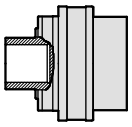
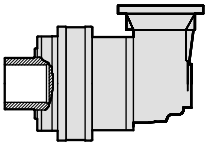
Size 020 - 1700 Nm

ST-020 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	3.55	1700	1280	3400	1500	2800	12	98
	4.28	1700	1280	3400	1500	2800	12	98
	5.60	1210	910	2420	1500	2800	12	98
	6.75	1000	750	2000	1500	2800	12	98
	8.67	650	490	1300	1500	2800	12	98
2	12.6	1700	1280	3400	1500	2800	8	96
	15.2	1700	1280	3400	1500	2800	8	96
	19.9	1700	1280	3400	1500	2800	8	96
	24.0	1700	1280	3400	1500	2800	8	96
	28.9	1700	1280	3400	1500	2800	8	96
	31.4	1210	910	2420	1500	2800	8	96
	37.8	1210	910	2420	1500	2800	8	96
	45.5	1000	750	2000	1500	2800	8	96
	58.5	1000	750	2000	1500	2800	8	96
3	45.0	1700	1280	3400	1500	2800	5	94
	54.2	1700	1280	3400	1500	2800	5	94
	65.3	1700	1280	3400	1500	2800	5	94
	70.8	1700	1280	3400	1500	2800	5	94
	78.7	1700	1280	3400	1500	2800	5	94
	85.3	1700	1280	3400	1500	2800	5	94
	102.8	1700	1280	3400	1500	2800	5	94
	111.5	1700	1280	3400	1500	2800	5	94
	134.4	1700	1280	3400	1500	2800	5	94
	162.0	1700	1280	3400	1500	2800	5	94
	172.6	1700	1280	3400	1500	2800	5	94
	208.0	1700	1280	3400	1500	2800	5	94
	211.7	1210	910	2420	1500	2800	5	94
	250.7	1700	1280	3400	1500	2800	5	94
	255.2	1210	910	2420	1500	2800	5	94
	271.8	1210	910	2420	1500	2800	5	94
	307.6	1000	750	2000	1500	2800	5	94
	327.6	1210	910	2420	1500	2800	5	94
	394.9	1000	750	2000	1500	2800	5	94
4	337.1	1700	1280	3400	1500	2800	1.5	92
	365.7	1700	1280	3400	1500	2800	1.5	92
	396.5	1700	1280	3400	1500	2800	1.5	92
	440.7	1700	1280	3400	1500	2800	1.5	92
	477.9	1700	1280	3400	1500	2800	1.5	92
	531.1	1700	1280	3400	1500	2800	1.5	92
	575.9	1700	1280	3400	1500	2800	1.5	92
	624.4	1700	1280	3400	1500	2800	1.5	92
	694.2	1700	1280	3400	1500	2800	1.5	92
	752.6	1700	1280	3400	1500	2800	1.5	92
	836.6	1700	1280	3400	1500	2800	1.5	92
	907.1	1700	1280	3400	1500	2800	1.5	92
	966.4	1700	1280	3400	1500	2800	1.5	92
	1093.5	1700	1280	3400	1500	2800	1.5	92
	1144.4	1700	1280	3400	1500	2800	1.5	92
	1185.4	1210	910	2420	1500	2800	1.5	92
	1317.8	1700	1280	3400	1500	2800	1.5	92
	1404.0	1700	1280	3400	1500	2800	1.5	92
	1522.0	1210	910	2420	1500	2800	1.5	92
	1692.0	1700	1280	3400	1500	2800	1.5	92

SX-020 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)	(%)
2	10.4	1700	1280	3400	1500	2800	8	96
	12.6	1700	1280	3400	1500	2800	8	96
	16.4	1210	910	2420	1500	2800	8	96
	19.8	1000	750	2000	1500	2800	8	96
3	37.0	1700	1280	3400	1500	2800	5	94
	44.6	1700	1280	3400	1500	2800	5	94
	53.8	1700	1280	3400	1500	2800	5	94
	58.3	1700	1280	3400	1500	2800	5	94
	70.3	1700	1280	3400	1500	2800	5	94
	84.8	1700	1280	3400	1500	2800	5	94
	91.9	1210	910	2420	1500	2800	5	94
	110.8	1210	910	2420	1500	2800	5	94
	133.5	1000	750	2000	1500	2800	5	94
	171.4	1000	750	2000	1500	2800	5	94
4	131.7	1700	1280	3400	1500	2800	1.5	92
	158.7	1700	1280	3400	1500	2800	1.5	92
	191.3	1700	1280	3400	1500	2800	1.5	92
	207.4	1700	1280	3400	1500	2800	1.5	92
	230.5	1700	1280	3400	1500	2800	1.5	92
	250.0	1700	1280	3400	1500	2800	1.5	92
	301.3	1700	1280	3400	1500	2800	1.5	92
	326.7	1700	1280	3400	1500	2800	1.5	92
	363.1	1700	1280	3400	1500	2800	1.5	92
	393.8	1700	1280	3400	1500	2800	1.5	92
	474.7	1700	1280	3400	1500	2800	1.5	92
	505.6	1700	1280	3400	1500	2800	1.5	92
	514.6	1210	910	2420	1500	2800	1.5	92
	572.0	1700	1280	3400	1500	2800	1.5	92
	609.4	1700	1280	3400	1500	2800	1.5	92
	734.5	1700	1280	3400	1500	2800	1.5	92
	796.3	1210	910	2420	1500	2800	1.5	92
	959.9	1210	910	2420	1500	2800	1.5	92
	1157.0	1000	750	2000	1500	2800	1.5	92
	1232.4	1210	910	2420	1500	2800	1.5	92
	1485.5	1000	750	2000	1500	2800	1.5	92

(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

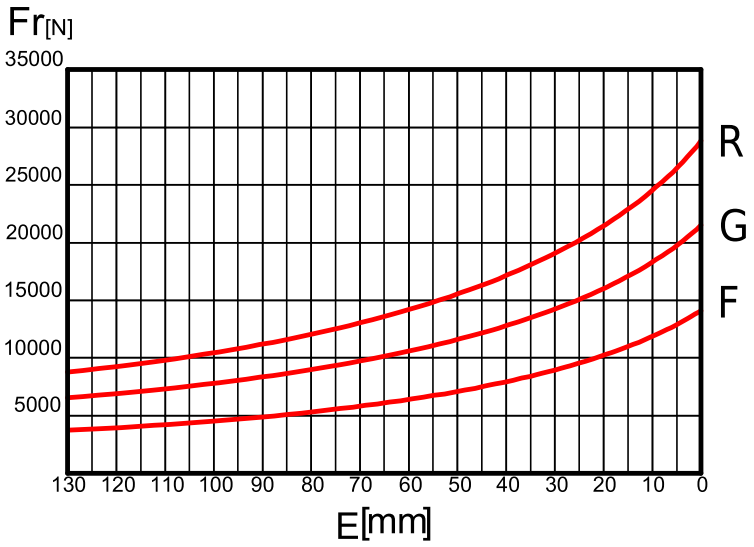
(4) n_{1max} is the maximum input speed for intermittent service. For continuous operation at speeds over n1n please inquire.

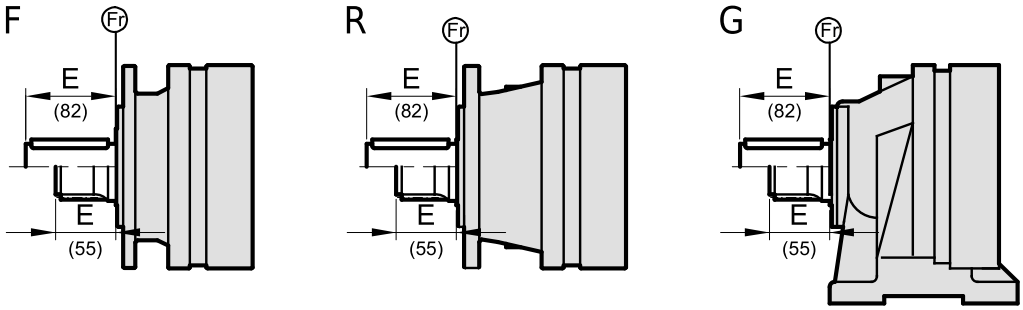
(5) Pt is the thermal power rating, that is the power in kW that, at 20°C, the gearbox can transmit during continuous operation, at $n_1=n_{1n}$ and lubricated with ISO-VG-220 oil without it exceeding 90°C. It depends on ambient temperature.

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

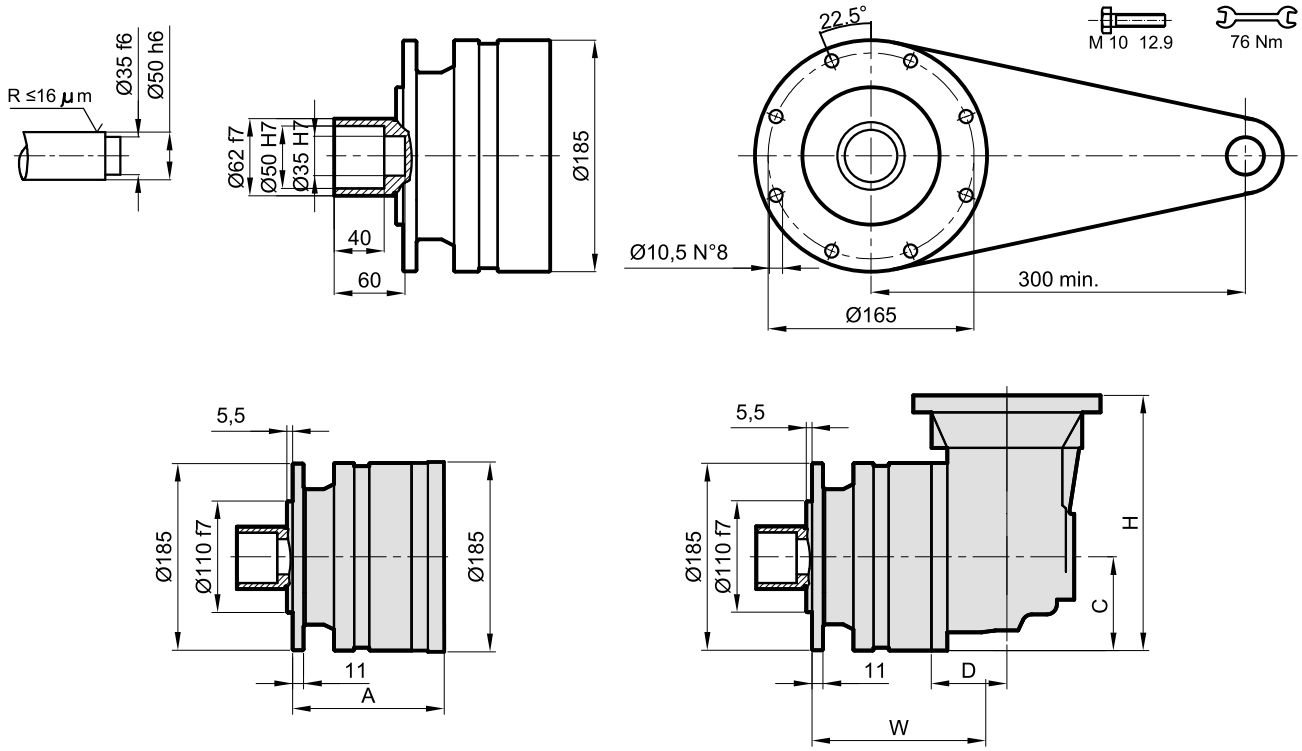
Axial Load Capacity is only given for gearboxes with solid shafts (Smooth Solid Shaft with Key (P) and DIN 5480 Splined Shaft (W)) for a design life of 6 million revolutions of the output shaft ($6 \cdot 10^6$). These values can be adjusted for other number of revolutions of the output shaft applying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

Axial Load Capacity depends on the direction of the load:

	Version	Push	Pull
F_a	F	16000 N	16000 N
	R, G	18000 N	18000 N

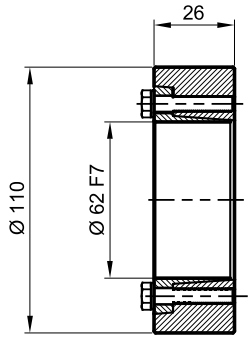
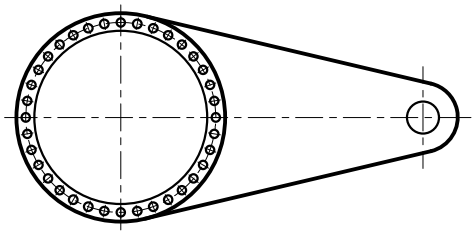
Dimensions

S□-F-020-□□-H50×60

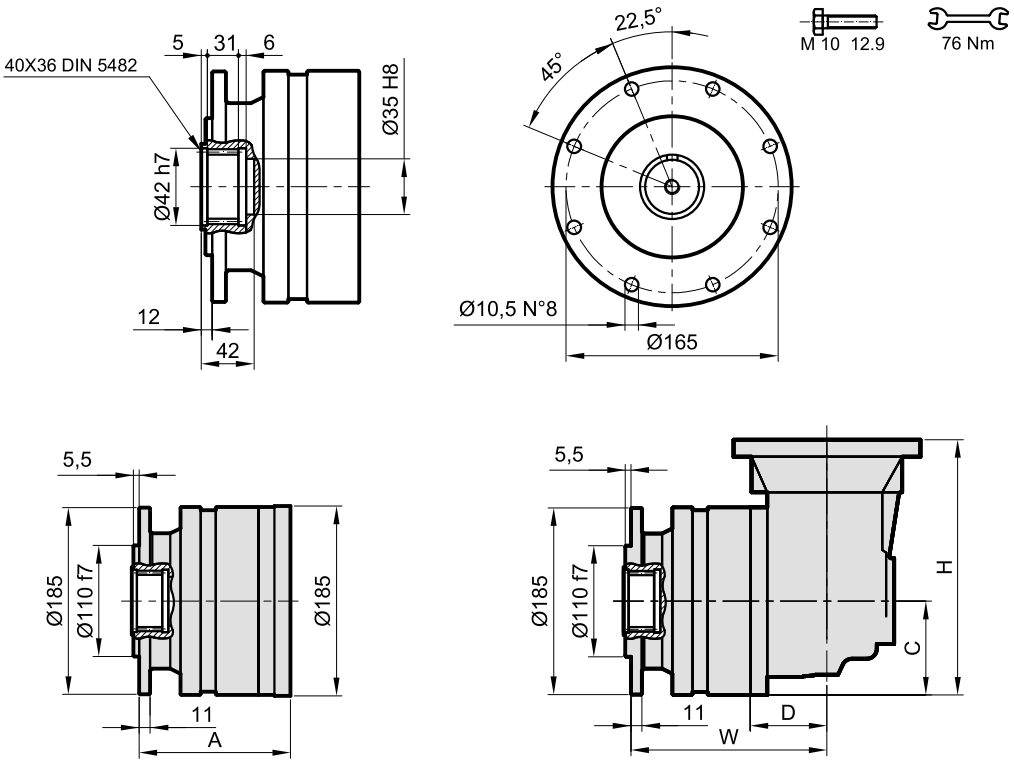


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	118	-	-	-	-	15	-
2	166	193	75	92.5	253.5	21.3	32.2
3	214	241	75	92.5	253.5	27.5	38.4
4	262	289	75	92.5	253.5	33.8	44.6

(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-62	**SA-T-□-110-165-8×10.5-□-□**
 Max. Torque: 2.5 kNm Screw Tightening Torque: 38.5 Nm	 See the chapter on Torque Arms

S□-F-020-□□-N40×42

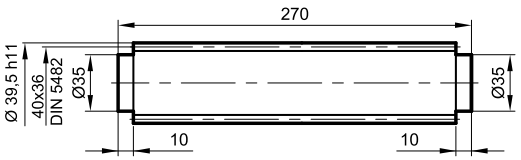


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	118	-	-	-	-	13.5	-
2	166	193	75	92.5	253.5	19.4	30.8
3	214	241	75	92.5	253.5	26.3	36.6
4	262	289	75	92.5	253.5	32.5	43.5

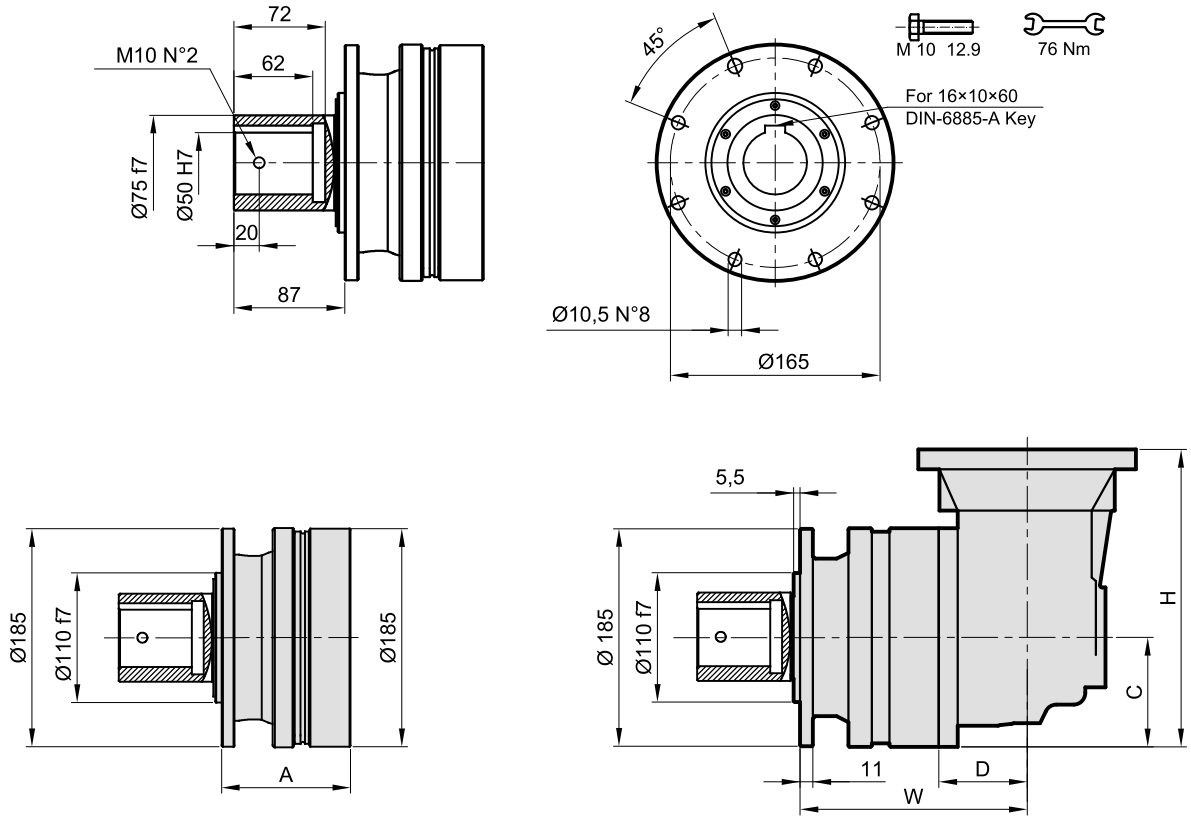
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

SA-S-40×36



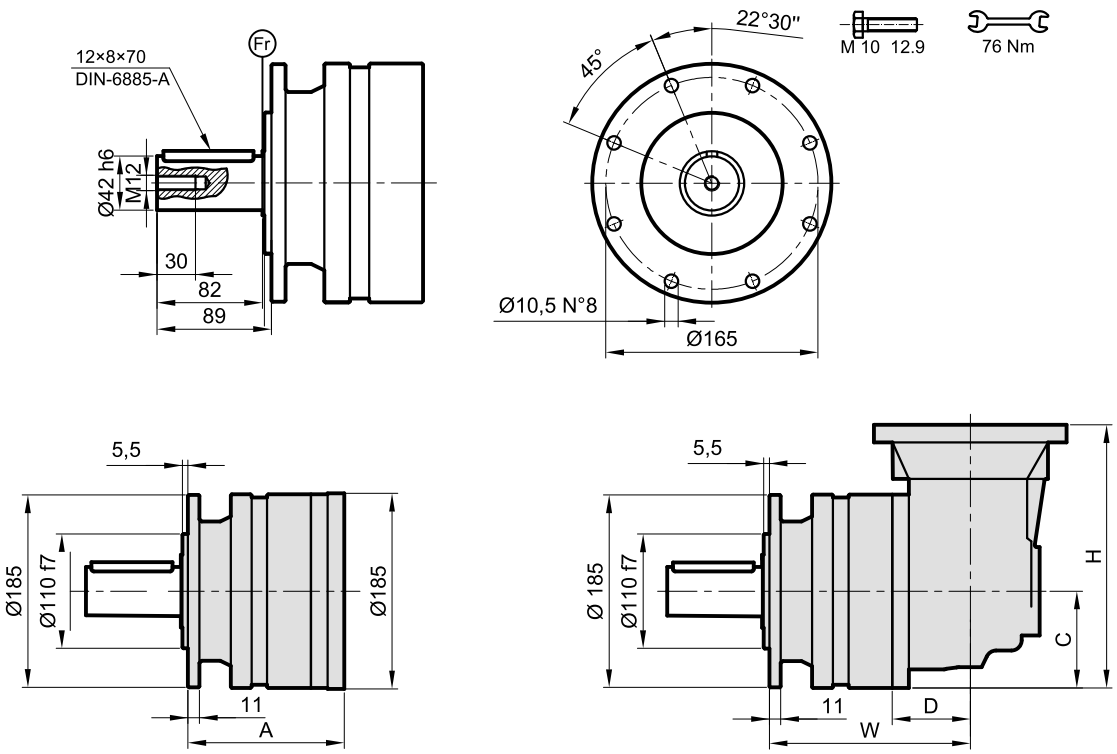
S□-F-020-□□-K50×72



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	118	-	-	-	-	15.8	-
2	166	193	75	92.5	253.5	22.1	33
3	214	241	75	92.5	253.5	28.4	39.3
4	262	289	75	92.5	253.5	34.7	46.6

(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.

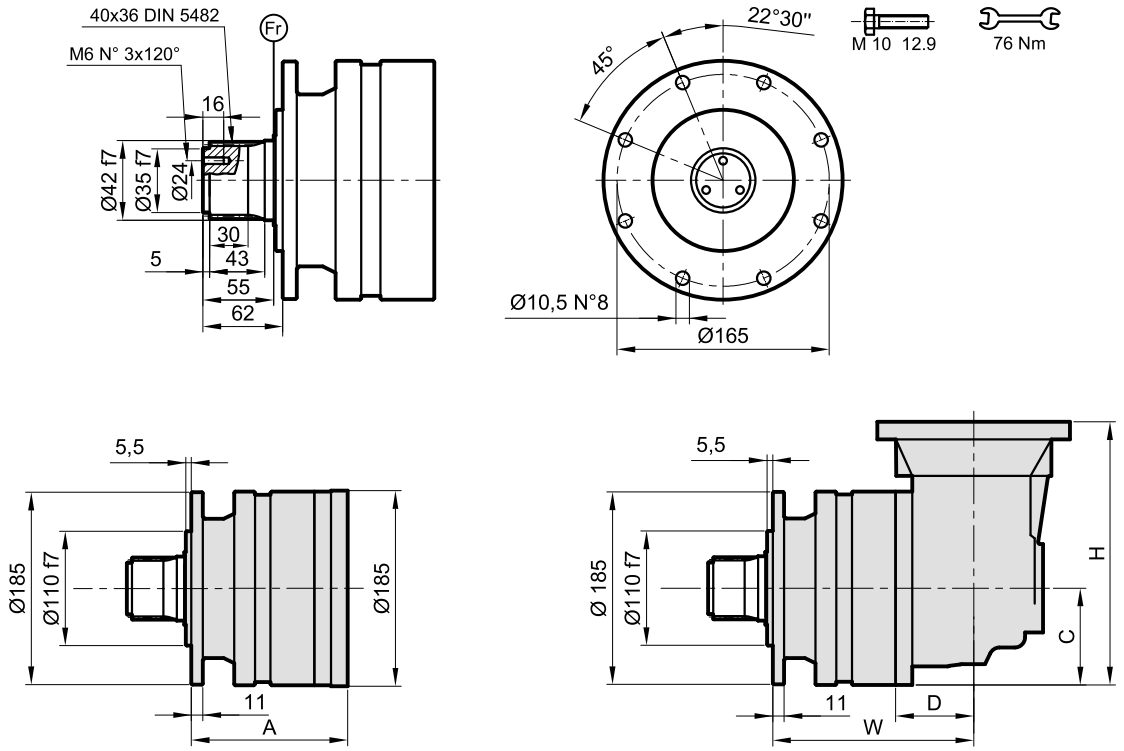
S□-F-020-□□-P42×82



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	118	-				15.4	-
2	166	193	75	92.5	253.5	21.6	32.6
3	214	241	75	92.5	253.5	27.9	38.8
4	262	289	75	92.5	253.5	34.2	45.1

(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□-F-020-□□-W40×52

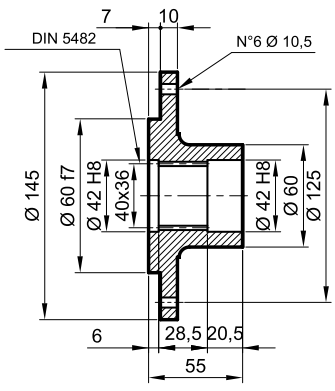


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	118	-				15.4	-
2	166	193	75	92.5	253.5	21.6	32.6
3	214	241	75	92.5	253.5	27.9	38.8
4	262	289	75	92.5	253.5	34.2	45.1

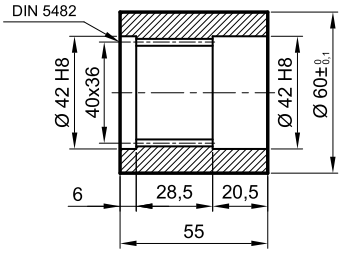
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

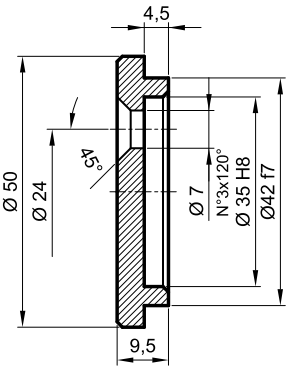
SA-F-40×36-S



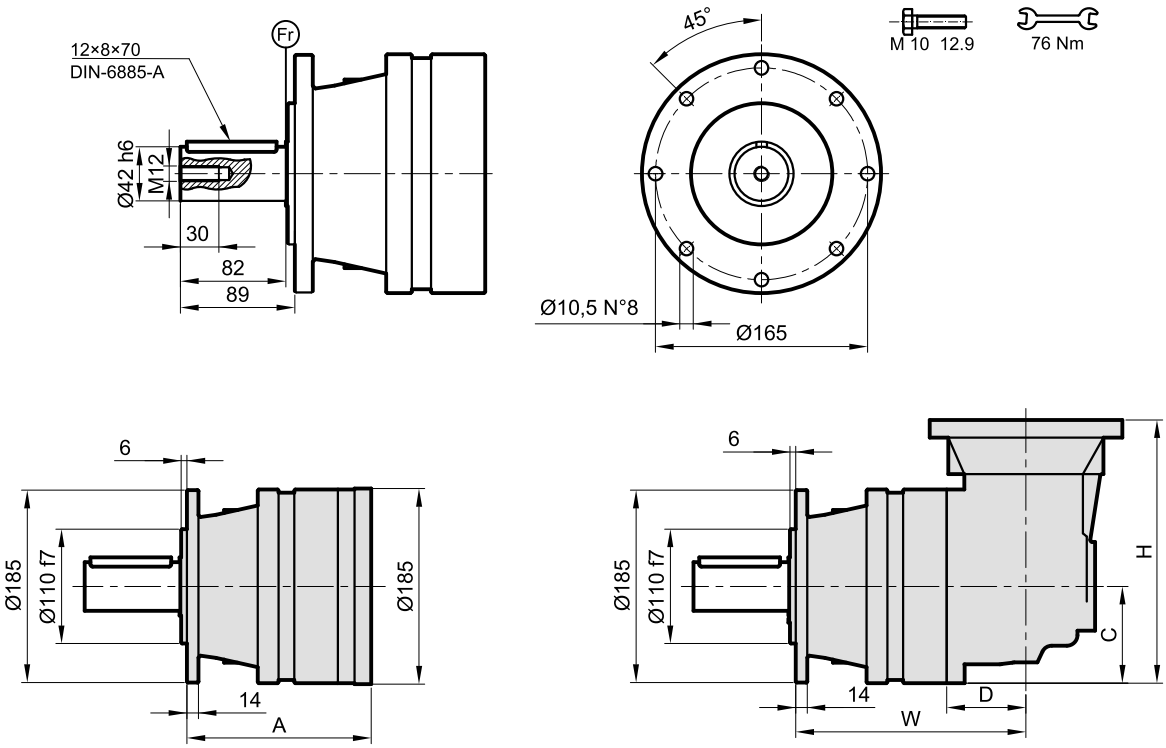
SA-B-40×36-S



SA-P-42



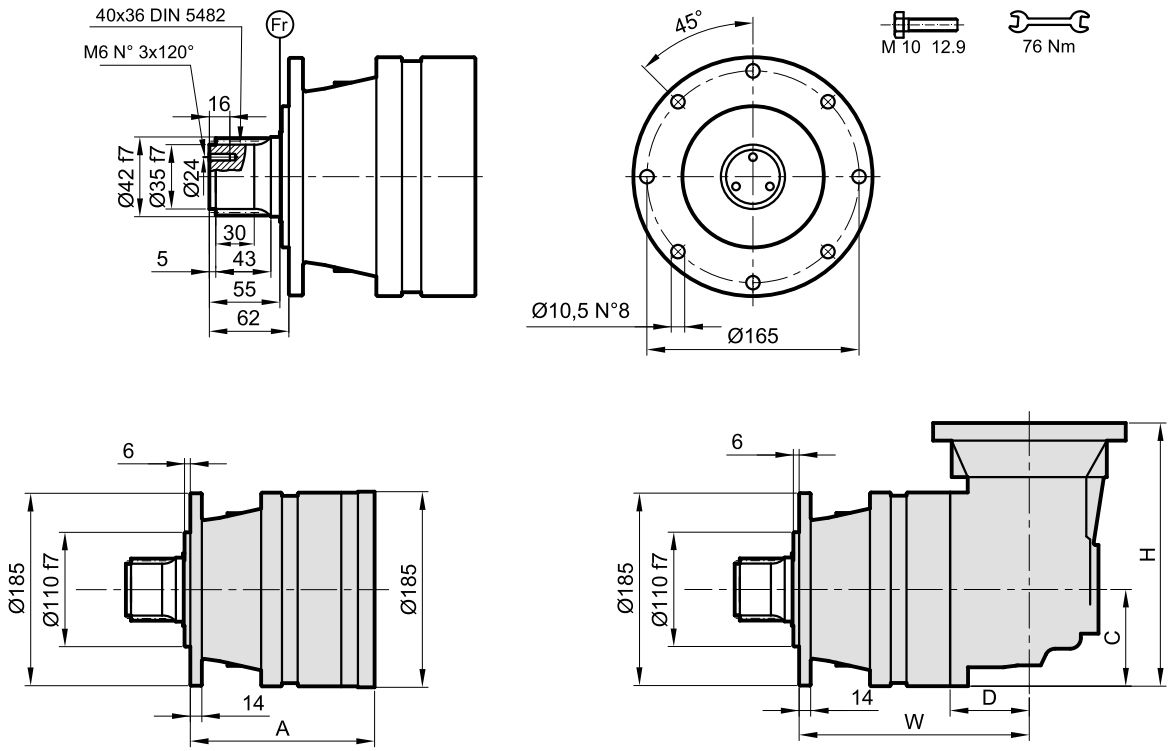
S□-R-020-□□-P42×82



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	148	-	-	-	-	16.9	-
2	196	223	75	92.5	253.5	23.2	34.1
3	244	271	75	92.5	253.5	29.6	40.4
4	292	319	75	92.5	253.5	35.8	46.6

(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□-R-020-□□-W40×55

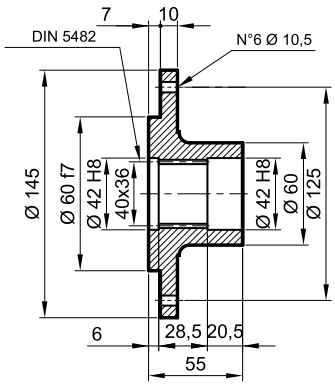


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	148	-	-	-	-	16.9	-
2	196	223	75	92.5	253.5	23.2	34.1
3	244	271	75	92.5	253.5	29.6	40.4
4	292	319	75	92.5	253.5	35.8	46.6

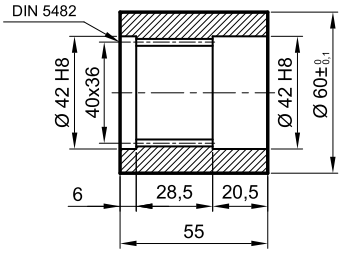
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

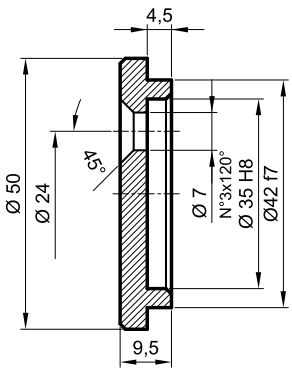
SA-F-40×36-S



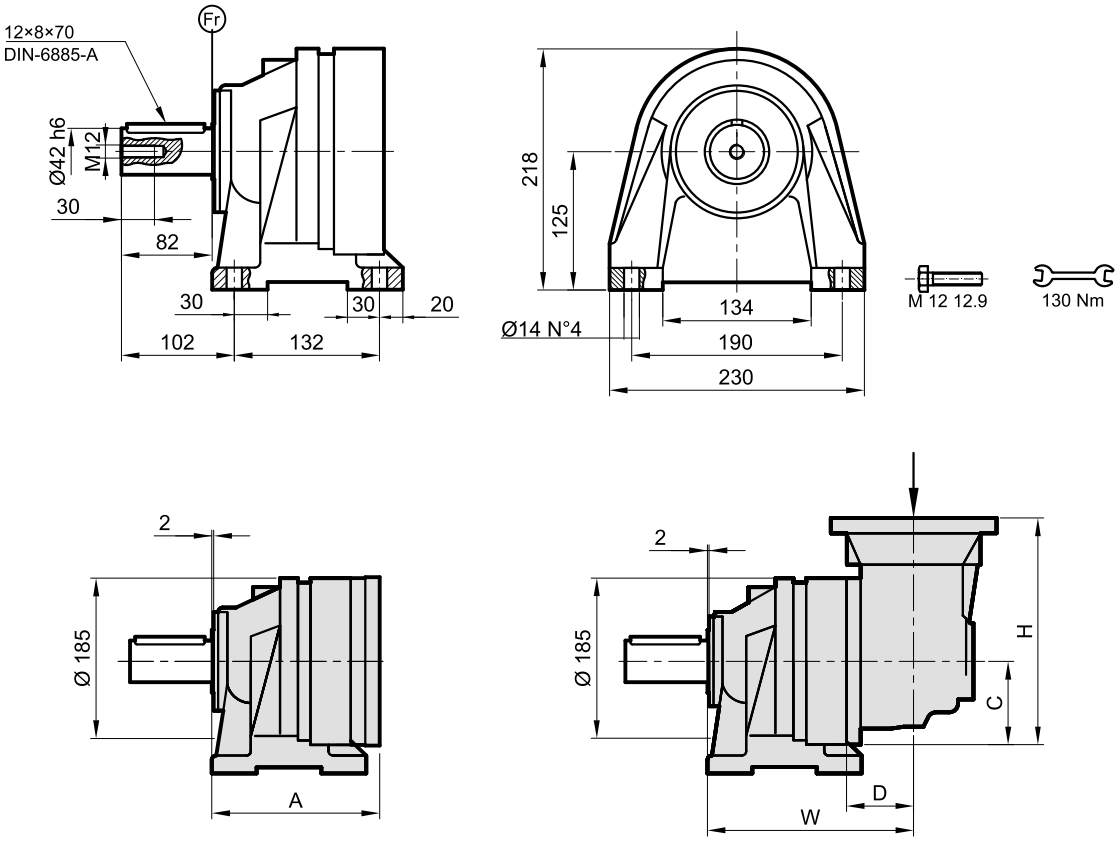
SA-B-40×36-S



SA-P-42



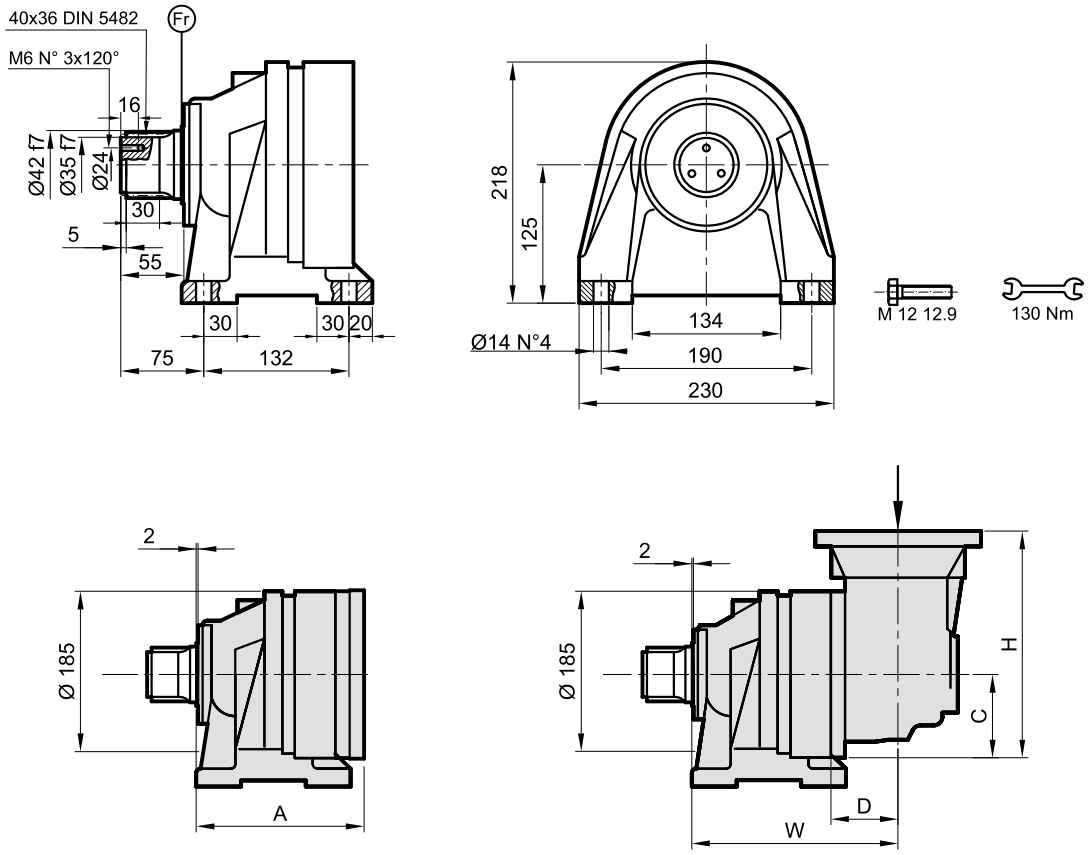
S□-G-020-□□-P42×82



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	157	-	-	-	-	19.1	-
2	205	233	75	92.5	253.5	25.4	36.3
3	253	281	75	92.5	253.5	31.7	42.6
4	301	329	75	92.5	253.5	38	48.9

(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-020-□□-W40×55

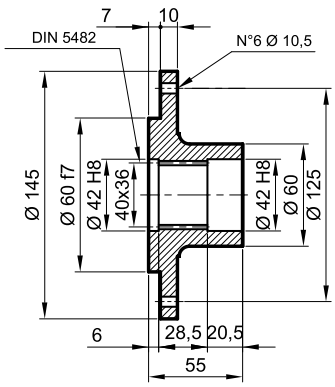


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	157	-	-	-	-	19.1	-
2	205	233	75	92.5	253.5	25.4	36.3
3	253	281	75	92.5	253.5	31.7	42.6
4	301	329	75	92.5	253.5	38	48.9

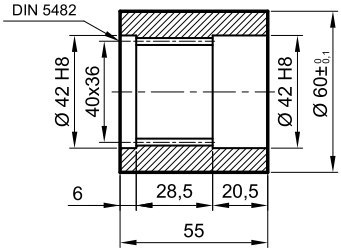
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

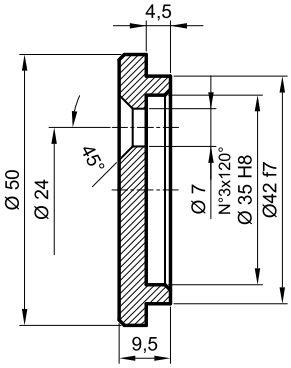
SA-F-40×36-S



SA-B-40×36-S

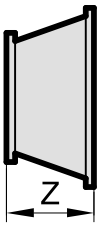


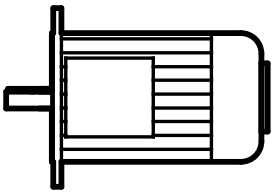
SA-P-42



Inputs

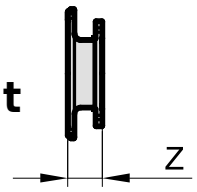
IEC Motor Input

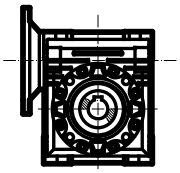




IEC	71	80	90	100	112	132	160	180
Stages	Z	Z	Z	Z	Z	Z	Z	Z
1	35.5	61.5	61.5	71	71	104	120.5	120.5
2	35.5	61.5	61.5	71	71	104	120.5	120.5
3	35.5	61.5	61.5	71	71	104	120.5	120.5
4	35.5	61.5	61.5	71	71	104	120.5	120.5

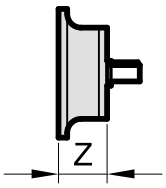
Worm Gearbox Input





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	80	80	57	57	57
2	80	80	57	57	57
3	80	80	57	57	57
4	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	122		-	-	-
2	122		-	-	-
3	122		-	-	-
4	122		-	-	-