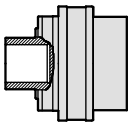
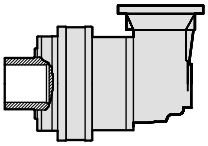
Size 180 - 339000 Nm

ST-180 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	4.00	339900	312170	441870	100	200	110	98
	4.57	282600	268600	367380	100	200	110	98
2	16.4	339900	312170	441870	500	750	80	96
	18.7	282600	268600	367380	500	750	80	96
	24.0	282600	268600	367380	500	750	80	96
3	65.4	339900	312170	441870	1000	1500	71	94
	96.0	282600	268600	367380	1000	1500	71	94
	116.8	282600	268600	367380	1000	1500	71	94
	150.0	282600	268600	367380	1000	1500	71	94
4	232.7	339900	312170	441870	1500	2800	50	92
	280.4	339900	312170	441870	1500	2800	50	92
	302.5	339900	312170	441870	1500	2800	50	92
	366.5	339900	312170	441870	1500	2800	50	92
	476.4	339900	312170	441870	1500	2800	50	92
	574.2	339900	312170	441870	1500	2800	50	92
	654.2	282600	268600	367380	1500	2800	50	92
	698.7	282600	268600	367380	1500	2800	50	92
	737.3	339900	312170	441870	1500	2800	50	92
	842.1	282600	268600	367380	1500	2800	50	92
5	959.8	339900	312170	441870	1500	2800	37	90
	1059.3	339900	312170	441870	1500	2800	37	90
	1142.7	339900	312170	441870	1500	2800	37	90
	1247.7	339900	312170	441870	1500	2800	37	90
	1384.4	339900	312170	441870	1500	2800	37	90
	1448.8	339900	312170	441870	1500	2800	37	90
	1562.8	339900	312170	441870	1500	2800	37	90
	1686.9	339900	312170	441870	1500	2800	37	90
	1799.7	339900	312170	441870	1500	2800	37	90
	1965.2	339900	312170	441870	1500	2800	37	90
	2169.3	339900	312170	441870	1500	2800	37	90
	2461.4	339900	312170	441870	1500	2800	37	90
	2650.3	339900	312170	441870	1500	2800	37	90
	2785.3	339900	312170	441870	1500	2800	37	90
	2966.9	339900	312170	441870	1500	2800	37	90
	3202.5	339900	312170	441870	1500	2800	37	90
	3445.4	339900	312170	441870	1500	2800	37	90
	3809.3	339900	312170	441870	1500	2800	37	90
	4423.7	339900	312170	441870	1500	2800	37	90
	5345.4	339900	312170	441870	1500	2800	37	90

SX-180 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)	(%)
4	231.7	339900	312170	441870	1500	2800	45	92
	297.4	339900	312170	441870	1500	2800	45	92
	386.6	339900	312170	441870	1500	2800	45	92
	464.6	339900	312170	441870	1500	2800	45	92
	505.1	339900	312170	441870	1500	2800	45	92
	693.5	282600	268600	367380	1500	2800	45	92
5	779.5	339900	312170	441870	1500	2800	40	90
	840.9	339900	312170	441870	1500	2800	40	90
	997.0	339900	312170	441870	1500	2800	40	90
	1018.8	339900	312170	441870	1500	2800	40	90
	1296.1	339900	312170	441870	1500	2800	40	90
	1324.4	339900	312170	441870	1500	2800	40	90
	1480.8	282600	312170	441870	1500	2800	40	90
	1596.4	339900	312170	441870	1500	2800	40	90
	1794.1	282600	268600	367380	1500	2800	40	90
	1892.8	339900	312170	441870	1500	2800	40	90
	1942.3	282600	268600	367380	1500	2800	40	90
	2049.7	339900	312170	441870	1500	2800	40	90
	2162.5	282600	268600	367380	1500	2800	40	90
	2460.6	339900	312170	441870	1500	2800	40	90
	2776.5	282600	268600	367380	1500	2800	40	90
	2993.8	282600	268600	367380	1500	2800	40	90
	3159.3	339900	312170	441870	1500	2800	40	90
	3378.9	282600	268600	367380	1500	2800	40	90
	3609.5	282600	268600	367380	1500	2800	40	90
	4338.3	282600	268600	367380	1500	2800	40	90
	5568.8	282600	268600	367380	1500	2800	40	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

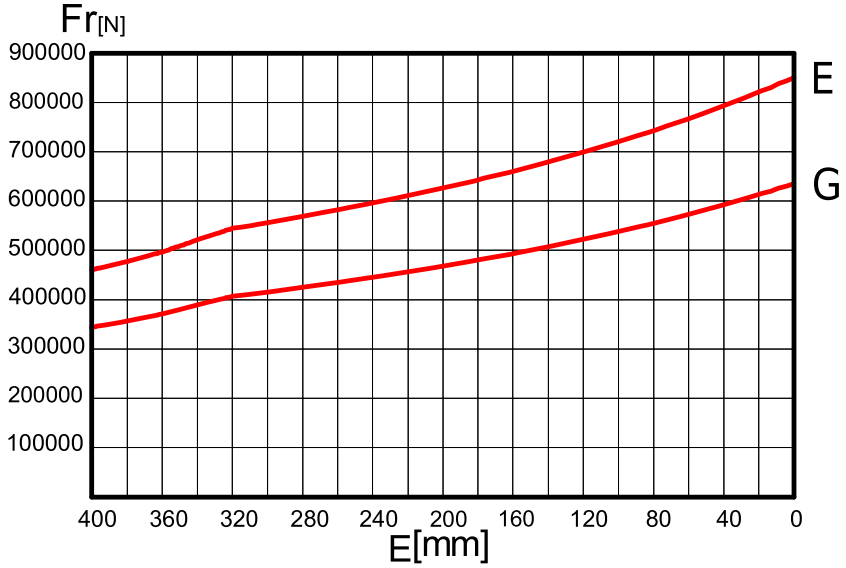
(4) n_{1max} is the maximum input speed for intermittent service. For continuous operation at speeds over n1n please inquire.

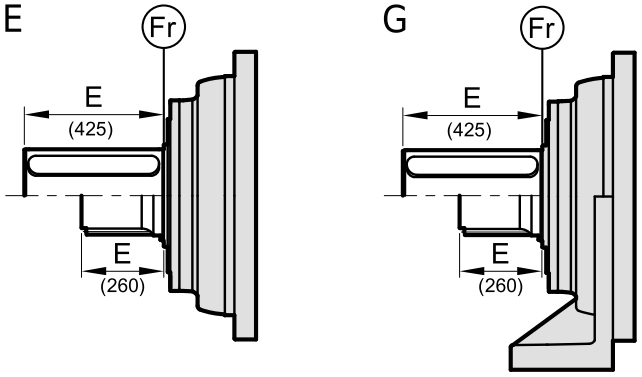
(5) Pt is the thermal power rating, that is the power in kW that, at 20°C, the gearbox can transmit during continuous operation, at $n_1=n_{1n}$ and lubricated with ISO-VG-220 oil without it exceeding 90°C. It depends on ambient temperature.

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

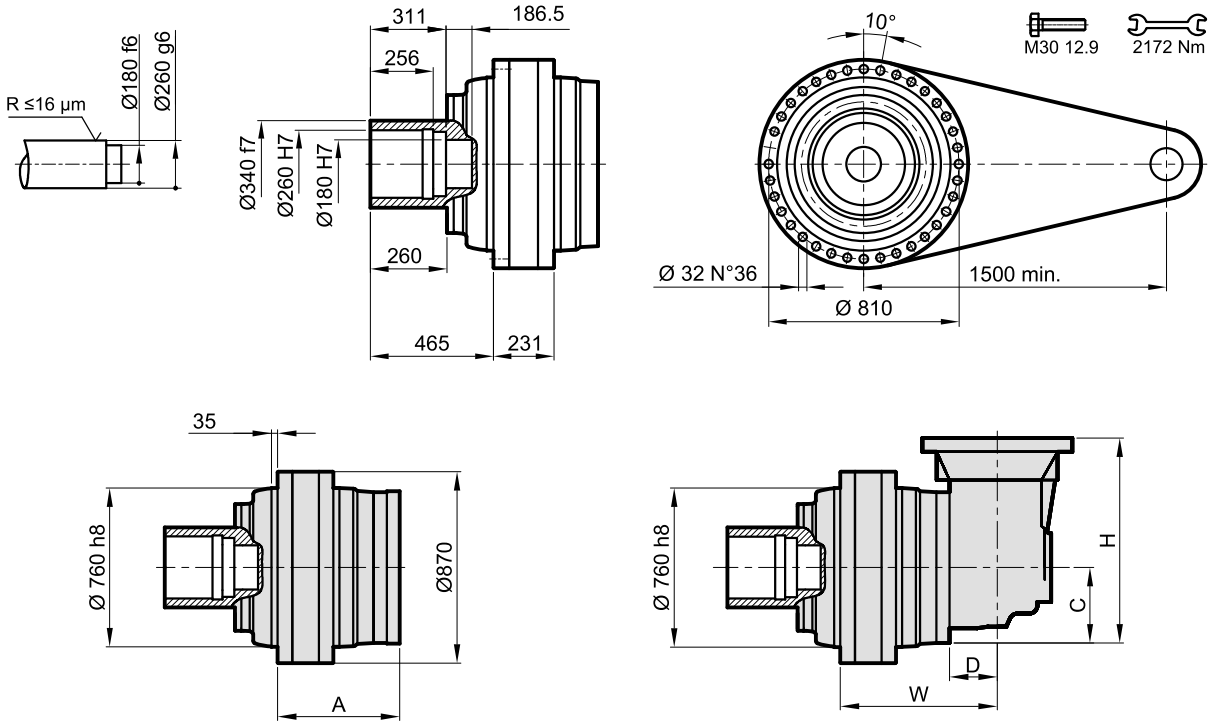
Axial Load Capacity is only given for gearboxes with solid shafts (Smooth Solid Shaft with Key (P) and DIN 5480 Splined Shaft (W)) for a design life of 6 million revolutions of the output shaft ($6 \cdot 10^6$). These values can be adjusted for other number of revolutions of the output shaft applying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

Axial Load Capacity depends on the direction of the load:

	Version	Push	Pull
F_a	E	110000 N	110000 N
	G	100000 N	80000 N

Dimensions

S□-E-180-□□-H260×497

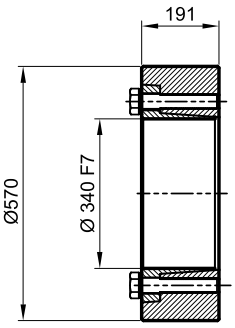


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	416	-	-	-	-	1285	-
2	689	-	-	-	-	1589	-
3	872	-	-	-	-	1709	-
4	965	994	225	205	569	1735	1826
5	1025	1028.5	118.5	140	390	1749	1787

(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.

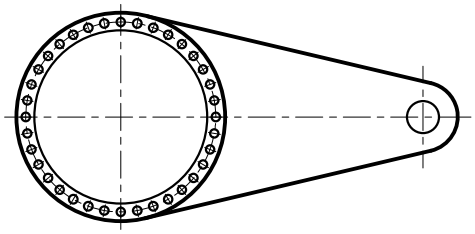
Accessories

SA-H-340



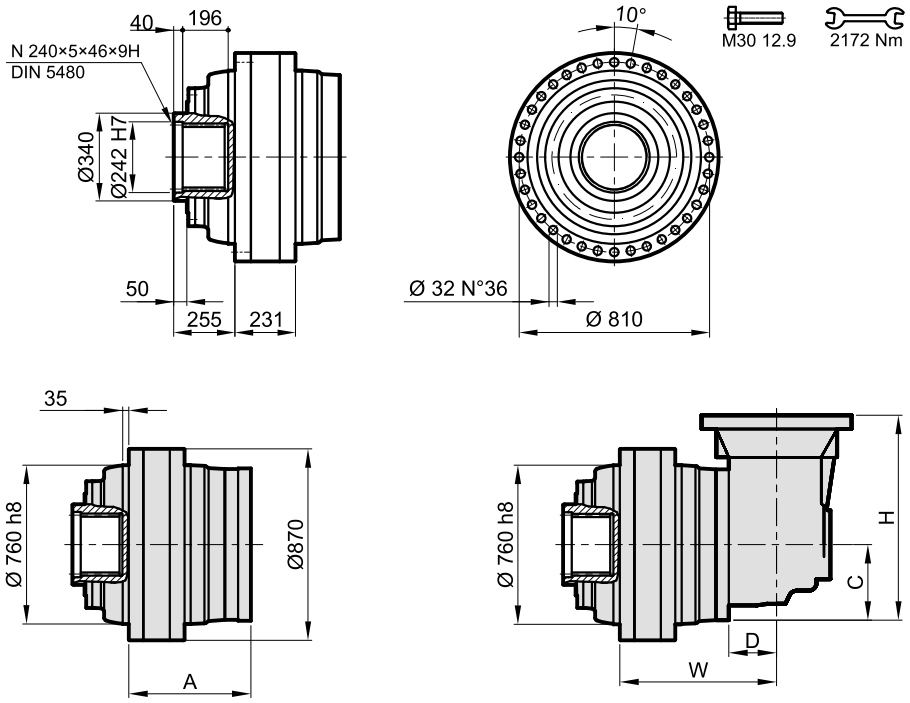
Max. Torque: 603 kNm
Screw Tightening Torque: 1600 Nm

SA-T-□-760-810-36×32-□-□



See the chapter on Torque Arms

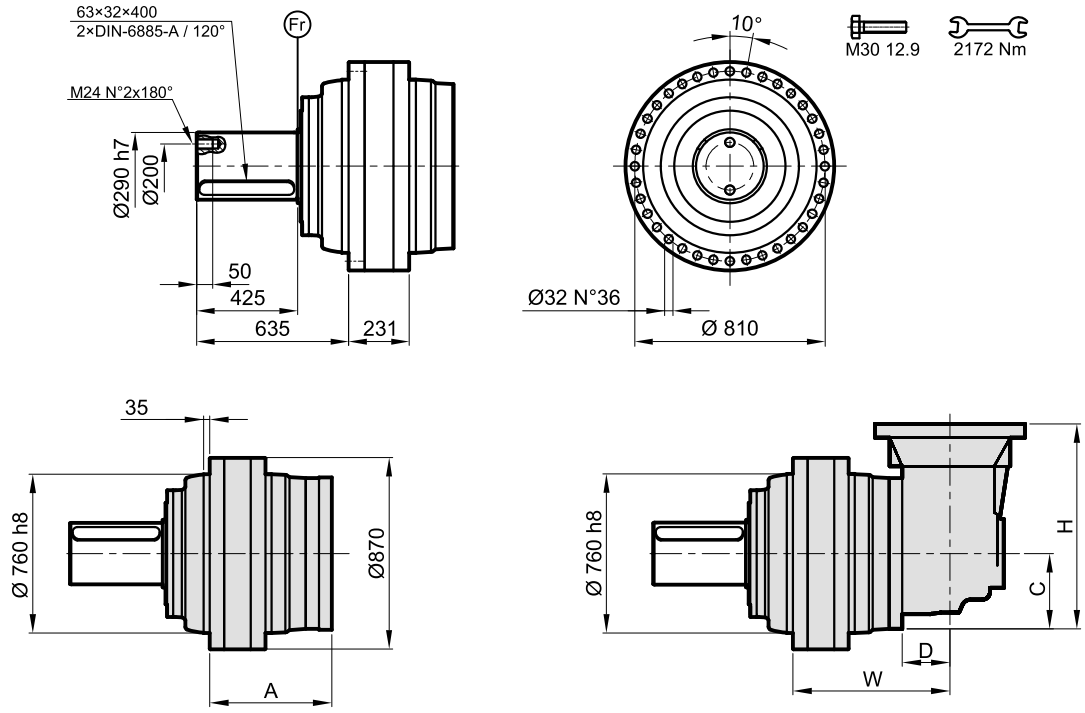
S□-E-180-□□-N240×236



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	416	-	-	-	-	1209	-
2	689	-	-	-	-	1513	-
3	872	-	-	-	-	1633	-
4	965	994	225	205	569	1659	1750
5	1025	1028.5	118.5	140	390	1673	1711

(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.

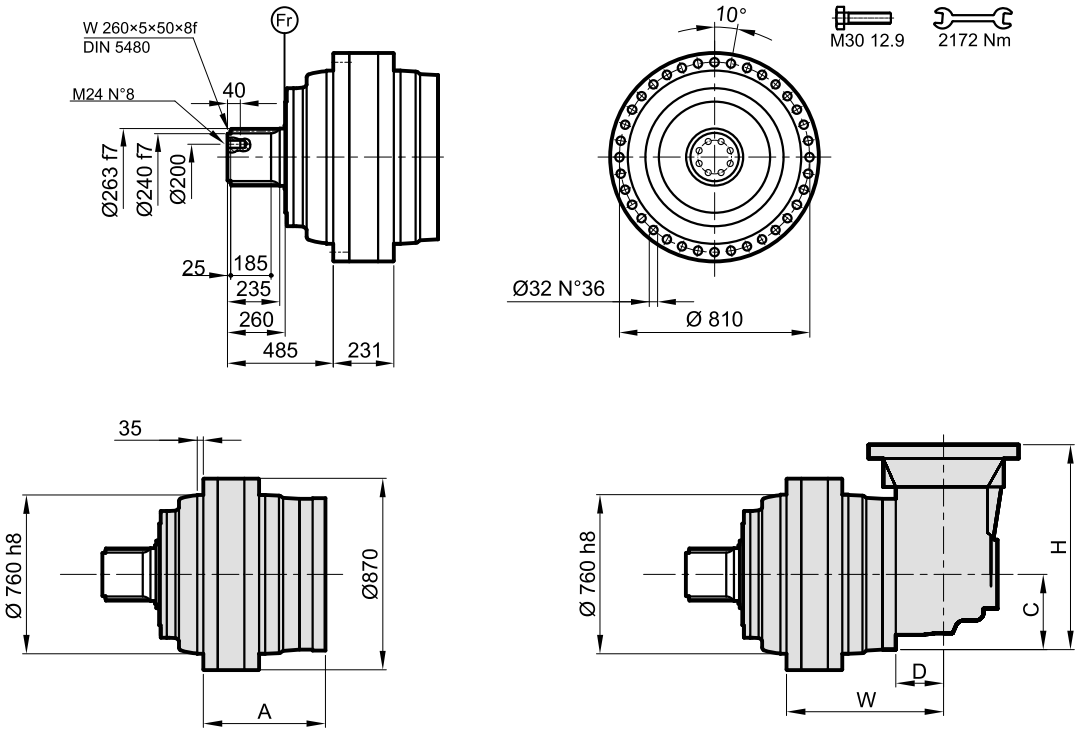
S□-E-180-□□-P290×425



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	416	-	-	-	-	1532	-
2	689	-	-	-	-	1836	-
3	872	-	-	-	-	1956	-
4	965	994	225	205	569	1982	2073
5	1025	1028.5	118.5	140	390	1996	2034

(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-180-□□-W260×260

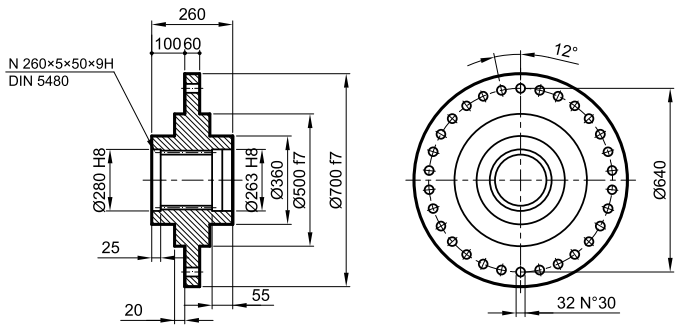


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	416	-	-	-	-	1532	-
2	689	-	-	-	-	1836	-
3	872	-	-	-	-	1956	-
4	965	994	225	205	569	1982	2073
5	1025	1028.5	118.5	140	390	1996	2034

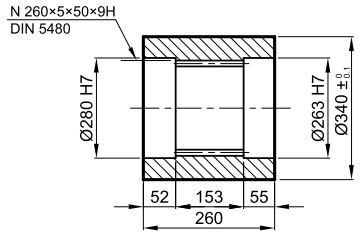
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

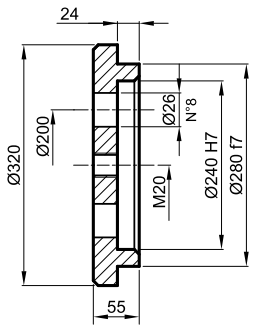
SA-F-260×5×50-S



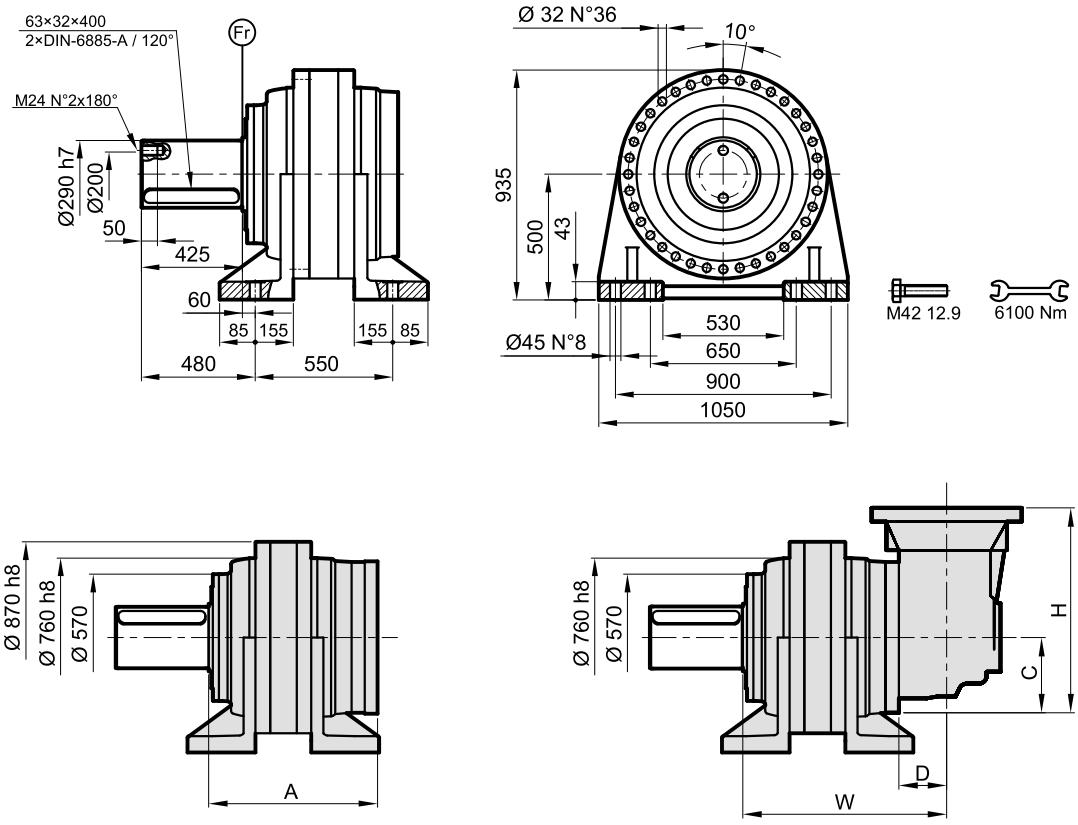
SA-B-260×5×50-S



SA-P-280



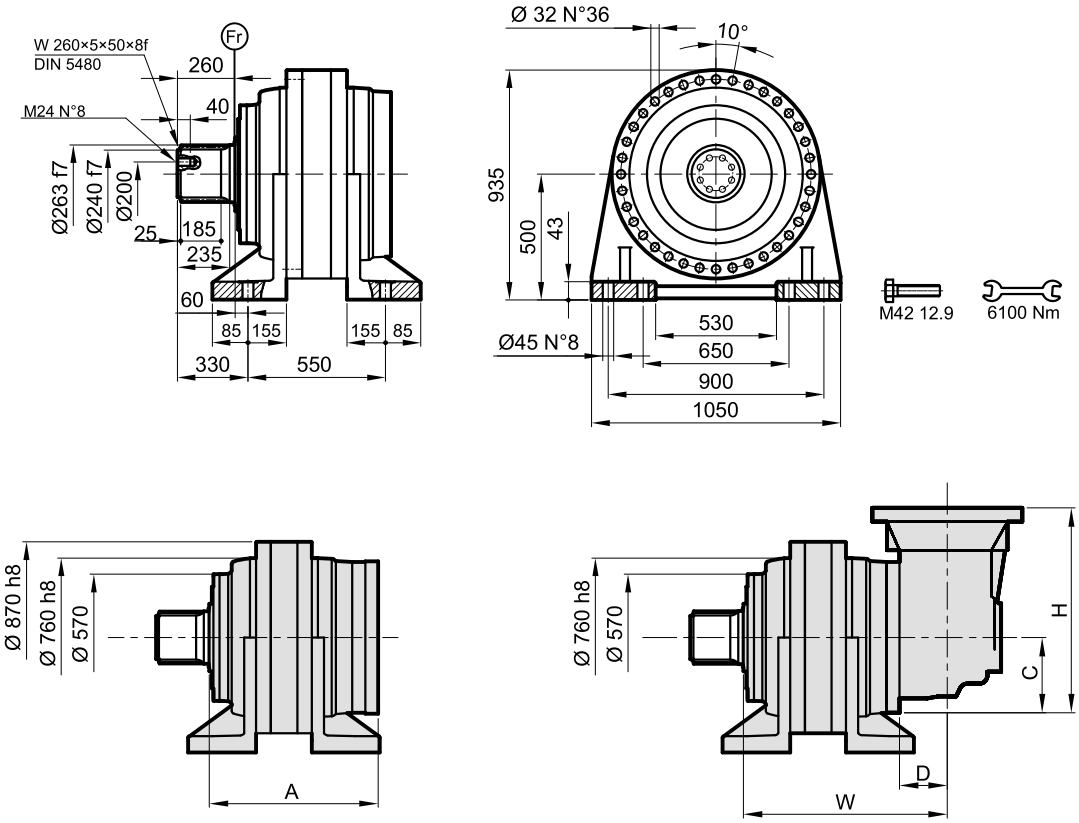
S□-G-180-□□-P290×425



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	626	-	-	-	-	1919	-
2	899	-	-	-	-	2223	-
3	1082	-	-	-	-	2343	-
4	1175	1204	225	205	569	2369	2460
5	1235	1215.5	118.5	140	390	2383	2421

(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-180-□□-W260×260

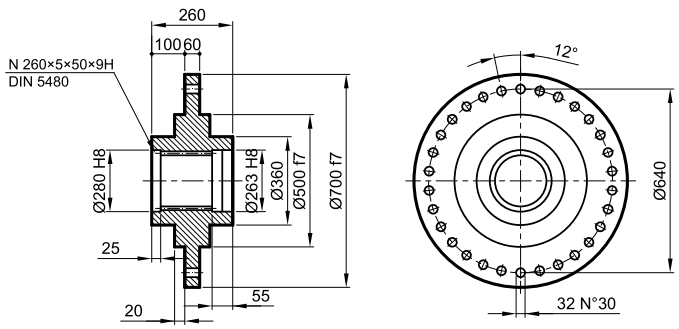


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	626	-	-	-	-	1919	-
2	899	-	-	-	-	2223	-
3	1082	-	-	-	-	2343	-
4	1175	1204	225	205	569	2369	2460
5	1235	1215.5	118.5	140	390	2383	2421

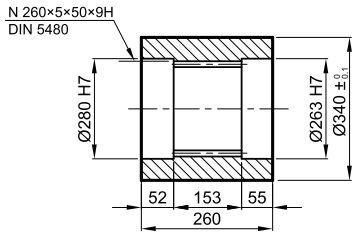
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

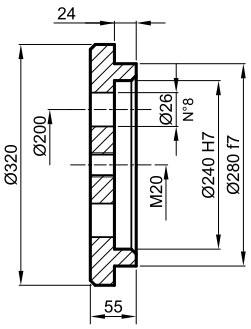
SA-F-260×5×50-S



SA-B-260×5×50-S

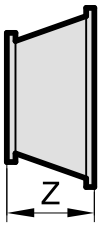


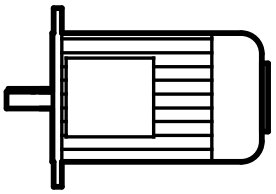
SA-P-280



Inputs

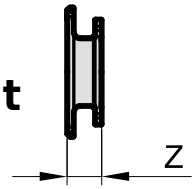
IEC Motor Input

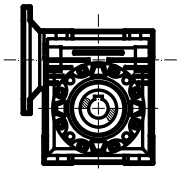




IEC	132	160	180	200	225	250	280	315
Stages	Z	Z	Z	Z	Z	Z	Z	Z
1	-	-	-	148.5	148.5	183.5	183.5	233
2	-	-	-	148.5	148.5	183.5	183.5	233
3	-	-	-	148.5	148.5	183.5	183.5	233
4	-	-	-	148.5	148.5	183.5	183.5	233
5	104	120.5	120.5	148.5	148.5	-	-	-

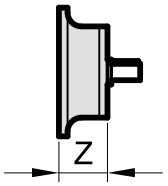
Worm Gearbox Input





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	-	-	-	-	-
4	-	-	-	-	95
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	-		-	-	211
4	-		-	185	211
5	112		159	185	-