Transmax

HELICAL WORM SPEED REDUCER

TS Helical Worm Gear Motor

CONTENTS

1. SUMMARIZE

TS Series helical-worm gearmotor is a new generation mechanic-electrical integrated product, which designed basing on the modular system. It can be connected respectively with motors such as common motor, brake motor, explosion-proof motor, frequency conversion motor, servo motor, IEC motor and so on. It can be mounted discretionary six orientation in solid space. This kind of product is widely used in drive fields such as textile, foodstuff, beverage, chemical industry, automatic arm ladder, automatic storage equipment, metallurgy, tobacco, environment-protection, logistics and so on.

1.1 PERFORMANCE CHARACTERISTICS

1. Transmission ratio with fine stage covers a wide range;
2. Compact structure takes up small room;
3. low vibration; low noise; low energy dissipation;
4. Deft design; reliable and wearable; wide usage;
5. Modular, multistructure, can be combined in many forms to meet needs of all kinds of transmission conditions.

TS Series helical-worm gearmotor is formde of helical-wrom gears unit and motor. The helical gear and worm use high quality alloy steel with surface hardening;the worm wheel adopts wearable tin bronze which shoped by high precision device. All housing are in cast iron. ofter precision finishing to ersure the shape and position precision,and it reaches advantageous performance such as: strong bearing capacity, long service-life; small volume; big ratio; light, high efficiency, low noise.

TS Series helical-worm gearmotor has seven models. Combined with TRF series, the multi-stage gear reduction can be achieved. Power 0.12-22KW; Ratio 6.80-33818;Torque 92-4000Nm. It can connect (foot, flange) discretionary and use multi-mounting positions according to customers' requirements.

2. PRODUCT PICTURE

TS..MY..

TSF..MY..

TSA..MY..

TSH..MY..

TSAF..MY..

TSHF..MY..

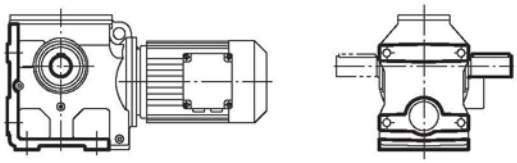
TSAZ..MY..

TSHZ..MY..

TS..AM(IEC)..

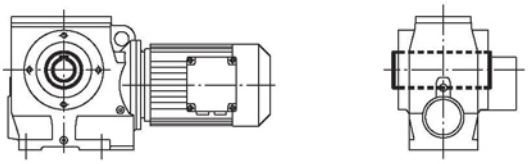
TS..AD..

2.2 Designs



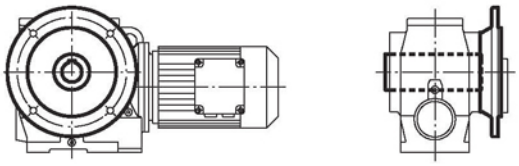
TS..MY..

Foot-mounted helical-worm geared motor



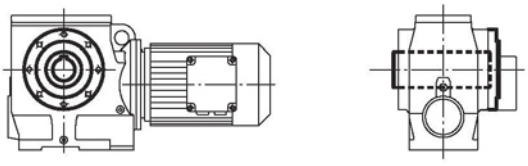
TSA..MY..

Helical-worm geared motor with hollow shaft



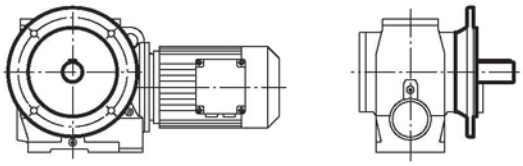
TSAF..MY..

Helical-worm geared motor in B5 flange-mounted version with hollow shaft



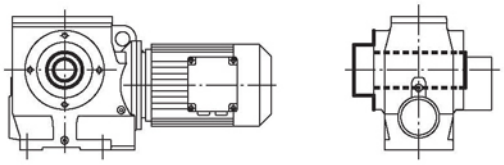
TSAZ..MY..

Helical-worm geared motor in B14 flange-mounted version with hollow shaft



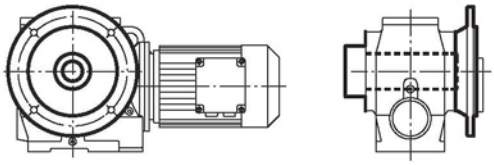
TSF..MY..

Helical-worm geared motor in B5 flange-mounted version



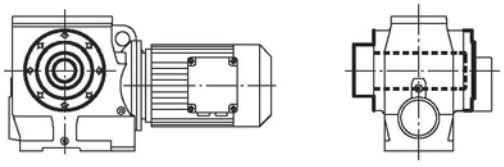
TSH..MY..

Helical-worm geared motor with hollow shaft and shrink disk



TSHF..MY..

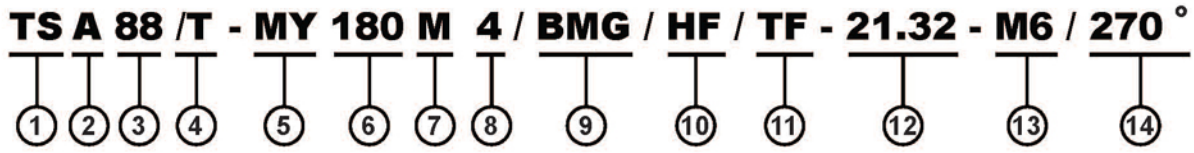
Helical-worm geared motor in B5 flange-mounted version with hollow shaft and shrink disk



TSHZ..MY..

Helical-worm geared motor in B14 flange-mounted version with hollow shaft and shrink disk

3. MODEL ILLUMINATE



No	Comments
1	**TK:** code for gear units series
2	1). no code means foot-mounted 2). **A:** hollow shaft 3). **H:** hollow shaft with shrink disk 4). **F:** B5 flange-mounted 5). **Z:** B14 flange-mounted
3	specification code of gear units 38, 48 … …
4	1) **/T:**torque arm
5	1). **MY:** motor code 2). **AM: IEC** input couplings
6	specification code of motor (high in motor centre)
7	length code of stator core **D, K, L, M, ML, N, S**
8	pole number of motor 2, 4, 6, 8
9	1). no code means no brake 2). **BMG:** brake
10	1). no code means no manual release device 2). **HF:** manual release device with self-locking function 3). **HR:** manual release device with outself-locking function
11	1). no code means no motor heat-protection device 2). **TF:** motor heat- protection device
12	transmission ratio of gear units **i**
13	**M1:** mounting positio, default mounting position **M1** not to write out is ok
14	Position diagram for motor terminal box default position **0°(R)** not to write out is ok

Example: **TS58 - MY63M4 - 158.12**
TSAF68 - AM80 - 34.80
TSA88 - MY100L4 / BMG -81.76

4. RELEVANT PARAMETER

4.1 Power P

$$P_1 = \frac{P_2}{\eta} \text{ [kW]}$$

$$P_{1n} \geqslant P_1 \cdot f_s \text{ [kW]}$$

P_1 Input power
P_2 Output power
P_{1n} Rated power driving motor
f_s Service factor
η Transmission efficiency

Values of η are calculated for gearboxes after a sufficiently long running-in period. After the running-in period the surfae temperature in operation reduces and finally stabilises. It may be worth highlighting that values of rated torque M_{2n} given in the transmission dfficiency **η into consideration.**

4.2 Rotation speed

n_1 Gear units input speed
n_2 Gear units output speed

If driven by the external gearing,1400r/min or lower rotation speed is suggested so as to optimize the working conditions and prolong the service life. Higher input rotation speed is permitted, but in this situation, the rated torque M_2 will be reduced.

4.3 Transmission ratio i

$$i = \frac{n_1}{n_2}$$

Usually transmission ratio is decimal fraction with 2 radix point tagged in selection tables.

4.4 Torque M

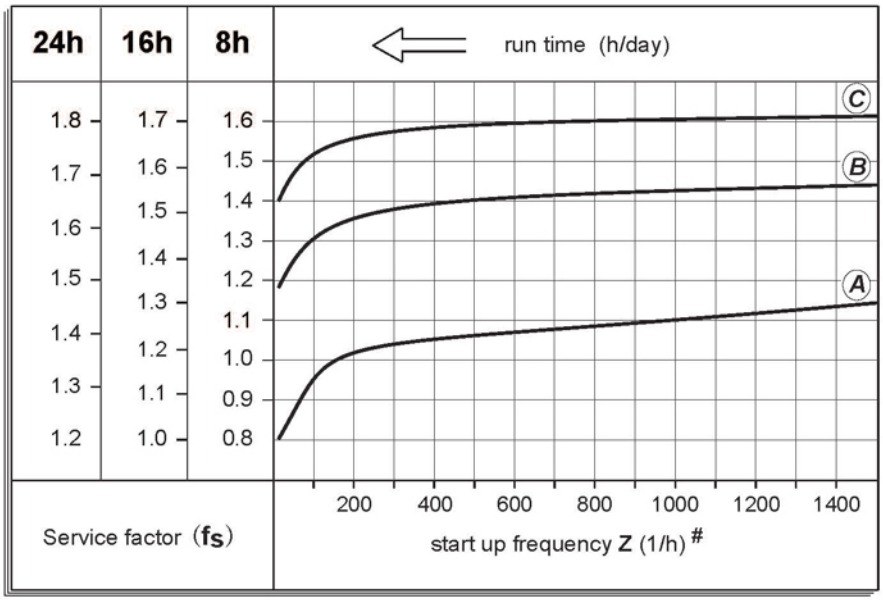
$$M_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2} \text{ [Nm]}$$

$$M_{2n} \geqslant M_2 \cdot f_s \text{ [Nm]}$$

M_2 Output torque
M_{2n} Selected output torque
P_1 Input power
η Transmission efficiency
f_s Service factor

4.5 Service factor f_s

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the service factor **fs**. The service factor is determined according to the daily operating time and the starting frequency **Z**.Three load classifications are considered depending on the mass acceleration factor. You can read off the service factor applicable to your application in following Figure. The service factor selected using this diagram must be less than or equal to the service factor as given in the performance parameter table.



starting frequency **Z**: The cycles include all starting and braking procedures as well as change overs from low to high speed.

4.5.1 load classifications

Ⓐ Uniform, permitted mass acceleration factor $f_a \leqslant 0.2$

Ⓑ Moderate shock load, permitted mass accel eration factor $f_a \leqslant 3$

Ⓒ Heavy shock load, permitted mass acceleration factor $f_a \leqslant 10$

Load classifications see the addendum

4.5.2 Mass acceleration factor

The mass acceleration factor is calculated as follows:

$$f_a = \frac{Jc}{Jm}$$

f_a Mass acceleration factor

Jc All external mass moments of inertia (kgm^2)

Jm Mass moment of inertia on the motor end (kgm^2)

If mass acceleration factors **fa** > 10, please call our Technical Service.

Service factor f_S should be adjusted as following :

1). ambient temperature is 30~40℃ : fsx (1.1~1.2)

2). ambient temperature is 40~50℃ : fsx (1.1~1.2)

3). ambient temperature is 50~50℃ : fsx (1.1~1.2)

4). ambient temperature >60℃ : Please call our Technical Serivce.

To keep the service-life of gear units, the use factor f_S selected from the catalogue must be equal or slightly higher than the calculated use factor f_S

4.6 Radial loads F_r

When determining the resulting radial loads, the type of transmission elements, mounted on the shaft end must be considered. Various transmission elements are corresponding with following transmission element factors f_Z:

Transmission element	Transmission element factor F_Z	Comments
Gears	1.00	⩾ 17 teeth
	1.15	< 17 teeth
Chain sprockets	1.00	⩾ 20 teeth
	1.25	< 20 teeth
	1.40	< 13 teeth
V Narrow V-belt pulleys	1.75	Influence of the tensile force
Flat belt pulleys	2.50	Influence of the tensile force
Toothed belt pulleys	2.50	Influence of the tensile force

The overhung loads exerted on the motor or gear shaft is then calculated as follows:

$$F_r = \frac{M \cdot 2000 \cdot f_z}{d_0} \text{ [N]}$$

F_r Resulting radial load [N]

M Torque on the shaft [Nm]

d_0 Mean diameter of the mounted transmission element in [mm]

f_z Transmission element factor

The basis for determining the permitted radial loads is the computation of the rated service life **LH10** of the bearings (according to **ISO281**). For special operating conditions, the permitted radial loads can be determined with regard to the modified service life Lna. The permitted radial loads **Fr2** for the output shafts of foot-mounted gear units with a solid shaft are listed in the selection tables. Contact our company in case of other versions.

The permitted radial loads given in the selection tables must be calculated using the following formula in the event of force application not in the center of the shaft end. The smaller of the two values F_{xL} (according to bearing service life) and F_{xW} (according to shaft strength) is the permitted value for the radial load at point **x**. Note that the calculations apply to $M_{2\ max}$.

$$F_{xL} = F_{r2} \cdot \frac{a}{b + x} \ [N]$$

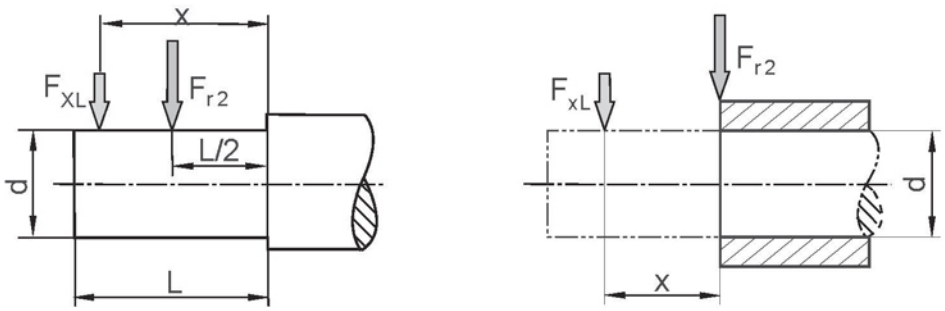
$$F_{xW} = F_{r2} \cdot \frac{c}{f + x} \ [N]$$

Fr2 Permitted overhung load (x = L/2) for foot-mounted gear units according to the selection tables in [N]

x Distance from the shaft shoulder to the force application point in [mm]

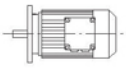
a, b, f Gear unit constant for overhung load conversion [mm]

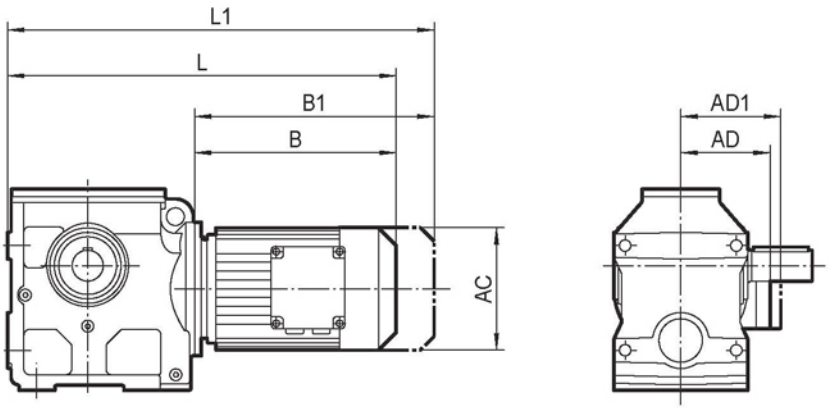
c Gear unit constant for overhung load conversion [Nmm]



Gear unit type	a [mm]	b [mm]	c [Nmm]	f [mm]	d [mm]	L [mm]
TS38	118.5	98.5	$6.0x10^4$	0	20	40
TS48	130	105	$1.33x10^5$	0	25	50
TS58	150	120	$2.14x10^5$	0	30	60
TS68	184	149	$3.04x10^5$	0	35	70
TS78	224	179	$5.26*10^5$	0	45	90
TS88	281.5	221.5	$1.68x10^6$	0	60	120
TS98	326.3	256.3	$2.54x10^6$	0	70	140

4.7 Selection tables comments

	Combination with the motor in the header row **is possible**
	Combination with the motor in the header row **is not possible**
*	Finite gear unit reduction ratio;
P_{1n}	Rated power driving motor **[kW]**;
n_2	Output speed **[r/min]**;
M_{2n}	Output torque **[Nm]**;
$M_{2\,max}$	Max. permissible output torque **[Nm]**
F_{r2}	Permissible overhung load output side [N]
i	Gear unit ratio;
f_S	Service factor;
	Gear unit type;
	Motor type;
Page	Dimension sheet page no;



L	Total length of gearmotor;
L1	Total length of gearmotor including brake;
B	Length of motor;
B1	Length of brake motor;
AC	Diameter of motor;
AD	Center of motor shaft to top part of terminal box;
AD1	Center of brake motor shaft to top part of terminal box.

5. SELECTION EXAMPLE

5.1 Geared motor

Example: The input power of driver machine is 0.5KW, n_1=1400r/min, heavy load, continuous running for 24 hours, the ambient temperature is +32°C, then choose the service factor, f_S=1.7x1.2=1.904, n_2=110r/min, M4 mounted SO:

$$i = \frac{n_1}{n_2} = \frac{1400}{110} = 12.73$$

$$P_{1n} \geq P_1 \cdot f_s = 0.5 \times 1.904 = 0.952 \text{ [kW]}$$

Choose type:

TS58 - MY90S4 - 12.10 - M4

Count output torque:

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2} = \frac{9550 \times 0.5 \times 0.88}{110}$$

$$= 38.2 \text{[Nm]}$$

$$M_{2n} = 82 \geqslant M_2 \cdot f_s = 38.2 \times 1.904 = 72.7 \text{[Nm]}$$

5.2 Gear units

Example: Required torque 300Nm on driven machine, continuous running for 8 hours, uniform loda, the ambient temperature is 30°C, then choose the service factor fs=1.2x1.1=1.32, n1=900r/min, n2=30r/min.

$$M_{2n} \geqslant M_2 \cdot f_s = 300 \times 1.32 = 396 \text{[Nm]}$$

$$i = \frac{n_1}{n_2} = \frac{900}{30} = 30$$

Choose type:

TS68 - 29.63

6. GEAR UNIT SELECTION TABLES

6.1 Possible geometrical combinations

TS..38 n_1=1400 r/min 92Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM / MY63 AM / MY71	AM80 MY80	AM90 MY90	AD..	P_1 (AD Input power)
8.9	92	3000	157.43				AD1	0.17
9.7	92	3000	144.40 *				AD1	0.19
11	91	3000	122.94				AD1	0.22
13	88	3000	106.00 *				AD1	0.23
14	87	3000	98.80 *				AD1	0.25
16	86	3000	86.36				AD1	0.27
17	85	3000	80.96				AD1	0.29
20	84	3000	71.44 *				AD1	0.31
22	82	3000	63.33				AD1	0.34
25	81	3000	55.93				AD1	0.31
26	80	3000	53.83				AD2	0.39
27	81	3000	51.30 *				AD1	0.33
32	81	3000	43.68				AD1	0.38
37	79	3000	37.66				AD1	0.43
40	78	3000	35.10 *				AD1	0.45
46	76	2870	30.68				AD1	0.49
49	75	2800	28.76				AD1	0.52
55	74	2660	25.38 *				AD1	0.57
62	73	2530	22.50 *				AD1	0.63
70	52	2470	19.89				AD1	0.47
73	71	2380	19.13 *				AD2	0.72
77	52	2380	18.24 *				AD1	0.52
90	50	2240	15.53				AD1	0.58
105	49	2110	13.39				AD2	0.66
112	48	2060	12.48 *				AD2	0.69
128	48	1940	10.91				AD2	0.78
137	47	1900	10.23				AD2	0.81
155	46	1810	9.02 *				AD2	0.90
175	45	1730	8.00 *				AD2	0.98
206	43	1630	6.80 *				AD2	1.1

TS..38/TRF18 n_1=1400 r/min 92Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80
2Stage / 3Stage					
0.14	92	3000	10037		
0.16	92	3000	8654		
0.17	92	3000	8066		
0.20	92	3000	7051		
0.23	92	3000	6079		
0.26	92	3000	5431		
0.29	92	3000	4747		
0.34	92	3000	4155		
0.39	92	3000	3632		
0.49	92	3000	2866		
0.57	92	3000	2471		
0.65	92	3000	2160		
0.74	92	3000	1887		
0.84	92	3000	1665		

TS..38/TRF18 n_1=1400 r/min — 92Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80
2Stage / 3Stage					
0.96	92	3000	1456		
1.1	92	3000	1271		
1.2	92	3000	1121		
1.4	92	3000	994		
1.6	92	3000	869		
2Stage / 2Stage					
1.8	92	3000	774		
2.1	92	3000	666		
2.3	92	3000	596		
2.7	92	3000	521		
3.1	92	3000	456		
3.5	92	3000	398		
4.0	92	3000	351		
4.6	92	3000	303		
5.3	92	3000	265		
6.0	92	3000	232		
6.9	92	3000	202		
7.8	92	3000	179		
8.9	92	3000	158		
9.7	92	3000	144		
12	92	3000	118		
13	92	3000	110		

TS..48 n_1=1400 r/min — 170Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM / MY63 AM / MY71	AM80 MY80	AM90 MY90	MY100	AD..	P_1 (AD Input power)
7.0	170	5340	201.00 *					AD1	0.24
7.6	170	5340	184.80 *					AD1	0.26
8.9	170	5340	158.12					AD1	0.30
10	168	5350	137.05					AD1	0.33
11	168	5350	128.10 *					AD1	0.35
13	168	5350	110.73					AD1	0.39
15	168	5350	94.08 *					AD1	0.45
17	167	5360	84.00 *					AD1	0.49
20	167	5360	71.75 *					AD1	0.57
20	155	5370	69.39					AD1	0.45
21	167	5360	67.20 *					AD1	0.60
22	155	5370	63.80 *					AD1	0.49
25	165	5320	56.61					AD2	0.70
26	155	5150	54.59					AD1	0.56
30	155	4850	47.32					AD1	0.64
32	155	4710	44.22 *					AD1	0.69
37	155	4430	38.23					AD2	0.79
43	155	4120	32.48 *					AD2	0.92
48	155	3920	29.00 *					AD2	1.0
57	155	3650	24.77					AD2	1.2
60	152	3570	23.20 *					AD2	1.2
69	110	3370	20.33					AD2	0.96
72	144	3370	19.54					AD2	1.4
79	110	3160	17.62					AD2	1.1

TS..48 n_1=1400 r/min 170Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM / MY63 AM / MY71	AM80 MY80	AM90 MY90	MY100	AD..	P_1 (AD Input power)
85	110	3060	16.47 *					AD2	1.2
98	110	2850	14.24					AD2	1.3
116	109	2650	12.10 *					AD2	1.5
130	109	2500	10.80 *					AD2	1.7
152	109	2310	9.23 *					AD2	2.0
162	109	2230	8.64 *					AD2	2.1
192	103	2110	7.28					AD2	2.4

TS..48/TRF18 n_1=1400 r/min 170Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80
2Stage / 3Stage					
0.11	185	5250	12909		
0.13	185	5250	11189		
0.13	185	5250	10374		
0.16	185	5250	8992		
0.18	185	5250	7860		
0.20	185	5250	6887		
0.23	185	5250	6055		
0.26	185	5250	5292		
0.30	185	5250	4637		
0.34	185	5250	4092		
0.39	185	5200	3582		
0.45	185	5200	3131		
0.52	185	5200	2714		
0.58	185	5200	2412		
0.66	185	5200	2131		
0.75	185	5200	1863		
0.84	185	5200	1663		
0.98	185	5200	1435		
1.1	185	5200	1254		
1.2	185	5200	1120		
1.3	185	5200	1083		
1.5	183	5210	956		
2Stage / 2Stage					
1.5	185	5200	965		
1.6	185	5200	865		
1.9	185	5200	750		
2.1	185	5200	655		
2.4	185	5200	574		
2.8	185	5200	506		
3.2	185	5200	438		
3.6	185	5200	388		
4.2	185	5200	336		
4.8	185	5200	294		
5.4	185	5260	257		
6.1	185	5200	229		
7.0	185	5200	200		
7.5	185	5200	187		
8.5	185	5200	165		
9.5	185	5200	148		
11	185	5200	131		

TS..58 n_1=1400 r/min 295Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM / MY63 AM / MY71	AM80 MY80	AM90 MY90	AM100 MY100	AD..	P_1 (AD Input power)
7.0	295	7130	201.00 *					AD1	0.39
7.6	295	7130	184.80 *					AD1	0.42
8.9	295	7130	158.12					AD1	0.48
10	295	7130	137.05					AD1	0.54
11	295	7130	128.10 *					AD1	0.57
13	295	7130	110.73					AD1	0.64
15	295	7130	94.08 *					AD1	0.74
17	295	7130	84.00 *					AD1	0.82
20	290	7170	71.75 *					AD2	0.94
20	245	7520	69.39					AD2	0.71
21	285	7220	67.20 *					AD2	0.99
22	245	7520	63.80 *					AD2	0.76
25	265	7370	56.61					AD2	1.1
26	245	7520	54.59					AD2	0.88
30	245	7520	47.32					AD2	1.0
32	245	7520	44.22 *					AD2	1.1
37	245	7320	38.23					AD2	1.2
43	245	6840	32.48 *					AD2	1.4
48	245	6520	29.00 *					AD2	1.6
57	245	6100	24.77					AD2	1.8
60	245	5930	23.20 *					AD2	1.9
69	168	5690	20.33					AD2	1.4
72	215	5720	19.54					AD2	2.0
79	168	5350	17.62					AD2	1.6
85	168	5200	16.47 *					AD2	1.7
98	169	4860	14.24					AD2	2.0
116	169	4520	12.10 *					AD2	2.4
130	169	4290	10.80 *					AD2	2.6
152	169	3990	9.23 *					AD2	3.1
162	166	3900	8.64 *					AD2	3.2
192	146	3790	7.28					AD2	3.3

TS..58/TRF18 n_1=1400 r/min 295Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80
2Stage / 3Stage					
0.11	330	6800	12909		
0.13	330	6800	11189		
0.13	330	6800	10374		
0.16	330	6800	8992		
0.18	330	6800	7860		
0.20	330	6800	6887		
0.23	330	6800	6055		
0.26	330	6800	5292		
0.30	330	6800	4637		
0.34	330	6800	4092		
0.39	330	6800	3628		
0.45	300	7090	3131		
0.52	300	7090	2714		
0.58	300	7090	2412		
0.66	300	7090	2131		
0.75	300	7090	1863		
0.84	300	7090	1663		

TS..58/TRF18 n_1=1400 r/min 295Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80
2Stage / 3Stage					
0.98	300	7090	1435		
1.1	300	7090	1254		
1.3	300	7090	1083		
2Stage / 2Stage					
1.5	300	7090	965		
1.6	300	7090	865		
1.9	300	7090	750		
2.1	300	7090	655		
2.4	300	7090	574		
2.8	300	7090	506		
3.2	300	7090	438		
3.6	300	7090	388		
4.2	300	7090	336		
4.8	300	7090	294		
5.2	300	7090	269		
6.1	300	7090	229		
6.9	300	7090	204		
7.5	300	7090	187		
8.5	300	7090	165		
11	300	7090	131		

TS..68 n_1=1400 r/min 520Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM / MY63 AM / MY71	AM80 MY80	AM90 MY90	AM100 MY100	AM112 MY112	AM / MY132S AM / MY132M	AD..	P_1 (AD Input power)
6.4	520	8680	217.41							AD2	0.60
7.4	520	8680	190.11							AD2	0.68
7.8	520	8680	180.60 *							AD2	0.72
8.8	520	8680	158.45							AD2	0.79
10	520	8680	134.40 *							AD2	0.92
12	520	8680	121.33							AD2	1.0
13	520	8680	106.75 *							AD2	1.1
14	520	8680	100.80 *							AD2	1.2
16	520	8680	85.83							AD2	1.3
18	520	8680	78.00 *							AD2	1.5
19	480	9020	75.06							AD2	1.2
21	520	8680	67.57							AD2	1.7
21	480	9020	65.63							AD2	1.4
22	480	9020	62.35 *							AD2	1.4
24	500	8850	58.80 *							AD3	1.9
26	480	8670	54.70							AD2	1.6
30	480	8060	46.40 *							AD2	1.9
33	480	7690	41.89							AD2	2.1
38	480	7250	36.85							AD2	2.4
40	480	7060	34.80 *							AD2	2.5
47	480	6540	29.63							AD2	2.9
52	480	6240	26.93							AD2	3.2
57	340	6040	24.44							AD2	2.3
60	480	5810	23.33							AD2	3.6
60	340	5890	23.22 *							AD2	2.5
69	340	5520	20.37							AD2	2.8
69	425	5760	20.30 *							AD3	3.7

TS..68 n_1=1400 r/min 520Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM / MY63 AM / MY71	AM80 MY80	AM90 MY90	AM100 MY100	AM112 MY112	AM / MY132S AM / MY132M	AD..	P_1 (AD Input power)
81	340	5080	17.28 *							AD2	3.3
90	340	4820	15.60 *							AD2	3.6
102	340	4510	13.73 *							AD2	4.1
108	340	4310	12.96 *							AD2	4.3
127	340	3660	11.03							AD3	5.1
140	340	3290	10.03							AD3	5.6
161	335	2860	8.69							AD3	6.4
185	295	3220	7.56 *							AD3	6.4

TS..68/TRF38 n_1=1400 r/min 520Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80	MY90	MY100
2Stage / 3Stage							
0.07	570	8190	21362				
0.07	570	8190	19594				
0.08	570	8190	18120				
0.08	570	8190	16682				
0.10	570	8190	14383				
0.11	570	8190	12774				
0.13	570	8190	11013				
0.14	570	8190	9694				
0.16	570	8190	8529				
0.19	570	8190	7455				
0.21	570	8190	6531				
0.24	570	8190	5759				
0.28	570	8190	4965				
0.32	570	8190	4410				
0.36	570	8190	3880				
0.41	570	8190	3432				
0.48	570	8190	2944				
0.53	570	8190	2630				
0.61	570	8190	2279				
0.70	570	8190	2014				
0.79	570	8190	1772				
0.90	570	8190	1559				
1.0	570	8190	1363				
1.2	570	8190	1194				
1.3	570	8190	1045				
1.5	570	8190	914				
2Stage / 2Stage							
1.7	570	8190	809				
2.0	570	8190	712				
2.3	570	8190	615				
2.6	570	8190	543				
3.0	570	8190	469				
3.3	570	8190	424				
3.8	570	8190	365				
4.4	570	8190	319				
5.0	570	8190	281				
5.7	570	8190	246				
6.3	570	8190	221				
7.1	570	8190	198				
8.3	570	8190	168				
9.0	570	8190	156				

TS..78 n_1=1400 r/min 1270Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM / MY63 AM / MY71	AM80 MY80	AM90 MY90	AM100 MY100	AM112 MY112	AM / MY132S AM / MY132M	AM / MY132ML AM / MY160M	AD..	P_1 (AD Input power)
5.5	1270	11700	256.47								AD2	1.1
6.2	1270	11700	225.26								AD2	1.3
6.5	1270	11700	214.00 *								AD2	1.3
7.4	1270	11700	189.09								AD2	1.5
8.7	1260	11800	161.60 *								AD2	1.7
9.4	1240	12000	148.15								AD2	1.8
11	1210	12200	130.00 *								AD2	2.0
11	1200	12300	123.20 *								AD2	2.1
13	1170	12600	107.83								AD2	2.3
14	1140	12800	97.14								AD2	2.4
16	1100	13100	85.22								AD2	2.7
19	1070	12800	75.20 *								AD2	2.9
19	1100	11900	75.09								AD2	2.6
20	1100	11600	71.33								AD2	2.7
21	1040	12300	66.67								AD2	3.1
22	1100	10900	63.03								AD2	3.1
25	990	11600	56.92								AD2	3.4
26	1100	10100	53.87								AD2	3.6
28	1100	9650	49.38								AD2	3.8
32	1100	9010	43.33								AD2	4.4
34	1100	8750	41.07								AD2	4.6
39	1100	8140	35.94								AD3	5.3
43	1090	7730	32.38								AD3	5.7
49	1050	7370	28.41								AD3	6.3
56	1020	7010	25.07								AD3	6.9
61	705	5970	22.89								AD3	5.1
63	980	6740	22.22								AD3	7.4
67	705	5390	20.99								AD3	5.5
74	930	6390	18.97								AD3	8.3
76	705	4550	18.42								AD3	6.2
80	710	4130	17.45								AD3	6.6
92	710	3320	15.28								AD3	7.6
102	710	2710	13.76								AD3	8.4
116	720	1800	12.07								AD3	9.6
131	720	1130	10.65								AD4	11.0
148	725	420	9.44								AD4	12.4
174	680	445	8.06								AD4	13.6

TS..78/TRF38 n_1=1400 r/min 1270Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80	MY90	MY100
2Stage / 3Stage							
0.05	1270	11700	25493				
0.06	1270	11700	21787				
0.07	1270	11700	19907				
0.08	1270	11700	17013				
0.10	1270	11700	14668				
0.11	1270	11700	13110				
0.12	1270	11700	11569				
0.14	1270	11700	9887				
0.16	1270	11700	8817				
0.18	1270	11700	7735				

TS..78/TRF38 n_1=1400 r/min — 1270Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80	MY90	MY100
2Stage / 3Stage							
0.21	1270	11700	6735				
0.24	1270	11700	5943				
0.27	1270	11700	5214				
0.30	1270	11700	4618				
0.35	1270	11700	3992				
0.40	1270	11700	3540				
0.45	1270	11700	3098				
0.51	1240	12000	2753				
0.59	1240	12000	2374				
0.67	1240	12000	2083				
0.77	1240	12000	1813				
0.80	1240	12000	1745				
0.88	1240	12000	1600				
1.0	1240	12000	1404				
1.1	1240	12000	1245				
2Stage / 2Stage							
1.3	1240	12000	1100				
1.5	1240	12000	954				
1.7	1240	12000	837				
2.0	1240	12000	714				
2.2	1240	12000	637				
2.4	1240	12000	574				
2.8	1240	12000	499				
3.2	1240	12000	438				
3.6	1240	12000	389				
4.3	1240	12000	327				
4.8	1240	12000	289				
5.6	1240	12000	250				
6.4	1240	12000	219				

TS..88 n_1=1400 r/min — 2280Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM80 MY80	AM90 MY90	AM100 MY100	AM112 MY112	AM / MY132S AM / MY132M	AM / MY132ML AM / MY160M AM / MY160L	AM180 MY180	AD..	P_1 (AD Input power)
4.9	2280	27900	288.00 *								AD2	1.7
5.4	2280	27900	258.18								AD2	1.9
6.3	2280	27900	222.40 *								AD2	2.2
6.9	2260	28000	202.96								AD2	2.3
7.8	2210	28100	180.00 *								AD2	2.5
9.3	2150	28200	151.30								AD2	2.9
10	2100	28300	139.05								AD2	3.1
11	2060	28300	123.48								AD2	3.4
13	2000	28400	110.40 *								AD2	3.6
14	1960	28500	99.26								AD2	3.9
15	1510	29100	91.20 *								AD2	2.9
16	1880	28600	86.15								AD2	4.3
17	1600	29000	81.76								AD2	3.4
18	1820	28700	77.14								AD2	4.6
20	1600	29000	70.43								AD2	3.9
22	1600	29000	64.27								AD2	4.2
22	1700	28900	64.00 *								AD3	5.2

TS..88 n_1=1400 r/min **2280Nm**

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM80 MY80	AM90 MY90	AM100 MY100	AM112 MY112	AM / MY132S AM / MY132M	AM / MY132ML AM / MY160M AM / MY160L	AM180 MY180	AD..	P_1 (AD Input power)
25	1600	29000	57.00 *								AD2	4.8
29	1600	29000	47.91								AD3	5.7
32	1600	29000	44.03								AD3	6.1
36	1600	28200	39.10								AD3	6.9
40	1600	27100	34.96 *								AD3	7.7
45	1600	26000	31.43								AD3	8.5
51	1600	24700	27.28								AD3	9.8
55	1240	23400	25.50 *								AD4	7.9
57	1600	23700	24.43								AD4	10.9
65	1240	21800	21.43								AD4	9.4
69	1600	22100	20.27								AD4	13.2
71	1240	21100	19.70								AD4	10.3
80	1240	20200	17.49								AD4	11.4
90	1240	19300	15.64 *								AD4	12.8
100	1240	18500	14.06								AD4	14.2
115	1240	17400	12.21								AD4	16.2
128	1240	16600	10.93								AD4	18.1
154	1140	15900	9.07								AD4	20
178	1010	15700	7.88								AD4	20

TS..88/TRF58 n_1=1400 r/min **2280Nm**

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80	MY90	MY100	MY112	MY132S MY132M
2Stage / 3Stage									
0.05	2500	27500	25987						
0.06	2500	27500	23940						
0.07	2500	27500	20568						
0.08	2500	27500	18265						
0.08	2500	27500	16774						
0.09	2500	27500	14820						
0.11	2500	27500	13160						
0.12	2500	27500	11200						
0.14	2500	27500	9904						
0.16	2500	27500	8549						
0.18	2500	27500	7643						
0.21	2500	27500	6706						
0.24	2500	27500	5875						
0.27	2500	27500	5187						
0.30	2500	27500	4606						
0.36	2500	27500	3872						
2Stage / 2Stage									
0.40	2500	27500	3475						
0.48	2500	27500	2905						
0.54	2500	27500	2586						
0.60	2500	27500	2335						
0.68	2500	27500	2054						
0.77	2500	27500	1824						
0.86	2500	27500	1631						
1.1	2500	27500	1332						
1.2	2500	27500	1191						
1.4	2500	27500	1032						

TS..88/TRF58 n_1=1400 r/min — 2280Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80	MY90	MY100	MY112	MY132S MY132M
					2Stage	2Stage			
1.5	2500	27500	930						
1.7	2500	27500	831						
1.9	2500	27500	719						
2.2	2500	27500	624						
2.5	2500	27500	558						
2.9	2500	27500	485						
3.2	2450	27600	435						
3.7	2450	27600	378						
4.3	2400	27700	323						
5.0	2400	27700	281						
5.5	1980	28400	255						
6.3	1980	28400	222						
6.8	1980	28400	205						

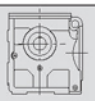
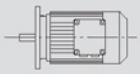
TS..98 n_1=1400 r/min — 4000Nm

n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	AM80 MY80	AM90 MY90	AM100 MY100	AM112 MY112	AM / MY132S AM / MY132M	AM / MY132ML AM / MY160M AM / MY160L	AM180 MY180	MY200	AD..	P_1 (AD Input power)
4.9	4000	33200	286.40 *									AD3	2.9
5.3	4000	33200	262.22									AD3	3.2
6.0	4000	33200	231.67									AD3	3.5
7.1	4000	33200	196.52									AD3	4.1
7.7	3920	33400	180.95									AD3	4.4
8.7	3840	33500	161.74									AD3	4.7
9.6	3730	33700	145.60 *									AD3	5.1
11	3650	33900	131.85									AD3	5.4
12	3510	34100	116.92									AD3	5.9
13	3440	34300	105.71									AD3	6.3
16	3240	34600	89.60 *									AD3	7.0
17	3230	34600	80.85									AD3	6.7
18	3080	34800	78.26									AD3	7.5
20	3300	34500	71.43									AD4	7.8
21	2900	35100	65.45									AD3	8.4
23	3300	34500	60.59									AD4	9.2
25	3300	34500	55.79									AD4	10.0
28	3300	34500	49.87									AD4	11.0
31	3300	34100	44.89									AD4	12.2
34	3300	32800	40.65									AD4	13.5
39	3300	31300	36.05									AD4	15.1
43	3200	30400	32.60									AD4	16.2
51	3010	29000	27.63									AD5	17.9
53	2600	26100	26.39									AD4	15.7
58	2870	28000	24.13									AD5	20
59	2600	24900	23.59									AD5	17.8
66	2600	23700	21.23									AD5	20
73	2600	22700	19.23									AD5	22
82	2570	21100	17.05									AD5	24
91	2470	20800	15.42									AD5	26
107	2330	20100	13.07									AD5	28
123	2210	19500	11.41									AD5	31
147	2040	18800	9.55									AD5	34
169	1770	18800	8.26									AD5	34

TS..98/TRF58 n_1=1400 r/min 4000Nm

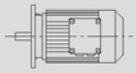
n_2 [r/min]	M_2max [Nm]	Fr_2 [N]	i	MY63 MY71	MY80	MY90	MY100	MY112	MY132S MY132M
2Stage / 3Stage									
0.04	4200	32800	33818						
0.04	4200	32800	31154						
0.05	4200	32800	27847						
0.06	4200	32800	24641						
0.07	4200	32800	21537						
0.07	4200	32800	18749						
0.09	4200	32800	16233						
0.10	4200	32800	14576						
0.11	4200	32800	12752						
0.12	4200	32800	11267						
0.14	4200	32800	10078						
0.16	4200	32800	8608						
0.19	4200	32800	7554						
0.21	4200	31300	6640						
0.24	4200	31300	5780						
0.28	4200	31300	4937						
0.32	4200	31300	4444						
0.35	4200	31300	4017						
0.41	4200	31300	3453						
0.45	4200	31300	3108						
0.53	4200	31300	2654						
0.60	4200	31300	2329						
0.67	4200	31300	2081						
0.75	4200	31300	1860						
0.89	4200	31300	1574						
2Stage / 2Stage									
1.0	4200	31300	1394						
1.1	4200	31300	1223						
1.3	4200	31300	1070						
1.5	4200	31300	928						
1.7	4200	31300	824						
2.0	4200	32800	714						
2.2	4200	31300	626						
2.6	4200	31300	538						
2.9	4200	31400	484						
3.3	4200	31400	420						
3.7	4200	31400	376						
4.3	4200	31500	327						
4.9	4200	31500	287						
5.6	4200	31500	252						
6.4	4200	31600	219						
6.8	4200	31600	205						

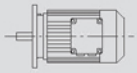
6.2 TS..MY.. Performance parameter

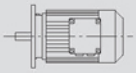
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs			Page
0.12	0.12	4750	11267	25100	0.90	**TS 98 / TRF58**	**MY 63S4**	108
	0.14	4340	10078	32500	0.95	**TSF 98 / TRF58**	**MY 63S4**	108
	0.16	3600	8608	34000	1.15	**TSA 98 / TRF58**	**MY 63S4**	108
	0.18	3180	7554	34700	1.30	**TSAF 98 / TRF58**	**MY 63S4**	108
	0.21	2690	6706	27100	0.95	**TS 88 / TRF58**	**MY 63S4**	108
	0.23	2400	5875	27700	1.05	**TSF 88 / TRF58**	**MY 63S4**	108
	0.27	1990	5187	28500	1.25	**TSA 88 / TRF58**	**MY 63S4**	108
	0.30	1770	4606	28800	1.40	**TSAF 88 / TRF58**	**MY 63S4**	108
	0.36	1470	3872	29200	1.70			
	0.39	1370	3540	7240	0.90	**TS 78 / TRF38**	**MY 63S4**	108
	0.45	1200	3098	12300	1.05	**TSF 78 / TRF38**	**MY 63S4**	108
	0.58	1330	2374	10600	0.95	**TSA 78 / TRF38**	**MY 63S4**	108
	0.66	1170	2083	12600	1.05	**TSAF 78 / TRF38**	**MY 63S4**	108
	0.76	990	1813	13900	1.25			
	0.79	940	1745	14200	1.30			
	0.86	860	1600	14600	1.45			
	0.98	755	1404	15100	1.65			
	1.1	660	1245	15500	1.90			
	1.2	590	1194	7990	0.95	**TS 68 / TRF38**	**MY 63S4**	108
	1.3	530	1045	8560	1.05	**TSF 68 / TRF38**	**MY 63S4**	108
	1.5	460	914	9180	1.25	**TSA 68 / TRF38**	**MY 63S4**	108
						TSAF 68 / TRF38	**MY 63S4**	108
	1.7	420	809	9460	1.35	**TS 68 / TRF38**	**MY 63S4**	108
	1.9	370	712	9780	1.55	**TSF 68 / TRF38**	**MY 63S4**	108
	2.2	305	615	10100	1.85	**TSA 68 / TRF38**	**MY 63S4**	108
	2.5	275	543	10200	2.1	**TSAF 68 / TRF38**	**MY 63S4**	108
	2.9	225	469	10400	2.5			
	3.3	205	424	10500	2.8			
	3.8	187	365	10500	3.0			
	2.1	330	655	6800	0.90	**TS 58 / TRF18**	**MY 63S4**	108
	2.4	285	574	7200	1.05	**TSF 58 / TRF18**	**MY 63S4**	108
	2.7	250	506	7480	1.20	**TSA 58 / TRF18**	**MY 63S4**	108
	3.1	215	438	7700	1.40	**TSAF 58 / TRF18**	**MY 63S4**	108
	3.6	189	388	7850	1.60			
	4.1	169	336	7950	1.80			
	4.7	145	294	8050	2.1			
	5.1	139	269	8070	2.2			
	3.1	215	438	5010	0.85	**TS 48 / TRF18**	**MY 63S4**	108
	3.6	189	388	5170	1.00	**TSF 48 / TRF18**	**MY 63S4**	108
	4.1	169	336	5290	1.10	**TSA 48 / TRF18**	**MY 63S4**	108
	4.7	143	294	5420	1.30	**TSAF 48 / TRF18**	**MY 63S4**	108
	5.4	98	257	5670	1.90			
	6.0	118	229	5550	1.55			
	6.9	102	200	5610	1.80			
	7.4	96	187	5640	1.95			
	6.8	103	202	3000	0.90	**TS 38 / TRF18**	**MY 63S4**	108
	7.7	91	179	3000	1.00	**TSF 38 / TRF18**	**MY 63S4**	108
	8.7	82	158	3000	1.15	**TSA 38 / TRF18**	**MY 63S4**	108
	9.6	75	144	3000	1.20	**TSAF 38 / TRF18**	**MY 63S4**	108
	12	61	118	3000	1.50			
	13	57	110	3000	1.60			

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
0.12	4.5	143	201.00*	8050	2.1	**TS**	**58**	**MY 63M6**	88
	4.9	133	184.80*	8090	2.3	**TSF**	**58**	**MY 63M6**	89
	5.7	116	158.12	8150	2.5	**TSA**	**58**	**MY 63M6**	90
	6.6	103	137.05	8180	2.9	**TSAF**	**58**	**MY 63M6**	89
	4.5	138	201.00*	5490	1.30	**TS**	**48**	**MY 63M6**	84
	4.9	129	184.80*	5540	1.40	**TSF**	**48**	**MY 63M6**	85
	5.7	112	158.12	5610	1.55	**TSA**	**48**	**MY 63M6**	86
	6.6	99	137.05	5660	1.75	**TSAF**	**48**	**MY 63M6**	85
	7.0	93	128.10*	5680	1.85				
	6.9	95	201.00*	5680	1.8	**TS**	**48**	**MY 63S4**	84
	7.5	89	184.80*	5700	1.9	**TSF**	**48**	**MY 63S4**	85
	8.7	77	158.12	5740	2.2	**TSA**	**48**	**MY 63S4**	86
	10	68	137.05	5780	2.5	**TSAF**	**48**	**MY 63S4**	85
	11	64	128.10*	5790	2.6				
	12	57	110.73	5810	3.0				
	5.7	107	157.43	3000	0.85	**TS**	**38**	**MY 63M6**	81
	6.2	99	144.40*	3000	0.95	**TSF**	**38**	**MY 63M6**	82
	7.3	86	122.94	3000	1.05	**TSA**	**38**	**MY 63M6**	83
	8.5	76	106.00*	3000	1.20	**TSAF**	**38**	**MY 63M6**	82
	9.1	71	98.80*	3000	1.30				
	10	64	86.36	3000	1.45				
	8.8	74	157.43	3000	1.25	**TS**	**38**	**MY 63S4**	81
	9.6	68	144.40*	3000	1.35	**TSF**	**38**	**MY 63S4**	82
	11	60	122.94	3000	1.55	**TSA**	**38**	**MY 63S4**	83
	13	52	106.00*	3000	1.70	**TSAF**	**38**	**MY 63S4**	82
	14	49	98.80*	3000	1.75				
	16	44	86.36	3000	1.95				
	17	41	80.96	3000	2.1				
	19	37	71.44*	3000	2.3	**TS**	**38**	**MY 63S4**	81
	22	33	63.33	3000	2.5	**TSF**	**38**	**MY 63S4**	82
	25	35	55.93	3000	2.3	**TSA**	**38**	**MY 63S4**	83
	27	33	51.30*	3000	2.5	**TSAF**	**38**	**MY 63S4**	82
	32	28	43.68	3000	2.9				
	37	25	37.66	3000	3.2				
	39	23	35.10*	3000	3.4				
	45	20	30.68	3000	3.7				
	48	19	28.76	3000	3.9				
	54	17	25.38*	3000	4.4				
	61	15	22.50*	3000	4.8				
	69	14	19.89	3000	3.6				
	76	13	18.24*	3000	3.9				
	89	11	15.53	2870	4.4				
0.18	0.29	3010	4606	19200	0.85	**TS**	**88 / TRF58**	**MY 63M4**	108
	0.34	2520	3872	27500	1.00	**TSF**	**88 / TRF58**	**MY 63M4**	108
						TSA	**88 / TRF58**	**MY 63M4**	108
						TSAF	**88 / TRF58**	**MY 63M4**	108
	0.38	2430	3475	27700	1.05	**TS**	**88 / TRF58**	**MY 63M4**	108
	0.45	2030	2905	28400	1.25	**TSF**	**88 / TRF58**	**MY 63M4**	108
	0.51	1760	2586	28800	1.40	**TSA**	**88 / TRF58**	**MY 63M4**	108
	0.57	1570	2335	29100	1.60	**TSAF**	**88 / TRF58**	**MY 63M4**	108
	0.64	1360	2054	29300	1.85				
	0.72	1210	1824	29500	2.1				
	0.81	1080	1631	29600	2.3				
	0.94	1250	1404	11900	1.00	**TS**	**78 / TRF38**	**MY 63M4**	108
	1.1	1100	1245	13200	1.15	**TSF**	**78 / TRF38**	**MY 63M4**	108
						TSA	**78 / TRF38**	**MY 63M4**	108
						TSAF	**78 / TRF38**	**MY 63M4**	108

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
0.18	1.2	1020	1100	13700	1.20	**TS**	**78 / TRF38**	**MY 63M4**	108
	1.4	880	954	14500	1.40	**TSF**	**78 / TRF38**	**MY 63M4**	108
	1.6	770	837	15000	1.60	**TSA**	**78 / TRF38**	**MY 63M4**	108
	1.9	640	714	15600	1.95	**TSAF**	**78 / TRF38**	**MY 63M4**	108
	2.1	570	637	15800	2.2				
	2.3	515	574	16000	2.4				
	1.9	600	712	7860	0.95	**TS**	**68 / TRF38**	**MY 63M4**	108
	2.1	505	615	8800	1.15	**TSF**	**68 / TRF38**	**MY 63M4**	108
	2.4	450	543	9230	1.25	**TSA**	**68 / TRF38**	**MY 63M4**	108
	2.8	380	469	9720	1.50	**TSAF**	**68 / TRF38**	**MY 63M4**	108
	3.1	340	424	9930	1.65				
	3.6	305	365	10100	1.85				
	3.0	355	438	6520	0.85	**TS**	**58 / TRF18**	**MY 63M4**	108
	3.4	315	388	6970	0.95	**TSF**	**58 / TRF18**	**MY 63M4**	108
	3.9	275	336	7290	1.10	**TSA**	**58 / TRF18**	**MY 63M4**	108
	4.5	240	294	7560	1.25	**TSAF**	**58 / TRF18**	**MY 63M4**	108
	4.9	225	269	7650	1.35				
	5.8	193	229	7830	1.55				
	6.5	174	204	7930	1.75				
	7.0	159	187	7990	1.90				
	4.5	235	294	4480	0.80	**TS**	**48 / TRF18**	**MY 63M4**	108
	5.1	162	257	5380	1.15	**TSF**	**48 / TRF18**	**MY 63M4**	108
	5.8	190	229	5170	0.95	**TSA**	**48 / TRF18**	**MY 63M4**	108
	6.6	167	200	5300	1.10	**TSAF**	**48 / TRF18**	**MY 63M4**	108
	7.0	156	187	5360	1.20				
	8.0	138	165	5450	1.35				
	9.0	124	148	5520	1.50				
	10	110	131	5580	1.70				
	4.0	255	217.41	10300	2.2	**TS**	**68**	**MY 63L6**	92
	4.6	225	190.11	10400	2.5	**TSF**	**68**	**MY 63L6**	93
	4.8	215	180.60*	10400	2.6	**TSA**	**68**	**MY 63L6**	94
						TSAF	**68**	**MY 63L6**	93
	4.3	220	201.00*	7670	1.35	**TS**	**58**	**MY 63L6**	88
	4.7	205	184.80*	7760	1.45	**TSF**	**58**	**MY 63L6**	89
	5.5	180	158.12	7900	1.65	**TSA**	**58**	**MY 63L6**	90
	6.4	159	137.05	7990	1.85	**TSAF**	**58**	**MY 63L6**	89
	6.6	154	201.00*	8010	1.90	**TS**	**58**	**MY 63M4**	88
	7.1	143	184.80*	8050	2.1	**TSF**	**58**	**MY 63M4**	89
	8.3	125	158.12	8120	2.4	**TSA**	**58**	**MY 63M4**	90
	9.6	110	137.05	8160	2.7	**TSAF**	**58**	**MY 63M4**	89
	4.3	215	201.00*	5090	0.85	**TS**	**48**	**MY 63L6**	84
	4.7	199	184.80*	5180	0.90	**TSF**	**48**	**MY 63L6**	85
	5.5	173	158.12	5320	1.00	**TSA**	**48**	**MY 63L6**	86
	6.4	153	137.05	5420	1.10	**TSAF**	**48**	**MY 63L6**	85
	6.8	144	128.10*	5470	1.20				
	6.6	149	201.00*	5440	1.15	**TS**	**48**	**MY 63M4**	84
	7.1	138	184.80*	5490	1.25	**TSF**	**48**	**MY 63M4**	85
	8.3	121	158.12	5570	1.40	**TSA**	**48**	**MY 63M4**	86
	9.6	107	137.05	5630	1.60	**TSAF**	**48**	**MY 63M4**	85
	10	100	128.10*	5660	1.65				
	12	88	110.73	5700	1.90				
	14	77	94.08*	5750	2.2				
	16	69	84.00*	5770	2.4				
	18	60	71.75*	5800	2.8				
	19	69	69.39	5750	2.2				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs			Page
0.18	8.4	115	157.43	3000	0.80	**TS 38**	**MY 63M4**	81
	9.1	107	144.40*	3000	0.85	**TSF 38**	**MY 63M4**	82
	11	93	122.94	3000	1.00	**TSA 38**	**MY 63M4**	83
	12	82	106.00*	3000	1.10	**TSAF 38**	**MY 63M4**	82
	13	77	98.80*	3000	1.15			
	15	68	86.36	3000	1.25			
	16	64	80.96	3000	1.30			
	18	58	71.44*	3000	1.45	**TS 38**	**MY 63M4**	81
	21	52	63.33	3000	1.60	**TSF 38**	**MY 63M4**	82
	24	55	55.93	3000	1.45	**TSA 38**	**MY 63M4**	83
	26	51	51.30*	3000	1.60	**TSAF 38**	**MY 63M4**	82
	30	44	43.68	3000	1.85			
	35	38	37.66	3000	2.1			
	38	36	35.10*	3000	2.2			
	43	32	30.68	3000	2.4			
	46	30	28.76	3000	2.5			
	52	27	25.38*	3000	2.8			
	59	24	22.50*	3000	3.1			
	66	22	19.89	3000	2.3			
	72	21	18.24*	2940	2.5			
	85	18	15.53	2810	2.8			
	99	15	13.39	2700	3.2			
	106	14	12.48*	2650	3.4			
	121	13	10.91	2550	3.8			
	129	12	10.23	2500	4.0			
0.25	0.45	2930	2905	22200	0.85	**TS 88 / TRF58**	**MY 63L4**	108
	0.50	2560	2586	27400	1.00	**TSF 88 / TRF58**	**MY 63L4**	108
	0.56	2300	2335	27900	1.10	**TSA 88 / TRF58**	**MY 63L4**	108
	0.63	2000	2054	28400	1.25	**TSAF 88 / TRF58**	**MY 63L4**	108
	0.71	1770	1824	28800	1.40			
	0.80	1590	1631	29100	1.60			
	1.4	930	930	29700	2.7			
	1.4	1260	954	11800	1.00	**TS 78 / TRF38**	**MY 63L4**	108
	1.6	1110	837	13100	1.10	**TSF 78 / TRF38**	**MY 63L4**	108
	1.8	930	714	14200	1.35	**TSA 78 / TRF38**	**MY 63L4**	108
	2.0	820	637	14800	1.50	**TSAF 78 / TRF38**	**MY 63L4**	108
	2.3	745	574	15200	1.65			
	2.6	640	499	15600	1.95			
	2.4	650	543	6280	0.85	**TS 68 / TRF38**	**MY 63L4**	108
	2.8	550	469	8390	1.05	**TSF 68 / TRF38**	**MY 63L4**	108
	3.1	495	424	8880	1.15	**TSA 68 / TRF38**	**MY 63L4**	108
	3.6	440	365	9320	1.30	**TSAF 68 / TRF38**	**MY 63L4**	108
	4.1	380	319	9700	1.50			
	4.6	335	281	9960	1.70			
	4.4	345	294	6640	0.85	**TS 58 / TRF18**	**MY 63L4**	108
	4.8	320	269	6870	0.95	**TSF 58 / TRF18**	**MY 63L4**	108
	5.7	275	229	7280	1.10	**TSA 58 / TRF18**	**MY 63L4**	108
	6.4	250	204	7490	1.20	**TSAF 58 / TRF18**	**MY 63L4**	108
	6.9	230	187	7630	1.30			
	7.9	200	165	7780	1.50			
	9.9	162	131	7980	1.85			
	3.1	435	217.41	9350	1.30	**TS 68**	**MY 80N8**	92
	3.6	390	190.11	9670	1.45	**TSF 68**	**MY 80N8**	93
	3.8	370	180.60*	9770	1.50	**TSA 68**	**MY 80N8**	94
	4.3	330	158.45	9980	1.70	**TSAF 68**	**MY 80N8**	93

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs			Page
0.25	4.0	350	217.41	9890	1.60	**TS 68**	**MY 71D6**	92
	4.6	310	190.11	10100	1.80	**TSF 68**	**MY 71D6**	93
	4.9	295	180.60*	10100	1.90	**TSA 68**	**MY 71D6**	94
	5.5	265	158.45	10300	2.1	**TSAF 68**	**MY 71D6**	93
	6.0	245	217.41	10300	2.1	**TS 68**	**MY 63L4**	92
	6.8	220	190.11	10400	2.4	**TSF 68**	**MY 63L4**	93
	7.2	210	180.60*	10500	2.5	**TSA 68**	**MY 63L4**	94
	8.2	187	158.45	10500	2.8	**TSAF 68**	**MY 63L4**	93
	9.7	161	134.40*	10600	3.2			
	11	147	121.33	10600	3.5			
	12	131	106.75*	10700	4.0			
	4.4	305	201.00*	7050	1.00	**TS 58**	**MY 71D6**	88
	4.8	285	184.80*	7230	1.05	**TSF 58**	**MY 71D6**	89
	5.6	245	158.12	7510	1.20	**TSA 58**	**MY 71D6**	90
	6.4	220	137.05	7690	1.35	**TSAF 58**	**MY 71D6**	89
	6.9	205	128.10*	7760	1.45			
	6.5	215	201.00*	7700	1.35	**TS 58**	**MY 63L4**	88
	7.0	200	184.80*	7790	1.45	**TSF 58**	**MY 63L4**	89
	8.2	176	158.12	7920	1.70	**TSA 58**	**MY 63L4**	90
	9.5	155	137.05	8010	1.90	**TSAF 58**	**MY 63L4**	89
	10	146	128.10*	8040	2.0			
	12	129	110.73	8110	2.3			
	14	111	94.08*	8160	2.7			
	15	101	84.00*	8190	2.9			
	6.5	210	201.00*	5120	0.80	**TS 48**	**MY 63L4**	84
	7.0	195	184.80*	5210	0.85	**TSF 48**	**MY 63L4**	85
	8.2	170	158.12	5340	1.00	**TSA 48**	**MY 63L4**	86
	9.5	150	137.05	5440	1.10	**TSAF 48**	**MY 63L4**	85
	10	141	128.10*	5480	1.20			
	12	124	110.73	5560	1.35			
	14	108	94.08*	5630	1.55			
	15	98	84.00*	5670	1.70			
	18	85	71.75*	5720	1.95			
	19	97	69.39	5640	1.60			
	19	80	67.20*	5740	2.1			
	20	90	63.80*	5670	1.70			
	24	78	54.59	5720	2.0			
	27	68	47.32	5760	2.3			
	13	108	98.80*	3000	0.80	**TS 38**	**MY 63L4**	81
	15	96	86.36	3000	0.90	**TSF 38**	**MY 63L4**	82
	16	91	80.96	3000	0.95	**TSA 38**	**MY 63L4**	83
	18	81	71.44*	3000	1.05	**TSAF 38**	**MY 63L4**	82
	21	73	63.33	3000	1.10			
	23	78	55.93	3000	1.05			
	25	72	51.30*	3000	1.15			
	30	62	43.68	3000	1.30			
	35	54	37.66	3000	1.45			
	37	51	35.10*	3000	1.55			
	42	45	30.68	3000	1.70			
	45	42	28.76	3000	1.80			
	51	37	25.38*	3000	2.0			
	58	33	22.50*	3000	2.2			
	65	32	19.89	2870	1.65			
	71	29	18.24*	2820	1.80			
	84	25	15.53	2710	2.0			
	97	22	13.39	2620	2.3			

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
0.25	104	20	12.48*	2570	2.4	**TS**	**38**	**MY 63L4**	81
	119	18	10.91	2480	2.7	**TSF**	**38**	**MY 63L4**	82
	127	17	10.23	2440	2.8	**TSA**	**38**	**MY 63L4**	83
	144	15	9.02*	2360	3.1	**TSAF**	**38**	**MY 63L4**	82
	163	13	8.00*	2290	3.4				
	191	11	6.80*	2180	3.8				
	92	21	28.76	2740	3.0	**TS**	**38**	**MY 63M2**	81
	105	19	25.38*	2650	3.3	**TSF**	**38**	**MY 63M2**	82
	118	17	22.50*	2560	3.4	**TSA**	**38**	**MY 63M2**	83
	134	16	19.89	2410	2.8	**TSAF**	**38**	**MY 63M2**	82
	146	15	18.24*	2350	3.0				
	171	13	15.53	2250	3.4				
	199	11	13.39	2160	3.8				
	213	10	12.48*	2120	4.0				
0.37	0.67	2860	2054	24500	0.90	**TS**	**88 / TRF58**	**MY 71D4**	108
	0.76	2540	1824	27400	1.00	**TSF**	**88 / TRF58**	**MY 71D4**	108
	0.85	2270	1631	28000	1.10	**TSA**	**88 / TRF58**	**MY 71D4**	108
	1.5	1340	930	29400	1.85	**TSAF**	**88 / TRF58**	**MY 71D4**	108
	1.7	1210	831	29500	2.1				
	1.9	1310	714	11300	0.95	**TS**	**78 / TRF38**	**MY 71D4**	108
	2.2	1170	637	12600	1.05	**TSF**	**78 / TRF38**	**MY 71D4**	108
	2.4	1060	574	13400	1.15	**TSA**	**78 / TRF38**	**MY 71D4**	108
	2.8	910	499	14300	1.35	**TSAF**	**78 / TRF38**	**MY 71D4**	108
	3.1	800	438	14900	1.55				
	3.6	710	389	15300	1.75				
	3.8	625	365	7560	0.90	**TS**	**68 / TRF38**	**MY 71D4**	108
	4.3	545	319	8450	1.05	**TSF**	**68 / TRF38**	**MY 71D4**	108
	4.9	480	281	9030	1.20	**TSA**	**68 / TRF38**	**MY 71D4**	108
	5.6	430	246	9380	1.30	**TSAF**	**68 / TRF38**	**MY 71D4**	108
	2.4	980	288.00*	29700	2.5	**TS**	**88**	**MY 90S8**	100
	2.6	890	258.18	29800	2.8	**TSF**	**88**	**MY 90S8**	101
	3.1	775	222.40*	29900	3.2	**TSA**	**88**	**MY 90S8**	102
						TSAF	**88**	**MY 90S8**	101
	3.0	735	225.26	15200	1.75	**TS**	**78**	**MY 90S8**	96
	3.2	700	214.00*	15300	1.80	**TSF**	**78**	**MY 90S8**	97
	3.6	630	189.09	15600	2.0	**TSA**	**78**	**MY 90S8**	98
	4.2	545	161.60*	15900	2.3	**TSAF**	**78**	**MY 90S8**	97
	3.5	645	256.47	15600	2.0	**TS**	**78**	**MY 80K6**	96
	4.0	575	225.26	15800	2.2	**TSF**	**78**	**MY 80K6**	97
	4.2	545	214.00*	15900	2.3	**TSA**	**78**	**MY 80K6**	98
						TSAF	**78**	**MY 80K6**	97
	4.1	505	217.41	8810	1.10	**TS**	**68**	**MY 80K6**	92
	4.7	450	190.11	9260	1.25	**TSF**	**68**	**MY 80K6**	93
	5.0	430	180.60*	9400	1.30	**TSA**	**68**	**MY 80K6**	94
	5.7	380	158.45	9700	1.45	**TSAF**	**68**	**MY 80K6**	93
	6.4	345	217.41	9900	1.50	**TS**	**68**	**MY 71D4**	92
	7.3	310	190.11	10100	1.70	**TSF**	**68**	**MY 71D4**	93
	7.6	295	180.60*	10200	1.75	**TSA**	**68**	**MY 71D4**	94
	8.7	260	158.45	10300	2.0	**TSAF**	**68**	**MY 71D4**	93
	10	225	134.40*	10400	2.3				
	11	205	121.33	10500	2.5				
	5.7	360	158.12	6490	0.80	**TS**	**58**	**MY 80K6**	88
	6.6	315	137.05	6930	0.95	**TSF**	**58**	**MY 80K6**	89
	7.0	300	128.10*	7100	1.00	**TSA**	**58**	**MY 80K6**	90
	8.1	265	110.73	7390	1.10	**TSAF**	**58**	**MY 80K6**	89
	9.6	230	94.08*	7630	1.30				
	11	205	84.00*	7760	1.45				

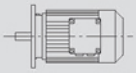
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
0.37	6.9	305	201.00*	7050	0.95	**TS**	**58**	**MY 71D4**	88
	7.5	285	184.80*	7230	1.05	**TSF**	**58**	**MY 71D4**	89
	8.7	245	158.12	7510	1.20	**TSA**	**58**	**MY 71D4**	90
	10	220	137.05	7690	1.35	**TSAF**	**58**	**MY 71D4**	89
	11	205	128.10*	7770	1.45				
	12	180	110.73	7900	1.65				
	15	156	94.08*	8000	1.90				
	16	141	84.00*	8060	2.1				
	19	122	71.75*	8130	2.4				
	20	139	69.39	8070	1.75				
	21	115	67.20*	8150	2.5				
	22	128	63.80*	8110	1.90				
	10	210	137.05	5110	0.80	**TS**	**48**	**MY 71D4**	84
	11	199	128.10*	5190	0.85	**TSF**	**48**	**MY 71D4**	85
	12	175	110.73	5320	0.95	**TSA**	**48**	**MY 71D4**	86
	15	151	94.08*	5430	1.10	**TSAF**	**48**	**MY 71D4**	85
	16	137	84.00*	5500	1.20				
	19	119	71.75*	5580	1.40				
	20	136	69.39	5460	1.15				
	21	112	67.20*	5610	1.50				
	22	126	63.80*	5510	1.25				
	25	109	54.59	5590	1.40				
	29	96	47.32	5410	1.60				
	31	90	44.22*	5330	1.75				
	36	78	38.23	5140	2.0				
	42	67	32.48*	4930	2.3				
	48	60	29.00*	4790	2.6				
	56	52	24.77	4590	3.0				
	59	49	23.20*	4510	3.1				
	68	46	20.33	4180	2.4				
	78	40	17.62	4030	2.8				
	84	37	16.47*	3960	3.0				
	22	103	63.33	3000	0.80	**TS**	**38**	**MY 71D4**	81
	27	101	51.30*	3000	0.80	**TSF**	**38**	**MY 71D4**	82
	32	87	43.68	3000	0.95	**TSA**	**38**	**MY 71D4**	83
	37	76	37.66	3000	1.05	**TSAF**	**38**	**MY 71D4**	82
	39	71	35.10*	3000	1.10				
	45	63	30.68	3000	1.20				
	48	59	28.76	3000	1.30				
	54	52	25.38*	2940	1.40				
	61	47	22.50*	2870	1.55				
	69	44	19.89	2610	1.20				
	76	41	18.24*	2570	1.30				
	89	35	15.53	2500	1.45				
	103	30	13.39	2420	1.60				
	111	28	12.48*	2390	1.70				
	127	25	10.91	2320	1.95				
	135	23	10.23	2280	2.0				
	153	21	9.02*	2220	2.2				
	173	18	8.00*	2150	2.5				
	203	16	6.80*	2070	2.7				
	104	28	25.38*	2540	2.2	**TS**	**38**	**MY 63L2**	81
	118	25	22.50*	2460	2.3	**TSF**	**38**	**MY 63L2**	82
	133	24	19.89	2290	1.85	**TSA**	**38**	**MY 63L2**	83
	145	22	18.24*	2250	2.0	**TSAF**	**38**	**MY 63L2**	82
	171	19	15.53	2160	2.3				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
0.37	198	16	13.39	2080	2.6	**TS**	**38**	**MY 63L2**	81
	212	15	12.48*	2040	2.7	**TSF**	**38**	**MY 63L2**	82
	243	13	10.91	1970	3.0	**TSA**	**38**	**MY 63L2**	83
	259	12	10.23	1940	3.1	**TSAF**	**38**	**MY 63L2**	82
	294	11	9.02*	1870	3.3				
0.55	1.0	2850	1332.00	24800	0.90	**TS**	**88 / TRF58**	**MY 80K4**	108
	1.1	2570	1191.00	27300	0.95	**TSF**	**88 / TRF58**	**MY 80K4**	108
	1.3	2240	1032.00	28000	1.10	**TSA**	**88 / TRF58**	**MY 80K4**	108
	1.5	2070	930.00	28300	1.20	**TSAF**	**88 / TRF58**	**MY 80K4**	108
	1.6	1870	831.00	28700	1.35				
	1.9	1620	719.00	29000	1.55				
	2.2	1420	624.00	29300	1.75				
	2.4	1280	558.00	29400	1.95				
	3.1	1020	435.00	29700	2.4				
	3.1	1230	438.00	12100	1.00	**TS**	**78 / TRF38**	**MY 80K4**	108
	3.5	1090	389.00	13200	1.15	**TSF**	**78 / TRF38**	**MY 80K4**	108
	4.2	920	327.00	14300	1.35	**TSA**	**78 / TRF38**	**MY 80K4**	108
	4.7	830	289.00	14800	1.50	**TSAF**	**78 / TRF38**	**MY 80K4**	108
	5.4	720	250.00	15300	1.70				
	5.5	660	246.00	5530	0.85	**TS**	**68 / TRF38**	**MY 80K4**	108
	6.2	590	221.00	7990	0.95	**TSF**	**68 / TRF38**	**MY 80K4**	108
	6.9	535	198.00	8520	1.05	**TSA**	**68 / TRF38**	**MY 80K4**	108
	8.1	460	168.00	9180	1.25	**TSAF**	**68 / TRF38**	**MY 80K4**	108
	2.4	1450	288.00*	29200	1.70	**TS**	**88**	**MY 90L8**	100
	2.6	1320	258.18	29400	1.85	**TSF**	**88**	**MY 90L8**	101
	3.1	1150	222.40*	29600	2.1	**TSA**	**88**	**MY 90L8**	102
						TSAF	**88**	**MY 90L8**	101
	3.1	1130	288.00*	29600	2.2	**TS**	**88**	**MY 80N6**	100
	3.5	1020	258.18	29700	2.4	**TSF**	**88**	**MY 80N6**	101
	4.0	900	222.40*	29800	2.7	**TSA**	**88**	**MY 80N6**	102
	4.4	820	202.96	29800	2.9	**TSAF**	**88**	**MY 80N6**	101
	3.0	1090	225.26	13200	1.15	**TS**	**78**	**MY 90L8**	96
	3.2	1040	214.00*	13500	1.20	**TSF**	**78**	**MY 90L8**	97
	3.6	930	189.09	14200	1.35	**TSA**	**78**	**MY 90L8**	98
	4.2	810	161.60*	14900	1.55	**TSAF**	**78**	**MY 90L8**	97
	3.5	960	256.47	14100	1.35	**TS**	**78**	**MY 80N6**	96
	4.0	850	225.26	14700	1.50	**TSF**	**78**	**MY 80N6**	97
	4.2	810	214.00*	14800	1.55	**TSA**	**78**	**MY 80N6**	98
	4.8	730	189.09	15200	1.75	**TSAF**	**78**	**MY 80N6**	97
	5.6	635	161.60*	15600	2.0				
	5.3	660	256.47	15500	1.90	**TS**	**78**	**MY 80K4**	96
	6.0	590	225.26	15800	2.2	**TSF**	**78**	**MY 80K4**	97
	6.4	560	214.00*	15800	2.3	**TSA**	**78**	**MY 80K4**	98
	7.2	505	189.09	16000	2.5	**TSAF**	**78**	**MY 80K4**	97
	6.3	520	217.41	8660	1.00	**TS**	**68**	**MY 80K4**	92
	7.2	465	190.11	9150	1.10	**TSF**	**68**	**MY 80K4**	93
	7.5	445	180.60*	9300	1.15	**TSA**	**68**	**MY 80K4**	94
	8.6	395	158.45	9620	1.30	**TSAF**	**68**	**MY 80K4**	93
	10	340	134.40*	9930	1.55				
	11	310	121.33	10100	1.65				
	13	275	106.75*	10200	1.85				
	13	265	100.80*	10300	1.95				
	16	230	85.83	10400	2.3				
	18	230	75.06	10400	2.1				
	21	205	65.63	10500	2.4				

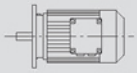
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs					Page
0.55	9.6	340	94.08*	6710	0.85	**TS**	**58**	**MY**	**80N6**	88
	11	305	84.00*	7030	0.95	**TSF**	**58**	**MY**	**80N6**	89
	13	265	71.75*	7360	1.10	**TSA**	**58**	**MY**	**80N6**	90
	13	250	67.20*	7470	1.15	**TSAF**	**58**	**MY**	**80N6**	89
	16	245	54.59	7520	1.10					
	19	215	47.32	7710	1.25					
	20	200	44.22*	7790	1.35					
	24	176	38.23	7920	1.55					
	8.6	370	158.12	6330	0.80	**TS**	**58**	**MY**	**80K4**	88
	9.9	330	137.05	6820	0.90	**TSF**	**58**	**MY**	**80K4**	89
	11	310	128.10*	7010	0.95	**TSA**	**58**	**MY**	**80K4**	90
	12	270	110.73	7320	1.10	**TSAF**	**58**	**MY**	**80K4**	89
	14	235	94.08*	7590	1.25					
	16	210	84.00*	7730	1.40					
	19	184	71.75*	7880	1.55					
	20	174	67.20*	7930	1.65					
	25	167	54.59	7960	1.45					
	29	146	47.32	8040	1.70					
	31	137	44.22*	8080	1.80					
	36	120	38.23	8130	2.1					
	42	103	32.48*	7970	2.4					
	47	92	29.00*	7730	2.7					
	55	79	24.77	7390	3.1					
	59	75	23.20*	7250	3.3					
	67	69	20.33	6760	2.4					
	16	205	84.00*	5140	0.80	**TS**	**48**	**MY**	**80K4**	84
	19	179	71.75*	5290	0.95	**TSF**	**48**	**MY**	**80K4**	85
	20	169	67.20*	5350	1.00	**TSA**	**48**	**MY**	**80K4**	86
	25	165	54.59	5130	0.95	**TSAF**	**48**	**MY**	**80K4**	85
	29	144	47.32	5010	1.10					
	31	135	44.22*	4950	1.15					
	36	118	38.23	4810	1.30					
	42	101	32.48*	4650	1.55					
	47	91	29.00*	4540	1.70					
	55	78	24.77	4380	2.0					
	59	74	23.20*	4310	2.1					
	67	69	20.33	3920	1.60					
	77	60	17.62	3810	1.85					
	83	56	16.47*	3750	1.95					
	96	49	14.24	3630	2.3					
	112	42	12.10*	3500	2.6					
	126	37	10.80*	3400	2.9					
	147	32	9.23*	3270	3.4					
	44	94	30.68	2680	0.80	**TS**	**38**	**MY**	**80K4**	81
	47	89	28.76	2670	0.85	**TSF**	**38**	**MY**	**80K4**	82
	54	79	25.38*	2630	0.95	**TSA**	**38**	**MY**	**80K4**	83
	60	70	22.50*	2600	1.05	**TSAF**	**38**	**MY**	**80K4**	82
	71	60	19.13*	2540	1.20					
	88	53	15.53	2230	0.95					
	102	46	13.39	2200	1.10					
	109	43	12.48*	2180	1.15					
	125	37	10.91	2130	1.30					
	133	35	10.23	2110	1.35					
	151	31	9.02*	2070	1.50					
	170	28	8.00*	2020	1.60					
	200	24	6.80*	1950	1.80					

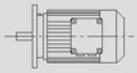
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
0.55	94	46	28.76	2420	1.40	**TS**	**38**	**MY 71D2**	81
	106	41	25.38*	2360	1.50	**TSF**	**38**	**MY 71D2**	82
	120	37	22.50*	2310	1.55	**TSA**	**38**	**MY 71D2**	83
	136	34	19.89	2100	1.30	**TSAF**	**38**	**MY 71D2**	82
	148	32	18.24*	2070	1.40				
	174	27	15.53	2010	1.55				
	202	24	13.39	1950	1.75				
	216	22	12.48*	1920	1.85				
	248	19	10.91	1870	2.0				
	264	18	10.23	1840	2.1				
	299	16	9.02*	1780	2.3				
	338	14	8.00*	1730	2.5				
	397	12	6.80*	1660	2.4				
0.75	1.1	4910	1223	18400	0.85	**TS**	**98 / TRF58**	**MY 80N4**	108
	1.3	4300	1070	29800	1.00	**TSF**	**98 / TRF58**	**MY 80N4**	108
	1.5	3710	928	33800	1.15	**TSA**	**98 / TRF58**	**MY 80N4**	108
	1.7	3270	824	34500	1.30	**TSAF**	**98 / TRF58**	**MY 80N4**	108
	1.9	2330	714	35800	1.80				
	2.2	2480	626	35600	1.70				
	2.6	2130	538	36000	1.95				
	2.9	1930	484	36200	2.2				
	1.3	3060	1032	17400	0.80	**TS**	**88 / TRF58**	**MY 80N4**	108
	1.5	2820	930	25300	0.90	**TSF**	**88 / TRF58**	**MY 80N4**	108
	1.7	2540	831	27400	1.00	**TSA**	**88 / TRF58**	**MY 80N4**	108
	1.9	2220	719	28100	1.15	**TSAF**	**88 / TRF58**	**MY 80N4**	108
	2.2	1940	624	28500	1.30				
	2.5	1750	558	28800	1.45				
	3.2	1400	435	29300	1.75				
	4.3	1070	323	29600	2.2				
	4.2	1250	327	11900	1.00	**TS**	**78 / TRF38**	**MY 80N4**	108
	4.8	1120	289	12900	1.10	**TSF**	**78 / TRF38**	**MY 80N4**	108
	5.5	970	250	14000	1.25	**TSA**	**78 / TRF38**	**MY 80N4**	108
	6.3	860	219	14600	1.45	**TSAF**	**78 / TRF38**	**MY 80N4**	108
	2.4	2040	286.40*	36100	2.1	**TS**	**98**	**MY 100M8**	104
	2.6	1890	262.22	36300	2.2	**TSF**	**98**	**MY 100M8**	105
	3.0	1690	231.67	36400	2.5	**TSA**	**98**	**MY 100M8**	106
						TSAF	**98**	**MY 100M8**	105
	3.1	1540	288.00*	29100	1.60	**TS**	**88**	**MY 90S6**	100
	3.5	1400	258.18	29300	1.75	**TSF**	**88**	**MY 90S6**	101
	4.0	1220	222.40*	29500	1.95	**TSA**	**88**	**MY 90S6**	102
	4.4	1120	202.96	29600	2.1	**TSAF**	**88**	**MY 90S6**	101
	4.8	1050	288.00*	29600	2.2	**TS**	**88**	**MY 80N4**	100
	5.4	950	258.18	29700	2.4	**TSF**	**88**	**MY 80N4**	101
	6.2	830	222.40*	29800	2.8	**TSA**	**88**	**MY 80N4**	102
	6.8	765	202.96	29900	3.0	**TSAF**	**88**	**MY 80N4**	101
	4.0	1160	225.26	12700	1.10	**TS**	**78**	**MY 90S6**	96
	4.2	1110	214.00*	13100	1.15	**TSF**	**78**	**MY 90S6**	97
	4.8	990	189.09	13900	1.30	**TSA**	**78**	**MY 90S6**	98
	5.6	860	161.60*	14600	1.45	**TSAF**	**78**	**MY 90S6**	97
	5.4	890	256.47	14500	1.45	**TS**	**78**	**MY 80N4**	96
	6.1	790	225.26	14900	1.60	**TSF**	**78**	**MY 80N4**	97
	6.5	755	214.00*	15100	1.70	**TSA**	**78**	**MY 80N4**	98
	7.3	675	189.09	15400	1.9	**TSAF**	**78**	**MY 80N4**	97
	8.5	585	161.60*	15800	2.2				
	9.3	545	148.15	15900	2.3				
	11	480	130.00*	16000	2.5				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
0.75	11	460	123.20*	16000	2.6	**TS**	**78**	**MY 80N4**	96
	13	405	107.83	16000	2.9	**TSF**	**78**	**MY 80N4**	97
						TSA	**78**	**MY 80N4**	98
						TSAF	**78**	**MY 80N4**	97
	7.3	625	190.11	7570	0.85	**TS**	**68**	**MY 80N4**	92
	7.6	595	180.60*	7900	0.85	**TSF**	**68**	**MY 80N4**	93
	8.7	530	158.45	8570	1.00	**TSA**	**68**	**MY 80N4**	94
	10	460	134.40*	9180	1.15	**TSAF**	**68**	**MY 80N4**	93
	11	420	121.33	9470	1.25				
	13	375	106.75*	9750	1.40				
	14	355	100.80*	9860	1.45				
	16	305	85.83	10100	1.70				
	18	310	75.06	10100	1.55				
	21	275	65.63	10200	1.75				
	22	260	62.35*	10300	1.85				
	25	230	54.70	10300	2.1				
	30	198	46.40*	9840	2.4				
	13	365	71.75*	6430	0.80	**TS**	**58**	**MY 90S6**	88
	13	345	67.20*	6660	0.85	**TSF**	**58**	**MY 90S6**	89
	16	295	56.61	7140	1.00	**TSA**	**58**	**MY 90S6**	90
	19	295	47.32	7150	0.90	**TSAF**	**58**	**MY 90S6**	89
	20	275	44.22*	7300	1.00				
	12	365	110.73	6400	0.80	**TS**	**58**	**MY 80N4**	88
	15	315	94.08*	6930	0.95	**TSF**	**58**	**MY 80N4**	89
	16	285	84.00*	7210	1.05	**TSA**	**58**	**MY 80N4**	90
	19	250	71.75*	7500	1.15	**TSAF**	**58**	**MY 80N4**	89
	21	235	67.20*	7590	1.20				
	25	225	54.59	7650	1.10				
	29	197	47.32	7810	1.25				
	31	185	44.22*	7870	1.35				
	36	161	38.23	7980	1.50				
	42	138	32.48*	7670	1.80				
	48	124	29.00*	7450	2.0				
	56	107	24.77	7150	2.3				
	59	100	23.20*	7030	2.5				
	68	93	20.33	6490	1.80				
	78	81	17.62	6260	2.1				
	84	76	16.47*	6160	2.2				
	97	66	14.24	5930	2.6				
	29	194	47.32	4530	0.80	**TS**	**48**	**MY 80N4**	84
	31	182	44.22*	4500	0.85	**TSF**	**48**	**MY 80N4**	85
	36	159	38.23	4420	1.00	**TSA**	**48**	**MY 80N4**	86
	42	136	32.48*	4310	1.15	**TSAF**	**48**	**MY 80N4**	85
	48	122	29.00*	4230	1.25				
	56	106	24.77	4110	1.45	**TS**	**48**	**MY 80N4**	84
	59	99	23.20*	4060	1.55	**TSF**	**48**	**MY 80N4**	85
	68	93	20.33	3610	1.20	**TSA**	**48**	**MY 80N4**	86
	78	81	17.62	3530	1.35	**TSAF**	**48**	**MY 80N4**	85
	84	76	16.47*	3490	1.45				
	97	66	14.24	3410	1.65				
	114	56	12.10*	3300	1.95				
	128	50	10.80*	3230	2.2				
	150	43	9.23*	3120	2.5				
	160	41	8.64*	3070	2.7				
	190	34	7.28	2950	3.0				

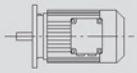
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs			Page
0.75	72	81	19.13*	2270	0.85	**TS 38**	**MY 80N4**	81
	111	57	12.48*	1930	0.85	**TSF 38**	**MY 80N4**	82
	127	50	10.91	1920	0.95	**TSA 38**	**MY 80N4**	83
	135	47	10.23	1910	1.00	**TSAF 38**	**MY 80N4**	82
	153	42	9.02*	1890	1.10			
	173	37	8.00*	1860	1.20			
	203	32	6.80*	1820	1.35			
	141	43	19.13*	2090	1.05	**TS 38**	**MY 80K2**	81
	174	37	15.53	1860	1.15	**TSF 38**	**MY 80K2**	82
	202	32	13.39	1820	1.30	**TSA 38**	**MY 80K2**	83
	216	30	12.48*	1800	1.35	**TSAF 38**	**MY 80K2**	82
	248	26	10.91	1760	1.50			
	264	25	10.23	1740	1.55			
	299	22	9.02*	1690	1.65			
	338	19	8.00*	1650	1.80			
	397	17	6.80*	1590	1.75			
1.1	1.7	4780	824	22300	0.90	**TS 98 / TRF58**	**MY 90S4**	108
	2.0	3410	714	34300	1.25	**TSF 98 / TRF58**	**MY 90S4**	108
	2.2	3630	626	33900	1.15	**TSA 98 / TRF58**	**MY 90S4**	108
	2.6	3120	538	34800	1.35	**TSAF 98 / TRF58**	**MY 90S4**	108
	2.9	2820	484	35200	1.50			
	3.3	2450	420	35700	1.70			
	2.2	2840	624	24800	0.90	**TS 88 / TRF58**	**MY 90S4**	108
	2.5	2570	558	27300	0.95	**TSF 88 / TRF58**	**MY 90S4**	108
	2.9	2260	485	28000	1.10	**TSA 88 / TRF58**	**MY 90S4**	108
	3.2	2060	435	28300	1.20	**TSAF 88 / TRF58**	**MY 90S4**	108
	3.7	1810	378	28700	1.35			
	4.3	1570	323	29100	1.55			
	5.0	1380	281	29300	1.75			
	5.5	1480	255	29200	1.35			
	6.3	1300	222	29400	1.55			
	6.8	1210	205	29500	1.65			
	6.4	1250	219	11800	1.00	**TS 78 / TRF38**	**MY 90S4**	108
						TSF 78 / TRF38	**MY 90S4**	108
						TSA 78 / TRF38	**MY 90S4**	108
						TSAF 78 / TRF38	**MY 90S4**	108
	2.3	3080	286.40*	34800	1.35	**TS 98**	**MY 100L8**	104
	2.6	2840	262.22	35200	1.50	**TSF 98**	**MY 100L8**	105
	2.9	2540	231.67	35600	1.65	**TSA 98**	**MY 100L8**	106
	3.4	2190	196.52	36000	1.90	**TSAF 98**	**MY 100L8**	105
	3.2	2310	286.40*	35900	1.80	**TS 98**	**MY 90L6**	104
	3.5	2130	262.22	36000	1.95	**TSF 98**	**MY 90L6**	105
	4.0	1900	231.67	36300	2.2	**TSA 98**	**MY 90L6**	106
						TSAF 98	**MY 90L6**	105
	3.2	2220	288.00*	28100	1.10	**TS 88**	**MY 90L6**	100
	3.6	2010	258.18	28400	1.20	**TSF 88**	**MY 90L6**	101
	4.1	1760	222.40*	28800	1.35	**TSA 88**	**MY 90L6**	102
	4.5	1620	202.96	29000	1.45	**TSAF 88**	**MY 90L6**	101
	4.9	1520	288.00*	29100	1.50	**TS 88**	**MY 90S4**	100
	5.4	1370	258.18	29300	1.65	**TSF 88**	**MY 90S4**	101
	6.3	1200	222.40*	29500	1.90	**TSA 88**	**MY 90S4**	102
	6.9	1100	202.96	29600	2.1	**TSAF 88**	**MY 90S4**	101
	7.8	990	180.00*	29700	2.2			
	9.2	840	151.30	29800	2.6			

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
1.1	6.2	1150	225.26	12800	1.10	**TS**	**78**	**MY 90S4**	96
	6.5	1100	214.00*	13200	1.15	**TSF**	**78**	**MY 90S4**	97
	7.4	980	189.09	13900	1.30	**TSA**	**78**	**MY 90S4**	98
	8.7	850	161.60*	14700	1.50	**TSAF**	**78**	**MY 90S4**	97
	9.5	785	148.15	15000	1.60				
	11	695	130.00*	15400	1.75				
	11	665	123.20*	15500	1.80				
	13	585	107.83	15800	2.0				
	14	535	97.14	15900	2.1				
	16	470	85.22	16000	2.3				
	12	605	121.33	7790	0.85	**TS**	**68**	**MY 90S4**	92
	13	540	106.75*	8490	0.95	**TSF**	**68**	**MY 90S4**	93
	14	515	100.80*	8740	1.00	**TSA**	**68**	**MY 90S4**	94
	16	445	85.83	9300	1.15	**TSAF**	**68**	**MY 90S4**	93
	18	405	78.00*	9550	1.30				
	21	400	65.63	9610	1.20				
	22	380	62.35*	9720	1.25				
	26	335	54.70	9560	1.45				
	30	285	46.40*	9240	1.65				
	33	260	41.89	9040	1.85				
	38	230	36.85	8780	2.1				
	40	220	34.80*	8660	2.2				
	47	187	29.63	8330	2.6				
	20	360	71.75*	6480	0.80	**TS**	**58**	**MY 90S4**	88
	21	340	67.20*	6710	0.85	**TSF**	**58**	**MY 90S4**	89
	25	290	56.61	7180	0.90	**TSA**	**58**	**MY 90S4**	90
	30	285	47.32	7220	0.85	**TSAF**	**58**	**MY 90S4**	89
	32	265	44.22*	7360	0.90	**TS**	**58**	**MY 90S4**	88
	37	235	38.23	7410	1.05	**TSF**	**58**	**MY 90S4**	89
	43	200	32.48*	7170	1.25	**TSA**	**58**	**MY 90S4**	90
	48	179	29.00*	7000	1.35	**TSAF**	**58**	**MY 90S4**	89
	57	154	24.77	6760	1.60				
	60	145	23.20*	6660	1.70				
	72	123	19.54	6390	1.75				
	79	117	17.62	5870	1.45				
	85	110	16.47*	5780	1.55				
	98	95	14.24	5610	1.75				
	116	82	12.10*	5400	2.1				
	130	73	10.80*	5260	2.3				
	152	63	9.23*	5050	2.7				
	48	177	29.00*	3720	0.90	**TS**	**48**	**MY 90S4**	84
	57	153	24.77	3670	1.00	**TSF**	**48**	**MY 90S4**	85
	60	143	23.20*	3640	1.05	**TSA**	**48**	**MY 90S4**	86
	72	122	19.54	3560	1.20	**TSAF**	**48**	**MY 90S4**	85
	79	117	17.62	3070	0.95				
	85	109	16.47*	3060	1.00				
	98	95	14.24	3030	1.15	**TS**	**48**	**MY 90S4**	84
	116	81	12.10*	2980	1.35	**TSF**	**48**	**MY 90S4**	85
	130	73	10.80*	2940	1.50	**TSA**	**48**	**MY 90S4**	86
	152	63	9.23*	2870	1.75	**TSAF**	**48**	**MY 90S4**	85
	162	59	8.64*	2840	1.85				
	192	50	7.28	2750	2.1				
	175	54	8.00*	1570	0.85	**TS**	**38**	**MY 90S4**	81
	206	46	6.80*	1580	0.95	**TSF**	**38**	**MY 90S4**	82
						TSA	**38**	**MY 90S4**	83
						TSAF	**38**	**MY 90S4**	82

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs			Page
1.1	202	47	13.39	1590	0.85	**TS 38**	**MY 80N2**	81
	216	44	12.48*	1580	0.90	**TSF 38**	**MY 80N2**	82
	248	39	10.91	1570	1.00	**TSA 38**	**MY 80N2**	83
	264	36	10.23	1560	1.05	**TSAF 38**	**MY 80N2**	82
	299	32	9.02*	1540	1.10			
	338	28	8.00*	1510	1.25			
	397	24	6.80*	1470	1.20			
1.5	2.0	4640	714	28400	0.90	**TS 98 / TRF58**	**MY 90L4**	108
	2.2	4950	626	16200	0.85	**TSF 98 / TRF58**	**MY 90L4**	108
	2.6	4260	538	30500	1.00	**TSA 98 / TRF58**	**MY 90L4**	108
	2.9	3850	484	33500	1.10	**TSAF 98 / TRF58**	**MY 90L4**	108
	3.4	3350	420	34400	1.25			
	3.8	3030	376	34900	1.40			
	4.3	2660	327	35400	1.60			
	2.9	3090	485	15900	0.80	**TS 88 / TRF58**	**MY 90L4**	108
	3.2	2810	435	25500	0.85	**TSF 88 / TRF58**	**MY 90L4**	108
	3.7	2470	378	27600	1.00	**TSA 88 / TRF58**	**MY 90L4**	108
	4.4	2150	323	28200	1.10	**TSAF 88 / TRF58**	**MY 90L4**	108
	5.0	1890	281	28600	1.25			
	5.5	2020	255	28400	1.00			
	6.4	1770	222	28800	1.10			
	6.9	1650	205	28900	1.20			
	2.4	4030	286.40*	33100	1.05	**TS 98**	**MY 112M8**	104
	2.7	3720	262.22	33700	1.15	**TSF 98**	**MY 112M8**	105
	3.0	3330	231.67	34400	1.25	**TSA 98**	**MY 112M8**	106
	3.6	2870	196.52	35200	1.45	**TSAF 98**	**MY 112M8**	105
	3.2	3150	286.40*	34700	1.35	**TS 98**	**MY 100M6**	104
	3.5	2910	262.22	35100	1.45	**TSF 98**	**MY 100M6**	105
	4.0	2600	231.67	35500	1.60	**TSA 98**	**MY 100M6**	106
	4.7	2230	196.52	35900	1.90	**TSAF 98**	**MY 100M6**	105
	4.9	2130	286.40*	36000	1.90	**TS 98**	**MY 90L4**	104
	5.4	1970	262.22	36200	2.0	**TSF 98**	**MY 90L4**	105
	6.1	1760	231.67	36400	2.3	**TSA 98**	**MY 90L4**	106
	7.2	1510	196.52	36600	2.7	**TSAF 98**	**MY 90L4**	105
	3.6	2740	258.18	26600	0.90	**TS 88**	**MY 100M6**	100
	4.1	2390	222.40*	27700	1.00	**TSF 88**	**MY 100M6**	101
	4.5	2200	202.96	28100	1.10	**TSA 88**	**MY 100M6**	102
	5.1	1980	180.00*	28500	1.20	**TSAF 88**	**MY 100M6**	101
	4.9	2060	288.00*	28300	1.10	**TS 88**	**MY 90L4**	100
	5.5	1860	258.18	28700	1.20	**TSF 88**	**MY 90L4**	101
	6.3	1630	222.40*	29000	1.40	**TSA 88**	**MY 90L4**	102
	7.0	1500	202.96	29200	1.50	**TSAF 88**	**MY 90L4**	101
	7.8	1340	180.00*	29400	1.65			
	9.3	1140	151.30	29600	1.90			
	10	1060	139.05	29600	2.0			
	11	950	123.48	29700	2.2			
	13	850	110.40*	29800	2.4			
	14	770	99.26	29900	2.5			
	7.5	1330	189.09	10600	0.95	**TS 78**	**MY 90L4**	96
	8.7	1150	161.60*	12700	1.10	**TSF 78**	**MY 90L4**	97
	9.5	1060	148.15	13400	1.15	**TSA 78**	**MY 90L4**	98
	11	940	130.00*	14100	1.30	**TSAF 78**	**MY 90L4**	97
	11	900	123.20*	14400	1.35			
	13	795	107.83	14900	1.45			
	15	725	97.14	15300	1.60			
	17	640	85.22	15400	1.70			

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs			Page
1.5	19	650	75.09	14100	1.70	**TS 78**	**MY 90L4**	96
	20	620	71.33	14000	1.80	**TSF 78**	**MY 90L4**	97
	21	510	66.67	14600	2.0	**TSA 78**	**MY 90L4**	98
	22	550	63.03	13700	2.0	**TSAF 78**	**MY 90L4**	97
	25	440	56.92	14000	2.3			
	26	470	53.87	13200	2.3			
	29	435	49.38	13000	2.5			
	33	385	43.33	12600	2.9			
	16	600	85.83	7850	0.85	**TS 68**	**MY 90L4**	92
	18	550	78.00*	8390	0.95	**TSF 68**	**MY 90L4**	93
	21	540	65.63	8510	0.90	**TSA 68**	**MY 90L4**	94
						TSAF 68	**MY 90L4**	93
	23	515	62.35*	8740	0.95	**TS 68**	**MY 90L4**	92
	26	455	54.70	8810	1.05	**TSF 68**	**MY 90L4**	93
	30	390	46.40*	8590	1.25	**TSA 68**	**MY 90L4**	94
	34	355	41.89	8450	1.35	**TSAF 68**	**MY 90L4**	93
	38	310	36.85	8250	1.55			
	41	295	34.80*	8160	1.60			
	48	255	29.63	7900	1.90			
	52	230	26.93	7740	2.1			
	58	220	24.44	7000	1.55			
	61	210	23.22*	6950	1.60			
	69	186	20.37	6790	1.85			
	82	159	17.28*	6580	2.1			
	90	144	15.60*	6440	2.4			
	103	127	13.73*	6260	2.7			
	43	270	32.48*	6630	0.90	**TS 58**	**MY 90L4**	88
	49	245	29.00*	6520	1.00	**TSF 58**	**MY 90L4**	89
	57	210	24.77	6340	1.15	**TSA 58**	**MY 90L4**	90
	61	196	23.20*	6270	1.25	**TSAF 58**	**MY 90L4**	89
	72	167	19.54	6060	1.30			
	80	159	17.62	5430	1.05			
	86	149	16.47*	5380	1.15			
	99	129	14.24	5250	1.30			
	117	110	12.10*	5100	1.55			
	131	99	10.80*	4980	1.70			
	153	85	9.23*	4820	2.0			
	99	129	14.24	2610	0.85	**TS 48**	**MY 90L4**	84
	117	110	12.10*	2620	1.00	**TSF 48**	**MY 90L4**	85
	131	99	10.80*	2620	1.10	**TSA 48**	**MY 90L4**	86
						TSAF 48	**MY 90L4**	85
	153	85	9.23*	2590	1.30	**TS 48**	**MY 90L4**	84
	163	79	8.64*	2580	1.35	**TSF 48**	**MY 90L4**	85
	194	67	7.28	2530	1.55	**TSA 48**	**MY 90L4**	86
						TSAF 48	**MY 90L4**	85
	310	42	9.02*	1350	0.85	**TS 38**	**MY 90S2**	81
	350	37	8.00*	1350	0.95	**TSF 38**	**MY 90S2**	82
	412	32	6.80*	1330	0.90	**TSA 38**	**MY 90S2**	83
						TSAF 38	**MY 90S2**	82
2.2	3.4	4950	420	16300	0.85	**TS 98 / TRF58**	**MY 100M4**	108
	3.8	4460	376	27600	0.95	**TSF 98 / TRF58**	**MY 100M4**	108
	4.3	3910	327	33400	1.05	**TSA 98 / TRF58**	**MY 100M4**	108
	4.9	3460	287	34200	1.20	**TSAF 98 / TRF58**	**MY 100M4**	108
	5.6	3030	252	34900	1.40			

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs					Page
2.2	3.3	4530	286.40*	30200	0.95	**TS**	**98**	**MY**	**112M6**	104
	3.6	4180	262.22	32800	1.00	**TSF**	**98**	**MY**	**112M6**	105
	4.1	3730	231.67	33700	1.15	**TSA**	**98**	**MY**	**112M6**	106
	4.8	3210	196.52	34600	1.30	**TSAF**	**98**	**MY**	**112M6**	105
	4.9	3130	286.40*	34800	1.30	**TS**	**98**	**MY**	**100M4**	104
	5.4	2890	262.22	35100	1.40	**TSF**	**98**	**MY**	**100M4**	105
	6.1	2570	231.67	35500	1.55	**TSA**	**98**	**MY**	**100M4**	106
	7.2	2210	196.52	36000	1.80	**TSAF**	**98**	**MY**	**100M4**	105
	7.8	2050	180.95	36100	1.90					
	8.7	1840	161.74	36300	2.1					
	9.7	1670	145.60*	36500	2.2					
	11	1520	131.85	36600	2.4					
	12	1360	116.92	36700	2.6					
	13	1240	105.71	36800	2.8					
	16	1060	89.60*	36900	3.1					
	5.5	2730	258.18	26800	0.85	**TS**	**88**	**MY**	**100M4**	100
	6.3	2380	222.40*	27700	0.95	**TSF**	**88**	**MY**	**100M4**	101
	7.0	2190	202.96	28100	1.05	**TSA**	**88**	**MY**	**100M4**	102
	7.8	1970	180.00*	28500	1.10	**TSAF**	**88**	**MY**	**100M4**	101
	9.3	1680	151.30	28900	1.30					
	10	1550	139.05	29100	1.35					
	11	1390	123.48	29300	1.50					
	13	1250	110.40*	29500	1.60					
	14	1130	99.26	29600	1.75					
	16	990	86.15	29700	1.90					
	17	1060	81.76	29600	1.50					
	18	890	77.14	29800	2.0					
	20	920	70.43	29700	1.75					
	22	840	64.27	29800	1.90					
	25	750	57.00*	29900	2.1					
	11	1390	130.00*	6140	0.85	**TS**	**78**	**MY**	**100M4**	96
	11	1320	123.20*	11100	0.90	**TSF**	**78**	**MY**	**100M4**	97
	13	1170	107.83	12600	1.00	**TSA**	**78**	**MY**	**100M4**	98
	15	1060	97.14	13400	1.10	**TSAF**	**78**	**MY**	**100M4**	97
	17	940	85.22	14100	1.15					
	19	840	75.20*	13800	1.30					
	21	745	66.67	13500	1.40					
	22	810	63.03	12400	1.35					
	25	645	56.92	13100	1.55					
	26	695	53.87	12100	1.60					
	29	635	49.38	11900	1.75					
	33	560	43.33	11700	1.95					
	34	535	41.07	11600	2.1					
	39	470	35.94	11300	2.3					
	44	425	32.38	11000	2.6					
	50	375	28.41	10700	2.8					
	56	330	25.07	10400	3.1					
	62	310	22.89	9490	2.3					
	67	285	20.99	9340	2.5					
	30	570	46.40*	7480	0.85	**TS**	**68**	**MY**	**100M4**	92
	34	515	41.89	7440	0.95	**TSF**	**68**	**MY**	**100M4**	93
	38	460	36.85	7360	1.05	**TSA**	**68**	**MY**	**100M4**	94
	41	435	34.80*	7320	1.10	**TSAF**	**68**	**MY**	**100M4**	93
	48	370	29.63	7180	1.30					
	52	340	26.93	7080	1.40					
	60	295	23.33	6920	1.60					

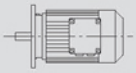
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs			Page
2.2	69	275	20.37	6060	1.25	**TS 68**	**MY 100M4**	92
	82	235	17.28*	5960	1.45	**TSF 68**	**MY 100M4**	93
	90	210	15.60*	5880	1.60	**TSA 68**	**MY 100M4**	94
	103	186	13.73*	5770	1.85	**TSAF 68**	**MY 100M4**	93
	109	176	12.96*	5710	1.95			
	128	151	11.03	5550	2.3			
	141	137	10.03	5450	2.5			
	162	119	8.69	5300	2.8			
	99	190	14.24	4640	0.90	**TS 58**	**MY 100M4**	88
	117	162	12.10*	4580	1.05	**TSF 58**	**MY 100M4**	89
	131	145	10.80*	4520	1.15	**TSA 58**	**MY 100M4**	90
	153	124	9.23*	4420	1.35	**TSAF 58**	**MY 100M4**	89
	163	117	8.64*	4380	1.40			
	194	99	7.28	4250	1.50			
3.0	4.9	4760	287	22900	0.90	**TS 98 / TRF58**	**MY 100L4**	108
	5.6	4180	252	31900	1.00	**TSF 98 / TRF58**	**MY 100L4**	108
	6.4	3650	219	33900	1.15	**TSA 98 / TRF58**	**MY 100L4**	108
	6.8	3440	205	34300	1.20	**TSAF 98 / TRF58**	**MY 100L4**	108
	4.9	4290	286.40*	32600	0.95	**TS 98**	**MY 100L4**	104
	5.3	3960	262.22	33300	1.00	**TSF 98**	**MY 100L4**	105
	6.0	3530	231.67	34100	1.15	**TSA 98**	**MY 100L4**	106
	7.1	3040	196.52	34900	1.30	**TSAF 98**	**MY 100L4**	105
	7.7	2810	180.95	35200	1.40			
	8.7	2530	161.74	35600	1.50			
	9.6	2300	145.60*	35900	1.65			
	11	2090	131.85	36100	1.75			
	12	1870	116.92	36300	1.90			
	13	1700	105.71	36400	2.0			
	16	1450	89.60*	36600	2.2			
	17	1470	80.85	36600	2.2			
	7.8	2700	180.00*	27100	0.80	**TS 88**	**MY 100L4**	100
	9.2	2300	151.30	27900	0.95	**TSF 88**	**MY 100L4**	101
	10	2130	139.05	28200	1.00	**TSA 88**	**MY 100L4**	102
	11	1900	123.48	28600	1.10	**TSAF 88**	**MY 100L4**	101
	13	1720	110.40*	28900	1.15			
	14	1550	99.26	29100	1.25			
	16	1360	86.15	29300	1.40			
	17	1460	81.76	29200	1.10			
	18	1230	77.14	29500	1.50			
	20	1260	70.43	29400	1.25			
	22	1160	64.27	29500	1.40			
	25	1030	57.00*	29700	1.55			
	29	870	47.91	29800	1.85			
	32	800	44.03	29800	2.0			
	36	715	39.10	29900	2.2			
	40	640	34.96*	29900	2.5			
	16	1290	85.22	11500	0.85	**TS 78**	**MY 100L4**	96
	19	1150	75.20*	12500	0.95	**TSF 78**	**MY 100L4**	97
	21	1020	66.67	12400	1.00	**TSA 78**	**MY 100L4**	98
	22	1110	63.03	10900	1.00	**TSAF 78**	**MY 100L4**	97
	25	880	56.92	12100	1.10	**TS 78**	**MY 100L4**	96
	26	950	53.87	10800	1.15	**TSF 78**	**MY 100L4**	97
	28	880	49.38	10800	1.25	**TSA 78**	**MY 100L4**	98
	32	770	43.33	10700	1.40	**TSAF 78**	**MY 100L4**	97
	34	735	41.07	10600	1.50			
	39	645	35.94	10400	1.70			

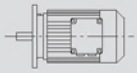
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
3.0	43	585	32.38	10300	1.85	**TS**	**78**	**MY 100L4**	96
	49	515	28.41	10100	2.0	**TSF**	**78**	**MY 100L4**	97
	56	455	25.07	9840	2.2	**TSA**	**78**	**MY 100L4**	98
	61	430	22.89	8680	1.65	**TSAF**	**78**	**MY 100L4**	97
	67	395	20.99	8590	1.80				
	76	345	18.42	8450	2.0				
	80	330	17.45	8390	2.2				
	92	290	15.28	8210	2.5				
	102	260	13.76	8060	2.7				
	116	230	12.07	7870	3.1				
	131	205	10.65	7670	3.6				
	40	595	34.80*	6350	0.80	**TS**	**68**	**MY 100L4**	92
	47	510	29.63	6350	0.95	**TSF**	**68**	**MY 100L4**	93
	52	465	26.93	6330	1.05	**TSA**	**68**	**MY 100L4**	94
						TSAF	**68**	**MY 100L4**	93
	60	405	23.33	6270	1.20	**TS**	**68**	**MY 100L4**	92
	69	375	20.37	5230	0.90	**TSF**	**68**	**MY 100L4**	93
	81	320	17.28*	5250	1.05	**TSA**	**68**	**MY 100L4**	94
	90	290	15.60*	5240	1.15	**TSAF**	**68**	**MY 100L4**	93
	102	255	13.73*	5210	1.35				
	108	240	12.96*	5190	1.40				
	127	205	11.03	5100	1.65				
	140	188	10.03	5050	1.80				
	161	164	8.69	4940	2.1				
	185	143	7.56*	4830	2.1				
	130	199	10.80*	3990	0.85	**TS**	**58**	**MY 100L4**	88
	152	171	9.23*	3970	1.00	**TSF**	**58**	**MY 100L4**	89
	162	160	8.64*	3960	1.05	**TSA**	**58**	**MY 100L4**	90
	192	136	7.28	3900	1.10	**TSAF**	**58**	**MY 100L4**	89
4.0	6.5	4820	219	21900	0.85	**TS**	**98 / TRF58**	**MY 112M4**	108
	6.9	4530	205	26700	0.95	**TSF**	**98 / TRF58**	**MY 112M4**	108
						TSA	**98 / TRF58**	**MY 112M4**	108
						TSAF	**98 / TRF58**	**MY 112M4**	108
	6.1	4650	231.67	28300	0.85	**TS**	**98**	**MY 112M4**	104
	7.2	3990	196.52	33200	1.00	**TSF**	**98**	**MY 112M4**	105
	7.9	3700	180.95	33800	1.05	**TSA**	**98**	**MY 112M4**	106
	8.8	3330	161.74	34400	1.15	**TSAF**	**98**	**MY 112M4**	105
	9.8	3020	145.60*	34900	1.25				
	11	2750	131.85	35300	1.35				
	12	2460	116.92	35700	1.45				
	13	2230	105.71	35900	1.55				
	16	1910	89.60*	36300	1.70				
	18	1940	80.85	36200	1.65				
	20	1720	71.43	36400	1.90				
	23	1470	60.59	36600	2.3				
	25	1350	55.79	36700	2.4				
	12	2510	123.48	27500	0.80	**TS**	**88**	**MY 112M4**	100
	13	2260	110.40*	28000	0.90	**TSF**	**88**	**MY 112M4**	101
	14	2040	99.26	28400	0.95	**TSA**	**88**	**MY 112M4**	102
	16	1790	86.15	28800	1.05	**TSAF**	**88**	**MY 112M4**	101
	18	1610	77.14	29000	1.15				
	20	1660	70.43	28900	0.95				
	22	1520	64.27	29100	1.05				
	25	1350	57.00*	29300	1.20				
	30	1150	47.91	29500	1.40				
	32	1060	44.03	29600	1.50				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs					Page
4.0	36	940	39.10	29700	1.70	**TS**	**88**	**MY**	**112M4**	100
	41	840	34.96*	29800	1.90	**TSF**	**88**	**MY**	**112M4**	101
	45	760	31.43	29100	2.1	**TSA**	**88**	**MY**	**112M4**	102
	52	665	27.28	28200	2.4	**TSAF**	**88**	**MY**	**112M4**	101
	56	635	25.50*	26600	1.95					
	25	1160	56.92	10800	0.85	**TS**	**78**	**MY**	**112M4**	96
	26	1250	53.87	9250	0.90	**TSF**	**78**	**MY**	**112M4**	97
	29	1150	49.38	9320	0.95	**TSA**	**78**	**MY**	**112M4**	98
	33	1020	43.33	9370	1.10	**TSAF**	**78**	**MY**	**112M4**	97
	35	960	41.07	9370	1.15	**TS**	**78**	**MY**	**112M4**	96
	40	850	35.94	9340	1.30	**TSF**	**78**	**MY**	**112M4**	97
	44	765	32.38	9290	1.40	**TSA**	**78**	**MY**	**112M4**	98
	50	675	28.41	9190	1.55	**TSAF**	**78**	**MY**	**112M4**	97
	57	600	25.07	9070	1.70					
	62	565	22.89	7650	1.25					
	68	520	20.99	7650	1.35					
	77	455	18.42	7620	1.55					
	81	435	17.45	7590	1.65					
	93	380	15.28	7510	1.85					
	103	345	13.76	7430	2.1					
	118	300	12.07	7310	2.4					
	133	265	10.65	7170	2.7					
	150	235	9.44	7030	3.1					
	176	205	8.06	6830	3.4					
	82	420	17.28*	3810	0.80	**TS**	**68**	**MY**	**112M4**	92
	91	380	15.60*	4180	0.90	**TSF**	**68**	**MY**	**112M4**	93
	103	335	13.73*	4500	1.00	**TSA**	**68**	**MY**	**112M4**	94
	110	320	12.96*	4520	1.05	**TSAF**	**68**	**MY**	**112M4**	93
	129	270	11.03	4530	1.25					
	142	245	10.03	4520	1.35					
	163	215	8.69	4490	1.55					
	188	188	7.56*	4430	1.55					
5.5	8.8	4550	161.74	29900	0.85	**TS**	**98**	**MY**	**132S4**	104
	9.8	4130	145.60*	32900	0.90	**TSF**	**98**	**MY**	**132S4**	105
	11	3760	131.85	33700	0.95	**TSA**	**98**	**MY**	**132S4**	106
	12	3360	116.92	34400	1.05	**TSAF**	**98**	**MY**	**132S4**	105
	14	3050	105.71	34900	1.15					
	16	2610	89.60*	35500	1.25					
	18	2290	78.26	35900	1.35					
	20	2350	71.43	35800	1.40					
	22	1930	65.45	36200	1.50					
	24	2000	60.59	36200	1.65					
	26	1850	55.79	36300	1.80					
	29	1660	49.87	36500	2.0					
	32	1500	44.89	36600	2.2					
	35	1360	40.65	36700	2.4					
	19	2200	77.14	28100	0.85	**TS**	**88**	**MY**	**132S4**	100
	22	1850	64.00*	28700	0.90	**TSF**	**88**	**MY**	**132S4**	101
	25	1850	57.00*	28700	0.85	**TSA**	**88**	**MY**	**132S4**	102
	30	1560	47.91	29100	1.00	**TSAF**	**88**	**MY**	**132S4**	101
	32	1440	44.03	29200	1.10	**TS**	**88**	**MY**	**132S4**	100
	37	1280	39.10	29200	1.25	**TSF**	**88**	**MY**	**132S4**	101
	41	1150	34.96*	28600	1.40	**TSA**	**88**	**MY**	**132S4**	102
	45	1040	31.43	28000	1.55	**TSAF**	**88**	**MY**	**132S4**	101
	52	910	27.28	27200	1.75					
	56	870	25.50*	25200	1.45					

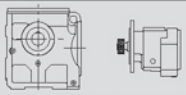
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
5.5	67	730	21.43	24500	1.70	**TS**	**88**	**MY 132S4**	100
	73	675	19.70	24100	1.85	**TSF**	**88**	**MY 132S4**	101
	82	600	17.49	23500	2.1	**TSA**	**88**	**MY 132S4**	102
	91	535	15.64*	23000	2.3	**TSAF**	**88**	**MY 132S4**	101
	102	485	14.06	22500	2.6				
	117	420	12.21	21800	3.0				
	131	375	10.93	21200	3.3				
	35	1320	41.07	7560	0.85	**TS**	**78**	**MY 132S4**	96
	40	1160	35.94	7750	0.95	**TSF**	**78**	**MY 132S4**	97
	44	1050	32.38	7850	1.05	**TSA**	**78**	**MY 132S4**	98
						TSAF	**78**	**MY 132S4**	97
	50	920	28.41	7920	1.15	**TS**	**78**	**MY 132S4**	96
	57	820	25.07	7940	1.25	**TSF**	**78**	**MY 132S4**	97
	64	725	22.22	7920	1.35	**TSA**	**78**	**MY 132S4**	98
	78	625	18.42	5920	1.15	**TSAF**	**78**	**MY 132S4**	97
	82	590	17.45	6170	1.20				
	94	520	15.28	6490	1.35				
	104	470	13.76	6510	1.50				
	118	410	12.07	6500	1.75				
	134	365	10.65	6450	2.0				
	151	325	9.44	6390	2.2				
	177	275	8.06	6280	2.5				
	130	370	11.03	2930	0.90	**TS**	**68**	**MY 132S4**	92
	143	340	10.03	3260	1.00	**TSF**	**68**	**MY 132S4**	93
	165	295	8.69	3670	1.15	**TSA**	**68**	**MY 132S4**	94
	189	255	7.56*	3850	1.15	**TSAF**	**68**	**MY 132S4**	93
7.5	14	4160	105.71	32900	0.85	**TS**	**98**	**MY 132M4**	104
	16	3560	89.60*	34100	0.90	**TSF**	**98**	**MY 132M4**	105
	18	3130	78.26	34800	1.00	**TSA**	**98**	**MY 132M4**	106
	20	3200	71.43	34600	1.05	**TSAF**	**98**	**MY 132M4**	105
	22	2630	65.45	35500	1.10				
	24	2730	60.59	35300	1.20				
	26	2520	55.79	35600	1.30				
	29	2260	49.87	35900	1.45				
	32	2040	44.89	36100	1.60				
	35	1850	40.65	36300	1.80				
	40	1650	36.05	36200	2.0				
	44	1490	32.60	35500	2.2				
	54	1240	26.39	32000	2.1				
	61	1110	23.59	31400	2.3				
	67	1000	21.23	30700	2.6				
	74	910	19.23	30100	2.9				
	32	1970	44.03	27800	0.80	**TS**	**88**	**MY 132M4**	100
	37	1750	39.10	27400	0.90	**TSF**	**88**	**MY 132M4**	101
	41	1570	34.96*	27000	1.00	**TSA**	**88**	**MY 132M4**	102
						TSAF	**88**	**MY 132M4**	101
	45	1420	31.43	26500	1.15	**TS**	**88**	**MY 132M4**	100
	52	1230	27.28	25900	1.30	**TSF**	**88**	**MY 132M4**	101
	56	1180	25.50*	23500	1.05	**TSA**	**88**	**MY 132M4**	102
	67	1000	21.43	23000	1.25	**TSAF**	**88**	**MY 132M4**	101
	73	920	19.70	22700	1.35				
	82	820	17.49	22300	1.50				
	91	730	15.64*	21900	1.70				
	102	660	14.06	21500	1.90				
	117	575	12.21	20900	2.2				
	131	515	10.93	20500	2.4				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs				Page
7.5	158	430	9.07	19700	2.7	**TS**	**88**	**MY 132M4**	100
	181	375	7.88	19100	2.7	**TSF**	**88**	**MY 132M4**	101
						TSA	**88**	**MY 132M4**	102
						TSAF	**88**	**MY 132M4**	101
	50	1260	28.41	6240	0.85	**TS**	**78**	**MY 132M4**	96
	57	1110	25.07	6450	0.90	**TSF**	**78**	**MY 132M4**	97
	64	990	22.22	6600	1.00	**TSA**	**78**	**MY 132M4**	98
	78	850	18.42	1860	0.85	**TSAF**	**78**	**MY 132M4**	97
	82	810	17.45	2290	0.90	**TS**	**78**	**MY 132M4**	96
	94	705	15.28	3250	1.00	**TSF**	**78**	**MY 132M4**	97
	104	640	13.76	3890	1.10	**TSA**	**78**	**MY 132M4**	98
	118	560	12.07	4570	1.30	**TSAF**	**78**	**MY 132M4**	97
	134	495	10.65	5110	1.45				
	151	440	9.44	5540	1.65				
	177	380	8.06	5560	1.80				
9.2	18	3810	78.26	33600	0.80	**TS**	**98**	**MY 132ML4**	104
	22	3210	65.45	34600	0.90	**TSF**	**98**	**MY 132ML4**	105
	26	3070	55.79	34800	1.05	**TSA**	**98**	**MY 132ML4**	106
						TSAF	**98**	**MY 132ML4**	105
	29	2750	49.87	35300	1.20	**TS**	**98**	**MY 132ML4**	104
	32	2480	44.89	35600	1.35	**TSF**	**98**	**MY 132ML4**	105
	35	2260	40.65	35700	1.45	**TSA**	**98**	**MY 132ML4**	106
	40	2010	36.05	35000	1.65	**TSAF**	**98**	**MY 132ML4**	105
	44	1820	32.60	34400	1.75				
	55	1510	26.39	30700	1.70				
	61	1350	23.59	30200	1.90				
	68	1220	21.23	29700	2.1				
	75	1110	19.23	29200	2.4				
	84	980	17.05	28500	2.6				
	93	890	15.42	28000	2.8				
	110	755	13.07	27000	3.1				
	126	660	11.41	26200	3.3				
	41	1910	34.96*	25600	0.85	**TS**	**88**	**MY 132ML4**	100
	46	1730	31.43	25300	0.95	**TSF**	**88**	**MY 132ML4**	101
	53	1500	27.28	24800	1.05	**TSA**	**88**	**MY 132ML4**	102
	59	1350	24.43	24400	1.20	**TSAF**	**88**	**MY 132ML4**	101
	71	1120	20.27	23700	1.40	**TS**	**88**	**MY 132ML4**	100
	73	1120	19.70	21600	1.10	**TSF**	**88**	**MY 132ML4**	101
	82	1000	17.49	21300	1.25	**TSA**	**88**	**MY 132ML4**	102
	92	890	15.64*	21000	1.40	**TSAF**	**88**	**MY 132ML4**	101
	102	800	14.06	20700	1.55				
	118	700	12.21	20200	1.75				
	132	625	10.93	19800	2.0				
	159	520	9.07	19100	2.2				
	183	455	7.88	18600	2.2				
	76	1040	18.97	5760	0.90	**TS**	**78**	**MY 132ML4**	96
	105	780	13.76	1350	0.90	**TSF**	**78**	**MY 132ML4**	97
	119	685	12.07	2290	1.05	**TSA**	**78**	**MY 132ML4**	98
	135	605	10.65	3060	1.20	**TSAF**	**78**	**MY 132ML4**	97
	152	535	9.44	3690	1.35				
	179	460	8.06	4360	1.50				
11.0	26	3670	55.79	33800	0.90	**TS**	**98**	**MY 160M4**	104
	29	3290	49.87	34500	1.00	**TSF**	**98**	**MY 160M4**	105
	32	2970	44.89	34800	1.10	**TSA**	**98**	**MY 160M4**	106
	35	2700	40.65	34400	1.20	**TSAF**	**98**	**MY 160M4**	105
	40	2400	36.05	33800	1.40				

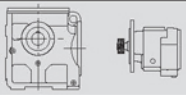
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs			Page
11.0	44	2170	32.60	33300	1.45	**TS 98**	**MY 160M4**	104
	55	1810	26.39	29400	1.45	**TSF 98**	**MY 160M4**	105
	61	1620	23.59	29000	1.60	**TSA 98**	**MY 160M4**	106
	68	1460	21.23	28600	1.80	**TSAF 98**	**MY 160M4**	105
	75	1320	19.23	28200	1.95			
	84	1180	17.05	27600	2.2			
	93	1070	15.42	27200	2.3			
	110	900	13.07	26400	2.6			
	126	790	11.41	25700	2.8			
	53	1800	27.28	23700	0.90	**TS 88**	**MY 160M4**	100
	59	1610	24.43	23400	1.00	**TSF 88**	**MY 160M4**	101
	71	1340	20.27	22800	1.20	**TSA 88**	**MY 160M4**	102
						TSAF 88	**MY 160M4**	101
	73	1340	19.70	20400	0.95	**TS 88**	**MY 160M4**	100
	82	1190	17.49	20200	1.05	**TSF 88**	**MY 160M4**	101
	92	1070	15.64*	20000	1.15	**TSA 88**	**MY 160M4**	102
	102	960	14.06	19800	1.30	**TSAF 88**	**MY 160M4**	101
	118	840	12.21	19400	1.50			
	132	750	10.93	19100	1.65			
	159	625	9.07	18600	1.85			
	183	545	7.88	18100	1.85			
15.0	33	4000	44.89	31400	0.85	**TS 98**	**MY 160L4**	104
	36	3630	40.65	31300	0.90	**TSF 98**	**MY 160L4**	105
	41	3230	36.05	31000	1.00	**TSA 98**	**MY 160L4**	106
						TSAF 98	**MY 160L4**	105
	45	2920	32.60	30800	1.10	**TS 98**	**MY 160L4**	104
	55	2430	26.39	26400	1.05	**TSF 98**	**MY 160L4**	105
	62	2180	23.59	26300	1.20	**TSA 98**	**MY 160L4**	106
	69	1970	21.23	26200	1.30	**TSAF 98**	**MY 160L4**	105
	76	1780	19.23	26000	1.45			
	86	1580	17.05	25700	1.60			
	95	1430	15.42	25400	1.70			
	112	1220	13.07	24800	1.90			
	128	1060	11.41	24300	2.1			
	153	890	9.55	23600	2.3			
	177	775	8.26	22900	2.3			
	93	1430	15.64*	17900	0.85	**TS 88**	**MY 160L4**	100
	104	1290	14.06	17900	0.95	**TSF 88**	**MY 160L4**	101
	120	1120	12.21	17800	1.10	**TSA 88**	**MY 160L4**	102
						TSAF 88	**MY 160L4**	101
	134	1010	10.93	17600	1.25	**TS 88**	**MY 160L4**	100
	161	840	9.07	17300	1.35	**TSF 88**	**MY 160L4**	101
	185	730	7.88	17000	1.40	**TSA 88**	**MY 160L4**	102
						TSAF 88	**MY 160L4**	101
18.5	41	3970	36.05	28700	0.85	**TS 98**	**MY 180M4**	104
	45	3590	32.60	28600	0.90	**TSF 98**	**MY 180M4**	105
	53	3060	27.63	28400	1.00	**TSA 98**	**MY 180M4**	106
	61	2680	24.13	28100	1.05	**TSAF 98**	**MY 180M4**	105
	69	2420	21.23	24100	1.10			
	76	2190	19.23	24100	1.20			
	86	1950	17.05	24000	1.30			
	95	1760	15.42	23900	1.40			
	112	1500	13.07	23500	1.55			
	128	1310	11.41	23200	1.70			
	153	1100	9.55	22600	1.85			
	177	950	8.26	22100	1.85			

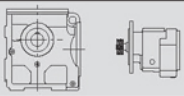
P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i	Fr_2 [N]	fs			Page
22	53	3630	27.63	26600	0.85	**TS 98**	**MY 180L4**	104
	61	3180	24.13	26500	0.90	**TSF 98**	**MY 180L4**	105
	69	2870	21.23	19800	0.90	**TSA 98**	**MY 180L4**	106
	76	2600	19.23	21800	1.00	**TSAF 98**	**MY 180L4**	105
	86	2310	17.05	22300	1.10			
	95	2090	15.42	22400	1.20	**TS 98**	**MY 180L4**	104
	112	1780	13.07	22300	1.30	**TSF 98**	**MY 180L4**	105
	128	1560	11.41	22100	1.40	**TSA 98**	**MY 180L4**	106
	153	1300	9.55	21700	1.55	**TSAF 98**	**MY 180L4**	105
	177	1130	8.26	21300	1.55			

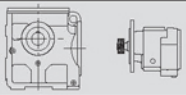
6.3 TS../TRF..MY.. Performance parameter

$M_{2\,max}$ [Nm]	n_2 [r/min]	i	Fr_2 [N]				Page
92	0.14	10037	3000	**TS**	**38 / TRF18**	**MY 63S4**	108
	0.16	8654	3000	**TSF**	**38 / TRF18**	**MY 63S4**	108
	0.17	8066	3000	**TSA**	**38 / TRF18**	**MY 63S4**	108
	0.20	7051	3000	**TSAF**	**38 / TRF18**	**MY 63S4**	108
	0.23	6079	3000				
	0.25	5431	3000				
	0.29	4747	3000				
	0.33	4155	3000				
	0.38	3632	3000				
	0.48	2866	3000				
	0.56	2471	3000				
	0.64	2160	3000				
	0.73	1887	3000				
	0.83	1665	3000				
	0.95	1456	3000				
	1.1	1271	3000				
	1.2	1121	3000				
	1.4	994	3000				
	1.6	869	3000				
	1.8	774	3000	**TS**	**38 / TRF18**	**MY 63S4**	108
	2.1	666	3000	**TSF**	**38 / TRF18**	**MY 63S4**	108
	2.3	596	3000	**TSA**	**38 / TRF18**	**MY 63S4**	108
	2.6	521	3000	**TSAF**	**38 / TRF18**	**MY 63S4**	108
	3.0	456	3000				
	3.5	398	3000				
	3.9	351	3000				
	4.6	303	3000				
	5.2	265	3000				
	6.0	232	3000				
	6.8	202	3000				
	7.4	179	3000	**TS**	**38 / TRF18**	**MY 63M4**	108
	8.3	158	3000	**TSF**	**38 / TRF18**	**MY 63M4**	108
	9.1	144	3000	**TSA**	**38 / TRF18**	**MY 63M4**	108
	11	118	3000	**TSAF**	**38 / TRF18**	**MY 63M4**	108
	12	110	3000	**TS**	**38 / TRF18**	**MY 63L4**	108
				TSF	**38 / TRF18**	**MY 63L4**	108
				TSA	**38 / TRF18**	**MY 63L4**	108
				TSAF	**38 / TRF18**	**MY 63L4**	108
185	0.11	12909	5250	**TS**	**48 / TRF18**	**MY 63S4**	108
	0.12	11189	5250	**TSF**	**48 / TRF18**	**MY 63S4**	108
	0.13	10374	5250	**TSA**	**48 / TRF18**	**MY 63S4**	108
	0.15	8992	5250	**TSAF**	**48 / TRF18**	**MY 63S4**	108
	0.18	7860	5250				
	0.20	6887	5250				
	0.23	6055	5250				
	0.26	5292	5250				
	0.30	4637	5250				
	0.34	4092	5250				
	0.39	3582	5200				
	0.44	3131	5200				
	0.51	2714	5200				
	0.57	2412	5200				

$M_{2\,max}$ [Nm]	n_2 [r/min]	i	Fr_2 [N]				Page
185	0.65	2131	5200	**TS**	**48 / TRF18**	**MY 63S4**	108
	0.74	1863	5200	**TSF**	**48 / TRF18**	**MY 63S4**	108
				TSA	**48 / TRF18**	**MY 63S4**	108
				TSAF	**48 / TRF18**	**MY 63S4**	108
	0.83	1663	5200	**TS**	**48 / TRF18**	**MY 63S4**	108
	0.96	1435	5200	**TSF**	**48 / TRF18**	**MY 63S4**	108
	1.1	1254	5200	**TSA**	**48 / TRF18**	**MY 63S4**	108
	1.2	1120	5200	**TSAF**	**48 / TRF18**	**MY 63S4**	108
	1.3	1083	5200				
	1.4	965	5200	**TS**	**48 / TRF18**	**MY 63S4**	108
	1.6	865	5200	**TSF**	**48 / TRF18**	**MY 63S4**	108
	1.8	750	5200	**TSA**	**48 / TRF18**	**MY 63S4**	108
	2.1	655	5200	**TSAF**	**48 / TRF18**	**MY 63S4**	108
	2.4	574	5200				
	2.7	506	5200				
	3.1	438	5200				
	3.4	388	5200	**TS**	**48 / TRF18**	**MY 63M4**	108
	3.9	336	5200	**TSF**	**48 / TRF18**	**MY 63M4**	108
	4.5	294	5200	**TSA**	**48 / TRF18**	**MY 63M4**	108
				TSAF	**48 / TRF18**	**MY 63M4**	108
	5.0	257	5260	**TS**	**48 / TRF18**	**MY 63L4**	108
	5.7	229	5200	**TSF**	**48 / TRF18**	**MY 63L4**	108
	6.5	200	5200	**TSA**	**48 / TRF18**	**MY 63L4**	108
	6.9	187	5200	**TSAF**	**48 / TRF18**	**MY 63L4**	108
	7.9	165	5200				
	9.3	148	5200	**TS**	**48 / TRF18**	**MY 71D4**	108
	11	131	5200	**TSF**	**48 / TRF18**	**MY 71D4**	108
				TSA	**48 / TRF18**	**MY 71D4**	108
				TSAF	**48 / TRF18**	**MY 71D4**	108
330	0.11	12909	6800	**TS**	**58 / TRF18**	**MY 63S4**	108
	0.12	11189	6800	**TSF**	**58 / TRF18**	**MY 63S4**	108
	0.13	10374	6800	**TSA**	**58 / TRF18**	**MY 63S4**	108
	0.15	8992	6800	**TSAF**	**58 / TRF18**	**MY 63S4**	108
	0.18	7860	6800				
	0.20	6887	6800				
	0.23	6055	6800				
	0.26	5292	6800				
	0.30	4637	6800				
	0.34	4092	6800				
	0.38	3628	6800				
300	0.44	3131	7090	**TS**	**58 / TRF18**	**MY 63S4**	108
	0.51	2714	7090	**TSF**	**58 / TRF18**	**MY 63S4**	108
	0.57	2412	7090	**TSA**	**58 / TRF18**	**MY 63S4**	108
	0.65	2131	7090	**TSAF**	**58 / TRF18**	**MY 63S4**	108
	0.74	1863	7090				
	0.83	1663	7090				
	0.96	1435	7090				
	1.1	1254	7090				
	1.3	1083	7090				
	1.4	965	7090	**TS**	**58 / TRF18**	**MY 63S4**	108
	1.6	865	7090	**TSF**	**58 / TRF18**	**MY 63S4**	108
	1.8	750	7090	**TSA**	**58 / TRF18**	**MY 63S4**	108
	2.1	655	7090	**TSAF**	**58 / TRF18**	**MY 63S4**	108
	2.3	574	7090	**TS**	**58 / TRF18**	**MY 63M4**	108
	2.6	506	7090	**TSF**	**58 / TRF18**	**MY 63M4**	108
	3.0	438	7090	**TSA**	**58 / TRF18**	**MY 63M4**	108
	3.4	388	7090	**TSAF**	**58 / TRF18**	**MY 63M4**	108

$M_{2\,max}$ [Nm]	n_2 [r/min]	i	Fr_2 [N]				Page
300	3.9	336	7090	**TS**	**58 / TRF18**	**MY 63L4**	108
	4.4	294	7090	**TSF**	**58 / TRF18**	**MY 63L4**	108
	4.8	269	7090	**TSA**	**58 / TRF18**	**MY 63L4**	108
				TSAF	**58 / TRF18**	**MY 63L4**	108
	6.0	229	7090	**TS**	**58 / TRF18**	**MY 71D4**	108
	6.8	204	7090	**TSF**	**58 / TRF18**	**MY 71D4**	108
	7.4	187	7090	**TSA**	**58 / TRF18**	**MY 71D4**	108
				TSAF	**58 / TRF18**	**MY 71D4**	108
	8.2	165	7090	**TS**	**58 / TRF18**	**MY 80K4**	108
	10	131	7090	**TSF**	**58 / TRF18**	**MY 80K4**	108
				TSA	**58 / TRF18**	**MY 80K4**	108
				TSAF	**58 / TRF18**	**MY 80K4**	108
570	0.06	21362	8190	**TS**	**68 / TRF38**	**MY 63S4**	108
	0.07	19594	8190	**TSF**	**68 / TRF38**	**MY 63S4**	108
	0.08	18120	8190	**TSA**	**68 / TRF38**	**MY 63S4**	108
	0.08	16682	8190	**TSAF**	**68 / TRF38**	**MY 63S4**	108
	0.10	14383	8190				
	0.11	12774	8190				
	0.13	11013	8190				
	0.14	9694	8190				
	0.16	8529	8190				
	0.19	7455	8190				
	0.21	6531	8190				
	0.24	5759	8190				
	0.28	4965	8190				
	0.31	4410	8190				
	0.36	3880	8190				
	0.40	3432	8190				
	0.47	2944	8190				
	0.52	2630	8190				
	0.61	2279	8190				
	0.69	2014	8190				
	0.78	1772	8190				
	0.88	1559	8190				
	1.0	1363	8190				
	1.2	1194	8190				
	1.3	1045	8190	**TS**	**68 / TRF38**	**MY 63M4**	108
	1.4	914	8190	**TSF**	**68 / TRF38**	**MY 63M4**	108
				TSA	**68 / TRF38**	**MY 63M4**	108
				TSAF	**68 / TRF38**	**MY 63M4**	108
	1.6	809	8190	**TS**	**68 / TRF38**	**MY 63M4**	108
	1.9	712	8190	**TSF**	**68 / TRF38**	**MY 63M4**	108
				TSA	**68 / TRF38**	**MY 63M4**	108
				TSAF	**68 / TRF38**	**MY 63M4**	108
	2.1	615	8190	**TS**	**68 / TRF38**	**MY 63L4**	108
	2.4	543	8190	**TSF**	**68 / TRF38**	**MY 63L4**	108
				TSA	**68 / TRF38**	**MY 63L4**	108
				TSAF	**68 / TRF38**	**MY 63L4**	108
	2.9	469	8190	**TS**	**68 / TRF38**	**MY 71D4**	108
	3.3	424	8190	**TSF**	**68 / TRF38**	**MY 71D4**	108
	3.8	365	8190	**TSA**	**68 / TRF38**	**MY 71D4**	108
				TSAF	**68 / TRF38**	**MY 71D4**	108
	4.3	319	8190	**TS**	**68 / TRF38**	**MY 80K4**	108
	4.9	281	8190	**TSF**	**68 / TRF38**	**MY 80K4**	108
	5.5	246	8190	**TSA**	**68 / TRF38**	**MY 80K4**	108
	6.2	221	8190	**TSAF**	**68 / TRF38**	**MY 80K4**	108

$M_{2\,max}$ [Nm]	n_2 [r/min]	i	Fr_2 [N]				Page
570	7.0	198	8190	**TS**	**68 / TRF38**	**MY 80N4**	108
				TSF	**68 / TRF38**	**MY 80N4**	108
				TSA	**68 / TRF38**	**MY 80N4**	108
				TSAF	**68 / TRF38**	**MY 80N4**	108
1270	0.05	25493	11700	**TS**	**78 / TRF38**	**MY 63S4**	108
	0.06	21787	11700	**TSF**	**78 / TRF38**	**MY 63S4**	108
	0.07	19907	11700	**TSA**	**78 / TRF38**	**MY 63S4**	108
	0.08	17013	11700	**TSAF**	**78 / TRF38**	**MY 63S4**	108
	0.09	14668	11700				
	0.11	13110	11700				
	0.12	11569	11700				
	0.14	9887	11700				
	0.16	8817	11700				
	0.18	7735	11700				
	0.20	6735	11700				
	0.23	5943	11700				
	0.26	5214	11700				
	0.30	4618	11700				
	0.35	3992	11700				
	0.39	3540	11700				
	0.43	3098	11700	**TS**	**78 / TRF38**	**MY 63M4**	108
				TSF	**78 / TRF38**	**MY 63M4**	108
				TSA	**78 / TRF38**	**MY 63M4**	108
				TSAF	**78 / TRF38**	**MY 63M4**	108
1240	0.50	2753	12000	**TS**	**78 / TRF38**	**MY 63S4**	108
	0.58	2374	12000	**TSF**	**78 / TRF38**	**MY 63S4**	108
				TSA	**78 / TRF38**	**MY 63S4**	108
				TSAF	**78 / TRF38**	**MY 63S4**	108
	0.63	2083	12000	**TS**	**78 / TRF38**	**MY 63M4**	108
	0.73	1813	12000	**TSF**	**78 / TRF38**	**MY 63M4**	108
	0.76	1745	12000	**TSA**	**78 / TRF38**	**MY 63M4**	108
	0.82	1600	12000	**TSAF**	**78 / TRF38**	**MY 63M4**	108
	0.93	1404	12000	**TS**	**78 / TRF38**	**MY 63L4**	108
	1.0	1245	12000	**TSF**	**78 / TRF38**	**MY 63L4**	108
				TSA	**78 / TRF38**	**MY 63L4**	108
				TSAF	**78 / TRF38**	**MY 63L4**	108
	1.2	1100	12000	**TS**	**78 / TRF38**	**MY 63L4**	108
				TSF	**78 / TRF38**	**MY 63L4**	108
				TSA	**78 / TRF38**	**MY 63L4**	108
				TSAF	**78 / TRF38**	**MY 63L4**	108
	1.4	954	12000	**TS**	**78 / TRF38**	**MY 71D4**	108
	1.7	837	12000	**TSF**	**78 / TRF38**	**MY 71D4**	108
	1.9	714	12000	**TSA**	**78 / TRF38**	**MY 71D4**	108
				TSAF	**78 / TRF38**	**MY 71D4**	108
	2.1	637	12000	**TS**	**78 / TRF38**	**MY 80K4**	108
	2.4	574	12000	**TSF**	**78 / TRF38**	**MY 80K4**	108
	2.7	499	12000	**TSA**	**78 / TRF38**	**MY 80K4**	108
				TSAF	**78 / TRF38**	**MY 80K4**	108
	3.1	438	12000	**TS**	**78 / TRF38**	**MY 80N4**	108
	3.6	389	12000	**TSF**	**78 / TRF38**	**MY 80N4**	108
				TSA	**78 / TRF38**	**MY 80N4**	108
				TSAF	**78 / TRF38**	**MY 80N4**	108
	4.3	327	12000	**TS**	**78 / TRF38**	**MY 90S4**	108
	4.8	289	12000	**TSF**	**78 / TRF38**	**MY 90S4**	108
	5.6	250	12000	**TSA**	**78 / TRF38**	**MY 90S4**	108
	6.4	219	12000	**TSAF**	**78 / TRF38**	**MY 90S4**	108

$M_{2\,max}$ [Nm]	n_2 [r/min]	i	Fr_2 [N]				Page
2500	0.05	25987	27500	**TS**	**88 / TRF58**	**MY 63S4**	108
	0.06	23940	27500	**TSF**	**88 / TRF58**	**MY 63S4**	108
	0.07	20568	27500	**TSA**	**88 / TRF58**	**MY 63S4**	108
	0.08	18265	27500	**TSAF**	**88 / TRF58**	**MY 63S4**	108
	0.08	16774	27500				
	0.09	14820	27500	**TS**	**88 / TRF58**	**MY 63S4**	108
	0.10	13160	27500	**TSF**	**88 / TRF58**	**MY 63S4**	108
	0.12	11200	27500	**TSA**	**88 / TRF58**	**MY 63S4**	108
	0.14	9904	27500	**TSAF**	**88 / TRF58**	**MY 63S4**	108
	0.16	8549	27500				
	0.18	7643	27500				
	0.21	6706	27500				
	0.22	5875	27500	**TS**	**88 / TRF58**	**MY 63M4**	108
	0.25	5187	27500	**TSF**	**88 / TRF58**	**MY 63M4**	108
	0.29	4606	27500	**TSA**	**88 / TRF58**	**MY 63M4**	108
				TSAF	**88 / TRF58**	**MY 63M4**	108
	0.34	3872	27500	**TS**	**88 / TRF58**	**MY 63L4**	108
				TSF	**88 / TRF58**	**MY 63L4**	108
				TSA	**88 / TRF58**	**MY 63L4**	108
				TSAF	**88 / TRF58**	**MY 63L4**	108
	0.37	3475	27500	**TS**	**88 / TRF58**	**MY 63L4**	108
	0.45	2905	27500	**TSF**	**88 / TRF58**	**MY 63L4**	108
				TSA	**88 / TRF58**	**MY 63L4**	108
				TSAF	**88 / TRF58**	**MY 63L4**	108
	0.53	2586	27500	**TS**	**88 / TRF58**	**MY 71D4**	108
	0.59	2335	27500	**TSF**	**88 / TRF58**	**MY 71D4**	108
	0.67	2054	27500	**TSA**	**88 / TRF58**	**MY 71D4**	108
				TSAF	**88 / TRF58**	**MY 71D4**	108
	0.75	1824	27500	**TS**	**88 / TRF58**	**MY 80K4**	108
	0.83	1631	27500	**TSF**	**88 / TRF58**	**MY 80K4**	108
	1.0	1332	27500	**TSA**	**88 / TRF58**	**MY 80K4**	108
	1.1	1191	27500	**TSAF**	**88 / TRF58**	**MY 80K4**	108
	1.3	1032	27500	**TS**	**88 / TRF58**	**MY 80N4**	108
	1.5	930	27500	**TSF**	**88 / TRF58**	**MY 80N4**	108
	1.7	831	27500	**TSA**	**88 / TRF58**	**MY 80N4**	108
				TSAF	**88 / TRF58**	**MY 80N4**	108
	1.9	719	27500	**TS**	**88 / TRF58**	**MY 90S4**	108
	2.2	624	27500	**TSF**	**88 / TRF58**	**MY 90S4**	108
	2.5	558	27500	**TSA**	**88 / TRF58**	**MY 90S4**	108
				TSAF	**88 / TRF58**	**MY 90S4**	108
	2.9	485	27500	**TS**	**88 / TRF58**	**MY 90L4**	108
				TSF	**88 / TRF58**	**MY 90L4**	108
				TSA	**88 / TRF58**	**MY 90L4**	108
				TSAF	**88 / TRF58**	**MY 90L4**	108
2450	3.2	435	27600	**TS**	**88 / TRF58**	**MY 90L4**	108
	3.7	378	27600	**TSF**	**88 / TRF58**	**MY 90L4**	108
				TSA	**88 / TRF58**	**MY 90L4**	108
				TSAF	**88 / TRF58**	**MY 90L4**	108
2400	4.4	323	27700	**TS**	**88 / TRF58**	**MY 100M4**	108
	5.0	281	27700	**TSF**	**88 / TRF58**	**MY 100M4**	108
				TSA	**88 / TRF58**	**MY 100M4**	108
				TSAF	**88 / TRF58**	**MY 100M4**	108
4200	0.04	33818	32800	**TS**	**98 / TRF58**	**MY 63S4**	108
	0.04	31154	32800	**TSF**	**98 / TRF58**	**MY 63S4**	108
	0.05	27847	32800	**TSA**	**98 / TRF58**	**MY 63S4**	108
	0.06	24641	32800	**TSAF**	**98 / TRF58**	**MY 63S4**	108

$M_{2\,max}$ [Nm]	n_2 [r/min]	i	Fr_2 [N]			Page
4200	0.06	21537	32800	**TS**	**98 / TRF58**	**MY 63S4**	108
	0.07	18749	32800	**TSF**	**98 / TRF58**	**MY 63S4**	108
	0.09	16233	32800	**TSA**	**98 / TRF58**	**MY 63S4**	108
	0.09	14576	32800	**TSAF**	**98 / TRF58**	**MY 63S4**	108
	0.11	12752	32800				
	0.12	11267	32800				
	0.14	10078	32800				
	0.15	8608	32800	**TS**	**98 / TRF58**	**MY 63M4**	108
	0.17	7554	32800	**TSF**	**98 / TRF58**	**MY 63M4**	108
	0.20	6640	31300	**TSA**	**98 / TRF58**	**MY 63M4**	108
	0.23	5780	31300	**TSAF**	**98 / TRF58**	**MY 63M4**	108
	0.27	4937	31300				
	0.29	4444	31300	**TS**	**98 / TRF58**	**MY 63L4**	108
	0.32	4017	31300	**TSF**	**98 / TRF58**	**MY 63L4**	108
	0.38	3453	31300	**TSA**	**98 / TRF58**	**MY 63L4**	108
				TSAF	**98 / TRF58**	**MY 63L4**	108
	0.44	3108	31300	**TS**	**98 / TRF58**	**MY 71D4**	108
	0.52	2654	31300	**TSF**	**98 / TRF58**	**MY 71D4**	108
	0.59	2329	31300	**TSA**	**98 / TRF58**	**MY 71D4**	108
				TSAF	**98 / TRF58**	**MY 71D4**	108
	0.65	2081	31300	**TS**	**98 / TRF58**	**MY 80K4**	108
	0.73	1860	31300	**TSF**	**98 / TRF58**	**MY 80K4**	108
	0.86	1574	31300	**TSA**	**98 / TRF58**	**MY 80K4**	108
				TSAF	**98 / TRF58**	**MY 80K4**	108
	0.99	1394	31300	**TS**	**98 / TRF58**	**MY 80N4**	108
	1.1	1223	31300	**TSF**	**98 / TRF58**	**MY 80N4**	108
	1.3	1070	31300	**TSA**	**98 / TRF58**	**MY 80N4**	108
				TSAF	**98 / TRF58**	**MY 80N4**	108
	1.5	928	31300	**TS**	**98 / TRF58**	**MY 90S4**	108
	1.7	824	31300	**TSF**	**98 / TRF58**	**MY 90S4**	108
				TSA	**98 / TRF58**	**MY 90S4**	108
				TSAF	**98 / TRF58**	**MY 90S4**	108
	2.0	714	32800	**TS**	**98 / TRF58**	**MY 90L4**	108
	2.2	626	31300	**TSF**	**98 / TRF58**	**MY 90L4**	108
	2.6	538	31300	**TSA**	**98 / TRF58**	**MY 90L4**	108
				TSAF	**98 / TRF58**	**MY 90L4**	108
	2.9	484	31400	**TS**	**98 / TRF58**	**MY 100M4**	108
	3.4	420	31400	**TSF**	**98 / TRF58**	**MY 100M4**	108
	3.8	376	31400	**TSA**	**98 / TRF58**	**MY 100M4**	108
				TSAF	**98 / TRF58**	**MY 100M4**	108
	4.3	327	31500	**TS**	**98 / TRF58**	**MY 100L4**	108
	4.9	287	31500	**TSF**	**98 / TRF58**	**MY 100L4**	108
				TSA	**98 / TRF58**	**MY 100L4**	108
				TSAF	**98 / TRF58**	**MY 100L4**	108
	5.6	252	31500	**TS**	**98 / TRF58**	**MY 112M4**	108
	6.5	219	31600	**TSF**	**98 / TRF58**	**MY 112M4**	108
				TSA	**98 / TRF58**	**MY 112M4**	108
				TSAF	**98 / TRF58**	**MY 112M4**	108

6.4 TS,TSF,TSA,TSAF38 Performance parameter

TS,TSF,TSA,TSAF38 3400-2800 r/min

		n_1= 3400 r/min				n_1= 3200 r/min				n_1= 2800 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
157.43	38/1	**22**	78	0.31	57	**20**	80	0.30	57	**18**	82	0.27	57
144.40		**24**	76	0.33	58	**22**	78	0.31	58	**19**	80	0.28	57
122.94		**28**	74	0.37	58	**26**	75	0.35	58	**23**	78	0.32	58
106.00		**32**	71	0.41	59	**30**	72	0.39	59	**26**	76	0.36	59
98.80		**34**	70	0.43	59	**32**	72	0.41	59	**28**	75	0.38	59
86.36		**39**	68	0.47	60	**37**	69	0.45	60	**32**	72	0.41	60
80.96		**42**	66	0.49	60	**40**	68	0.47	60	**35**	72	0.43	60
71.44		**48**	55	0.47	58	**45**	64	0.50	60	**39**	70	0.47	61
63.33		**54**	37	0.41	51	**51**	51	0.47	57	**44**	67	0.51	61
53.83		**63**	29	0.39	49	**59**	32	0.40	50	**52**	53	0.49	59
55.93	27/2	**61**	70	0.58	77	**57**	71	0.56	76	**50**	72	0.50	76
51.30		**66**	68	0.61	77	**62**	70	0.60	77	**55**	72	0.54	76
43.68		**78**	66	0.70	77	**73**	67	0.67	77	**64**	70	0.61	77
37.66		**90**	64	0.78	78	**85**	65	0.74	78	**74**	68	0.68	78
35.10		**97**	62	0.81	78	**91**	64	0.78	78	**80**	66	0.71	78
30.68		**111**	61	0.90	78	**104**	62	0.87	78	**91**	64	0.78	78
28.76		**118**	58	0.92	78	**111**	61	0.91	78	**97**	64	0.83	78
25.38		**134**	47	0.86	77	**126**	53	0.90	78	**110**	62	0.91	79
22.50		**151**	31	0.69	71	**142**	43	0.84	76	**124**	57	0.94	79
19.13		**178**	24	0.65	69	**167**	27	0.67	70	**146**	44	0.87	77
19.89	24/5	**171**	42	0.88	86	**161**	43	0.85	86	**141**	44	0.76	86
18.24		**186**	41	0.93	86	**175**	42	0.90	86	**154**	44	0.83	86
15.53		**219**	39	1.0	86	**206**	40	1.0	86	**180**	42	0.92	86
13.39		**254**	37	1.1	86	**239**	39	1.1	86	**209**	41	1.0	86
12.48		**272**	37	1.2•	86	**256**	38	1.2•	86	**224**	40	1.1	86
10.91		**312**	35	1.3•	86	**293**	36	1.3•	86	**257**	39	1.2•	87
10.23		**332**	35	1.4•	87	**313**	36	1.4•	87	**274**	38	1.3•	87
9.02		**377**	31	1.4•	86	**355**	34	1.5•	87	**310**	36	1.3•	87
8.00		**425**	20	1.1	82	**400**	29	1.4•	86	**350**	35	1.5•	87
6.80		**500**	16	1.0	81	**471**	18	1.1	82	**412**	29	1.4•	86

• P_{1max}=1.1kW

TS,TSF,TSA,TSAF38 2200-1400 r/min

i	i_w	n_1= 2200 r/min				n_1= 1700 r/min				n_1= 1400 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
157.43	38/1	**14**	87	0.23	56	**11**	91	0.19	54	**8.9**	92	0.16	53
144.40		**15**	86	0.24	56	**12**	90	0.20	55	**9.7**	92	0.17	54
122.94		**18**	83	0.27	57	**14**	87	0.22	56	**11**	91	0.20	55
106.00		**21**	81	0.30	58	**16**	86	0.25	57	**13**	88	0.22	56
98.80		**22**	80	0.32	58	**17**	85	0.27	57	**14**	87	0.23	56
86.36		**25**	78	0.35	59	**20**	82	0.29	58	**16**	86	0.25	57
80.96		**27**	77	0.37	60	**21**	82	0.31	59	**17**	85	0.27	58
71.44		**31**	75	0.40	60	**24**	80	0.33	60	**20**	84	0.29	59
63.33		**35**	73	0.44	61	**27**	79	0.37	60	**22**	82	0.32	60
53.83		**41**	69	0.48	62	**32**	76	0.41	61	**26**	80	0.36	61
55.93	27/2	**39**	77	0.42	75	**30**	81	0.35	74	**25**	81	0.29	73
51.30		**43**	76	0.45	76	**33**	80	0.37	75	**27**	81	0.31	74
43.68		**50**	74	0.51	76	**39**	78	0.42	76	**32**	81	0.36	75
37.66		**58**	72	0.57	77	**45**	76	0.47	76	**37**	79	0.41	76
35.10		**63**	71	0.60	77	**48**	75	0.50	77	**40**	78	0.43	76
30.68		**72**	70	0.67	78	**55**	73	0.55	77	**46**	76	0.47	76
28.76		**76**	68	0.70	78	**59**	73	0.58	77	**49**	75	0.50	77
25.38		**87**	67	0.77	79	**67**	71	0.64	78	**55**	74	0.55	77
22.50		**98**	66	0.85	79	**76**	70	0.70	79	**62**	73	0.61	78
19.13		**115**	63	0.95	80	**89**	68	0.80	79	**73**	71	0.69	79
19.89	24/5	**111**	48	0.65	85	**85**	50	0.53	85	**70**	52	0.46	84
18.24		**121**	47	0.70	85	**93**	49	0.56	85	**77**	52	0.50	84
15.53		**142**	45	0.78	86	**109**	48	0.64	85	**90**	50	0.56	85
13.39		**164**	44	0.88	86	**127**	47	0.73	86	**105**	49	0.63	85
12.48		**176**	43	0.92	86	**136**	46	0.76	86	**112**	48	0.66	86
10.91		**202**	42	1.0	87	**156**	45	0.85	86	**128**	48	0.75	86
10.23		**215**	41	1.1	87	**166**	45	0.90	87	**137**	47	0.78	86
9.02		**244**	40	1.2•	87	**188**	43	0.98	87	**155**	46	0.86	87
8.00		**275**	39	1.3•	87	**213**	43	1.1	87	**175**	45	0.95	87
6.80		**324**	37	1.4•	88	**250**	41	1.2*	88	**206**	43	1.1	87

• P_{1max}=1.1kW

TS,TSF,TSA,TSAF38 — 1100-700 r/min

		n_1= 1100 r/min				n_1= 900 r/min				n_1= 700 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
157.43	38/1	**7.0**	92	0.13	52	**5.7**	92	0.11	50	**4.4**	92	0.09	49
144.40		**7.6**	92	0.14	52	**6.2**	92	0.12	51	**4.8**	92	0.09	50
122.94		**8.9**	92	0.16	54	**7.3**	92	0.14	52	**5.7**	92	0.11	51
106.00		**10**	92	0.18	55	**8.5**	92	0.15	53	**6.6**	92	0.12	52
98.80		**11**	92	0.19	55	**9.1**	92	0.16	54	**7.1**	92	0.13	52
86.36		**13**	90	0.21	56	**10**	92	0.18	55	**8.1**	92	0.15	53
80.96		**14**	89	0.22	57	**11**	92	0.19	55	**8.6**	92	0.16	54
71.44		**15**	87	0.24	57	**13**	91	0.21	56	**9.8**	92	0.17	55
63.33		**17**	86	0.27	58	**14**	89	0.23	57	**11**	92	0.19	56
53.83		**20**	84	0.30	60	**17**	87	0.26	58	**13**	91	0.22	57
55.93	27/2	**20**	87	0.25	72	**16**	91	0.21	71	**13**	92	0.17	70
51.30		**21**	87	0.27	73	**18**	90	0.23	72	**14**	92	0.19	71
43.68		**25**	84	0.30	74	**21**	87	0.26	73	**16**	92	0.22	71
37.66		**29**	82	0.34	75	**24**	86	0.29	74	**19**	89	0.24	72
35.10		**31**	82	0.36	75	**26**	84	0.31	74	**20**	88	0.25	73
30.68		**36**	80	0.40	76	**29**	82	0.34	75	**23**	87	0.28	74
28.76		**38**	79	0.42	76	**31**	82	0.36	75	**24**	86	0.30	74
25.38		**43**	78	0.46	77	**35**	81	0.40	76	**28**	84	0.33	75
22.50		**49**	77	0.51	77	**40**	79	0.43	76	**31**	82	0.36	75
19.13		**58**	75	0.58	78	**47**	78	0.50	77	**37**	81	0.41	76
19.89	24/5	**55**	55	0.38	83	**45**	58	0.33	83	**35**	60	0.27	82
18.24		**60**	54	0.41	84	**49**	56	0.35	83	**38**	60	0.29	82
15.53		**71**	53	0.47	84	**58**	55	0.40	84	**45**	58	0.33	83
13.39		**82**	52	0.53	85	**67**	54	0.45	84	**52**	56	0.37	83
12.48		**88**	51	0.55	85	**72**	53	0.47	84	**56**	55	0.39	84
10.91		**101**	50	0.62	86	**82**	52	0.53	85	**64**	54	0.43	84
10.23		**108**	49	0.64	86	**88**	51	0.55	85	**68**	54	0.46	84
9.02		**122**	48	0.71	86	**100**	50	0.61	86	**78**	53	0.51	85
8.00		**138**	47	0.78	87	**113**	49	0.67	86	**88**	52	0.56	85
6.80		**162**	46	0.90	87	**132**	48	0.77	87	**103**	51	0.64	86

TS,TSF,TSA,TSAF38

500-10 r/min

i	i_w	n_1= 500 r/min				n_1= 250 r/min				n_1= 10 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
157.43	38/1	**3.2**	92	0.06	47	**1.6**	92	0.033	46	**0.06**	92	<0.05	26
144.40		**3.5**	92	0.07	48	**1.7**	92	0.036	46	**0.07**	92	<0.05	27
122.94		**4.1**	92	0.08	49	**2.0**	92	0.042	46	**0.08**	92	<0.05	29
106.00		**4.7**	92	0.09	50	**2.4**	92	0.049	47	**0.09**	92	<0.05	30
98.80		**5.1**	92	0.10	50	**2.5**	92	0.05	47	**0.10**	92	<0.05	31
86.36		**5.8**	92	0.11	51	**2.9**	92	0.06	47	**0.12**	92	<0.05	32
80.96		**6.2**	92	0.12	51	**3.1**	92	0.06	47	**0.12**	92	<0.05	33
71.44		**7.0**	92	0.13	52	**3.5**	92	0.07	48	**0.14**	92	<0.05	35
63.33		**7.9**	92	0.14	53	**3.9**	92	0.08	49	**0.16**	92	<0.05	37
53.83		**9.3**	92	0.16	55	**4.6**	92	0.09	50	**0.19**	92	<0.05	39
55.93	27/2	**8.9**	92	0.13	69	**4.5**	92	0.06	67	**0.18**	92	<0.05	48
51.30		**9.7**	92	0.14	69	**4.9**	92	0.07	67	**0.19**	92	<0.05	49
43.68		**11**	92	0.16	70	**5.7**	92	0.08	67	**0.23**	92	<0.05	51
37.66		**13**	92	0.18	71	**6.6**	92	0.10	67	**0.27**	92	<0.05	53
35.10		**14**	92	0.19	71	**7.1**	92	0.10	68	**0.28**	92	<0.05	54
30.68		**16**	92	0.22	72	**8.1**	92	0.11	68	**0.33**	92	<0.05	56
28.76		**17**	91	0.23	72	**8.7**	92	0.12	69	**0.35**	92	<0.05	57
25.38		**20**	89	0.25	73	**9.9**	92	0.14	69	**0.39**	92	<0.05	59
22.50		**22**	87	0.28	74	**11**	92	0.15	70	**0.44**	92	<0.05	61
19.13		**26**	85	0.31	75	**13**	92	0.18	71	**0.52**	92	<0.05	62
19.89	24/5	**25**	68	0.22	81	**13**	72	0.12	79	**0.50**	72	<0.05	65
18.24		**27**	66	0.23	81	**14**	72	0.13	79	**0.55**	72	<0.05	66
15.53		**32**	63	0.26	82	**16**	72	0.15	79	**0.64**	72	<0.05	68
13.39		**37**	61	0.29	82	**19**	72	0.18	80	**0.75**	72	<0.05	71
12.48		**40**	59	0.30	82	**20**	72	0.19	80	**0.80**	72	<0.05	72
10.91		**46**	58	0.34	83	**23**	71	0.21	81	**0.92**	71	<0.05	73
10.23		**49**	57	0.35	83	**24**	70	0.22	81	**0.98**	70	<0.05	73
9.02		**55**	56	0.39	84	**28**	66	0.24	81	**1.1**	66	<0.05	74
8.00		**63**	55	0.43	84	**31**	63	0.25	82	**1.2**	63	<0.05	74
6.80		**74**	54	0.49	85	**37**	61	0.29	82	**1.5**	61	<0.05	75

6.5 TS,TSF,TSA,TSAF48 Performance parameter

TS,TSF,TSA,TSAF48 3400-2800 r/min

		n_1= 3400 r/min				n_1= 3200 r/min				n_1= 2800 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
201.00		**17**	150	0.44	60	**16**	150	0.42	60	**14**	150	0.37	59
184.80		**18**	150	0.48	60	**17**	150	0.45	60	**15**	150	0.40	59
158.12		**22**	150	0.55	61	**20**	150	0.52	61	**18**	150	0.46	60
137.05		**25**	150	0.63	62	**23**	150	0.59	62	**20**	150	0.52	61
128.10		**27**	150	0.67	63	**25**	150	0.63	62	**22**	150	0.56	62
110.73	42/1	**31**	138	0.70	63	**29**	148	0.71	63	**25**	150	0.63	63
94.08		**36**	113	0.69	62	**34**	123	0.70	63	**30**	146	0.72	63
84.00		**40**	95	0.66	61	**38**	107	0.69	62	**33**	130	0.71	63
71.75		**47**	58	0.55	53	**45**	82	0.64	60	**39**	107	0.70	63
67.20		**51**	53	0.54	52	**48**	68	0.60	57	**42**	99	0.69	62
56.61		**60**	40	0.51	49	**57**	46	0.53	51	**49**	75	0.65	60
69.39		**49**	140	0.91	79	**46**	140	0.86	78	**40**	140	0.76	78
63.80		**53**	140	0.99	79	**50**	140	0.93	79	**44**	140	0.82	78
54.59		**62**	140	1.1	80	**59**	140	1.1	79	**51**	140	0.95	79
47.32		**72**	139	1.3	80	**68**	140	1.2	80	**59**	140	1.1	80
44.22		**77**	129	1.3	80	**72**	139	1.3	80	**63**	140	1.2	80
38.23	29/2	**89**	112	1.3	80	**84**	120	1.3	80	**73**	139	1.3	80
32.48		**105**	91	1.3	79	**99**	100	1.3	80	**86**	117	1.3	80
29.00		**117**	76	1.2	78	**110**	86	1.3	79	**97**	104	1.3	80
24.77		**137**	47	0.94	72	**129**	66	1.2	77	**113**	87	1.3	80
23.20		**147**	42	0.90	71	**138**	54	1.0	75	**121**	79	1.3	79
19.54		**174**	32	0.84	69	**164**	37	0.89	71	**143**	59	1.1	77
20.33		**167**	100	2.0•	88	**157**	100	1.9•	88	**138**	100	1.6•	88
17.62		**193**	97	2.2•	88	**182**	100	2.2•	88	**159**	100	1.9•	88
16.47		**206**	90	2.2•	88	**194**	97	2.2•	88	**170**	100	2.0•	88
14.24		**239**	78	2.2•	88	**225**	83	2.2•	88	**197**	97	2.3•	88
12.10	27/5	**281**	63	2.1•	88	**264**	69	2.2•	88	**231**	82	2.2•	88
10.80		**315**	53	2.0•	87	**296**	60	2.1•	88	**259**	72	2.2•	88
9.23		**368**	32	1.5	83	**347**	45	1.9•	86	**303**	60	2.2•	88
8.64		**394**	29	1.5	82	**370**	37	1.7•	85	**324**	55	2.1•	88
7.28		**467**	22	1.3	81	**440**	25	1.4	82	**385**	41	1.9•	86

• P_{1max}=1.5kW

TS,TSF,TSA,TSAF48

2200-1400 r/min

		n_1= 2200 r/min				n_1= 1700 r/min				n_1= 1400 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
201.00		**11**	167	0.33	58	**8.5**	170	0.27	56	**7.0**	170	0.23	55
184.80		**12**	167	0.36	58	**9.2**	168	0.29	57	**7.6**	170	0.24	56
158.12		**14**	167	0.41	60	**11**	168	0.33	58	**8.9**	170	0.28	57
137.05		**16**	165	0.46	60	**12**	167	0.37	59	**10**	168	0.31	58
128.10		**17**	165	0.49	61	**13**	167	0.39	59	**11**	168	0.33	58
110.73	42/1	**20**	165	0.55	62	**15**	167	0.44	61	**13**	168	0.38	59
94.08		**23**	165	0.64	63	**18**	167	0.51	62	**15**	168	0.43	60
84.00		**26**	162	0.70	64	**20**	167	0.57	62	**17**	167	0.48	61
71.75		**31**	145	0.73	64	**24**	167	0.65	63	**20**	167	0.55	62
67.20		**33**	137	0.73	64	**25**	164	0.68	64	**21**	167	0.58	63
56.61		**39**	115	0.73	64	**30**	152	0.74	65	**25**	165	0.67	64
69.39		**32**	155	0.67	77	**24**	155	0.52	76	**20**	155	0.44	75
63.80		**34**	155	0.72	77	**27**	155	0.57	76	**22**	155	0.47	75
54.59		**40**	155	0.84	78	**31**	155	0.66	77	**26**	155	0.55	76
47.32		**46**	155	0.96	79	**36**	155	0.75	78	**30**	155	0.63	77
44.22		**50**	155	1.0	79	**38**	155	0.80	78	**32**	155	0.67	77
38.23	29/2	**58**	154	1.2	80	**44**	155	0.92	79	**37**	155	0.76	78
32.48		**68**	146	1.3	80	**52**	155	1.1	80	**43**	155	0.89	79
29.00		**76**	137	1.3	81	**59**	154	1.2	80	**48**	155	0.99	79
24.77		**89**	117	1.3	81	**69**	145	1.3	81	**57**	155	1.1	80
23.20		**95**	111	1.4	81	**73**	142	1.3	81	**60**	152	1.2	80
19.54		**113**	92	1.3	81	**87**	123	1.4	81	**72**	144	1.3	81
20.33		**108**	109	1.4	87	**84**	110	1.1	87	**69**	110	0.92	86
17.62		**125**	108	1.6•	88	**96**	109	1.3	87	**79**	110	1.1	86
16.47		**134**	108	1.7•	88	**103**	109	1.4	87	**85**	110	1.1	87
14.24		**154**	108	2.0•	88	**119**	109	1.6•	88	**98**	110	1.3	87
12.10	27/5	**182**	105	2.3•	89	**140**	109	1.8•	88	**116**	109	1.5	88
10.80		**204**	95	2.3•	89	**157**	108	2.0•	88	**130**	109	1.7•	88
9.23		**238**	82	2.3•	89	**184**	105	2.3•	89	**152**	109	2.0•	88
8.64		**255**	77	2.3•	89	**197**	100	2.3•	89	**162**	109	2.1•	88
7.28		**302**	64	2.3•	89	**234**	86	2.4•	89	**192**	103	2.3•	89

• P_{1max}=1.5kW

TS,TSF,TSA,TSAF48 — 1100-700 r/min

		n_1= 1100 r/min				n_1= 900 r/min				n_1= 700 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
201.00		**5.5**	176	0.19	53	**4.5**	180	0.16	52	**3.5**	185	0.13	51
184.80		**6.0**	174	0.20	54	**4.9**	178	0.17	53	**3.8**	183	0.14	51
158.12		**7.0**	172	0.23	55	**5.7**	176	0.20	54	**4.4**	180	0.16	52
137.05		**8.0**	171	0.26	56	**6.6**	172	0.22	55	**5.1**	178	0.18	53
128.10		**8.6**	171	0.27	57	**7.0**	172	0.23	55	**5.5**	176	0.19	54
110.73	42/1	**9.9**	169	0.30	58	**8.1**	171	0.26	56	**6.3**	174	0.21	55
94.08		**12**	169	0.35	59	**9.6**	171	0.30	57	**7.4**	172	0.24	56
84.00		**13**	169	0.39	60	**11**	169	0.32	58	**8.3**	171	0.26	57
71.75		**15**	169	0.45	61	**13**	169	0.37	60	**9.8**	171	0.30	58
67.20		**16**	169	0.47	61	**13**	169	0.40	60	**10**	171	0.32	58
56.61		**19**	169	0.55	63	**16**	169	0.46	61	**12**	171	0.37	60
69.39		**16**	173	0.39	74	**13**	176	0.33	73	**10**	180	0.27	71
63.80		**17**	173	0.42	74	**14**	175	0.35	73	**11**	180	0.29	72
54.59		**20**	171	0.48	75	**16**	173	0.40	74	**13**	176	0.33	73
47.32		**23**	171	0.55	76	**19**	173	0.46	75	**15**	175	0.37	73
44.22		**25**	171	0.58	76	**20**	171	0.49	75	**16**	175	0.39	74
38.23	29/2	**29**	169	0.66	77	**24**	171	0.56	76	**18**	173	0.44	75
32.48		**34**	169	0.77	78	**28**	171	0.65	77	**22**	171	0.51	75
29.00		**38**	170	0.86	78	**31**	171	0.72	77	**24**	171	0.57	76
24.77		**44**	169	0.99	79	**36**	170	0.83	78	**28**	171	0.66	77
23.20		**47**	164	1.0	79	**39**	170	0.88	79	**30**	171	0.70	77
19.54		**56**	154	1.1	80	**46**	165	1.0	79	**36**	170	0.81	78
20.33		**54**	112	0.75	85	**44**	114	0.63	84	**34**	116	0.50	83
17.62		**62**	112	0.86	86	**51**	113	0.71	85	**40**	115	0.57	84
16.47		**67**	112	0.91	86	**55**	113	0.76	85	**43**	114	0.60	84
14.24		**77**	111	1.0	86	**63**	112	0.86	86	**49**	113	0.69	85
12.10	27/5	**91**	111	1.2	87	**74**	111	1.0	86	**58**	113	0.80	85
10.80		**102**	111	1.4	87	**83**	111	1.1	87	**65**	112	0.88	86
9.23		**119**	110	1.6•	88	**98**	111	1.3	87	**76**	112	1.0	86
8.64		**127**	109	1.7•	88	**104**	111	1.4	87	**81**	112	1.1	87
7.28		**151**	109	1.8•	88	**124**	111	1.6•	88	**96**	111	1.3	87

• P_{1max}=1.5kW

TS,TSF,TSA,TSAF48

500-10 r/min

i	i_w	n_1= 500 r/min				n_1= 250 r/min				n_1= 10 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
201.00		**2.5**	185	0.10	49	**1.2**	185	0.05	48	**0.05**	185	<0.05	32
184.80		**2.7**	185	0.11	49	**1.4**	185	0.05	48	**0.05**	185	<0.05	32
158.12		**3.2**	185	0.12	50	**1.6**	185	0.06	48	**0.06**	185	<0.05	35
137.05		**3.6**	185	0.14	51	**1.8**	185	0.07	48	**0.07**	185	<0.05	37
128.10		**3.9**	183	0.15	51	**2.0**	185	0.08	48	**0.08**	185	<0.05	38
110.73	42/1	**4.5**	181	0.16	52	**2.3**	185	0.09	49	**0.09**	185	<0.05	40
94.08		**5.3**	178	0.19	54	**2.7**	185	0.10	49	**0.11**	185	<0.05	42
84.00		**6.0**	176	0.20	54	**3.0**	185	0.12	50	**0.12**	185	<0.05	43
71.75		**7.0**	174	0.23	56	**3.5**	185	0.13	51	**0.14**	185	<0.05	44
67.20		**7.4**	172	0.24	56	**3.7**	185	0.14	51	**0.15**	185	<0.05	44
56.61		**8.8**	172	0.28	57	**4.4**	181	0.16	53	**0.18**	181	<0.05	45
69.39		**7.2**	185	0.20	70	**3.6**	185	0.10	68	**0.14**	185	<0.05	56
63.80		**7.8**	185	0.22	70	**3.9**	185	0.11	68	**0.16**	185	<0.05	57
54.59		**9.2**	185	0.25	71	**4.6**	185	0.13	68	**0.18**	185	<0.05	60
47.32		**11**	181	0.28	72	**5.3**	185	0.15	68	**0.21**	185	<0.05	61
44.22		**11**	180	0.30	72	**5.7**	185	0.16	69	**0.23**	185	<0.05	62
38.23	29/2	**13**	178	0.33	73	**6.5**	185	0.18	69	**0.26**	185	<0.05	63
32.48		**15**	174	0.38	74	**7.7**	185	0.21	70	**0.31**	185	<0.05	64
29.00		**17**	174	0.42	74	**8.6**	185	0.24	71	**0.34**	185	<0.05	65
24.77		**20**	172	0.48	75	**10**	183	0.27	71	**0.40**	183	<0.05	66
23.20		**22**	172	0.51	76	**11**	181	0.28	72	**0.43**	181	<0.05	66
19.54		**26**	172	0.60	77	**13**	178	0.33	73	**0.51**	178	<0.05	67
20.33		**25**	124	0.39	82	**12**	157	0.25	80	**0.49**	157	<0.05	75
17.62		**28**	120	0.43	83	**14**	149	0.28	80	**0.57**	149	<0.05	76
16.47		**30**	118	0.45	83	**15**	145	0.29	81	**0.61**	145	<0.05	76
14.24		**35**	116	0.51	84	**18**	138	0.31	81	**0.70**	138	<0.05	77
12.10	27/5	**41**	115	0.59	84	**21**	131	0.35	82	**0.83**	131	<0.05	77
10.80		**46**	114	0.65	85	**23**	127	0.37	82	**0.93**	127	<0.05	77
9.23		**54**	113	0.75	85	**27**	121	0.41	83	**1.1**	121	<0.05	78
8.64		**58**	113	0.80	86	**29**	120	0.44	83	**1.2**	120	<0.05	78
7.28		**69**	112	0.93	86	**34**	117	0.50	84	**1.4**	117	<0.05	78

6.6 TS,TSF,TSA,TSAF58 Performance parameter

TS,TSF,TSA,TSAF58 3400-2800 r/min

i	i_w	n_1= 3400 r/min				n_1= 3200 r/min				n_1= 2800 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
201.00		**17**	270	0.75	64	**16**	270	0.71	63	**14**	270	0.63	62
184.80		**18**	270	0.81	64	**17**	270	0.77	64	**15**	270	0.68	63
158.12		**22**	270	0.93	65	**20**	270	0.88	65	**18**	270	0.78	64
137.05		**25**	255	1.0	66	**23**	270	1.0	66	**20**	270	0.89	65
128.10		**27**	245	1.0	66	**25**	255	1.0	66	**22**	270	0.94	65
110.73	42/1	**31**	215	1.0	67	**29**	230	1.0	67	**25**	255	1.0	66
94.08		**36**	184	1.0	67	**34**	196	1.0	67	**30**	225	1.1	67
84.00		**40**	165	1.0	67	**38**	175	1.0	67	**33**	200	1.0	67
71.75		**47**	139	1.0	67	**45**	149	1.0	67	**39**	174	1.1	67
67.20		**51**	128	1.0	66	**48**	139	1.0	67	**42**	164	1.1	67
56.61		**60**	103	1.0	65	**57**	114	1.0	66	**49**	138	1.1	67
69.39		**49**	220	1.4	81	**46**	220	1.3	80	**40**	220	1.2	80
63.80		**53**	220	1.5	81	**50**	220	1.4	81	**44**	220	1.3	80
54.59		**62**	220	1.8	81	**59**	220	1.7	81	**51**	220	1.5	81
47.32		**72**	210	1.9	82	**68**	220	1.9	82	**59**	220	1.7	81
44.22		**77**	197	1.9	82	**72**	205	1.9	82	**63**	220	1.8	81
38.23	29/2	**89**	174	2.0	82	**84**	184	2.0	82	**73**	205	1.9	82
32.48		**105**	148	2.0	82	**99**	157	2.0	82	**86**	180	2.0	82
29.00		**117**	131	2.0	82	**110**	141	2.0	82	**97**	162	2.0	82
24.77		**137**	111	1.9	82	**129**	120	2.0	82	**113**	139	2.0	82
23.20		**147**	102	1.9	82	**138**	111	2.0	82	**121**	131	2.0	82
19.54		**174**	81	1.8	81	**164**	90	1.9	82	**143**	109	2.0	82
20.33		**167**	160	3.2•	89	**157**	160	3.0	89	**138**	160	2.6	88
17.62		**193**	140	3.2•	89	**182**	149	3.2•	89	**159**	160	3.0	89
16.47		**206**	132	3.2•	89	**194**	140	3.2•	89	**170**	158	3.2•	89
14.24		**239**	116	3.2•	89	**225**	123	3.2•	89	**197**	139	3.2•	89
12.10	27/5	**281**	99	3.3•	89	**264**	105	3.3•	89	**231**	121	3.3•	89
10.80		**315**	88	3.3•	89	**296**	94	3.3•	89	**259**	108	3.3•	89
9.23		**368**	73	3.2•	89	**347**	79	3.2•	89	**303**	93	3.3•	89
8.64		**394**	68	3.2•	89	**370**	74	3.2•	89	**324**	87	3.3•	89
7.28		**467**	54	3.0	88	**440**	60	3.1•	89	**385**	72	3.2•	89

• P_{1max}=3.0kW

TS,TSF,TSA,TSAF58

2200-1400 r/min

i	i_w	n_1= 2200 r/min				n_1= 1700 r/min				n_1= 1400 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
201.00		**11**	295	0.55	61	**8.5**	295	0.44	59	**7.0**	295	0.37	58
184.80		**12**	295	0.60	62	**9.2**	295	0.48	60	**7.6**	295	0.40	58
158.12		**14**	295	0.69	63	**11**	295	0.55	61	**8.9**	295	0.46	60
137.05		**16**	295	0.78	64	**12**	295	0.62	62	**10**	295	0.52	61
128.10		**17**	295	0.83	64	**13**	295	0.66	62	**11**	295	0.55	61
110.73	42/1	**20**	290	0.93	65	**15**	295	0.75	63	**13**	295	0.63	62
94.08		**23**	275	1.0	66	**18**	300	0.88	65	**15**	295	0.73	63
84.00		**26**	250	1.0	67	**20**	285	0.93	65	**17**	295	0.80	64
71.75		**31**	220	1.1	67	**24**	275	1.0	66	**20**	290	0.91	65
67.20		**33**	210	1.1	67	**25**	260	1.0	67	**21**	285	0.95	65
56.61		**39**	179	1.1	68	**30**	225	1.1	67	**25**	265	1.0	67
69.39		**32**	245	1.0	79	**24**	245	0.81	77	**20**	245	0.68	76
63.80		**34**	245	1.1	79	**27**	245	0.88	78	**22**	245	0.73	77
54.59		**40**	245	1.3	80	**31**	245	1.0	79	**26**	245	0.85	78
47.32		**46**	245	1.5	81	**36**	245	1.2	79	**30**	245	0.97	79
44.22		**50**	245	1.6	81	**38**	245	1.2	80	**32**	245	1.0	79
38.23	29/2	**58**	245	1.8	81	**44**	245	1.4	80	**37**	245	1.2	80
32.48		**68**	225	1.9	82	**52**	245	1.7	81	**43**	245	1.4	80
29.00		**76**	200	1.9	82	**59**	245	1.8	81	**48**	245	1.5	81
24.77		**89**	177	2.0	82	**69**	220	1.9	82	**57**	245	1.8	81
23.20		**95**	167	2.0	83	**73**	210	2.0	82	**60**	245	1.9	82
19.54		**113**	143	2.0	83	**87**	183	2.0	83	**72**	215	2.0	82
20.33		**108**	168	2.2	88	**84**	168	1.7	87	**69**	168	1.4	87
17.62		**125**	168	2.5	88	**96**	168	1.9	88	**79**	168	1.6	87
16.47		**134**	169	2.7	88	**103**	168	2.1	88	**85**	168	1.7	87
14.24		**154**	169	3.1•	89	**119**	169	2.4	88	**98**	169	2.0	88
12.10	27/5	**182**	150	3.2•	89	**140**	169	2.8	89	**116**	169	2.3	88
10.80		**204**	136	3.2•	89	**157**	169	3.1•	89	**130**	169	2.6	88
9.23		**238**	119	3.3•	89	**184**	149	3.2•	89	**152**	169	3.0	89
8.64		**255**	112	3.3•	89	**197**	141	3.3•	89	**162**	166	3.2•	89
7.28		**302**	96	3.4•	90	**234**	122	3.3•	90	**192**	146	3.3•	89

• P_{1max}=3.0kW

TS,TSF,TSA,TSAF58 — 1100-700 r/min

		n_1= 1100 r/min				n_1= 900 r/min				n_1= 700 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
201.00		**5.5**	295	0.30	56	**4.5**	300	0.26	55	**3.5**	310	0.21	53
184.80		**6.0**	295	0.32	57	**4.9**	300	0.28	55	**3.8**	305	0.23	54
158.12		**7.0**	295	0.37	58	**5.7**	295	0.31	56	**4.4**	300	0.25	55
137.05		**8.0**	295	0.42	59	**6.6**	295	0.35	57	**5.1**	300	0.29	56
128.10		**8.6**	295	0.45	59	**7.0**	295	0.37	58	**5.5**	295	0.30	56
110.73	42/1	**9.9**	295	0.51	61	**8.1**	295	0.43	59	**6.3**	295	0.34	57
94.08		**12**	295	0.59	62	**9.6**	295	0.49	60	**7.4**	295	0.39	58
84.00		**13**	295	0.65	63	**11**	295	0.54	61	**8.3**	295	0.43	59
71.75		**15**	295	0.74	64	**13**	295	0.62	62	**9.8**	295	0.50	61
67.20		**16**	300	0.80	64	**13**	295	0.66	63	**10**	295	0.53	61
56.61		**19**	290	0.91	65	**16**	300	0.78	64	**12**	295	0.61	62
69.39		**16**	270	0.60	75	**13**	270	0.49	74	**10**	270	0.39	73
63.80		**17**	270	0.64	76	**14**	270	0.53	75	**11**	270	0.42	73
54.59		**20**	270	0.74	77	**16**	270	0.62	75	**13**	270	0.49	74
47.32		**23**	270	0.85	77	**19**	270	0.70	76	**15**	270	0.56	75
44.22		**25**	270	0.91	78	**20**	270	0.75	77	**16**	270	0.59	75
38.23	29/2	**29**	270	1.0	79	**24**	270	0.86	77	**18**	270	0.68	76
32.48		**34**	270	1.2	79	**28**	270	1.0	78	**22**	270	0.79	77
29.00		**38**	270	1.3	80	**31**	270	1.1	79	**24**	270	0.88	78
24.77		**44**	270	1.6	81	**36**	270	1.3	80	**28**	270	1.0	78
23.20		**47**	270	1.7	81	**39**	270	1.4	80	**30**	270	1.1	79
19.54		**56**	250	1.8	81	**46**	270	1.6	81	**36**	270	1.3	80
20.33		**54**	168	1.1	86	**44**	170	0.93	85	**34**	172	0.74	84
17.62		**62**	169	1.3	86	**51**	169	1.1	86	**40**	170	0.83	85
16.47		**67**	168	1.4	87	**55**	168	1.1	86	**43**	170	0.89	85
14.24		**77**	168	1.6	87	**63**	168	1.3	86	**49**	170	1.0	86
12.10	27/5	**91**	169	1.8	88	**74**	169	1.5	87	**58**	169	1.2	86
10.80		**102**	169	2.1	88	**83**	169	1.7	87	**65**	169	1.3	87
9.23		**119**	170	2.4	88	**98**	168	2.0	88	**76**	168	1.5	87
8.64		**127**	170	2.6	88	**104**	169	2.1	88	**81**	168	1.6	87
7.28		**151**	170	3.0	89	**124**	170	2.5	88	**96**	170	1.9	88

TS,TSF,TSA,TSAF58

500-10 r/min

i	i_w	n_1= 500 r/min				n_1= 250 r/min				n_1= 10 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
201.00		**2.5**	330	0.17	51	**1.2**	330	0.09	49	**0.05**	330	<0.05	42
184.80		**2.7**	330	0.18	51	**1.4**	330	0.10	49	**0.05**	330	<0.05	43
158.12		**3.2**	315	0.20	52	**1.6**	330	0.11	49	**0.06**	330	<0.05	44
137.05		**3.6**	310	0.22	53	**1.8**	330	0.13	50	**0.07**	330	<0.05	45
128.10		**3.9**	305	0.23	54	**2.0**	330	0.14	50	**0.08**	330	<0.05	46
110.73	42/1	**4.5**	300	0.26	55	**2.3**	330	0.15	51	**0.09**	330	<0.05	46
94.08		**5.3**	300	0.30	56	**2.7**	330	0.18	51	**0.11**	330	<0.05	47
84.00		**6.0**	295	0.32	57	**3.0**	325	0.19	52	**0.12**	325	<0.05	47
71.75		**7.0**	295	0.37	58	**3.5**	310	0.21	53	**0.14**	310	<0.05	48
67.20		**7.4**	295	0.39	58	**3.7**	310	0.23	54	**0.15**	310	<0.05	48
56.61		**8.8**	295	0.46	60	**4.4**	300	0.25	55	**0.18**	300	<0.05	48
69.39		**7.2**	300	0.32	71	**3.6**	300	0.17	68	**0.14**	300	<0.05	63
63.80		**7.8**	300	0.34	71	**3.9**	300	0.18	68	**0.16**	300	<0.05	64
54.59		**9.2**	300	0.40	72	**4.6**	300	0.21	69	**0.18**	300	<0.05	65
47.32		**11**	300	0.45	73	**5.3**	300	0.24	70	**0.21**	300	<0.05	66
44.22		**11**	300	0.48	74	**5.7**	300	0.25	70	**0.23**	300	<0.05	66
38.23	29/2	**13**	295	0.54	74	**6.5**	300	0.29	71	**0.26**	300	<0.05	67
32.48		**15**	295	0.63	75	**7.7**	300	0.34	71	**0.31**	300	<0.05	67
29.00		**17**	295	0.70	76	**8.6**	300	0.38	72	**0.34**	300	<0.05	67
24.77		**20**	295	0.81	77	**10**	300	0.43	73	**0.40**	300	<0.05	68
23.20		**22**	295	0.86	77	**11**	300	0.46	73	**0.43**	300	<0.05	68
19.54		**26**	295	1.00	78	**13**	295	0.53	74	**0.51**	295	<0.05	68
20.33		**25**	181	0.56	83	**12**	215	0.35	80	**0.49**	215	<0.05	77
17.62		**28**	175	0.62	83	**14**	210	0.39	81	**0.57**	210	<0.05	77
16.47		**30**	174	0.66	84	**15**	205	0.40	81	**0.61**	205	<0.05	78
14.24		**35**	172	0.75	84	**18**	198	0.45	81	**0.70**	198	<0.05	78
12.10	27/5	**41**	170	0.87	85	**21**	188	0.49	82	**0.83**	188	<0.05	78
10.80		**46**	170	0.97	85	**23**	184	0.54	83	**0.93**	184	<0.05	78
9.23		**54**	170	1.1	86	**27**	177	0.60	83	**1.1**	177	<0.05	79
8.64		**58**	170	1.2	86	**29**	175	0.64	83	**1.2**	175	<0.05	79
7.28		**69**	170	1.4	87	**34**	172	0.73	84	**1.4**	172	<0.05	79

6.7 TS,TSF,TSA,TSAF68 Performance parameter

TS,TSF,TSA,TSAF68 3400-2800 r/min

		n_1= 3400 r/min				n_1= 3200 r/min				n_1= 2800 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
217.41	42/1	**16**	465	1.2	66	**15**	465	1.1	66	**13**	465	0.96	65
190.11		**18**	465	1.3	67	**17**	465	1.2	67	**15**	465	1.1	66
180.60		**19**	465	1.4	67	**18**	465	1.3	67	**16**	465	1.1	66
158.45		**21**	465	1.5	68	**20**	465	1.5	68	**18**	465	1.3	67
134.40		**25**	465	1.8	69	**24**	465	1.7	68	**21**	465	1.5	68
121.33		**28**	455	1.9	69	**26**	465	1.9	69	**23**	465	1.6	68
106.75		**32**	405	2.0	69	**30**	430	2.0	69	**26**	465	1.9	69
100.80		**34**	380	1.9	69	**32**	410	2.0	69	**28**	465	2.0	69
85.83		**40**	320	1.9	69	**37**	345	1.9	69	**33**	400	2.0	70
78.00		**44**	285	1.9	69	**41**	310	1.9	69	**36**	365	2.0	70
67.57		**50**	235	1.8	67	**47**	260	1.9	68	**41**	315	2.0	69
58.80		**58**	184	1.7	65	**54**	215	1.8	67	**48**	270	1.9	69
75.06	29/2	**45**	435	2.5	82	**43**	435	2.4	82	**37**	435	2.1	81
65.63		**52**	435	2.9	82	**49**	435	2.7	82	**43**	435	2.4	82
62.35		**55**	435	3.0	83	**51**	435	2.8	82	**45**	435	2.5	82
54.70		**62**	435	3.4	83	**59**	435	3.2	83	**51**	435	2.8	83
46.40		**73**	395	3.6	83	**69**	415	3.6	83	**60**	435	3.3	83
41.89		**81**	355	3.6	83	**76**	380	3.6	83	**67**	430	3.6	83
36.85		**92**	310	3.6	83	**87**	335	3.6	84	**76**	380	3.6	84
34.80		**98**	295	3.6	83	**92**	315	3.6	84	**80**	365	3.7	84
29.63		**115**	250	3.6	83	**108**	270	3.7	83	**94**	310	3.7	84
26.93		**126**	220	3.5	83	**119**	240	3.6	83	**104**	280	3.6	84
23.33		**146**	182	3.4	82	**137**	200	3.5	83	**120**	245	3.7	84
20.30		**167**	141	3.1	81	**158**	164	3.3	82	**138**	205	3.6	83
24.44	27/5	**139**	315	5.1	90	**131**	315	4.8	90	**115**	315	4.2	89
23.22		**146**	315	5.4	90	**138**	315	5.1	90	**121**	315	4.4	90
20.37		**167**	315	6.1•	90	**157**	315	5.8•	90	**137**	315	5.0	90
17.28		**197**	270	6.2•	90	**185**	290	6.2•	90	**162**	315	5.9•	90
15.60		**218**	245	6.2•	90	**205**	260	6.2•	90	**179**	295	6.1•	90
13.73		**248**	215	6.2•	90	**233**	230	6.2•	90	**204**	265	6.3•	90
12.96		**262**	200	6.1•	90	**247**	215	6.1•	90	**216**	250	6.3•	90
11.03		**308**	169	6.1•	90	**290**	183	6.2•	90	**254**	215	6.3•	90
10.03		**339**	151	6.0•	90	**319**	164	6.1•	90	**279**	194	6.3•	90
8.69		**391**	124	5.7•	89	**368**	137	5.9•	90	**322**	166	6.2•	90
7.56		**450**	95	5.1•	88	**423**	112	5.6•	89	**370**	141	6.1•	90

• P_{1max}=5.5kW

TS,TSF,TSA,TSAF68

2200-1400 r/min

i	i_w	n_1= 2200 r/min				n_1= 1700 r/min				n_1= 1400 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
217.41	42/1	**10**	520	0.86	64	**7.8**	520	0.69	62	**6.4**	520	0.58	61
190.11		**12**	520	0.97	65	**8.9**	520	0.77	63	**7.4**	520	0.65	62
180.60		**12**	520	1.0	65	**9.4**	520	0.81	63	**7.8**	520	0.68	62
158.45		**14**	520	1.1	66	**11**	520	0.91	64	**8.8**	520	0.76	63
134.40		**16**	520	1.3	67	**13**	520	1.1	65	**10**	520	0.88	64
121.33		**18**	520	1.5	68	**14**	520	1.2	66	**12**	520	0.97	65
106.75		**21**	520	1.6	68	**16**	520	1.3	67	**13**	520	1.1	66
100.80		**22**	510	1.7	69	**17**	520	1.4	67	**14**	520	1.1	66
85.83		**26**	490	1.9	69	**20**	520	1.6	68	**16**	520	1.3	67
78.00		**28**	465	2.0	70	**22**	510	1.7	69	**18**	520	1.4	68
67.57		**33**	410	2.0	70	**25**	495	1.9	69	**21**	520	1.6	69
58.80		**37**	360	2.0	70	**29**	460	2.0	70	**24**	500	1.8	69
75.06	29/2	**29**	480	1.8	81	**23**	480	1.4	79	**19**	480	1.2	79
65.63		**34**	480	2.1	81	**26**	480	1.6	80	**21**	480	1.4	79
62.35		**35**	480	2.2	81	**27**	480	1.7	80	**22**	480	1.4	79
54.70		**40**	480	2.5	82	**31**	480	1.9	81	**26**	480	1.6	80
46.40		**47**	480	2.9	82	**37**	480	2.3	82	**30**	480	1.9	81
41.89		**53**	480	3.2	83	**41**	480	2.5	82	**33**	480	2.1	81
36.85		**60**	475	3.6	83	**46**	480	2.8	82	**38**	480	2.3	82
34.80		**63**	450	3.6	83	**49**	480	3.0	83	**40**	480	2.5	82
29.63		**74**	395	3.7	84	**57**	480	3.5	83	**47**	480	2.9	83
26.93		**82**	360	3.7	84	**63**	455	3.6	83	**52**	480	3.2	83
23.33		**94**	320	3.8	84	**73**	405	3.7	84	**60**	480	3.6	83
20.30		**108**	280	3.8	84	**84**	360	3.8	84	**69**	425	3.7	84
24.44	27/5	**90**	340	3.6	89	**70**	340	2.8	88	**57**	340	2.3	88
23.22		**95**	340	3.8	89	**73**	340	2.9	89	**60**	340	2.4	88
20.37		**108**	340	4.3	89	**83**	340	3.3	89	**69**	340	2.8	88
17.28		**127**	340	5.0	90	**98**	340	3.9	89	**81**	340	3.2	89
15.60		**141**	340	5.6•	90	**109**	340	4.3	89	**90**	340	3.6	89
13.73		**160**	330	6.1•	90	**124**	340	4.9	90	**102**	340	4.1	89
12.96		**170**	315	6.2•	90	**131**	340	5.2	90	**108**	340	4.3	89
11.03		**199**	275	6.3•	90	**154**	340	6.1•	90	**127**	340	5.0	90
10.03		**219**	250	6.3•	91	**169**	315	6.2•	90	**140**	340	5.5	90
8.69		**253**	220	6.4•	91	**196**	280	6.3•	91	**161**	335	6.3•	90
7.56		**291**	192	6.5•	91	**225**	250	6.5•	91	**185**	295	6.3•	91

• P_{1max}=5.5kW

TS,TSF,TSA,TSAF68 — 1100-700 r/min

i	i_w	n_1= 1100 r/min				n_1= 900 r/min				n_1= 700 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
217.41	42/1	**5.1**	555	0.50	59	**4.1**	560	0.42	58	**3.2**	570	0.34	56
190.11		**5.8**	555	0.56	60	**4.7**	560	0.47	59	**3.7**	565	0.38	57
180.60		**6.1**	555	0.59	61	**5.0**	555	0.49	59	**3.9**	565	0.40	57
158.45		**6.9**	550	0.65	62	**5.7**	555	0.55	60	**4.4**	560	0.44	58
134.40		**8.2**	550	0.75	63	**6.7**	550	0.63	61	**5.2**	555	0.51	60
121.33		**9.1**	550	0.82	63	**7.4**	550	0.69	62	**5.8**	555	0.56	60
106.75		**10**	550	0.92	64	**8.4**	550	0.77	63	**6.6**	555	0.62	61
100.80		**11**	550	0.97	65	**8.9**	550	0.81	63	**6.9**	555	0.66	62
85.83		**13**	550	1.1	66	**10**	550	0.94	64	**8.2**	550	0.75	63
78.00		**14**	550	1.2	66	**12**	550	1.0	65	**9.0**	550	0.82	63
67.57		**16**	550	1.4	67	**13**	550	1.2	66	**10**	550	0.93	64
58.80		**19**	530	1.5	68	**15**	550	1.3	67	**12**	550	1.0	65
75.06	29/2	**15**	525	1.0	77	**12**	525	0.86	76	**9.3**	525	0.68	75
65.63		**17**	525	1.2	78	**14**	525	0.98	77	**11**	525	0.77	76
62.35		**18**	525	1.2	78	**14**	525	1.0	77	**11**	525	0.81	76
54.70		**20**	525	1.4	79	**16**	525	1.2	78	**13**	525	0.92	77
46.40		**24**	525	1.6	80	**19**	525	1.4	79	**15**	525	1.1	78
41.89		**26**	525	1.8	80	**21**	525	1.5	79	**17**	525	1.2	78
36.85		**30**	525	2.0	81	**24**	525	1.7	80	**19**	525	1.3	79
34.80		**32**	525	2.1	81	**26**	525	1.8	80	**20**	525	1.4	79
29.63		**37**	525	2.5	82	**30**	525	2.1	81	**24**	525	1.6	80
26.93		**41**	525	2.7	82	**33**	525	2.3	81	**26**	525	1.8	80
23.33		**47**	525	3.1	83	**39**	525	2.6	82	**30**	525	2.0	81
20.30		**54**	520	3.5	83	**44**	525	3.0	82	**34**	525	2.3	81
24.44	27/5	**45**	355	1.9	87	**37**	360	1.6	87	**29**	365	1.3	86
23.22		**47**	355	2.0	87	**39**	360	1.7	87	**30**	365	1.3	86
20.37		**54**	355	2.3	88	**44**	355	1.9	87	**34**	365	1.5	86
17.28		**64**	355	2.7	88	**52**	355	2.2	88	**41**	360	1.8	87
15.60		**71**	350	2.9	88	**58**	355	2.4	88	**45**	355	1.9	87
13.73		**80**	350	3.3	89	**66**	355	2.8	88	**51**	355	2.2	88
12.96		**85**	350	3.5	89	**69**	350	2.9	88	**54**	355	2.3	88
11.03		**100**	350	4.1	89	**82**	350	3.4	89	**63**	355	2.7	88
10.03		**110**	345	4.4	90	**90**	350	3.7	89	**70**	355	2.9	88
8.69		**127**	345	5.1	90	**104**	350	4.2	89	**81**	350	3.3	89
7.56		**146**	345	5.8•	90	**119**	345	4.8	90	**93**	350	3.8	89

• P_{1max}=5.5kW

TS,TSF,TSA,TSAF68

500-10 r/min

i	i_w	n_1= 500 r/min				n_1= 250 r/min				n_1= 10 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
217.41	42/1	**2.3**	570	0.25	54	**1.1**	570	0.13	51	**0.05**	570	<0.05	47
190.11		**2.6**	570	0.29	55	**1.3**	570	0.15	51	**0.05**	570	<0.05	48
180.60		**2.8**	570	0.30	55	**1.4**	570	0.16	51	**0.06**	570	<0.05	48
158.45		**3.2**	570	0.34	56	**1.6**	570	0.18	52	**0.06**	570	<0.05	49
134.40		**3.7**	565	0.38	57	**1.9**	570	0.21	53	**0.07**	570	<0.05	50
121.33		**4.1**	560	0.42	58	**2.1**	570	0.23	53	**0.08**	570	<0.05	50
106.75		**4.7**	560	0.47	59	**2.3**	570	0.26	54	**0.09**	570	<0.05	50
100.80		**5.0**	560	0.49	59	**2.5**	570	0.27	55	**0.10**	570	<0.05	50
85.83		**5.8**	555	0.56	60	**2.9**	570	0.31	56	**0.12**	570	<0.05	51
78.00		**6.4**	555	0.61	61	**3.2**	570	0.34	56	**0.13**	570	<0.05	51
67.57		**7.4**	555	0.69	62	**3.7**	565	0.38	57	**0.15**	565	<0.05	51
58.80		**8.5**	550	0.78	63	**4.3**	560	0.43	58	**0.17**	560	<0.05	51
75.06	29/2	**6.7**	570	0.54	73	**3.3**	570	0.28	70	**0.13**	570	<0.05	68
65.63		**7.6**	570	0.61	74	**3.8**	570	0.32	71	**0.15**	570	<0.05	68
62.35		**8.0**	570	0.64	74	**4.0**	570	0.34	71	**0.16**	570	<0.05	69
54.70		**9.1**	570	0.73	75	**4.6**	570	0.38	71	**0.18**	570	<0.05	69
46.40		**11**	570	0.85	76	**5.4**	570	0.44	72	**0.22**	570	<0.05	69
41.89		**12**	570	0.93	76	**6.0**	570	0.49	73	**0.24**	570	<0.05	69
36.85		**14**	570	1.1	77	**6.8**	570	0.55	73	**0.27**	570	<0.05	69
34.80		**14**	570	1.1	77	**7.2**	570	0.58	74	**0.29**	570	<0.05	69
29.63		**17**	565	1.3	78	**8.4**	570	0.68	75	**0.34**	570	<0.05	70
26.93		**19**	565	1.4	79	**9.3**	570	0.74	75	**0.37**	570	<0.05	70
23.33		**21**	565	1.6	79	**11**	570	0.84	76	**0.43**	570	<0.05	70
20.30		**25**	565	1.8	80	**12**	570	0.96	77	**0.49**	570	<0.05	70
24.44	27/5	**20**	365	0.93	85	**10**	355	0.46	82	**0.41**	355	0.019	80
23.22		**22**	365	0.97	85	**11**	355	0.49	82	**0.43**	355	<0.05	80
20.37		**25**	380	1.1	85	**12**	365	0.57	83	**0.49**	365	<0.05	80
17.28		**29**	365	1.3	86	**14**	435	0.79	83	**0.58**	435	<0.05	81
15.60		**32**	365	1.4	86	**16**	430	0.86	84	**0.64**	430	<0.05	81
13.73		**36**	365	1.6	87	**18**	415	0.94	84	**0.73**	415	<0.05	81
12.96		**39**	360	1.7	87	**19**	410	0.98	84	**0.77**	410	<0.05	81
11.03		**45**	355	1.9	87	**23**	390	1.1	85	**0.91**	390	<0.05	81
10.03		**50**	355	2.1	88	**25**	380	1.2	85	**1.0**	380	<0.05	81
8.69		**58**	355	2.4	88	**29**	370	1.3	86	**1.2**	370	0.06	81
7.56		**66**	355	2.8	88	**33**	365	1.5	86	**1.3**	365	0.06	81

6.8 TS,TSF,TSA,TSAF78 Performance parameter

TS,TSF,TSA,TSAF78 3400-2800 r/min

		n_1= 3400 r/min				n_1= 3200 r/min				n_1= 2800 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
256.47	40/1	**13**	1160	2.3	71	**12**	1160	2.1	71	**11**	1160	1.9	70
225.26		**15**	1130	2.5	72	**14**	1150	2.4	71	**12**	1160	2.1	71
214.00		**16**	1110	2.6	72	**15**	1140	2.5	71	**13**	1160	2.2	71
189.09		**18**	1080	2.8	72	**17**	1100	2.7	72	**15**	1140	2.5	71
161.60		**21**	1040	3.1	73	**20**	1050	3.0	73	**17**	1090	2.7	72
148.15		**23**	1010	3.3	73	**22**	1030	3.2	73	**19**	1070	2.9	73
130.00		**26**	970	3.6	74	**25**	990	3.5	74	**22**	1030	3.2	73
123.20		**28**	950	3.7	74	**26**	970	3.6	74	**23**	1010	3.3	73
107.83		**32**	900	4.0	74	**30**	920	3.9	74	**26**	970	3.6	74
97.14		**35**	860	4.2	75	**33**	880	4.1	74	**29**	930	3.8	74
85.22		**40**	770	4.3	75	**38**	820	4.3	75	**33**	880	4.1	75
75.20		**45**	675	4.3	74	**43**	725	4.3	75	**37**	830	4.3	75
66.67		**51**	585	4.2	74	**48**	635	4.3	75	**42**	745	4.4	75
56.92		**60**	485	4.1	73	**56**	530	4.2	74	**49**	635	4.4	75
75.09	40/3	**45**	1020	5.6	86	**43**	1020	5.3	86	**37**	1020	4.6	86
71.33		**48**	1020	5.9	87	**45**	1020	5.5	86	**39**	1020	4.9	86
63.03		**54**	1020	6.6	87	**51**	1020	6.2	87	**44**	1020	5.5	86
53.87		**63**	980	7.4	87	**59**	1000	7.1	87	**52**	1020	6.4	87
49.38		**69**	950	7.8	87	**65**	970	7.5	87	**57**	1010	6.9	87
43.33		**78**	910	8.5	88	**74**	930	8.2	88	**65**	970	7.5	87
41.07		**83**	900	8.9	88	**78**	910	8.5	88	**68**	950	7.8	87
35.94		**95**	800	9.0	88	**89**	850	9.0	88	**78**	910	8.5	88
32.38		**105**	725	9.1	88	**99**	770	9.1	88	**86**	880	9.1	88
28.41		**120**	635	9.1	88	**113**	680	9.1	88	**99**	780	9.1	88
25.07		**136**	560	9.1	88	**128**	600	9.1	88	**112**	695	9.2	88
22.22		**153**	485	8.9	88	**144**	525	9.0	88	**126**	615	9.2	88
18.97		**179**	395	8.5	87	**169**	440	8.9	88	**148**	520	9.1	88
22.89	34/6	**149**	590	10.0•	91	**140**	590	9.5	91	**122**	590	8.3	91
20.99		**162**	590	10.9•	92	**152**	590	10.3•	92	**133**	590	9.0	91
18.42		**185**	590	12.4•	92	**174**	590	11.7•	92	**152**	590	10.3•	92
17.45		**195**	590	13.1•	92	**183**	590	12.4•	92	**160**	590	10.8•	92
15.28		**223**	530	13.5•	92	**209**	560	13.4•	92	**183**	590	12.3•	92
13.76		**247**	480	13.5•	92	**233**	505	13.4•	92	**203**	585	13.6•	92
12.07		**282**	415	13.3•	92	**265**	445	13.4•	92	**232**	515	13.6•	92
10.65		**319**	365	13.3•	92	**300**	390	13.4•	92	**263**	455	13.6•	92
9.44		**360**	315	13.0•	92	**339**	345	13.3•	92	**297**	405	13.7•	92
8.06		**422**	260	12.6•	91	**397**	285	12.9•	92	**347**	340	13.5•	92

• P_{1max}=9.2kW

TS,TSF,TSA,TSAF78 2200-1400 r/min

i	i_w	n_1= 2200 r/min				n_1= 1700 r/min				n_1= 1400 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
256.47	40/1	**8.6**	1260	1.6	69	**6.6**	1270	1.3	67	**5.5**	1270	1.1	66
225.26		**9.8**	1230	1.8	69	**7.5**	1270	1.5	68	**6.2**	1270	1.2	67
214.00		**10**	1220	1.9	70	**7.9**	1270	1.6	68	**6.5**	1270	1.3	67
189.09		**12**	1200	2.1	70	**9.0**	1240	1.7	69	**7.4**	1270	1.5	68
161.60		**14**	1160	2.3	71	**11**	1220	1.9	70	**8.7**	1260	1.7	69
148.15		**15**	1140	2.5	72	**11**	1200	2.1	70	**9.4**	1240	1.8	69
130.00		**17**	1100	2.7	72	**13**	1170	2.3	71	**11**	1210	1.9	70
123.20		**18**	1080	2.8	73	**14**	1150	2.3	71	**11**	1200	2.0	70
107.83		**20**	1040	3.0	73	**16**	1110	2.5	72	**13**	1170	2.2	71
97.14		**23**	1010	3.3	74	**18**	1090	2.8	73	**14**	1140	2.4	72
85.22		**26**	970	3.5	74	**20**	1050	3.0	73	**16**	1100	2.6	72
75.20		**29**	920	3.8	74	**23**	1010	3.2	74	**19**	1070	2.9	73
66.67		**33**	880	4.1	75	**25**	970	3.5	74	**21**	1040	3.1	73
56.92		**39**	830	4.5	75	**30**	920	3.9	75	**25**	990	3.4	74
75.09	40/3	**29**	1100	4.0	85	**23**	1100	3.1	84	**19**	1100	2.6	83
71.33		**31**	1100	4.2	85	**24**	1100	3.2	85	**20**	1100	2.7	84
63.03		**35**	1100	4.7	86	**27**	1100	3.7	85	**22**	1100	3.0	84
53.87		**41**	1100	5.5	86	**32**	1100	4.3	86	**26**	1100	3.5	85
49.38		**45**	1080	5.8	87	**34**	1100	4.6	86	**28**	1100	3.8	85
43.33		**51**	1050	6.4	87	**39**	1100	5.2	86	**32**	1100	4.3	86
41.07		**54**	1030	6.6	87	**41**	1100	5.5	86	**34**	1100	4.6	86
35.94		**61**	980	7.2	87	**47**	1060	6.1	87	**39**	1100	5.2	86
32.38		**68**	960	7.8	88	**53**	1040	6.6	87	**43**	1090	5.7	87
28.41		**77**	920	8.5	88	**60**	990	7.1	87	**49**	1050	6.2	87
25.07		**88**	870	9.1	88	**68**	960	7.8	88	**56**	1020	6.8	87
22.22		**99**	790	9.3	88	**77**	920	8.4	88	**63**	980	7.4	87
18.97		**116**	680	9.4	88	**90**	860	9.2	88	**74**	930	8.2	88
22.89	34/6	**96**	710	7.9	91	**74**	705	6.1	90	**61**	705	5.0	90
20.99		**105**	710	8.6	91	**81**	705	6.6	91	**67**	705	5.5	90
18.42		**119**	720	9.9	91	**92**	710	7.6	91	**76**	705	6.2	90
17.45		**126**	720	10.4•	91	**97**	710	8.0	91	**80**	710	6.6	91
15.28		**144**	720	11.9•	92	**111**	720	9.2	91	**92**	710	7.5	91
13.76		**160**	725	13.2•	92	**124**	720	10.2•	91	**102**	710	8.3	91
12.07		**182**	650	13.5•	92	**141**	725	11.7•	92	**116**	720	9.6•	91
10.65		**207**	580	13.6•	92	**160**	725	13.2•	92	**131**	720	10.8•	92
9.44		**233**	520	13.8•	92	**180**	655	13.4•	92	**148**	725	12.3•	92
8.06		**273**	445	13.8•	92	**211**	575	13.8•	92	**174**	680	13.5•	92

• P_{1max}=9.2kW

TS,TSF,TSA,TSAF78 — 1100-700 r/min

i	i_w	n_1= 1100 r/min				n_1= 900 r/min				n_1= 700 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
256.47	40/1	**4.3**	1270	0.89	64	**3.5**	1270	0.75	63	**2.7**	1270	0.60	61
225.26		**4.9**	1270	1.0	65	**4.0**	1270	0.84	63	**3.1**	1270	0.67	62
214.00		**5.1**	1270	1.0	65	**4.2**	1270	0.88	64	**3.3**	1270	0.70	62
189.09		**5.8**	1270	1.2	66	**4.8**	1270	0.98	65	**3.7**	1270	0.78	63
161.60		**6.8**	1270	1.3	67	**5.6**	1270	1.1	66	**4.3**	1270	0.90	64
148.15		**7.4**	1270	1.5	68	**6.1**	1270	1.2	66	**4.7**	1270	0.97	65
130.00		**8.5**	1260	1.6	69	**6.9**	1270	1.4	67	**5.4**	1270	1.1	66
123.20		**8.9**	1250	1.7	69	**7.3**	1270	1.4	68	**5.7**	1270	1.1	66
107.83		**10**	1220	1.9	70	**8.3**	1260	1.6	69	**6.5**	1270	1.3	67
97.14		**11**	1200	2.0	70	**9.3**	1250	1.8	69	**7.2**	1270	1.4	68
85.22		**13**	1170	2.2	71	**11**	1220	1.9	70	**8.2**	1270	1.6	69
75.20		**15**	1140	2.4	72	**12**	1190	2.1	71	**9.3**	1250	1.8	69
66.67		**16**	1110	2.6	72	**13**	1160	2.3	71	**10**	1220	1.9	70
56.92		**19**	1060	2.9	73	**16**	1120	2.6	72	**12**	1190	2.2	71
75.09	40/3	**15**	1120	2.1	83	**12**	1130	1.7	82	**9.3**	1170	1.4	81
71.33		**15**	1120	2.2	83	**13**	1130	1.8	82	**9.8**	1120	1.4	81
63.03		**17**	1120	2.5	83	**14**	1120	2.0	82	**11**	1130	1.6	81
53.87		**20**	1120	2.9	84	**17**	1120	2.4	83	**13**	1120	1.9	82
49.38		**22**	1120	3.1	84	**18**	1120	2.6	83	**14**	1120	2.0	82
43.33		**25**	1130	3.5	85	**21**	1120	2.9	84	**16**	1120	2.3	83
41.07		**27**	1130	3.7	85	**22**	1120	3.1	84	**17**	1120	2.4	83
35.94		**31**	1150	4.3	85	**25**	1130	3.5	85	**19**	1120	2.7	84
32.38		**34**	1130	4.7	86	**28**	1130	3.9	85	**22**	1120	3.0	84
28.41		**39**	1110	5.2	86	**32**	1150	4.5	86	**25**	1130	3.4	85
25.07		**44**	1080	5.7	87	**36**	1120	4.9	86	**28**	1130	3.9	85
22.22		**50**	1050	6.3	87	**41**	1100	5.4	86	**32**	1150	4.4	86
18.97		**58**	1010	7.0	87	**47**	1060	6.1	87	**37**	1120	5.0	86
22.89	34/6	**48**	695	3.9	89	**39**	695	3.2	89	**31**	705	2.6	88
20.99		**52**	705	4.3	90	**43**	695	3.5	89	**33**	705	2.8	88
18.42		**60**	700	4.9	90	**49**	700	4.0	89	**38**	700	3.1	89
17.45		**63**	700	5.1	90	**52**	700	4.2	90	**40**	700	3.3	89
15.28		**72**	710	5.9	90	**59**	700	4.8	90	**46**	700	3.8	89
13.76		**80**	710	6.6	91	**65**	700	5.3	90	**51**	700	4.2	90
12.07		**91**	710	7.5	91	**75**	710	6.1	90	**58**	700	4.7	90
10.65		**103**	715	8.5	91	**85**	710	6.9	91	**66**	710	5.4	90
9.44		**117**	720	9.6•	91	**95**	715	7.8	91	**74**	710	6.1	90
8.06		**136**	725	11.3•	92	**112**	720	9.2	91	**87**	710	7.1	91

• P_{1max}=9.2kW

TS,TSF,TSA,TSAF78

500-10 r/min

		n_1= 500 r/min				n_1= 250 r/min				n_1= 10 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
256.47	40/1	**1.9**	1270	0.44	59	**0.97**	1270	0.23	56	**0.04**	1270	<0.05	54
225.26		**2.2**	1270	0.49	60	**1.1**	1270	0.26	56	**0.04**	1270	<0.05	55
214.00		**2.3**	1270	0.52	60	**1.2**	1270	0.28	56	**0.05**	1270	<0.05	55
189.09		**2.6**	1270	0.58	61	**1.3**	1270	0.31	57	**0.05**	1270	<0.05	55
161.60		**3.1**	1270	0.67	62	**1.5**	1270	0.36	58	**0.06**	1270	<0.05	55
148.15		**3.4**	1270	0.72	62	**1.7**	1270	0.39	58	**0.07**	1270	<0.05	55
130.00		**3.8**	1270	0.81	63	**1.9**	1270	0.43	59	**0.08**	1270	<0.05	55
123.20		**4.1**	1270	0.85	64	**2.0**	1270	0.46	59	**0.08**	1270	<0.05	55
107.83		**4.6**	1270	0.95	65	**2.3**	1270	0.51	60	**0.09**	1270	<0.05	56
97.14		**5.1**	1270	1.0	65	**2.6**	1270	0.56	61	**0.10**	1270	<0.05	56
85.22		**5.9**	1270	1.2	66	**2.9**	1270	0.63	62	**0.12**	1270	<0.05	56
75.20		**6.6**	1270	1.3	67	**3.3**	1270	0.71	62	**0.13**	1270	<0.05	56
66.67		**7.5**	1270	1.5	68	**3.7**	1270	0.79	63	**0.15**	1270	<0.05	56
56.92		**8.8**	1260	1.7	69	**4.4**	1270	0.91	64	**0.18**	1270	<0.05	56
75.09	40/3	**6.7**	1160	1.0	79	**3.3**	1120	0.51	76	**0.13**	1120	<0.05	75
71.33		**7.0**	1110	1.0	79	**3.5**	1060	0.51	77	**0.14**	1060	<0.05	75
63.03		**7.9**	1230	1.3	80	**4.0**	1200	0.65	77	**0.16**	1200	<0.05	76
53.87		**9.3**	1180	1.4	81	**4.6**	1240	0.77	78	**0.19**	1240	<0.05	76
49.38		**10**	1160	1.5	81	**5.1**	1240	0.84	78	**0.20**	1240	<0.05	76
43.33		**12**	1120	1.7	82	**5.8**	1240	0.95	79	**0.23**	1240	<0.05	76
41.07		**12**	1120	1.7	82	**6.1**	1240	1.0	79	**0.24**	1240	<0.05	76
35.94		**14**	1120	2.0	82	**7.0**	1240	1.1	79	**0.28**	1240	<0.05	76
32.38		**15**	1120	2.2	83	**7.7**	1240	1.3	80	**0.31**	1240	0.05	76
28.41		**18**	1120	2.5	83	**8.8**	1190	1.4	80	**0.35**	1190	0.06	76
25.07		**20**	1120	2.8	84	**10**	1170	1.5	81	**0.40**	1170	0.06	76
22.22		**23**	1130	3.2	84	**11**	1130	1.6	81	**0.45**	1130	0.07	76
18.97		**26**	1130	3.7	85	**13**	1120	1.9	82	**0.53**	1120	0.08	76
22.89	34/6	**22**	690	1.8	87	**11**	675	0.91	85	**0.44**	675	<0.05	83
20.99		**24**	725	2.1	87	**12**	740	1.1	85	**0.48**	740	<0.05	83
18.42		**27**	705	2.3	88	**14**	830	1.4	86	**0.54**	830	0.06	83
17.45		**29**	705	2.4	88	**14**	810	1.4	86	**0.57**	810	0.06	83
15.28		**33**	705	2.7	88	**16**	785	1.6	86	**0.65**	785	0.06	83
13.76		**36**	695	3.0	89	**18**	770	1.7	87	**0.73**	770	0.07	83
12.07		**41**	695	3.4	89	**21**	750	1.9	87	**0.83**	750	0.08	83
10.65		**47**	695	3.8	89	**23**	725	2.0	87	**0.94**	725	0.09	83
9.44		**53**	705	4.4	90	**26**	705	2.2	88	**1.1**	705	0.09	83
8.06		**62**	705	5.1	90	**31**	705	2.6	88	**1.2**	705	0.11	83

6.9 TS,TSF,TSA,TSAF88 Performance parameter

TS,TSF,TSA,TSAF88 3400-2800 r/min

i	i_w	n_1= 3400 r/min				n_1= 3200 r/min				n_1= 2800 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
288.00		**12**	2030	3.4	74	**11**	2070	3.3	73	**9.7**	2070	2.9	73
258.18		**13**	1990	3.7	74	**12**	2010	3.5	74	**11**	2070	3.2	73
222.40		**15**	1910	4.1	75	**14**	1950	4.0	74	**13**	2010	3.6	74
202.96		**17**	1850	4.3	75	**16**	1890	4.2	75	**14**	1970	3.8	74
180.00		**19**	1800	4.7	75	**18**	1830	4.5	75	**16**	1910	4.2	75
151.30		**22**	1690	5.3	75	**21**	1730	5.1	75	**19**	1800	4.6	75
139.05	40/1	**24**	1630	5.5	76	**23**	1680	5.4	76	**20**	1760	4.9	75
123.48		**28**	1570	6.0	76	**26**	1600	5.7	76	**23**	1690	5.3	76
110.40		**31**	1430	6.1	76	**29**	1540	6.2	76	**25**	1620	5.7	76
99.26		**34**	1260	6.0	75	**32**	1380	6.2	76	**28**	1550	6.0	76
86.15		**39**	1030	5.8	74	**37**	1150	6.0	75	**33**	1390	6.2	76
77.14		**44**	830	5.3	72	**41**	970	5.7	74	**36**	1220	6.1	76
64.00		**53**	500	4.3	65	**50**	620	4.7	68	**44**	960	5.9	75
91.20		**37**	1470	6.6	88	**35**	1470	6.2	87	**31**	1470	5.4	87
81.76		**42**	1470	7.3	88	**39**	1470	6.9	88	**34**	1470	6.0	87
70.43		**48**	1470	8.4	88	**45**	1470	7.9	88	**40**	1470	7.0	88
64.27		**53**	1470	9.2	88	**50**	1470	8.7	88	**44**	1470	7.6	88
57.00		**60**	1470	10.4	88	**56**	1470	9.8	88	**49**	1470	8.6	88
47.91		**71**	1470	12.3	89	**67**	1470	11.6	89	**58**	1470	10.2	88
44.03	37/3	**77**	1470	13.4	89	**73**	1470	12.6	89	**64**	1470	11.0	89
39.10		**87**	1300	13.3	89	**82**	1400	13.5	89	**72**	1470	12.4	89
34.96		**97**	1140	13.1	89	**92**	1240	13.4	89	**80**	1440	13.6	89
31.43		**108**	1000	12.8	88	**102**	1090	13.1	89	**89**	1290	13.5	89
27.28		**125**	810	12.1	88	**117**	910	12.7	88	**103**	1110	13.4	89
24.43		**139**	660	11.1	87	**131**	775	12.1	88	**115**	960	13.0	89
20.27		**168**	395	8.4	82	**158**	490	9.6	84	**138**	755	12.4	88
25.50		**133**	990	15.0	92	**125**	990	14.1	92	**110**	990	12.4	92
21.43		**159**	990	17.8•	92	**149**	990	16.8•	92	**131**	990	14.7	92
19.70		**173**	990	19.0•	92	**162**	990	18.3•	92	**142**	990	16.0•	92
17.49		**194**	870	19.0•	92	**183**	930	19.0•	92	**160**	990	18.0•	92
15.64	35/6	**217**	760	19.0•	92	**205**	830	19.0•	92	**179**	960	19.0•	92
14.06		**242**	660	18.2•	92	**228**	725	19.0•	92	**199**	860	19.0•	92
12.21		**278**	540	17.2•	91	**262**	605	18.1•	92	**229**	730	19.0•	92
10.93		**311**	440	15.8•	90	**293**	510	17.1•	91	**256**	645	19.0•	92
9.07		**375**	255	11.5	87	**353**	325	13.5	89	**309**	500	17.7•	92
7.88		**431**	200	10.5	86	**406**	230	11.3	87	**355**	375	15.5•	90

• P_{1max}=15kW

TS,TSF,TSA,TSAF88 2200-1400 r/min

i	i_w	n_1= 2200 r/min				n_1= 1700 r/min				n_1= 1400 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
288.00		**7.6**	2210	2.5	71	**5.9**	2280	2.0	70	**4.9**	2280	1.7	69
258.18		**8.5**	2170	2.7	72	**6.6**	2260	2.2	71	**5.4**	2280	1.9	69
222.40		**9.9**	2130	3.0	73	**7.6**	2210	2.5	71	**6.3**	2280	2.1	70
202.96		**11**	2080	3.2	73	**8.4**	2190	2.7	72	**6.9**	2260	2.3	71
180.00		**12**	2020	3.5	74	**9.4**	2130	2.9	73	**7.8**	2210	2.5	72
151.30		**15**	1940	4.0	75	**11**	2060	3.3	74	**9.3**	2150	2.9	73
139.05	40/1	**16**	1880	4.2	75	**12**	2020	3.5	74	**10**	2100	3.0	73
123.48		**18**	1820	4.5	75	**14**	1960	3.8	74	**11**	2060	3.3	74
110.40		**20**	1770	4.9	76	**15**	1900	4.1	75	**13**	2000	3.6	74
99.26		**22**	1700	5.2	76	**17**	1840	4.4	75	**14**	1960	3.9	75
86.15		**26**	1620	5.7	76	**20**	1770	4.8	76	**16**	1880	4.3	75
77.14		**29**	1540	6.0	76	**22**	1700	5.2	76	**18**	1820	4.6	76
64.00		**34**	1360	6.4	77	**27**	1580	5.7	77	**22**	1700	5.1	76
91.20		**24**	1540	4.5	87	**19**	1520	3.5	86	**15**	1510	2.9	85
81.76		**27**	1600	5.2	87	**21**	1600	4.0	86	**17**	1600	3.4	86
70.43		**31**	1600	6.0	87	**24**	1600	4.7	87	**20**	1600	3.9	86
64.27		**34**	1600	6.6	88	**26**	1600	5.1	87	**22**	1600	4.2	86
57.00		**39**	1600	7.4	88	**30**	1600	5.7	87	**25**	1600	4.8	87
47.91		**46**	1600	8.7	88	**35**	1600	6.8	88	**29**	1600	5.6	87
44.03	38/3	**50**	1600	9.5	88	**39**	1600	7.4	88	**32**	1600	6.1	87
39.10		**56**	1600	10.6	89	**43**	1600	8.3	88	**36**	1600	6.8	88
34.96		**63**	1600	11.9	89	**49**	1600	9.2	88	**40**	1600	7.6	88
31.43		**70**	1600	13.2	89	**54**	1600	10.2	89	**45**	1600	8.5	88
27.28		**81**	1450	13.7	89	**62**	1600	11.7	89	**51**	1600	9.7	89
24.43		**90**	1310	13.8	89	**70**	1600	13.1	89	**57**	1600	10.8	89
20.27		**109**	1080	13.8	89	**84**	1420	14.0	89	**69**	1600	13.0	89
25.50		**86**	1240	12.2	92	**67**	1240	9.5	91	**55**	1240	7.8	91
21.43		**103**	1240	14.5	92	**79**	1240	11.2	92	**65**	1240	9.3	91
19.70		**112**	1240	15.7•	92	**86**	1240	12.2	92	**71**	1240	10.1	91
17.49		**126**	1240	17.7•	92	**97**	1240	13.7	92	**80**	1240	11.3	92
15.64	34/6	**141**	1230	20•	92	**109**	1240	15.3•	92	**90**	1240	12.7	92
14.06		**156**	1110	20•	92	**121**	1240	17.0•	92	**100**	1240	14.1	92
12.21		**180**	970	20•	93	**139**	1240	20•	92	**115**	1240	16.1•	92
10.93		**201**	870	20•	93	**156**	1130	20•	93	**128**	1240	18.0•	92
9.07		**243**	720	20•	92	**187**	950	20•	93	**154**	1140	20•	93
7.88		**279**	605	19.0•	92	**216**	830	20•	93	**178**	1010	20•	93

• P_{1max}=15kW

TS,TSF,TSA,TSAF88 — 1100-700 r/min

		n_1= 1100 r/min				n_1= 900 r/min				n_1= 700 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
288.00		**3.8**	2400	1.4	67	**3.1**	2450	1.2	66	**2.4**	2480	0.98	64
258.18		**4.3**	2380	1.6	68	**3.5**	2430	1.3	67	**2.7**	2470	1.1	65
222.40		**4.9**	2350	1.8	69	**4.0**	2400	1.5	68	**3.1**	2450	1.2	66
202.96		**5.4**	2330	1.9	70	**4.4**	2380	1.6	68	**3.4**	2430	1.3	67
180.00		**6.1**	2280	2.1	70	**5.0**	2350	1.8	69	**3.9**	2400	1.4	68
151.30		**7.3**	2240	2.4	71	**5.9**	2310	2.0	70	**4.6**	2350	1.7	69
139.05	40/1	**7.9**	2190	2.5	72	**6.5**	2260	2.2	71	**5.0**	2330	1.8	69
123.48		**8.9**	2150	2.8	73	**7.3**	2240	2.4	71	**5.7**	2310	2.0	70
110.40		**10**	2110	3.0	73	**8.2**	2190	2.6	72	**6.3**	2280	2.1	71
99.26		**11**	2070	3.3	74	**9.1**	2150	2.8	73	**7.1**	2240	2.3	71
86.15		**13**	2000	3.6	74	**10**	2090	3.1	73	**8.1**	2190	2.6	72
77.14		**14**	1940	3.9	75	**12**	2040	3.4	74	**9.1**	2150	2.8	73
64.00		**17**	1840	4.4	76	**14**	1960	3.9	75	**11.0**	2070	3.2	74
91.20		**12**	1490	2.2	84	**9.9**	1480	1.8	83	**7.7**	1460	1.4	82
81.76		**13**	1760	2.9	85	**11**	1760	2.4	84	**8.6**	1760	1.9	83
70.43		**16**	1760	3.4	85	**13**	1760	2.8	85	**9.9**	1760	2.2	83
64.27		**17**	1760	3.7	86	**14**	1760	3.0	85	**11**	1760	2.4	84
57.00		**19**	1760	4.1	86	**16**	1760	3.4	85	**12**	1760	2.7	84
47.91		**23**	1760	4.9	87	**19**	1760	4.0	86	**15**	1760	3.2	85
44.03	38/3	**25**	1760	5.3	87	**20**	1760	4.4	86	**16**	1760	3.4	85
39.10		**28**	1760	6.0	87	**23**	1760	4.9	87	**18**	1760	3.9	86
34.96		**31**	1760	6.6	88	**26**	1760	5.5	87	**20**	1760	4.3	86
31.43		**35**	1760	7.4	88	**29**	1760	6.1	87	**22**	1760	4.7	87
27.28		**40**	1760	8.4	88	**33**	1760	6.9	88	**26**	1760	5.4	87
24.43		**45**	1760	9.4	88	**37**	1760	7.7	88	**29**	1760	6.0	87
20.27		**54**	1760	11.3	89	**44**	1760	9.3	88	**35**	1760	7.2	88
25.50		**43**	1340	6.7	90	**35**	1340	5.5	90	**27**	1340	4.3	89
21.43		**51**	1340	7.9	91	**42**	1340	6.5	90	**33**	1340	5.1	90
19.70		**56**	1340	8.6	91	**46**	1340	7.1	91	**36**	1340	5.5	90
17.49		**63**	1340	9.7	91	**51**	1340	7.9	91	**40**	1340	6.2	90
15.64	34/6	**70**	1340	10.8	92	**58**	1340	8.9	91	**45**	1340	6.9	91
14.06		**78**	1340	12.0	92	**64**	1340	9.8	91	**50**	1340	7.7	91
12.21		**90**	1340	13.8	92	**74**	1340	11.3	92	**57**	1340	8.8	91
10.93		**101**	1340	15.3•	92	**82**	1340	12.6	92	**64**	1340	9.8	91
9.07		**121**	1340	8.4•	92	**99**	1340	15.1•	92	**77**	1340	11.8	92
7.88		**140**	1260	20•	93	**114**	1340	17.4•	92	**89**	1340	13.6	92

• P_{1max}=15kW

TS,TSF,TSA,TSAF88

500-10 r/min

i	i_w	n_1= 500 r/min				n_1= 250 r/min				n_1= 10 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
288.00		**1.7**	2500	0.73	62	**0.87**	2500	0.38	59	**0.03**	2500	<0.05	58
258.18		**1.9**	2500	0.80	63	**0.97**	2500	0.43	59	**0.04**	2500	<0.05	58
222.40		**2.2**	2500	0.92	64	**1.1**	2500	0.49	60	**0.04**	2500	<0.05	59
202.96		**2.5**	2480	0.99	64	**1.2**	2500	0.53	61	**0.05**	2500	<0.05	59
180.00		**2.8**	2480	1.1	65	**1.4**	2500	0.60	61	**0.06**	2500	<0.05	59
151.30		**3.3**	2430	1.3	67	**1.7**	2500	0.70	62	**0.07**	2500	<0.05	59
139.05	40/1	**3.6**	2430	1.4	67	**1.8**	2500	0.75	63	**0.07**	2500	<0.05	59
123.48		**4.0**	2400	1.5	68	**2.0**	2500	0.84	63	**0.08**	2500	<0.05	59
110.40		**4.5**	2380	1.6	69	**2.3**	2500	0.93	64	**0.09**	2500	<0.05	59
99.26		**5.0**	2330	1.8	69	**2.5**	2470	1.0	65	**0.10**	2470	<0.05	59
86.15		**5.8**	2310	2.0	70	**2.9**	2450	1.1	66	**0.12**	2450	0.05	59
77.14		**6.5**	2260	2.2	71	**3.2**	2430	1.2	66	**0.13**	2430	0.06	59
64.00		**7.8**	2220	2.5	72	**3.9**	2400	1.5	68	**0.16**	2400	0.07	59
91.20		**5.5**	1450	1.0	81	**2.7**	1390	0.51	79	**0.11**	1390	<0.05	78
81.76		**6.1**	1960	1.5	82	**3.1**	1880	0.76	79	**0.12**	1880	<0.05	78
70.43		**7.1**	1980	1.8	82	**3.5**	1980	0.92	80	**0.14**	1980	<0.05	79
64.27		**7.8**	1980	2.0	83	**3.9**	1980	1.0	80	**0.16**	1980	<0.05	79
57.00		**8.8**	1980	2.2	83	**4.4**	1980	1.1	80	**0.18**	1980	<0.05	79
47.91		**10**	1980	2.6	84	**5.2**	1980	1.3	81	**0.21**	1980	0.06	79
44.03	38/3	**11**	1980	2.8	84	**5.7**	1980	1.4	81	**0.23**	1980	0.06	79
39.10		**13**	1980	3.1	85	**6.4**	1980	1.6	82	**0.26**	1980	0.07	79
34.96		**14**	1980	3.5	85	**7.2**	1980	1.8	82	**0.29**	1980	0.08	79
31.43		**16**	1980	3.9	85	**8.0**	1980	2.0	83	**0.32**	1980	0.08	79
27.28		**18**	1980	4.4	86	**9.2**	1980	2.3	83	**0.37**	1980	0.10	79
24.43		**20**	1980	4.9	86	**10**	1980	2.5	84	**0.41**	1980	0.11	79
20.27		**25**	1980	5.9	87	**12**	1980	3.0	85	**0.49**	1980	0.13	79
25.50		**20**	1430	3.3	88	**9.8**	1390	1.6	87	**0.39**	1390	0.07	85
21.43		**23**	1420	3.9	89	**12**	1510	2.1	87	**0.47**	1510	0.09	85
19.70		**25**	1410	4.2	89	**13**	1570	2.4	87	**0.51**	1570	0.10	85
17.49		**29**	1390	4.6	89	**14**	1570	2.7	88	**0.57**	1570	0.11	85
15.64	34/6	**32**	1390	5.2	90	**16**	1540	2.9	88	**0.64**	1540	0.12	85
14.06		**36**	1390	5.7	90	**18**	1510	3.2	88	**0.71**	1510	0.13	85
12.21		**41**	1390	6.6	90	**20**	1460	3.5	89	**0.82**	1460	0.15	85
10.93		**46**	1390	7.3	91	**23**	1430	3.9	89	**0.91**	1430	0.16	85
9.07		**55**	1410	8.9	91	**28**	1390	4.5	89	**1.1**	1390	0.19	85
7.88		**63**	1410	10.3	91	**32**	1390	5.1	90	**1.3**	1390	0.22	85

6.10 TS,TSF,TSA,TSAF98 Performance parameter

TS,TSF,TSA,TSAF98 3400-2800 r/min

		n_1= 3400 r/min				n_1= 3200 r/min				n_1= 2800 r/min			
i	i_w	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
286.40		**12**	3520	5.8	76	**11**	3590	5.6	76	**9.8**	3700	5.0	75
262.22		**13**	3450	6.2	76	**12**	3520	5.9	76	**11**	3630	5.4	75
231.67		**15**	3310	6.7	76	**14**	3380	6.4	76	**12**	3520	5.9	76
196.52		**17**	3120	7.4	77	**16**	3210	7.2	76	**14**	3350	6.6	76
180.95		**19**	3030	7.8	77	**18**	3120	7.5	77	**15**	3250	6.9	76
161.74		**21**	2910	8.3	77	**20**	2970	8.0	77	**17**	3120	7.4	77
145.60	40/1	**23**	2760	8.8	77	**22**	2850	8.5	77	**19**	3000	7.9	77
131.85		**26**	2660	9.4	77	**24**	2740	9.1	77	**21**	2880	8.3	77
116.92		**29**	2320	9.3	76	**27**	2550	9.5	77	**24**	2740	8.9	77
105.71		**32**	1980	8.9	75	**30**	2210	9.2	76	**26**	2630	9.5	77
89.60		**38**	1280	7.3	70	**36**	1670	8.5	74	**31**	2210	9.4	77
78.26		**43**	920	6.4	65	**41**	1040	6.7	67	**36**	1770	8.8	75
65.45		**52**	675	5.9	63	**49**	775	6.2	64	**43**	1030	6.8	68
80.85		**42**	3150	15.5	89	**40**	3150	14.6	89	**35**	3150	12.8	89
71.43		**48**	3090	17.2	90	**45**	3150	16.5	89	**39**	3150	14.5	89
60.59		**56**	2910	19.0	90	**53**	2970	18.3	90	**46**	3120	16.9	90
55.79		**61**	2820	20	90	**57**	2880	19.0	90	**50**	3030	17.8	90
49.87		**68**	2710	22	90	**64**	2760	21	90	**56**	2910	19.0	90
44.89	37/3	**76**	2430	21	90	**71**	2630	22	90	**62**	2790	20	90
40.65		**84**	2170	21	90	**79**	2350	22	90	**69**	2680	21	90
36.05		**94**	1830	20	89	**89**	2020	21	89	**78**	2400	22	90
32.60		**104**	1560	19.0	89	**98**	1760	20	89	**86**	2150	22	90
27.63		**123**	1010	15.2	86	**116**	1320	18.2	88	**101**	1740	21	89
24.13		**141**	725	12.9	83	**133**	820	13.6	84	**116**	1390	19	88
26.39		**129**	1750	25•	93	**121**	1750	24•	93	**106**	1750	21	93
23.59		**144**	1750	28•	93	**136**	1750	27•	93	**119**	1750	23•	93
21.23		**160**	1750	32•	93	**151**	1750	30•	93	**132**	1750	26•	93
19.23		**177**	1550	31•	93	**166**	1680	31•	93	**146**	1750	29•	93
17.05	35/6	**199**	1320	30•	93	**188**	1450	31•	93	**164**	1730	32•	93
15.42		**220**	1110	28•	92	**208**	1260	30•	93	**182**	1540	31•	93
13.07		**260**	725	22	90	**245**	940	26•	92	**214**	1240	30•	93
11.41		**298**	515	18.3	88	**280**	585	19.0	89	**245**	1000	28•	92
9.55		**356**	375	16.2	87	**335**	435	17.5	87	**293**	580	20	89
8.26		**412**	290	14.7	85	**387**	335	15.8	86	**339**	455	18.4	88

• P_{1max}=22kW

TS,TSF,TSA,TSAF98 — 2200-1400 r/min

i	i_w	n_1= 2200 r/min				n_1= 1700 r/min				n_1= 1400 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
286.40		**7.7**	3920	4.2	74	**5.9**	4000	3.4	73	**4.9**	4000	2.9	72
262.22		**8.4**	3840	4.5	75	**6.5**	4000	3.7	73	**5.3**	4000	3.1	72
231.67		**9.5**	3770	5.0	75	**7.3**	3960	4.1	74	**6.0**	4000	3.5	73
196.52		**11**	3580	5.5	76	**8.7**	3840	4.7	75	**7.1**	4000	4.0	74
180.95		**12**	3510	5.9	76	**9.4**	3770	4.9	75	**7.7**	3920	4.3	74
161.74		**14**	3410	6.4	76	**11**	3650	5.3	76	**8.7**	3840	4.7	75
145.60	40/1	**15**	3270	6.8	77	**12**	3550	5.7	76	**9.6**	3730	5.0	75
131.85		**17**	3170	7.2	77	**13**	3440	6.1	76	**11**	3650	5.4	76
116.92		**19**	3020	7.7	77	**15**	3340	6.6	77	**12**	3510	5.8	76
105.71		**21**	2930	8.3	77	**16**	3210	7.0	77	**13**	3440	6.2	76
89.60		**25**	2730	9.1	77	**19**	3020	7.8	77	**16**	3240	6.9	77
78.26		**28**	2540	9.6	78	**22**	2870	8.4	78	**18**	3080	7.5	77
65.45		**34**	2120	9.7	77	**26**	2650	9.2	78	**21**	2900	8.3	78
80.85		**27**	3300	10.6	89	**21**	3270	8.2	88	**17**	3230	6.7	88
71.43		**31**	3300	12.0	89	**24**	3300	9.3	88	**20**	3300	7.7	88
60.59		**36**	3300	14.1	89	**28**	3300	10.9	89	**23**	3300	9.0	88
55.79		**39**	3270	15.1	89	**30**	3300	11.8	89	**25**	3300	9.8	88
49.87		**44**	3170	16.3	90	**34**	3300	13.2	89	**28**	3300	10.9	89
44.89	37/3	**49**	3050	17.5	90	**38**	3300	14.6	89	**31**	3300	12.1	89
40.65		**54**	2950	19.0	90	**42**	3230	15.8	90	**34**	3300	13.3	89
36.05		**61**	2810	20	90	**47**	3110	17.1	90	**39**	3300	15.0	89
32.60		**67**	2700	21	90	**52**	2980	18.1	90	**43**	3200	16.0	90
27.63		**80**	2390	22	90	**62**	2810	20	90	**51**	3010	17.8	90
24.13		**91**	2060	22	90	**70**	2670	22	90	**58**	2870	19.0	90
26.39		**83**	2550	24•	93	**64**	2600	19.0	93	**53**	2600	15.6	92
23.59		**93**	2450	26•	93	**72**	2600	21	93	**59**	2600	17.5	93
21.23		**104**	2380	28•	93	**80**	2570	23•	93	**66**	2600	19.0	93
19.23		**114**	2280	29•	93	**88**	2500	25•	93	**73**	2600	21	93
17.05	35/6	**129**	2170	31•	93	**100**	2400	27•	93	**82**	2570	24•	93
15.42		**143**	2040	33•	93	**110**	2300	28•	93	**91**	2470	25•	93
13.07		**168**	1720	32•	93	**130**	2170	32•	93	**107**	2330	28•	93
11.41		**193**	1480	32•	93	**149**	2000	33•	93	**123**	2210	30•	93
9.55		**230**	1200	31•	93	**178**	1670	33•	93	**147**	2040	33•	94
8.26		**266**	980	30•	93	**206**	1440	33•	93	**169**	1770	34•	94

• P_{1max}=22kW

TS,TSF,TSA,TSAF98 — 1100-700 r/min

i	i_w	n_1= 1100 r/min				n_1= 900 r/min				n_1= 700 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
286.40		**3.8**	4200	2.4	70	**3.1**	4200	2.0	69	**2.4**	4200	1.6	68
262.22		**4.2**	4200	2.6	71	**3.4**	4200	2.2	70	**2.7**	4200	1.7	68
231.67		**4.7**	4200	2.9	72	**3.9**	4200	2.4	70	**3.0**	4200	1.9	69
196.52		**5.6**	4160	3.4	73	**4.6**	4200	2.8	71	**3.6**	4200	2.2	70
180.95		**6.1**	4120	3.6	73	**5.0**	4200	3.0	72	**3.9**	4200	2.4	70
161.74		**6.8**	4030	3.9	74	**5.6**	4160	3.3	73	**4.3**	4200	2.7	71
145.60	40/1	**7.6**	3950	4.2	74	**6.2**	4080	3.6	73	**4.8**	4200	2.9	72
131.85		**8.3**	3880	4.5	75	**6.8**	4030	3.9	74	**5.3**	4200	3.2	72
116.92		**9.4**	3760	4.9	75	**7.7**	3910	4.2	74	**6.0**	4120	3.5	73
105.71		**10**	3650	5.3	76	**8.5**	3840	4.6	75	**6.6**	4030	3.8	74
89.60		**12**	3500	5.9	76	**10**	3690	5.1	76	**7.8**	3910	4.3	75
78.26		**14**	3370	6.5	77	**12**	3580	5.7	76	**8.9**	3800	4.7	75
65.45		**17**	3170	7.2	77	**14**	3400	6.4	77	**11**	3650	5.4	76
80.85		**14**	3230	5.3	87	**11**	3200	4.3	86	**8.7**	3170	3.4	85
71.43		**15**	3600	6.7	87	**13**	3600	5.5	87	**9.8**	3600	4.3	86
60.59		**18**	3600	7.8	88	**15**	3600	6.4	87	**12**	3600	5.0	86
55.79		**20**	3600	8.5	88	**16**	3600	7.0	87	**13**	3600	5.5	87
49.87		**22**	3600	9.4	88	**18**	3600	7.8	88	**14**	3600	6.1	87
44.89	37/3	**25**	3600	10.4	88	**20**	3600	8.6	88	**16**	3600	6.7	87
40.65		**27**	3600	11.5	89	**22**	3600	9.5	88	**17**	3600	7.4	88
36.05		**31**	3530	12.7	89	**25**	3600	10.6	89	**19**	3600	8.3	88
32.60		**34**	3420	13.5	89	**28**	3600	11.7	89	**21**	3600	9.2	88
27.63		**40**	3260	15.2	90	**33**	3460	13.2	89	**25**	3600	10.8	89
24.13		**46**	3130	16.6	90	**37**	3320	14.5	89	**29**	3560	12.2	89
26.39		**42**	2650	12.6	92	**34**	2620	10.2	92	**27**	2620	8.0	91
23.59		**47**	2650	14.0	92	**38**	2650	11.5	92	**30**	2620	8.9	91
21.23		**52**	2650	15.6	92	**42**	2650	12.8	92	**33**	2620	9.9	92
19.23		**57**	2650	17.2	93	**47**	2650	14.1	92	**36**	2620	10.9	92
17.05	35/6	**65**	2670	19.0	93	**53**	2650	15.9	92	**41**	2650	12.4	92
15.42		**71**	2670	21	93	**58**	2650	17.5	93	**45**	2650	13.7	92
13.07		**84**	2540	24•	93	**69**	2670	21	93	**54**	2650	16.1	92
11.41		**96**	2420	26•	93	**79**	2590	23•	93	**61**	2650	18.4	93
9.55		**115**	2280	29•	93	**94**	2440	26•	93	**73**	2650	22	93
8.26		**133**	2140	32•	94	**109**	2320	28•	93	**85**	2540	24•	93

• P_{1max}=22kW

TS,TSF,TSA,TSAF98

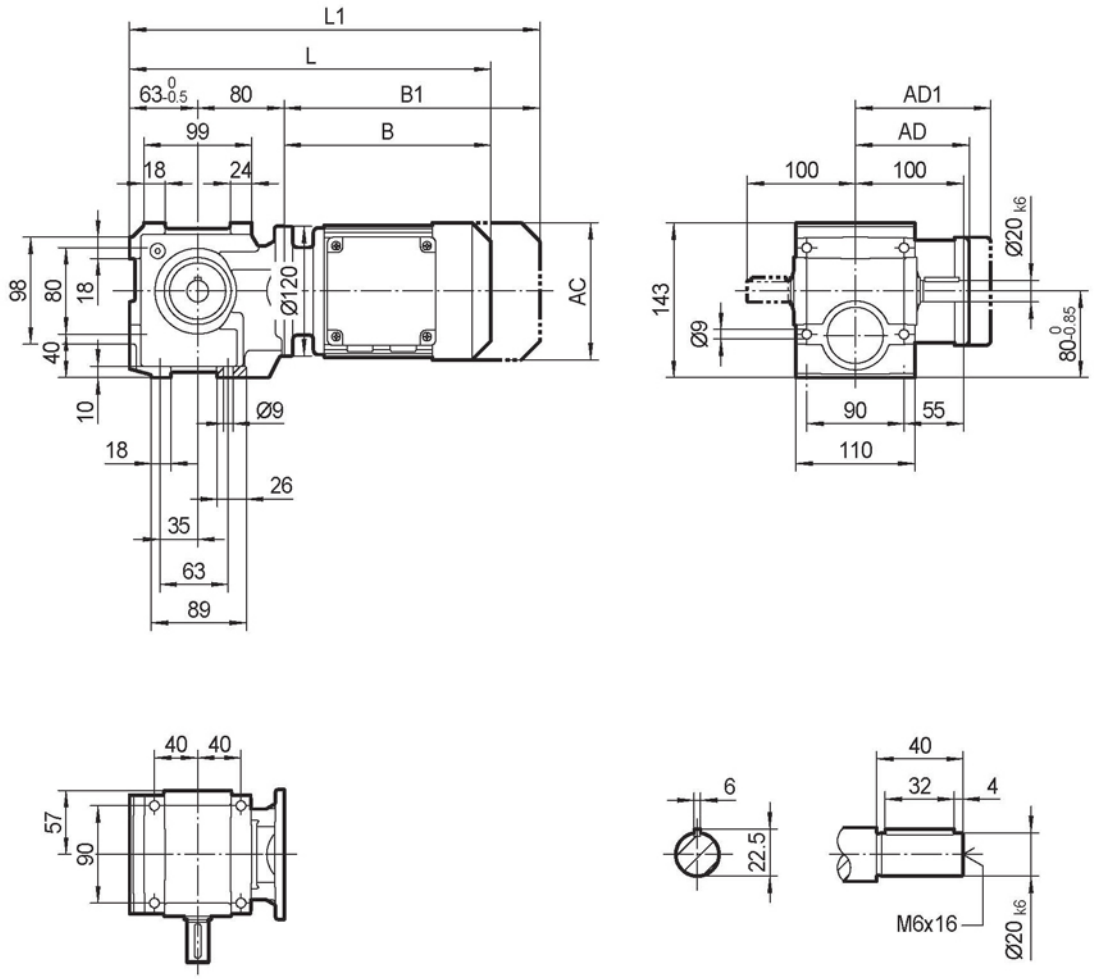
500-10 r/min

i	i_w	n_1= 500 r/min				n_1= 250 r/min				n_1= 10 r/min			
		n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]	n_2 [r/min]	M_2 [Nm]	P_1 [kW]	η [%]
286.40		**1.7**	4200	1.2	65	**0.87**	4200	0.62	62	**0.03**	4200	<0.05	60
262.22		**1.9**	4200	1.3	66	**0.95**	4200	0.68	62	**0.04**	4200	<0.05	60
231.67		**2.2**	4200	1.4	67	**1.1**	4200	0.76	63	**0.04**	4200	<0.05	60
196.52		**2.5**	4200	1.6	68	**1.3**	4200	0.88	64	**0.05**	4200	<0.05	60
180.95		**2.8**	4200	1.8	68	**1.4**	4200	0.95	64	**0.06**	4200	<0.05	60
161.74		**3.1**	4200	2.0	69	**1.5**	4200	1.1	65	**0.06**	4200	<0.05	60
145.60	40/1	**3.4**	4200	2.2	70	**1.7**	4200	1.2	65	**0.07**	4200	0.05	60
131.85		**3.8**	4200	2.4	70	**1.9**	4200	1.3	66	**0.08**	4200	0.06	60
116.92		**4.3**	4200	2.6	71	**2.1**	4200	1.4	67	**0.09**	4200	0.06	60
105.71		**4.7**	4200	2.9	72	**2.4**	4200	1.5	67	**0.09**	4200	0.07	60
89.60		**5.6**	4160	3.3	73	**2.8**	4200	1.8	69	**0.11**	4200	0.08	60
78.26		**6.4**	4080	3.7	74	**3.2**	4200	2.0	69	**0.13**	4200	0.09	60
65.45		**7.6**	3910	4.2	75	**3.8**	4200	2.4	70	**0.15**	4200	0.11	60
80.85		**6.2**	3110	2.4	84	**3.1**	3010	1.2	82	**0.12**	3010	<0.05	80
71.43		**7.0**	4200	3.6	85	**3.5**	4160	1.9	82	**0.14**	4160	0.08	81
60.59		**8.3**	4200	4.3	85	**4.1**	4080	2.1	83	**0.17**	4080	0.09	81
55.79		**9.0**	4200	4.6	86	**4.5**	4200	2.4	83	**0.18**	4200	0.10	81
49.87		**10**	4200	5.1	86	**5.0**	4200	2.6	83	**0.20**	4200	0.11	81
44.89	37/3	**11**	4160	5.6	86	**5.6**	4200	2.9	84	**0.22**	4200	0.12	81
40.65		**12**	4120	6.1	87	**6.2**	4200	3.2	84	**0.25**	4200	0.13	81
36.05		**14**	4080	6.8	87	**6.9**	4200	3.6	85	**0.28**	4200	0.15	81
32.60		**15**	3990	7.3	87	**7.7**	4200	4.0	85	**0.31**	4200	0.17	81
27.63		**18**	3910	8.4	88	**9.0**	4200	4.7	86	**0.36**	4200	0.20	81
24.13		**21**	3800	9.3	88	**10**	4200	5.3	86	**0.41**	4200	0.23	81
26.39		**19**	2590	5.7	90	**9.5**	2540	2.8	89	**0.38**	2540	0.12	87
23.59		**21**	2590	6.3	91	**11**	2540	3.2	89	**0.42**	2540	0.13	87
21.23		**24**	2590	7.0	91	**12**	2570	3.6	89	**0.47**	2570	0.15	87
19.23		**26**	2620	7.8	91	**13**	2570	3.9	89	**0.52**	2570	0.16	87
17.05	35/6	**29**	2620	8.8	91	**15**	2570	4.4	90	**0.59**	2570	0.18	87
15.42		**32**	2620	9.7	92	**16**	2570	4.8	90	**0.65**	2570	0.20	87
13.07		**38**	2650	11.6	92	**19**	2590	5.7	90	**0.77**	2590	0.24	87
11.41		**44**	2650	13.2	92	**22**	2590	6.6	91	**0.88**	2590	0.27	87
9.55		**52**	2650	15.7	92	**26**	2620	7.9	91	**1.0**	2620	0.33	87
8.26		**61**	2650	18.1	93	**30**	2620	9.1	91	**1.2**	2620	0.38	87

7. OUTLINE DIMENSION SHEET

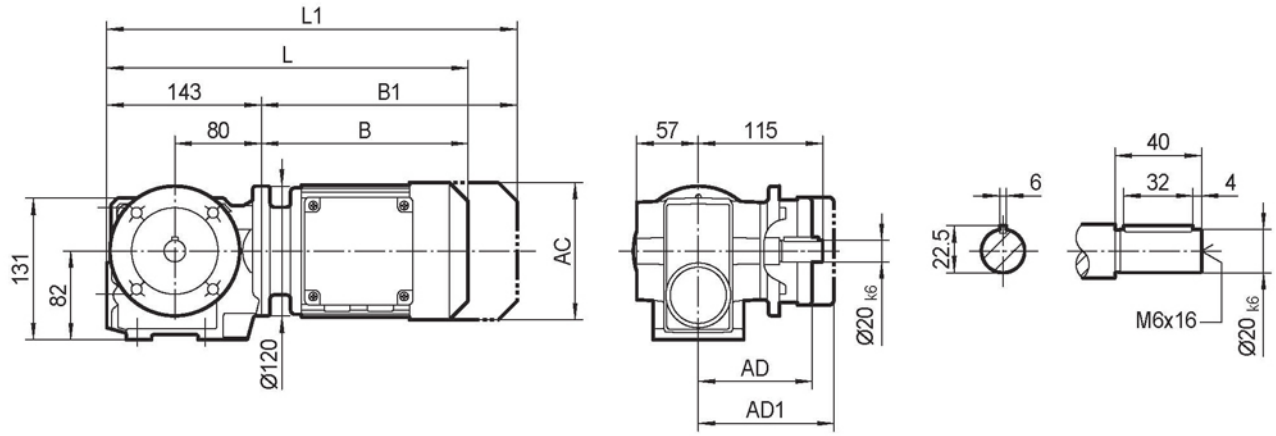
7.1 TS.. Outline Dimension

TS38..

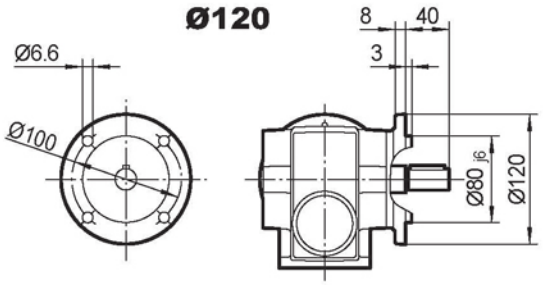


	MY63..	MY71D	MY80..	MY90..							
AC	132	145	145	197							
AD	105	122	122	154							
AD1	105	127	127	161							
B	191	206	256	276							
B1	246	269	319	361							
L	334	349	399	419							
L1	389	412	462	504							

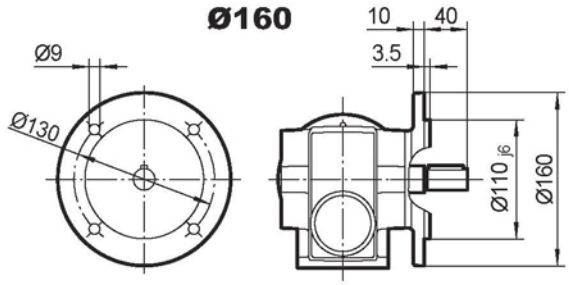
TSF38..



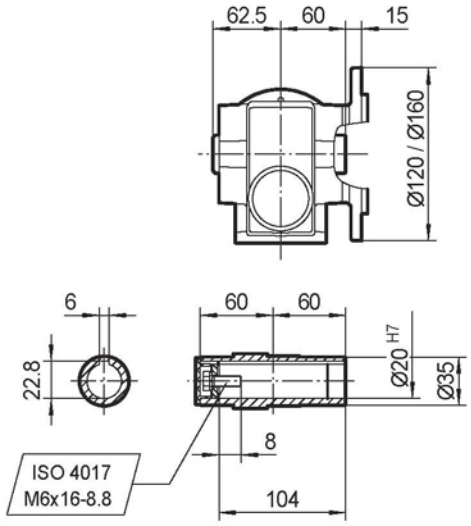
Ø120



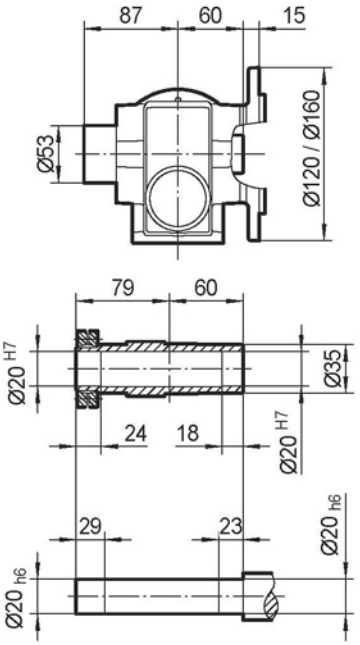
Ø160



TSAF38..

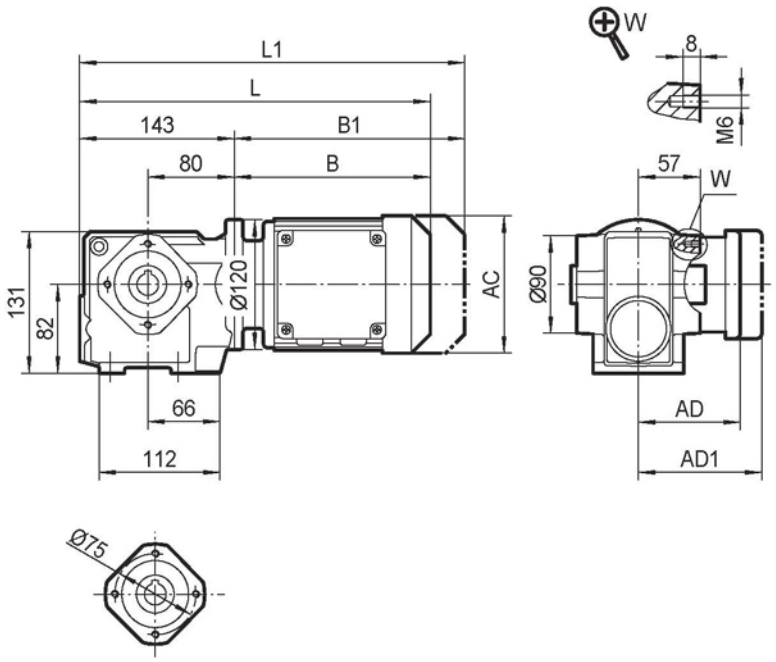


TSHF38..

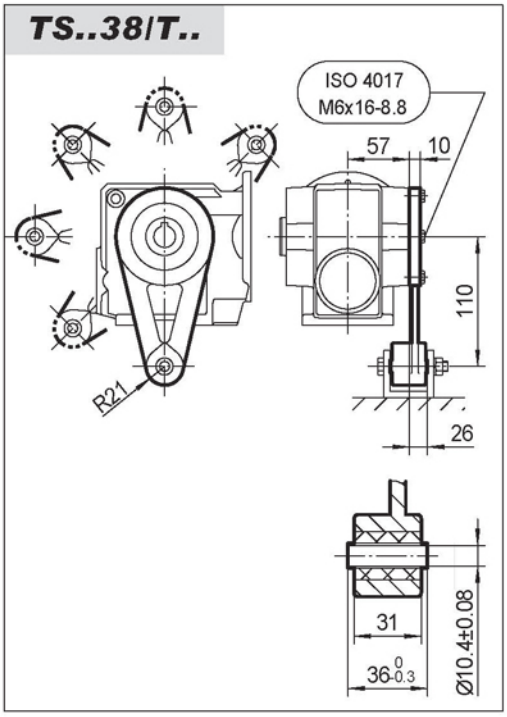


	MY63..	MY71D	MY80..	MY90..							
AC	132	145	145	197							
AD	105	122	122	154							
AD1	105	127	127	161							
B	191	206	256	276							
B1	246	269	319	361							
L	334	349	399	419							
L1	389	412	462	504							

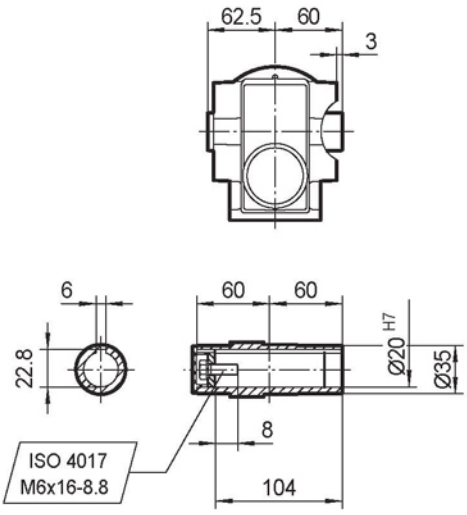
TSA38..



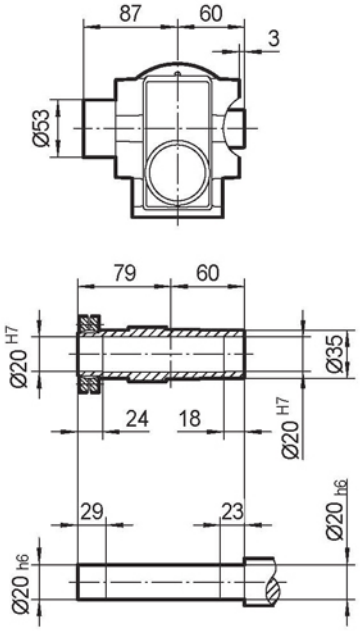
TS..38/T..



TSA38..

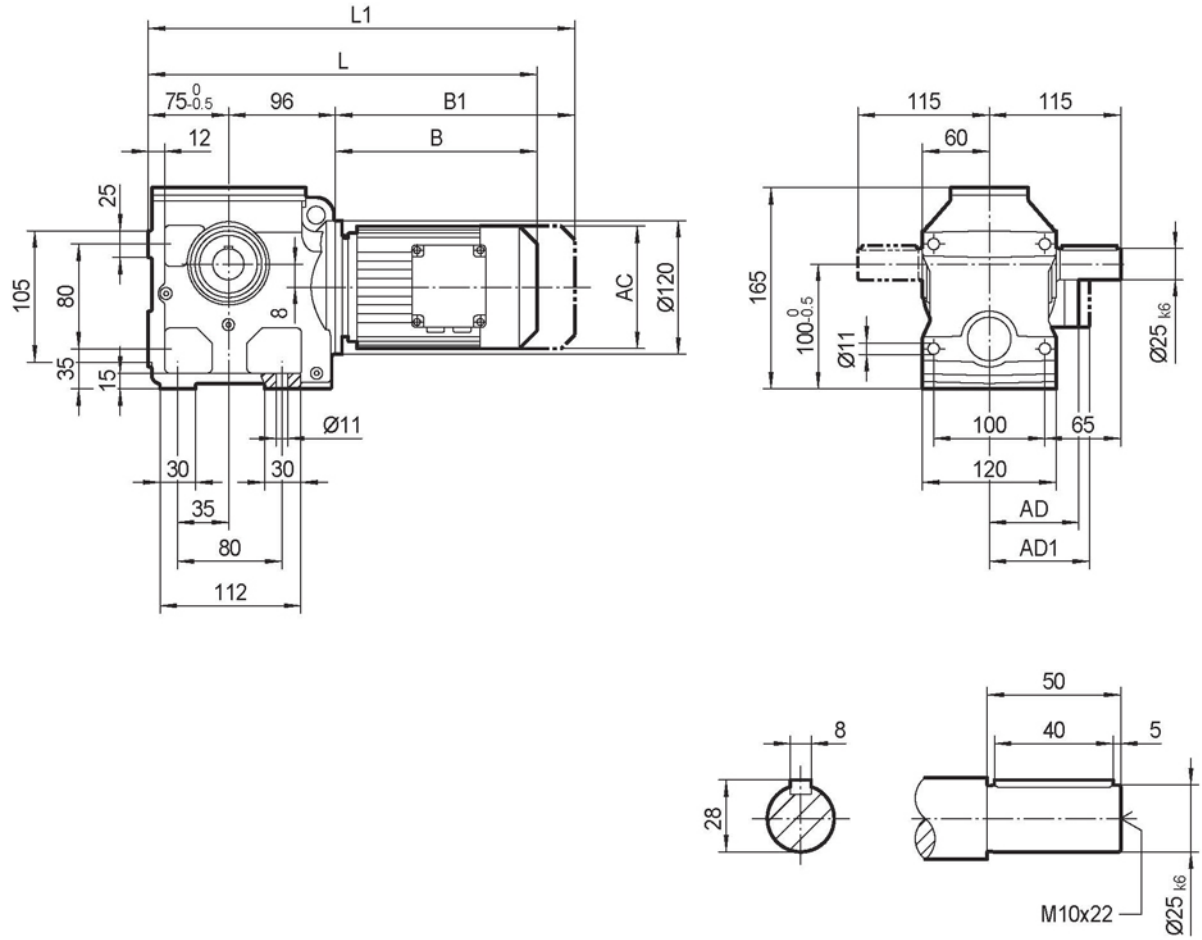


TSH38..



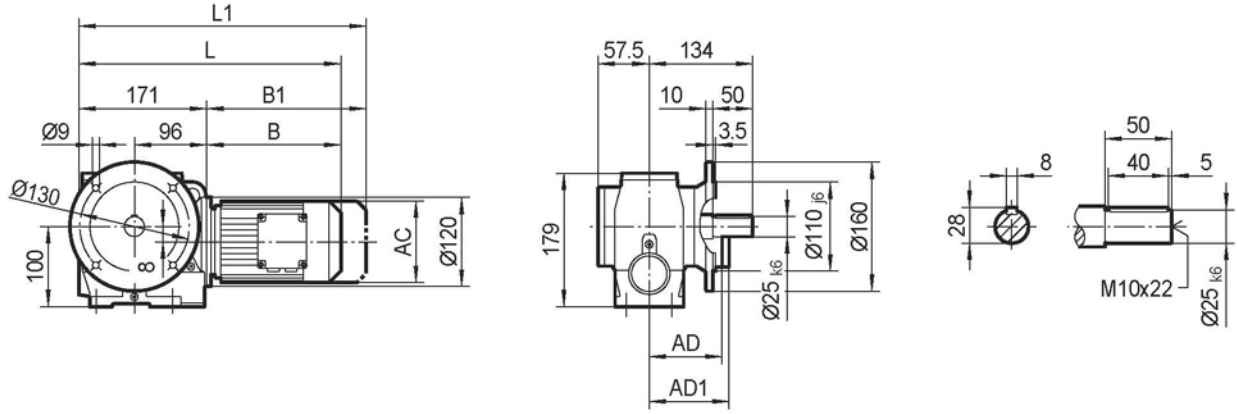
	MY63..	MY71D	MY80..	MY90..							
AC	132	145	145	197							
AD	105	122	122	154							
AD1	105	127	127	161							
B	191	206	256	276							
B1	246	269	319	361							
L	334	349	399	419							
L1	389	412	462	504							

TS48..

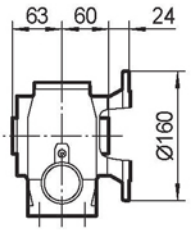


	MY63..	MY71D	MY80..	MY90..							
AC	132	145	145	197							
AD	105	122	122	154							
AD1	105	127	127	161							
B	191	206	256	276							
B1	246	269	319	361							
L	362	377	427	447							
L1	417	440	490	532							

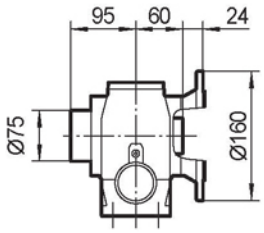
TSF48..



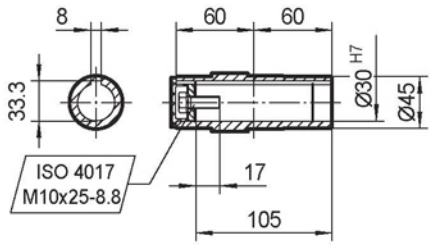
TSAF48..



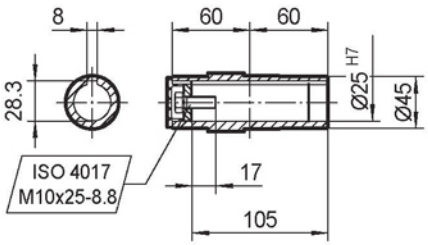
TSHF48..

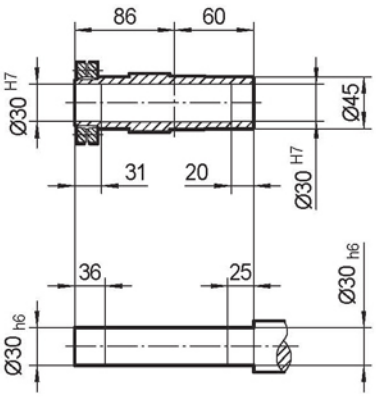


Ø30 H7



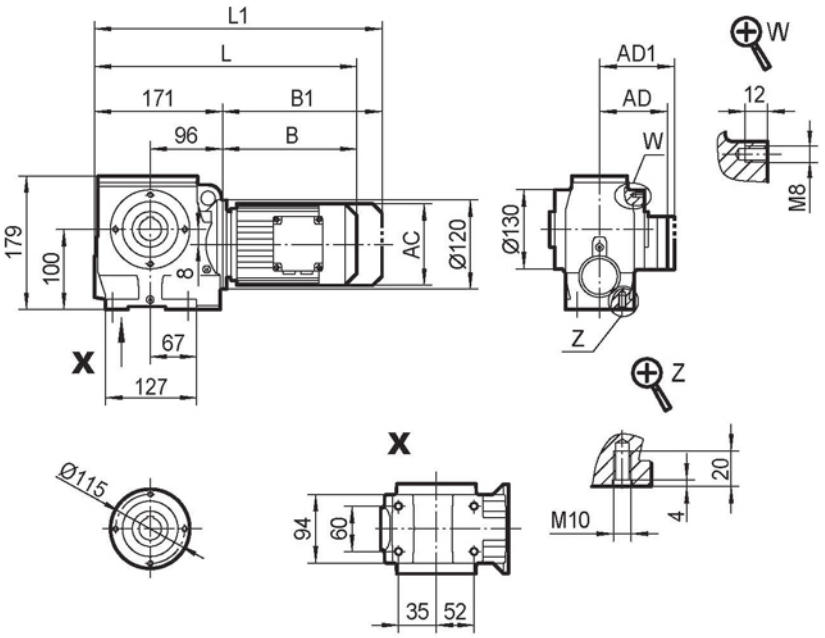
Ø25 H7

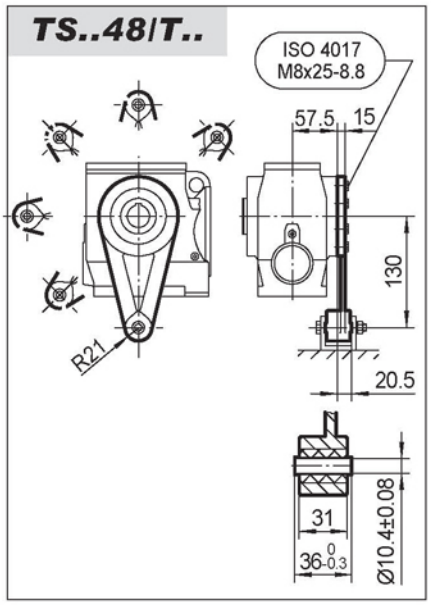




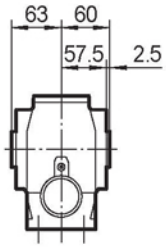
	MY63..	MY71D	MY80..	MY90..							
AC	132	145	145	197							
AD	105	122	122	154							
AD1	105	127	127	161							
B	191	206	256	276							
B1	246	269	319	361							
L	362	377	427	447							
L1	417	440	490	532							

TSA48..

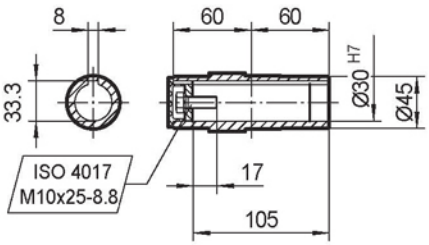




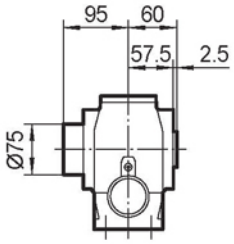
TSA48..



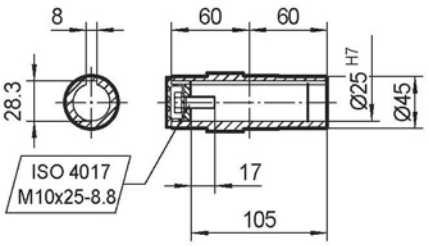
Ø30 H7

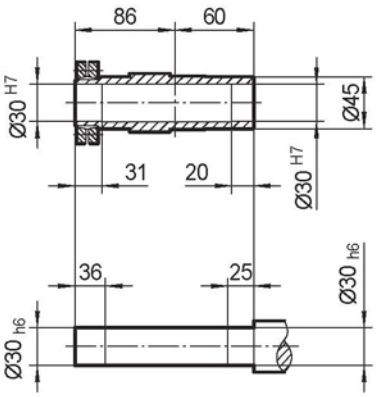


TSH48..



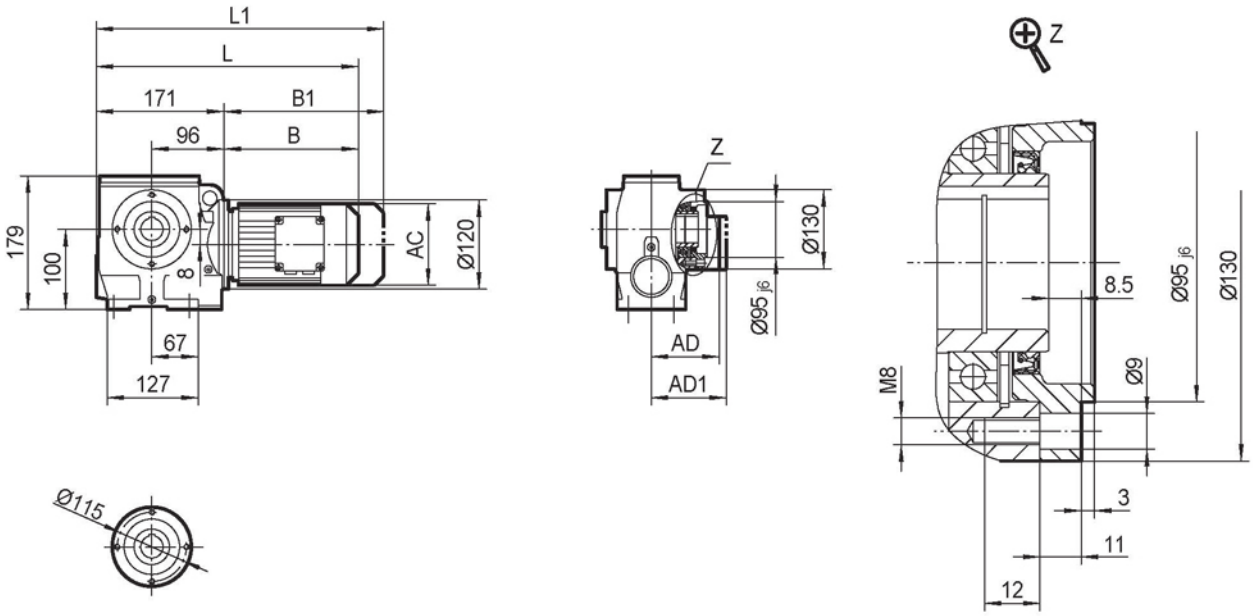
Ø25 H7





	MY63..	MY71D	MY80..	MY90..							
AC	132	145	145	197							
AD	105	122	122	154							
AD1	105	127	127	161							
B	191	206	256	276							
B1	246	269	319	361							
L	362	377	427	447							
L1	417	440	490	532							

TSAZ48..



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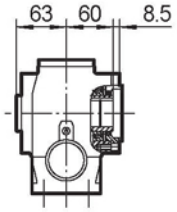
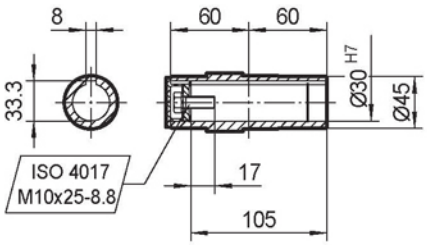
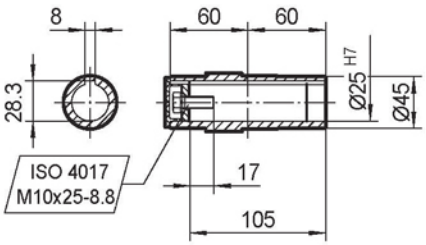


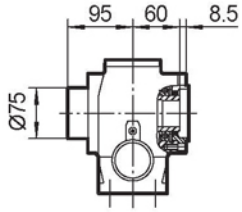
Ø30 H7

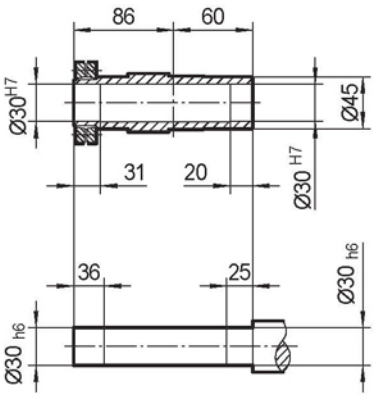


Ø25 H7



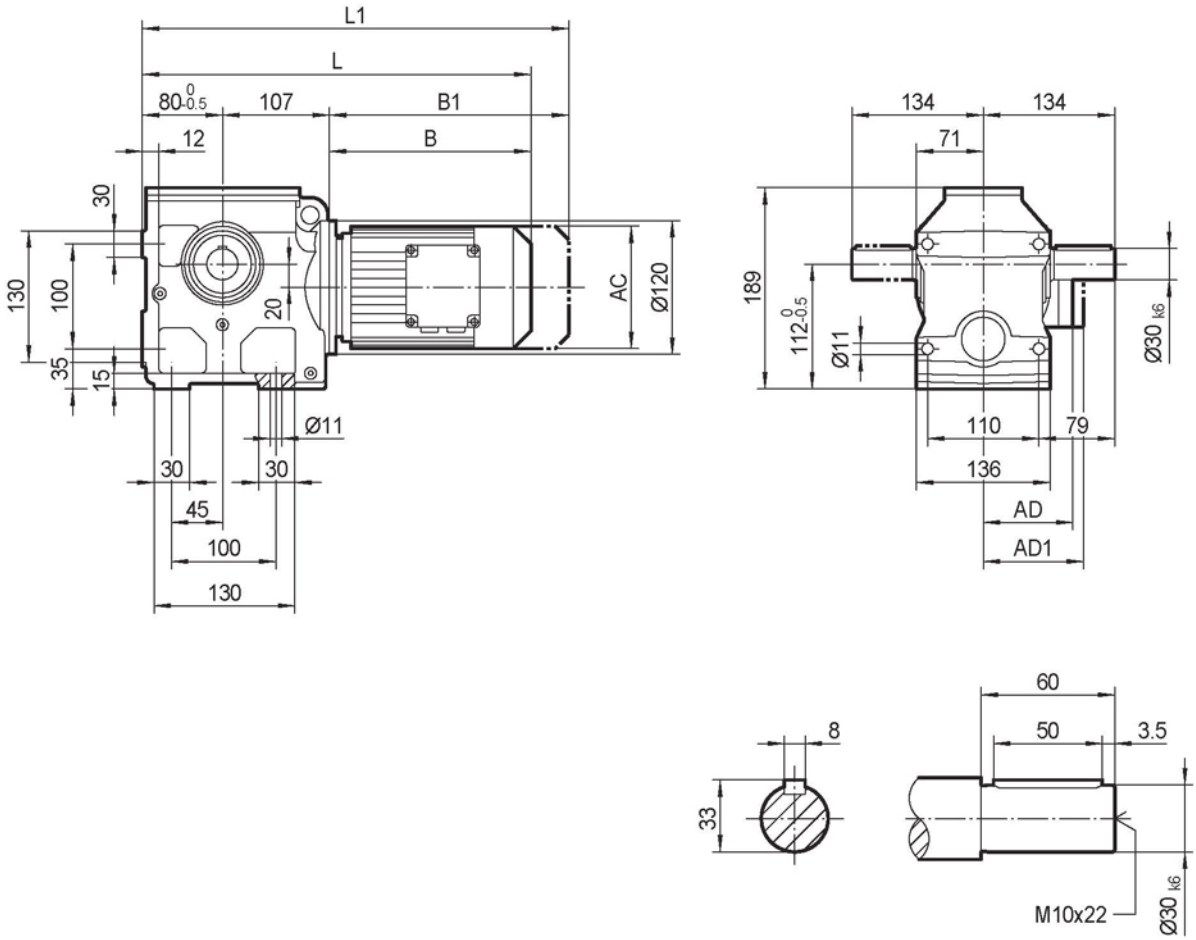
TSHZ48..





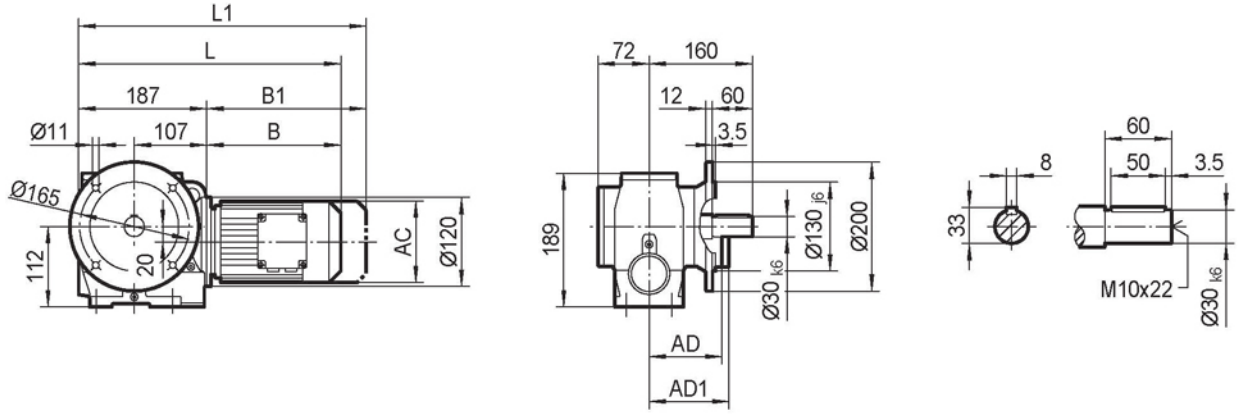
	MY63..	MY71D	MY80..	MY90..							
AC	132	145	145	197							
AD	105	122	122	154							
AD1	105	127	127	161							
B	191	206	256	276							
B1	246	269	319	361							
L	362	377	427	447							
L1	417	440	490	532							

TS58..

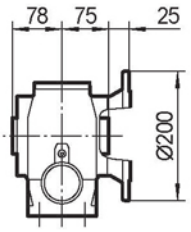


	MY63..	MY71D	MY80..	MY90..	MY100M	MY100L					
AC	132	145	145	197	197	197					
AD	105	122	122	154	166	166					
AD1	105	127	127	161	166	166					
B	191	206	256	276	328	358					
B1	246	269	319	361	413	443					
L	378	393	443	463	515	545					
L1	433	456	506	548	600	630					

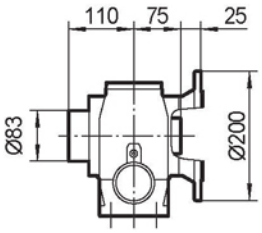
TSF58..



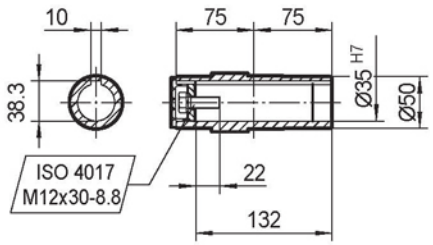
TSAF58..



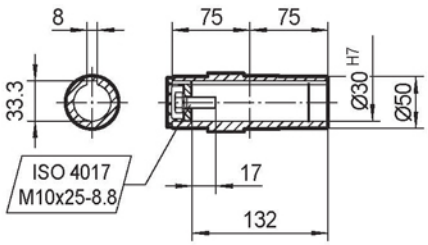
TSHF58..

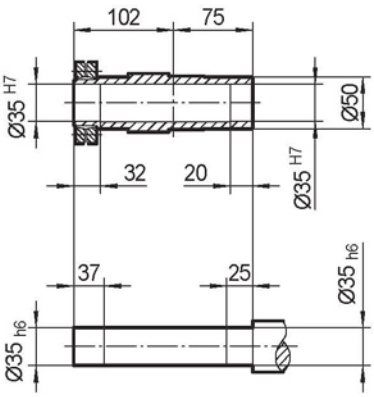


Ø35 H7



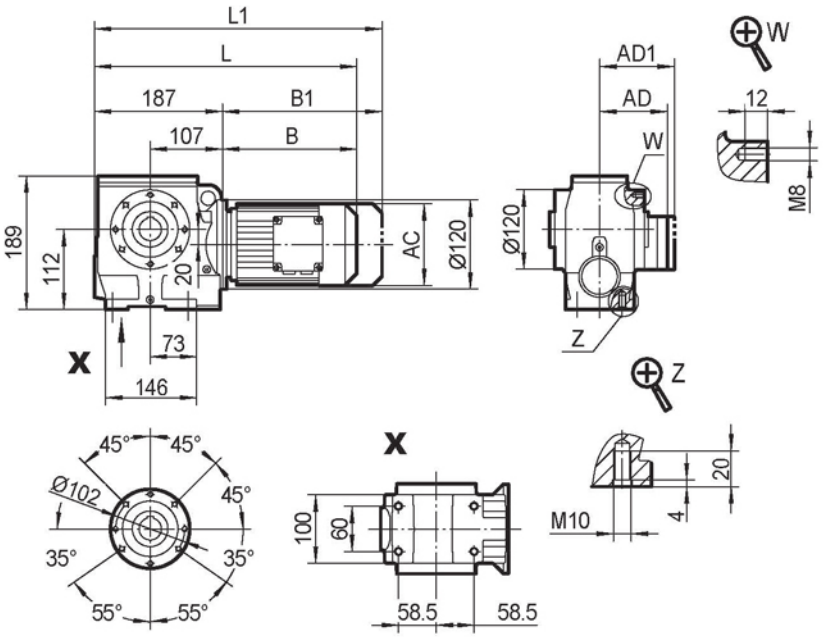
Ø30 H7



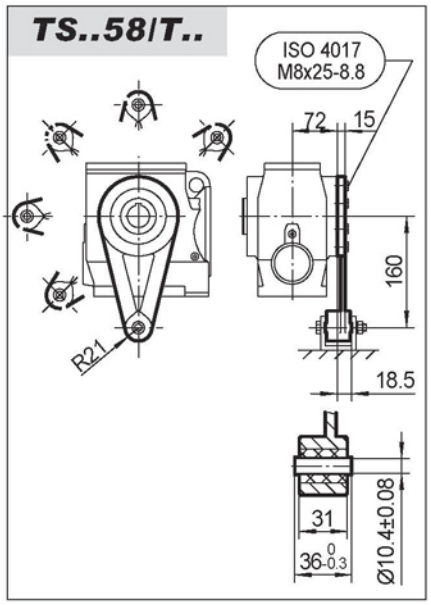


	MY63..	MY71D	MY80..	MY90..	MY100M	MY100L					
AC	132	145	145	197	197	197					
AD	105	122	122	154	166	166					
AD1	105	127	127	161	166	166					
B	191	206	256	276	328	358					
B1	246	269	319	361	413	443					
L	378	393	443	463	515	545					
L1	433	456	506	548	600	630					

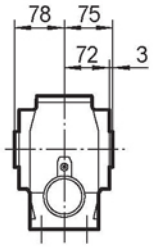
TSA58..



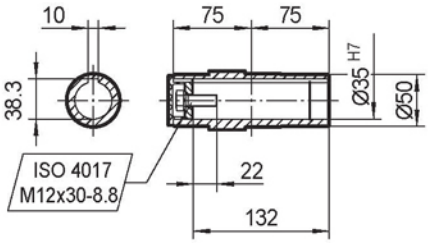
TS..58/T..



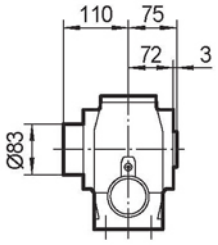
TSA58..



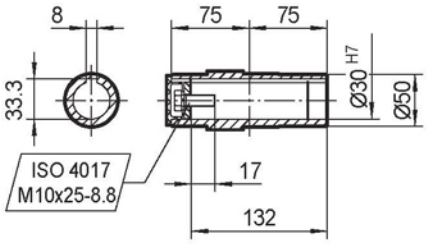
Ø35 H7

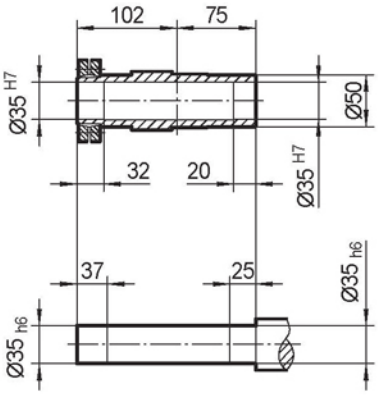


TSH58..



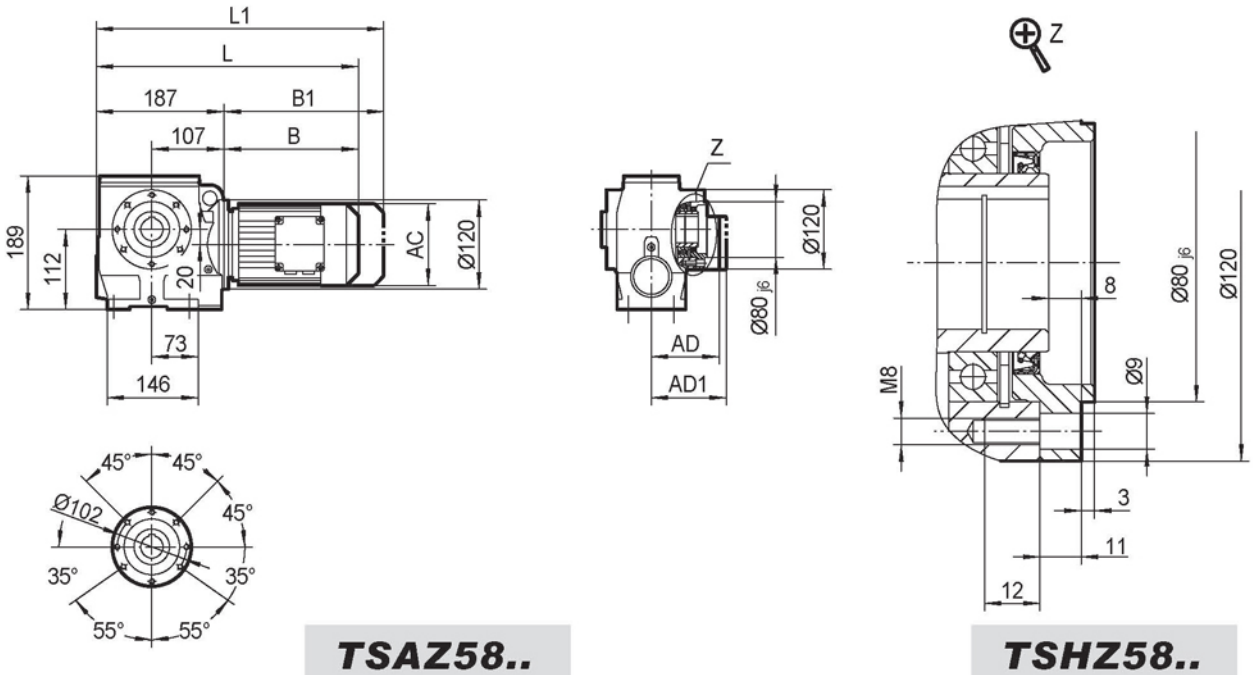
Ø30 H7



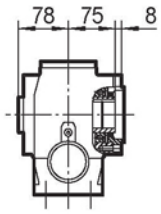


	MY63..	MY71D	MY80..	MY90..	MY100M	MY100L					
AC	132	145	145	197	197	197					
AD	105	122	122	154	166	166					
AD1	105	127	127	161	166	166					
B	191	206	256	276	328	358					
B1	246	269	319	361	413	443					
L	378	393	443	463	515	545					
L1	433	456	506	548	600	630					

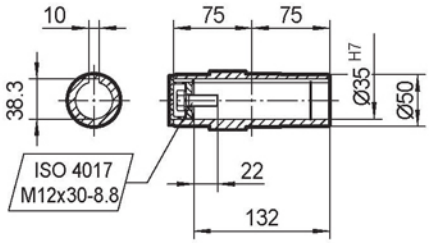
TSAZ58..



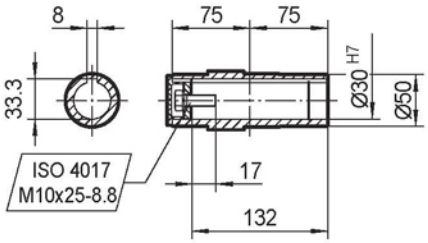
TSAZ58..



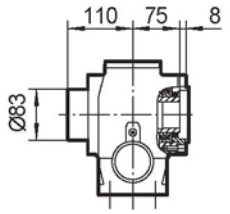
Ø35 H7

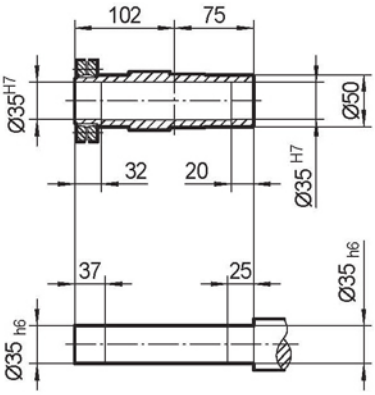


Ø30 H7



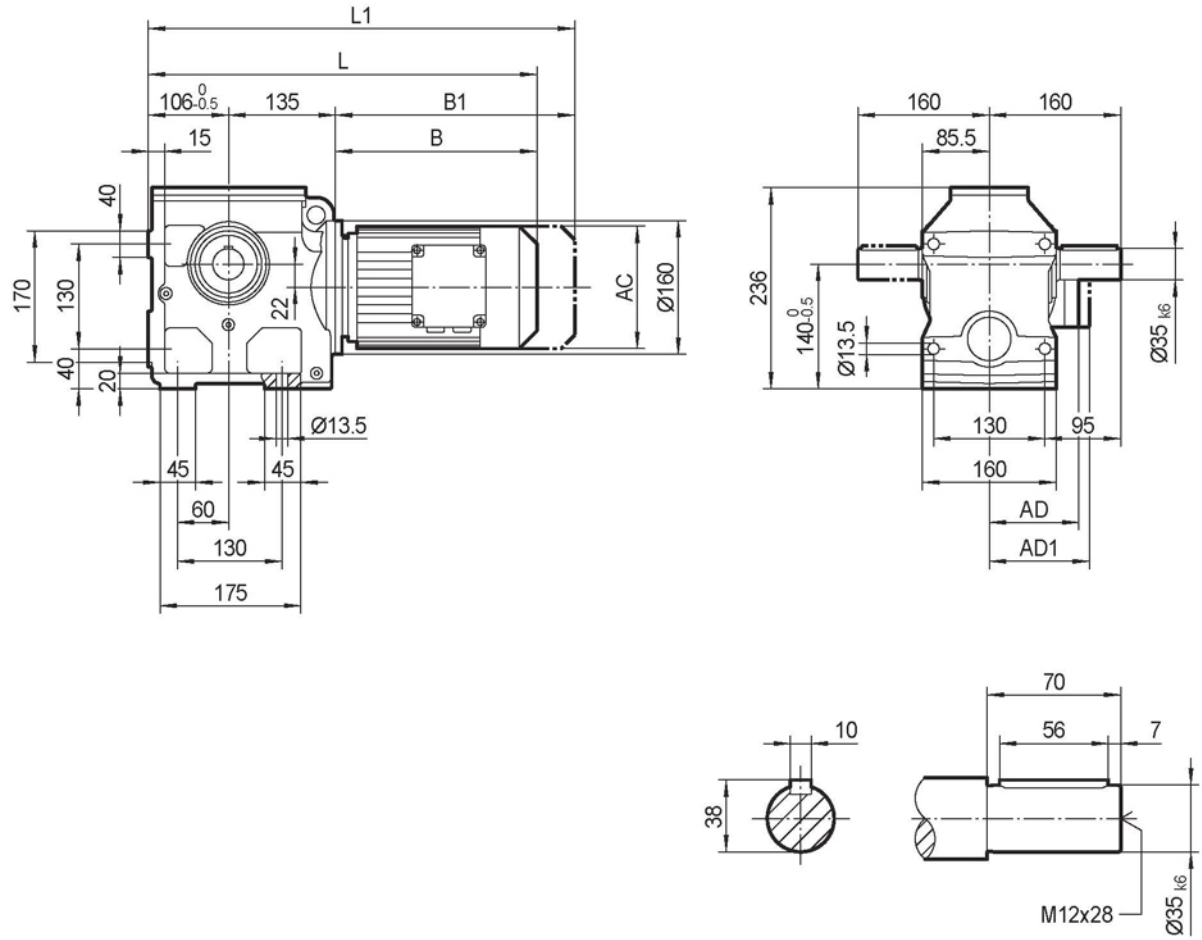
TSHZ58..





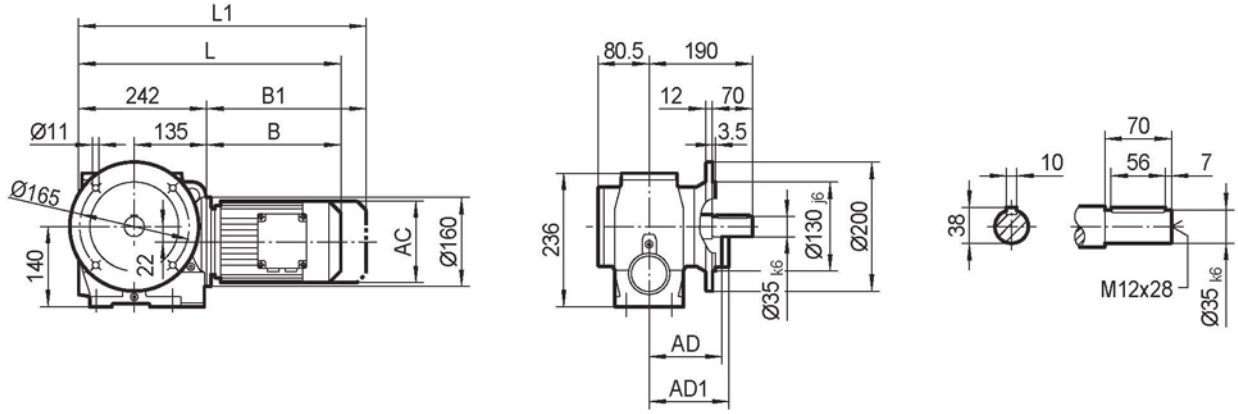
	MY63..	MY71D	MY80..	MY90..	MY100M	MY100L					
AC	132	145	145	197	197	197					
AD	105	122	122	154	166	166					
AD1	105	127	127	161	166	166					
B	191	206	256	276	328	358					
B1	246	269	319	361	413	443					
L	378	393	443	463	515	545					
L1	433	456	506	548	600	630					

TS68..



	MY63..	MY71D	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S			
AC	132	145	145	197	197	197	221	221			
AD	105	122	122	154	166	166	179	179			
AD1	105	127	127	161	166	166	182	182			
B	185	199	249	269	319	349	354	402			
B1	240	263	313	354	404	434	434	482			
L	426	440	490	510	560	590	595	643			
L1	481	504	554	595	645	675	675	723			

TSF68..



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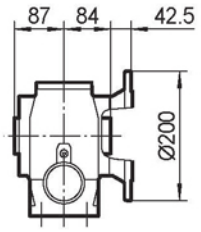

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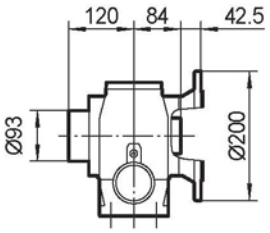
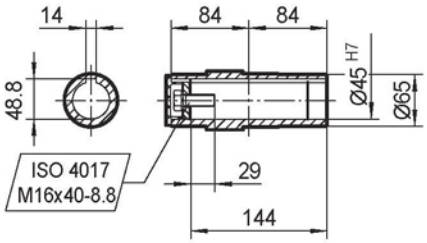
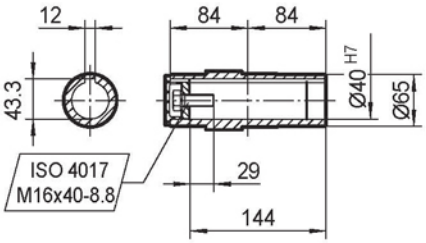
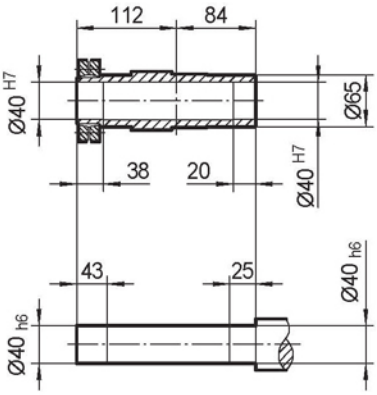


Ø45 H7



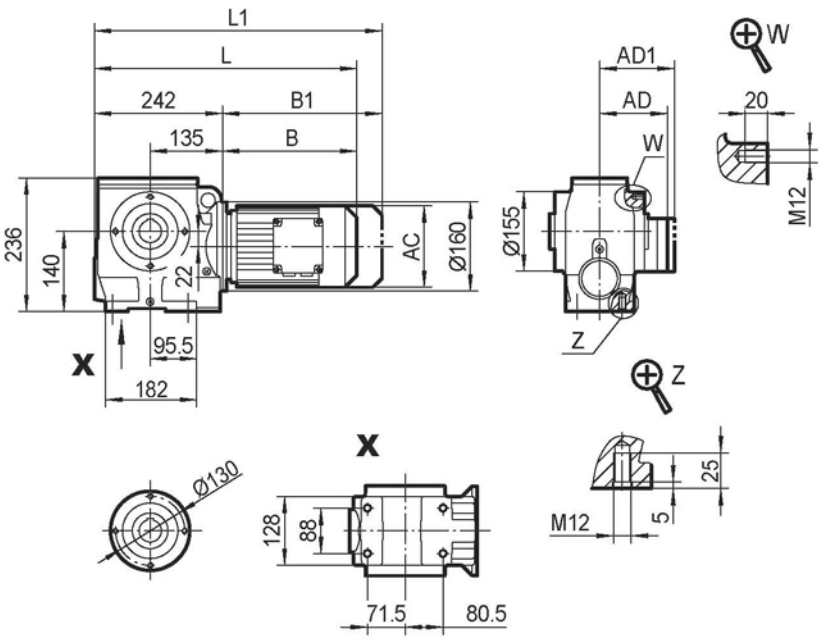
Ø40 H7

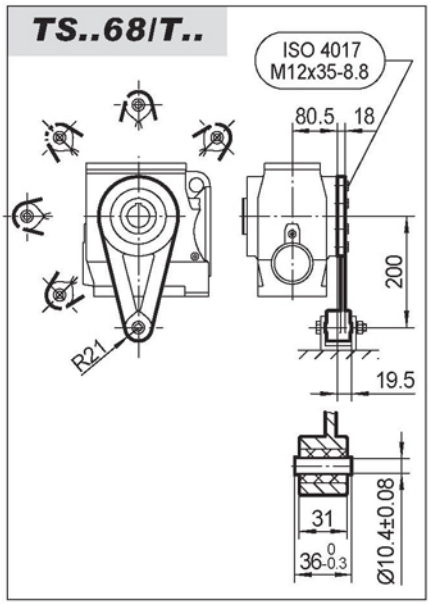




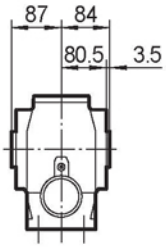
	MY63..	MY71D	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S			
AC	132	145	145	197	197	197	221	221			
AD	105	122	122	154	166	166	179	179			
AD1	105	127	127	161	166	166	182	182			
B	185	199	249	269	319	349	354	402			
B1	240	263	313	354	404	434	434	482			
L	427	441	491	511	561	591	596	644			
L1	482	505	555	596	646	676	676	724			

TSA68..

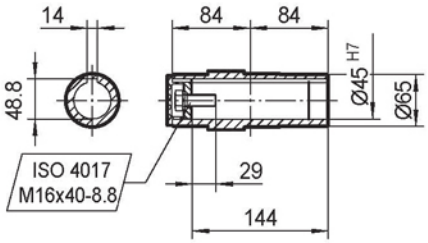




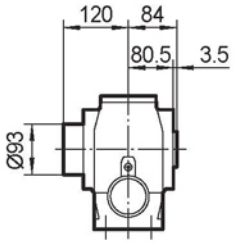
TSA68..



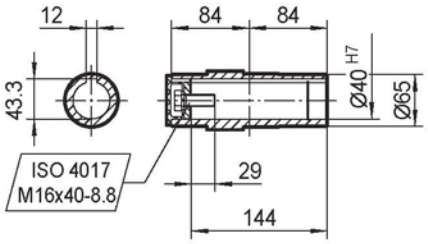
Ø45 H7

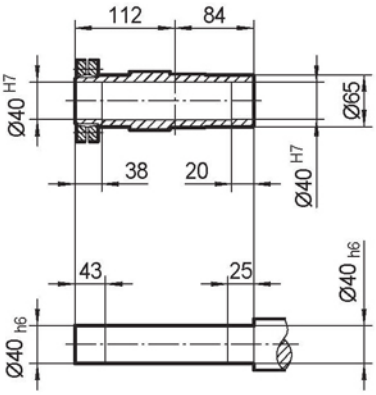


TSH68..



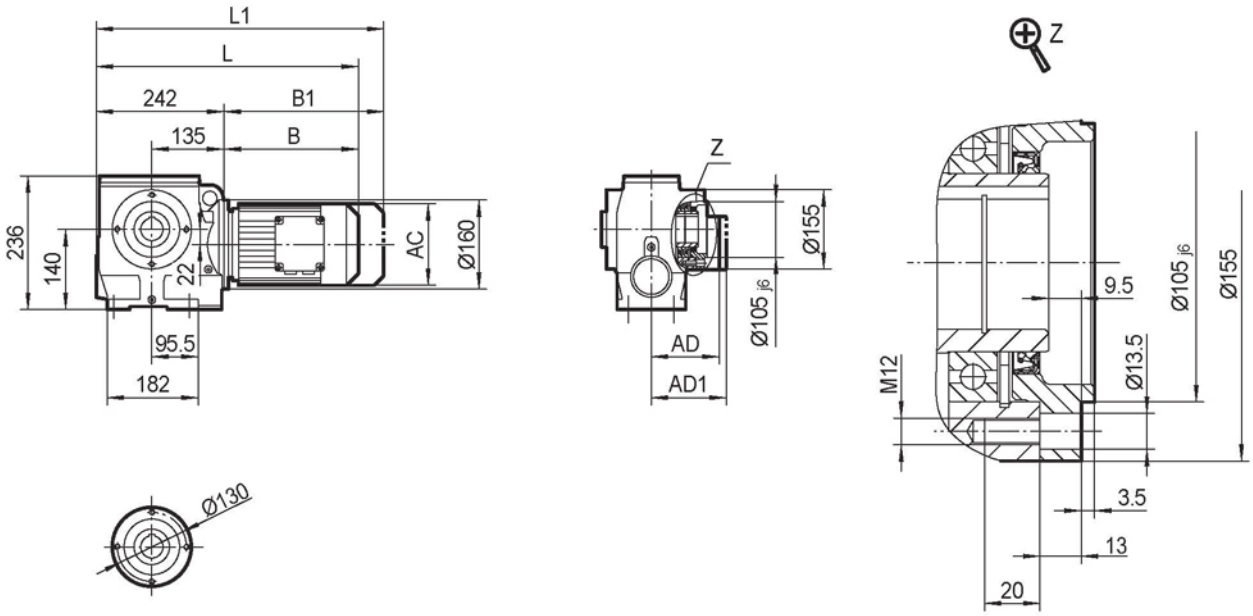
Ø40 H7



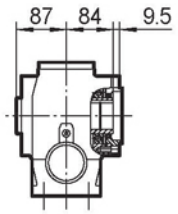


	MY63..	MY71D	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S			
AC	132	145	145	197	197	197	221	221			
AD	105	122	122	154	166	166	179	179			
AD1	105	127	127	161	166	166	182	182			
B	185	199	249	269	319	349	354	402			
B1	240	263	313	354	404	434	434	482			
L	427	441	491	511	561	591	596	644			
L1	482	505	555	596	646	676	676	724			

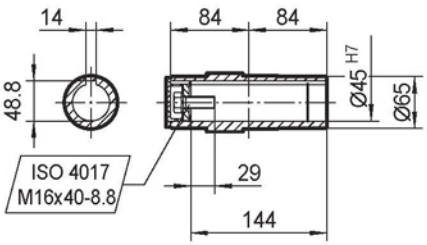
TSAZ68..



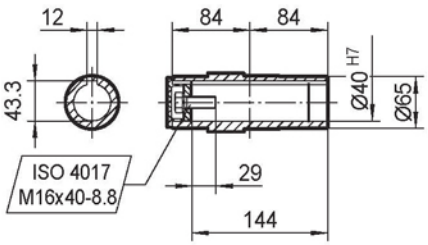
TSAZ68..



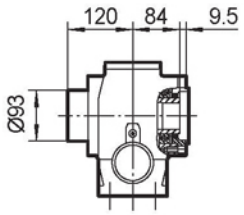
Ø45 H7

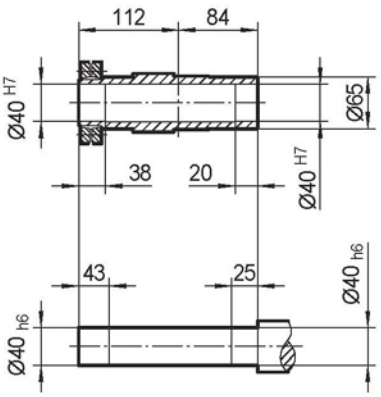


Ø40 H7



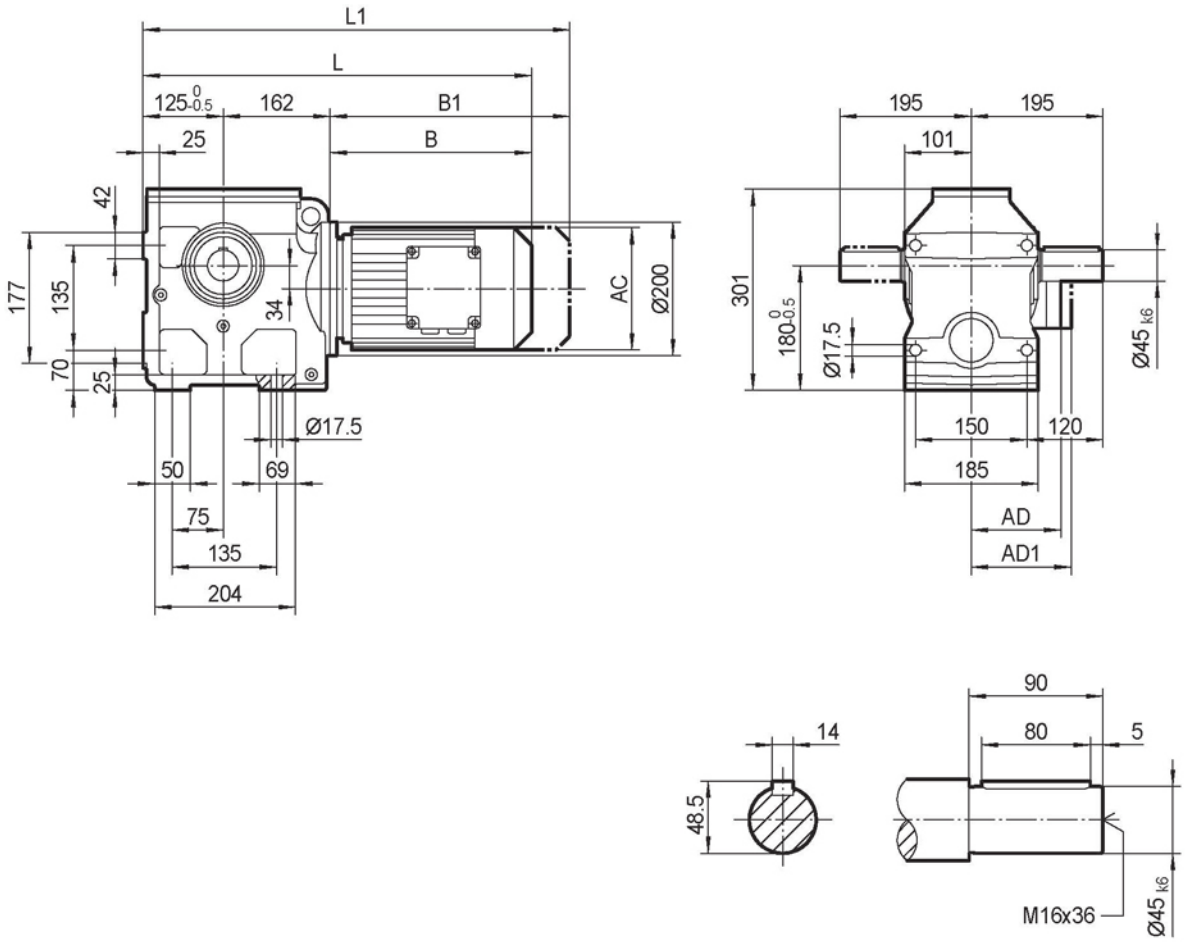
TSHZ68..





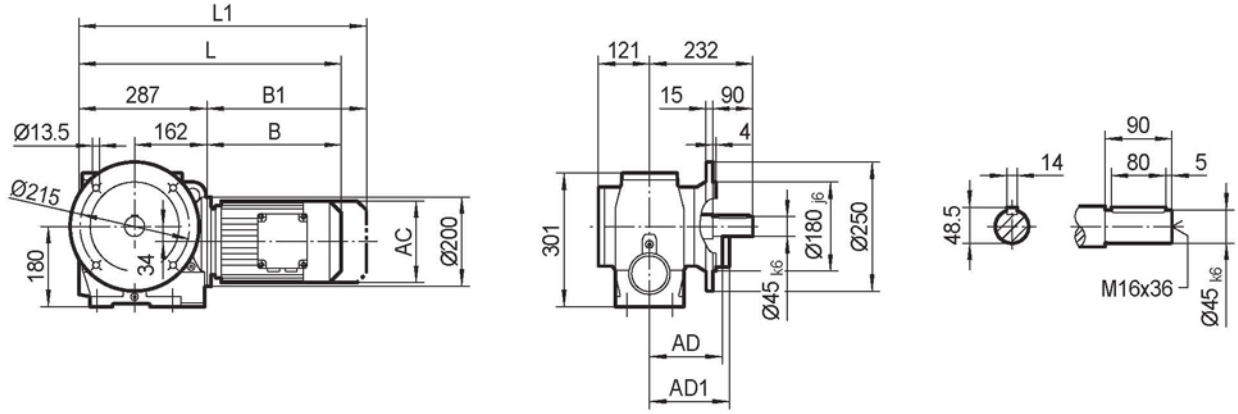
	MY63..	MY71D	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S			
AC	132	145	145	197	197	197	221	221			
AD	105	122	122	154	166	166	179	179			
AD1	105	127	127	161	166	166	182	182			
B	185	199	249	269	319	349	354	402			
B1	240	263	313	354	404	434	434	482			
L	427	441	491	511	561	591	596	644			
L1	482	505	555	596	646	676	676	724			

TS78..

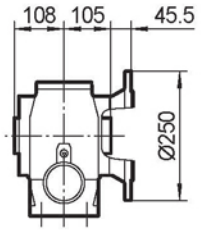


	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML			
AC	145	197	197	197	221	221	275	275			
AD	122	154	166	166	179	179	230	230			
AD1	127	161	166	166	182	182	230	230			
B	243	261	311	341	345	390	412	472			
B1	307	346	396	426	425	470	524	584			
L	530	548	598	628	632	677	699	759			
L1	594	633	683	713	712	757	811	871			

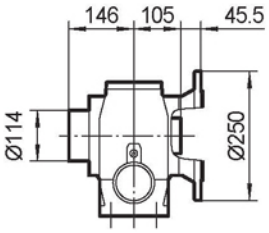
TSF78..



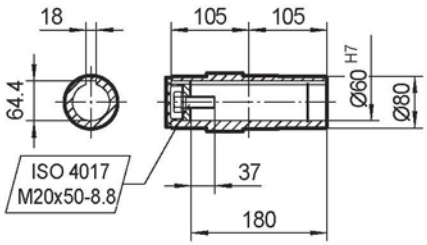
TSAF78..



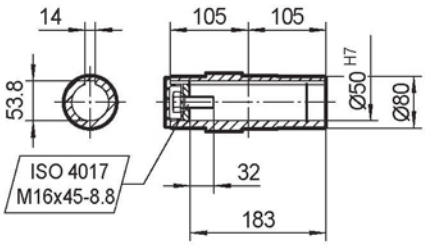
TSHF78..

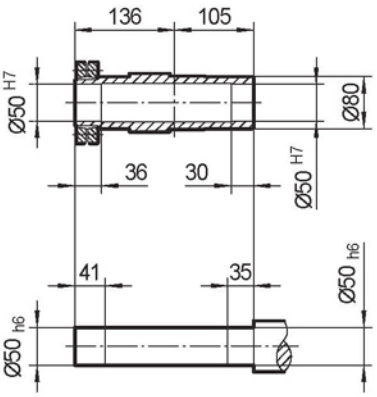


Ø60 H7



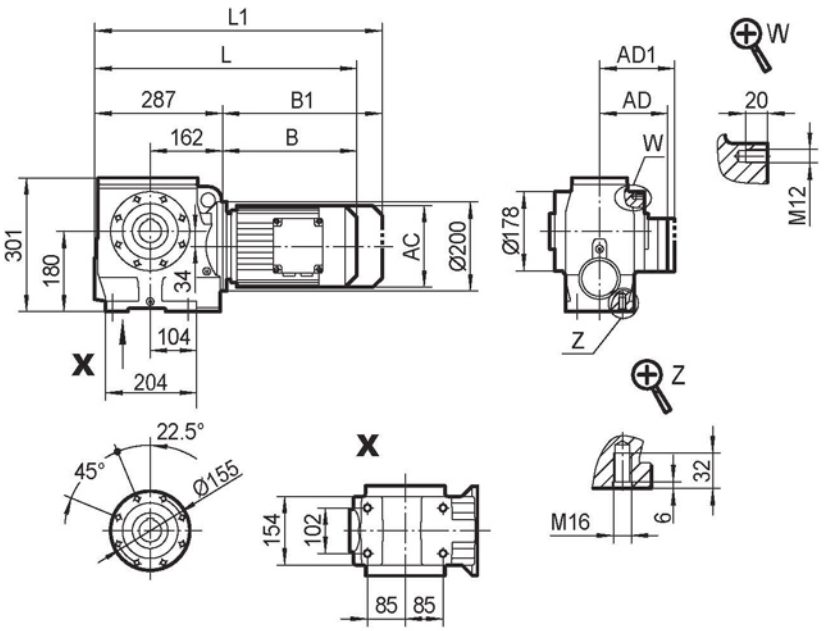
Ø50 H7

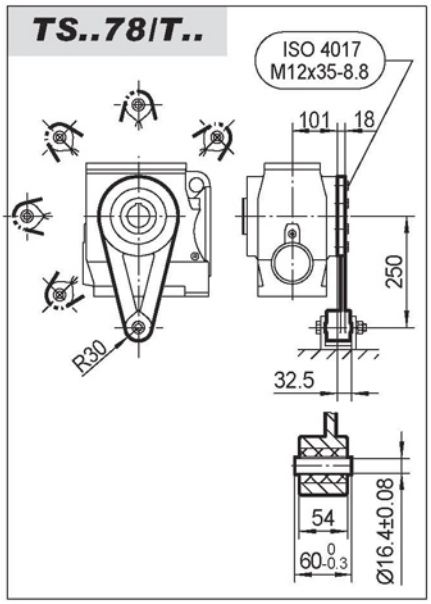




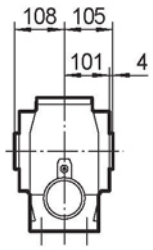
	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML			
AC	145	197	197	197	221	221	275	275			
AD	122	154	166	166	179	179	230	230			
AD1	127	161	166	166	182	182	230	230			
B	243	261	311	341	345	390	412	472			
B1	307	346	396	426	425	470	524	584			
L	530	548	598	628	632	677	699	759			
L1	594	633	683	713	712	757	811	871			

TSA78..

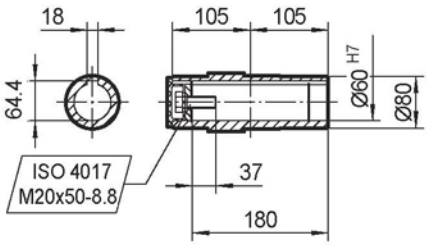




TSA78..



Ø60 H7



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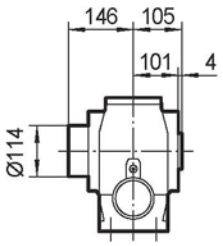
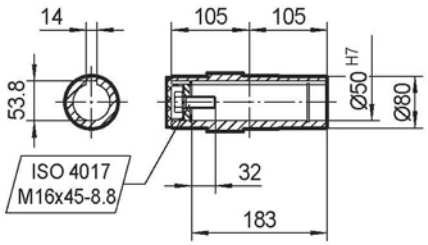
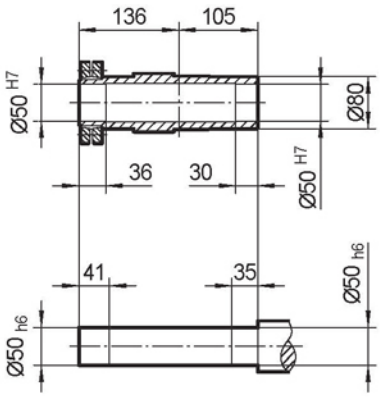


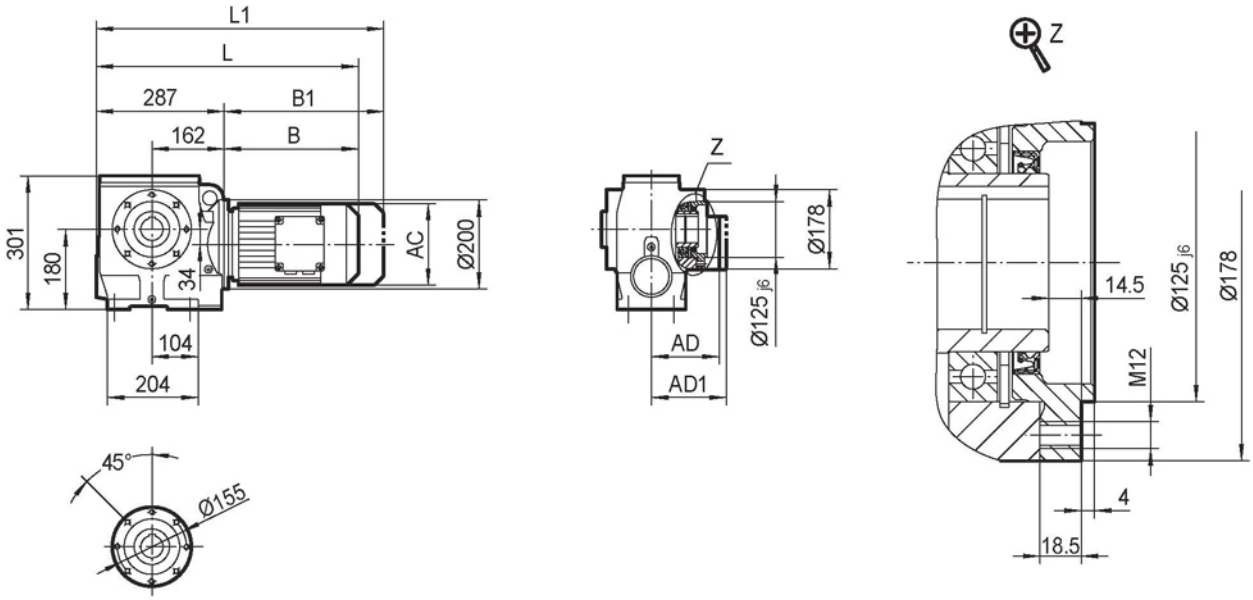
Ø50 H7





	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML			
AC	145	197	197	197	221	221	275	275			
AD	122	154	166	166	179	179	230	230			
AD1	127	161	166	166	182	182	230	230			
B	243	261	311	341	345	390	412	472			
B1	307	346	396	426	425	470	524	584			
L	530	548	598	628	632	677	699	759			
L1	594	633	683	713	712	757	811	871			

TSAZ78..



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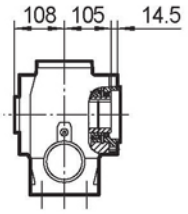

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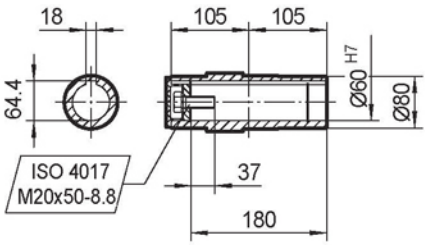

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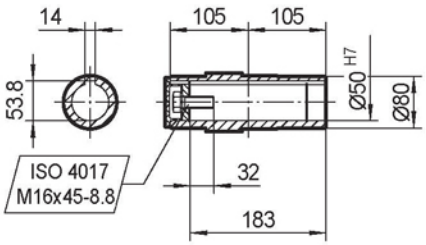

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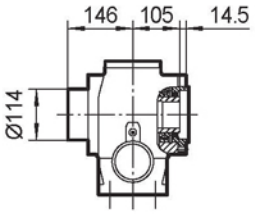
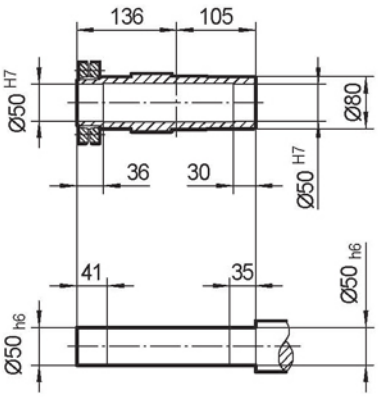
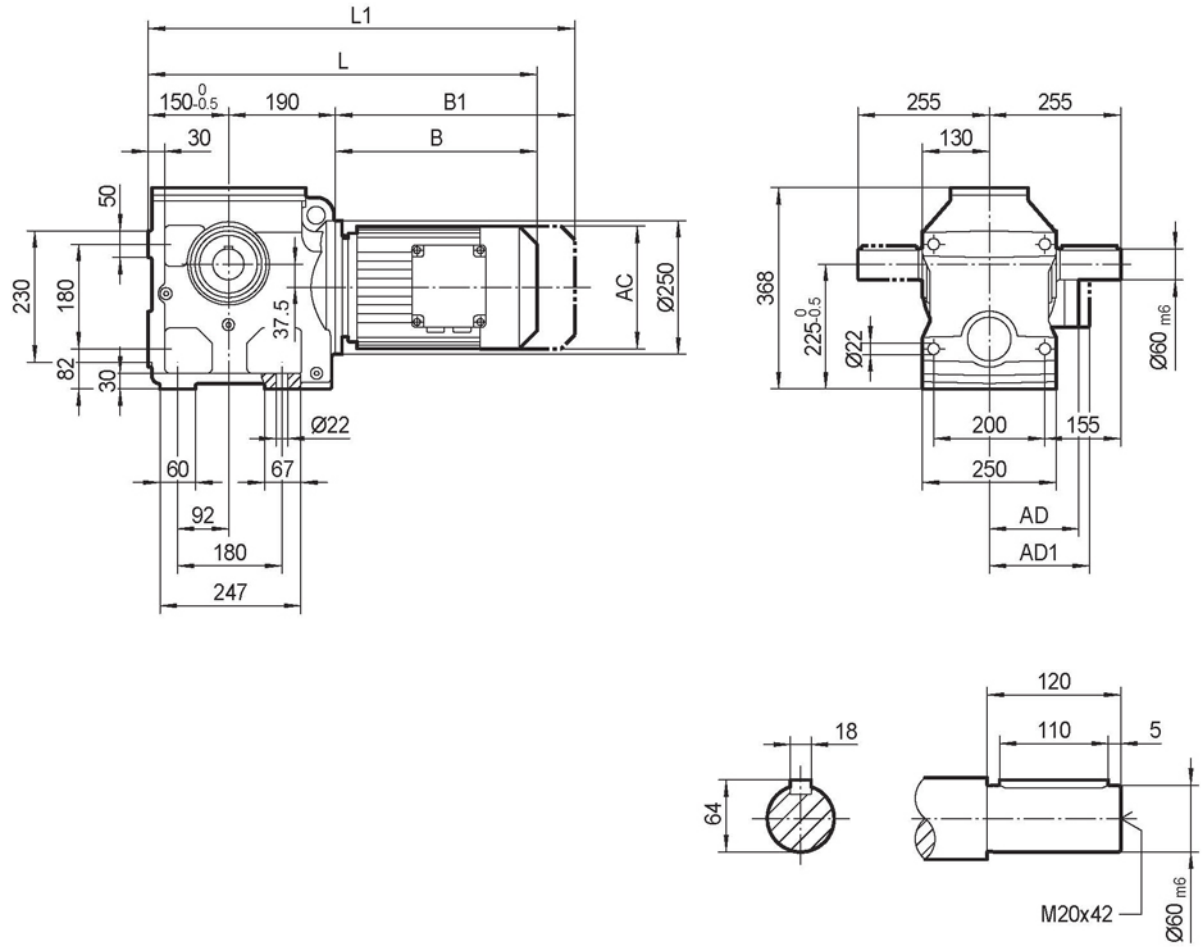




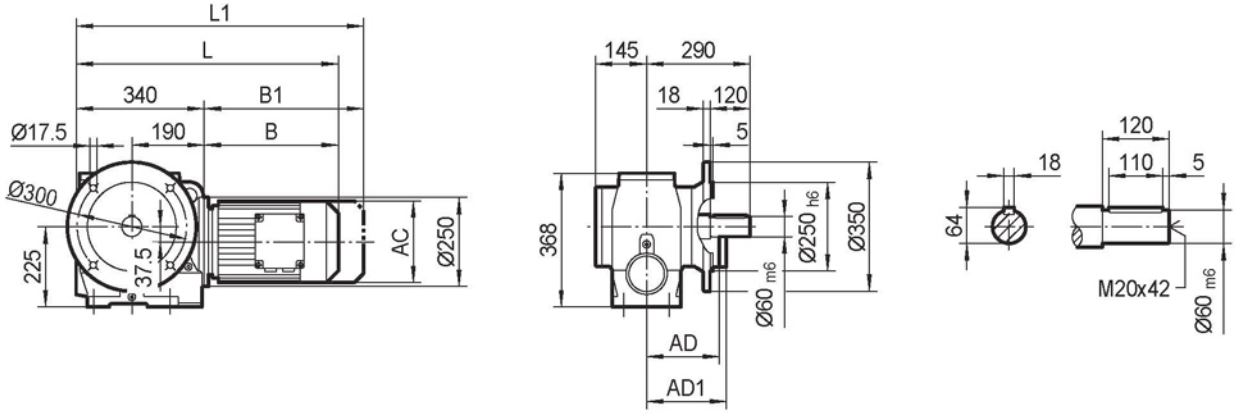
	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML			
AC	145	197	197	197	221	221	275	275			
AD	122	154	166	166	179	179	230	230			
AD1	127	161	166	166	182	182	230	230			
B	243	261	311	341	345	390	412	472			
B1	307	346	396	426	425	470	524	584			
L	530	548	598	628	632	677	699	759			
L1	594	633	683	713	712	757	811	871			

TS88..



	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML	MY160M	MY160L	
AC	145	197	197	197	221	221	275	275	275	331	
AD	122	154	166	166	179	179	230	230	230	258	
AD1	127	161	166	166	182	182	230	230	230	258	
B	238	257	307	337	340	385	407	467	467	514	
B1	302	342	392	422	420	465	519	579	579	670	
L	578	597	647	677	680	725	747	807	807	854	
L1	642	682	732	762	760	805	859	919	919	1010	

TSF88..



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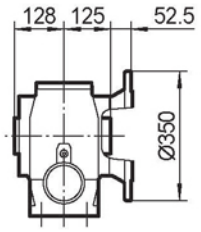

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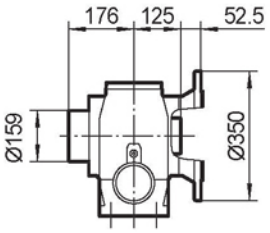
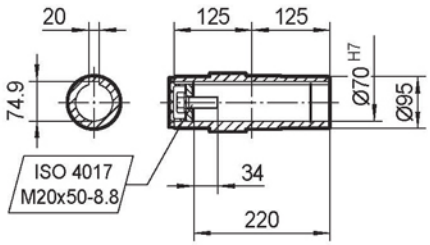


Ø70 H7



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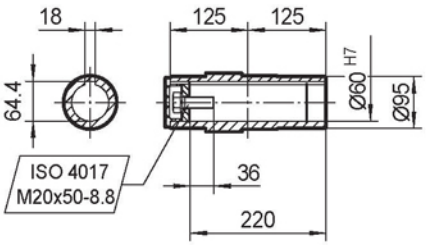
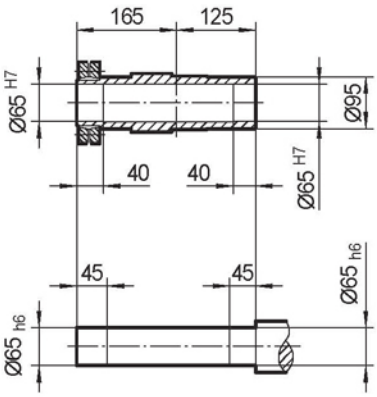
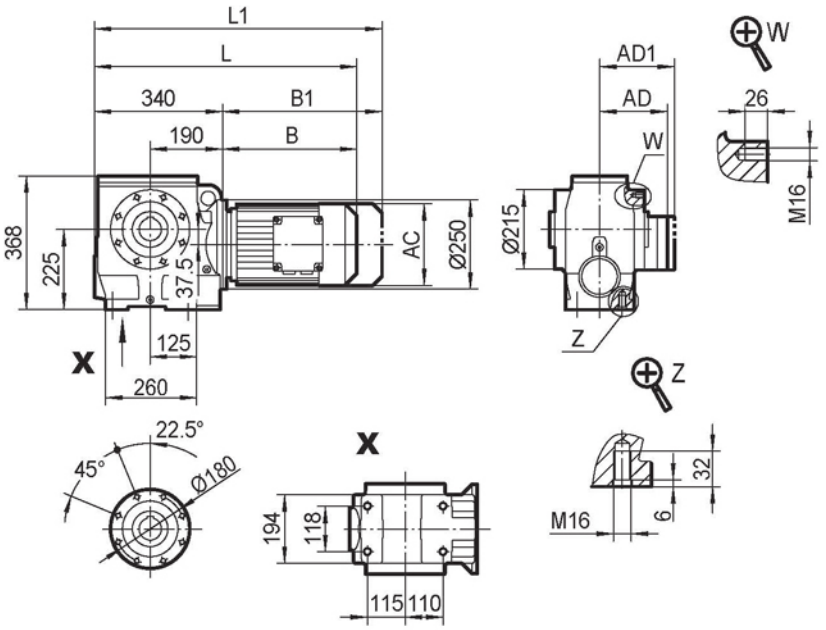
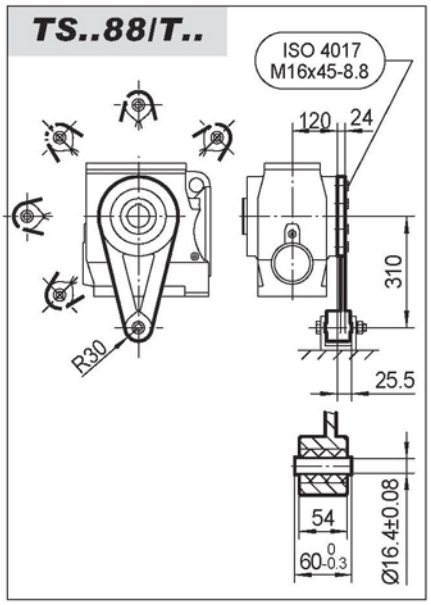




	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML	MY160M	MY160L	
AC	145	197	197	197	221	221	275	275	275	331	
AD	122	154	166	166	179	179	230	230	230	258	
AD1	127	161	166	166	182	182	230	230	230	258	
B	238	257	307	337	340	385	407	467	467	514	
B1	302	342	392	422	420	465	519	579	579	670	
L	578	597	647	677	680	725	747	807	807	854	
L1	642	682	732	762	760	805	859	919	919	1010	

TSA88..





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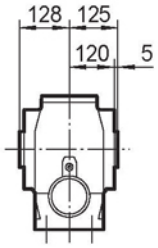

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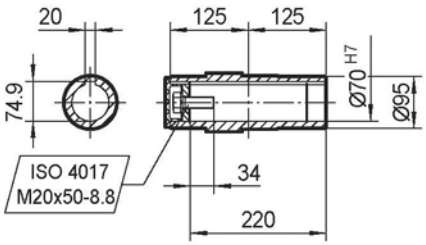

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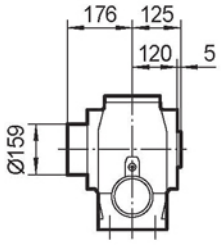

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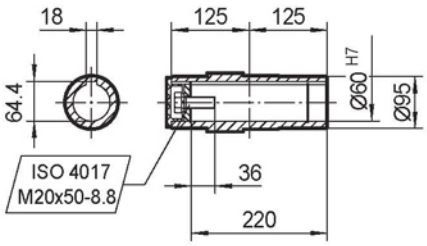
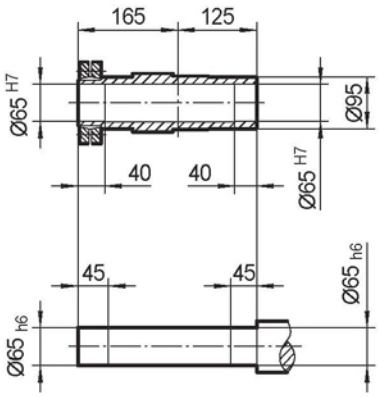
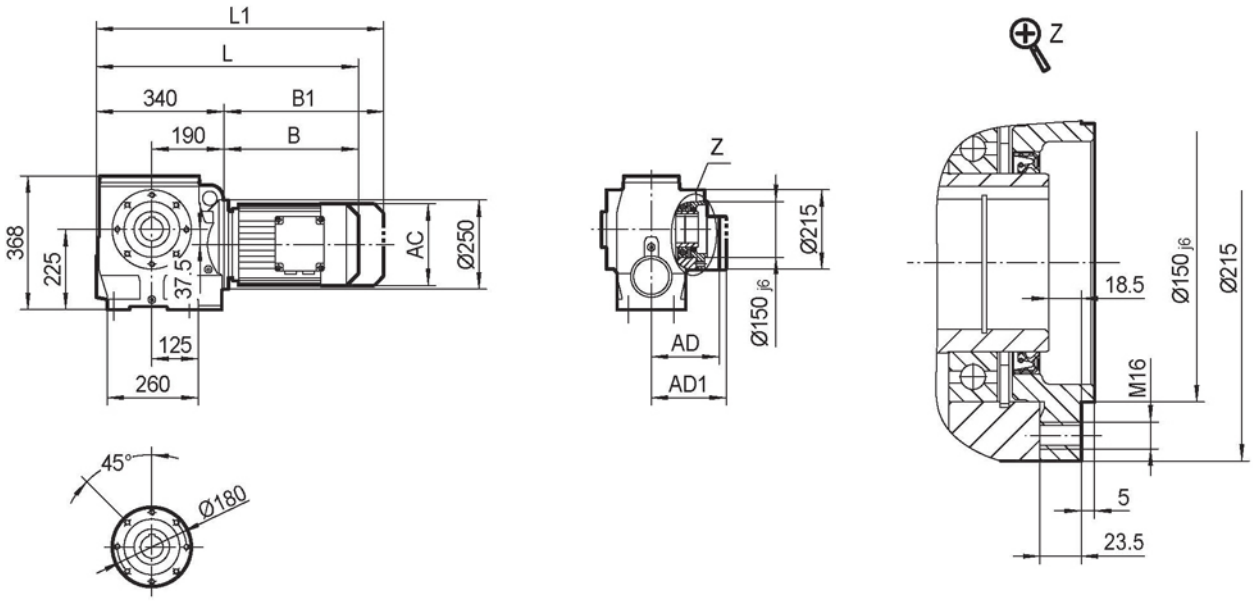




	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML	MY160M	MY160L	
AC	145	197	197	197	221	221	275	275	275	331	
AD	122	154	166	166	179	179	230	230	230	258	
AD1	127	161	166	166	182	182	230	230	230	258	
B	238	257	307	337	340	385	407	467	467	514	
B1	302	342	392	422	420	465	519	579	579	670	
L	578	597	647	677	680	725	747	807	807	854	
L1	642	682	732	762	760	805	859	919	919	1010	

TSAZ88..



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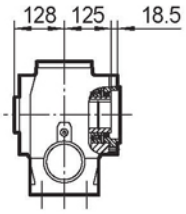

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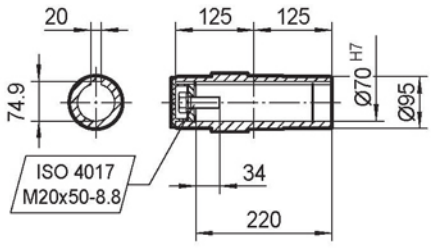

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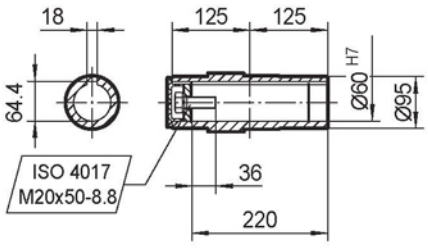

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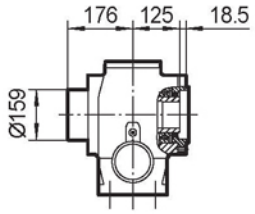
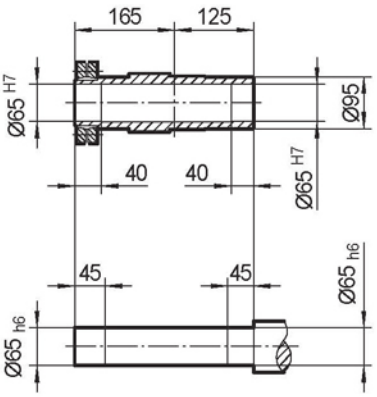
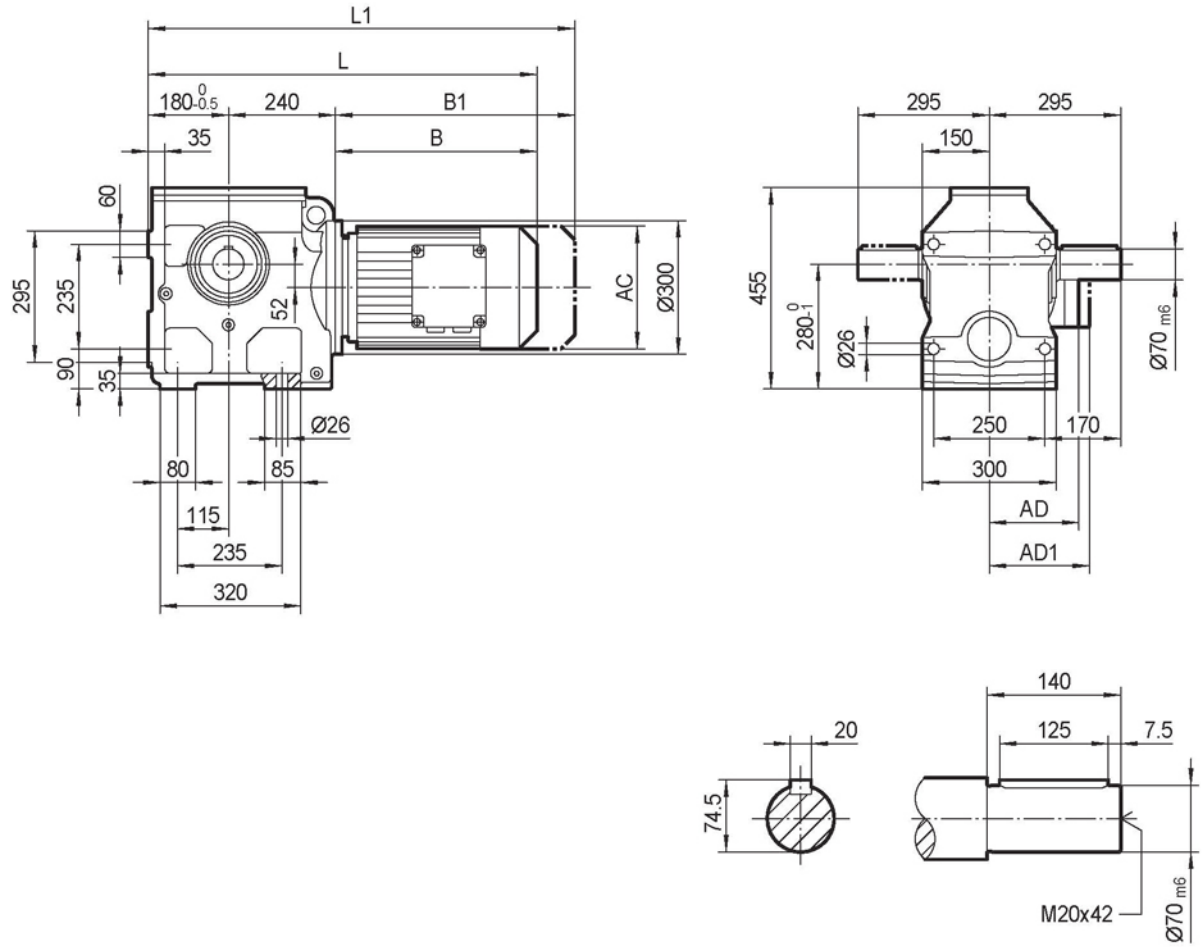




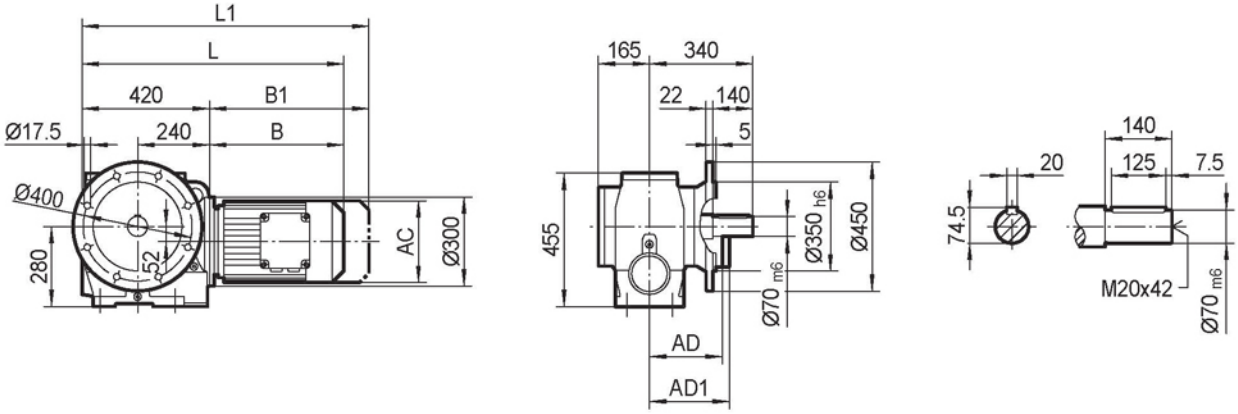
	MY80..	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML	MY160M	MY160L	
AC	145	197	197	197	221	221	275	275	275	331	
AD	122	154	166	166	179	179	230	230	230	258	
AD1	127	161	166	166	182	182	230	230	230	258	
B	238	257	307	337	340	385	407	467	467	514	
B1	302	342	392	422	420	465	519	579	579	670	
L	578	597	647	677	680	725	747	807	807	854	
L1	642	682	732	762	760	805	859	919	919	1010	

TS98..



	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML	MY160M	MY160L	MY180..	
AC	197	197	197	221	221	275	275	275	331	331	
AD	154	166	166	179	179	230	230	230	258	258	
AD1	161	166	166	182	182	230	230	230	258	258	
B	251	301	331	335	380	402	462	462	509	581	
B1	336	386	416	415	460	514	574	574	665	737	
L	671	721	751	755	800	822	882	882	929	1001	
L1	756	806	836	835	880	934	994	994	1085	1157	

TSF98..



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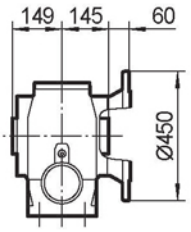

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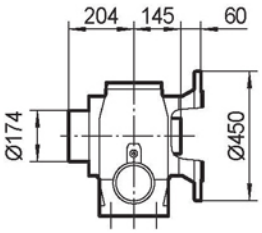
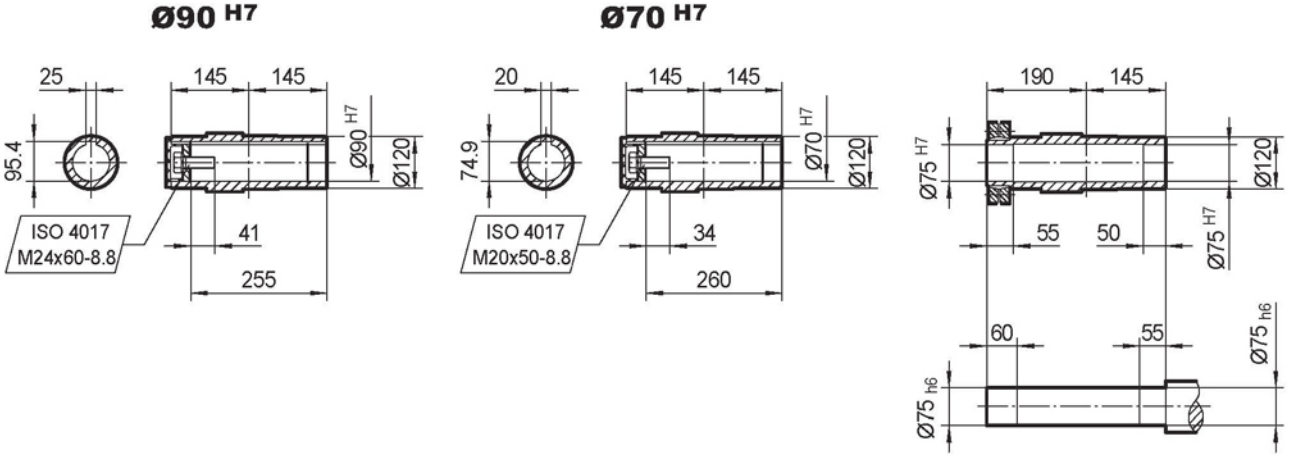
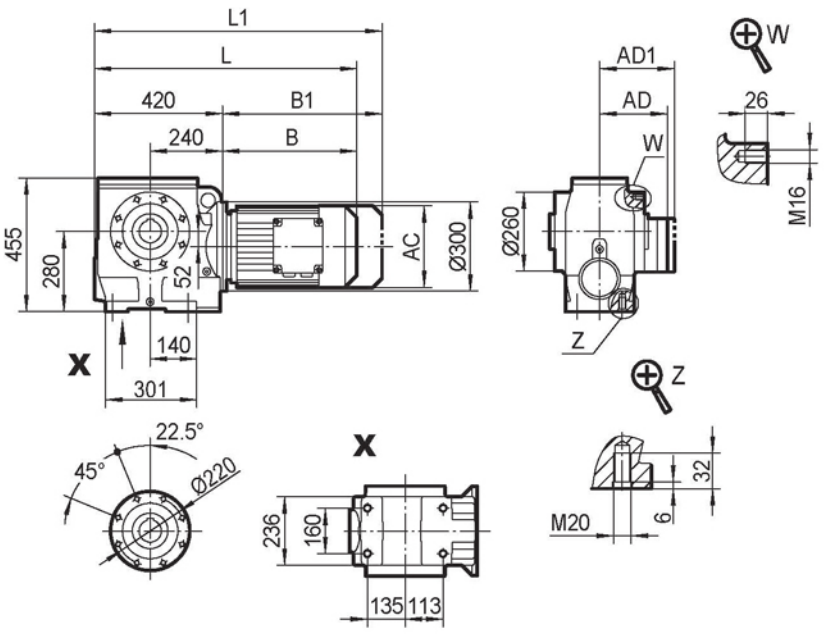
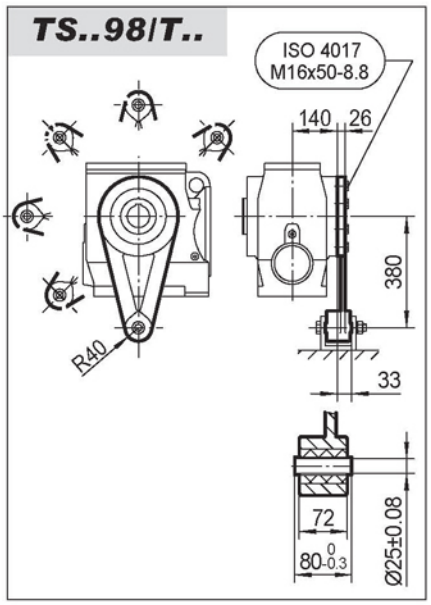




	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML	MY160M	MY160L	MY180..	
AC	197	197	197	221	221	275	275	275	331	331	
AD	154	166	166	179	179	230	230	230	258	258	
AD1	161	166	166	182	182	230	230	230	258	258	
B	251	301	331	335	380	402	462	462	509	581	
B1	336	386	416	415	460	514	574	574	665	737	
L	671	721	751	755	800	822	882	882	929	1001	
L1	756	806	836	835	880	934	994	994	1085	1157	

TSA98..





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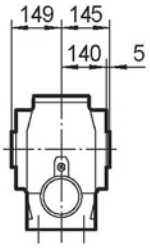

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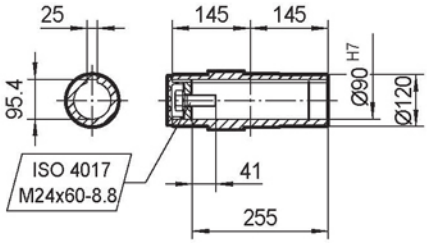

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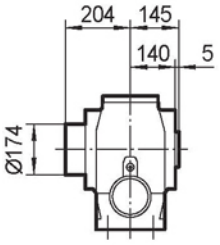
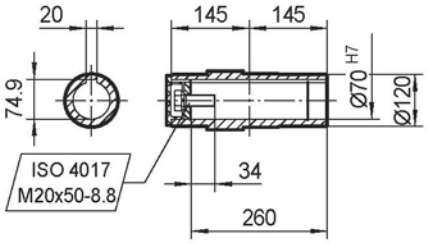
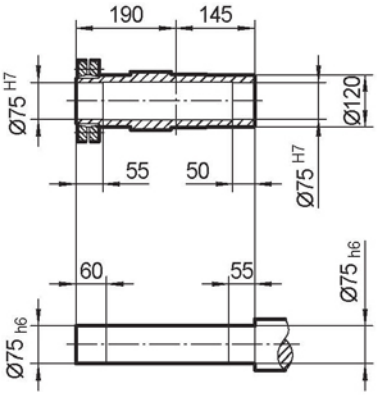


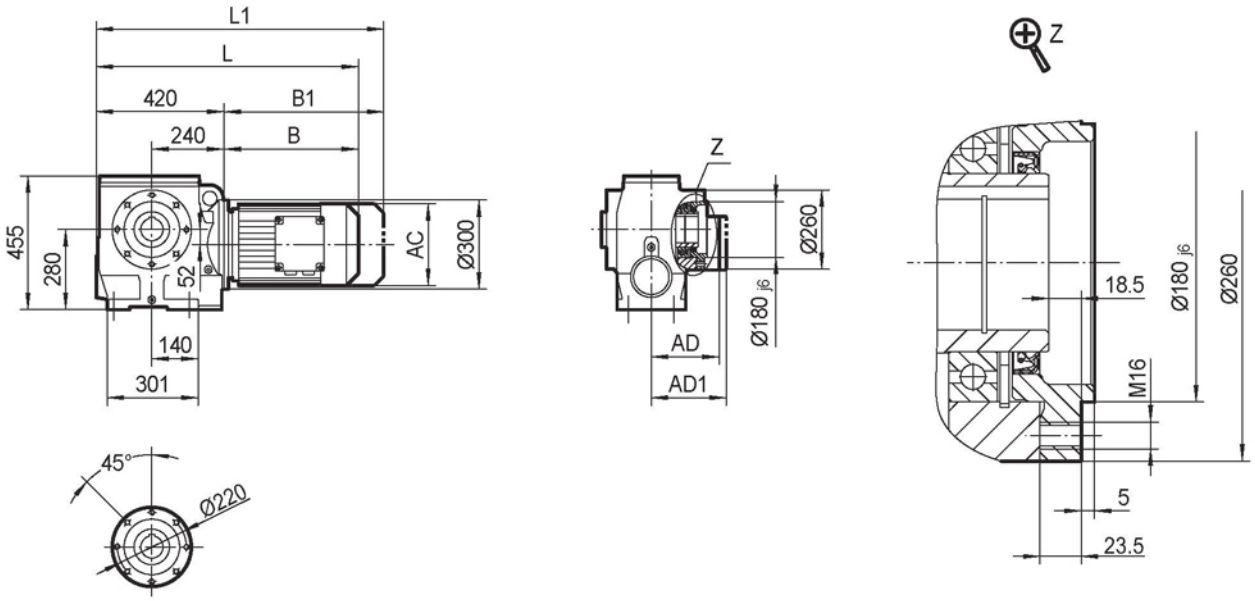
Ø70 H7





	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML	MY160M	MY160L	MY180..	
AC	197	197	197	221	221	275	275	275	331	331	
AD	154	166	166	179	179	230	230	230	258	258	
AD1	161	166	166	182	182	230	230	230	258	258	
B	251	301	331	335	380	402	462	462	509	581	
B1	336	386	416	415	460	514	574	574	665	737	
L	671	721	751	755	800	822	882	882	929	1001	
L1	756	806	836	835	880	934	994	994	1085	1157	

TSAZ98..



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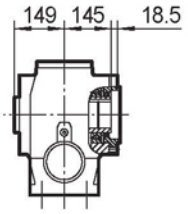

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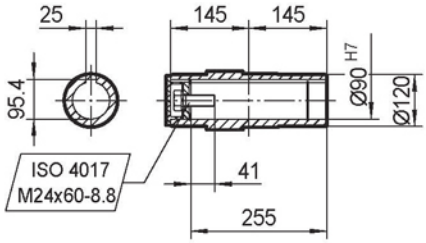

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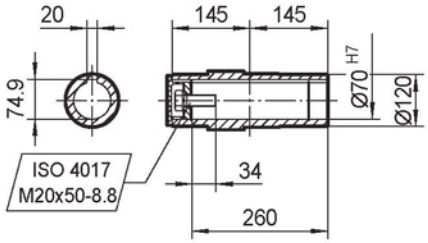
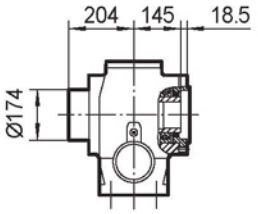
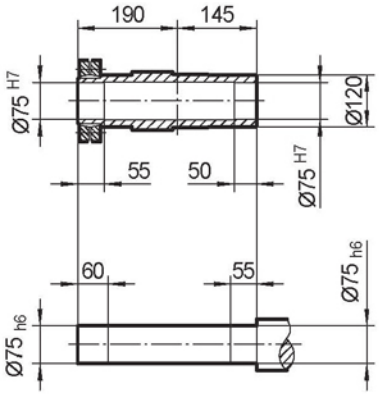


TSHZ98..

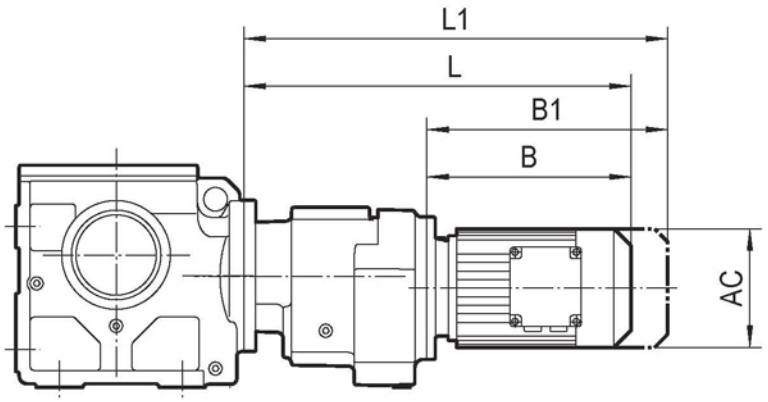




	MY90..	MY100M	MY100L	MY112M	MY132S	MY132M	MY132ML	MY160M	MY160L	MY180..	
AC	197	197	197	221	221	275	275	275	331	331	
AD	154	166	166	179	179	230	230	230	258	258	
AD1	161	166	166	182	182	230	230	230	258	258	
B	251	301	331	335	380	402	462	462	509	581	
B1	336	386	416	415	460	514	574	574	665	737	
L	671	721	751	755	800	822	882	882	929	1001	
L1	756	806	836	835	880	934	994	994	1085	1157	

7.2 TS../TRF Outline Dimension

TS../TRF..

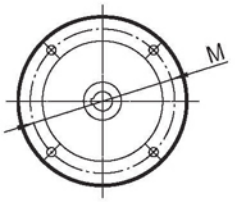


TS../TRF..	MY..	AC	L	L1	B	B1
TS..38/TRF18	MY63..	132	324	379	149	204
	MY71D	145	339	403	164	228
	MY80..	145	389	453	214	278
TS..48/TRF18 TS..58/TRF18	MY63..	132	324	379	149	204
	MY71D	145	339	403	164	228
	MY80..	145	389	453	214	278
TS..68/TRF38	MY63..	132	356	411	191	246
	MY71D	145	371	435	206	270
	MY80..	145	421	485	256	320
TS..78/TRF38	MY63..	132	348	403	191	246
	MY71D	145	363	427	206	270
	MY80..	145	413	477	256	320
	MY90..	197	433	518	276	361
TS..88/TRF58	MY63..	132	401	456	185	240
	MY71D	145	415	479	199	263
	MY80..	145	465	529	249	313
	MY90..	197	485	570	269	354
	MY100M	197	535	620	319	404
	MY100L	197	565	650	349	434
TS..98/TRF58	MY63..	132	396	451	185	240
	MY71D	145	410	474	199	263
	MY80..	145	460	524	249	313
	MY90..	197	480	565	269	354
	MY100M	197	530	615	319	404
	MY100L	197	560	645	349	434
	MY112M	221	565	645	354	434

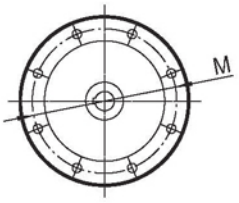
7.3 TS..AM(IEC).. Outline Dimension

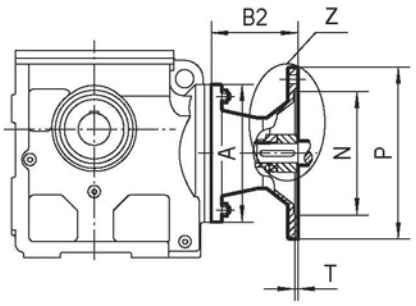
TS..AM(IEC)..

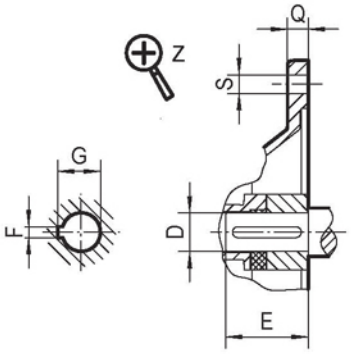
Flange.1



Flange.2







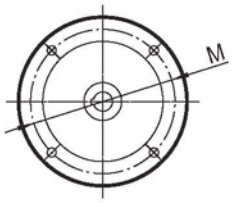
TS..	AM..	Flange.	A	B2	D	E	F	G	M	N	P	Q	S	T
TS..38 TS..48 TS..58	AM63	1	120	72	11	23	4	12.8	115	95	140	10	M8	3.5
	AM71 1)				14	30	5	16.3	130	110	160			
	AM80 1)			106	19	40	6	21.8	165	130	200	12	M10	4.5
	AM90 1)				24	50	8	27.3						
TS..68	AM63	1	160	66	11	23	4	12.8	115	95	140	10	M8	3.5
	AM71				14	30	5	16.3	130	110	160			
	AM80			99	19	40	6	21.8	165	130	200	12	M10	4.5
	AM90				24	50	8	27.3						
	AM100 1)			134	28	60	8	31.3	215	180	250	15	M12	5
	AM112 1)													
	AM132S/M 1)			191	38	80	10	41.3	265	230	300	16		
TS..78	AM63	1	200	60	11	23	4	12.8	115	95	140	10	M8	3.5
	AM71				14	30	5	16.3	130	110	160			
	AM80			92	19	40	6	21.8	165	130	200	12	M10	4.5
	AM90				24	50	8	27.3						
	AM100 1)			126	28	60	8	31.3	215	180	250	15	M12	5
	AM112 1)													
	AM132S/M 1)			179	38	80	10	41.3	265	230	300	16		
	AM132ML 1)													
TS..88 3)	AM80	1	250	87	19	40	6	21.8	165	130	200	12	M10	4.5
	AM90				24	50	8	27.3						
	AM100			121	28	60	8	31.3	215	180	250	15	M12	5
	AM112													
	AM132S/M			174	38	80	10	41.3	265	230	300	16		
	AM132ML													
	AM160 1)			232	42	110	12	45.3	300	250	350	18	M16	6
	AM180 1)				48		14	51.8						

1) Dimension P/2 may protrue past foot mounting surface,please check.

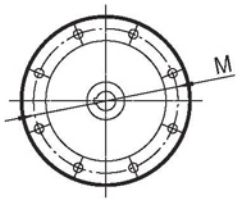
3) not with AM180

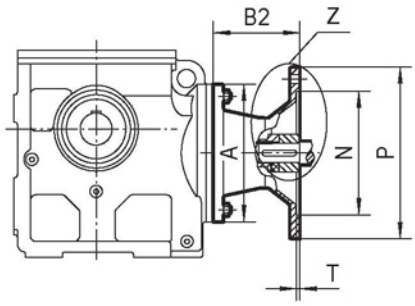
TS..AM(IEC)..

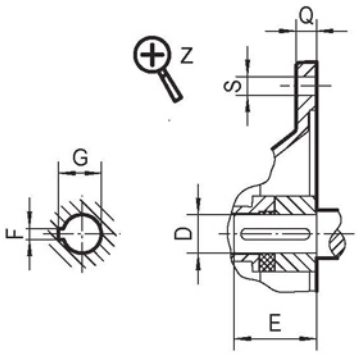
Flange.1



Flange.2





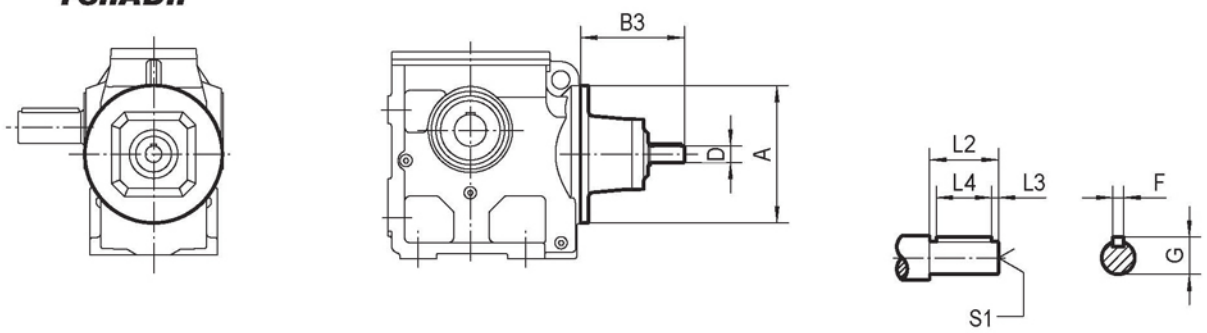


TS..	AM..	Flange.	A	B2	D	E	F	G	M	N	P	Q	S	T
TS..98 [1]	**AM100**	1	300	116	28	60	8	31.3	215	180	250	15	M12	5
	AM112													
	AM132S/M			169	38	80	10	41.3	265	230	300	16		
	AM132ML													
	AM160			227	42	110	12	45.3	300	250	350	18	M16	6
	AM180				48		14	51.8						
	AM200			268	55		16	59.3	350	300	400	20		7

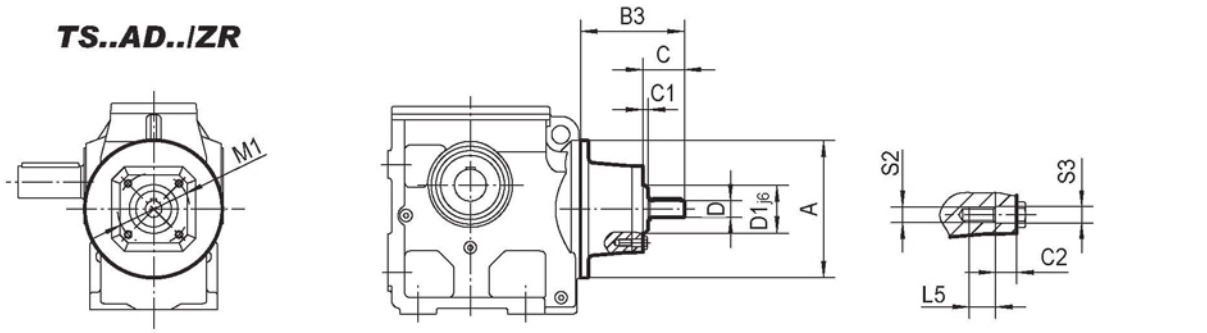
1) not with AM200

7.4 TS..AD.. Outline Dimension

TS..AD..



TS..AD../ZR

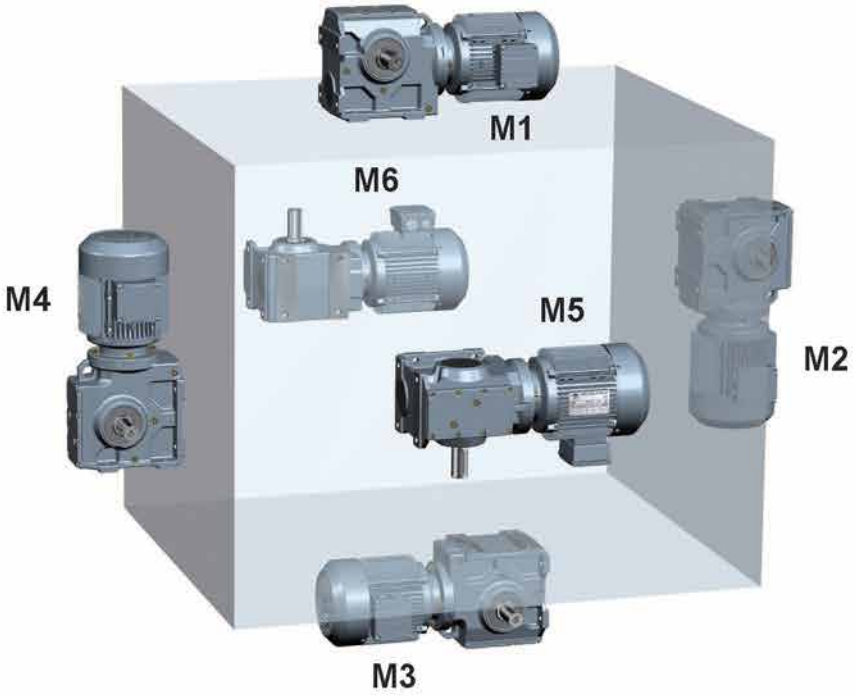


TS..	AD..	A	B3	C	C1	C2	D	D1	F	G	L2	L3	L4	L5	M1	S1	S2	S3
TS..38 TS..48 TS..58	AD1	120	102	-	-	-	16	-	5	18	40	4	32	-	-	M5X12.5	-	-
	AD2, AD2/ZR		130	50	8	13.5	19	55	6	21.5	40	4	32	12	80	M6X16	M8	9
TS..68	AD2, AD2/ZR	160	123	50	8	13.5	19	55	6	21.5	40	4	32	12	80	M6X16	M8	9
	AD3, AD3/ZR		159	60	8	15.5	24	70	8	27	50	5	40	16	105	M8X19	M10	11
TS..78	AD2, AD2/ZR	200	116	50	8	13.5	19	55	6	21.5	40	4	32	12	80	M6X16	M8	9
	AD3, AD3/ZR		151	60	8	15.5	24	70	8	27	50	5	40	16	105	M8X19	M10	11
	AD4, AD4/ZR		224	95.5	13	16	38	100	10	41	80	5	70	20	130	M12X28	M12	13.5
TS..88	AD2, AD2/ZR	250	111	50	8	13.5	19	55	6	21.5	40	4	32	12	80	M6X16	M8	9
	AD3, AD3/ZR		156	70	8	15.5	28	70	8	31	60	5	50	16	105	M8X19	M10	11
	AD4, AD4/ZR		219	95.5	13	16	38	100	10	41	80	5	70	20	130	M12X28	M12	13.5
	AD5, AD5/ZR		292	126	11	24	42	120	12	45	110	10	70	20	180	M16X36	M12	13.5
TS..98	AD3, AD3/ZR	300	151	70	8	15.5	28	70	8	31	60	5	50	16	105	M8X19	M10	11
	AD4, AD4/ZR		214	95.5	13	16	38	100	10	41	80	5	70	20	130	M12X28	M12	13.5
	AD5, AD5/ZR		287	126	11	24	42	120	12	45	110	10	70	20	180	M16X36	M12	13.5
	AD6, AD6/ZR		327	130.5	11	22.5	48	130	14	51.5	110	10	80	26	200	M16X36	M16	17.5

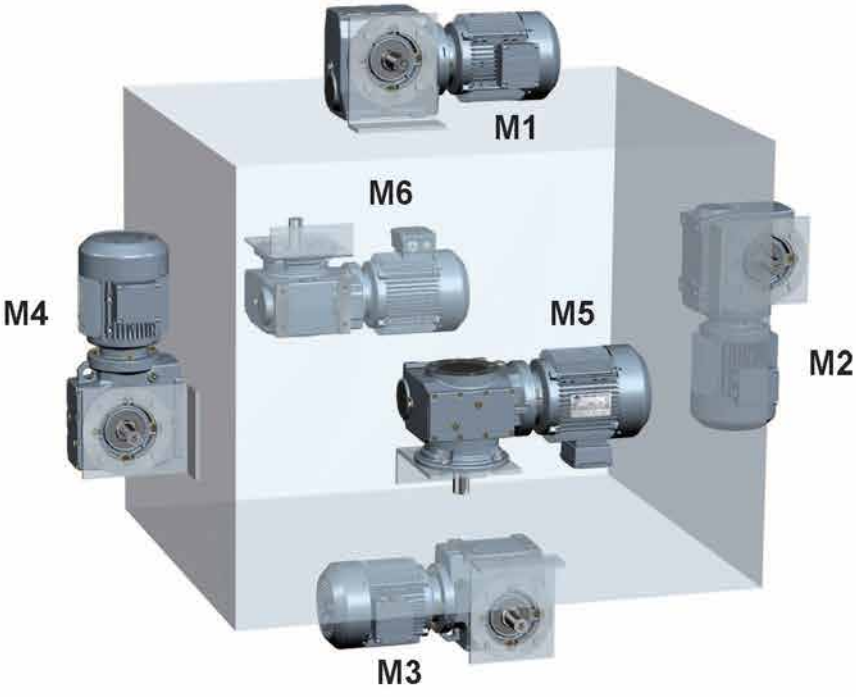
8. MOUNTING POSITIONS

8.1 Mounting position designation

Differentiates between six mounting positions M1 ... M6 for gear units. The following figure shows thespatial orientation of the gearmotor in mounting positions M1 ... M6.



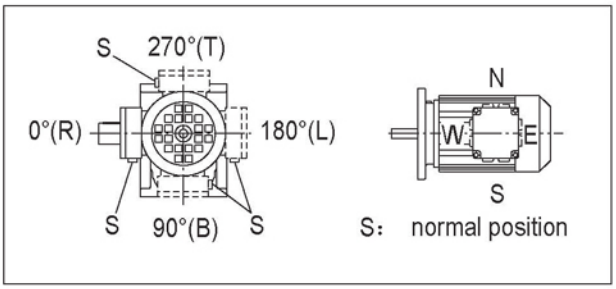
TS..

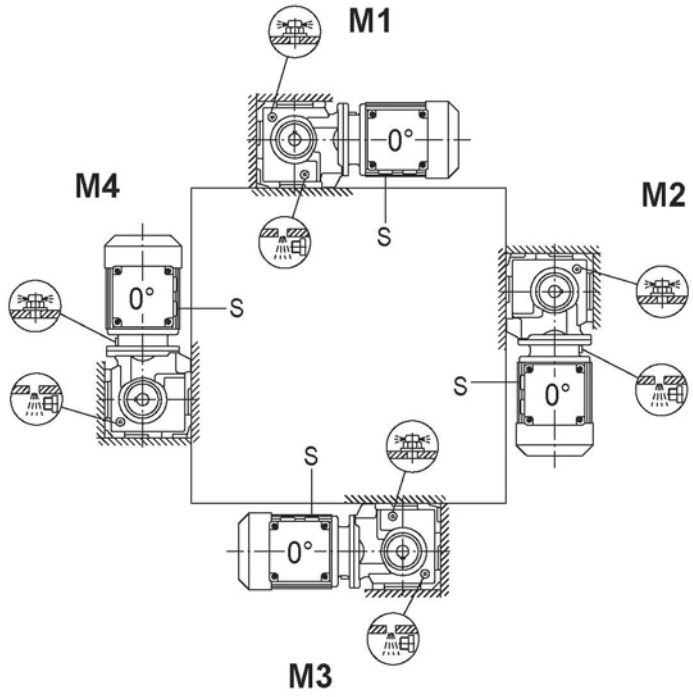


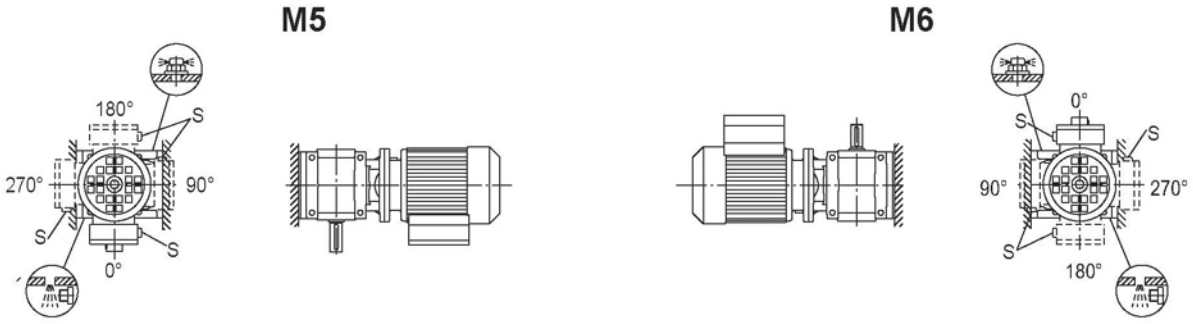
8.2. *Mounting positions for helical-worm gearmotors*

TS38

Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug



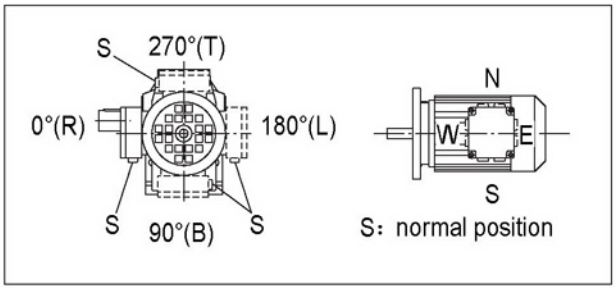


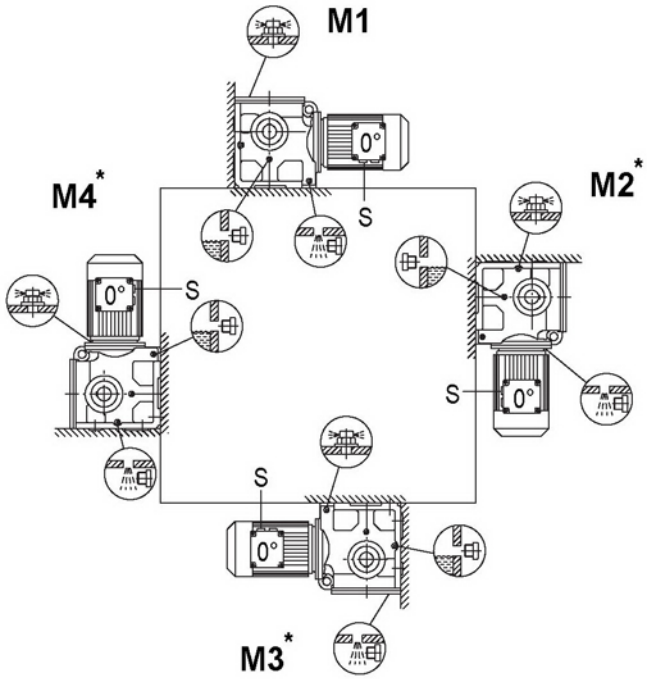


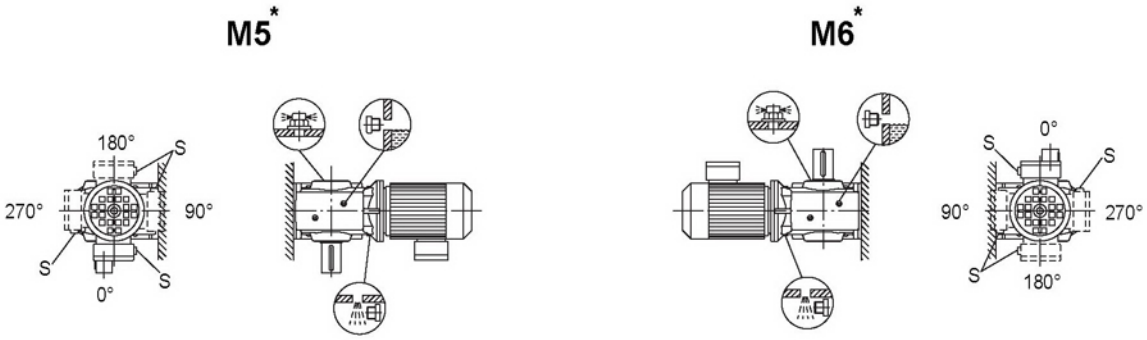
Important: Please refer to the information in the 'Geared Motors' catalog, Sec. (page 119).

TS48-TS98

Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug







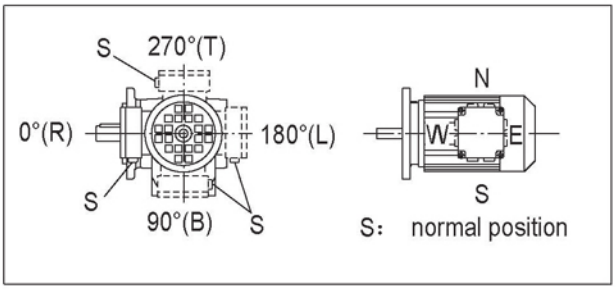
Mounting position	Gear unit size	Input speed [r/min]
M2*,M3*,M4*,M5*,M6*	78...98	>2500

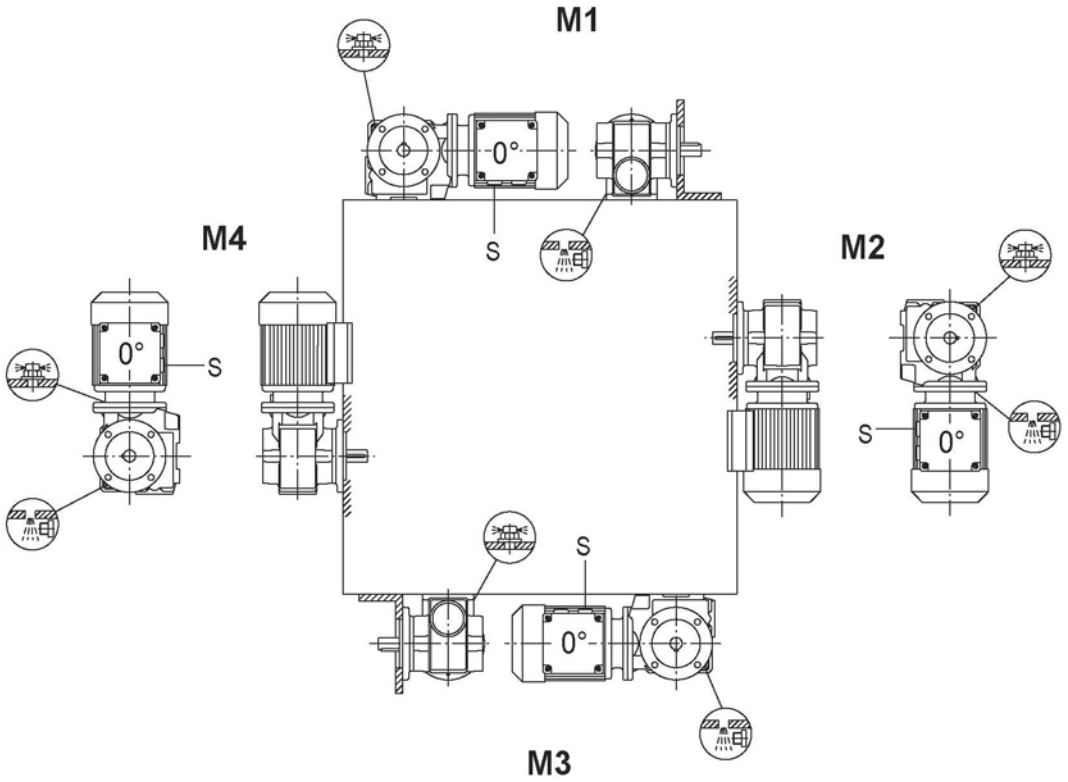
Important: Please refer to the information in the 'Geared Motors' catalog, Sec(page 119).

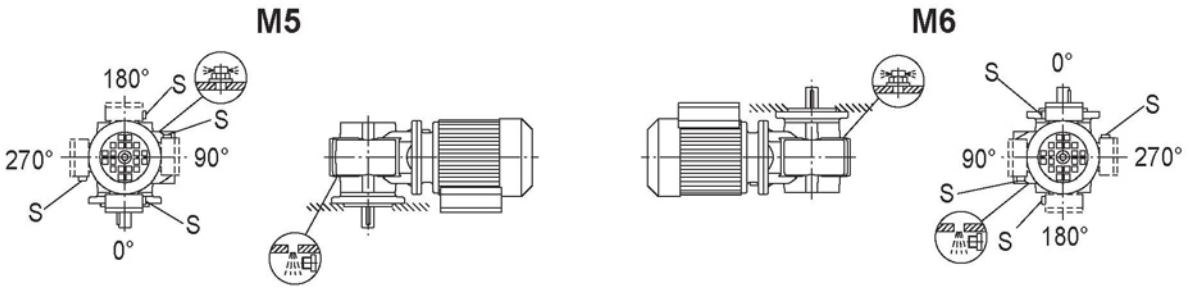
Increased churning losses may arise in some mounting positions. Contact us in case of the above-mentioned combinations.

TSF/TSAF/TSHF38

Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug

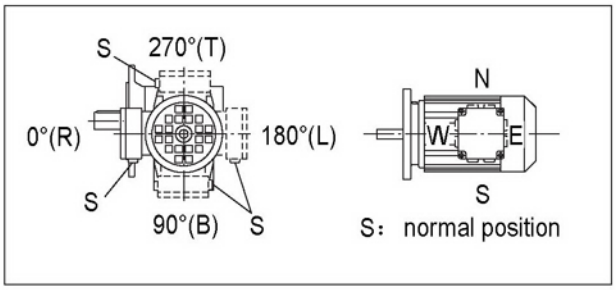


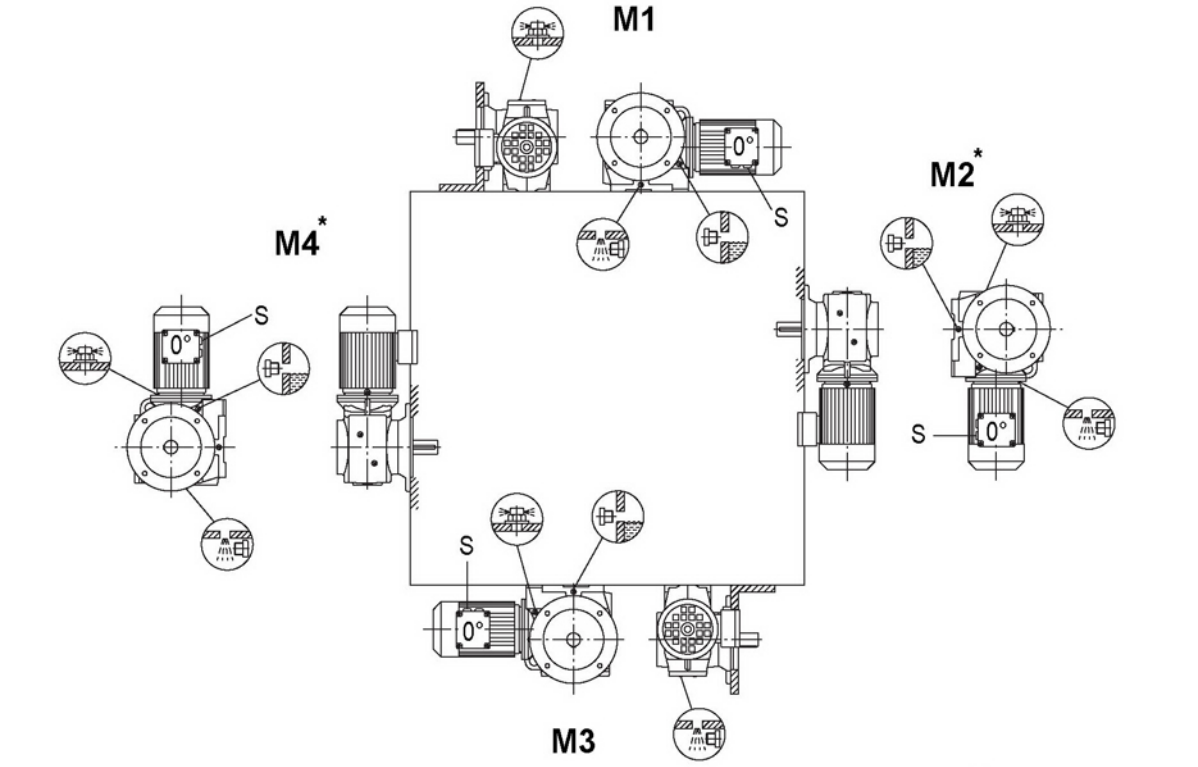


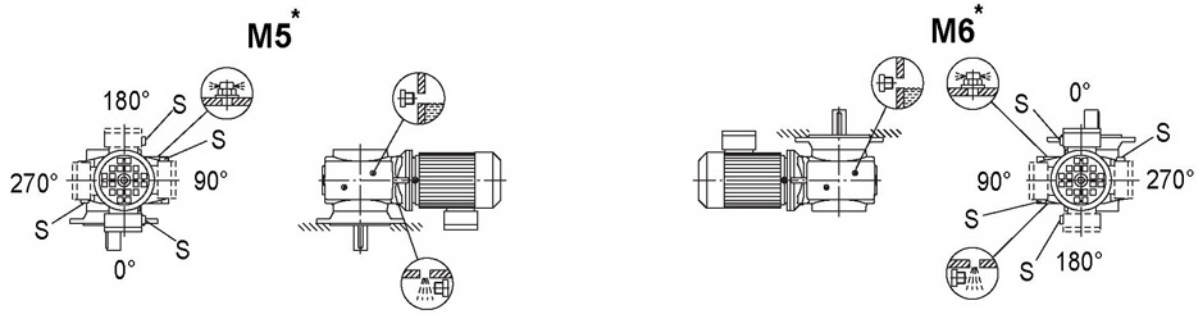


TSF/TSAF/TSHF/TSAZ/TSHZ48-98

Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug





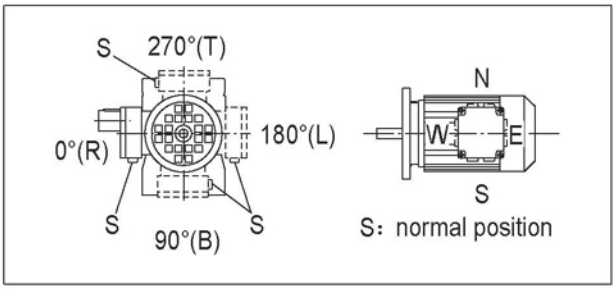


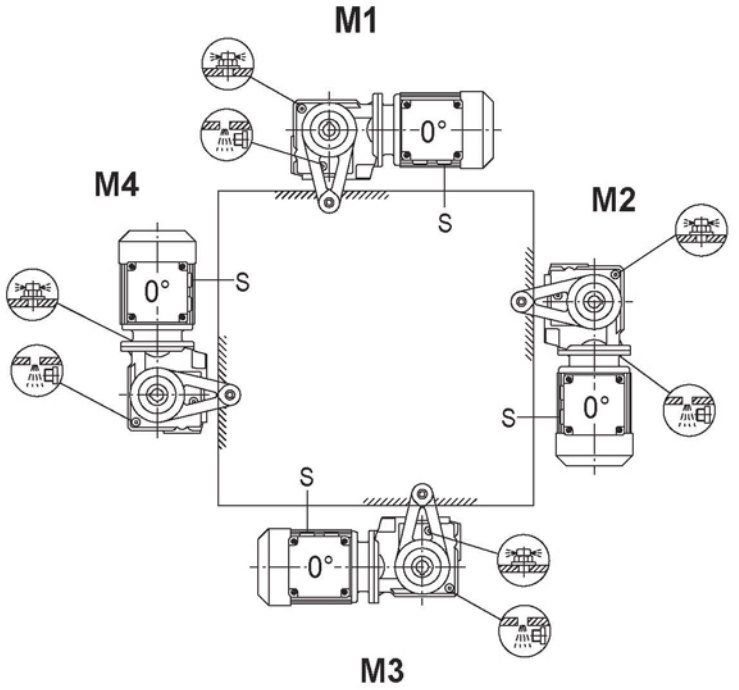
Mounting position	Gear unit size	Input speed [r/min]
M2*,M4*,M5*,M6*	78...98	>2500

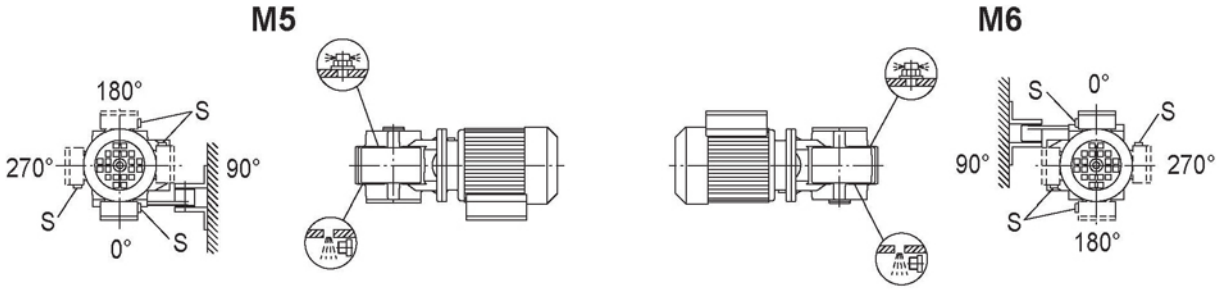
Increased churning losses may arise in some mounting positions. Contact us in case of the above-mentioned combinations.

TSA/TSH38

Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug

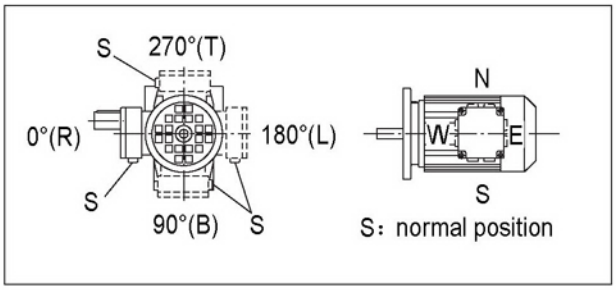


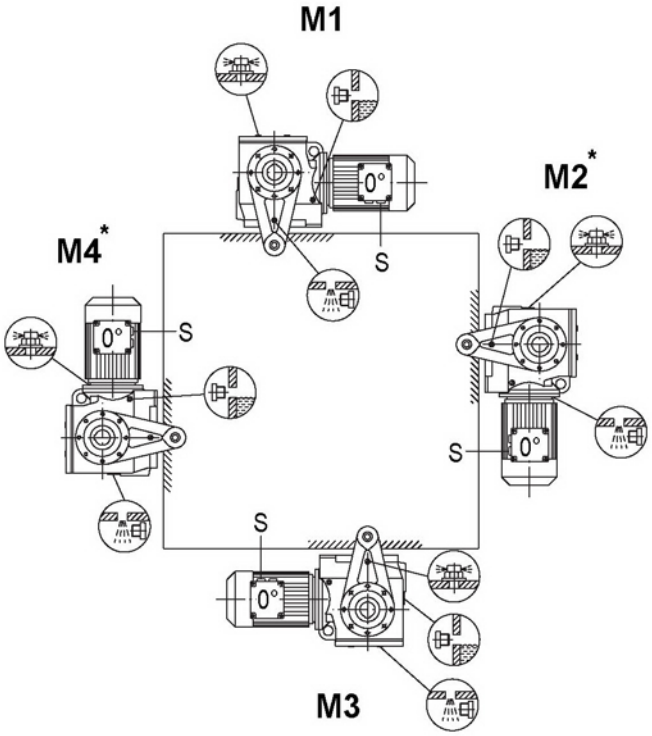


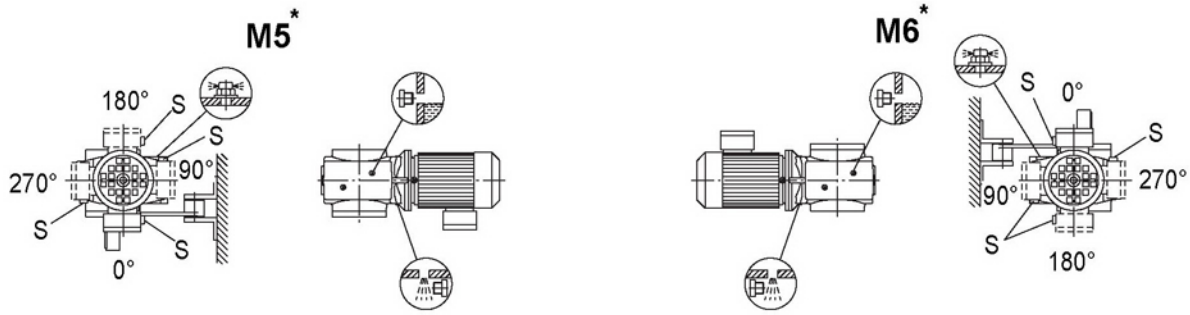


TSA/TSH48-98

Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug







Mounting position	Gear unit size	Input speed [r/min]
M2*,M4*,M5*,M6*	78...98	>2500

Increased churning losses may arise in some mounting positions. Contact us in case of the above-mentioned combinations.

The data refer to the radial force acting midway on the shaft end (with right-angle gear units on the A-side output). Worst case conditions have been assumed for the force application angle α and the direction of rotation.

1. only 50% of the F_{r2} value specified in the selection tables is permitted in mounting position M_1 with wall attachment on the front face for **TS** gear units

8.3 Direction of rotation

If the drive has a backstop RS,it is also necessary to stipulate the direction of rotation of the drive .The following definition applies ,looking onto the output shaft:

Clocwise(CW)=Rotating clockwise

Counterclockwise(CW)=Rotating clockwise

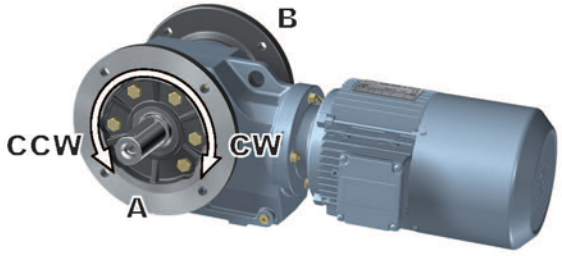


Figure :Direction of rotation of the output.

In right-angle gear units it is also necessary to stipulate whether the direction of rotation is given looking onto the A or B end.

8.4 Position of the output shaft and the output flange

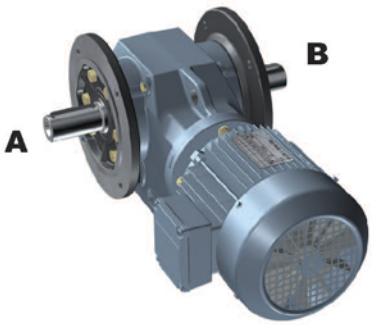


Figure:Position of the output shaft and the output flange

In right-angle gear units ,it is also necessaty to stipulate the position of the output shaft and the output flange:

A or **B** or **A+B**

8.5 Position of the connection end in right-angle gear units

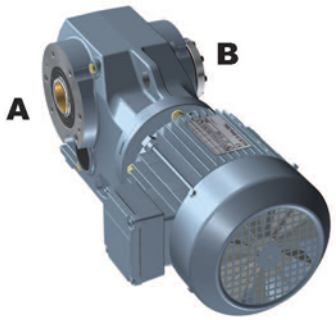


Figure:Position of the connection end

In shaft mounted right-angle gear unit with a shrink disk, it is also necessary to stipulate whether the **A** or **B** end is the connection end . In Figure 12,the **A** end is the connection end ,the shrink disk is located opposite to the connection end.

8.6 Sample orders

TYPE (examples)	Mounting position	Shaft with	Flange with	Connection end	Position of shrink disk	Position of terminal box	Position	Direction of rotation of the output
TS78MY100L4	M6	A+B	-	-	-	90°	'N'	CW
TSA98MY100M6	M4	-	-	B	-	270°	'E'	-
TSH58MY90S4	M1	-	-	A	B	180°	'N'	-

9. INSTALLATION METHODS

9.1. Preparation before the installation:

a). Check if the data on the nameplates of the gearmotor matches the voltage supply system.

b). Check if the drive has not been damaged during transportation and storage.

c). For standard gear unit, the ambient temperature must be in accordance with the corresponding lubricant table.

d). The drive must not be assembled in conditions such as oil, gas, vapors, acids, radiation and so on.

e). Output shaft and flange surfaces must thoroughly cleaned to ensure they are free of anti-corrosion agents, contamination or similar. Use a commercially available solvent. Do not let the solvent come into contact with the sealing lip of the oil seals, or will damage the material!

f). The supporting structure must have the following characteristics: level, vibration damping and torsionally rigid.

g). So as to prevent the tolerance of fit of gear units from damaging, the parts assembled on the gear units must be worked as specified tolerance according to **ISOH7**.

9.2. the installation of the gear units:

a). Do not tighten the housing legs and mounting flanges against one another and ensure that you comply with the permitted radial load and axial load.

b). Never drive belt pulleys, couplings, pinions, etc. onto the shaft end by hitting them with a hammer. This will damage the bearing, housing and the shaft.

c). When installing the **IEC** couplings, remove the key from the motor shaft and replace it with the supplied key. Secure key and coupling half using grub screw and tighten to the motor shaft. Seal the contact surface between the adapter and motor using a suitable sealing compound.

d). Prior to startup, check that if the oil level is as specified for the mounting position. if the oil checking and drain screw and the breather valves are free accessible.

10. LUBRICATION

10.1 Types of lubrication

	℃ -50 0 +50 +100	ISO	SHELL	MOBIL	BP	lubrication type
TS..	Standard 0 +40	VG680	Shell Omala 680	Mobilgear 636	BP Energol GR-XP 680	Mineral oil
	-20 +10	VG 150 VG 100	Shell Omala 100	Mobilgear 627	BP Energol GR-XP 100	
	-20 +60	VG 680 1)	Shell Tivela S 680		BP Energol GR-XP 680	Synthetic oil
	-30 +80	VG 460	Shell Omala HD 460	Mobil SHC 634		
	-40 +10	VG 150	Shell Omala HD 150	Mobil SHC 629		
	-25 +40	VG 220 1)	Shell Tivela S 220	Mobil Glygoyle 30		
	-40 0	VG 32		Mobil SHC 624		

10.2 Lubricant fill quantity

The specified fill quantities are recommended values. The precise values vary depending on the number of stages and gear ratio. When filling, it is essential to check the oil level plug since it indicates the precise oil capacity. The following tables show guide values for lubricant fill quantities in relation to the mounting position M1 ~ M6.

TS.. :

Gear units	Fill quantity in liters (L)					
	M1	M2	M3**	M4	M5	M6
TS38	0.25	0.40	0.50	0.55	0.40	0.40
TS48	0.35	0.80	0.70/0.90	1.00	0.80	0.80
TS58	0.50	1.20	1.00/1.20	1.45	1.30	1.30
TS68	1.00	2.0	2.2/3.1	3.1	2.6	2.6
TS78	1.90	4.2	3.7/5.4	5.9	4.4	4.4
TS88	3.3	8.1	6.9/10.4	12.0	8.4	8.4
TS98	6.8	15.0	13.4/18.0	22.5	17.0	17.0

** The large gear unit of multi-stage gear units must be filled with the larger oil volume.

TSF.. :

Gear units	Fill quantity in liters (L)					
	M1	M2	M3**	M4	M5	M6
TSF38	0.25	0.40	0.50	0.55	0.40	0.40
TSF48	0.40	0.90	0.90/1.10	1.05	1.00	1.00
TSF58	0.50	1.20	1.00/1.50	1.55	1.40	1.40
TSF68	1.00	2.2	2.2/3.0	3.2	2.7	2.7
TSF78	1.90	4.1	3.9/5.8	6.5	4.9	4.9
TSF88	3.8	8.0	7.1/10.1	12.0	9.1	9.1
TSF98	7.4	15.0	13.8/18.8	23.6	18.0	18.0

** **The large gear unit of multi-stage gear units must be filled with the larger oil volume.**

TSA..,TSH..,TSAF..,TSHF..,TSAZ..,TSHZ.. :

Gear units	Fill quantity in liters (L)					
	M1	M2	M3**	M4	M5	M6
TS..38	0.25	0.40	0.50	0.50	0.40	0.40
TS..48	0.40	0.80	0.70/0.90	1.00	0.80	0.80
TS..58	0.50	1.10	1.00/1.50	1.50	1.20	1.20
TS..68	1.00	2.0	1.80/2.6	2.9	2.5	2.5
TS..78	1.80	3.9	3.6/5.0	5.8	4.5	4.5
TS..88	3.8	7.4	6.0/8.7	11.2	8.0	8.0
TS..98	7.0	14.0	11.4/16.0	21.0	15.7	15.7

** **The large gear unit of multi-stage gear units must be filled with the larger oil volume.**

11. MAINTENANCE

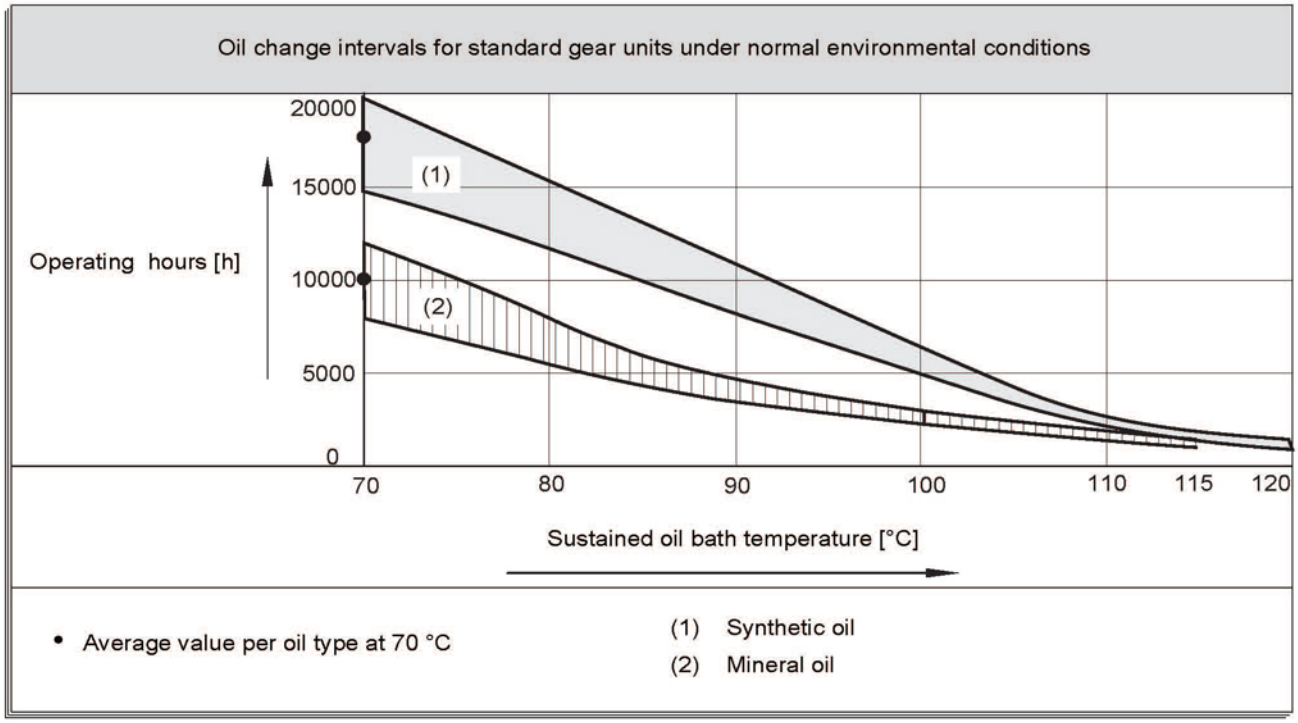
1). For gear units, first oil change should be after about 300 hours (run-in period). The right lotion is required to clean the gear units with care. Never mix the synthetic oil and mineral oil together.

2). Every 3000 working time, at least every 6 months, you have to check the oil and oil level, the seals visually for leakage. For **IEC** input gear units, the elastomer should be tested or replaced if necessary.

3). Depending on the operating conditions (see chart below), every 3 years at the latest for inspection is needed. Then change the mineral oil and replace the bearing grease.

4). Depending on the operating conditions, change the oil seals on output shaft.

5). Once the malfunctions appear, stop disassembling the parts, and firstly please contact the customer service (the information about specification, delivery date, series number, time used, name of machine, machine manufacturer, malfunction problems is required) , then take the reasonable measures.



12. STORAGE

1). Under roof, protected against rain and snow, no shock loads.

2). Underlay the block and other material between the ground and equipment.

3). The opened but not used gear units should be added with the anti-corrosive oil on its surface, and then return to the packing containers timely.

4). Two years or more given regular inspections. Check for cleanliness and mechanical damage as part of the inspection,Check corrosion protection.

13. NOTICE FOR ORDER

Please offer the following information when place the orders:

1). the model mark of the gear units(type, ratio, power and mounting position).

2). gear units are available with "blue/gray" painting optionally.Unless specified, it offers the blue painting as standard.

3). quantity ordered.

4). other special requirements.

5). company, contact and telephone.

14. MALFUNCTIONS

14.1 Gear unit malfunctions

Problem	Possible cause	Remedy
Unusual, regular running noise	A. Meshing/grinding noise: Bearing damage. B. Knocking noise: Irregularity in the gearing	A. Check the oil, change bearings B. Contact customer service
Unusual, irregular running noise	Foreign bodies in the oil	• Check the oil • Stop the drive, contact customer service
Oil leaking1) • From the gear cover plate • From the motor flange • From the motor oil seal • From the gear unit flange • From the output end oil seal	A. Rubber seal on the gear cover plate leaking B. Seal defective C. Gear unit not vented	A. Tighten the bolts on the gear cover plate and observe the gear unit. Oil still leaking:Contact customer service B. Contact customer service C. Vent the gear unit (see "Mounting Positions")
Oil leaking from breaking valve	A. Too much oil B. Drive operated in incorrect mounting position C. Frequent cold starts(oil foams) and/or high oillevel	A. Correct the oil level (see Sec. "Inspection and Maintenance") B. Mount the breather valve correctly (see Sec."Mounting Positions")and correct the oil level(see"Lubricants")
Output shaft does not turn although the motor is running or the input shaft is rotated	Connection between shaft and hub in gear unit interrupted	Send in the gear unit/gearmotor for repair

1) Short-term oil/grease leakage at the oil seal is possible in the run-in phase (24 hours running time).

14.2 IEC couplings malfunctions

Problem	Possible cause	Remedy
Unusual, regular running noise	Meshing/grinding noise: Bearing damage	Contact our company customer service
Oil leaking	Seal defective	Contact our company customer service
Output shaft does not turn although the motor is running or the input shaft is rotated	Connection between shaft and hub in gear unit interrupted	Send the gear unit to our company for repair.
Change in running noise and / or vibrations occur	A. Annular gear wear, short-term torque transfer through metal contact B. Bolts to secure hub axially are loose.	A. Change the annular gear B. Tighten the bolts
Premature wear in annular gear	A. Contact with aggressive fluids / oil; ozone influence; too high ambient temperatures etc, which can cause a change in the physical properties of the annular gear. B. Impermissibly high ambient/contact temperature for the annular gear; maximum permitted temperature –20 °C to +80 °C. C. Overload	Contact our company customer service

15. Charge Characteristic Chart (for reference)

AIR BLOWERS		Hoist gear assembly	A
Air blower(axial or radial)	A	Derrick gear assembly	B
Fan of cooling tower	B	Steering gear assembly	B
Induced draught fan	B	Moving gear assembly	C
Rotary piston type fan	B	LAND DREDGER	
Turbo-fan	A	Drum-type coveyer	C
CONSTRUCTION MACHINERY		Drum-type rotation wheel	C
Concrete mixer	B	Dredger head	C
Hoist	B	Powered crab	B
Road building machinery	B	Pump	B
Boring mill	B	Pump turning gear assembly	B
CHEMICAL MACHINERY		Moving gear assemhly (apron wheel)	C
Mixer (liquid)	A	Moving gear assembly (track)	B
Mixer (half liquid)	B	FOODSTUFF PROCESSING MACHINERY	
Centrifuge (heavy)	B	Placer or box filler	A
Centrifuge(light)	A	Cane crusher	A
** Cooling rolling drum	B	** Cane cutter	B
** Dry rolling drum	B	** Cane crasher	C
Mixer	B	Mixer	B
COMPRESSOR		Paste bucket	B
Piston type compressor	C	Packager	A
Turbo-compressor	B	Beet slicer	B
TRANSMISSION FREIGHTER		Beet washing machine	B
Pan conveyer	B	MOTOR AND CONVERSION EQUIPMENTS	
Balance lifter	B	Frequency converter	C
Trough conveyer	B	Motor	C
Ribbon conveyer (large piece)	C	Welding motor	C
Ribbon coveyer (small piece)	B	WASHING MACHINE	
Drum-type flour conveyer	A	Rolling drum	B
Chain conveyer	B	Washing machine	B
Ring type conveyer	B	METAL ROLLER MACHINE	
Lifter	B	** Steel cutter	C
Hoist	B	** Chain conveyer	B
Crank-connecting conveyer	B	** Cold mill	C
Lifter	B	Continuous casting equipments	B
Worm conveyer	B	** Cold bed	B
Steel-band conveyer	B	** Cropper	C
Chain reed-type conveyer	B	** Cross steering transmitter	B
Crab freighter	B	** Deruster	C
HOIST		** Heavy and medium steel mill	C
Bracket swing gear assembly	B	** Bar mill	C

BAR TRANSMISSION EQUIPMENTS	B	PUMPS	
Bar pusher	B	Centrifugal pump (thin liquid)	A
Push bed	B	Centrifugal pump (half liquid)	B
** Shears	C	Displacement pump	C
** Lumber elevator platform	B	Plunger pump	C
ROLL ADJUSTING EQUIPMENTS	B	Force pump	C
Roller leveling machine	B	PLASTIC EQUIPMENTS	
** Mill rolling way (heavy)	C	** Glazing press	B
** Mill rolling way (light)	B	** Ejecting press	B
** Sheet rolling mill	C	** Spiral extruding machine	B
** Trimming shears	B	** Mixing machine	B
Pipe welder	C	RUBBER EQUIPMENT	
Soldering machine(belt material and wire rod)	B	** Glazing press	B
Wire drawbench	B	** Ejecting press	C
METAL PROCESSING MACHINE TOOLS		** Mixing stir machine	B
Power shaft	A	Kneading machine	B
** Forging machine	C	** Roller machine	C
Drop hammer	C	STONE PORCELAIN CLAY PROCESSING EQUIPMENTS	
Machine tool and necessary	A		
Machine tool and main driving equipment	B	Ball crusher	B
Metal facing machine	C	** Ejecting press and breaker	C
Plate-leveling machine tool	C	Breaker	C
Backing-out punch	C	Brick press	C
Press machine tool	C	** Beating crusher	C
Cutting machine	B	** Converter	C
Sheet bending machine tool	B	** Cylinder mill	C
PETROLEUM PROCESSING MACHINERY		TEXTILE MACHINERY	
** Pump of oil pipe line	B	Feeding machine	B
Rotary drilling equipment	C	Loom machine	B
PAPERING MACHINE		Dyeing machine	B
** Glazing press	C	Purified drum	B
** Multilayer paper board machine	C	Welon machine	B
** Drying cylinder	C	WASTER TREATMENT EQUIPMENTS	
** Glazing cylinder	C	** Air blast	B
** Masher	C	Screw pump	B
** Mashing and breaking machine	C	WOOD PROCESSING MACHINE TOOL	
** Suction roll	C	Barker	C
** Wet paper roller machine	C	Facing machine	B
** Water absorbing roller machine	C	Saw bench	C
Welon machine	C	Wood processing machine tool	A

Note: A - Uniform load; B - Moderate shock load; C - Heavy shock load; ** - for 24hour system.

SHOW THE SERIES PRODUCTS

TR Series helical geared motors

TS Series helical-worm geared motors

TK Series helical-bevel geared motors

TF Series parallel shaft helical geared motors

G3 Series mini helical geared motors

TRC Series mini helical gear units

MHR Series worm gear units

UVL Series stepless speed variator

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