



## QUICK BUILD PROGRAM



## NEXT DAY DELIVERY

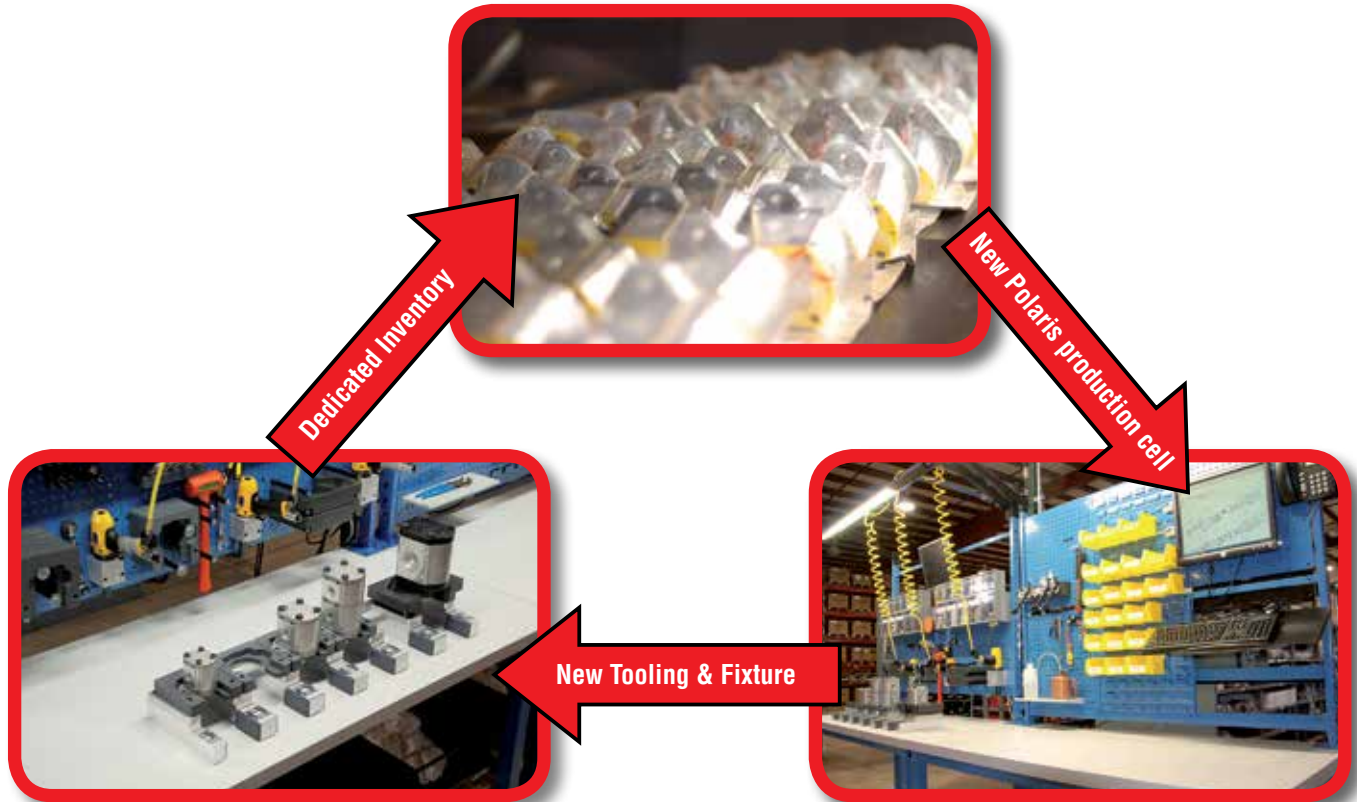
HYDRAULIC GEAR  
PUMPS



## POLARIS QUICK BUILD PROGRAM

The "POLARIS" product line is a result of more than 50 years of Casappa experience. By combining large investments in research, product development, and personalized solution Casappa can offer a high efficiency product while maintaining its modular 3 piece design.

The modularity of the POLARIS product in conjunction with investments into infrastructure has allowed for Casappa to offer our "Quick Build" program. This newly developed program allows our network of distributors the ability to quickly deliver product to end customers in need.



# ASK ABOUT OUR 24-HOUR TURNAROUND

01/03.2016

○ **Modification from former edition.**

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## FEATURES

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Inlet pressure range for pumps	10 ÷ 22 psi - [0,7 ÷ 1,5 bar (abs.)]
Fluid temperature range with Buna N seals	Min -13 °F (-25 °C)
	Max continuous 176 °F (80 °C)
	Max peak 212 °F (100 °C)
Fluid	Mineral oil based hydraulic fluids to ISO/DIN. For other fluids please consult our technical sales department.
Viscosity range	From 60 to 456 SSU [12 to 100 mm <sup>2</sup> /s (cSt)] recommended
	Up to 3410 SSU [750 mm <sup>2</sup> /s (cSt)] permitted

See technical catalog for more information.

### MULTIPLE PUMPS

POLARIS series pumps can be coupled together in combination. Input power requirements of each section varies, but 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.

The maximum rotational speed is that of the lowest rated speed of the single units incorporated.

### DRIVE SHAFT SELECTION

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.

01/03.2016



## PICK DISPLACEMENT AND CORRESPONDING PORTS

### AVAILABLE DISPLACEMENTS AND PORTS

Pump type	Displacement in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	Max. pressure			Max. speed min <sup>-1</sup>	Min. speed	Ports code		
		p <sub>1</sub>	p <sub>2</sub>	p <sub>3</sub>			Standard Inlet	Common Inlet	OUT
		psi (bar)							
<b>PLP10.2,5</b>	0.16 (2,67)	3770 (260)	4060 (280)	4205 (290)	4000	650	<b>OB</b>	<b>OB</b>	<b>OA</b>
<b>PLP10.3,15</b>	0.20 (3,34)	3770 (260)	4060 (280)	4205 (290)	4000	650	<b>OB</b>	<b>OB</b>	<b>OA</b>
<b>PLP10.4</b>	0.26 (4,27)	3625 (250)	3915 (270)	4060 (280)	4000	650	<b>OB</b>	<b>OC</b>	<b>OA</b>
<b>PLP10.5</b>	0.33 (5,34)	3625 (250)	3915 (270)	4060 (280)	4000	650	<b>OB</b>	<b>OC</b>	<b>OA</b>
<b>PLP10.6,3</b>	0.41 (6,67)	3335 (230)	3625 (250)	3770 (260)	3500	650	<b>OC</b>	<b>OC</b>	<b>OB</b>
<b>PLP10.8</b>	0.52 (8,51)	2610 (180)	2900 (200)	3045 (210)	3500	650	<b>OC</b>	<b>OC</b>	<b>OB</b>
<b>PLP10.10</b>	0.65 (10,67)	2030 (140)	2320 (160)	2465 (170)	3500	650	<b>OC</b>	<b>OC</b>	<b>OB</b>
<b>PLP20.4</b>	0.30 (4,95)	3625 (250)	4060 (280)	4350 (300)	4000	600	<b>OC</b>	<b>OD</b>	<b>OC</b>
<b>PLP20.6,3</b>	0.40 (6,61)	3625 (250)	4060 (280)	4350 (300)	4000	600	<b>OC</b>	<b>OD</b>	<b>OC</b>
<b>PLP20.8</b>	0.50 (8,26)	3625 (250)	4060 (280)	4350 (300)	3500	600	<b>OC</b>	<b>OD</b>	<b>OC</b>
<b>PLP20.9</b>	0.56 (9,17)	3625 (250)	4060 (280)	4350 (300)	3500	600	<b>OC</b>	<b>OD</b>	<b>OC</b>
<b>PLP20.11,2</b>	0.69 (11,23)	3625 (250)	4060 (280)	4350 (300)	3500	600	<b>OC</b>	<b>OD</b>	<b>OC</b>
<b>PLP20.14</b>	0.89 (14,53)	3625 (250)	4060 (280)	4350 (300)	3500	500	<b>OD</b>	<b>OF</b>	<b>OC</b>
<b>PLP20.16</b>	1.03 (16,85)	3625 (250)	4060 (280)	4350 (300)	3000	500	<b>OD</b>	<b>OF</b>	<b>OC</b>
<b>PLP20.20</b>	1.29 (21,14)	2900 (200)	3190 (220)	3480 (240)	3000	500	<b>OD</b>	<b>OG</b>	<b>OC</b>
<b>PLP20.25</b>	1.61 (26,42)	2465 (170)	2755 (190)	3045 (210)	2500	500	<b>OD</b>	<b>OG</b>	<b>OC</b>
<b>PLP20.31,5</b>	2.01 (33,03)	1885 (130)	2175 (150)	2465 (170)	2000	500	<b>OD</b>	<b>OG</b>	<b>OC</b>
<b>PHP20.20</b>	1.29 (21,14)	3600 (250)	4060 (280)	4350 (300)	3500	500	<b>OG</b>	<b>OG</b>	<b>OC</b>
<b>PHP20.25</b>	1.61 (26,42)	3335 (230)	3770 (260)	4060 (280)	3000	500	<b>OG</b>	<b>OG</b>	<b>OC</b>
<b>PHP20.31,5</b>	2.01 (33,03)	2900 (200)	3335 (230)	3625 (250)	2500	500	<b>OG</b>	<b>OG</b>	<b>OC</b>

p<sub>1</sub> = Max. continuous pressure  
 p<sub>2</sub> = Max. intermittent pressure  
 p<sub>3</sub> = Max. peak pressure

Replaces: 01/03.2016

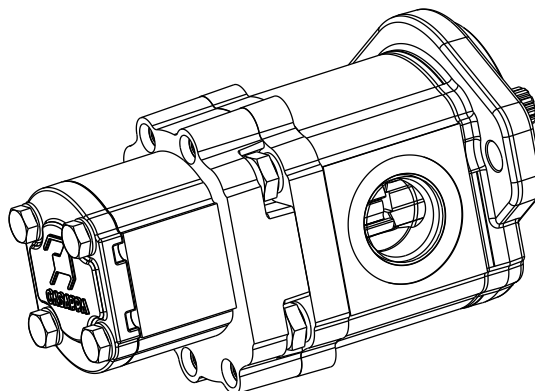
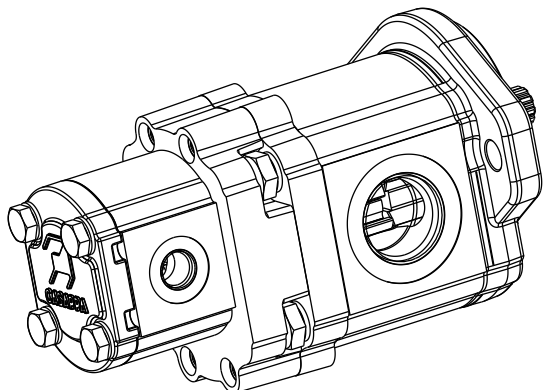
02/02.2017

**PORT DIMENSION**

**STANDARD INLET PORT CONFIGURATION**

**COMMON INLET PORT CONFIGURATION**

Replaces: 01/03.2016



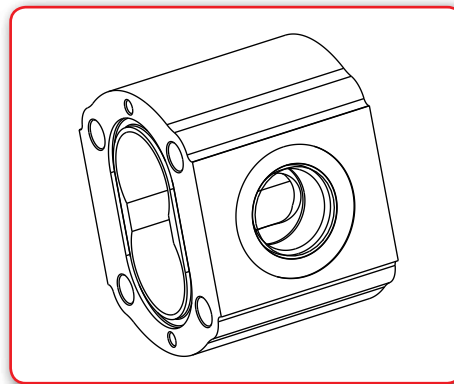
**SAE STRAIGHT THREAD PORTS J514**

**ODT**

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

See technical catalog for tightening torque

CODE	Nominal size	Thread size	Dash number
<b>OA</b>	3/8"	9/16" - 18 UNF - 2B	-6
<b>OB</b>	1/2"	3/4" - 16 UNF - 2B	-8
<b>OC</b>	5/8"	7/8" - 14 UNF - 2B	-10
<b>OD</b>	3/4"	1 1/16" - 12 UNF - 2B	-12
<b>OF</b>	1"	1 5/16" - 12 UNF - 2B	-16
<b>OG</b>	1" 1/4	1 5/8" - 12 UNF - 2B	-20
**	Used in common inlet to denote omitted inlet port		

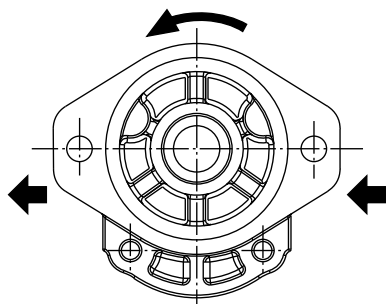


**AVAILABLE QUICK BUILD ROTATIONS**

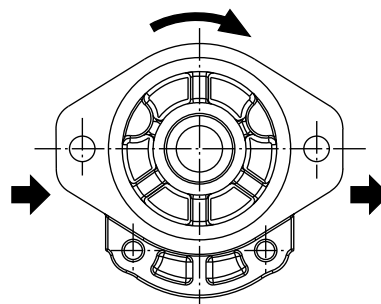


02/02.2017

**Counter-clockwise rotation S**



**Clockwise rotation D**





**DRIVE SHAFT AND MOUNTING FLANGE AVAILABILITY**

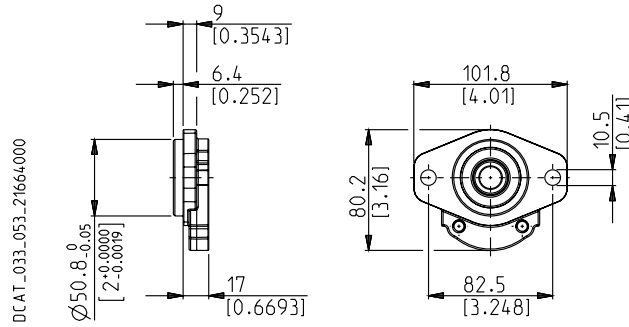
**SAE "AA"**

**MOUNTING FLANGE**

**SAE "A-A" 2 BOLTS**

**S0**

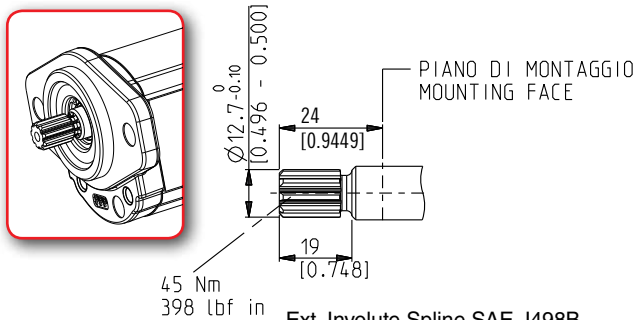
Mounting flange and rear cover in aluminium (order code **EL**)



**DRIVE SHAFT**

**SAE "AA" SPLINE**

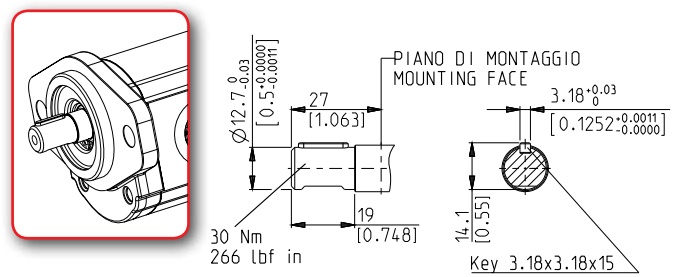
**02**



Ext. Involute Spline SAE J498B  
with major diameter modified  
9 teeth - 20/40 Pitch - 30 deg  
Flat root - Side fit - Class 5

**SAE "AA" STRAIGHT**

**30**



02/02.2017

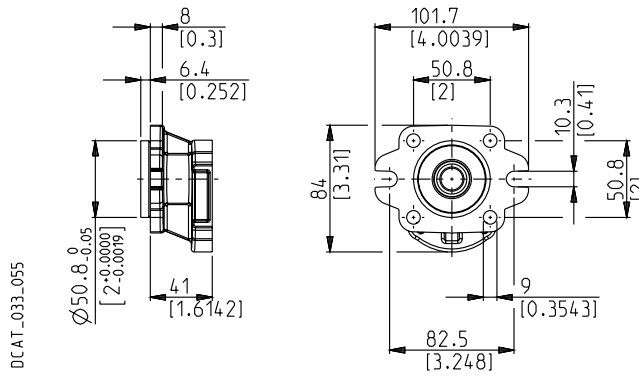


**MOUNTING FLANGE**

**SAE "A-A" 2-4 BOLTS**

**R9**

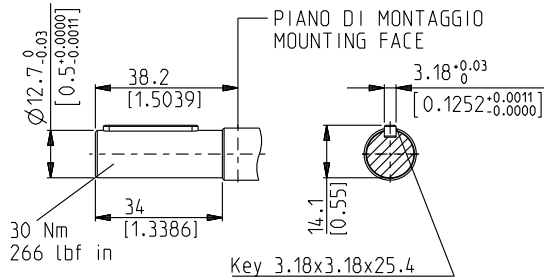
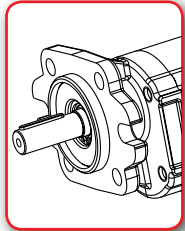
Cast iron mounting flange and aluminium rear cover (order code **L**)



**DRIVE SHAFT**

**SAE "AA" STRAIGHT - EXTENDED LENGTH**

**36**



02/02.2017

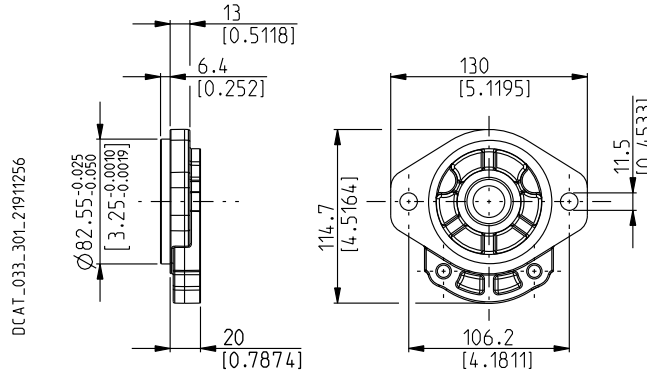


**MOUNTING FLANGE**

**SAE "A" 2 BOLTS**

**S1**

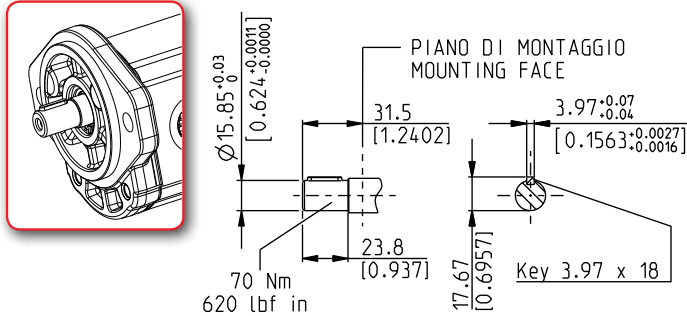
Mounting flange and rear cover in aluminium (order code **EL**)



**DRIVE SHAFT**

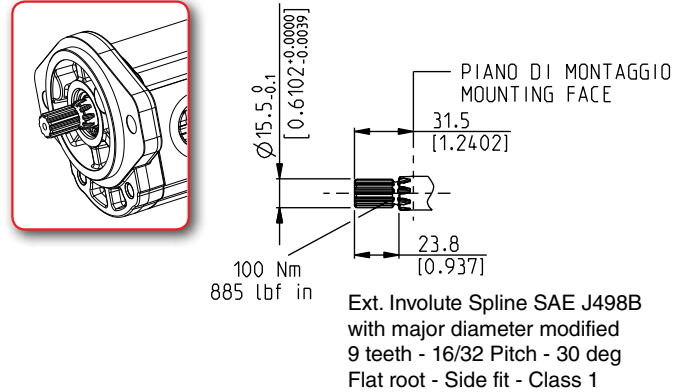
**SAE "A" STRAIGHT**

**31**



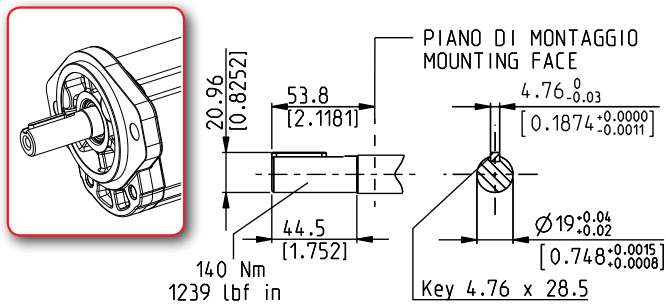
**SAE "A" 9 TOOTH SPLINE**

**03**



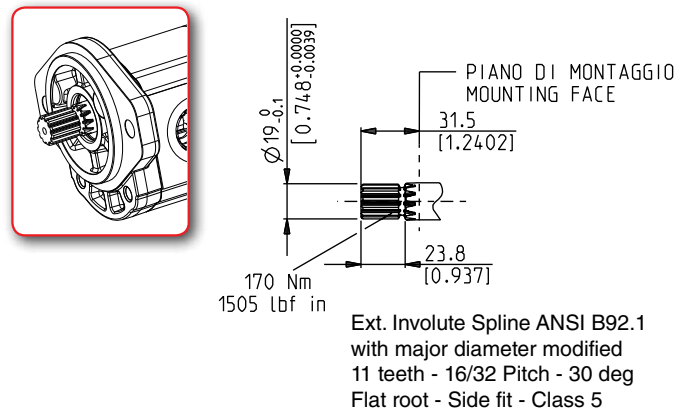
**3/4" STRAIGHT KEYED**

**49**



**SAE "A" 11 TOOTH SPLINE**

**07**



01/03.2016





# DRIVE SHAFT AND MOUNTING FLANGE AVAILABILITY

**SAE "B"**

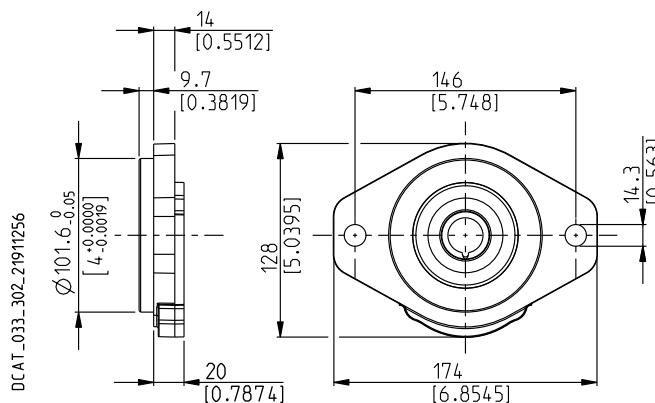
Replaces: 01/03.2016

## MOUNTING FLANGE

**SAE "B" 2 BOLTS**

**S5**

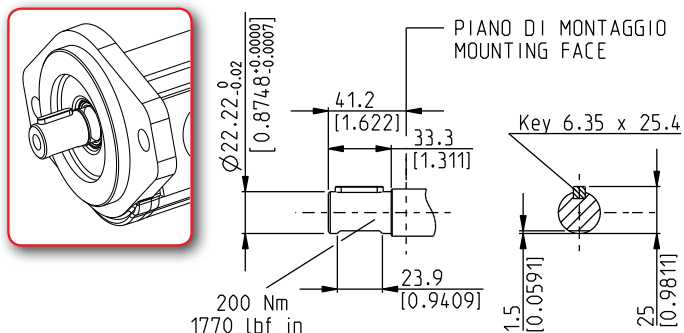
Cast iron mounting flange and aluminium rear cover (order code **L**)



## DRIVE SHAFT

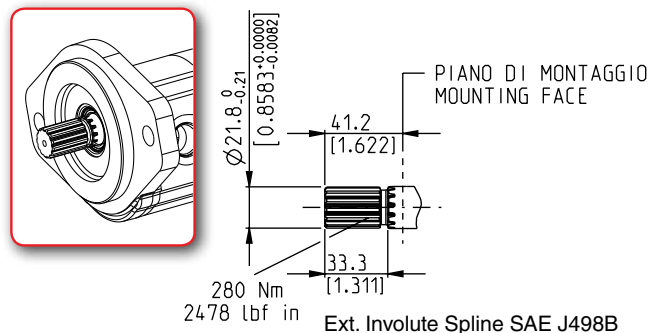
**SAE "B" STRAIGHT: 7/8" KEYED**

**32**



**SAE "B" 13 TOOTH SPLINE**

**04**



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

02/02.2017

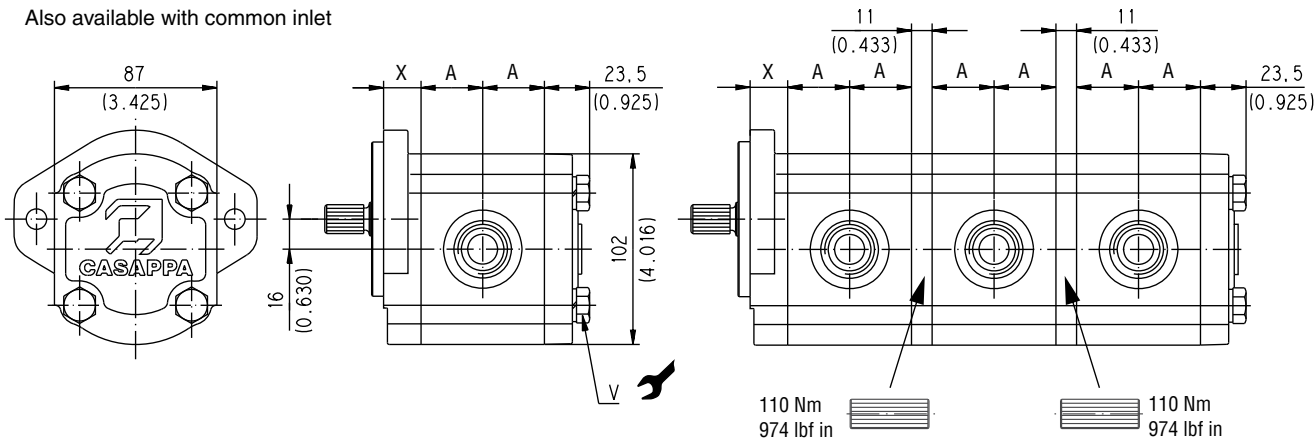


## POLARIS 20 DIMENSION

### PLP20/PLP20

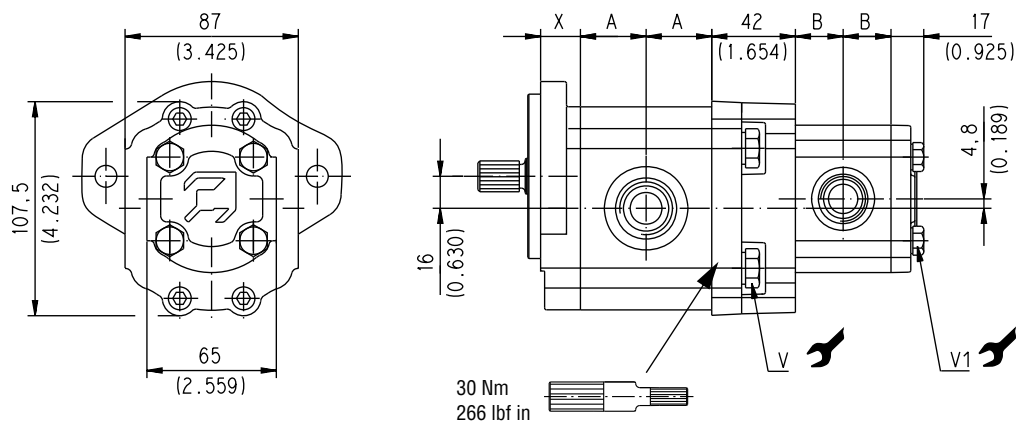
Also available with common inlet

Replaces: 01/03.2016



### PLP20/PLP10

Also available with common inlet



Mounting flange	X
	mm (in)
<b>S1</b>	20 (0.787)
<b>S5</b>	20 (0.787)

V	V1
Screws tightening torque Nm (lbf in)	
45 $\pm 4.5$ (358 $\div$ 438)	25 $\pm 2.5$ (199 $\div$ 243)

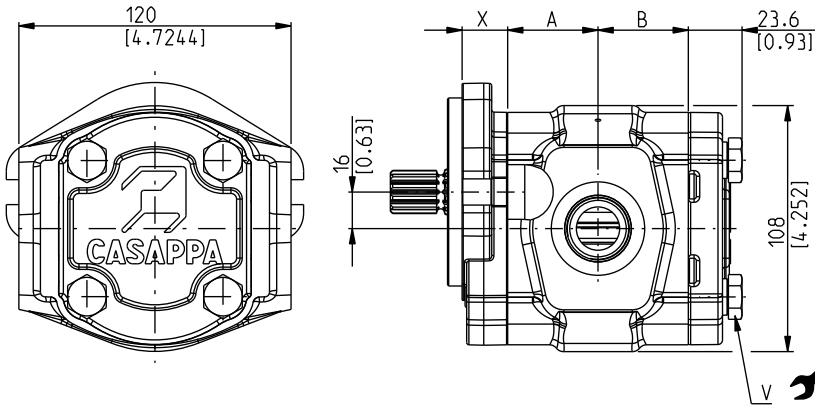
02/02.2017

Pump type	A
	mm (in)
<b>PLP20.4</b>	25,75 (1.0138)
<b>PLP20.6,3</b>	27 (1.0630)
<b>PLP20.8</b>	28,25 (1.1122)
<b>PLP20.9</b>	28,9 (1.1378)
<b>PLP20.11,2</b>	30,5 (1.2008)
<b>PLP20.14</b>	33 (1.2992)
<b>PLP20.16</b>	34,75 (1.3681)
<b>PLP20.20</b>	38 (1.4961)
<b>PLP20.25</b>	42 (1.6535)
<b>PLP20.31,5</b>	47 (1.8504)

Pump type	B
	mm (in)
<b>PLP 10•2,5</b>	20 (0.7874)
<b>PLP 10•3,15</b>	21 (0.8268)
<b>PLP 10•4</b>	22,4 (0.8819)
<b>PLP 10•5</b>	24 (0.9449)
<b>PLP 10•6,3</b>	26 (1.0236)
<b>PLP 10•8</b>	28,75 (1.1319)
<b>PLP 10•10</b>	32 (1.2598)

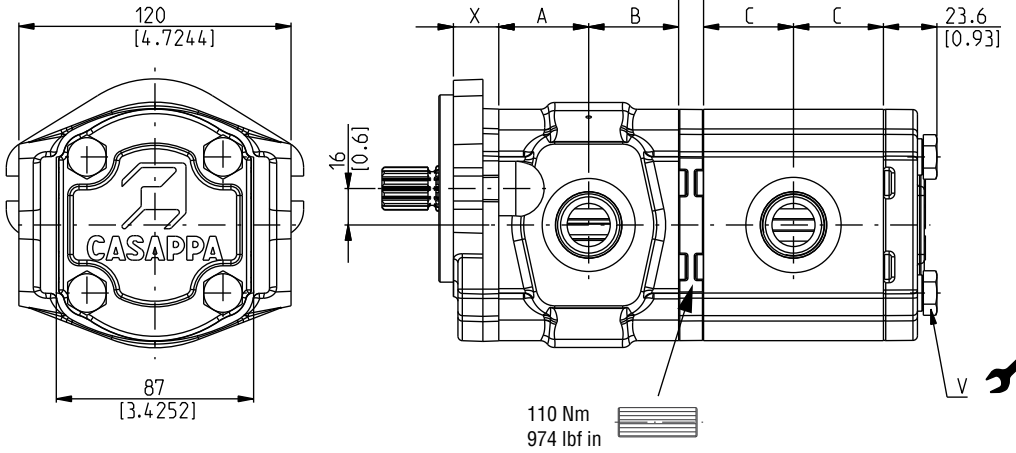
**POLARIS PH DIMENSION**

**PHP20**



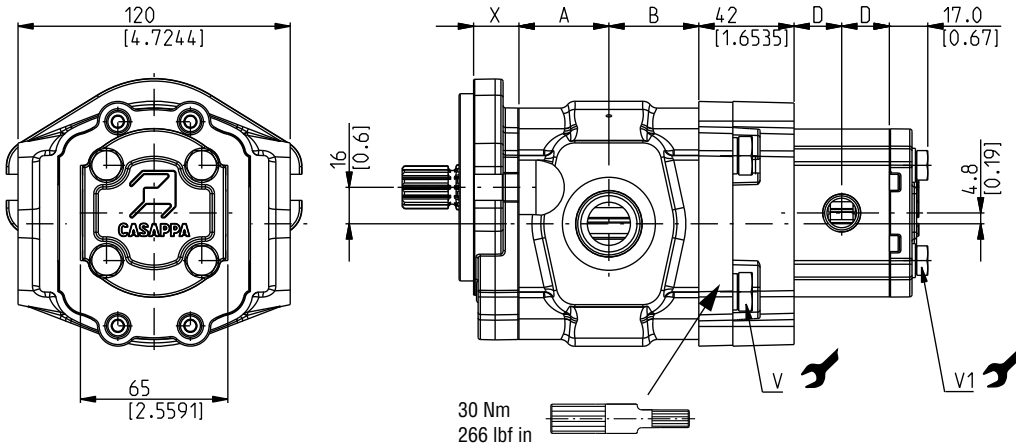
**PHP20/PLP20**

Also available with common inlet



**PHP20/PLP10**

Also available with common inlet



Replaces: 02/02.2017

03/03.2017

## POLARIS PH DIMENSION

Replaces: 02/02.2017

Mounting flange	<b>X</b>
	mm (in)
<b>S1</b>	20 (0.787)
<b>S5</b>	20 (0.787)

<b>V</b>	<b>V1</b>
Screws tightening torque Nm (lbf in)	
45 <sup>±4,5</sup> (358 ÷ 438)	25 <sup>±2,5</sup> (199 ÷ 243)

### INLET SIDE

### OUTLET SIDE

Pump type	INLET SIDE		OUTLET SIDE	
	<b>A</b> mm (in)	<b>B</b> mm (in)	<b>A</b> mm (in)	<b>B</b> mm (in)
<b>PHP 20•20</b>	42 (1.6535)	34 (1.3386)	38 (1.4961)	38 (1.4961)
<b>PHP 20•25</b>	42 (1.6535)	42 (1.6535)	42 (1.6535)	42 (1.6535)
<b>PHP 20•31,5</b>	47 (1.8504)	47 (1.8504)	47 (1.8504)	47 (1.8504)

Pump type	<b>C</b> mm (in)
<b>PLP20.4</b>	25,75 (1.0138)
<b>PLP20.6,3</b>	27 (1.0630)
<b>PLP20.8</b>	28,25 (1.1122)
<b>PLP20.9</b>	28,9 (1.1378)
<b>PLP20.11,2</b>	30,5 (1.2008)
<b>PLP20.14</b>	33 (1.2992)
<b>PLP20.16</b>	34,75 (1.3681)
<b>PLP20.20</b>	38 (1.4961)
<b>PLP20.25</b>	42 (1.6535)
<b>PLP20.31,5</b>	47 (1.8504)




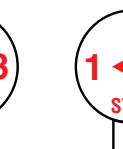

03/03.2017

Pump type	<b>D</b> mm (in)
<b>PLP 10•2,5</b>	20 (0.7874)
<b>PLP 10•3,15</b>	21 (0.8268)
<b>PLP 10•4</b>	22,4 (0.8819)
<b>PLP 10•5</b>	24 (0.9449)
<b>PLP 10•6,3</b>	26 (1.0236)
<b>PLP 10•8</b>	28,75 (1.1319)
<b>PLP 10•10</b>	32 (1.2598)

## HOW TO ASSEMBLE CASAPPA MODEL CODE

- STEP 1** Select from list of available displacements and corresponding ports
- STEP 2** Select from list of available rotations
- STEP 3** Select from list of available drive shaft and mounting flange

### HOW TO ORDER SINGLE UNITS

STEP 1	STEP 2	STEP 3	STEP 1	STEP 2	STEP 3	STEP 1	STEP 2	STEP 3
								
PLP10.4	S	0 -	02S0	- L	OB/OA	- N -	EL	
PLP20.14	S	0 -	31S1	- L	OD/OC	- N -	EL	
PHP20.20	S	0 -	32S5	- L	OG/OC	- N -	L	

Build your own model code:   0 -  - L  - N -

Order example:

PLP10.4S0-02S0-LOB/OA-N-EL

PLP20.14S0-31S1-LOD/OC-N-EL

PHP20.20S0-32S5-LOG/OC-N-L

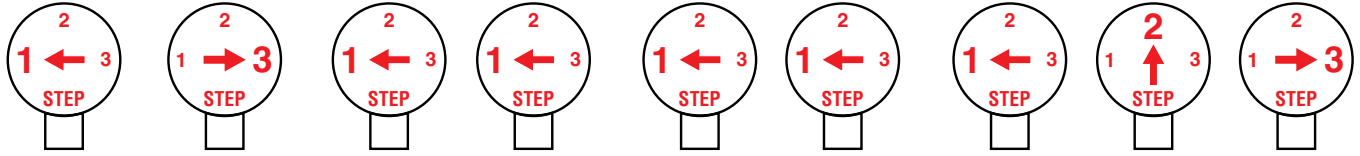
Replaces: 01/03.2016

02/02.2017

# HOW TO ASSEMBLE CASAPPA MODEL CODE

## HOW TO ORDER MULTIPLE PUMPS

Replaces: 01/03.2016



Same groups

PLP10.4 - 02S0 - L OB/OA / 10.4 - L OB/OA / 10.4 - L OB/OA - S - EL

PLP20.14 - 31S1 - L OD/OC / 20.14 - L OD/OC / 20.14 - L OD/OC - S - EL

Different groups

PLP20.14 - 31S1 - L OD/OC / 20.14 - L OD/OC / 10.4 - L OB/OA - S - EL

PHP20.20 - 32S5 - L OG/OC / PL20.14 - L OD/OC / 10.4 - L OB/OA - S - L

With common inlet

PLP20.14 - 31S1 - L OF/OC / 20.8 - L \*\*/OC / 20.4 - L \*\*/OC - S - EL

Front section

Intermediate section

Rear section

Repeat for additional sections

Build your own model code:

-  - L  /  - L  /  - L  -  -

Front section

Intermediate section

Rear section

Repeat for additional sections

### Order example:

Multiple pump with 4 sections

PLP20.14-31S1-LOD/OC/20.14-LOD/OC/20.14-LOD/OC/20.4-LOG/OC-S-EL

Triple pump different groups

PHP20.20-32S5-LOG/OC/20.14-LOD/OC/10.4-LOB/OA-S-L

Triple pump with common inlet

PLP20.14-31S1-LOF/OC/20.8-L\*\*/OC/20.4-L\*\*/OC-S-EL

02/02.2017

QBPL 04 T A

Edition: 04/12.2019

Replaces: QBPL 03 T A



**CASAPPA CORP.**  
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Casappa Dealer for ordering  
information