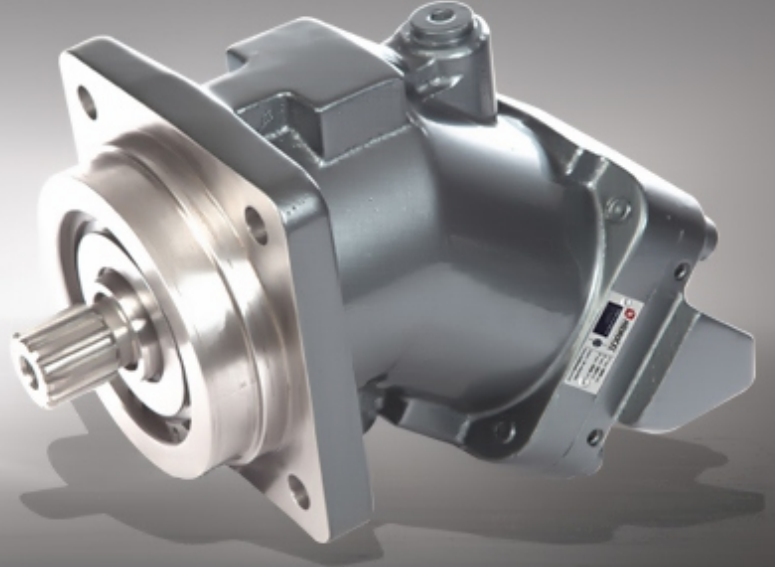


2PM

Bent Axis Piston Motor - ISO



2PM Motors have the following advantages ;

- Compact Design,
- Economical Conception,
- High Power Density,
- High Efficiency,
- High Rotating Speeds,
- From 5cc to 130cc,
- High Pressure,
- Good Starting Characteristics,
- Optimized Weight and Size,
- For Use Mobile and Stationary Applications,

Other Advantages of 2PM

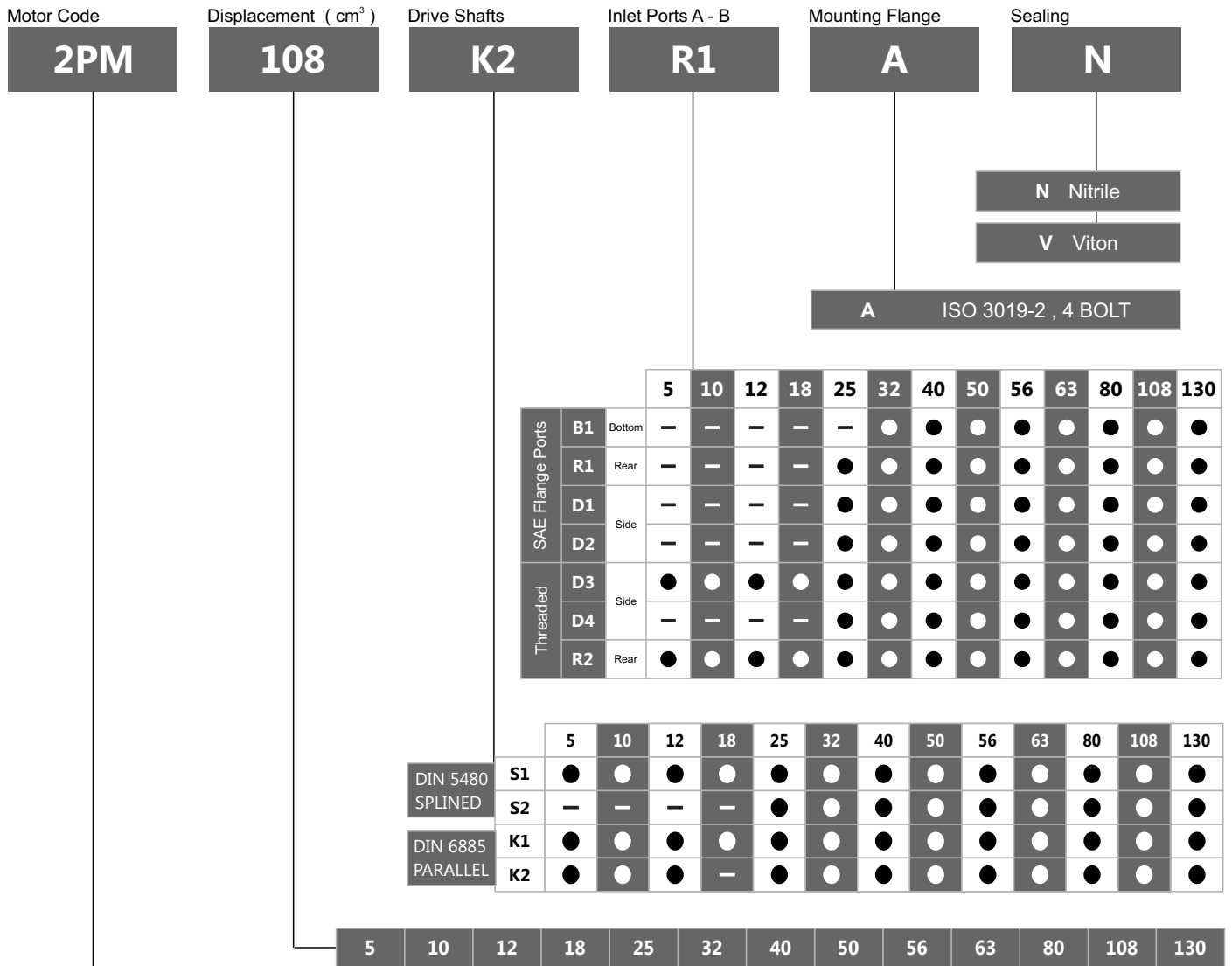
Interchangeable and Compatible with other ISO Bent Axis Motors,
Special Designed Pistons,
One-Piece Piston with Piston Rings,
Compact motor design and extra durable parts,
High Operational Reliability and High Starting Torque
Extra Warranty with Wide Service

40° bent axis design giving high power, small overall dimensions, optimum efficiency and economic design. Flange and shaft designed for direct mounting on the equipments. The fixed displacement bent axis motors generates a hydraulic fluid flow. It is designed for use in trucks, commercial vehicles, construction type equipments and all stationary hydraulic applications. The 2PM is a motor with rotary group in bent-axis design. Flow is proportional to drive speed and displacement.

For axial piston units with bent-axis design, the Pistons are arranged diagonally with respect to the drive shaft. The motor covers the whole displacement range 5 to 130 cm³/rev. The motor has been developed with modern styling and design to satisfy market demand as to designed new generation plate, extra parts and pistons with give high flow performance, high pressures with high efficiency and very small dimensions.

The motor is available both to DIN and SAE world standards and can be mounted either directly at the gear box or via a drive shaft. Other brand bent axis motors compatible and interchangeable with 2PM bent axis motors. Refer to the data sheet and order confirmation for the technical data, operating conditions and operating limits of the bent axis piston motors.

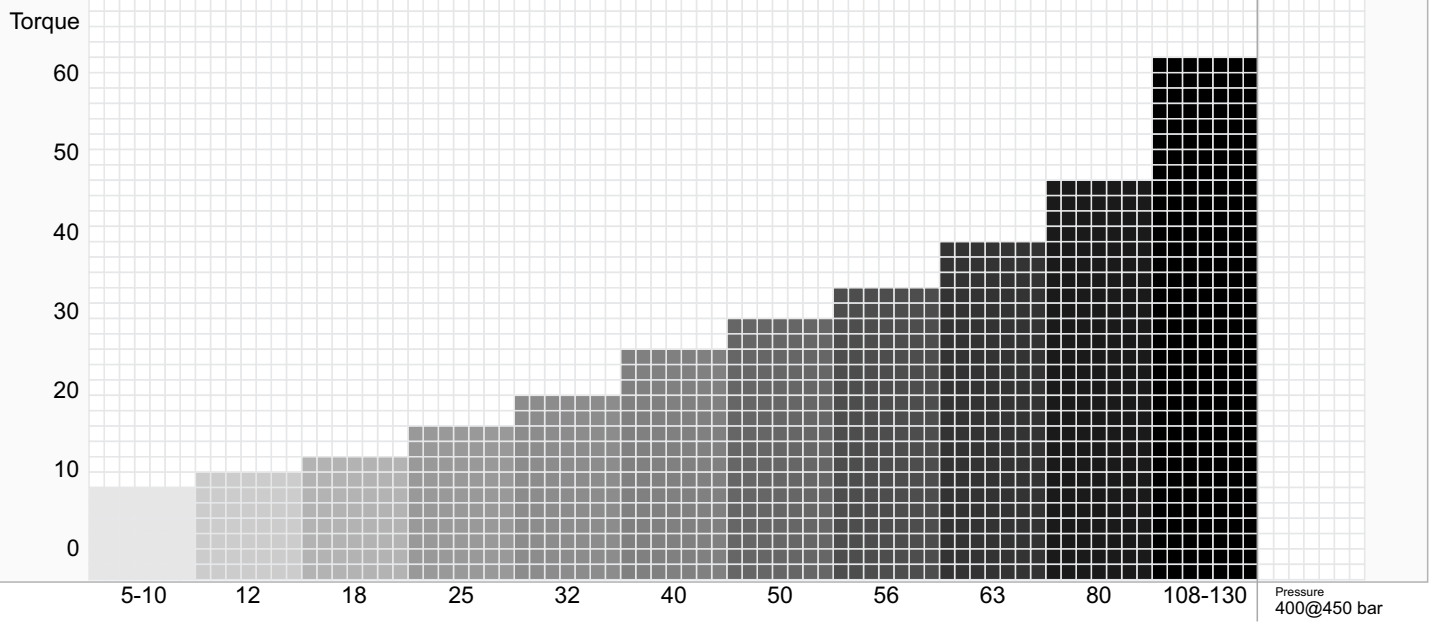
Ordering Code of 2PM Motors



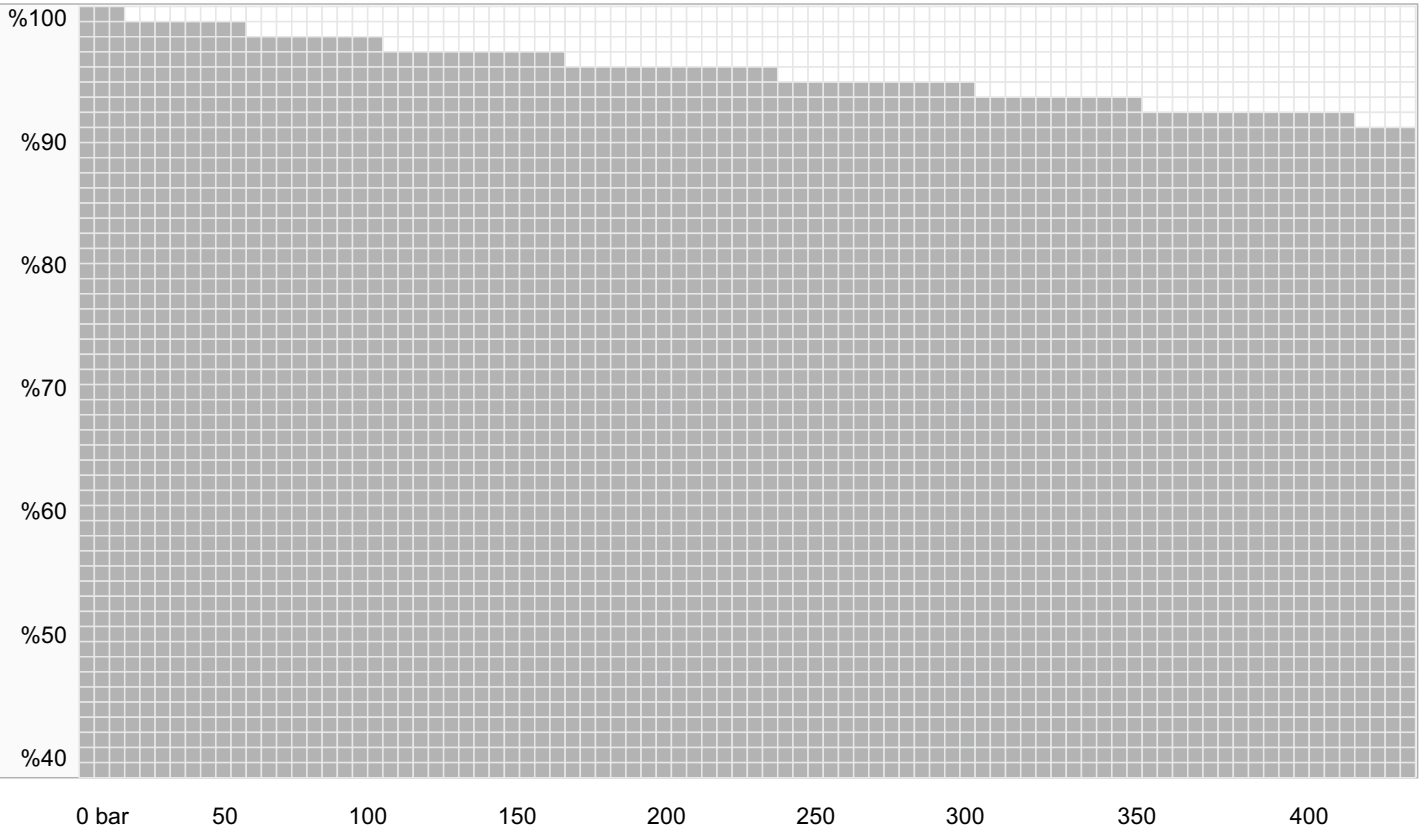
2PM Bent Axis Piston Motor - ISO, Fixed Displacement.

Performance

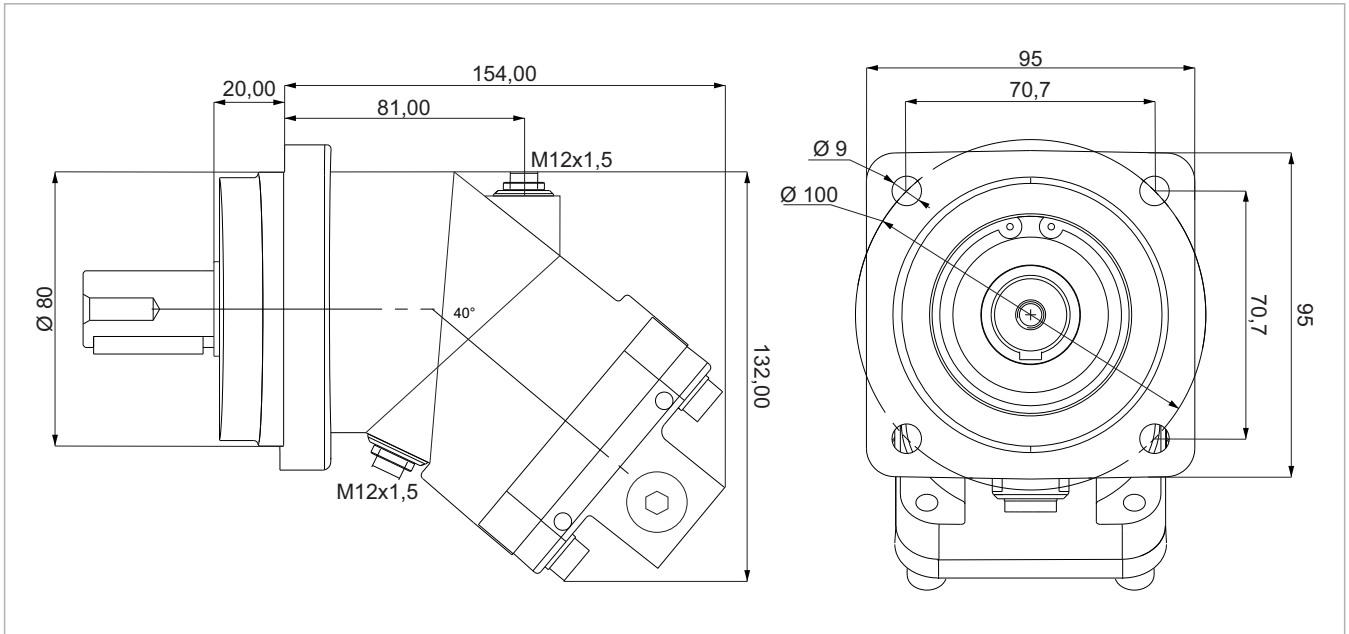
Compare Table of Torque



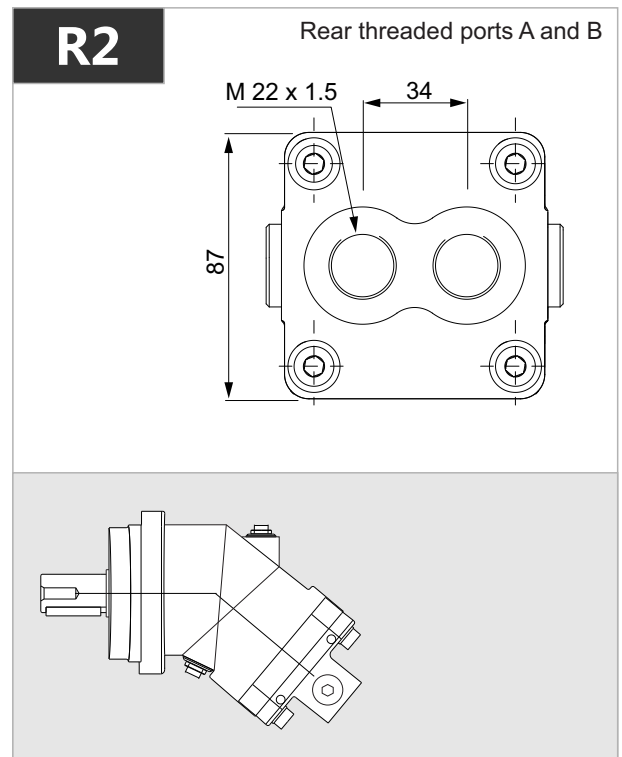
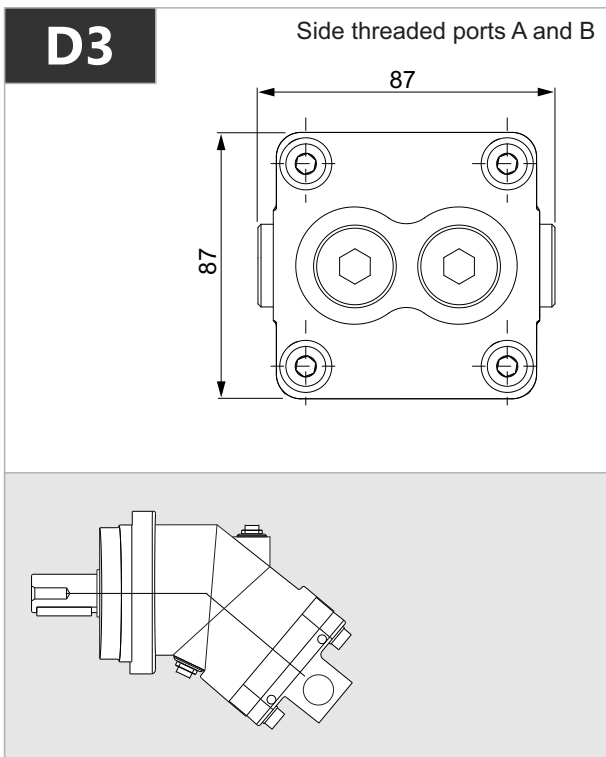
Efficiency of 2PM Motors



Dimensions Size;
2PM 5

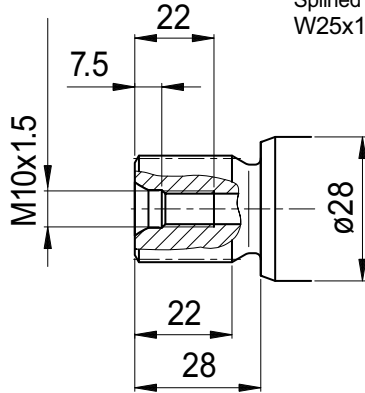


x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
5,00 cc	7,50 cc	8800 rpm	9400 rpm	400 bar	450 bar	0.17 m.N/bar	62 m.N	44	6,00 kg	6,20 kg	-25°	110°



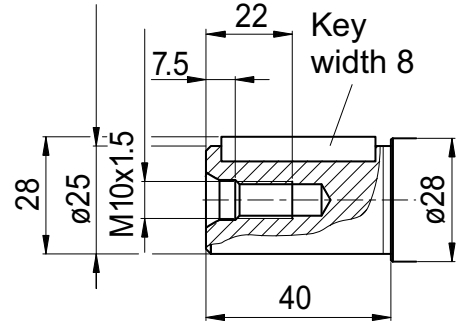
S1

Splined shaft DIN 5480
W25x1.25x18x9g



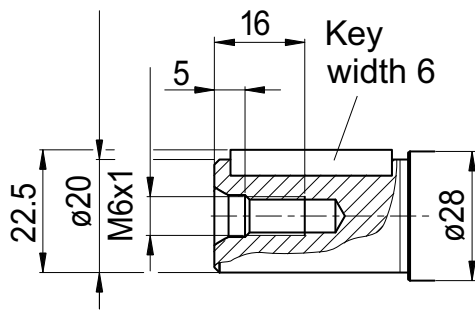
K1

Parallel keyed shaft
DIN 6885, AS8x7x32

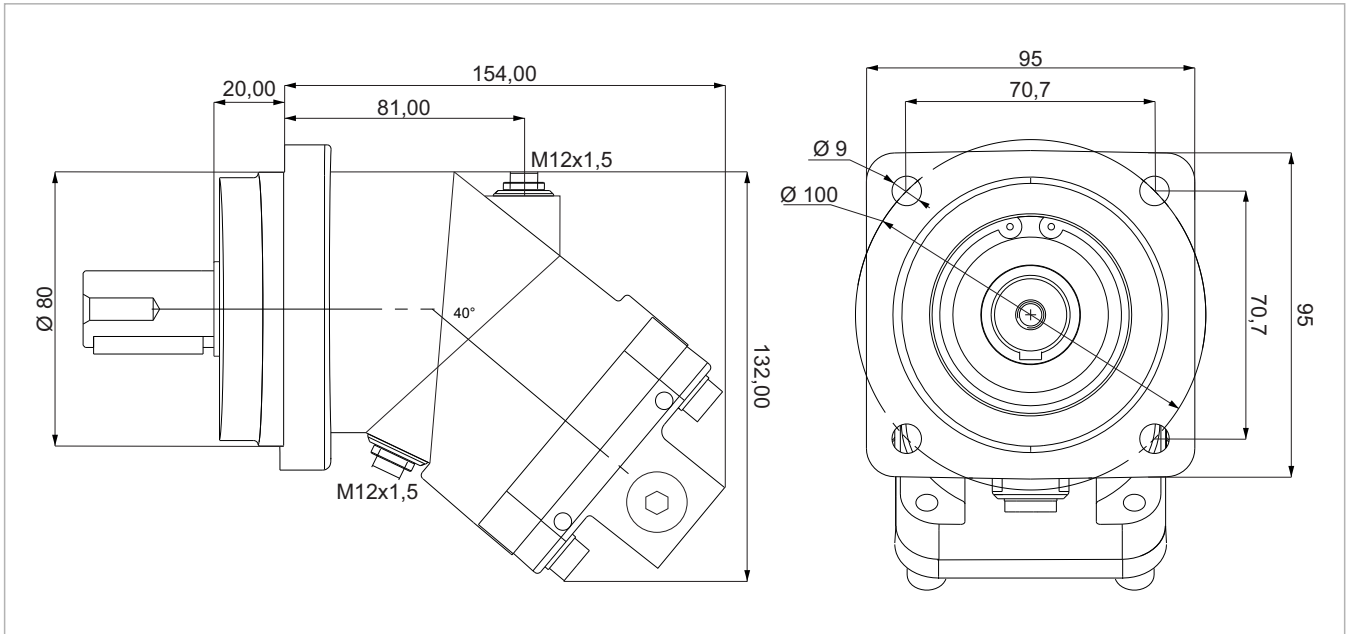


K2

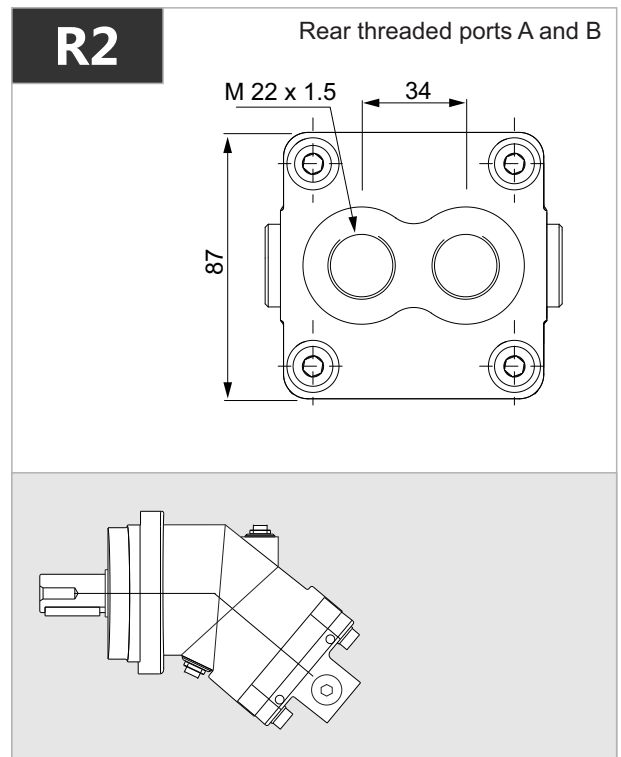
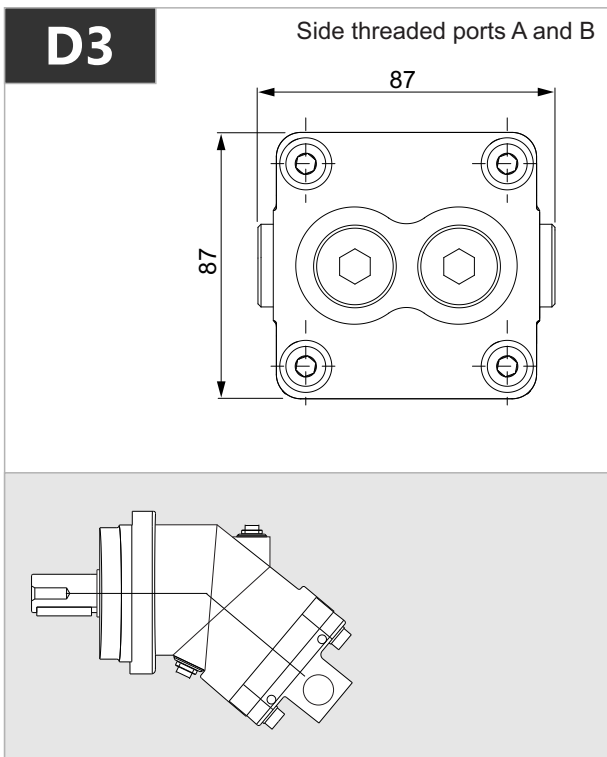
Parallel keyed shaft
DIN 6885, AS6x6x32



2PM 10



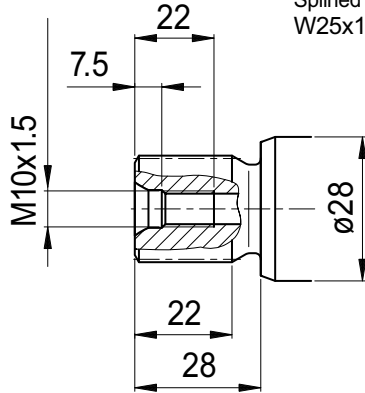
x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
10,00 cc	15,00 cc	8000 rpm	8800 rpm	400 bar	450 bar	0.17 m.N/bar	64 m.N	80	6,00 kg	6,20 kg	-25°	110°



2PM 10

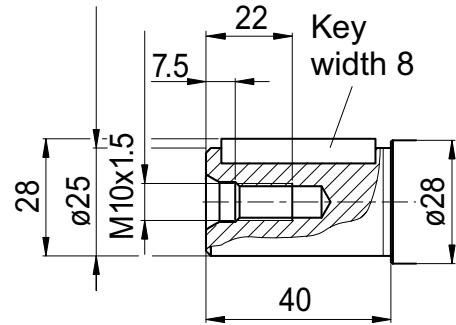
S1

Splined shaft DIN 5480
W25x1.25x18x9g



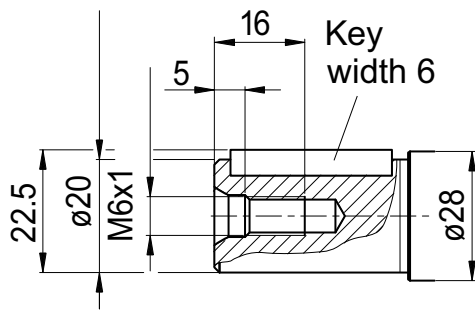
K1

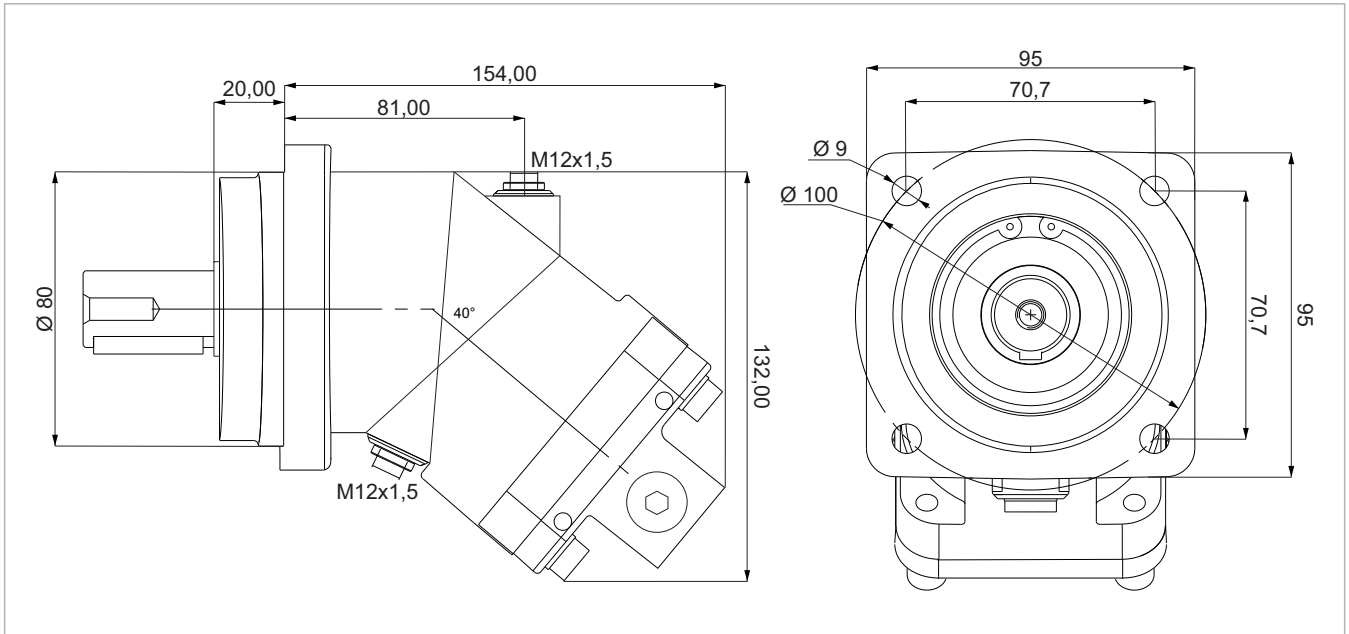
Parallel keyed shaft
DIN 6885, AS8x7x32



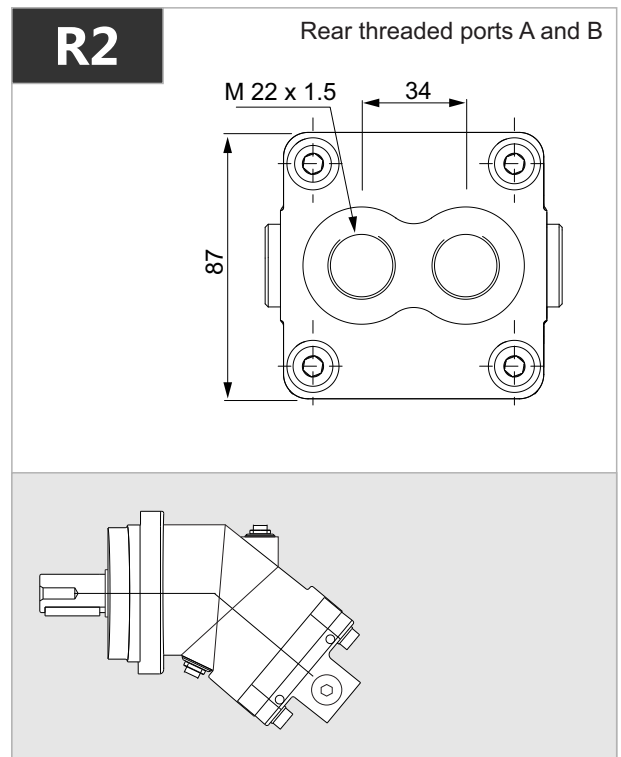
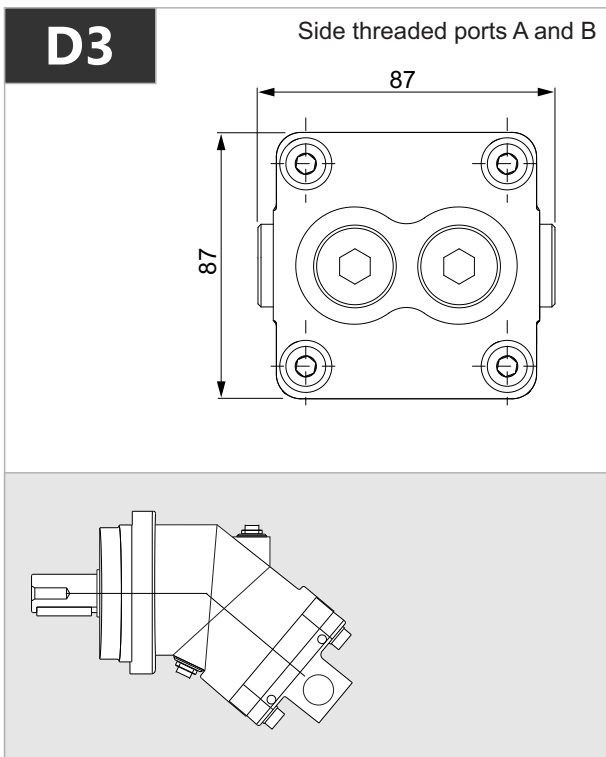
K2

Parallel keyed shaft
DIN 6885, AS6x6x32





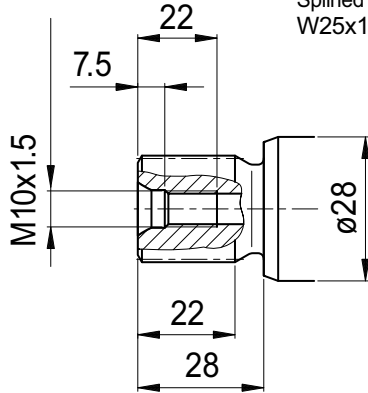
x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
12,00 cc	18,00 cc	8000 rpm	8800 rpm	400 bar	450 bar	0.18 m.N/bar	66 m.N	96	6,00 kg	6,20 kg	-25°	110°



2PM 12

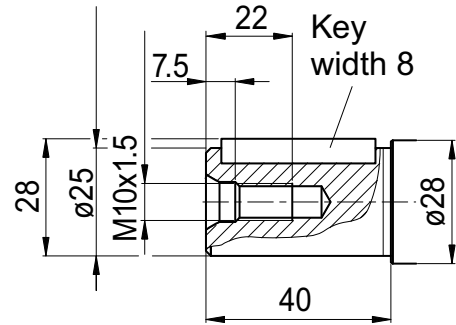
S1

Splined shaft DIN 5480
W25x1.25x18x9g



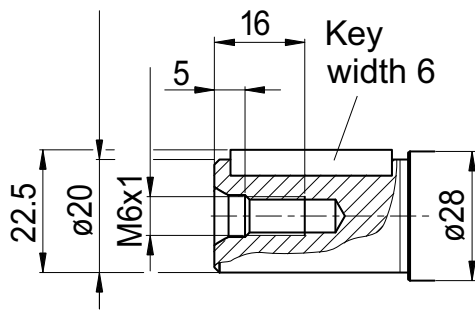
K1

Parallel keyed shaft
DIN 6885, AS8x7x32

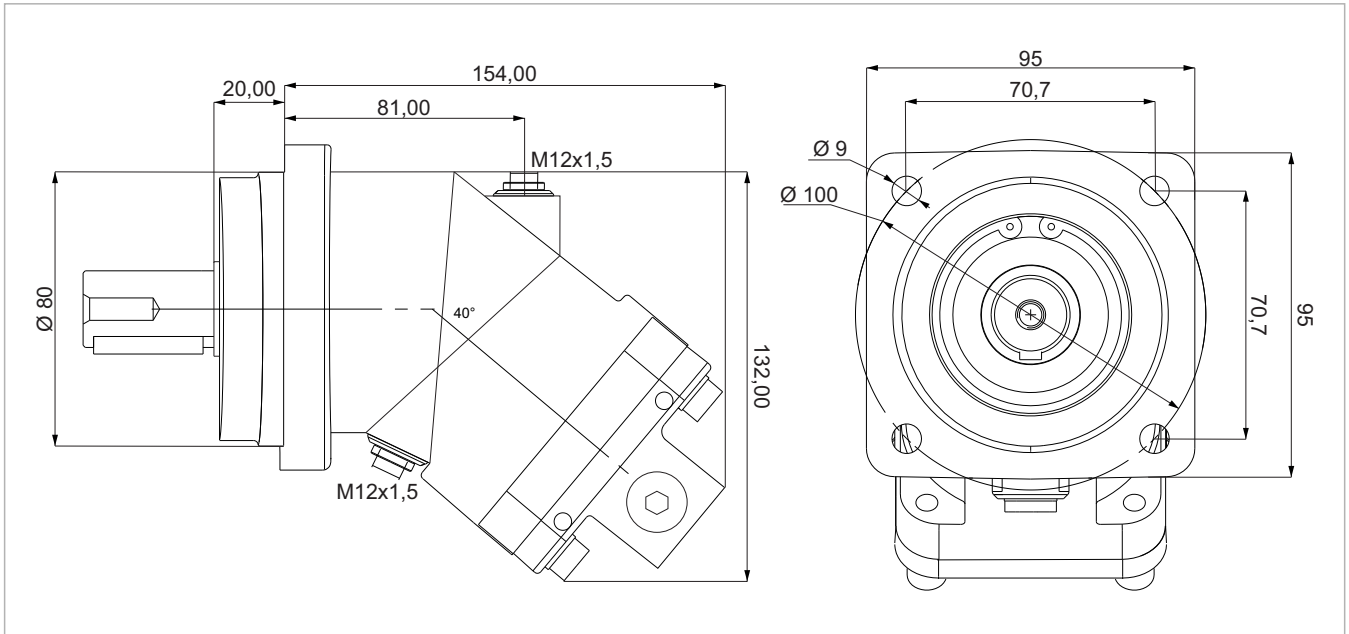


K2

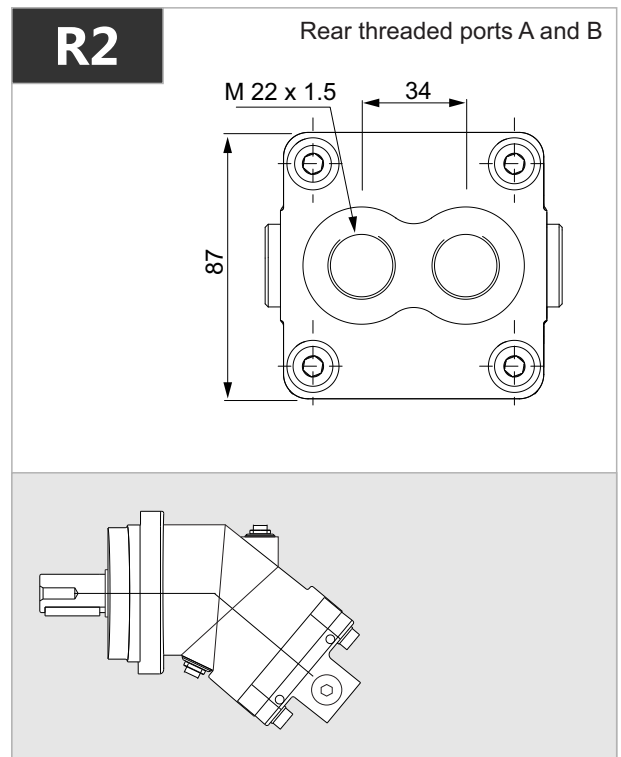
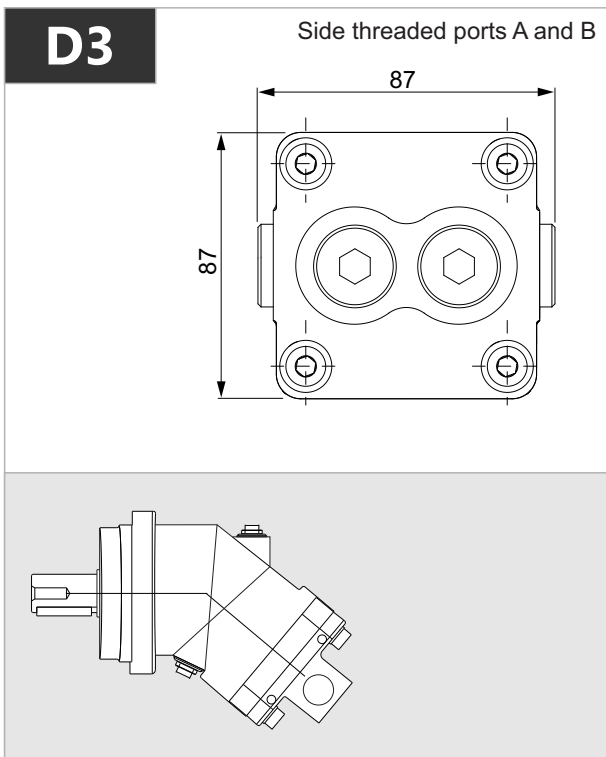
Parallel keyed shaft
DIN 6885, AS6x6x32



2PM 18



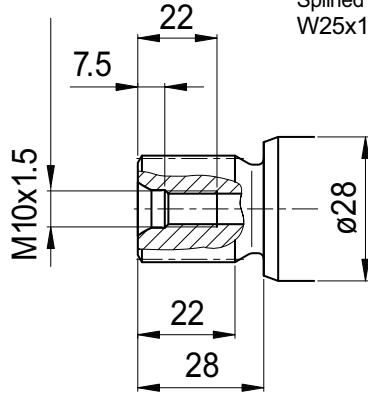
x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
18,00 cc	27,00 cc	8000 rpm	8800 rpm	400 bar	450 bar	0.28 m.N/bar	98 m.N	144	6,00 kg	6,20 kg	-25°	110°



2PM 18

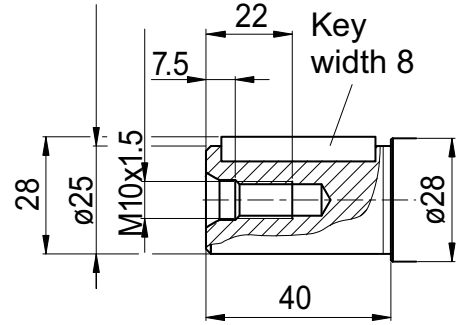
S1

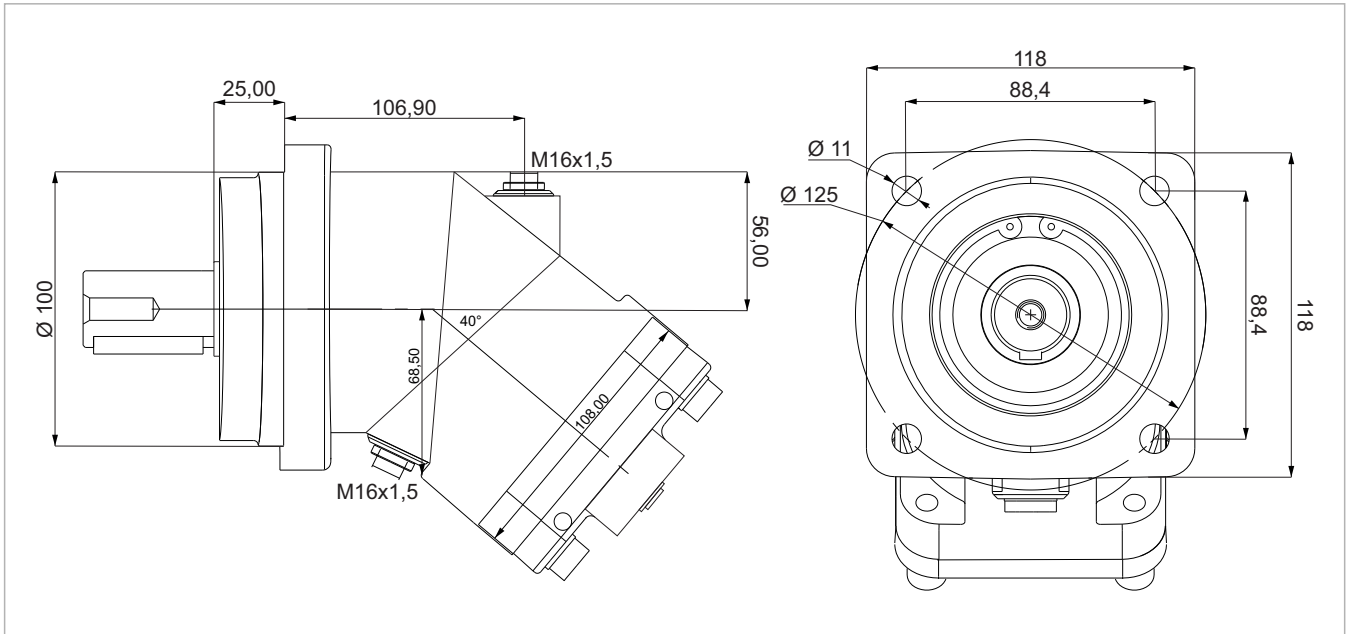
Splined shaft DIN 5480
W25x1.25x18x9g



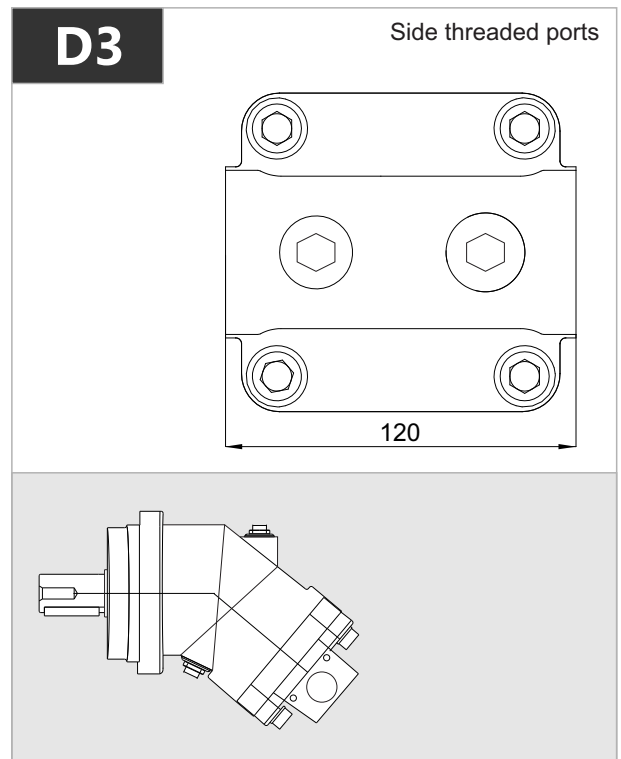
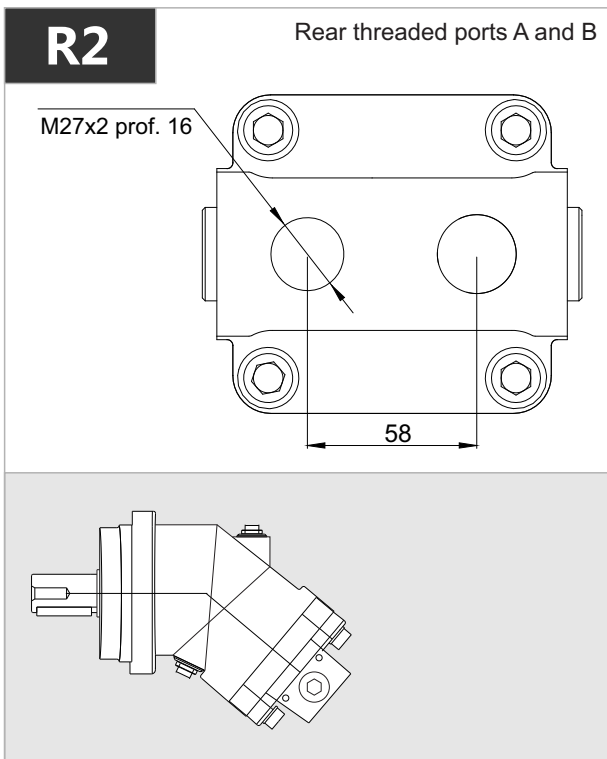
K1

Parallel keyed shaft
DIN 6885, AS8x7x32





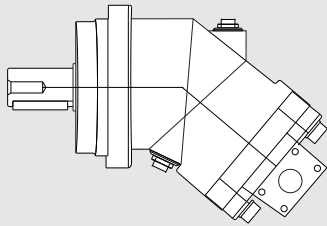
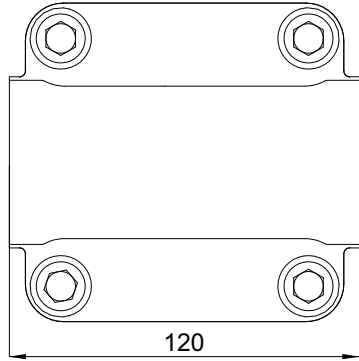
x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
25,00 cc	37,50 cc	6250 rpm	6800 rpm	400 bar	450 bar	0.40 m.N/bar	140 m.N	156	11,50 kg	11,80 kg	-25°	110°



2PM 25

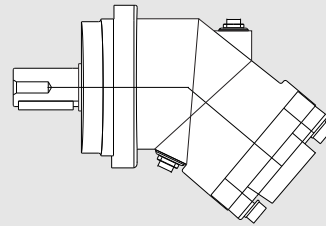
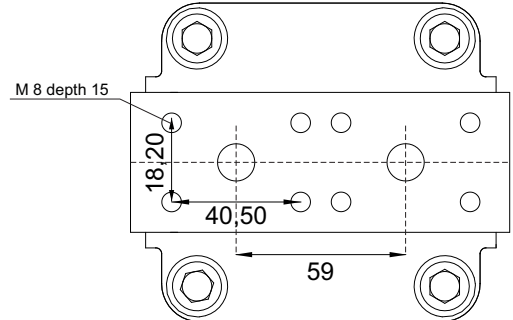
D1-D2

Side flange ports A and B
SAE 1/2" 6000 PSI



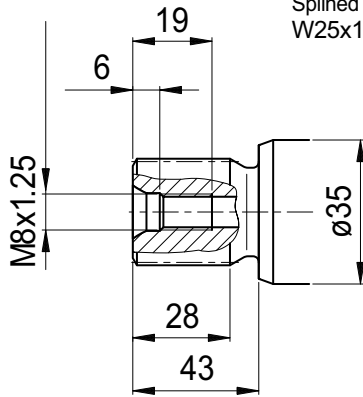
R1

Rear flange ports A and B
SAE 1/2" 6000 PSI



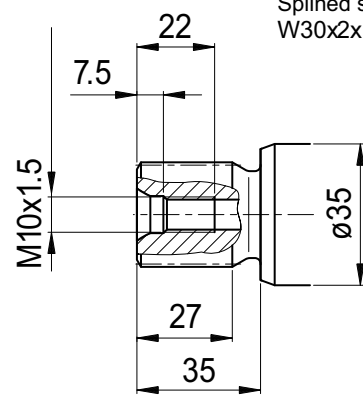
S1

Splined shaft DIN 5480
W25x1.25x18x9g



S2

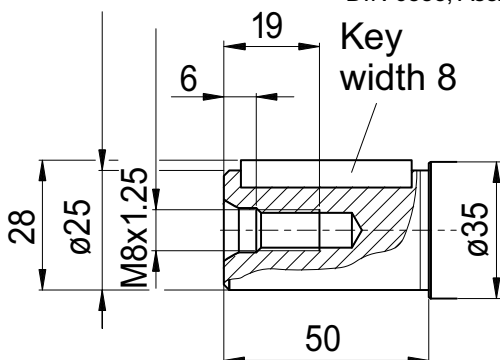
Splined shaft DIN 5480
W30x2x14x9g



K1

Parallel keyed shaft
DIN 6885, As8x7x40

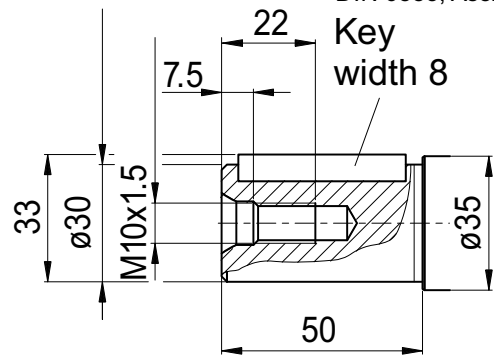
Key
width 8



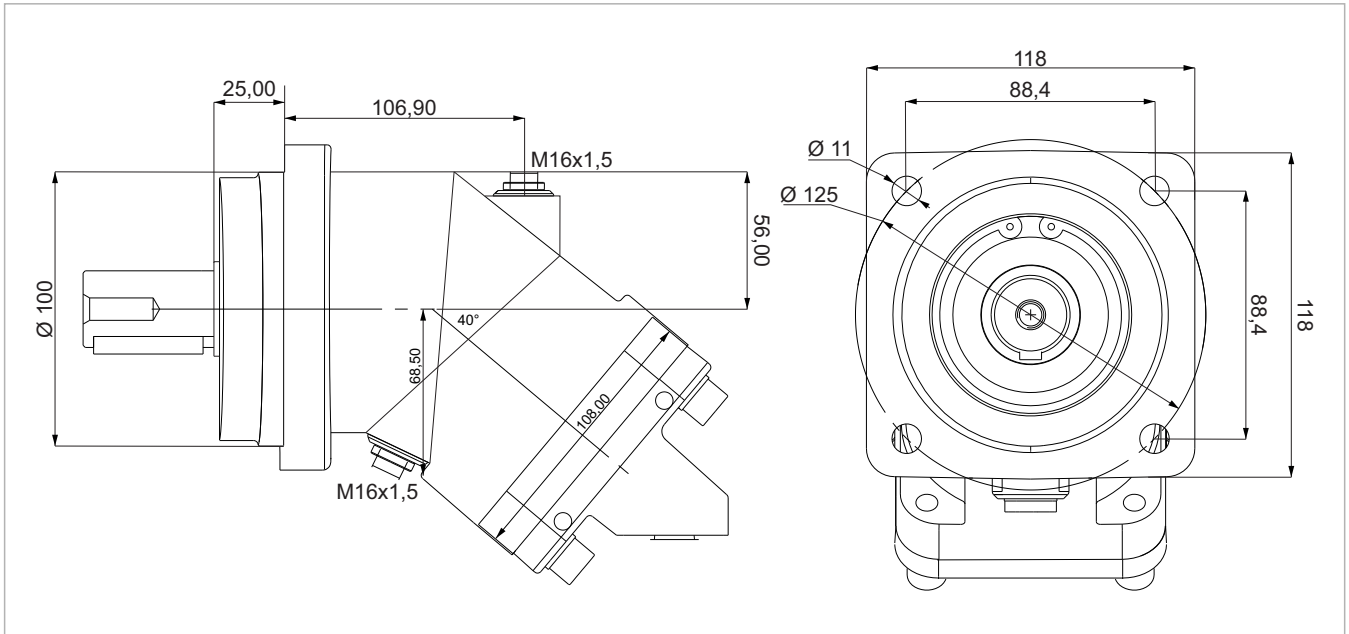
K2

Parallel keyed shaft
DIN 6885, As8x7x40

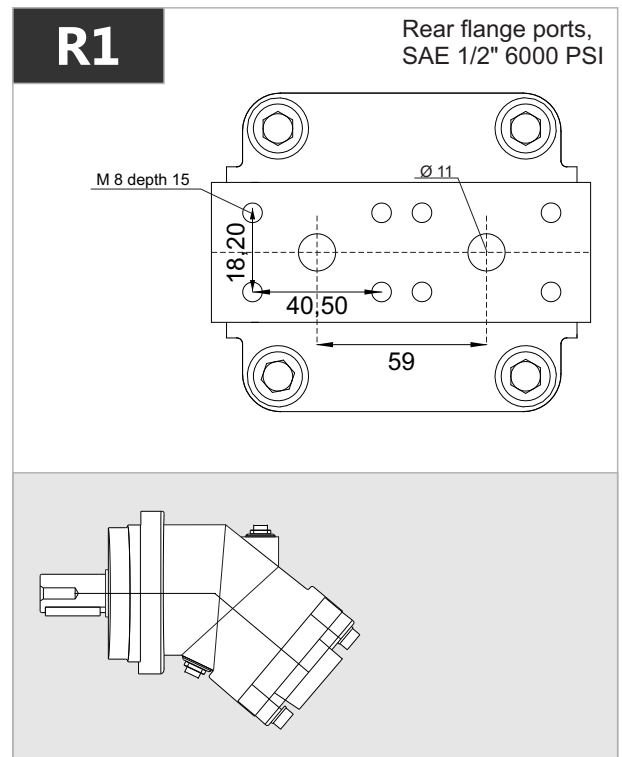
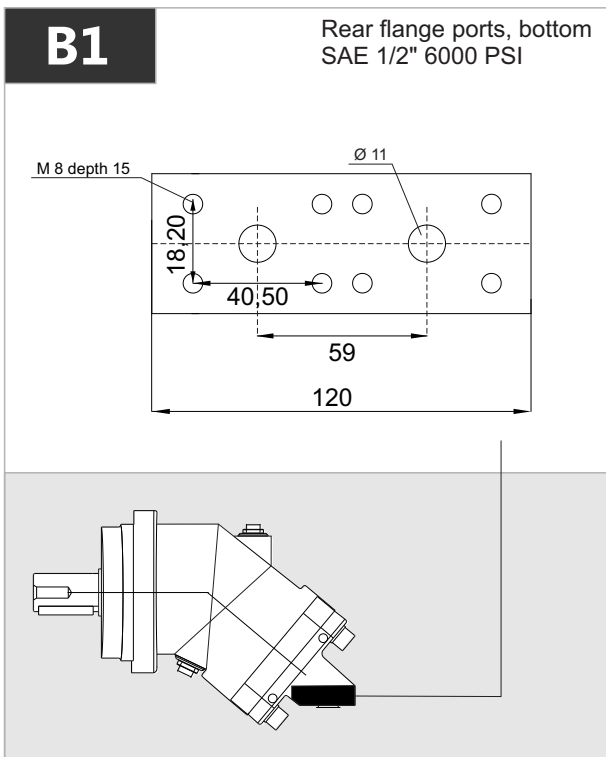
Key
width 8



2PM 32

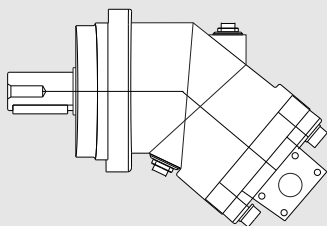
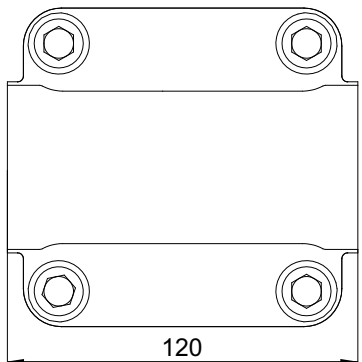


x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
32,00 cc	48,00 cc	6250 rpm	6800 rpm	400 bar	450 bar	0.51 m.N/bar	174 m.N	200	11,50 kg	11,90 kg	-25°	110°



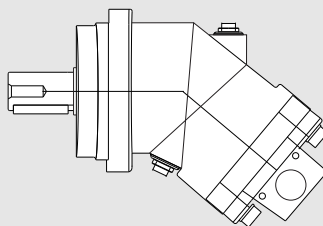
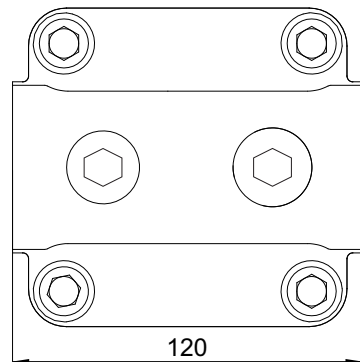
D1-D2

Side flange ports A and B
SAE 1/2" 6000 PSI



D3

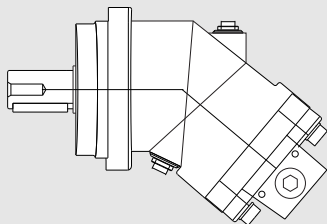
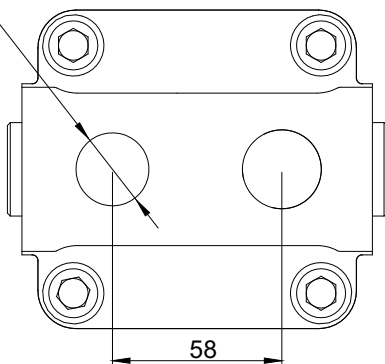
Side threaded ports A and B



R2

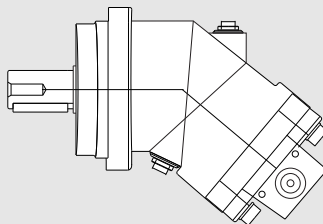
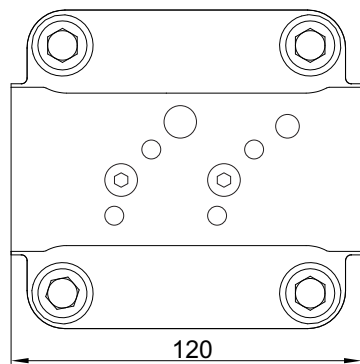
Rear threaded ports

M27x2 prof. 16



D4

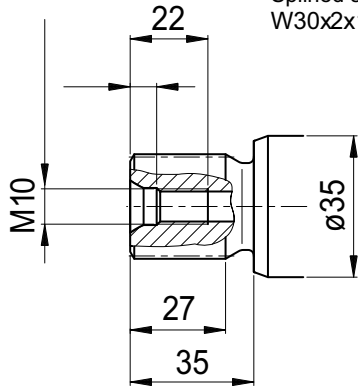
Side threaded ports A and B



2PM 32

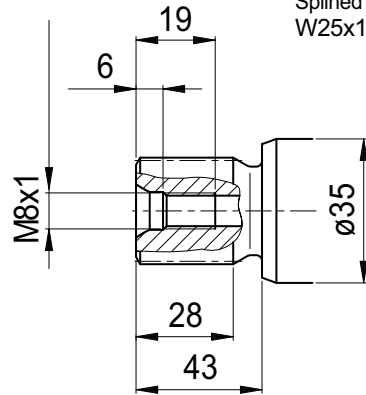
S1

Splined shaft DIN 5480
W30x2x14x9g



S2

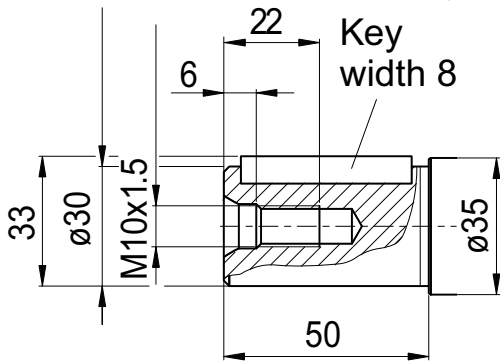
Splined shaft DIN 5480
W25x1.25x18x9g



K1

Parallel keyed shaft
DIN 6885, As8x7x40

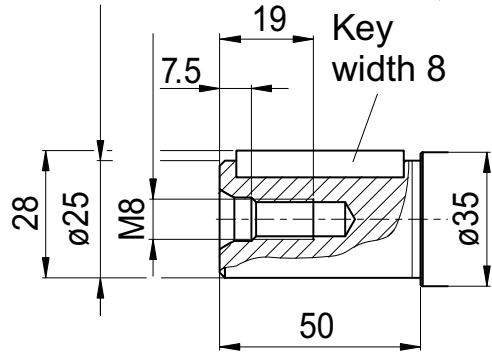
Key
width 8



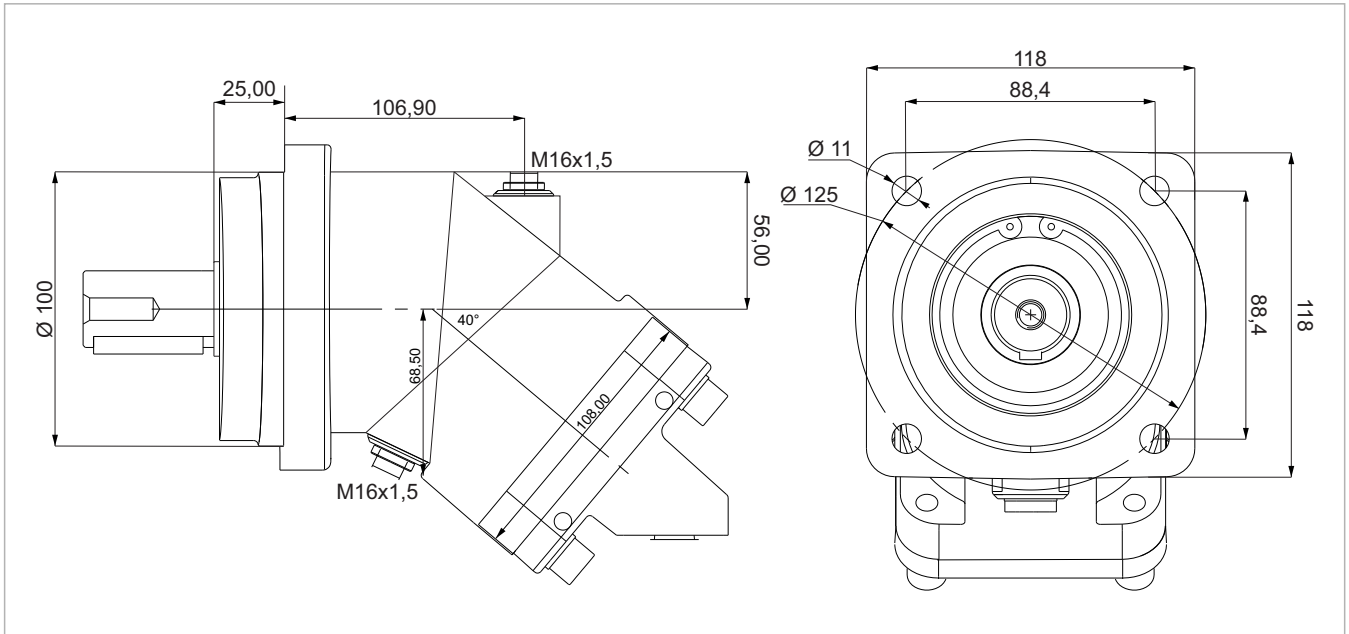
K2

Parallel keyed shaft
DIN 6885, As8x7x40

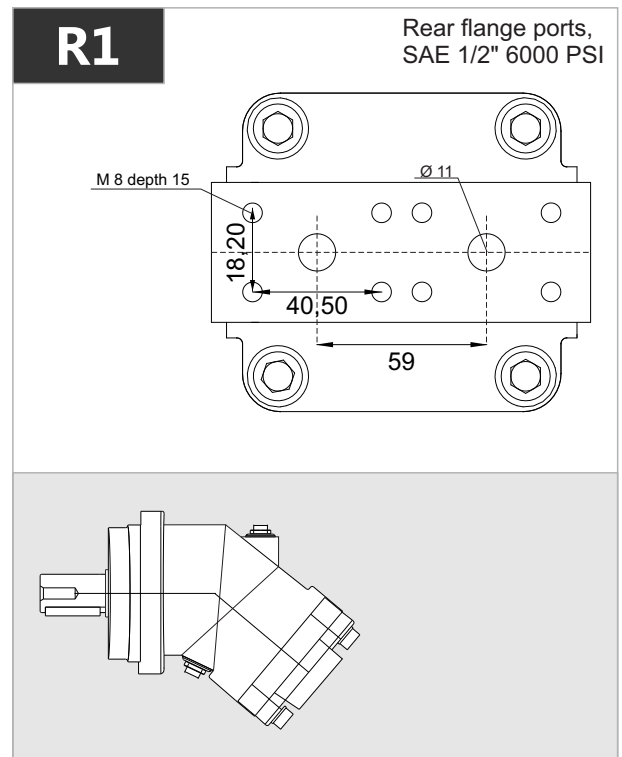
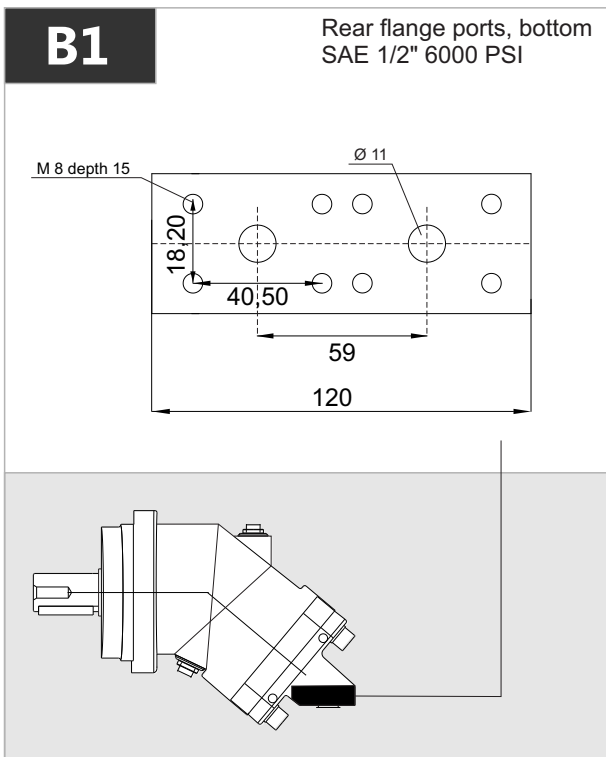
Key
width 8



2PM 40

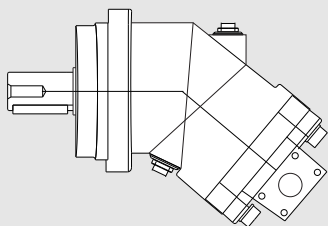
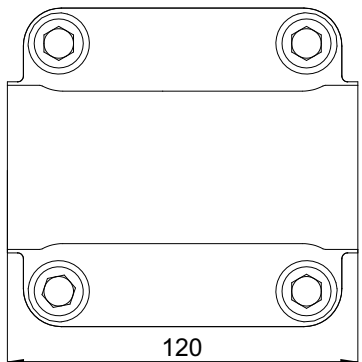


x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
40,20 cc	60,30 cc	5600 rpm	6300 rpm	400 bar	450 bar	0.68 m.N/bar	228 m.N	225	11,50 kg	11,90 kg	-25°	110°



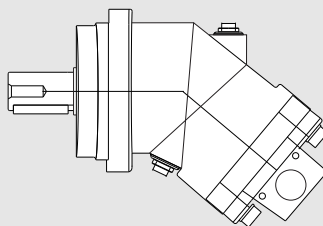
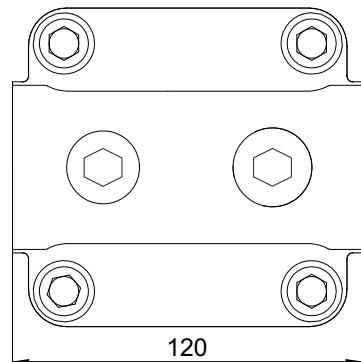
D1-D2

Side flange ports A and B
SAE 1/2" 6000 PSI



D3

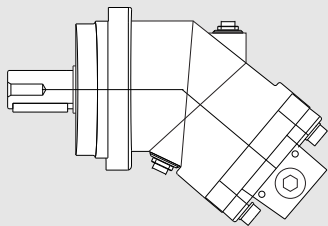
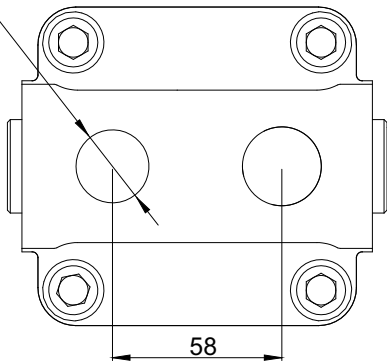
Side threaded ports A and B



R2

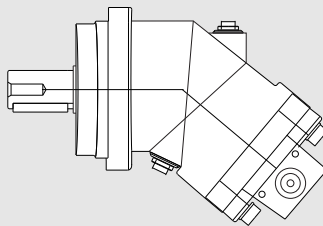
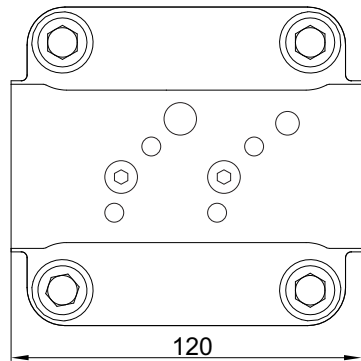
Rear threaded ports

M27x2 prof. 16



D4

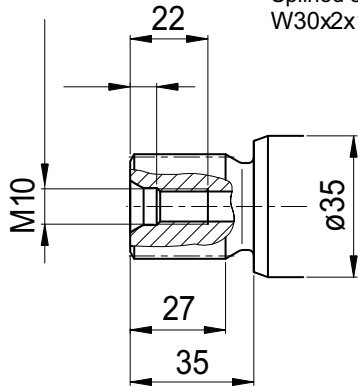
Side threaded ports A and B



2PM 40

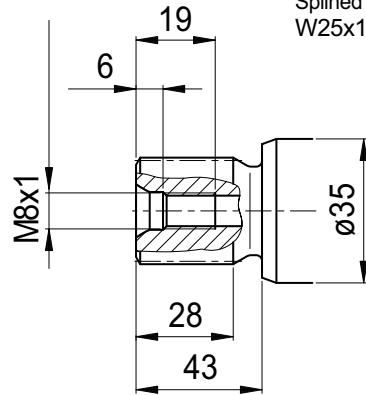
S1

Splined shaft DIN 5480
W30x2x14x9g



S2

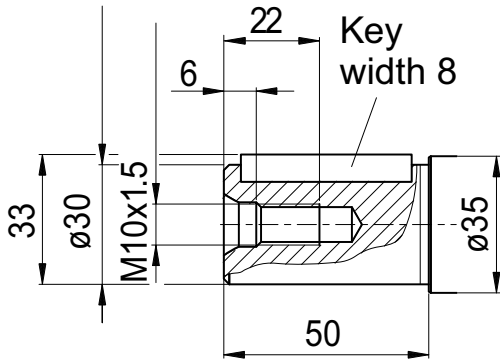
Splined shaft DIN 5480
W25x1.25x18x9g



K1

Parallel keyed shaft
DIN 6885, As8x7x40

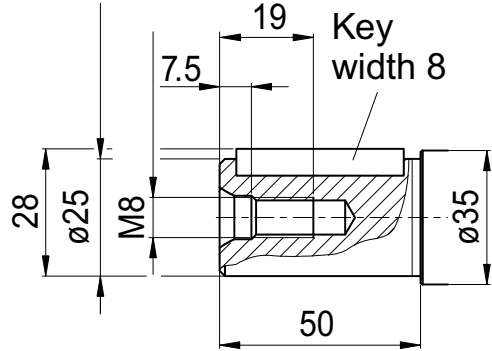
Key
width 8



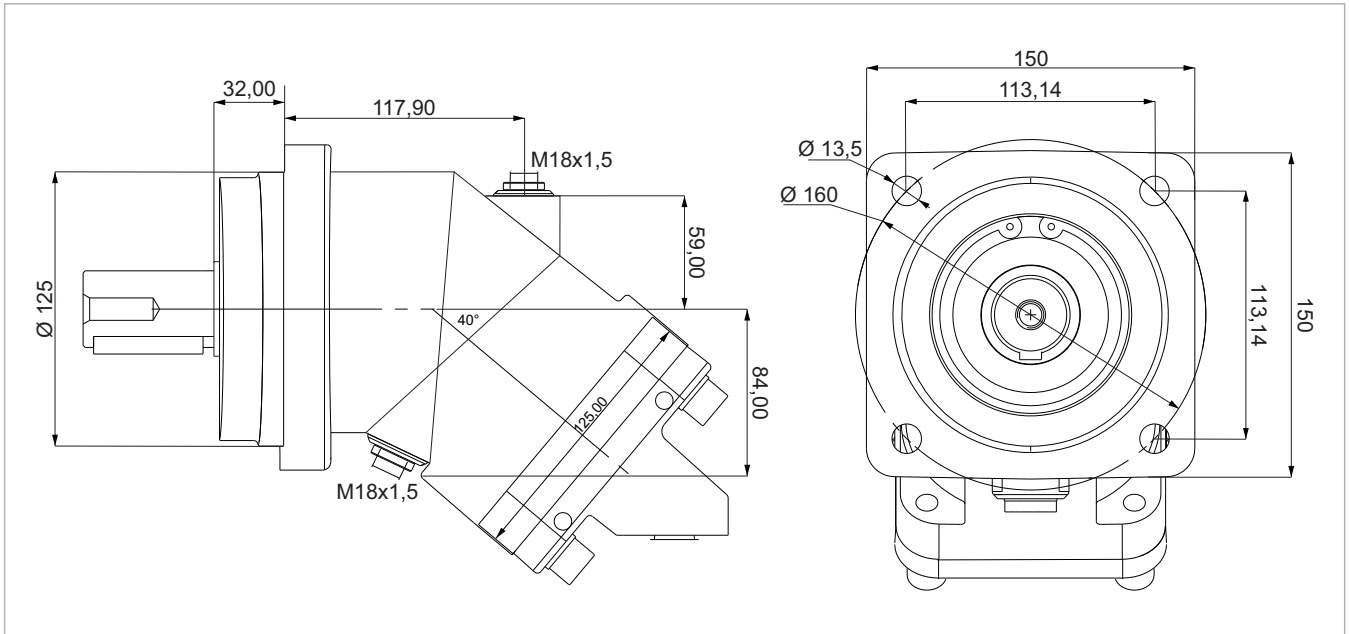
K2

Parallel keyed shaft
DIN 6885, As8x7x40

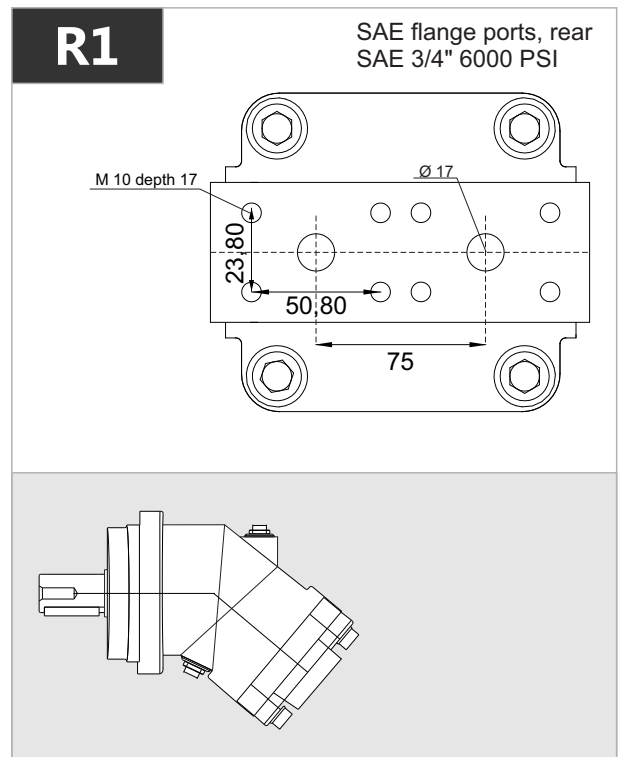
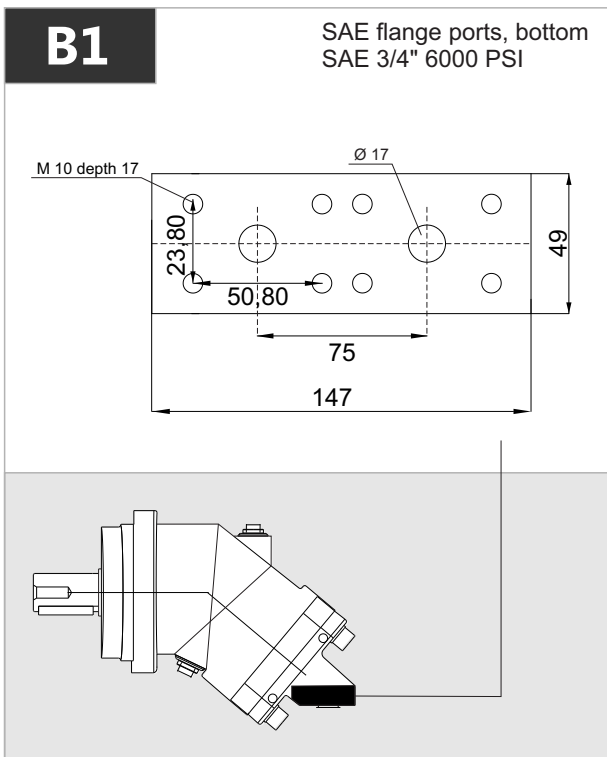
Key
width 8



2PM 50

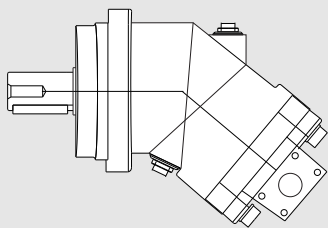
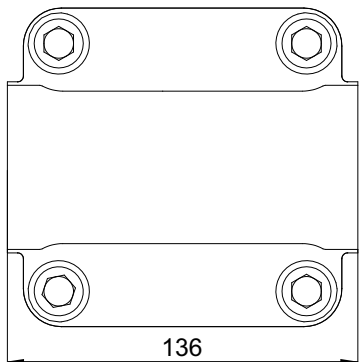


x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
50,00 cc	75,00 cc	5000 rpm	5500 rpm	400 bar	450 bar	0.80 m.N/bar	280 m.N	250	17,50 kg	18,00 kg	-25°	110°



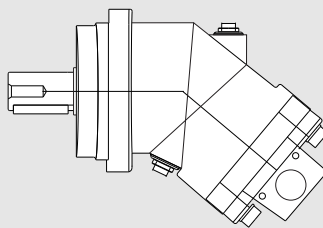
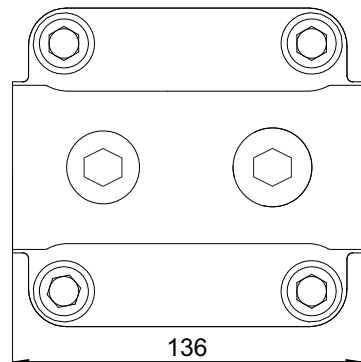
D1-D2

SAE flange ports, side A and B
SAE 3/4" 6000 PSI



D3

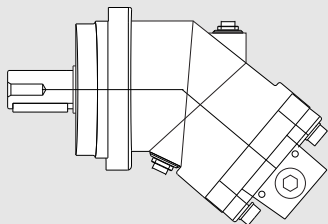
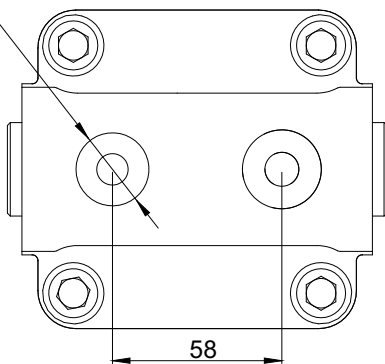
Side threaded ports A and B



R2

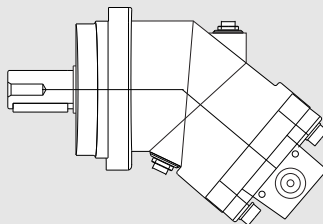
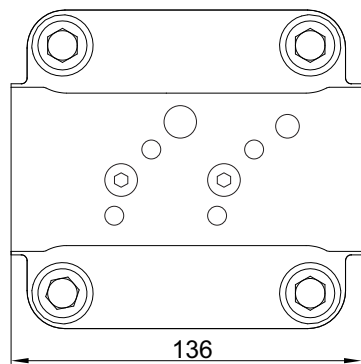
Rear threaded ports

M33x2 prof. 18



D4

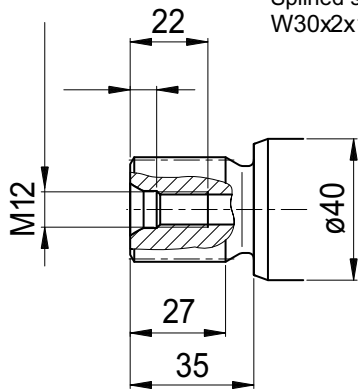
Side threaded ports A and B



2PM 50

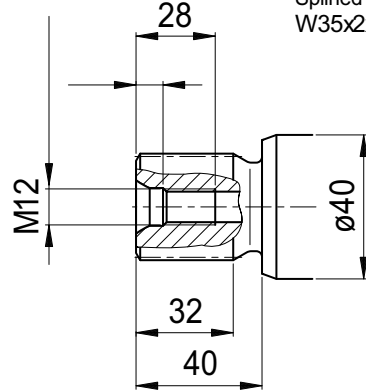
S1

Splined shaft DIN 5480
W30x2x14x9g



S2

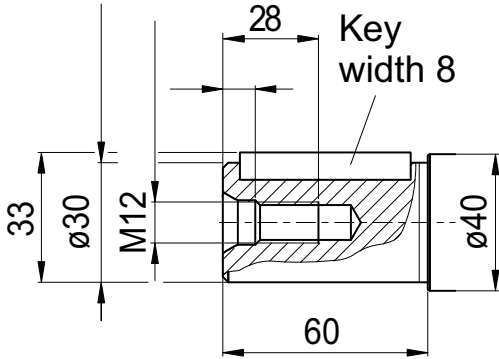
Splined shaft DIN 5480
W35x2x16x9g



K1

Parallel keyed shaft
DIN 6885, As8x7x50

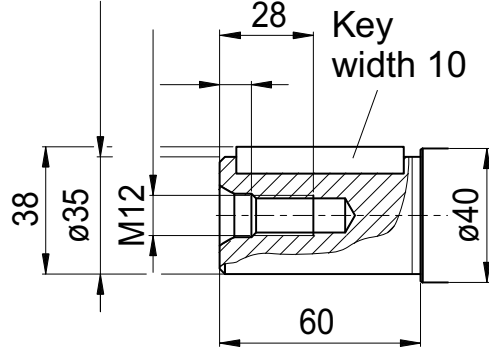
Key
width 8



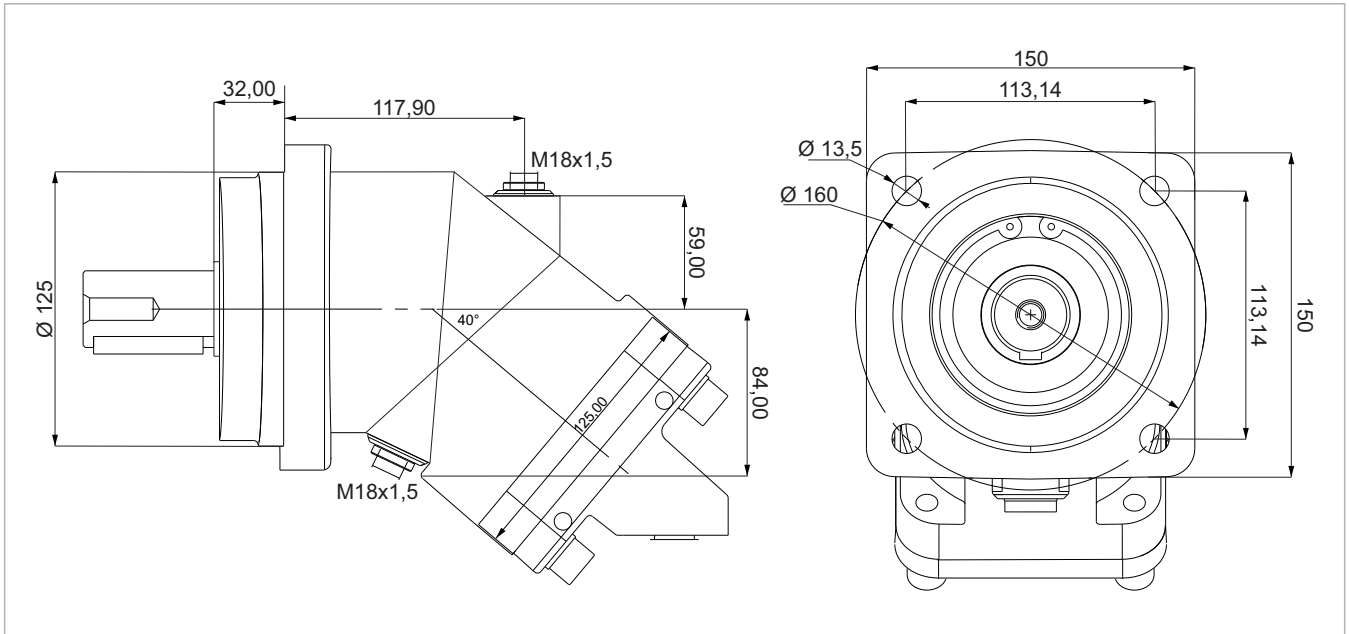
K2

Parallel keyed shaft
DIN 6885, As10x8x50

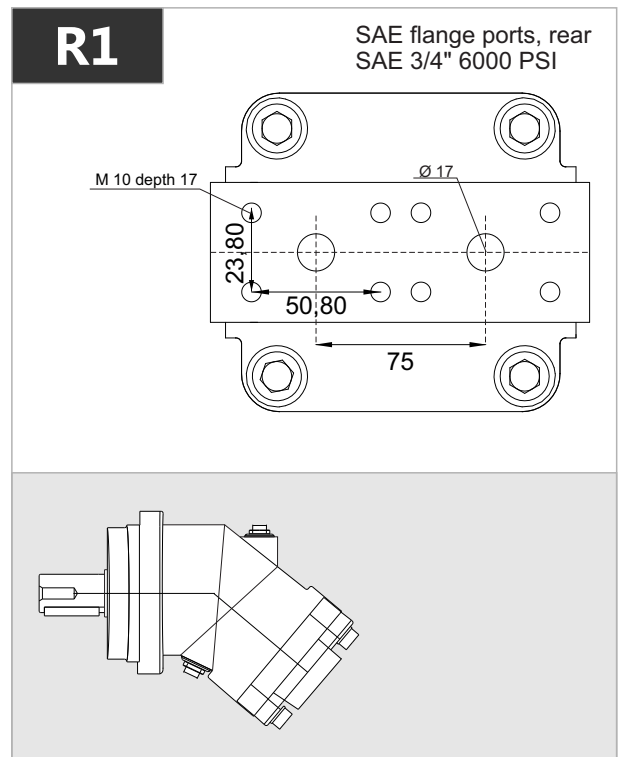
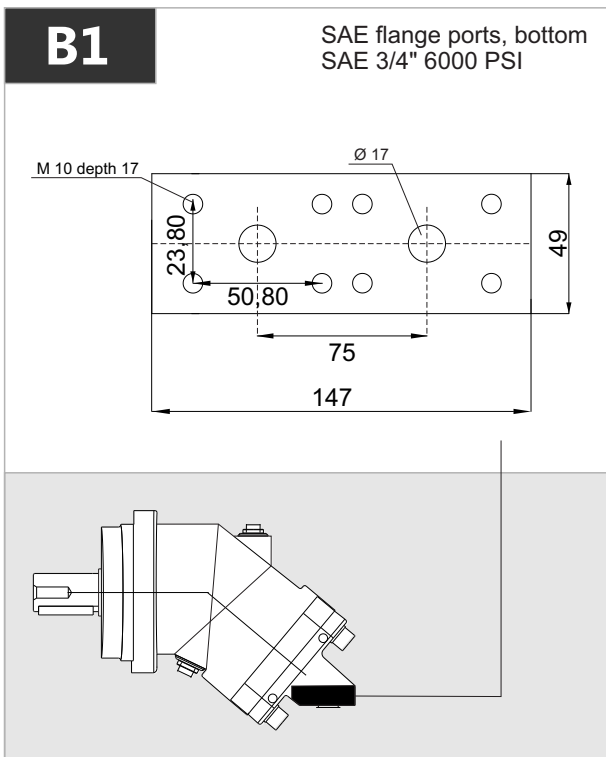
Key
width 10



2PM 56

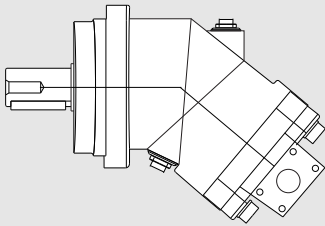
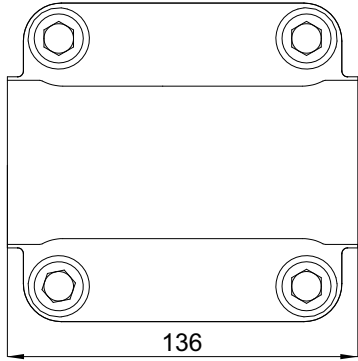


x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
56,40 cc	84,60 cc	5000 rpm	5500 rpm	400 bar	450 bar	0.92 m.N/bar	320 m.N	282	18,00 kg	18,50 kg	-25°	110°



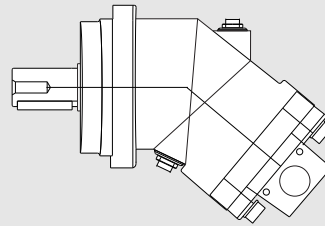
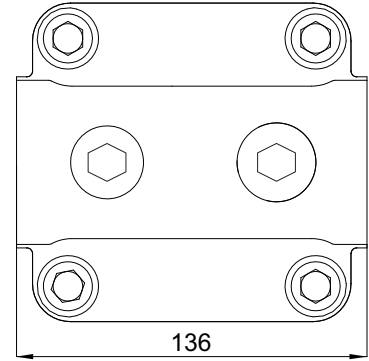
D1-D2

SAE flange ports, side A and B
SAE 3/4" 6000 PSI



D3

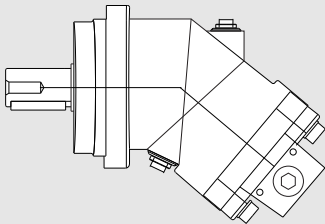
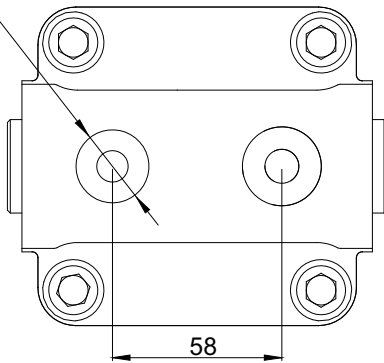
Side threaded ports A and B



R2

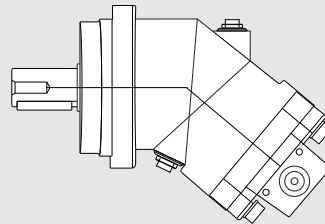
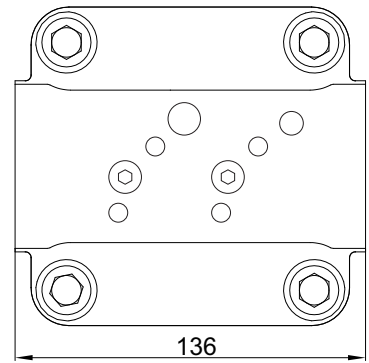
Rear threaded ports

M33x2 prof. 18



D4

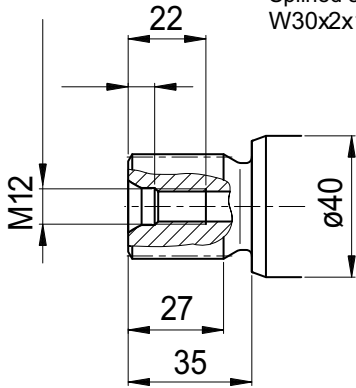
Side threaded ports A and B



2PM 56

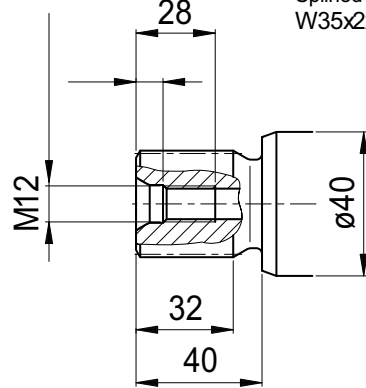
S1

Splined shaft DIN 5480
W30x2x14x9g



S2

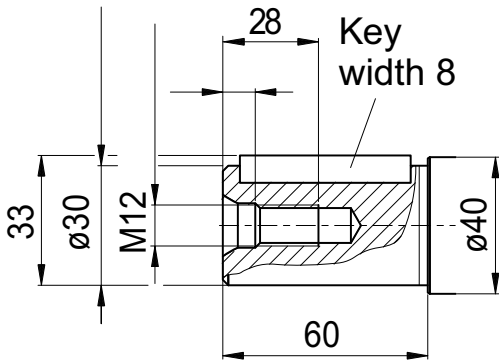
Splined shaft DIN 5480
W35x2x16x9g



K1

Parallel keyed shaft
DIN 6885, As8x7x50

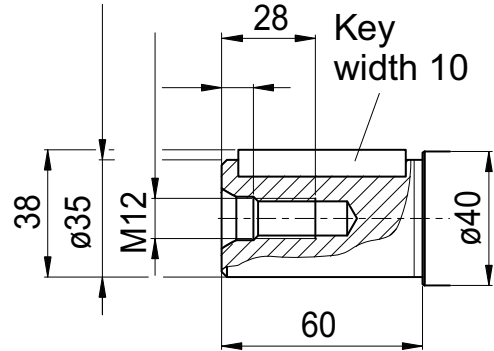
Key
width 8



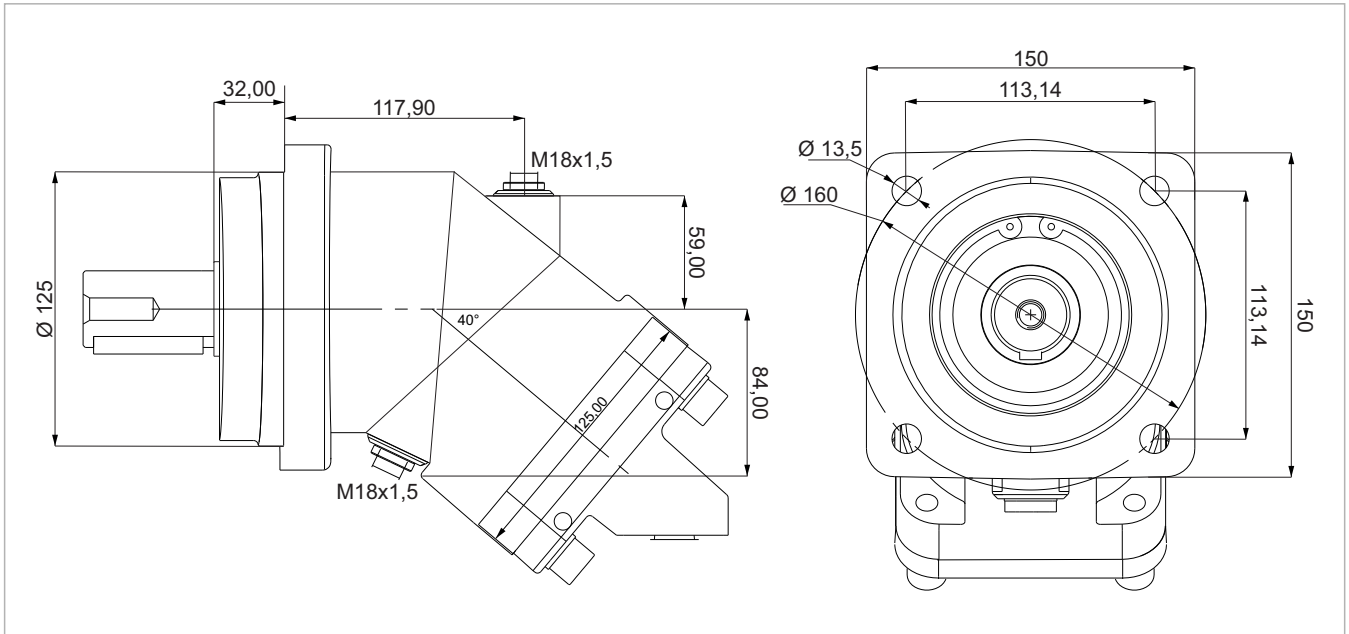
K2

Parallel keyed shaft
DIN 6885, As10x8x50

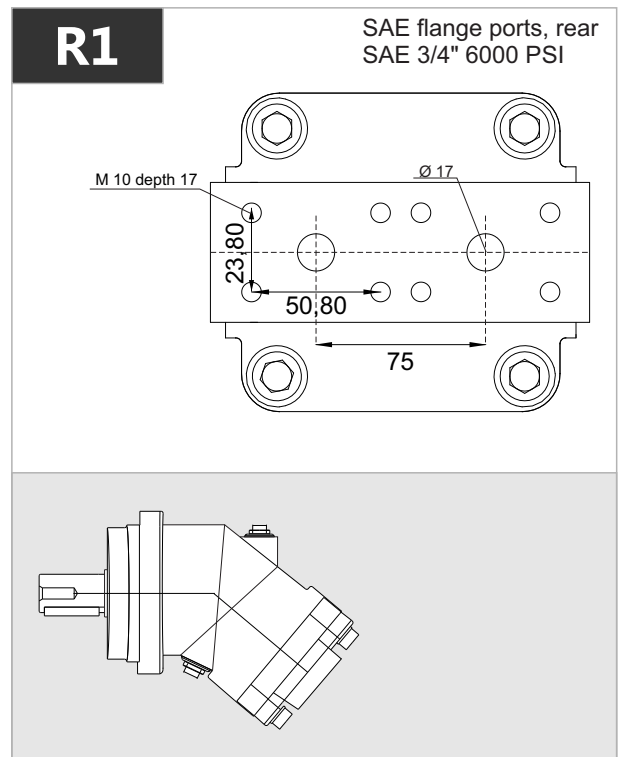
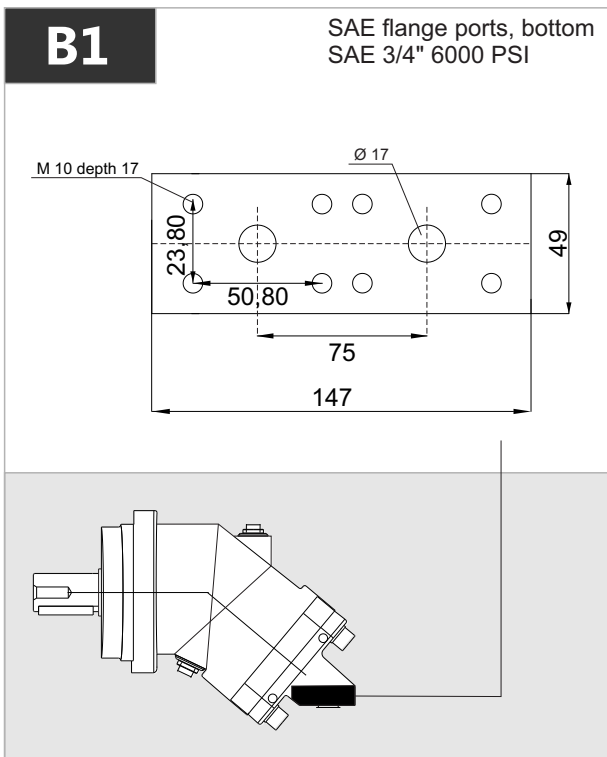
Key
width 10



2PM 63

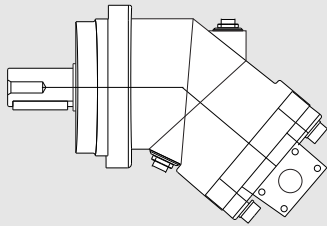
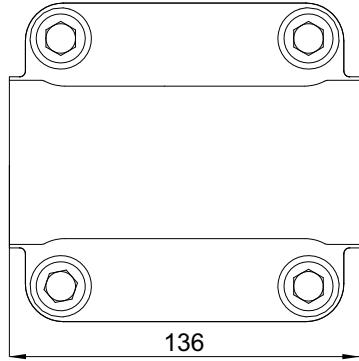


x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
63,00 cc	94,50 cc	5000 rpm	5500 rpm	400 bar	450 bar	1.00 m.N/bar	350 m.N	315	18,00 kg	18,50 kg	-25°	110°



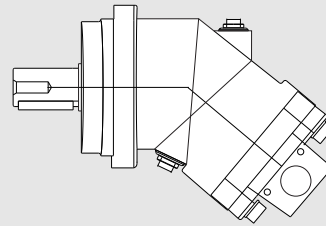
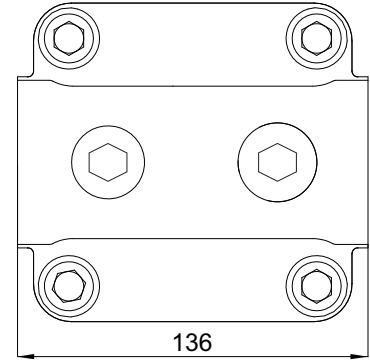
D1-D2

SAE flange ports, side A and B
SAE 3/4" 6000 PSI



D3

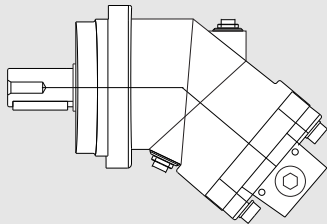
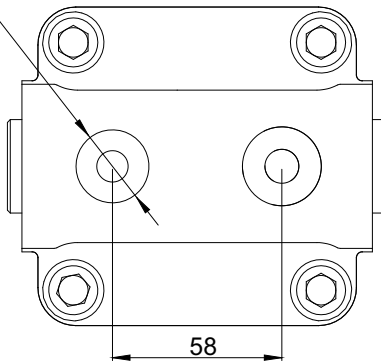
Side threaded ports A and B



R2

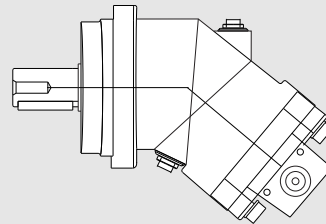
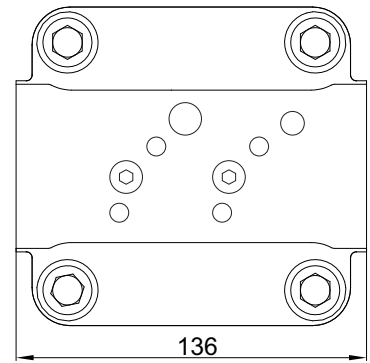
Rear threaded ports

M33x2 prof. 18



D4

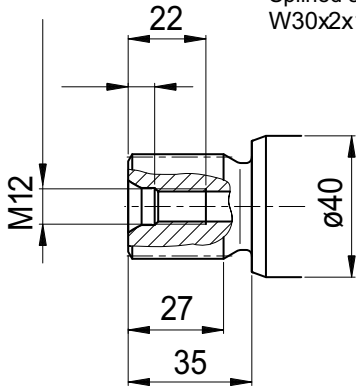
Side threaded ports A and B



2PM 63

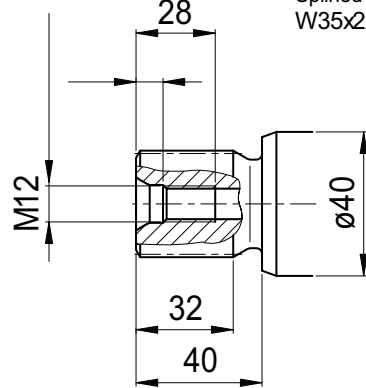
S1

Splined shaft DIN 5480
W30x2x14x9g



S2

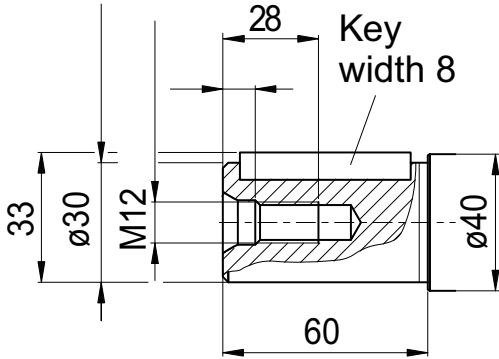
Splined shaft DIN 5480
W35x2x16x9g



K1

Parallel keyed shaft
DIN 6885, As8x7x50

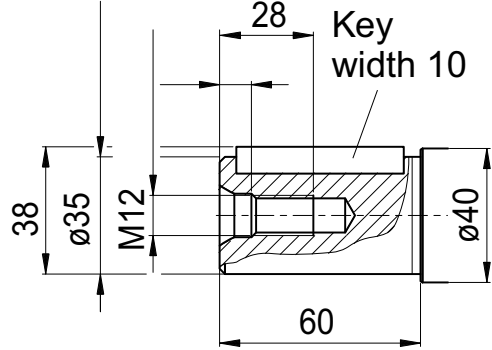
Key
width 8



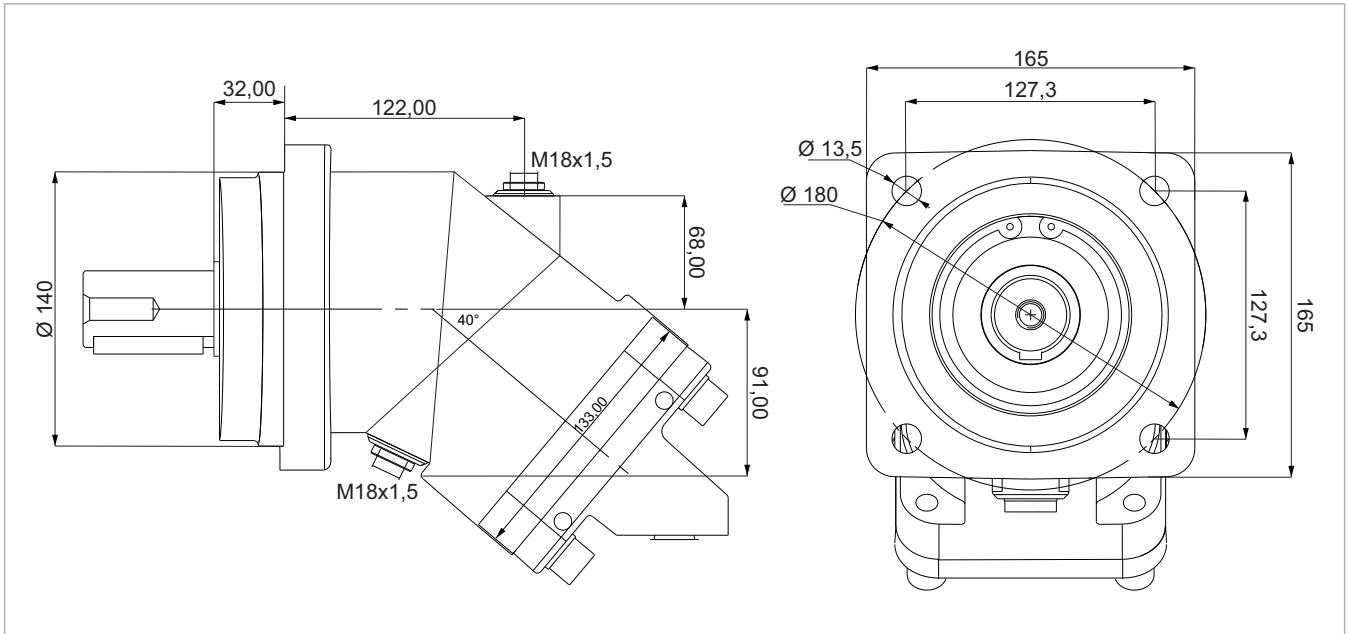
K2

Parallel keyed shaft
DIN 6885, As10x8x50

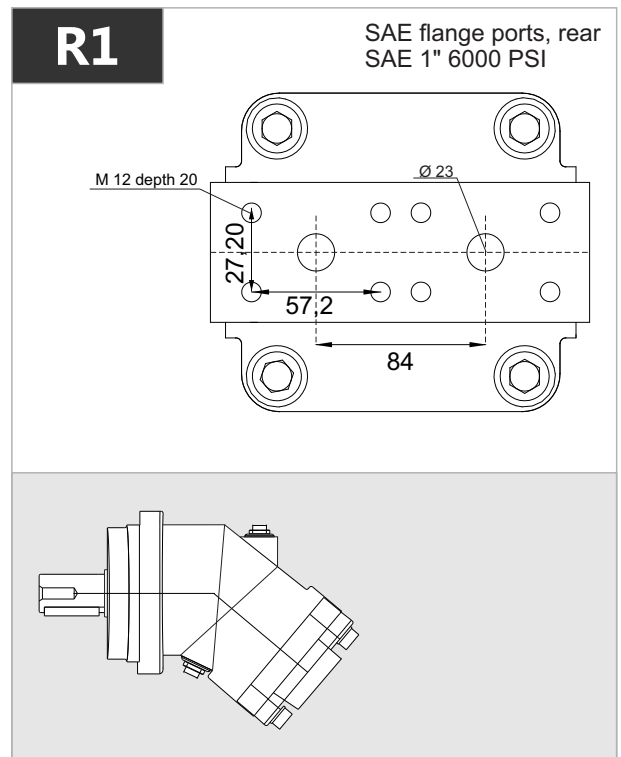
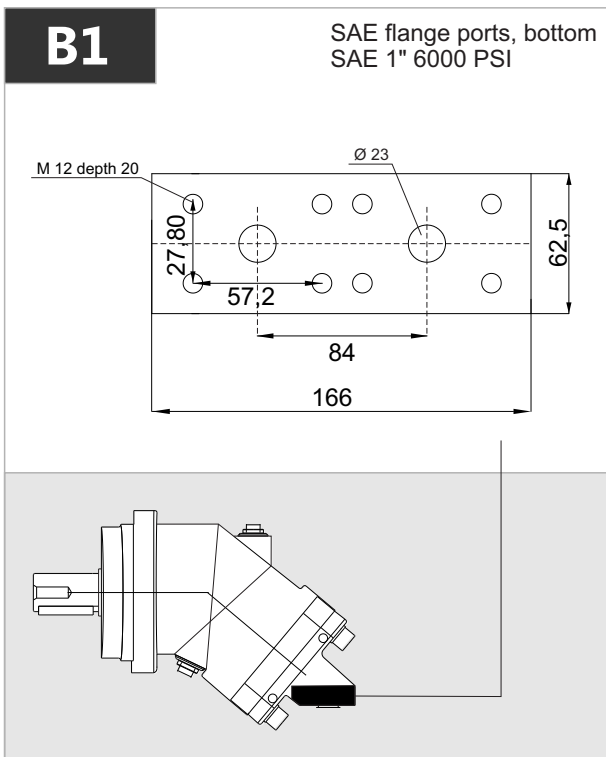
Key
width 10



2PM 80

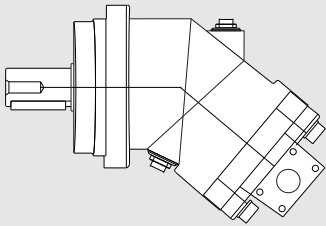
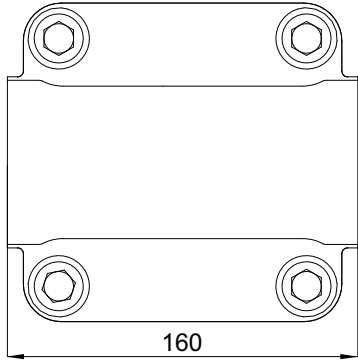


x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
80,00 cc	120,00 cc	4400 rpm	4900 rpm	400 bar	450 bar	1.28 m.N/bar	440 m.N	352	22,00 kg	22,50 kg	-25°	110°



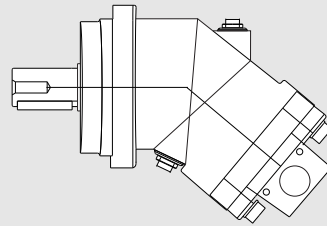
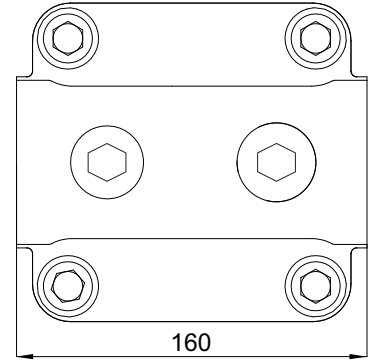
D1-D2

SAE flange ports, side
SAE 1" 6000 PSI



D3

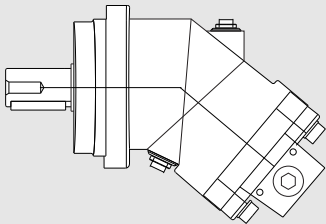
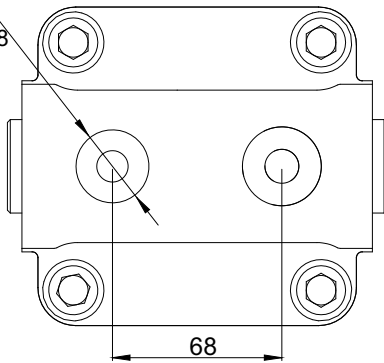
Side threaded ports



R2

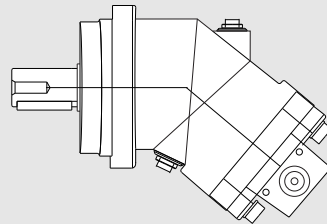
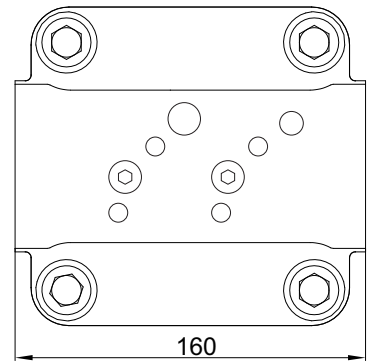
Rear threaded ports

M33x2 depth 18



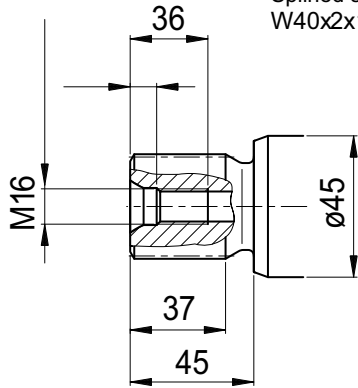
D4

Side threaded ports



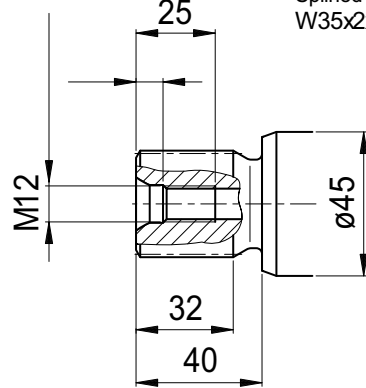
S1

Splined shaft DIN 5480
W40x2x18x9g



S2

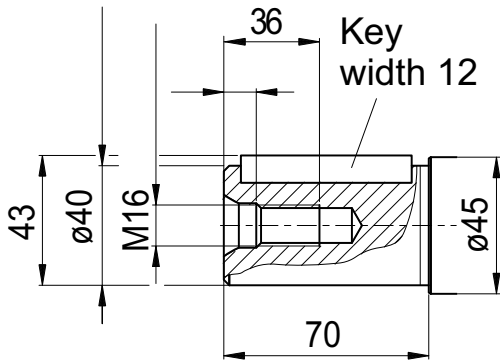
Splined shaft DIN 5480
W35x2x16x9g



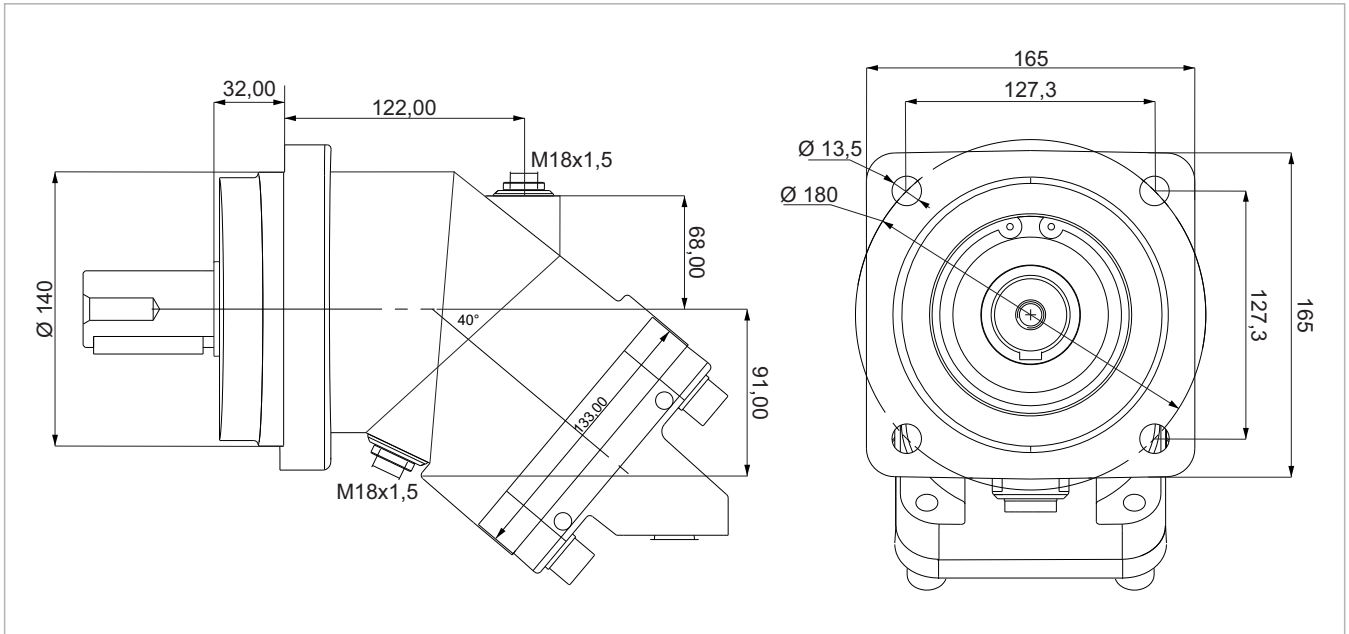
K1

Parallel keyed shaft
DIN 6885, As12x8x56

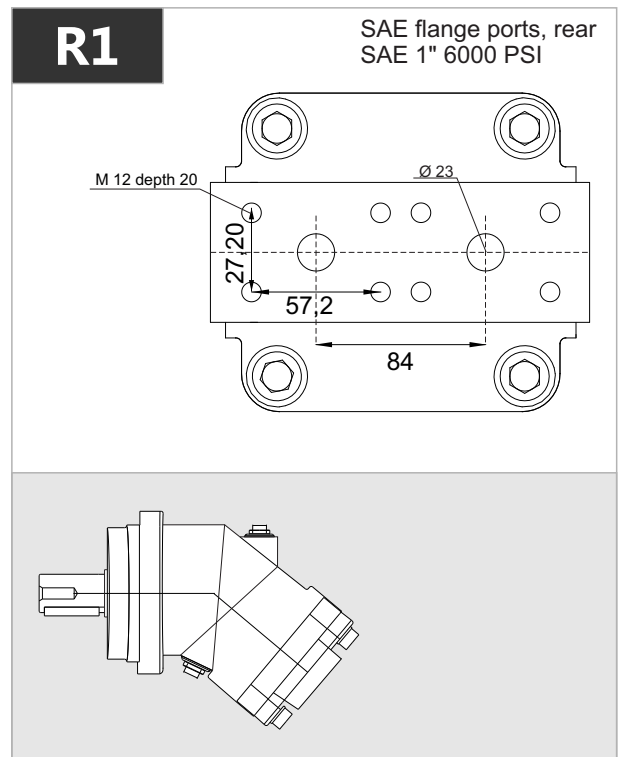
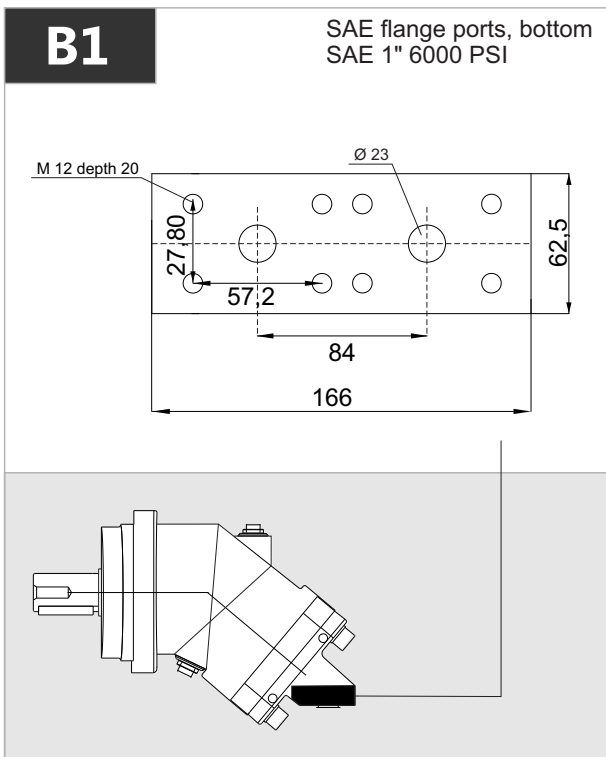
Key
width 12



2PM 108

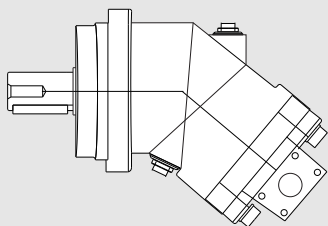
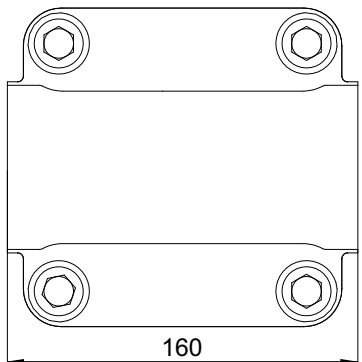


x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
108,4 cc	162,6 cc	4000 rpm	4400 rpm	400 bar	450 bar	1.69 m.N/bar	600 m.N	433	22,50 kg	23,00 kg	-25°	110°



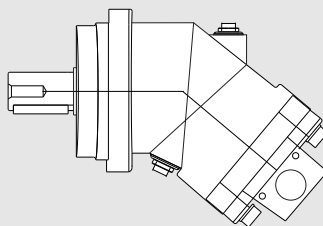
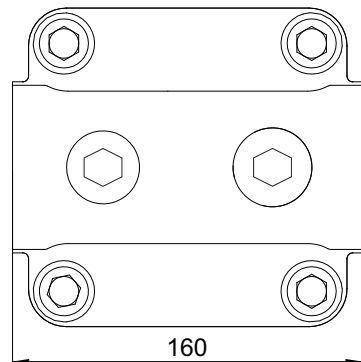
D1-D2

SAE flange ports, side
SAE 1" 6000 PSI



D3

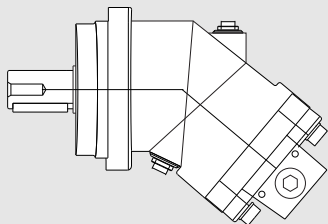
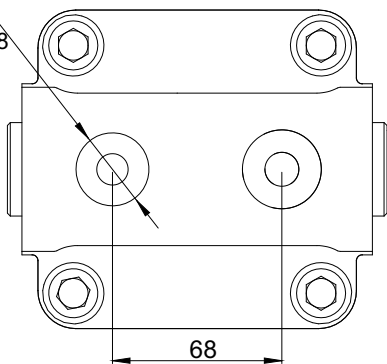
Side threaded ports



R2

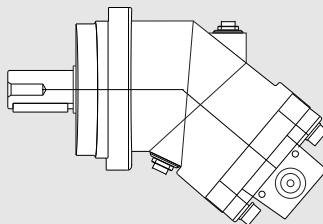
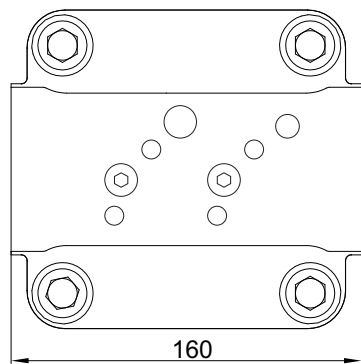
Rear threaded ports

M33x2 depth 18



D4

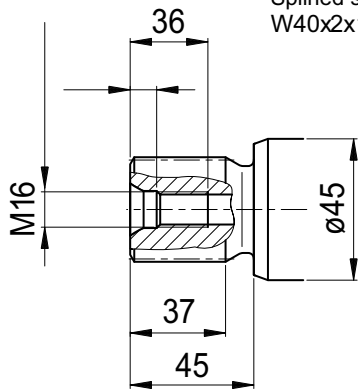
Side threaded ports



2PM 108

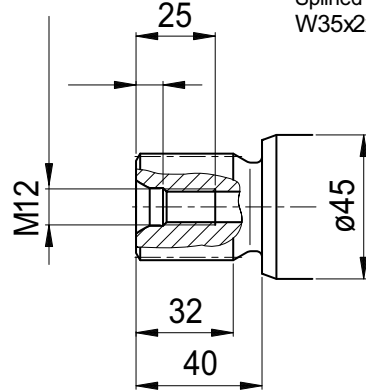
S1

Splined shaft DIN 5480
W40x2x18x9g



S2

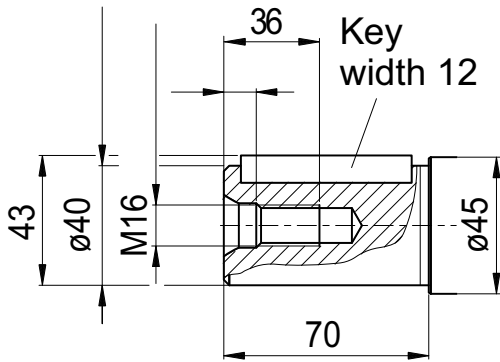
Splined shaft DIN 5480
W35x2x16x9g



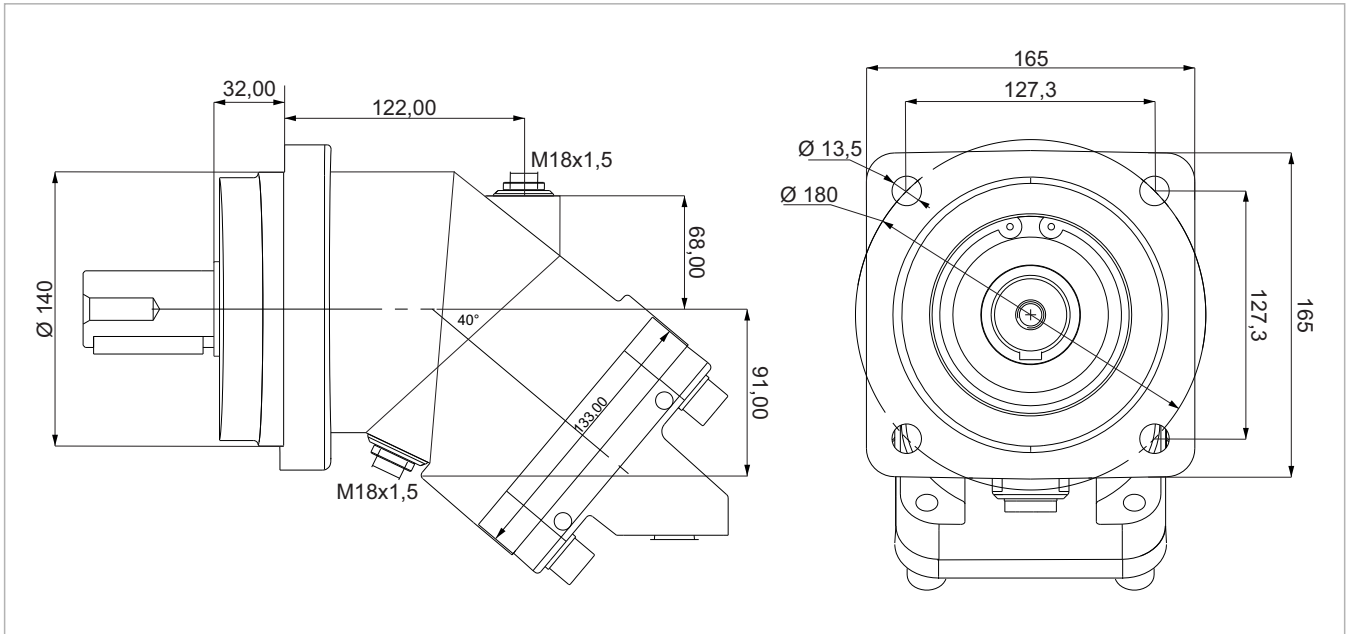
K1

Parallel keyed shaft
DIN 6885, As12x8x56

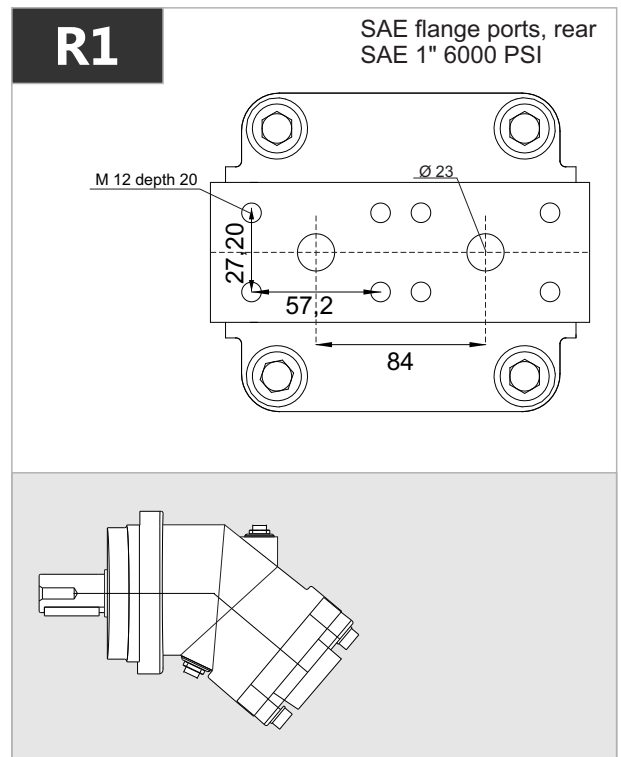
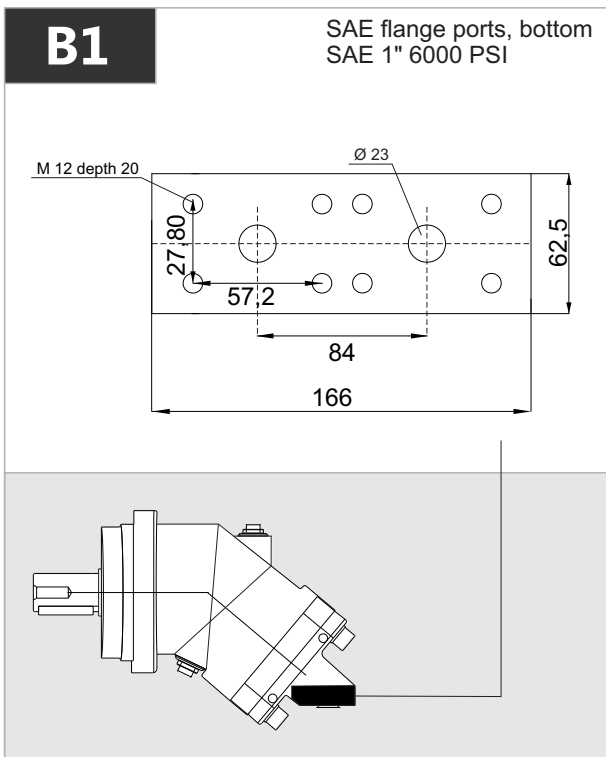
Key
width 12



2PM 130



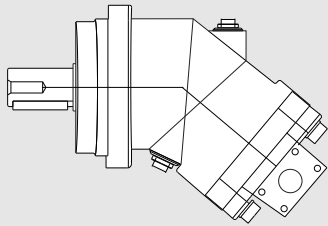
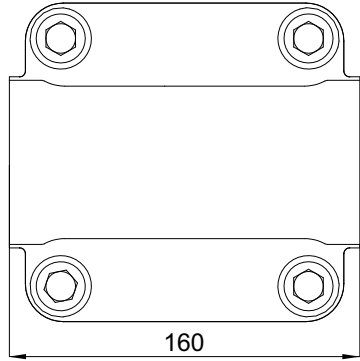
x 1000 rpm	x 1500 rpm	Max. Contin. Pump Speed	Max. Intermit. Pump Speed	Max. Contin. Pressure	Max. Peak Pressure	Torque bar	Torque at 350 bar	Max. Flow	Weight without accessor.	Weight with accessor.	Max. Motor Temp.	Min. Motor Temp.
130,0 cc	195,0 cc	3400 rpm	4400 rpm	400 bar	450 bar	2.10 m.N/bar	710 m.N	442	35,00 kg	35,50 kg	-25°	110°



2PM 130

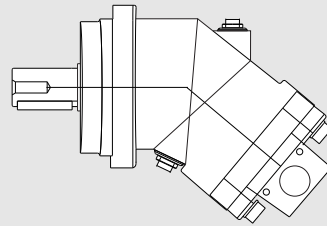
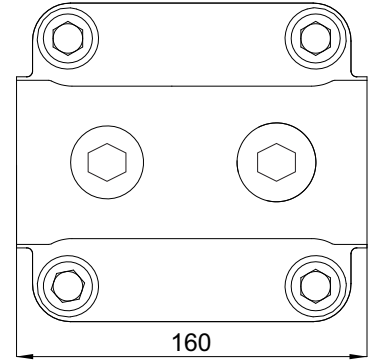
D1-D2

SAE flange ports, side
SAE 1" 6000 PSI



D3

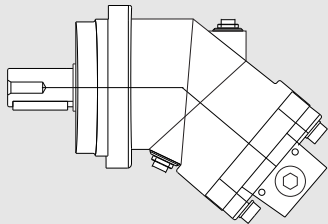
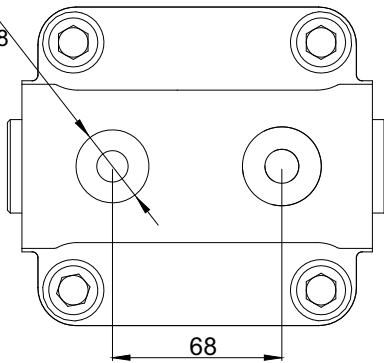
Side threaded ports



R2

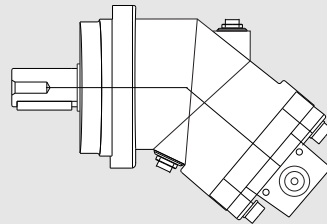
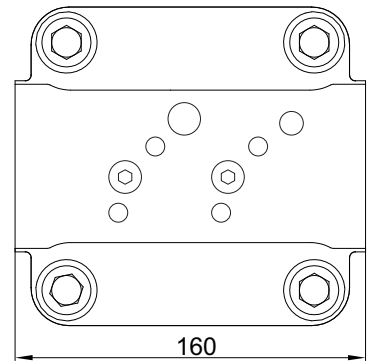
Rear threaded ports

M33x2 depth 18



D4

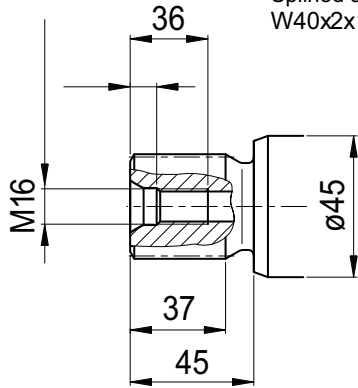
Side threaded ports



2PM 130

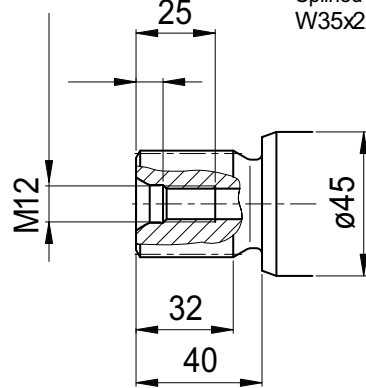
S1

Splined shaft DIN 5480
W40x2x18x9g



S2

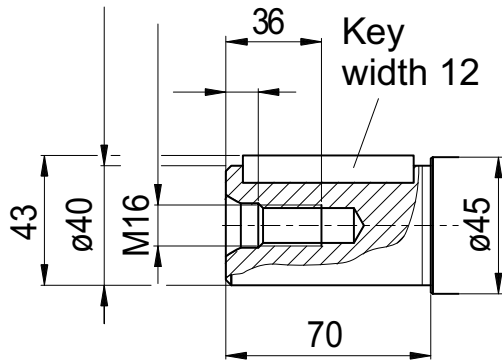
Splined shaft DIN 5480
W35x2x16x9g



K1

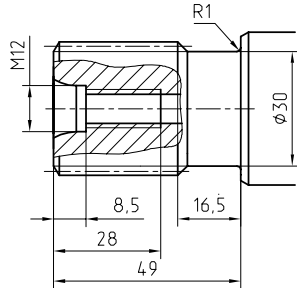
Parallel keyed shaft
DIN 6885, As12x8x56

Key
width 12

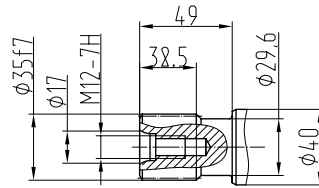


Special Shaft Drive

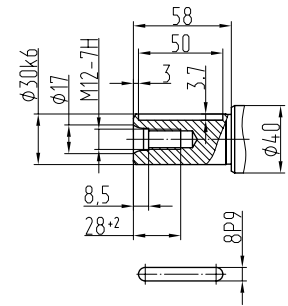
Splined shaft
35xf7x2x9g GOST 6033-80



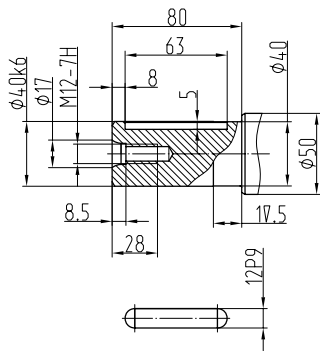
35xf7x2x9g ГOCT6033



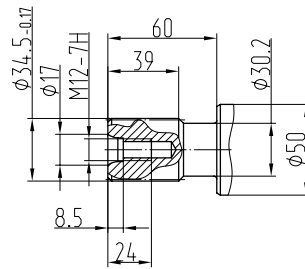
Parallel keyed shafts



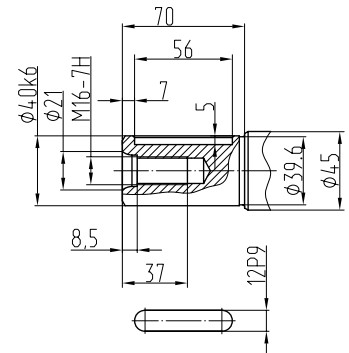
Parallel keyed shafts



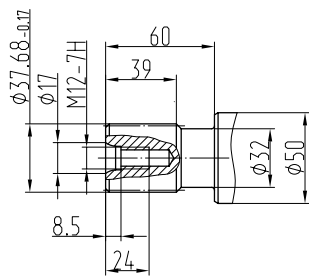
1 3/8' 21T 16/32DP ANSI B92



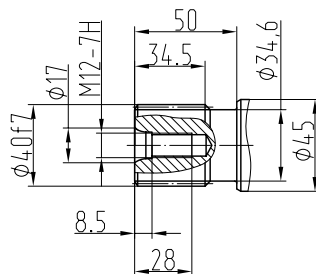
Parallel keyed shafts



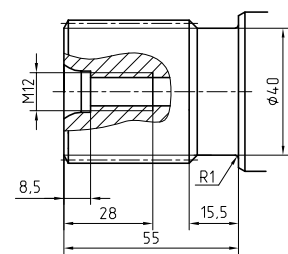
1 1/2' 23T 16/32DP ANSI B92



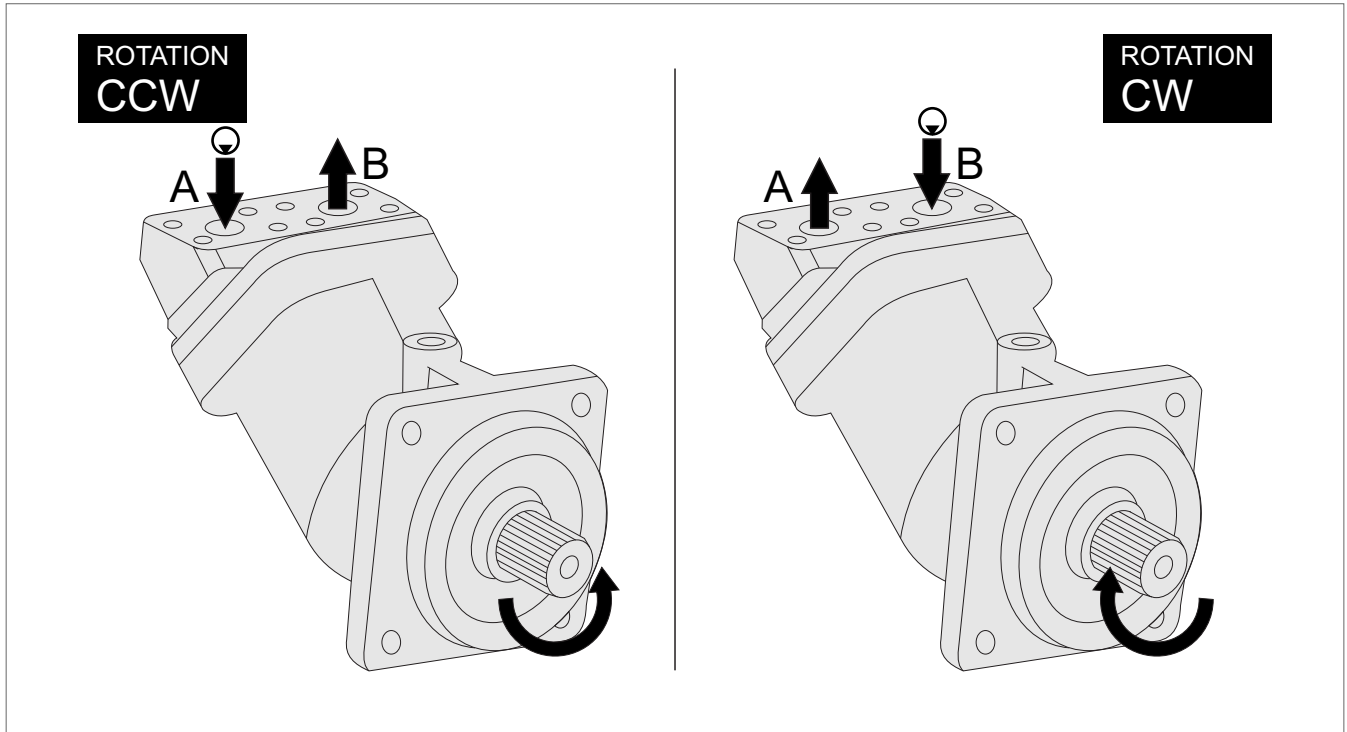
40xf7x2x9g GOST6033



45xh8x2x9g GOST 6033-80



Direction of Rotation



Quick Calculation

Flow rate

$$Q = \frac{V_s \cdot n}{1000 \eta_v} \text{ (lpm)}$$

Torque

$$M = \frac{V_s \cdot \Delta p \cdot \eta_{mh}}{63} \text{ (Nm)}$$

Power

$$P = \frac{2\pi \cdot M \cdot n}{60000} = \frac{M \cdot n}{9549} = \frac{Q \cdot \Delta p \cdot \eta_t}{600} \text{ (kw)}$$

Speed

$$n = \frac{1000 \cdot Q \cdot \eta_v}{V_s} \text{ (rpm)}$$

V_s = Displacement (ccm/rev.)

Δp = Diff. pressure (bar)

n = Speed (rpm)

Q = Flow (lpm)

η_v = Volumetric efficiency

η_{mh} = Mechanical-hydraulic efficiency

η_t = Total efficiency ($\eta_t = \eta_v \times \eta_{mh}$)

Address all questions regarding spare parts to your responsible Our Service Partner or the technical service department of the manufacture's plant / factory for the 2PM Bent Axis Motors.

ÇELEBİ HİDROCEL OTOM. SAN. TİC. LTD. ŞTİ.

Fevziçakmak mh. Aslım Cd. No: 53 C Karatay / KONYA

Phone : +90 (332) 345 13 70 - +90 (332) 345 13 71

hidrocel@hidrocel.com.tr

Installation

POSITION

2PM Motors can be operate any position.

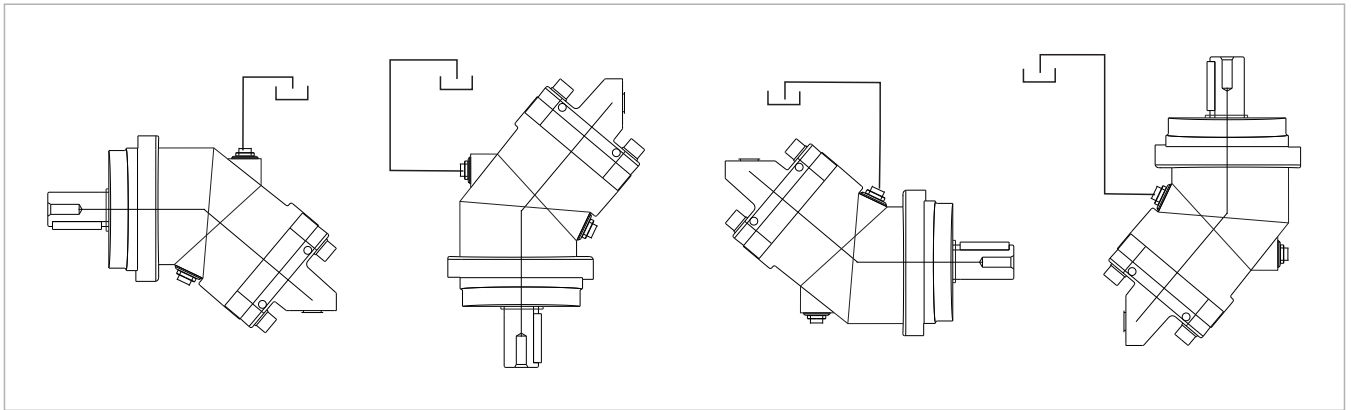
DIRECTION OF ROTATION

2PM Motors can be operate in both directions of rotation.

Before of Installation operation, the motor must be filled with hydraulic fluid and air bled.

INSTALLATION POSITION

See following examples.

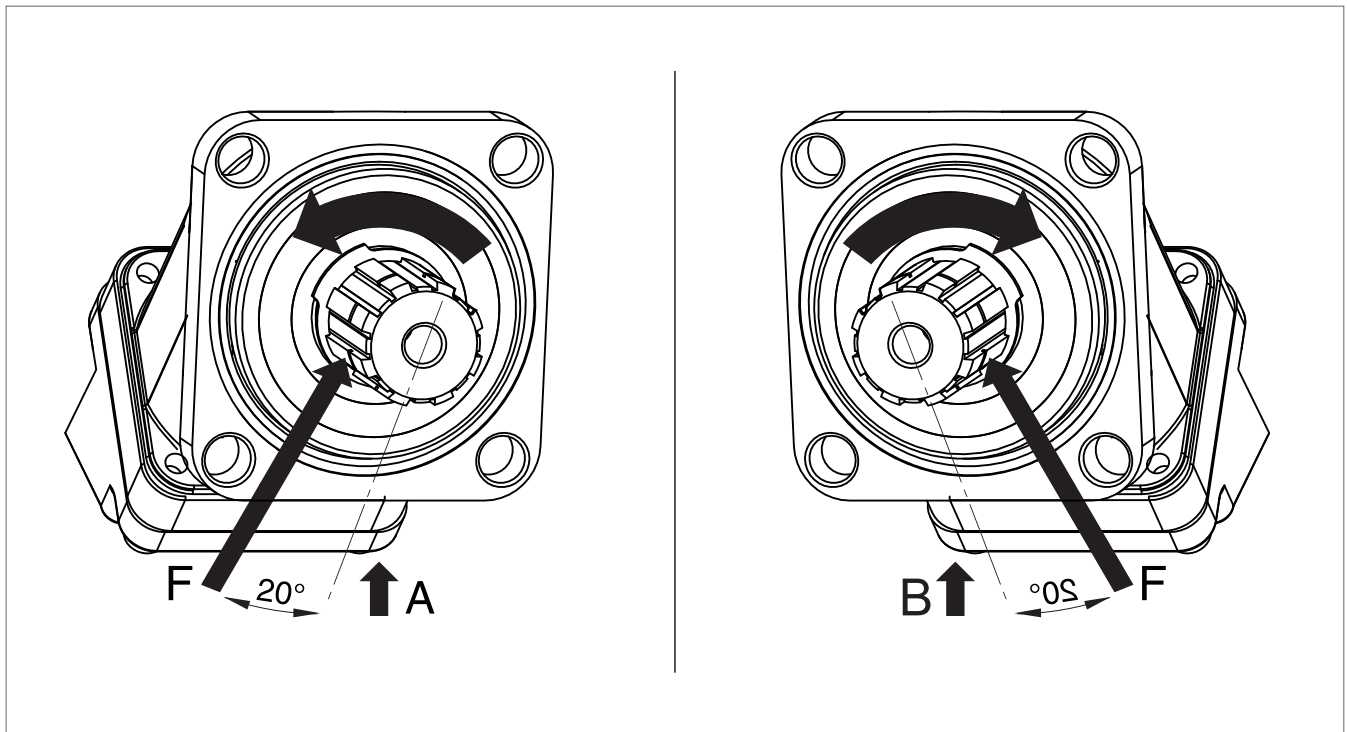


HYDRAULIC FLUID

Recommended ;

Generally : between 15 and 200 cSt.

Maximum : between 5 and 1600 cSt.



FOR USE;

Available via e-mail on request or each motor is supplied via Starting datasheet.

For detailed information about 2PM Bent Axis Motors, please contact with Technical Department !!!

Complete Product Range

Piston Pumps

Piston Motors

DIN

DIN 5462 / ISO 14
8x32x35
8x32x36
DIN 6885



2PBA



2PBM

ISO

ISO 3019-2 (4 BOLTS)
DIN 5480 - W25,30,35,40,45
DIN 6885 - Ø20,25,30,35,40,45



2PS



2PM

SAE

SAE B2 C4 - SAE D
SAE J498b
SAE J 744



2PE



2PEM

M2

Fixed Plug-in

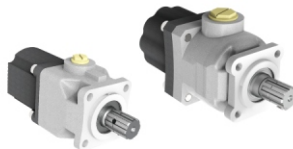
DIN 5480 / ISO 3019-2
W30 - W35 - W40
M21 - M22 - M23



2PMS

PA

DIN ISO 14
8x32x36



PA

PH

P2 Connection M8x125
Woodruff key 3x6,5 NF E
27-653 NF R 124-04
(2 BOLTS)



PH

Contact

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