

HEAVY DUTY APPLICATIONS



HYDRAULIC GEAR
PUMPS

KAPPA 40+

FEATURES

KAPPA 40 PLUS

Large cast iron hydraulic gear pumps for heavy duty applications.

DISPLACEMENTS

From 6.09 in³/rev (99,79 cm³/rev)

To 11.02 in³/rev (180,73 cm³/rev)

- New design
- Nodular cast iron
- High performance
- High strength

Construction	External gear type pumps
Direction of rotation (looking at the drive shaft)	Counter-clockwise (S) and clockwise (D)
Inlet pressure range for pumps	10 - 22 psi - [0,7 - 1,5 bar (abs.)]
Viscosity range	From 60 to 456 SSU [12 to 100 mm ² /s (cSt)] recommended Up to 3410 SSU [750 mm ² /s (cSt)] permitted

FLUID TEMPERATURE RANGE

Type	Fluid composition	Max pressure bar	Max speed min ⁻¹	Temperature °F (°C)			Seals (◆)
				Min	Max continuous	Max peak	
ISO/DIN	Mineral oil based hydraulic fluid to ISO/DIN	See page 6	See page 6	-13 (-25)	176 (80)	212 (100)	N
				-13 (-25)	230 (110)	257 (125)	T-PV

(◆) **N**= Buna N (standard) - **T-PV**= Buna hydrogenated HNBR and viton shaft seal.

For different fluid please consult our technical sales department.

RECOMMENDED FILTRATION

Working pressure psi (bar)	$\Delta p < 2030$ $\Delta p < (140)$	$2030 < \Delta p < 3045$ $(140) < \Delta p < (210)$	$\Delta p > 3045$ $\Delta p > (210)$
Contamination class NAS 1638	10	9	8
Contamination class ISO 4406:1999	21/19/16	20/18/15	19/17/14
Achieved with filter $\beta_{10}(c) \geq 75$ according to ISO 16889	-	10 μm	10 μm
Achieved with filter $\beta_{25}(c) \geq 200$ according to ISO 16889	25 μm	-	-

Casappa recommends to use its own production filters:



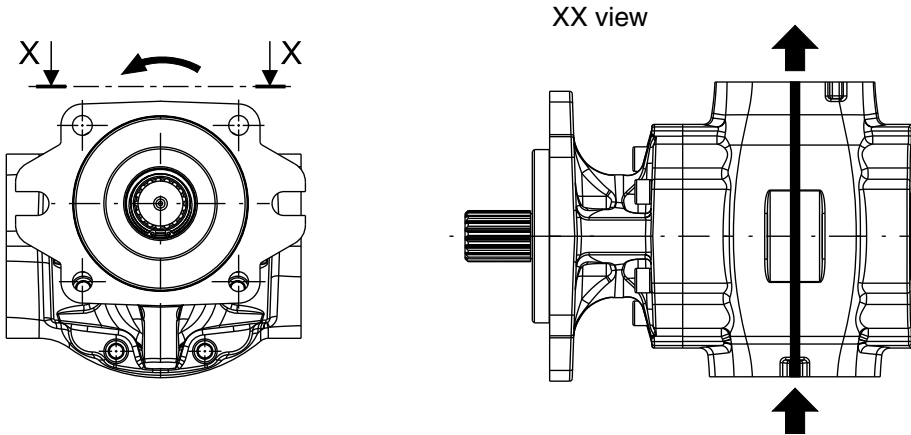
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DIRECTION OF ROTATION AND PORT POSITION

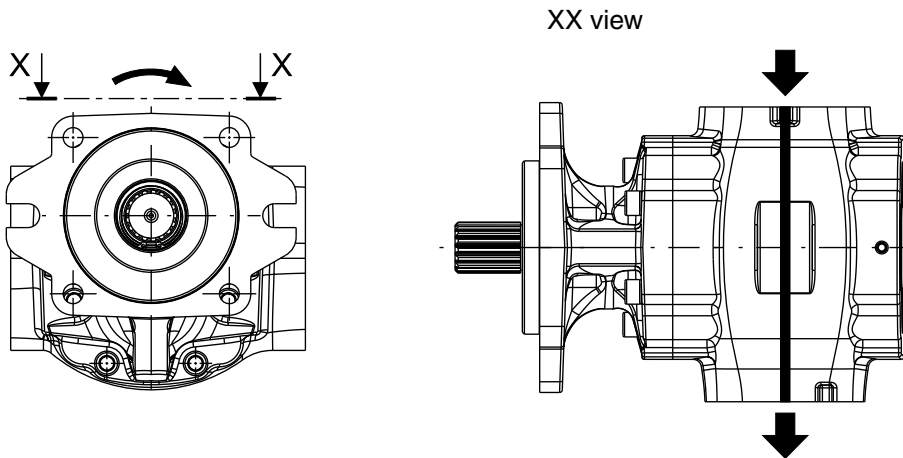
The direction of rotation is determined looking at the drive shaft.

The drawing below shows the inlet and outlet tubing position according to the direction of rotation.

Counter-clockwise rotation



Clockwise rotation

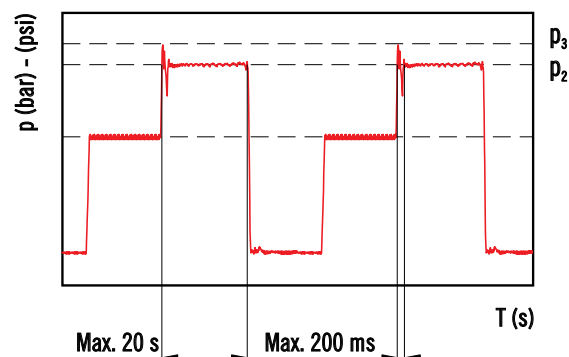


Available on request with outlet port in rear position.
For more information please consult our technical sales department.

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GENERAL DATA

PRESSURE DEFINITION



p_2 Rated pressure (relief valve setting)
 p_3 Peak pressure (relief valve max. peak pressure)

To ensure proper operation, both p_2 and p_3 pressures must be kept within the limits stated below.
 If p_2 is compliant, but p_3 exceeds its limit, please decrease the relief setting p_2 in order to keep the peak pressure p_3 within the limit.

Pump type	Displacement in ³ /rev (cm ³ /rev)	Max. pressure		Max. speed RPM (min ⁻¹)	Min. speed RPM (min ⁻¹)
		p_2 Rated pressure	p_3 Peak pressure		
		psi (bar)	psi (bar)		
KP40.100	6.09 (99,79)	3915 (270)	4205 (290)	2700	300
KP40.109	6.64 (108,9)	3915 (270)	4205 (290)	2700	300
KP40.121	7.43 (121,8)	3770 (260)	4060 (280)	2700	300
KP40.133	8.18 (134,03)	3770 (260)	4060 (280)	2700	300
KP40.151	9.20 (150,79)	3770 (260)	4060 (280)	2700	300
KP40.160	9.81 (160,77)	3625 (250)	3915 (270)	2500	300
KP40.180	11.02 (180,73)	3335 (230)	3625 (250)	2200	300

For different working conditions please consult our sales department.

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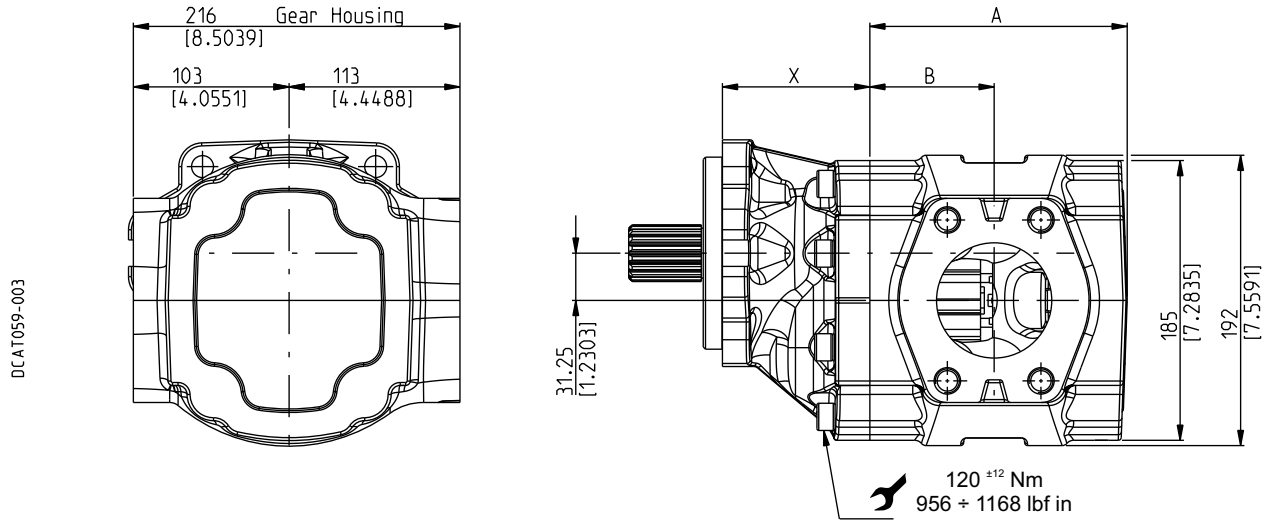
SINGLE UNITS - SIDE PORTS

CSL

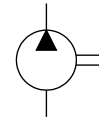
Drive shafts: see availability on page 5

Mounting flange: see page 5

Port type: see availability on page 6



Mounting flange type	X
	mm (inch)
S8	97.5 (3.8386)



Pump type	A	B
	mm (inch)	mm (inch)
KP40.100	141 (5.5512)	68 (2.6772)
KP40.109	144 (5.6693)	71 (2.7953)
KP40.121	149 (5.8861)	76 (2.9921)
KP40.133	153 (6.0236)	80 (3.1496)
KP40.151	159 (6.2598)	71 (2.7953)
KP40.160	163 (6.4173)	75 (2.9528)
KP40.180	170 (6.6929)	82 (3.2283)

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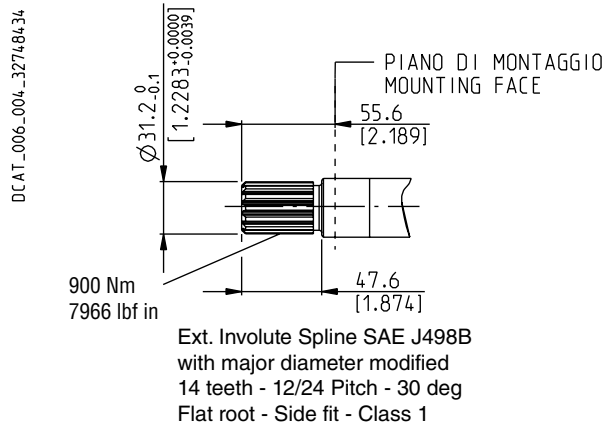
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DRIVE SHAFTS

SAE "C" SPLINE

06

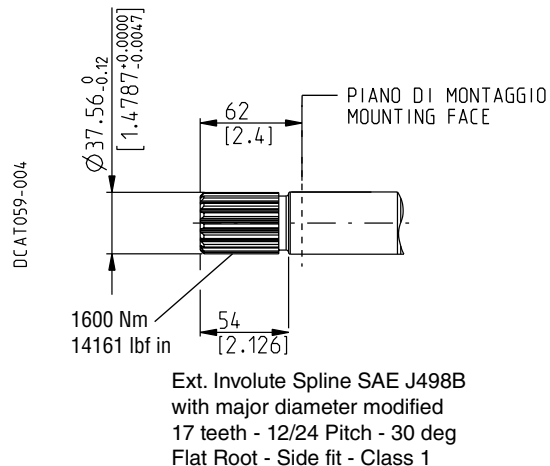
Mounting face refers to flange code **S8**



SAE "CC" SPLINE

DK

Mounting face refers to flange code **S8**



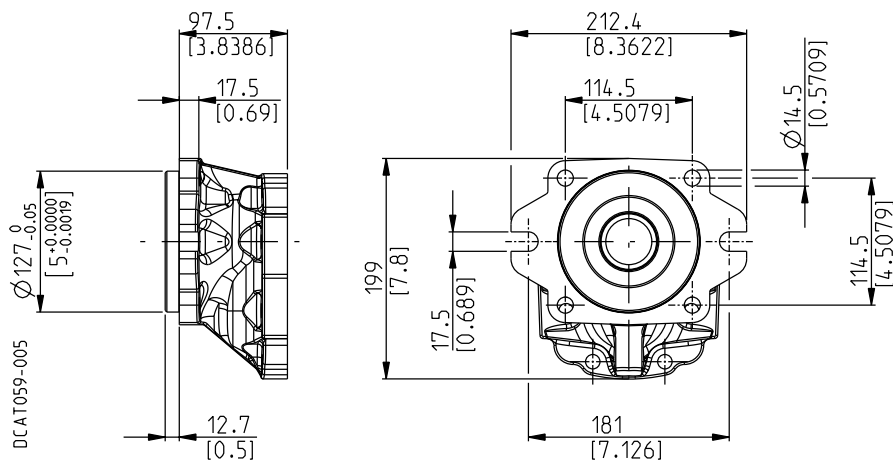
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MOUNTING FLANGE

SAE "C" 2-4 HOLES

S8

Conforms to SAE J744



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PORT TYPE

Pump type	Split SSM				Split SSS			
	IN		OUT		IN		OUT	
	Nom. size	Code	Nom. size	Code	Nom. size	Code	Nom. size	Code
KP40.100	2"	MF	1" 1/2	ME	2"	SF	1" 1/2	SE
KP40.109	2"	MF	1" 1/2	ME	2"	SF	1" 1/2	SE
KP40.121	2" 1/2	MG	1" 1/2	ME	2" 1/2	SG	1" 1/2	SE
KP40.133	2" 1/2	MG	1" 1/2	ME	2" 1/2	SG	1" 1/2	SE
KP40.151	2" 1/2	MG	1" 1/2	ME	2" 1/2	SG	1" 1/2	SE
KP40.160	3"	MPA	1" 1/2	ME	3"	SP	1" 1/2	SE
KP40.180	3"	MPA	1" 1/2	ME	3"	SP	1" 1/2	SE

Available with different outlet ports. On request outlet port is also available in rear position.
 For more information please consult our technical sales department.

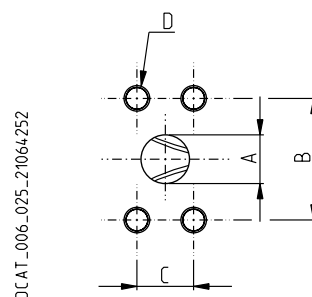
PORT SIZE



Tightening torque for low pressure side port



Tightening torque for high pressure side port [values obtained at 5075 psi (350 bar)]



SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	Nominal size	A	B	C	D		
		mm (inch)	mm (inch)	mm (inch)	Thread Depth mm (inch)	Nm (lbf in)	Nm (lbf in)
ME	1" 1/2	39,3 (1.5472)	69,8 (2.7480)	35,7 (1.4055)	M 12 27 (1.0630)	—	60 ⁺⁵ (531 ÷ 575)
MF	2"	51 (2.0079)	77,8 (3.0630)	42,9 (1.6890)	M 12 27 (1.0630)	30 ^{+2,5} (266 ÷ 288)	—
MG	2" 1/2	65 (2.5591)	88,9 (3.5000)	50,8 (2.0000)	M 12 27 (1.0630)	30 ^{+2,5} (266 ÷ 288)	—
MPA	3"	76,2 (3.000)	106,4 (4.1890)	61,9 (2.4370)	M 16 30 (1.1811)	30 ^{+2,5} (266 ÷ 288)	—

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

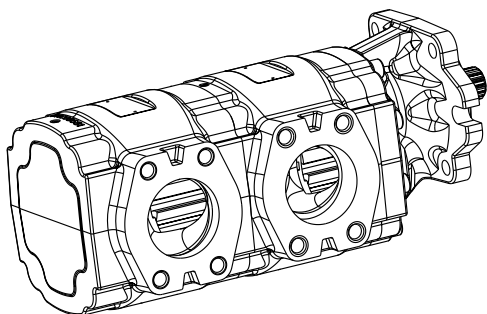
SSS

American straight thread UNC-UNF 60° conforms to ANSI B 1.1

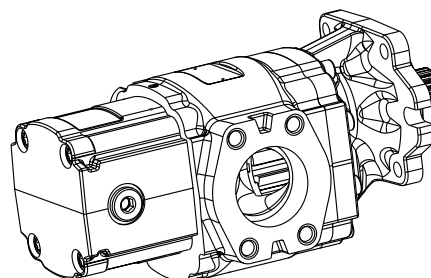
CODE	Nominal size	A	B	C	D		
		mm (inch)	mm (inch)	mm (inch)	Thread Depth mm (inch)	Nm (lbf in)	Nm (lbf in)
SE	1" 1/2	39,3 (1.5472)	69,8 (2.7480)	35,7 (1.4055)	1/2-13 UNC-2B 27 (1.0630)	—	70 ⁺⁵ (620 ÷ 664)
SF	2"	51 (2.0079)	77,8 (3.0630)	42,9 (1.6890)	1/2-13 UNC-2B 27 (1.0630)	30 ^{+2,5} (266 ÷ 288)	—
SG	2" 1/2	65 (2.5591)	88,9 (3.5000)	50,8 (2.0000)	1/2-13 UNC-2B 17 (0.6693)	30 ^{+2,5} (266 ÷ 288)	—
SP	3"	76,2 (3.000)	106,4 (4.1890)	61,9 (2.4370)	5/8-11 UNC-2B 30 (1.1811)	30 ^{+2,5} (266 ÷ 288)	—

DOUBLE PUMP COMBINATIONS

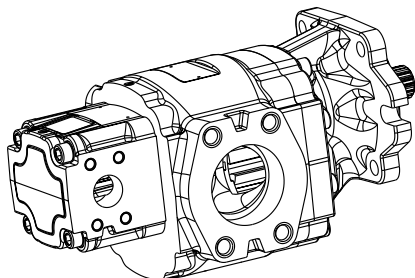
KP40/40



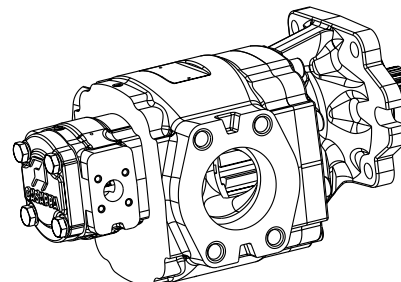
KP40/30



KP40/25



KP40/PHP20



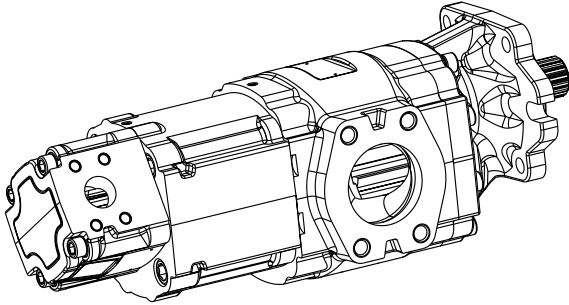
Available with both separate or common inlet.
For more information please consult our technical sales department.

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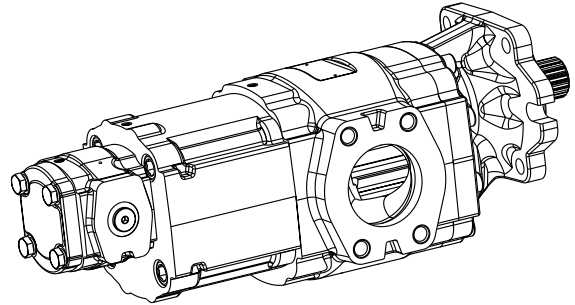
MULTIPLE PUMP COMBINATIONS

Many combinations of different frame sizes can be done for triple pumps.
Examples:

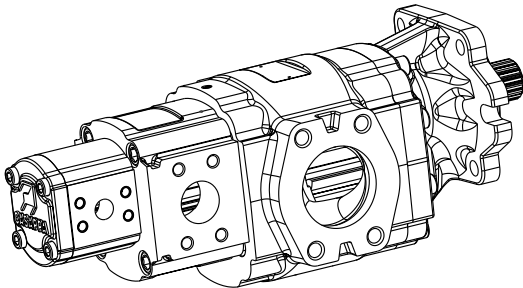
KP40/35/25



KP40/35/PHP20



KP40/35/PLP20

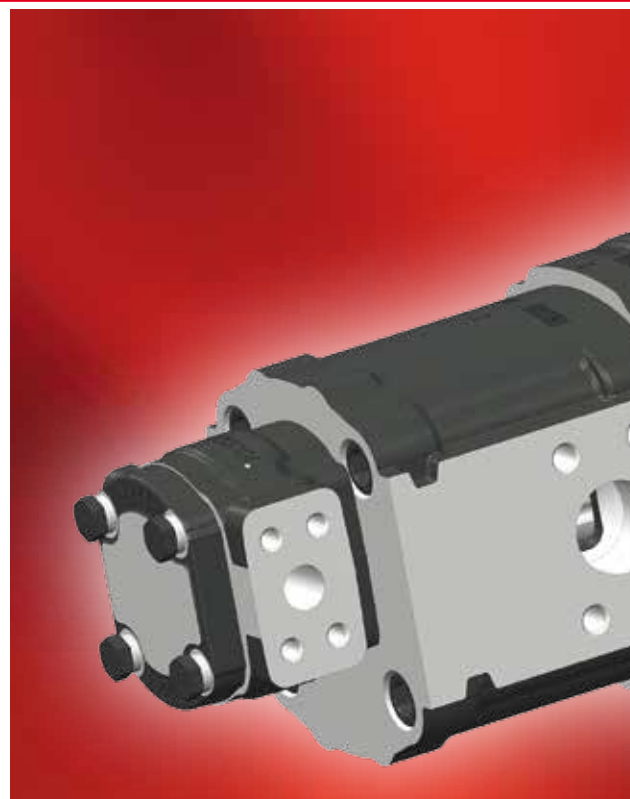


Available with both separate or common inlet.
For more information please consult our technical sales department.

Our policy is one of continuous improvement in product. Specification of items may, therefore, be changed without notice.

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