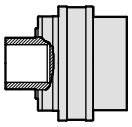
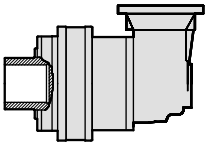
Size 160 - 184000 Nm

ST-160 Technical data



Stages	Ratio	$T_{2N(1.2M)}$ (1)	$T_{2N(6M)}$ (1)	T_{2Peak} (2)	n_{1N} (3)	n_{1Max} (4)	P_t (5)	η
	i	(Nm)	(Nm)	(Nm)	(rpm)	(rpm)	(kW)	(%)
1	3.91	184000	153000	276000	100	200	83	98
	4.94	143000	125000	214500	100	200	83	98
2	15.47	184000	153000	276000	800	1200	67	96
	19.81	184000	153000	276000	800	1200	67	96
	25.01	143000	125000	214500	800	1200	67	96
3	29.65	143000	125000	214500	1200	2000	47	94
	55.02	184000	153000	276000	1200	2000	47	94
	66.32	184000	153000	276000	1200	2000	47	94
	74.79	184000	153000	276000	1200	2000	47	94
	86.66	184000	153000	276000	1200	2000	47	94
	95.75	184000	153000	276000	1200	2000	47	94
	107.21	143000	125000	214500	1200	2000	47	94
	120.91	143000	125000	214500	1200	2000	47	94
	133.71	184000	153000	276000	1200	2000	47	94
	166.02	143000	125000	214500	1200	2000	47	94
	200.12	143000	125000	214500	1200	2000	47	94
4	250.53	184000	153000	276000	1500	2800	37	92
	327.36	184000	153000	276000	1500	2800	37	92
	386.42	184000	153000	276000	1500	2800	37	92
	438.64	184000	153000	276000	1500	2800	37	92
	487.96	143000	125000	214500	1500	2800	37	92
	519.93	184000	153000	276000	1500	2800	37	92
	574.48	184000	153000	276000	1500	2800	37	92
	624.68	143000	125000	214500	1500	2800	37	92
	684.72	143000	125000	214500	1500	2800	37	92
	725.43	143000	125000	214500	1500	2800	37	92
	793.33	143000	125000	214500	1500	2800	37	92
	840.50	143000	125000	214500	1500	2800	37	92
	969.43	184000	153000	276000	1500	2800	37	92
	1038.88	143000	125000	214500	1500	2800	37	92
	1203.68	143000	125000	214500	1500	2800	37	92
	1450.86	143000	125000	214500	1500	2800	37	92
5	1531.94	184000	153000	276000	1500	2800	27	90
	1604.90	143000	125000	214500	1500	2800	27	90
	1727.69	184000	153000	276000	1500	2800	27	90
	1811.16	184000	153000	276000	1500	2800	27	90
	1907.19	184000	153000	276000	1500	2800	27	90
	2001.73	184000	153000	276000	1500	2800	27	90
	2091.27	143000	125000	214500	1500	2800	27	90
	2181.66	143000	125000	214500	1500	2800	27	90
	2363.88	184000	153000	276000	1500	2800	27	90
	2476.47	143000	125000	214500	1500	2800	27	90
	2608.36	184000	153000	276000	1500	2800	27	90
	2792.91	143000	125000	214500	1500	2800	27	90
	2960.82	184000	153000	276000	1500	2800	27	90
	3900.44	143000	125000	214500	1500	2800	27	90
	5145.91	143000	125000	214500	1500	2800	27	90
	5888.65	143000	125000	214500	1500	2800	27	90
	6979.14	143000	125000	214500	1500	2800	27	90
	8124.82	143000	125000	214500	1500	2800	27	90
	9793.30	143000	125000	214500	1500	2800	27	90

SX-160 Technical data



Stages	Ratio	$T_{2N(1.2M)}$ (1)	$T_{2N(6M)}$ (1)	T_{2Peak} (2)	n_{1N} (3)	n_{1Max} (4)	P_t (5)	η
	i	(Nm)	(Nm)	(Nm)	(rpm)	(rpm)	(kW)	(%)
3	60.02	143000	125000	214500	1500	2500	45	94
	72.11	184000	153000	276750	1500	2500	45	94
	76.83	143000	125000	214500	1500	2500	45	94
	91.06	143000	125000	214500	1500	2500	45	94
	116.74	143000	125000	214500	1500	2500	45	94
	138.35	143000	125000	214500	1500	2500	45	94
4	256.76	184000	153000	276750	1500	2500	35	92
	328.69	184000	153000	276750	1500	2500	35	92
	390.80	143000	125000	214500	1500	2500	35	92
	440.74	143000	125000	214500	1500	2500	35	92
	500.30	143000	125000	214500	1500	2500	35	92
	564.22	143000	125000	214500	1500	2500	35	92
	653.72	143000	125000	214500	1500	2500	35	92
	787.97	143000	125000	214500	1500	2500	35	92
	933.89	143000	125000	214500	1500	2500	35	92
5	1183.67	184000	153000	276750	1500	2800	25	90
	1334.92	184000	153000	276750	1500	2800	25	90
	1440.05	143000	125000	214500	1500	2800	25	90
	1550.23	184000	153000	276750	1500	2800	25	90
	1685.69	143000	125000	214500	1500	2800	25	90
	1759.71	184000	153000	276750	1500	2800	25	90
	1880.74	143000	125000	214500	1500	2800	25	90
	1996.18	143000	125000	214500	1500	2800	25	90
	2205.01	143000	125000	214500	1500	2800	25	90
	2407.67	143000	125000	214500	1500	2800	25	90
	2656.68	143000	125000	214500	1500	2800	25	90
	3085.18	143000	125000	214500	1500	2800	25	90
	3949.56	143000	125000	214500	1500	2800	25	90
	4576.05	143000	125000	214500	1500	2800	25	90
	5423.46	143000	125000	214500	1500	2800	25	90
	6537.21	143000	125000	214500	1500	2800	25	90
	7899.13	143000	125000	214500	1500	2800	25	90

(1) T_{2N} values are calculated at $n_1=n_{1n}$, continuous duty cycle, uniform operation and KA=1 according to ISO 6336. $T_{2N(1.2M)}$ has been calculated for 1200000 of revolutions at the output shaft, and $T_{2N(6M)}$ has been calculated for 6000000 of revolutions at the output shaft. The application factor f_s must be considered for each duty cycle and machine type.

(2) T_{2Peak} is the maximum output torque the gearbox can tolerate during startups, inversions or other peaks. This value should never be used for continuous operation or for intermittent operation with frequent accelerations.

(3) n_{1n} is the rated input speed for continuous operation

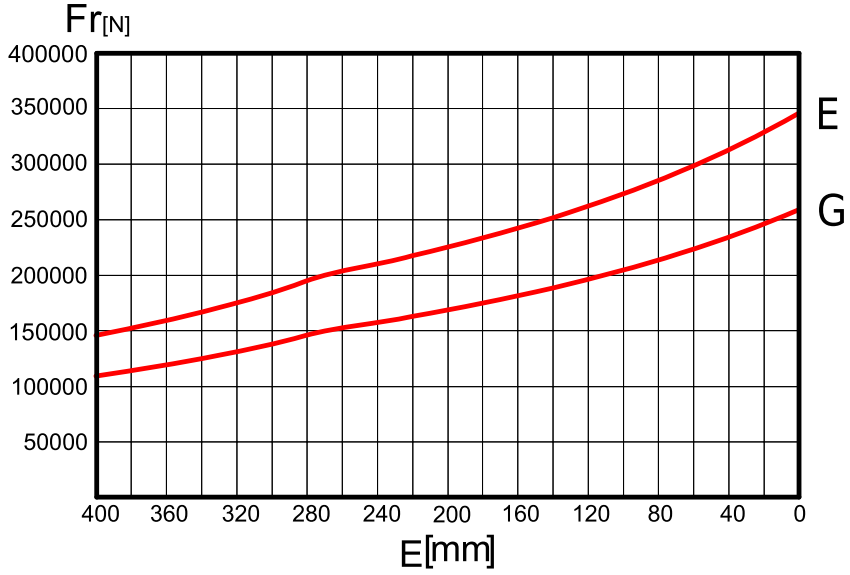
(4) n_{1max} is the maximum input speed for intermittent service. For continuous operation at speeds over n1n please inquire.

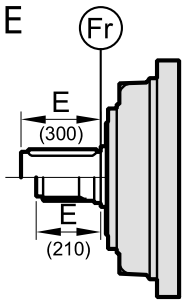
(5) Pt is the thermal power rating, that is the power in kW that, at 20°C, the gearbox can transmit during continuous operation, at $n_1=n_{1n}$ and lubricated with ISO-VG-220 oil without it exceeding 90°C. It depends on ambient temperature.

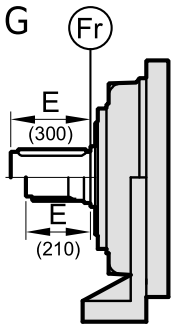
Output Shaft Radial Load Capacity

Radial Load Capacity is only given for gearboxes with solid shafts (Smooth Solid Shaft with Key (P) and DIN 5480 Splined Shaft (W)) for a design life of 6 million revolutions of the output shaft ($6 \cdot 10^6$). These values can be adjusted for other number of revolutions of the output shaft applying the Output Bearing Lifetime Factor (f_{obl})

Radial Load capacity depends on gearbox version and application point. Find the value for your machine using this chart.







Output Shaft Axial Load Capacity

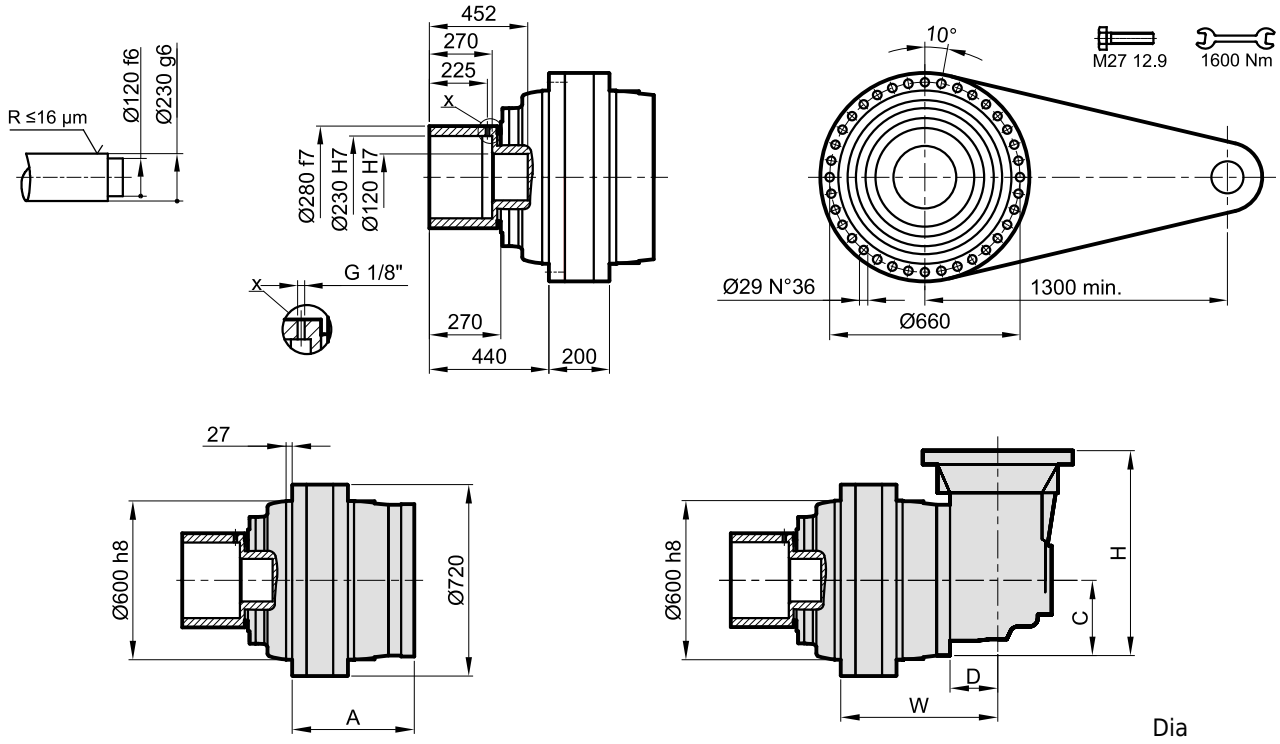
Axial Load Capacity is only given for gearboxes with solid shafts (Smooth Solid Shaft with Key (P) and DIN 5480 Splined Shaft (W)) for a design life of 6 million revolutions of the output shaft ($6 \cdot 10^6$). These values can be adjusted for other number of revolutions of the output shaft applying the Output Bearing Lifetime Factor (f_{obl})

Axial Load Capacity depends on the direction of the load:

	Push	Pull
F_a	75000 N	45000 N

Dimensions

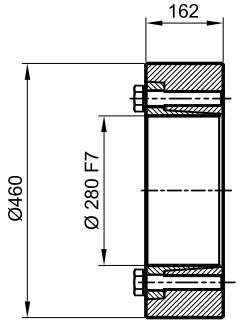
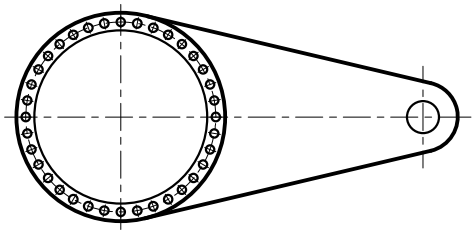
S□-E-160-□□-H230×452



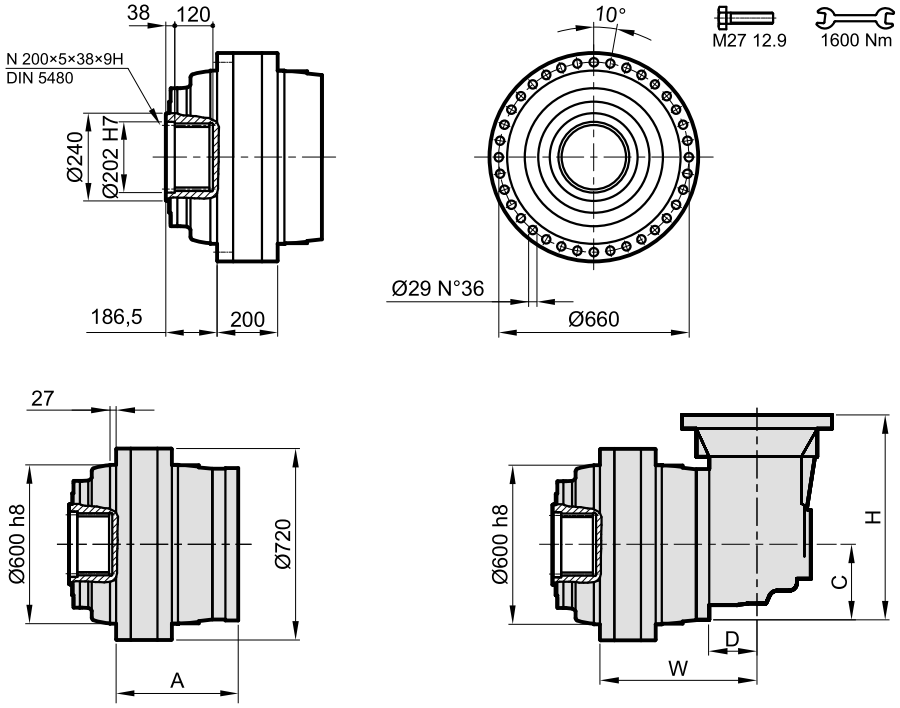
Dia

Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	336	-	-	-	-	695	-
2	564	-	-	-	-	894	-
3	671	-	-	-	-	944	-
4	743	743	121	172,5	457	961	1003
5	804	808	103	122	319	970	986

(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories	
SA-H-280	**SA-T-□-600-660-36×29-□-□**
 Max. Torque: 355 kNm Screw Tightening Torque: 1087 Nm	 See the chapter on Torque Arms

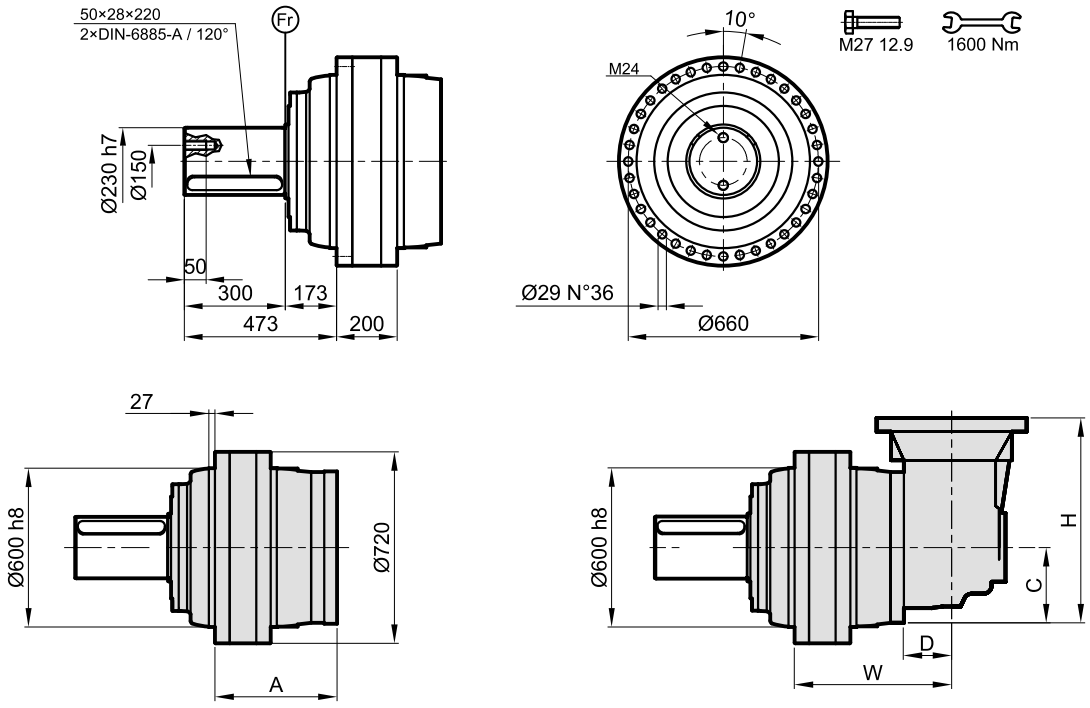
S□-E-160-□□-N200×158



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	336	-	-	-	-	626	-
2	564	-	-	-	-	825	-
3	671	-	-	-	-	875	-
4	743	743	121	172,5	457	892	934
5	804	808	103	122	319	901	917

(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

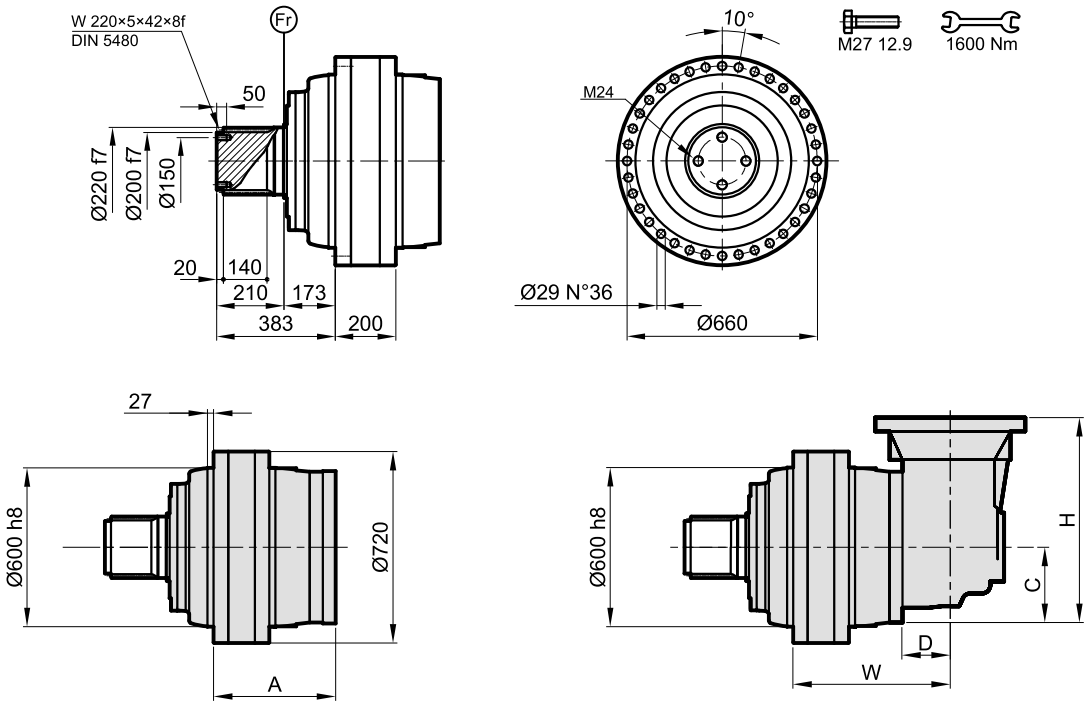
S□-E-160-□□-P230×300



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	336	-	-	-	-	830	-
2	564	-	-	-	-	1029	-
3	671	-	-	-	-	1079	-
4	743	743	121	172,5	457	1096	1138
5	804	808	103	122	319	1105	1121

(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

S□-E-160-□□-W220×210

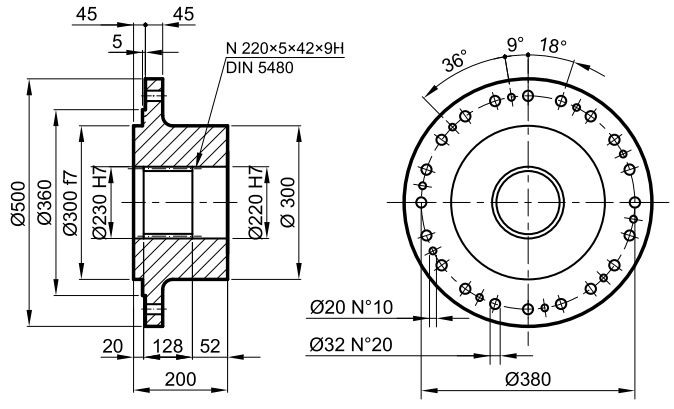


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	336	-	-	-	-	763	-
2	564	-	-	-	-	962	-
3	671	-	-	-	-	1012	-
4	743	743	121	172,5	457	1029	1071
5	804	808	103	122	319	1038	1054

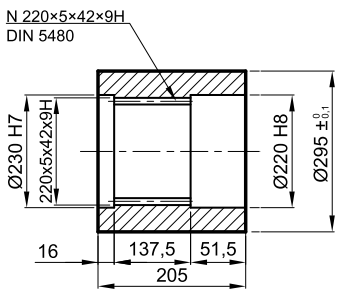
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

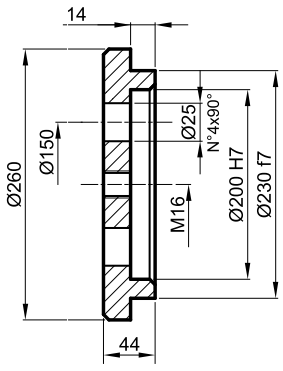
SA-F-220×5×42-S



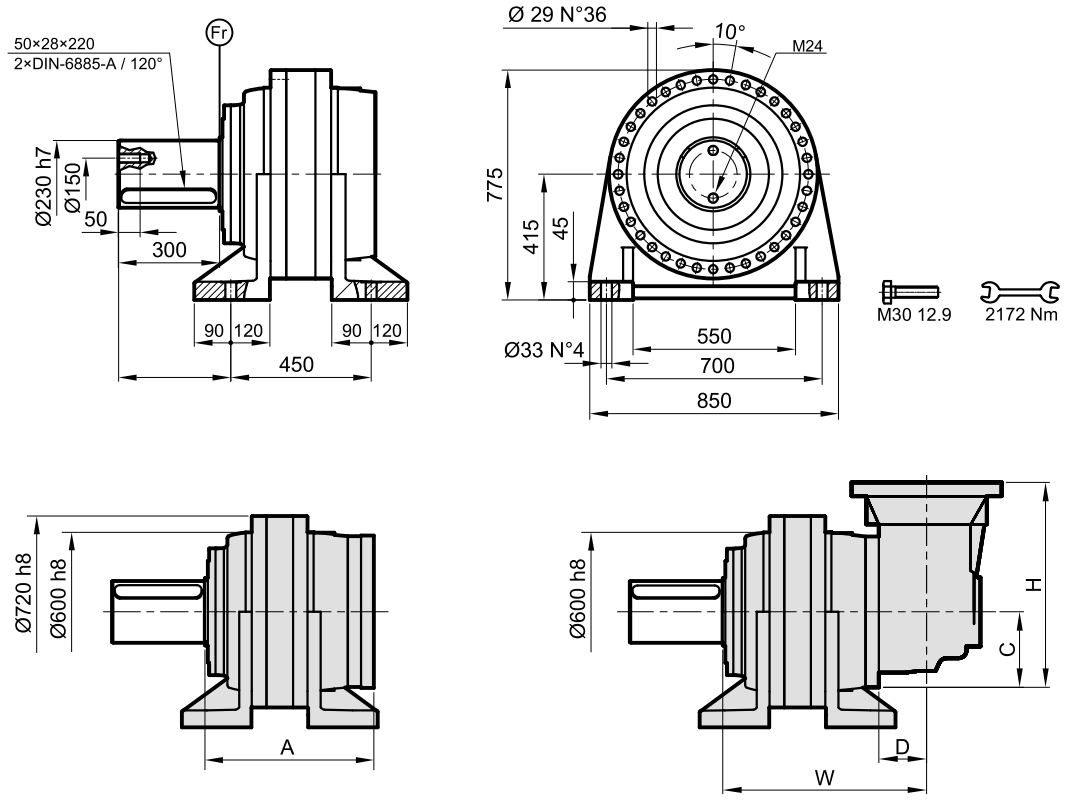
SA-B-220×5×42-S



SA-P-230



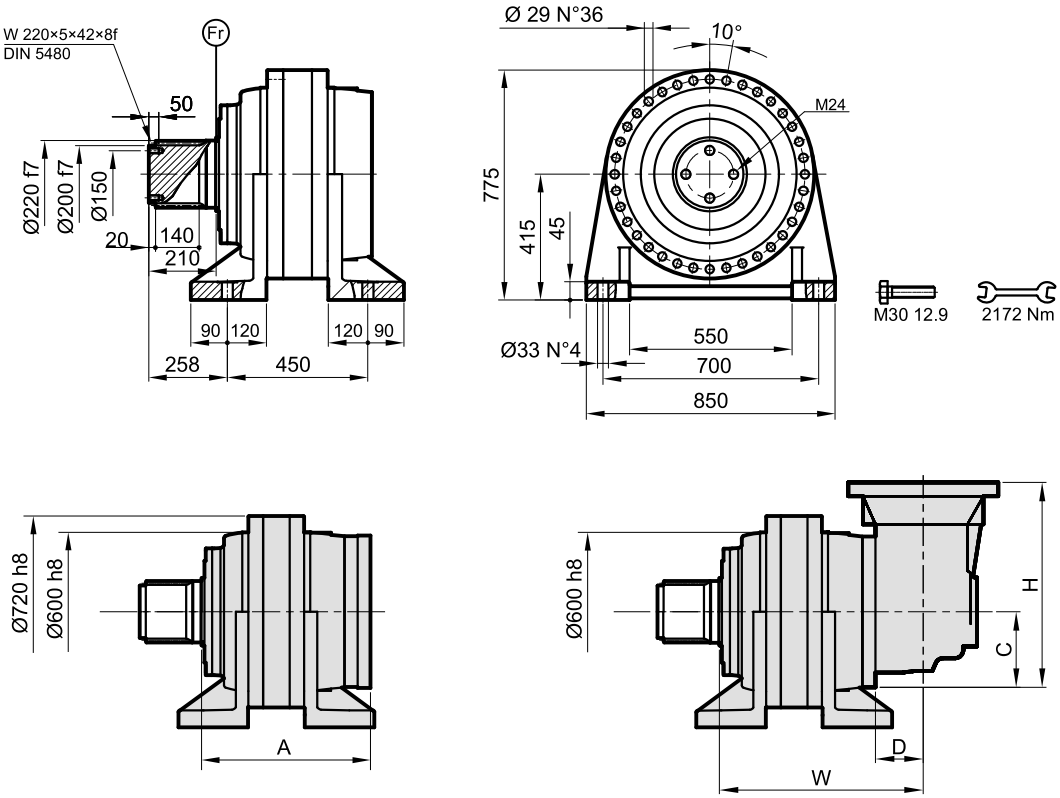
S□-G-160-□□-P230×300



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	474	-	-	-	-	902	-
2	702	-	-	-	-	1100	-
3	809	-	-	-	-	1151	-
4	881	881	121	172,5	457	1168	1210
5	942	946	103	122	319	1177	1193

(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

S□-G-160-□□-W220×210

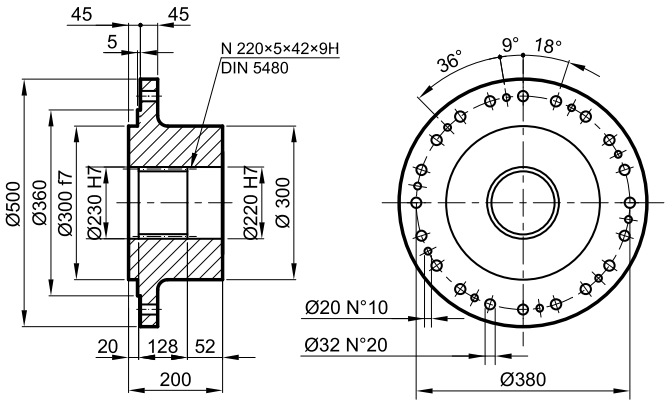


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	474	-	-	-	-	902	-
2	702	-	-	-	-	1100	-
3	809	-	-	-	-	1151	-
4	881	881	121	172,5	457	1168	1210
5	942	946	103	122	319	1177	1193

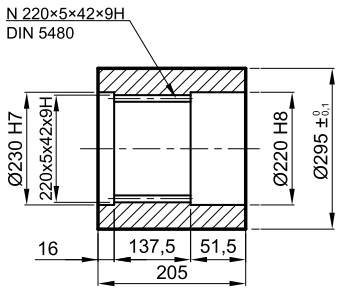
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

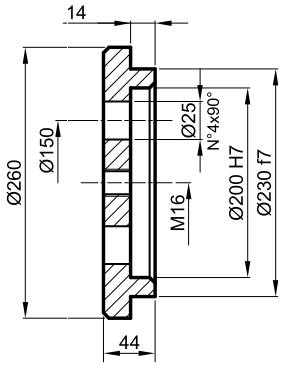
SA-F-220×5×42-S



SA-B-220×5×42-S

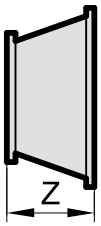


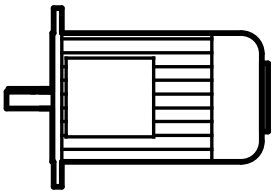
SA-P-230



Inputs

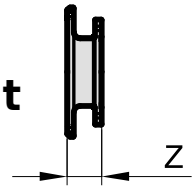
IEC Motor Input

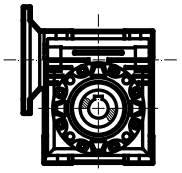




IEC	100	112	132	160	180	200	225	250	280	315
Stages	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
1	-	-	-	120.5	120.5	148.5	148.5	183.5	183.5	233
2	-	-	-	120.5	120.5	148.5	148.5	183.5	183.5	233
3	-	-	-	120.5	120.5	148.5	148.5	183.5	183.5	-
4	71	71	104	120.5	120.5	148.5	148.5	-	-	-
5	71	71	104	120.5	120.5	148.5	148.5	-	-	-

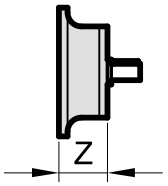
Worm Gearbox Input





Stages	SVS-050 SQS-050	SVS-063 SQS-063	SVS-075 SQS-075	SVS-090 SQS-090	SVS-110 SQS-110
	Z	Z	Z	Z	Z
1	-	-	-	-	-
2	-	-	-	-	-
3	-	-	-	-	95
4	80	80	57	57	57
5	80	80	57	57	57

Solid Shaft Input



Stages	E25×50 E28×50	E35×50 E42×82	E48×82.5 E65×105	E70×120 E80×130	E90×140 E100×140
	Z		Z	Z	Z
1	-		-	-	-
2	-		-	-	-
3	-		-	185	211
4	-		-	185	-
5	122		159	-	-