

2PS

Hydraulic Piston Pump - ISO



2PS Pumps have the following advantages ;

- Compact Design,
- Economical Conception,
- High Power Density,
- High Overall Efficiency,
- High Rotating Speeds,
- High Output Pressure,
- From 5cc to 130cc,
- One Piece Pistons with Piston Rings,
- Special Inlet Fittings & Accesories,
- Simple Change of Direction of Rotation,
- For Industrial & Mobile Market.
- Splined or Keyed Shaft

Other Advantages of 2PS

New frame sizes to meet market requirements.

For use in mobile & industrial and stationary applications areas.

The pump drive shaft bearings are designed to give the service life expected in these areas of operation.

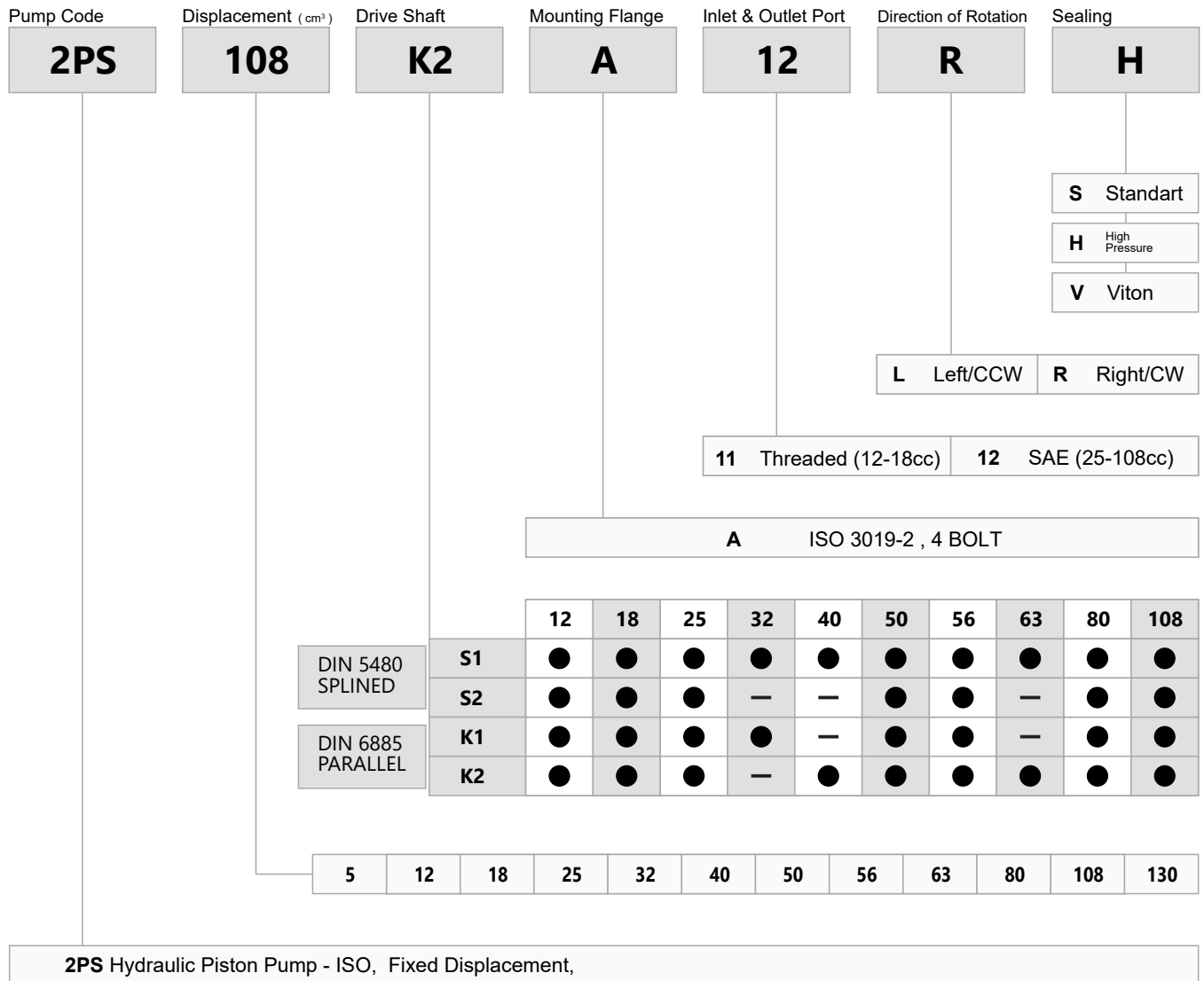
Interchangeable with other ISO bent axis pumps.

40° bent axis design giving high power, small overall dimensions, optimum efficiency and economic design. Flange and shaft designed for direct mounting on truck gearbox PTO's. The fixed displacement bent axis pumps generates a hydraulic fluid flow. It is designed for use in trucks, commercial vehicles and all stationary hydraulic applications. The 2PS is a fixed pump with rotary group in bent-axis design open circuits. 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 pump covers the whole displacement range 5 to 130 cm³/rev. The pump has been developed with modern styling and design to satisfy market demand as to designed new generation plate and pistons with give high flow performance, high pressures with high efficiency and very small dimensions.

The pump is available both to DIN and SAE world standards and can be mounted either directly at the gear box or via a drive shaft. If necessary it can also be augmented with a by-pass valve. Other brand bent axis pumps compatible and interchangeable with 2PS bent axis pumps. Refer to the data sheet and order confirmation for the technical data, operating conditions and operating limits of the Hydraulic Piston Pumps.

Ordering Code of 2PS Pumps



Technical Data

		5	12	18	25	32	40	50	56	63	80	108	130
Displacement	cc	5,00	12,00	18,00	25,00	32,00	40,20	50,00	56,40	63,00	80,00	108,4	130,0
Theoretical oil flow l/min at pump speed	1000 rpm	5,00	12,00	18,00	25,00	32,00	40,20	50,00	56,40	63,00	80,00	108,4	130,0
	1500 rpm	7,50	18,00	27,00	37,50	48,00	60,30	75,00	84,60	94,50	120,0	162,6	195,0
Maximum Pump Speed													
- Continuous	rpm	3300	3100	3100	2500	2500	2300	2300	2300	2300	2300	2000	1900
Max. Continuous Pressure	bar	400	400	400	400	400	400	400	400	400	400	400	400
Max. Peak Pressure	bar	450	450	450	450	450	450	450	450	450	450	450	450
Max. Torque at 350 bar	Nm	61	66	98	141	174	225	280	320	350	445	600	726
Max. Flow	l/min.	16,50	37,20	55,80	62,50	80,00	92,46	115,0	129,7	144,9	184,0	216,0	247,0
Pump Temperature													
- Minimum	°C	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
- Maximum	°C	110	110	110	110	110	110	110	110	110	110	110	110
Weight													
- Without accessories	kg	6,00	6,00	6,00	11,50	11,50	11,50	17,50	18,00	18,00	22,00	22,50	23,50
- With accessories	kg	6,20	6,20	6,20	11,80	11,90	11,90	18,00	18,50	18,50	22,50	23,00	24,00
Rotation		CW,CCW	CW,CCW	CW,CCW	CW,CCW	CW,CCW	CW,CCW	CW,CCW	CW,CCW	CW,CCW	CW,CCW	CW,CCW	CW,CCW

Quick Calculation

$$\text{Flow } Q = \frac{V_g \cdot n \cdot \eta_v}{1000} \quad \text{l/min}$$

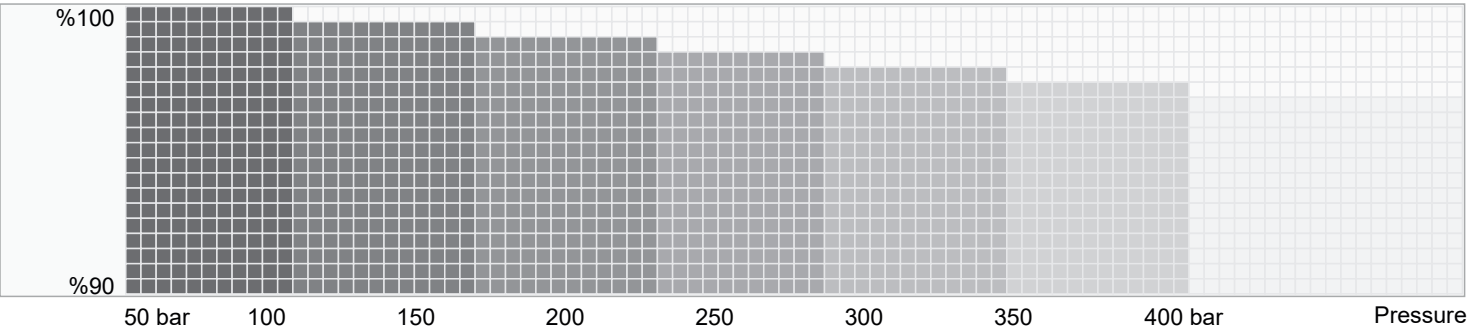
$$\text{Torque } T = \frac{V_g \cdot \Delta P}{20 \cdot \pi \cdot \eta_{mh}} \quad \text{N}\cdot\text{m}$$

$$\text{Power } N = \frac{Q \cdot \Delta P}{612 \cdot \eta_t} \quad \text{kW}$$

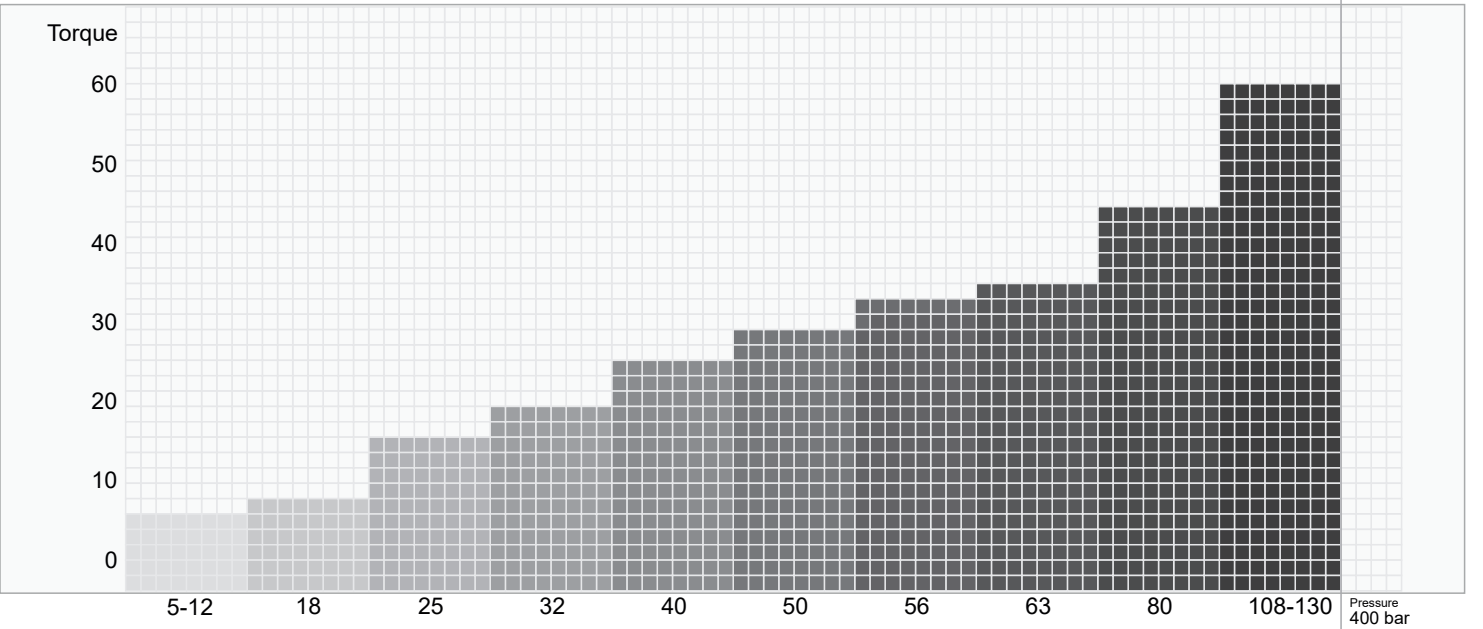
- Q – flow, l/min
- T – torque, N•m
- N – power, kW
- V_g – displacement, ccm/rev
- n – shaft speed, rpm
- ΔP – pressure difference, bar
- η_v – volume efficiency
- η_{mh} – hydraulic mechanical efficiency
- $\eta_t = \eta_v \cdot \eta_{mh}$ – full efficiency coefficient

Performance

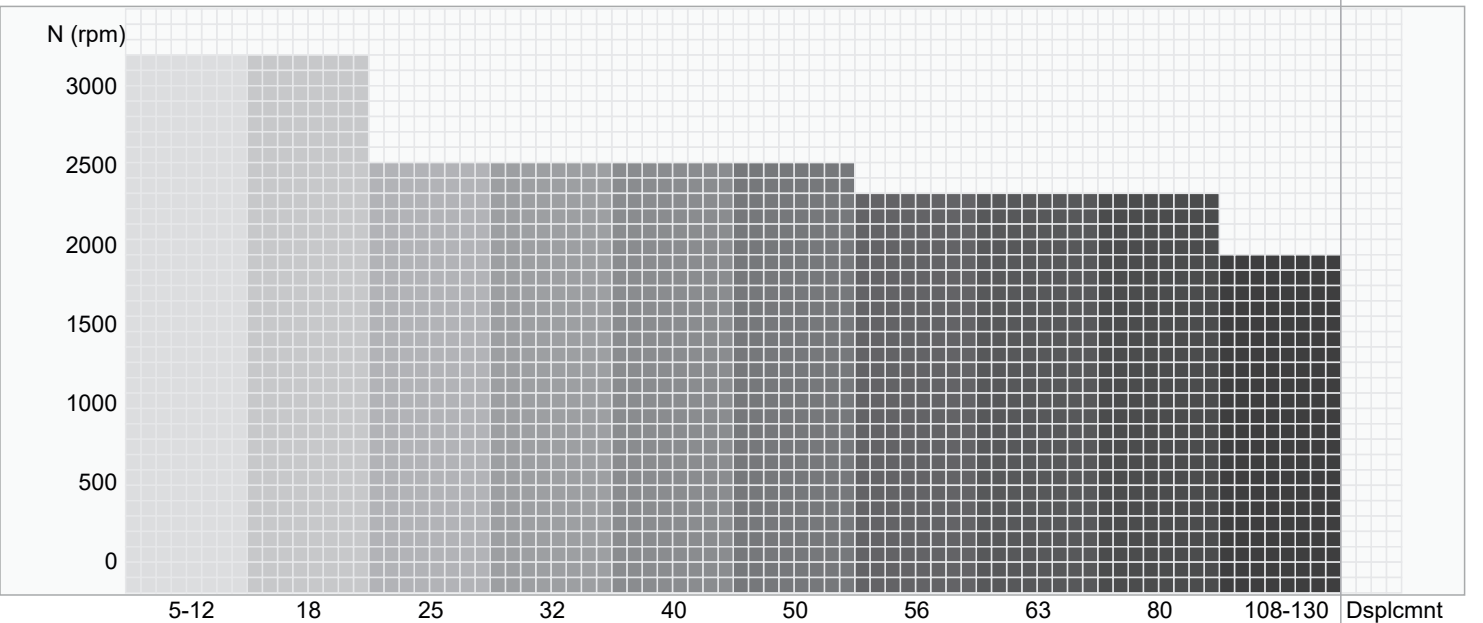
Efficiency Curves (1000 rpm)



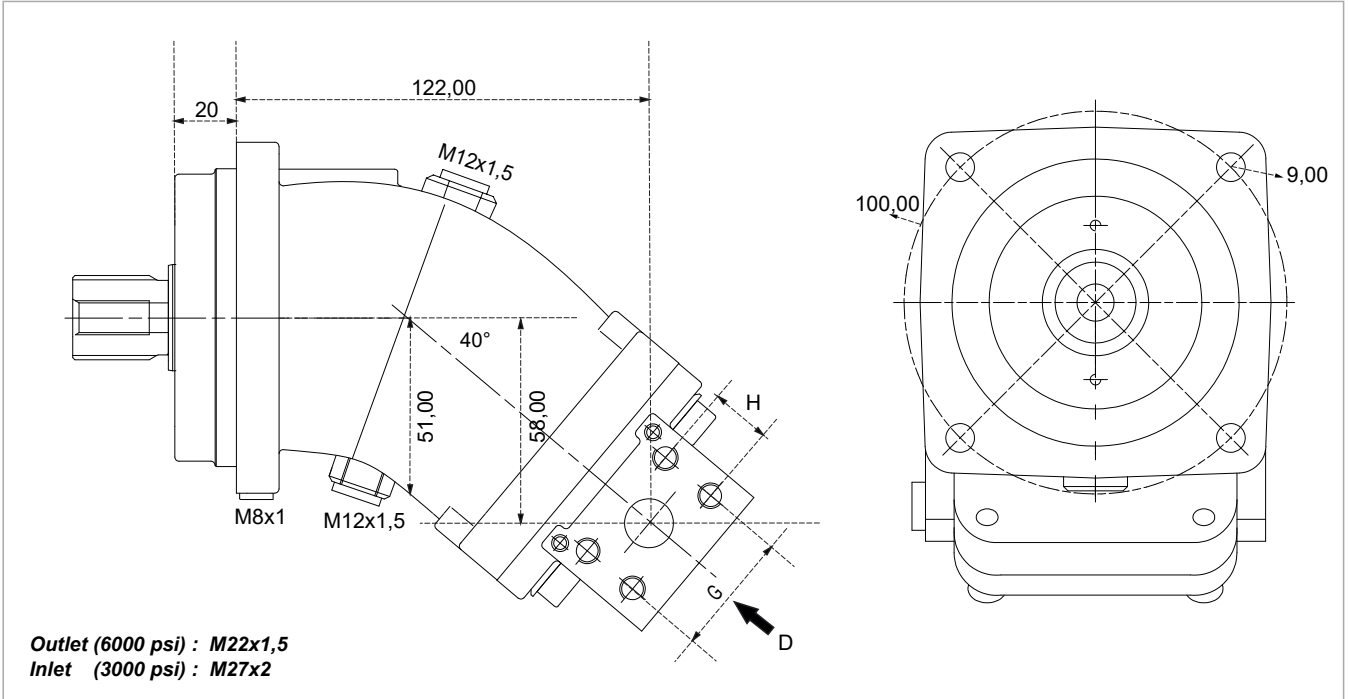
Torque with Pump Output Pressure



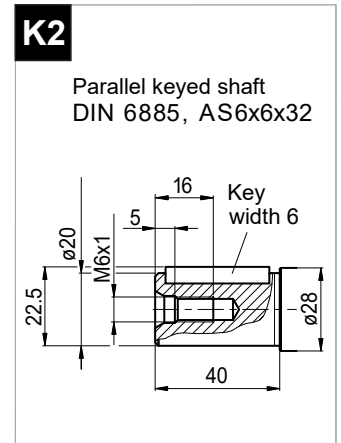
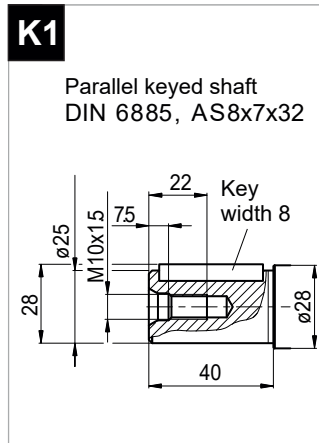
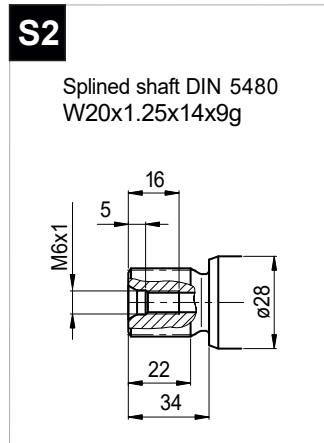
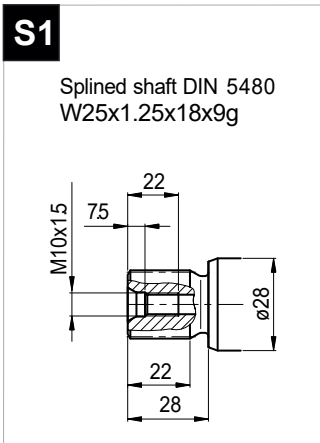
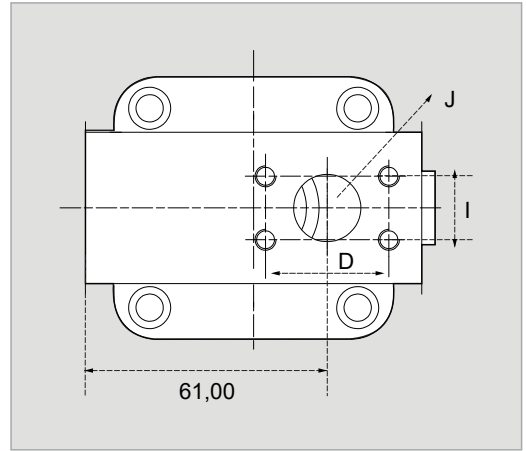
Flow with Pump Speed



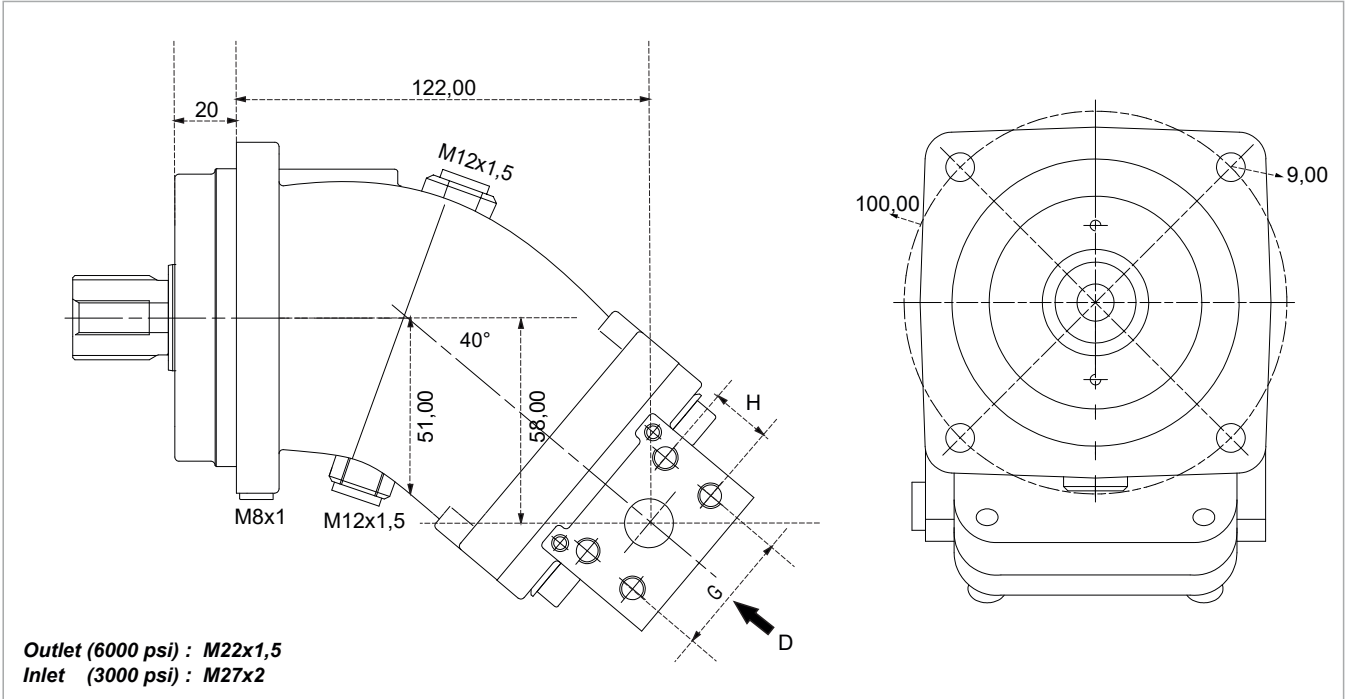
2PS 12



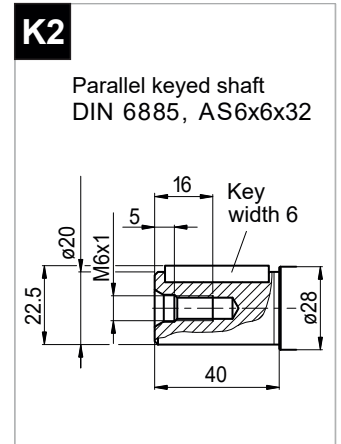
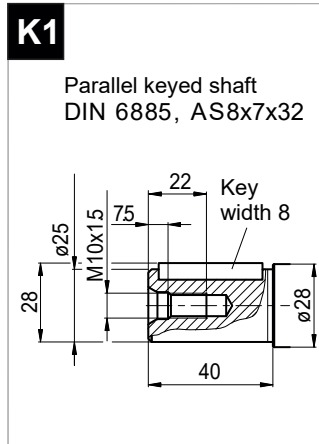
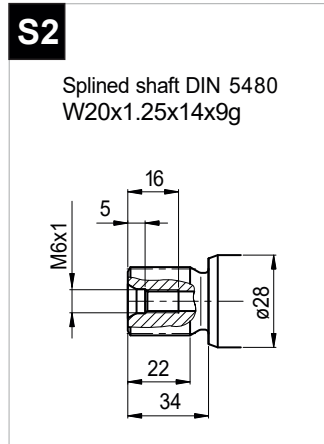
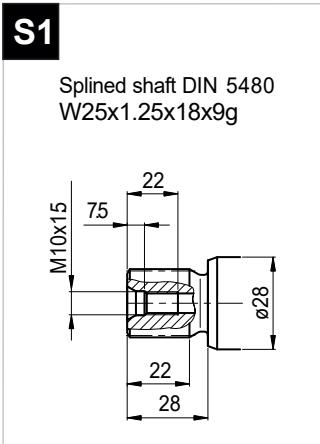
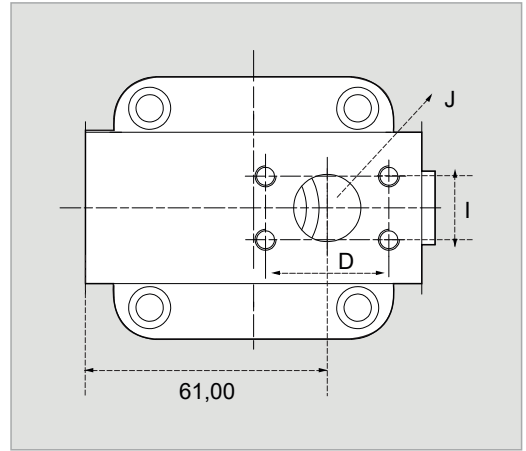
x 1000 rpm	12,00 cc
x 1500 rpm	18,00 cc
Max. Continuous Pump Speed	3100 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	66 Nm
Max. Flow	37,20 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	6,00 kg
Weight with accessories	6,20 kg
Rotation	CW-CCW



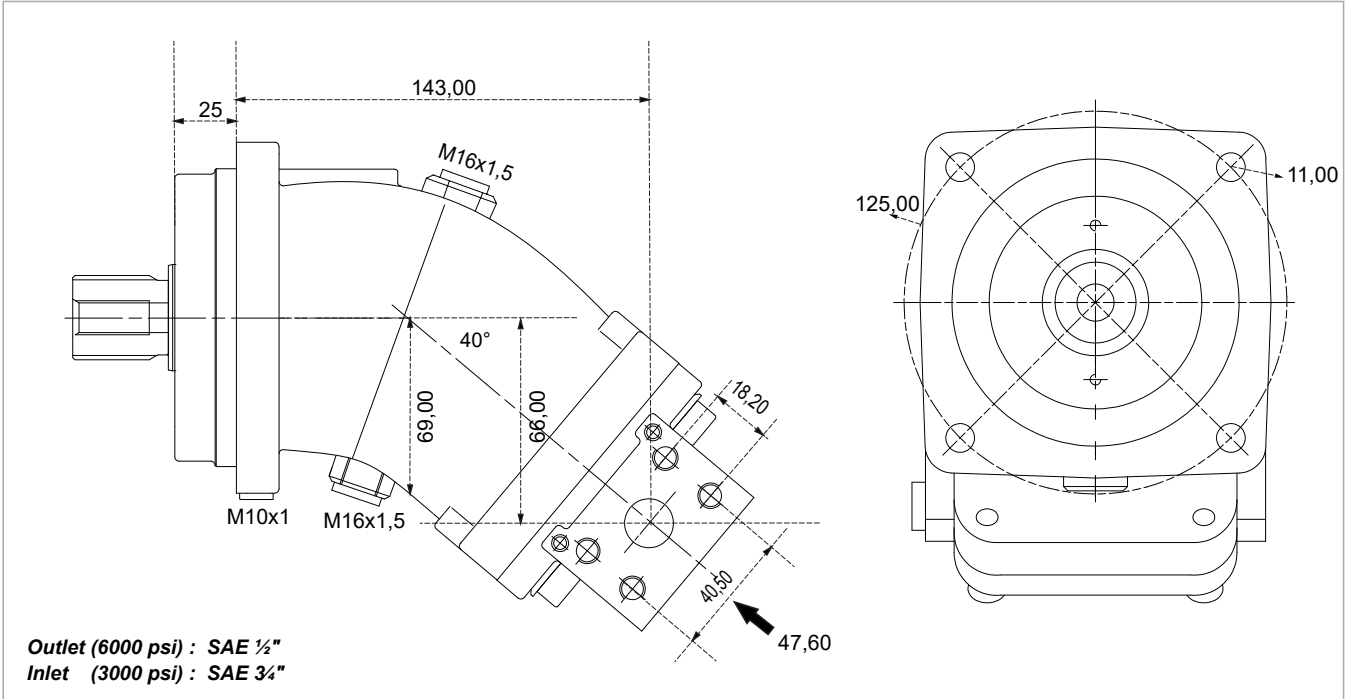
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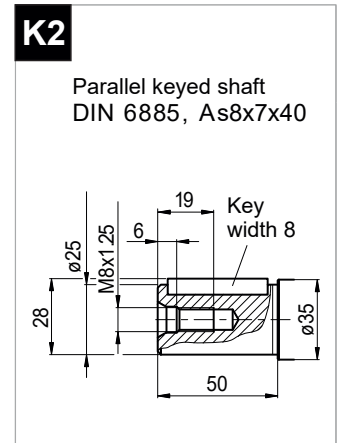
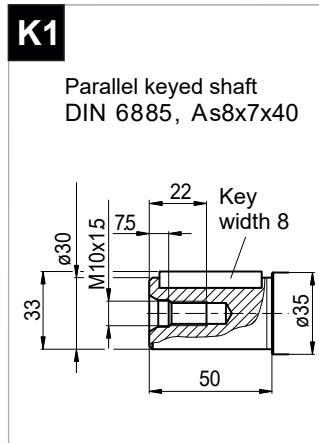
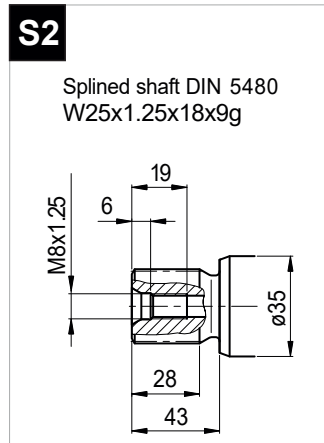
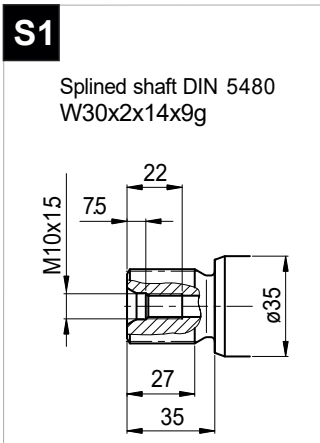
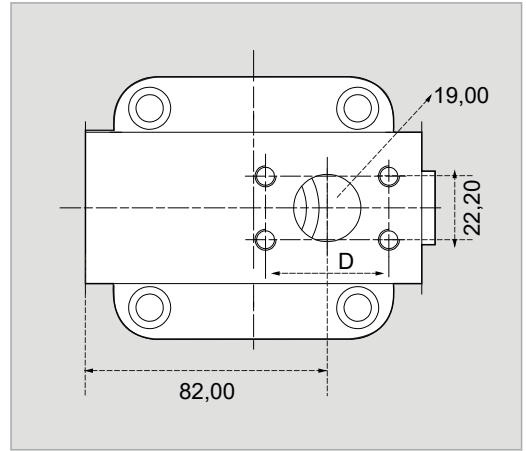
x 1000 rpm	18,00 cc
x 1500 rpm	27,00 cc
Max. Continuous Pump Speed	3100 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	98 Nm
Max. Flow	55,80 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	6,00 kg
Weight with accessories	6,20 kg
Rotation	CW-CCW



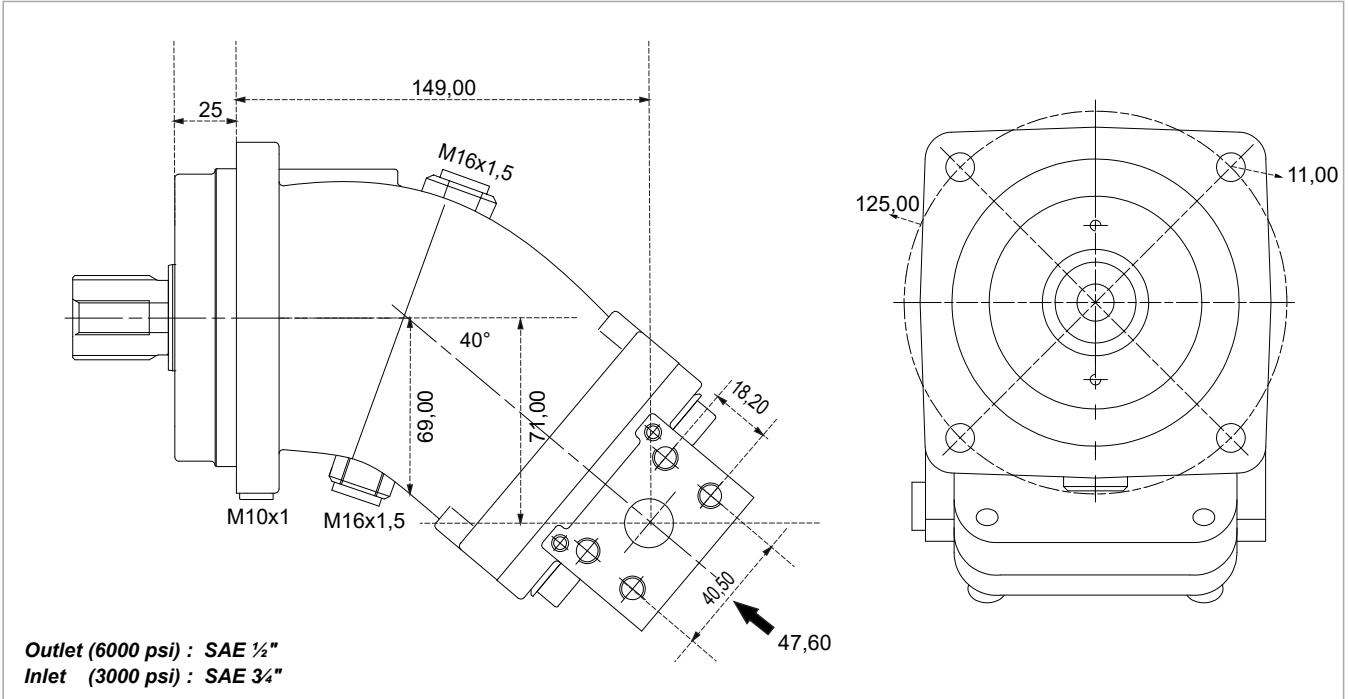
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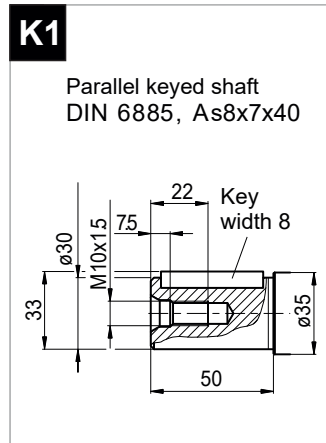
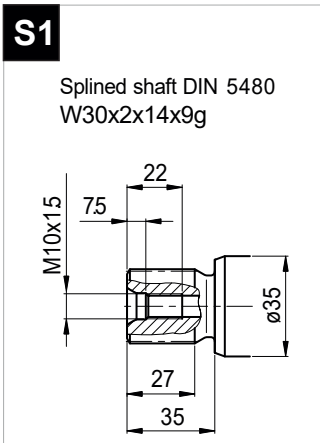
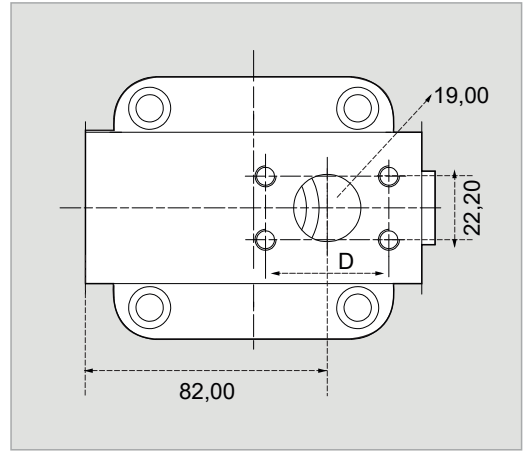
x 1000 rpm	25,00 cc
x 1500 rpm	37,50 cc
Max. Continuous Pump Speed	2500 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	141 Nm
Max. Flow	62,50 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	11,50 kg
Weight with accessories	11,80 kg
Rotation	CW-CCW



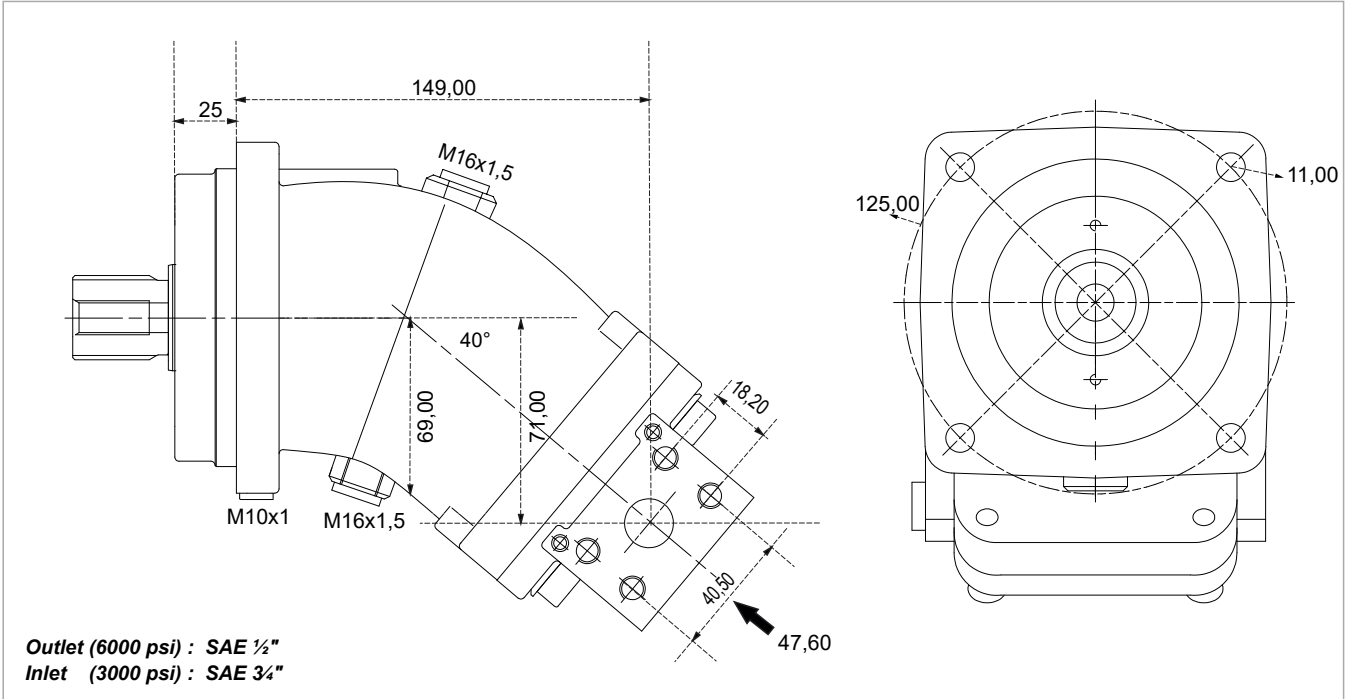
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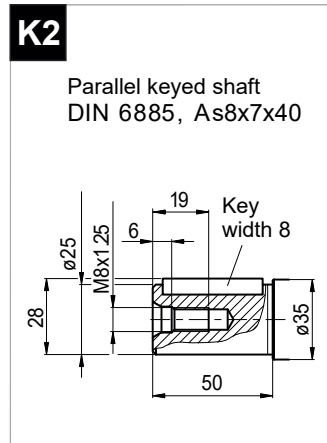
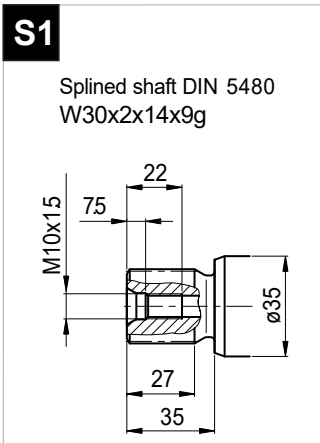
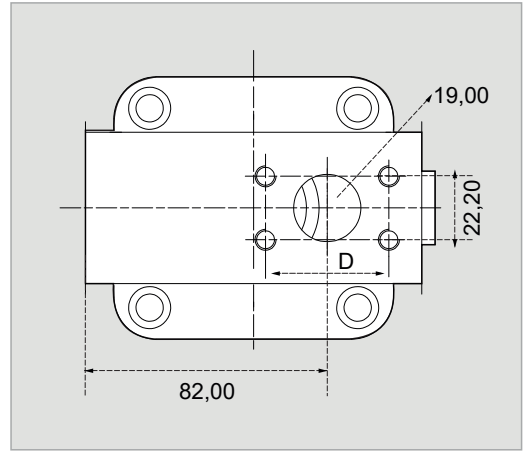
x 1000 rpm	32,00 cc
x 1500 rpm	48,00 cc
Max. Continuous Pump Speed	2500 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	174 Nm
Max. Flow	80,00 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	11,50 kg
Weight with accessories	11,90 kg
Rotation	CW-CCW



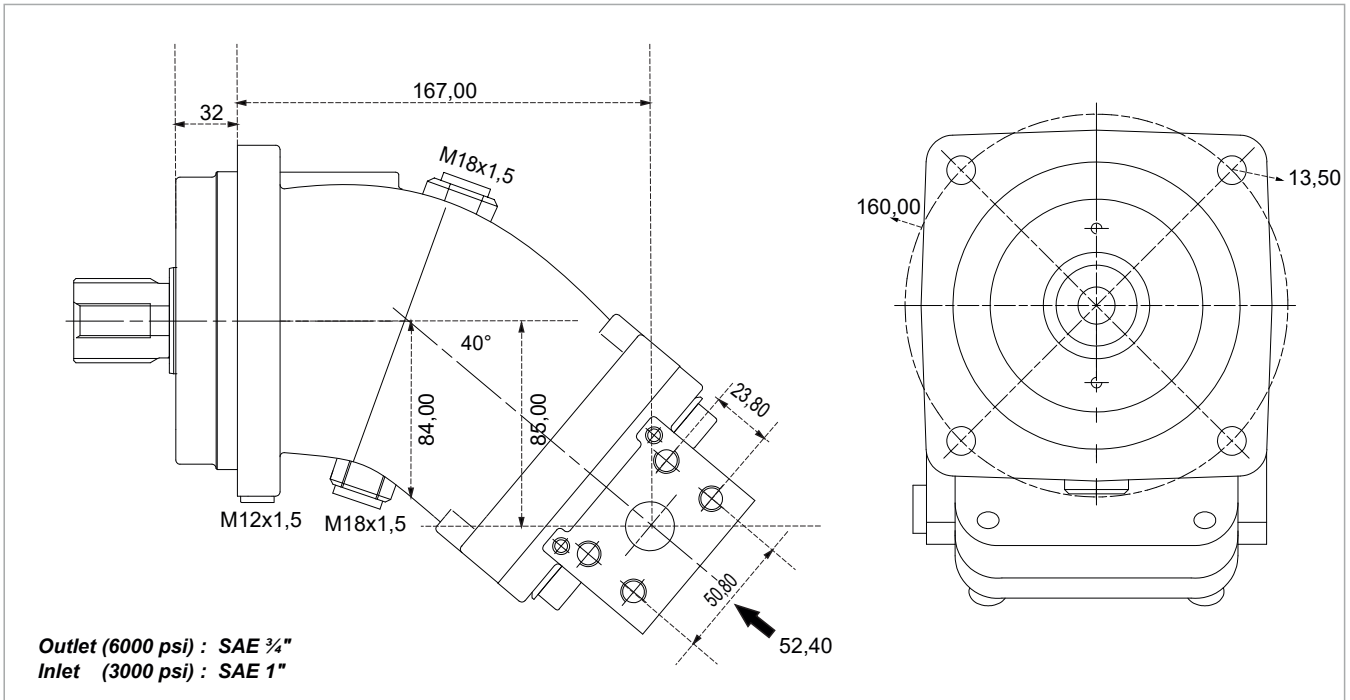
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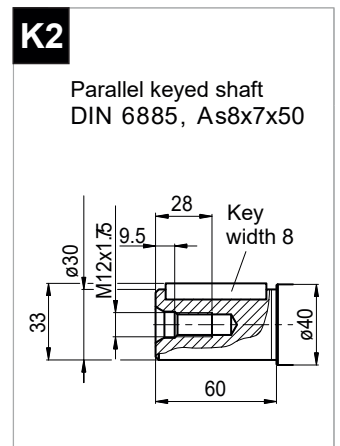
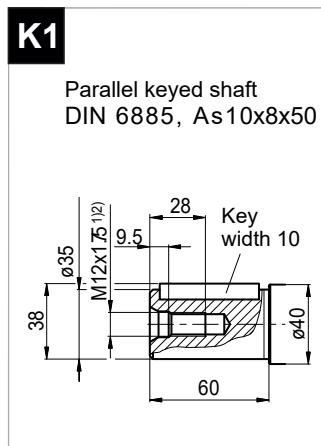
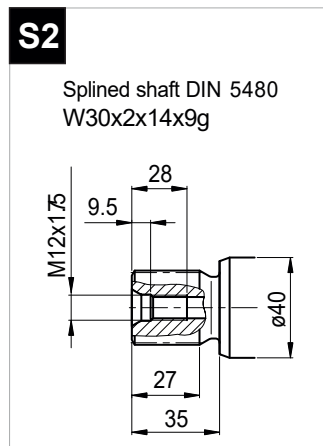
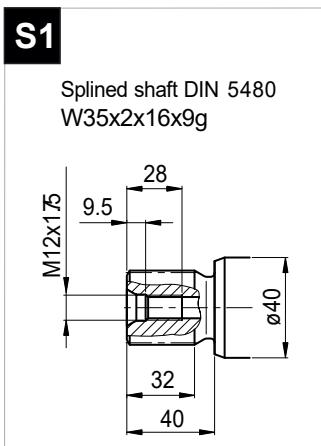
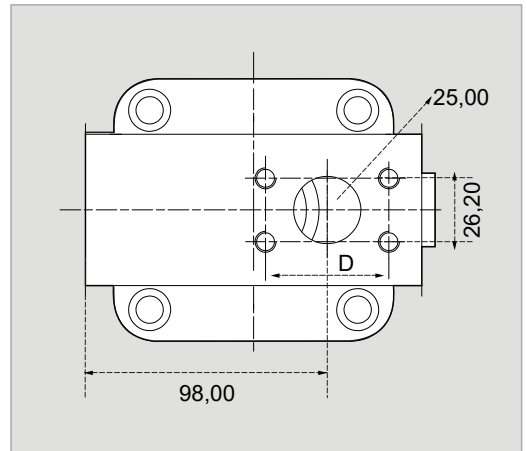
x 1000 rpm	40,20 cc
x 1500 rpm	60,30 cc
Max. Continuous Pump Speed	2300 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	225 Nm
Max. Flow	92,46 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	11,50 kg
Weight with accessories	11,90 kg
Rotation	CW-CCW



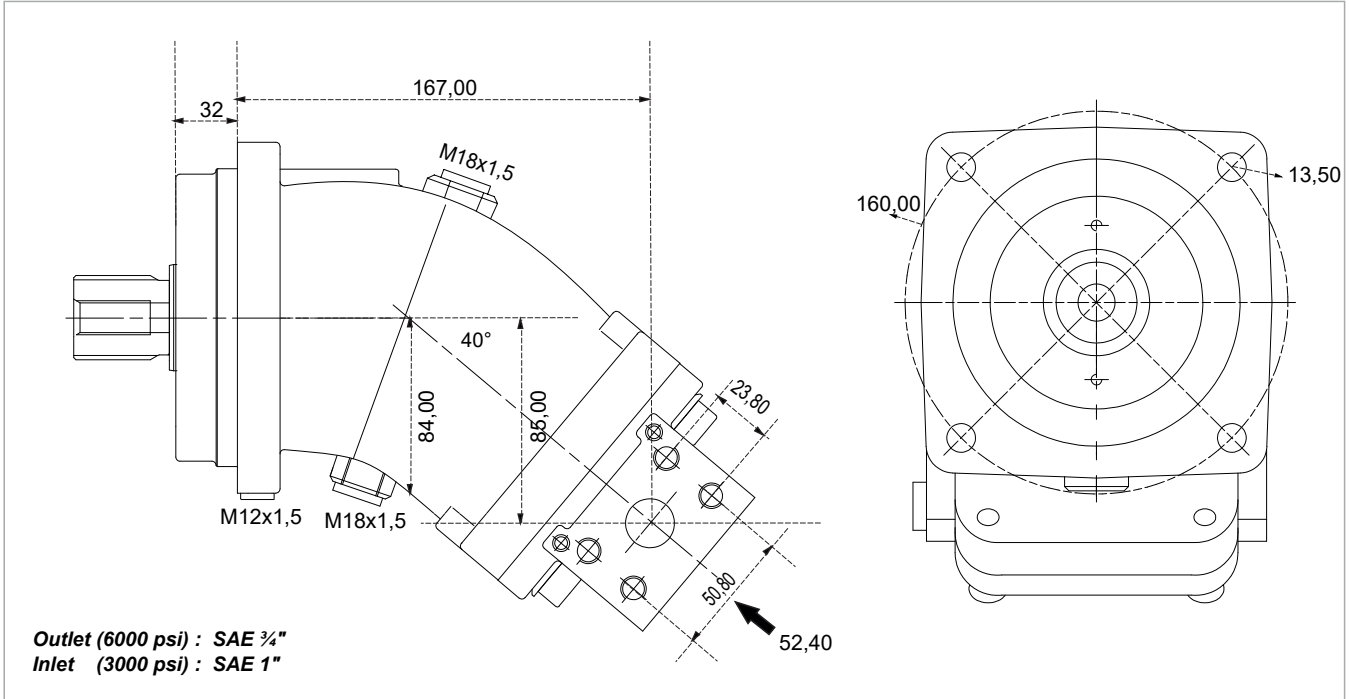
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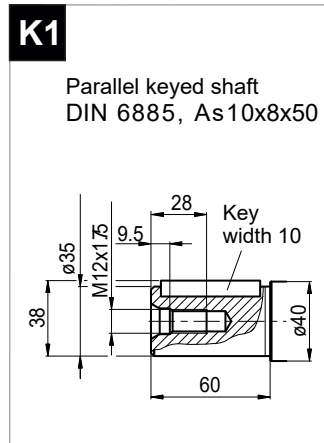
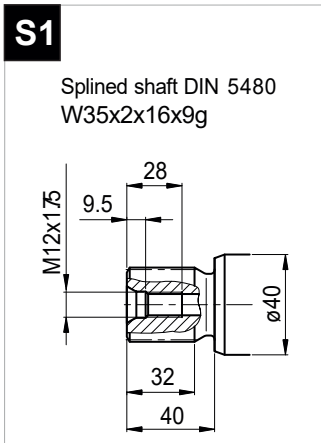
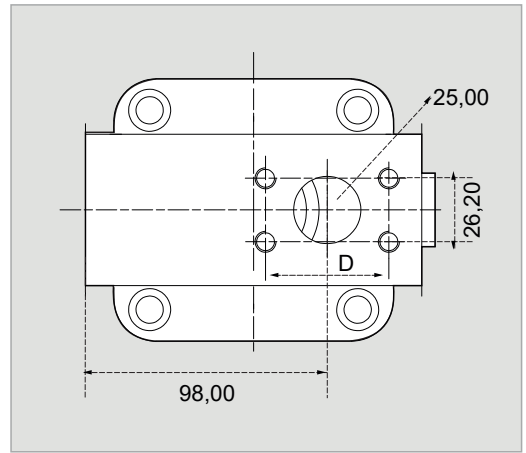
x 1000 rpm	50,00 cc
x 1500 rpm	75,00 cc
Max. Continuous Pump Speed	2300 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	280 Nm
Max. Flow	115,00 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	17,50 kg
Weight with accessories	18,00 kg
Rotation	CW-CCW



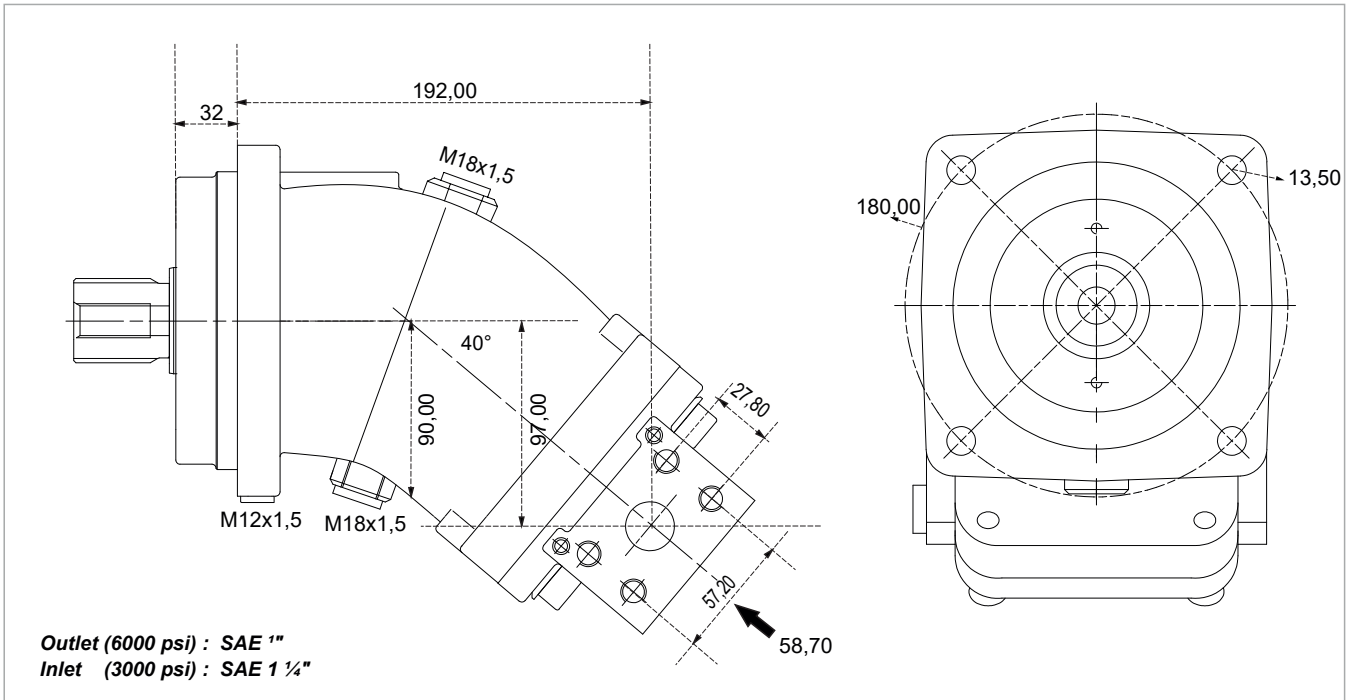
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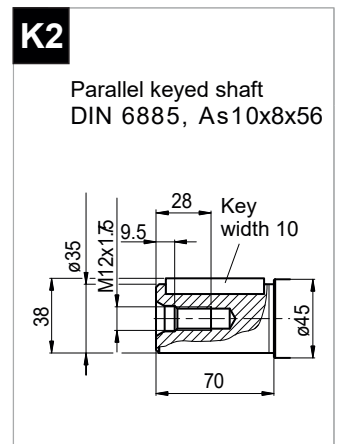
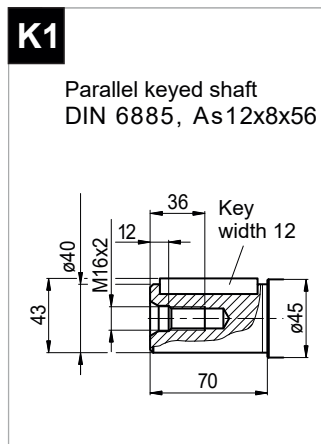
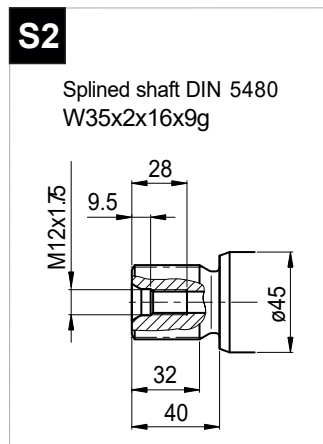
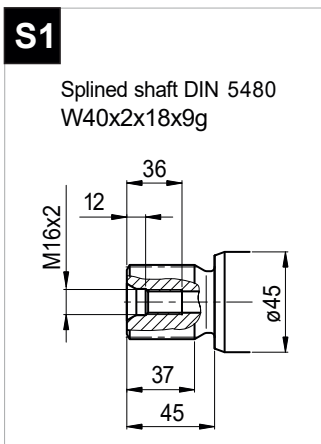
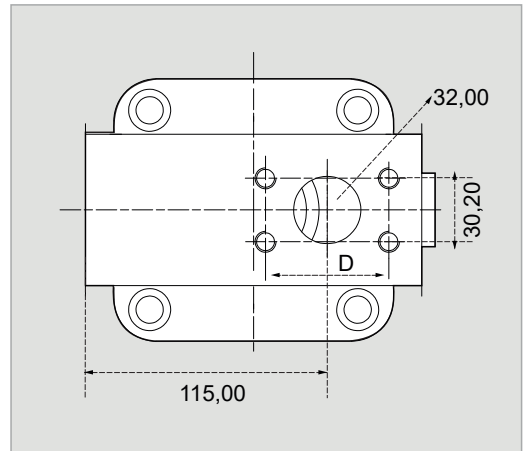
x 1000 rpm	63,00 cc
x 1500 rpm	94,50 cc
Max. Continuous Pump Speed	2300 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	350 Nm
Max. Flow	144,90 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	18,00 kg
Weight with accessories	18,50 kg
Rotation	CW-CCW



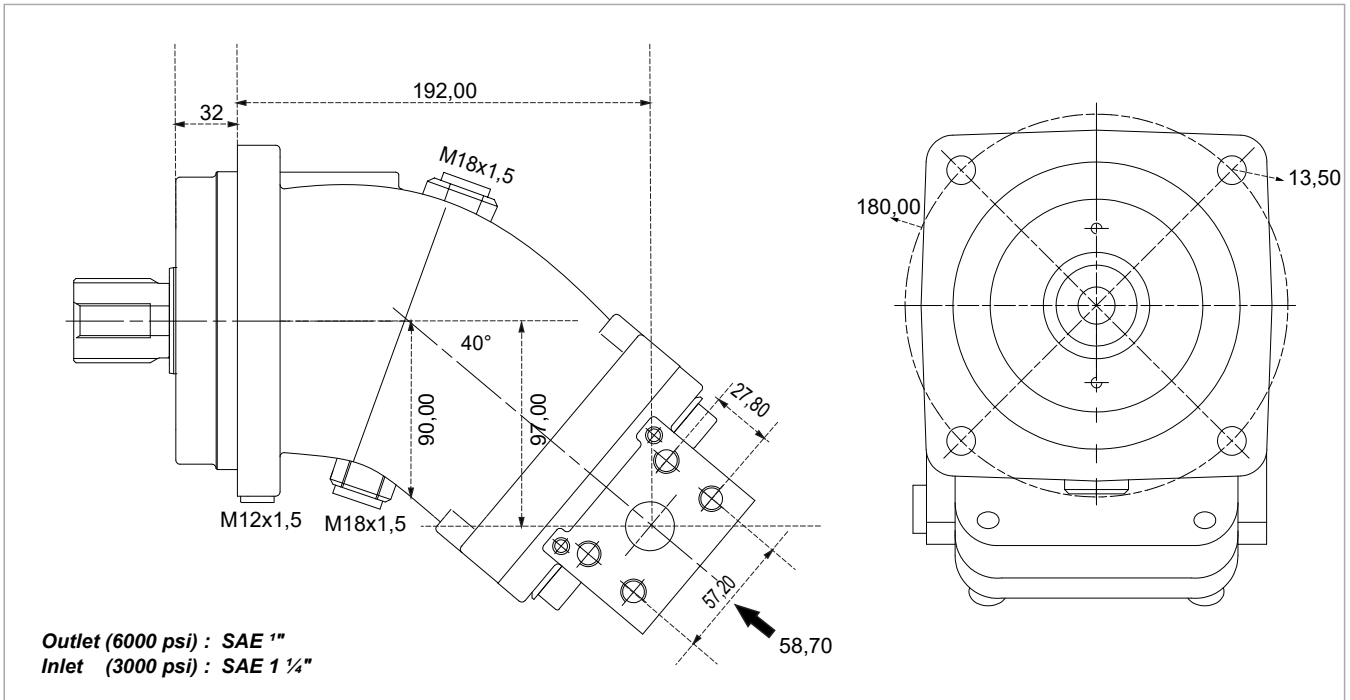
2PS 80



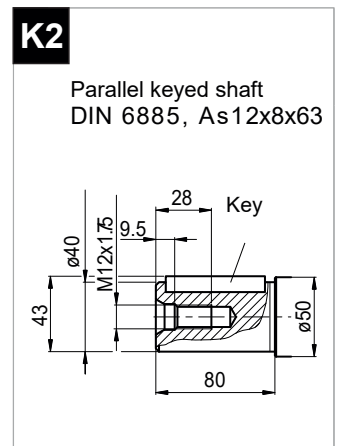
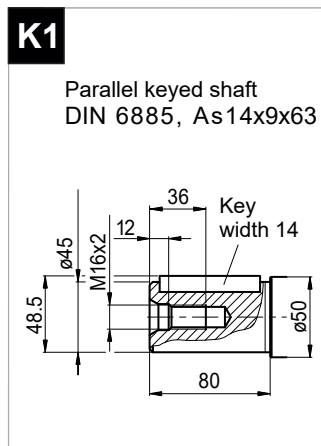
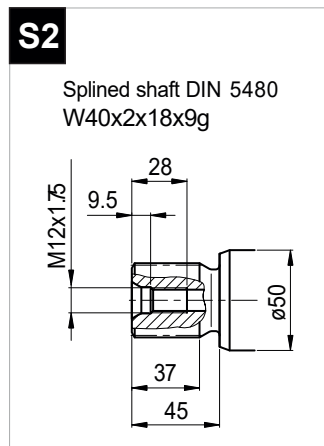
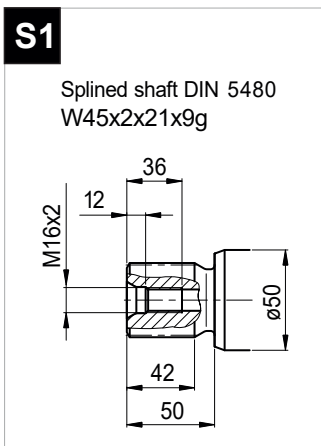
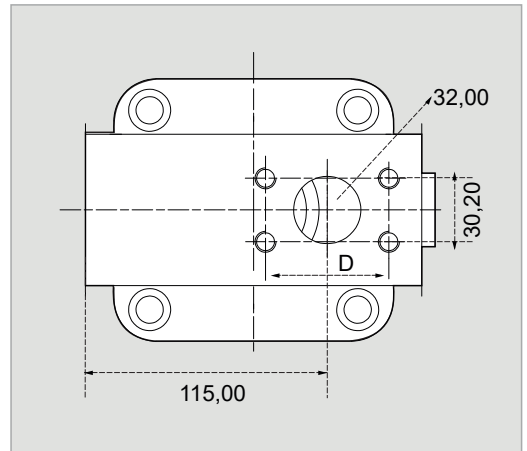
x 1000 rpm	80,00 cc
x 1500 rpm	120,00 cc
Max. Continuous Pump Speed	2300 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	445 Nm
Max. Flow	184,00 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	22,00 kg
Weight with accessories	22,50 kg
Rotation	CW-CCW



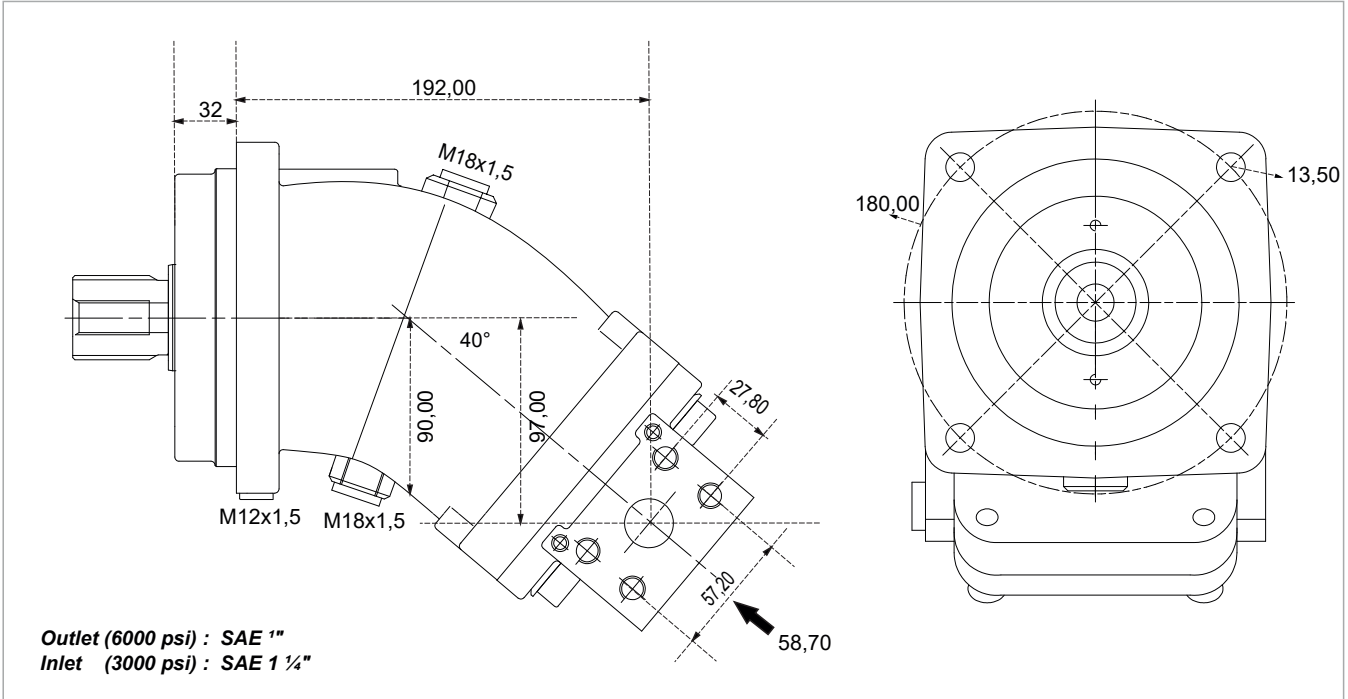
2PS 108



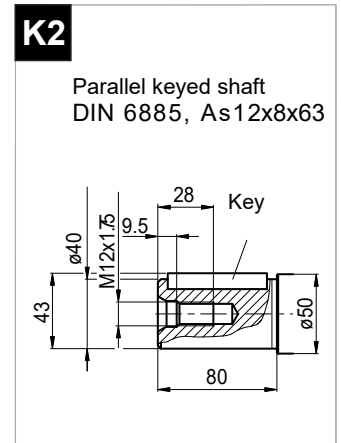
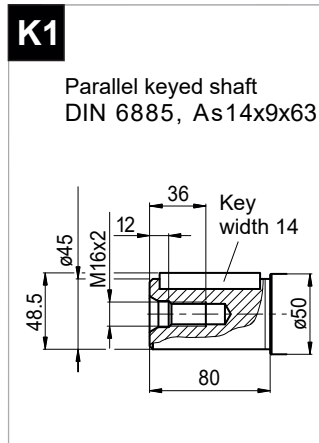
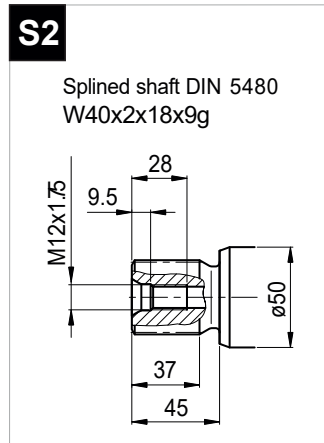
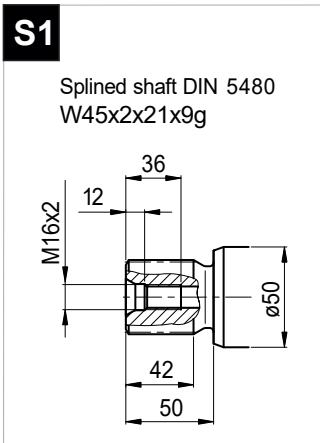
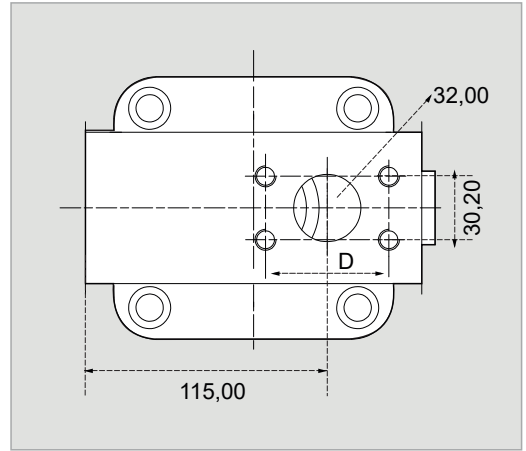
x 1000 rpm	108,40 cc
x 1500 rpm	162,60 cc
Max. Continuous Pump Speed	2000 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	600 Nm
Max. Flow	216,00 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	22,50 kg
Weight with accessories	23,00 kg
Rotation	CW-CCW



2PS 130

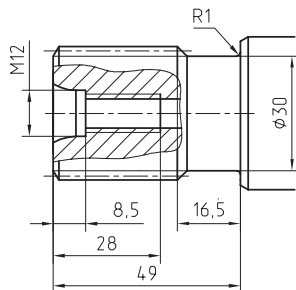


x 1000 rpm	130,00 cc
x 1500 rpm	195,00 cc
Max. Continuous Pump Speed	1900 rpm
Max. Continuous Pressure	400 bar
Max. Peak Pressure	450 bar
Max. Torque at 350 bar	726 Nm
Max. Flow	247,00 l/min.
Min. Pump Temperature	-25 °C
Max. Pump Temperature	110 °C
Weight without accessories	23,50 kg
Weight with accessories	24,00 kg
Rotation	CW-CCW

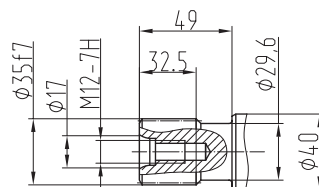


Special Shaft Drive & Special Back Cover

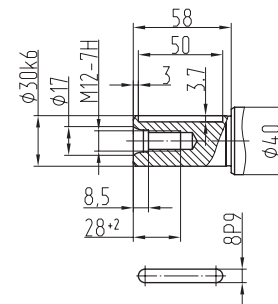
Splined shaft
35x7x2x9g GOST 6033-80



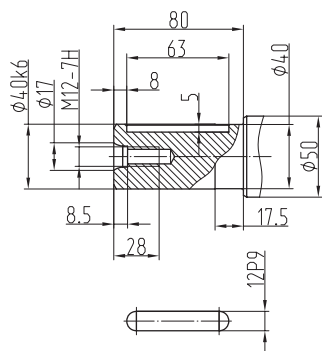
35x7x2x9g ГOCT6033



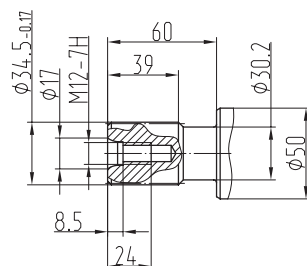
Parallel keyed shafts



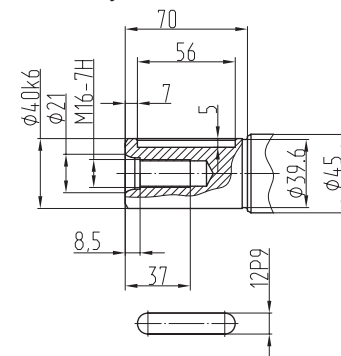
Parallel keyed shafts



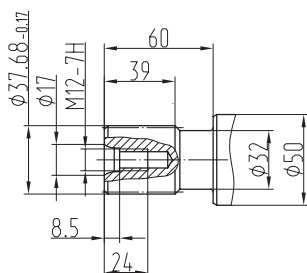
1 3/8' 21T 16/32DP ANSI B92



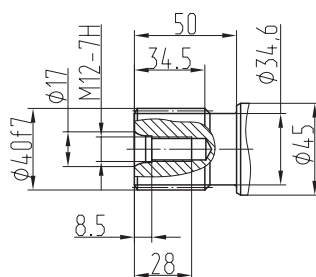
Parallel keyed shafts



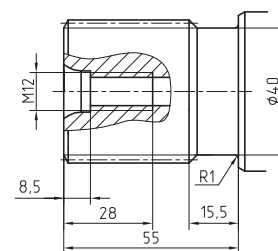
1 1/2' 23T 16/32DP ANSI B92



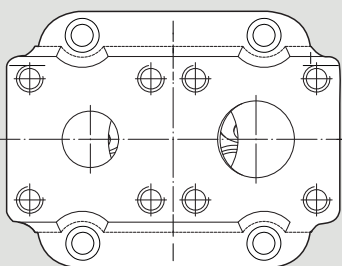
40x7x2x9g GOST6033



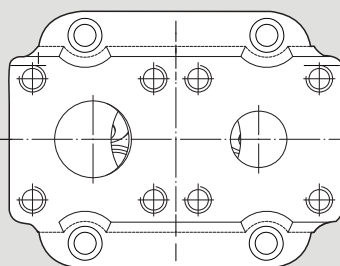
45x8x2x9g GOST 6033-80



Special Cover / Rotation : LEFT

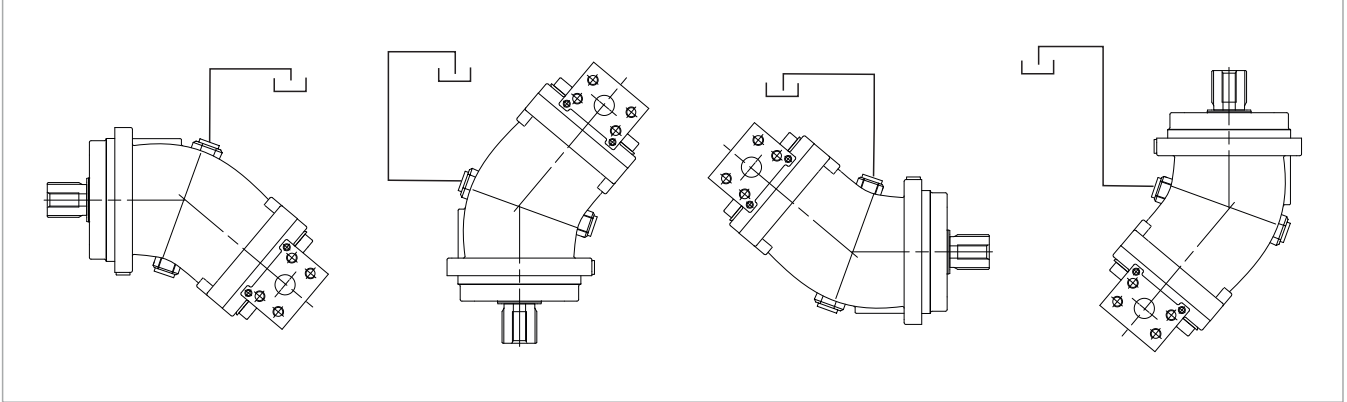


Special Cover / Rotation : RIGHT



Installation

The 2PS Pumps can be operate any position.
See following examples.



OIL SUPPLY

Oil and supply line should be clean, and the supply line is airtight.

SUCTION LINE

Connect the suction line, tighten the suction connection bolts in diametric pairs.
Connect the pressure line.

REPAIR

We offers a comprehensive range of services for the repair of our Bent Axis Pumps.
Repairs to the 2PS Bent Axis Pump may only be performed by authorized, skilled and instructed personnel.
Only use original and pre-installed our 2PS spare parts from supplied to Manufacturer..

Tested and pre-installed 2PS pumps successful repair requiring only little time.

SPARE PARTS

The spare parts list and the 2PS pump order specific.
When ordering spare parts, quote the material and complete Ordering code number of the 2PS Bent Axis Pump as well as the right numbers of the spare parts.

RISK OF DAMAGE!

Do not touch the drive shaft of the 2PS Bent Axis Pump
Do not touch sensor, valves and fittings
Do not touch sealing surfaces.

DIMENSIONS & WEIGHTS

Weight														
- Without accessories	<table border="1"><tr><td>kg</td><td>6,00</td><td>6,00</td><td>6,00</td><td>11,50</td><td>11,50</td><td>11,50</td><td>17,50</td><td>18,00</td><td>18,00</td><td>22,00</td><td>22,50</td><td>23,50</td></tr></table>	kg	6,00	6,00	6,00	11,50	11,50	11,50	17,50	18,00	18,00	22,00	22,50	23,50
kg	6,00	6,00	6,00	11,50	11,50	11,50	17,50	18,00	18,00	22,00	22,50	23,50		
- With accessories	<table border="1"><tr><td>kg</td><td>6,20</td><td>6,20</td><td>6,20</td><td>11,80</td><td>11,90</td><td>11,90</td><td>18,00</td><td>18,50</td><td>18,50</td><td>22,50</td><td>23,00</td><td>24,00</td></tr></table>	kg	6,20	6,20	6,20	11,80	11,90	11,90	18,00	18,50	18,50	22,50	23,00	24,00
kg	6,20	6,20	6,20	11,80	11,90	11,90	18,00	18,50	18,50	22,50	23,00	24,00		

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 2PS Bent Axis Pumps.

ÇELEBİ HİDROCEL OTOM. SAN. TİC. LTD. ŞTİ.
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Phone : +90 (332) 345 13 70 - +90 (332) 345 13 71
hidrocel@hidrocel.com.tr

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



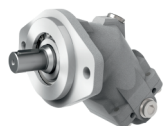
2PS



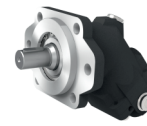
2PM

SAE

SAE B2 C4 - SAE D
SAE J498b
SAE J 744



2PE



2PEM

Contact

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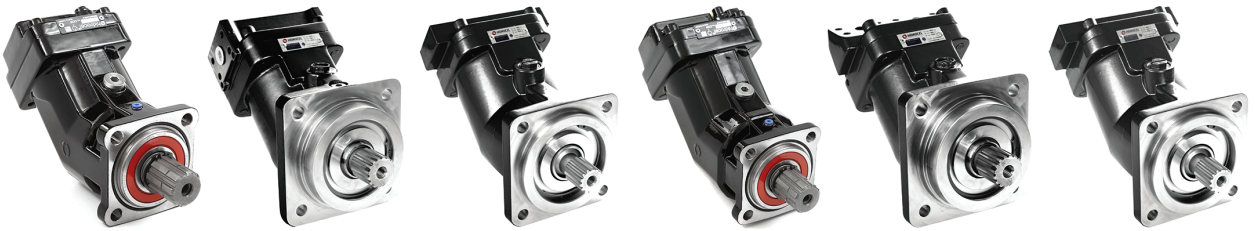
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