

Ordering code for standard program

	A2F		O		/	6			-	V				
01	02	03	04	05		06	07	08		09	10	11	12	13

Hydraulic fluid

01	Mineral oil and HFD. HFD for sizes 250 to 1000 only in combination with long-life bearings "L" (without code)													
	HFB, HFC hydraulic fluid													
	Sizes 5 to 200 (without code) Sizes 250 to 1000 (only in combination with long-life bearings "L")													E-

Axial piston unit

02	Bent-axis design, fixed												A2F
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Drive shaft bearing

		5 to 200	250 to 500	710 to 1000	
03	Standard bearing (without code)	●	●	-	
	Long-life bearing	-	●	●	L

Operating mode

04	Pump, open circuit												O
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Sizes (NG)

05	Geometric displacement, see table of values on page 7																					
		5	10	12	16	23	28	32	45	56	63	80	90	107	125	160	180	200	250	355	500	710

Series

06													6
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Index

07													NG10 to 180	1
													NG200	3
													NG5 and 250 to 1000	0

Directions of rotation

08	Viewed on drive shaft												clockwise	R
													counter-clockwise	L

Seals

09	FKM (fluor-caoutchouc)												V
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Drive shafts

		5	10	12	16	23	28	32	45	56	63	80	90	107	125	160	180	200	250 to 1000	
10	Splined shaft DIN 5480	-	●	●	●	●	●	●	-	●	●	●	●	●	●	●	●	●	-	A
		-	●	●	-	●	●	-	●	●	-	●	-	●	-	●	-	-	●	Z
	Parallel keyed shaft DIN 6885	●	●	●	●	●	●	-	●	●	●	●	●	●	●	●	●	●	-	B
		-	●	●	-	●	●	-	●	●	-	●	-	●	-	●	-	-	●	P
Conical shaft ¹⁾	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	

Mounting flanges

			5 to 250	355 to 1000
11	ISO 3019-2	4-hole	●	-
		8-hole	-	●

● = Available ○ = On request - = Not available ■ = Preferred program

1) Conical shaft with threaded pin and woodruff key (DIN 6888). The torque must be transmitted via the tapered press fit.

Ordering code for standard program

	A2F		O		/	6			-	V				
01	02	03	04	05		06	07	08		09	10	11	12	13

Port plates for service lines²⁾

		5	10 to 16	23 to 250	355 to 1000	
12	SAE flange port A/B at side and SAE flange port S at rear	-	-	●	-	05
	Threaded port A/B at side and threaded port S at rear	-	●	-	-	06
	SAE flange ports A/B and S at rear	-	-	-	●	11
	Threaded ports A/B and S at side	●	-	-	-	07

Standard / special version

13	Standard version (without code)	
	Standard version with installation variants, e. g. T ports against standard open or closed	-Y
	Special version	-S

● = Available ○ = On request - = Not available ■ = Preferred program

²⁾ Fastening thread or threaded ports, metric

Technical data

Table of values (theoretical values, without efficiency and tolerances; values rounded)

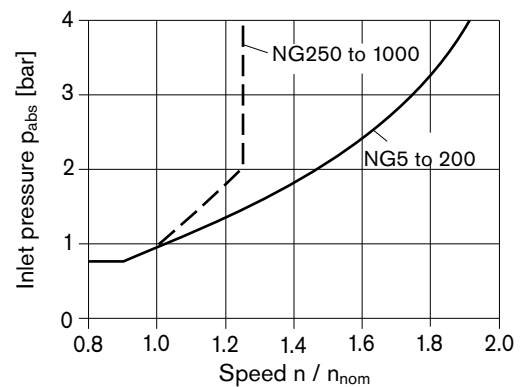
Size	NG		5	10	12	16	23	28	32	45	56	63	80
Displacement geometric, per revolution	V_g	cm ³	4.93	10.3	12	16	22.9	28.1	32	45.6	56.1	63	80.4
Speed maximum ¹⁾	n_{nom}	rpm	5600	3150	3150	3150	2500	2500	2500	2240	2000	2000	1800
	$n_{max}^{2)}$	rpm	8000	6000	6000	6000	4750	4750	4750	4250	3750	3750	3350
Flow at n_{nom}	q_v	L/min	27.6	32	38	50	57	70	80	102	112	126	145
Power at	$\Delta p = 350$ bar	P	14.5 ⁴⁾	19	22	29	33	41	47	60	65	74	84
	$\Delta p = 400$ bar	P	–	22	25	34	38	47	53	68	75	84	96
Torque ³⁾													
at V_g and	$\Delta p = 350$ bar	T	24.7 ⁴⁾	57	67	89	128	157	178	254	313	351	448
	$\Delta p = 400$ bar	T	–	66	76	102	146	179	204	290	357	401	512
Rotary stiffness	c	kNm/rad	0.63	0.92	1.25	1.59	2.56	2.93	3.12	4.18	5.94	6.25	8.73
Moment of inertia for rotary group	J_{GR}	kgm ²	0.00006	0.0004	0.0004	0.0004	0.0012	0.0012	0.0012	0.0024	0.0042	0.0042	0.0072
Maximum angular acceleration	α	rad/s ²	5000	5000	5000	5000	6500	6500	6500	14600	7500	7500	6000
Case volume	V	L		0.17	0.17	0.17	0.20	0.20	0.20	0.33	0.45	0.45	0.55
Mass (approx.)	m	kg	2.5	6	6	6	9.5	9.5	9.5	13.5	18	18	23

Size	NG		90	107	125	160	180	200	250	355	500	710	1000
Displacement geometric, per revolution	V_g	cm ³	90	106.7	125	160.4	180	200	250	355	500	710	1000
Speed maximum ¹⁾	n_{nom}	rpm	1800	1600	1600	1450	1450	1550	1500	1320	1200	1200	950
	$n_{max}^{2)}$	rpm	3350	3000	3000	2650	2650	2750	1800	1600	1500	1500	1200
Flow at n_{nom}	q_v	L/min	162	171	200	233	261	310	375	469	600	852	950
Power at	$\Delta p = 350$ bar	P	95	100	117	136	152	181	219	273	350	497	554
	$\Delta p = 400$ bar	P	108	114	133	155	174	207	–	–	–	–	–
Torque ³⁾													
at V_g and	$\Delta p = 350$ bar	T	501	594	696	893	1003	1114	1393	1978	2785	3955	5570
	$\Delta p = 400$ bar	T	573	679	796	1021	1146	1273	–	–	–	–	–
Rotary stiffness	c	kNm/rad	9.14	11.2	11.9	17.4	18.2	57.3	73.1	96.1	144	270	324
Moment of inertia for rotary group	J_{GR}	kgm ²	0.0072	0.0116	0.0116	0.0220	0.0220	0.0353	0.061	0.102	0.178	0.55	0.55
Maximum angular acceleration	α	rad/s ²	6000	4500	4500	3500	3500	11000	10000	8300	5500	4300	4500
Case volume	V	L	0.55	0.8	0.8	1.1	1.1	2.7	2.5	3.5	4.2	8	8
Mass (approx.)	m	kg	23	32	32	45	45	66	73	110	155	325	336

- The values are valid:
 - at an absolute pressure $p_{abs} = 1$ bar at suction port S
 - for the optimum viscosity range from $v_{opt} = 16$ to 36 mm²/s
 - with hydraulic fluid based on mineral oils
- Maximum speed (limiting speed) with increased inlet pressure p_{abs} at suction port S, see adjacent diagram.
- Torque without radial force, with radial force see page 8
- Torque at $\Delta p = 315$ bar

Note

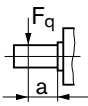
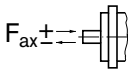
Operation above the maximum values or below the minimum values may result in a loss of function, a reduced service life or in the destruction of the axial piston unit. Other permissible limit values, with respect to speed variation, reduced angular acceleration as a function of the frequency and the permissible start up angular acceleration (lower than the maximum angular acceleration) can be found in data sheet RE 90261.

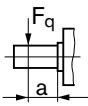
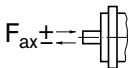


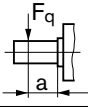
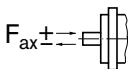
Technical data

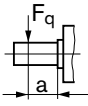
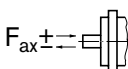
Permissible radial and axial forces of the drive shafts

(splined shaft and parallel keyed shaft)

Size	NG		5	5 ³⁾	10	10	12	12	16	23	23	
Drive shaft	∅	mm	12	12	20	25	20	25	25	25	30	
Maximum radial force ¹⁾ at distance a (from shaft collar)		$F_{q \max}$	kN	1.6	1.6	3.0	3.2	3.0	3.2	3.2	5.7	5.4
		a	mm	12	12	16	16	16	16	16	16	16
with permissible torque	T_{\max}	Nm	24.7	24.7	66	66	76	76	102	146	146	
Δp permissible pressure Δp	Δp_{perm}	bar	315	315	400	400	400	400	400	400	400	
Maximum axial force ²⁾		$+F_{ax \max}$	N	180	180	320	320	320	320	500	500	
		$-F_{ax \max}$	N	0	0	0	0	0	0	0	0	
Permissible axial force per bar operating pressure	$\pm F_{ax \text{ perm/bar}}$	N/bar	1.5	1.5	3.0	3.0	3.0	3.0	3.0	5.2	5.2	

Size	NG		28	28	32	45	56	56 ⁴⁾	56	63	80
Drive shaft	∅	mm	25	30	30	30	30	30	35	35	35
Maximum radial force ¹⁾ at distance a (from shaft collar)		$F_{q \max}$	kN	5.7	5.4	5.4	7.6	9.5	7.8	9.1	11.6
		a	mm	16	16	16	18	18	18	18	18
with permissible torque	T_{\max}	Nm	179	179	204	290	357	294	357	401	512
Δp permissible pressure Δp	Δp_{perm}	bar	400	400	400	400	400	330	400	400	400
Maximum axial force ²⁾		$+F_{ax \max}$	N	500	500	500	630	800	800	800	1000
		$-F_{ax \max}$	N	0	0	0	0	0	0	0	0
Permissible axial force per bar operating pressure	$\pm F_{ax \text{ perm/bar}}$	N/bar	5.2	5.2	5.2	7.0	8.7	8.7	8.7	8.7	10.6

Size	NG		80 ⁴⁾	80	90	107	107	125	160	160	180	
Drive shaft	∅	mm	35	40	40	40	45	45	45	50	50	
Maximum radial force ¹⁾ at distance a (from shaft collar)		$F_{q \max}$	kN	11.1	11.4	11.4	13.6	14.1	14.1	18.1	18.3	18.3
		a	mm	20	20	20	20	20	20	25	25	25
with permissible torque	T_{\max}	Nm	488	512	573	679	679	796	1021	1021	1146	
Δp permissible pressure Δp	Δp_{perm}	bar	380	400	400	400	400	400	400	400	400	
Maximum axial force ²⁾		$+F_{ax \max}$	N	1000	1000	1000	1250	1250	1250	1600	1600	1600
		$-F_{ax \max}$	N	0	0	0	0	0	0	0	0	
Permissible axial force per bar operating pressure	$\pm F_{ax \text{ perm/bar}}$	N/bar	10.6	10.6	10.6	12.9	12.9	12.9	16.7	16.7	16.7	

Size	NG		200	250	355	500	710	1000	
Drive shaft	∅	mm	50	50	60	70	90	90	
Maximum radial force ¹⁾ at distance a (from shaft collar)		$F_{q \max}$	kN	20.3	1.2 ⁶⁾	1.5 ⁶⁾	1.9 ⁶⁾	3.0 ⁶⁾	2.6 ⁶⁾
		a	mm	25	41	52.5	52.5	67.5	67.5
with permissible torque	T_{\max}	Nm	1273	⁵⁾	⁵⁾	⁵⁾	⁵⁾	⁵⁾	
Δp permissible pressure Δp	Δp_{perm}	bar	400	⁵⁾	⁵⁾	⁵⁾	⁵⁾	⁵⁾	
Maximum axial force ²⁾		$+F_{ax \max}$	N	1600	2000	2500	3000	4400	4400
		$-F_{ax \max}$	N	0	0	0	0	0	0
Permissible axial force per bar operating pressure	$\pm F_{ax \text{ perm/bar}}$	N/bar	16.7	⁵⁾	⁵⁾	⁵⁾	⁵⁾	⁵⁾	

1) With intermittent operation

2) Maximum permissible axial force during standstill or when the axial piston unit is operating in non-pressurized condition.

3) Conical shaft with threaded pin and woodruff key (DIN 6888)

4) Restricted technical data only for splined shaft

5) Please contact us.

6) When at a standstill or when axial piston unit operating in non-pressurized conditions. Higher forces are permissible when under pressure, please contact us.

Note

Influence of the direction of the permissible axial force:

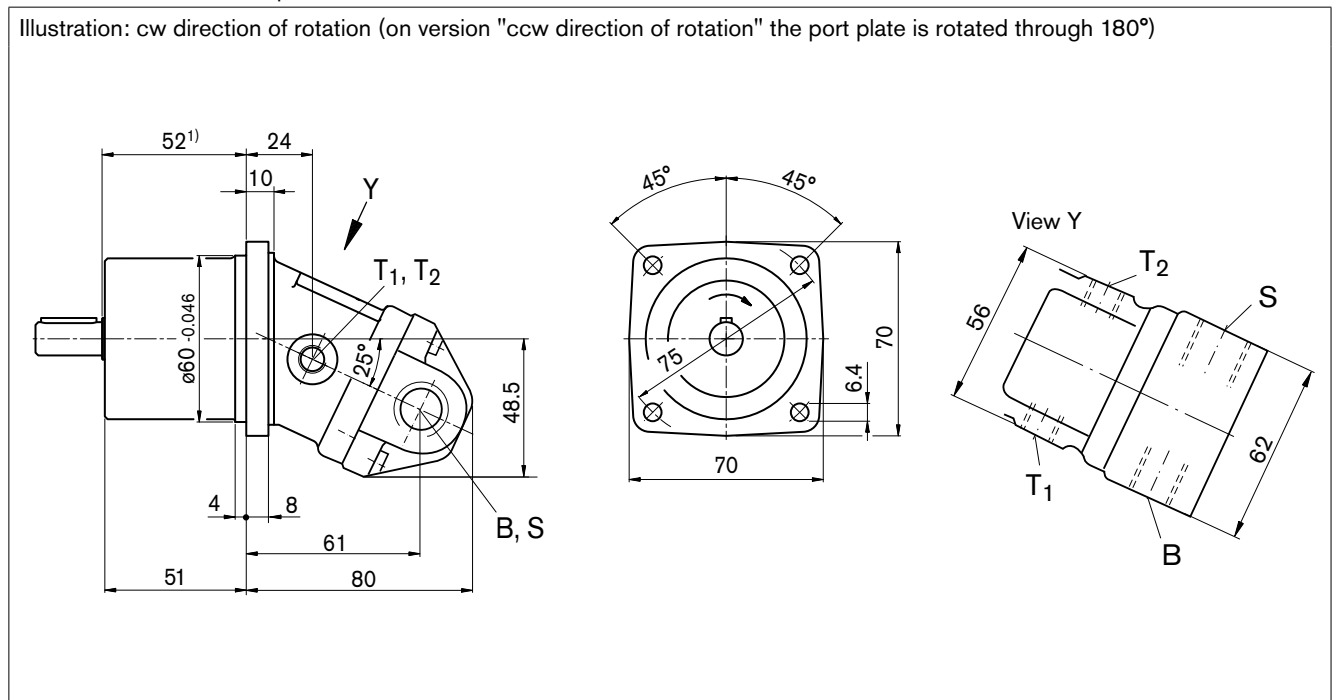
$+F_{ax \max}$ = Increase in service life of bearings

$-F_{ax \max}$ = Reduction in service life of bearings (avoid)

Dimensions size 5

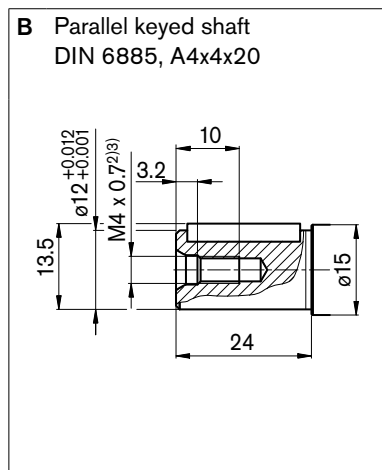
Port plate 07 – Threaded ports A/B and S at side

Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)

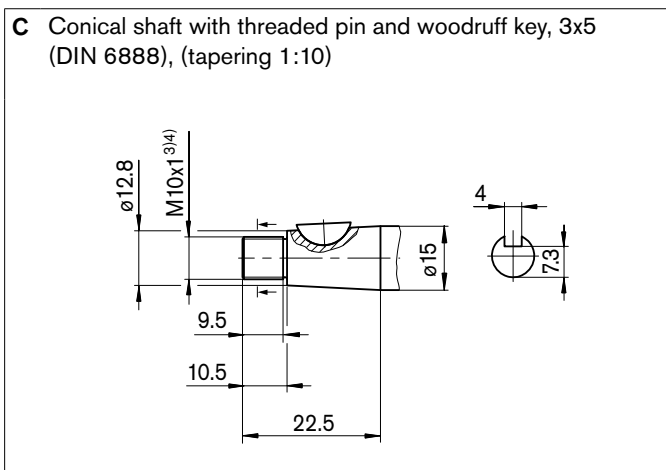


Drive shafts

B Parallel keyed shaft
DIN 6885, A4x4x20



C Conical shaft with threaded pin and woodruff key, 3x5
(DIN 6888), (tapering 1:10)



Ports

Designation	Port for	Standard ⁶⁾	Size ³⁾	Maximum pressure [bar] ⁵⁾	State ⁷⁾
B (A)	Service line	DIN 3852	M18 x 1.5; 12 deep	350	O
S	Suction line	DIN 3852	M22 x 1.5; 14 deep	30	O
T ₁	Drain line	DIN 3852	M10 x 1; 8 deep	3	O
T ₂	Drain line	DIN 3852	M10 x 1; 8 deep	3	O

1) To shaft collar

2) Center bore according to DIN 332 (thread according to DIN 13)

3) Thread according to DIN 3852, maximum tightening torque: 30 Nm

4) Momentary pressure spikes may occur depending on the application. Keep this in mind when selecting measuring devices and fittings.

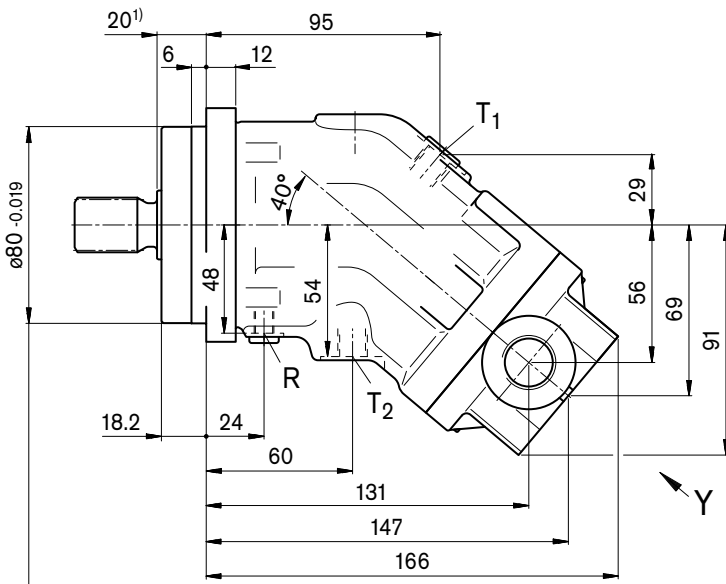
5) The spot face can be deeper than specified in the appropriate standard.

6) O = Must be connected (plugged on delivery)

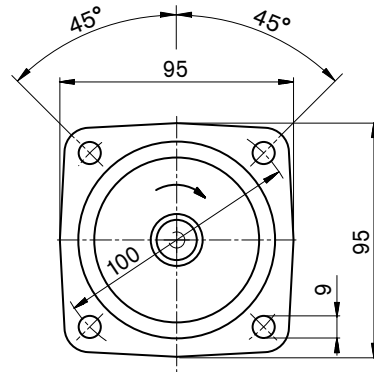
Dimensions sizes 10, 12, 16

Port plate 06 – Threaded port A/B at side and threaded port S at rear

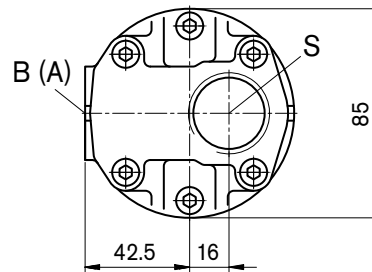
Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)



Flange
similar to ISO 3019-2



View Y

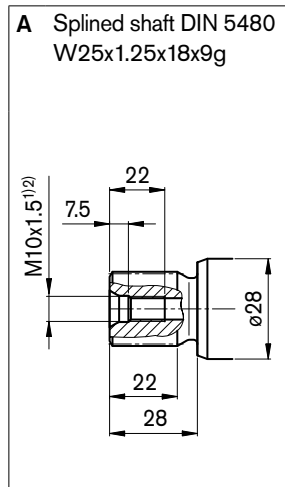


1) To shaft collar

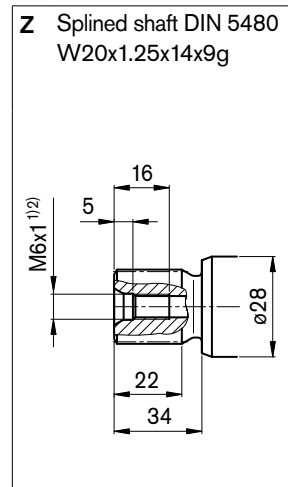
Dimensions sizes 10, 12, 16

Drive shafts

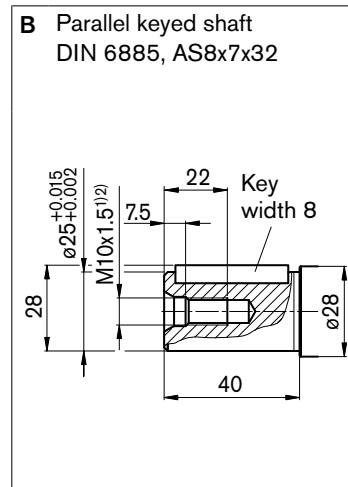
Sizes 10, 12, 16



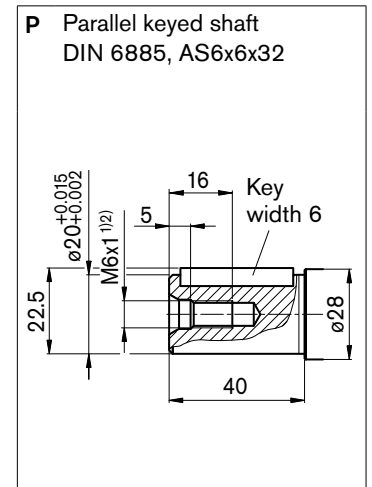
NG10, 12



Sizes 10, 12, 16



NG10, 12



Ports

Designation	Port for	Standard ⁵⁾	Size ²⁾	Maximum pressure [bar] ³⁾	State ⁶⁾
B (A)	Service line	DIN 3852	M22 x 1.5; 14 deep	450	O
S	Suction line	DIN 3852	M33 x 2; 18 deep	30	O
T ₁	Drain line	DIN 3852	M12 x 1.5; 12 deep	3	X ⁴⁾
T ₂	Drain line	DIN 3852	M12 x 1.5; 12 deep	3	O ⁴⁾
R	Air bleed	DIN 3852	M8 x 1; 8 deep	3	X

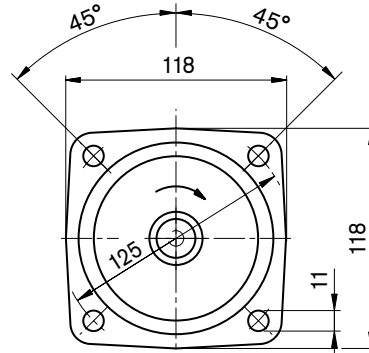
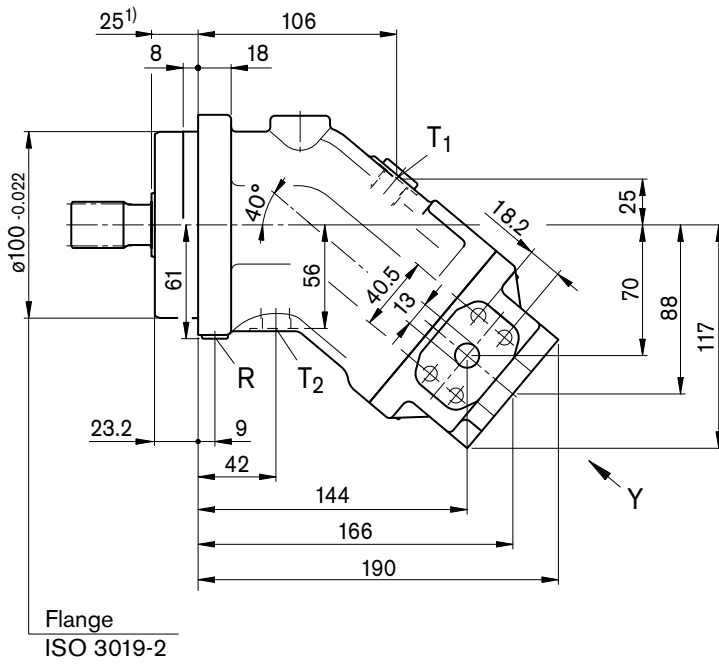
1) Center bore according to DIN 332 (thread according to DIN 13)

2) Momentary pressure spikes may occur depending on the application. Keep this in mind when selecting measuring devices and fittings.

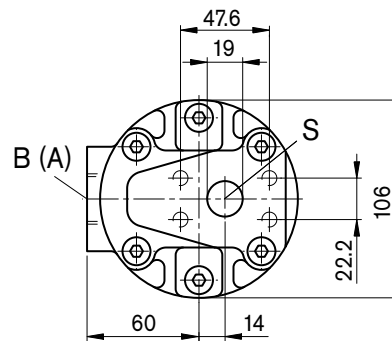
Dimensions sizes 23, 28, 32

Port plate 05 – SAE flange port A/B at side and SAE flange port S at rear

Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)



View Y

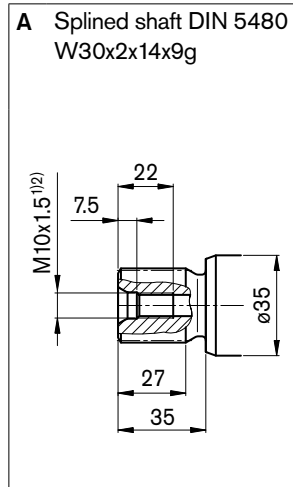


1) To shaft collar

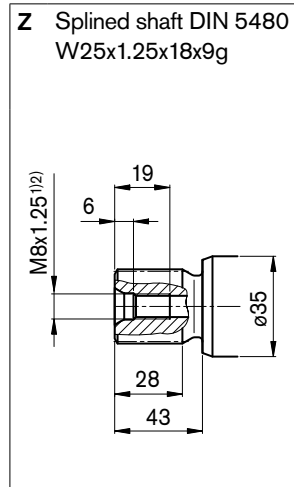
Dimensions sizes 23, 28, 32

Drive shafts

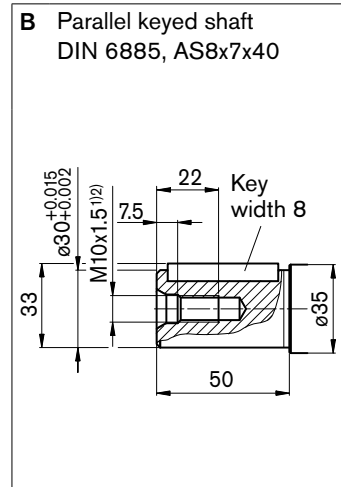
Sizes 23, 28, 32



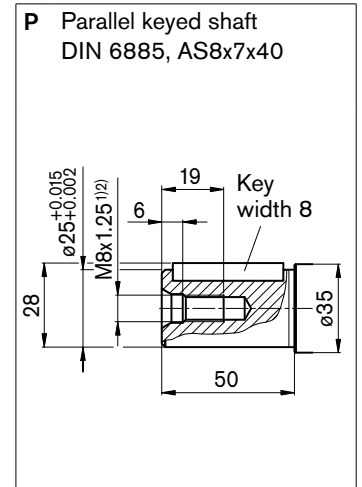
NG23, 28



Sizes 23, 28, 32



NG23, 28



Ports

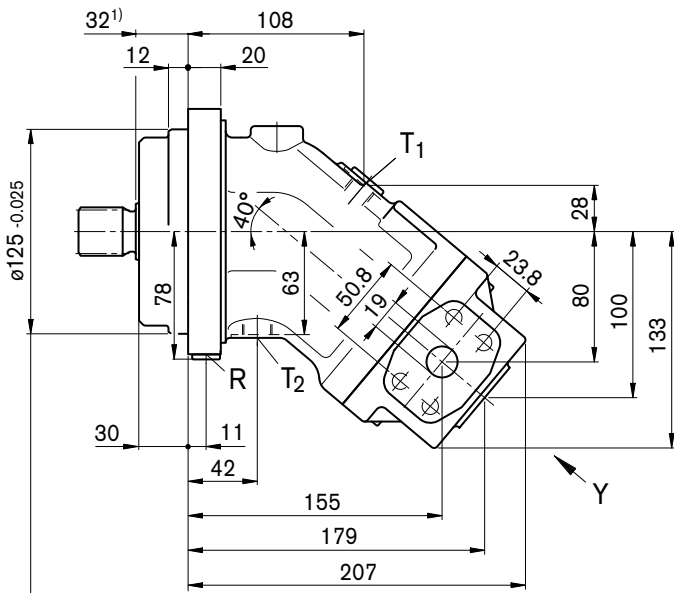
Designation	Port for	Standard	Size ²⁾	Maximum pressure [bar] ³⁾	State ⁷⁾
B (A)	Service line Fastening thread B/A	SAE J518 ⁵⁾ DIN 13	1/2 in M8 x 1.25; 15 deep	450	O
S	Suction line Fastening thread	SAE J518 ⁵⁾ DIN 13	3/4 in M10 x 1.5; 17 deep	30	O
T ₁	Drain line	DIN 3852 ⁶⁾	M16 x 1.5; 12 deep	3	X ⁴⁾
T ₂	Drain line	DIN 3852 ⁶⁾	M16 x 1.5; 12 deep	3	O ⁴⁾
R	Air bleed	DIN 3852 ⁶⁾	M10 x 1; 12 deep	3	X

1) Center bore according to DIN 332 (thread according to DIN 13)

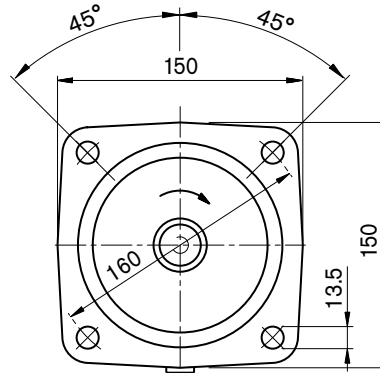
Dimensions size 45

Port plate 05 – SAE flange port A/B at side and SAE flange port S at rear

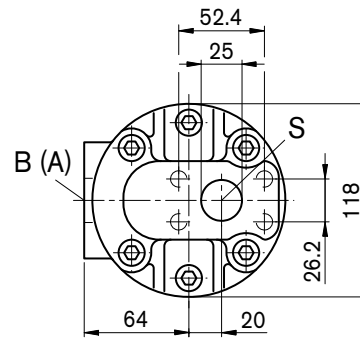
Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)



Flange
ISO 3019-2



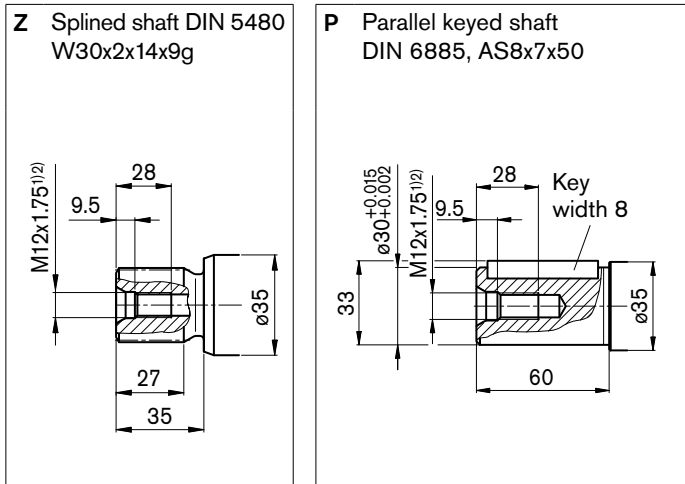
View Y



1) To shaft collar

Dimensions size 45

Drive shafts



Ports

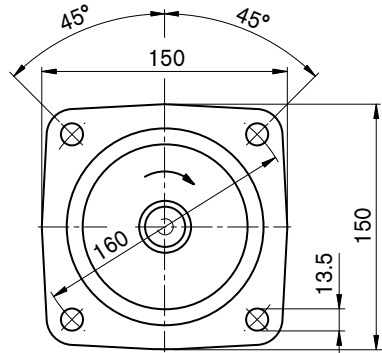
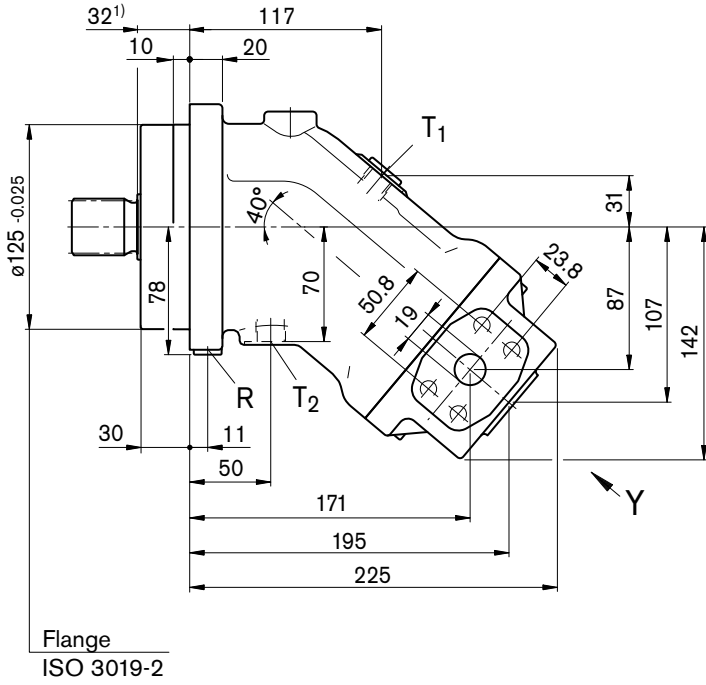
Designation	Port for	Standard	Size ²⁾	Maximum pressure [bar] ³⁾	State ⁷⁾
B (A)	Service line Fastening thread B/A	SAE J518 ⁵⁾ DIN 13	3/4 in M10 x 1.5; 17 deep	450	O
S	Suction line Fastening thread	SAE J518 ⁵⁾ DIN 13	1 in M10 x 1.5; 17 deep	30	O
T ₁	Drain line	DIN 3852 ⁶⁾	M18 x 1.5; 12 deep	3	X ⁴⁾
T ₂	Drain line	DIN 3852 ⁶⁾	M18 x 1.5; 12 deep	3	O ⁴⁾
R	Air bleed	DIN 3852 ⁶⁾	M12 x 1.5; 12 deep	3	X

1) Center bore according to DIN 332 (thread according to DIN 13)

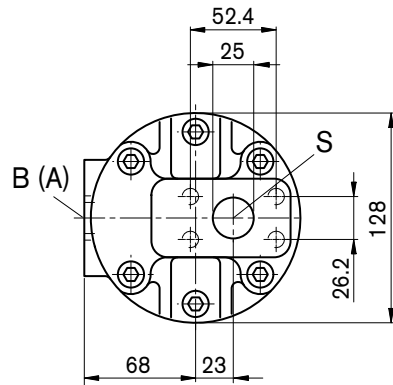
Dimensions sizes 56, 63

Port plate 05 – SAE flange port A/B at side and SAE flange port S at rear

Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)



View Y

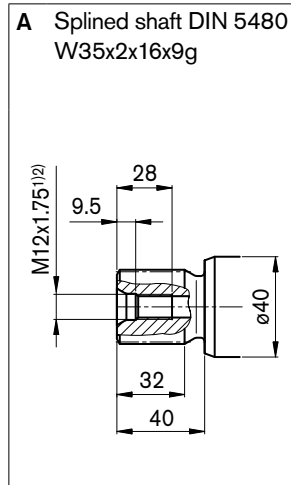


1) To shaft collar

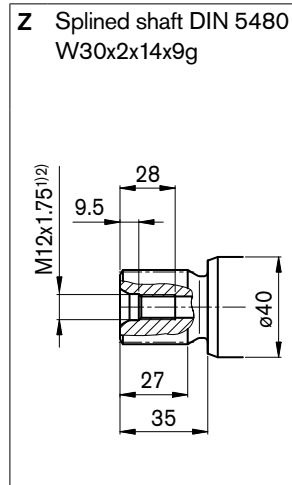
Dimensions sizes 56, 63

Drive shafts

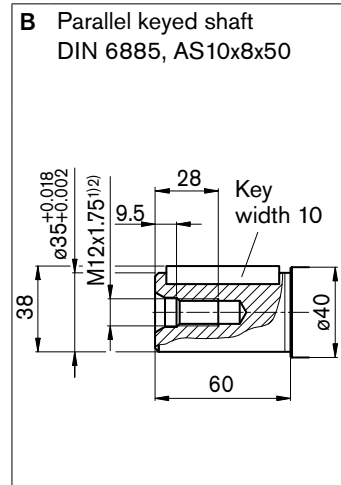
NG56, 63



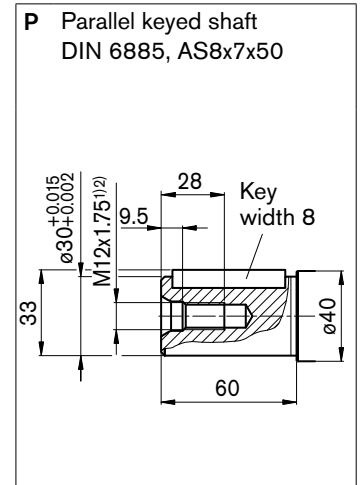
NG56



NG56, 63



NG56



Ports

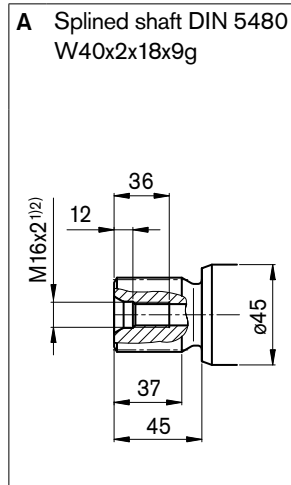
Designation	Port for	Standard	Size ²⁾	Maximum pressure [bar] ³⁾	State ⁷⁾
B (A)	Service line Fastening thread B/A	SAE J518 ⁵⁾ DIN 13	3/4 in M10 x 1.5; 17 deep	450	O
S	Suction line Fastening thread	SAE J518 ⁵⁾ DIN 13	1 in M10 x 1.5; 17 deep	30	O
T ₁	Drain line	DIN 3852 ⁶⁾	M18 x 1.5; 12 deep	3	X ⁴⁾
T ₂	Drain line	DIN 3852 ⁶⁾	M18 x 1.5; 12 deep	3	O ⁴⁾
R	Air bleed	DIN 3852 ⁶⁾	M12 x 1.5; 12 deep	3	X

1) Center bore according to DIN 332 (thread according to DIN 13)

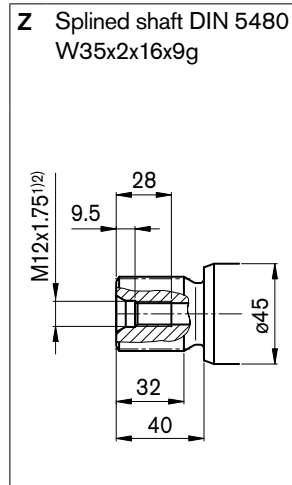
Dimensions sizes 80, 90

Drive shafts

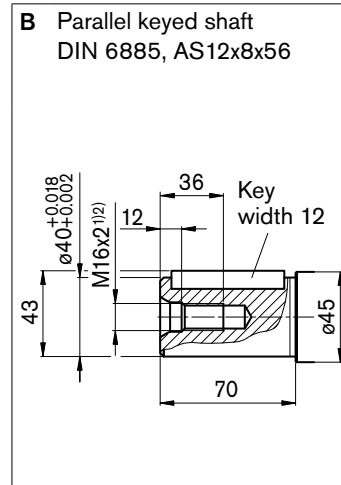
NG80, 90



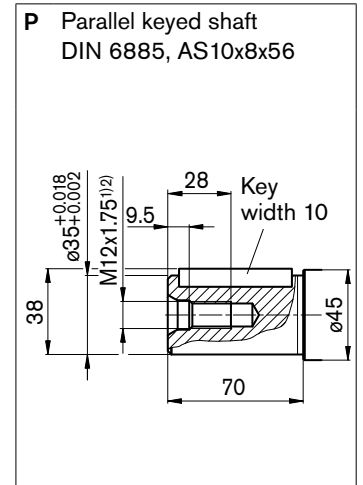
NG80



NG80, 90



NG80



Ports

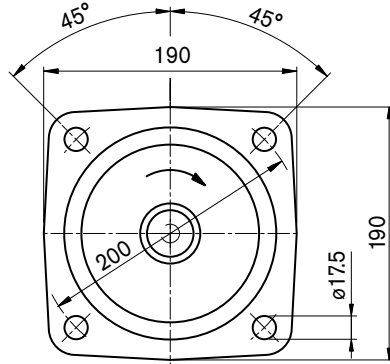
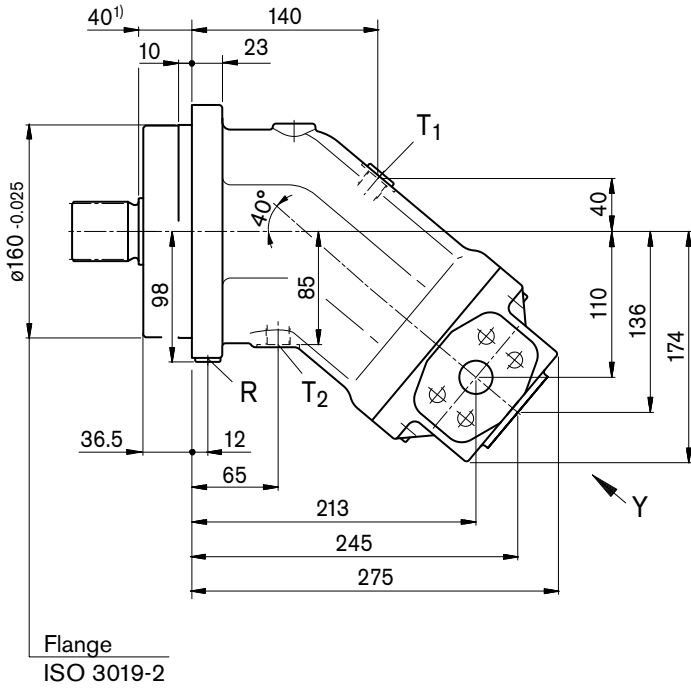
Designation	Port for	Standard	Size ²⁾	Maximum pressure [bar] ³⁾	State ⁷⁾
B (A)	Service line Fastening thread B/A	SAE J518 ⁵⁾ DIN 13	1 in M12 x 1.5; 17 deep	450	O
S	Suction line Fastening thread	SAE J518 ⁵⁾ DIN 13	1 1/4 in M10 x 1.5; 17 deep	30	O
T ₁	Drain line	DIN 3852 ⁶⁾	M18 x 1.5; 12 deep	3	X ⁴⁾
T ₂	Drain line	DIN 3852 ⁶⁾	M18 x 1.5; 12 deep	3	O ⁴⁾
R	Air bleed	DIN 3852 ⁶⁾	M12 x 1.5; 12 deep	3	X

1) Center bore according to DIN 332 (thread according to DIN 13)

Dimensions sizes 107, 125

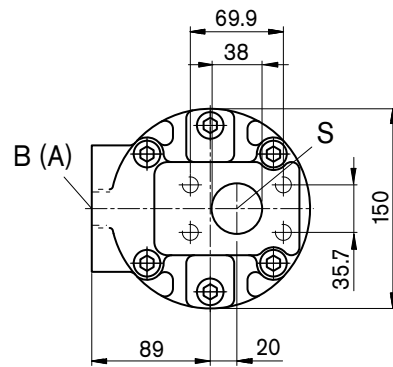
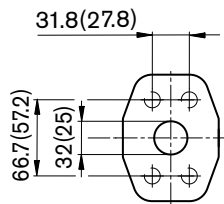
Port plate 05 – SAE flange port A/B at side and SAE flange port S at rear

Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)



View Y

Detail: port A/B
(dimensions in brackets for size 107)

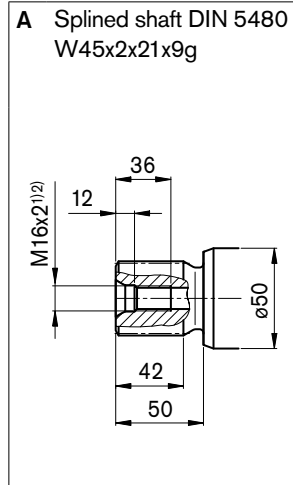


1) To shaft collar

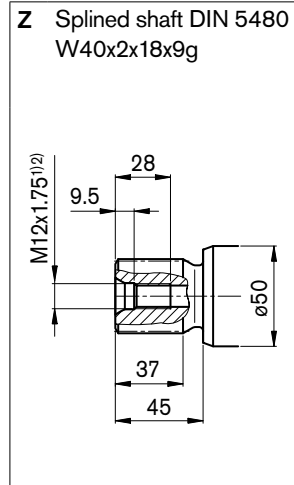
Dimensions sizes 107, 125

Drive shafts

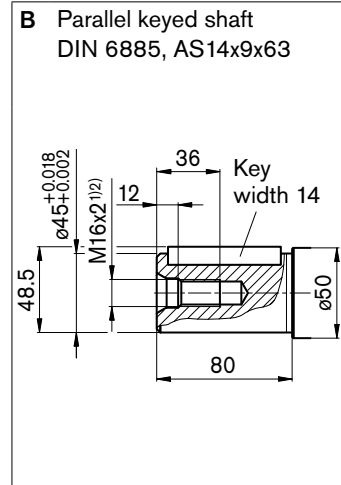
NG107, 125



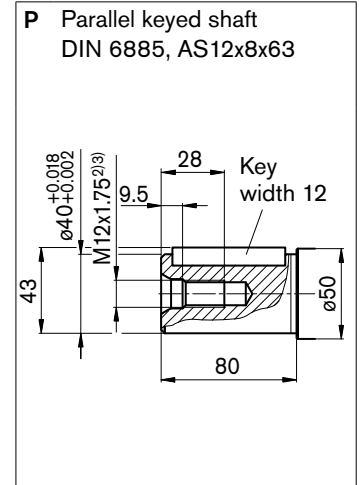
NG107



NG107, 125



NG107



Ports

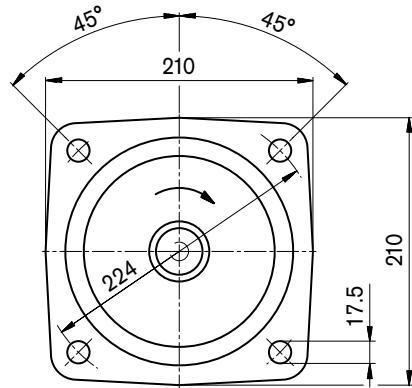
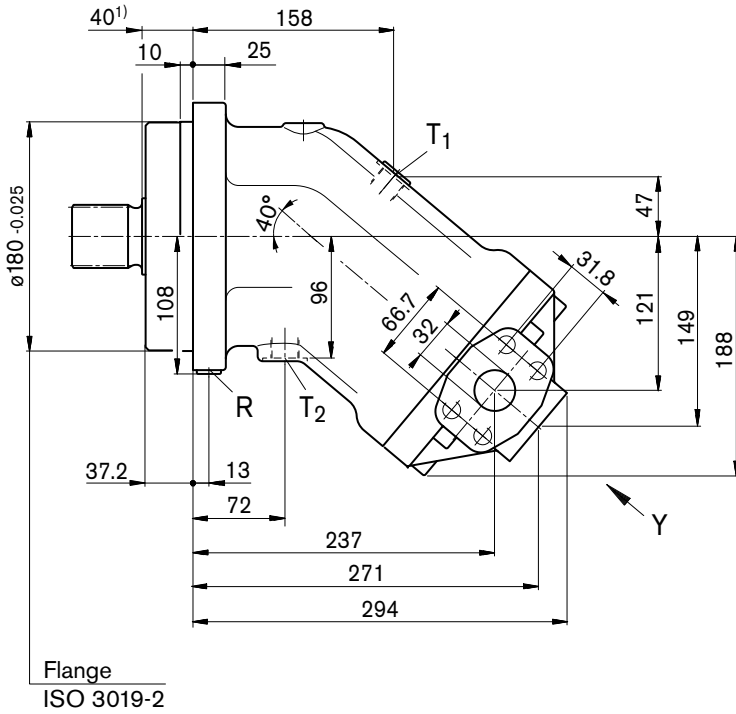
Designation	Port for	Standard	Size ²⁾	Maximum pressure [bar] ³⁾	State ⁷⁾
B (A)	Service line	SAE J518 ⁵⁾	1 in (size 107) 1 1/4 in (size 125)	450	O
	Fastening thread B/A	DIN 13	M12 x 1.75; 17 deep (size 107) M14 x 2; 19 deep (size 125)		
S	Suction line Fastening thread	SAE J518 ⁵⁾ DIN 13	1 1/2 in M12 x 1.75; 20 deep	30	O
T ₁	Drain line	DIN 3852 ⁶⁾	M18 x 1.5; 12 deep	3	X ⁴⁾
T ₂	Drain line	DIN 3852 ⁶⁾	M18 x 1.5; 12 deep	3	O ⁴⁾
R	Air bleed	DIN 3852 ⁶⁾	M14 x 1.5; 12 deep	3	X

1) Center bore according to DIN 332 (thread according to DIN 13)

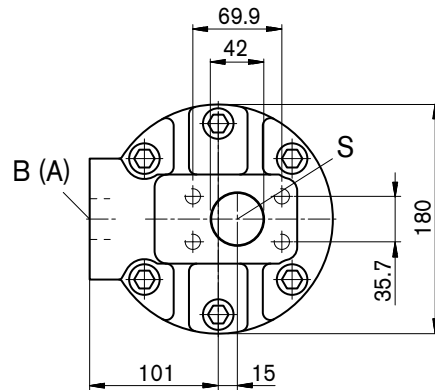
Dimensions sizes 160, 180

Port plate 05 – SAE flange port A/B at side and SAE flange port S at rear

Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)



View Y

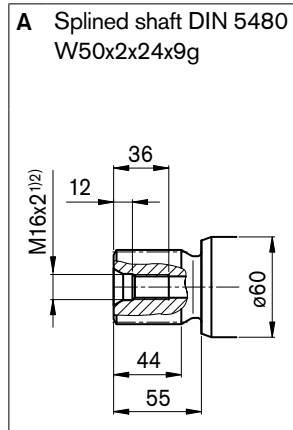


1) To shaft collar

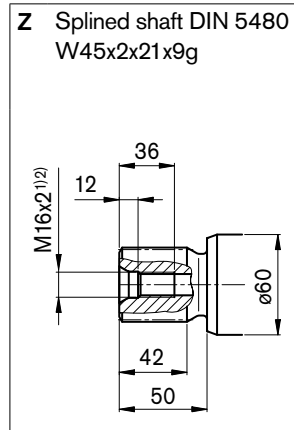
Dimensions sizes 160, 180

Drive shafts

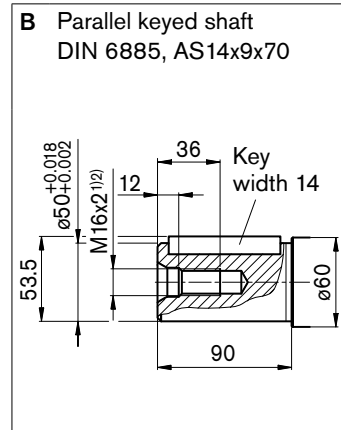
NG160, 180



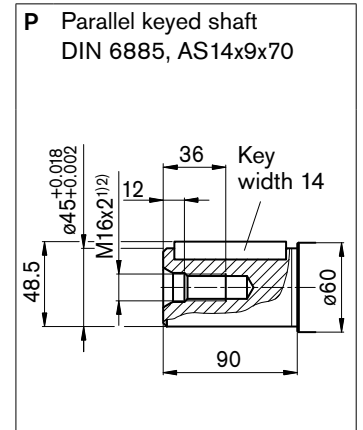
NG160



NG160, 180



NG160



Ports

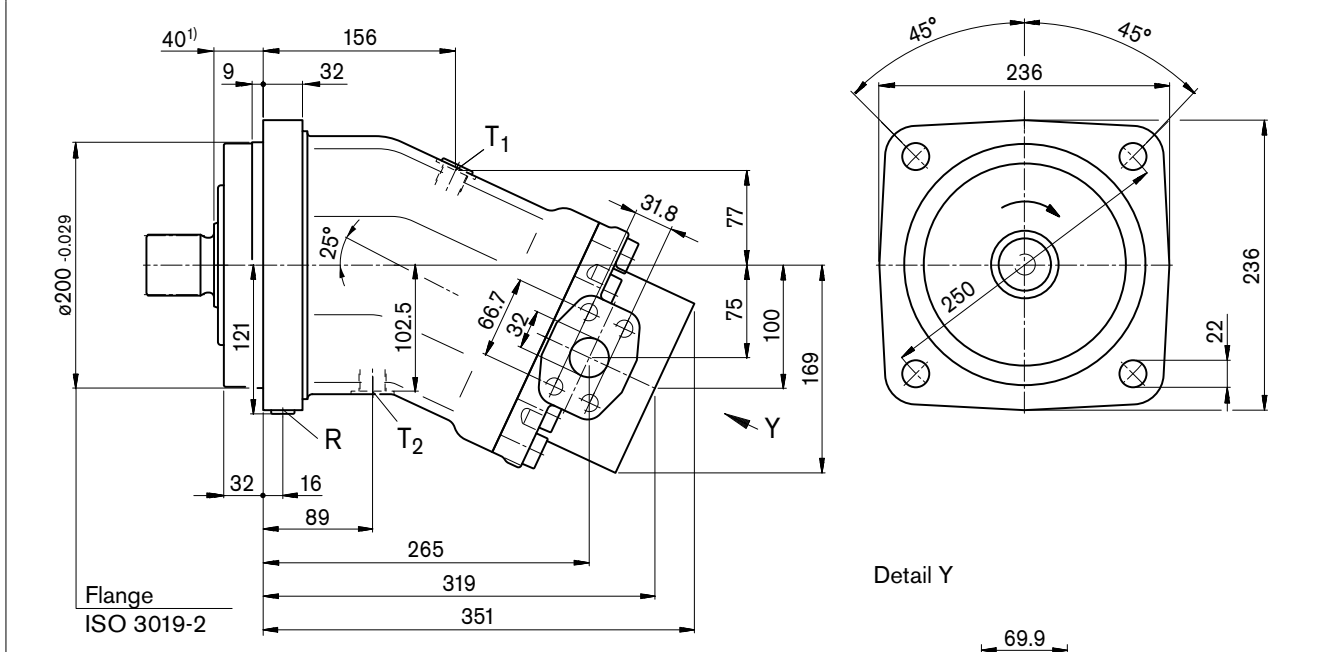
Designation	Port for	Standard	Size ²⁾	Maximum pressure [bar] ³⁾	State ⁷⁾
B (A)	Service line Fastening thread B/A	SAE J518 ⁵⁾ DIN 13	1 1/4 in M14 x 2; 19 deep	450	O
S	Suction line Fastening thread	SAE J518 ⁵⁾ DIN 13	1 1/2 in M12 x 1.75; 20 deep	30	O
T ₁	Drain line	DIN 3852 ⁶⁾	M22 x 1.5; 14 deep	3	X ⁴⁾
T ₂	Drain line	DIN 3852 ⁶⁾	M22 x 1.5; 14 deep	3	O ⁴⁾
R	Air bleed	DIN 3852 ⁶⁾	M14 x 1.5; 12 deep	3	X

1) Center bore according to DIN 332 (thread according to DIN 13)

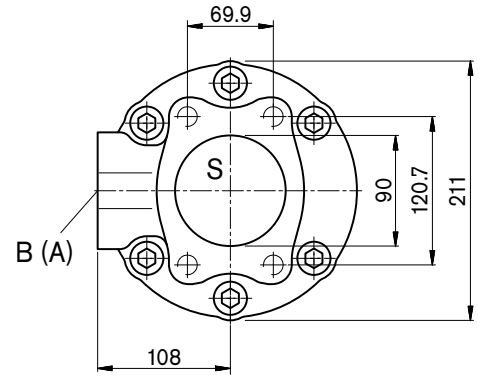
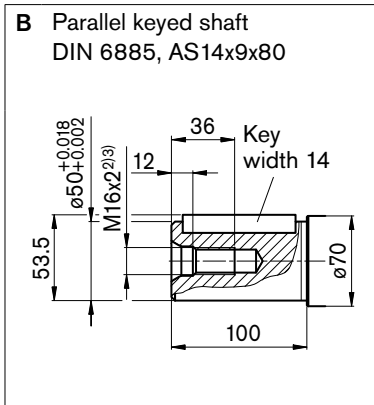
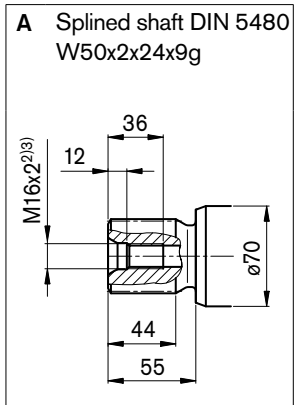
Dimensions size 200

Port plate 05 – SAE flange port A/B at side and SAE flange port S at rear

Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)



Drive shafts

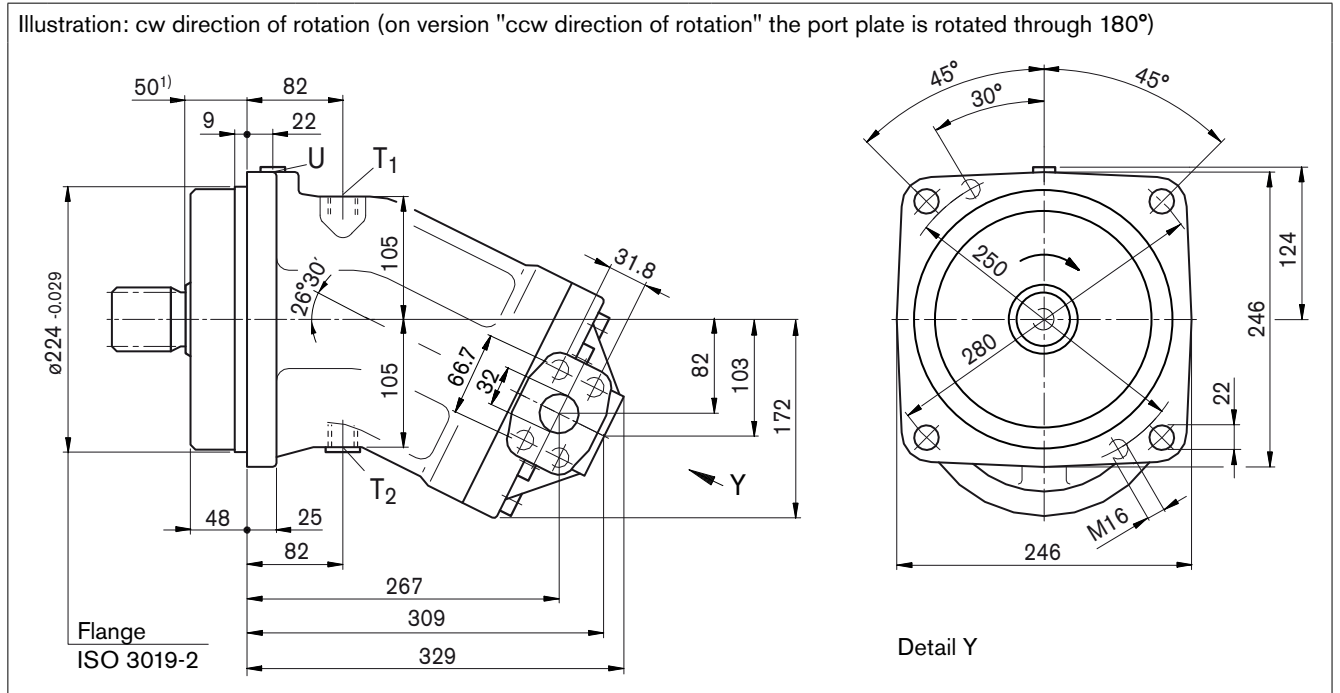


Ports

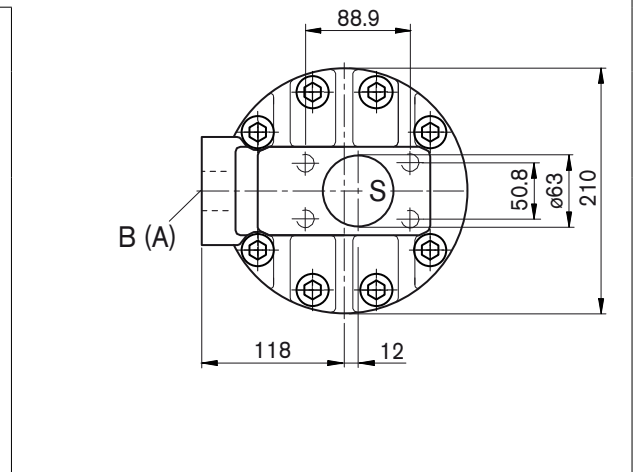
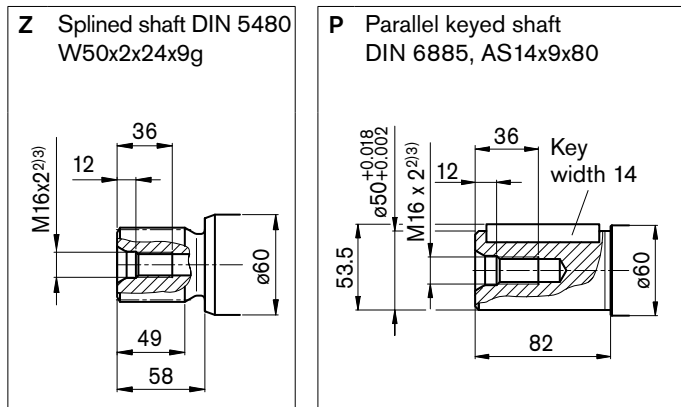
Designation	Port for	Standard	Size ⁽³⁾	Maximum pressure [bar] ⁽⁴⁾	State ⁽⁸⁾
B (A)	Service line Fastening thread B/A	SAE J518 ⁽⁶⁾ DIN 13	1 1/4 in M14 x 2; 19 deep	450	O
S	Suction line Fastening thread	SAE J518 ⁽⁶⁾ DIN 13	3 1/2 in M16 x 2; 24 deep	30	O
T ₁	Drain line	DIN 3852 ⁽⁷⁾	M22 x 1.5; 14 deep	3	X ⁽⁵⁾
T ₂	Drain line	DIN 3852 ⁽⁷⁾	M22 x 1.5; 14 deep	3	O ⁽⁵⁾
R	Air bleed	DIN 3852 ⁽⁷⁾	M14 x 1.5; 12 deep	3	X

Dimensions size 250

Port plate 05 – SAE flange port A/B at side and SAE flange port S at rear



Drive shafts



Ports

Designation	Port for	Standard	Size ³⁾	Maximum pressure [bar] ⁴⁾	State ⁸⁾
B (A)	Service line Fastening thread B/A	SAE J518 ⁶⁾ DIN 13	1 1/4 in M14 x 2; 19 deep	400	O
S	Suction line Fastening thread	SAE J518 ⁶⁾ DIN 13	2 1/2 in M12 x 1.75; 17 deep	30	O
T ₁	Drain line	DIN 3852 ⁷⁾	M22 x 1.5; 14 deep	3	O ⁵⁾
T ₂	Drain line	DIN 3852 ⁷⁾	M22 x 1.5; 14 deep	3	X ⁵⁾
U	Bearing flushing	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	3	X

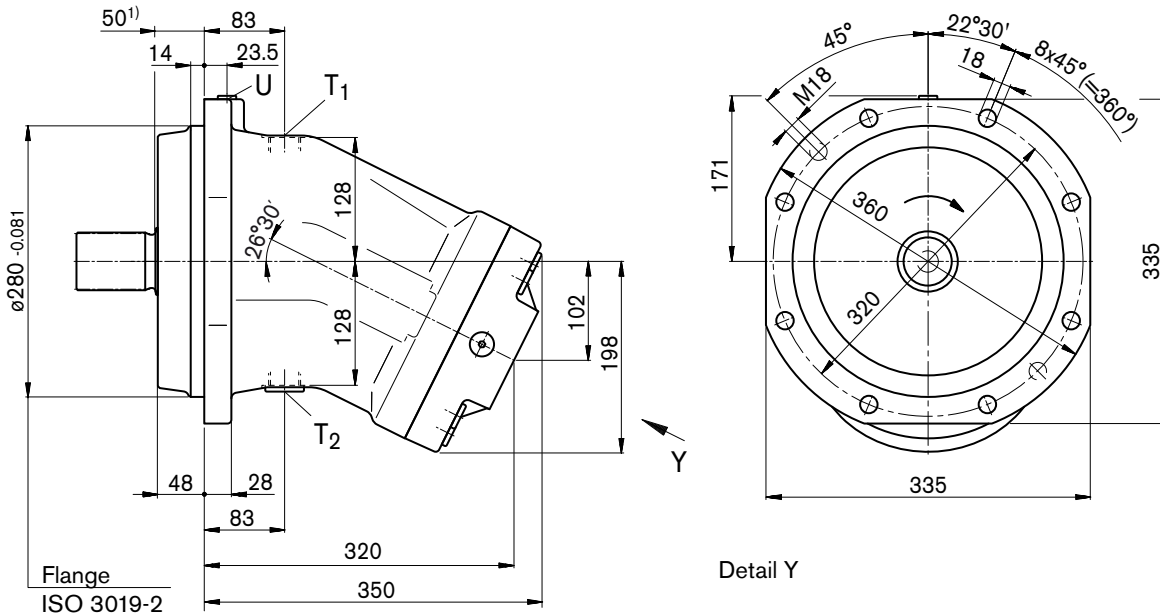
1) To shaft collar

2) Center bore according to DIN 332 (thread according to DIN 13)

Dimensions size 355

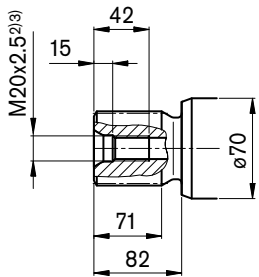
Port plate 11 – SAE flange ports A/B and S at rear

Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)

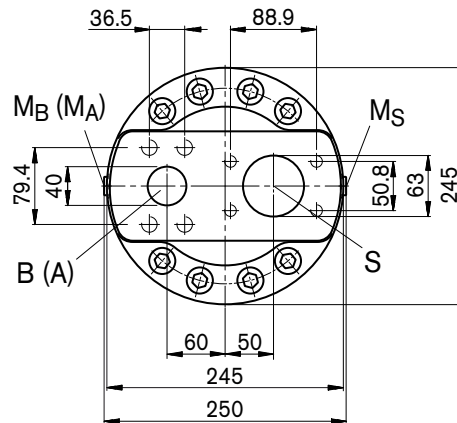
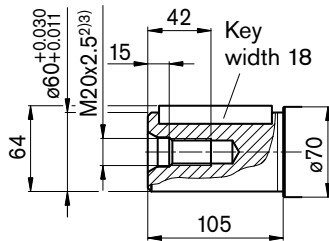


Drive shafts

Z Splined shaft DIN 5480
W60x2x28x9g



P Parallel keyed shaft
DIN 6885, AS18x11x100



Ports

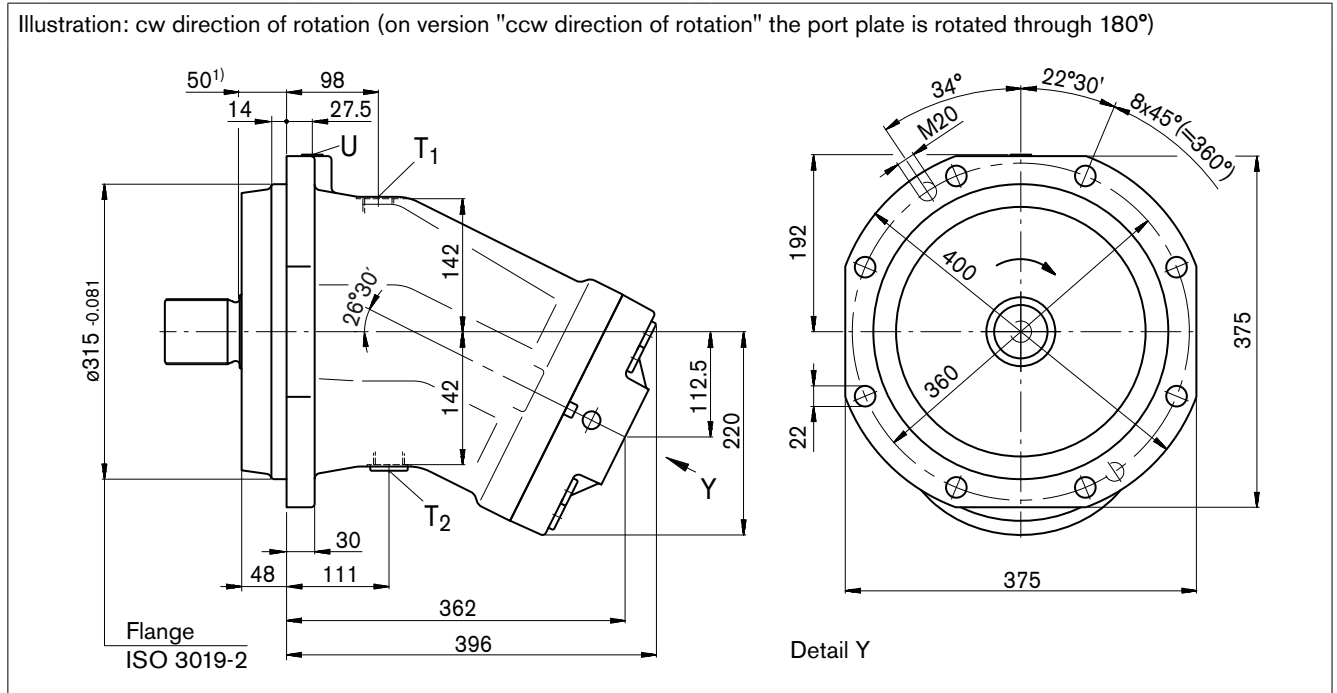
Designation	Port for	Standard	Size ³⁾	Maximum pressure [bar] ⁴⁾	State ⁸⁾
B (A)	Service line Fastening thread B/A	SAE J518 ⁶⁾ DIN 13	1 1/2 in M16 x 2; 21 deep	400	O
S	Suction line Fastening thread	SAE J518 ⁶⁾ DIN 13	2 1/2 in M12 x 1.75; 17 deep	30	O
T ₁	Drain line	DIN 3852 ⁷⁾	M33 x 2; 18 deep	3	O ⁵⁾
T ₂	Drain line	DIN 3852 ⁷⁾	M33 x 2; 18 deep	3	X ⁵⁾
U	Bearing flushing	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	3	X
M _A , M _B	Measuring operating pressure	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	400	X
M _S	Measuring suction pressure	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	30	X

1) To shaft collar

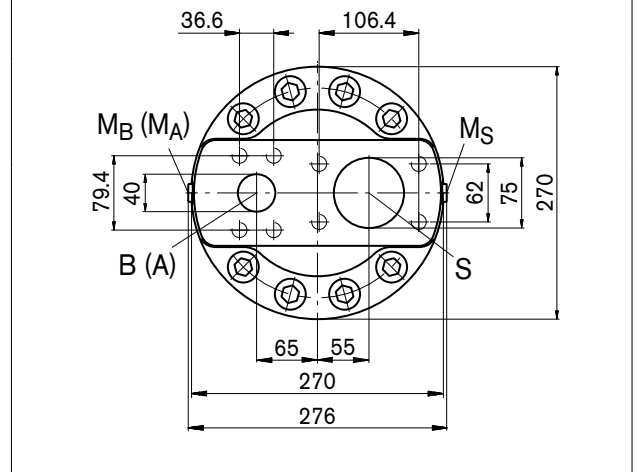
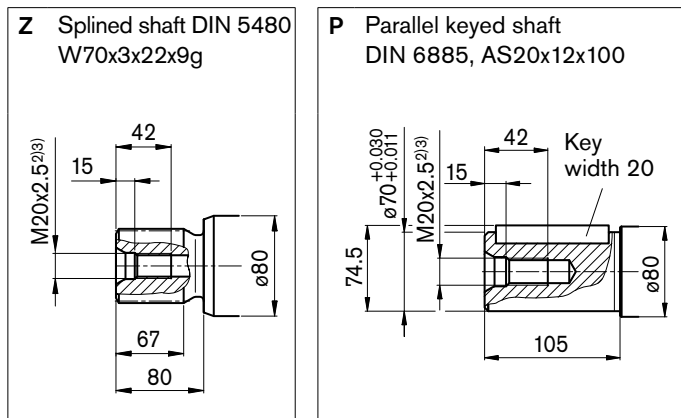
2) Center bore according to DIN 332 (thread according to DIN 13)

Dimensions size 500

Port plate 11 – SAE flange ports A/B and S at rear



Drive shafts



Ports

Designation	Port for	Standard	Size ³⁾	Maximum pressure [bar] ⁴⁾	State ⁸⁾
B (A)	Service line fastening thread B/A	SAE J518 ⁶⁾ DIN 13	1 1/2 in M16 x 2; 21 deep	400	O
S	Suction line fastening thread	SAE J518 ⁶⁾ DIN 13	3 in M16 x 2; 24 deep	30	O
T ₁	Drain line	DIN 3852 ⁷⁾	M33 x 2; 18 deep	3	O ⁵⁾
T ₂	Drain line	DIN 3852 ⁷⁾	M33 x 2; 18 deep	3	X ⁵⁾
U	Bearing flushing	DIN 3852 ⁷⁾	M18 x 1.5; 12 deep	3	X
M _A , M _B	Operating pressure measurement	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	400	X
M _S	Suction pressure measurement	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	30	X

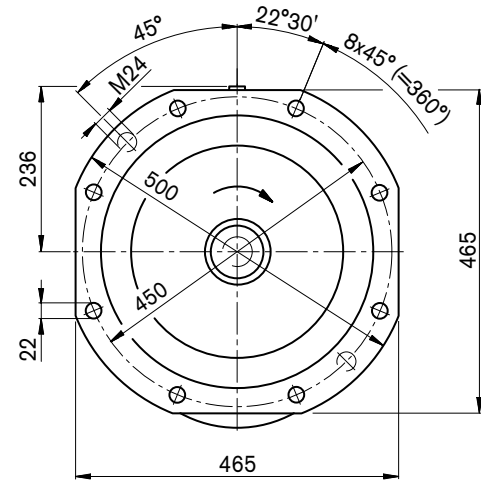
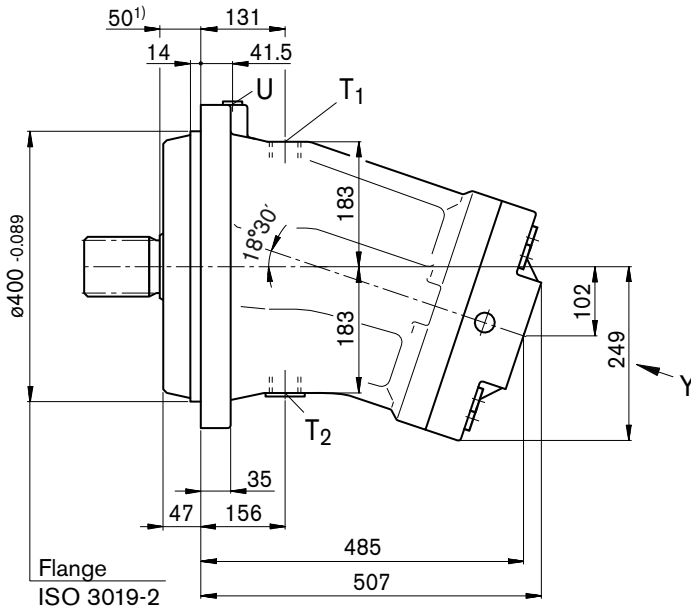
1) To shaft collar

2) Center bore according to DIN 332 (thread according to DIN 13)

Dimensions size 710

Port plate 11 – SAE flange ports A/B and S at rear

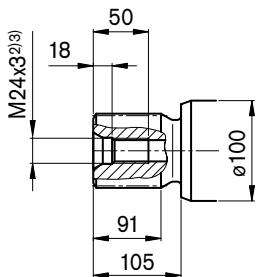
Illustration: cw direction of rotation (on version "ccw direction of rotation" the port plate is rotated through 180°)



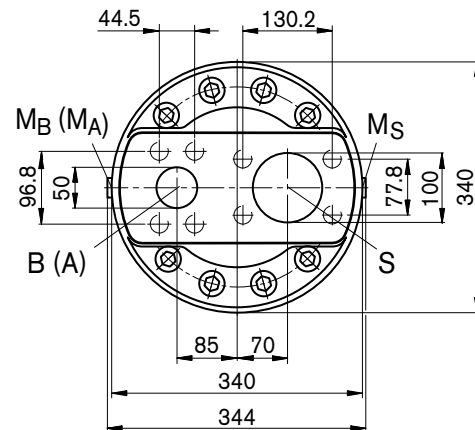
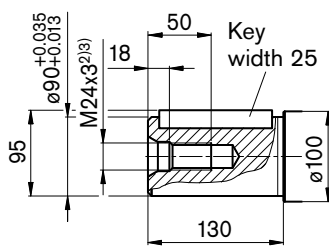
Detail Y

Drive shafts

Z Splined shaft DIN 5480
W90x3x28x9g



P Parallel keyed shaft
DIN 6885, AS25x14x125



Ports

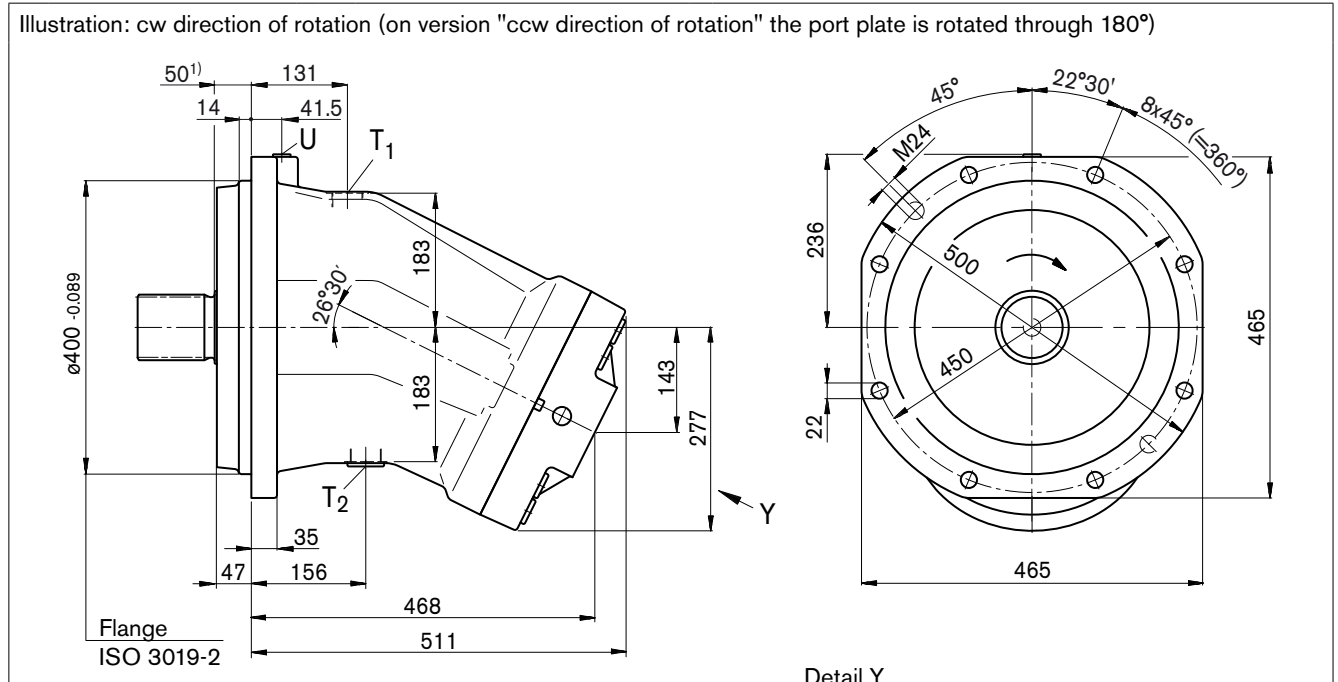
Designation	Port for	Standard	Size ³⁾	Maximum pressure [bar] ⁴⁾	State ⁸⁾
B (A)	Service line Fastening thread B/A	SAE J518 ⁶⁾ DIN 13	2 in M20 x 2.5; 30 deep	400	
S	Suction line Fastening thread	SAE J518 ⁶⁾ DIN 13	4 in M16 x 2; 24 deep	30	O
T ₁	Drain line	DIN 3852 ⁷⁾	M42 x 2; 20 deep	3	O ⁵⁾
T ₂	Drain line	DIN 3852 ⁷⁾	M42 x 2; 20 deep	3	X ⁵⁾
U	Bearing flushing	DIN 3852 ⁷⁾	M18 x 1.5; 12 deep	3	X
M _A , M _B	Measuring operating pressure	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	400	X
M _S	Measuring suction pressure	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	30	X

1) To shaft collar

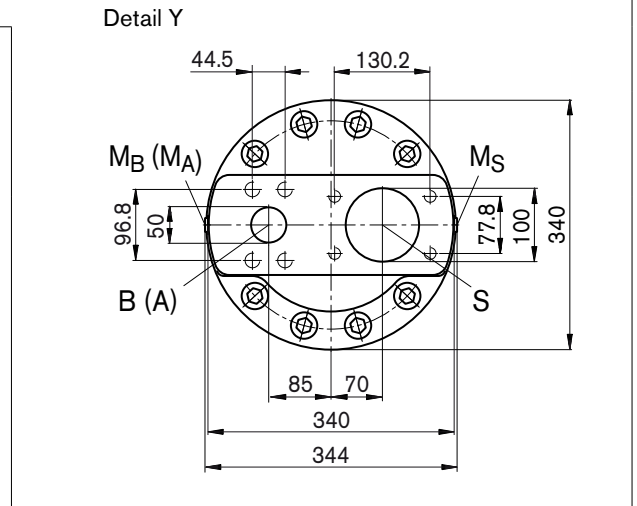
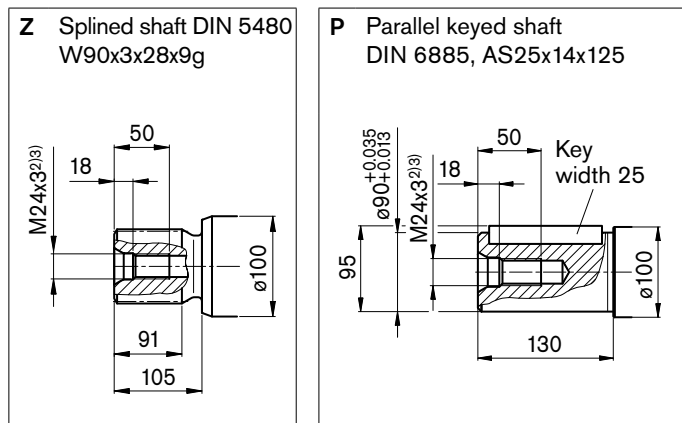
2) Center bore according to DIN 332 (thread according to DIN 13)

Dimensions size 1000

Port plate 11 – SAE flange ports A/B and S at rear



Drive shafts



Ports

Designation	Port for	Standard	Size ³⁾	Maximum pressure [bar] ⁴⁾	State ⁸⁾
B (A)	Service line fastening thread B/A	SAE J518 ⁶⁾ DIN 13	2 in M20 x 2.5; 30 deep	400	
S	Suction line fastening thread	SAE J518 ⁶⁾ DIN 13	4 in M16 x 2; 24 deep	30	O
T ₁	Drain line	DIN 3852 ⁷⁾	M42 x 2; 20 deep	3	O ⁵⁾
T ₂	Drain line	DIN 3852 ⁷⁾	M42 x 2; 20 deep	3	X ⁵⁾
U	Bearing flushing	DIN 3852 ⁷⁾	M18 x 1.5; 12 deep	3	X
M _A , M _B	Measuring operating pressure	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	400	X
M _S	Measuring suction pressure	DIN 3852 ⁷⁾	M14 x 1.5; 12 deep	30	X

1) To shaft collar

2) Center bore according to DIN 332 (thread according to DIN 13)