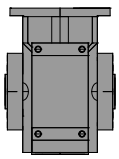
Flange mounted version
Hollow shaft with keyway
Example: S22**C**



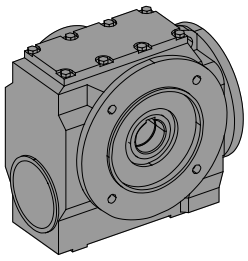
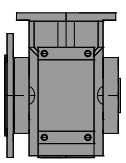
Flange mounted version
Output shaft with key
Example: S12**CV**

Flange mounted version
Hollow shaft with shrink disc
Example: S32**CS**

Shaft mounted version + foot area
Hollow shaft with keyway
Example: S22**D**

Flange mounted version + foot area
Hollow shaft with keyway
Example: S32**E**

Selection table - Gear units

S02

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
189.00	7.4	58	0.10
159.35	8.8	58	0.11
135.95	10	57	0.12
117.00	12	56	0.14
101.35	14	55	0.15
88.20	16	53	0.16
77.00	18	52	0.18
69.00	20	69	0.21
58.18	24	67	0.24
49.63	28	66	0.27
42.71	33	64	0.30
37.00	38	62	0.34
32.20	43	60	0.37
28.11	50	58	0.41
25.00	56	63	0.44
21.08	66	61	0.50
17.98	78	59	0.56
15.48	90	57	0.63
13.41	104	55	0.70
12.50	112	67	0.75
11.67	120	53	0.75
10.54	133	65	0.75
10.19	137	51	0.75
8.99	156	63	0.75
7.74	181	61	0.75
6.70	209	59	0.75
5.83	240	57	0.75
5.09	275	55	0.75

S12G03

9007.5	0.16	188	<0.05
7609.6	0.18	188	<0.05
6505.9	0.22	188	<0.05
5612.6	0.25	188	<0.05
4874.5	0.29	188	<0.05
4254.6	0.33	188	<0.05
3672.3	0.38	188	<0.05
3168.0	0.44	188	<0.05
2751.5	0.51	187	<0.05
2401.5	0.58	187	<0.05

S12G02

2108.1	0.66	187	<0.05
1781.0	0.79	187	<0.05
1522.7	0.92	186	<0.05
1313.6	1.1	186	<0.05
1140.8	1.2	186	0.05
995.75	1.4	185	0.06
872.16	1.6	185	0.07
749.62	1.9	184	0.08
646.68	2.2	184	0.09
561.65	2.5	183	0.10
490.22	2.9	182	0.11
429.37	3.3	181	0.12
375.31	3.7	180	0.14
330.65	4.2	179	0.15
293.14	4.8	178	0.17
261.18	5.4	177	0.18
234.46	6.0	176	0.20
204.64	6.8	174	0.22
179.24	7.8	172	0.25

S12

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
168.00	8.3	171	0.26
143.53	9.8	168	0.29
124.21	11	165	0.32
108.57	13	162	0.35
95.65	15	160	0.39
84.80	17	157	0.42
75.56	19	153	0.46
67.83	21	150	0.49
60.90	23	166	0.52
59.20	24	146	0.54
52.03	27	163	0.59
51.85	27	141	0.59
45.03	31	160	0.66
39.36	36	156	0.73
34.67	40	153	0.80
30.74	46	150	0.88
27.39	51	146	0.96
24.59	57	143	1.04
22.68	62	152	1.12
21.46	65	138	1.14
19.38	72	149	1.27
18.80	74	133	1.25
16.77	83	146	1.43
14.66	96	142	1.50
12.91	108	139	1.50
11.45	122	136	1.50
10.20	137	132	1.50
9.16	153	129	1.50
7.99	175	124	1.50
7.00	200	120	1.50

S22G13

13901	0.10	340	<0.05
11784	0.12	340	<0.05
10114	0.14	340	<0.05
8761.0	0.16	340	<0.05
7643.7	0.18	340	<0.05
6705.1	0.21	340	<0.05
5905.6	0.24	340	<0.05
5193.0	0.27	340	<0.05
4456.7	0.31	340	<0.05
3860.7	0.36	340	<0.05
3368.3	0.42	340	<0.05

S22G12

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
2998.2	0.47	340	<0.05
2561.5	0.55	340	<0.05
2216.7	0.63	340	<0.05
1937.6	0.72	340	0.05
1707.1	0.82	340	0.06
1513.4	0.93	335	0.07
1348.4	1.0	335	0.07
1210.5	1.2	335	0.08
1056.5	1.3	335	0.09
925.37	1.5	335	0.10
850.54	1.6	335	0.11
749.33	1.9	335	0.12
664.32	2.1	330	0.14
591.90	2.4	330	0.15
531.34	2.6	330	0.17
463.77	3.0	330	0.19
406.20	3.4	325	0.21
362.38	3.9	325	0.23
325.05	4.3	325	0.25
295.42	4.7	320	0.27
260.46	5.4	320	0.30
230.68	6.1	315	0.34
206.44	6.8	315	0.37
179.67	7.8	310	0.41

S22

207.20	6.8	315	0.37
177.88	7.9	310	0.41
154.74	9.0	305	0.46
136.00	10	300	0.50
120.52	12	295	0.54
107.52	13	295	0.59
96.44	15	290	0.64
87.65	16	285	0.69
77.28	18	275	0.75
71.53	20	305	0.81
68.44	20	270	0.82
61.41	23	295	0.91
61.25	23	265	0.88
53.42	26	290	1.01
53.31	26	255	0.97
46.95	30	285	1.11
41.61	34	280	1.20
37.12	38	275	1.31
33.30	42	265	1.42
30.26	46	260	1.51
26.68	52	250	1.65
26.64	53	295	1.85
23.63	59	245	1.79
22.87	61	290	2.10
21.15	66	235	1.93
19.89	70	285	2.34
18.40	76	225	2.12
17.49	80	280	2.59
15.50	90	270	2.83
13.82	101	265	3.00
12.40	113	260	3.00
11.27	124	255	3.00
9.94	141	245	3.00
8.80	159	235	3.00
7.88	178	230	3.00
6.85	204	220	3.00

S32G13

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
18745	0.075	665	<0.05
15891	0.088	665	<0.05
13638	0.10	665	<0.05
11814	0.12	665	<0.05
10307	0.14	665	<0.05
9041.7	0.15	665	<0.05
7963.6	0.18	665	<0.05
7002.7	0.20	665	<0.05
6009.8	0.23	665	<0.05
5206.1	0.27	665	<0.05
4542.1	0.31	660	<0.05

S32G12

4043.0	0.35	660	<0.05
3454.1	0.41	660	0.06
2989.2	0.47	660	0.07
2612.8	0.54	660	0.08
2301.9	0.61	660	0.09
2040.8	0.69	660	0.10
1818.3	0.77	655	0.11
1632.3	0.86	655	0.12
1424.7	0.98	655	0.13
1247.9	1.1	655	0.15
1146.9	1.2	650	0.16
1010.5	1.4	650	0.18
895.82	1.6	650	0.20
798.16	1.8	645	0.22
716.51	2.0	645	0.25
625.38	2.2	640	0.28
547.76	2.6	635	0.31
492.61	2.8	635	0.33
445.64	3.1	630	0.36
406.20	3.4	625	0.39
362.38	3.9	625	0.42
325.05	4.3	620	0.47
294.91	4.7	615	0.51
261.33	5.4	610	0.56
230.03	6.1	600	0.62

S32

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
271.60	5.2	610	0.54
234.71	6.0	605	0.61
205.58	6.8	595	0.68
182.00	7.7	585	0.74
162.52	8.6	580	0.80
146.16	9.6	570	0.86
132.22	11	560	0.92
120.52	12	550	0.98
107.52	13	540	1.06
96.44	15	530	1.14
87.50	16	515	1.22
77.54	18	500	1.32
68.25	21	485	1.43
59.77	23	465	1.55
52.50	27	450	1.69
52.21	27	635	2.12
46.22	30	625	2.33
41.28	34	615	2.54
37.12	38	600	2.75
33.58	42	590	2.95
30.61	46	575	3.14
27.31	51	560	3.42
24.49	57	545	3.70
22.22	63	535	3.96
19.69	71	515	4.00
17.33	81	495	4.00
15.18	92	470	4.00
13.33	105	450	4.00

S42G23

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
20360	0.069	1530	<0.05
17395	0.080	1530	<0.05
15053	0.093	1530	<0.05
13158	0.11	1530	<0.05
11592	0.12	1530	<0.05
10277	0.14	1530	<0.05
9221.9	0.15	1530	0.05
8060.8	0.17	1530	0.06
7101.6	0.20	1530	0.07
6295.9	0.22	1530	0.08
5512.1	0.25	1530	0.09
4856.2	0.29	1520	0.10
4305.3	0.33	1520	0.11

S42G22

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
3878.1	0.36	1520	0.12
3329.4	0.42	1520	0.14
2896.2	0.48	1520	0.16
2545.5	0.55	1510	0.18
2255.8	0.62	1510	0.20
2012.4	0.70	1510	0.22
1805.1	0.78	1510	0.24
1640.6	0.85	1500	0.27
1446.4	0.97	1500	0.30
1281.1	1.1	1500	0.33
1156.1	1.2	1490	0.37
1064.2	1.3	1490	0.39
934.35	1.5	1480	0.44
838.10	1.7	1470	0.48
761.70	1.8	1470	0.52
671.56	2.1	1460	0.58
594.78	2.4	1450	0.64
536.78	2.6	1440	0.69
494.08	2.8	1430	0.73
441.60	3.2	1420	0.79
392.13	3.6	1410	0.86
384.81	3.6	1410	0.88
347.49	4.0	1390	0.96
343.94	4.1	1390	0.96
309.22	4.5	1380	1.05
305.41	4.6	1380	1.06
270.64	5.2	1360	1.17
264.91	5.3	1360	1.19
240.84	5.8	1350	1.29

S42

i	n2 [1/min] n1=1400 1/min	T2max [Nm]	P1max [kW]
247.58	5.7	1350	1.26
220.00	6.4	1330	1.38
197.22	7.1	1310	1.49
178.08	7.9	1290	1.60
161.78	8.7	1270	1.71
147.91	9.5	1250	1.81
132.72	11	1220	1.93
119.78	12	1180	2.05
110.25	13	1160	2.16
98.54	14	1130	2.33
87.50	16	1090	2.51
77.54	18	1050	2.68
69.00	20	1000	2.84
59.37	24	1260	3.59
59.11	24	920	3.00
53.22	26	1390	4.38
52.14	27	915	3.37
48.05	29	1360	4.74
43.65	32	1320	5.0
39.91	35	1250	5.2
35.81	39	1250	5.7
32.32	43	1200	6.1
29.75	47	1140	6.2
26.59	53	1140	7.0
23.61	59	1080	7.4
20.92	67	1010	7.5
18.62	75	950	7.5
15.95	88	885	7.5
14.07	100	820	7.5

S02

		n1=3400 1/min				n1=2800 1/min				n1=1700 1/min				n1=1400 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
189.00	1/63	18	52	0.18	0.55	15	54	0.16	0.53	9.0	57	0.11	0.49	7.4	58	0.10	0.47
159.35	1/63	21	50	0.20	0.57	18	52	0.17	0.55	11	57	0.13	0.50	8.8	58	0.11	0.49
135.95	1/63	25	48	0.22	0.58	21	51	0.19	0.56	13	56	0.14	0.51	10	57	0.12	0.50
117.00	1/63	29	46	0.24	0.59	24	49	0.21	0.58	15	54	0.16	0.53	12	56	0.14	0.51
101.35	1/63	34	44	0.26	0.60	28	47	0.23	0.59	17	53	0.17	0.54	14	55	0.15	0.52
88.20	1/63	39	42	0.28	0.61	32	45	0.25	0.60	19	51	0.19	0.56	16	53	0.16	0.54
77.00	1/63	44	40	0.30	0.62	36	43	0.27	0.61	22	50	0.20	0.57	18	52	0.18	0.55
69.00	1/23	49	58	0.40	0.75	41	61	0.35	0.73	25	67	0.25	0.70	20	69	0.21	0.68
58.18	1/23	58	56	0.45	0.76	48	59	0.40	0.75	29	65	0.28	0.71	24	67	0.24	0.70
49.63	1/23	69	53	0.49	0.77	56	56	0.44	0.76	34	63	0.31	0.72	28	66	0.27	0.71
42.71	1/23	80	51	0.54	0.78	66	54	0.48	0.77	40	61	0.35	0.73	33	64	0.30	0.72
37.00	1/23	92	48	0.58	0.79	76	52	0.52	0.78	46	59	0.38	0.74	38	62	0.34	0.73
32.20	1/23	106	46	0.63	0.79	87	49	0.56	0.79	53	57	0.42	0.75	43	60	0.37	0.74
28.11	1/23	121	43	0.68	0.80	100	47	0.61	0.79	60	55	0.46	0.76	50	58	0.41	0.75
25.00	3/25	136	51	0.75	0.87	112	54	0.73	0.87	68	61	0.51	0.85	56	63	0.44	0.83
21.08	3/25	161	49	0.75	0.88	133	52	0.75	0.87	81	59	0.58	0.85	66	61	0.50	0.84
17.98	3/25	189	46	0.75	0.88	156	49	0.75	0.88	95	56	0.65	0.86	78	59	0.56	0.85
15.48	3/25	220	44	0.75	0.89	181	47	0.75	0.88	110	54	0.72	0.87	90	57	0.63	0.86
13.41	3/25	254	41	0.75	0.89	209	45	0.75	0.88	127	52	0.75	0.87	104	55	0.70	0.86
12.50	6/25	272	55	0.75	0.92	224	58	0.75	0.92	136	65	0.75	0.91	112	67	0.75	0.90
11.67	3/25	291	39	0.75	0.89	240	42	0.75	0.89	146	50	0.75	0.87	120	53	0.75	0.87
10.54	6/25	323	52	0.75	0.93	266	56	0.75	0.92	161	63	0.75	0.91	133	65	0.75	0.90
10.19	3/25	334	37	0.75	0.90	275	40	0.75	0.89	167	48	0.75	0.88	137	51	0.75	0.87
8.99	6/25	378	49	0.75	0.93	311	53	0.75	0.93	189	60	0.75	0.92	156	63	0.75	0.91
7.74	6/25	439	47	0.75	0.94	362	50	0.75	0.93	220	58	0.75	0.92	181	61	0.75	0.92
6.70	6/25	507	44	0.75	0.94	418	48	0.75	0.93	254	56	0.75	0.92	209	59	0.75	0.92
5.83	6/25	583	42	0.75	0.94	480	45	0.75	0.94	291	54	0.75	0.92	240	57	0.75	0.92
5.09	6/25	668	39	0.75	0.94	550	43	0.75	0.94	334	52	0.75	0.93	275	55	0.75	0.92

S02

		n1=900 1/min				n1=700 1/min				n1=500 1/min				n1=10 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
189.00	1/63	4.8	61	0.07	0.43	3.7	62	0.06	0.41	2.6	63	<0.05	0.39	0.053	65	<0.05	0.32
159.35	1/63	5.6	60	0.08	0.44	4.4	61	0.07	0.42	3.1	62	0.05	0.40	0.063	65	<0.05	0.32
135.95	1/63	6.6	59	0.09	0.46	5.1	61	0.08	0.43	3.7	62	0.06	0.41	0.074	65	<0.05	0.32
117.00	1/63	7.7	58	0.10	0.48	6.0	60	0.08	0.45	4.3	61	0.07	0.42	0.085	65	<0.05	0.32
101.35	1/63	8.9	58	0.11	0.49	6.9	59	0.09	0.46	4.9	61	0.07	0.43	0.099	65	<0.05	0.32
88.20	1/63	10	57	0.12	0.50	7.9	58	0.10	0.48	5.7	60	0.08	0.44	0.11	65	<0.05	0.32
77.00	1/63	12	56	0.14	0.51	9.1	57	0.11	0.49	6.5	59	0.09	0.46	0.13	65	<0.05	0.32
69.00	1/23	13	72	0.15	0.64	10	73	0.13	0.62	7.2	75	0.09	0.60	0.14	78	<0.05	0.51
58.18	1/23	15	71	0.18	0.65	12	72	0.14	0.63	8.6	74	0.11	0.61	0.17	78	<0.05	0.51
49.63	1/23	18	70	0.20	0.67	14	72	0.16	0.64	10	73	0.12	0.62	0.20	78	<0.05	0.51
42.71	1/23	21	68	0.22	0.69	16	70	0.18	0.66	12	73	0.14	0.63	0.23	78	<0.05	0.51
37.00	1/23	24	67	0.24	0.70	19	69	0.20	0.67	14	72	0.16	0.64	0.27	78	<0.05	0.51
32.20	1/23	28	66	0.27	0.71	22	68	0.22	0.69	16	71	0.18	0.65	0.31	78	<0.05	0.51
28.11	1/23	32	64	0.30	0.72	25	67	0.25	0.70	18	70	0.20	0.67	0.36	78	<0.05	0.51
25.00	3/25	36	66	0.31	0.80	28	67	0.25	0.79	20	69	0.19	0.77	0.40	72	<0.05	0.69
21.08	3/25	43	65	0.36	0.81	33	66	0.29	0.80	24	68	0.22	0.78	0.47	72	<0.05	0.69
17.98	3/25	50	64	0.41	0.82	39	66	0.33	0.80	28	67	0.25	0.79	0.56	72	<0.05	0.69
15.48	3/25	58	62	0.45	0.84	45	64	0.37	0.82	32	67	0.28	0.79	0.65	72	<0.05	0.69
13.41	3/25	67	61	0.51	0.84	52	63	0.42	0.83	37	66	0.32	0.80	0.75	72	<0.05	0.69
12.50	6/25	72	71	0.61	0.88	56	72	0.49	0.87	40	74	0.36	0.86	0.80	77	<0.05	0.80
11.67	3/25	77	59	0.56	0.85	60	62	0.46	0.84	43	65	0.36	0.81	0.86	72	<0.05	0.69
10.54	6/25	85	69	0.70	0.88	66	71	0.57	0.87	47	73	0.42	0.87	0.95	77	<0.05	0.80
10.19	3/25	88	57	0.62	0.86	69	61	0.52	0.85	49	64	0.40	0.82	0.98	72	<0.05	0.69
8.99	6/25	100	68	0.75	0.89	78	70	0.65	0.88	56	72	0.48	0.87	1.1	77	<0.05	0.80
7.74	6/25	116	66	0.75	0.90	90	69	0.74	0.89	65	71	0.55	0.87	1.3	77	<0.05	0.80
6.70	6/25	134	65	0.75	0.90	104	67	0.75	0.89	75	70	0.63	0.88	1.5	77	<0.05	0.80
5.83	6/25	154	63	0.75	0.91	120	66	0.75	0.90	86	69	0.70	0.88	1.7	77	<0.05	0.80
5.09	6/25	177	61	0.75	0.92	137	65	0.75	0.91	98	68	0.75	0.89	2.0	77	<0.05	0.80

S12

		n1=3400 1/min				n1=2800 1/min				n1=1700 1/min				n1=1400 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
168.00	1/40	20	151	0.49	0.66	17	156	0.43	0.64	10	168	0.30	0.59	8.3	171	0.26	0.57
143.53	1/40	24	146	0.54	0.67	20	152	0.47	0.65	12	164	0.33	0.61	9.8	168	0.29	0.59
124.21	1/40	27	141	0.59	0.68	23	148	0.52	0.67	14	161	0.37	0.63	11	165	0.32	0.61
108.57	1/40	31	136	0.65	0.69	26	143	0.57	0.68	16	158	0.41	0.64	13	162	0.35	0.62
95.65	1/40	36	131	0.70	0.70	29	139	0.62	0.69	18	155	0.45	0.65	15	160	0.39	0.63
84.80	1/40	40	126	0.75	0.70	33	134	0.67	0.69	20	151	0.48	0.66	17	157	0.42	0.64
75.56	1/40	45	121	0.80	0.71	37	129	0.71	0.70	23	148	0.52	0.67	19	153	0.46	0.65
67.83	1/40	50	116	0.84	0.72	41	124	0.76	0.71	25	144	0.56	0.68	21	150	0.49	0.66
60.90	2/29	56	144	1.02	0.82	46	150	0.89	0.81	28	162	0.61	0.78	23	166	0.52	0.76
59.20	1/40	57	110	0.91	0.73	47	119	0.82	0.72	29	139	0.61	0.69	24	146	0.54	0.67
52.03	2/29	65	138	1.14	0.83	54	145	0.99	0.82	33	158	0.68	0.79	27	163	0.59	0.77
51.85	1/40	66	104	0.98	0.73	54	113	0.88	0.72	33	134	0.66	0.69	27	141	0.59	0.68
45.03	2/29	76	133	1.26	0.83	62	140	1.10	0.83	38	155	0.76	0.80	31	160	0.66	0.79
39.36	2/29	86	128	1.38	0.84	71	135	1.21	0.83	43	151	0.85	0.81	36	156	0.73	0.80
34.67	2/29	98	123	1.49	0.85	81	131	1.32	0.84	49	148	0.93	0.82	40	153	0.80	0.81
30.74	2/29	111	117	1.50	0.85	91	126	1.42	0.84	55	144	1.01	0.82	46	150	0.88	0.81
27.39	2/29	124	112	1.50	0.86	102	121	1.50	0.85	62	140	1.10	0.83	51	146	0.96	0.82
24.59	2/29	138	107	1.50	0.86	114	116	1.50	0.85	69	136	1.19	0.83	57	143	1.04	0.82
22.68	5/27	150	130	1.50	0.91	123	136	1.50	0.91	75	148	1.31	0.89	62	152	1.12	0.88
21.46	2/29	158	101	1.50	0.86	130	110	1.50	0.86	79	131	1.30	0.84	65	138	1.14	0.83
19.38	5/27	175	124	1.50	0.92	145	131	1.50	0.91	88	144	1.48	0.90	72	149	1.27	0.88
18.80	2/29	181	95	1.50	0.87	149	104	1.50	0.86	90	126	1.42	0.84	74	133	1.25	0.83
16.77	5/27	203	119	1.50	0.92	167	126	1.50	0.92	101	141	1.50	0.90	83	146	1.43	0.89
14.66	5/27	232	114	1.50	0.93	191	121	1.50	0.92	116	137	1.50	0.91	96	142	1.50	0.90
12.91	5/27	263	109	1.50	0.93	217	117	1.50	0.92	132	134	1.50	0.91	108	139	1.50	0.90
11.45	5/27	297	105	1.50	0.93	245	112	1.50	0.93	148	130	1.50	0.91	122	136	1.50	0.91
10.20	5/27	333	100	1.50	0.93	275	108	1.50	0.93	167	126	1.50	0.92	137	132	1.50	0.91
9.16	5/27	371	95	1.50	0.93	306	103	1.50	0.93	186	122	1.50	0.92	153	129	1.50	0.91
7.99	5/27	425	90	1.50	0.93	350	98	1.50	0.93	213	118	1.50	0.92	175	124	1.50	0.92
7.00	5/27	486	84	1.50	0.94	400	92	1.50	0.93	243	113	1.50	0.93	200	120	1.50	0.92

S12

		n1=900 1/min				n1=700 1/min				n1=500 1/min				n1=10 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
168.00	1/40	5.4	177	0.18	0.54	4.2	179	0.15	0.52	3.0	182	0.11	0.50	0.060	188	<0.05	0.42
143.53	1/40	6.3	175	0.21	0.55	4.9	178	0.17	0.53	3.5	181	0.13	0.51	0.070	188	<0.05	0.42
124.21	1/40	7.2	173	0.23	0.56	5.6	176	0.19	0.54	4.0	179	0.14	0.52	0.081	188	<0.05	0.42
108.57	1/40	8.3	171	0.26	0.57	6.4	175	0.21	0.55	4.6	178	0.16	0.53	0.092	188	<0.05	0.42
95.65	1/40	9.4	169	0.28	0.58	7.3	173	0.24	0.56	5.2	177	0.18	0.54	0.10	188	<0.05	0.42
84.80	1/40	11	167	0.31	0.60	8.3	171	0.26	0.57	5.9	176	0.20	0.54	0.12	188	<0.05	0.42
75.56	1/40	12	164	0.33	0.61	9.3	169	0.28	0.58	6.6	174	0.22	0.55	0.13	188	<0.05	0.42
67.83	1/40	13	162	0.36	0.62	10	167	0.30	0.60	7.4	173	0.24	0.56	0.15	188	<0.05	0.42
60.90	2/29	15	173	0.36	0.73	11	175	0.29	0.72	8.2	178	0.22	0.70	0.16	185	<0.05	0.63
59.20	1/40	15	159	0.40	0.63	12	164	0.33	0.61	8.4	171	0.26	0.57	0.17	188	<0.05	0.42
52.03	2/29	17	171	0.42	0.74	13	174	0.33	0.73	9.6	177	0.25	0.71	0.19	185	<0.05	0.63
51.85	1/40	17	155	0.44	0.64	14	161	0.37	0.62	9.6	169	0.29	0.59	0.19	188	<0.05	0.42
45.03	2/29	20	168	0.47	0.75	16	172	0.38	0.74	11	175	0.28	0.72	0.22	185	<0.05	0.63
39.36	2/29	23	166	0.52	0.76	18	170	0.43	0.74	13	174	0.32	0.73	0.25	185	<0.05	0.63
34.67	2/29	26	164	0.58	0.77	20	168	0.47	0.75	14	173	0.36	0.73	0.29	185	<0.05	0.63
30.74	2/29	29	161	0.63	0.78	23	166	0.52	0.76	16	171	0.39	0.74	0.33	185	<0.05	0.63
27.39	2/29	33	158	0.69	0.79	26	164	0.57	0.77	18	170	0.43	0.75	0.37	185	<0.05	0.63
24.59	2/29	37	156	0.74	0.80	28	162	0.62	0.78	20	168	0.48	0.75	0.41	185	<0.05	0.63
22.68	5/27	40	159	0.77	0.86	31	161	0.61	0.85	22	164	0.45	0.84	0.44	171	<0.05	0.79
21.46	2/29	42	152	0.83	0.81	33	158	0.68	0.79	23	166	0.53	0.76	0.47	185	<0.05	0.63
19.38	5/27	46	157	0.88	0.86	36	160	0.70	0.86	26	163	0.52	0.85	0.52	171	<0.05	0.79
18.80	2/29	48	148	0.91	0.82	37	155	0.75	0.80	27	163	0.59	0.77	0.53	185	<0.05	0.63
16.77	5/27	54	154	1.00	0.87	42	158	0.80	0.86	30	161	0.59	0.85	0.60	171	<0.05	0.79
14.66	5/27	61	152	1.12	0.88	48	156	0.90	0.87	34	160	0.67	0.85	0.68	171	<0.05	0.79
12.91	5/27	70	150	1.24	0.88	54	154	1.01	0.87	39	159	0.75	0.86	0.77	171	<0.05	0.79
11.45	5/27	79	147	1.36	0.89	61	152	1.11	0.88	44	157	0.83	0.86	0.87	171	<0.05	0.79
10.20	5/27	88	144	1.49	0.90	69	150	1.22	0.88	49	156	0.92	0.87	0.98	171	<0.05	0.79
9.16	5/27	98	142	1.50	0.90	76	148	1.33	0.89	55	154	1.01	0.87	1.1	171	<0.05	0.79
7.99	5/27	113	138	1.50	0.90	88	144	1.48	0.90	63	152	1.13	0.88	1.3	171	<0.05	0.79
7.00	5/27	129	134	1.50	0.91	100	141	1.50	0.90	71	149	1.26	0.88	1.4	171	<0.05	0.79

S22

		n1=3400 1/min				n1=2800 1/min				n1=1700 1/min				n1=1400 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
207.20	1/42	16	280	0.70	0.69	14	290	0.61	0.68	8.2	310	0.42	0.63	6.8	315	0.37	0.61
177.88	1/42	19	275	0.78	0.70	16	285	0.68	0.69	9.6	305	0.47	0.64	7.9	310	0.41	0.62
154.74	1/42	22	265	0.86	0.71	18	275	0.75	0.70	11	300	0.52	0.66	9.0	305	0.46	0.64
136.00	1/42	25	260	0.94	0.72	21	270	0.82	0.71	13	295	0.57	0.67	10	300	0.50	0.65
120.52	1/42	28	250	1.02	0.73	23	265	0.89	0.72	14	290	0.63	0.68	12	295	0.54	0.67
107.52	1/42	32	245	1.09	0.74	26	255	0.96	0.73	16	285	0.68	0.69	13	295	0.59	0.68
96.44	1/42	35	235	1.16	0.75	29	250	1.04	0.73	18	280	0.74	0.70	15	290	0.64	0.68
87.65	1/42	39	230	1.23	0.75	32	245	1.10	0.74	19	275	0.79	0.71	16	285	0.69	0.69
77.28	1/42	44	220	1.33	0.76	36	235	1.18	0.75	22	265	0.86	0.71	18	275	0.75	0.70
71.53	2/29	48	260	1.54	0.84	39	270	1.34	0.83	24	295	0.94	0.78	20	305	0.81	0.77
68.44	1/42	50	210	1.43	0.76	41	225	1.27	0.75	25	260	0.93	0.72	20	270	0.82	0.71
61.41	2/29	55	250	1.71	0.84	46	260	1.50	0.83	28	290	1.05	0.80	23	295	0.91	0.78
61.25	1/42	56	200	1.52	0.77	46	215	1.36	0.76	28	255	1.01	0.73	23	265	0.88	0.72
53.42	2/29	64	240	1.88	0.85	52	250	1.65	0.84	32	280	1.16	0.81	26	290	1.01	0.79
53.31	1/42	64	190	1.64	0.77	53	205	1.48	0.76	32	245	1.10	0.74	26	255	0.97	0.73
46.95	2/29	72	230	2.05	0.85	60	245	1.80	0.84	36	275	1.27	0.82	30	285	1.11	0.80
41.61	2/29	82	220	2.22	0.85	67	235	1.95	0.85	41	270	1.39	0.83	34	280	1.20	0.82
37.12	2/29	92	215	2.38	0.86	75	225	2.11	0.85	46	260	1.50	0.83	38	275	1.31	0.82
33.30	2/29	102	205	2.53	0.86	84	220	2.26	0.85	51	255	1.62	0.84	42	265	1.42	0.83
30.26	2/29	112	196	2.67	0.86	93	210	2.40	0.86	56	250	1.73	0.84	46	260	1.51	0.83
26.68	2/29	127	185	2.84	0.87	105	200	2.57	0.86	64	240	1.88	0.85	52	250	1.65	0.84
26.64	5/27	128	250	3.00	0.92	105	265	3.00	0.91	64	290	2.17	0.89	53	295	1.85	0.89
23.63	2/29	144	174	3.00	0.87	118	191	2.74	0.86	72	230	2.04	0.85	59	245	1.79	0.84
22.87	5/27	149	240	3.00	0.92	122	255	3.00	0.92	74	280	2.45	0.90	61	290	2.10	0.89
21.15	2/29	161	166	3.00	0.87	132	181	2.89	0.87	80	225	2.20	0.85	66	235	1.93	0.85
19.89	5/27	171	230	3.00	0.93	141	245	3.00	0.92	85	275	2.72	0.91	70	285	2.34	0.90
18.40	2/29	185	154	3.00	0.88	152	170	3.00	0.87	92	210	2.39	0.86	76	225	2.12	0.85
17.49	5/27	194	220	3.00	0.93	160	235	3.00	0.92	97	270	2.99	0.91	80	280	2.59	0.90
15.50	5/27	219	215	3.00	0.93	181	225	3.00	0.93	110	260	3.00	0.91	90	270	2.83	0.91
13.82	5/27	246	205	3.00	0.94	203	220	3.00	0.93	123	255	3.00	0.92	101	265	3.00	0.91
12.40	5/27	274	194	3.00	0.94	226	210	3.00	0.93	137	245	3.00	0.92	113	260	3.00	0.91
11.27	5/27	302	187	3.00	0.94	248	205	3.00	0.94	151	240	3.00	0.92	124	255	3.00	0.92
9.94	5/27	342	176	3.0	0.94	282	192	3.0	0.94	171	231	3.0	0.93	141	244	3.0	0.92
8.80	5/27	386	166	3.0	0.94	318	183	3.0	0.94	193	222	3.0	0.93	159	236	3.0	0.92
7.88	5/27	432	158	3.0	0.94	356	173	3.0	0.94	216	214	3.0	0.93	178	228	3.0	0.93
6.85	5/27	496	146	3.0	0.94	409	162	3.0	0.94	248	203	3.0	0.94	204	218	3.0	0.93

S22

		n1=900 1/min				n1=700 1/min				n1=500 1/min				n1=10 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
207.20	1/42	4.3	325	0.25	0.58	3.4	325	0.20	0.56	2.4	330	0.16	0.54	0.048	340	<0.05	0.48
177.88	1/42	5.1	320	0.29	0.59	3.9	325	0.23	0.57	2.8	330	0.18	0.55	0.056	340	<0.05	0.48
154.74	1/42	5.8	320	0.32	0.60	4.5	325	0.26	0.58	3.2	325	0.20	0.56	0.065	340	<0.05	0.48
136.00	1/42	6.6	315	0.36	0.61	5.1	320	0.29	0.59	3.7	325	0.22	0.57	0.074	340	<0.05	0.48
120.52	1/42	7.5	310	0.40	0.62	5.8	320	0.32	0.60	4.1	325	0.24	0.58	0.083	340	<0.05	0.48
107.52	1/42	8.4	310	0.43	0.63	6.5	315	0.36	0.61	4.7	320	0.27	0.58	0.093	340	<0.05	0.48
96.44	1/42	9.3	305	0.47	0.64	7.3	315	0.39	0.61	5.2	320	0.29	0.59	0.10	340	<0.05	0.48
87.65	1/42	10	300	0.50	0.65	8.0	310	0.42	0.62	5.7	320	0.32	0.60	0.11	340	<0.05	0.48
77.28	1/42	12	295	0.54	0.67	9.1	305	0.46	0.64	6.5	315	0.35	0.60	0.13	340	<0.05	0.48
71.53	2/29	13	315	0.56	0.75	9.8	320	0.45	0.73	7.0	325	0.34	0.71	0.14	340	<0.05	0.64
68.44	1/42	13	290	0.59	0.68	10	300	0.50	0.65	7.3	315	0.39	0.61	0.15	340	<0.05	0.48
61.41	2/29	15	310	0.63	0.75	11	315	0.51	0.74	8.1	325	0.38	0.72	0.16	340	<0.05	0.64
61.25	1/42	15	290	0.65	0.68	11	300	0.54	0.66	8.2	310	0.42	0.63	0.16	340	<0.05	0.48
53.42	2/29	17	310	0.71	0.76	13	315	0.58	0.75	9.4	320	0.43	0.73	0.19	340	<0.05	0.64
53.31	1/42	17	280	0.71	0.70	13	290	0.59	0.68	9.4	305	0.47	0.64	0.19	340	<0.05	0.48
46.95	2/29	19	305	0.79	0.77	15	310	0.64	0.76	11	320	0.48	0.74	0.21	340	<0.05	0.64
41.61	2/29	22	300	0.87	0.78	17	310	0.71	0.76	12	315	0.53	0.75	0.24	340	<0.05	0.64
37.12	2/29	24	295	0.95	0.79	19	305	0.78	0.77	13	315	0.59	0.75	0.27	340	<0.05	0.64
33.30	2/29	27	290	1.03	0.80	21	300	0.85	0.78	15	310	0.65	0.76	0.30	340	<0.05	0.64
30.26	2/29	30	285	1.10	0.80	23	295	0.92	0.78	17	310	0.70	0.76	0.33	340	<0.05	0.64
26.68	2/29	34	280	1.20	0.82	26	290	1.01	0.79	19	305	0.78	0.77	0.37	340	<0.05	0.64
26.64	5/27	34	310	1.25	0.87	26	315	1.00	0.87	19	305	0.71	0.84	0.38	285	<0.05	0.79
23.63	2/29	38	270	1.32	0.82	30	285	1.10	0.80	21	300	0.86	0.78	0.42	340	<0.05	0.64
22.87	5/27	39	305	1.44	0.88	31	305	1.13	0.87	22	300	0.81	0.85	0.44	280	<0.05	0.79
21.15	2/29	43	265	1.43	0.83	33	280	1.19	0.82	24	295	0.93	0.78	0.47	340	<0.05	0.64
19.89	5/27	45	300	1.63	0.88	35	305	1.28	0.87	25	300	0.92	0.86	0.50	275	<0.05	0.79
18.40	2/29	49	255	1.57	0.84	38	270	1.31	0.82	27	290	1.04	0.80	0.54	340	<0.05	0.64
17.49	5/27	51	300	1.82	0.88	40	300	1.43	0.88	29	295	1.02	0.87	0.57	270	<0.05	0.79
15.50	5/27	58	295	2.01	0.89	45	295	1.59	0.88	32	295	1.14	0.87	0.65	265	<0.05	0.79
13.82	5/27	65	290	2.20	0.89	51	290	1.74	0.88	36	285	1.24	0.88	0.72	260	<0.05	0.79
12.40	5/27	73	285	2.40	0.90	56	285	1.90	0.89	40	285	1.36	0.88	0.81	255	<0.05	0.79
11.27	5/27	80	280	2.58	0.90	62	290	2.12	0.89	44	305	1.60	0.88	0.89	315	<0.05	0.79
9.94	5/27	91	270	2.83	0.91	70	285	2.35	0.90	50	300	1.78	0.88	1.0	300	<0.05	0.79
8.80	5/27	102	265	3.00	0.91	80	280	2.58	0.90	57	295	1.97	0.89	1.1	290	<0.05	0.79
7.88	5/27	114	260	3.00	0.91	89	275	2.79	0.91	63	290	2.16	0.89	1.3	335	0.06	0.79
6.85	5/27	131	250	3.00	0.92	102	265	3.00	0.91	73	285	2.41	0.90	1.5	320	0.06	0.79

S32

		n1=3400 1/min				n1=2800 1/min				n1=1700 1/min				n1=1400 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
271.60	1/42	13	545	1.03	0.69	10	565	0.91	0.67	6.3	600	0.63	0.62	5.2	610	0.54	0.61
234.71	1/42	14	530	1.14	0.70	12	550	0.99	0.69	7.2	590	0.71	0.63	6.0	605	0.61	0.62
205.58	1/42	17	515	1.25	0.71	14	535	1.09	0.70	8.3	580	0.78	0.65	6.8	595	0.68	0.63
182.00	1/42	19	500	1.35	0.72	15	520	1.19	0.71	9.3	570	0.85	0.66	7.7	585	0.74	0.64
162.52	1/42	21	485	1.45	0.73	17	510	1.28	0.72	10	560	0.91	0.67	8.6	580	0.80	0.65
146.16	1/42	23	470	1.55	0.74	19	495	1.37	0.72	12	550	0.98	0.69	9.6	570	0.86	0.66
132.22	1/42	26	455	1.65	0.74	21	480	1.46	0.73	13	540	1.05	0.69	11	560	0.92	0.67
120.52	1/42	28	440	1.75	0.75	23	470	1.54	0.74	14	530	1.12	0.70	12	550	0.98	0.69
107.52	1/42	32	425	1.87	0.75	26	455	1.66	0.74	16	520	1.21	0.71	13	540	1.06	0.70
96.44	1/42	35	405	1.98	0.76	29	440	1.78	0.75	18	505	1.30	0.72	15	530	1.14	0.70
87.50	1/42	39	390	2.08	0.77	32	425	1.88	0.75	19	495	1.38	0.73	16	515	1.22	0.71
77.54	1/42	44	375	2.21	0.77	36	400	2.00	0.76	22	475	1.49	0.73	18	500	1.32	0.72
68.25	1/42	50	350	2.35	0.78	41	385	2.14	0.77	25	460	1.62	0.74	21	485	1.43	0.73
59.77	1/42	57	330	2.52	0.78	47	360	2.27	0.78	28	440	1.76	0.75	23	465	1.55	0.74
52.50	1/42	65	310	2.66	0.79	53	340	2.44	0.78	32	420	1.89	0.75	27	450	1.69	0.74
52.21	3/32	65	530	4.00	0.89	54	555	3.53	0.88	33	615	2.47	0.85	27	635	2.12	0.84
46.22	3/32	74	510	4.00	0.89	61	540	3.86	0.89	37	605	2.70	0.86	30	625	2.33	0.85
41.28	3/32	82	490	4.00	0.90	68	520	4.00	0.89	41	590	2.93	0.87	34	615	2.54	0.86
37.12	3/32	92	475	4.00	0.90	75	505	4.00	0.89	46	575	3.14	0.88	38	600	2.75	0.86
33.58	3/32	101	455	4.00	0.90	83	490	4.00	0.90	51	565	3.38	0.88	42	590	2.95	0.87
30.61	3/32	111	440	4.00	0.90	91	475	4.00	0.90	56	550	3.63	0.88	46	575	3.14	0.88
27.31	3/32	125	420	4.00	0.91	103	455	4.00	0.90	62	535	3.93	0.89	51	560	3.42	0.88
24.49	3/32	139	400	4.00	0.91	114	435	4.00	0.90	69	515	4.00	0.89	57	545	3.70	0.88
22.22	3/32	153	385	4.00	0.91	126	420	4.00	0.91	77	505	4.00	0.89	63	535	3.96	0.89
19.69	3/32	173	360	4.00	0.92	142	395	4.00	0.91	86	485	4.00	0.90	71	515	4.00	0.89
17.33	3/32	196	335	4.00	0.92	162	375	4.00	0.91	98	460	4.00	0.90	81	495	4.00	0.89
15.18	3/32	224	315	4.00	0.92	184	345	4.00	0.92	112	440	4.00	0.90	92	470	4.00	0.90
13.33	3/32	255	290	4.00	0.92	210	325	4.00	0.92	128	415	4.00	0.91	105	450	4.00	0.90

S32

		n1=900 1/min				n1=700 1/min				n1=500 1/min				n1=10 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
271.60	1/42	3.3	630	0.38	0.58	2.6	635	0.31	0.56	1.8	645	0.23	0.53	0.037	665	<0.05	0.48
234.71	1/42	3.8	625	0.42	0.59	3.0	635	0.35	0.57	2.1	640	0.26	0.54	0.043	665	<0.05	0.48
205.58	1/42	4.4	620	0.47	0.60	3.4	630	0.38	0.58	2.4	640	0.29	0.55	0.049	665	<0.05	0.48
182.00	1/42	4.9	615	0.52	0.61	3.8	625	0.42	0.59	2.7	635	0.32	0.56	0.055	665	<0.05	0.48
162.52	1/42	5.5	610	0.57	0.61	4.3	620	0.47	0.60	3.1	630	0.35	0.57	0.062	665	<0.05	0.48
146.16	1/42	6.2	600	0.62	0.62	4.8	615	0.51	0.60	3.4	630	0.38	0.59	0.068	665	<0.05	0.48
132.22	1/42	6.8	595	0.68	0.63	5.3	610	0.55	0.61	3.8	625	0.42	0.59	0.076	665	<0.05	0.48
120.52	1/42	7.5	590	0.72	0.64	5.8	605	0.60	0.62	4.1	620	0.45	0.60	0.083	665	<0.05	0.48
107.52	1/42	8.4	580	0.79	0.65	6.5	600	0.65	0.63	4.7	615	0.50	0.60	0.093	665	<0.05	0.48
96.44	1/42	9.3	570	0.85	0.66	7.3	590	0.71	0.63	5.2	610	0.54	0.61	0.10	665	<0.05	0.48
87.50	1/42	10	565	0.90	0.67	8.0	585	0.76	0.64	5.7	605	0.59	0.62	0.11	665	<0.05	0.48
77.54	1/42	12	550	0.98	0.69	9.0	575	0.83	0.66	6.4	600	0.65	0.62	0.13	665	<0.05	0.48
68.25	1/42	13	540	1.07	0.70	10	565	0.90	0.67	7.3	590	0.71	0.64	0.15	665	<0.05	0.48
59.77	1/42	15	525	1.17	0.71	12	550	0.98	0.69	8.4	580	0.79	0.65	0.17	665	<0.05	0.48
52.50	1/42	17	510	1.27	0.72	13	535	1.08	0.70	9.5	570	0.86	0.66	0.19	665	<0.05	0.48
52.21	3/32	17	665	1.46	0.83	13	680	1.17	0.82	9.6	695	0.88	0.79	0.19	730	<0.05	0.73
46.22	3/32	19	660	1.62	0.83	15	675	1.30	0.82	11	690	0.98	0.80	0.22	730	<0.05	0.73
41.28	3/32	22	650	1.78	0.83	17	665	1.43	0.83	12	685	1.08	0.81	0.24	730	<0.05	0.73
37.12	3/32	24	645	1.95	0.84	19	660	1.57	0.83	13	680	1.17	0.82	0.27	730	<0.05	0.73
33.58	3/32	27	635	2.12	0.84	21	655	1.72	0.83	15	675	1.28	0.82	0.30	730	<0.05	0.73
30.61	3/32	29	625	2.28	0.85	23	650	1.86	0.84	16	670	1.39	0.82	0.33	730	<0.05	0.73
27.31	3/32	33	615	2.49	0.85	26	640	2.04	0.84	18	665	1.53	0.83	0.37	730	<0.05	0.73
24.49	3/32	37	605	2.70	0.86	29	630	2.23	0.85	20	655	1.69	0.83	0.41	730	<0.05	0.73
22.22	3/32	41	590	2.89	0.87	32	620	2.40	0.85	23	650	1.83	0.84	0.45	730	<0.05	0.73
19.69	3/32	46	575	3.14	0.88	36	610	2.63	0.86	25	640	2.02	0.84	0.51	730	0.05	0.73
17.33	3/32	52	560	3.45	0.88	40	595	2.89	0.87	29	630	2.24	0.85	0.58	730	0.06	0.73
15.18	3/32	59	540	3.80	0.89	46	575	3.16	0.88	33	615	2.49	0.85	0.66	730	0.07	0.73
13.33	3/32	68	520	4.00	0.89	53	560	3.48	0.88	38	600	2.74	0.86	0.75	730	0.08	0.73

S42

		n1=3400 1/min				n1=2800 1/min				n1=1700 1/min				n1=1400 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
247.58	1/42	14	1140	2.28	0.72	11	1190	2.01	0.70	6.9	1320	1.46	0.65	5.7	1350	1.26	0.64
220.00	1/42	15	1100	2.46	0.73	13	1160	2.17	0.71	7.7	1290	1.59	0.66	6.4	1330	1.38	0.64
197.22	1/42	17	1070	2.62	0.74	14	1130	2.33	0.72	8.6	1270	1.71	0.67	7.1	1310	1.49	0.65
178.08	1/42	19	1030	2.78	0.74	16	1100	2.48	0.73	9.5	1240	1.82	0.68	7.9	1290	1.60	0.66
161.78	1/42	21	1000	2.94	0.75	17	1070	2.62	0.74	11	1220	1.93	0.69	8.7	1270	1.71	0.67
147.91	1/42	23	970	3.08	0.76	19	1040	2.76	0.74	11	1190	2.03	0.71	9.5	1250	1.81	0.68
132.72	1/42	26	935	3.28	0.76	21	1000	2.95	0.75	13	1160	2.18	0.71	11	1220	1.93	0.69
119.78	1/42	28	900	3.48	0.77	23	965	3.11	0.76	14	1130	2.33	0.72	12	1180	2.05	0.71
110.25	1/42	31	865	3.62	0.77	25	935	3.26	0.76	15	1110	2.45	0.73	13	1160	2.16	0.71
98.54	1/42	35	820	3.81	0.78	28	895	3.48	0.77	17	1070	2.62	0.74	14	1130	2.33	0.72
87.50	1/42	39	775	4.03	0.78	32	850	3.69	0.77	19	1030	2.81	0.75	16	1090	2.51	0.73
77.54	1/42	44	730	4.25	0.79	36	800	3.88	0.78	22	985	3.01	0.75	18	1050	2.68	0.74
69.00	1/42	49	685	4.46	0.79	41	760	4.11	0.78	25	945	3.20	0.76	20	1000	2.84	0.75
59.37	3/34	57	1150	7.5	0.91	47	1220	6.7	0.90	29	1260	4.32	0.87	24	1260	3.59	0.87
59.11	1/42	58	630	4.79	0.79	47	695	4.37	0.79	29	895	3.50	0.77	24	920	3.00	0.76
53.22	3/34	64	1110	7.5	0.91	53	1180	7.2	0.90	32	1340	5.1	0.88	26	1390	4.38	0.87
52.14	1/42	65	585	4.99	0.80	54	655	4.65	0.79	33	845	3.72	0.77	27	915	3.37	0.77
48.05	3/34	71	1070	7.5	0.91	58	1150	7.5	0.91	35	1310	5.5	0.89	29	1360	4.74	0.88
43.65	3/34	78	1040	7.5	0.91	64	1110	7.5	0.91	39	1280	5.8	0.89	32	1320	5.0	0.88
39.91	3/34	85	1000	7.5	0.91	70	1080	7.5	0.91	43	1250	6.2	0.90	35	1250	5.2	0.89
35.81	3/34	95	960	7.5	0.91	78	1040	7.5	0.91	47	1210	6.7	0.90	39	1250	5.7	0.89
32.32	3/34	105	925	7.5	0.91	87	995	7.5	0.91	53	1180	7.2	0.90	43	1200	6.1	0.90
29.75	3/34	114	890	7.5	0.92	94	965	7.5	0.91	57	1140	7.5	0.91	47	1140	6.2	0.90
26.59	3/34	128	840	7.5	0.92	105	925	7.5	0.91	64	1110	7.5	0.91	53	1140	7.0	0.90
23.61	3/34	144	790	7.5	0.92	119	875	7.5	0.92	72	1070	7.5	0.91	59	1080	7.4	0.91
20.92	3/34	163	740	7.5	0.93	134	820	7.5	0.92	81	1010	7.5	0.91	67	1010	7.5	0.91
18.62	3/34	183	695	7.5	0.93	150	775	7.5	0.92	91	950	7.5	0.91	75	950	7.5	0.91
15.95	3/34	213	640	7.5	0.93	176	705	7.5	0.93	107	885	7.5	0.91	88	885	7.5	0.91

S42

		n1=900 1/min				n1=700 1/min				n1=500 1/min				n1=10 1/min			
i	is	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η	n2 [1/min]	T2max [Nm]	P1max [kW]	η
247.58	1/42	3.6	1410	0.88	0.61	2.8	1430	0.73	0.58	2.0	1460	0.56	0.55	0.040	1530	<0.05	0.48
220.00	1/42	4.1	1390	0.97	0.62	3.2	1420	0.80	0.59	2.3	1450	0.62	0.56	0.045	1530	<0.05	0.48
197.22	1/42	4.6	1380	1.06	0.62	3.5	1410	0.86	0.61	2.5	1440	0.67	0.57	0.051	1530	<0.05	0.48
178.08	1/42	5.1	1370	1.15	0.63	3.9	1400	0.94	0.61	2.8	1430	0.73	0.58	0.056	1530	<0.05	0.48
161.78	1/42	5.6	1350	1.24	0.63	4.3	1390	1.01	0.62	3.1	1420	0.78	0.59	0.062	1530	<0.05	0.48
147.91	1/42	6.1	1340	1.33	0.64	4.7	1380	1.09	0.62	3.4	1410	0.83	0.60	0.068	1530	<0.05	0.48
132.72	1/42	6.8	1320	1.44	0.65	5.3	1360	1.19	0.63	3.8	1400	0.90	0.61	0.075	1530	<0.05	0.48
119.78	1/42	7.5	1300	1.55	0.66	5.8	1340	1.29	0.64	4.2	1390	0.98	0.62	0.083	1530	<0.05	0.48
110.25	1/42	8.2	1280	1.65	0.67	6.3	1330	1.38	0.64	4.5	1380	1.05	0.62	0.091	1530	<0.05	0.48
98.54	1/42	9.1	1250	1.77	0.68	7.1	1310	1.49	0.65	5.1	1370	1.16	0.63	0.10	1530	<0.05	0.48
87.50	1/42	10	1220	1.91	0.69	8.0	1290	1.62	0.66	5.7	1350	1.27	0.64	0.11	1530	<0.05	0.48
77.54	1/42	12	1190	2.04	0.71	9.0	1260	1.76	0.68	6.4	1330	1.39	0.64	0.13	1530	<0.05	0.48
69.00	1/42	13	1000	1.91	0.72	10	1000	1.54	0.69	7.2	1000	1.16	0.65	0.14	1000	<0.05	0.48
59.37	3/34	15	1260	2.34	0.85	12	1260	1.85	0.84	8.4	1260	1.36	0.81	0.17	1260	<0.05	0.76
59.11	1/42	15	920	2.02	0.73	12	920	1.61	0.71	8.5	920	1.22	0.67	0.17	920	<0.05	0.48
53.22	3/34	17	1460	3.03	0.86	13	1470	2.39	0.85	9.4	1430	1.71	0.82	0.19	1320	<0.05	0.76
52.14	1/42	17	1070	2.62	0.74	13	1150	2.25	0.72	9.6	1240	1.83	0.68	0.19	1530	0.06	0.48
48.05	3/34	19	1450	3.31	0.86	15	1460	2.61	0.85	10	1420	1.86	0.83	0.21	1300	<0.05	0.76
43.65	3/34	21	1320	3.31	0.86	16	1320	2.59	0.85	11	1320	1.89	0.84	0.23	1280	<0.05	0.76
39.91	3/34	23	1250	3.41	0.87	18	1250	2.68	0.86	13	1250	1.94	0.84	0.25	1250	<0.05	0.76
35.81	3/34	25	1250	3.78	0.87	20	1250	2.97	0.86	14	1250	2.15	0.85	0.28	1250	<0.05	0.76
32.32	3/34	28	1200	4.00	0.87	22	1200	3.15	0.86	15	1200	2.28	0.85	0.31	1200	0.05	0.76
29.75	3/34	30	1140	4.12	0.88	24	1140	3.24	0.87	17	1140	2.34	0.86	0.34	1140	0.05	0.76
26.59	3/34	34	1140	4.57	0.88	26	1140	3.61	0.87	19	1140	2.61	0.86	0.38	1140	0.06	0.76
23.61	3/34	38	1080	4.84	0.89	30	1080	3.82	0.88	21	1080	2.78	0.86	0.42	1080	0.06	0.76
20.92	3/34	43	1010	5.1	0.90	33	1010	4.01	0.88	24	1010	2.91	0.87	0.48	1010	0.07	0.76
18.62	3/34	48	950	5.3	0.90	38	950	4.20	0.89	27	950	3.06	0.87	0.54	950	0.07	0.76
15.95	3/34	56	885	5.8	0.91	44	885	4.52	0.90	31	885	3.30	0.88	0.63	885	0.08	0.76

Selection table - Geared motors

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
0.12 kW				
S22G12A DM63K4				22
3.0	215	1.55	463.77	
3.4	191	1.70	406.20	
3.8	172	1.90	362.38	
S12G02A DM63K4				15
2.8	200	0.90	490.22	
3.2	180	1.00	429.37	
3.7	161	1.10	375.31	
4.2	144	1.25	330.65	
4.7	129	1.40	293.14	
5.3	117	1.50	261.18	
5.9	106	1.65	234.46	
6.7	94	1.85	204.64	
S02A DM63K4				8
7.3	74	0.80	189.00	
8.7	64	0.90	159.35	
10	56	1.00	135.95	
12	49	1.15	117.00	
14	44	1.25	101.35	
16	39	1.35	88.20	
18	35	1.50	77.00	
20	39	1.75	69.00	
24	34	2.0	58.18	
28	29	2.3	49.63	
32	26	2.5	42.71	
37	22	2.8	37.00	
43	20	3.0	32.20	
49	17	3.3	28.11	
55	17	3.6	25.00	
65	15	4.1	21.08	
77	13	4.7	17.98	
89	11	5.2	15.48	
103	9.6	5.7	13.41	
110	9.3	7.2	12.50	
118	8.4	6.3	11.67	
131	7.9	8.2	10.54	
135	7.4	7.0	10.19	
153	6.8	9.3	8.99	
178	5.9	10	7.74	
206	5.1	12	6.70	
237	4.5	13	5.83	
271	3.9	14	5.09	
0.18 kW				
S32G12A DM63G4				30
2.8	345	1.85	492.61	
3.1	320	2.00	445.64	
S22G12A DM63G4				23
3.0	320	1.05	463.77	
3.4	285	1.15	406.20	
3.8	260	1.25	362.38	
4.2	235	1.40	325.05	
4.7	215	1.50	295.42	
5.3	192	1.65	260.46	
6.0	172	1.85	230.68	
6.7	156	2.0	206.44	
S22A DM63G4				17
6.7	157	2.0	207.20	
S12G02A DM63G4				16
4.2	215	0.85	330.65	
4.7	194	0.90	293.14	
5.3	175	1.00	261.18	
5.9	159	1.10	234.46	
6.7	141	1.25	204.64	
7.7	126	1.35	179.24	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
S12A DM63G4				12
8.2	119	1.45	168.00	
9.6	105	1.60	143.53	
11	93	1.75	124.21	
13	84	1.95	108.57	
S02A DM63G4				8
14	66	0.85	101.35	
16	59	0.90	88.20	
18	53	1.00	77.00	
20	58	1.20	69.00	
24	50	1.35	58.18	
28	44	1.50	49.63	
32	38	1.70	42.71	
37	34	1.85	37.00	
43	30	2.0	32.20	
49	26	2.2	28.11	
55	26	2.4	25.00	
65	22	2.8	21.08	
77	19	3.1	17.98	
89	17	3.4	15.48	
103	14	3.8	13.41	
110	14	4.8	12.50	
118	13	4.2	11.67	
131	12	5.5	10.54	
135	11	4.6	10.19	
153	10	6.2	8.99	
178	8.9	6.9	7.74	
206	7.7	7.7	6.70	
237	6.7	8.6	5.83	
271	5.9	9.4	5.09	
0.25 kW				
S32G12A DM71K4				31
2.9	475	1.35	492.61	
3.2	435	1.45	445.64	
3.5	405	1.55	406.20	
3.9	365	1.70	362.38	
4.3	330	1.90	325.05	
4.8	300	2.0	294.91	
S22G12A DM71K4				23
3.5	390	0.85	406.20	
3.9	350	0.90	362.38	
4.3	320	1.00	325.05	
4.8	290	1.10	295.42	
5.4	260	1.20	260.46	
6.1	235	1.35	230.68	
6.8	215	1.50	206.44	
7.8	189	1.65	179.67	
S22A DM71K4				18
6.8	215	1.45	207.20	
7.9	187	1.65	177.88	
9.1	167	1.85	154.74	
10	150	2.0	136.00	
S12G02A DM71K4				17
6.0	215	0.80	234.46	
6.9	193	0.90	204.64	
7.9	172	1.00	179.24	
S12A DM71K4				13
8.4	163	1.05	168.00	
9.8	143	1.15	143.53	
11	128	1.30	124.21	
13	114	1.40	108.57	
15	102	1.55	95.65	
17	92	1.70	84.80	
19	83	1.85	75.56	
21	76	2.00	67.83	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
S02A DM71K4				9
20	80	0.85	69.00	
24	69	1.00	58.18	
28	60	1.10	49.63	
33	52	1.20	42.71	
38	46	1.35	37.00	
44	40	1.50	32.20	
50	36	1.65	28.11	
56	35	1.75	25.00	
67	30	2.0	21.08	
78	26	2.3	17.98	
91	23	2.5	15.48	
105	20	2.8	13.41	
113	19	3.5	12.50	
121	17	3.1	11.67	
134	16	4.0	10.54	
138	15	3.4	10.19	
157	14	4.5	8.99	
182	12	5.0	7.74	
210	10	5.6	6.70	
242	9.1	6.3	5.83	
277	8.0	6.9	5.09	
0.37 kW				
S42G22A DM71G4				51
2.9	720	2.00	494.08	
S32G12A DM71G4				32
2.9	700	0.90	492.61	
3.2	645	1.00	445.64	
3.5	595	1.05	406.20	
3.9	540	1.15	362.38	
4.3	490	1.25	325.05	
4.8	445	1.40	294.91	
5.4	400	1.50	261.33	
6.1	360	1.70	230.03	
S32A DM71G4				26
5.2	415	1.45	271.60	
6.0	365	1.65	234.71	
6.9	325	1.85	205.58	
7.7	290	2.0	182.00	
S22G12A DM71G4				24
5.4	385	0.85	260.46	
6.1	345	0.90	230.68	
6.8	315	1.00	206.44	
7.8	280	1.10	179.67	
S22A DM71G4				19
6.8	315	1.00	207.20	
7.9	275	1.10	177.88	
9.1	245	1.25	154.74	
10	220	1.35	136.00	
12	200	1.45	120.52	
13	182	1.60	107.52	
15	165	1.75	96.44	
16	152	1.85	87.65	
18	136	2.0	77.28	
S12A DM71G4				14
9.8	210	0.80	143.53	
11	189	0.85	124.21	
13	169	0.95	108.57	
15	151	1.05	95.65	
17	136	1.15	84.80	
19	123	1.25	75.56	
21	112	1.35	67.83	
23	116	1.45	60.90	
24	100	1.45	59.20	
27	101	1.60	52.03	
27	89	1.60	51.85	
31	89	1.80	45.03	
36	79	2.00	39.36	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
S02A DM71G4				10
33	77	0.85	42.71	
38	68	0.90	37.00	
44	60	1.00	32.20	
50	53	1.10	28.11	
56	52	1.20	25.00	
67	45	1.35	21.08	
78	38	1.55	17.98	
91	33	1.70	15.48	
105	29	1.90	13.41	
113	28	2.4	12.50	
121	25	2.1	11.67	
134	24	2.7	10.54	
138	22	2.3	10.19	
157	21	3.1	8.99	
182	18	3.4	7.74	
210	15	3.8	6.70	
242	13	4.2	5.83	
277	12	4.7	5.09	
0.55 kW				
S42G22A DM80K4				52
2.8	1070	1.35	494.08	
3.2	980	1.45	441.60	
3.6	895	1.55	392.13	
4.0	800	1.75	347.49	
4.5	720	1.90	309.22	
S32G12A DM80K4				34
4.3	730	0.85	325.05	
4.8	665	0.90	294.91	
5.4	600	1.00	261.33	
6.1	535	1.15	230.03	
S32A DM80K4				28
6.8	485	1.25	205.58	
7.7	435	1.35	182.00	
8.6	395	1.45	162.52	
9.6	360	1.55	146.16	
11	335	1.70	132.22	
12	310	1.80	120.52	
13	280	1.95	107.52	
S22A DM80K4				21
9.1	370	0.85	154.74	
10	330	0.90	136.00	
12	300	1.00	120.52	
13	270	1.10	107.52	
15	245	1.15	96.44	
16	225	1.25	87.65	
18	205	1.35	77.28	
21	181	1.50	68.44	
26	158	1.85	53.42	
30	141	2.0	46.95	
S12A DM80K4				16
19	183	0.85	75.56	
21	167	0.90	67.83	
24	149	1.00	59.20	
27	132	1.05	51.85	
31	133	1.20	45.03	
36	118	1.30	39.36	
41	105	1.45	34.67	
46	93	1.60	30.74	
51	84	1.75	27.39	
57	76	1.90	24.59	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
S02A DM80K4				12
78	57	1.05	17.98	
91	50	1.15	15.48	
105	43	1.25	13.41	
120	38	1.40	11.67	
138	33	1.55	10.19	
156	31	2.1	8.99	
182	27	2.3	7.74	
210	23	2.6	6.70	
241	20	2.8	5.83	
276	18	3.1	5.09	

0.75 kW

S42G22A DM80GC4				54
2.9	1460	1.00	494.08	
3.2	1340	1.05	441.60	
3.6	1220	1.15	392.13	
4.1	1090	1.30	347.49	
4.6	975	1.40	309.22	
5.3	850	1.60	264.91	
S42A DM80GC4				45
5.7	800	1.70	247.58	
6.4	720	1.85	220.00	
7.1	655	2.0	197.22	
S32G12A DM80GC4				35
6.1	725	0.85	230.03	
S32A DM80GC4				30
6.9	655	0.90	205.58	
7.7	590	1.00	182.00	
8.7	540	1.10	162.52	
9.6	490	1.15	146.16	
11	455	1.25	132.22	
12	420	1.30	120.52	
13	380	1.40	107.52	
15	345	1.55	96.44	
S22A DM80GC4				22
13	370	0.80	107.52	
15	335	0.85	96.44	
16	310	0.90	87.65	
18	275	1.00	77.28	
21	245	1.10	68.44	
26	215	1.35	53.42	
30	192	1.50	46.95	
34	173	1.60	41.61	
38	155	1.75	37.12	
42	140	1.90	33.30	
47	128	2.0	30.26	
S12A DM80GC4				17
27	180	0.80	51.85	
31	181	0.90	45.03	
36	160	0.95	39.36	
41	142	1.10	34.67	
46	127	1.20	30.74	
51	114	1.30	27.39	
57	103	1.40	24.59	
66	90	1.55	21.46	
75	80	1.65	18.80	
84	76	1.90	16.77	
S02A DM80GC4				13
91	68	0.85	15.48	
105	59	0.95	13.41	
121	52	1.05	11.67	
138	45	1.15	10.19	
157	42	1.50	8.99	
182	36	1.70	7.74	
210	31	1.90	6.70	
242	27	2.1	5.83	
277	24	2.3	5.09	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	

1.1 kW

S42G22A DM90SC4				56
3.6	1780	0.80	392.13	
3.7	1750	0.80	384.81	
4.1	1590	0.90	347.49	
4.1	1570	0.90	343.94	
4.6	1430	0.95	309.22	
4.6	1410	1.00	305.41	
5.2	1270	1.10	270.64	
5.3	1240	1.10	264.91	
5.9	1140	1.20	240.84	
S42A DM90SC4				48
6.4	1050	1.25	220.00	
7.2	955	1.35	197.22	
7.9	875	1.45	178.08	
8.7	805	1.55	161.78	
9.6	750	1.65	147.91	
11	685	1.75	132.72	
12	630	1.85	119.78	
13	585	2.00	110.25	
14	530	2.1	98.54	
16	475	2.3	87.50	
18	425	2.5	77.54	
S32A DM90SC4				32
9.7	720	0.80	146.16	
11	665	0.85	132.22	
12	615	0.90	120.52	
13	555	0.95	107.52	
15	505	1.05	96.44	
16	460	1.10	87.50	
18	415	1.20	77.54	
21	370	1.30	68.25	
24	330	1.40	59.77	
31	290	2.1	46.22	
34	265	2.3	41.28	
38	240	2.5	37.12	
S22A DM90SC4				25
23	325	0.80	61.25	
27	290	0.90	53.31	
30	280	1.00	46.95	
34	255	1.10	41.61	
38	225	1.20	37.12	
42	205	1.30	33.30	
47	187	1.40	30.26	
53	167	1.50	26.68	
60	148	1.65	23.63	
67	133	1.75	21.15	
77	116	1.95	18.40	
81	117	2.4	17.49	
S12A DM90SC4				20
46	186	0.80	30.74	
52	167	0.90	27.39	
58	150	0.95	24.59	
66	132	1.05	21.46	
75	116	1.15	18.80	
97	98	1.45	14.66	
110	87	1.60	12.91	
124	77	1.75	11.45	
139	69	1.90	10.20	
155	62	2.1	9.16	
177	54	2.3	7.99	
202	48	2.5	7.00	

1.5 kW

S42G22A DM90LC4				59
5.2	1730	0.80	270.64	
5.3	1700	0.80	264.91	
5.9	1560	0.85	240.84	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
S42A DM90LC4				50
6.4	1440	0.90	220.00	
7.1	1310	1.00	197.22	
7.9	1200	1.05	178.08	
8.7	1100	1.15	161.78	
9.5	1020	1.20	147.91	
11	935	1.30	132.72	
12	860	1.35	119.78	
13	800	1.45	110.25	
14	725	1.55	98.54	
16	650	1.70	87.50	
18	585	1.80	77.54	
24	525	2.4	59.37	
S32A DM90LC4				35
16	630	0.80	87.50	
18	570	0.90	77.54	
21	505	0.95	68.25	
24	450	1.05	59.77	
31	400	1.55	46.22	
34	360	1.70	41.28	
38	325	1.85	37.12	
42	295	2.00	33.58	
46	275	2.1	30.61	
52	245	2.3	27.31	
58	220	2.5	24.49	
S22A DM90LC4				28
34	345	0.80	41.61	
38	310	0.90	37.12	
42	280	0.95	33.30	
47	255	1.00	30.26	
53	230	1.10	26.68	
60	205	1.20	23.63	
67	182	1.30	21.15	
77	159	1.40	18.40	
81	160	1.75	17.49	
91	143	1.90	15.50	
102	128	2.1	13.82	
114	115	2.2	12.40	
125	105	2.4	11.27	
S12A DM90LC4				23
75	159	0.85	18.80	
96	134	1.05	14.66	
109	119	1.15	12.91	
123	105	1.30	11.45	
138	94	1.40	10.20	
154	85	1.50	9.16	
176	75	1.65	7.99	
201	66	1.80	7.00	

2.2 kW

S42A DM100LC4				58
8.7	1620	0.80	161.78	
9.5	1500	0.85	147.91	
11	1370	0.90	132.72	
12	1260	0.95	119.78	
13	1170	1.00	110.25	
14	1060	1.05	98.54	
16	955	1.15	87.50	
18	855	1.25	77.54	
20	770	1.30	69.00	
26	690	2.0	53.22	
29	625	2.2	48.05	
32	575	2.3	43.65	
35	525	2.4	39.91	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
S32A DM100LC4				42
34	525	1.15	41.28	
38	480	1.25	37.12	
42	435	1.35	33.58	
46	400	1.45	30.61	
52	360	1.55	27.31	
58	325	1.70	24.49	
63	295	1.80	22.22	
72	260	1.95	19.69	
81	230	2.1	17.33	
93	205	2.3	15.18	
106	179	2.5	13.33	
S22A DM100LC4				35
60	295	0.80	23.63	
67	265	0.90	21.15	
77	235	0.95	18.40	
91	210	1.30	15.50	
102	188	1.40	13.82	
114	169	1.55	12.40	
125	154	1.65	11.27	
142	136	1.80	9.94	
160	121	1.95	8.80	
179	109	2.1	7.88	
206	95	2.3	6.85	

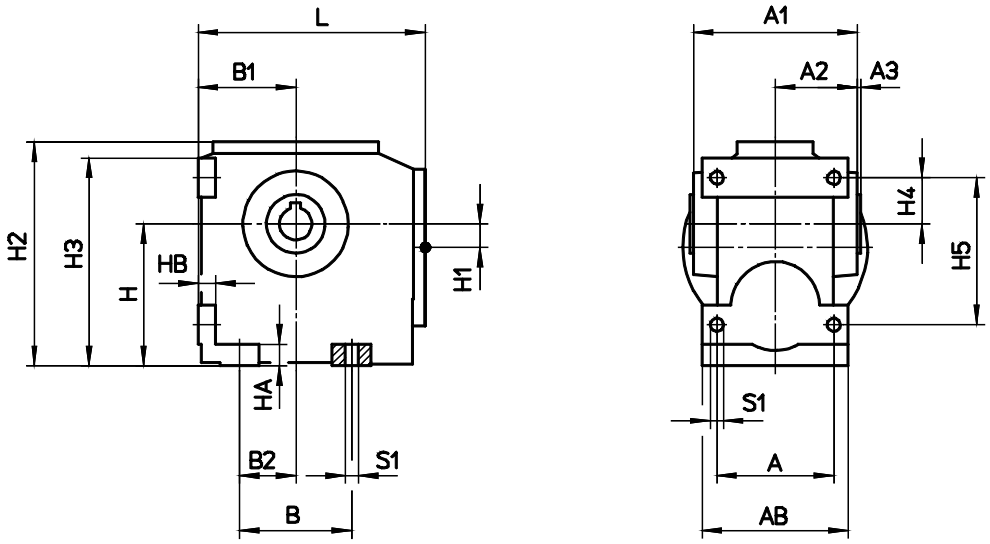
3.0 kW

S42A DM100LD4				61
14	1450	0.80	98.54	
16	1300	0.85	87.50	
18	1170	0.90	77.54	
20	1050	0.95	69.00	
26	940	1.45	53.22	
29	855	1.60	48.05	
32	780	1.70	43.65	
35	720	1.75	39.91	
39	650	1.95	35.81	
44	590	2.0	32.32	
47	545	2.1	29.75	
53	490	2.3	26.59	
60	435	2.5	23.61	
S32A DM100LD4				46
34	720	0.85	41.28	
38	650	0.90	37.12	
42	595	1.00	33.58	
46	545	1.05	30.61	
52	490	1.15	27.31	
58	440	1.25	24.49	
63	400	1.35	22.22	
72	355	1.45	19.69	
81	315	1.55	17.33	
93	275	1.70	15.18	
106	245	1.85	13.33	
S22A DM100LD4				38
91	285	0.95	15.50	
102	255	1.05	13.82	
114	230	1.10	12.40	
125	210	1.20	11.27	
142	186	1.30	9.94	
160	165	1.45	8.80	
179	149	1.55	7.88	
206	130	1.70	6.85	

Type				~kg
n2 [1/min]	T2 [Nm]	cG	i	
4.0 kW				
S42A DM112MX4				70
30	1130	1.20	48.05	
33	1030	1.30	43.65	
36	950	1.30	39.91	
40	855	1.45	35.81	
44	780	1.55	32.32	
48	720	1.60	29.75	
54	645	1.75	26.59	
60	575	1.90	23.61	
68	510	2.00	20.92	
77	455	2.1	18.62	
S32A DM112MX4				54
47	720	0.80	30.61	
52	645	0.85	27.31	
58	580	0.95	24.49	
64	530	1.00	22.22	
72	470	1.10	19.69	
82	415	1.20	17.33	
94	365	1.30	15.18	
107	325	1.40	13.33	
5.5 kW				
S42A DA132S4				89
41	1160	1.10	35.81	
45	1050	1.15	32.32	
49	970	1.20	29.75	
55	870	1.30	26.59	
62	775	1.40	23.61	
70	685	1.45	20.92	
78	610	1.55	18.62	
91	525	1.70	15.95	
103	465	1.75	14.07	
7.5 kW				
S42A DA132MX4				103
41	1580	0.80	35.81	
45	1430	0.85	32.32	
49	1320	0.85	29.75	
55	1180	0.95	26.59	
62	1060	1.00	23.61	
70	935	1.10	20.92	
78	835	1.15	18.62	
91	715	1.25	15.95	
103	635	1.30	14.07	

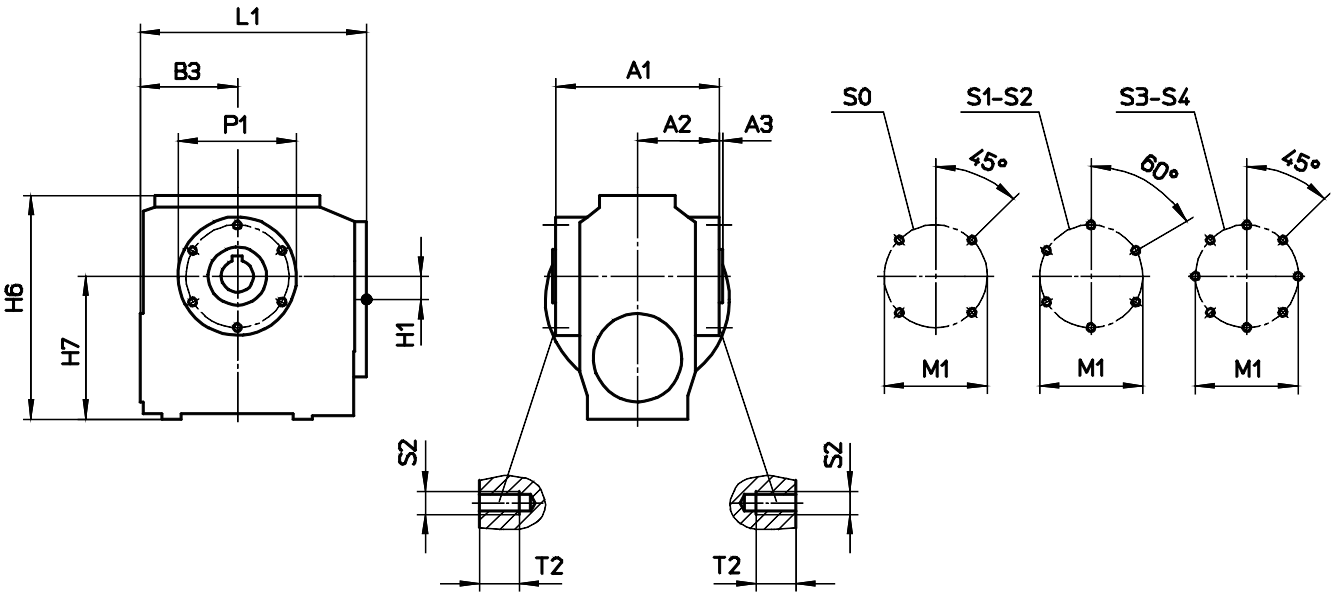
Dimensions

A - Foot mounted version



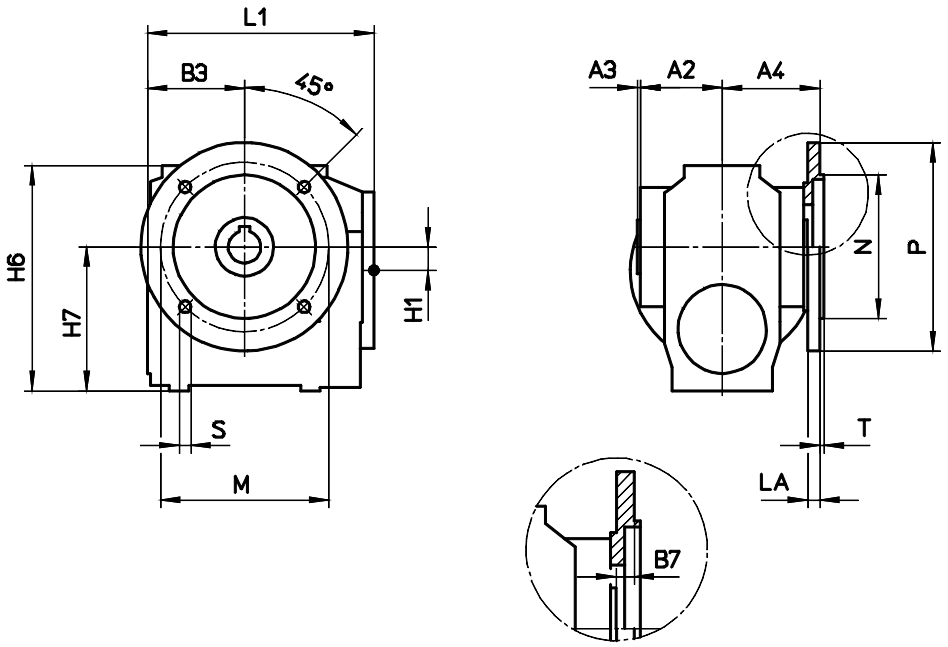
	A	AB	A1	A2	A3	B	B1	B2	H	HA	HB	H1	H2	H3	H4	H5	L	S1
S0	50	63	86	43	2	60	52-0.5	30	70-0.5	9	9	7.5	113	106.5	29	86	126	M6
S1	90	110	116	58	2	75	70-0.5	37.5	95-0.5	15	12	10	151.5	137.5	30	95	160	Ø9
S2	110	135	144	72	3	90	85-0.5	45	120-0.5	18	15	18	191	175	40	120	191	Ø11
S3	120	150	168	84	3.5	115	100-0.5	57.5	145-0.5	22	18	24	229.5	212	47	150	233	Ø13.5
S4	150	185	202	101	4	135	125-0.5	70	180-0.5	25	22	35	280	259.5	57	180	280	Ø17.5

B - Shaft mounted version



	A1	A2	A3	B3	H1	H6	H7	L1	M1	P1	S2	T2
S0	86	43	2	52	7.5	113.5	70.5	126	74	86	M6	9
S1	116	58	2	69	10	153.5	97	159	87	99	M6	9
S2	144	72	3	85	18	193	122	191	96	112	M8	12
S3	168	84	3.5	100	24	231.5	147	233	106	122	M8	12
S4	202	101	4	125	35	282	182	280	130	150	M10	15

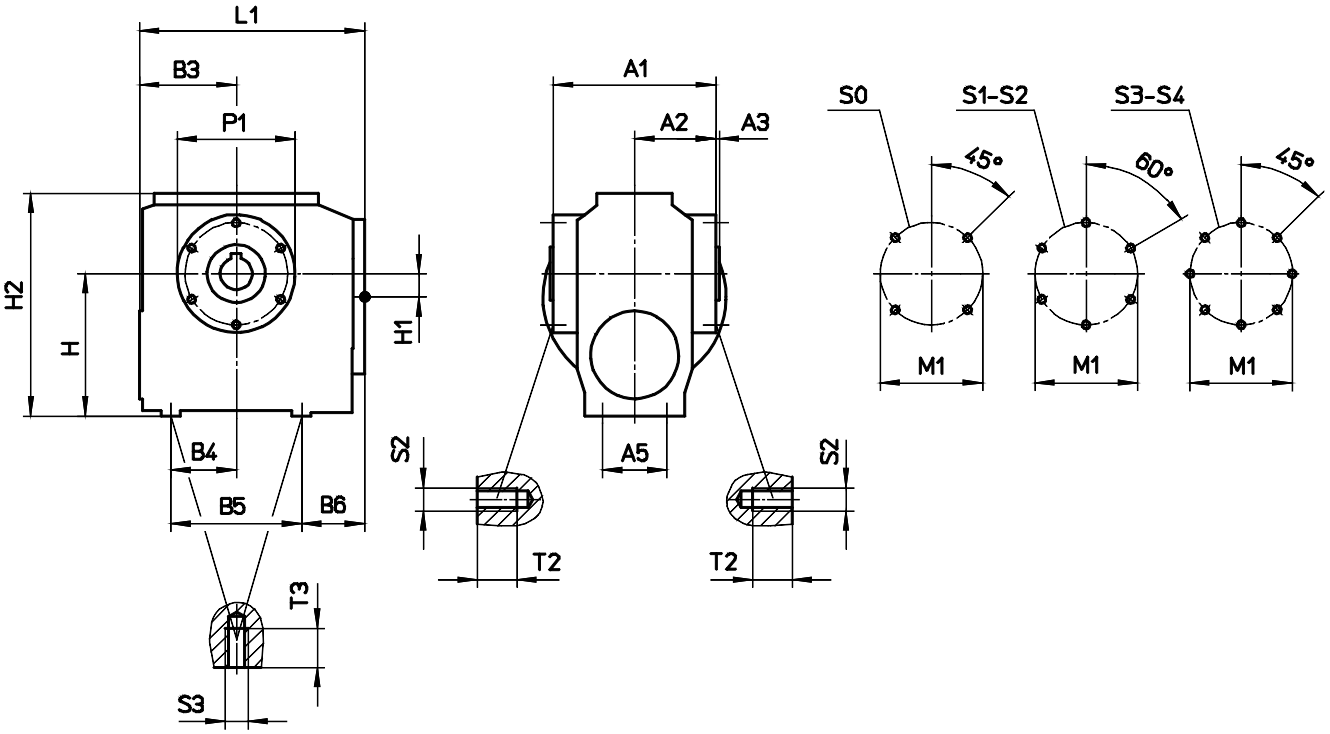
C - Flange mounted version



	A2	A3	A4	B3	B7	H1	H6	H7	L1
S0	43	2	63	52	18	7.5	113.5	70.5	126
S1	58	2	70	69	10	10	153.5	97	159
S2	72	3	83	85	8	18	193	122	191
S3	84	3.5	95	100	7.5	24	231.5	147	233
S4	101	4	113	125	8	35	282	182	280

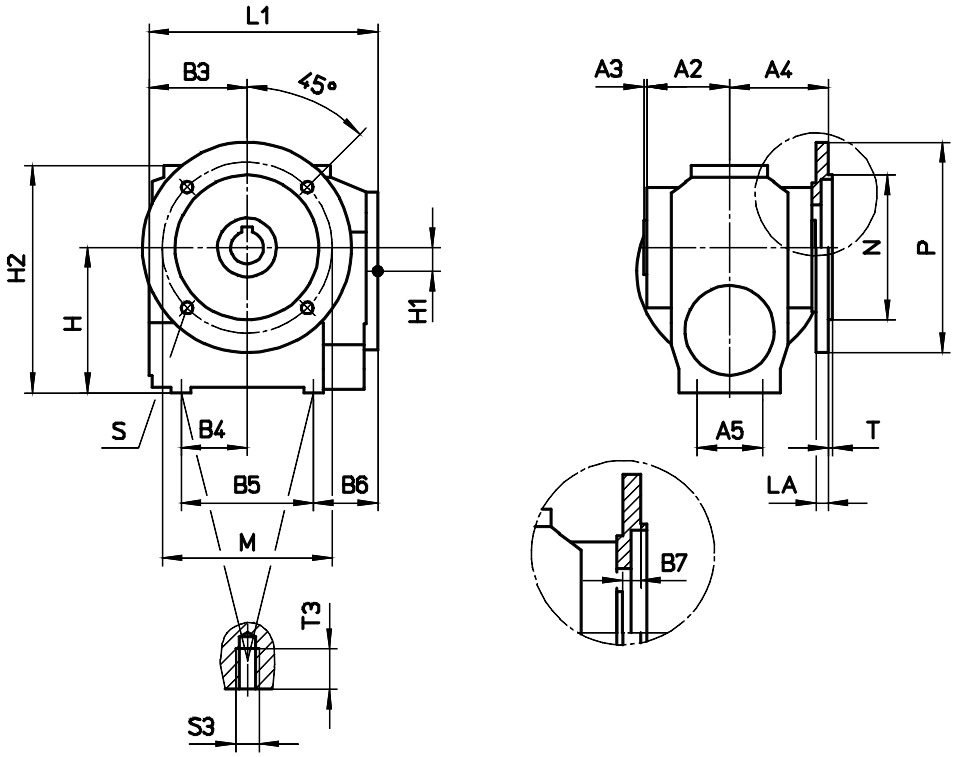
	M	N	P	LA	T	S
S0	Ø100	Ø80 j6	Ø120	8	3	Ø6.6
S1	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
S2	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
S3	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
S4	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
	Ø265	Ø230 j6	Ø300	12	4	Ø13.5

D - Shaft mounted version + foot area



	A1	A2	A3	A5	B3	B4	B5	B6	H	H1	H2	L1	M1	P1	S2	T2	S3	T3
S1	116	58	2	50	69	46	82	54	95	10	151.5	159	87	99	M6	9	M8	12
S2	144	72	3	65	85	58	110	54	120	18	191	191	96	112	M8	12	M8	12
S3	168	84	3.5	70	100	67.5	135	65.5	145	24	229.5	233	106	122	M8	12	M10	15
S4	202	101	4	80	125	87.5	175	67.5	180	35	280	280	130	150	M10	15	M16	24

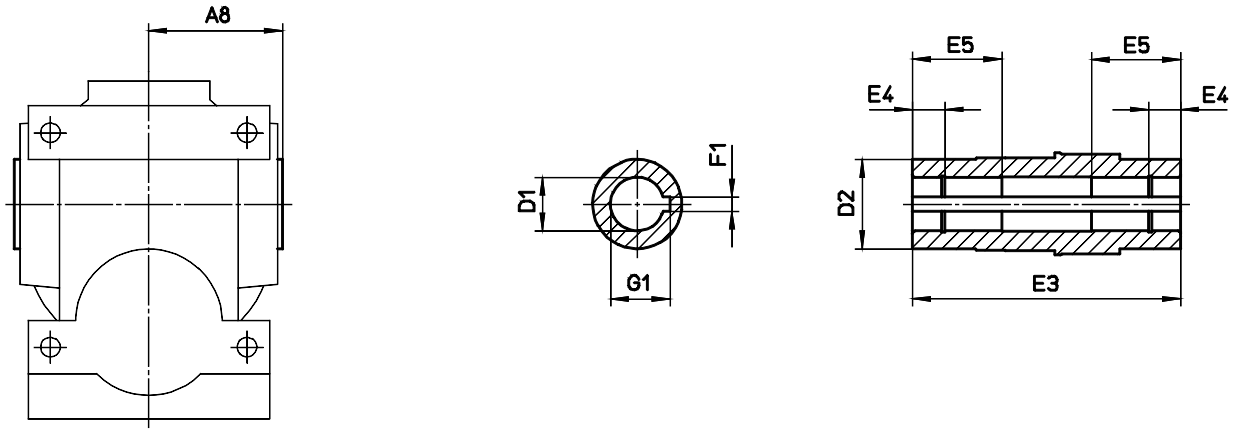
E - Flange mounted version + foot area



	A2	A3	A4	A5	B3	B4	B5	B6	B7	H	H1	H2	L1	S3	T3
S1	58	2	70	50	69	46	82	54	10	95	10	151.5	159	M8	12
S2	72	3	83	65	85	58	110	54	8	120	18	191	191	M8	12
S3	84	3.5	95	70	100	67.5	135	65.5	7.5	145	24	229.5	233	M10	15
S4	101	4	113	80	125	87.5	175	67.5	8	180	35	280	280	M16	24

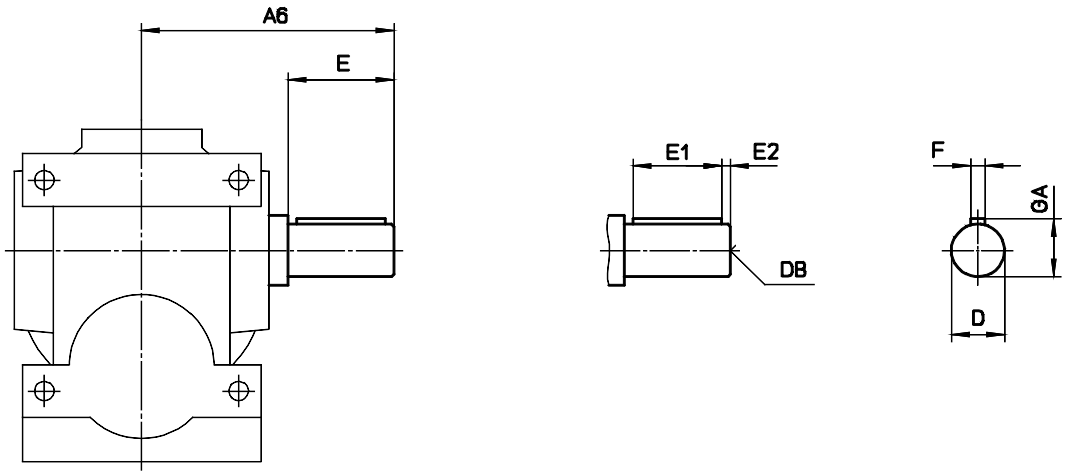
	M	N	P	LA	T	S
S1	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
S2	Ø130	Ø110 j6	Ø160	9	3.5	Ø9
	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
S3	Ø165	Ø130 j6	Ø200	10	3.5	Ø11
	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
S4	Ø215	Ø180 j6	Ø250	11	4	Ø13.5
	Ø265	Ø230 j6	Ø300	12	4	Ø13.5

Hollow shaft with keyway



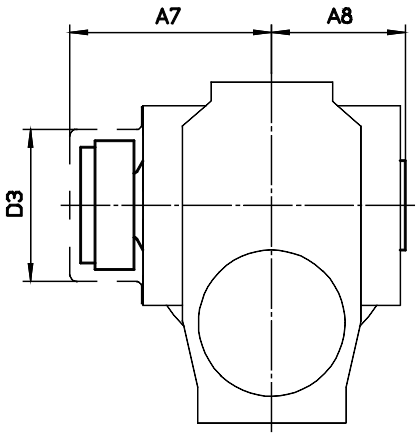
	A8	D1	D2	E3	E4	E5	F1	G1
S0	45	Ø20H7	35	90	14	-	6	22.8
S1	60	Ø25H7	45	120	15	-	8	28.3
S2	75	Ø30H7 Ø35H7	50	150	18	-	8 10	33.3 38.3
S3	87.5	Ø40H7	55	175	20	-	12	43.3
S4	105	Ø50H7	70	210	25	70	14	53.8

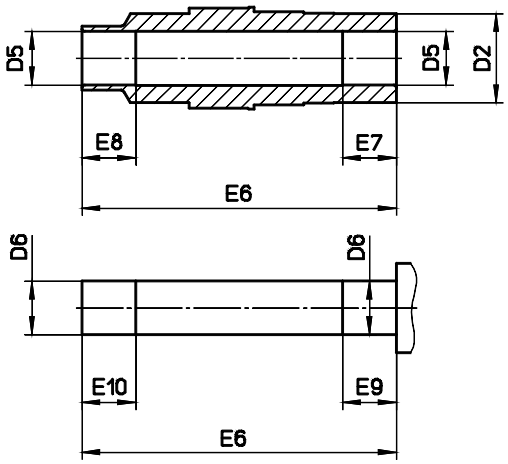
V - Output shaft with key



	A6	D	DB	E	E1	E2	F	GA
S02A **S02C**	85 103	Ø20k6	M6	40	32	4	6	22.5
S1	120	Ø25k6	M10	50	40	5	8	28
S2	143 153	Ø30k6 Ø35k6	M10 M12	60 70	50 60	5	8 10	33 38
S3	175	Ø40k6	M16	80	70	5	12	43
S4	213	Ø50k6	M16	100	80	10	14	53.5

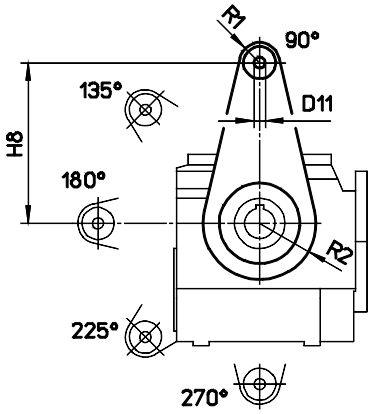
S - Hollow shaft with shrink disc

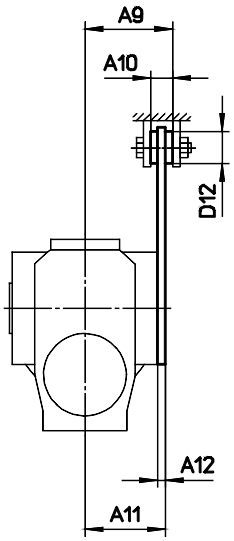




	A7	A8	D2	D3	D5	D6	E6	E7	E8	E9	E10
S1	98	60	45	77	Ø25H7	Ø25h6	143	25	25	27	27
S2	113	75	50	86	Ø30H7 Ø35H7	Ø30h6 Ø35h6	176	20	30	22	32
S3	127	87.5	55	96	Ø40H7	Ø40h6	202	20	40	22	42
S4	150	105	70	117	Ø50H7	Ø50h6	242	30	50	32	52

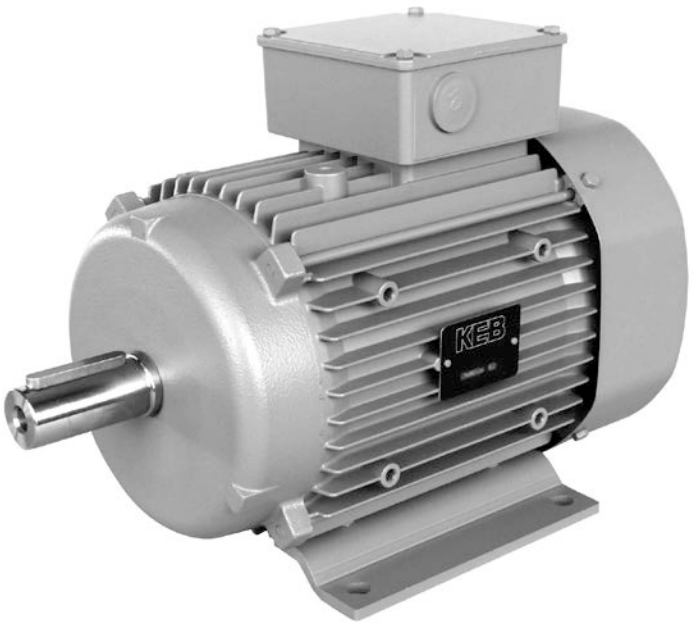
T1 - Torque arm

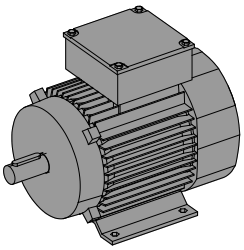




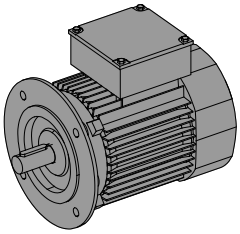
	A9	A10	A11	A12	D11	D12	H8	R1	R2
S0	52.5	15	47	4	11	32	100	20	43
S1	68.5	15	64	6	11	32	130	20	49.5
S2	87	22	80	8	11	32	160	20	56
S3	99	22	92	8	11	32	200	23	61
S4	121	32	109	8	17	40	250	30	75

Three phase motors

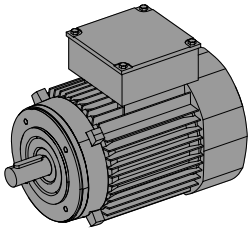




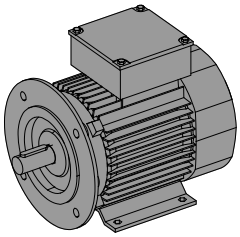
Foot mounted version B3
Example: DM80GC4 IE2– B3



Flange mounted version B5
Example: DA132MX4 IE2– B5



Flange mounted version B14
Example: DM71G6 – B14K



Foot-flange mounted version B3/B5
Example: DM90SC4 IE2– B3/B5

Technical characteristics

The motors correspond to the following standards:

DIN EN 60034	Rotating electrical machines, rating and performance.
IEC60072	Totally enclosed fan-cooled motors with squirrel cage, fixing dimensions and allocation of rating.
DIN42948	Mounting flanges for electrical machines

- Number of poles: 2 pole, 4 pole, 6 pole, 8 pole, 4/2 pole, 8/4 pole, 8/2 pole
- Protection standard IP54 (Motor), IP55 (Geared motor)
- Insulation class 155
- Voltage/Frequency
  Δ/Y 230/400V 50Hz 1)
  Δ/Y 230/400V 50Hz // Y 460V 60Hz 1)
  Δ/Y 400/690 V 50 Hz
  Δ/Y 400/690 V 50 Hz // Δ 460V 60Hz
  Δ/Y 290/500 V 50Hz (DM63..DM112)
  Δ 500V 50Hz (DA132..DA225)
  200V 50Hz
  1) Standard voltages
  Different voltages and frequencies are available.

Options:

- UL-Version
- CCC-Version
- Dust- and water protection IP65

More Motor Options:

- Explosion proof motor in accordance with ATEX, for use in zone 1, 2, 21, or 22
- Flame proof Motor EExd
- motors with noise reduced brake or with double brake
- Backstop RS
- Torque motor
- single phase motor 230V 50Hz (service capacitor, Steinmetz circuit)

Motor Power Pn

The values given in the tables are valid for the following conditions:

- Duty cycle S1
- Maximum ambient temperature +40°C
- Installation altitude up to 1000m above mean sea level

The available motor power for different conditions is calculated as follows: $P = Pn \cdot fs \cdot ft \cdot fh$

Factor fs for different duty type

Duty type		fs
S1	Continuous duty. Operation with constant load. The motor reaches the thermal equilibrium.	1.0
S2-10min	Short term duty. Operation with constant load followed by a stop. During the stop the motor returns to the ambient temperature. Described by the duration of the load period in min.	1.4
S2-30min		1.25
S2-60min		1.1
S3-15%ED	Intermittent periodic duty. Operation with a sequence of identical cycles including a time of operation with constant load and a stop. Described by the cyclic duration factor in %.	1.4
S3-25%ED		1.3
S3-40%ED		1.2
S3-60%ED		1.1
S4 .. S10	Intermittent periodic duty. The start or stop phase of the motor is effecting the temperature raise. More data of the duty cycle are necessary.	On request

Factor ft for different ambient temperature θ

θ ≤40°C	ft=1.0
40°C < θ ≤ 50°C	ft=0.87
50°C < θ ≤ 60°C	ft=0.75

Factor fh for different altitude h

h≤ 1000m	fh=1.0
1000m < h ≤ 2000m	fh=0.95
2000m < h ≤ 3000m	fh=0.87
3000m < h ≤ 4000m	fh=0.80

Permissible Radial Forces for the Output Shaft

			F_{R1} [N]			
Motor	**Output shaft dxl [mm]**	**K1 [mm]**	**3000 1/min**	**1500 1/min**	**1000 1/min**	**750 1/min**
DM63	11x23	155.5	430	540	620	680
DM71	14x30	176	420	530	610	670
DM80	19x40	200	700	880	1010	1110
DM90	24x50	217	750	950	1080	1190
DM100	28x60	275	1050	1330	1520	1670
DM112	28x60	286	1520	1920	2190	2410
DA132	38x80	368.5	1670	2100	2410	2650
DA160	42x110	495	1790	2250	2580	2840
DA180	48x110	495	1870	2360	2060	2970
DA200	55x110	590.5	2820	3550	4070	4480
DA225	60x140	665.5	4910	6190	7090	7800

For selection condition formulas, see page 6/7

Selection table

Three phase motors 2 pole

Motor	Pn [kW]	n1 [1/min]	In (400V)	cos φ		η -Pn [%]	η -3/4 Pn [%]	η -1/2 Pn [%]	Ma/Mn	Ia/In	Mk/Mn	JE [kgcm²]	~kg	Brake
DM71K2	0.37	2800	1	0.83		76.4	75.8	70.7	2.4	4.2	2.7	3.5	6.4	B02
DM71G2	0.55	2800	1.3	0.83		77.5	76.6	73.7	2.9	5.0	3.0	4.6	7.2	B02
DM80K2	0.75	2830	1.65	0.82	IE2	79.3	79.3	75.8	2.8	5.8	3.3	6.8	9.4	B03/B02
DM80G2	1.1	2840	2.4	0.81	IE2	81.7	81.5	79	3.1	6.1	3.6	9.0	11	B04/B03
DM90S2	1.5	2850	3.2	0.83	IE2	81.3	81.8	79.5	2.2	5.9	3.1	13.7	13.9	B04/B03
DM90L2	2.2	2880	4.5	0.83	IE2	85.3	85.3	83	2.3	6.9	3.7	18.3	16.6	B04/B03

Three phase motors 4 pole

Motor	Pn [kW]	n1 [1/min]	In (400V)	cos φ		η -Pn [%]	η -3/4 Pn [%]	η -1/2 Pn [%]	Ma/Mn	Ia/In	Mk/Mn	JE [kgcm²]	~kg	Brake
DM63K4	0.12	1380	0.47	0.61		61.3	60.7	53.6	2.1	3	2.4	2.1	4.5	B02
DM63G4	0.18	1380	0.67	0.66		58.2	57.6	52.4	1.8	2.7	2	2.8	5.1	B02
DM71K4	0.25	1410	0.79	0.64		71.4	69.8	63.9	2.5	4.3	2.9	5.6	6.4	B02
DM71G4	0.37	1410	1.0	0.71		75.5	75.9	72.1	2.5	4.6	2.8	7.3	7.2	B02
DM80K4	0.55	1405	1.48	0.72		76.1	75.9	71.8	2.3	4.3	2.5	12.8	9.4	B03/B02
DM80GC4	0.75	1410	1.89	0.71	IE2	80.1	80.6	78.4	2.9	5.0	2.9	16.5	11	B03/B02
DM90SC4	1.1	1415	2.45	0.79	IE2	81.8	82.7	81.4	2.5	5.4	2.8	23.5	13.9	B04/B03
DM90LC4	1.5	1410	3.35	0.77	IE2	83.2	83.5	81.0	2.9	6	3.3	31.3	16.6	B04/B03
DM100LC4	2.2	1410	4.8	0.79	IE2	84.6	84.5	82.8	2.7	6.3	3.2	50	24	B05/B04
DM100LD4	3	1410	6.4	0.79	IE2	85.6	85.9	84.5	2.8	6.1	3.1	65	27	B05/B04
DM112MX4	4	1425	8.6	0.78	IE2	86.9	87.1	85.9	2.9	6.8	3.4	119	36	B06/B05
DA132S4	5.5	1455	10.9	0.83	IE2	87.7	87.9	86.3	2.6	8	3.3	180	54	B07/B06
DA132MX4	7.5	1455	14.5	0.84	IE2	88.7	88.9	87.3	2.5	8	3.2	240	68	B07/B06
DA160MS4	9.2	1470	16.9	0.88	IE2	89.3	88.9	86.5	1.9	7.2	3	520	85	B08/B07
DA160M4	11	1465	20.5	0.86	IE2	89.8	90.3	89.3	2.3	7.9	3.3	580	90	B08/B07
DA160L4	15	1465	27	0.88	IE2	90.6	90.9	90.5	2.7	8.2	3.4	780	107	B09/B08
DA180MC4	18.5	1465	34.5	0.85	IE2	91.2	91.5	91	2.7	7.8	3.3	750	112	B09/B08
DA180LC4	22	1465	41	0.85	IE2	91.6	91.7	91.2	2.8	7.9	3.4	940	124	B09
DA200L4	30	1480	54.5	0.86	IE2	92.3	92.5	91.8	3.2	8.9	3.3	2700	195	B10/B09
DA225SX4	37	1475	68	0.85	IE2	92.7	92.7	92	2.9	8.5	3.1	2880	260	B10
DA225MX4	45	1475	82	0.85	IE2	93.1	93.2	92.4	3.0	8.5	3.2	3430	300	B10
DA132MB4	7.5	1455	15	0.8	IE3	90.4	90.7	89.9	2.5	8	3.2	380	91	B07/B06
DA160MB4	11	1465	19.6	0.88	IE3	91.4	92	91.6	2.3	7.9	3.3	690	100	B08/B07
DA160LB4	15	1465	27.7	0.85	IE3	92.1	92.5	92.2	2.7	8.2	3.4	810	111	B09/B08
DA180MB4	18.5	1465	34	0.85	IE3	92.6	92.9	92.5	2.7	7.8	3.3	940	123	B09/B08
DA180LB4	22	1465	41	0.83	IE3	93	93.4	92.8	2.8	7.9	3.4	2500	179	B10/B09
DA200LB4	30	1480	54	0.86	IE3	93.6	94.0	93.4	3.2	8.9	3.3	2900	215	B10/B09
DA225SB4	37	1475	67.5	0.85	IE3	93.9	94.4	93.5	2.9	8.5	3.1	3400	295	
DA225MB4	45	1475	81.5	0.85	IE3	94.2	94.6	94.0	3.0	8.5	3.2	3750	330	

Three phase motors 6 pole

Motor	Pn [kW]	n1 [1/min]	In (400V)	cos φ		η [%]	η -3/4 Pn [%]	η -1/2 Pn [%]	Ma/Mn	Ia/In	Mk/Mn	JE [kgcm²]	~kg	Brake
DM63G6	0.12	910	0.54	0.67		57.4	53.3	45	2.7	2.8	2.8	4.2	5.1	B02
DM71K6	0.18	925	0.59	0.67		65.7	63.9	57.8	1.8	3.3	2.2	9.1	6.4	B02
DM71G6	0.25	930	0.82	0.65		68	65.5	59.4	2.1	3.3	2.4	12	7.2	B02
DM80K6	0.37	930	1.28	0.64		66.5	63.5	56.1	2.2	3.4	2.6	22	9.4	B03/B02
DM80G6	0.55	940	1.76	0.63		71	69.2	63.5	2.4	3.6	2.6	28	11	B03/B02
DM90SC6	0.75	950	2.2	0.64	IE2	76.2	75.8	71.1	1.6	2.9	1.8	37	13.9	B04/B03
DM90LC6	1.1	920	3.15	0.65	IE2	78.1	77.9	75.5	2.6	4.1	2.8	50	16.6	B04/B03
DM100LX6	1.5	950	3.95	0.68	IE2	79.8	79.6	76.2	2.3	4.5	2.7	100	25	B05/B04
DM112M6	2.2	950	5.6	0.68	IE2	82.7	82.8	80	2.5	4.8	2.6	180	36	B06/B05

Three phase motors 8 pole

Motor	Pn [kW]	n1 [1/min]	In (400V)	cos φ	η [%]	Ma/Mn	Ia/In	Mk/Mn	JE [kgcm²]	~kg	Brake
DM71K8	0.12	690	0.56	0.58	52.9	1.7	2.4	2	9.1	6.4	B02
DM71G8	0.18	670	0.78	0.62	54.9	1.7	2.4	1.9	12	7.2	B02
DM80K8	0.25	690	1.23	0.56	52.8	1.9	2.3	2.2	22	9.4	B03/B02
DM80G8	0.37	690	1.75	0.55	55.1	2.1	2.4	2.3	28	11	B03/B02
DM90L8	0.55	680	1.84	0.65	66.9	1.6	2.7	1.8	50	16.6	B04/B03
DM100L8	0.75	700	2.35	0.65	70.2	1.5	3.4	2.1	77	25	B05/B04
DM100LX8	1.1	690	3.5	0.65	69.5	1.5	3	1.9	100	25	B05/B04
DM112M8	1.5	700	4.9	0.62	71.7	1.7	3.1	1.9	180	36	B06/B05

Pn	Nominal power
n1	Nominal speed
In	Nominal current
cos φ	Power factor
η	Efficiency
Ma/Mn	Relative starting torque
Ia/In	Relative starting current
Mk/Mn	Relative pull-out torque
JE	Inertia

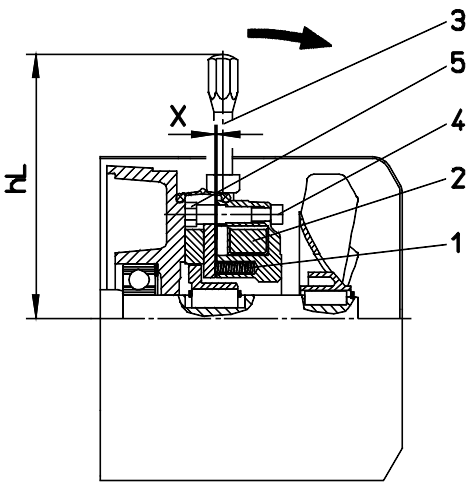
Motor options

B - Brake COMBISTOP

- spring-set twin-disc safety brake
- Protection standard: IP54
- connection via contacts in terminal box
- adjustment provision for wear of friction linings without dismantling
- torque reduction possible
- Standard voltages: 230VAC, 400VAC, 24VDC

Options:

- Manual brake release MB
- Dust- and water protection IP65



Mode of Operation

The brake is released by direct-current excitation of the brake coil (2) or by a manual release unit MB (3) which can be attached as an option. Braking is achieved in power off condition by means of spring force (1). The adjusting screws (5) are used to adjust the nominal air gap (X) in case of wear.

Technical Data

Brake	Mbr [Nm]	Mbred [Nm]		JB [kgcm²]	P20 [W]	t2 [ms]	t11~ [ms]	t11= [ms]	WR0.1 [J*10^6]	WRmax [J*10^3]	X [mm]	Xn [mm]	hL [mm]	~kg
B02	5	2.5	1.5	0.3	25	40	70	10	7.5	5.3	0.2	0.4	106	1.4
B03	10	7.5		0.7	30	55	100	15	12.5	7.5	0.2	0.5	114	2.0
B04	20	15		1.4	30	90	180	25	19.1	18	0.2	0.6	128	3.6
B05	36	27		3.5	48	110	220	25	28.0	28	0.2	0.6	168	5.7
B06	70	53		5.6	62	240	260	25	28.8	38	0.3	1.0	176	9.1
B07	100			16	65	220	400	40	35.7	49	0.3	1.0	225	15
B08	150	113		30	75	320	700	50	44.2	56	0.4	1.2	235	24
B09	250	188		75	80	350	900	60	69.0	78	0.4	1.2	256	34
B10	500	375		210	130	400	1400	100	80.0	100	0.5	1.5	335	49

Mbr	Static braking torque after completed run-in phase
Mbred	possible reduced brake torques
JB	Inertia
P20	Excitation rating at 20°C
t2	Release time, time from connecting the current to the beginning of torque decrease
t11~	Engagement delay time for AC side switching (Fig. 1,3) Time from disconnecting the current to the raise of the torque
t11=	Engagement delay time for DC side switching (Fig. 2) Time from disconnecting the current to the raise of the torque
WR0.1	friction work until 0.1mm abrasion
WRmax	permissible friction work for emergency stop from 3000 1/min (B08..B10 - 1500 1/min)
X	Nominal clearance
Xn	Clearance, at which a readjustment is recommended

The specified switching times apply to nominal clearance and nominal torque. It relates to average values and depends on the type of rectification and coil temperature.

Electrical Connection

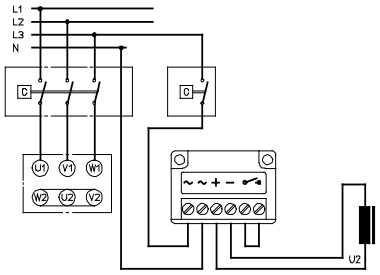


Figure 1: AC side switching

- The brake is switched independent from the motor voltage, Engagement delay time t11~
- Suitable for operation with frequency inverter

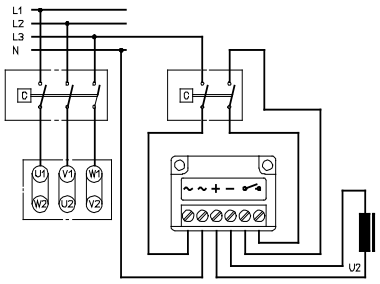


Figure 2: DC side switching

- The switching of the brake on AC and DC side leads to faster Engagement delay times t11=.

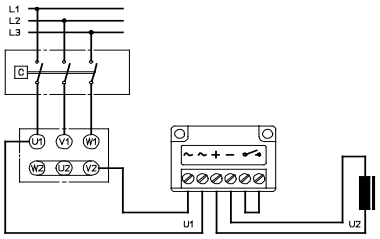


Figure 3: Brake ready for connection

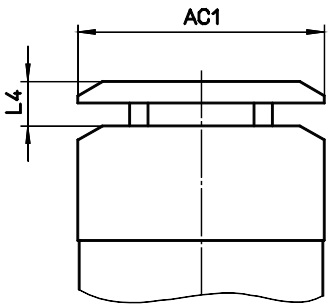
- Voltage supply from motor terminal board.
- The brake is switched together with the motor voltage, Engagement delay time t11~
- In comparison to Figure 1 the connection to the brake is made within the motor terminal box
- Not suitable for frequency inverter operation and for pole changing motors

Protection cowl

The protection cowl prevents the penetration of foreign objects or liquids when the motor is mounted in vertical position.

Motor	L4	AC1
DM63..DM80	26	122
DM90..DM112	30	176
DA132	42	230
DA160..DA225	43	240/338 1)

1) Dimension for forced ventilation



F - Forced ventilation

- Protection standard IP65
- Nominal voltage Uf=3 ~400V 50Hz // 3 ~460V 60Hz
- DM71 .. DA132: connection via contacts in terminal box
- DA160 .. DA225: The connection is in a extra terminal box mounted on the fan cowl.

Motor	If 3 ~ 400V 50Hz 3 ~ 460V 60Hz
DM71 .. DA132	0.18A
DA160 .. DA225	0.56A

If Rated current of forced ventilation

Motor protection

The following motor protection can be supplied:
TW - PTC thermistor sensor
TS - Thermorelay (closed)
KTY - KTY sensor

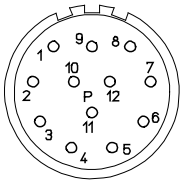
I - Incremental encoder

Standard version

Pulses/Rev.	1024
Signals	A, /A, B, /B, 0, /0
Interface	RS422 (TTL)
Supply voltage	5VDC ± 5%
Current consumption	40mA / max. 90mA
Permissible load / channel	± 20 mA
Protection standard	IP65

The encoder is mounted under the motor fan cowl for added protection

Signal connector 12pole



Counterplug optional

Pin		Signal
10	●	0V
11	●	0V Sensor
12	●	+5V
2	●	+5V Sensor
5		A
6		/A
8		B
1		/B
3		0
4		/0

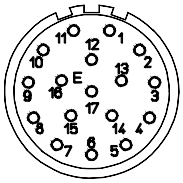
EAM - Absolute encoder multiturn

Standard version

Resolution singleturn	13bit
Resolution multiturn	12bit (4096 rev)
Code type	SSI-Gray-Code
Sin/Cos-periods	2048ppr 1Vpp
Supply voltage	5VDC ± 5%
Current consumption	max. 70mA
Permissible load / channel	± 20 mA
Protection standard	IP65
Encoder system position KEB F5-Multi	ec02 = 0

The encoder is mounted under the motor fan cowl for added protection

Signal connector 17pole



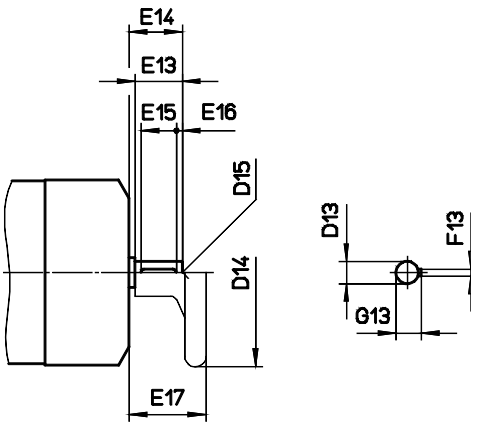
Counterplug optional

Pin	Signal
10	0V
7	+5V
8	clock
9	/clock
14	data
17	/data
1	set
2	dir
15	A
16	/A
12	B
13	/B

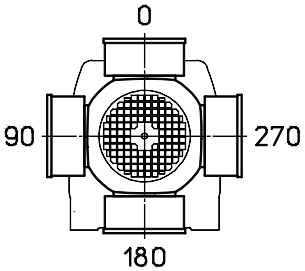
Second shaft end WE and handwheel

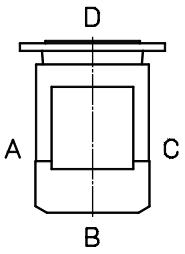
The second shaft end can be used for fixing a handwheel or for radial force free transmission of the motor torque.
If radial forces apply to the second shaft end, please consult the manufacturer.

	D13	D14	D15	E13	E14	E15	E16	E17	F13	G13
DM63 DM71	11	100	M4	23	28	18	2.5	46	4	12.5
DM80	14	100	M5	30	35	25	2.5	52	5	16
DM90	19	160	M6	40	45	32	4	66	6	21.5
DM100 DM112	24	160	M8	50	55	40	5	75	8	27
DA132	32	225	M12	80	85	70	5	108	10	35
DA160	38	225	M12	80	90	70	5	113	10	41
DA180 DA200 DA225	42	280	M16	110	120	100	5	144	12	45



Position of terminal box





Example: 270C is for terminal box at 270
Cable lead in C

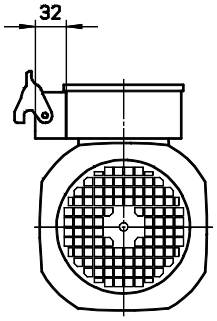
The position of other motor options (manual brake release, connection of forced ventilation, connection of encoder) is specified with the same method, independently, if different from position of terminal box.

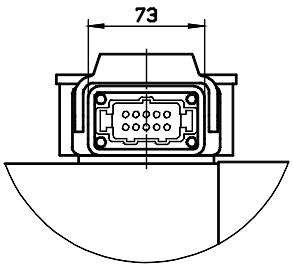
Example: 90A, Manual brake release 270

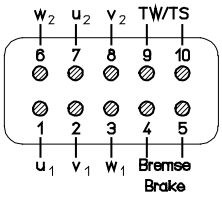
Cable lead in

	normal	Brake or TW/TS or Forced ventilation	Brake + TW/TS or Brake + Forced ventilation or Forced ventilation + TW/TS	Brake + TW/TS + Forced ventilation
DM63..DM112	1xM25	2xM25	2xM25+1xM16	1xM25+3xM16
DA132	2xM32	2xM32	2xM32+1xM16	2xM32+1xM16
DA160..DA180	2xM40	2xM40	2xM40+1xM16	2xM40+1xM16
DA225	2xM50	2xM50	2xM50+1xM16	2xM50+1xM16

Plug connector HAN 10ES





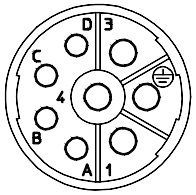


System: HAN 10ES (Harting)
Umax=500VAC, Imax = 16A

Forced ventilation, incremental encoder or brake with manual release are mounted 90° or 270° to the plug connector.

Plug connector M23

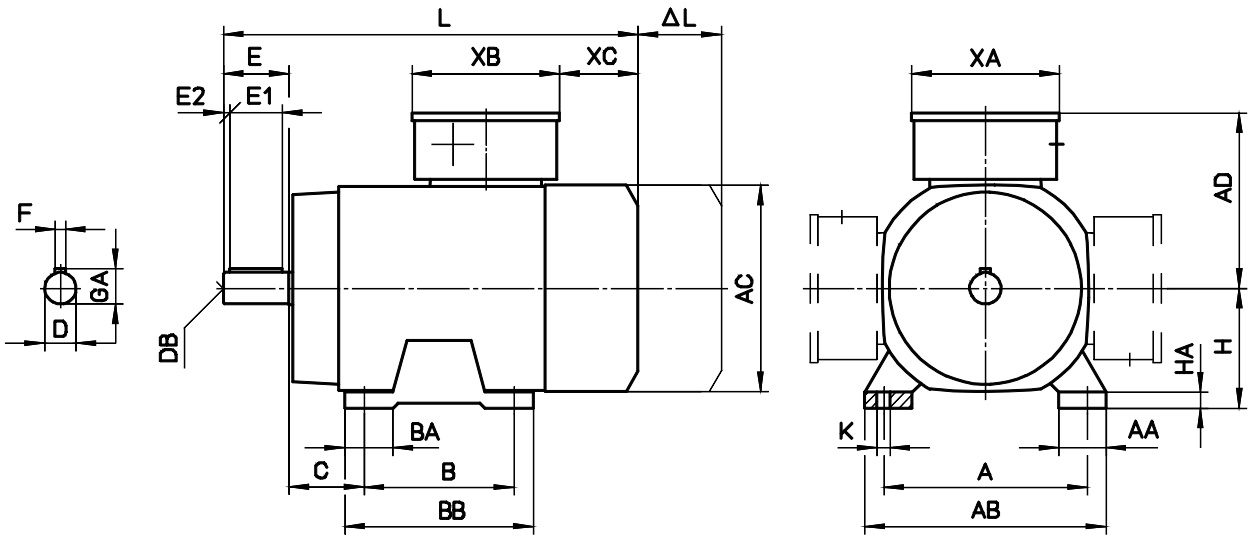
Motors: DM63..DM112

Power connector Size 1, 8pole 1)	Pin	Signal
	1	U
	⏚	PE
	3	W
	4	V
	A	Brake +
	B	Brake -
	C	TW
	D	TW

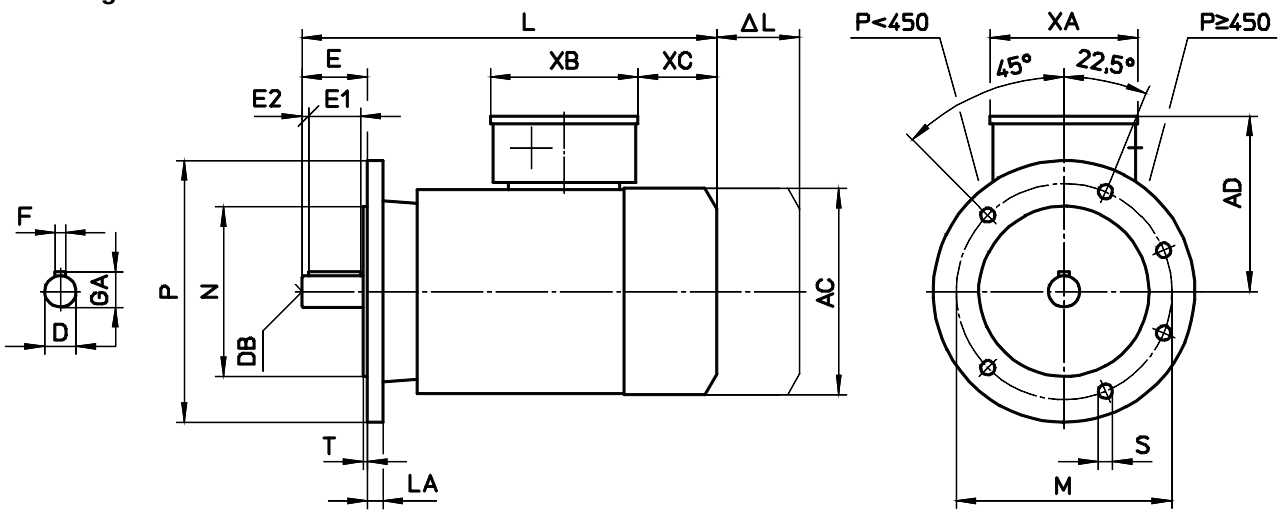
1) Counterplug optional
Brake: Umax=250V

Dimensions

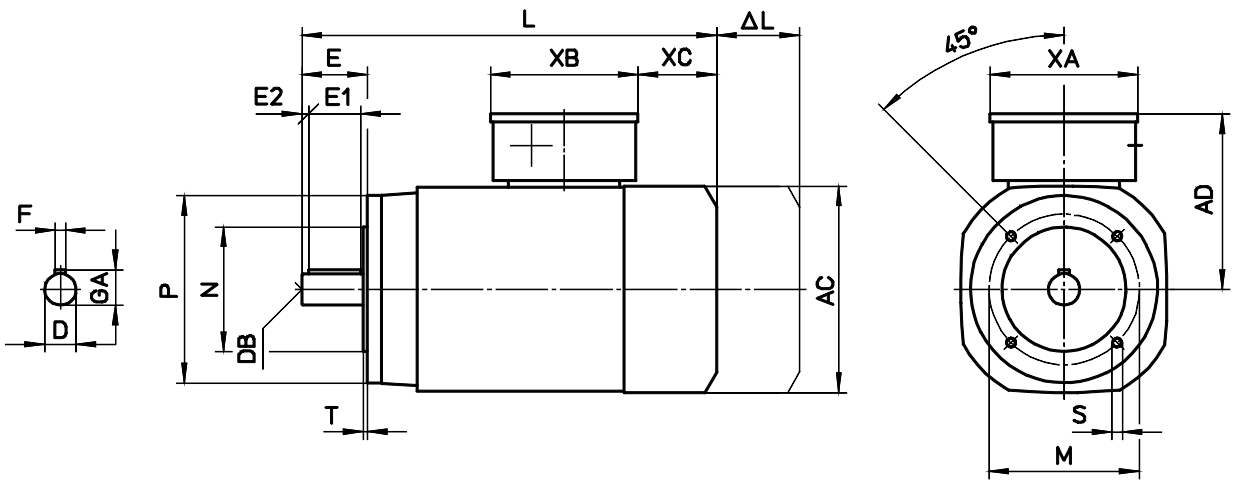
B3 - Foot mounted version



B5 - Flange mounted version



B14 - Flange mounted version



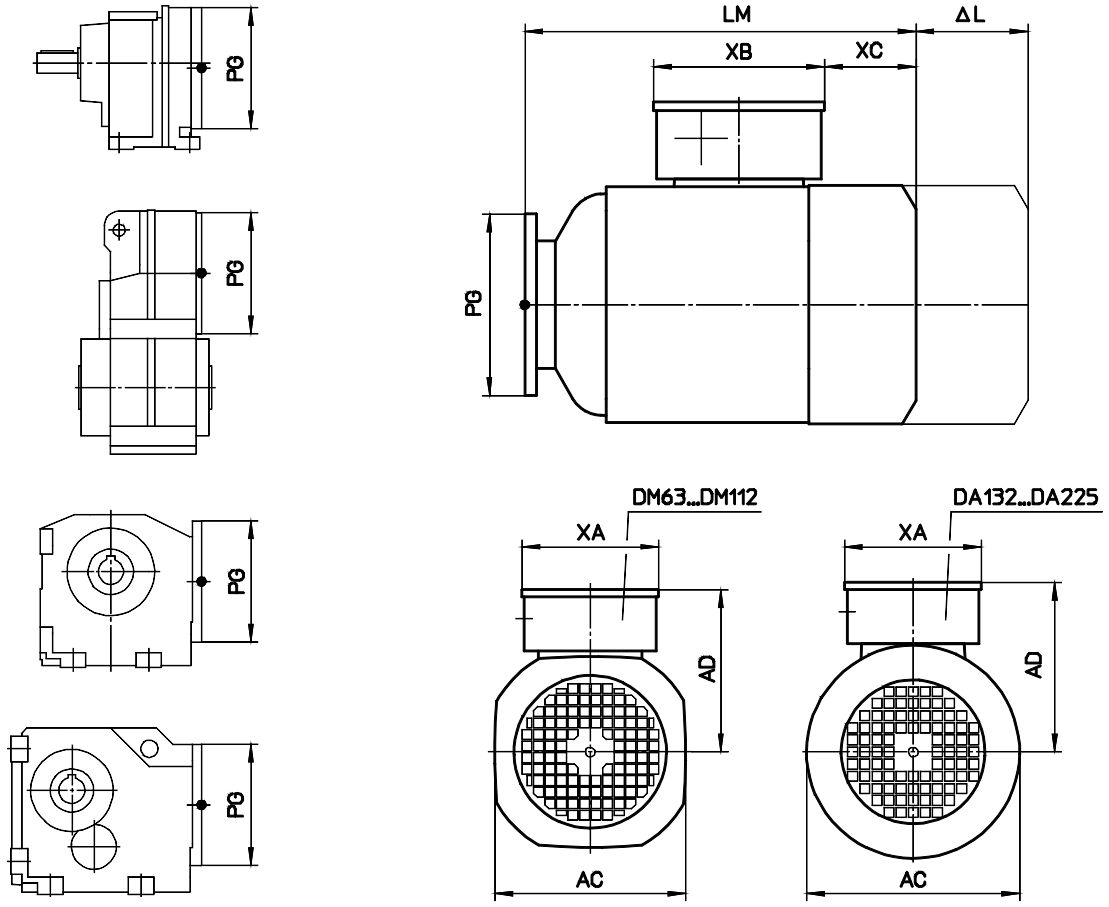
	DM63	DM71	DM80	DM90S DM90L	DM100	DM112	DA132S DA132MX	DA132MB	DA160M DA160L	DA180MC/MB DA180LC	DA180LB	DA200L/LB	DA225SX/SB DA225MX/MB
B3													
A		112	125	140	160	190	216	216	254	279	279	318	356
AA		21	24	24	30	32	55	55	69	85	74	100	87
AB		132	150	165	190	220	256	256	320	352	352	403	440
B		90	100	100 125	140	140	140 178	178	210 254	241/241 279	279	305	286/286 311/311
BA		-	-	-	-	-	50	50	62	75	75	95	70
BB		102	120	125 150	168	175	180 218	218	260 304	300/300 338	338	380	341/341 366/366
C		45	50	56	63	70	89	89	108	121	121	133	149
H		71	80	90	100	112	132	132	160	180	180	200	225
HA		5	5	5	6	6	18.5	18.5	22	22	22	27	35
K		Ø7	Ø10	Ø10	Ø12	Ø12	Ø12	Ø12	Ø14	Ø14	Ø14	Ø18	Ø18
B5													
LA		10	10	10	11	11	12	12	13	13	13	15	16
M		130	165	165	215	215	265	265	300	300	300	350	400
N		110	130	130	180	180	230	230	250	250	250	300	350
P		160	200	200	250	250	300	300	350	350	350	400	450
S		Ø10	Ø11	Ø12	Ø14	Ø14	Ø14	Ø14	Ø18	Ø18	Ø18	Ø18	Ø18
T		3.5	3.5	3.5	4	4	4	4	5	5	5	5	5
B14G													
M		Ø115	Ø130	Ø130	Ø165	Ø165							
N		Ø95	Ø110	Ø110	Ø130	Ø130							
P		Ø140	Ø160	Ø160	Ø200	Ø200							
S		M8	M8	M8	M10	M10							
T		3	3.5	3.5	3.5	3.5							
B14K													
M	Ø75	Ø85	Ø100	Ø115	Ø130	Ø130							
N	Ø60	Ø70	Ø80	Ø95	Ø110	Ø110							
P	Ø90	Ø105	Ø120	Ø140	Ø160	Ø160							
S	M5	M6	M6	M8	M8	M8							
T	2.5	2.5	3	3	3.5	3.5							

D	11k6	14k6	19k6	24k6	28k6	28k6	38k6	38k6	42k6	48k6	48k6	55m6	60m6
DB	M4	M5	M6	M8	M10	M10	M12	M12	M16	M16	M16	M20	M20
E	23	30	40	50	60	60	80	80	110	110	110	110	140
E1	16	22	32	40	50	50	70	70	100	100	100	100	125
E2	3.5	4	4	5	5	5	5	5	5	5	5	5	7.5
F	4	5	6	8	8	8	10	10	12	14	14	16	18
GA	12.5	16	21.5	27	31	31	41	41	45	51.5	51.5	59	64

AC	110	124	140	158	178	198	245	256.5	311	311	356	356	356
AD	113.5	122	129	136.5	145.5	155.5	188	193	250	250	291	291	299
XA	113	113	113	113	113	113	117	117	140	140	226	226	226
XB	113	113	113	113	113	113	142	142	140	140	226	226	226
XC	45.5	56.5	54	60	73	72.5	143.5 194.5	88	107.5	107.5/346.5 346.5	200	230/260	230/300 230/330
L	210.5	238.5	268	292 317	360.5	374	485 536	520	627	627/657 657	688	738/768	798/838 828/898
ΔL													
B	59	57	66	74	79	86	99	99	120	120	139	139/129	119/-
RS	0	0	0	0	0	0	0	0	120	120	139	139/129	119/-
I	56	56	56	56	56	56	96	96	96	96	96	96	96
EAM	82	87	95	105	119	124	96	96	96	96	96	96	96
F		90	93	98	106	113	99	99	151	151/121 121	154	154/264	264/194 294/194
B I	115	113	122	130	135	142	195	195	216	216	235	235/225	215/-
B EAM	141	144	161	179	198	210	195	195	216	216	235	235/225	215/-
B F		135	143	170	187	199	156	156	286	286/256 256	294	294/264	284/- 254/-
F I		135	143	140	139	149	156	156	286	286/256 256	294	294/264	284/245 254/245
F EAM		168	170	170	187	199	156	156	286	286/256 256	294	294/264	284/245 254/245
B F I		183	190	194	214	226	273	273	286	286/271 271	294	294/284	284/- 254/-
B F EAM		213	220	236	247	262	273	273	286	286/271 271	294	294/284	284/- 254/-

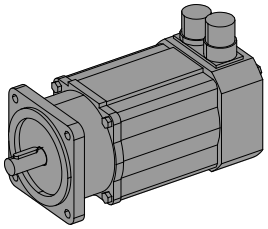
B Brake
I Incremental encoder
F Forced ventilation

RS Backstop
EAM Absolute encoder multiturn

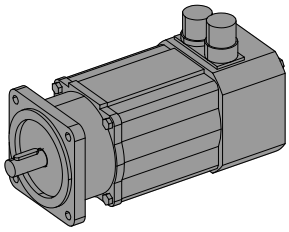


	DM63	DM71	DM80	DM90S DM90L	DM100	DM112	DA132S DA132MX	DA132MB	DA160	DA180MC/MB DA180LC	DA180LB DA200L/LB	DA225SX/SB DA225MX/MB	PG	**Gear unit**
AC	110	124	140	158	178	198	245	256.5	311	311	356	356		
AD	113.5	122	129	136.5	145.5	155.5	188	193	250	250	291	299		
XA	113	113	113	113	113	113	117	117	140	140	226	226		
XB	113	113	113	113	113	113	142	142	140	140	226	226		
XC	45.5	56.5	54	60	73	72.5	143.5 194.5	88	107.5	107.5 346.5	200 230/260	230/300 230/330		
LM	202	224.5	245.5										105	**G0, S0, K0**
	201	224.5	244.5	258 283	320								120	**G1, S1, F2, K1, K2**
	198	220.5	241.5	253 278	314.5	334.5							140	**G2, S2, F3, K3**
	198.5	220	242	253.5 278.5	314.5	333.5	435 486	484					160	**G3, S3, F4, K4**
		216.5	237.5	251 276	309.5	329	431.5 482.5	480.5	539.5				200	**G4, S4, F5, K5**
			232.5	246 271	303.5	324	428 479	477	532	532 562	589 639/669		250	**G5, F6, K6**
				239 264	299.5	317	421 472	470	526	526 556	583 633/663		300	**G6, F7, K7**
					294.5	312	413 464	462	522	522 552	577.5 627.5/657.5	657.5/697.5 687.5/757.5	350	**G7, F8, K8**
							396.5 447.5	445.5	503.5	503.5 533.5	560.5 610.5/640.5	640.5/680.5 670.5/740.5	400	**G8, K9**
									491.5	491.5 521.5	548 598/628	628/668 658/728	450	**G9**

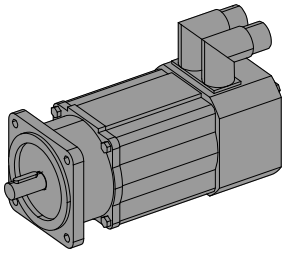
Servo motors TA



Encoder system ER
Resolver
Plug connector radial
Example: TA21 VD0 ER TW



Encoder system EAS
Absolute encoder singleturn
Plug connector radial
Example: TA52 V30 EAS TW



Encoder system EAM
Absolute encoder multiturn
Right angle plug connector, turnable
Example: TA41 V40 EAM TW

Technical characteristics

AC servo-motor, suitable for frequency inverter F5-Multi
Standard version:

- Protection standard IP54 (Motor), IP55 (Geared motor)
- Insulation class 155
- PTC thermistor sensor
- Nominal voltage Un=400V
  optional for motors TA2, TA3 and TA4: Nominal voltage Un=230V
- Number of poles: TA2 4-pole, TA3..TA6 6-pole

Options:

- UL-Version

The motors correspond to the following standards:

DIN EN 60034	Rotating electrical machines, rating and performance.
DIN 42948	Mounting flanges for electrical machines

Nominal torque Mn

The values given in the tables are valid for the following conditions:

- Duty cycle S1
- Maximum ambient temperature +40°C

  reduced motor torque at ambient temperature 40°C < θ ≤ 80°C: $Mth = Mn \cdot \left(\frac{145°C - \theta}{105°C} \right)$

- Installation altitude up to 1000m above mean sea level

selection conditions at periodical load

$$Ma = \sqrt{\frac{1}{t} \cdot \sum_i M_{ai}^2 \cdot ti} \le Mn$$

$$Mamax = \max(M_{ai}) \le Mmax$$

Mn	[Nm]	Nominal torque Servo motor
Mmax	[Nm]	Maximum torque Servo motor
Ma	[Nm]	Actual average load torque
Mamax	[Nm]	Maximum load torque
Mai	[Nm]	Load torque of cycle i
ti	[s]	Duration of cycle i
t	[s]	Total time $t = \sum_i ti$

Permissible Radial Forces for the Output Shaft

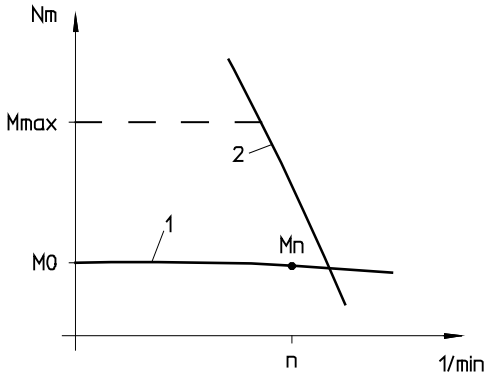
			F_{R1} [N]				
Motor	**Output shaft dxl [mm]**	**K1 [mm]**	**1500 1/min**	**2000 1/min**	**3000 1/min**	**4500 1/min**	**6000 1/min**
TA2	11x23	166	370	340	300	260	240
TA3	14x30	196	410	380	330	290	260
TA4	19x40	261.5	690	630	550	480	440
TA5	24x50	296.5	1040	950	830	720	660
TA6	32x58	401	1390	1260	1100	960	870

For selection condition formulas, see page 6/7

Selection table

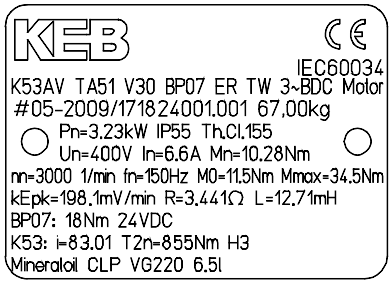
						400V					230V				
Motor	**M0 [Nm]**	**Mn [Nm]**	**Mmax [Nm]**	**~kg**	**Jm [kgcm²]**	**V**	**I0 [A]**	**R_u-v [Ω]**	**L_u-v [mH]**	**kEpk [mV*min]**	**V**	**I0 [A]**	**R_u-v [Ω]**	**L_u-v [mH]**	**kEpk [mV*min]**
1500 1/min						V10									
TA61	**34.5**	31.5	103.5	33	77.71	V10	11.1	2.323	19.302	278.64					
TA62	**50**	44	150	44	113.71	V10	16.4	1.200	12.356	273.51					
TA63	**64**	55	192	54	149.7	V10	21.5	0.783	8.867	267.65					
TA63 F	**90**	82	192	57	149.7	V10	30	0.783	8.867	267.65					
2000 1/min															
TA41	**6.9**	6.6	20.7	7.5	5.65	V20	3.15	13.812	32.931	198.16	VB0	6.2	3.601	8.499	100.46
TA42	**9.2**	8.6	27.6	10.3	8.15	V20	4.0	8.388	23.631	205.81	VB0	8.0	2.096	5.905	102.86
TA43	**11.7**	10.8	35.1	13	10.65	V20	5.00	5.554	18.360	209.53	VB0	10.4	1.309	4.278	101.12
TA51	**11.5**	10.8	34.5	13.3	14.9	V20	5.00	7.336	27.341	205.42					
TA52	**16.1**	14.7	48.3	16.7	21.53	V20	6.9	4.114	19.124	210.74					
TA53	**20**	17.7	60	21	28.15	V20	8.7	2.553	13.752	206.64					
TA61	**34.5**	30	103.5	33	77.71	V20	15.1	1.259	10.558	206.20					
TA62	**50**	41	150	44	113.71	V20	22.5	0.649	6.638	200.37					
TA63	**64**	50	192	54	149.7	V20	29.5	0.413	4.687	194.54					
TA63 F	**90**	75	192	57	149.7	V20	41.5	0.413	4.687	194.54					
3000 1/min															
TA31	**1.5**	1.45	4.5	3.5	0.82	V30	1.10	83.179	43.928	122.73	VC0	2.20	20.355	10.899	60.90
TA32	**2.75**	2.55	8.25	4.7	1.51	V30	1.85	31.805	26.072	133.55	VC0	3.70	7.961	6.521	66.80
TA33	**3.9**	3.55	11.7	5.9	2.19	V30	2.60	17.874	17.906	135.88	VC0	5.2	4.416	4.372	67.18
TA41	**6.9**	6.3	20.7	7.5	5.65	V30	4.45	6.995	16.493	139.96	VC0	9.1	1.674	3.919	68.26
TA42	**9.2**	8.1	27.6	10.3	8.15	V30	5.9	3.727	11.042	140.55	VC0	11.8	0.955	2.761	70.28
TA43	**11.7**	10.1	35.1	13	10.65	V30	7.3	2.611	8.735	144.54	VC0	14.6	0.654	2.183	72.25
TA51	**11.5**	10.2	34.5	13.3	14.9	V30	7.4	3.441	12.710	140.06					
TA52	**16.1**	13.5	48.3	16.7	21.53	V30	10.3	1.815	8.498	140.47					
TA53	**20**	16.1	60	21	28.15	V30	12.8	1.279	6.390	140.83					
TA61	**34.5**	26	103.5	33	77.71	V30	21.5	0.635	5.256	145.43					
TA62	**50**	33	150	44	113.71	V30	31.0	0.345	3.515	145.89					
TA63	**64**	37	192	54	149.7	V30	39.5	0.232	2.637	145.90					
TA63 F	**90**	55	192	57	149.7	V30	55	0.232	2.637	145.90					
4500 1/min															
TA21	**0.85**	0.82	2.55	2.5	0.37	V40	0.90	81.799	52.994	85.00	VD0	1.82	18.721	12.832	41.96
TA22	**1.55**	1.45	4.65	3.3	0.7	V40	1.52	29.433	30.423	91.72	VD0	3.05	6.723	7.491	45.49
TA31	**1.5**	1.41	4.5	3.5	0.82	V40	1.57	41.481	21.871	86.17	VD0	3.15	10.245	5.341	42.63
TA32	**2.75**	2.4	8.25	4.7	1.51	V40	2.70	14.624	12.177	91.28	VD0	5.4	3.753	3.044	45.64
TA33	**3.9**	3.25	11.7	5.9	2.19	V40	3.80	8.226	8.252	92.23	VD0	7.5	2.131	2.139	46.96
TA41	**6.9**	5.7	20.7	7.5	5.65	V40	6.5	3.165	7.611	95.05	VD0	13.3	0.760	1.835	46.73
TA42	**9.2**	7.1	27.6	10.3	8.15	V40	8.5	1.766	5.295	97.35	VD0	17.0	0.446	1.324	48.68
TA43	**11.7**	8.6	35.1	13	10.65	V40	11.2	1.120	3.690	93.94	VD0	24.5	0.233	0.786	43.36
TA51	**11.5**	9	34.5	13.3	14.9	V40	11.0	1.521	5.679	93.88					
TA52	**16.1**	11.3	48.3	16.7	21.53	V40	15.8	0.828	3.594	91.40					
TA53	**20**	10.4	60	21	28.15	V40	19.2	0.513	2.839	93.84					
6000 1/min															
TA21	**0.85**	0.81	2.55	2.5	0.37	V60	1.14	50.88	32.935	67.30	VF0	2.30	12.614	8.107	33.46
TA22	**1.55**	1.39	4.65	3.3	0.7	V60	1.98	17.821	17.866	70.32	VF0	4.05	4.373	4.304	34.52
TA31	**1.5**	1.35	4.5	3.5	0.82	V60	1.98	25.718	13.751	68.16	VF0	3.95	6.354	3.437	34.08
TA32	**2.75**	2.15	8.25	4.7	1.51	V60	3.60	8.126	6.976	69.16	VF0	6.9	2.097	1.859	35.70
TA33	**3.9**	2.75	11.7	5.9	2.19	V60	5.00	4.701	4.813	70.44	VF0	10.0	1.175	1.203	35.22

n	Nominal speed
M0	Stall torque
Mn	Nominal torque S1
Mmax	Maximum torque
~kg	Weight
Jm	Inertia
V	Type of motor winding
I0	Current at stall torque
R_u-v	Winding resistance
L_u-v	Winding inductance
kEpk	Voltage constant, Peak value mV*min = V/(1000 1/min) Effektive value $kE = kEpk/\sqrt{2}$
nmax	Maximum speed n≤2000 1/min → nmax=3000 1/min n=3000 1/min → nmax=4500 1/min n≤6000 1/min → nmax=6000 1/min

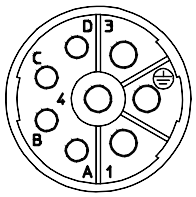


1 - Characteristic curve for S1-duty cycle
2 - Voltage limit curve 400V or 230V

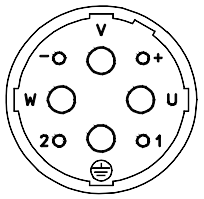
Rating plate (Example)



Electrical Connection
Motor TA2..TA5

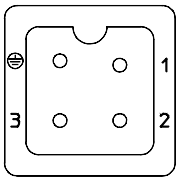
Power connector Size 1, 8pole 1)	Pin	Signal
	1	U
	⏚	PE
	3	W
	4	V
	A	Brake +
	B	Brake -
	C	TW
	D	TW

Motor TA6

Power connector Size 1.5, 8pole 1)	Pin	Signal
	U	U
	V	V
	W	W
	⏚	PE
	+	Brake +
	-	Brake -
	1	TW
	2	TW

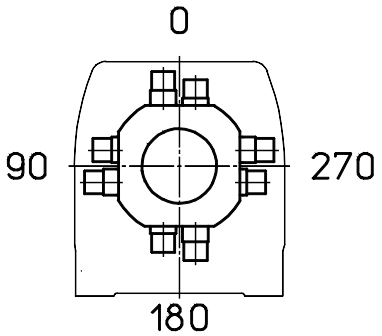
2) Counterplug optional

F – Forced ventilation

Power connector 4pole 2)	Pin	Signal
	1	U
	2	V
	3	W
	⏚	PE

Voltage/Frequency: 3 ~ 400V 50Hz
Rated current of forced ventilation: 0.14A
2) Counterplug included

Position of motor connection for geared motors



Example: Motor connection 90, Plug connector radial

Motor options

Brake COMBIPERM

- Permanent magnet holding brake with emergency-stop-function
- Standard voltages: 24VDC
- Insulation class: F

Connection with power connector

Technical Data

Motor	Brake	Mbr [Nm]	JB [kgcm²]	P20 [W]	t2 [ms]	t1= [ms]	t11= [ms]	WR0.1 [J*10^6]	WRmax [J*10^3]	~kg
TA2	**BP03**	2	0.068	11	25	8	2	0.41	5.3	0.2
TA3	**BP05**	4.5	0.18	12	35	15	2.5	0.58	8.0	0.4
TA4	**BP06**	9	0.54	18	40	20	2	0.89	11	0.6
TA5	**BP07**	18	1.66	24	60	30	5	1.29	14	1.0
TA6	**BP08**	36	5.56	26	100	25	5	2.90	30	2.0

Mbr	Static braking torque after completed run-in phase (20°C)
JB	Inertia
P20	Excitation rating at 20°C
t2	Release time, time from connecting the current to the beginning of torque decrease
t1=	Engaging time: Time from disconnecting of current until the rated torque is attained
t11=	Engaging delay time: Time from disconnecting of current until the torque rises
WR0.1	friction work until 0.1mm abrasion
WRmax	permissible friction work for emergency stop from 3000 1/min

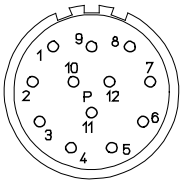
The specified switching times apply to nominal clearance and nominal torque. It relates to average values and depends on the type of rectification and coil temperature.

Encoder system

ER – Resolver

Type	BRX 2-pole
Voltage	7Vrms
Frequency	10kHz
Transformation factor	0.5
Encoder system position	
KEB F5-Multi	ec02 = 57344

Signal connector 12pole



Counterplug optional

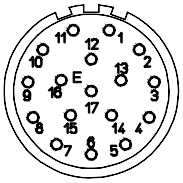
Pin	Signal
1	/sin
2	/cos
5	/sin-ref
7	sin-ref
10	sin
11	cos

EAS – Absolute encoder singleturn
EAM - Absolute encoder multiturn

Standard version

Resolution singleturn	13bit
Resolution multiturn	12bit (4096 rev)
Code type	SSI-Gray-Code
Sin/Cos-periods	2048ppr 1Vpp
Supply voltage	5VDC ± 5%
Current consumption	max. 70mA
Permissible load / channel	± 20 mA
Protection standard	IP65
Encoder system position	
KEB F5-Multi	ec02 = 0

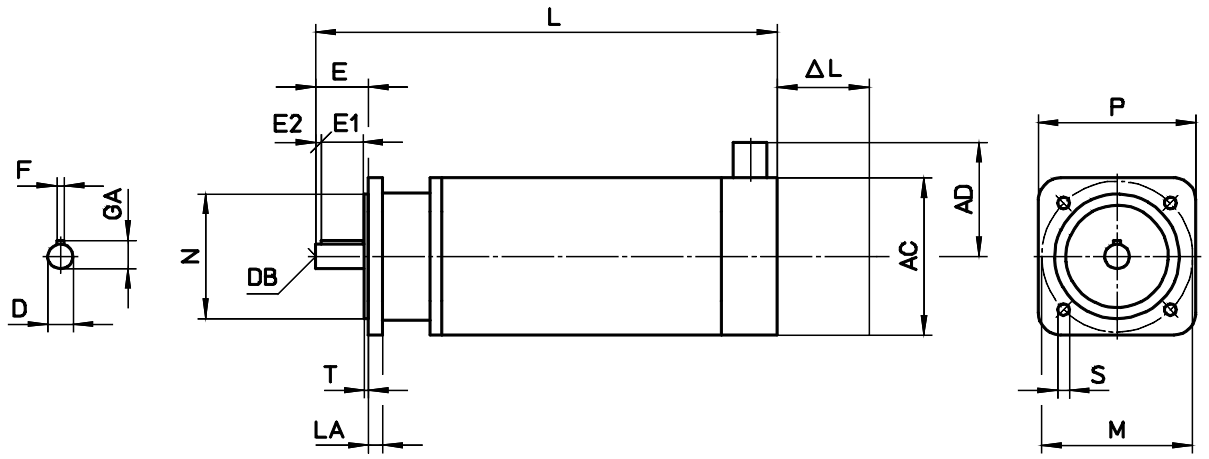
Signal connector 17pole



Counterplug optional

Pin	Signal
10	0V
7	+5V
8	clock
9	/clock
14	data
17	/data
15	A
16	/A
12	B
13	/B

Dimensions



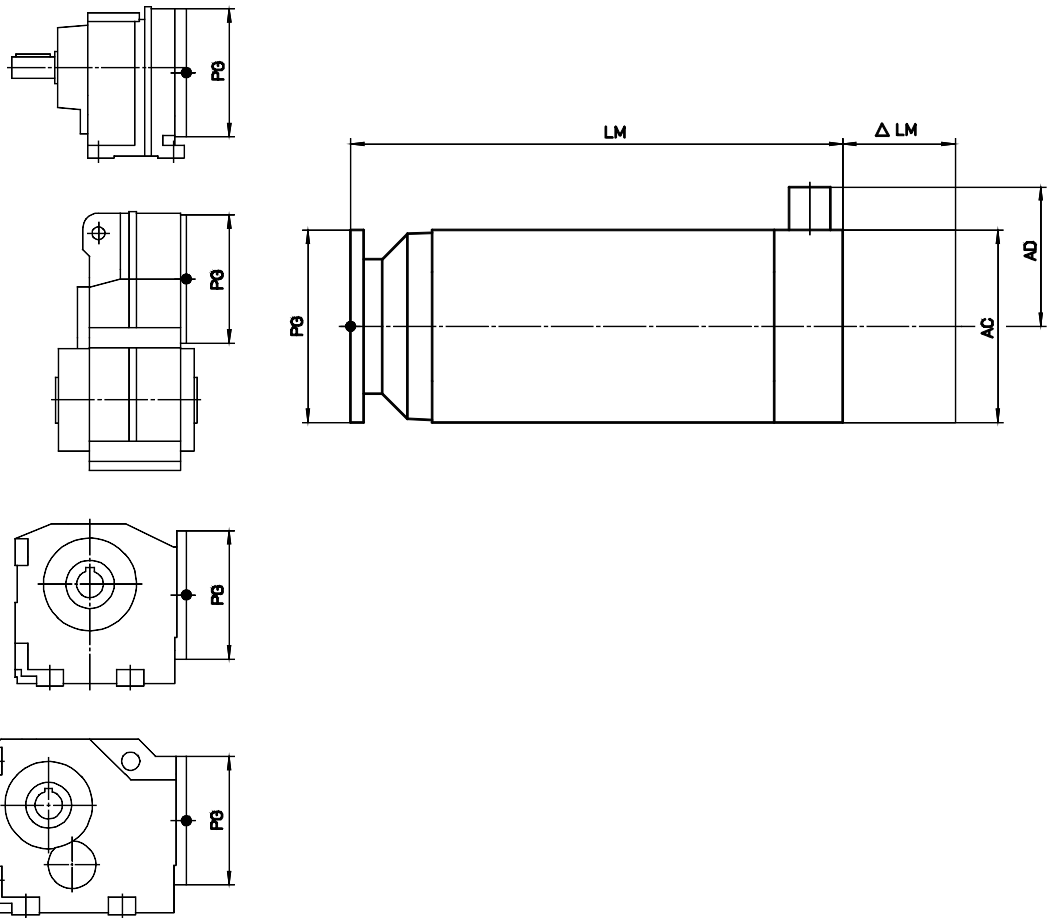
	TA21/TA22	TA31/TA32/TA33	TA41/TA42/TA43	TA51/TA52/TA53	TA61/TA62/TA63	TA63 F
LA	8	10	11	12	14	14
M	Ø75	Ø100	Ø115	Ø165	Ø215	Ø215
N	Ø60	Ø80	Ø95	Ø130	Ø180	Ø180
P	73	88	115.5	145	190	190
S	5.8	7	9	11	14	14
T	2.5	3	3	3.5	4	4

D	Ø11k6	Ø14k6	Ø19k6	Ø24k6	Ø32k6	Ø32k6
DB	M4	M5	M6	M8	M12	M12
E	23	30	40	50	58	58
E1	16	22	32	40	50	50
E2	3.5	4	4	5	4	4
F	4	5	6	8	10	10
GA	12.5	16	21.5	27	35	35

AC	75	90	120	150	182	200
AD	77	84.5	99.5	114.5	144	144
L	186/221	211.5/246.5/281.5	281/316/351	323/358/393	425/495/565	748
ΔL1	25	35	35	35	40	40
ΔL2	20	20	20	20	20	0
ΔL3	45	55	55	55	60	40

L	ER
L+ΔL1	BP ER
L+ΔL2	EAS or EAM
L+ΔL3	BP EAS or BP EAM

ER	Resolver
BP	Permanent magnet brake
EAS	Absolute encoder singleturn
EAM	Absolute encoder multiturn



	TA31/TA32/TA33	TA41/TA42/TA43	TA51/TA52/TA53	TA61/TA62/TA63	TA63 F
AC	90	120	150	182	200
AD	84.5	99.5	114.5	144	144
LM	172/207/242				
	171/206/241	235.5/270.5/305.5			
	168/203/238	231.5/266.5/301.5	257/292/327		
	167.5/202.5/237.5	231/266/301	257.5/292.5/327.5	356/426/496	679
		227.5/262.5/297.5	255/290/325	351.5/421.5/491.5	574
			250/285/320	346.5/416.5/486.5	669.5
			243/278/313	339.5/409.5/479.5	662.5
				334.5/404.5/474.5	657.5
ΔLM1	35	35	35	40	40
ΔLM2	20	20	20	20	0
ΔLM3	55	55	55	60	40

PG	Gear unit
105	**G0, S0, K0**
120	**G1, S1, F2, K1, K2**
140	**G2, S2, F3, K3**
160	**G3, S3, F4, K4**
200	**G4, S4, F5, K5**
250	**G5, F6, K6**
300	**G6, F7, K7**
350	**G7, K8**

LM	ER
LM+ΔLM1	BP ER
LM+ΔLM2	EAS or EAM
LM+ΔLM3	BP EAS or BP EAM

ER	Resolver
BP	Permanent magnet brake
EAS	Absolute encoder singleturn
EAM	Absolute encoder multiturn