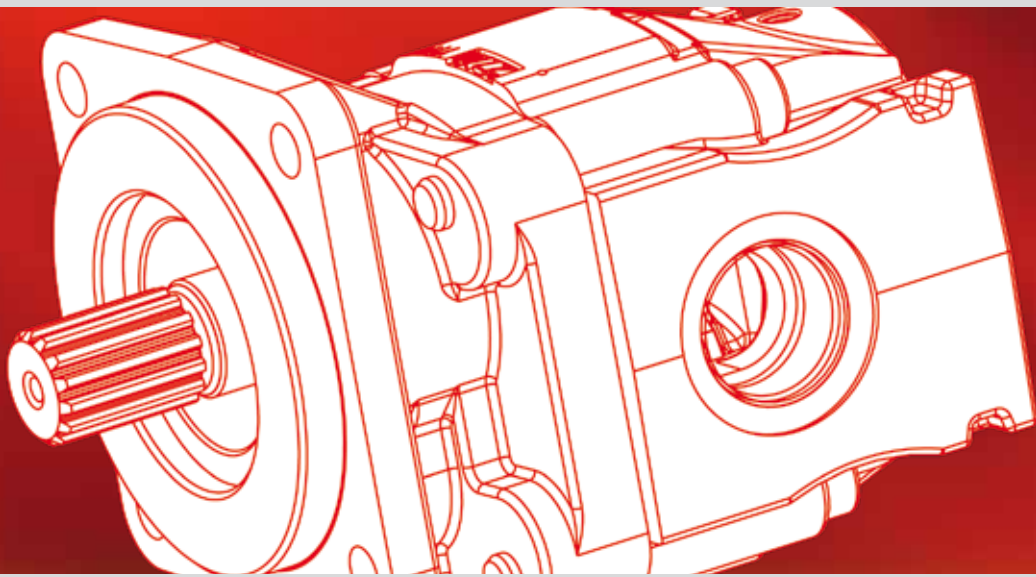




CHS

HYDRAULIC GEAR
PUMPS AND
MOTORS

INDEX

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**Modification from former edition.**

04/10.2020

FEATURES

From the KAPPA series, we now introduce the KAPPA “Compact” line. The main feature of this new line is a solid compact 2-piece construction. The new Kappa “Compact” line allows you to include many functions in a reduced space. The new KAPPA “Compact” line is a direct result of feedback received from Casappa customers. This feedback has given Casappa the opportunity to understand the needs of our customers and implement the hydraulic knowledge gained into new and improved products.

The “Compact” line provides exceptional quality and reliability thanks to tri-dimensional modeling, virtual simulation of the pump’s behavior in the hydraulic system and testing on the machines.

The reduced dimensions as well as a large variety of drive shafts, mounting flanges and ports ensure great flexibility in the “Compact” line.

DISPLACEMENTS

From 19,63 cm³/rev
To 81,68 cm³/rev)

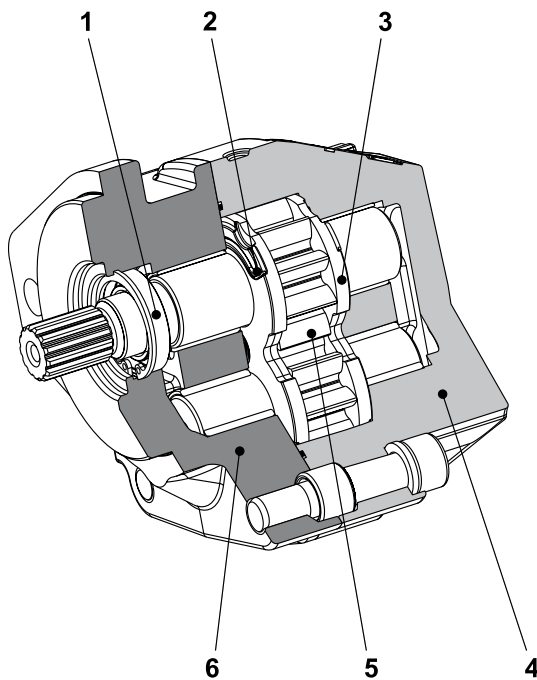
PRESSURE

Relief valve setting 300 bar
Relief valve max. peak pressure 320 bar

MAX. SPEED

Max. 3000 min⁻¹

- High operating pressures.
- Low noise emission.
- Available with built-in valves.
- Exceptional working life expectancy.



1	Shaft seal
2	Seal
3	Thrust plate
4	Body
5	Gear
6	Mounting flange

01/11.2012

FEATURES

Construction	External gear type pumps and motors
Mounting	SAE - standard flanges
Line connections	Screw and flange
Direction of rotation (looking at the drive shaft)	Anti-clock (S) - clockwise (D) - reversible external drain (R)
Inlet pressure range for pumps	0,7 ÷ 3 bar (abs.) If p > 1,5 bar abs. specific shaft sealing have to be applied. Please consult our technical sales department.
Max back pressure for single rotation motors	5 bar (continuous) @ min. speed (350 min ⁻¹) 1 bar (continuous) @ max. speed (see page 6)
Max drain line pressure on reversible rotation motors	5 bar (continuous) @ min. speed (350 min ⁻¹) 1 bar (continuous) @ max. speed (see page 6)
Max back pressure on the series motors	150 bar
Fluid temperature range	See table (1)
Fluid	Mineral oil based hydraulic fluids to ISO/DIN and fire resistant fluids [see table (1)]. For other fluids please consult our technical sales department.
Viscosity range	From 12 to 100 mm ² /s (cSt) recommended Up to 750 mm ² /s (cSt) permitted
Filtering requirement	See table (2)

Tab. 1

Type	Fluid composition	Max pressure bar	Max speed min ⁻¹	Temperature °C			Seals (◆)
				Min	Max continuous	Max peak	
ISO/DIN	Mineral oil based hydraulic fluid to ISO/DIN	See page 6	See page 6	-25	80	100	N
				-25	110	125	T-PV
HFA	Oil emulsion in water 5 ÷ 15% of oil	50	1500	2	55		N
HFB	Water emulsion in oil 40 % of water	120	1500	2	60		N

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

For Water-glycol fluid HFD or Phosphate ester fluid HFC please consult our technical sales department.

Tab. 2

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



03/09.2016

General Notes

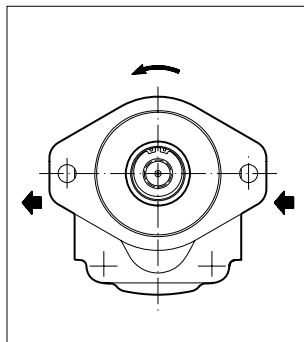
Available with different inlet and outlet ports.

If you use fire resistant fluids, specify the fluid type when ordering.

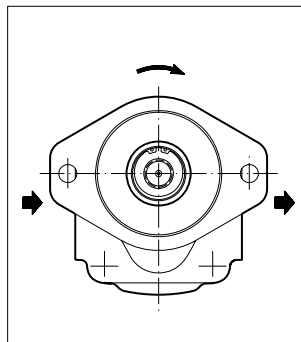
For more information please consult our technical sales department.

FEATURES

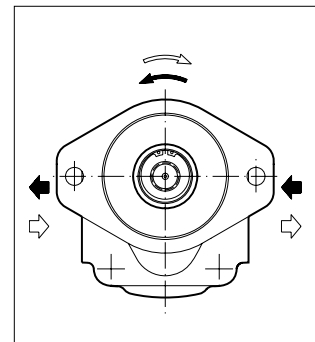
DEFINITION OF ROTATION DIRECTION LOOKING AT THE DRIVE SHAFT



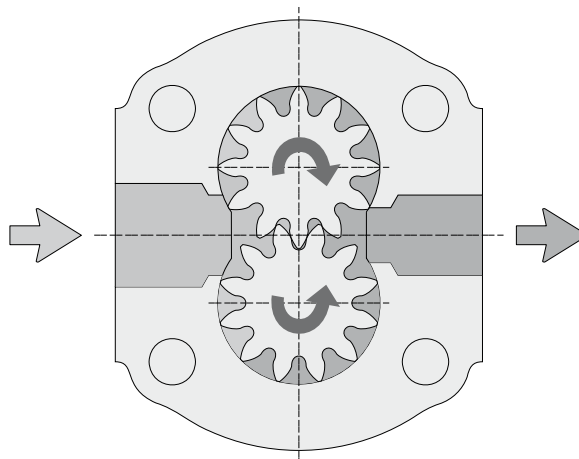
Anti-clock rotation



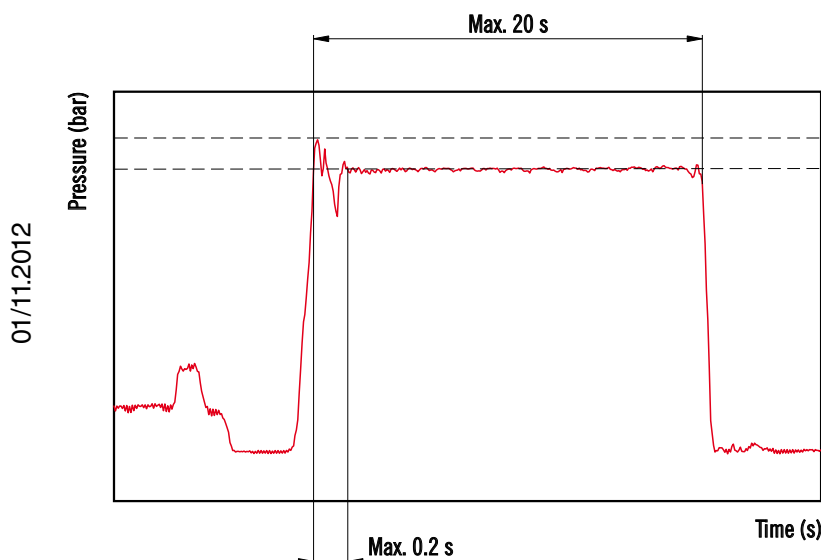
Clockwise rotation



Reversible rotation



PRESSURE DEFINITION



p_3 Relief valve max. peak pressure
 p_2 Relief valve setting

To ensure proper operation, both p_2 and p_3 pressures must be kept within the limits stated on page 6.
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.

For high frequency applications please consult our technical sales department.

GENERAL DATA

Pump type Motor type	Displacement cm ³ /rev	Body design	Performance	Max. pressure		Max. speed min ⁻¹	Min. speed min ⁻¹
				p ₂	p ₃		
				bar	bar		
K. 30•19,5	19,63	HSC	Standard	280	300	3000	350
		KSL / HSC	High performance	300	320		
K. 30•22	21,99	HSC	Standard	280	300	3000	350
		KSL / HSC	High performance	300	320		
K. 30•24	24,03	HSC	Standard	260	280	3000	350
		KSL / HSC	High performance	300	320		
K. 30•27	26,7	HSC	Standard	260	280	3000	350
		KSL / HSC	High performance	300	320		
K. 30•29	29,06	HSC	Standard	260	280	3000	350
		KSL / HSC	High performance	300	320		
K. 30•31	30,63	HSC	Standard	240	260	3000	350
		KSL / HSC	High performance	300	320		
K. 30•34	34,56	HSC	Standard	230	250	3000	350
		KSL / HSC	High performance	300	320		
K. 30•38	39,27	HSC	Standard	230	250	3000	350
		KSL / HSC	High performance	300	320		
K. 30•41	41,62	CSC	Standard	270	290	3000	350
		KSL / HSC	High performance	300	320		
K. 30•43	43,98	CSC	Standard	250	270	3000	350
		KSL / HSC	High performance	300	320		
K. 30•46	46,34	CSC	Standard	230	250	3000	350
		KSL / HSC	High performance	300	320		
K. 30•51	51,83	CSC	Standard	230	250	2500	350
		KSL / HSC	High performance	290	310		
K. 30•56	56,54	CSC	Standard	210	230	2500	350
		KSL / HSC	High performance	280	300		
K. 30•61	61,26	KSL / HSC	High performance	260	280	2500	350
K. 30•73	73,82	KSL / HSC	High performance	250	270	2500	350
K. 30•82	81,68	KSL / HSC	High performance	230	250	2800	350

Replaces: 03/10.2016

04/10.2020

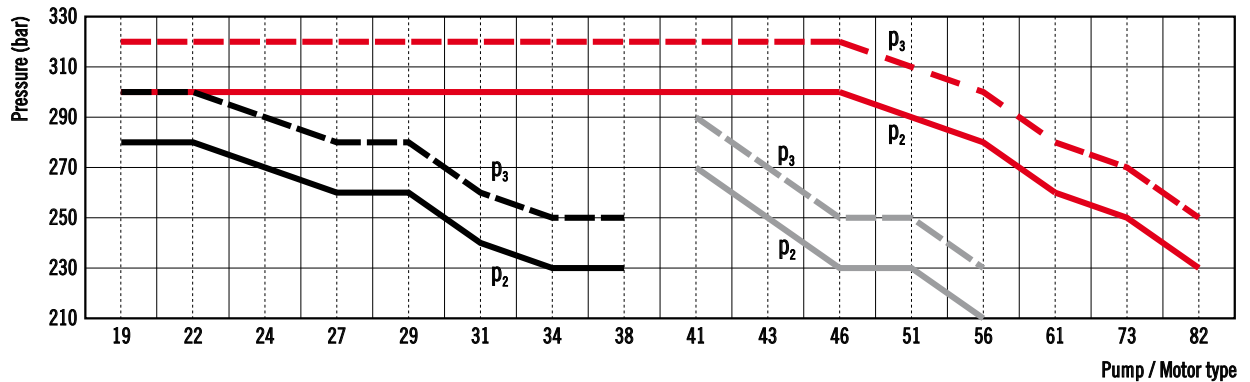
p₂= Relief valve setting

p₃= Relief valve max. peak pressure

The values in the table refer to unidirectional pumps and motors.
 Reversible pumps and motors max pressures are 15% lower than those shown in table.
 For different working conditions please consult our technical sales department.

GENERAL DATA

PUMP / MOTOR TYPE CHOICE



Body design: KSL/HSC
Performance: High performance

Body design: HSC
Performance: Standard

Body design: CSC
Performance: Standard

Q	l/min	Flow
M	Nm	Torque
P	kW	Power
V	cm ³ /rev	Displacement
n	min ⁻¹	Speed
Δp	bar	Pressure

Efficiencies

		Pump	Motor
$\eta_v = \eta_v (V, \Delta p, n)$	Volumetric efficiency	(≈ 0,98)	(≈ 0,97)
$\eta_{hm} = \eta_{hm} (V, \Delta p, n)$	Hydro-mechanical efficiency	(≈ 0,90)	(≈ 0,88)
$\eta_t = \eta_v \cdot \eta_{hm}$	Overall efficiency	(≈ 0,88)	(≈ 0,85)

Design calculations for pump

$$Q = Q_{theor.} \cdot \eta_v \quad [l/min]$$

$$Q_{theor.} = \frac{V \cdot n}{1000} \quad [l/min]$$

$$M = \frac{M_{theor.}}{\eta_{hm}} \quad [Nm]$$

$$M_{theor.} = \frac{\Delta p \cdot V}{62,83} \quad [Nm]$$

$$P_{IN} = \frac{P_{OUT}}{\eta_t} \quad [kW]$$

$$P_{OUT} = \frac{\Delta p \cdot Q}{600} \quad [kW]$$

Design calculations for motor

$$Q = \frac{Q_{theor.}}{\eta_v} \quad [l/min]$$

$$Q_{theor.} = \frac{V \cdot n}{1000} \quad [l/min]$$

$$M = M_{theor.} \cdot \eta_{hm} \quad [Nm]$$

$$M_{theor.} = \frac{\Delta p \cdot V}{62,83} \quad [Nm]$$

$$P_{IN} = \frac{\Delta p \cdot Q}{600} \quad [kW]$$

$$P_{OUT} = P_{IN} \cdot \eta_t \quad [kW]$$

DOUBLE PUMPS

KAPPA series pumps can be coupled together in combination. In applications where the input power requirement of each section varies, the section with the greater requirement must be at the drive shaft end, and progressively smaller to the rear. Features and performances are the same as the corresponding single pumps, but pressures must be limited by the transmissible torque of the drive and connecting shafts. To have appropriate data, use the formula above. The maximum rotational speed is that of the lowest rated speed of the single units incorporated.

Note: The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages. The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

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

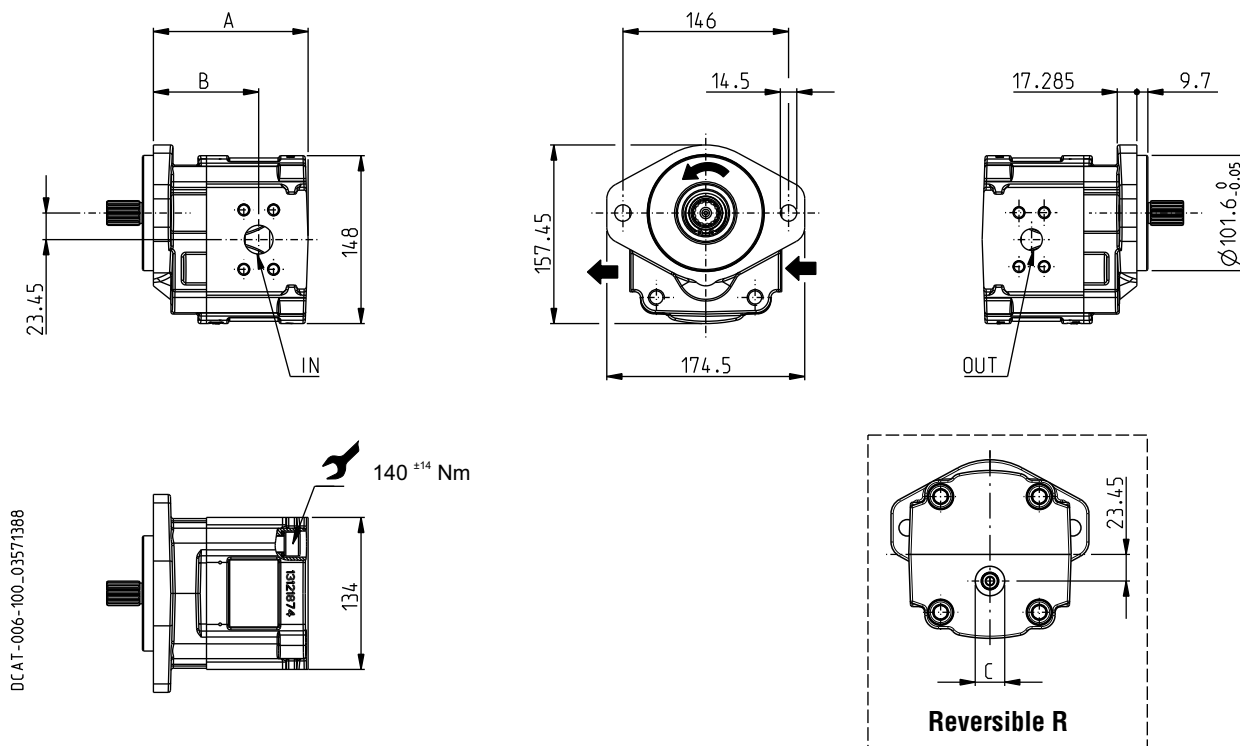
KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

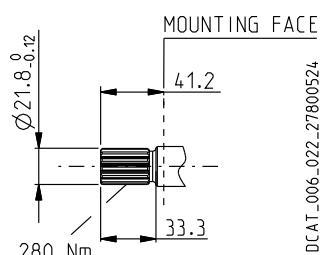
Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **SSM**
SAE FLANGED PORTS J518



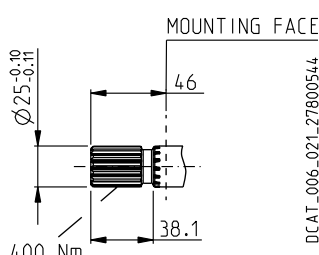
Drive shaft availability

A8 (SAE "B" Spline)



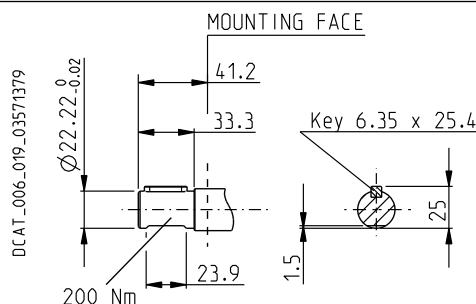
Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

A5 (SAE "BB" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

32 (SAE "B" Straight)



Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C	
					Gear pumps		Gear motors		Drain port (◆)	
					IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	141,8	97,3	MD	MC	MC	MD	GC	OA
KP 30•43	KM 30•43	43,98	143,3	98,8	MD	MC	MC	MD	GC	OA
KP 30•46	KM 30•46	46,34	144,8	100,3	MD	MC	MC	MD	GC	OA
KP 30•51	KM 30•51	51,83	148,3	103,8	MD	MC	MC	MD	GC	OA
KP 30•56	KM 30•56	56,54	151,3	106,8	ME	MD	MD	ME	GC	OA

(◆) Dimension on page 11 and 13

KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

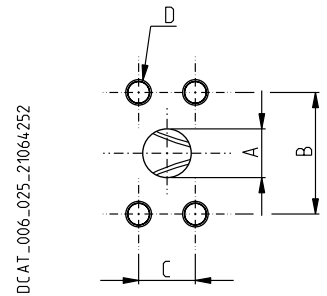
CSC

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵



DCAT_006_025_21064.252



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5 6
 0 - K9 - L .. / .. - - - CSC (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30-41 R0-A8 K9-L MD/MC-T-PV-OA-CSC (ANF3) (CN) (VNR01)

01/11.2012

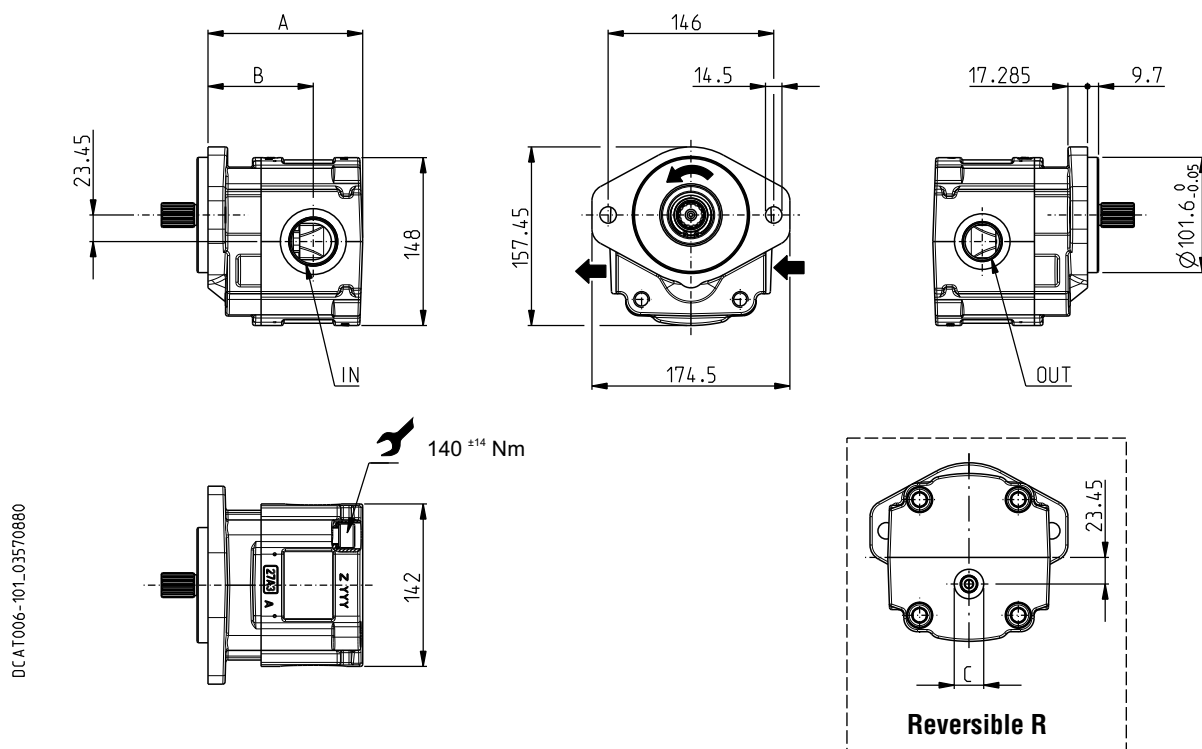
KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514

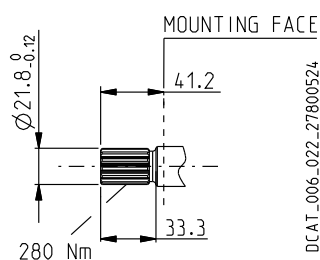


Drive shaft availability

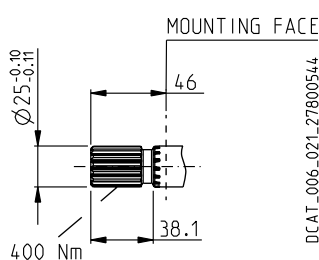
A8 (SAE "B" Spline)

A5 (SAE "BB" Spline)

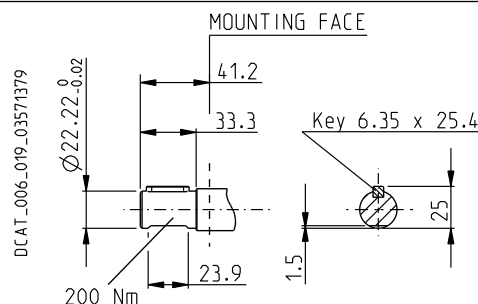
32 (SAE "B" Straight)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports cod				C	
					Gear pumps		Gear motors		Drain port (◆)	
					IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	141,8	97,3	OG	OF	OF	OG	GC	OA
KP 30•43	KM 30•43	43,98	143,3	98,8	OG	OF	OF	OG	GC	OA
KP 30•46	KM 30•46	46,34	144,8	100,3	OG	OF	OF	OG	GC	OA
KP 30•51	KM 30•51	51,83	148,3	103,8	OG	OF	OF	OG	GC	OA
KP 30•56	KM 30•56	56,54	151,3	106,8	OG	OF	OF	OG	GC	OA

(◆) Dimension on page 11 and 13

01/11.2012

KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

SAE STRAIGHT THREAD PORTS J514

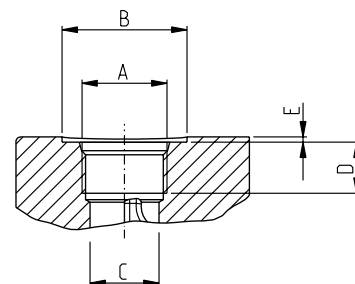
ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm		
OA (◆)	3/8"	9/16" - 12 UNF - 2B	26	13	15	2	15 ⁺¹	—
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

(◆) = Drain port

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Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5 6
 0 - K9 - L .. / .. - - - CSC (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30-41 R0-A8 K9-L OG/OF-T-PV-OA-CSC (ANF3) (CN) (VNR01)

01/11.2012

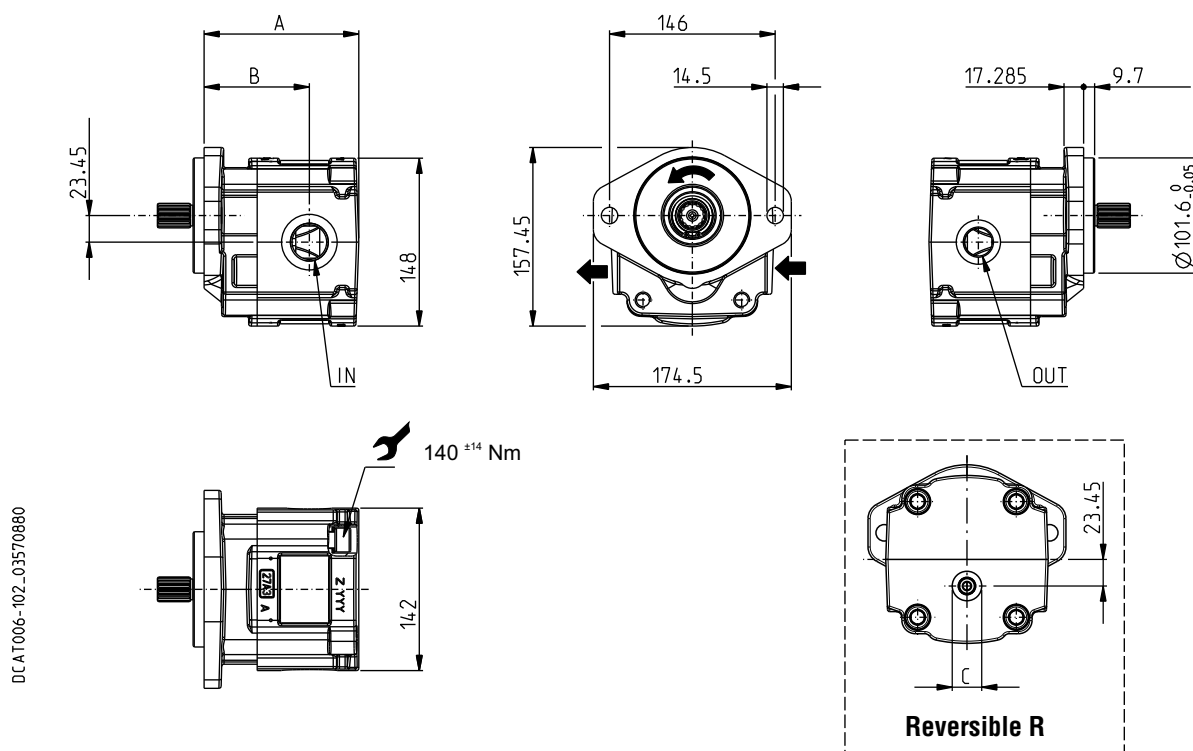
KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS

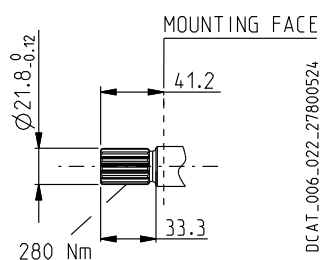


Drive shaft availability

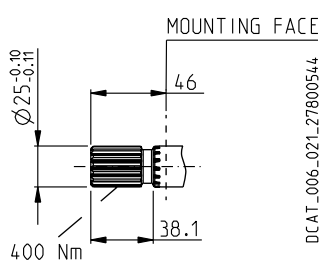
A8 (SAE "B" Spline)

A5 (SAE "BB" Spline)

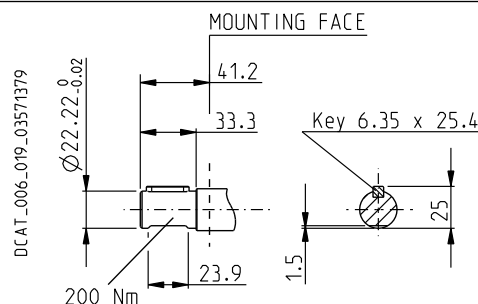
32 (SAE "B" Straight)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C	
					Gear pumps		Gear motors		Drain port (◆)	
					IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	141,8	97,3	GG	GF	GF	GG	GC	OA
KP 30•43	KM 30•43	43,98	143,3	98,8	GG	GF	GF	GG	GC	OA
KP 30•46	KM 30•46	46,34	144,8	100,3	GG	GF	GF	GG	GC	OA
KP 30•51	KM 30•51	51,83	148,3	103,8	GG	GF	GF	GG	GC	OA
KP 30•56	KM 30•56	56,54	151,3	106,8	GG	GF	GF	GG	GC	OA

(◆) Dimension on page 11 and 13

KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GC (◆)	3/8"	G 3/8	25	15	14	2	15 ⁺¹	—
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(◆) Drain port



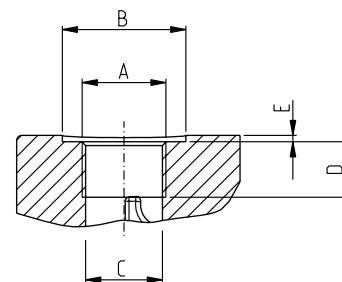
Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

DCAT_006_026_21064779



How to order

1 2 3 4 5 6
 0 - K9 - L .. / .. - - - CSC (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30-41 R0-A8 K9-L GG/GF-T-PV-GC-CSC (ANF3) (CN) (VNR01)

01/11.2012

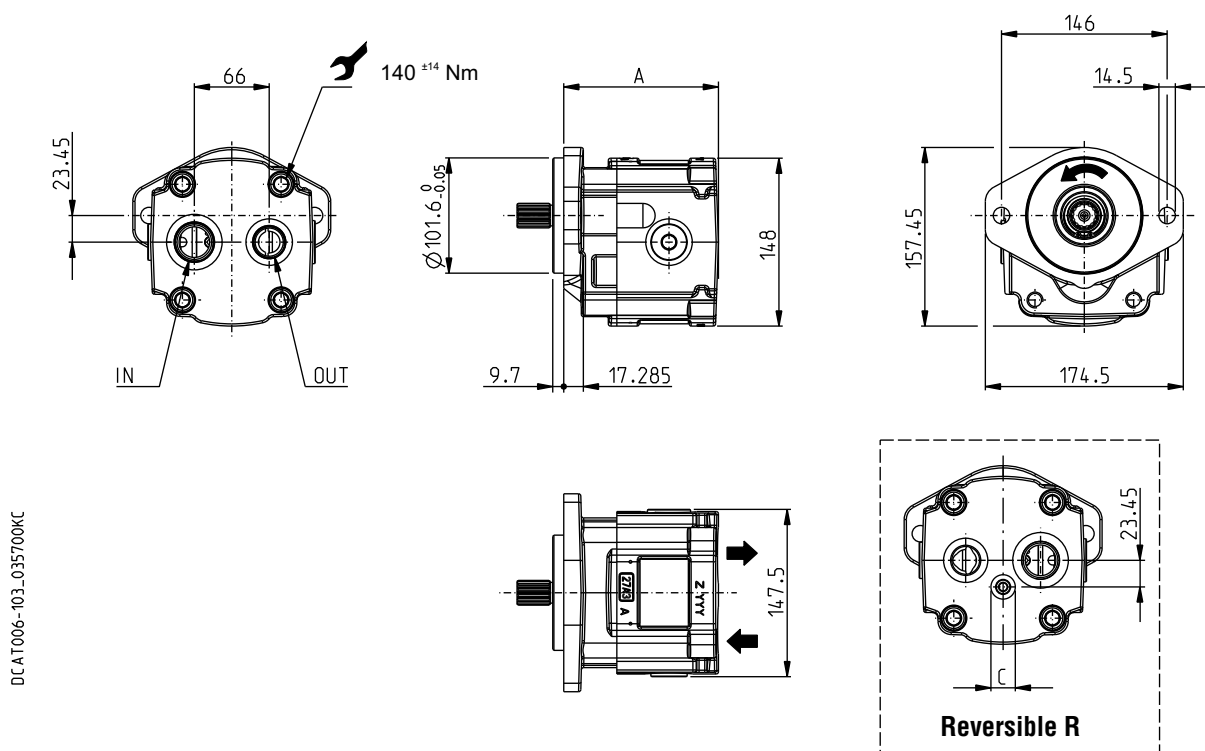
KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514

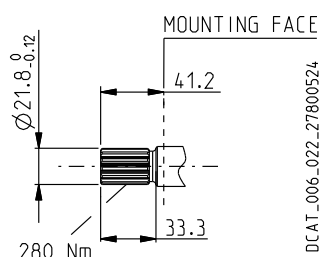


Drive shaft availability

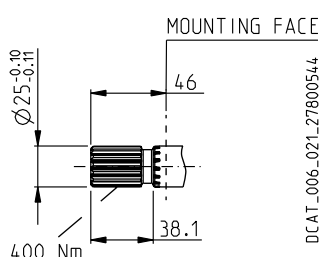
A8 (SAE "B" Spline)

A5 (SAE "BB" Spline)

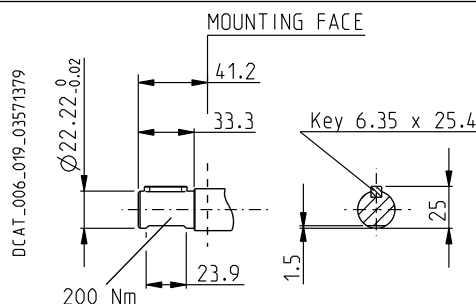
32 (SAE "B" Straight)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code				C Drain port (◆)	
				Gear pumps		Gear motors			
				IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	139,8	OG	OF	OF	OG	GC	OA
KP 30•43	KM 30•43	43,98	141,3	OG	OF	OF	OG	GC	OA
KP 30•46	KM 30•46	46,34	142,8	OG	OF	OF	OG	GC	OA
KP 30•51	KM 30•51	51,83	146,3	OG	OF	OF	OG	GC	OA
KP 30•56	KM 30•56	56,54	149,3	OG	OF	OF	OG	GC	OA

(◆) Dimension on page 15 and 17

KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

SAE STRAIGHT THREAD PORTS J514

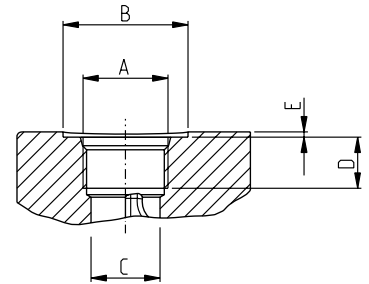
ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm		
OA (◆)	3/8"	9/16" - 12 UNF - 2B	26	13	15	2	15 ⁺¹	—
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

(◆) = Drain port

DCAT_006_027_21060524



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5 6
 0 - **K9 - P** **.. / ..** - - - **CSC (ANF3) (CN) (VNR01)**

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•41 R0-A8 K9-P OG/OF-T-PV-OA-CSC (ANF3) (CN) (VNR01)

01/11.2012

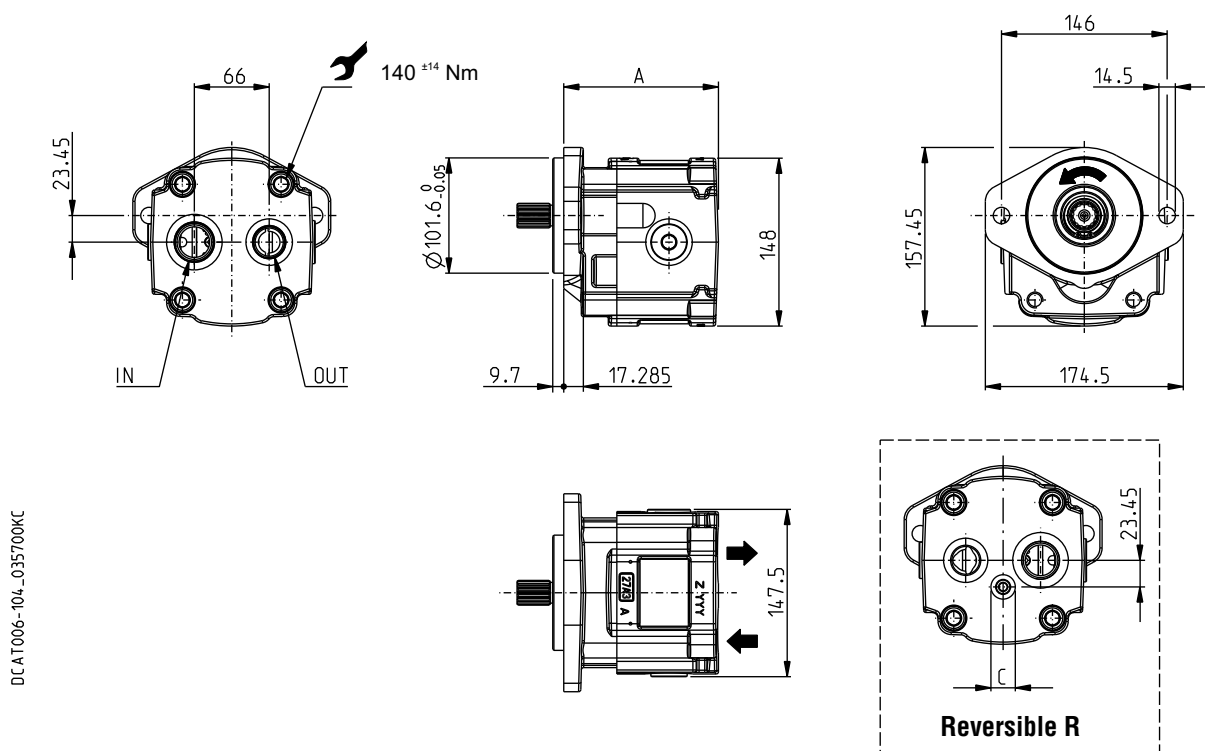
KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS

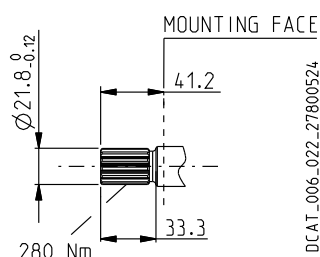


Drive shaft availability

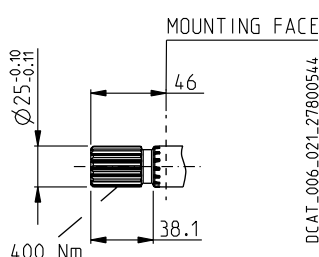
A8 (SAE "B" Spline)

A5 (SAE "BB" Spline)

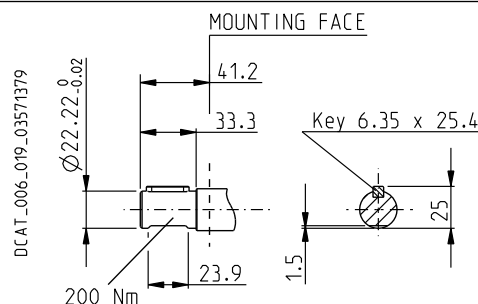
32 (SAE "B" Straight)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm³/rev	A mm	Ports code				C Drain port (◆)	
				Gear pumps		Gear motors		Gas BSPP	SAE ODT
				IN	OUT	IN	OUT		
KP 30•41	KM 30•41	41,62	139,8	GG	GF	GF	GG	GC	OA
KP 30•43	KM 30•43	43,98	141,3	GG	GF	GF	GG	GC	OA
KP 30•46	KM 30•46	46,34	142,8	GG	GF	GF	GG	GC	OA
KP 30•51	KM 30•51	51,83	146,3	GG	GF	GF	GG	GC	OA
KP 30•56	KM 30•56	56,54	149,3	GG	GF	GF	GG	GC	OA

(◆) Dimension on page 15 and 17

KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

GAS STRAIGHT THREAD PORTS

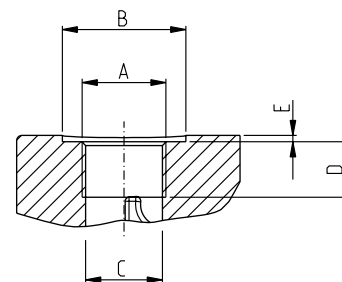
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E	Nm	Nm
			mm	mm	mm	mm		
GC (◆)	3/8"	G 3/8	25	15	14	2	15 ⁺¹	—
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(◆) Drain port

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Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5 6
 0 - **K9 - P** **.. / ..** - - - **CSC (ANF3) (CN) (VNR01)**

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30-41 R0-A8 K9-P GG/GF-T-PV-GC-CSC (ANF3) (CN) (VNR01)

01/11.2012

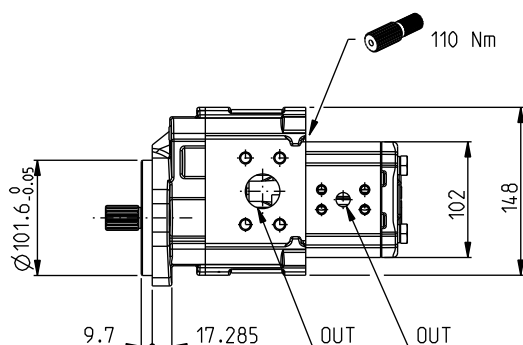
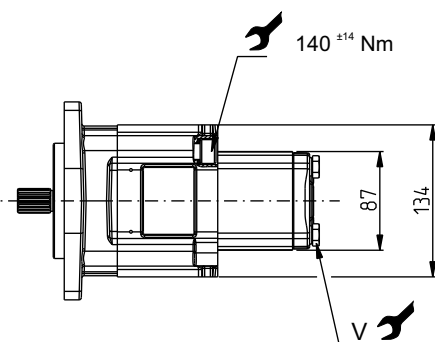
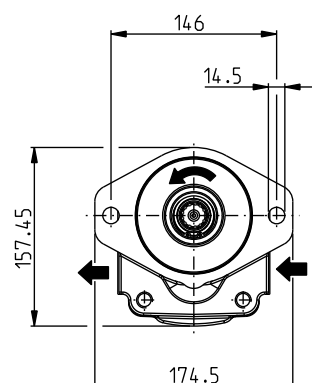
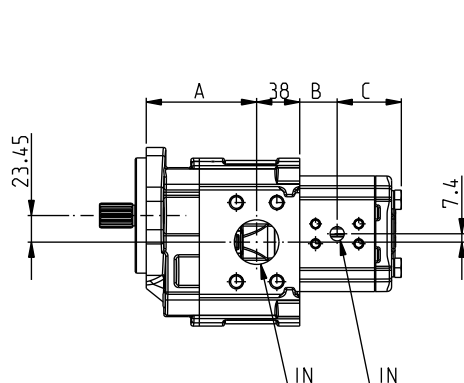
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability (See page 8)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)

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Pump type	Displacement cm³/rev	A mm	Ports code	
			IN	OUT
KP 30•41	41,62	97,3	MD	MC
KP 30•43	43,98	98,8	MD	MC
KP 30•46	46,34	100,3	MD	MC
KP 30•51	51,83	103,8	MD	MC
KP 30•56	56,54	106,8	ME	MD

Pump type	Displacement cm³/rev	B mm	C mm	Ports code	
				IN	OUT
PLP 20•4	4,95	25,8	49,3	MA	MA
PLP 20•6,3	6,61	27	50,5	MA	MA
PLP 20•8	8,26	28,3	51,8	MA	MA
PLP 20•10,5	10,9	30,3	53,8	MA	MA
PLP 20•11,2	11,23	30,5	54	MA	MA
PLP 20•14	14,53	33	56,5	MB	MA
PLP 20•16	16,85	34,8	58,3	MB	MA
PLP 20•20	21,14	38	61,5	MB	MA

Polaris 20: for features please consult the proper technical catalog.

01/11.2012

KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

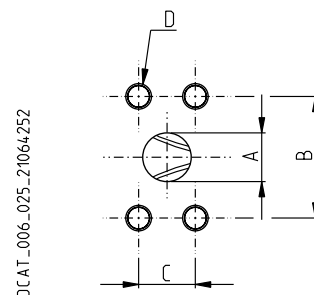
CSC

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MA	12,5	17,5	38,1	M 8 Depth 14	15 ⁺¹	15 ⁺¹
MB	19	22,2	47,6	M 10 Depth 14	20 ⁺¹	20 ⁺¹
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵



DCAT_006_025_21064252



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

How to order

1 2 3
 - **K9 - L** - **45 - CSC /**
 Front pump

1 3 4 5 6 7 8
 - **L** - - / **FS -** - **(ANF3) (CN) (VNR01)**
 Rear pump

1	Type	Code
Front pump type		KP 30-...
Rear pump type		PLP 20-...

2	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

3	Ports IN/OUT (a)	Code
See codes on previous page		../..

4	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

Code	Rotation	5
S	Left	
D	Right	

Code	Seals (b)	6
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Rear cover	7
...	Cast iron (standard) - no code	
L	Aluminium	

Code	Rear pump thrust plate	8
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•41-A8 K9-L MD/MC-45-CSC/PLP 20•16-L /MA-N7 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

01/11.2012

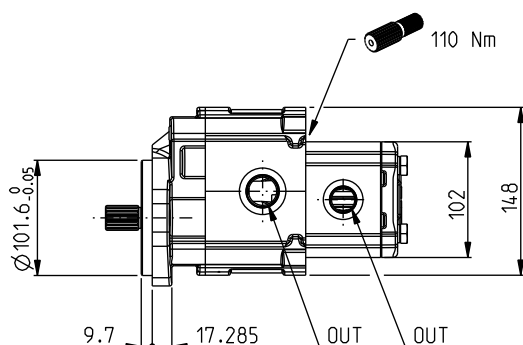
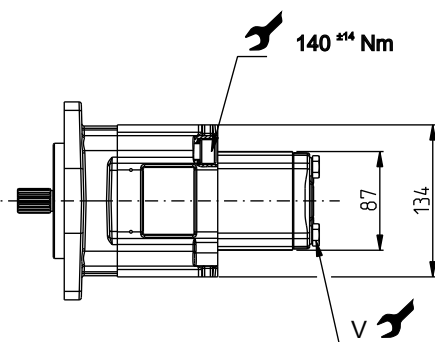
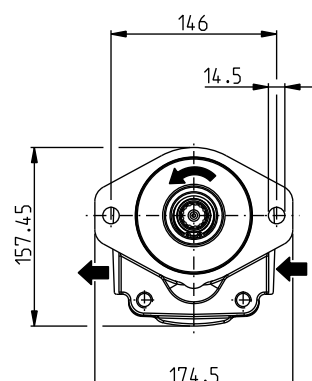
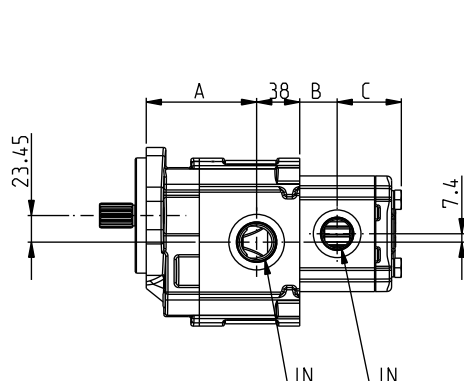
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability (See page 8)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 $\pm$ 4,5 (358 ÷ 438)
Cast iron	70 $\pm$ 7 (558 ÷ 682)

Pump type	Displacement cm ³ /rev	A mm	Ports code	
			IN	OUT
KP 30•41	41,62	97,3	OG	OF
KP 30•43	43,98	98,8	OG	OF
KP 30•46	46,34	100,3	OG	OF
KP 30•51	51,83	103,8	OG	OF
KP 30•56	56,54	106,8	OG	OF

Pump type	Displacement cm ³ /rev	B mm	C mm	Ports code	
				IN	OUT
PLP 20•4	4,95	25,8	49,3	OC	OC
PLP 20•6,3	6,61	27	50,5	OC	OC
PLP 20•8	8,26	28,3	51,8	OC	OC
PLP 20•10,5	10,9	30,3	53,8	OC	OC
PLP 20•11,2	11,23	30,5	54	OC	OC
PLP 20•14	14,53	33	56,5	OD	OC
PLP 20•16	16,85	34,8	58,3	OD	OC
PLP 20•20	21,14	38	61,5	OD	OC

Polaris 20: for features please consult the proper technical catalog.

KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

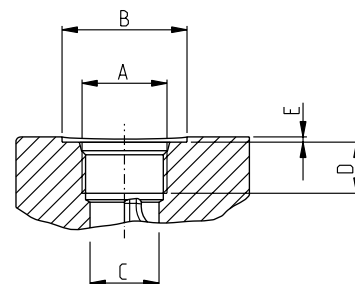
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
OC	5/8"	7/8" - 14 UNF - 2B	35	20,5	17	0,5	30 ^{+2,5}	70 ⁺⁵
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	0,5	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

DCAT_006_027_21060524



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

How to order

1 2 3
 - **K9 - L** - **45 - CSC /**
Front pump

1 3 4 5 6 7 8 9
 - **L** - - - / **FS -** - **(ANF3) (CN) (VNR01)**
Rear pump

1	Type	Code
Front pump type		KP 30-...
Rear pump type		PLP 20-...

2	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

3	Ports IN/OUT (a)	Code
See codes on previous page		../..

4	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

5	Rear pump body	Code
PLP20 with standard body - no code		...
PLP20 with high strength body		L101

Code	Rotation	6
S	Left	
D	Right	

Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Rear cover	8
...	Cast iron (standard) - no code	
L	Aluminium	

Code	Rear pump thrust plate	9
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

- (a) For rear pump with common inlet, please write only /OUT code.
(b) Choose the seals according to the temperature shown on page 4.

01/11.2012

Order example

KP 30•41-A8 K9-L OG/OF-45-CSC/PLP 20•16-L /OC-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

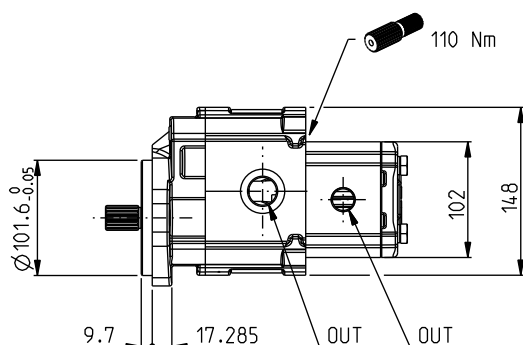
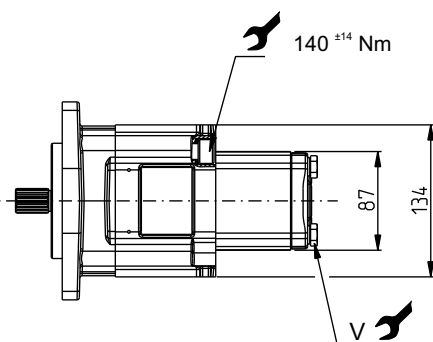
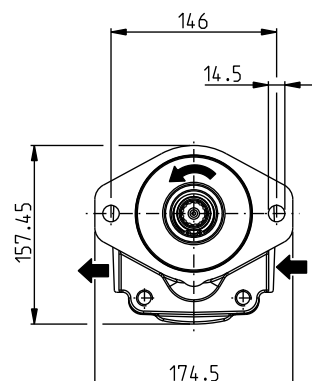
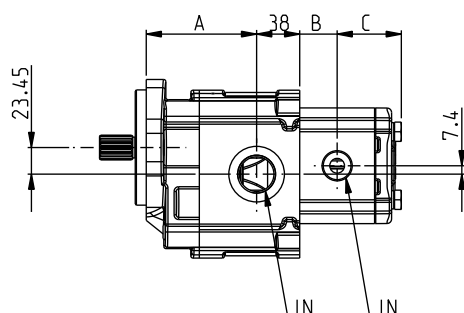
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability (See page 8)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)

Pump type	Displacement cm³/rev	A mm	Ports code	
			IN	OUT
KP 30•41	41,62	97,3	GG	GF
KP 30•43	43,98	98,8	GG	GF
KP 30•46	46,34	100,3	GG	GF
KP 30•51	51,83	103,8	GG	GF
KP 30•56	56,54	106,8	GG	GF

Pump type	Displacement cm³/rev	B mm	C mm	Ports code	
				IN	OUT
PLP 20•4	4,95	25,8	49,3	GD	GD
PLP 20•6,3	6,61	27	50,5	GD	GD
PLP 20•8	8,26	28,3	51,8	GD	GD
PLP 20•10,5	10,9	30,3	53,8	GD	GD
PLP 20•11,2	11,23	30,5	54	GD	GD
PLP 20•14	14,53	33	56,5	GE	GD
PLP 20•16	16,85	34,8	58,3	GE	GD
PLP 20•20	21,14	38	61,5	GE	GD

Polaris 20: for features please consult the proper technical catalog.

KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

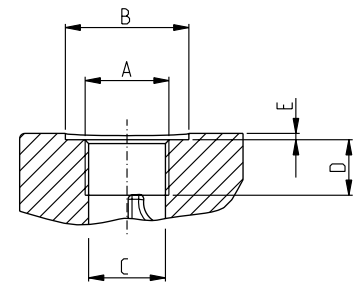
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GD	1/2"	G 1/2	—	19	17	—	20 ⁺¹	50 ^{+2,5}
GE	3/4"	G 3/4	—	24,5	18	—	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

DCAT_006_026_21064779



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

How to order

1 2 3
 - **K9 - L** - **45 - CSC /**
 Front pump

1 3 4 5 6 7 8 9
 - **L** - - **S** - / **FS** - - **(ANF3) (CN) (VNR01)**
 Rear pump

1	Type	Code
Front pump type		KP 30-...
Rear pump type		PLP 20-...
2	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32
3	Ports IN/OUT (a)	Code
See codes on previous page		../..
4	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7
5	Rear pump body	Code
PLP20 with standard body - no code		...
PLP20 with high strength body		L101

Code	Rotation	6
S	Left	
D	Right	
Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Rear cover	8
...	Cast iron (standard) - no code	
L	Aluminium	
Code	Rear pump thrust plate	9
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

- (a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•41-A8 K9-L GG/GF-45-CSC/PLP 20•16-L /GD-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

01/11.2012

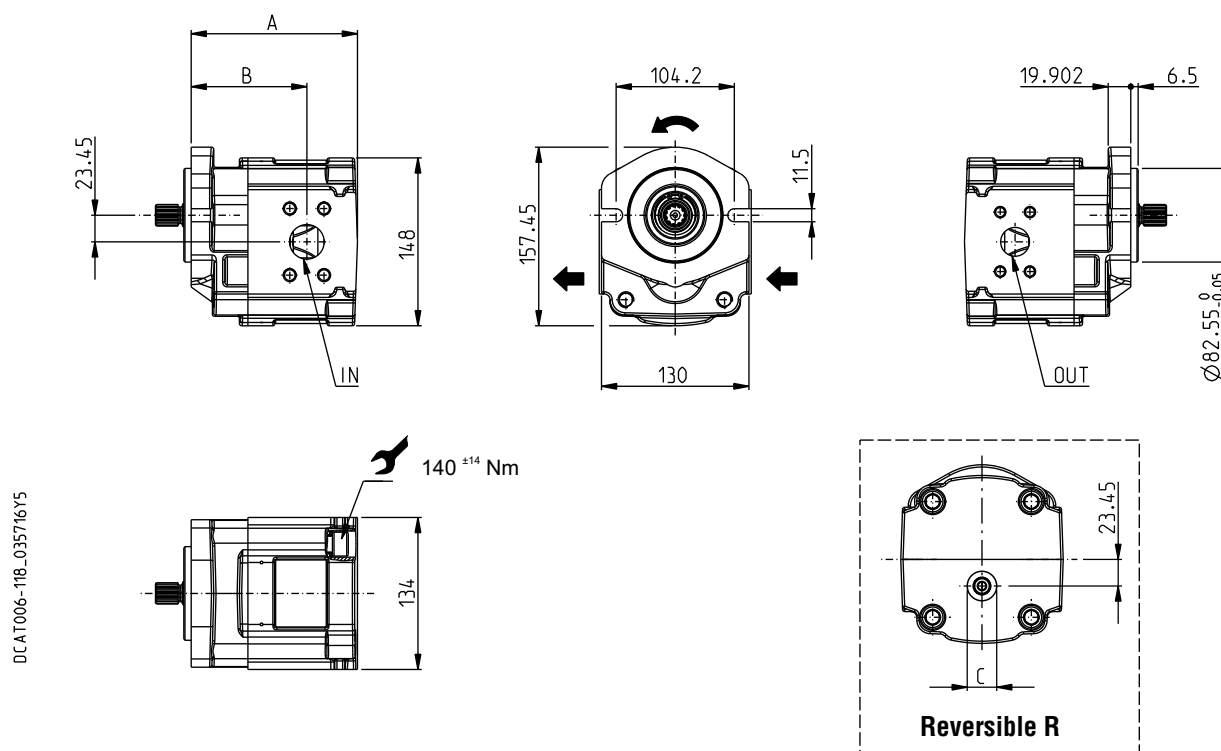
KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

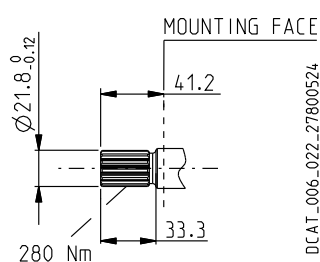
Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability

A8 (SAE "B" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
					IN	OUT	IN	OUT		
KP 30•41	KM 30•41	41,62	145	100,5	MD	MC	MC	MD	GC	OA
KP 30•43	KM 30•43	43,98	146,5	102	MD	MC	MC	MD	GC	OA
KP 30•46	KM 30•46	46,34	148	103,5	MD	MC	MC	MD	GC	OA
KP 30•51	KM 30•51	51,83	151,5	107	MD	MC	MC	MD	GC	OA
KP 30•56	KM 30•56	56,54	154,5	110	ME	MD	MD	ME	GC	OA

(◆) Dimension on page 27 and 29

01/11.2012

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SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

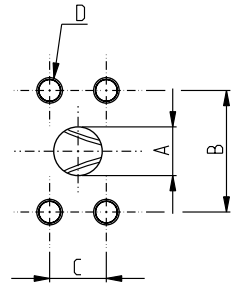
SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵

DCAT_006_025_21064.252



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5
 0 - A8 S9 - L **.. / ..** - - - **CSC (ANF3) (CN) (VNR01)**

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

2	Rotation	Code
Left		S
Right		D
Reversible		R

Code	Drain ports	5
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

3	Ports IN/OUT	Code
See codes on previous page		.. / ..

01/11.2012

Order example

KP 30•41 R0-A8 S9-L MD/MC-T-PV-OA-CSC (ANF3) (CN) (VNR01)

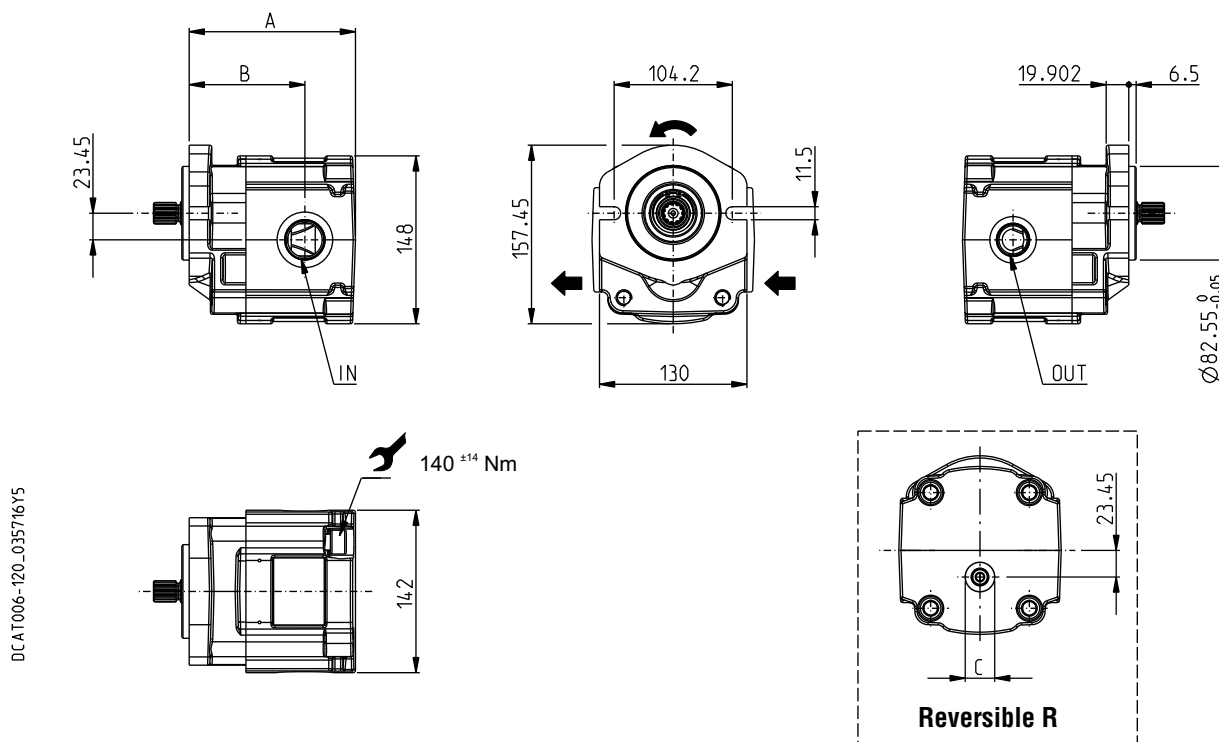
KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

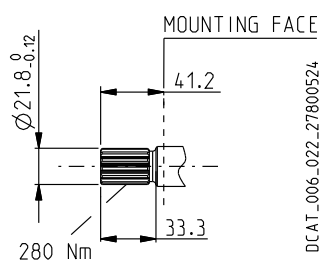
Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability

A8 (SAE "B" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C	
					Gear pumps		Gear motors		Drain port (◆)	
					IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	145	100,5	OG	OF	OF	OG	GC	OA
KP 30•43	KM 30•43	43,98	146,5	102	OG	OF	OF	OG	GC	OA
KP 30•46	KM 30•46	46,34	148	103,5	OG	OF	OF	OG	GC	OA
KP 30•51	KM 30•51	51,83	151,5	107	OG	OF	OF	OG	GC	OA
KP 30•56	KM 30•56	56,54	154,5	110	OG	OF	OF	OG	GC	OA

(◆) Dimension on page 27 and 29

01/11.2012

KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

SAE STRAIGHT THREAD PORTS J514

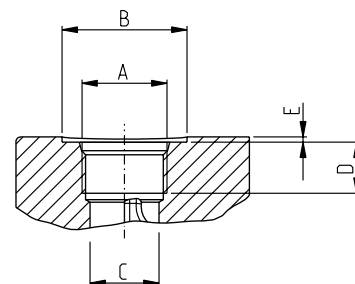
ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm		
OA (◆)	3/8"	9/16" - 12 UNF - 2B	26	13	15	2	15 ⁺¹	—
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

(◆) = Drain port

DCAT_006_027_21060524



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5
 0 - A8 S9 - L **.. / ..** - - **- CSC (ANF3) (CN) (VNR01)**

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

2	Rotation	Code
Left		S
Right		D
Reversible		R

Code	Drain ports	5
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

3	Ports IN/OUT	Code
See codes on previous page		.. / ..

01/11.2012

Order example

KP 30-41 R0-A8 S9-L OG/OF-T-PV-OA-CSC (ANF3) (CN) (VNR01)

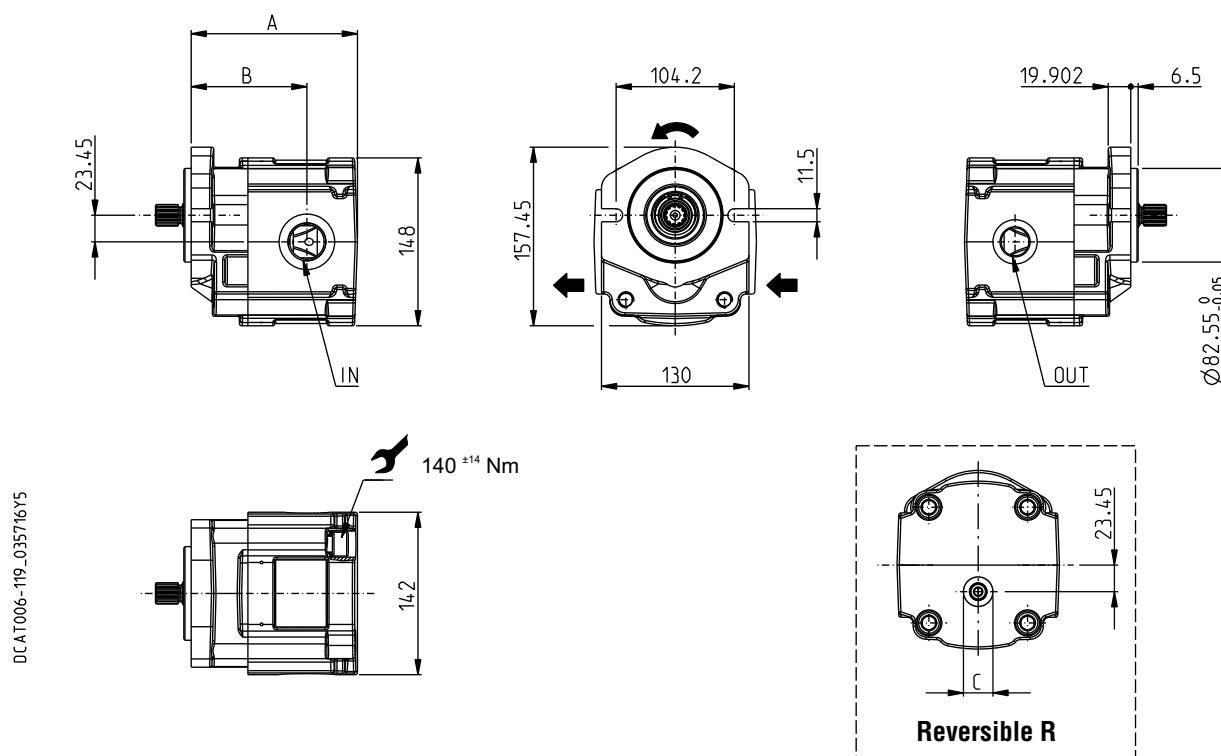
KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

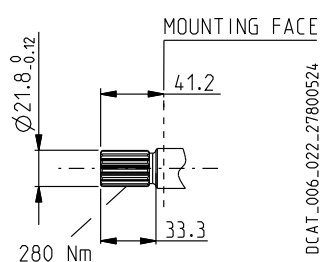
Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability

A8 (SAE "B" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C	
					Gear pumps		Gear motors		Drain port (◆)	
					IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	145	100,5	GG	GF	GF	GG	GC	OA
KP 30•43	KM 30•43	43,98	146,5	102	GG	GF	GF	GG	GC	OA
KP 30•46	KM 30•46	46,34	148	103,5	GG	GF	GF	GG	GC	OA
KP 30•51	KM 30•51	51,83	151,5	107	GG	GF	GF	GG	GC	OA
KP 30•56	KM 30•56	56,54	154,5	110	GG	GF	GF	GG	GC	OA

(◆) Dimension on page 27 and 29

01/11.2012

KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

GAS STRAIGHT THREAD PORTS

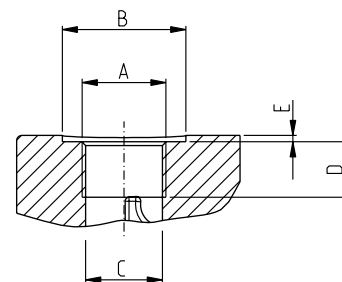
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E	Nm	Nm
			mm	mm	mm	mm		
GC (◆)	3/8"	G 3/8	25	15	14	2	15 ⁺¹	—
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(◆) Drain port

DCAT_006_026_21064779



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5
 0 - A8 S9 - L **.. / ..** - - - **CSC (ANF3) (CN) (VNR01)**

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

2	Rotation	Code
Left		S
Right		D
Reversible		R

Code	Drain ports	5
0A	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

3	Ports IN/OUT	Code
See codes on previous page		.. / ..

01/11.2012

Order example

KP 30*41 R0-A8 S9-L GG/GF-T-PV-GC-CSC (ANF3) (CN) (VNR01)

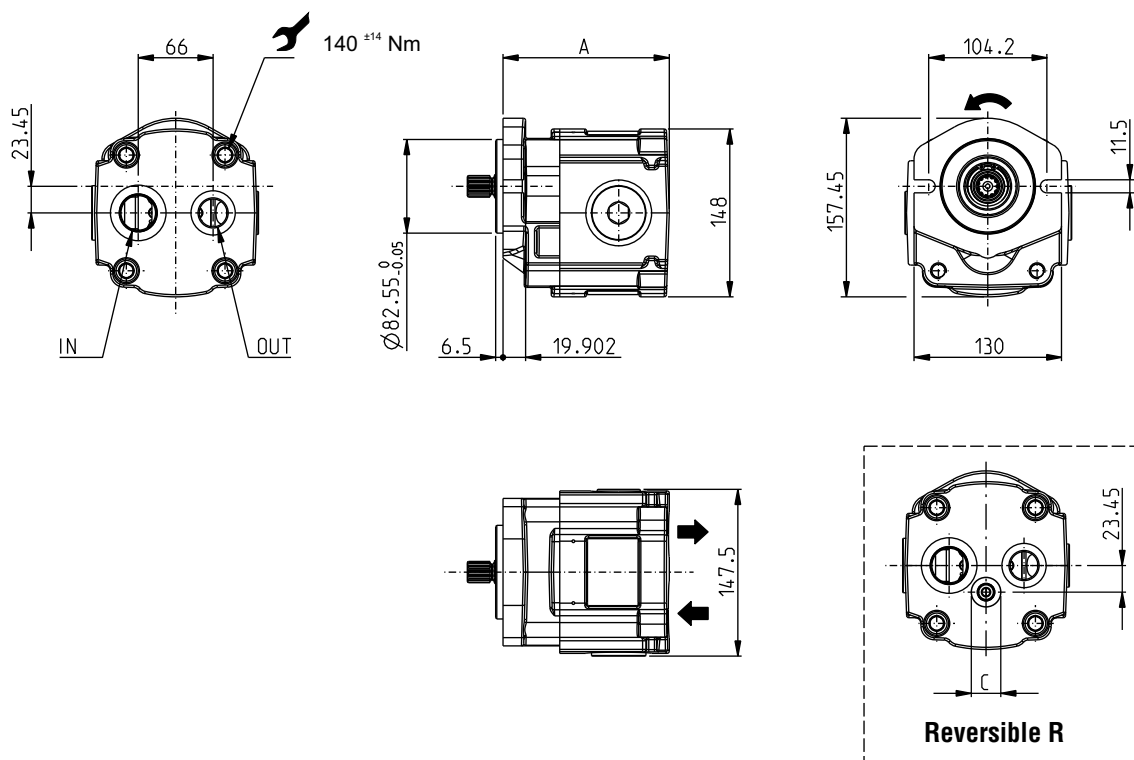
KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

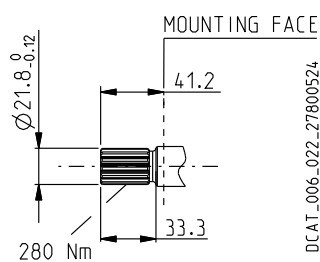
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



DCAT006-122_035716Y5

Drive shaft availability

A8 (SAE "B" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

DCAT_006_022_27800524

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code				C Drain port (◆)	
				Gear pumps		Gear motors			
				IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	143	OG	OF	OF	OG	GC	OA
KP 30•43	KM 30•43	43,98	144,5	OG	OF	OF	OG	GC	OA
KP 30•46	KM 30•46	46,34	146	OG	OF	OF	OG	GC	OA
KP 30•51	KM 30•51	51,83	149,5	OG	OF	OF	OG	GC	OA
KP 30•56	KM 30•56	56,54	152,5	OG	OF	OF	OG	GC	OA

(◆) Dimension on page 31 and 33

01/11.2012

KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

SAE STRAIGHT THREAD PORTS J514

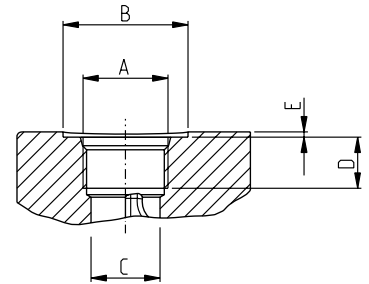
ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
OA (◆)	3/8"	9/16" - 12 UNF - 2B	26	13	15	2	15 ⁺¹	—
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

(◆) = Drain port

DCAT_006_027_21060524



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5
 0 - A8 S9 - P **.. / ..** - - - **CSC (ANF3) (CN) (VNR01)**

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

2	Rotation	Code
Left		S
Right		D
Reversible		R

Code	Drain ports	5
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

3	Ports IN/OUT	Code
See codes on previous page		.. / ..

01/11.2012

Order example

KP 30•41 R0-A8 S9-P OG/OF-T-PV-OA-CSC (ANF3) (CN) (VNR01)

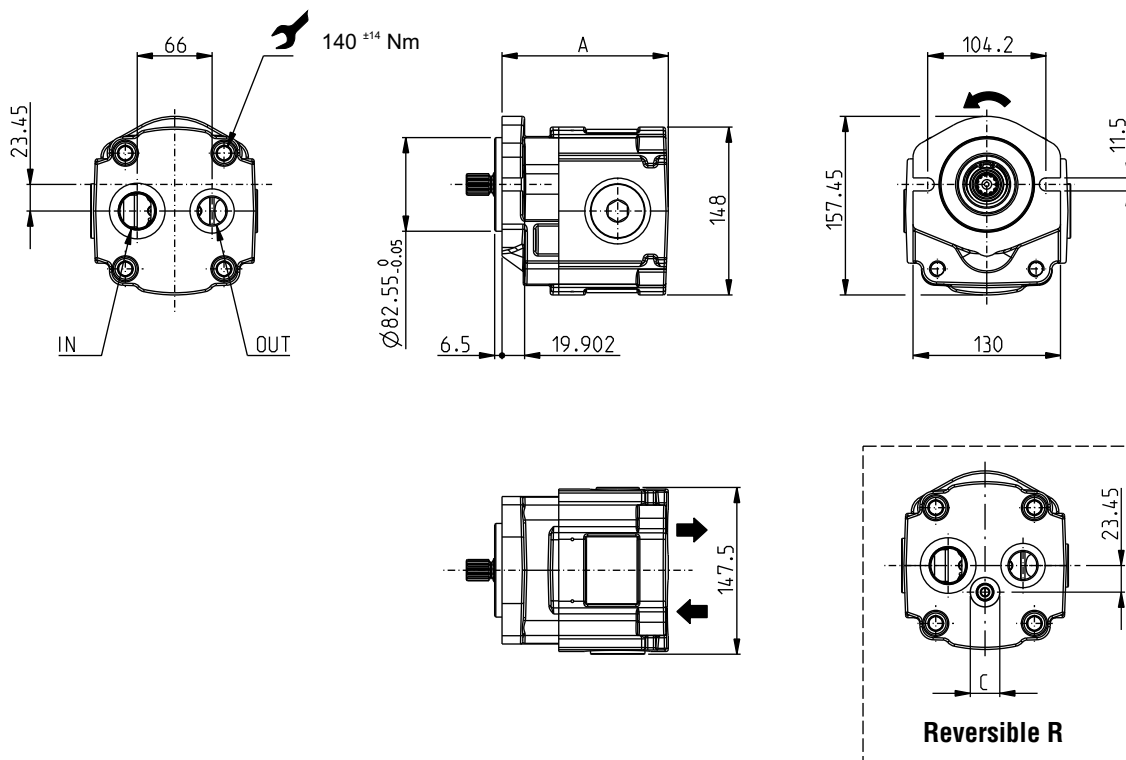
KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

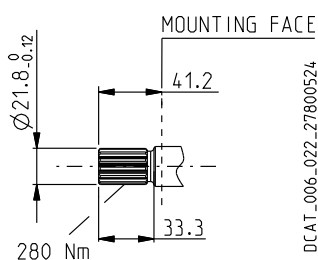
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



DCA T006-121_035716Y5

Drive shaft availability

A8 (SAE "B" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code				C Drain port (◆)	
				Gear pumps		Gear motors			
				IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	143	GG	GF	GF	GG	GC	OA
KP 30•43	KM 30•43	43,98	144,5	GG	GF	GF	GG	GC	OA
KP 30•46	KM 30•46	46,34	146	GG	GF	GF	GG	GC	OA
KP 30•51	KM 30•51	51,83	149,5	GG	GF	GF	GG	GC	OA
KP 30•56	KM 30•56	56,54	152,5	GG	GF	GF	GG	GC	OA

(◆) Dimension on page 31 and 33

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KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

GAS STRAIGHT THREAD PORTS

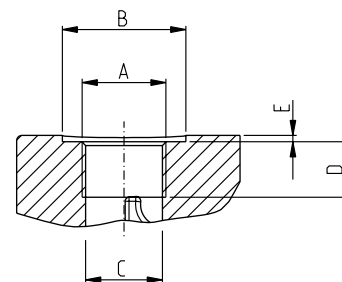
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E	Nm	Nm
			mm	mm	mm	mm		
GC (◆)	3/8"	G 3/8	25	15	14	2	15 ⁺¹	—
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(◆) Drain port

DCAT_006_026_21064779



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5
 0 - A8 S9 - P **.. / ..** - - - **CSC (ANF3) (CN) (VNR01)**

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

2	Rotation	Code
Left		S
Right		D
Reversible		R

Code	Drain ports	5
0A	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

3	Ports IN/OUT	Code
See codes on previous page		.. / ..

01/11.2012

Order example

KP 30•41 R0-A8 S9-P GG/GF-T-PV-GC-CSC (ANF3) (CN) (VNR01)

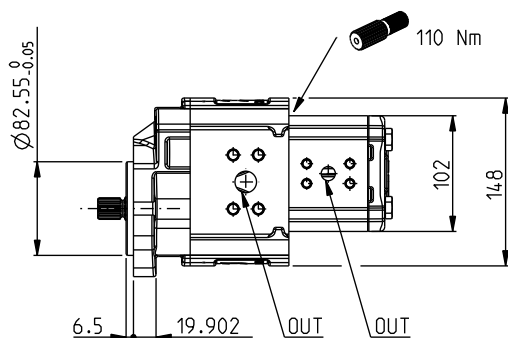
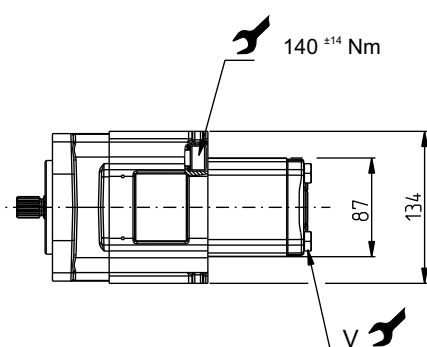
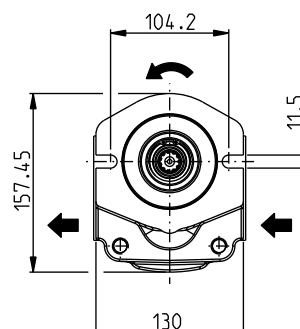
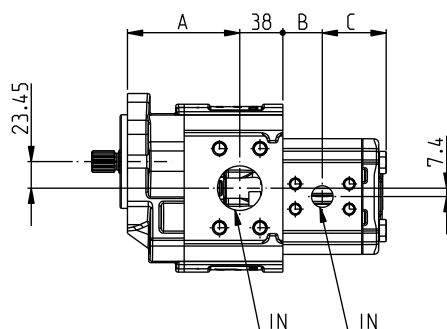
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability (See page 24)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)

DCAT006-123_035716Y5

Pump type	Displacement	A	Ports code	
	cm³/rev	mm	IN	OUT
KP 30•41	41,62	100,5	MD	MC
KP 30•43	43,98	102	MD	MC
KP 30•46	46,34	103,5	MD	MC
KP 30•51	51,83	107	MD	MC
KP 30•56	56,54	110	ME	MD

Pump type	Displacement	B	C	Ports code	
	cm³/rev	mm	mm	IN	OUT
PLP 20•4	4,95	25,8	49,3	MA	MA
PLP 20•6,3	6,61	27	50,5	MA	MA
PLP 20•8	8,26	28,3	51,8	MA	MA
PLP 20•10,5	10,9	30,3	53,8	MA	MA
PLP 20•11,2	11,23	30,5	54	MA	MA
PLP 20•14	14,53	33	56,5	MB	MA
PLP 20•16	16,85	34,8	58,3	MB	MA
PLP 20•20	21,14	38	61,5	MB	MA

Polaris 20: for features please consult the proper technical catalog.

01/11.2012

KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

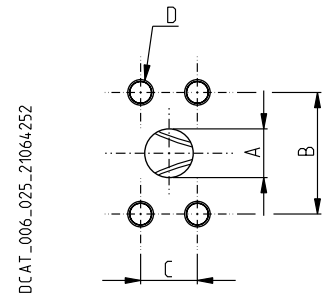
CSC

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MA	12,5	17,5	38,1	M 8 Depth 14	15 ⁺¹	15 ⁺¹
MB	19	22,2	47,6	M 10 Depth 14	20 ⁺¹	20 ⁺¹
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

How to order

1 2
 - **A8 S9 - L** - **45 - CSC /**
Front pump

1 2 3 4 5 6 7
 - **L** - - / **FS -** - (**ANF3**) (**CN**) (**VNR01**)
Rear pump

1	Type	Code
Front pump type		KP 30...
Rear pump type		PLP 20...
2	Ports IN/OUT (a)	Code
See codes on previous page		A8
3	Inlet combination	Code
Two inlet (standard) no code		../..
Common inlet		N7
4	Rotation	Code
Left		S
Right		D

Code	Seals (b)	5
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Rear cover	6
...	Cast iron (standard) - no code	
L	Aluminium	
Code	Rear pump thrust plate	7
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

- (a) For rear pump with common inlet, please write only /OUT code.
(b) Choose the seals according to the temperature shown on page 4.

01/11.2012

Order example

KP 30•41-A8 S9-L MD/MC-45-CSC/PLP 20•16-L /MA-N7 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

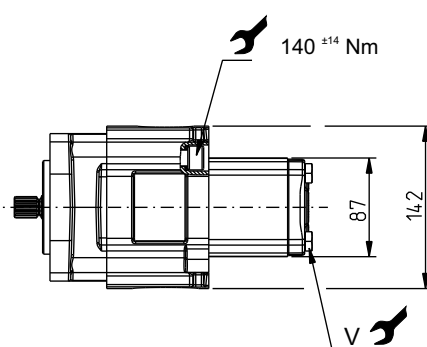
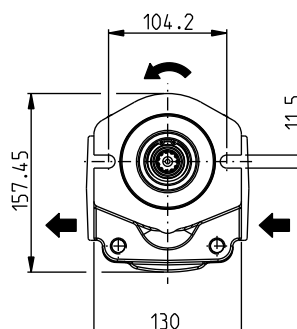
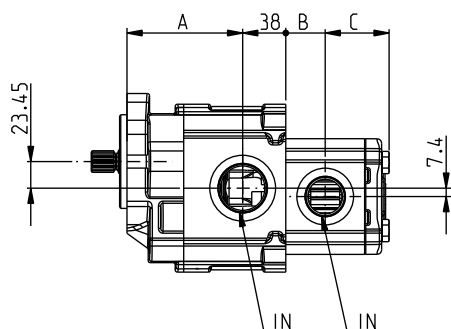
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

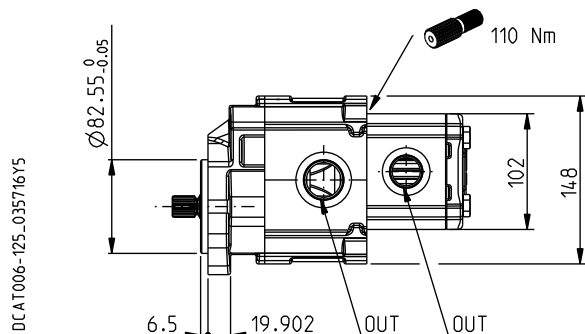
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability (See page 24)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)



Pump type	Displacement	A	Ports code	
	cm³/rev	mm	IN	OUT
KP 30•41	41,62	100,5	OG	OF
KP 30•43	43,98	102	OG	OF
KP 30•46	46,34	103,5	OG	OF
KP 30•51	51,83	107	OG	OF
KP 30•56	56,54	110	OG	OF

Pump type	Displacement	B	C	Ports code	
	cm³/rev	mm	mm	IN	OUT
PLP 20•4	4,95	25,8	49,3	OC	OC
PLP 20•6,3	6,61	27	50,5	OC	OC
PLP 20•8	8,26	28,3	51,8	OC	OC
PLP 20•10,5	10,9	30,3	53,8	OC	OC
PLP 20•11,2	11,23	30,5	54	OC	OC
PLP 20•14	14,53	33	56,5	OD	OC
PLP 20•16	16,85	34,8	58,3	OD	OC
PLP 20•20	21,14	38	61,5	OD	OC

Polaris 20: for features please consult the proper technical catalog.

KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

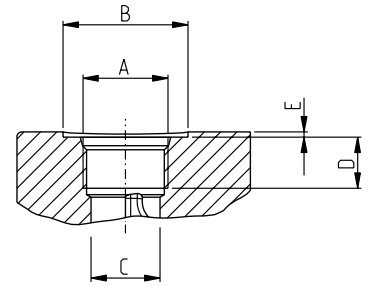
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
OC	5/8"	7/8" - 14 UNF - 2B	35	20,5	17	0,5	30 ^{+2,5}	70 ⁺⁵
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	0,5	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

DCAT_006_027_21060524



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

How to order

1 - **A8 S9 - L** 2 - **45 - CSC /**
Front pump

1 - **L** 2 - 3 - 4 5 - 6 / **FS -** 7 - 8 (**ANF3**) (**CN**) (**VNR01**)
Rear pump

1	Type	Code
Front pump type		KP 30-...
Rear pump type		PLP 20-...
2	Ports IN/OUT (a)	Code
See codes on previous page		../..
3	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7
4	Rear pump body	Code
PLP20 with standard body - no code		...
PLP20 with high strength body		L101

Code	Seals (b)	5
S	Left	
D	Right	
Code	Seals (b)	6
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Rear cover	7
...	Cast iron (standard) - no code	
L	Aluminium	
Code	Rear pump thrust plate	8
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

- (a) For rear pump with common inlet, please write only /OUT code.
(b) Choose the seals according to the temperature shown on page 4.

01/11.2012

Order example

KP 30•41-A8 S9-L OG/OF-45-CSC/PLP 20•16-L /OC-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

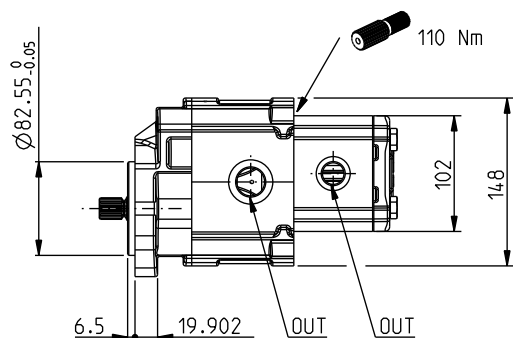
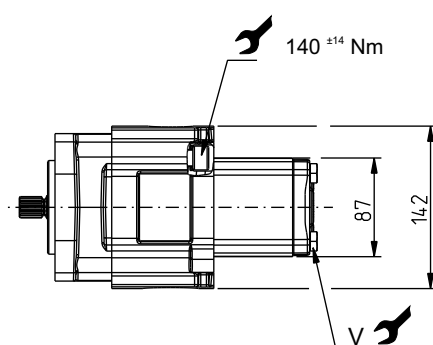
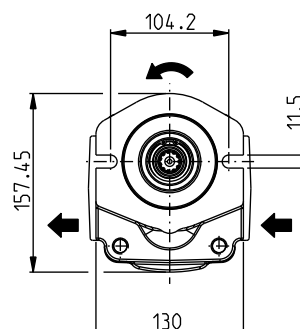
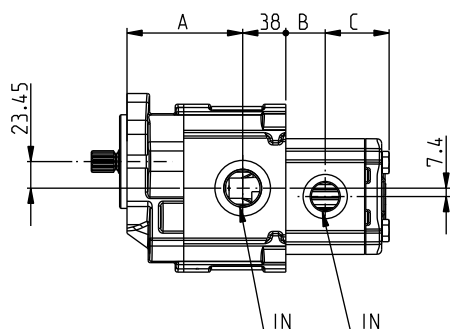
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability (See page 24)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)

DCAT006-124_035716Y5

Pump type	Displacement	A	Ports code	
	cm³/rev	mm	IN	OUT
KP 30•41	41,62	100,5	GG	GF
KP 30•43	43,98	102	GG	GF
KP 30•46	46,34	103,5	GG	GF
KP 30•51	51,83	107	GG	GF
KP 30•56	56,54	110	GG	GF

Pump type	Displacement	B	C	Ports code	
	cm³/rev	mm	mm	IN	OUT
PLP 20•4	4,95	25,8	49,3	GD	GD
PLP 20•6,3	6,61	27	50,5	GD	GD
PLP 20•8	8,26	28,3	51,8	GD	GD
PLP 20•10,5	10,9	30,3	53,8	GD	GD
PLP 20•11,2	11,23	30,5	54	GD	GD
PLP 20•14	14,53	33	56,5	GE	GD
PLP 20•16	16,85	34,8	58,3	GE	GD
PLP 20•20	21,14	38	61,5	GE	GD

Polaris 20: for features please consult the proper technical catalog.

01/11.2012

KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

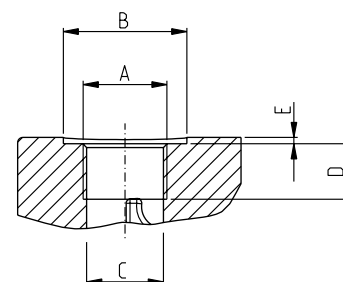
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GD	1/2"	G 1/2	—	19	17	—	20 ⁺¹	50 ^{+2,5}
GE	3/4"	G 3/4	—	24,5	18	—	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

DCAT_006_026_21064779



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

How to order

1 2
 - **A8 S9 - L** - **45 - CSC /**
Front pump

1 2 3 4 5 6 7 8
 - **L** - - - / **FS -** - (**ANF3**) (**CN**) (**VNR01**)
Rear pump

1	Type	Code
Front pump type		KP 30-...
Rear pump type		PLP 20-...

2	Ports IN/OUT (a)	Code
See codes on previous page		../..

3	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

4	Rear pump body	Code
PLP20 with standard body - no code		...
PLP20 with high strength body		L101

Code	Seals (b)	5
S	Left	
D	Right	

Code	Seals (b)	6
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Rear cover	7
...	Cast iron (standard) - no code	
L	Aluminium	

Code	Rear pump thrust plate	8
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type.0	

- (a) For rear pump with common inlet, please write only /OUT code.
(b) Choose the seals according to the temperature shown on page 4.

01/11.2012

Order example

KP 30•41-A8 S9-L GG/GF-45-CSC/PLP 20•16-L /GD-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

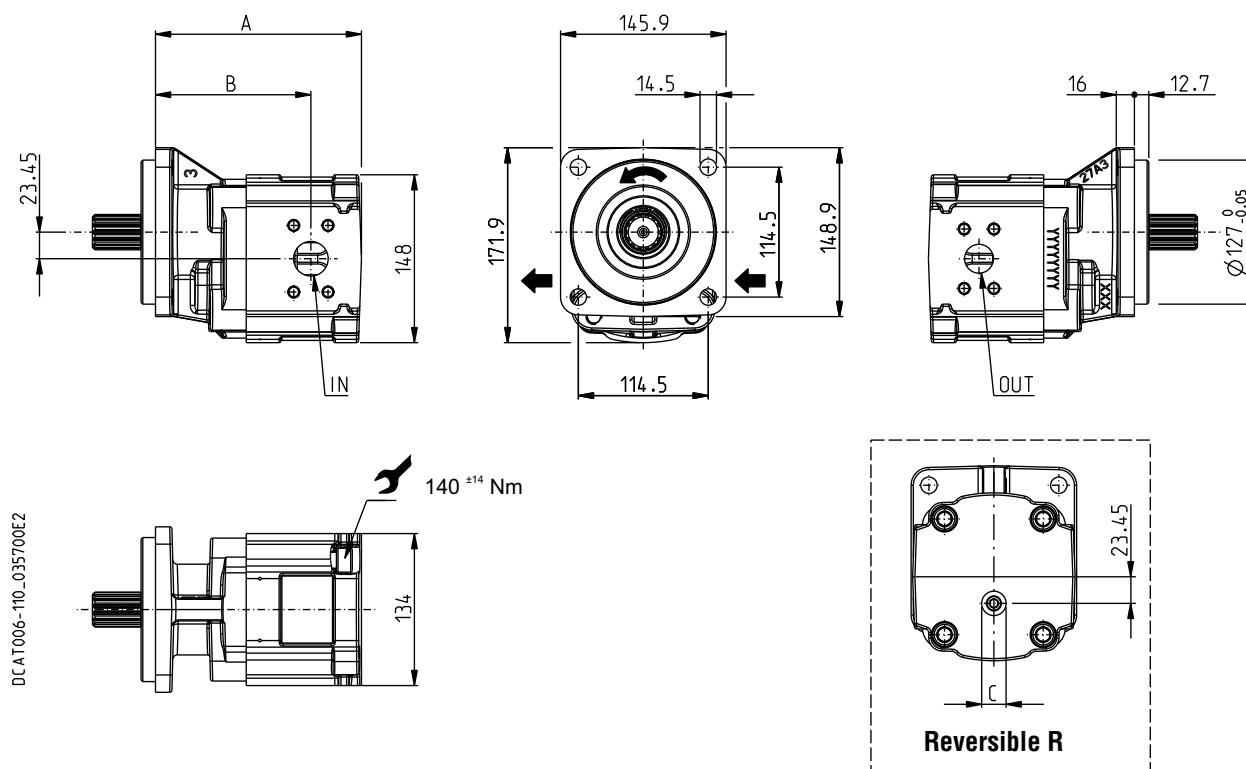
KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

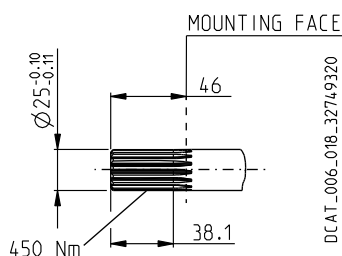
Ports type: **SSM**
SAE FLANGED PORTS J518



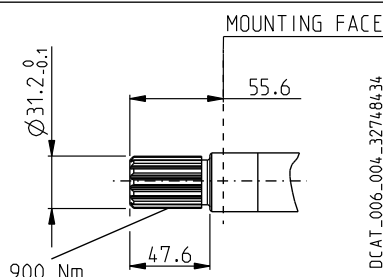
Drive shaft availability

05 (SAE "BB" Spline)

06 (SAE "C" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C	
					Gear pumps		Gear motors		Drain port (◆)	
					IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	175	130,5	MD	MC	MC	MD	GC	OA
KP 30•43	KM 30•43	43,98	176,5	132	MD	MC	MC	MD	GC	OA
KP 30•46	KM 30•46	46,34	178	133,5	MD	MC	MC	MD	GC	OA
KP 30•51	KM 30•51	51,83	181,5	137	MD	MC	MC	MD	GC	OA
KP 30•56	KM 30•56	56,54	184,5	140	ME	MD	MD	ME	GC	OA

(◆) Dimension on page 43 and 45

KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

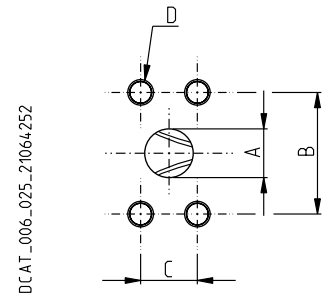
CSC

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵



DCAT_006_025_21064.252



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5 6
 0 - S6 - L .. / .. - - - CSC (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "BB" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30-41 R0-05 S6-L MD/MC-T-PV-OA-CSC (ANF3) (CN) (VNR01)

01/11.2012

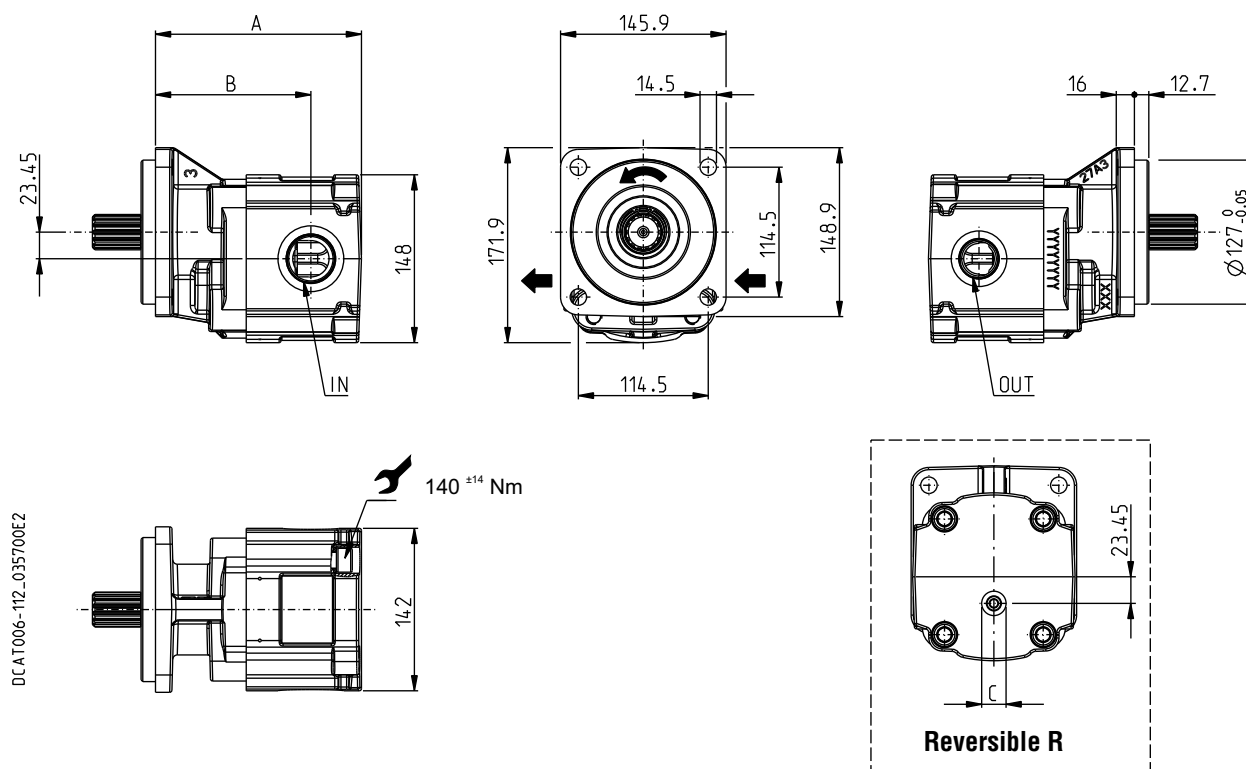
KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

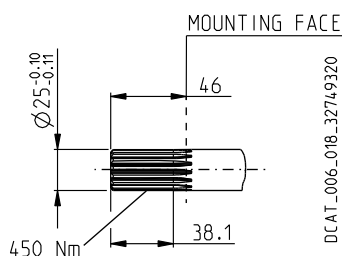
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



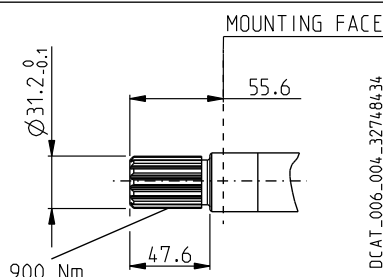
Drive shaft availability

05 (SAE "BB" Spline)

06 (SAE "C" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C	
					Gear pumps		Gear motors		Drain port (◆)	
					IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	175	130,5	OG	OF	OF	OG	GC	OA
KP 30•43	KM 30•43	43,98	176,5	132	OG	OF	OF	OG	GC	OA
KP 30•46	KM 30•46	46,34	178	133,5	OG	OF	OF	OG	GC	OA
KP 30•51	KM 30•51	51,83	181,5	137	OG	OF	OF	OG	GC	OA
KP 30•56	KM 30•56	56,54	184,5	140	OG	OF	OF	OG	GC	OA

(◆) Dimension on page 43 and 45

KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

SAE STRAIGHT THREAD PORTS J514

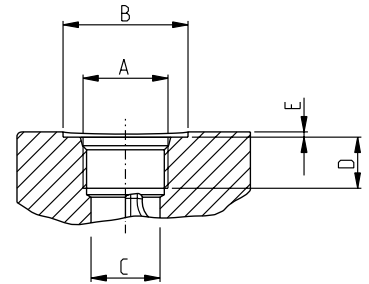
ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm		
OA (◆)	3/8"	9/16" - 12 UNF - 2B	26	13	15	2	15 ⁺¹	—
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

(◆) = Drain port

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Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5 6
 0 - S6 - L .. / .. - - - CSC (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "BB" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30-41 R0-05 S6-L OG/OF-T-PV-OA-CSC (ANF3) (CN) (VNR01)

01/11.2012

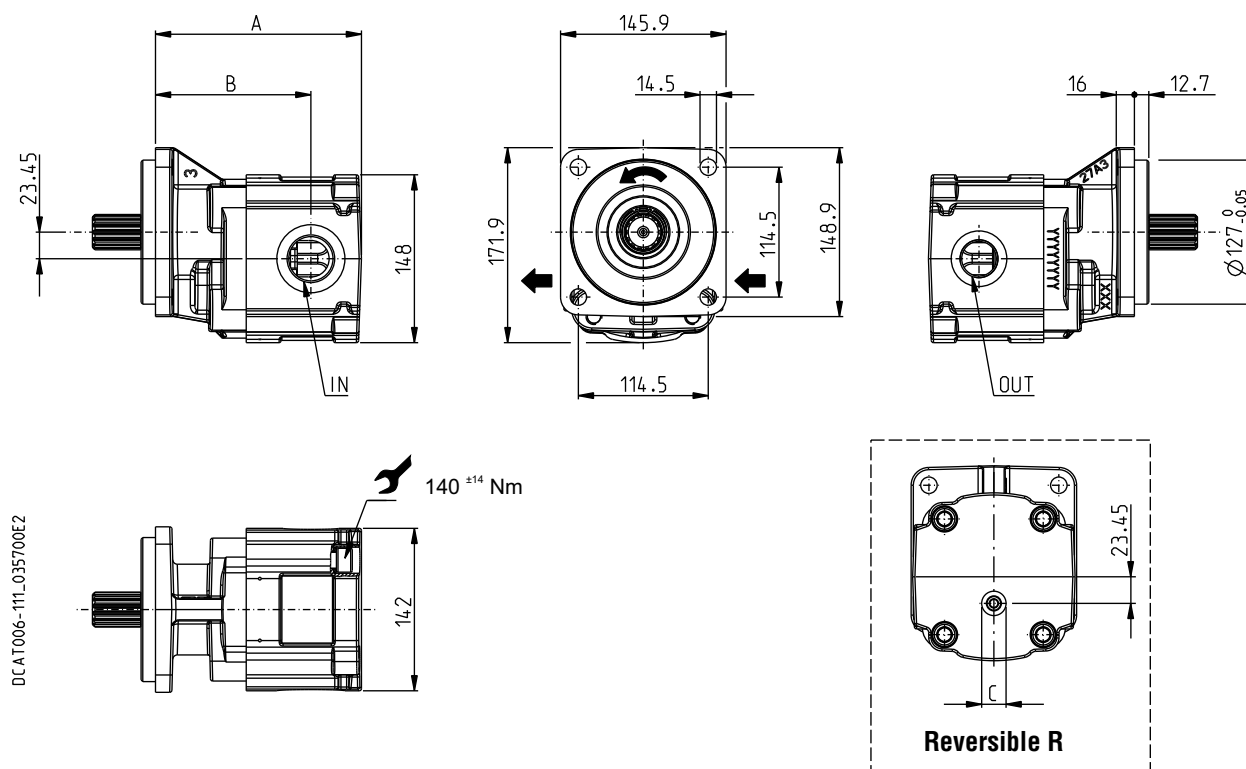
KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

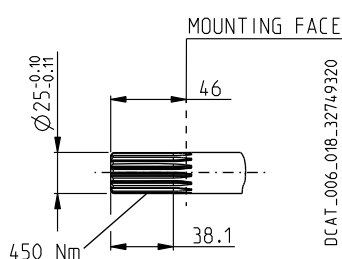
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



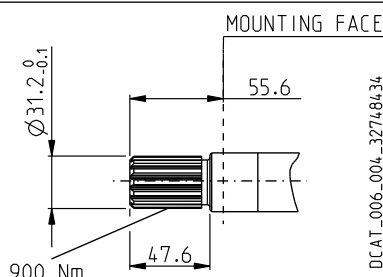
Drive shaft availability

05 (SAE "BB" Spline)

06 (SAE "C" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C	
					Gear pumps		Gear motors		Drain port (◆)	
					IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	175	130,5	GG	GF	GF	GG	GC	OA
KP 30•43	KM 30•43	43,98	176,5	132	GG	GF	GF	GG	GC	OA
KP 30•46	KM 30•46	46,34	178	133,5	GG	GF	GF	GG	GC	OA
KP 30•51	KM 30•51	51,83	181,5	137	GG	GF	GF	GG	GC	OA
KP 30•56	KM 30•56	56,54	184,5	140	GG	GF	GF	GG	GC	OA

(◆) Dimension on page 43 and 45

KAPPA 30

SINGLE UNITS SHORT BODY - SIDE PORTS

CSC

GAS STRAIGHT THREAD PORTS

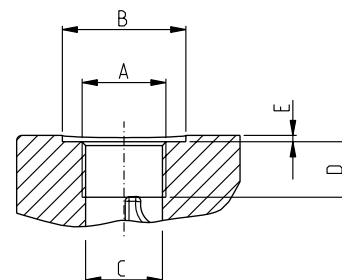
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E	Nm	Nm
			mm	mm	mm	mm		
GC (◆)	3/8"	G 3/8	25	15	14	2	15 ⁺¹	—
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(◆) Drain port

DCAT_006_026_21064779



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5 6
 0 - S6 - L .. / .. - - - CSC (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "BB" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30-41 R0-05 S6-L GG/GF-T-PV-GC-CSC (ANF3) (CN) (VNR01)

01/11.2012

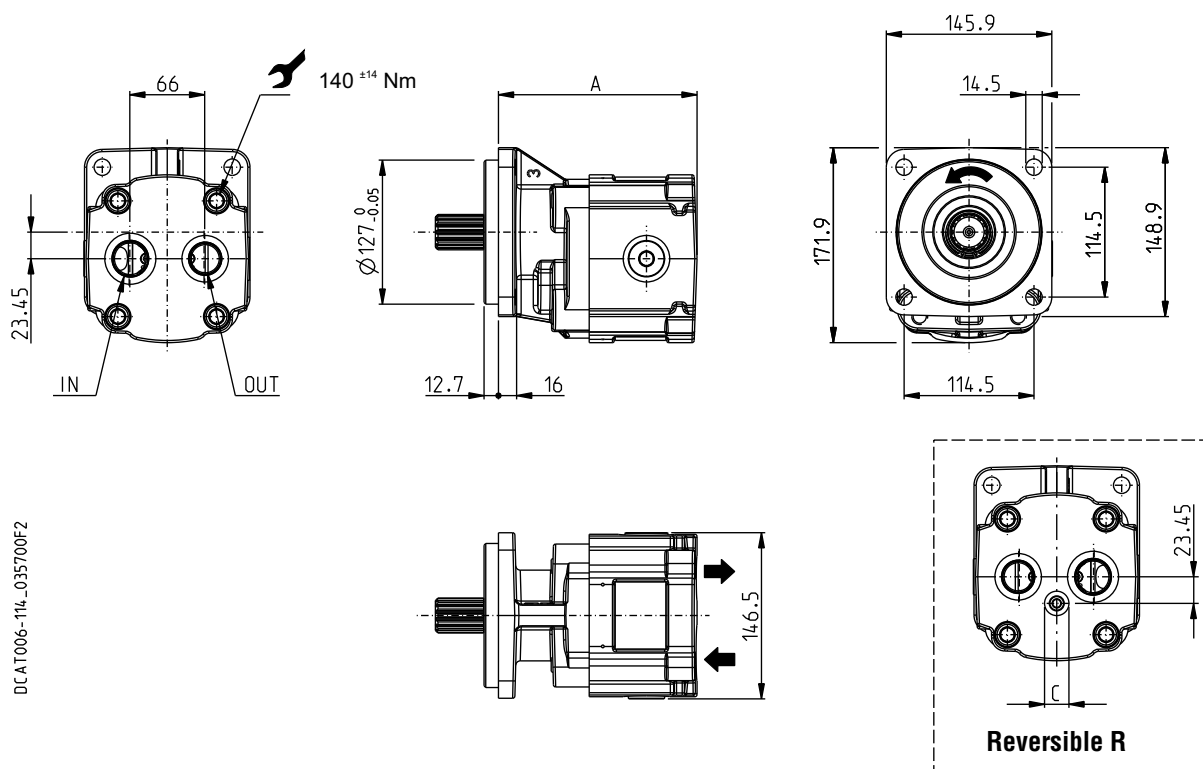
KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

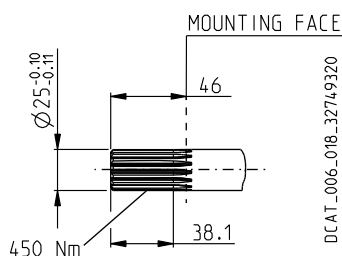
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



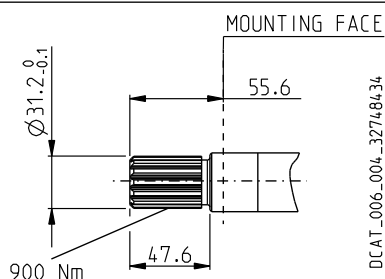
Drive shaft availability

05 (SAE "BB" Spline)

06 (SAE "C" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code				C	
				Gear pumps		Gear motors		Drain port (◆)	
				IN	OUT	IN	OUT	Gas BSPP	SAE ODT
KP 30•41	KM 30•41	41,62	173	OG	OF	OF	OG	GC	OA
KP 30•43	KM 30•43	43,98	174,5	OG	OF	OF	OG	GC	OA
KP 30•46	KM 30•46	46,34	176	OG	OF	OF	OG	GC	OA
KP 30•51	KM 30•51	51,83	179,5	OG	OF	OF	OG	GC	OA
KP 30•56	KM 30•56	56,54	182,5	OG	OF	OF	OG	GC	OA

(◆) Dimension on page 47 and 49

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KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

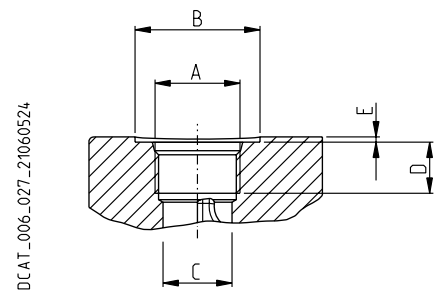
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm		
OA (◆)	3/8"	9/16" - 12 UNF - 2B	26	13	15	2	15 ⁺¹	—
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

(◆) = Drain port



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5 6
 0 - S6 - P .. / .. - - - CSC (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "BB" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30-41 R0-05 S6-P OG/OF-T-PV-OA-CSC (ANF3) (CN) (VNR01)

01/11.2012

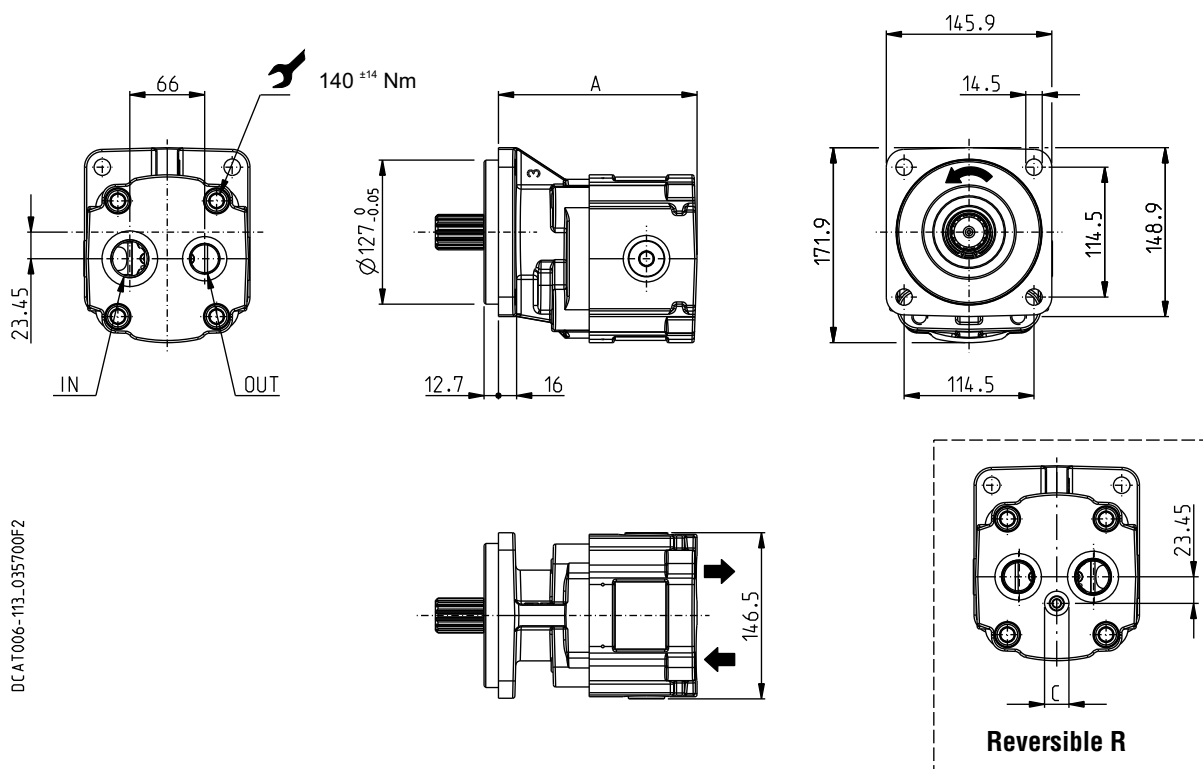
KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

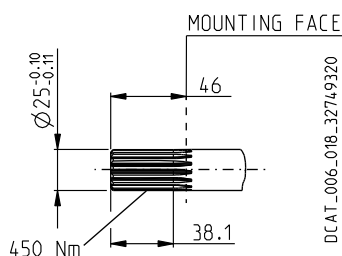
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



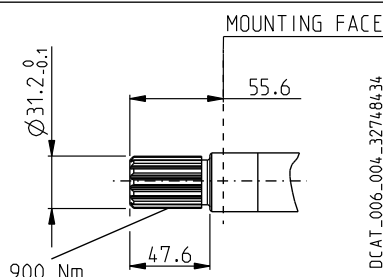
Drive shaft availability

05 (SAE "BB" Spline)

06 (SAE "C" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code				C Drain port (◆)	
				Gear pumps		Gear motors		Gas BSPP	
				IN	OUT	IN	OUT	SAE ODT	
KP 30•41	KM 30•41	41,62	173	GG	GF	GF	GG	GC	OA
KP 30•43	KM 30•43	43,98	174,5	GG	GF	GF	GG	GC	OA
KP 30•46	KM 30•46	46,34	176	GG	GF	GF	GG	GC	OA
KP 30•51	KM 30•51	51,83	179,5	GG	GF	GF	GG	GC	OA
KP 30•56	KM 30•56	56,54	182,5	GG	GF	GF	GG	GC	OA

(◆) Dimension on page 47 and 49

KAPPA 30

SINGLE UNITS SHORT BODY - REAR PORTS

CSC

GAS STRAIGHT THREAD PORTS

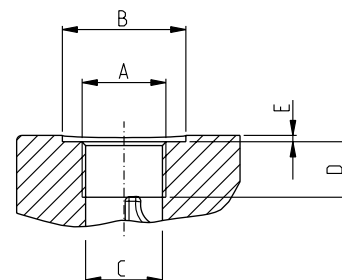
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E	Nm	Nm
			mm	mm	mm	mm		
GC (◆)	3/8"	G 3/8	25	15	14	2	15 ⁺¹	—
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(◆) Drain port

DCAT_006_026_21064779



Tightening torque for low pressure side port



Tightening torque for high pressure side port (values obtained at 350 bar)

For reversible rotation, please consult only the tightening torque for high pressure side port

How to order

1 2 3 4 5 6
 0 - S6 - P .. / .. - - - CSC (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30-...
Motor type		KM 30-...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "BB" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes on previous page	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

(a) Choose the seals according to the temperature shown on page 4.

Order example

KP 30-41 R0-05 S6-P GG/GF-T-PV-GC-CSC (ANF3) (CN) (VNR01)

01/11.2012

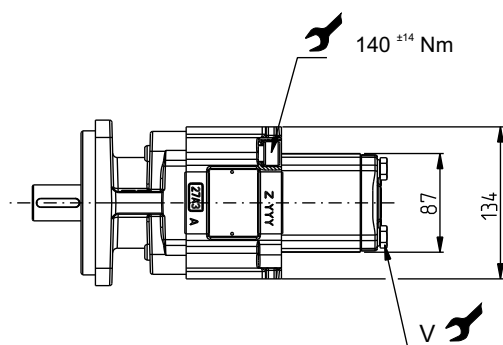
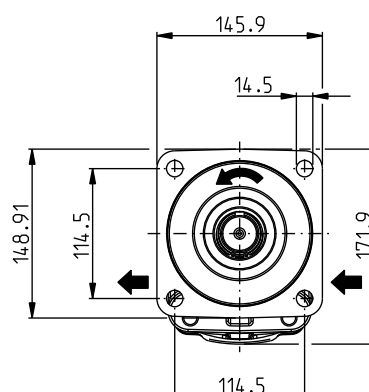
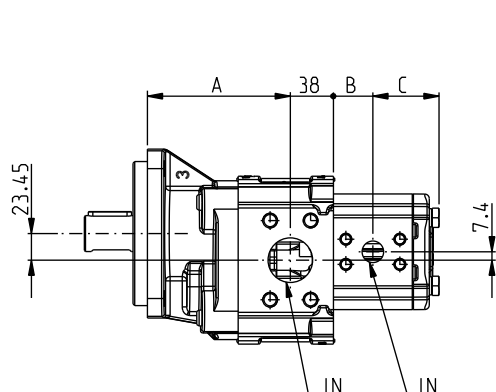
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

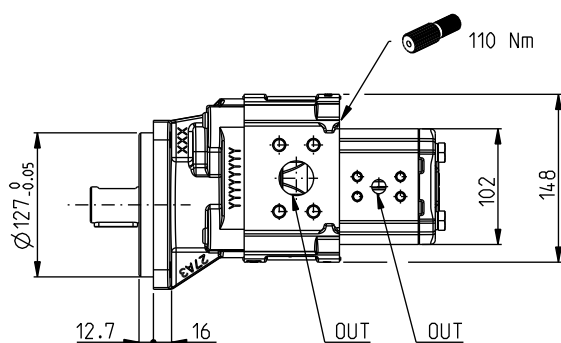
Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability (See page 40)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)



DCAT006-115_7991378A

Pump type	Displacement cm³/rev	A mm	Ports code	
			IN	OUT
KP 30•41	41,62	130,5	MD	MC
KP 30•43	43,98	132	MD	MC
KP 30•46	46,34	133,5	MD	MC
KP 30•51	51,83	137	MD	MC
KP 30•56	56,54	140	ME	MD

Pump type	Displacement cm³/rev	B mm	C mm	Ports code	
				IN	OUT
PLP 20•4	4,95	25,8	49,3	MA	MA
PLP 20•6,3	6,61	27	50,5	MA	MA
PLP 20•8	8,26	28,3	51,8	MA	MA
PLP 20•10,5	10,9	30,3	53,8	MA	MA
PLP 20•11,2	11,23	30,5	54	MA	MA
PLP 20•14	14,53	33	56,5	MB	MA
PLP 20•16	16,85	34,8	58,3	MB	MA
PLP 20•20	21,14	38	61,5	MB	MA

Polaris 20: for features please consult the proper technical catalog.

01/11.2012

KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

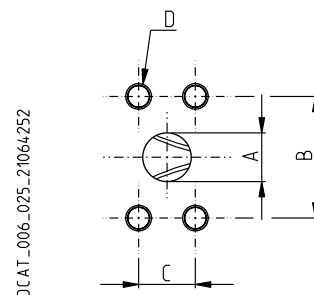
SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MA	12,5	17,5	38,1	M 8 Depth 14	15 ⁺¹	15 ⁺¹
MB	19	22,2	47,6	M 10 Depth 14	20 ⁺¹	20 ⁺¹
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵

(♦) For Polaris 20



 Tightening torque for low pressure side port
 Tightening torque for high pressure side port (values obtained at 350 bar)

How to order

1 2 3
 - **S6 - L** - **45 - CSC /**
 Front pump

1 3 4 5 6 7 8
 - **L** - - / **FS -** - **(ANF3) (CN) (VNR01)**
 Rear pump

1	Type	Code
Front pump type		KP 30-...
Rear pump type		PLP 20-...
2	Drive shaft	Code
SAE "BB" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06
3	Ports IN/OUT (a)	Code
See codes on previous page		../..
4	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

Code	Rotation	5
S	Left	
D	Right	
Code	Seals (b)	6
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Rear cover	7
...	Cast iron (standard) - no code	
L	Aluminium	
Code	Rear pump thrust plate	8
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•41-05 S6-L MD/MC-45-CSC/PLP 20•16-L /MA-N7 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

01/11.2012

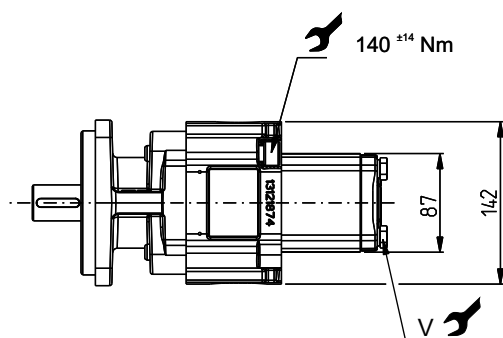
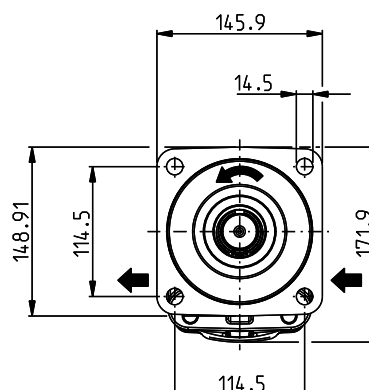
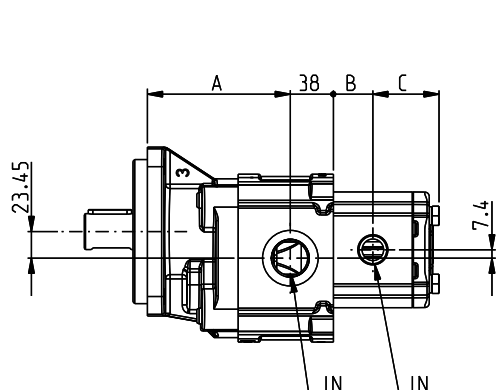
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

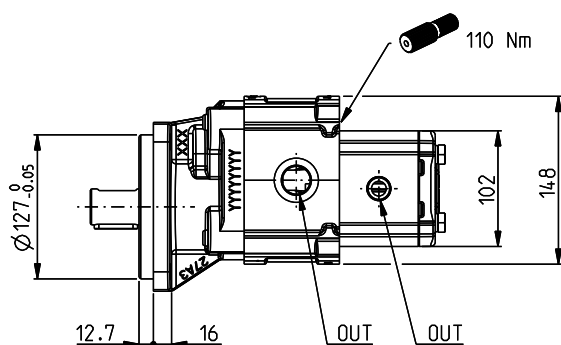
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability (See page 40)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages. The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)



DCAT006-117_7991378A

Pump type	Displacement cm³/rev	A mm	Ports code	
			IN	OUT
KP 30•41	41,62	130,5	OG	OF
KP 30•43	43,98	132	OG	OF
KP 30•46	46,34	133,5	OG	OF
KP 30•51	51,83	137	OG	OF
KP 30•56	56,54	140	OG	OF

Pump type	Displacement cm³/rev	B mm	C mm	Ports code	
				IN	OUT
PLP 20•4	4,95	25,8	49,3	OC	OC
PLP 20•6,3	6,61	27	50,5	OC	OC
PLP 20•8	8,26	28,3	51,8	OC	OC
PLP 20•10,5	10,9	30,3	53,8	OC	OC
PLP 20•11,2	11,23	30,5	54	OC	OC
PLP 20•14	14,53	33	56,5	OD	OC
PLP 20•16	16,85	34,8	58,3	OD	OC
PLP 20•20	21,14	38	61,5	OD	OC

Polaris 20: for features please consult the proper technical catalog.

01/11.2012

KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

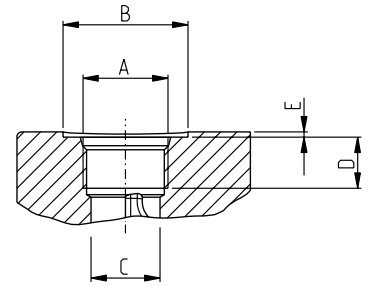
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
OC	5/8"	7/8" - 14 UNF - 2B	35	20,5	17	0,5	30 ^{+2,5}	70 ⁺⁵
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	0,5	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

DCAT_006_027_21060524



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

How to order

1 2 3
 - **S6 - L** - **45 - CSC /**
Front pump

1 3 4 5 6 7 8 9
 - **L** - - - / **FS -** - **(ANF3) (CN) (VNR01)**
Rear pump

1	Type	Code
Front pump type		KP 30-...
Rear pump type		PLP 20-...
2	Drive shaft	Code
SAE "BB" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06
3	Ports IN/OUT (a)	Code
See codes on previous page		../..
4	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7
5	Rear pump body	Code
PLP20 with standard body - no code		...
PLP20 with high strength body		L101

Code	Rotation	6
S	Left	
D	Right	
Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Rear cover	8
...	Cast iron (standard) - no code	
L	Aluminium	
Code	Rear pump thrust plate	9
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

- (a) For rear pump with common inlet, please write only /OUT code.
(b) Choose the seals according to the temperature shown on page 4.

01/11.2012

Order example

KP 30•41-05 S6-L OG/OF-45-CSC/PLP 20•16-L /OC-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

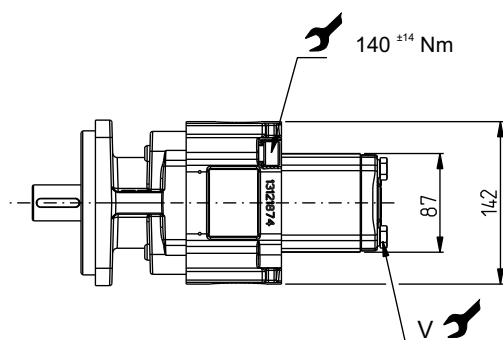
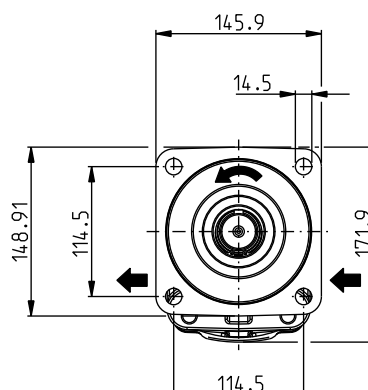
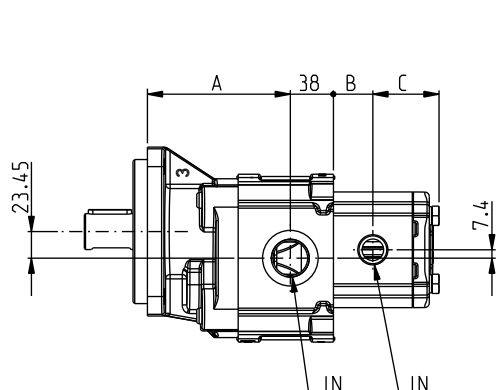
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

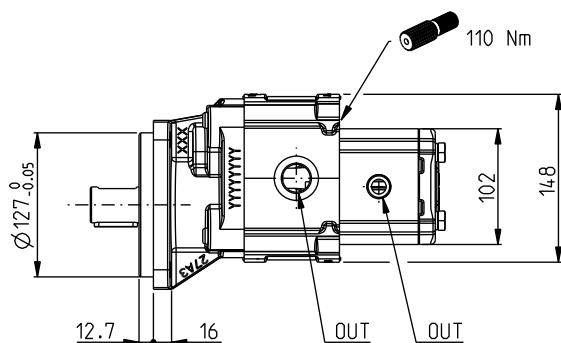
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability (See page 40)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)



DCAT006-116_7991378A

Pump type	Displacement cm³/rev	A mm	Ports code	
			IN	OUT
KP 30•41	41,62	130,5	GG	GF
KP 30•43	43,98	132	GG	GF
KP 30•46	46,34	133,5	GG	GF
KP 30•51	51,83	137	GG	GF
KP 30•56	56,54	140	GG	GF

Pump type	Displacement cm³/rev	B mm	C mm	Ports code	
				IN	OUT
PLP 20•4	4,95	25,8	49,3	GD	GD
PLP 20•6,3	6,61	27	50,5	GD	GD
PLP 20•8	8,26	28,3	51,8	GD	GD
PLP 20•10,5	10,9	30,3	53,8	GD	GD
PLP 20•11,2	11,23	30,5	54	GD	GD
PLP 20•14	14,53	33	56,5	GE	GD
PLP 20•16	16,85	34,8	58,3	GE	GD
PLP 20•20	21,14	38	61,5	GE	GD

Polaris 20: for features please consult the proper technical catalog.

01/11.2012

KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT BODY

CSC

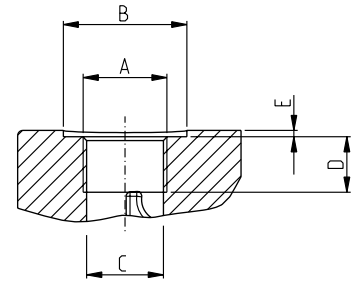
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GD	1/2"	G 1/2	—	19	17	—	20 ⁺¹	50 ^{+2,5}
GE	3/4"	G 3/4	—	24,5	18	—	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

DCAT_006_026_21064779



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

How to order

1 2 3
 - **S6 - L** - **45 - CSC /**
Front pump

1 3 4 5 6 7 8 9
 - **L** - - - / **FS -** - **(ANF3) (CN) (VNR01)**
Rear pump

1	Type	Code
	Front pump type	KP 30...
	Rear pump type	PLP 20...
2	Drive shaft	Code
	SAE "BB" spline (15 teeth)	05
	SAE "C" spline (14 teeth)	06
3	Ports IN/OUT (a)	Code
	See codes on previous page	../..
4	Inlet combination	Code
	Two inlet (standard) no code	...
	Common inlet	N7
5	Rear pump body	Code
	PLP20 with standard body - no code	...
	PLP20 with high strength body	L101

Code	Rotation	6
S	Left	
D	Right	
Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Rear cover	8
...	Cast iron (standard) - no code	
L	Aluminium	
Code	Rear pump thrust plate	9
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

- (a) For rear pump with common inlet, please write only /OUT code.
(b) Choose the seals according to the temperature shown on page 4.

01/11.2012

Order example

KP 30•41-05 S6-L GG/GF-45-CSC/PLP 20•16-L /GD-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

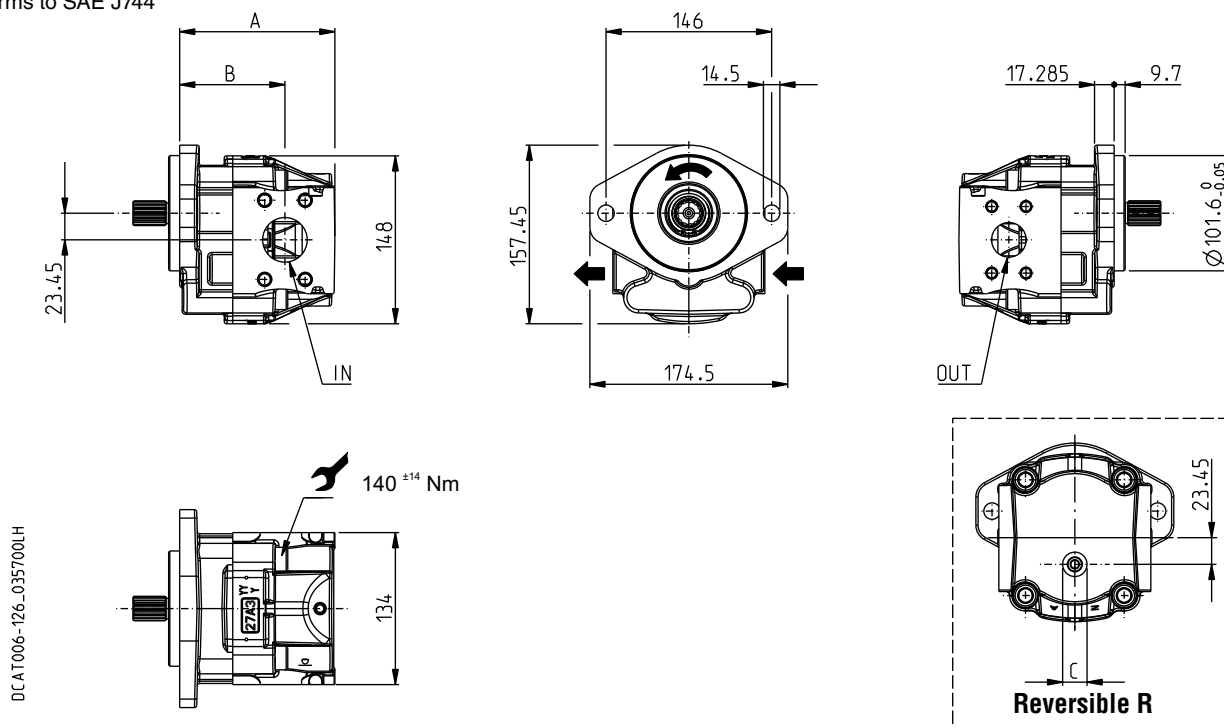
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS

HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **SSM**
SAE FLANGED PORTS J518

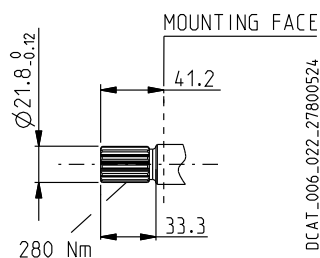


Drive shaft availability

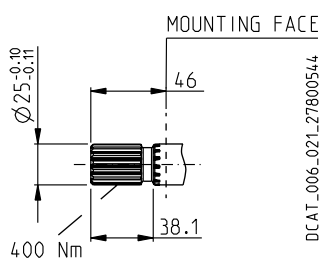
A8 (SAE "B" Spline)

A5 (SAE "BB" Spline)

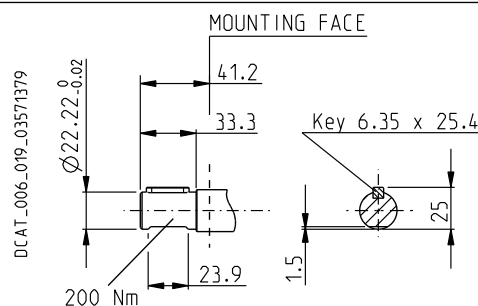
32 (SAE "B" Straight)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

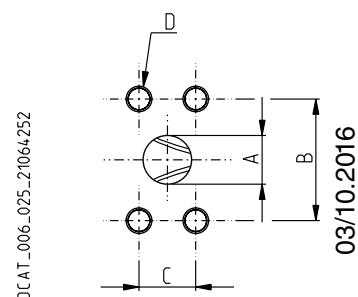


SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MB	19	47,6	22,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵



Tightening torque for low pressure side port
 Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
					IN	OUT	IN	OUT		
KP 30•19,5	KM 30•19,5	19,63	127,3	83,3	MC	MB	MB	MC	GC	OA
KP 30•22	KM 30•22	21,99	128,8	84,8	MC	MB	MB	MC	GC	OA
KP 30•24	KM 30•24	24,03	127,3	83,3	MC	MB	MB	MC	GC	OA
KP 30•27	KM 30•27	26,7	131,8	87,8	MC	MB	MB	MC	GC	OA
KP 30•29	KM 30•29	29,06	133,3	89,3	MC	MB	MB	MC	GC	OA
KP 30•31	KM 30•31	30,63	134,3	90,3	MC	MB	MB	MC	GC	OA
KP 30•34	KM 30•34	34,56	136,8	92,8	MC	MB	MB	MC	GC	OA
KP 30•38	KM 30•38	39,27	136,8	92,8	MC	MB	MB	MC	GC	OA
KP 30•41	KM 30•41	41,62	141,3	97,3	MD	MC	MC	MD	GC	OA
KP 30•43	KM 30•43	43,98	142,8	98,8	MD	MC	MC	MD	GC	OA
KP 30•46	KM 30•46	46,34	144,3	100,3	MD	MC	MC	MD	GC	OA
KP 30•51	KM 30•51	51,83	147,8	103,8	MD	MC	MC	MD	GC	OA
KP 30•56	KM 30•56	56,54	150,8	106,8	ME	MD	MD	ME	GC	OA
KP 30•61	KM 30•61	61,26	153,8	109,8	ME	MD	MD	ME	GC	OA
KP 30•73	KM 30•73	73,82	168,8	98,8	ME	MD	MD	ME	GC	OA
KP 30•82	KM 30•82	81,68	173,8	103,8	ME	MD	MD	ME	GC	OA

(◆) Dimension on page 58 and 60

How to order

1 2 0 - 3 K9 - L 4 .. / .. 5 - 6 - HSC - 7 (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes in the table above	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	
Code	Performance	7
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 R0-A8 K9-L MC/MB-T-PV-OA-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

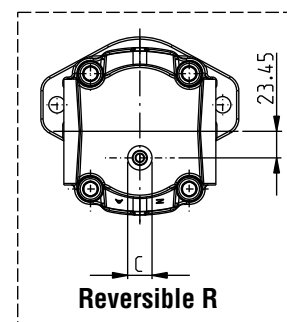
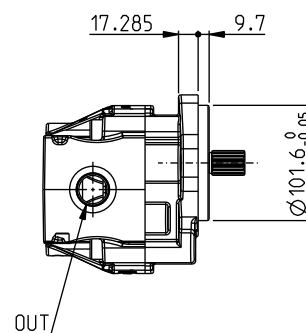
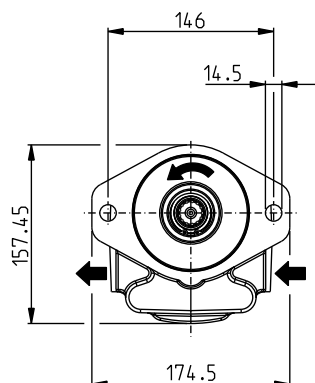
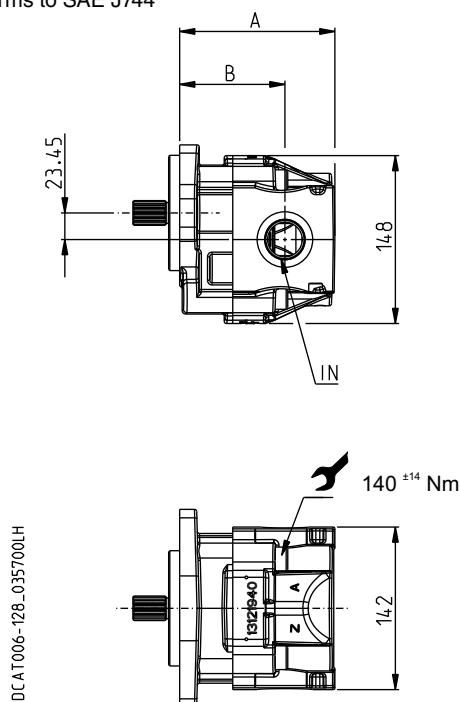
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS

HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514

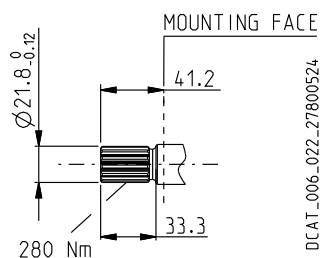


Drive shaft availability

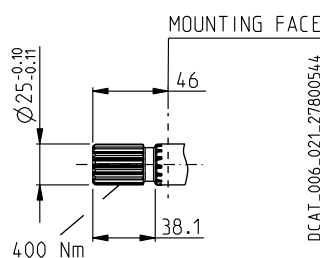
A8 (SAE "B" Spline)

A5 (SAE "BB" Spline)

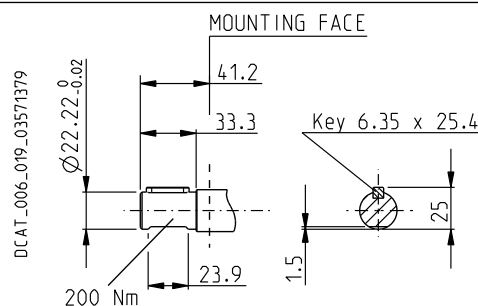
32 (SAE "B" Straight)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



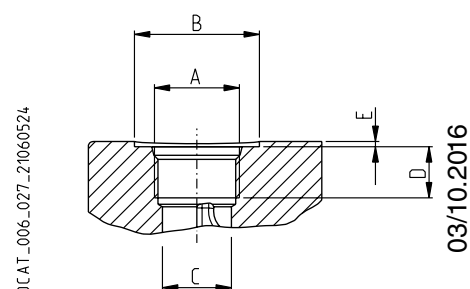
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm		
OA (◆)	3/8"	9/16" - 12 UNF - 2B	26	13	15	2	15 ⁺¹	—
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	2	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

(◆) = Drain port



Tightening torque for low pressure side port
 Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
					IN	OUT	IN	OUT		
KP 30•19,5	KM 30•19,5	19,63	127,3	83,3	OF	OD	OD	OF	GC	OA
KP 30•22	KM 30•22	21,99	128,8	84,8	OF	OD	OD	OF	GC	OA
KP 30•24	KM 30•24	24,03	127,3	83,3	OF	OD	OD	OF	GC	OA
KP 30•27	KM 30•27	26,7	131,8	87,8	OF	OD	OD	OF	GC	OA
KP 30•29	KM 30•29	29,06	133,3	89,3	OF	OD	OD	OF	GC	OA
KP 30•31	KM 30•31	30,63	134,3	90,3	OF	OD	OD	OF	GC	OA
KP 30•34	KM 30•34	34,56	136,8	92,8	OF	OD	OD	OF	GC	OA
KP 30•38	KM 30•38	39,27	136,8	92,8	OF	OD	OD	OF	GC	OA
KP 30•41	KM 30•41	41,62	141,3	97,3	OG	OF	OF	OG	GC	OA
KP 30•43	KM 30•43	43,98	142,8	98,8	OG	OF	OF	OG	GC	OA
KP 30•46	KM 30•46	46,34	144,3	100,3	OG	OF	OF	OG	GC	OA
KP 30•51	KM 30•51	51,83	147,8	103,8	OG	OF	OF	OG	GC	OA
KP 30•56	KM 30•56	56,54	150,8	106,8	OG	OF	OF	OG	GC	OA
KP 30•61	KM 30•61	61,26	153,8	109,8	OG	OF	OF	OG	GC	OA
KP 30•73	KM 30•73	73,82	168,8	98,8	OG	OF	OF	OG	GC	OA
KP 30•82	KM 30•82	81,68	173,8	103,8	OG	OF	OF	OG	GC	OA

(◆) Dimension on page 58 and 60

How to order

1 2 3 4 5 6 7
 [] [] 0 - [] K9 - L .. / .. - [] - [] - HSC - [] (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes in the table above	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	
Code	Performance	7
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 R0-A8 K9-L OF/OD-T-PV-OA-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

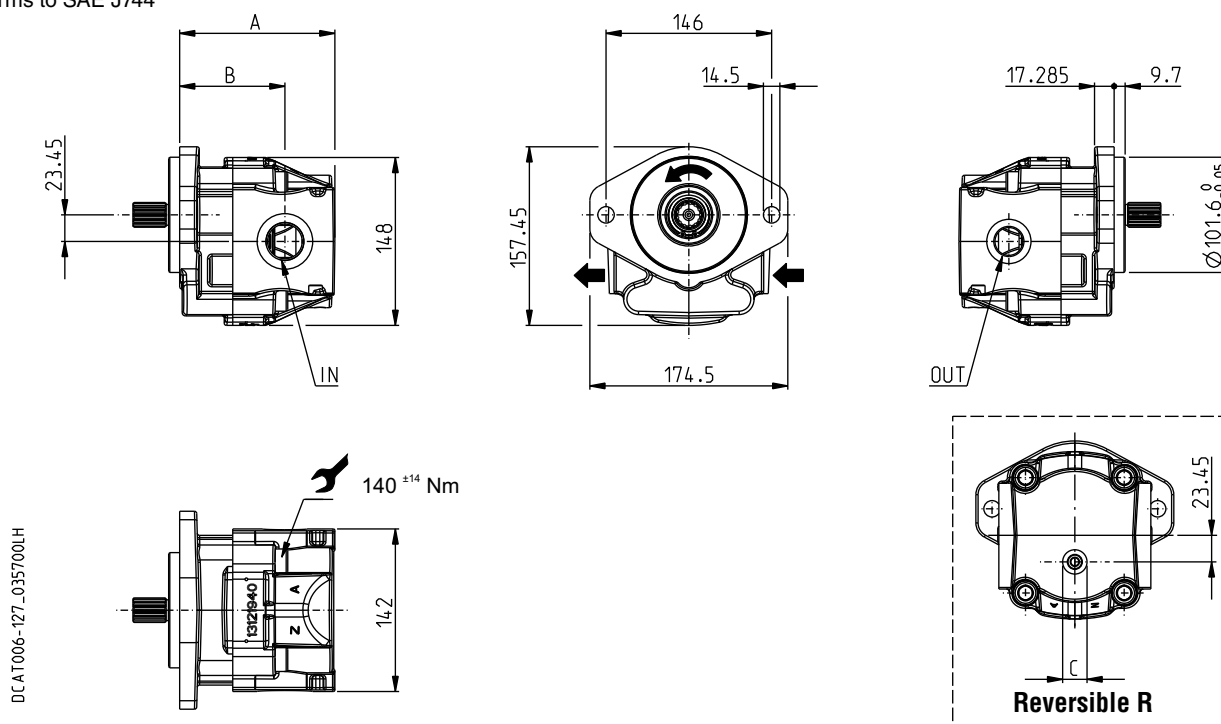
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS

HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS

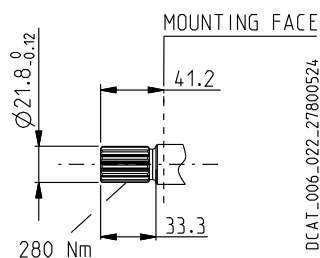


Drive shaft availability

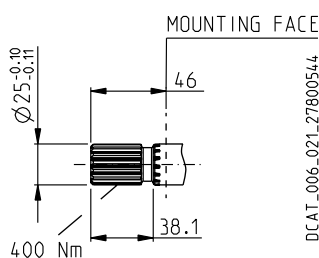
A8 (SAE "B" Spline)

A5 (SAE "BB" Spline)

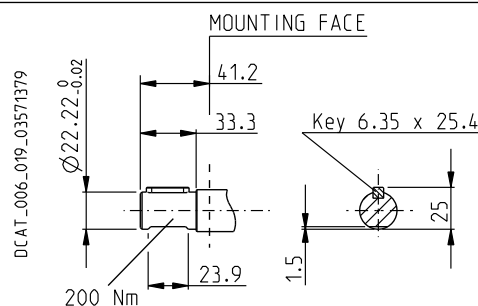
32 (SAE "B" Straight)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



GAS STRAIGHT THREAD PORTS

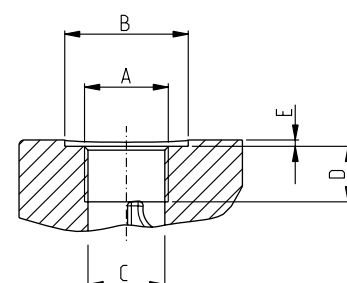
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GC (♦)	3/8"	G 3/8	25	15	14	2	15 ⁺¹	—
GE	3/4"	G 3/4	39	24,5	18	2,5	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(♦) Drain port

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Tightening torque for low pressure side port
 Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
IN	OUT	IN	OUT							
KP 30•19,5	KM 30•19,5	19,63	127,3	83,3	GF	GE	GE	GF	GC	OA
KP 30•22	KM 30•22	21,99	128,8	84,8	GF	GE	GE	GF	GC	OA
KP 30•24	KM 30•24	24,03	127,3	83,3	GF	GE	GE	GF	GC	OA
KP 30•27	KM 30•27	26,7	131,8	87,8	GF	GE	GE	GF	GC	OA
KP 30•29	KM 30•29	29,06	133,3	89,3	GF	GE	GE	GF	GC	OA
KP 30•31	KM 30•31	30,63	134,3	90,3	GF	GE	GE	GF	GC	OA
KP 30•34	KM 30•34	34,56	136,8	92,8	GF	GE	GE	GF	GC	OA
KP 30•38	KM 30•38	39,27	136,8	92,8	GF	GE	GE	GF	GC	OA
KP 30•41	KM 30•41	41,62	141,3	97,3	GG	GF	GF	GG	GC	OA
KP 30•43	KM 30•43	43,98	142,8	98,8	GG	GF	GF	GG	GC	OA
KP 30•46	KM 30•46	46,34	144,3	100,3	GG	GF	GF	GG	GC	OA
KP 30•51	KM 30•51	51,83	147,8	103,8	GG	GF	GF	GG	GC	OA
KP 30•56	KM 30•56	56,54	150,8	106,8	GG	GF	GF	GG	GC	OA
KP 30•61	KM 30•61	61,26	153,8	109,8	GG	GF	GF	GG	GC	OA
KP 30•73	KM 30•73	73,82	168,8	98,8	GG	GF	GF	GG	GC	OA
KP 30•82	KM 30•82	81,68	173,8	103,8	GG	GF	GF	GG	GC	OA

(◆) Dimension on page 58 and 60

How to order

1 2 3 4 5 6 7
 [] [] 0 - [] K9 - L .. / .. - [] - [] - HSC - [] (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes in the table above	
Code	Seals (a)	5
N	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	
Code	Performance	7
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 R0-A8 K9-L GF/GE-T-PV-GC-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

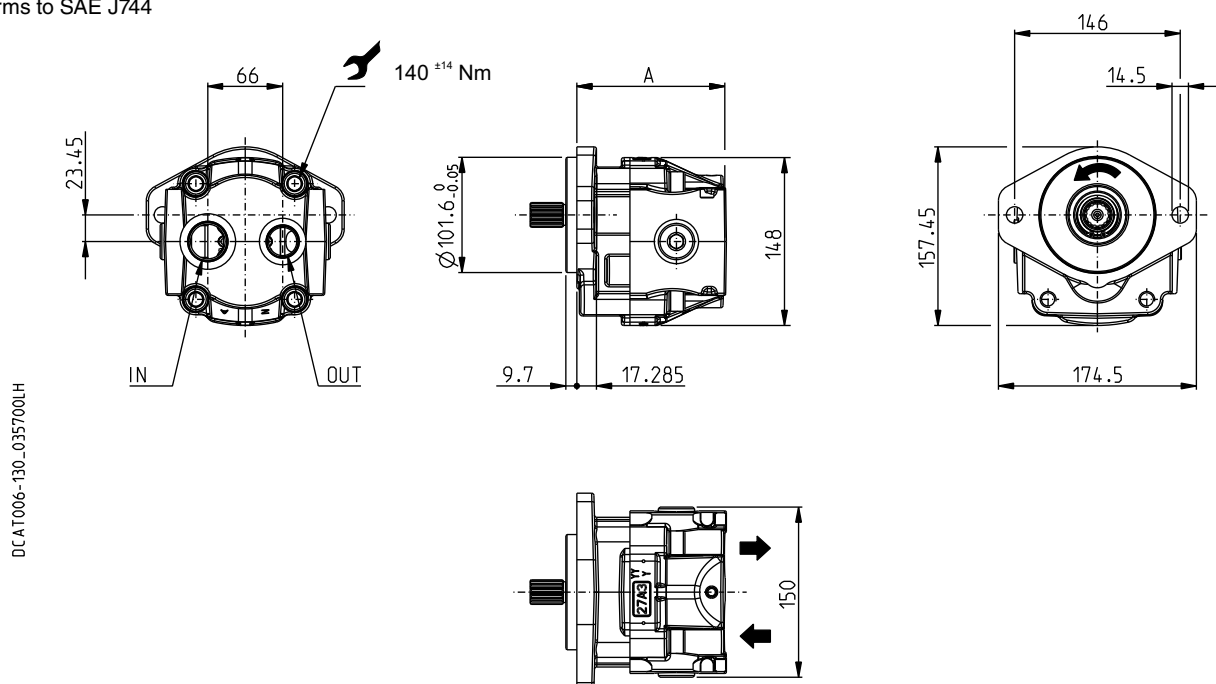
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - REAR PORTS

HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514

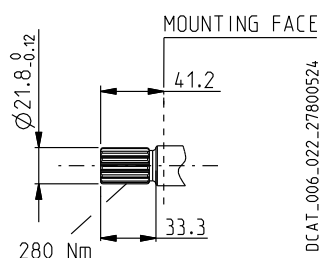


Drive shaft availability

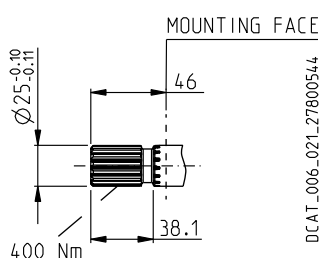
A8 (SAE "B" Spline)

A5 (SAE "BB" Spline)

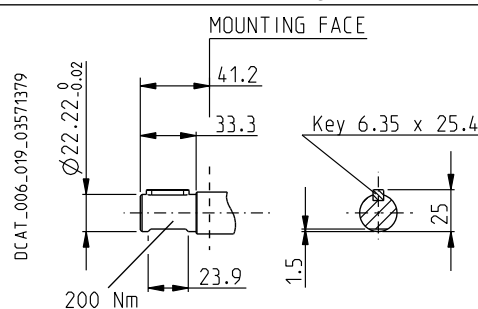
32 (SAE "B" Straight)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

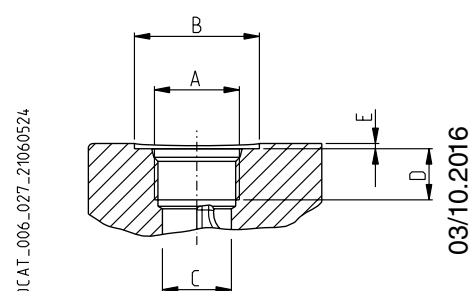


SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	ϕB	ϕC	D	E		
			mm	mm	mm	mm	Nm	Nm
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	2	40 $\pm 2,5$	120 ± 10
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ± 5	170 ± 10
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ± 5	—



Tightening torque for low pressure side port
 Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - REAR PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code			
				Gear pumps		Gear motors	
				IN	OUT	IN	OUT
KP 30•19,5	KM 30•19,5	19,63	127,3	OF	OD	OD	OF
KP 30•22	KM 30•22	21,99	128,8	OF	OD	OD	OF
KP 30•24	KM 30•24	24,03	127,3	OF	OD	OD	OF
KP 30•27	KM 30•27	26,7	131,8	OF	OD	OD	OF
KP 30•29	KM 30•29	29,06	133,3	OF	OD	OD	OF
KP 30•31	KM 30•31	30,63	134,3	OF	OD	OD	OF
KP 30•34	KM 30•34	34,56	136,8	OF	OD	OD	OF
KP 30•38	KM 30•38	39,27	136,8	OF	OD	OD	OF
KP 30•41	KM 30•41	41,62	141,3	OG	OF	OF	OG
KP 30•43	KM 30•43	43,98	142,8	OG	OF	OF	OG
KP 30•46	KM 30•46	46,34	144,3	OG	OF	OF	OG
KP 30•51	KM 30•51	51,83	147,8	OG	OF	OF	OG
KP 30•56	KM 30•56	56,54	150,8	OG	OF	OF	OG
KP 30•61	KM 30•61	61,26	153,8	OG	OF	OF	OG
KP 30•73	KM 30•73	73,82	168,8	OG	OF	OF	OG
KP 30•82	KM 30•82	81,68	173,8	OG	OF	OF	OG

How to order

1 2 3 4 5 6
 [] [] 0 - [] K9 - P .. / .. - [] - HSC - [] (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes in the table above	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Performance	6
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example

KP 30•19,5 S0-A8 K9-P OF/OD-T-PV-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

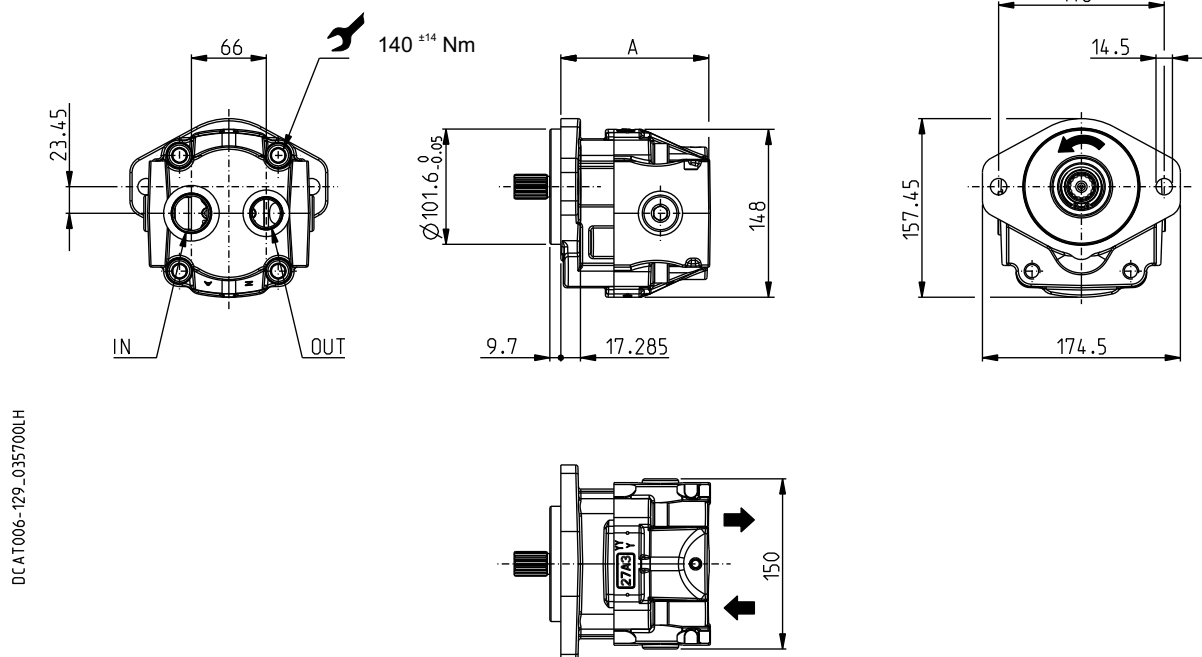
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - REAR PORTS

HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS

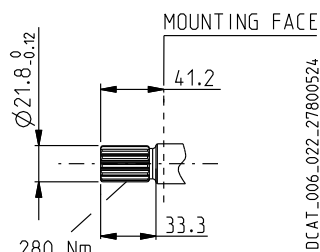


Drive shaft availability

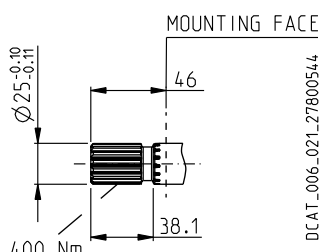
A8 (SAE "B" Spline)

A5 (SAE "BB" Spline)

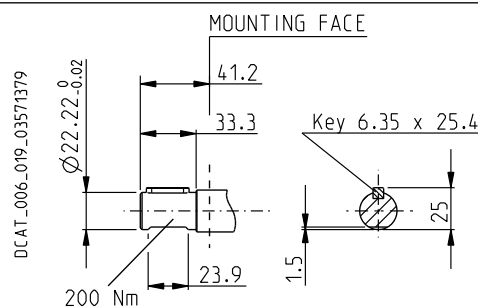
32 (SAE "B" Straight)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



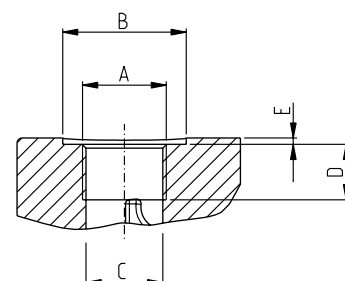
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GE	3/4"	G 3/4	39	24,5	18	2,5	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

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Tightening torque for low pressure side port
 Tightening torque for high pressure side port (values obtained at 350 bar)

03/10.2016

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - REAR PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code			
				Gear pumps		Gear motors	
				IN	OUT	IN	OUT
KP 30•19,5	KM 30•19,5	19,63	127,3	GF	GE	GE	GF
KP 30•22	KM 30•22	21,99	128,8	GF	GE	GE	GF
KP 30•24	KM 30•24	24,03	127,3	GF	GE	GE	GF
KP 30•27	KM 30•27	26,7	131,8	GF	GE	GE	GF
KP 30•29	KM 30•29	29,06	133,3	GF	GE	GE	GF
KP 30•31	KM 30•31	30,63	134,3	GF	GE	GE	GF
KP 30•34	KM 30•34	34,56	136,8	GF	GE	GE	GF
KP 30•38	KM 30•38	39,27	136,8	GF	GE	GE	GF
KP 30•41	KM 30•41	41,62	141,3	GG	GF	GF	GG
KP 30•43	KM 30•43	43,98	142,8	GG	GF	GF	GG
KP 30•46	KM 30•46	46,34	144,3	GG	GF	GF	GG
KP 30•51	KM 30•51	51,83	147,8	GG	GF	GF	GG
KP 30•56	KM 30•56	56,54	150,8	GG	GF	GF	GG
KP 30•61	KM 30•61	61,26	153,8	GG	GF	GF	GG
KP 30•73	KM 30•73	73,82	168,8	GG	GF	GF	GG
KP 30•82	KM 30•82	81,68	173,8	GG	GF	GF	GG

How to order

1 2 3 4 5 6
 0 - K9 - P .. / .. - - HSC - (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
3	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

Code	Ports IN/OUT	4
../..	See codes in the table above	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Performance	6
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 S0-A8 K9-P GF/GF-T-PV-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

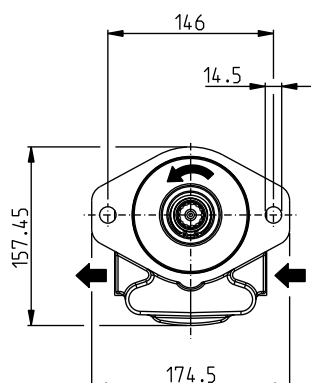
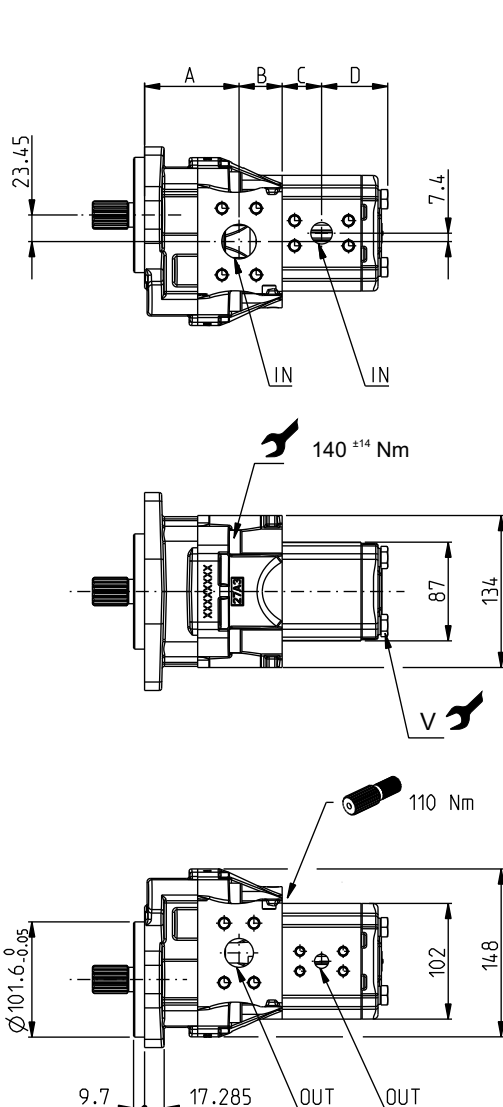
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY

HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability (See page 56)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages. The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 $\pm 4,5$ (358 $\div$ 438)
Cast iron	70 ± 7 (558 $\div$ 682)

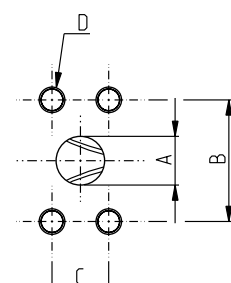
SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MA	12,5	17,5	38,1	M 8 Depth 14	15 ± 1	15 ± 1
MB	19	22,2	47,6	M 10 Depth 14	20 ± 1	20 ± 1
MC	25,4	52,4	26,2	M 10 Depth 17	20 ± 1	30 $\pm 2,5$
MD	30,5	58,7	30,2	M 10 Depth 17	20 ± 1	35 $\pm 2,5$
ME	39,3	69,8	35,7	M 12 Depth 17	30 $\pm 2,5$	60 ± 5

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03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY
HSC

Pump type	Displacement	A	B	Ports code	
	cm ³ /rev			IN	OUT
KP 30•19,5	19,63	83,3	38	MC	MB
KP 30•22	21,99	84,8	38	MC	MB
KP 30•24	24,03	83,3	38	MC	MB
KP 30•27	26,7	87,8	38	MC	MB
KP 30•29	29,06	89,3	38	MC	MB
KP 30•31	30,63	90,3	38	MC	MB
KP 30•34	34,56	92,8	38	MC	MB
KP 30•38	39,27	92,8	38	MC	MB
KP 30•41	41,62	97,3	38	MD	MC
KP 30•43	43,98	98,8	38	MD	MC
KP 30•46	46,34	100,3	38	MD	MC
KP 30•51	51,83	103,8	38	MD	MC
KP 30•56	56,54	106,9	38	ME	MD
KP 30•61	61,26	109,8	64	ME	MD
KP 30•73	73,82	98,8	64	ME	MD
KP 30•82	81,68	103,8	64	ME	MD

Pump type	Displacement	C	D	Ports code	
	cm ³ /rev			IN	OUT
PLP 20•4	4,95	25,8	49,3	MA	MA
PLP 20•6,3	6,61	27	50,5	MA	MA
PLP 20•8	8,26	28,3	51,8	MA	MA
PLP 20•10,5	10,9	30,3	53,8	MA	MA
PLP 20•11,2	11,23	30,5	54	MA	MA
PLP 20•14	14,53	33	56,5	MB	MA
PLP 20•16	16,85	34,8	58,3	MB	MA
PLP 20•20	21,14	38	61,5	MB	MA

Polaris 20: for features please consult the proper technical catalog.

How to order

 Front pump 1 - 2 **K9 - L** 3 - **45 - HSC** / 4 /

 Rear pump 1 - **L** 3 - 5 6 - 7 / **FS** - 8 - 9 (**ANF3**) (**CN**) (**VNR01**)

1	Type	Code
Front pump type		KP 30•...
Rear pump type		PLP 20•...

2	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

3	Ports IN/OUT (a)	Code
See codes in the table above		../..

4	Performance	Code
Standard - no code (b)		...
High performance		GS

5	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

Code	Rotation	6
S	Left	
D	Right	

Code	Seals (c)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Rear cover	8
...	Cast iron (standard) - no code	
L	Aluminium	

Code	Rear pump thrust plate	9
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

 (a) For rear pump with common inlet, please write only /OUT code.
 (b) Not available for type 41-43-46-51-56-61-73-82.
 (c) Choose the seals according to the temperature shown on page 4.

Order example
KP 30•19,5-A8 K9-L MC/MB-45-HSC/GS/PLP 20•16-L /MA-N7 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

03/10.2016

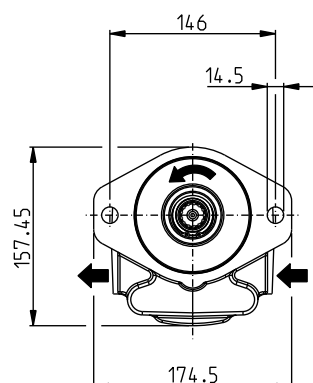
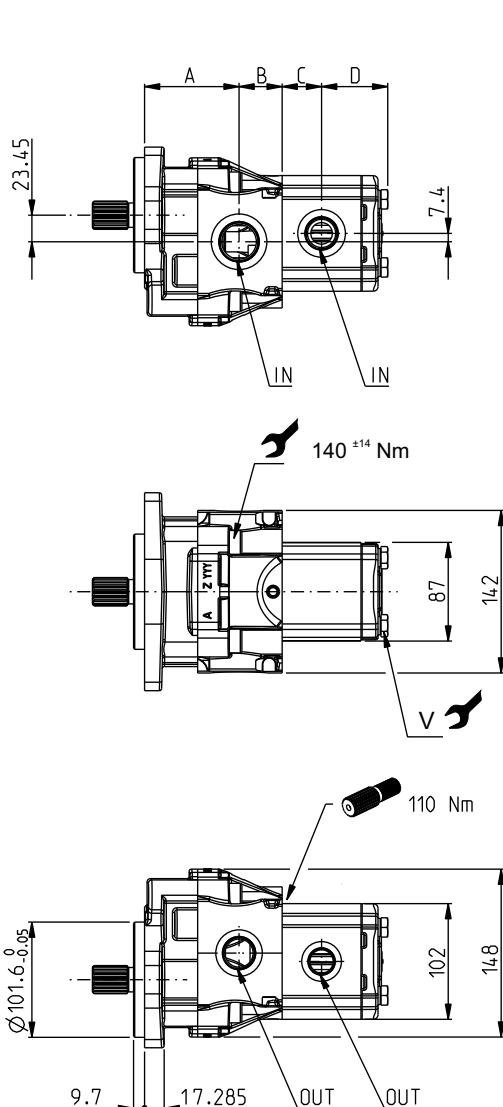
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY

HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability (See page 56)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages. The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)

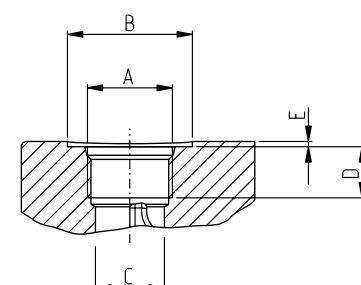
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
OC	5/8"	7/8" - 14 UNF - 2B	35	20,5	17	0,5	30 +2,5	70 +5
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	(♦) 0,5 2	40 +2,5	120 +10
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 +5	170 +10
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 +5	—

(♦) For Polaris 20



- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY
HSC

Pump type	Displacement	A	B	Ports code	
	cm³/rev			IN	OUT
KP 30•19,5	19,63	83,3	38	OF	OD
KP 30•22	21,99	84,8	38	OF	OD
KP 30•24	24,03	83,3	38	OF	OD
KP 30•27	26,7	87,8	38	OF	OD
KP 30•29	29,06	89,3	38	OF	OD
KP 30•31	30,63	90,3	38	OF	OD
KP 30•34	34,56	92,8	38	OF	OD
KP 30•38	39,27	92,8	38	OF	OD
KP 30•41	41,62	97,3	38	OG	OF
KP 30•43	43,98	98,8	38	OG	OF
KP 30•46	46,34	100,3	38	OG	OF
KP 30•51	51,83	103,8	38	OG	OF
KP 30•56	56,54	106,8	38	OG	OF
KP 30•61	61,26	109,8	64	OG	OF
KP 30•73	73,82	98,8	64	OG	OF
KP 30•82	81,68	103,8	64	OG	OF

Pump type	Displacement	C	D	Ports code	
	cm³/rev			IN	OUT
PLP 20•4	4,95	25,8	49,3	OC	OC
PLP 20•6,3	6,61	27	50,5	OC	OC
PLP 20•8	8,26	28,3	51,8	OC	OC
PLP 20•10,5	10,9	30,3	53,8	OC	OC
PLP 20•11,2	11,23	30,5	54	OC	OC
PLP 20•14	14,53	33	56,5	OD	OC
PLP 20•16	16,85	34,8	58,3	OD	OC
PLP 20•20	21,14	38	61,5	OD	OC

Polaris 20: for features please consult the proper technical catalog.

How to order

 Front pump 1 - 2 **K9 - L** 3 - **45 - HSC** / 4 /

 Rear pump 1 - **L** 3 - 5 - 6 7 - 8 / **FS** - 9 - 10 (**ANF3**) (**CN**) (**VNR01**)

1	Type	Code
Front pump type		KP 30•...
Rear pump type		PLP 20•...

2	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

3	Ports IN/OUT (a)	Code
See codes in the table above		../..

4	Performance	Code
Standard - no code (b)		...
High performance		GS

5	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

 (a) For rear pump with common inlet, please write only /OUT code.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Code	Rear pump body	6
...	PLP20 with standard body - no code	
L101	PLP20 with high strength body	

Code	Rotation	7
S	Left	
D	Right	

Code	Seals (c)	8
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Rear cover	9
...	Cast iron (standard) - no code	
L	Aluminium	

Code	Rear pump thrust plate	10
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

(c) Choose the seals according to the temperature shown on page 4.

Order example
KP 30•19,5-A8 K9-L OF/OD-45-HSC/GS/PLP 20•16-L /OC-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

03/10.2016

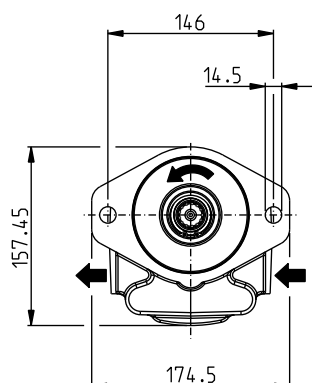
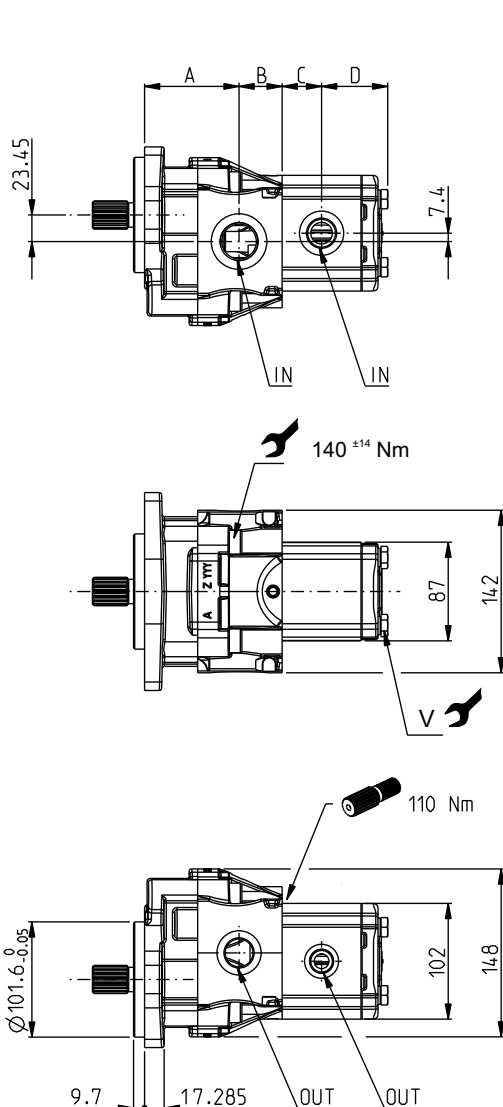
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY

HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability (See page 56)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages. The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)

GAS STRAIGHT THREAD PORTS

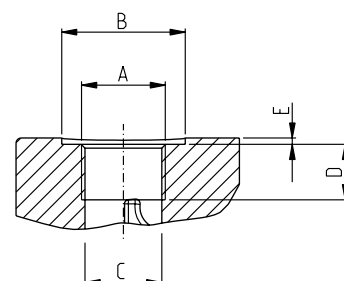
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GD	1/2"	G 1/2	—	19	17	—	20 ⁺¹	50 ^{+2,5}
GE	3/4"	G 3/4	(◆) — 39	24,5	18	(◆) — 2,5	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(◆) For Polaris 20

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03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY
HSC

Pump type	Displacement	A	B	Ports code	
	cm ³ /rev			IN	OUT
KP 30•19,5	19,63	83,3	38	GF	GE
KP 30•22	21,99	84,8	38	GF	GE
KP 30•24	24,03	83,3	38	GF	GE
KP 30•27	26,7	87,8	38	GF	GE
KP 30•29	29,06	89,3	38	GF	GE
KP 30•31	30,63	90,3	38	GF	GE
KP 30•34	34,56	92,8	38	GF	GE
KP 30•38	39,27	92,8	38	GF	GE
KP 30•41	41,62	97,3	38	GG	GF
KP 30•43	43,98	98,8	38	GG	GF
KP 30•46	46,34	100,3	38	GG	GF
KP 30•51	51,83	103,8	38	GG	GF
KP 30•56	56,54	106,8	38	GG	GF
KP 30•61	61,26	109,8	64	GG	GF
KP 30•73	73,82	98,8	64	GG	GF
KP 30•82	81,68	103,8	64	GG	GF

Pump type	Displacement	C	D	Ports code	
	cm ³ /rev			IN	OUT
PLP 20•4	4,95	25,8	49,3	GD	GD
PLP 20•6,3	6,61	27	50,5	GD	GD
PLP 20•8	8,26	28,3	51,8	GD	GD
PLP 20•10,5	10,9	30,3	53,8	GD	GD
PLP 20•11,2	11,23	30,5	54	GD	GD
PLP 20•14	14,53	33	56,5	GE	GD
PLP 20•16	16,85	34,8	58,3	GE	GD
PLP 20•20	21,14	38	61,5	GE	GD

Polaris 20: for features please consult the proper technical catalog.

How to order

 Front pump 1 - 2 **K9 - L** 3 - **45 - HSC** / 4 /

 Rear pump 1 - L 3 - 5 - 6 7 - 8 / FS - 9 - 10 (**ANF3**) (**CN**) (**VNR01**)

1	Type	Code
Front pump type		KP 30•...
Rear pump type		PLP 20•...

2	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

3	Ports IN/OUT (a)	Code
See codes in the table above		../..

4	Performance	Code
Standard - no code (b)		...
High performance		GS

5	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

 (a) For rear pump with common inlet, please write only /OUT code.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Code	Rear pump body	6
...	PLP20 with standard body - no code	
L101	PLP20 with high strength body	

Code	Rotation	7
S	Left	
D	Right	

Code	Seals (c)	8
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Rear cover	9
...	Cast iron (standard) - no code	
L	Aluminium	

Code	Rear pump thrust plate	10
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

(c) Choose the seals according to the temperature shown on page 4.

Order example
KP 30•19,5-A8 K9-L GF/GE-45-HSC/GS/PLP 20•16-L /GD-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

03/10.2016

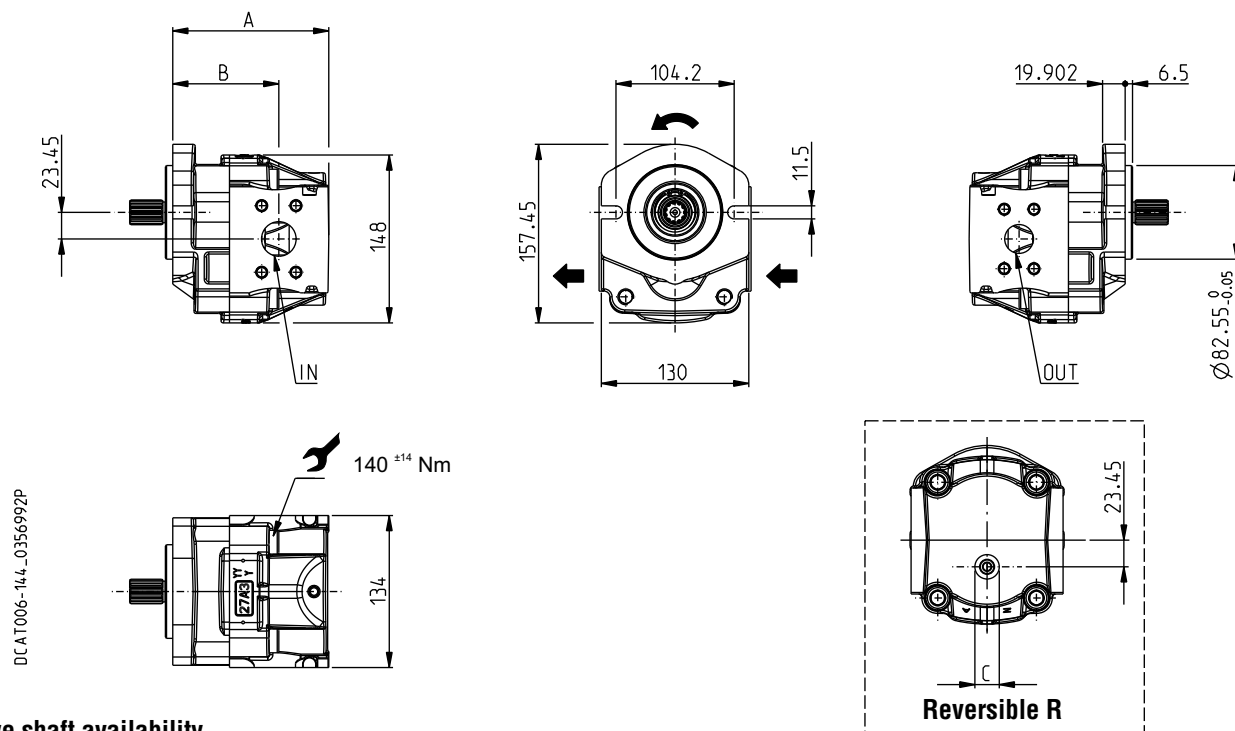
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS

HSC

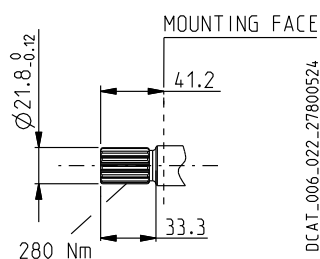
Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability

A8 (SAE "B" Spline)



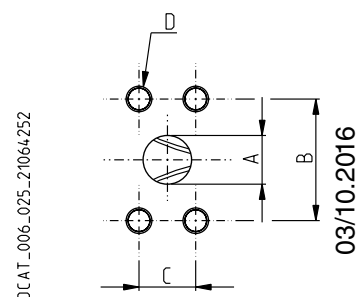
Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MB	19	47,6	22,2	M 10 Depth 17	20 $^{+1}$	30 $^{+2,5}$
MC	25,4	52,4	26,2	M 10 Depth 17	20 $^{+1}$	30 $^{+2,5}$
MD	30,5	58,7	30,2	M 10 Depth 17	20 $^{+1}$	35 $^{+2,5}$
ME	39,3	69,8	35,7	M 12 Depth 17	30 $^{+2,5}$	60 $^{+5}$



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
					IN	OUT	IN	OUT		
KP 30•19,5	KM 30•19,5	19,63	130,5	86,5	MC	MB	MB	MC	GC	OA
KP 30•22	KM 30•22	21,99	132	88	MC	MB	MB	MC	GC	OA
KP 30•24	KM 30•24	24,03	130,5	86,5	MC	MB	MB	MC	GC	OA
KP 30•27	KM 30•27	26,7	135	91	MC	MB	MB	MC	GC	OA
KP 30•29	KM 30•29	29,06	136,5	92,5	MC	MB	MB	MC	GC	OA
KP 30•31	KM 30•31	30,63	137,5	93,5	MC	MB	MB	MC	GC	OA
KP 30•34	KM 30•34	34,56	140	96	MC	MB	MB	MC	GC	OA
KP 30•38	KM 30•38	39,27	140	96	MC	MB	MB	MC	GC	OA
KP 30•41	KM 30•41	41,62	144,5	100,5	MD	MC	MC	MD	GC	OA
KP 30•43	KM 30•43	43,98	146	102	MD	MC	MC	MD	GC	OA
KP 30•46	KM 30•46	46,34	147,5	103,5	MD	MC	MC	MD	GC	OA
KP 30•51	KM 30•51	51,83	151	107	MD	MC	MC	MD	GC	OA
KP 30•56	KM 30•56	56,54	154	110	ME	MD	MD	ME	GC	OA
KP 30•61	KM 30•61	61,26	157	113	ME	MD	MD	ME	GC	OA
KP 30•73	KM 30•73	73,82	172	102	ME	MD	MD	ME	GC	OA
KP 30•82	KM 30•82	81,68	177	107	ME	MD	MD	ME	GC	OA

(◆) Dimension on page 74 and 76

How to order

1 2 3 4 5 6
 [] [] 0 - A8 S9 - L [.. / ..] - [] - [] - HSC - [] (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Ports IN/OUT	Code
See codes in the table above		../..

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	5
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	
Code	Performance	6
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example

KP 30•19,5 R0-A8 S9-L MC/MB-T-PV-OA-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

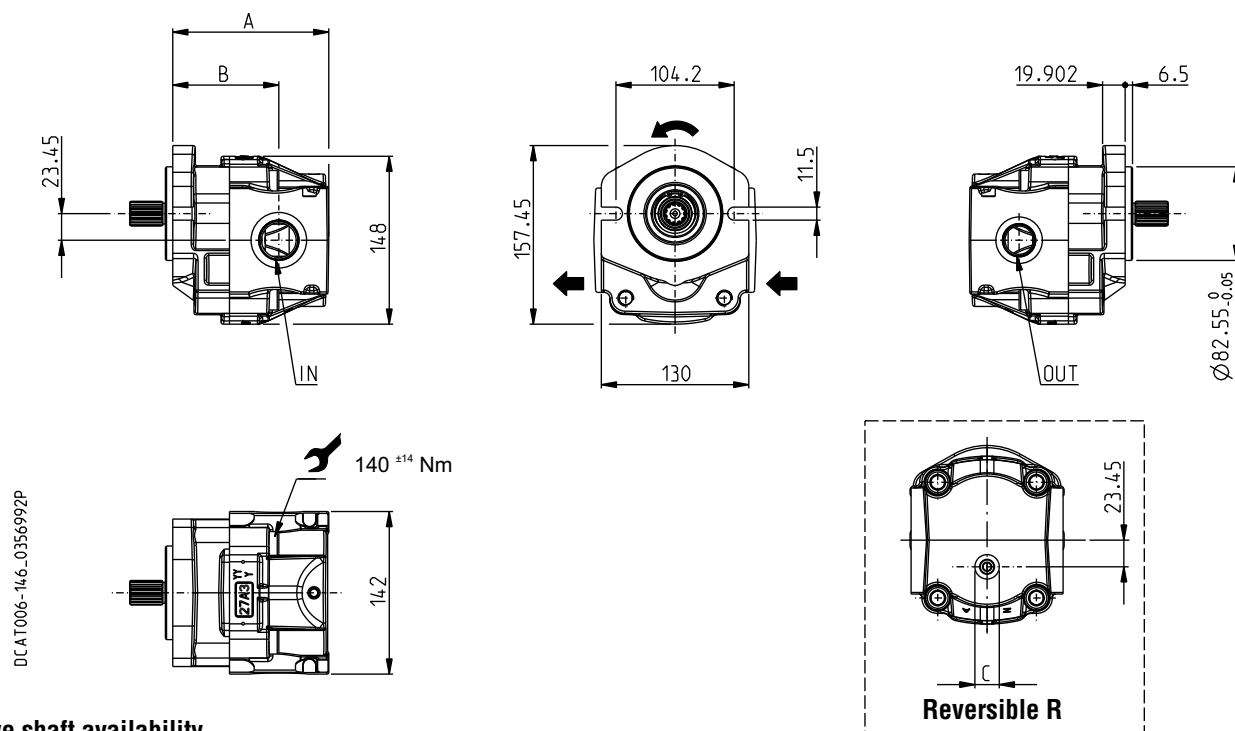
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS

HSC

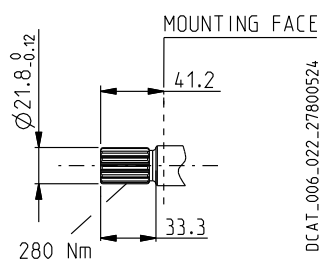
Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability

A8 (SAE "B" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

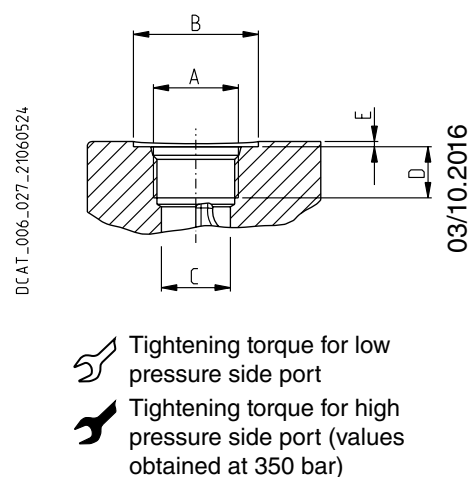
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	$\varnothing B$	$\varnothing C$	D	E		
			mm	mm	mm	mm	Nm	Nm
OA (◆)	3/8"	9/16" - 12 UNF - 2B	26	13	15	2	15 ⁺¹	—
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	2	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

(◆) = Drain port



KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
					IN	OUT	IN	OUT		
KP 30•19,5	KM 30•19,5	19,63	130,5	86,5	OF	OD	OD	OF	GC	OA
KP 30•22	KM 30•22	21,99	132	88	OF	OD	OD	OF	GC	OA
KP 30•24	KM 30•24	24,03	130,5	86,5	OF	OD	OD	OF	GC	OA
KP 30•27	KM 30•27	26,7	135	91	OF	OD	OD	OF	GC	OA
KP 30•29	KM 30•29	29,06	136,5	92,5	OF	OD	OD	OF	GC	OA
KP 30•31	KM 30•31	30,63	137,5	93,5	OF	OD	OD	OF	GC	OA
KP 30•34	KM 30•34	34,56	140	96	OF	OD	OD	OF	GC	OA
KP 30•38	KM 30•38	39,27	140	96	OF	OD	OD	OF	GC	OA
KP 30•41	KM 30•41	41,62	144,5	100,5	OG	OF	OF	OG	GC	OA
KP 30•43	KM 30•43	43,98	146	102	OG	OF	OF	OG	GC	OA
KP 30•46	KM 30•46	46,34	147,5	103,5	OG	OF	OF	OG	GC	OA
KP 30•51	KM 30•51	51,83	151	107	OG	OF	OF	OG	GC	OA
KP 30•56	KM 30•56	56,54	154	110	OG	OF	OF	OG	GC	OA
KP 30•61	KM 30•61	61,26	157	113	OG	OF	OF	OG	GC	OA
KP 30•73	KM 30•73	73,82	172	102	OG	OF	OF	OG	GC	OA
KP 30•82	KM 30•82	81,68	177	107	OG	OF	OF	OG	GC	OA

(◆) Dimension on page 74 and 76

How to order

1 2 0 - A8 S9 - L 3 / - 4 - 5 - HSC - 6 (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Ports IN/OUT	Code
See codes in the table above		../..

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	5
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	
Code	Performance	6
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example

KP 30•19,5 R0-A8 S9-L OF/OD-T-PV-OA-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

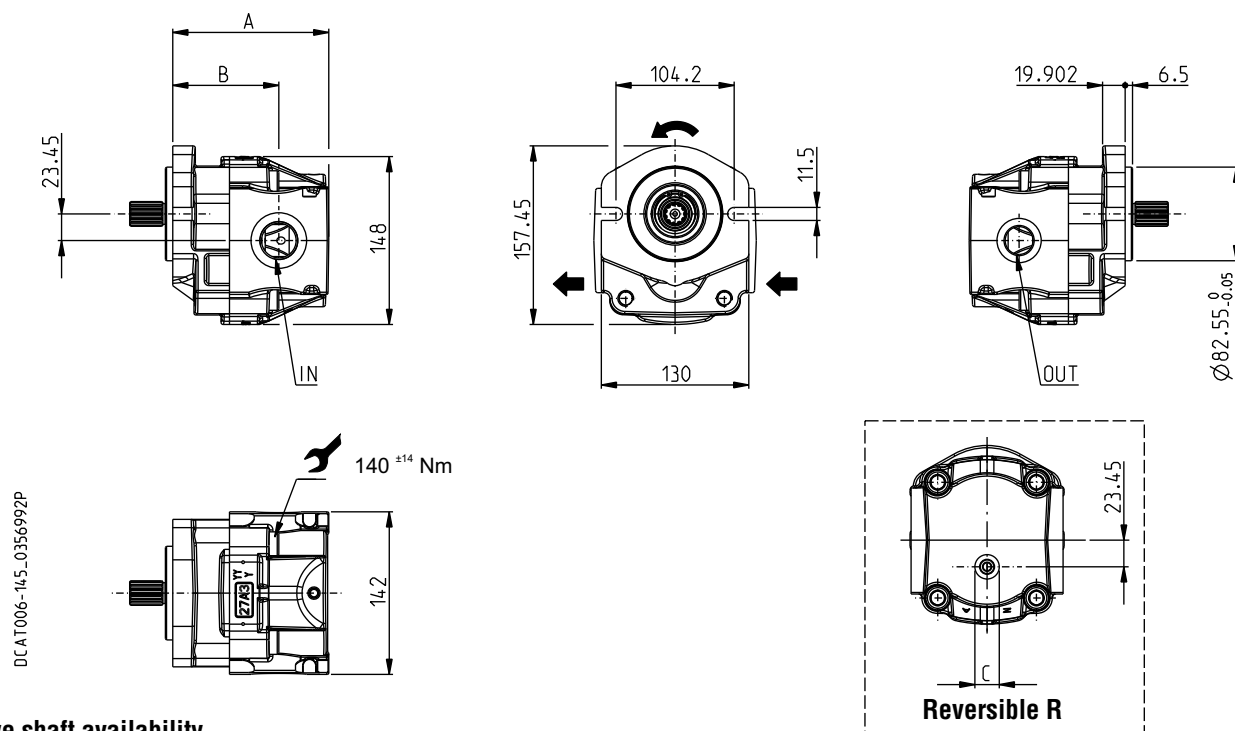
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS

HSC

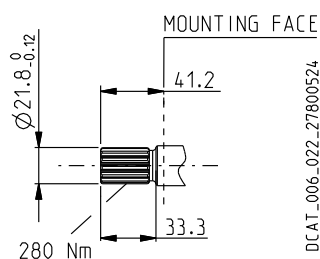
Mounting flange: **S9**
SAE "B" 2 HOLES
 Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability

A8 (SAE “B” Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

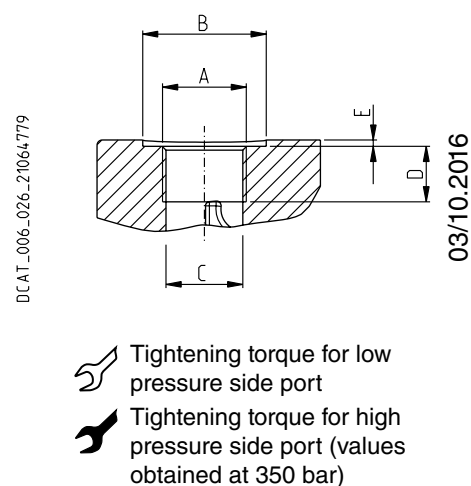
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GC 	3/8"	G 3/8	25	15	14	2	15 ⁺¹	—
GE	3/4"	G 3/4	39	24,5	18	2,5	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(◆) Drain port



KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
					IN	OUT	IN	OUT		
KP 30•19,5	KM 30•19,5	19,63	130,5	86,5	GF	GE	GE	GF	GC	OA
KP 30•22	KM 30•22	21,99	132	88	GF	GE	GE	GF	GC	OA
KP 30•24	KM 30•24	24,03	130,5	86,5	GF	GE	GE	GF	GC	OA
KP 30•27	KM 30•27	26,7	135	91	GF	GE	GE	GF	GC	OA
KP 30•29	KM 30•29	29,06	136,5	92,5	GF	GE	GE	GF	GC	OA
KP 30•31	KM 30•31	30,63	137,5	93,5	GF	GE	GE	GF	GC	OA
KP 30•34	KM 30•34	34,56	140	96	GF	GE	GE	GF	GC	OA
KP 30•38	KM 30•38	39,27	140	96	GF	GE	GE	GF	GC	OA
KP 30•41	KM 30•41	41,62	144,5	100,5	GG	GF	GF	GG	GC	OA
KP 30•43	KM 30•43	43,98	146	102	GG	GF	GF	GG	GC	OA
KP 30•46	KM 30•46	46,34	147,5	103,5	GG	GF	GF	GG	GC	OA
KP 30•51	KM 30•51	51,83	151	107	GG	GF	GF	GG	GC	OA
KP 30•56	KM 30•56	56,54	154	110	GG	GF	GF	GG	GC	OA
KP 30•61	KM 30•61	61,26	157	113	GG	GF	GF	GG	GC	OA
KP 30•73	KM 30•73	73,82	172	102	GG	GF	GF	GG	GC	OA
KP 30•82	KM 30•82	81,68	177	107	GG	GF	GF	GG	GC	OA

(◆) Dimension on page 74 and 76

How to order

1 2 0 - A8 S9 - L 3 / - 4 - 5 - HSC - 6 (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Ports IN/OUT	Code
See codes in the table above		../..

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	5
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	
Code	Performance	6
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example

KP 30•19,5 R0-A8 S9-L GF/GE-T-PV-GC-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

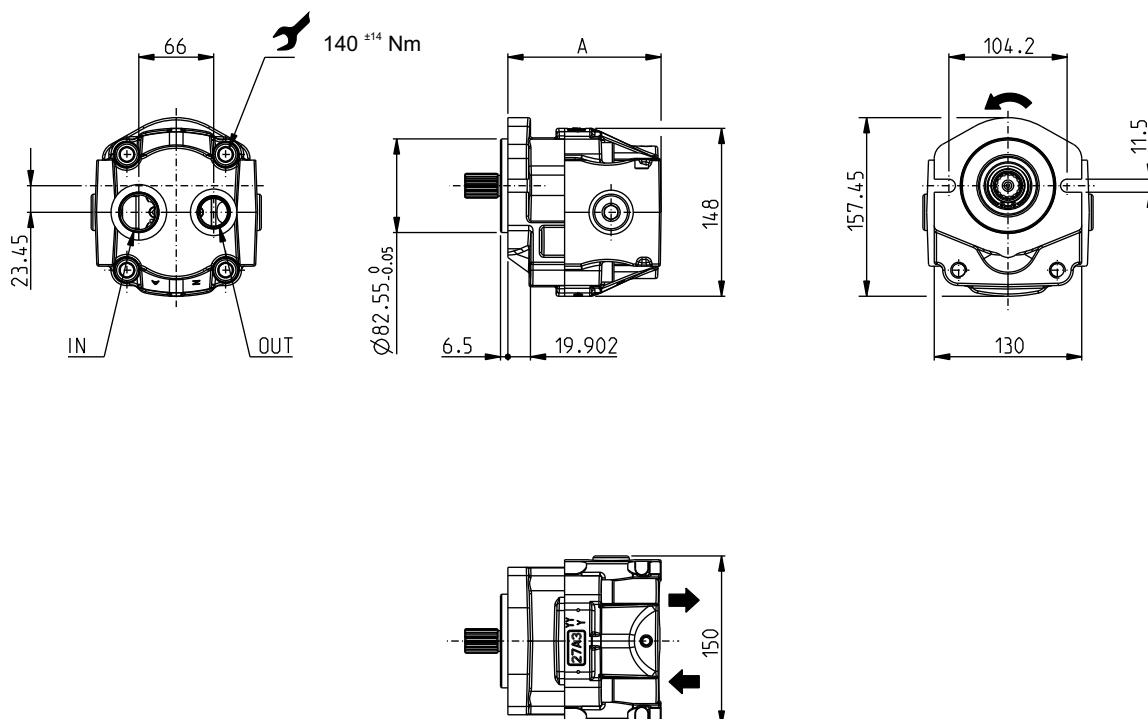
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - REAR PORTS

HSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

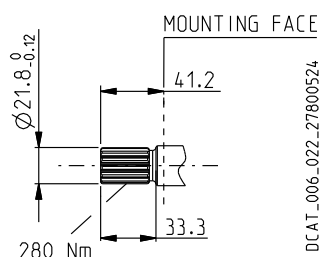
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



DCAT006-148_0356992P

Drive shaft availability

A8 (SAE "B" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

DCAT_006_022_27800524

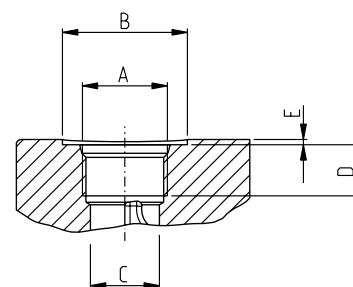
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	$\varnothing B$	$\varnothing C$	D	E		
			mm	mm	mm	mm	Nm	Nm
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	2	40 $\pm 2,5$	120 ± 10
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ± 5	170 ± 10
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ± 5	—

DCAT_006_027_21060524



03/10.2016

-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - REAR PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code			
				Gear pumps		Gear motors	
				IN	OUT	IN	OUT
KP 30•19,5	KM 30•19,5	19,63	130,5	OF	OD	OD	OF
KP 30•22	KM 30•22	21,99	132	OF	OD	OD	OF
KP 30•24	KM 30•24	24,03	130,5	OF	OD	OD	OF
KP 30•27	KM 30•27	26,7	135	OF	OD	OD	OF
KP 30•29	KM 30•29	29,06	136,5	OF	OD	OD	OF
KP 30•31	KM 30•31	30,63	137,5	OF	OD	OD	OF
KP 30•34	KM 30•34	34,56	140	OF	OD	OD	OF
KP 30•38	KM 30•38	39,27	140	OF	OD	OD	OF
KP 30•41	KM 30•41	41,62	144,5	OG	OF	OF	OG
KP 30•43	KM 30•43	43,98	146	OG	OF	OF	OG
KP 30•46	KM 30•46	46,34	147,5	OG	OF	OF	OG
KP 30•51	KM 30•51	51,83	151	OG	OF	OF	OG
KP 30•56	KM 30•56	56,54	154	OG	OF	OF	OG
KP 30•61	KM 30•61	61,26	157	OG	OF	OF	OG
KP 30•73	KM 30•73	73,82	172	OG	OF	OF	OG
KP 30•82	KM 30•82	81,68	177	OG	OF	OF	OG

How to order

1 2 3 4 5
 0 - A8 S9 - P .. / .. - - HSC - (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...

2	Rotation	Code
Left		S
Right		D

3	Ports IN/OUT	Code
See codes in the table above		.. / ..

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Performance	5
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 S0-A8 S9-P OF/OD-T-PV-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

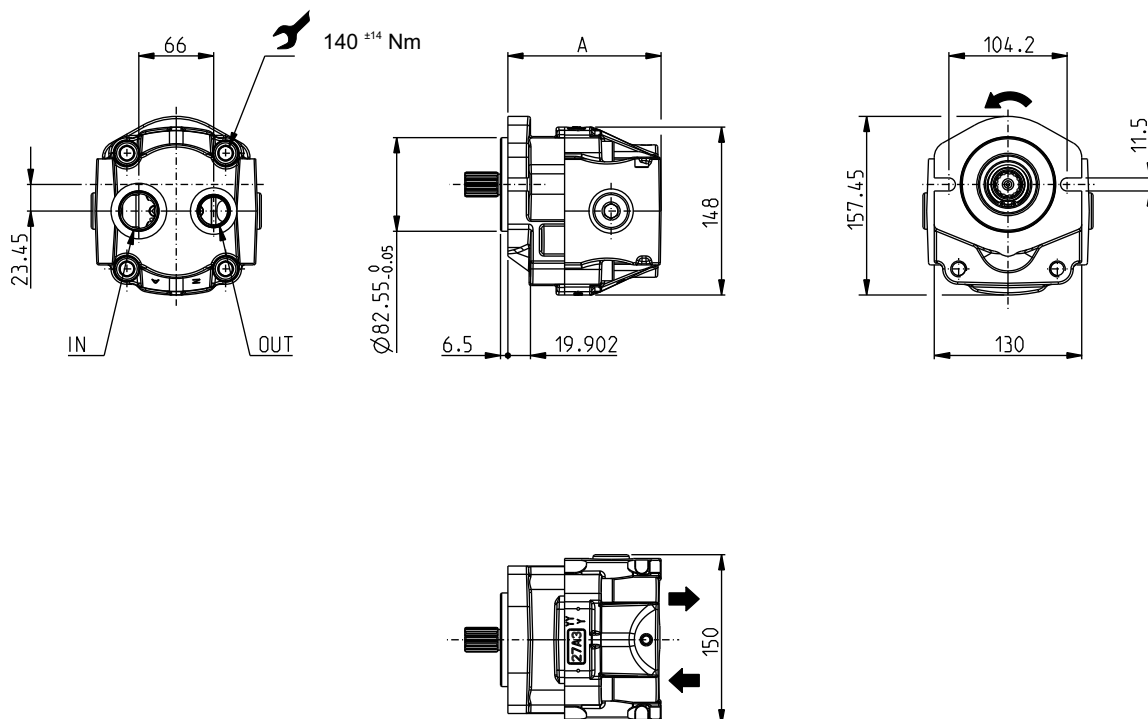
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - REAR PORTS

HSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

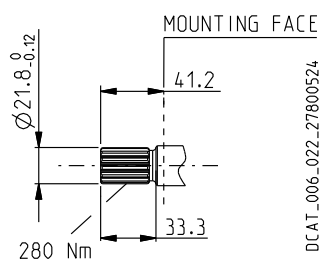
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



DCAT006-147_0356992P

Drive shaft availability

A8 (SAE "B" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
13 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

DCAT_006_022_27800524

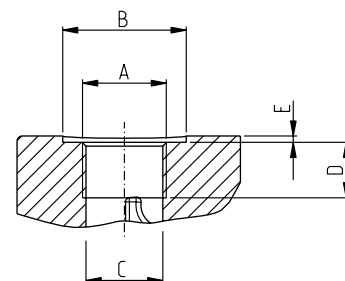
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	$\varnothing B$	$\varnothing C$	D	E	Nm	Nm
			mm	mm				
GE	3/4"	G 3/4	39	24,5	18	2,5	30 $\pm 2,5$	90 ± 5
GF	1"	G 1	49	30,5	22	2,5	50 $\pm 2,5$	130 ± 10
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ± 5	170 ± 15

DCAT_006_026_21064779



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - REAR PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code			
				Gear pumps		Gear motors	
				IN	OUT	IN	OUT
KP 30•19,5	KM 30•19,5	19,63	130,5	GF	GE	GE	GF
KP 30•22	KM 30•22	21,99	132	GF	GE	GE	GF
KP 30•24	KM 30•24	24,03	130,5	GF	GE	GE	GF
KP 30•27	KM 30•27	26,7	135	GF	GE	GE	GF
KP 30•29	KM 30•29	29,06	136,5	GF	GE	GE	GF
KP 30•31	KM 30•31	30,63	137,5	GF	GE	GE	GF
KP 30•34	KM 30•34	34,56	140	GF	GE	GE	GF
KP 30•38	KM 30•38	39,27	140	GF	GE	GE	GF
KP 30•41	KM 30•41	41,62	144,5	GG	GF	GF	GG
KP 30•43	KM 30•43	43,98	146	GG	GF	GF	GG
KP 30•46	KM 30•46	46,34	147,5	GG	GF	GF	GG
KP 30•51	KM 30•51	51,83	151	GG	GF	GF	GG
KP 30•56	KM 30•56	56,54	154	GG	GF	GF	GG
KP 30•61	KM 30•61	61,26	157	GG	GF	GF	GG
KP 30•73	KM 30•73	73,82	172	GG	GF	GF	GG
KP 30•82	KM 30•82	81,68	177	GG	GF	GF	GG

How to order

1 2 3 4 5
 0 - A8 S9 - P .. / .. - - HSC - (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
3	Ports IN/OUT	Code
See codes in the table above		../..

Code	Seals (a)	4
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Performance	5
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 S0-A8 S9-P GF/GE-T-PV-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

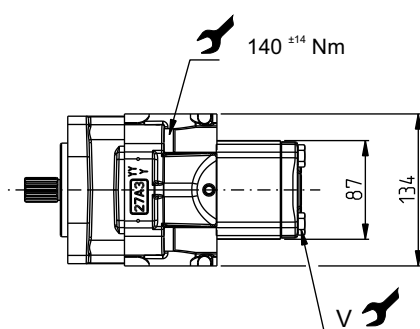
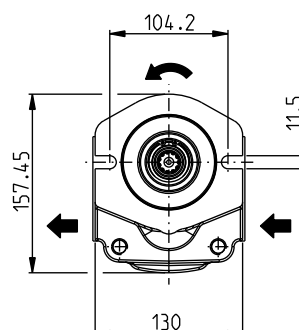
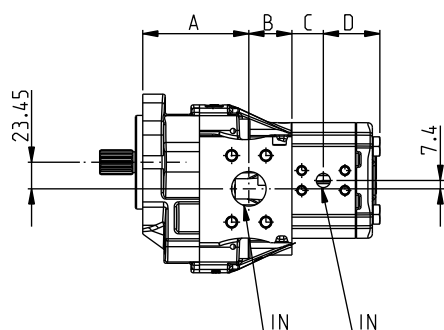
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY

HSC

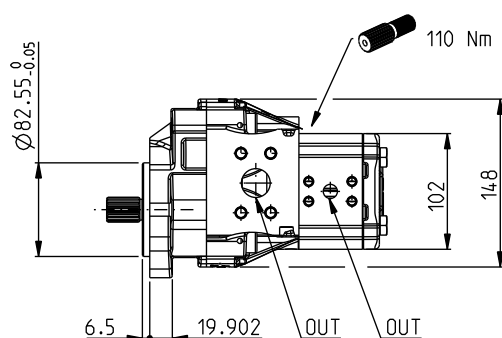
Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability (See page 72)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.



Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)

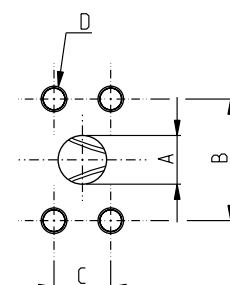
SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MA	12,5	17,5	38,1	M 8 Depth 14	15 ⁺¹	15 ⁺¹
MB	19	22,2	47,6	M 10 Depth 14	20 ⁺¹	20 ⁺¹
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵

DCAT_006_025_21064252



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY
HSC

Pump type	Displacement	A	B	Ports code	
	cm ³ /rev			IN	OUT
KP 30•19,5	19,63	86,5	38	MC	MB
KP 30•22	21,99	88	38	MC	MB
KP 30•24	24,03	86,5	38	MC	MB
KP 30•27	26,7	91	38	MC	MB
KP 30•29	29,06	92,5	38	MC	MB
KP 30•31	30,63	93,5	38	MC	MB
KP 30•34	34,56	96	38	MC	MB
KP 30•38	39,27	96	38	MC	MB
KP 30•41	41,62	100,5	38	MD	MC
KP 30•43	43,98	102	38	MD	MC
KP 30•46	46,34	103,5	38	MD	MC
KP 30•51	51,83	107	38	MD	MC
KP 30•56	56,54	110	38	ME	MD
KP 30•61	61,26	113	64	ME	MD
KP 30•73	73,82	102	64	ME	MD
KP 30•82	81,68	107	64	ME	MD

Pump type	Displacement	C	D	Ports code	
	cm ³ /rev			IN	OUT
PLP 20•4	4,95	25,8	49,3	MA	MA
PLP 20•6,3	6,61	27	50,5	MA	MA
PLP 20•8	8,26	28,3	51,8	MA	MA
PLP 20•10,5	10,9	30,3	53,8	MA	MA
PLP 20•11,2	11,23	30,5	54	MA	MA
PLP 20•14	14,53	33	56,5	MB	MA
PLP 20•16	16,85	34,8	58,3	MB	MA
PLP 20•20	21,14	38	61,5	MB	MA

Polaris 20: for features please consult the proper technical catalog.

How to order

 Front pump 1 - A8 S9 - L 2 - 45 - HSC / 3 /

 Rear pump 1 - L 2 - 4 5 - 6 / FS - 7 - 8 (ANF3) (CN) (VNR01)

1	Type	Code
Front pump type		KP 30•...
Rear pump type		PLP 20•...
2	Ports IN/OUT (a)	Code
See codes in the table above		../..
3	Performance	Code
Standard - no code (b)		...
High performance		GS
4	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

Code	Rotation	5
S	Left	
D	Right	
Code	Seals (c)	6
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Rear cover	7
...	Cast iron (standard) - no code	
L	Aluminium	
Code	Rear pump thrust plate	8
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

- (a) For rear pump with common inlet, please write only /OUT code.
 (b) Not available for type 41-43-46-51-56-61-73-82.
 (c) Choose the seals according to the temperature shown on page 4.

Order example
KP 30•19,5-A8 S9-L MC/MB-45-HSC/GS/PLP 20•16-L /MA-N7 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

03/10.2016

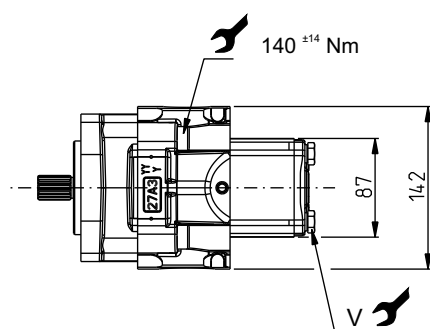
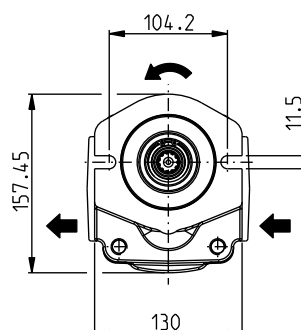
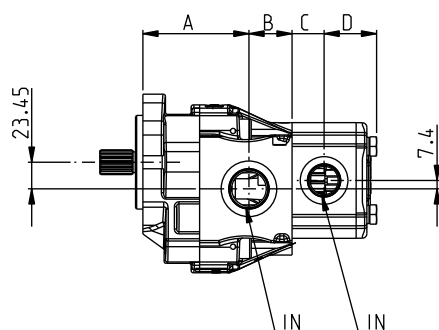
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY

HSC

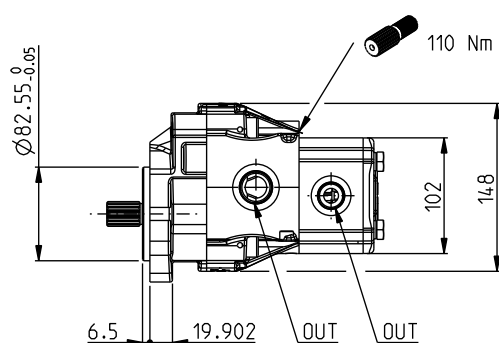
Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability (See page 72)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.



Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 ±4,5 (358 ÷ 438)
Cast iron	70 ±7 (558 ÷ 682)

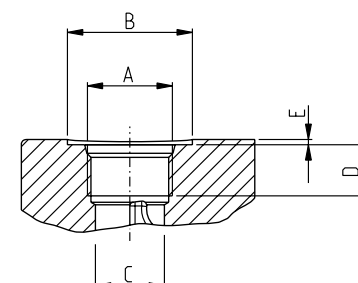
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
OC	5/8"	7/8" - 14 UNF - 2B	35	20,5	17	0,5	30 +2,5	70 +5
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	(♦) 0,5 2	40 +2,5	120 +10
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 +5	170 +10
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 +5	—

(♦) For Polaris 20



- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY
HSC

Pump type	Displacement	A	B	Ports code	
	cm³/rev			IN	OUT
KP 30•19,5	19,63	86,5	38	OF	OD
KP 30•22	21,99	88	38	OF	OD
KP 30•24	24,03	86,5	38	OF	OD
KP 30•27	26,7	91	38	OF	OD
KP 30•29	29,06	92,5	38	OF	OD
KP 30•31	30,63	93,5	38	OF	OD
KP 30•34	34,56	96	38	OF	OD
KP 30•38	39,27	96	38	OF	OD
KP 30•41	41,62	100,5	38	OG	OF
KP 30•43	43,98	102	38	OG	OF
KP 30•46	46,34	103,5	38	OG	OF
KP 30•51	51,83	107	38	OG	OF
KP 30•56	56,54	110	38	OG	OF
KP 30•61	61,26	113	64	OG	OF
KP 30•73	73,82	102	64	OG	OF
KP 30•82	81,68	107	64	OG	OF

Pump type	Displacement	C	D	Ports code	
	cm³/rev			IN	OUT
PLP 20•4	4,95	25,8	49,3	OC	OC
PLP 20•6,3	6,61	27	50,5	OC	OC
PLP 20•8	8,26	28,3	51,8	OC	OC
PLP 20•10,5	10,9	30,3	53,8	OC	OC
PLP 20•11,2	11,23	30,5	54	OC	OC
PLP 20•14	14,53	33	56,5	OD	OC
PLP 20•16	16,85	34,8	58,3	OD	OC
PLP 20•20	21,14	38	61,5	OD	OC

Polaris 20: for features please consult the proper technical catalog.

How to order

 Front pump 1 - A8 S9 - L 2 - 45 - HSC / 3 /

 Rear pump 1 - L 2 - 4 - 5 6 - 7 / FS - 8 - 9 (ANF3) (CN) (VNR01)

1	Type	Code
Front pump type		KP 30•...
Rear pump type		PLP 20•...
2	Ports IN/OUT (a)	Code
See codes in the table above		../..
3	Performance	Code
Standard - no code (b)		../..
High performance		GS
4	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7
5	Rear pump body	Code
PLP20 with standard body - no code		...
PLP20 with high strength body		L101

Code	Rotation	6
S	Left	
D	Right	
Code	Seals (c)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Rear cover	8
...	Cast iron (standard) - no code	
L	Aluminium	
Code	Rear pump thrust plate	9
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

 (a) For rear pump with common inlet, please write only /OUT code.
 (b) Not available for type 41-43-46-51-56-61-73-82.
 (c) Choose the seals according to the temperature shown on page 4.

Order example
KP 30•19,5-A8 S9-L OF/OD-45-HSC/GS/PLP 20•16-L /OC-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

03/10.2016

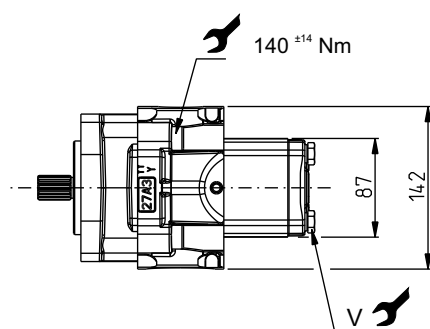
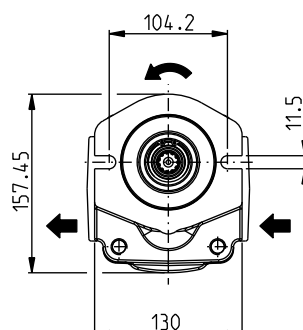
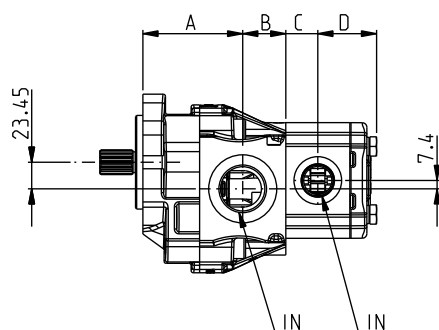
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY

HSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

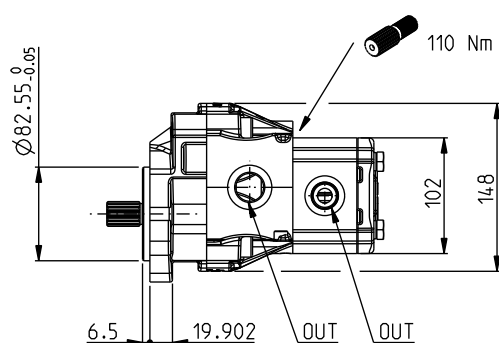
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability (See page 72)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.
The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V	
	Screws tightening torque Nm (lbf in)	
Aluminium	45 ± 4.5 (358 ÷ 438)	
Cast iron	70 ± 7 (558 ÷ 682)	



DCAT006-150_79933324

GAS STRAIGHT THREAD PORTS

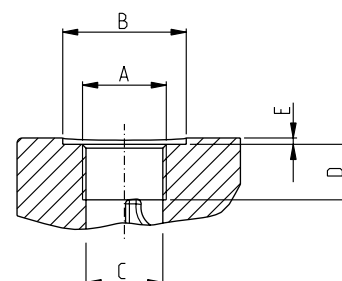
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GD	1/2"	G 1/2	—	19	17	—	20 ± 1	50 ± 2.5
GE	3/4"	G 3/4	(◆) — 39	24,5	18	(◆) — 2,5	30 ± 2.5	90 ± 5
GF	1"	G 1	49	30,5	22	2,5	50 ± 2.5	130 ± 10
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ± 5	170 ± 15

(◆) For Polaris 20

DCAT_006_026_21064779



- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

Replaces: 01/11.2012

03/10.2016

KAPPA 30
DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY
HSC

Replaces: 01/11.2012

Pump type	Displacement	A	B	Ports code	
	cm³/rev			IN	OUT
KP 30•19,5	19,63	86,5	38	GF	GE
KP 30•22	21,99	88	38	GF	GE
KP 30•24	24,03	86,5	38	GF	GE
KP 30•27	26,7	91	38	GF	GE
KP 30•29	29,06	92,5	38	GF	GE
KP 30•31	30,63	93,5	38	GF	GE
KP 30•34	34,56	96	38	GF	GE
KP 30•38	39,27	96	38	GF	GE
KP 30•41	41,62	100,5	38	GG	GF
KP 30•43	43,98	102	38	GG	GF
KP 30•46	46,34	103,5	38	GG	GF
KP 30•51	51,83	107	38	GG	GF
KP 30•56	56,54	110	38	GG	GF
KP 30•61	61,26	113	64	GG	GF
KP 30•73	73,82	102	64	GG	GF
KP 30•82	81,68	107	64	GG	GF

Pump type	Displacement	C	D	Ports code	
	cm³/rev			IN	OUT
PLP 20•4	4,95	25,8	49,3	GD	GD
PLP 20•6,3	6,61	27	50,5	GD	GD
PLP 20•8	8,26	28,3	51,8	GD	GD
PLP 20•10,5	10,9	30,3	53,8	GD	GD
PLP 20•11,2	11,23	30,5	54	GD	GD
PLP 20•14	14,53	33	56,5	GE	GD
PLP 20•16	16,85	34,8	58,3	GE	GD
PLP 20•20	21,14	38	61,5	GE	GD

Polaris 20: for features please consult the proper technical catalog.

How to order

 Front pump 1 - A8 S9 - L 2 - 45 - HSC / 3 /

 Rear pump 1 - L 2 - 4 - 5 6 - 7 / FS - 8 - 9 (ANF3) (CN) (VNR01)

1	Type	Code
Front pump type		KP 30•...
Rear pump type		PLP 20•...

2	Ports IN/OUT (a)	Code
See codes in the table above		../..

3	Performance	Code
Standard - no code (b)		../..
High performance		GS

4	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

5	Rear pump body	Code
PLP20 with standard body - no code		...
PLP20 with high strength body		L101

Code	Rotation	6
S	Left	
D	Right	

Code	Seals (c)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Rear cover	8
...	Cast iron (standard) - no code	
L	Aluminium	

Code	Rear pump thrust plate	9
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

 (a) For rear pump with common inlet, please write only /OUT code.
 (b) Not available for type 41-43-46-51-56-61-73-82.
 (c) Choose the seals according to the temperature shown on page 4.

Order example
KP 30•19,5-A8 S9-L GF/GE-45-HSC/GS/PLP 20•16-L /GD-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

03/10.2016

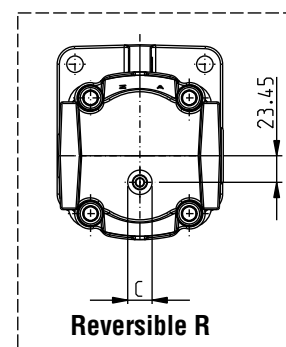
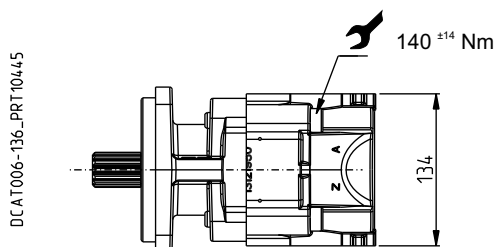
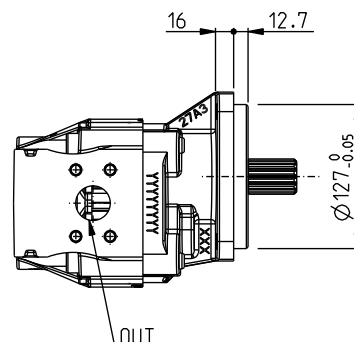
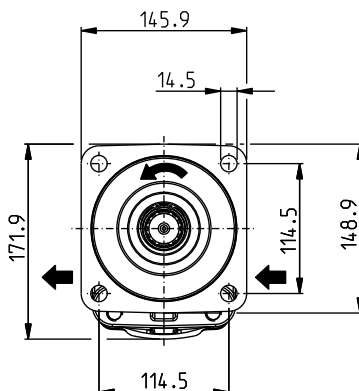
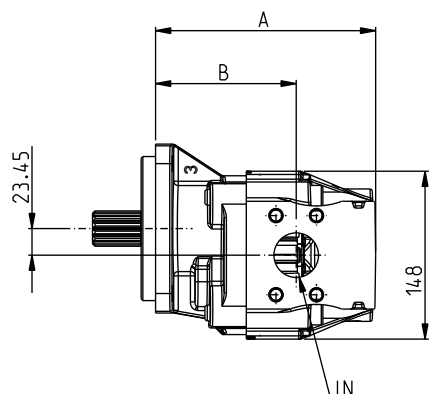
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS

HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

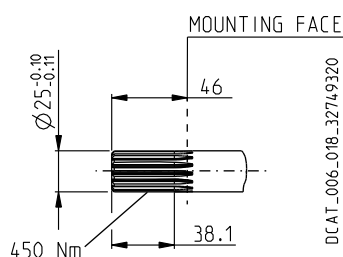
Ports type: **SSM**
SAE FLANGED PORTS J518



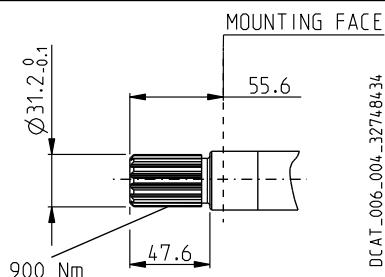
Drive shaft availability

05 (SAE "BB" Spline)

06 (SAE "C" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



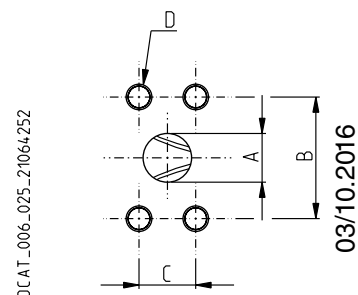
Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MB	19	47,6	22,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵



Tightening torque for low pressure side port
 Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
					IN	OUT	IN	OUT		
KP 30•19,5	KM 30•19,5	19,63	160,5	116,5	MC	MB	MB	MC	GC	OA
KP 30•22	KM 30•22	21,99	162	118	MC	MB	MB	MC	GC	OA
KP 30•24	KM 30•24	24,03	160,5	116,5	MC	MB	MB	MC	GC	OA
KP 30•27	KM 30•27	26,7	165	121	MC	MB	MB	MC	GC	OA
KP 30•29	KM 30•29	29,06	166,5	122,5	MC	MB	MB	MC	GC	OA
KP 30•31	KM 30•31	30,63	167,5	123,5	MC	MB	MB	MC	GC	OA
KP 30•34	KM 30•34	34,56	170	126	MC	MB	MB	MC	GC	OA
KP 30•38	KM 30•38	39,27	170	126	MC	MB	MB	MC	GC	OA
KP 30•41	KM 30•41	41,62	174,5	130,5	MD	MC	MC	MD	GC	OA
KP 30•43	KM 30•43	43,98	176	132	MD	MC	MC	MD	GC	OA
KP 30•46	KM 30•46	46,34	177,5	133,5	MD	MC	MC	MD	GC	OA
KP 30•51	KM 30•51	51,83	181	137	MD	MC	MC	MD	GC	OA
KP 30•56	KM 30•56	56,54	184	140	ME	MD	MD	ME	GC	OA
KP 30•61	KM 30•61	61,26	187	143	ME	MD	MD	ME	GC	OA
KP 30•73	KM 30•73	73,82	202	132	ME	MD	MD	ME	GC	OA
KP 30•82	KM 30•82	81,68	207	137	ME	MD	MD	ME	GC	OA

(◆) Dimension on page 90 and 92

How to order

1 2 3 4 5 6 7
 [] - [] S6 - L [.. / ..] - [] - [] - HSC - [] (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes in the table above	

Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

Code	Performance	7
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 R0-05 S6-L MC/MB-T-PV-OA-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

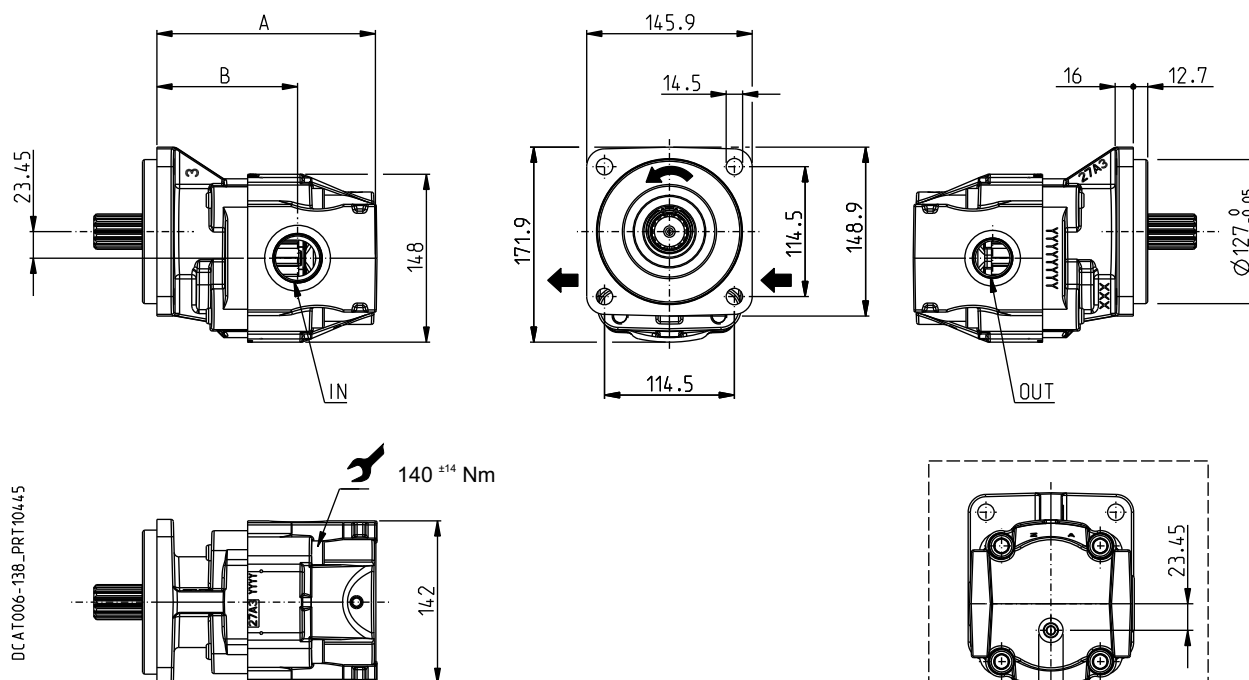
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS

HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
 Conforms to SAE J744

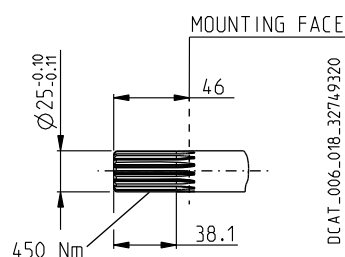
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



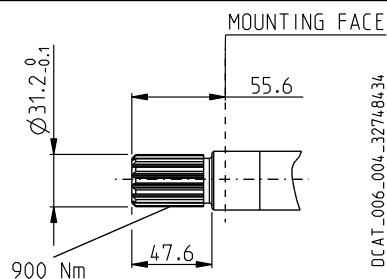
Drive shaft availability

05 (SAE “BB” Spline)

06 (SAE “C” Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

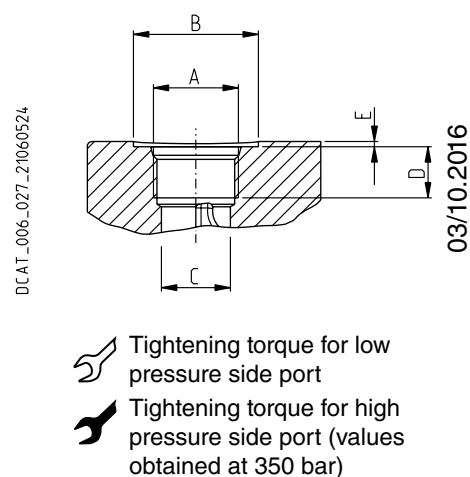
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
OA (◆)	3/8"	9/16" - 12 UNF - 2B	26	13	15	2	15 ⁺¹	—
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	2	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

(◆) = Drain port



KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
					IN	OUT	IN	OUT		
KP 30•19,5	KM 30•19,5	19,63	160,5	116,5	OF	OD	OD	OF	GC	OA
KP 30•22	KM 30•22	21,99	162	118	OF	OD	OD	OF	GC	OA
KP 30•24	KM 30•24	24,03	160,5	116,5	OF	OD	OD	OF	GC	OA
KP 30•27	KM 30•27	26,7	165	121	OF	OD	OD	OF	GC	OA
KP 30•29	KM 30•29	29,06	166,5	122,5	OF	OD	OD	OF	GC	OA
KP 30•31	KM 30•31	30,63	167,5	123,5	OF	OD	OD	OF	GC	OA
KP 30•34	KM 30•34	34,56	170	126	OF	OD	OD	OF	GC	OA
KP 30•38	KM 30•38	39,27	170	126	OF	OD	OD	OF	GC	OA
KP 30•41	KM 30•41	41,62	174,5	130,5	OG	OF	OF	OG	GC	OA
KP 30•43	KM 30•43	43,98	176	132	OG	OF	OF	OG	GC	OA
KP 30•46	KM 30•46	46,34	177,5	133,5	OG	OF	OF	OG	GC	OA
KP 30•51	KM 30•51	51,83	181	137	OG	OF	OF	OG	GC	OA
KP 30•56	KM 30•56	56,54	184	140	OG	OF	OF	OG	GC	OA
KP 30•61	KM 30•61	61,26	187	143	OG	OF	OF	OG	GC	OA
KP 30•73	KM 30•73	73,82	202	132	OG	OF	OF	OG	GC	OA
KP 30•82	KM 30•82	81,68	207	137	OG	OF	OF	OG	GC	OA

(◆) Dimension on page 90 and 92

How to order

1 2 3 4 5 6 7
 [] [] 0 - [] S6 - L [] / [] - [] - [] - HSC - [] (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes in the table above	

Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	

Code	Performance	7
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 R0-05 S6-L OF/OD-T-PV-OA-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

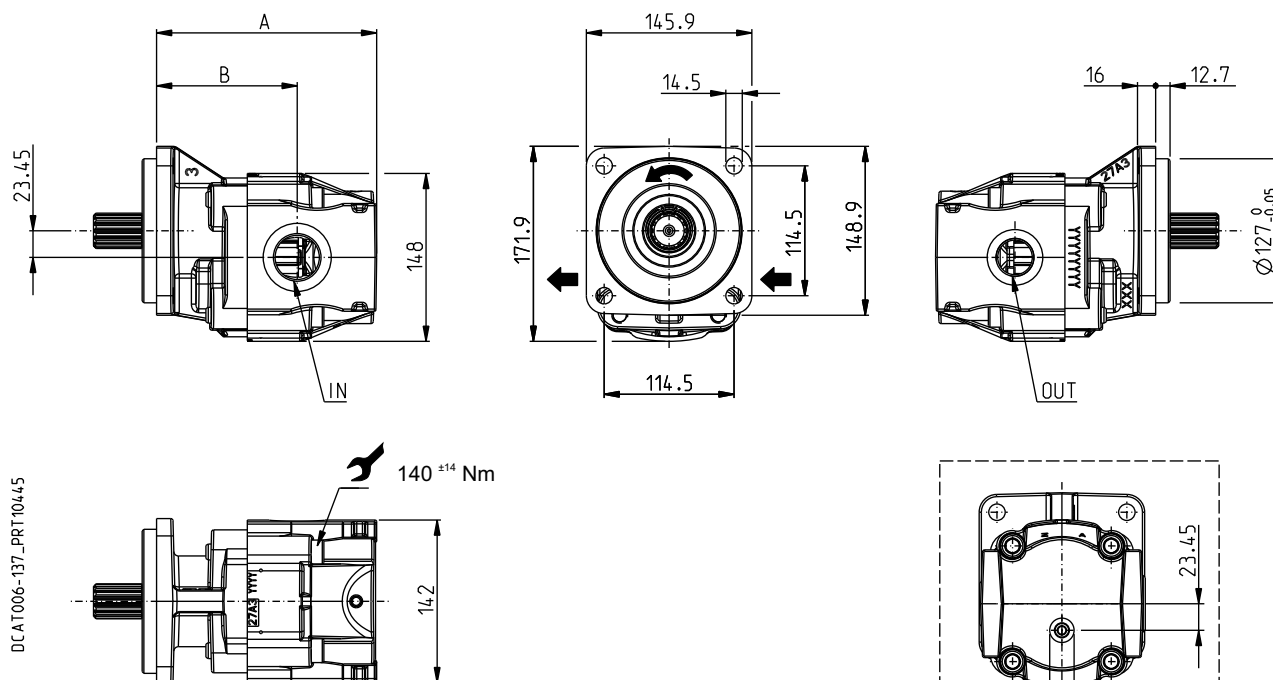
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS

HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

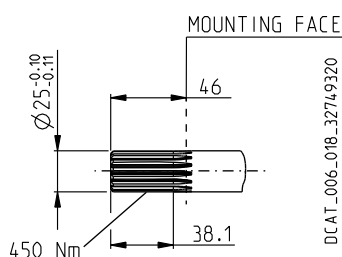
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



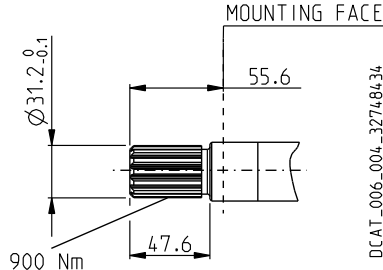
Drive shaft availability

05 (SAE "BB" Spline)

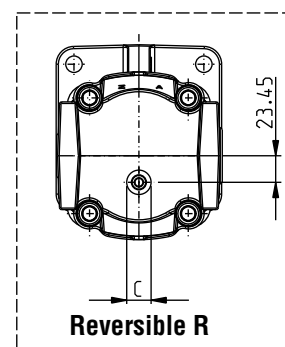
06 (SAE "C" Spline)



Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1



Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1



GAS STRAIGHT THREAD PORTS

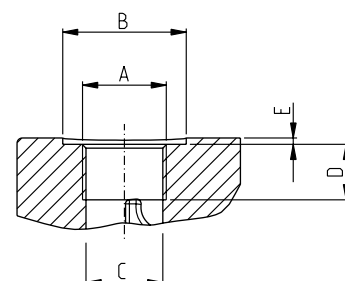
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GC (◆)	3/8"	G 3/8	25	15	14	2	15 ⁺¹	—
GE	3/4"	G 3/4	39	24,5	18	2,5	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

(◆) Drain port

DCAT_006_026_21064779



Tightening torque for low pressure side port
 Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - SIDE PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	B mm	Ports code				C Drain port (◆)	
					Gear pumps		Gear motors		Gas BSPP	SAE ODT
					IN	OUT	IN	OUT		
KP 30•19,5	KM 30•19,5	19,63	160,5	116,5	GF	GE	GE	GF	GC	OA
KP 30•22	KM 30•22	21,99	162	118	GF	GE	GE	GF	GC	OA
KP 30•24	KM 30•24	24,03	160,5	116,5	GF	GE	GE	GF	GC	OA
KP 30•27	KM 30•27	26,7	165	121	GF	GE	GE	GF	GC	OA
KP 30•29	KM 30•29	29,06	166,5	122,5	GF	GE	GE	GF	GC	OA
KP 30•31	KM 30•31	30,63	167,5	123,5	GF	GE	GE	GF	GC	OA
KP 30•34	KM 30•34	34,56	170	126	GF	GE	GE	GF	GC	OA
KP 30•38	KM 30•38	39,27	170	126	GF	GE	GE	GF	GC	OA
KP 30•41	KM 30•41	41,62	174,5	130,5	GG	GF	GF	GG	GC	OA
KP 30•43	KM 30•43	43,98	176	132	GG	GF	GF	GG	GC	OA
KP 30•46	KM 30•46	46,34	177,5	133,5	GG	GF	GF	GG	GC	OA
KP 30•51	KM 30•51	51,83	181	137	GG	GF	GF	GG	GC	OA
KP 30•56	KM 30•56	56,54	184	140	GG	GF	GF	GG	GC	OA
KP 30•61	KM 30•61	61,26	187	143	GG	GF	GF	GG	GC	OA
KP 30•73	KM 30•73	73,82	202	132	GG	GF	GF	GG	GC	OA
KP 30•82	KM 30•82	81,68	207	137	GG	GF	GF	GG	GC	OA

(◆) Dimension on page 90 and 92

How to order

1 2 0 - 3 S6 - L 4 .. / .. 5 - 6 - HSC - 7 (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
Reversible		R
3	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes in the table above	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Drain ports	6
OA	SAE Straight thread ports (ODT)	
GC	GAS Straight thread ports (BSPP)	
Code	Performance	7
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 R0-05 S6-L GF/GE-T-PV-GC-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

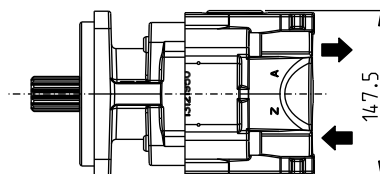
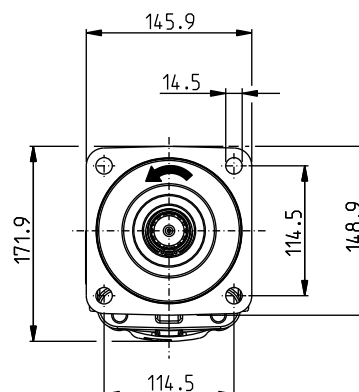
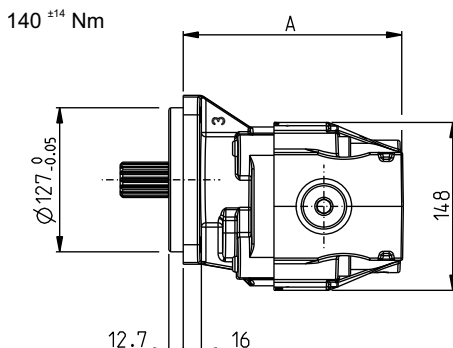
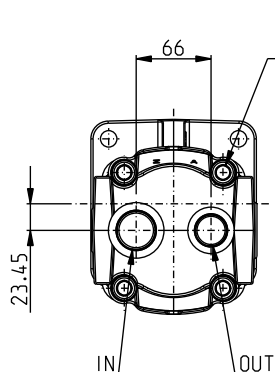
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - REAR PORTS

HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514

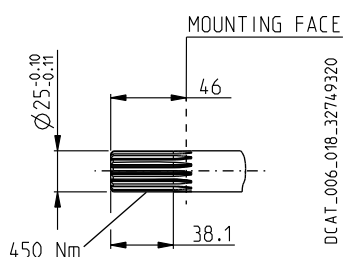


DCAT006-140_PRT10445

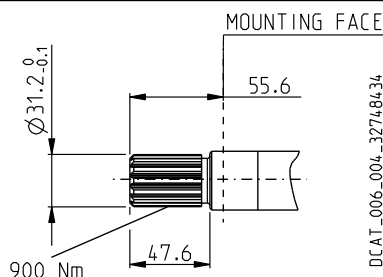
Drive shaft availability

05 (SAE "BB" Spline)

06 (SAE "C" Spline)



DCAT_006_018_32749320



DCAT_006_004_32748434

Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

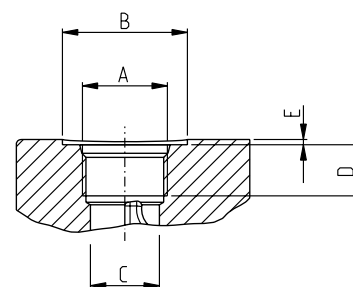
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm		
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	2	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

DCAT_006_027_21060524



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - REAR PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code			
				Gear pumps		Gear motors	
				IN	OUT	IN	OUT
KP 30•19,5	KM 30•19,5	19,63	160,5	OF	OD	OD	OF
KP 30•22	KM 30•22	21,99	162	OF	OD	OD	OF
KP 30•24	KM 30•24	24,03	160,5	OF	OD	OD	OF
KP 30•27	KM 30•27	26,7	165	OF	OD	OD	OF
KP 30•29	KM 30•29	29,06	166,5	OF	OD	OD	OF
KP 30•31	KM 30•31	30,63	167,5	OF	OD	OD	OF
KP 30•34	KM 30•34	34,56	170	OF	OD	OD	OF
KP 30•38	KM 30•38	39,27	170	OF	OD	OD	OF
KP 30•41	KM 30•41	41,62	174,5	OG	OF	OF	OG
KP 30•43	KM 30•43	43,98	176	OG	OF	OF	OG
KP 30•46	KM 30•46	46,34	177,5	OG	OF	OF	OG
KP 30•51	KM 30•51	51,83	181	OG	OF	OF	OG
KP 30•56	KM 30•56	56,54	184	OG	OF	OF	OG
KP 30•61	KM 30•61	61,26	187	OG	OF	OF	OG
KP 30•73	KM 30•73	73,82	202	OG	OF	OF	OG
KP 30•82	KM 30•82	81,68	207	OG	OF	OF	OG

How to order

1 2 3 4 5 6
 [] [] 0 - [] S6 - P .. / .. - [] - HSC - [] (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
3	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes in the table above	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Performance	6
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example
KP 30•19,5 S0-05 S6-P OF/OD-T-PV-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

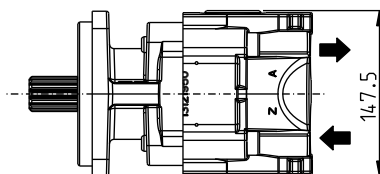
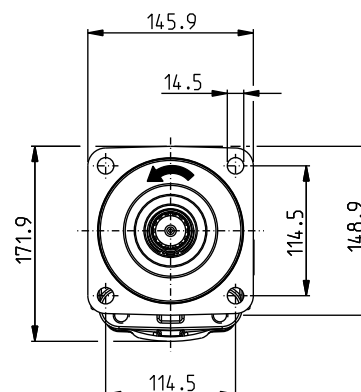
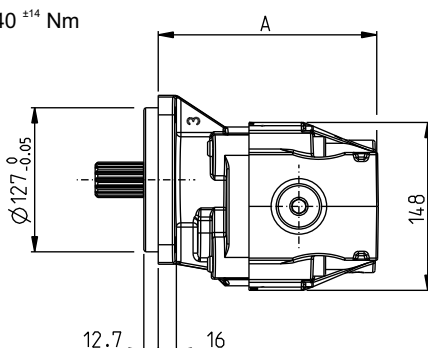
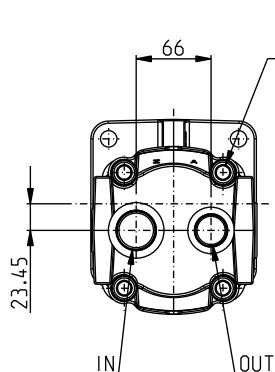
KAPPA 30

SINGLE UNITS SHORT SHAPED BODY - REAR PORTS

HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS

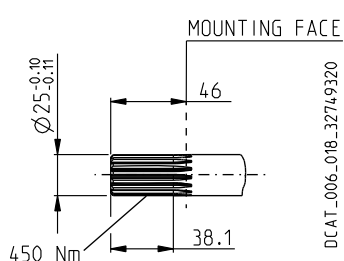


DCAT006-139_PRT10445

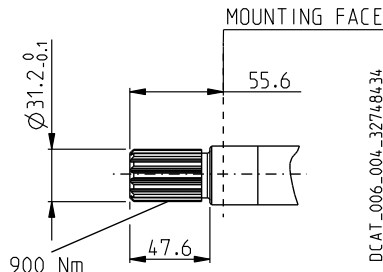
Drive shaft availability

05 (SAE "BB" Spline)

06 (SAE "C" Spline)



DCAT_006_018_32749320



DCAT_006_004_32748434

Ext. Involute Spline SAE J498B
with major diameter modified
15 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 1

Ext. Involute Spline SAE J498B
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat Root - Side fit - Class 1

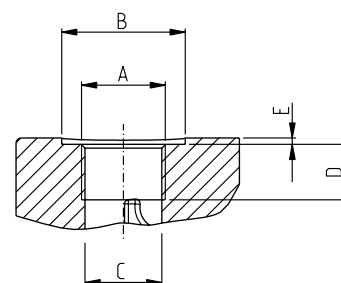
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GE	3/4"	G 3/4	39	24,5	18	2,5	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

DCAT_006_026_21064779



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
SINGLE UNITS SHORT SHAPED BODY - REAR PORTS
HSC

Pump type	Motor type	Displacement cm ³ /rev	A mm	Ports code			
				Gear pumps		Gear motors	
				IN	OUT	IN	OUT
KP 30•19,5	KM 30•19,5	19,63	160,5	GF	GE	GE	GF
KP 30•22	KM 30•22	21,99	162	GF	GE	GE	GF
KP 30•24	KM 30•24	24,03	160,5	GF	GE	GE	GF
KP 30•27	KM 30•27	26,7	165	GF	GE	GE	GF
KP 30•29	KM 30•29	29,06	166,5	GF	GE	GE	GF
KP 30•31	KM 30•31	30,63	167,5	GF	GE	GE	GF
KP 30•34	KM 30•34	34,56	170	GF	GE	GE	GF
KP 30•38	KM 30•38	39,27	170	GF	GE	GE	GF
KP 30•41	KM 30•41	41,62	174,5	GG	GF	GF	GG
KP 30•43	KM 30•43	43,98	176	GG	GF	GF	GG
KP 30•46	KM 30•46	46,34	177,5	GG	GF	GF	GG
KP 30•51	KM 30•51	51,83	181	GG	GF	GF	GG
KP 30•56	KM 30•56	56,54	184	GG	GF	GF	GG
KP 30•61	KM 30•61	61,26	187	GG	GF	GF	GG
KP 30•73	KM 30•73	73,82	202	GG	GF	GF	GG
KP 30•82	KM 30•82	81,68	207	GG	GF	GF	GG

How to order

1 2 3 4 5 6
 0 - S6 - P .. / .. - - HSC - (ANF3) (CN) (VNR01)

1	Type	Code
Pump type		KP 30•...
Motor type		KM 30•...
2	Rotation	Code
Left		S
Right		D
3	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

Code	Ports IN/OUT	4
../..	See codes in the table above	
Code	Seals (a)	5
N	Buna N (standard)	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Performance	6
...	Standard - no code (b)	
GS	High performance	

(a) Choose the seals according to the temperature shown on page 4.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Order example

KP 30•19,5 S0-05 S6-P GF/GE-T-PV-HSC-GS (ANF3) (CN) (VNR01)

03/10.2016

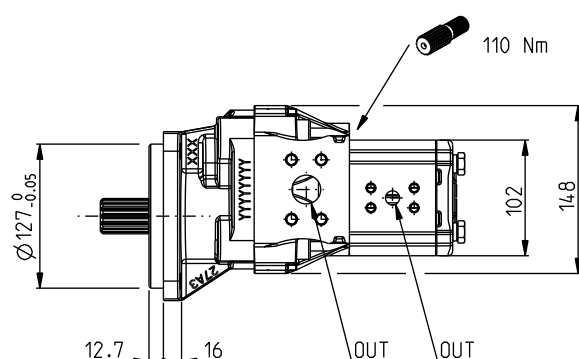
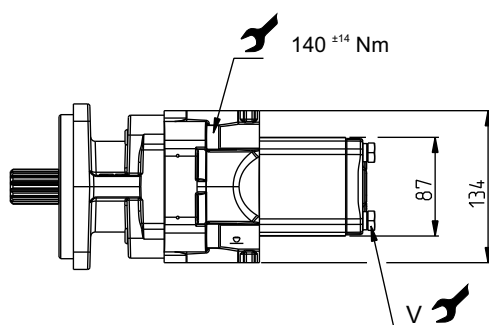
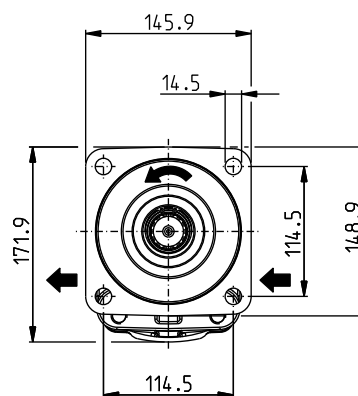
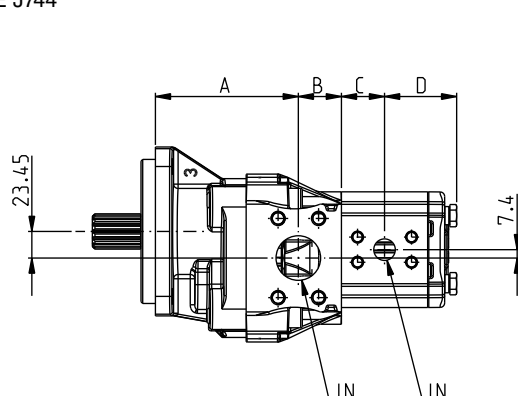
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY

HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability (See page 88)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 $\pm 4,5$ (358 $\div$ 438)
Cast iron	70 ± 7 (558 $\div$ 682)

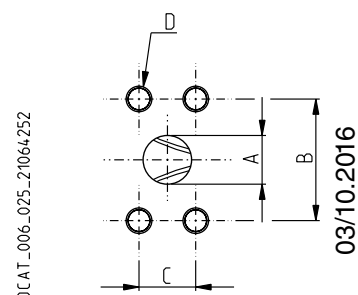
DCAT006-141_PRT11257

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MA	12,5	17,5	38,1	M 8 Depth 14	15 $^{+1}$	15 $^{+1}$
MB	19	22,2	47,6	M 10 Depth 14	20 $^{+1}$	20 $^{+1}$
MC	25,4	52,4	26,2	M 10 Depth 17	20 $^{+1}$	30 $^{+2,5}$
MD	30,5	58,7	30,2	M 10 Depth 17	20 $^{+1}$	35 $^{+2,5}$
ME	39,3	69,8	35,7	M 12 Depth 17	30 $^{+2,5}$	60 $^{+5}$



Tightening torque for low pressure side port
 Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY
HSC

Pump type	Displacement	A	B	Ports code	
	cm³/rev			IN	OUT
KP 30•19,5	19,63	116,5	38	MC	MB
KP 30•22	21,99	118	38	MC	MB
KP 30•24	24,03	116,5	38	MC	MB
KP 30•27	26,7	121	38	MC	MB
KP 30•29	29,06	122,5	38	MC	MB
KP 30•31	30,63	123,5	38	MC	MB
KP 30•34	34,56	126	38	MC	MB
KP 30•38	39,27	126	38	MC	MB
KP 30•41	41,62	130,5	38	MD	MC
KP 30•43	43,98	132	38	MD	MC
KP 30•46	46,34	133,5	38	MD	MC
KP 30•51	51,83	137	38	MD	MC
KP 30•56	56,54	140	38	ME	MD
KP 30•61	61,26	143	64	ME	MD
KP 30•73	73,82	132	64	ME	MD
KP 30•82	81,68	137	64	ME	MD

Pump type	Displacement	C	D	Ports code	
	cm³/rev			IN	OUT
PLP 20•4	4,95	25,8	49,3	MA	MA
PLP 20•6,3	6,61	27	50,5	MA	MA
PLP 20•8	8,26	28,3	51,8	MA	MA
PLP 20•10,5	10,9	30,3	53,8	MA	MA
PLP 20•11,2	11,23	30,5	54	MA	MA
PLP 20•14	14,53	33	56,5	MB	MA
PLP 20•16	16,85	34,8	58,3	MB	MA
PLP 20•20	21,14	38	61,5	MB	MA

Polaris 20: for features please consult the proper technical catalog.

How to order

 Front pump 1 - 2 **S6 - L** 3 - **45 - HSC** / 4 /

 Rear pump 1 - **L** 3 - 5 6 - 7 / **FS** - 8 - 9 **(ANF3) (CN) (VNR01)**

1	Type	Code
Front pump type		KP 30•...
Rear pump type		PLP 20•...
2	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06
3	Ports IN/OUT (a)	Code
See codes in the table above		../..
4	Performance	Code
Standard - no code (b)		...
High performance		GS
5	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

Code	Rotation	6
S	Left	
D	Right	
Code	Seals (c)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	
Code	Rear cover	8
...	Cast iron (standard) - no code	
L	Aluminium	
Code	Rear pump thrust plate	9
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

(a) For rear pump with common inlet, please write only /OUT code.

(b) Not available for type 41-43-46-51-56-61-73-82.

(c) Choose the seals according to the temperature shown on page 4.

Order example
KP 30•19,5-05 S6-L MC/MB-45-HSC/GS/PLP 20•16-L /MA-N7 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

03/10.2016

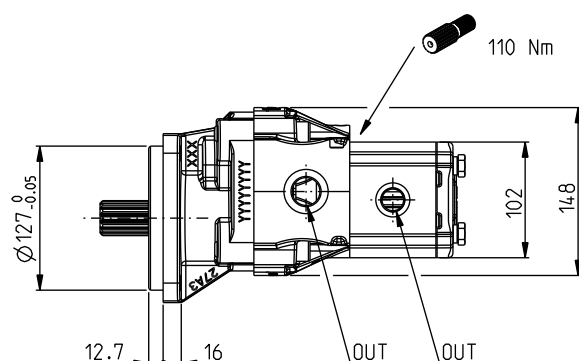
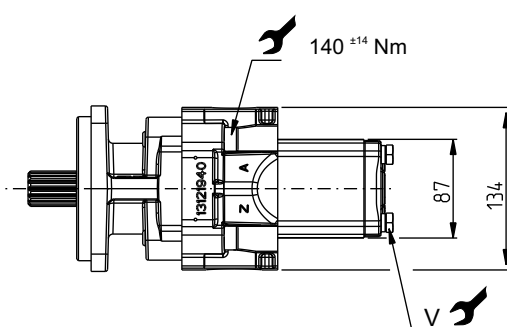
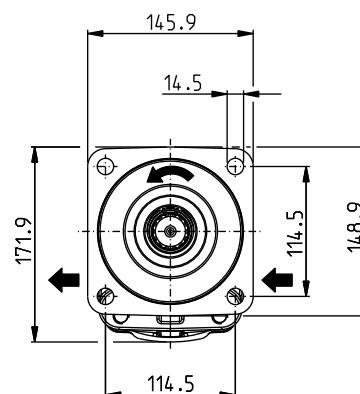
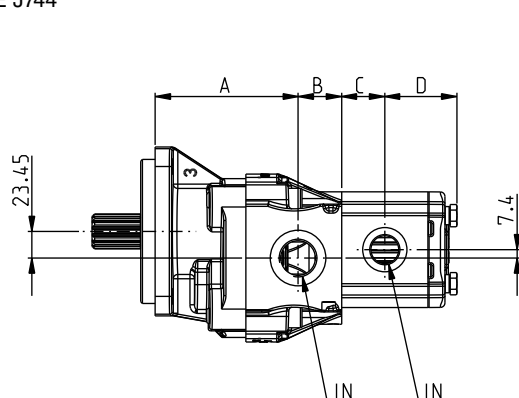
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY

HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability (See page 88)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 $\pm 4,5$ (358 $\div$ 438)
Cast iron	70 ± 7 (558 $\div$ 682)

DCAT006-143_PRT11257

SAE STRAIGHT THREAD PORTS J514

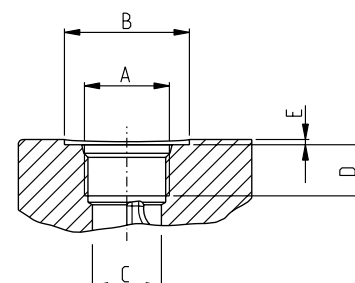
ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
OC	5/8"	7/8" - 14 UNF - 2B	35	20,5	17	0,5	30 $\pm 2,5$	70 ± 5
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	(♦) 0,5 2	40 $\pm 2,5$	120 ± 10
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ± 5	170 ± 10
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ± 5	—

(♦) For Polaris 20

DCAT_006_027_21060524



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY
HSC

Pump type	Displacement	A	B	Ports code	
	cm ³ /rev			IN	OUT
KP 30•19,5	19,63	116,5	38	OF	OD
KP 30•22	21,99	118	38	OF	OD
KP 30•24	24,03	116,5	38	OF	OD
KP 30•27	26,7	121	38	OF	OD
KP 30•29	29,06	122,5	38	OF	OD
KP 30•31	30,63	123,5	38	OF	OD
KP 30•34	34,56	126	38	OF	OD
KP 30•38	39,27	126	38	OF	OD
KP 30•41	41,62	130,5	38	OG	OF
KP 30•43	43,98	132	38	OG	OF
KP 30•46	46,34	133,5	38	OG	OF
KP 30•51	51,83	137	38	OG	OF
KP 30•56	56,54	140	38	OG	OF
KP 30•61	61,26	143	64	OG	OF
KP 30•73	73,82	132	64	OG	OF
KP 30•82	81,68	137	64	OG	OF

Pump type	Displacement	C	D	Ports code	
	cm ³ /rev			IN	OUT
PLP 20•4	4,95	25,8	49,3	OC	OC
PLP 20•6,3	6,61	27	50,5	OC	OC
PLP 20•8	8,26	28,3	51,8	OC	OC
PLP 20•10,5	10,9	30,3	53,8	OC	OC
PLP 20•11,2	11,23	30,5	54	OC	OC
PLP 20•14	14,53	33	56,5	OD	OC
PLP 20•16	16,85	34,8	58,3	OD	OC
PLP 20•20	21,14	38	61,5	OD	OC

Polaris 20: for features please consult the proper technical catalog.

How to order

Front pump 1 - 2 **S6** - L 3 - **45** - **HSC** / 4 /
 Rear pump 1 - L 3 - 5 - 6 7 - 8 / FS - 9 - 10 (**ANF3**) (**CN**) (**VNR01**)

1	Type	Code
Front pump type		KP 30•...
Rear pump type		PLP 20•...

2	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

3	Ports IN/OUT (a)	Code
See codes in the table above		../..

4	Performance	Code
Standard - no code (b)		...
High performance		GS

5	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

 (a) For rear pump with common inlet, please write only /OUT code.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Code	Rear pump body	6
...	PLP20 with standard body - no code	
L101	PLP20 with high strength body	

Code	Rotation	7
S	Left	
D	Right	

Code	Seals (c)	8
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Rear cover	9
...	Cast iron (standard) - no code	
L	Aluminium	

Code	Rear pump thrust plate	10
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

(c) Choose the seals according to the temperature shown on page 4.

Order example
KP 30•19,5-05 S6-L OF/OD-45-HSC/GS/PLP 20•16-L /OC-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

03/10.2016

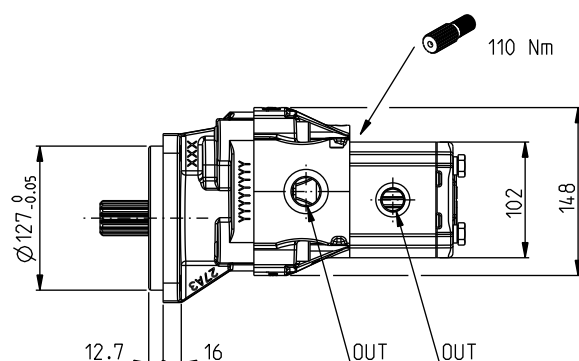
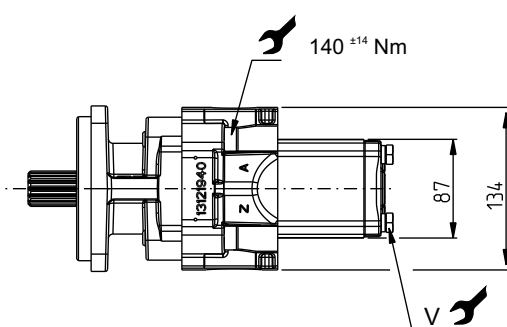
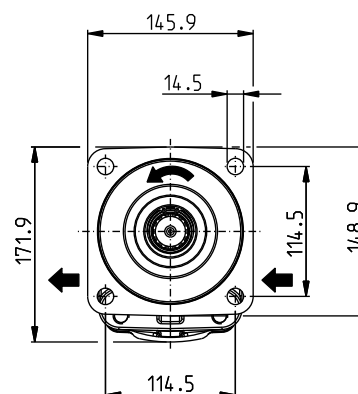
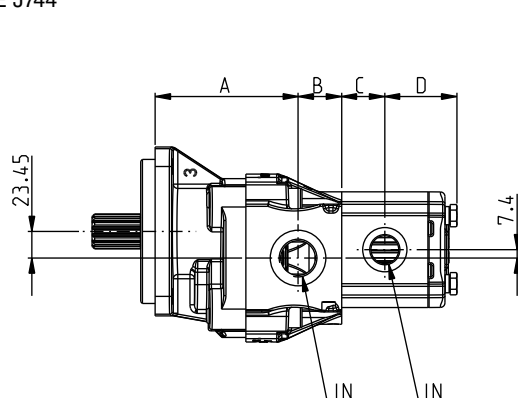
KAPPA 30

DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY

HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability (See page 88)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

Rear cover material	V
	Screws tightening torque Nm (lbf in)
Aluminium	45 $\pm 4,5$ (358 $\div$ 438)
Cast iron	70 ± 7 (558 $\div$ 682)

DCAT006-142_PRT11257

GAS STRAIGHT THREAD PORTS

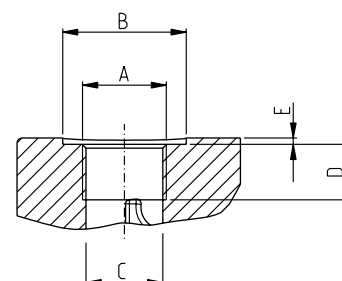
BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GD	1/2"	G 1/2	—	19	17	—	20 ± 1	50 $\pm 2,5$
GE	3/4"	G 3/4	(◆) — 39	24,5	18	(◆) — 2,5	30 $\pm 2,5$	90 ± 5
GF	1"	G 1	49	30,5	22	2,5	50 $\pm 2,5$	130 ± 10
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ± 5	170 ± 15

(◆) For Polaris 20

DCAT_006.026_21064.779



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/PL20 SHORT SHAPED BODY
HSC

Pump type	Displacement	A	B	Ports code	
	cm³/rev			IN	OUT
KP 30•19,5	19,63	116,5	38	GF	GE
KP 30•22	21,99	118	38	GF	GE
KP 30•24	24,03	116,5	38	GF	GE
KP 30•27	26,7	121	38	GF	GE
KP 30•29	29,06	122,5	38	GF	GE
KP 30•31	30,63	123,5	38	GF	GE
KP 30•34	34,56	126	38	GF	GE
KP 30•38	39,27	126	38	GF	GE
KP 30•41	41,62	130,5	38	GG	GF
KP 30•43	43,98	132	38	GG	GF
KP 30•46	46,34	133,5	38	GG	GF
KP 30•51	51,83	137	38	GG	GF
KP 30•56	56,54	140	38	GG	GF
KP 30•61	61,26	143	64	GG	GF
KP 30•73	73,82	132	64	GG	GF
KP 30•82	81,68	137	64	GG	GF

Pump type	Displacement	C	D	Ports code	
	cm³/rev			IN	OUT
PLP 20•4	4,95	25,8	49,3	GD	GD
PLP 20•6,3	6,61	27	50,5	GD	GD
PLP 20•8	8,26	28,3	51,8	GD	GD
PLP 20•10,5	10,9	30,3	53,8	GD	GD
PLP 20•11,2	11,23	30,5	54	GD	GD
PLP 20•14	14,53	33	56,5	GE	GD
PLP 20•16	16,85	34,8	58,3	GE	GD
PLP 20•20	21,14	38	61,5	GE	GD

Polaris 20: for features please consult the proper technical catalog.

How to order

Front pump 1 - 2 **S6 - L** 3 - **45 - HSC** / 4 /
 Rear pump 1 - **L** 3 - 5 - 6 7 - 8 / **FS** - 9 - 10 (**ANF3**) (**CN**) (**VNR01**)

1	Type	Code
Front pump type		KP 30•...
Rear pump type		PLP 20•...

2	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

3	Ports IN/OUT (a)	Code
See codes in the table above		../..

4	Performance	Code
Standard - no code (b)		...
High performance		GS

5	Inlet combination	Code
Two inlet (standard) no code		...
Common inlet		N7

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Not available for type 41-43-46-51-56-61-73-82.

Code	Rear pump body	6
...	PLP20 with standard body - no code	
L101	PLP20 with high strength body	

Code	Rotation	7
S	Left	
D	Right	

Code	Seals (c)	8
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

Code	Rear cover	9
...	Cast iron (standard) - no code	
L	Aluminium	

Code	Rear pump thrust plate	10
...	Standard - no code - from 4 to 14 type	
AV	High speed - from 16 to 20 type	

(c) Choose the seals according to the temperature shown on page 4

Order example
KP 30•19,5-05 S6-L GF/GE-45-HSC/GS/PLP 20•16-L /GD-N7-L101 S-T-PV/FS-L-AV (ANF3) (CN) (VNR01)

03/10.2016

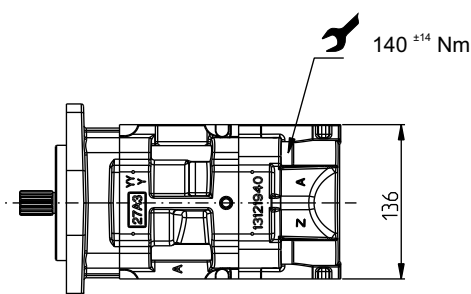
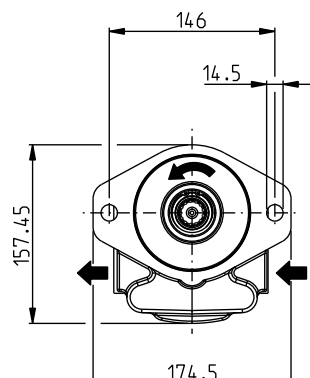
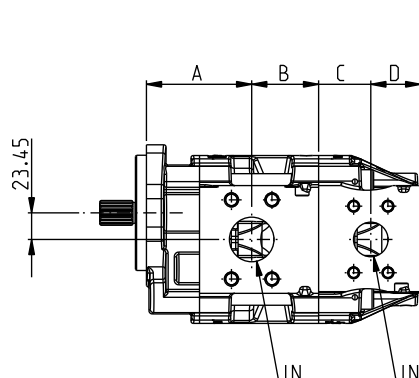
KAPPA 30

DOUBLE PUMPS KP30/30 COMBINED BODY

KSL/HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

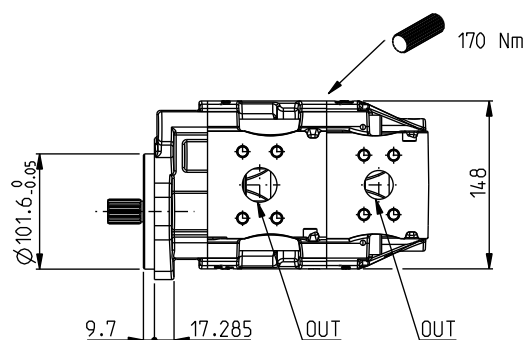
Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability (See page 56)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

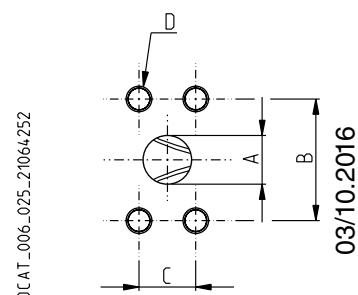


SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A mm	B mm	C mm	D Thread Depth (mm)	 Nm	 Nm
MB	19	47,6	22,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/30 COMBINED BODY
KSL/HSC

Pump type	Displacement cm ³ /rev	A	B	C	D	Ports code	
		mm	mm	mm	mm	IN	OUT
KP 30•19,5	19,63	83,3	59	36,5	44	MC	MB
KP 30•22	21,99	84,8	59	38	44	MC	MB
KP 30•24	24,03	83,3	59	36,5	44	MC	MB
KP 30•27	26,7	87,8	59	41	44	MC	MB
KP 30•29	29,06	89,3	59	42,5	44	MC	MB
KP 30•31	30,63	90,3	59	43,5	44	MC	MB
KP 30•34	34,56	92,8	59	46	44	MC	MB
KP 30•38	39,27	92,8	59	46	44	MC	MB
KP 30•41	41,62	97,3	59	50,5	44	MD	MC
KP 30•43	43,98	98,8	59	52	44	MD	MC
KP 30•46	46,34	100,3	59	53,5	44	MD	MC
KP 30•51	51,83	103,8	59	57	44	MD	MC
KP 30•56	56,54	106,8	59	60	44	ME	MD
KP 30•61	61,26	109,8	59	63	44	ME	MD
KP 30•73	73,82	98,8	83	52	70	ME	MD
KP 30•82	81,68	103,8	83	57	70	ME	MD

How to order

Front pump 1 2 3 4
 [] - [] K9 - L [] - KSL / [] /

Rear pump 1 3 5 4 6 7
 [] - L [] - [] - HSC - [] [] - [] / FS (ANF3) (CN) (VNR01)

1	Type	Code
Front pump type		KP 30-...
Rear pump type		30-...

2	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32

3	Ports IN/OUT (a)	Code
See codes in the table above		../..

4	Performance	Code
Standard - no code (b)		...
High performance		GS

Code	Inlet combination	5
...	Two inlet (standard) no code	
M5	Common inlet	

Code	Rotation	6
S	Left	
D	Right	

Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•19,5-A8 K9-L MC/MB-KSL/GS/30•19,5-L /MB-M5-HSC-GS S-T-PV/FS (ANF3) (CN) (VNR01)

03/10.2016

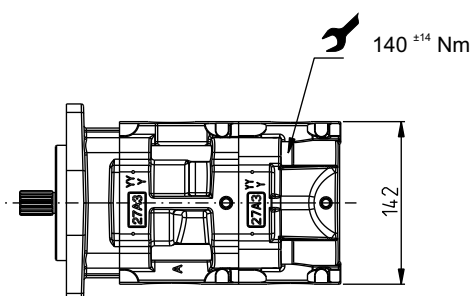
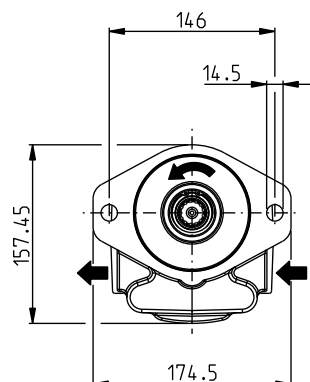
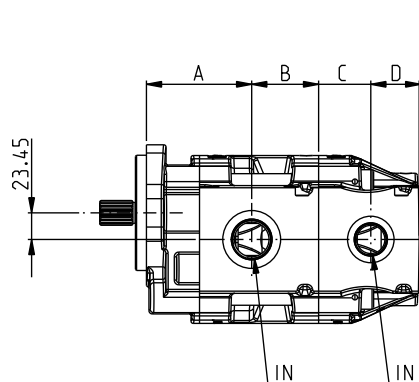
KAPPA 30

DOUBLE PUMPS KP30/30 COMBINED BODY

KSL/HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

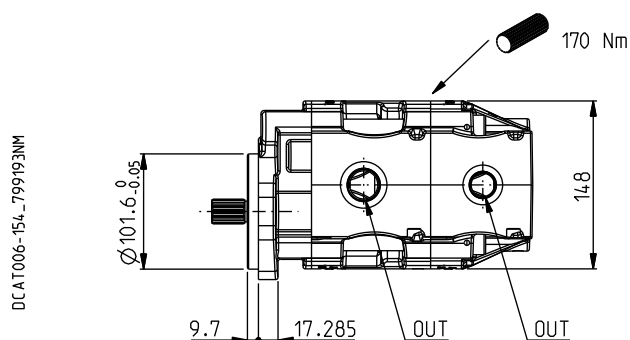
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability (See page 56)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.



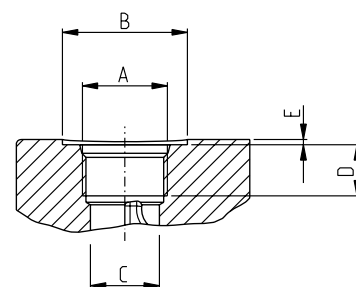
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm				
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	2	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

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03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/30 COMBINED BODY
KSL/HSC

Pump type	Displacement	A	B	C	D	Ports code	
	cm³/rev	mm	mm	mm	mm	IN	OUT
KP 30•19,5	19,63	83,3	59	36,5	44	OF	OD
KP 30•22	21,99	84,8	59	38	44	OF	OD
KP 30•24	24,03	83,3	59	36,5	44	OF	OD
KP 30•27	26,7	87,8	59	41	44	OF	OD
KP 30•29	29,06	89,3	59	42,5	44	OF	OD
KP 30•31	30,63	90,3	59	43,5	44	OF	OD
KP 30•34	34,56	92,8	59	46	44	OF	OD
KP 30•38	39,27	92,8	59	46	44	OF	OD
KP 30•41	41,62	97,3	59	50,5	44	OG	OF
KP 30•43	43,98	98,8	59	52	44	OG	OF
KP 30•46	46,34	100,3	59	53,5	44	OG	OF
KP 30•51	51,83	103,8	59	57	44	OG	OF
KP 30•56	56,54	106,8	59	60	44	OG	OF
KP 30•61	61,26	109,8	59	63	44	OG	OF
KP 30•73	73,82	98,8	83	52	70	OG	OF
KP 30•82	81,68	103,8	83	57	70	OG	OF

How to order

Front pump 1 - 2 **K9 - L** 3 - **KSL** / 4 /
 Rear pump 1 - **L** 3 - 5 - **HSC** - 4 6 - 7 / **FS (ANF3) (CN) (VNR01)**

1	Type	Code
Front pump type		KP 30-...
Rear pump type		30-...
2	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32
3	Ports IN/OUT (a)	Code
See codes in the table above		../..
4	Performance	Code
Standard - no code (b)		...
High performance		GS

Code	Inlet combination	5
...	Two inlet (standard) no code	
M5	Common inlet	
Code	Rotation	6
S	Left	
D	Right	
Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•19,5-A8 K9-L OF/OD-KSL/GS/30•19,5-L /OD-M5-HSC-GS S-T-PV/FS (ANF3) (CN) (VNR01)

03/10.2016

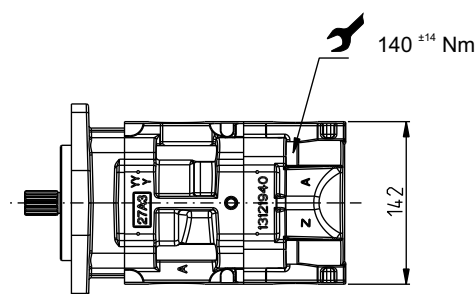
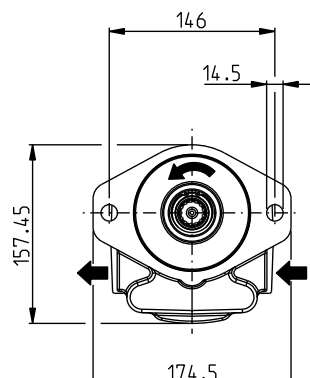
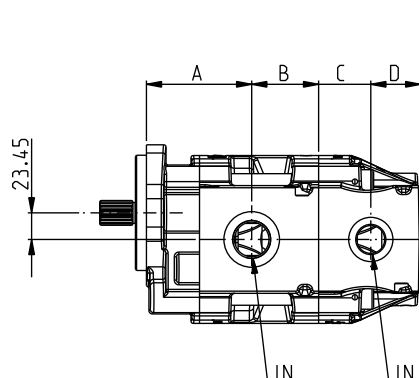
KAPPA 30

DOUBLE PUMPS KP30/30 COMBINED BODY

KSL/HSC

Mounting flange: **K9**
SAE "B" 2 HOLES
Conforms to SAE J744

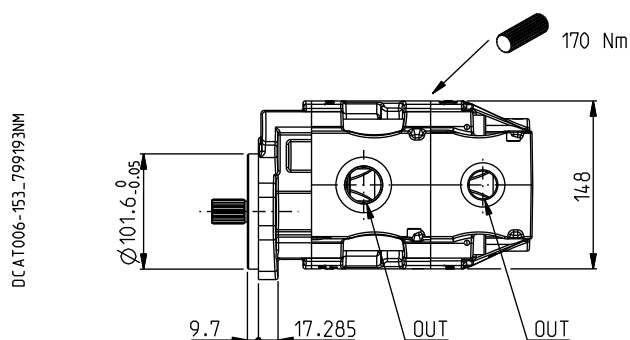
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability (See page 56)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.



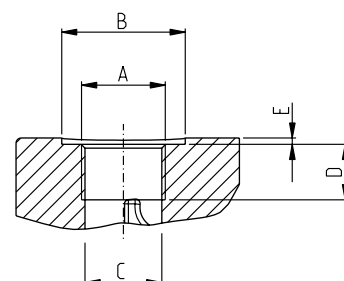
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm				
GE	3/4"	G 3/4	39	24,5	18	2,5	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

DCAT_006_026_21064779



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/30 COMBINED BODY
KSL/HSC

Pump type	Displacement	A	B	C	D	Ports code	
	cm³/rev	mm	mm	mm	mm	IN	OUT
KP 30•19,5	19,63	83,3	59	36,5	44	GF	GE
KP 30•22	21,99	84,8	59	38	44	GF	GE
KP 30•24	24,03	83,3	59	36,5	44	GF	GE
KP 30•27	26,7	87,8	59	41	44	GF	GE
KP 30•29	29,06	89,3	59	42,5	44	GF	GE
KP 30•31	30,63	90,3	59	43,5	44	GF	GE
KP 30•34	34,56	92,8	59	46	44	GF	GE
KP 30•38	39,27	92,8	59	46	44	GF	GE
KP 30•41	41,62	97,3	59	50,5	44	GG	GF
KP 30•43	43,98	98,8	59	52	44	GG	GF
KP 30•46	46,34	100,3	59	53,5	44	GG	GF
KP 30•51	51,83	103,8	59	57	44	GG	GF
KP 30•56	56,54	106,8	59	60	44	GG	GF
KP 30•61	61,26	109,8	59	63	44	GG	GF
KP 30•73	73,82	98,8	83	52	70	GG	GF
KP 30•82	81,68	103,8	83	57	70	GG	GF

How to order

Front pump 1 - 2 **K9 - L** 3 - **KSL** / 4 /
 Rear pump 1 - **L** 3 - 5 - **HSC** - 4 6 - 7 / **FS (ANF3) (CN) (VNR01)**

1	Type	Code
Front pump type		KP 30-...
Rear pump type		30-...
2	Drive shaft	Code
SAE "B" spline (13 teeth)		A8
SAE "BB" spline (15 teeth)		A5
SAE "B" straight		32
3	Ports IN/OUT (a)	Code
See codes in the table above		../..
4	Performance	Code
Standard - no code (b)		...
High performance		GS

Code	Inlet combination	5
...	Two inlet (standard) no code	
M5	Common inlet	
Code	Rotation	6
S	Left	
D	Right	
Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example
KP 30•19,5-A8 K9-L GF/GE-KSL/GS/30•19,5-L /GE-M5-HSC-GS S-T-PV/FS (ANF3) (CN) (VNR01)

03/10.2016

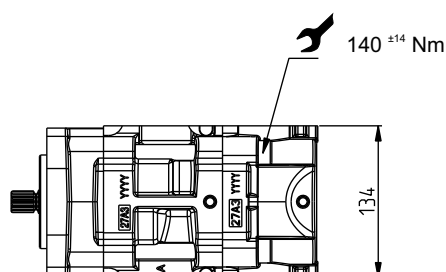
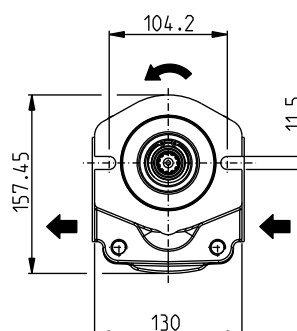
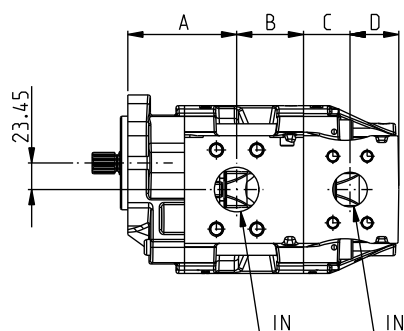
KAPPA 30

DOUBLE PUMPS KP30/30 COMBINED BODY

KSL/HSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

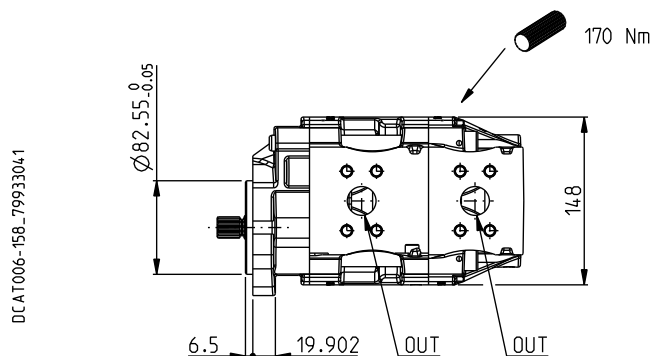
Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability (See page 72)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

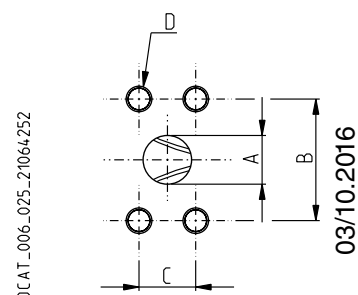


SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A mm	B mm	C mm	D Thread Depth (mm)	Nm	Nm
MB	19	47,6	22,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵



- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/30 COMBINED BODY
KSL/HSC

Pump type	Displacement	A	B	C	D	Ports code	
	cm ³ /rev	mm	mm	mm	mm	IN	OUT
KP 30•19,5	19,63	86,5	59	36,5	44	MC	MB
KP 30•22	21,99	88	59	38	44	MC	MB
KP 30•24	24,03	86,5	59	36,5	44	MC	MB
KP 30•27	26,7	91	59	41	44	MC	MB
KP 30•29	29,06	92,5	59	42,5	44	MC	MB
KP 30•31	30,63	93,5	59	43,5	44	MC	MB
KP 30•34	34,56	96	59	46	44	MC	MB
KP 30•38	39,27	96	59	46	44	MC	MB
KP 30•41	41,62	100,5	59	50,5	44	MD	MC
KP 30•43	43,98	102	59	52	44	MD	MC
KP 30•46	46,34	103,5	59	53,5	44	MD	MC
KP 30•51	51,83	107	59	57	44	MD	MC
KP 30•56	56,54	110	59	60	44	ME	MD
KP 30•61	61,26	113	59	63	44	ME	MD
KP 30•73	73,82	102	83	52	70	ME	MD
KP 30•82	81,68	107	83	57	70	ME	MD

How to order

Front pump 1 - **A8 S9 - L** 2 - **KSL** / 3 /

Rear pump 1 - **L** 2 - 4 - **HSC** - 3 5 - 6 / **FS (ANF3) (CN) (VNR01)**

1	Type	Code
Front pump type		KP 30•...
Rear pump type		30•...

2	Ports IN/OUT (a)	Code
See codes in the table above		../..

3	Performance	Code
Standard - no code (b)		...
High performance		GS

Code	Inlet combination	4
...	Two inlet (standard) no code	
M5	Common inlet	

Code	Rotation	5
S	Left	
D	Right	

Code	Seals (b)	6
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•19,5-A8 S9-L MC/MB-KSL/GS/30•19,5-L /MB-M5-HSC-GS S-T-PV/FS (ANF3) (CN) (VNR01)

03/10.2016

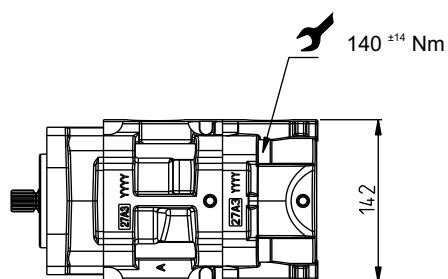
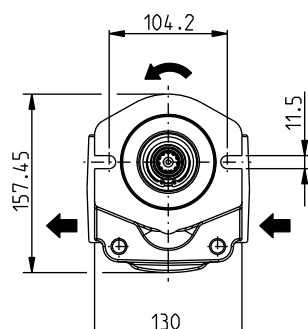
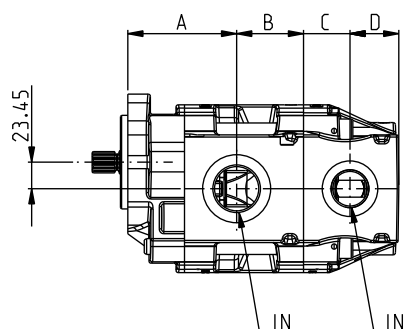
KAPPA 30

DOUBLE PUMPS KP30/30 COMBINED BODY

KSL/HSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

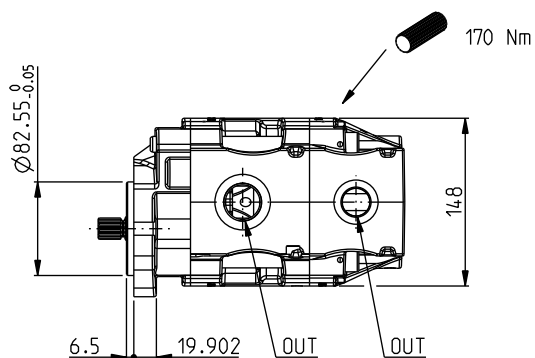
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability (See page 72)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.



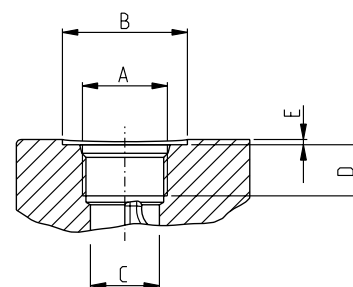
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm				
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	2	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

DCAT_006_027_21060524



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/30 COMBINED BODY
KSL/HSC

Replaces: 01/11.2012

Pump type	Displacement	A	B	C	D	Ports code	
	cm³/rev	mm	mm	mm	mm	IN	OUT
KP 30•19,5	19,63	86,5	59	36,5	44	OF	OD
KP 30•22	21,99	88	59	38	44	OF	OD
KP 30•24	24,03	86,5	59	36,5	44	OF	OD
KP 30•27	26,7	91	59	41	44	OF	OD
KP 30•29	29,06	92,5	59	42,5	44	OF	OD
KP 30•31	30,63	93,5	59	43,5	44	OF	OD
KP 30•34	34,56	96	59	46	44	OF	OD
KP 30•38	39,27	96	59	46	44	OF	OD
KP 30•41	41,62	100,5	59	50,5	44	OG	OF
KP 30•43	43,98	102	59	52	44	OG	OF
KP 30•46	46,34	103,5	59	53,5	44	OG	OF
KP 30•51	51,83	107	59	57	44	OG	OF
KP 30•56	56,54	110	59	60	44	OG	OF
KP 30•61	61,26	113	59	63	44	OG	OF
KP 30•73	73,82	102	83	52	70	OG	OF
KP 30•82	81,68	107	83	57	70	OG	OF

How to order

Front pump 1 - **A8 S9 - L** 2 - **KSL** / 3 /

Rear pump 1 - **L** 2 - 4 - **HSC** - 3 5 - 6 / **FS (ANF3) (CN) (VNR01)**

1	Type	Code
Front pump type		KP 30•...
Rear pump type		30•...

2	Ports IN/OUT (a)	Code
See codes in the table above		../..

3	Performance	Code
Standard - no code (b)		...
High performance		GS

Code	Inlet combination	4
...	Two inlet (standard) no code	
M5	Common inlet	

Code	Rotation	5
S	Left	
D	Right	

Code	Seals (b)	6
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•19,5-A8 S9-L OF/OD-KSL/GS/30•19,5-L /OD-M5-HSC-GS S-T-PV/FS (ANF3) (CN) (VNR01)

03/10.2016

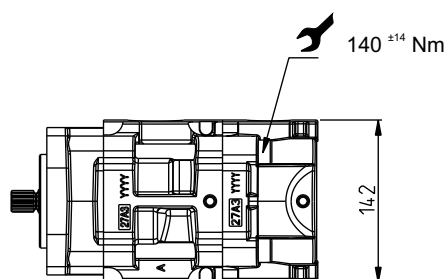
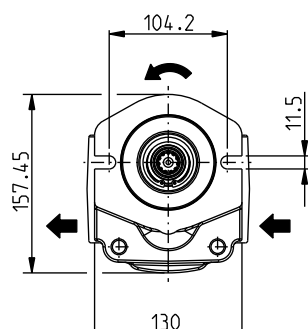
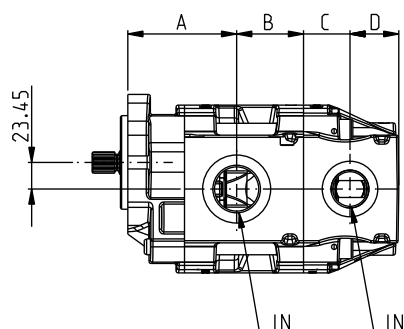
KAPPA 30

DOUBLE PUMPS KP30/30 COMBINED BODY

KSL/HSC

Mounting flange: **S9**
SAE "B" 2 HOLES
Conforms to SAE J744

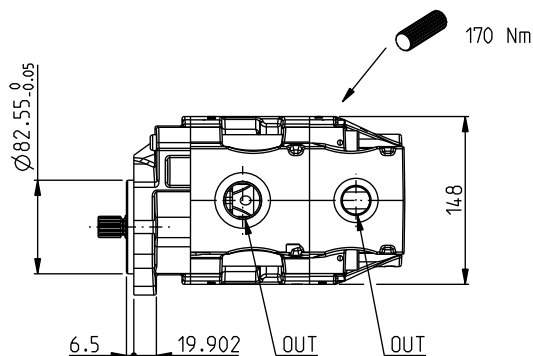
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability (See page 72)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.



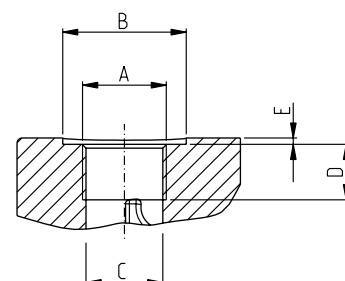
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm				
GE	3/4"	G 3/4	39	24,5	18	2,5	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

DCAT_006_026_21064779



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/30 COMBINED BODY
KSL/HSC

Pump type	Displacement	A	B	C	D	Ports code	
	cm ³ /rev	mm	mm	mm	mm	IN	OUT
KP 30•19,5	19,63	86,5	59	36,5	44	GF	GE
KP 30•22	21,99	88	59	38	44	GF	GE
KP 30•24	24,03	86,5	59	36,5	44	GF	GE
KP 30•27	26,7	91	59	41	44	GF	GE
KP 30•29	29,06	92,5	59	42,5	44	GF	GE
KP 30•31	30,63	93,5	59	43,5	44	GF	GE
KP 30•34	34,56	96	59	46	44	GF	GE
KP 30•38	39,27	96	59	46	44	GF	GE
KP 30•41	41,62	100,5	59	50,5	44	GG	GF
KP 30•43	43,98	102	59	52	44	GG	GF
KP 30•46	46,34	103,5	59	53,5	44	GG	GF
KP 30•51	51,83	107	59	57	44	GG	GF
KP 30•56	56,54	110	59	60	44	GG	GF
KP 30•61	61,26	113	59	63	44	GG	GF
KP 30•73	73,82	102	83	52	70	GG	GF
KP 30•82	81,68	107	83	57	70	GG	GF

How to order

Front pump 1 - **A8 K9 - L** 2 - **KSL** / 3 /

Rear pump 1 - **L** 2 - 4 - **HSC** - 3 5 - 6 / **FS (ANF3) (CN) (VNR01)**

1	Type	Code
Front pump type		KP 30•...
Rear pump type		30•...

2	Ports IN/OUT (a)	Code
See codes in the table above		../..

3	Performance	Code
Standard - no code (b)		...
High performance		GS

Code	Inlet combination	4
...	Two inlet (standard) no code	
M5	Common inlet	

Code	Rotation	5
S	Left	
D	Right	

Code	Seals (b)	6
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•19,5-A8 S9-L GF/GE-KSL/GS/30•19,5-L /GE-M5-HSC-GS S-T-PV/FS (ANF3) (CN) (VNR01)

03/10.2016

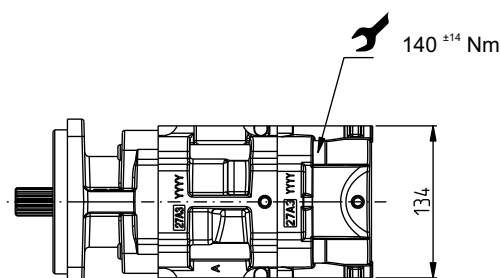
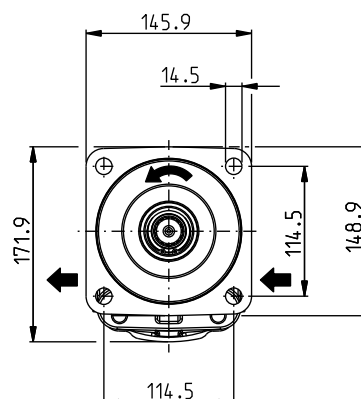
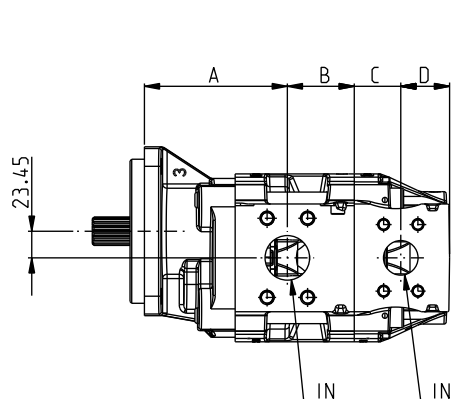
KAPPA 30

DOUBLE PUMPS KP30/30 COMBINED BODY

KSL/HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

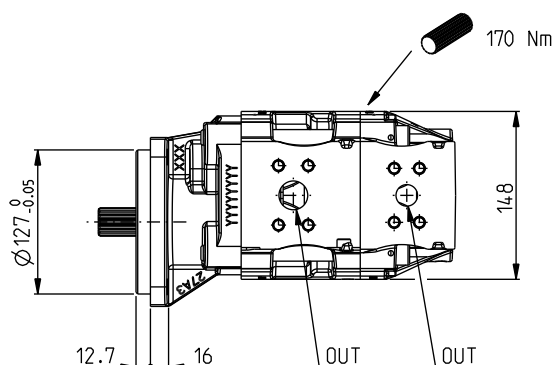
Ports type: **SSM**
SAE FLANGED PORTS J518



Drive shaft availability (See page 88)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.

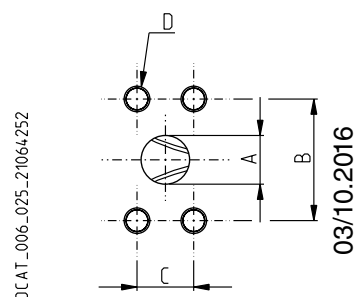


SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI

SSM

Metric thread ISO 60° conforms to ISO/R 262

CODE	A	B	C	D		
	mm	mm	mm	Thread Depth (mm)	Nm	Nm
MB	19	47,6	22,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MC	25,4	52,4	26,2	M 10 Depth 17	20 ⁺¹	30 ^{+2,5}
MD	30,5	58,7	30,2	M 10 Depth 17	20 ⁺¹	35 ^{+2,5}
ME	39,3	69,8	35,7	M 12 Depth 17	30 ^{+2,5}	60 ⁺⁵



-  Tightening torque for low pressure side port
-  Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/30 COMBINED BODY
KSL/HSC

Pump type	Displacement cm ³ /rev	A	B	C	D	Ports code	
		mm	mm	mm	mm	IN	OUT
KP 30•19,5	19,63	116,5	59	36,5	44	MC	MB
KP 30•22	21,99	118	59	38	44	MC	MB
KP 30•24	24,03	116,5	59	36,5	44	MC	MB
KP 30•27	26,7	121	59	41	44	MC	MB
KP 30•29	29,06	122,5	59	42,5	44	MC	MB
KP 30•31	30,63	123,5	59	43,5	44	MC	MB
KP 30•34	34,56	126	59	46	44	MC	MB
KP 30•38	39,27	126	59	46	44	MC	MB
KP 30•41	41,62	130,5	59	50,5	44	MD	MC
KP 30•43	43,98	132	59	52	44	MD	MC
KP 30•46	46,34	133,5	59	53,5	44	MD	MC
KP 30•51	51,83	137	59	57	44	MD	MC
KP 30•56	56,54	140	59	60	44	ME	MD
KP 30•61	61,26	143	59	63	44	ME	MD
KP 30•73	73,82	132	83	52	70	ME	MD
KP 30•82	81,68	137	83	57	70	ME	MD

How to order

Front pump 1 - 2 **S6 - L** 3 - **KSL** / 4 /

Rear pump 1 - **L** 3 - 5 - **HSC** - 4 6 - 7 / **FS (ANF3) (CN) (VNR01)**

1	Type	Code
Front pump type		KP 30-...
Rear pump type		30-...
2	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06
3	Ports IN/OUT (a)	Code
See codes in the table above		../..
4	Performance	Code
Standard - no code (b)		...
High performance		GS

Code	Inlet combination	5
...	Two inlet (standard) no code	
M5	Common inlet	
Code	Rotation	6
S	Left	
D	Right	
Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•19,5-05 S6-L MC/MB-KSL/GS/30•19,5-L /MB-M5-HSC-GS S-T-PV/FS (ANF3) (CN) (VNR01)

03/10.2016

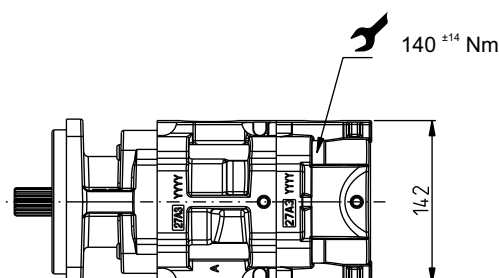
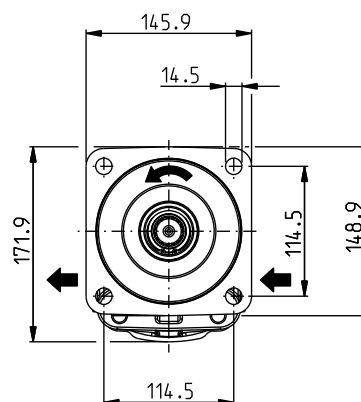
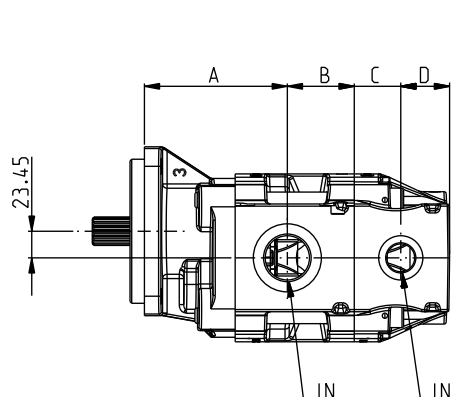
KAPPA 30

DOUBLE PUMPS KP30/30 COMBINED BODY

KSL/HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

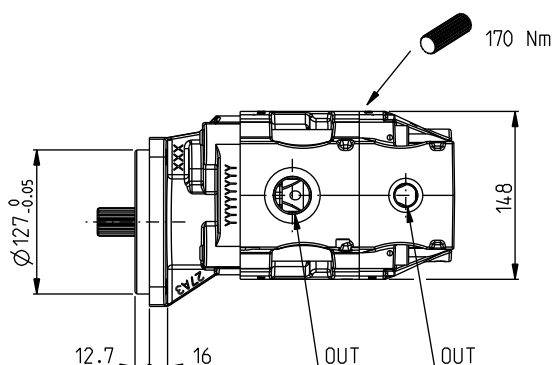
Ports type: **ODT**
SAE STRAIGHT THREAD PORTS J514



Drive shaft availability (See page 88)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.



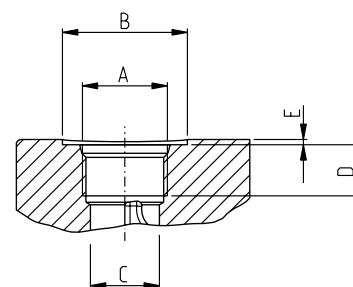
SAE STRAIGHT THREAD PORTS J514

ODT

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

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
OD	3/4"	1 1/16" - 12 UNF - 2B	42	24,8	20	2	40 ^{+2,5}	120 ⁺¹⁰
OF	1"	1 5/16" - 12 UNF - 2B	49	30,5	20	2	60 ⁺⁵	170 ⁺¹⁰
OG	1" 1/4	1 5/8" - 12 UNF - 2B	58	39,1	20	2	70 ⁺⁵	—

DCAT_006_027_21060524



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/30 COMBINED BODY
KSL/HSC

Pump type	Displacement cm ³ /rev	A	B	C	D	Ports code	
		mm	mm	mm	mm	IN	OUT
KP 30•19,5	19,63	116,5	59	36,5	44	OF	OD
KP 30•22	21,99	118	59	38	44	OF	OD
KP 30•24	24,03	116,5	59	36,5	44	OF	OD
KP 30•27	26,7	121	59	41	44	OF	OD
KP 30•29	29,06	122,5	59	42,5	44	OF	OD
KP 30•31	30,63	123,5	59	43,5	44	OF	OD
KP 30•34	34,56	126	59	46	44	OF	OD
KP 30•38	39,27	126	59	46	44	OF	OD
KP 30•41	41,62	130,5	59	50,5	44	OG	OF
KP 30•43	43,98	132	59	52	44	OG	OF
KP 30•46	46,34	133,5	59	53,5	44	OG	OF
KP 30•51	51,83	137	59	57	44	OG	OF
KP 30•56	56,54	140	59	60	44	OG	OF
KP 30•61	61,26	143	59	63	44	OG	OF
KP 30•73	73,82	132	83	52	70	OG	OF
KP 30•82	81,68	137	83	57	70	OG	OF

How to order

Front pump 1 - 2 **S6 - L** 3 - **KSL** / 4 /

Rear pump 1 - **L** 3 - 5 - **HSC** - 4 6 - 7 / **FS (ANF3) (CN) (VNR01)**

1	Type	Code
Front pump type		KP 30•...
Rear pump type		30•...

2	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

3	Ports IN/OUT (a)	Code
See codes in the table above		../..

4	Performance	Code
Standard - no code (b)		...
High performance		GS

Code	Inlet combination	5
...	Two inlet (standard) no code	
M5	Common inlet	

Code	Rotation	6
S	Left	
D	Right	

Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•19,5-05 S6-L OF/OD-KSL/GS/30•19,5-L /OD-M5-HSC-GS S-T-PV/FS (ANF3) (CN) (VNR01)

03/10.2016

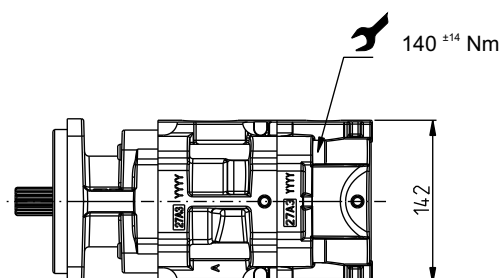
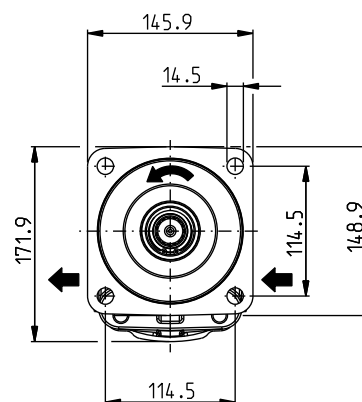
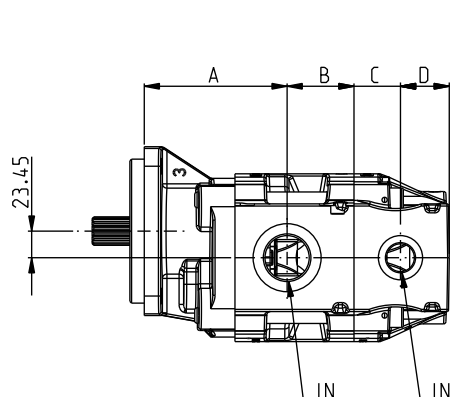
KAPPA 30

DOUBLE PUMPS KP30/30 COMBINED BODY

KSL/HSC

Mounting flange: **S6**
SAE "C" 4 HOLES
Conforms to SAE J744

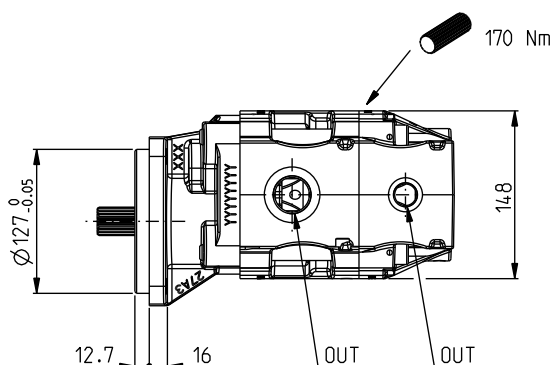
Ports type: **BSPP**
GAS STRAIGHT THREAD PORTS



Drive shaft availability (See page 88)

The torque absorbed from the shaft of the first pump results from the sum of the torques due to all single stages.

The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.



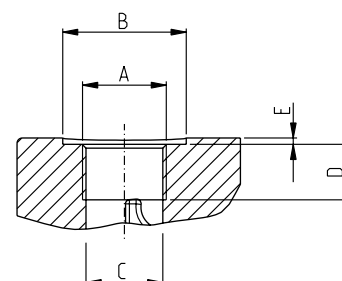
GAS STRAIGHT THREAD PORTS

BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

CODE	Nominal size	A	Ø B	Ø C	D	E		
			mm	mm	mm	mm	Nm	Nm
GE	3/4"	G 3/4	39	24,5	18	2,5	30 ^{+2,5}	90 ⁺⁵
GF	1"	G 1	49	30,5	22	2,5	50 ^{+2,5}	130 ⁺¹⁰
GG	1" 1/4	G 1 1/4	56	39	24	2,5	60 ⁺⁵	170 ⁺¹⁵

DCAT_006_026_21064779



03/10.2016

- Tightening torque for low pressure side port
- Tightening torque for high pressure side port (values obtained at 350 bar)

KAPPA 30
DOUBLE PUMPS KP30/30 COMBINED BODY
KSL/HSC

Pump type	Displacement	A	B	C	D	Ports code	
	cm³/rev	mm	mm	mm	mm	IN	OUT
KP 30•19,5	19,63	116,5	59	36,5	44	GF	GE
KP 30•22	21,99	118	59	38	44	GF	GE
KP 30•24	24,03	116,5	59	36,5	44	GF	GE
KP 30•27	26,7	121	59	41	44	GF	GE
KP 30•29	29,06	122,5	59	42,5	44	GF	GE
KP 30•31	30,63	123,5	59	43,5	44	GF	GE
KP 30•34	34,56	126	59	46	44	GF	GE
KP 30•38	39,27	126	59	46	44	GF	GE
KP 30•41	41,62	130,5	59	50,5	44	GG	GF
KP 30•43	43,98	132	59	52	44	GG	GF
KP 30•46	46,34	133,5	59	53,5	44	GG	GF
KP 30•51	51,83	137	59	57	44	GG	GF
KP 30•56	56,54	140	59	60	44	GG	GF
KP 30•61	61,26	143	59	63	44	GG	GF
KP 30•73	73,82	132	83	52	70	GG	GF
KP 30•82	81,68	137	83	57	70	GG	GF

How to order

Front pump 1 - 2 **S6 - L** 3 - **KSL** / 4 /

Rear pump 1 - **L** 3 - 5 - **HSC** - 4 6 - 7 / **FS (ANF3) (CN) (VNR01)**

1	Type	Code
Front pump type		KP 30•...
Rear pump type		30•...

2	Drive shaft	Code
SAE "B" spline (15 teeth)		05
SAE "C" spline (14 teeth)		06

3	Ports IN/OUT (a)	Code
See codes in the table above		../..

4	Performance	Code
Standard - no code (b)		...
High performance		GS

Code	Inlet combination	5
...	Two inlet (standard) no code	
M5	Common inlet	

Code	Rotation	6
S	Left	
D	Right	

Code	Seals (b)	7
...	Buna N (standard) no code	
T-PV	Buna hydrogenated HNBR and viton shaft seal	

(a) For rear pump with common inlet, please write only /OUT code.
 (b) Choose the seals according to the temperature shown on page 4.

Order example

KP 30•19,5-05 S6-L GF/GE-KSL/GS/30•19,5-L /GE-M5-HSC-GS S-T-PV/FS (ANF3) (CN) (VNR01)

03/10.2016

NOTES

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

K30CHS 04 T E

Edition: 04/10.2020

Replaces: K30CHS 03 T E



Headquarters:

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