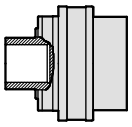
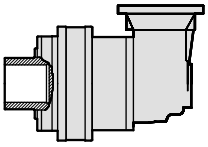
Size 050 - 7000 Nm

ST-050 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	3.66	7020	5290	14040	1500	2800	30	98
	4.42	6410	4830	12820	1500	2800	30	98
	5.00	5630	4240	11260	1500	2800	30	98
	5.80	4760	3590	9520	1500	2800	30	98
	7.00	3850	2900	7700	1500	2800	30	98
2	13.9	7020	5290	14020	1500	2800	18	96
	15.1	7020	5290	14020	1500	2800	18	96
	18.9	7020	5290	14020	1500	2800	18	96
	20.6	5630	4240	11260	1500	2800	18	96
	22.9	6410	4830	12820	1500	2800	18	96
	26.6	6410	4830	12820	1500	2800	18	96
	30.0	5630	4240	11260	1500	2800	18	96
	36.3	5630	4240	11260	1500	2800	18	96
	42.1	4760	3590	9520	1500	2800	18	96
	50.8	3850	2900	7700	1500	2800	18	96
3	53.8	7020	5290	14040	1500	2800	14	94
	64.8	7020	5290	14040	1500	2800	14	94
	71.7	6410	4830	12820	1500	2800	14	94
	78.2	7020	5290	14040	1500	2800	14	94
	88.3	5630	4240	11260	1500	2800	14	94
	93.7	6410	4830	12820	1500	2800	14	94
	102.1	7020	5290	14040	1500	2800	14	94
	112.9	6410	4830	12820	1500	2800	14	94
	127.9	7020	5290	14040	1500	2800	14	94
	139.2	5630	4240	11260	1500	2800	14	94
	148.5	7020	4830	12820	1500	2800	14	94
	154.5	6410	5290	14040	1500	2800	14	94
	174.4	5630	4240	11260	1500	2800	14	94
	194.9	4760	3590	9520	1500	2800	14	94
	216.7	6410	4830	12820	1500	2800	14	94
	244.7	5630	4240	11260	1500	2800	14	94
	283.8	4760	3590	9520	1500	2800	14	94
	342.6	3850	2900	7700	1500	2800	14	94
4	301.2	7020	5290	14040	1500	2800	8	92
	332.4	7020	5290	14040	1500	2800	8	92
	347.8	7020	5290	14040	1500	2800	8	92
	400.7	7020	5290	14400	1500	2800	8	92
	434.4	7020	5290	14400	1500	2800	8	92
	474.3	7020	5290	14400	1500	2800	8	92
	523.6	7020	5290	14400	1500	2800	8	92
	571.7	7020	5290	14400	1500	2800	8	92
	632.4	6410	4830	12820	1500	2800	8	92
	661.8	6410	4830	12820	1500	2800	8	92
	747.2	5630	4240	11260	1500	2800	8	92
	768.6	6410	4830	12820	1500	2800	8	92
	832.3	6410	4830	12820	1500	2800	8	92
	869.9	5630	4240	11260	1500	2800	8	92
	976.5	5630	4240	11260	1500	2800	8	92
	1048.5	5630	4240	11260	1500	2800	8	92
	1177.0	5630	4240	11260	1500	2800	8	92
	1366.9	5630	4240	11260	1500	2800	8	92
	1651.6	5630	4240	11260	1500	2800	8	92
	2968.9	3850	2900	7700	1500	2800	8	92

SX-050 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	12.3	7020	5290	14040	1500	2800	18	96
	14.9	6410	4830	12820	1500	2800	18	96
	16.8	5630	4240	11260	1500	2800	18	96
	19.5	4760	3590	9520	1500	2800	18	96
	20.5	6410	4830	12820	1500	2800	18	96
	23.1	5630	4240	11260	1500	2800	18	96
	26.8	4760	3590	9520	1500	2800	18	96
	32.4	3850	2900	7700	1500	2800	18	96
3	53.5	6410	4830	12820	1500	2800	14	94
	60.4	5630	4240	11260	1500	2800	14	94
	67.1	6410	4830	12820	1500	2800	14	94
	77.9	6410	4830	12820	1500	2800	14	94
	87.9	5630	4240	11260	1500	2800	14	94
	94.1	6410	4830	12820	1500	2800	14	94
	106.2	5630	4240	11260	1500	2800	14	94
	123.2	4760	3590	9520	1500	2800	14	94
	148.7	3850	2900	7700	1500	2800	14	94
4	157.6	7020	5290	14040	1500	2800	8	92
	174.3	6410	4830	12820	1500	2800	8	92
	190.3	6410	4830	12820	1500	2800	8	92
	210.1	6410	4830	12820	1500	2800	8	92
	229.2	7020	5290	14040	1500	2800	8	92
	248.2	7020	5290	14040	1500	2800	8	92
	274.5	6410	4830	12820	1500	2800	8	92
	299.1	7020	5290	14040	1500	2800	8	92
	330.9	6410	4830	12820	1500	2800	8	92
	361.3	6410	4830	12820	1500	2800	8	92
	392.6	4760	3590	9520	1500	2800	8	92
	452.5	6410	4830	12820	1500	2800	8	92
	510.9	5630	4240	11260	1500	2800	8	92
	556.4	4760	3590	9520	1500	2800	8	92
	593.3	5630	4240	11260	1500	2800	8	92
	656.0	5630	4240	11260	1500	2800	8	92
	716.9	5630	4240	11260	1500	2800	8	92
	831.6	4760	3590	9520	1500	2800	8	92
	920.5	5630	4240	11260	1500	2800	8	92
	1067.8	4760	3590	11260	1500	2800	8	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

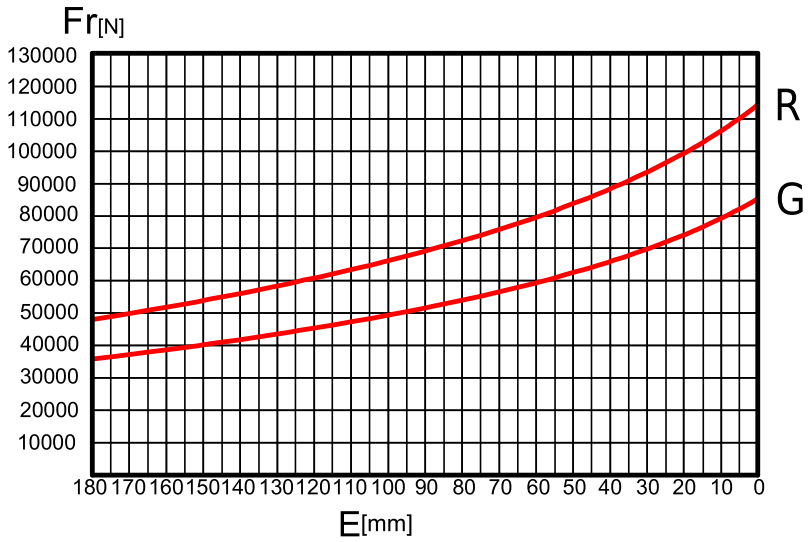
(4) n_{1max} is the maximum input speed for intermittent service. For continuous operation at speeds over n1n please inquire.

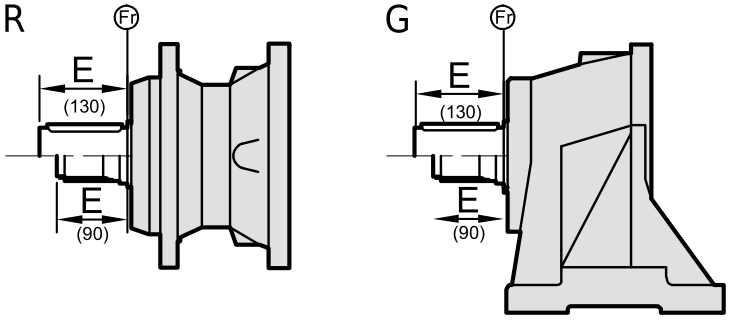
(5) Pt is the thermal power rating, that is the power in kW that, at 20°C, the gearbox can transmit during continuous operation, at $n_1=n_{1n}$ and lubricated with ISO-VG-220 oil without it exceeding 90°C. It depends on ambient temperature.

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

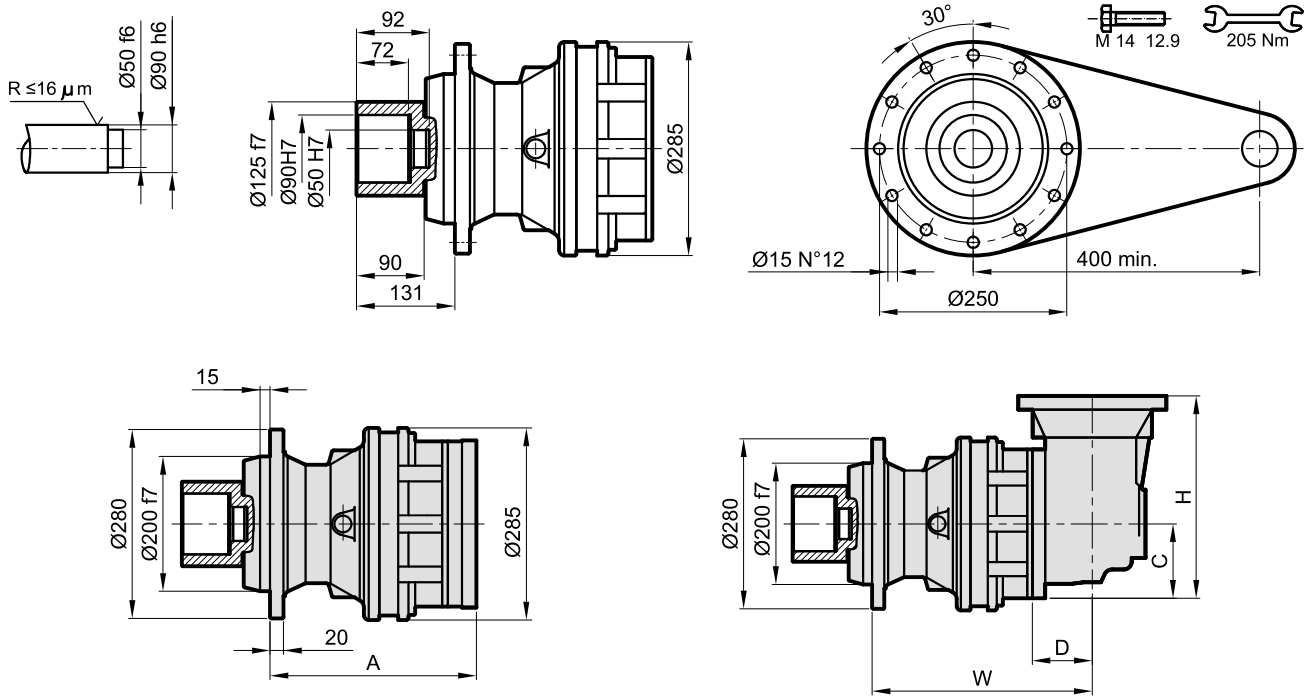
Axial Load Capacity is only given for gearboxes with solid shafts (Smooth Solid Shaft with Key (P) and DIN 5480 Splined Shaft (W)) for a design life of 6 million revolutions of the output shaft ($6 \cdot 10^6$). These values can be adjusted for other number of revolutions of the output shaft applying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

Axial Load Capacity depends on the direction of the load:

	Push	Pull
F_a	60000 N	40000 N

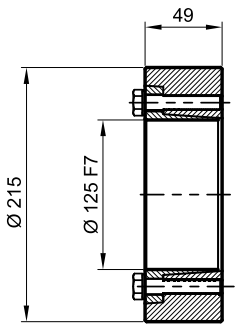
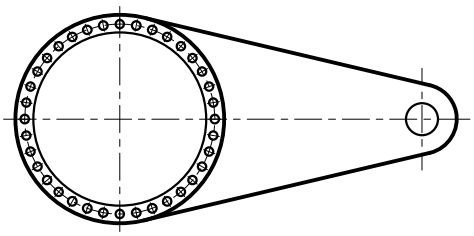
Dimensions

S□-F-050-□□-H90×92

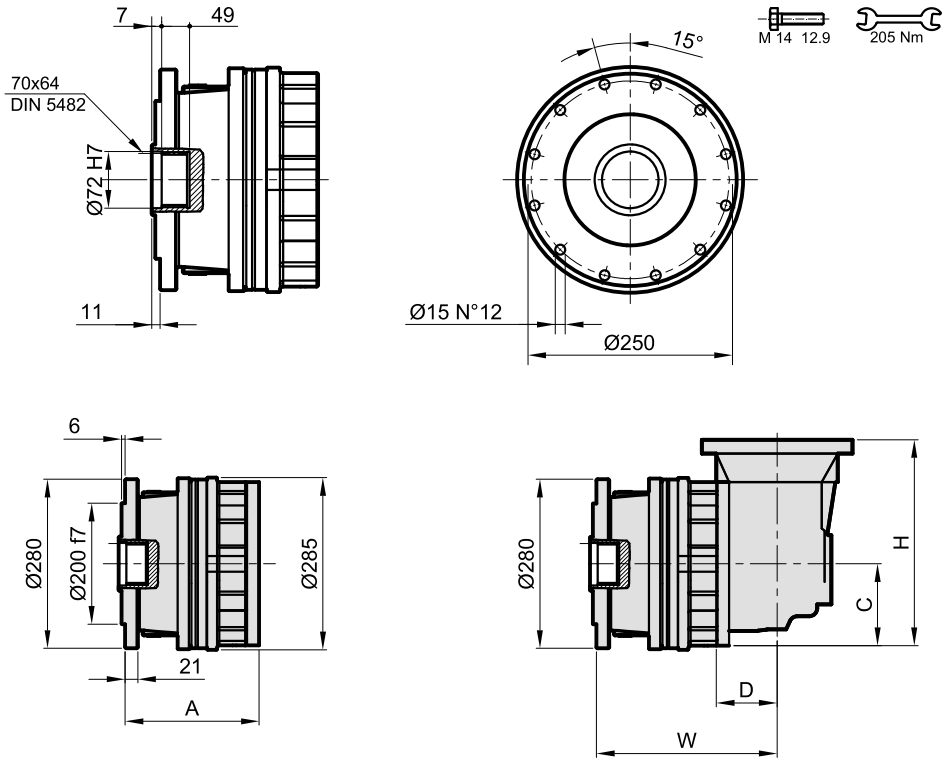


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	250.5	-	-	-	-	64	-
2	310.5	314	118.5	140	390	76	114
3	358.5	386	75	92.5	253.5	83	94
4	406.5	434	75	92.5	253.5	89	100

(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-125	**SA-T-□-200-250-8×10.5-□-□**
 Max. Torque: 16.4 kNm Screw Tightening Torque: 135 Nm	 See the chapter on Torque Arms

S□-F-050-□□-N70×56

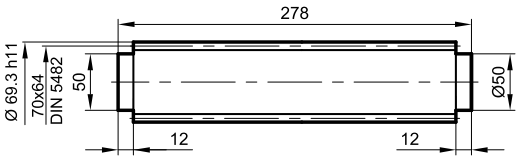


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	196	-	-	-	-	47	-
2	256	259.5	118.5	140	390	60	97
3	304	331.5	75	92.5	253.5	66	77
4	352	379.5	75	92.5	253.5	73	84

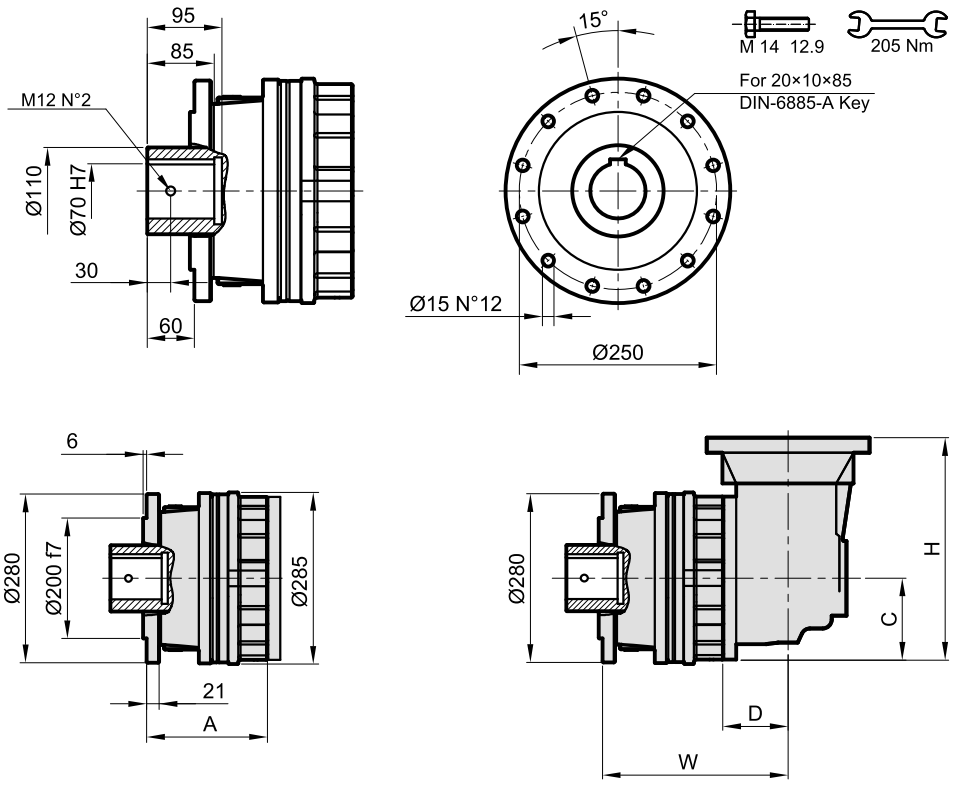
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

SA-S-70×64



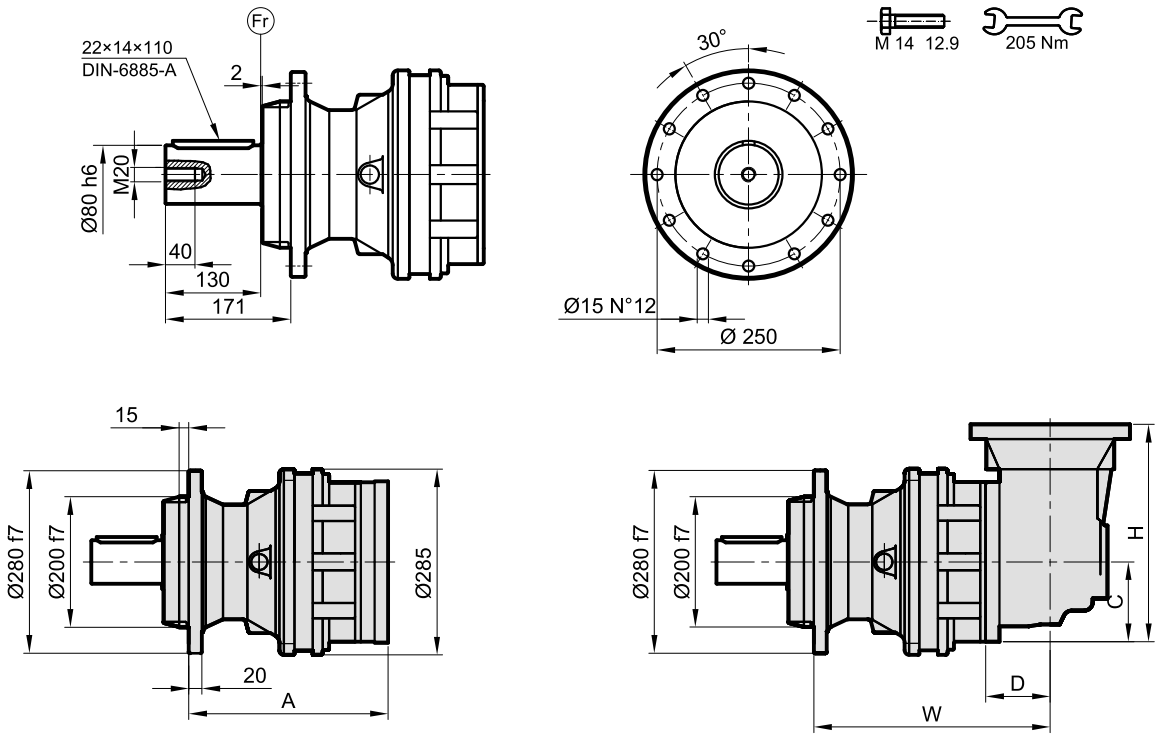
S□-F-050-□□-K70×90



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	196	-	-	-	-	51	-
2	256	259.5	118.5	140	390	63	100
3	304	331.5	75	92.5	253.5	69	80
4	352	379.5	75	92.5	253.5	76	87

(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.

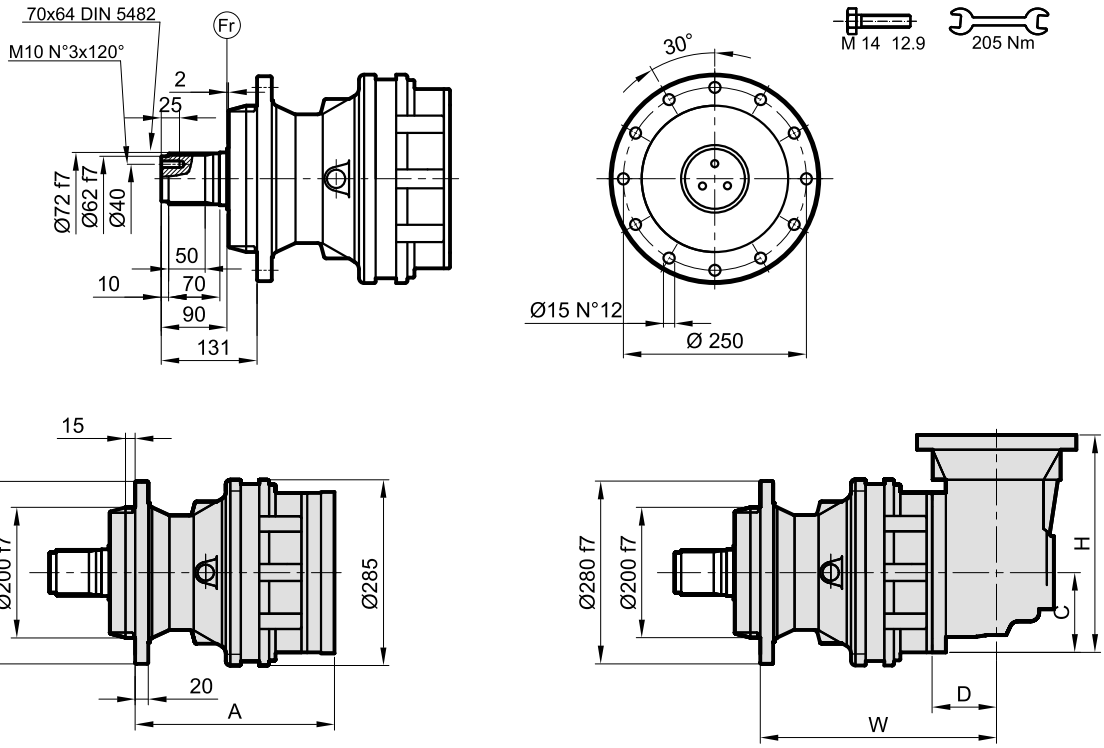
S□-R-050-□□-P80×130



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	250.5	-	-	-	-	65	-
2	310.5	314	118.5	140	390	77	115
3	358.5	386	75	92.5	253.5	83	94
4	406.5	434	75	92.5	253.5	90	101

(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-050-□□-W70×90

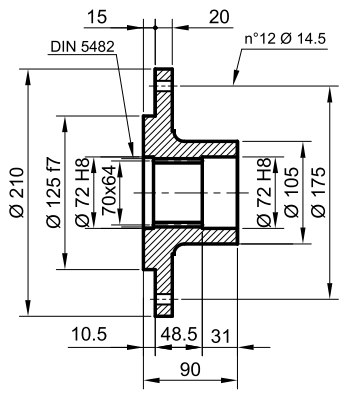


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	250.5	-	-	-	-	65	-
2	310.5	314	118.5	140	390	77	115
3	358.5	386	75	92.5	253.5	83	94
4	406.5	434	75	92.5	253.5	90	101

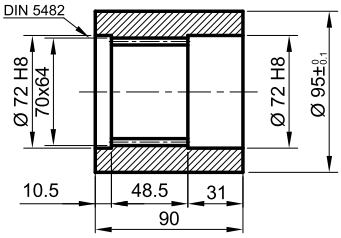
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

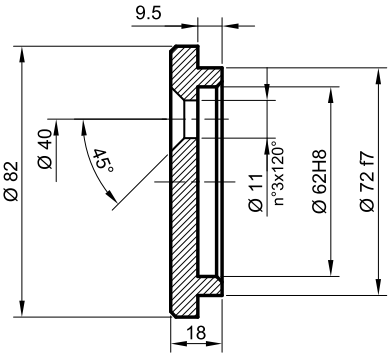
SA-F-70×64-R



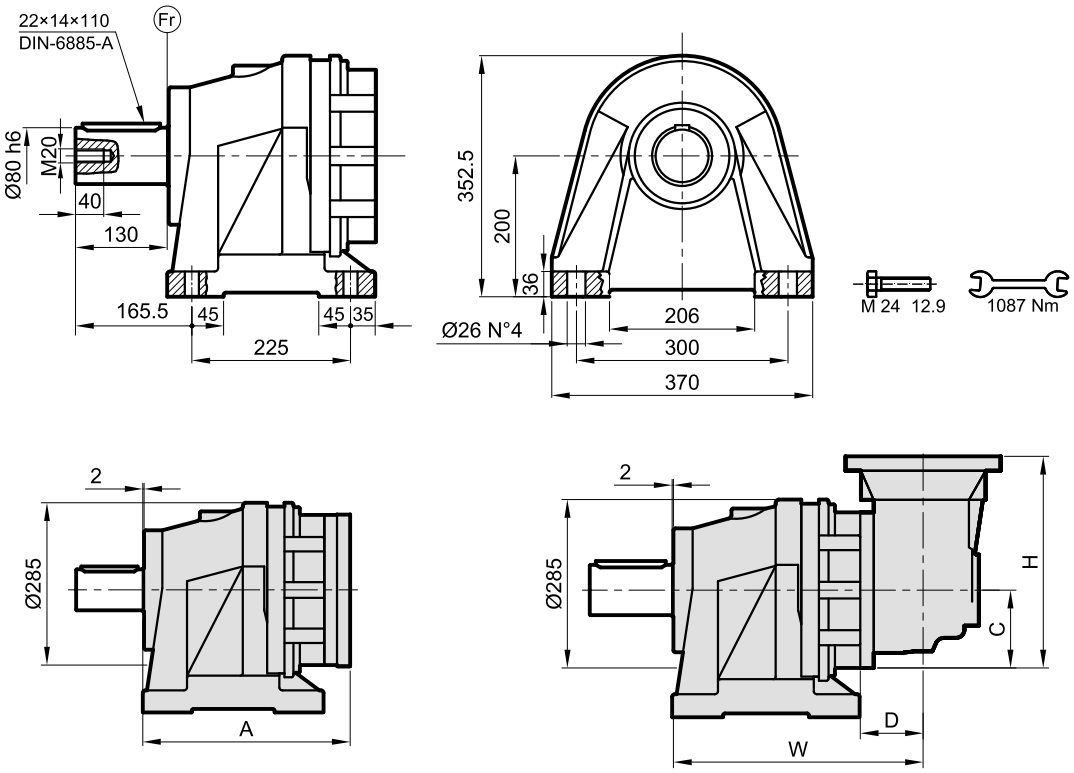
SA-B-70×64-R



SA-P-72



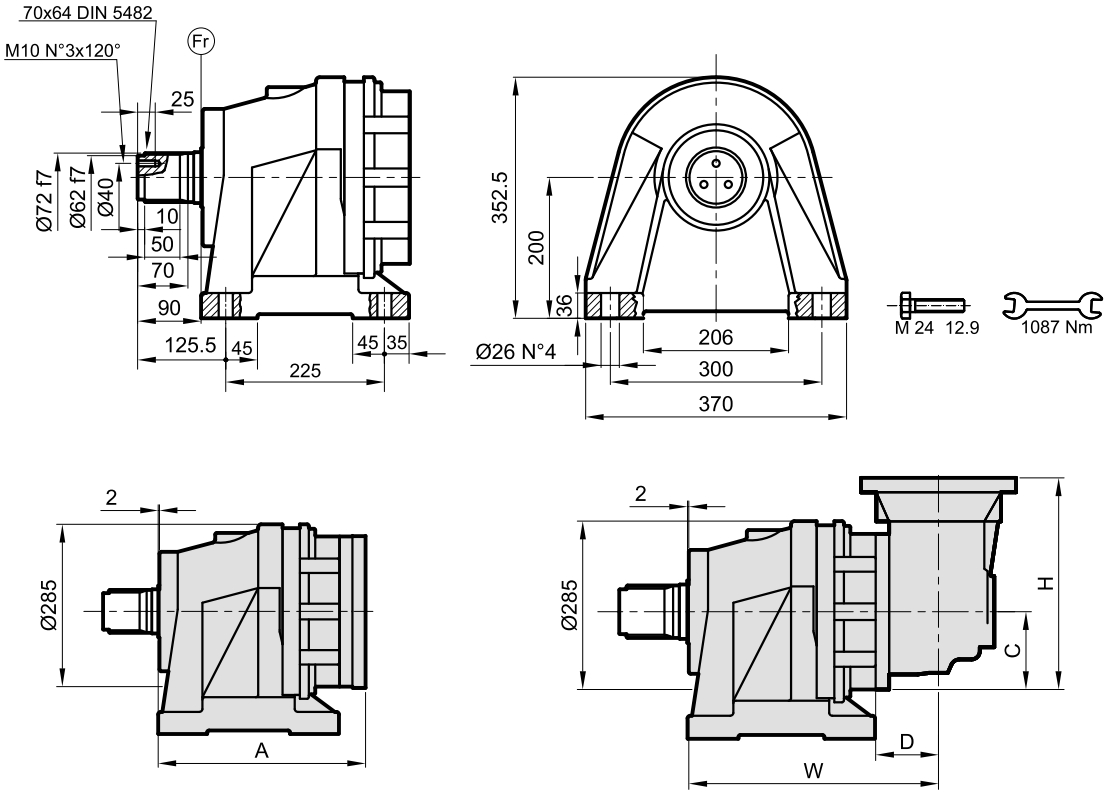
S□-G-050-□□-P80×130



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	291.5	-	-	-	-	114	-
2	351.5	355	118.5	140	390	126	165
3	399.5	427	75	92.5	253.5	133	144
4	447.5	475	75	92.5	253.5	140	151

(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-050-□□-W70×90

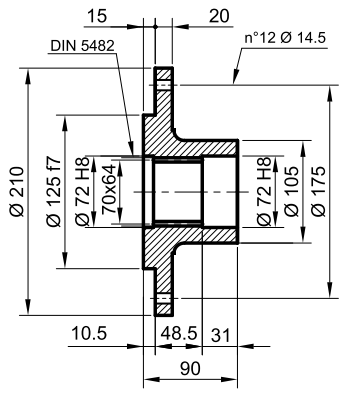


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	291.5	-	-	-	-	114	-
2	351.5	355	118.5	140	390	126	165
3	399.5	427	75	92.5	253.5	133	144
4	447.5	475	75	92.5	253.5	140	151

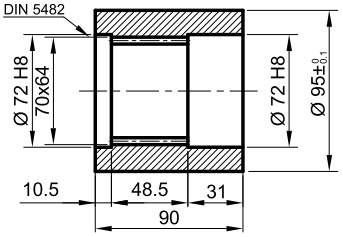
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

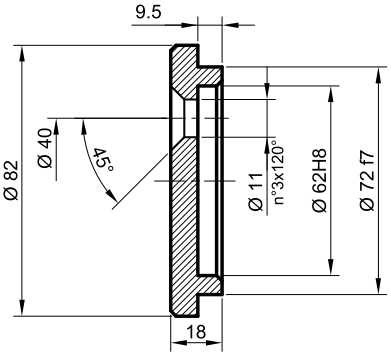
SA-F-70×64-R



SA-B-70×64-R

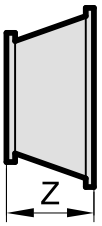


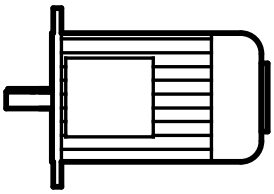
SA-P-72



Inputs

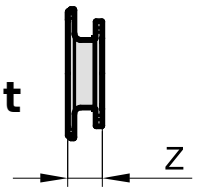
IEC Motor Input

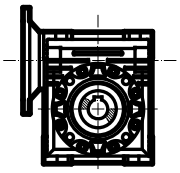




IEC	71	80	90	100	112	132	160	180	200	225	250	280
Stages	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
1	-	-	-	-	-	-	120.5	120.5	148.5	148.5	183.5	183.5
2	35.5	61.5	61.5	71	71	104	120.5	120.5	148.5	148.5	-	-
3	35.5	61.5	61.5	71	71	104	120.5	120.5	-	-	-	-
4	35.5	61.5	61.5	71	71	104	120.5	120.5	-	-	-	-

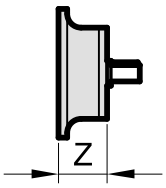
Worm Gearbox Input





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	-	-	-	-	95
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	-		159	185	-
2	112		159	-	-
3	112		-	-	-
4	112		-	-	-