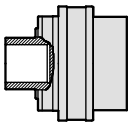
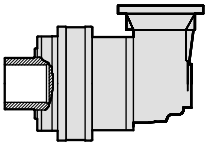
Size 110 - 37500 Nm

ST-110 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	37500	28250	61875	1000	1500	54	98
	4.71	31960	24070	52764	1000	1500	54	98
	5.85	23640	17800	47280	1000	1500	54	98
2	14.2	37500	28250	61875	1200	2000	34	96
	17.1	37500	28250	61875	1200	2000	34	96
	20.2	31960	24070	52764	1200	2000	34	96
	22.4	37500	28250	61875	1200	2000	34	96
	26.4	31960	24070	52764	1200	2000	34	96
	31.8	31960	24070	52764	1200	2000	34	96
3	53.7	37500	28250	61875	1500	2800	23	94
	58.7	37500	28250	61875	1500	2800	23	94
	64.8	37500	28250	61875	1500	2800	23	94
	70.7	37500	28250	61875	1500	2800	23	94
	83.2	31960	24070	52764	1500	2800	23	94
	88.6	37500	28250	61875	1500	2800	23	94
	99.6	31960	24070	52764	1500	2800	23	94
	108.7	31960	24070	52764	1500	2800	23	94
	121.3	31960	24070	52764	1500	2800	23	94
	136.2	31960	24070	52764	1500	2800	23	94
	158.1	31960	24070	52764	1500	2800	23	94
	164.1	31960	24070	52764	1500	2800	23	94
	191.1	31960	24070	52764	1500	2800	23	94
4	208.6	37500	28250	61875	1500	2800	17	92
	230.2	37500	28250	61875	1500	2800	17	92
	251.4	37500	28250	61875	1500	2800	17	92
	277.5	37500	28250	61875	1500	2800	17	92
	303.0	37500	28250	61875	1500	2800	17	92
	328.5	37500	28250	61875	1500	2800	17	92
	362.7	37500	28250	61875	1500	2800	17	92
	379.5	37500	28250	61875	1500	2800	17	92
	437.1	37500	28250	61875	1500	2800	17	92
	496.0	37500	28250	61875	1500	2800	17	92
	583.5	31960	24070	52764	1500	2800	17	92
	677.7	31960	24070	52764	1500	2800	17	92
	703.2	31960	24070	52764	1500	2800	17	92
	762.5	31960	24070	52764	1500	2800	17	92
	816.7	31960	24070	52764	1500	2800	17	92
	986.8	31960	24070	52764	1500	2800	17	92
	1067.3	31960	24070	52764	1500	2800	17	92
	1289.7	31960	24070	52764	1500	2800	17	92
	1554.5	31960	24070	52764	1500	2800	17	92

SX-110 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	14.2	37500	28250	61875	1200	2000	34	96
	16.7	31960	24070	52734	1200	2000	34	96
	18.5	37500	28250	64875	1200	2000	34	96
	21.8	31960	24070	52734	1200	2000	34	96
3	39.5	37500	28250	61875	1500	2800	23	94
	47.7	37500	28250	61875	1500	2800	23	94
	56.1	31960	24070	52734	1500	2800	23	94
	60.9	37500	28250	61875	1500	2800	23	94
	73.4	37500	28250	61875	1500	2800	23	94
	86.4	31960	24070	52734	1500	2800	23	94
	96.0	37500	28250	61875	1500	2800	23	94
	112.9	31960	24070	52734	1500	2800	23	94
4	123.6	37500	28250	61875	1500	2800	17	92
	148.9	37500	28250	61875	1500	2800	17	92
	162.6	37500	28250	61875	1500	2800	17	92
	175.2	31960	24070	52724	1500	2800	17	92
	184.8	37500	28250	61875	1500	2800	17	92
	194.6	37500	28250	61875	1500	2800	17	92
	203.7	37500	28250	61875	1500	2800	17	92
	222.7	37500	28250	61875	1500	2800	17	92
	243.2	37500	28250	61875	1500	2800	17	92
	266.2	37500	28250	61875	1500	2800	17	92
	276.0	31960	24070	52724	1500	2800	17	92
	291.1	37500	28250	61875	1500	2800	17	92
	309.1	37500	28250	61875	1500	2800	17	92
	317.9	37500	28250	61875	1500	2800	17	92
	342.5	31960	24070	52724	1500	2800	17	92
	373.5	37500	28250	61875	1500	2800	17	92
	398.1	37500	28250	61875	1500	2800	17	92
	412.8	31960	24070	52724	1500	2800	17	92
	462.3	37500	28250	61875	1500	2800	17	92
	558.7	37500	28250	61875	1500	2800	17	92
	657.2	31960	24070	52724	1500	2800	17	92
	792.2	31960	24070	52724	1500	2800	17	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

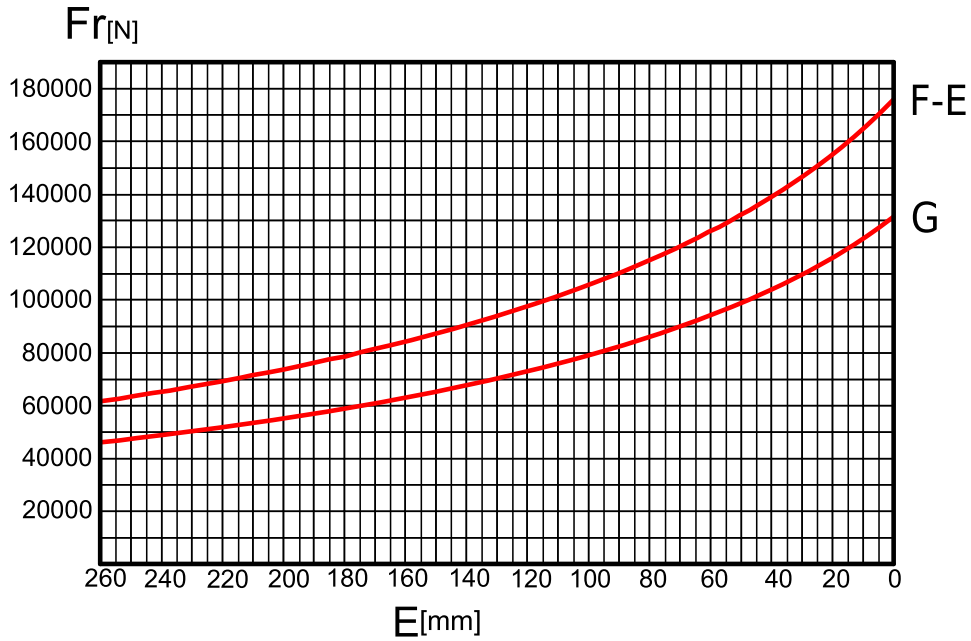
(4) n_{1max} is the maximum input speed for intermittent service. For continuous operation at speeds over n1n please inquire.

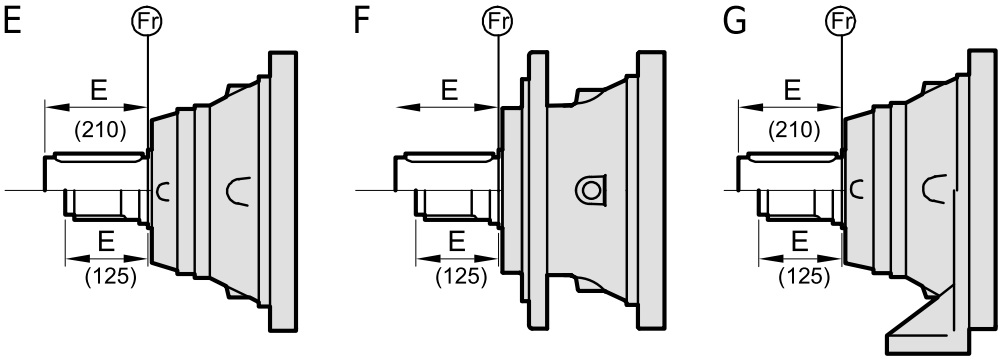
(5) Pt is the thermal power rating, that is the power in kW that, at 20°C, the gearbox can transmit during continuous operation, at $n_1=n_{1n}$ and lubricated with ISO-VG-220 oil without it exceeding 90°C. It depends on ambient temperature.

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

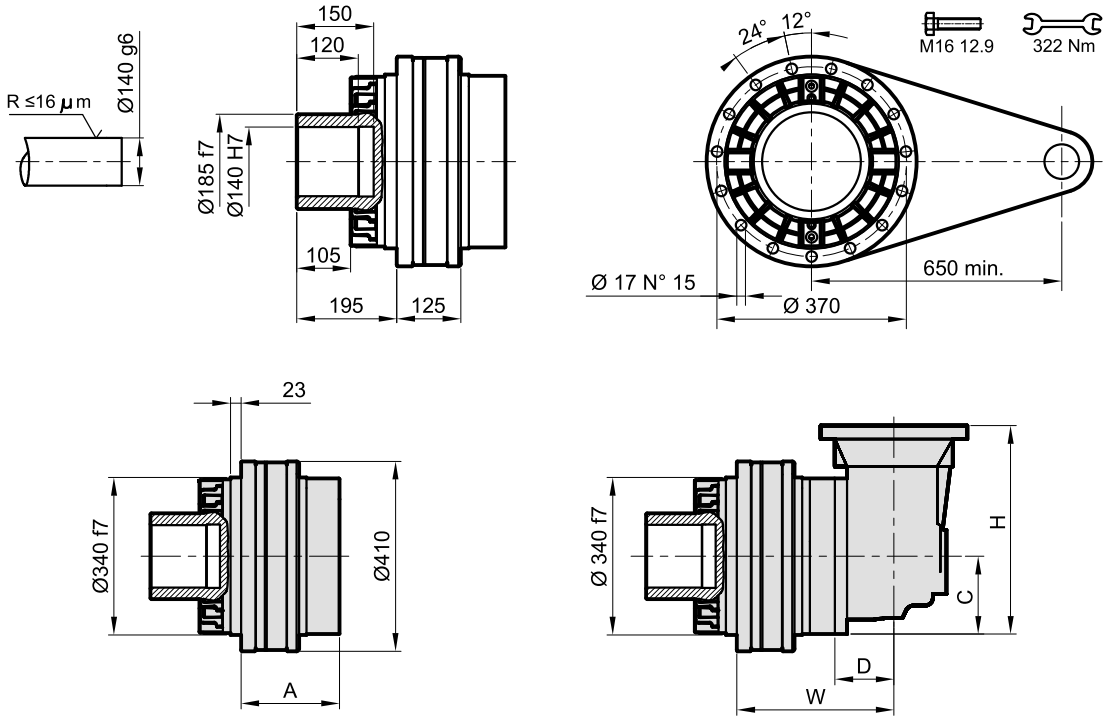
Axial Load Capacity is only given for gearboxes with solid shafts (Smooth Solid Shaft with Key (P) and DIN 5480 Splined Shaft (W)) for a design life of 6 million revolutions of the output shaft ($6 \cdot 10^6$). These values can be adjusted for other number of revolutions of the output shaft applying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

Axial Load Capacity depends on the direction of the load:

	Push	Pull
F_a	100000 N	80000 N

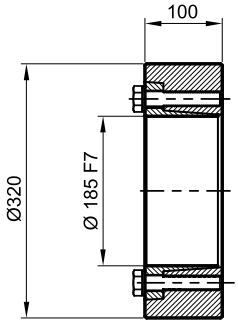
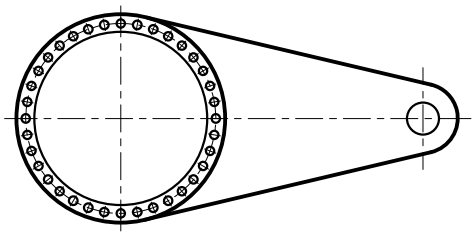
Dimensions

S□-E-110-□□-H140×150

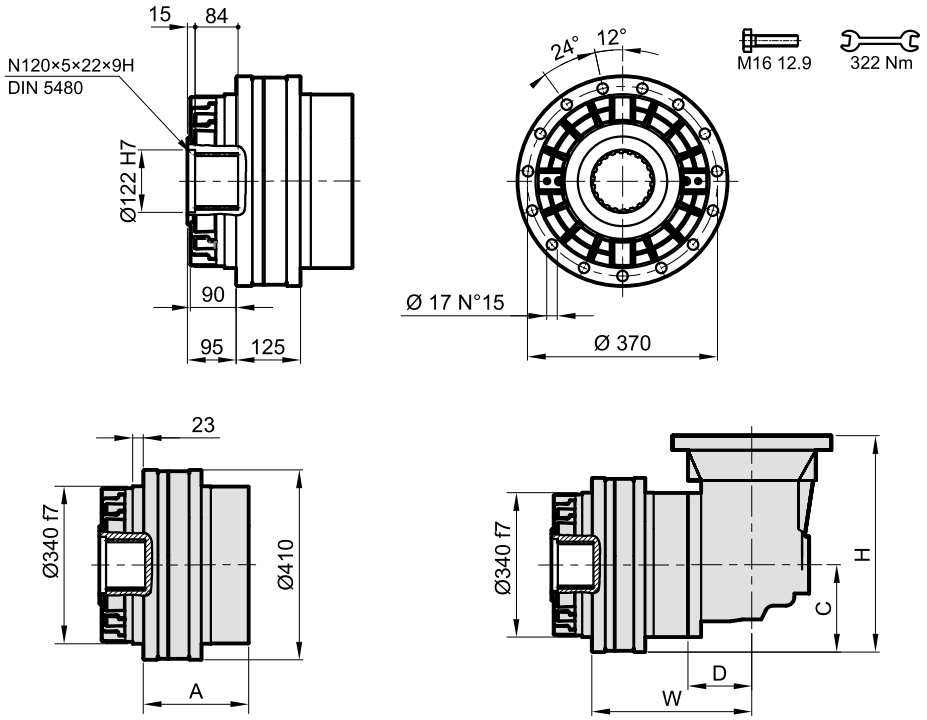


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	223	-	-	-	-	170	-
2	330.5	330	225.2	205	569	216	286
3	403	401	121	172.5	457	232	278
4	464.5	466	103	122	319	240	261

(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-185	**SA-T-□-340-370-15×17-□-□**
 Max. Torque: 81 kNm Screw Tightening Torque: 630 Nm	 See the chapter on Torque Arms

S□-E-110-□□-N120×99

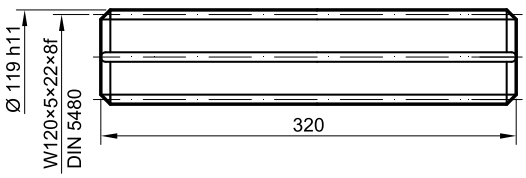


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	223	-	-	-	-	157	-
2	330.5	330	225.2	205	569	202	273
3	403	401	121	172.5	457	218	265
4	464.5	466	103	122	319	227	247

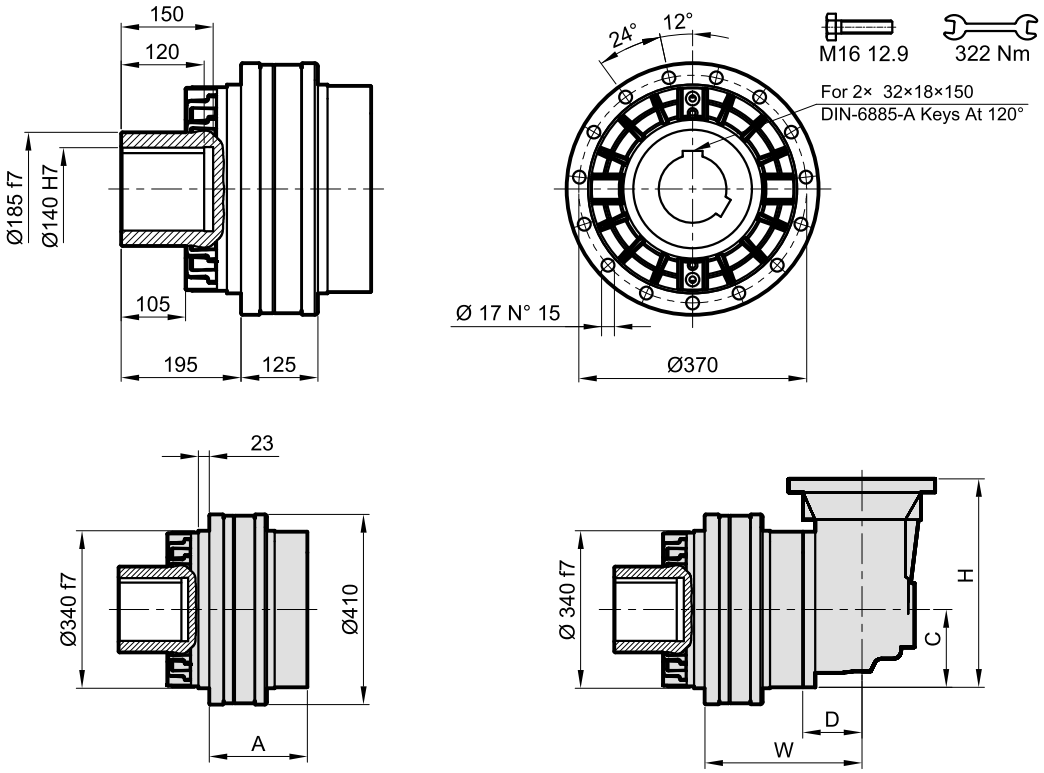
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

SA-S-120×5×22



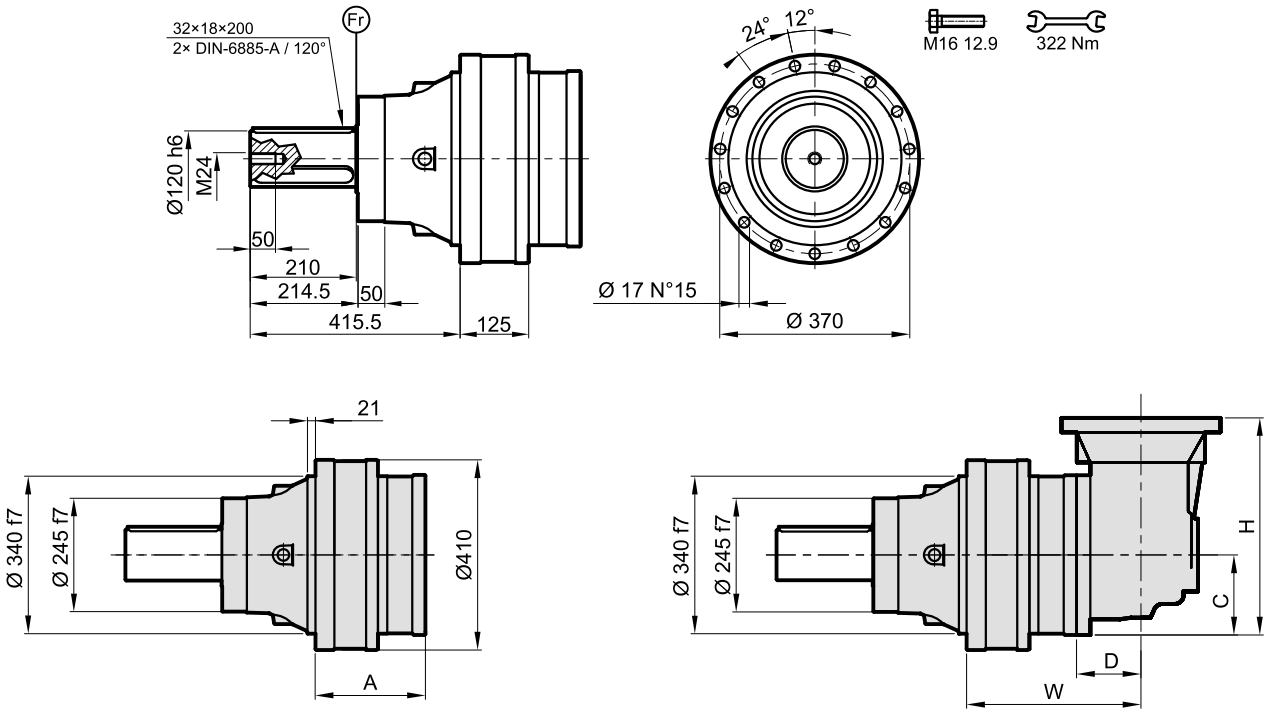
S□-E-110-□□-K140×150



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	223	-	-	-	-	186	-
2	330.5	330	225.2	205	569	231	302
3	403	401	121	172.5	457	247	294
4	464.5	466	103	122	319	256	276

(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.

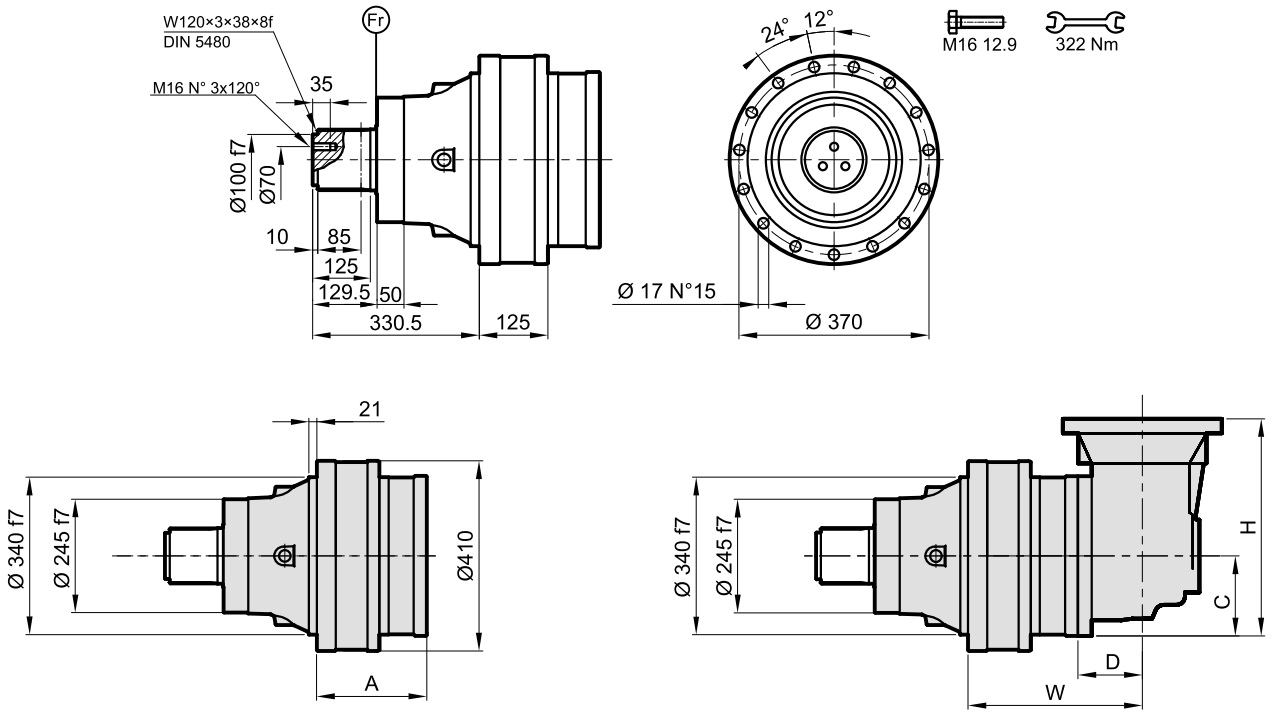
S□-E-110-□□-P120×210



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	233	-	-	-	-	206	-
2	340.5	340	225.2	205	569	252	323
3	413	411	121	172.5	457	268	315
4	474.5	476	103	122	319	276	297

(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-110-□□-W120×125

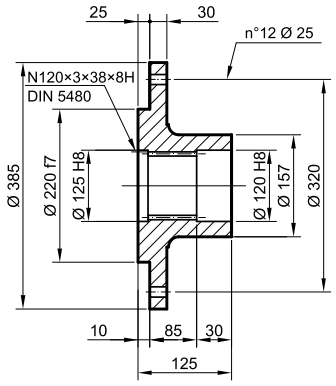


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	233	-	-	-	-	206	-
2	340.5	340	225.2	205	569	252	323
3	413	411	121	172.5	457	268	315
4	474.5	476	103	122	319	276	297

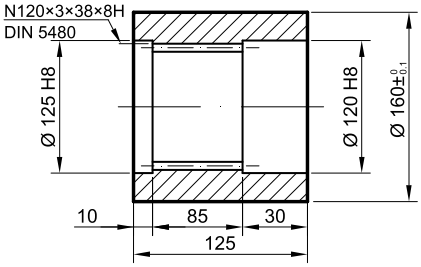
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

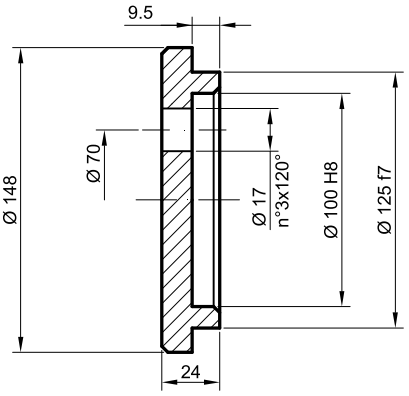
SA-F-120×3×38-S



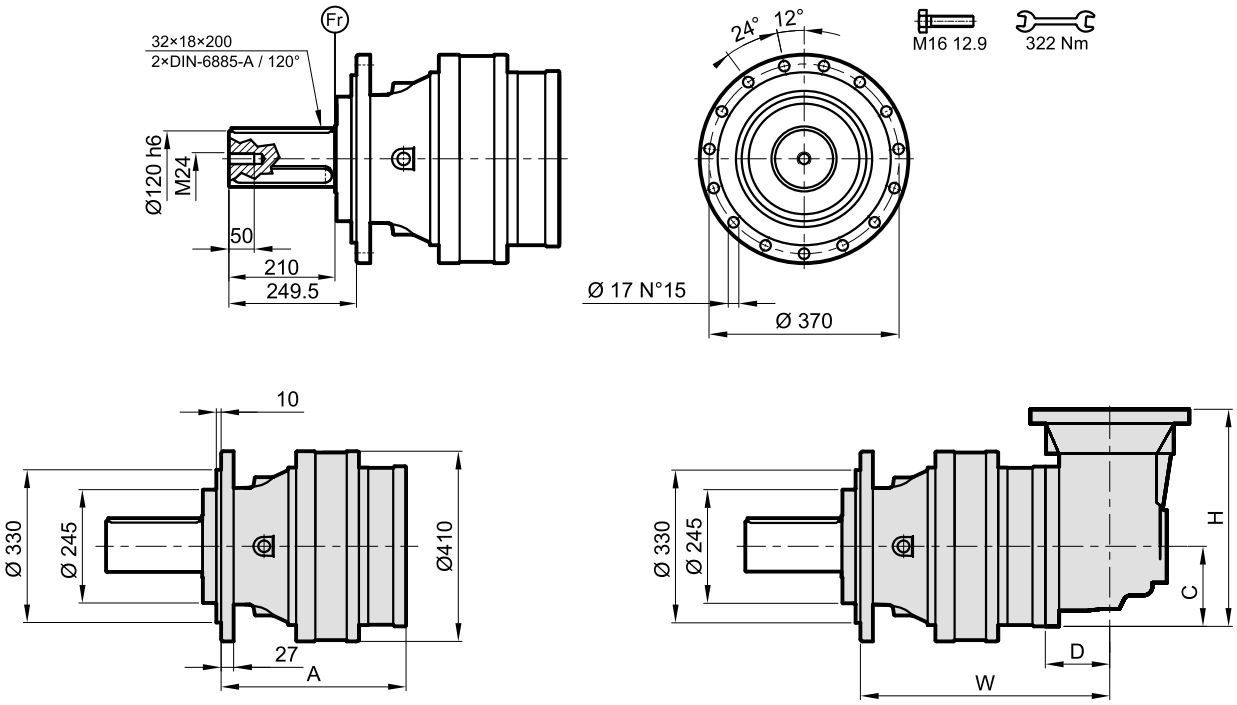
SA-B-120×3×38-S



SA-P-125



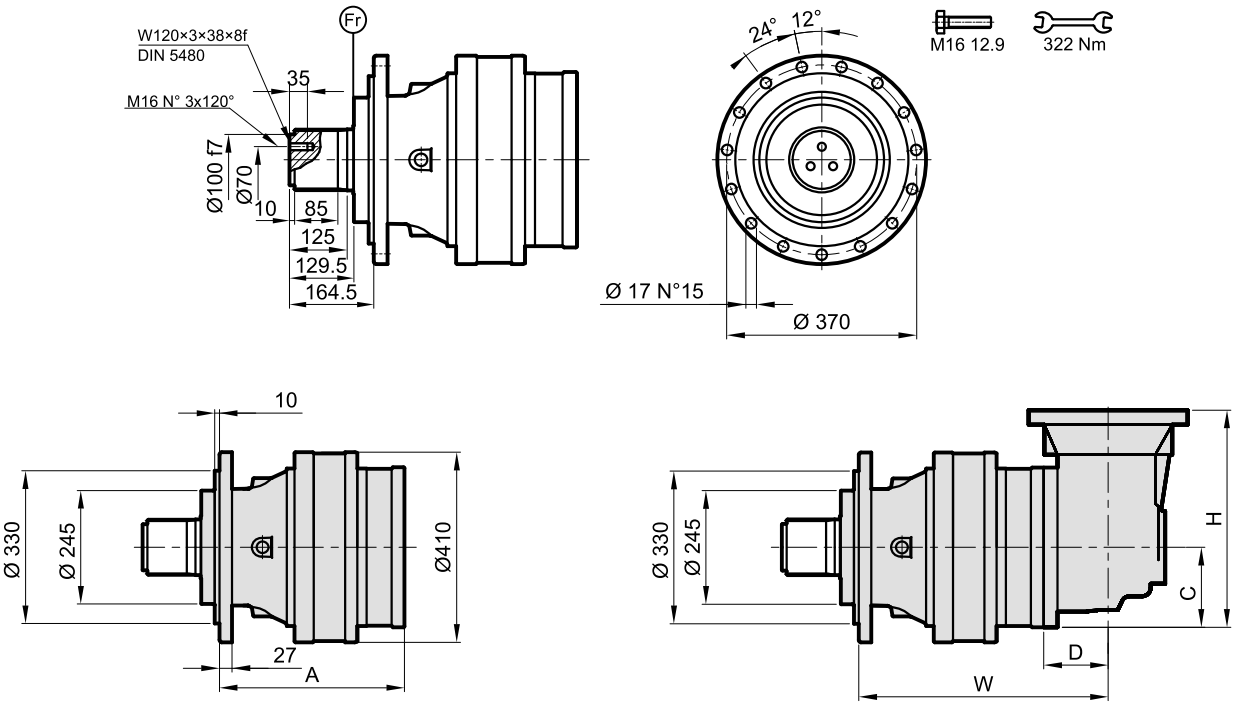
S□-F-110-□□-P120×210



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	398.5	-	-	-	-	229	-
2	506	506	225.2	205	569	274	345
3	578	576.5	121	172.5	457	291	338
4	640	642	103	122	319	299	320

(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-110-□□-W120×125

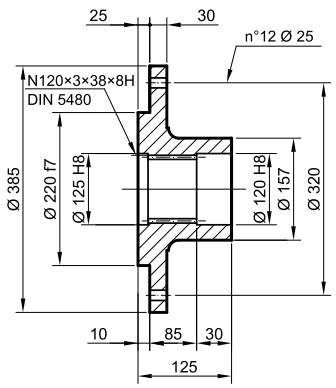


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	398.5	-	-	-	-	229	-
2	506	506	225.2	205	569	274	345
3	578	576.5	121	172.5	457	291	338
4	640	642	103	122	319	299	320

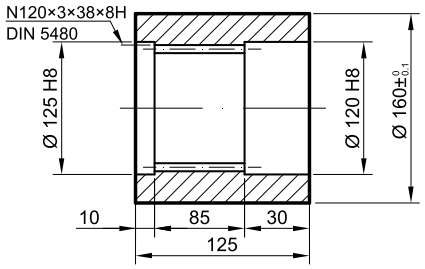
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

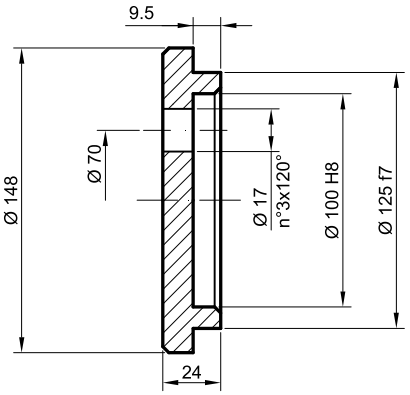
SA-F-120×3×38-S



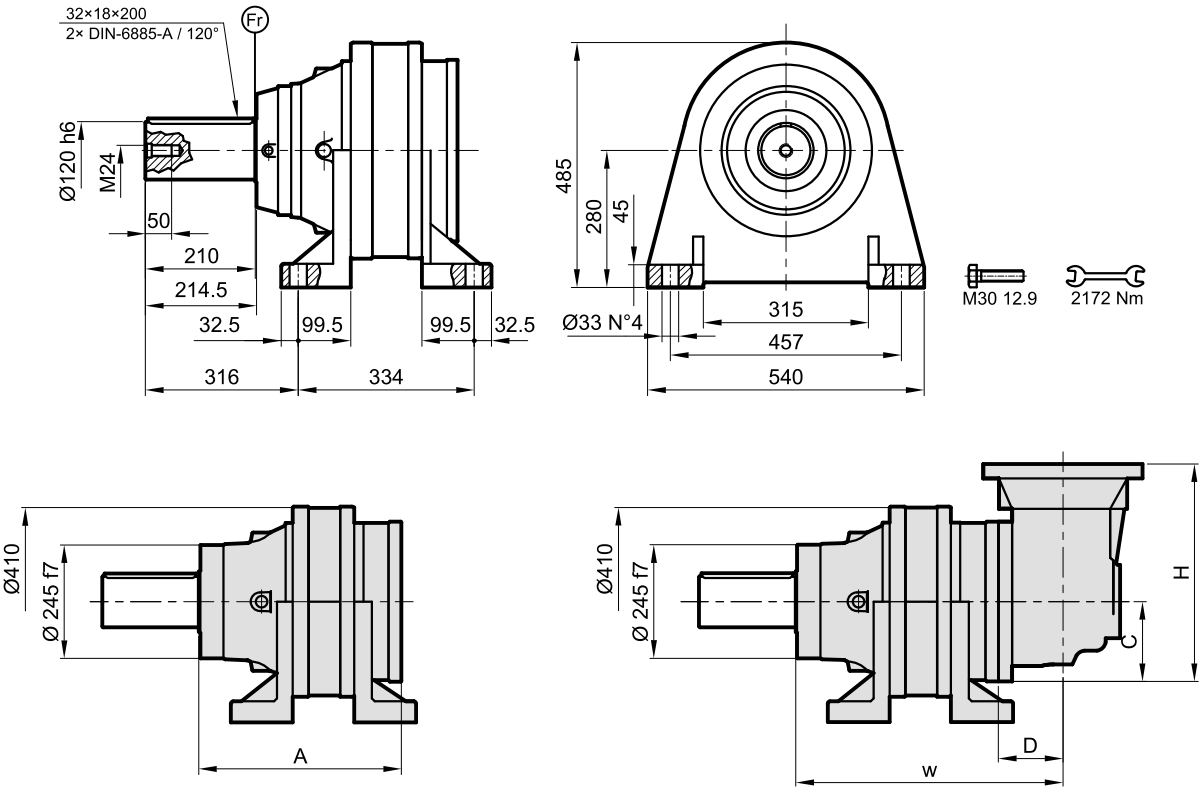
SA-B-120×3×38-S



SA-P-125



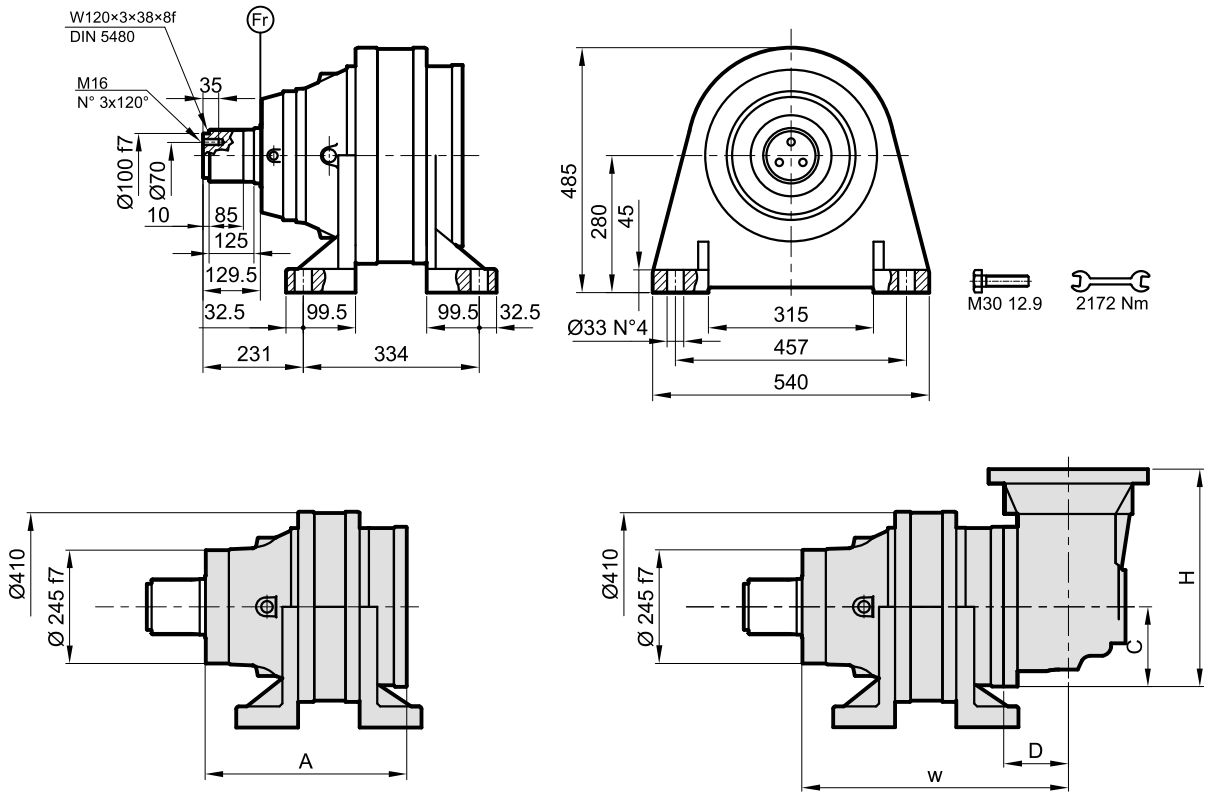
S□-G-110-□□-P120×210



Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	438	-	-	-	-	266	-
2	545.5	545	225.2	205	569	312	382
3	618	616	121	172.5	457	328	374
4	679.5	681	103	122	319	336	357

(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-110-□□-W120×125

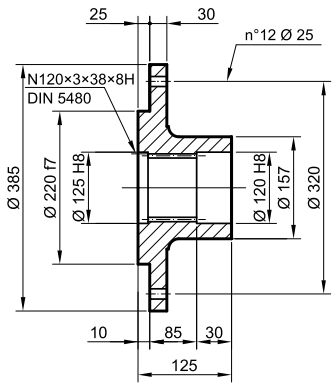


Stages	A	W	D	C	H	ST Mass (1)	SX Mass (1)
1	438	-	-	-	-	266	-
2	545.5	545	225.2	205	569	312	382
3	618	616	121	172.5	457	328	374
4	679.5	681	103	122	319	336	357

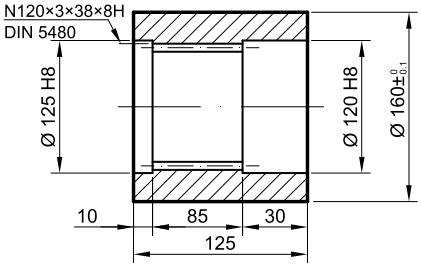
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

Accessories

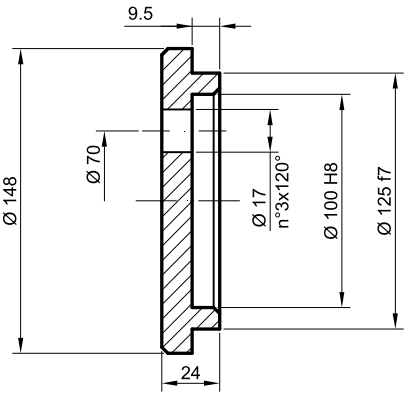
SA-F-120×3×38-S



SA-B-120×3×38-S

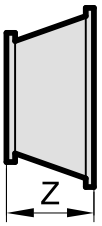


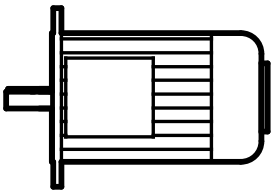
SA-P-125



Inputs

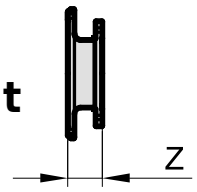
IEC Motor Input

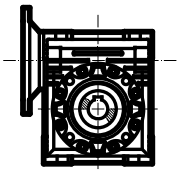




IEC	71	80	90	100	112	132	160	180	200	225	250	280
Stages	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
1	-	-	-	-	-	-	120.5	120.5	148.5	148.5	183.5	183.5
2	-	-	-	-	-	-	120.5	120.5	148.5	148.5	-	-
3	35.5	61.5	61.5	71	71	104	120.5	120.5	148.5	148.5	-	-
4	35.5	61.5	61.5	71	71	104	120.5	120.5	-	-	-	-

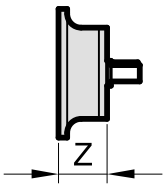
Worm Gearbox Input





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