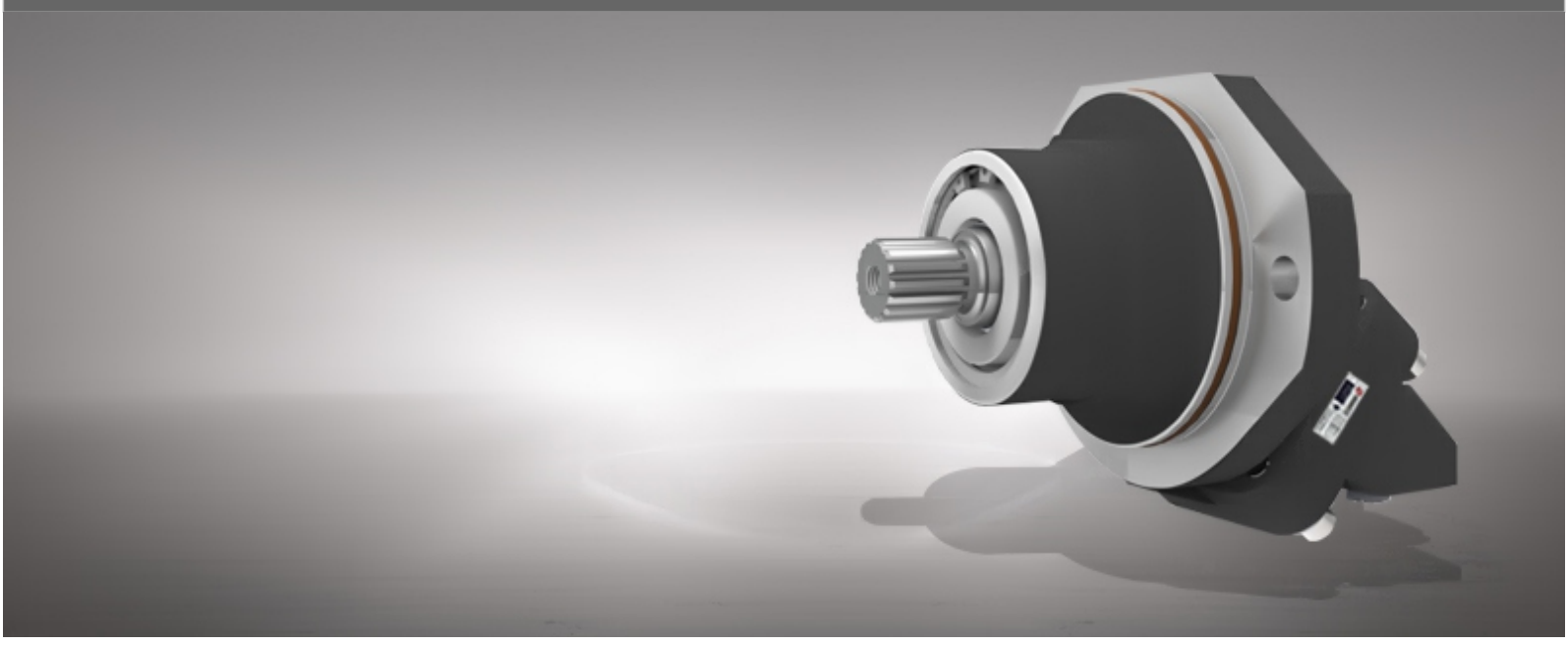
ÇELEBİ HİDROCEL®
HİDROLİK PİSTONLU POMPA & MOTOR

2PMS
Fixed Plug-in Bent Axis Piston Motor



2PMS Motors have the following advantages ;

- Compact Design,
- Economical Conception,
- High Power Density,
- High Efficiency,
- High Rotating Speeds,
- From 25cc to 108cc,
- High Pressure,
- Good Starting Characteristics,
- Optimized Weight and Size,
- Easy to Install.

Other Advantages of 2PMS

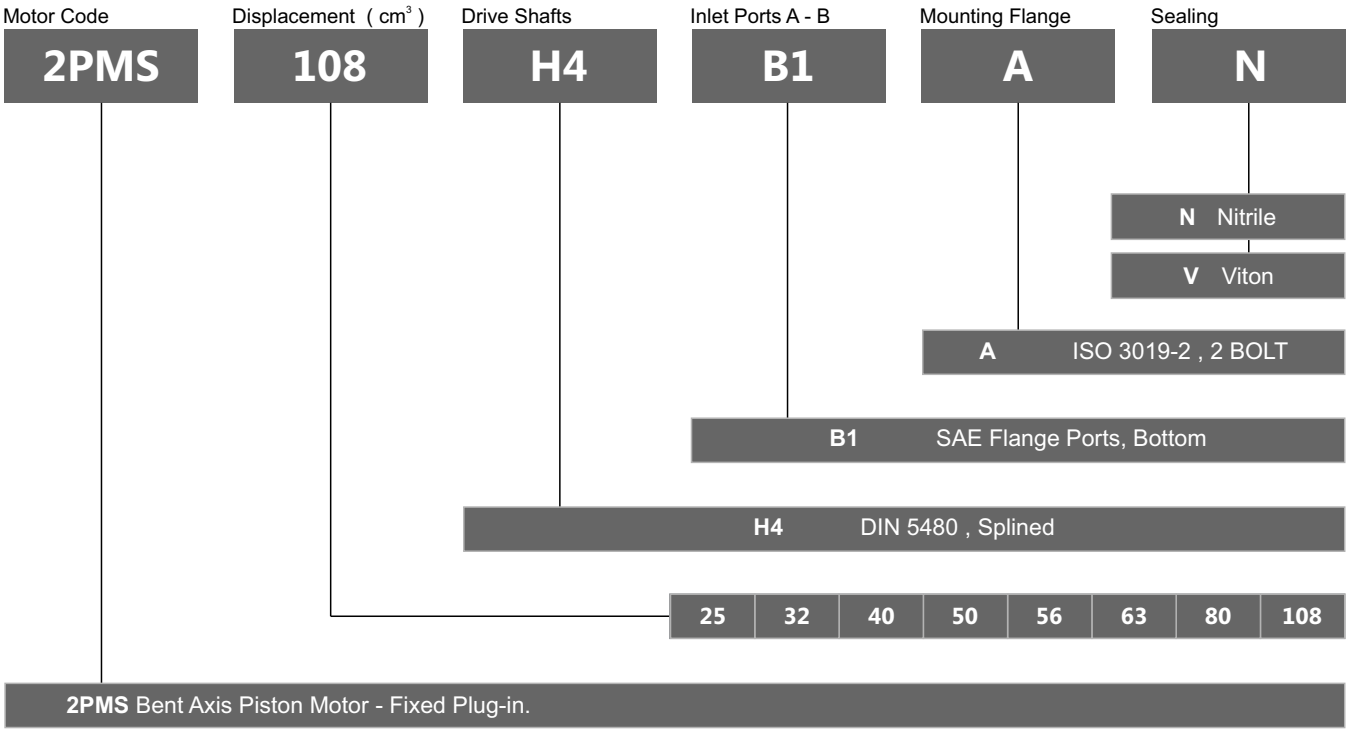
Interchangeable and Compatible with other Fixed Plug-in Bent Axis Motors,
Special Designed Pistons,
One-Piece Piston with Piston Rings,
Compact motor design and extra durable parts,
High Operational Reliability and High Starting Torque
Extra Warranty with Wide Service
Designed for Mobile and Industrial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

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 2PMS 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 25 to 108 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 2PMS 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 2PMS Motors

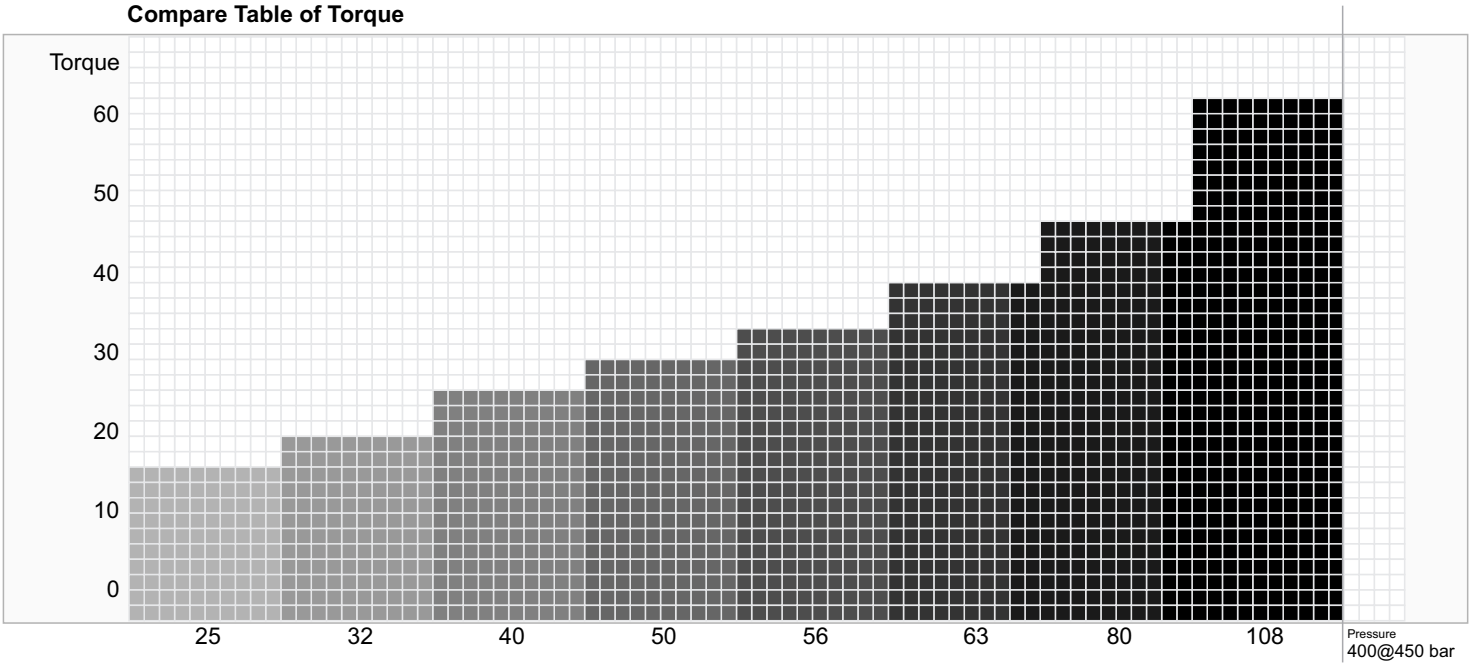


Technical Data

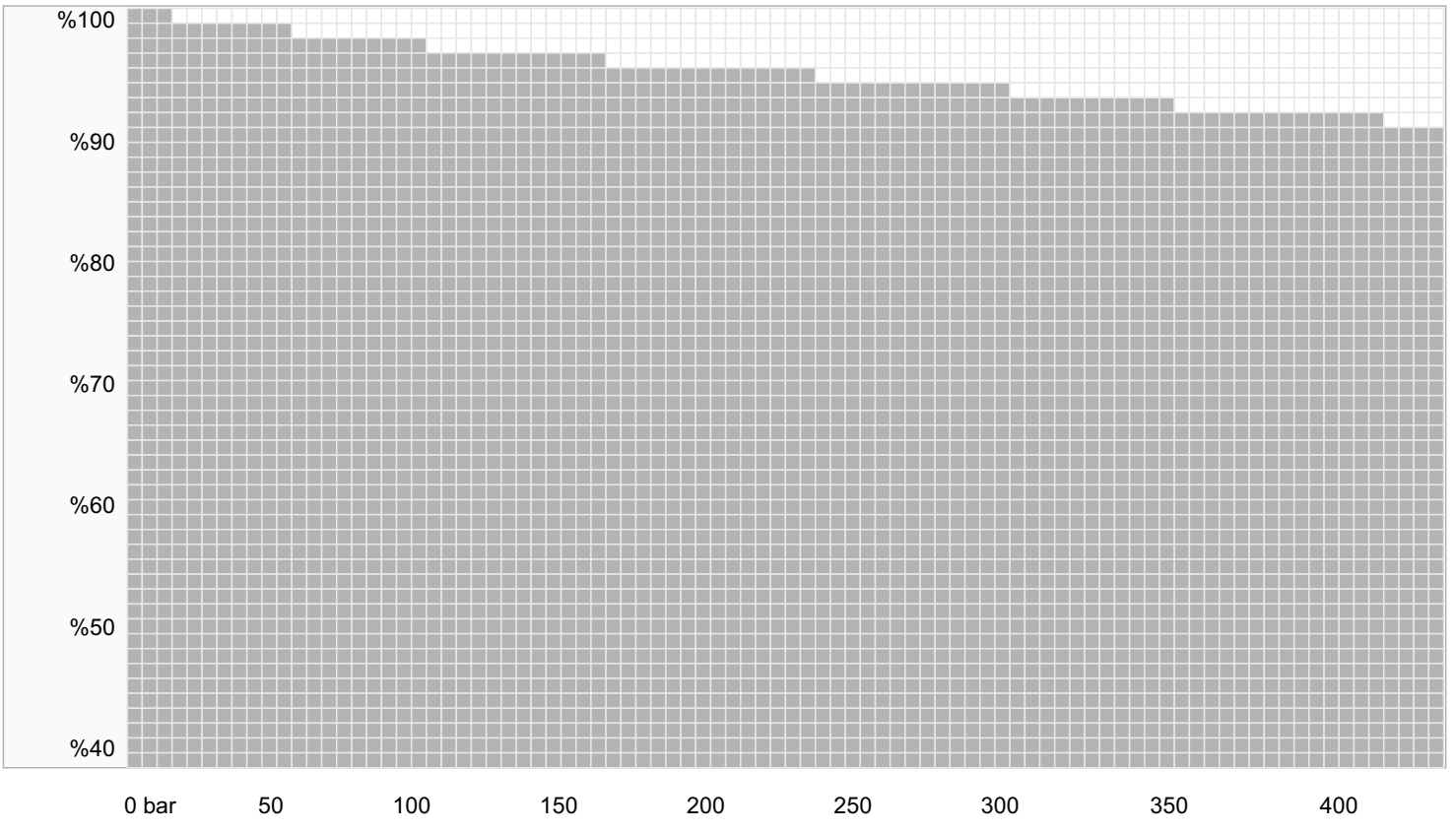
		25	32	40	50	56	63	80	108
Displacement	***cc***	25,00	32,00	40,20	50,00	56,40	63,00	80,00	108,4
Theoretical oil flow l/min at pump speed	***1000 rpm***	25,00	32,00	40,20	50,00	56,40	63,00	80,00	108,4
	1500 rpm	37,50	48,00	60,30	75,00	84,60	94,50	120,0	162,6
Maximum Speed									
- Continuous	***rpm***	6250	6250	5600	5000	5000	5000	4400	4000
- Intermittent	***rpm***	6800	6800	6300	5500	5500	5500	4900	4400
Max. Continuous Pressure	***bar***	400	400	400	400	400	400	400	400
Max. Peak Pressure	***bar***	450	450	450	450	450	450	450	450
Torque bar	***m.N/bar***	0.40	0.51	0.65	0.80	0.92	1.00	1.28	1.69
Torque at 350 bar	***m.N***	140	174	228	280	320	350	440	600
Max. Flow	***l/mn.***	156	200	225	250	282	315	352	433
Weight									
- Without accessories	***kg***	12,00	12,00	12,00	18,50	18,50	18,50	25,50	25,50
- With accessories	***kg***	12,50	12,50	12,50	19,00	19,00	19,00	26,00	26,00
Motor Temperature									
- Minimum	***°C***	-25	-25	-25	-25	-25	-25	-25	-25
- Maximum	***°C***	110	110	110	110	110	110	110	110

Performance

Compare Table of Torque

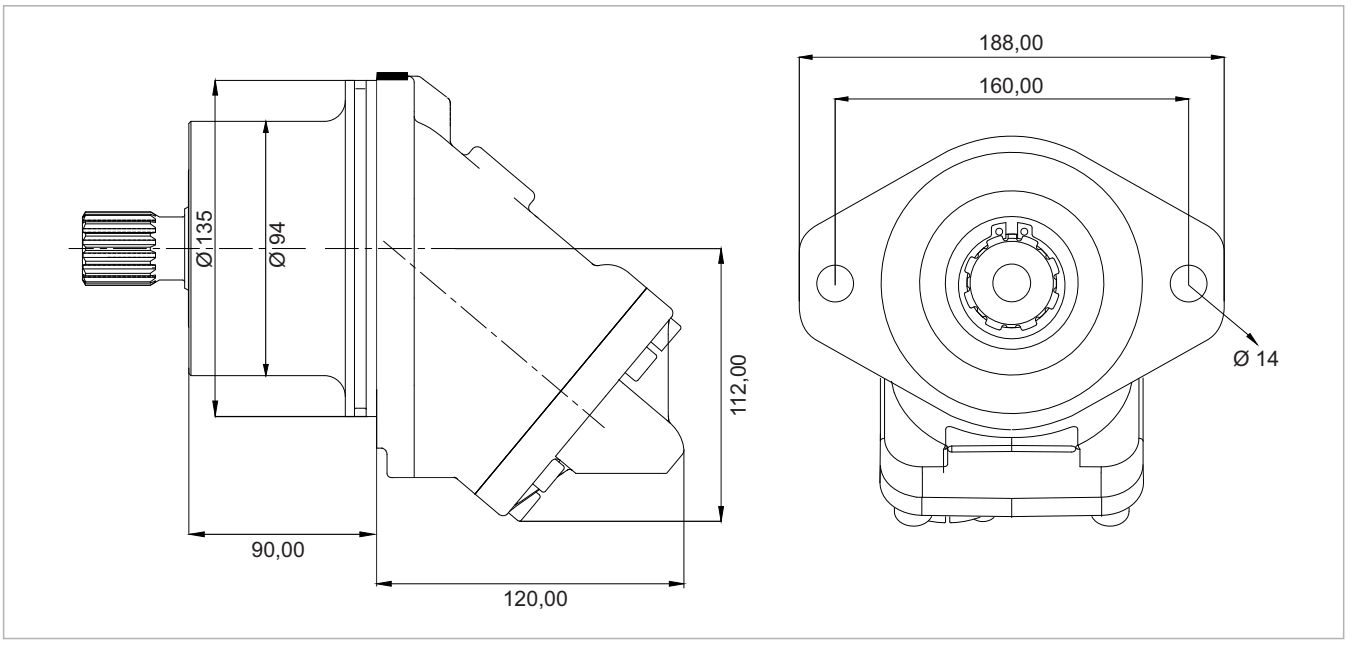


Efficiency of 2PMS Motors

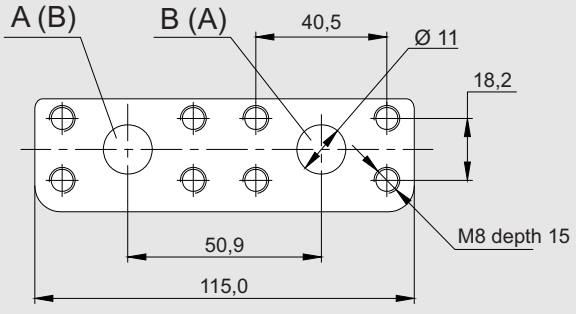


Dimensions Size;

2PMS 25

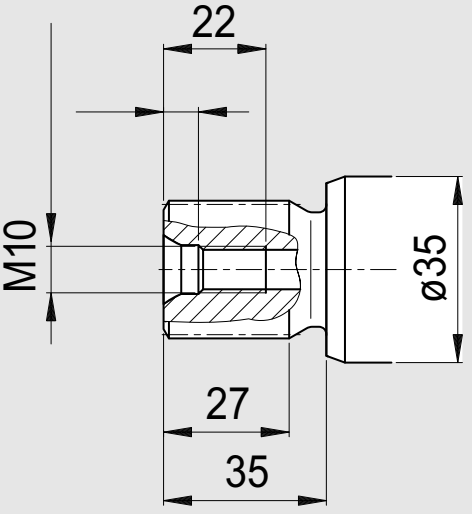


B1



H4

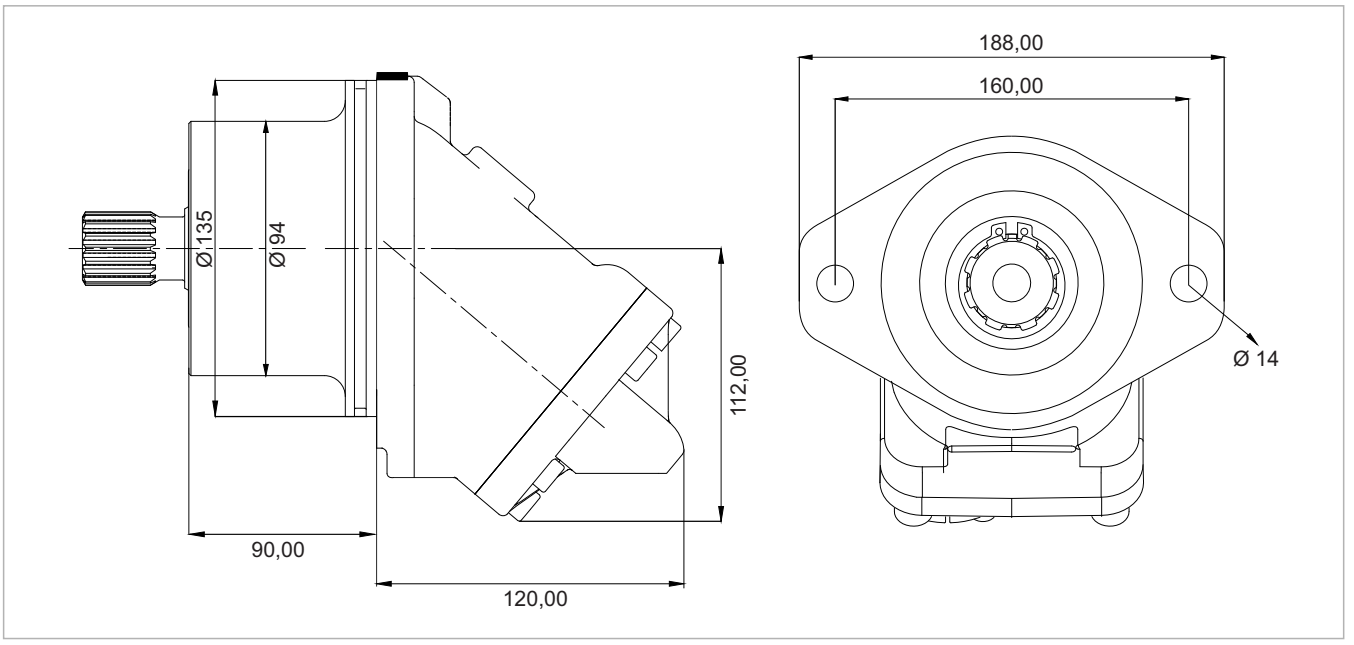
Splined shaft DIN 5480
W30x2x14x9g



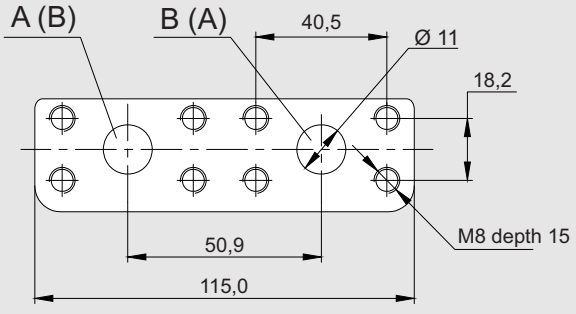
x 1000 rpm	*x 1500 rpm*	*Max. Contin. Pump Speed*	*Max. Intermit. Pump Speed*	*Max. Contin. Pressure*	*Max. Peak Pressure*	*Torque bar*	*Torque at 350 bar*	*Max. Flow*	*Weight without accessor.*	*Weight with accessor.*	*Max. Motor Temp.*	*Min. Motor Temp.*
25,00 cc	37,50 cc	6250 rpm	6800 rpm	400 bar	450 bar	0.40 m.N/bar	140 m.N	156	12,00 kg	12,50 kg	-25°	110°

Dimensions Size;

2PMS 32

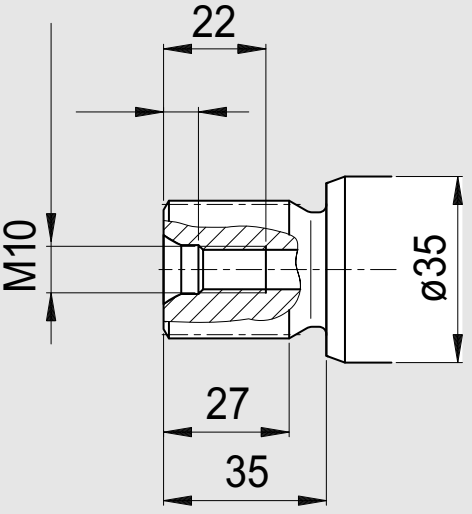


B1



H4

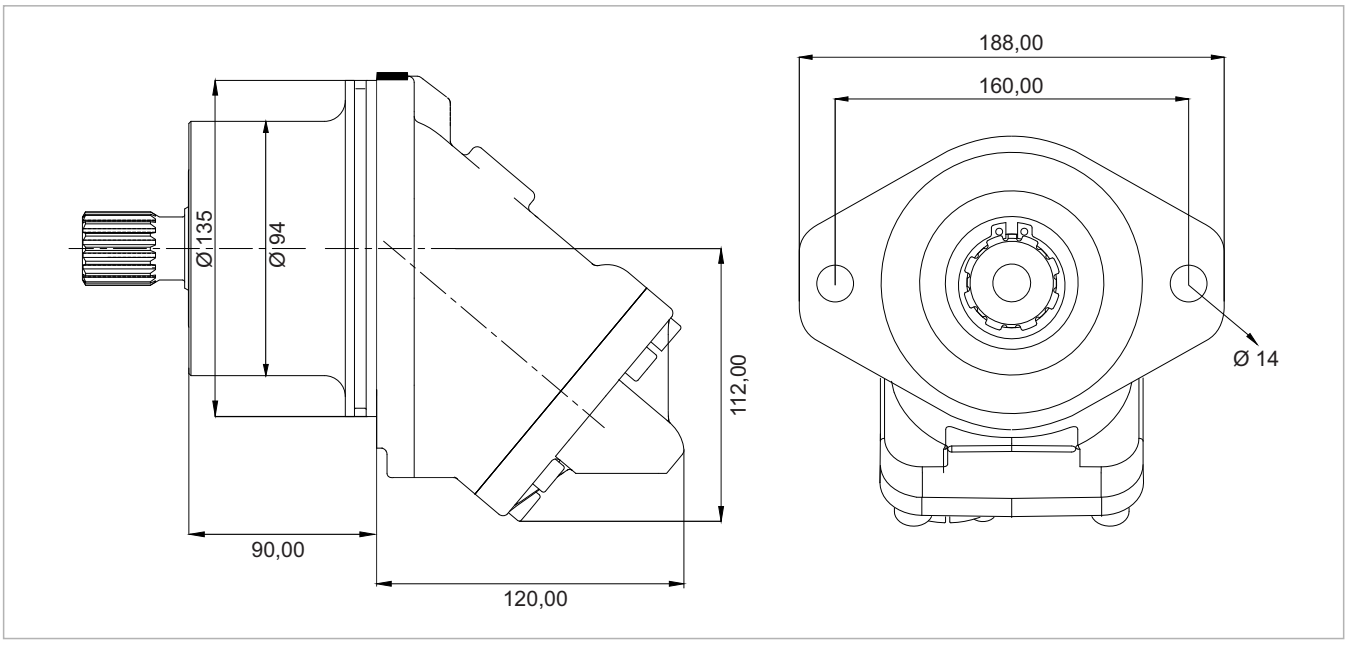
Splined shaft DIN 5480
W30x2x14x9g



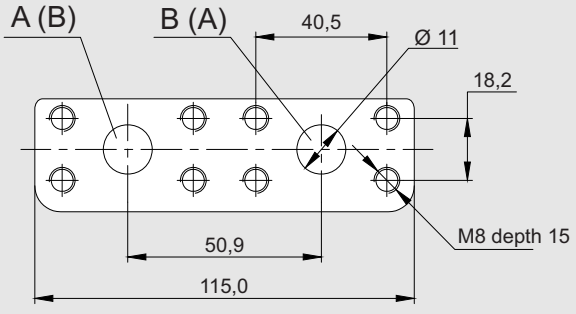
x 1000 rpm	*x 1500 rpm*	*Max. Contin. Pump Speed*	*Max. Intermit. Pump Speed*	*Max. Contin. Pressure*	*Max. Peak Pressure*	*Torque bar*	*Torque at 350 bar*	*Max. Flow*	*Weight without accessor.*	*Weight with accessor.*	*Max. Motor Temp.*	*Min. Motor Temp.*
32,00 cc	48,00 cc	6250 rpm	6800 rpm	400 bar	450 bar	0.51 m.N/bar	174 m.N	200	12,00 kg	12,50 kg	-25°	110°

Dimensions Size;

2PMS 40

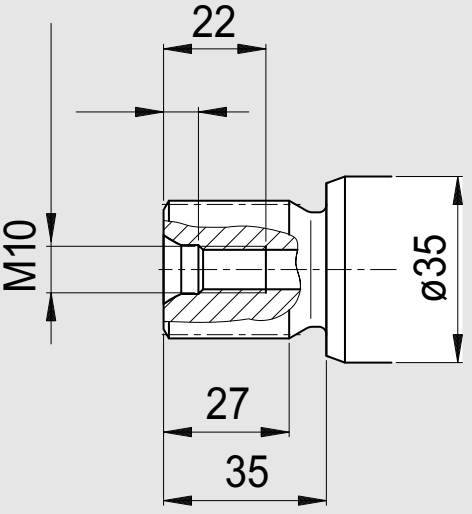


B1



H4

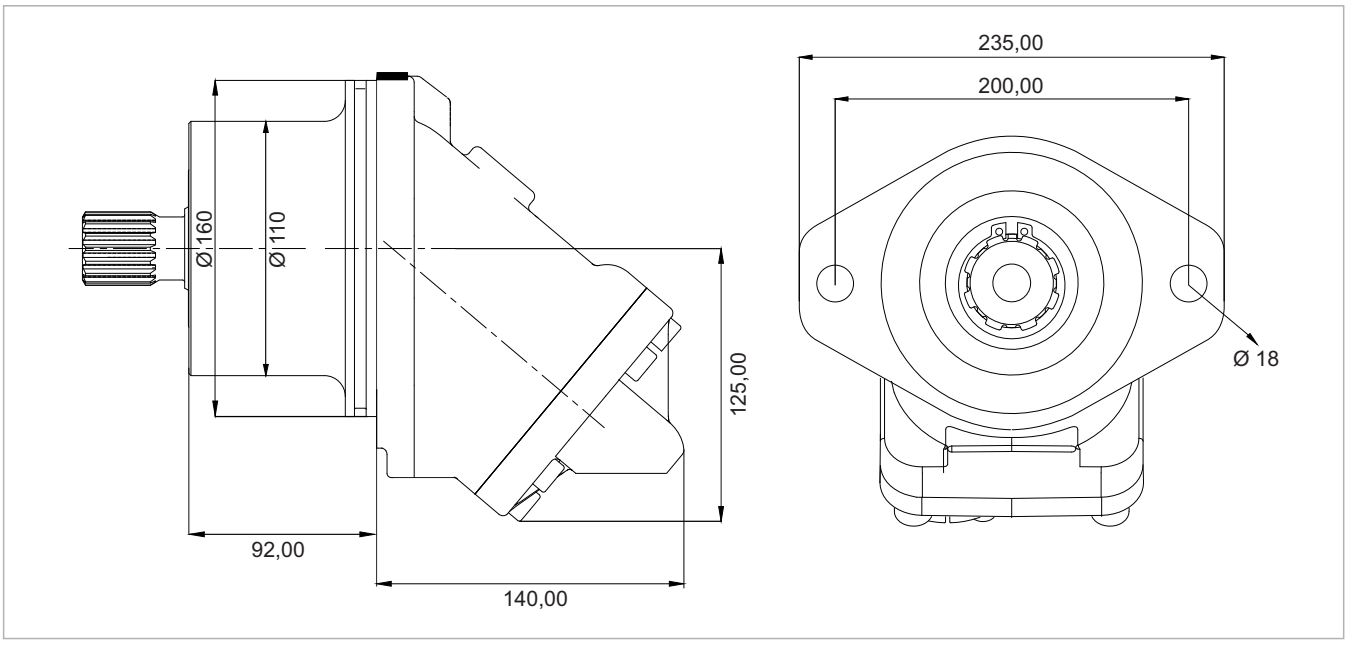
Splined shaft DIN 5480
W30x2x14x9g



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	12,00 kg	12,50 kg	-25°	110°

Dimensions Size;

2PMS 50



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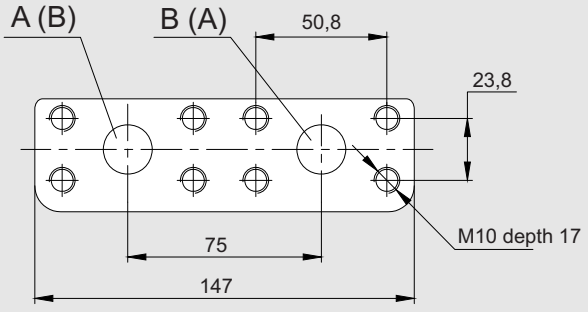
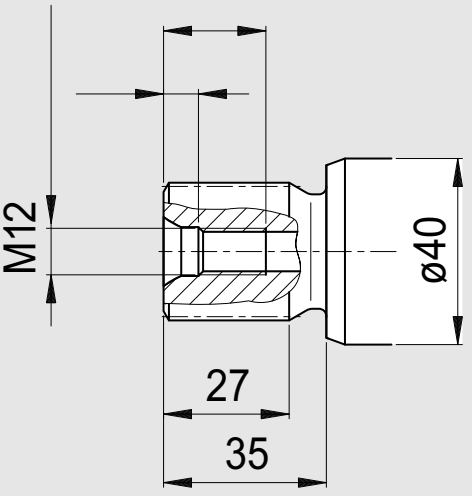


H4

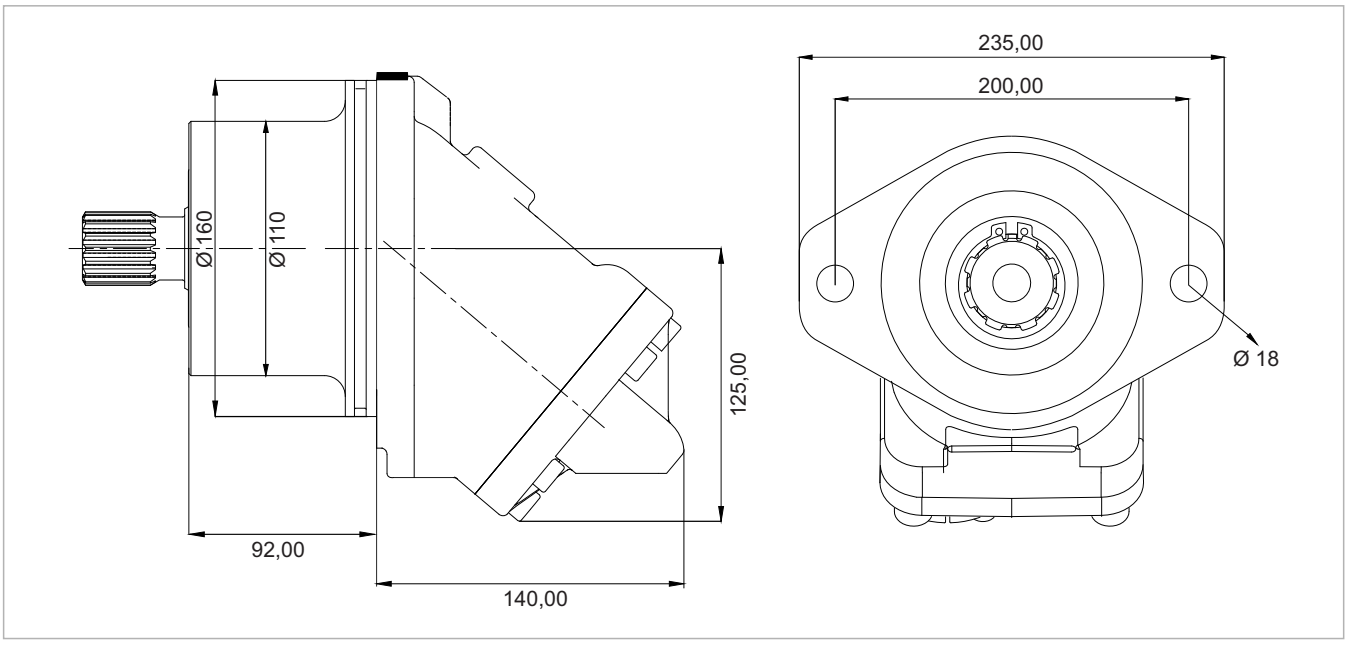
Splined shaft DIN 5480
W30x2x14x9g



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	18,50 kg	19,00 kg	-25°	110°

Dimensions Size;

2PMS 56



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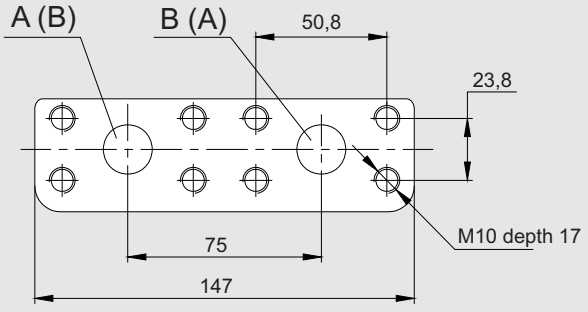
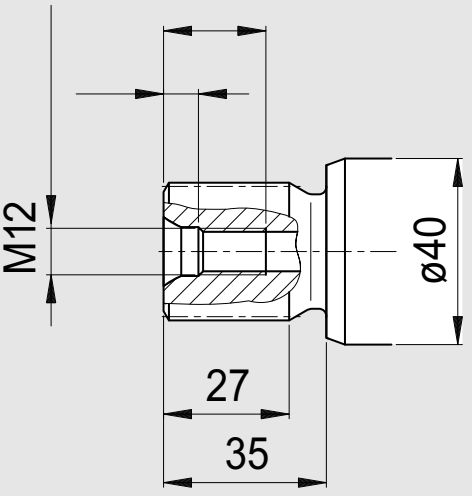


H4

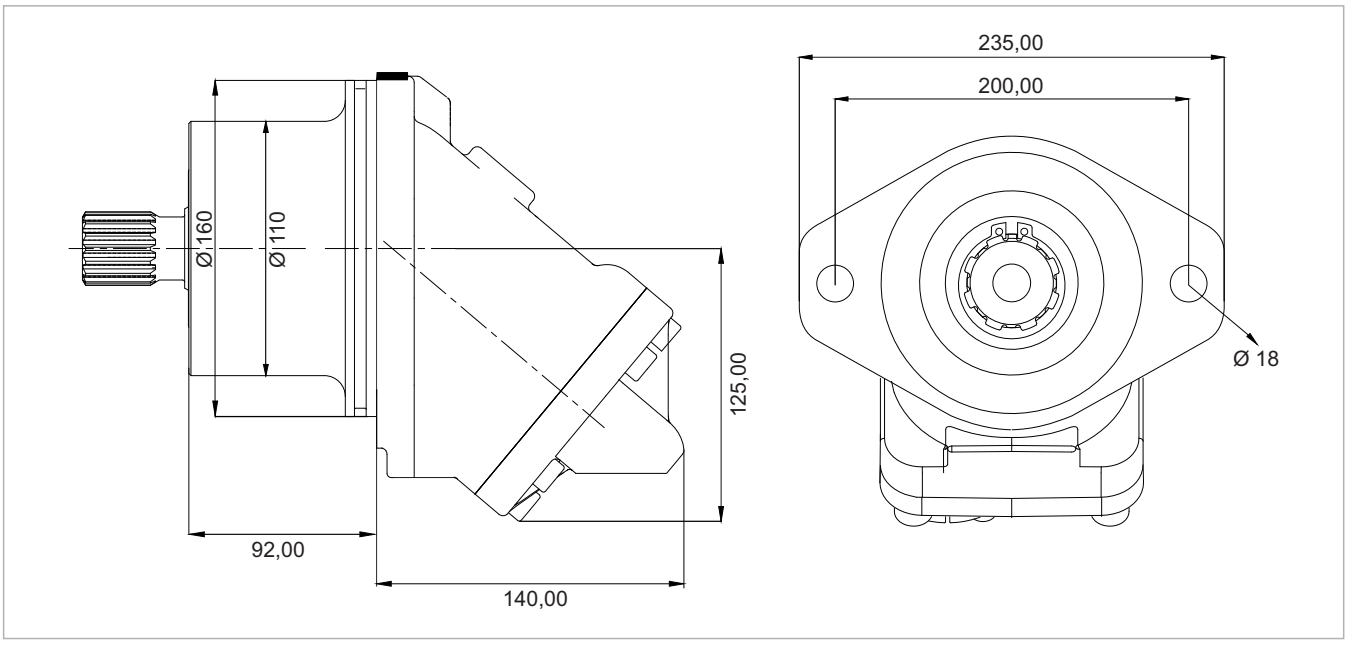
Splined shaft DIN 5480
W30x2x14x9g



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	18,50 kg	19,00 kg	-25°	110°

Dimensions Size;

2PMS 63



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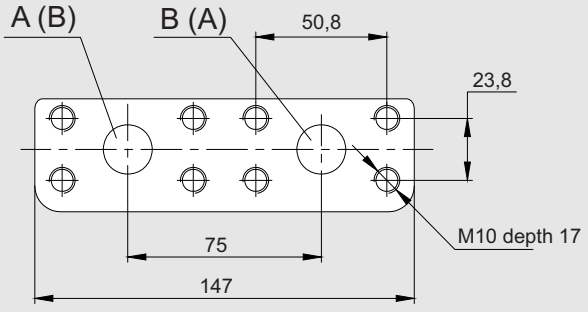
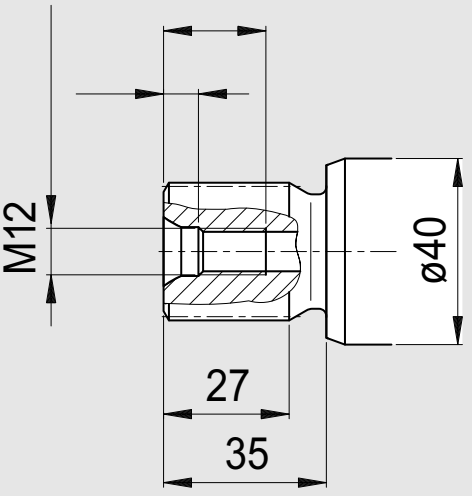


H4

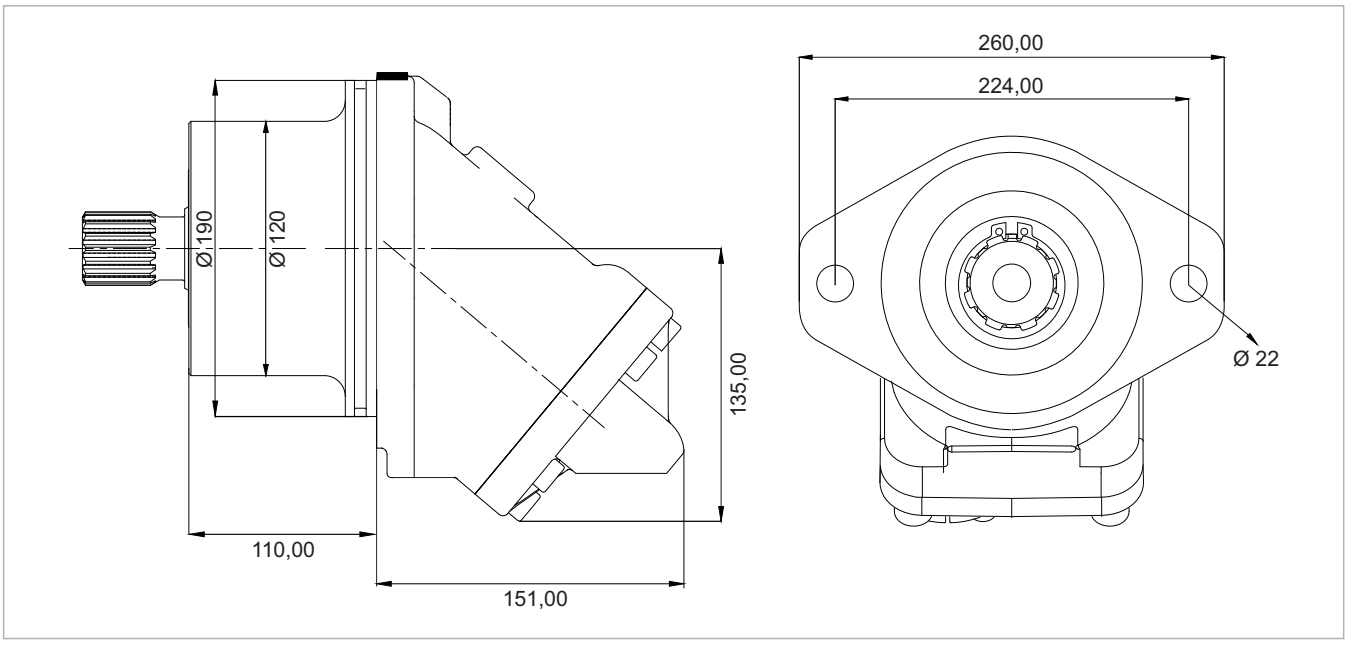
Splined shaft DIN 5480
W30x2x14x9g



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	18,50 kg	19,00 kg	-25°	110°

Dimensions Size;

2PMS 80



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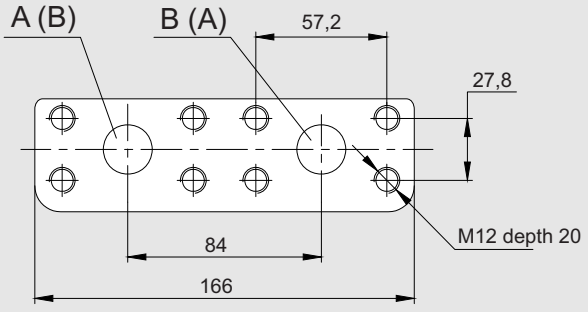
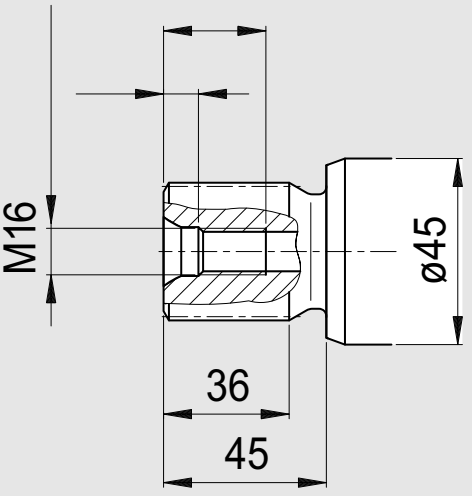


H4

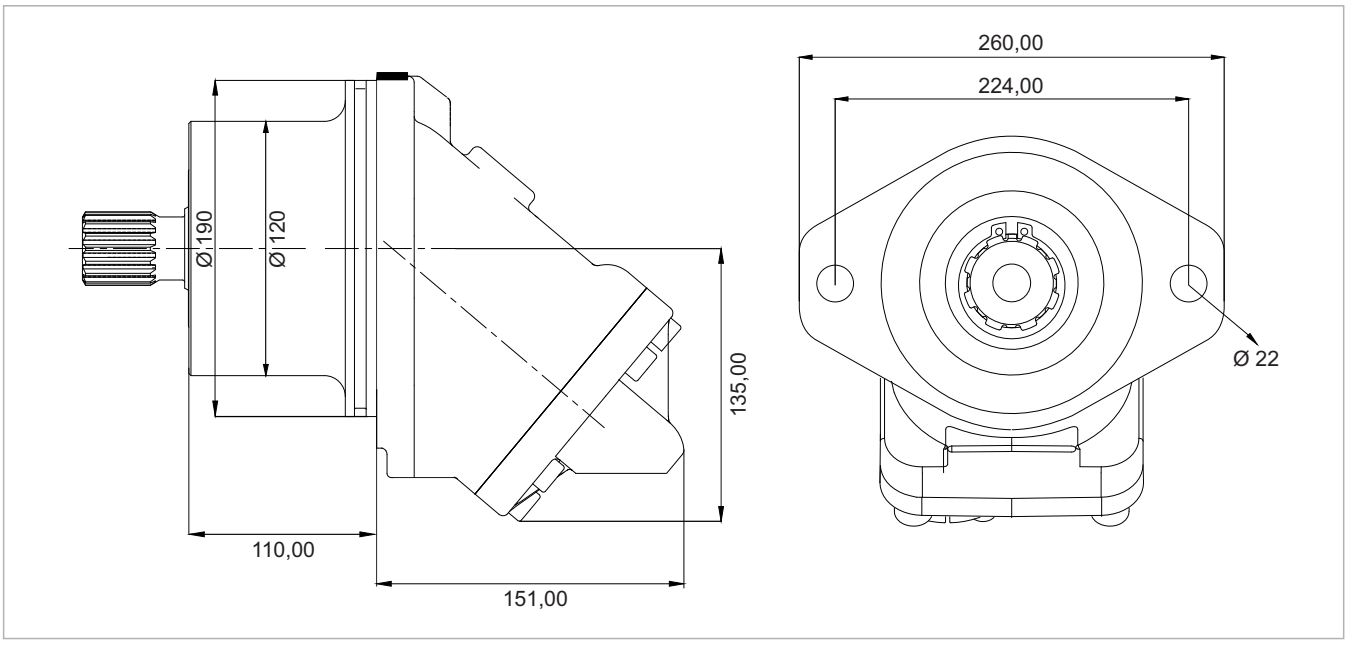
Splined shaft DIN 5480
W40x2x18x9g



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	25,50 kg	26,00 kg	-25°	110°

Dimensions Size;

2PMS 108



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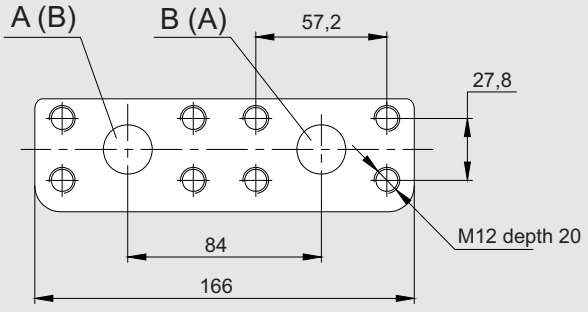
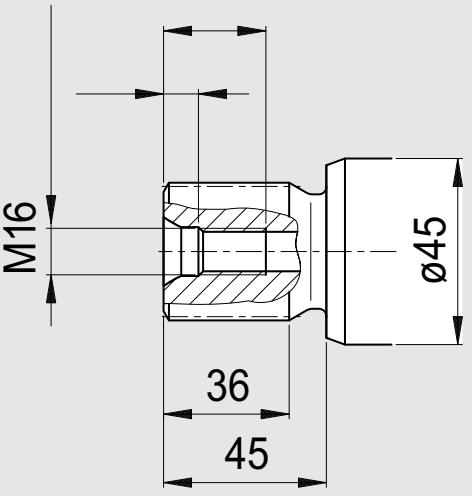


H4

Splined shaft DIN 5480
W40x2x18x9g

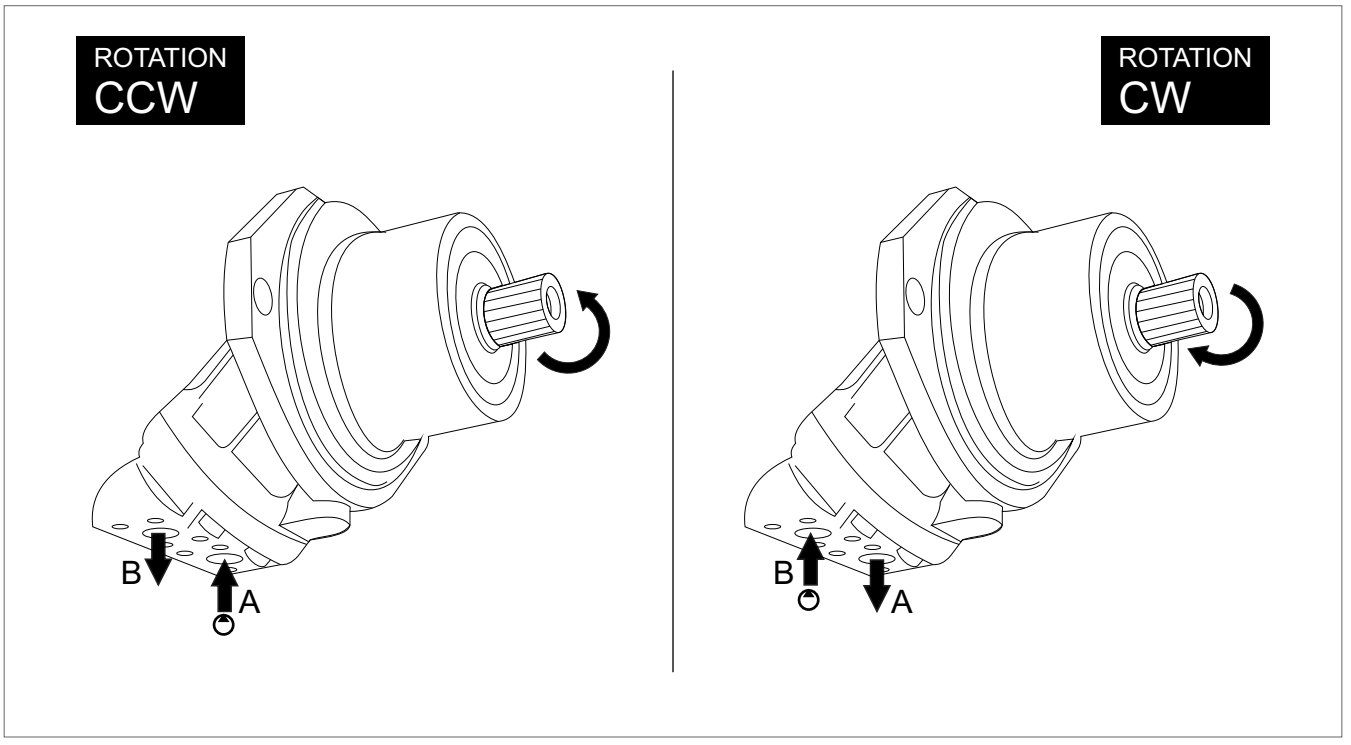


x 1000 rpm	*x 1500 rpm*	*Max. Contin. Pump Speed*	*Max. Intermit. Pump Speed*	*Max. Contin. Pressure*	*Max. Peak Pressure*	*Torque bar*	*Torque at 350 bar*	*Max. Flow*	*Weight without accessor.*	*Weight with accessor.*	*Max. Motor Temp.*	*Min. Motor Temp.*
108,4 cc	162,6 cc	4000 rpm	4400 rpm	400 bar	450 bar	1.69 m.N/bar	600 m.N	433	25,50 kg	26,00 kg	-25°	110°

Special Shaft Drive

35xf7x2x9g ГОСТ6033	A8x7x50 DIN6885	A10x5x50 DIN6885
45xh8x2x9g ГОСТ6033	A12x8x63 DIN6885	A14x9x63 DIN6885

Direction of Rotation



Quick Calculation

Flow rate	Torque	Power	Speed
$Q = \frac{V_S \cdot n}{1000 \eta_v}$ (lpm)	$M = \frac{V_S \cdot \Delta p \cdot \eta_{mh}}{63}$ (Nm)	$P = \frac{2\pi \cdot M \cdot n}{60000} = \frac{M \cdot n}{9549} = \frac{Q \cdot \Delta p \cdot \eta_t}{600}$ (kw)	$n = \frac{1000 \cdot Q \cdot \eta_v}{V_S}$ (lpm)

V_S = Displacement (ccm/rev.)
|p = 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 2PMS Bent Axis Motors.

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Fevziçakmak mh. Aslım Cd. No: 53 C Karatay / KONYA
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hidrocel@hidrocel.com.tr

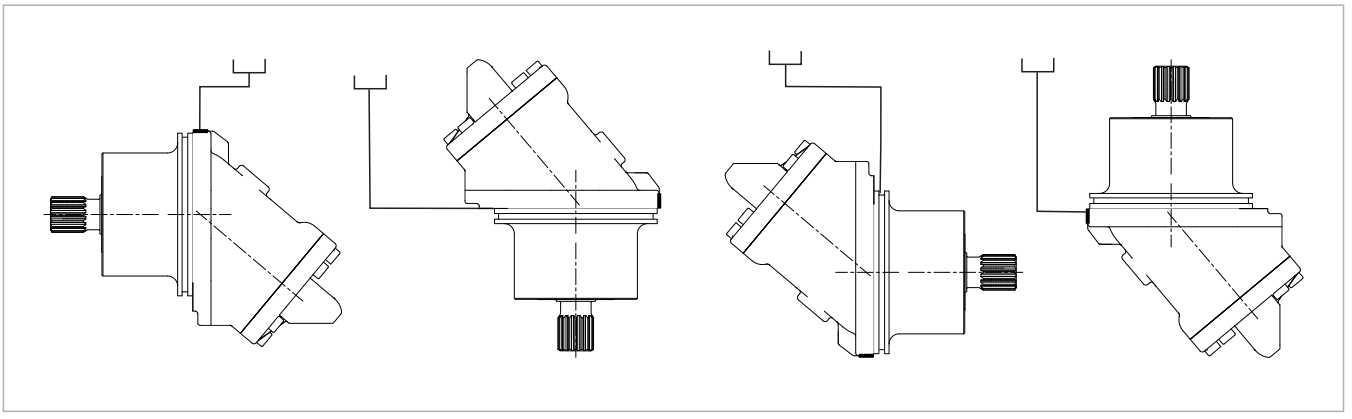
Installation

POSITION
2PMS Motors can be operate any position.

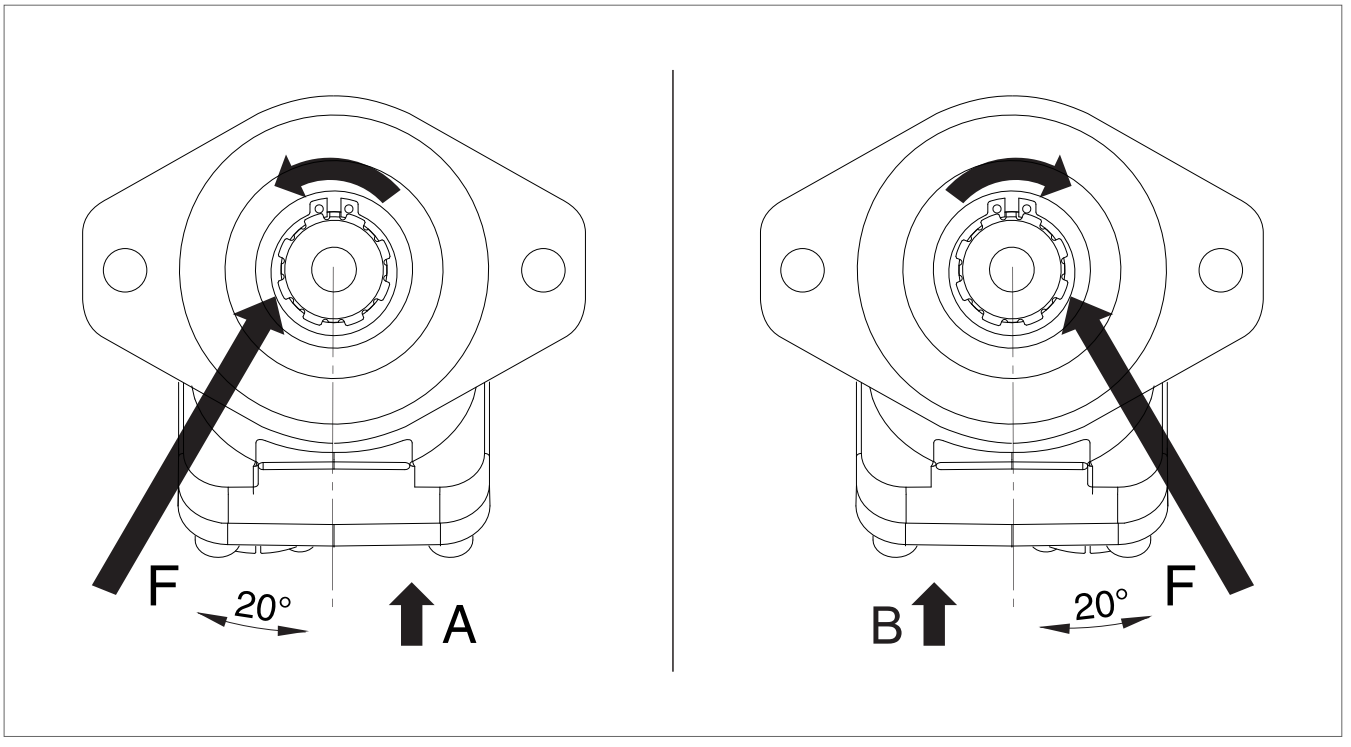
DIRECTION OF ROTATION
2PMS Motors can be operate in both directions of rotation.

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

INSTALLATION POSITION
See following examples.



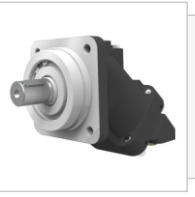
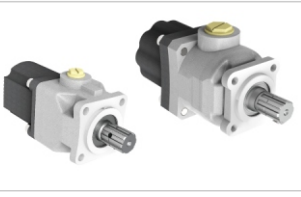
HYDRAULIC FLUID
Recommended ;
Generally : between 15 and 200 cSt.
Maximum : between 5 and 1600 cSt.



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

For detailed information about 2PMS 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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