KAPPA 20 GENERAL DATA PUMPS

KP 20

Pump type	Displacement	Max. pressure			Max. speed	Min. speed
		p_1	p_2	p_3		
	in^3/rev (cm^3/rev)	psi (bar)			min $^{-1}$	
KP 20•4	0.30 (4,95)	4133 (285)	4350 (300)	4785 (330)	4000	350
KP 20•6,3	0.40 (6,61)	4133 (285)	4350 (300)	4785 (330)	4000	350
KP 20•8	0.50 (8,26)	4133 (285)	4350 (300)	4785 (330)	3500	350
KP 20•11,2	0.69 (11,23)	3988 (275)	4205 (290)	4640 (320)	3500	350
KP 20•14	0.89 (14,53)	3843 (265)	4205 (290)	4640 (320)	3500	350
KP 20•16	1.03 (16,85)	3770 (260)	4205 (290)	4640 (320)	3000	300
KP 20•20	1.29 (21,14)	3045 (210)	3335 (230)	3625 (250)	3000	300
KP 20•25	1.61 (26,42)	2610 (180)	2900 (200)	3190 (220)	2500	300
KP 20•31,5	2.01 (33,03)	2030 (140)	2320 (160)	2610 (180)	2000	300

p_1= Max. continuous pressure p_2= Max. intermittent pressure p_3= Max. peak pressure

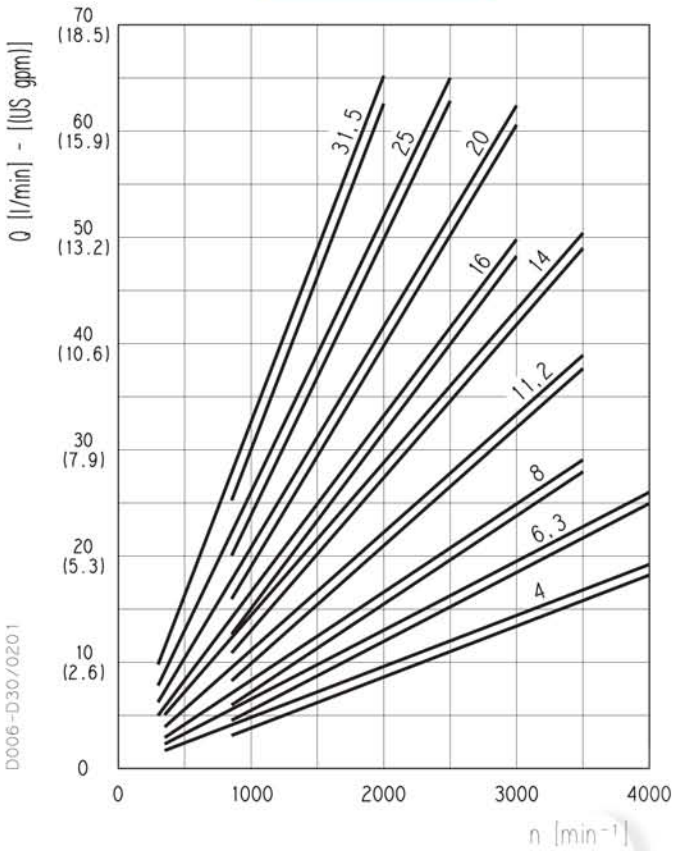
The values in the table refer to unidirectional pumps.
Reversible pump max pressures are 15% lower than those shown in table.
For different working conditions please consult our sales department.

01/03.2002

KAPPA 20 GEAR PUMPS PERFORMANCE CURVES

KP 20

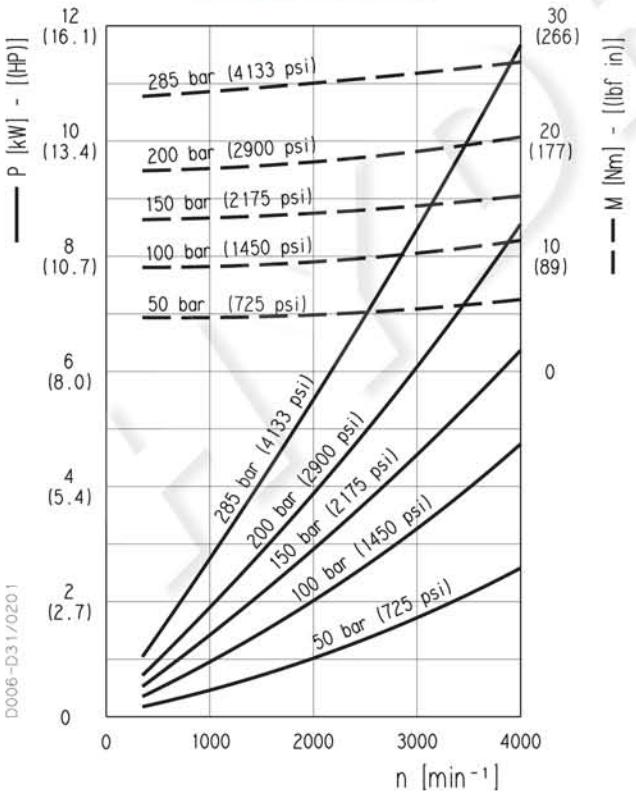
KP 20



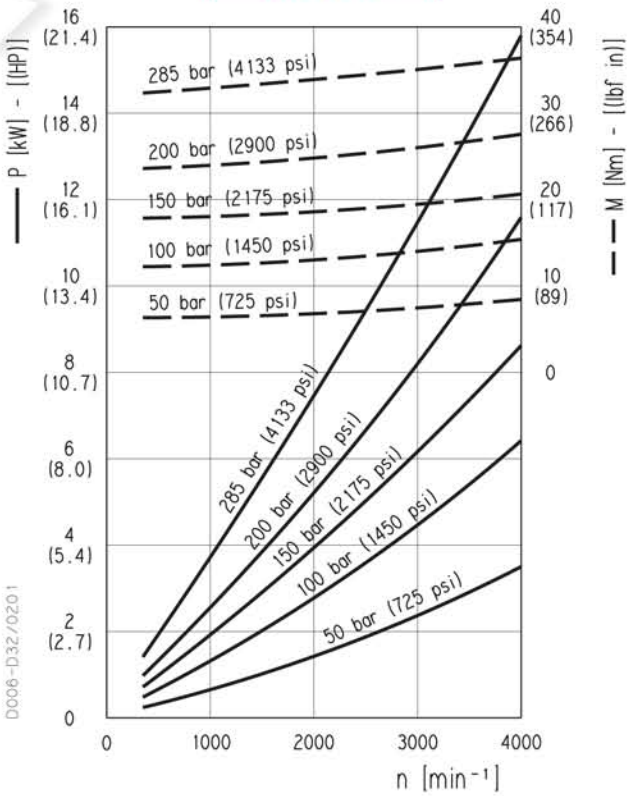
Each curve has been obtained at 122 °F (50 °C), using oil with viscosity 168 SSU (36 cSt) at 104 °F (40 °C) and at these pressures:

KP 20•4. . . . . 290-4133 psi (20-285 bar)
KP 20•6,3 . . . . . 290-4133 psi (20-285 bar)
KP 20•8. . . . . 290-4133 psi (20-285 bar)
KP 20•11,2 . . . . . 290-3988 psi (20-275 bar)
KP 20•14. . . . . 290-3843 psi (20-265 bar)
KP 20•16. . . . . 290-3770 psi (20-260 bar)
KP 20•20. . . . . 290-3045 psi (20-210 bar)
KP 20•25. . . . . 290-2610 psi (20-180 bar)
KP 20•31,5 . . . . . 290-2030 psi (20-140 bar)

KP 20•4



KP 20•6,3

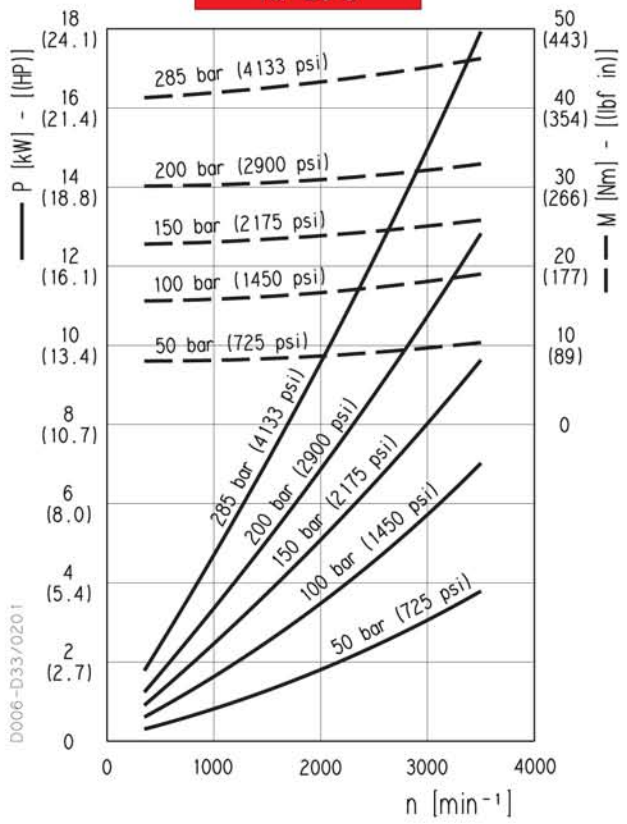


01/03.2002

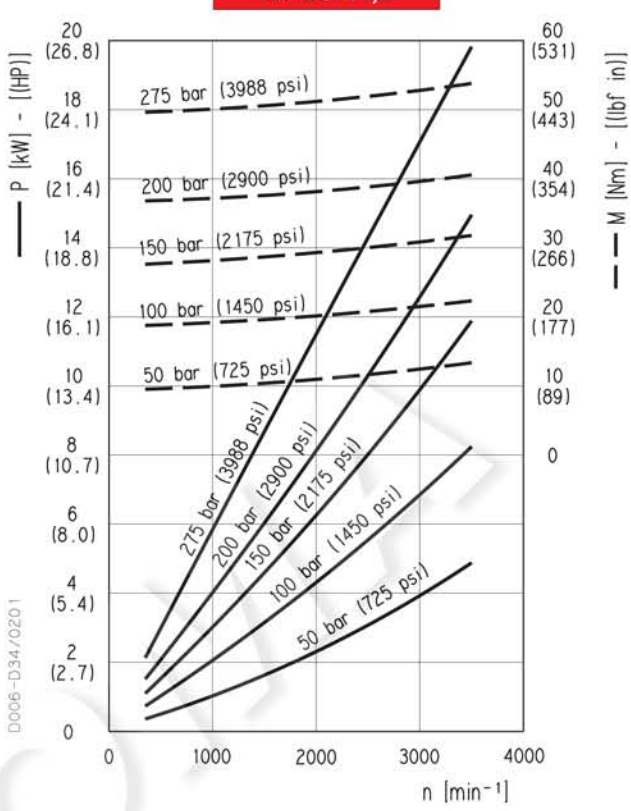
KAPPA 20 GEAR PUMPS PERFORMANCE CURVES

KP 20

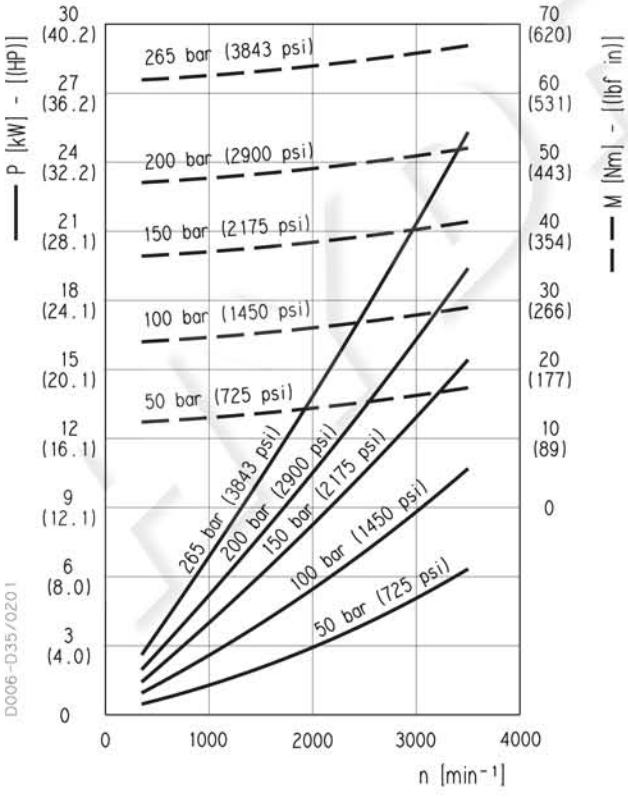
KP 20•8



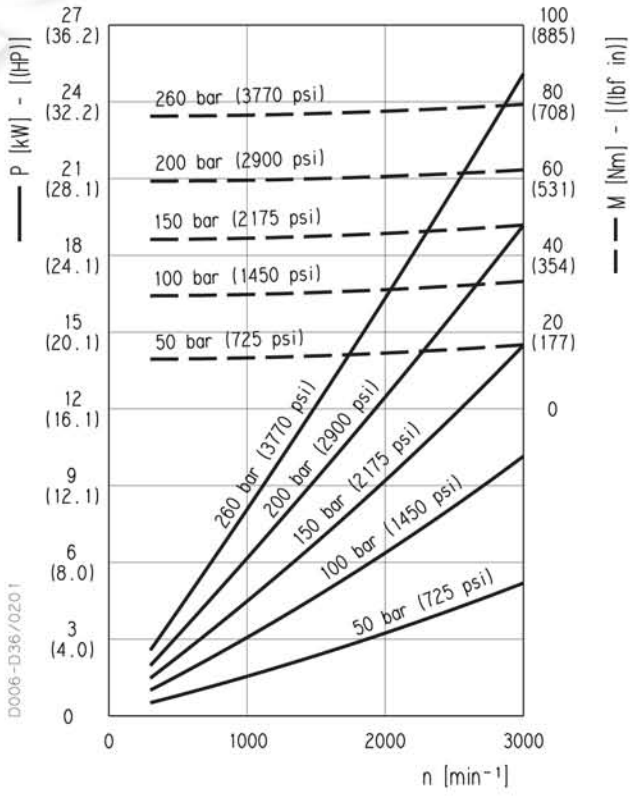
KP 20•11,2



KP 20•14



KP 20•16

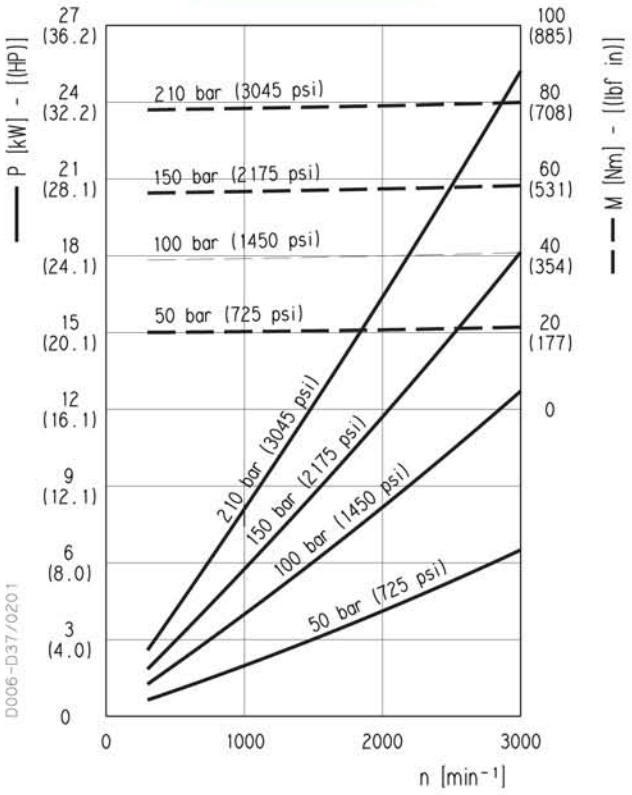


01/03.2002

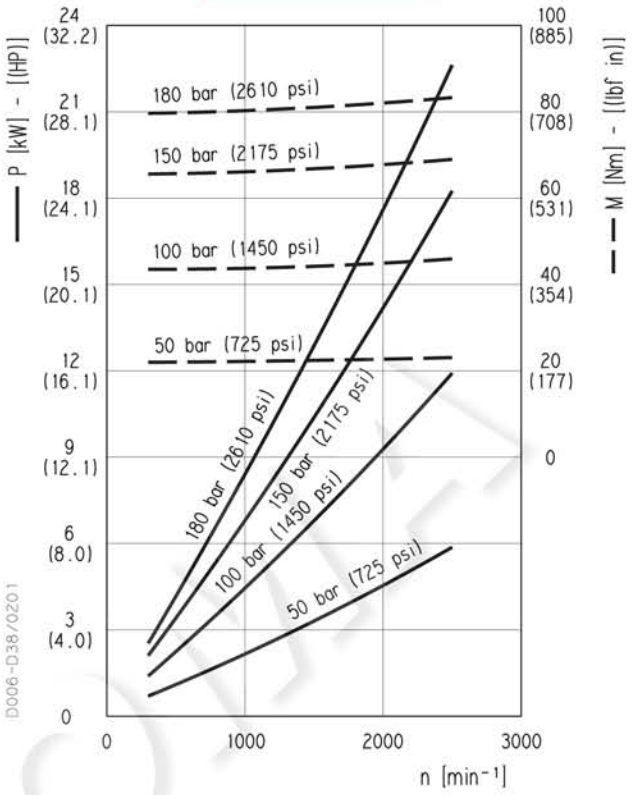
KAPPA 20 GEAR PUMPS PERFORMANCE CURVES

KP 20

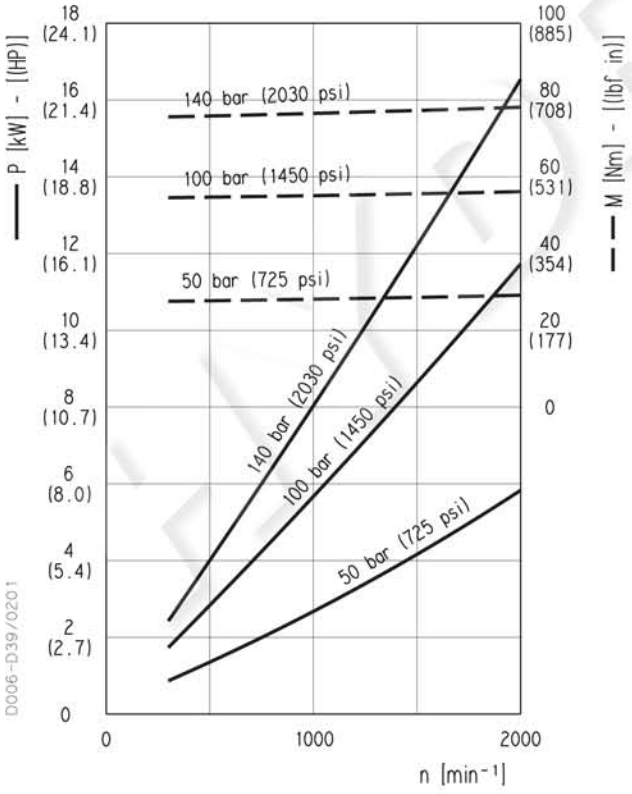
KP 20•20



KP 20•25



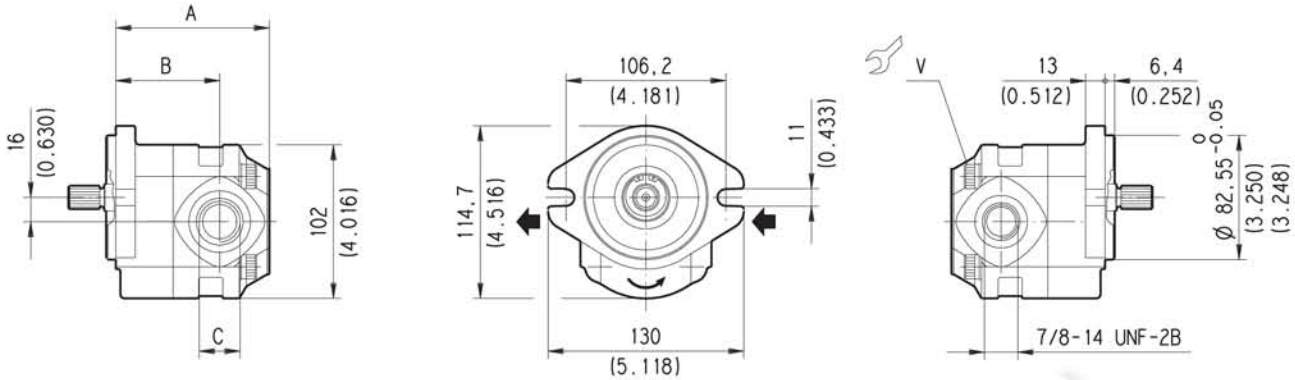
KP 20•31,5

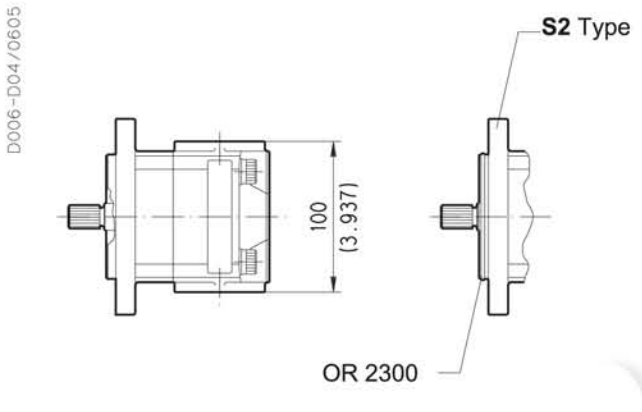


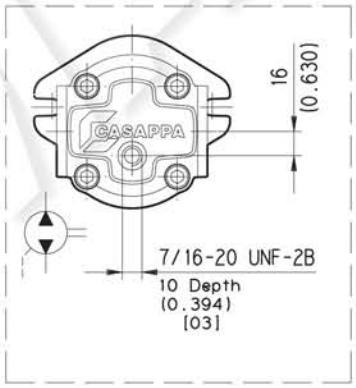
01/03.2002

KAPPA 20 — HYDRAULIC GEAR PUMPS SAE STANDARD — ... S1

SAE STRAIGHT THREAD PORTS J514
American straight thread UNC-UNF 60° conforms to ANSI B 1.1







V Screws tightening torque Nm (lbf in)
70 ±7 (558 ÷ 682)

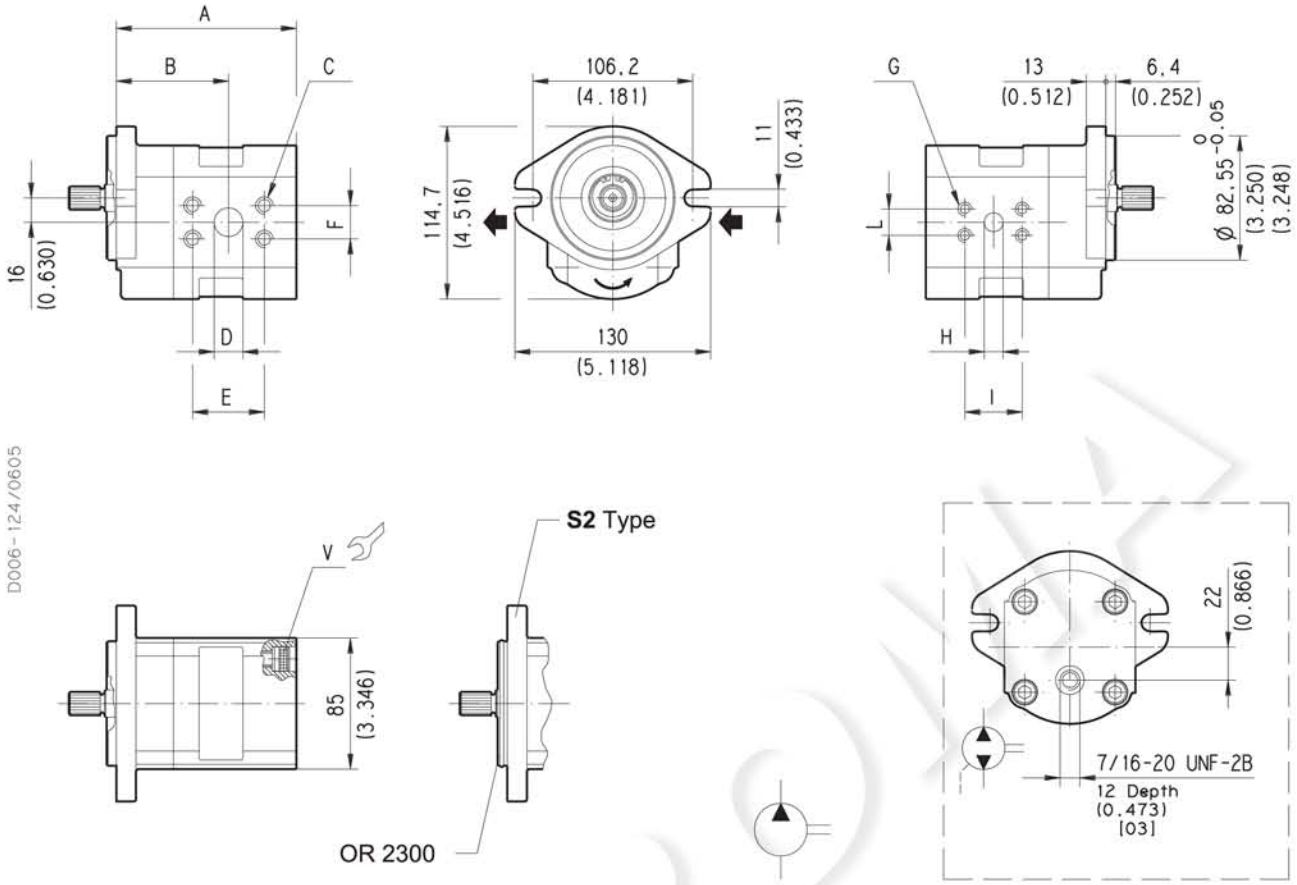
Side ports version (L) - To order see page 22

Pump type	A	B	C	Ports code	
	mm (in)	mm (in)	mm (in)	IN	OUT
KP 20•4	89,5 (3.524)	62 (2.441)	7/8-14 UNF-2B	OC	OC
KP 20•6,3	92 (3.622)	64,5 (2.539)			
KP 20•8	94,5 (3.720)	67 (2.638)			
KP 20•11,2	98 (3.858)	70,5 (2.776)			
KP 20•14	102 (4.016)	69 (2.717)	1-1/16-12 UN-2B	OD	
KP 20•16	107,5 (4.232)	74,5 (2.933)			
KP 20•20	114 (4.488)	81 (3.189)			
KP 20•25	122 (4.803)	74 (2.913)			
KP 20•31,5	132 (5.197)	84 (3.307)			

02/06.2005

KAPPA 20 — HYDRAULIC GEAR PUMPS SAE STANDARD — ... S1

SAE FLANGED PORTS J518 - Standard pressure series 3000 PSI
Metric thread ISO 60° conforms to ISO/R 262



D006-124/0605

V Screws tightening torque Nm (lbf in)
70 ±7 (558 ÷ 682)

Side ports version (L) - To order see page 22

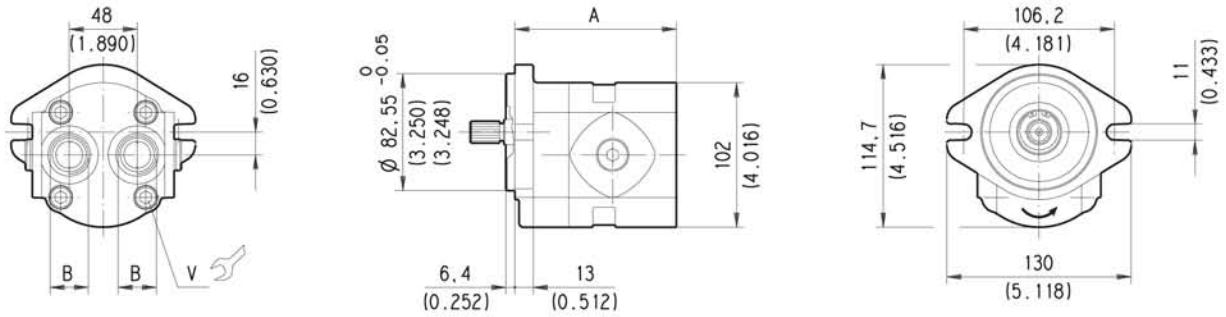
Pump type	A	B	C	D	E	F	G	H	I	L	Ports code	
	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	IN	OUT
KP 20•4	101,5 (3.996)	62 (2.441)	M8 Depth 12 (0.472)	12,5 (0.492)	38,1 (1.500)	17,5 (0.689)	M8 Depth 12 (0.472)	12,5 (0.492)	38,1 (1.500)	17,5 (0.689)	MA	MA
KP 20•6,3	104 (4.094)	64,5 (2.539)										
KP 20•8	106,5 (4.193)	67 (2.638)										
KP 20•11,2	111 (4.370)	70,5 (2.776)										
KP 20•14	116 (4.567)	69 (2.717)	M10 Depth 12 (0.472)	19 (0.748)	47,6 (1.874)	22,2 (0.874)					MB	
KP 20•16	119,5 (4.705)	74,5 (2.933)										
KP 20•20	126 (4.961)	81 (3.189)										
KP 20•25	134 (5.276)	74 (2.913)		25,4 (1.000)	52,4 (2.063)	26,2 (1.031)	M10 Depth 12 (0.472)	19 (0.748)	47,6 (1.874)	22,2 (0.874)	MC	MB
KP 20•31,5	144 (5.669)	84 (3.307)										

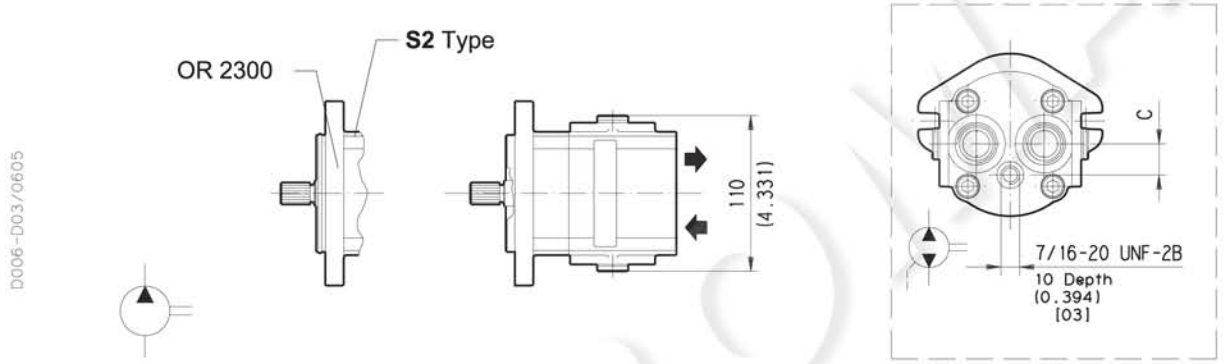
02/06.2005

KAPPA 20 — HYDRAULIC GEAR PUMPS SAE STANDARD — ... S1

SAE STRAIGHT THREAD PORTS J514

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





V Screws tightening torque Nm (lbf in)
70 ±7 (558 ÷ 682)

Rear ports version (P) - To order see page 22

Pump type	A	B	C	Ports code	
	mm (in)		mm (in)	IN	OUT
KP 20•4	86,5 (3.406)	7/8-14 UNF-2B	19 (0.748)	OC	OC
KP 20•6,3	89 (3.504)				
KP 20•8	91,5 (3.602)				
KP 20•11,2	95 (3.740)				
KP 20•14	114 (4.488)	1-1/16-12 UN-2B	22 (0.866)	OD	
KP 20•16	117,5 (4.623)				
KP 20•20	124 (4.882)				
KP 20•25	132 (5.197)				
KP 20•31,5	142 (5.591)				

02/06.2005

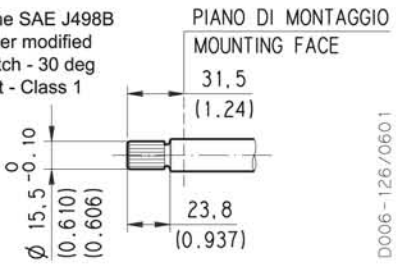
KAPPA 20 END DRIVE SHAFTS

SAE

Replaces: 01/03.2002

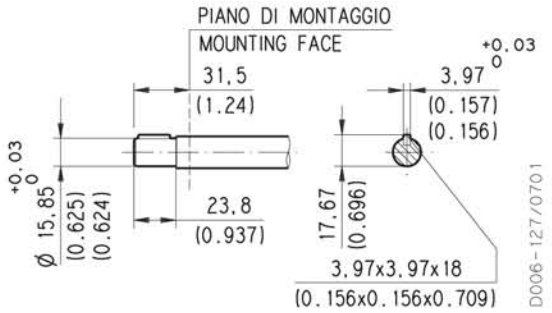
SAE "A" SPLINE — 03

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



MAX 885 lbf in (100 Nm)

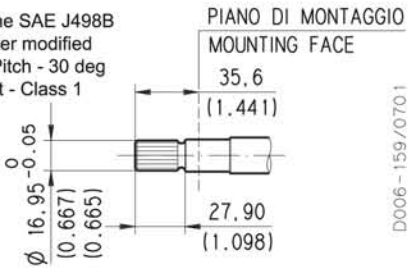
SAE "A" STRAIGHT — 31



MAX 620 lbf in (70 Nm)

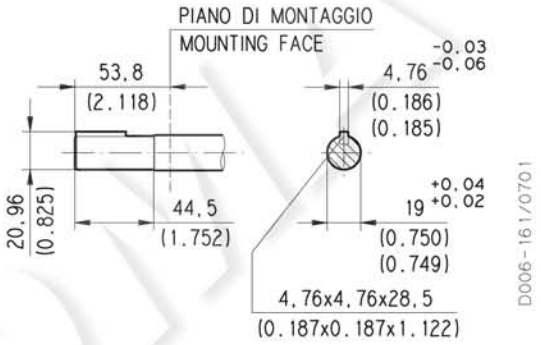
SAE SPLINE — 01

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



MAX 1151 lbf in (130 Nm)

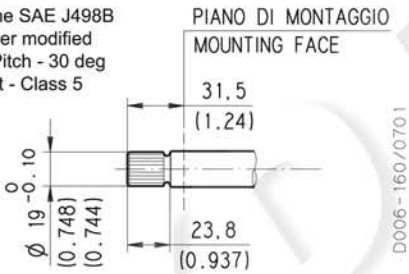
STRAIGHT — 49



MAX 1239 lbf in (140 Nm)

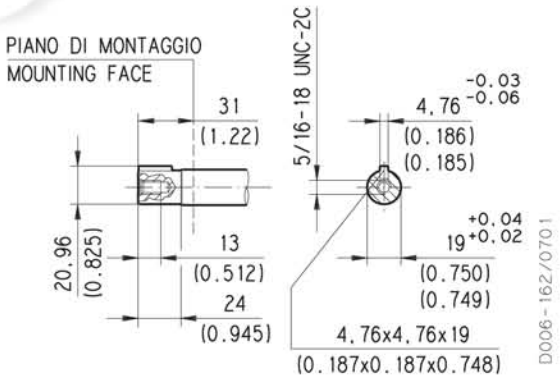
SAE SPLINE — 07

Ext. Involute Spline SAE J498B
with major diameter modified
11 teeth - 16/32 Pitch - 30 deg
Flat Root - Side fit - Class 5



MAX 1505 lbf in (170 Nm)

STRAIGHT — 50

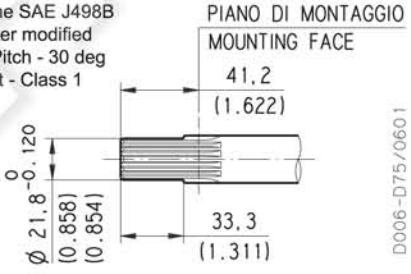


MAX 885 lbf in (100 Nm)

03/03.2006

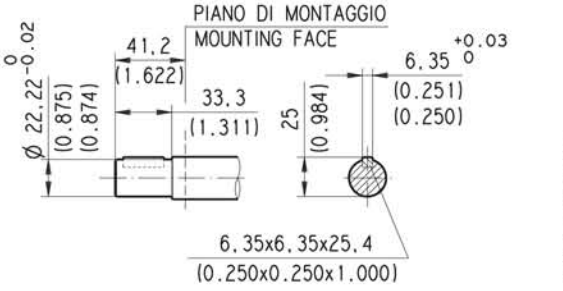
SAE "B" SPLINE — 04

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



MAX 2478 lbf in (280 Nm)

SAE "B" STRAIGHT — 32



MAX 1770 lbf in (200 Nm)

HOW TO ORDER SINGLE PUMPS

1	2	3		4	5		6	7		8
Pump type	Rotation	Version	–	Drive shaft	Mounting flange	–	Ports positon	Ports IN/OUT	–	Seals
KP30•17	S	0	–	03	S1	–	L	OC/OC	–	N

1 Pump Type		CODE
in³/rev	(cm³/rev)	
0.30	4,95	KP 20•4
0.40	6,61	KP 20•6,3
0.50	8,26	KP 20•8
0.69	11,23	KP 20•11,2
0.89	14,53	KP 20•14
1.03	16,85	KP 20•16
1.29	21,14	KP 20•20
1.61	26,42	KP 20•25
2.01	33,03	KP 20•31,5

2 Rotation	CODE
Left	S
Right	D
Reversible	R
Reversible with internal drain	B

3 Version	CODE
Without outboard bearing	0

4 Drive shaft	CODE
SAE "A" spline (9 teeth)	03
SAE spline (10 teeth)	01
SAE spline (11 teeth)	07
SAE "B" spline (13 teeth)	04
SAE "A" straight	31
Straight	49
Straight	50
SAE "B" straight	32

5 Mounting flange	CODE
SAE "A" 2 holes	S1
SAE "A" 2 holes (with o-ring seal)	S2
SAE "B" 2 holes (a)	S5

CODE	6 Ports position
L	Side
P	Rear

CODE	7 Ports IN/OUT	
SAE STRAIGHT THREAD PORTS (ODT)		
Side	Rear	Pump type
OC/OC	OC/OC	KP 20•4
OC/OC	OC/OC	KP 20•6,3
OC/OC	OC/OC	KP 20•8
OC/OC	OC/OC	KP 20•11,2
OD/OC	OD/OD	KP 20•14
OD/OC	OD/OD	KP 20•16
OD/OC	OD/OD	KP 20•20
OD/OC	OD/OD	KP 20•25
OD/OC	OD/OD	KP 20•31,5
METRIC SAE SPLIT PORTS SAE J518 C		
MA/MA		KP 20•4
MA/MA		KP 20•6,3
MA/MA		KP 20•8
MA/MA		KP 20•11,2
MB/MA		KP 20•14
MB/MA		KP 20•16
MB/MA		KP 20•20
MC/MB		KP 20•25
MC/MB		KP 20•31,5

CODE	8 Seals (b)
N	Buna N (standard) - no code
N-H	Buna with high back pressure shaft seals
V	Viton
N Bz	Buna N and Bronze thrust plates
V Bz	Viton and Bronze thrust plates

(a) Available only with 04 and 32 shaft

(b) Choose the seals according to the temperature shown on page 1

01/03.2002

ORDER EXAMPLE

Standard pump KP 20•4 S0 - 03 S1 - L OC/OC - N

Special version pump KP 20•4 S0 - 04 S5 - L MA/MA - V Bz