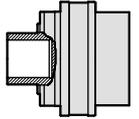


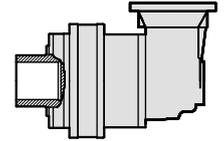
# Size 120 - 60800 Nm

## ST-120 Technical data



Stages	Ratio	$T_{2N(1.2M)}^{(1)}$	$T_{2N(6M)}^{(1)}$	$T_{2Peak}^{(2)}$	$n_{1N}^{(3)}$	$n_{1Max}^{(4)}$	$P_t^{(5)}$	$\eta$
	i	(Nm)	(Nm)	(Nm)	(rpm)	(rpm)	(kW)	(%)
1	4.00	60800	45800	121600	800	1200	60	98
	5.10	44500	33520	89000	800	1200	60	98
	6.00	35500	26740	71000	800	1200	60	98
2	14.0	60800	45800	121600	1200	2000	38	96
	16.9	60800	45800	121600	1200	2000	38	96
	21.7	44500	33520	89000	1200	2000	38	96
	28.4	44500	33520	121600	1200	2000	38	96
	33.6	35500	26740	71000	1200	2000	38	96
	40.5	35500	26740	71000	1200	2000	38	96
	53.1	60800	45800	121600	1500	2800	25	94
3	63.9	60800	45800	121600	1500	2800	25	94
	74.2	44500	33520	89000	1500	2800	25	94
	87.5	60800	45800	121600	1500	2800	25	94
	93.0	44500	33520	89000	1500	2800	25	94
	107.1	44500	33520	89000	1500	2800	25	94
	116.9	44500	33520	89000	1500	2800	25	94
	130.2	44500	33520	89000	1500	2800	25	94
	138.6	35500	26740	71000	1500	2800	25	94
	157.3	44500	33520	89000	1500	2800	25	94
	170.1	44500	33520	89000	1500	2800	25	94
	205.5	44500	33520	89000	1500	2800	25	94
	247.8	44500	33520	89000	1500	2800	25	94
	293.6	35500	26740	71000	1500	2800	25	94
4	324.4	60800	45800	121600	1500	2800	20	92
	358.1	60800	45800	121600	1500	2800	20	92
	391.0	60800	45800	121600	1500	2800	20	92
	431.6	60800	45800	121600	1500	2800	20	92
	471.3	60800	45800	121600	1500	2800	20	92
	520.8	44500	33520	89000	1500	2800	20	92
	557.7	44500	33520	89000	1500	2800	20	92
	590.3	60800	45800	121600	1500	2800	20	92
	604.8	44500	33520	89000	1500	2800	20	92
	673.9	44500	33520	89000	1500	2800	20	92
	730.8	44500	33520	89000	1500	2800	20	92
	789.4	44500	33520	89000	1500	2800	20	92
	878.6	44500	33520	89000	1500	2800	20	92
	952.5	44500	33520	89000	1500	2800	20	92
	1061.7	44500	33520	89000	1500	2800	20	92
	1151.0	44500	33520	89000	1500	2800	20	92
	1258.2	35500	26740	71000	1500	2800	20	92
	1387.4	44500	33520	89000	1500	2800	20	92
1672.3	44500	33520	89000	1500	2800	20	92	
1982.0	35500	26740	71000	1500	2800	20	92	

## SX-120 Technical data



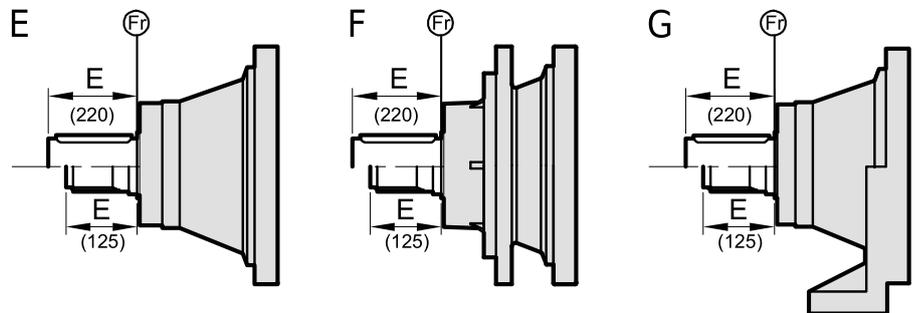
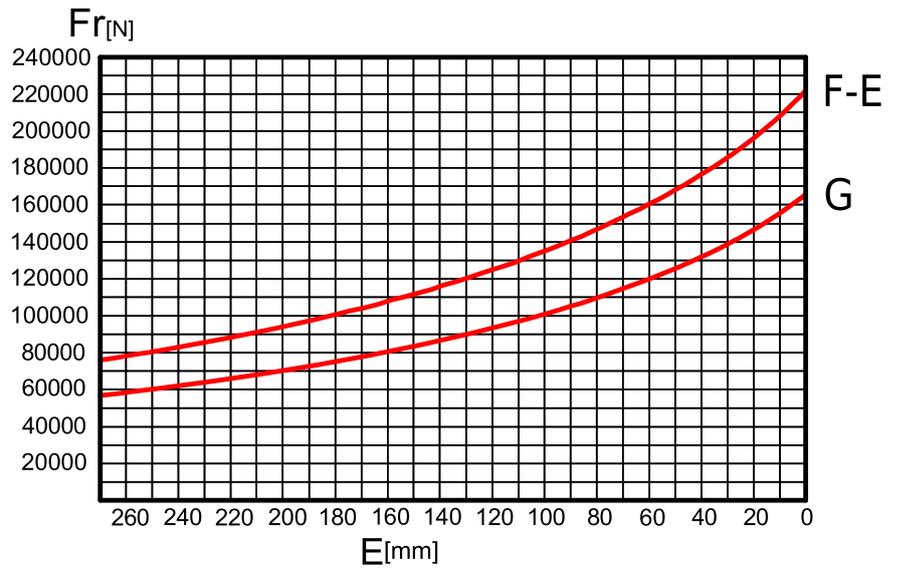
Stages	Ratio	$T_{2N(1.2M)}^{(1)}$	$T_{2N(6M)}^{(1)}$	$T_{2Peak}^{(2)}$	$n_{1N}^{(3)}$	$n_{1Max}^{(4)}$	$P_t^{(5)}$	$\eta$
	i	(Nm)	(Nm)	(Nm)	(rpm)	(rpm)	(kW)	(%)
2	16.0	60800	45800	121600	1200	2000	38	96
	20.6	44500	33520	89000	1200	2000	38	96
	24.4	35500	26740	71000	1200	2000	38	96
3	39.0	60800	45800	121600	1500	2800	25	94
	47.1	60800	45800	121600	1500	2800	25	94
	50.0	44500	33520	89000	1500	2800	25	94
	60.2	60800	45800	121600	1500	2800	25	94
	72.5	60800	45800	121600	1500	2800	25	94
	93.0	44500	33520	89000	1500	2800	25	94
	121.5	44500	33520	89000	1500	2800	25	94
	144.0	35500	26740	71000	1500	2800	25	94
	173.5	35500	26740	71000	1500	2800	25	94
	4	182.5	60800	45800	121600	1500	2800	20
201.1		60800	45800	121600	1500	2800	20	92
240.2		60800	45800	121600	1500	2800	20	92
281.9		44500	33520	89000	1500	2800	20	92
300.8		60800	45800	121600	1500	2800	20	92
368.4		44500	33520	89000	1500	2800	20	92
402.3		44500	33520	89000	1500	2800	20	92
444.1		44500	33520	89000	1500	2800	20	92
503.9		44500	33520	89000	1500	2800	20	92
585.1		44500	33520	89000	1500	2800	20	92
607.4		44500	33520	89000	1500	2800	20	92
693.5		35500	26740	71000	1500	2800	20	92
707.1		44500	33520	89000	1500	2800	20	92
852.3		44500	33520	89000	1500	2800	20	92
924.2		35500	26740	71000	1500	2800	20	92
1073.3		35500	26740	71000	1500	2800	20	92
1296.9		35500	26740	71000	1500	2800	20	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  $n_{1n}$  please inquire.
- (5)  $P_t$  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

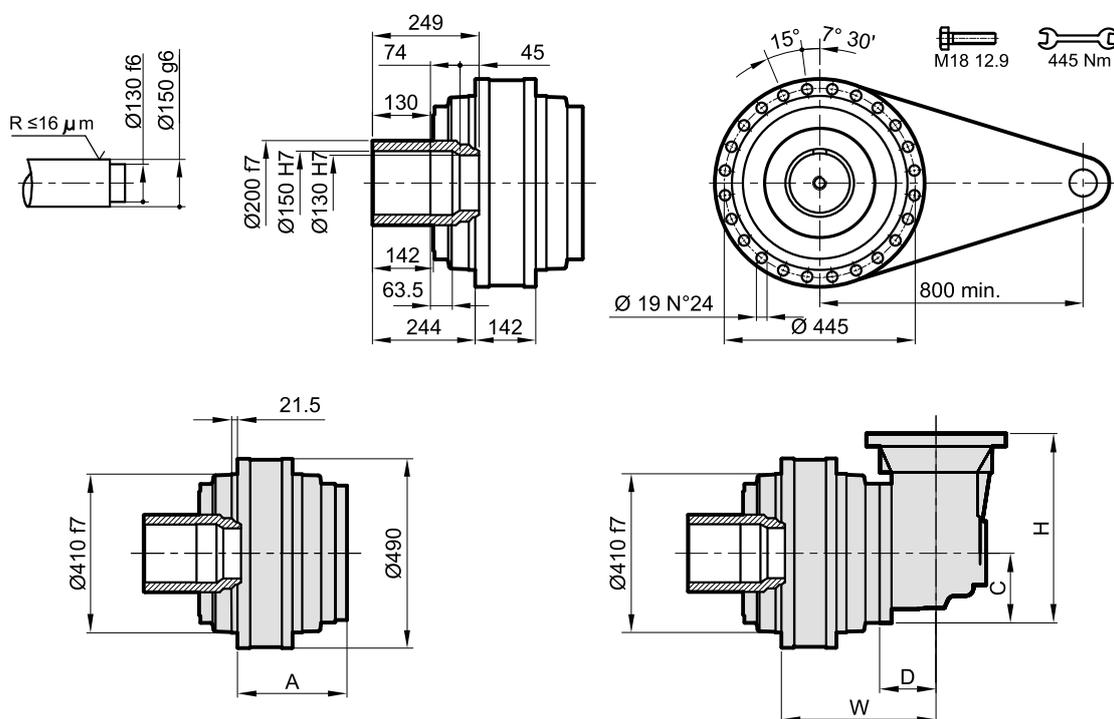
Axial Load Capacity is only given for gearboxes with solid shafts (Smooth Solid Shaft with Key (P) and DIN 5480 Splined Shaft (W)) for a design life of 6 million revolutions of the output shaft ( $6 \cdot 10^6$ ). These values can be adjusted for other number of revolutions of the output shaft applying 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-120-□□-H150×249

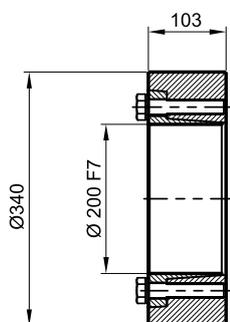


Stages	A	W	D	C	H	ST Mass <sup>(1)</sup>	SX Mass <sup>(1)</sup>
<b>1</b>	254	-	-	-	-	272	-
<b>2</b>	361	401.5	279.5	245	536.5	322	429
<b>3</b>	433	403.5	121	172.5	457	338	384
<b>4</b>	494	411.5	103	122	319	346	267

(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.

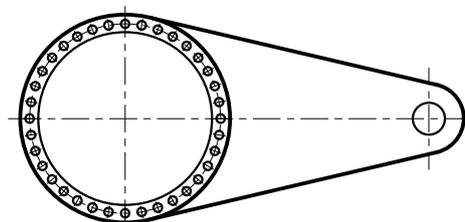
### Accessories

#### SA-H-200



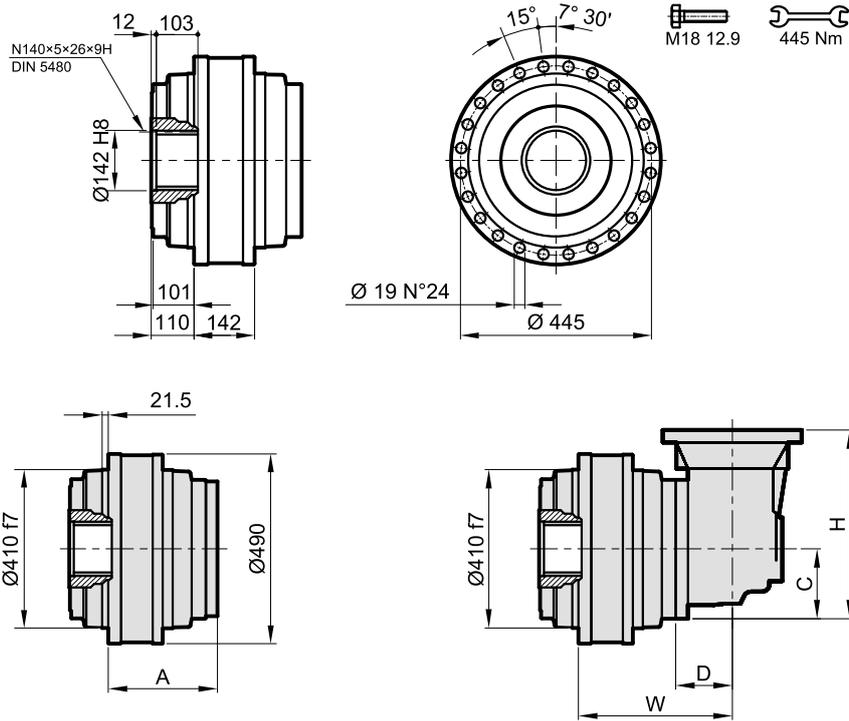
Max. Torque: 127 kNm  
Screw Tightening Torque: 630 Nm

#### SA-T-□-410-445-15×17-□-□



See the chapter on Torque Arms

## S□-E-120-□□-N140×115

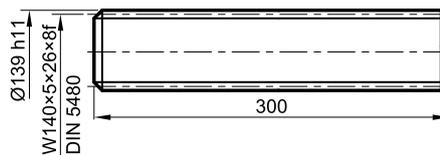


Stages	A	W	D	C	H	ST Mass <sup>(1)</sup>	SX Mass <sup>(1)</sup>
<b>1</b>	254	-	-	-	-	257	-
<b>2</b>	361	401.5	279.5	245	536.5	307	414
<b>3</b>	433	403.5	121	172.5	457	323	369
<b>4</b>	494	411.5	103	122	319	332	352

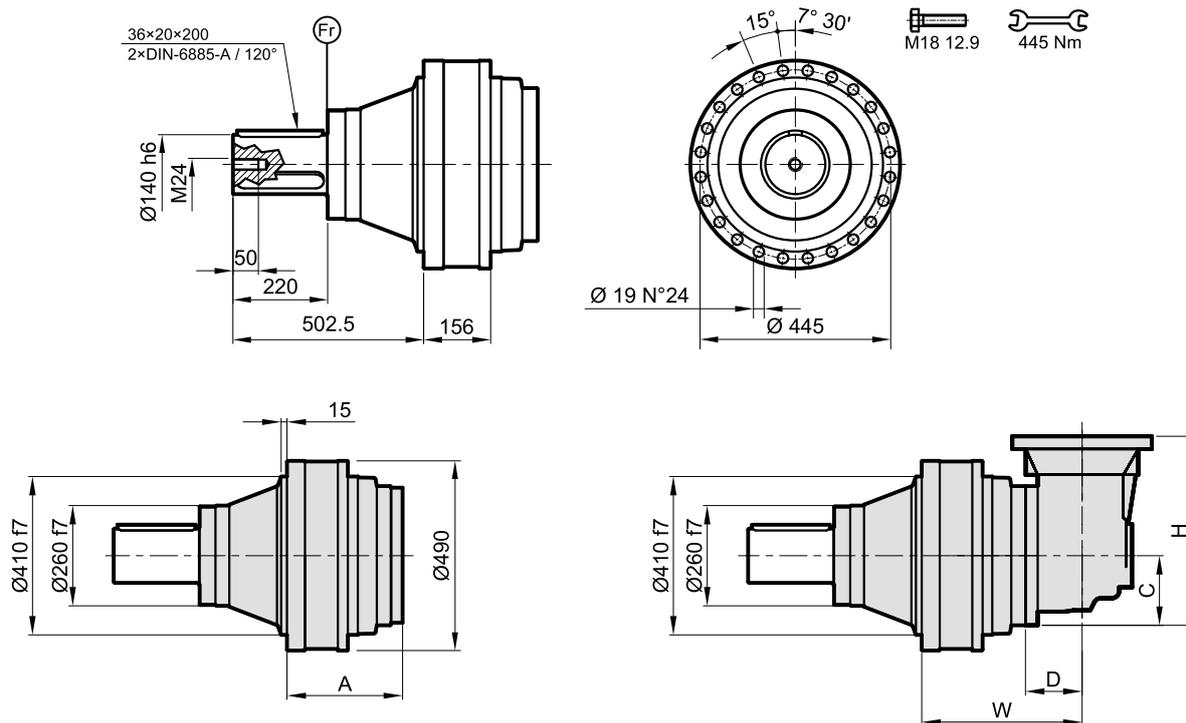
(1) Mass in kg for gearboxes without input modules (solid input shaft, motor flange, etc) or accessories. To obtain actual mass, add the mass for your chosen input module, please inquire.

### Accessories

#### SA-S-120×5×22



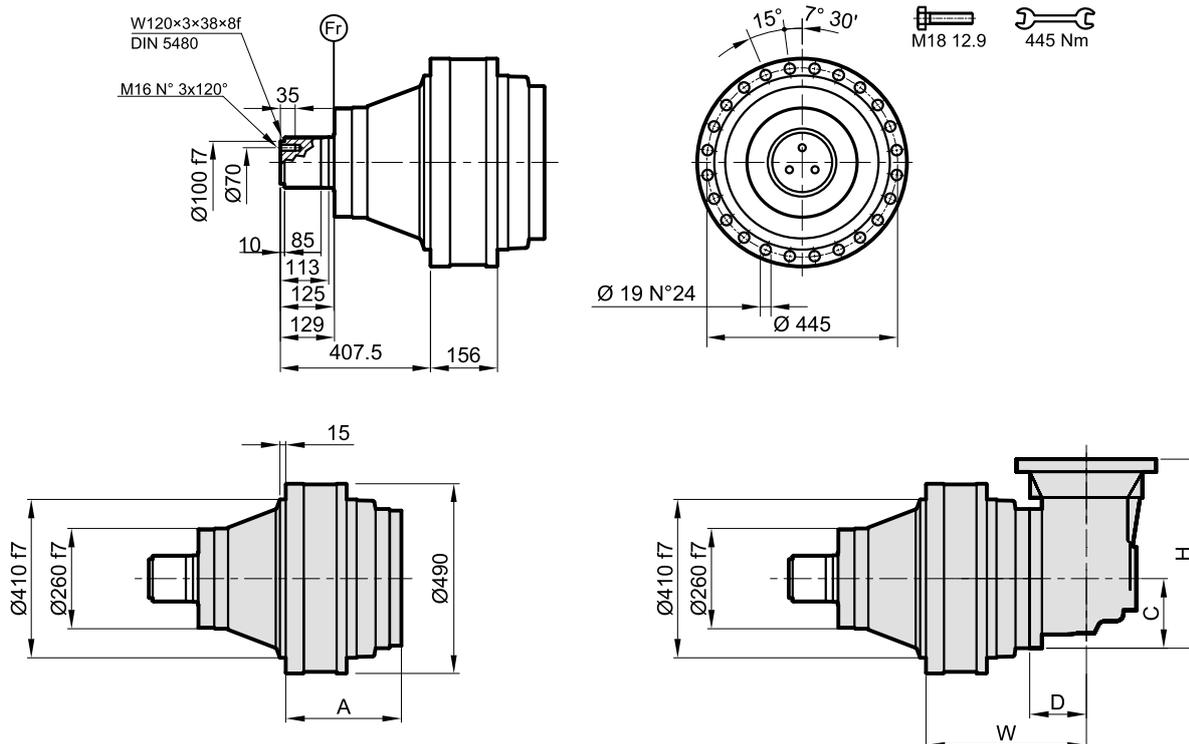
## S□-E-120-□□-P140×220



Stages	A	W	D	C	H	ST Mass <sup>(1)</sup>	SX Mass <sup>(1)</sup>
<b>1</b>	268	-	-	-	-	352	-
<b>2</b>	375	415.5	279.5	245	536.5	402	508
<b>3</b>	447	417.5	121	172.5	457	418	464
<b>4</b>	508	425.5	103	122	319	426	447

(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-120-□□-W120×125

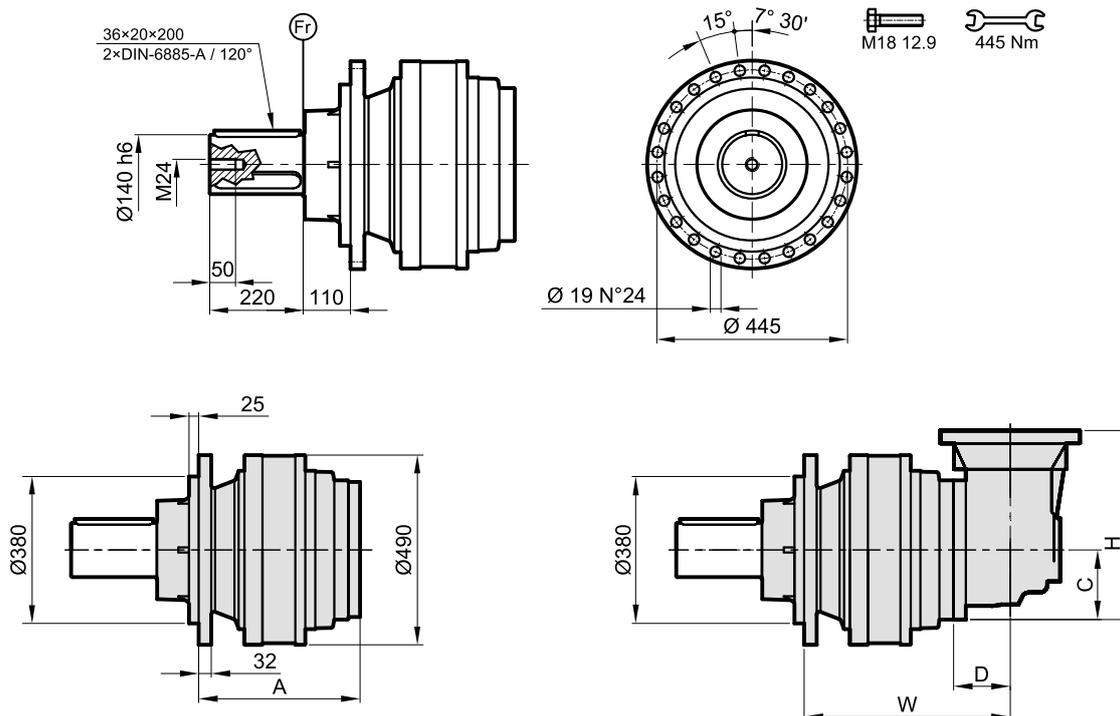


Stages	A	W	D	C	H	ST Mass <sup>(1)</sup>	SX Mass <sup>(1)</sup>
<b>1</b>	268	-	-	-	-	352	-
<b>2</b>	375	415.5	279.5	245	536.5	402	508
<b>3</b>	447	417.5	121	172.5	457	418	464
<b>4</b>	508	425.5	103	122	319	426	447

(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

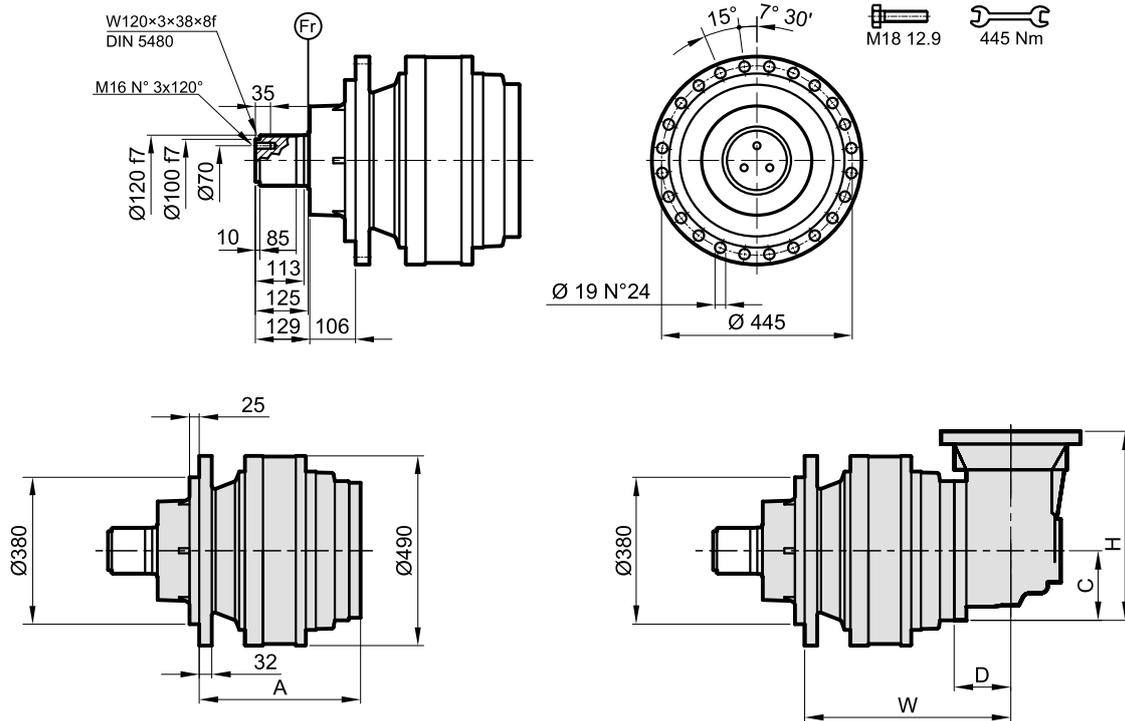
## S□-F-120-□□-P150×220



Stages	A	W	D	C	H	ST Mass <sup>(1)</sup>	SX Mass <sup>(1)</sup>
<b>1</b>	440.5	-	-	-	-	397	-
<b>2</b>	547.5	588	279.5	245	536.5	448	554
<b>3</b>	619.5	590	121	172.5	457	464	509
<b>4</b>	680.5	598	103	122	319	472	493

(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-120-□□-W120×125

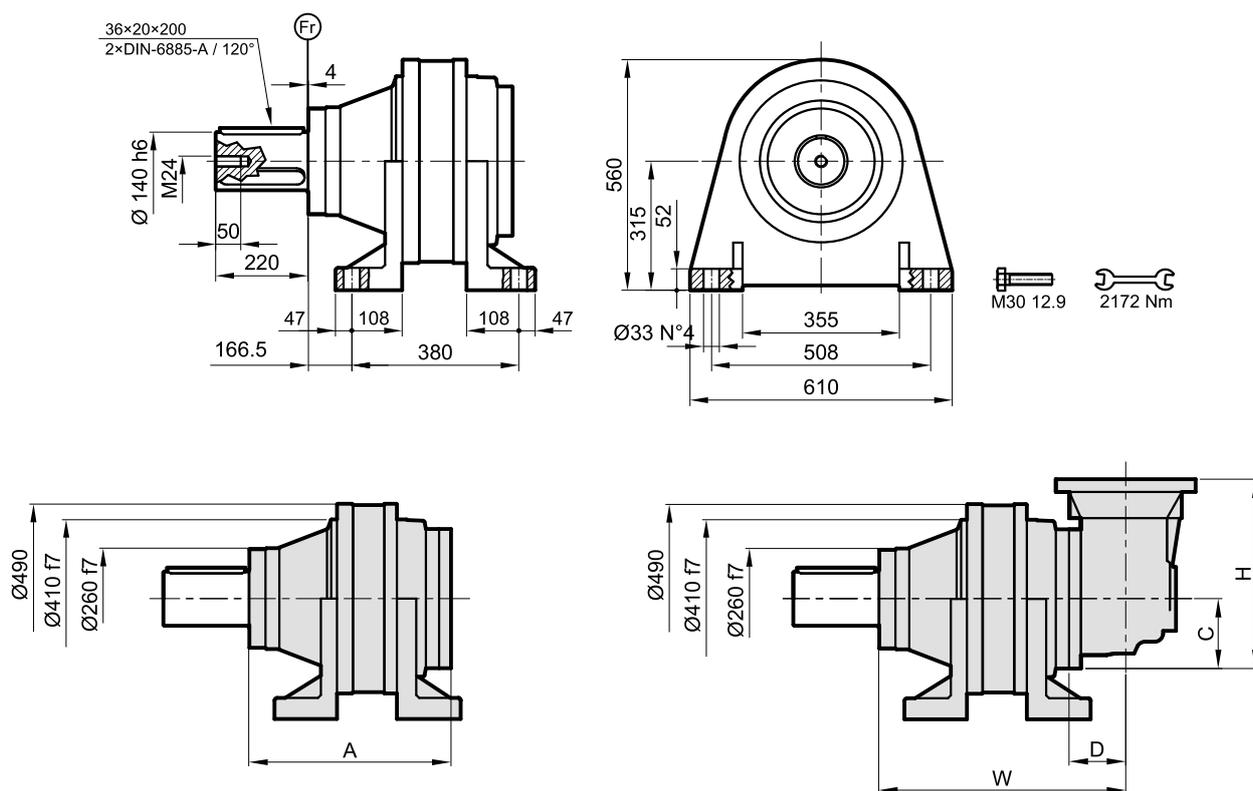


Stages	A	W	D	C	H	ST Mass <sup>(1)</sup>	SX Mass <sup>(1)</sup>
<b>1</b>	440.5	-	-	-	-	397	-
<b>2</b>	547.5	588	279.5	245	536.5	448	554
<b>3</b>	619.5	590	121	172.5	457	464	509
<b>4</b>	680.5	598	103	122	319	472	493

(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

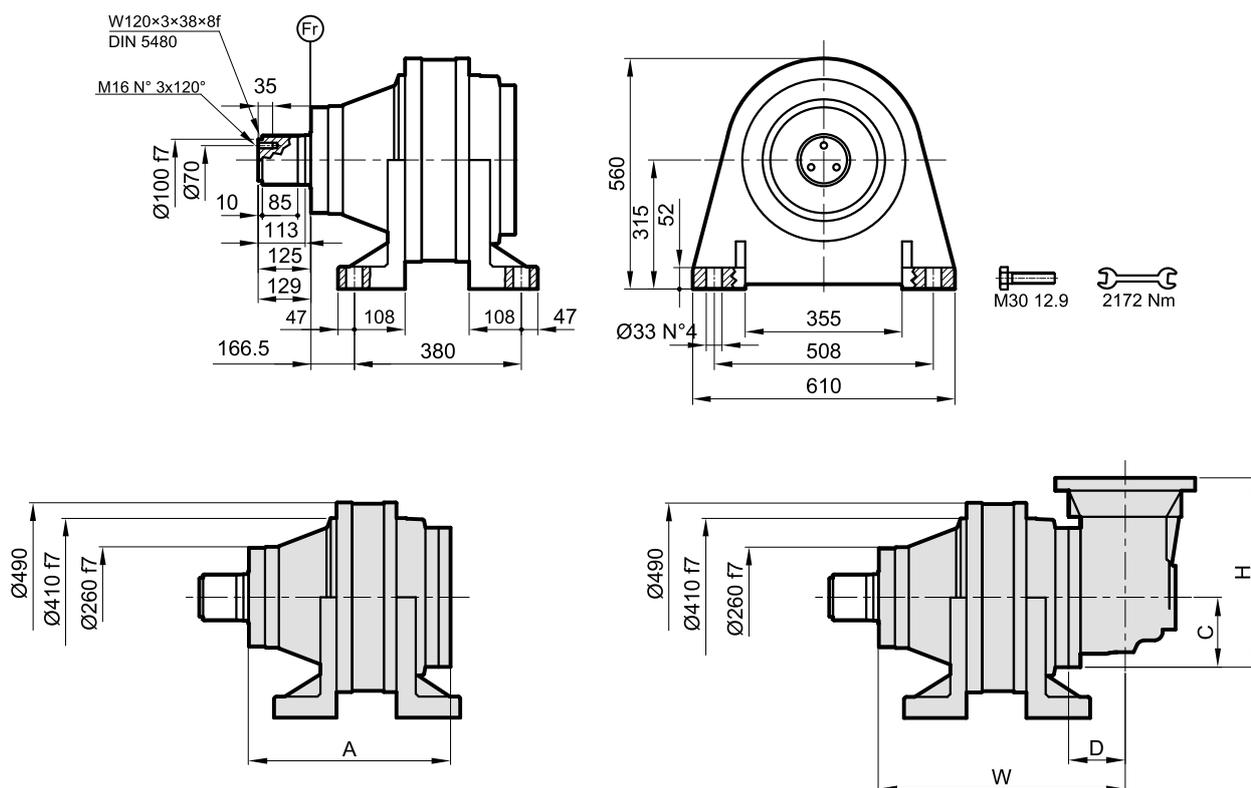
## S□-G-120-□□-P140×220



Stages	A	W	D	C	H	ST Mass <sup>(1)</sup>	SX Mass <sup>(1)</sup>
<b>1</b>	551	-	-	-	-	438	-
<b>2</b>	658	698	279.5	245	536.5	488	595
<b>3</b>	730	701	121	172.5	457	504	550
<b>4</b>	791	709	103	122	319	513	533

(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-120-□□-W120×125



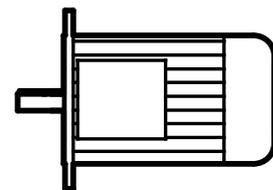
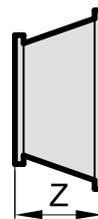
Stages	A	W	D	C	H	ST Mass <sup>(1)</sup>	SX Mass <sup>(1)</sup>
<b>1</b>	551	-	-	-	-	438	-
<b>2</b>	658	698	279.5	245	536.5	488	595
<b>3</b>	730	701	121	172.5	457	504	550
<b>4</b>	791	709	103	122	319	513	533

(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

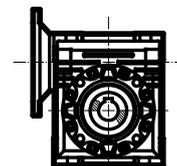
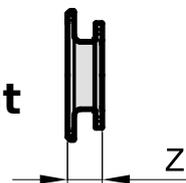
## Inputs

### IEC Motor Input



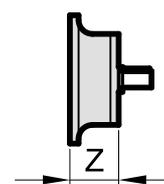
IEC	71	80	90	100	112	132	160	180	200	225	250	280
Stages	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
1	-	-	-	-	-	-	120.5	120.5	148.5	148.5	183.5	183.5
2	-	-	-	-	-	-	120.5	120.5	148.5	148.5	-	-
3	35.5	61.5	61.5	71	71	104	120.5	120.5	148.5	148.5	-	-
4	35.5	61.5	61.5	71	71	104	120.5	120.5	-	-	-	-

### 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 Input204



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	185	-
3	112		159	-	-
4	112		-	-	-