

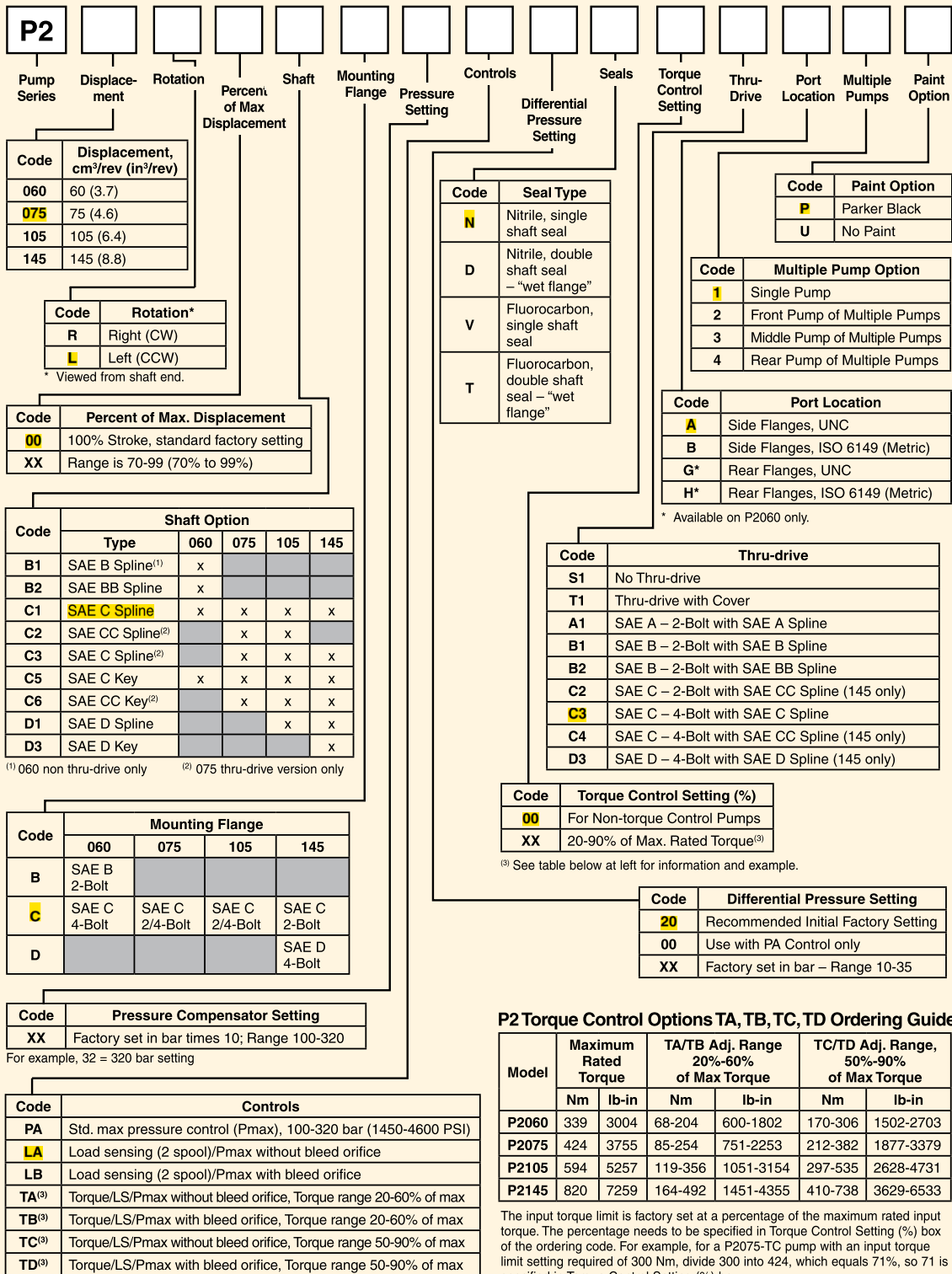
P2/P3 Series Piston Pumps Variable Displacement

Catalog: HY28-1559-01/PT
Supercedes All Previous Versions

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
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Code	Displacement, cm ³ /rev (in ³ /rev)
060	60 (3.7)
075	75 (4.6)
105	105 (6.4)
145	145 (8.8)

Code	Rotation*
R	Right (CW)
L	Left (CCW)

* Viewed from shaft end.

Code	Percent of Max. Displacement
00	100% Stroke, standard factory setting
XX	Range is 70-99 (70% to 99%)

Code	Shaft Option				
	Type	060	075	105	145
B1	SAE B Spline ⁽¹⁾	x			
B2	SAE BB Spline	x			
C1	SAE C Spline	x	x	x	x
C2	SAE CC Spline ⁽²⁾		x	x	
C3	SAE C Spline ⁽²⁾		x	x	x
C5	SAE C Key	x	x	x	x
C6	SAE CC Key ⁽²⁾		x	x	x
D1	SAE D Spline			x	x
D3	SAE D Key				x

⁽¹⁾ 060 non thru-drive only

⁽²⁾ 075 thru-drive version only

Code	Mounting Flange			
	060	075	105	145
B	SAE B 2-Bolt			
C	SAE C 4-Bolt	SAE C 2/4-Bolt	SAE C 2/4-Bolt	SAE C 2-Bolt
D				SAE D 4-Bolt

Code	Pressure Compensator Setting
XX	Factory set in bar times 10; Range 100-320

For example, 32 = 320 bar setting

Code	Controls
PA	Std. max pressure control (Pmax), 100-320 bar (1450-4600 PSI)
LA	Load sensing (2 spool)/Pmax without bleed orifice
LB	Load sensing (2 spool)/Pmax with bleed orifice
TA ⁽³⁾	Torque/LS/Pmax without bleed orifice, Torque range 20-60% of max
TB ⁽³⁾	Torque/LS/Pmax with bleed orifice, Torque range 20-60% of max
TC ⁽³⁾	Torque/LS/Pmax without bleed orifice, Torque range 50-90% of max
TD ⁽³⁾	Torque/LS/Pmax with bleed orifice, Torque range 50-90% of max

⁽³⁾ See table at left for information and example.

⁽⁴⁾ For Remote Pressure Compensator, order the "PA" model and remove plug from "X" port.

■ = Not Available

Code	Seal Type
N	Nitrile, single shaft seal
D	Nitrile, double shaft seal – "wet flange"
V	Fluorocarbon, single shaft seal
T	Fluorocarbon, double shaft seal – "wet flange"

Code	Paint Option
P	Parker Black
U	No Paint

Code	Multiple Pump Option
1	Single Pump
2	Front Pump of Multiple Pumps
3	Middle Pump of Multiple Pumps
4	Rear Pump of Multiple Pumps

Code	Port Location
A	Side Flanges, UNC
B	Side Flanges, ISO 6149 (Metric)
G*	Rear Flanges, UNC
H*	Rear Flanges, ISO 6149 (Metric)

* Available on P2060 only.

Code	Thru-drive
S1	No Thru-drive
T1	Thru-drive with Cover
A1	SAE A – 2-Bolt with SAE A Spline
B1	SAE B – 2-Bolt with SAE B Spline
B2	SAE B – 2-Bolt with SAE BB Spline
C2	SAE C – 2-Bolt with SAE CC Spline (145 only)
C3	SAE C – 4-Bolt with SAE C Spline
C4	SAE C – 4-Bolt with SAE CC Spline (145 only)
D3	SAE D – 4-Bolt with SAE D Spline (145 only)

Code	Torque Control Setting (%)
00	For Non-torque Control Pumps
XX	20-90% of Max. Rated Torque ⁽³⁾

⁽³⁾ See table below at left for information and example.

Code	Differential Pressure Setting
20	Recommended Initial Factory Setting
00	Use with PA Control only
XX	Factory set in bar – Range 10-35

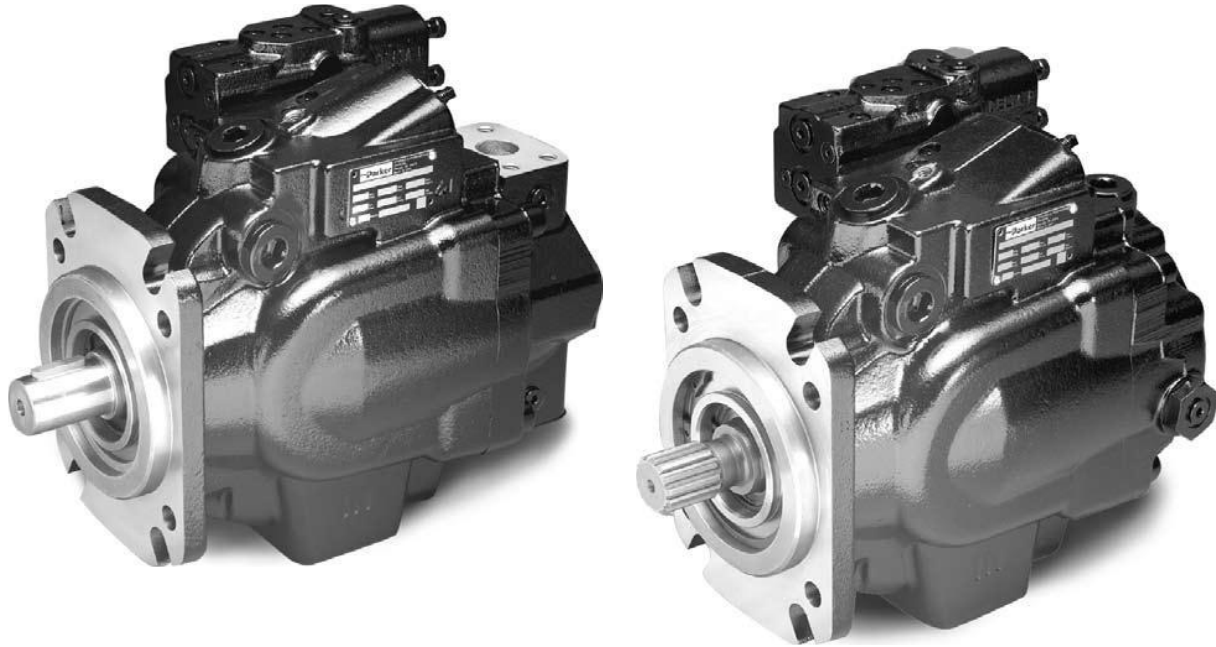
P2 Torque Control Options TA, TB, TC, TD Ordering Guide

Model	Maximum Rated Torque		TA/TB Adj. Range 20%-60% of Max Torque		TC/TD Adj. Range, 50%-90% of Max Torque	
	Nm	lb-in	Nm	lb-in	Nm	lb-in
P2060	339	3004	68-204	600-1802	170-306	1502-2703
P2075	424	3755	85-254	751-2253	212-382	1877-3379
P2105	594	5257	119-356	1051-3154	297-535	2628-4731
P2145	820	7259	164-492	1451-4355	410-738	3629-6533

The input torque limit is factory set at a percentage of the maximum rated input torque. The percentage needs to be specified in Torque Control Setting (%) box of the ordering code. For example, for a P2075-TC pump with an input torque limit setting required of 300 Nm, divide 300 into 424, which equals 71%, so 71 is specified in Torque Control Setting (%) box.



Technical Data

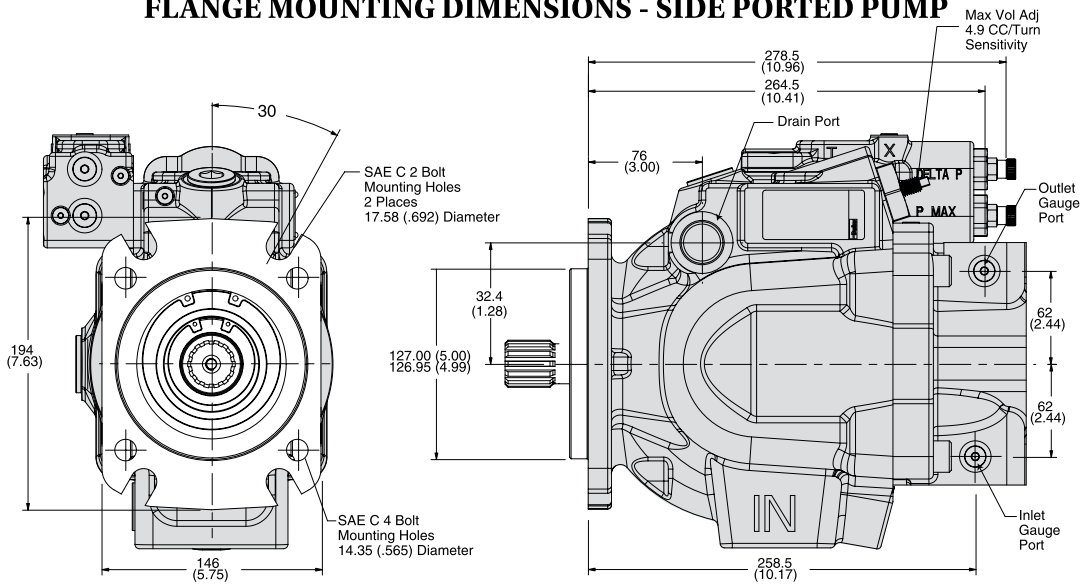


	P2 Series				P3 Series		
Frame size	P2060	P2075	P2105	P2145	P3075	P3105	P3145
Max displacement cm ³ /rev [cu in/rev]	60 3.66	75 4.58	105 6.41	145 8.85	75 4.58	105 6.41	145 8.85
Self-priming speed at 1 bar/14.5 psi abs. inlet pressure [rpm]	2800	2500	2300	2200	3000	2600	2500
Max continuous pressure bar [psi]	320 4600	320 4600	320 4600	320 4600	320 4600	320 4600	320 4600
Peak pressure bar [psi]	370 5365	370 5365	370 5365	370 5365	370 5365	370 5365	370 5365
Minimum Inlet Pressure bar abs at max speed [in Hg vacuum]	.8 5.8	.8 5.8	.8 5.8	.8 5.8	.8 5.8	.8 5.8	.8 5.8
Maximum Inlet Pressure bar [psi]	10 145	10 145	10 145	10 145	1.5 22.7	1.5 22.7	1.5 22.7
Maximum Case Drain Pressure bar continuous psi	.5 7.75	.5 7.75	.5 7.75	.5 7.75	1 14.5	1 14.5	1 14.5
Noise level at full flow, 1800 rpm, and 250 bar (3600 psi) [dbA]	74	76	78	80	76	78	80
Weight with load sense control kg [lbs]	37 81	44 97	63 139	78 172	42 92	62 136	76 167
Mass moment of inertia kg m ² (about axis of shaft)	.0061	.0101	.0168	.0241	.00106	.0177	.0264

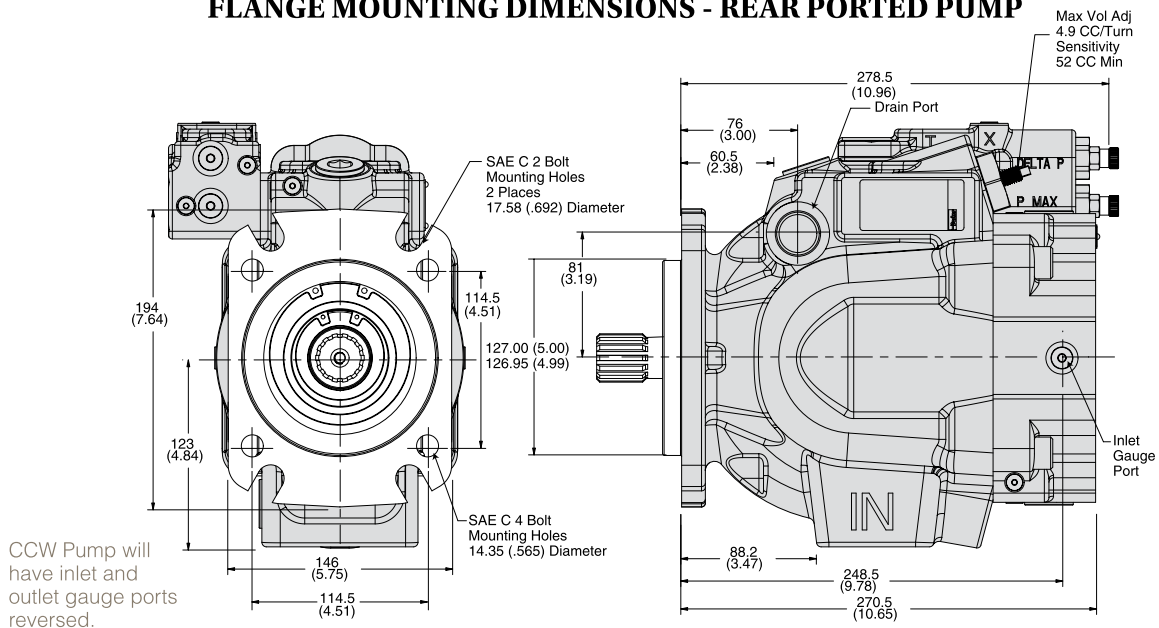
Pump Installation - P2-075 Mounting Flange

Port Options	Drain Port	Inlet Gauge Port Outlet Gauge Port
"A" Side - UNC	SAE-12 Straight Thread O-ring Port 1-1/16-12 UN Thread	SAE-4 Straight Thread O-ring Port 7/16-20 UN Thread
"B" Side - Metric	ISO 6149 Straight Thread O-ring Port M27 x 2 Thread	ISO 6149 Straight Thread O-ring Port M12 x 1.5 Thread

FLANGE MOUNTING DIMENSIONS - SIDE PORTED PUMP

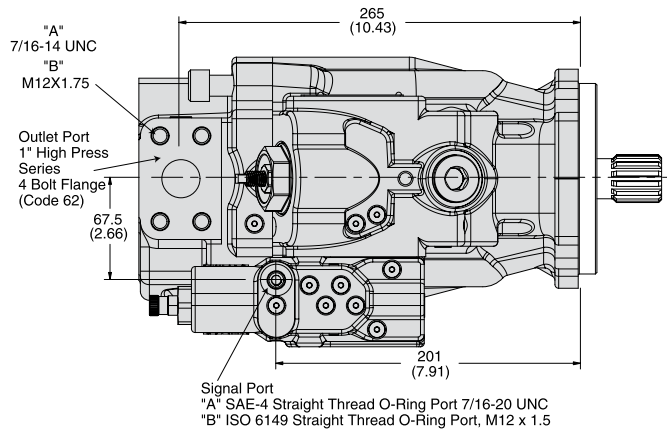


FLANGE MOUNTING DIMENSIONS - REAR PORTED PUMP

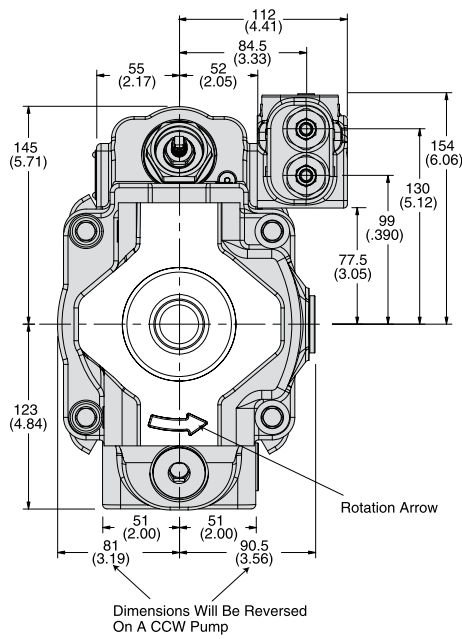


Pump Installation - P2-075 Side Port

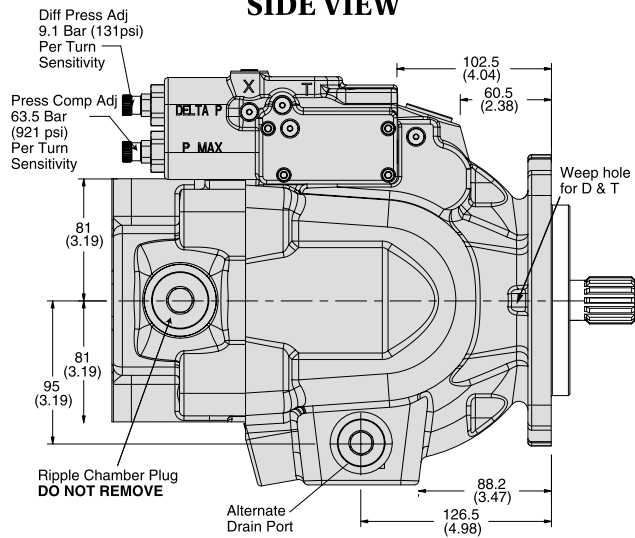
TOP VIEW



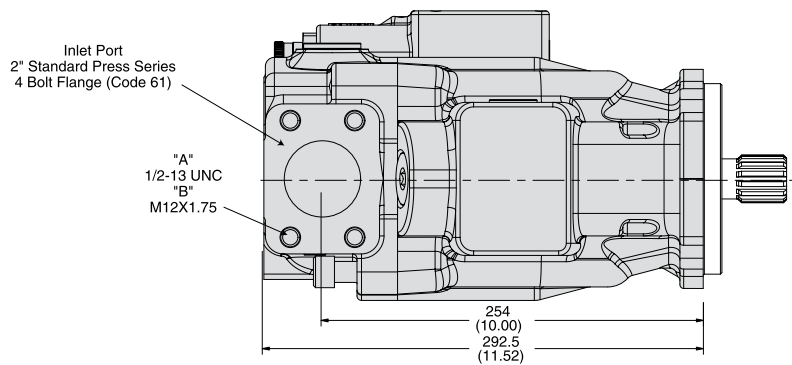
REAR VIEW



SIDE VIEW



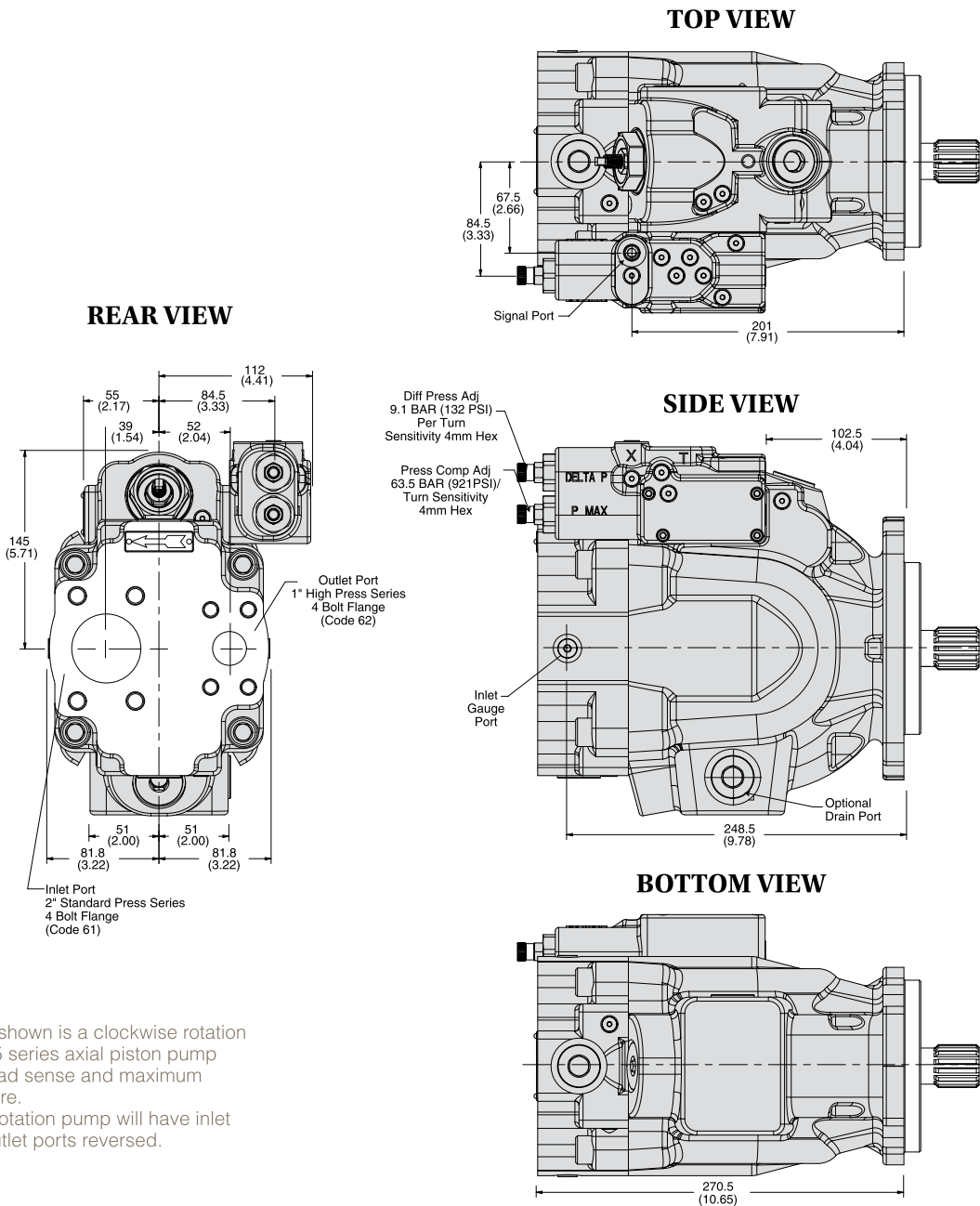
BOTTOM VIEW



CCW Pump will have inlet and outlet gauge ports reversed.

Pump Installation - P2-075 Rear Port

Port Options	Drain Port	Inlet Port	Outlet Port	Inlet Gauge Port Outlet Gauge Port Signal Port
"G" Rear - UNC	SAE-12 Straight Thread O-ring Port 1-1/16-12 Thread	1/2-13 UN	7/16-14 UN	SAE-4 Straight Thread O-ring Port 7/16-20 UN Thread
"H" Rear - Metric	ISO 6149 Straight Thread O-ring Port M27 x 2 Thread	M12 x 1.75	M12 x 1.75	ISO 6149 Straight Thread O-ring Port M12 x 1.5 Thread



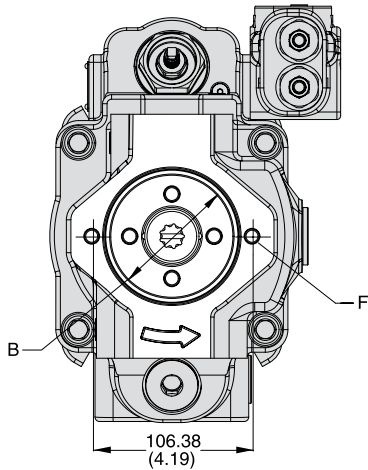
1. Pump shown is a clockwise rotation P2-075 series axial piston pump with load sense and maximum pressure.
2. CCW rotation pump will have inlet and outlet ports reversed.



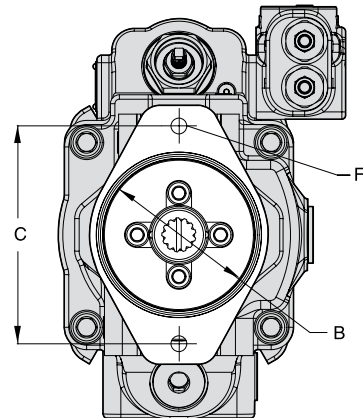
Pump Installation - P2-075 Thru-Shaft Option

Thru-Shaft Option	A	B	C	D	E	F UNC	F Metric	G UNC	G Metric	Pump Weight
A1	292.5 (10.4)	82.625/ 82.575 (3.252/ 3.250)	106.38 (4.19)	N/A	SAE-A Spline 9 Tooth 16/32 Pitch	3/8-16 UNC-2B THD	M10 x 1.5 THD	N/A	N/A	44 kg (97 lbs)
B1	325.5 (11.7)	101.676/ 101.625 (4.002/ 4.000)	146.05 (5.75)	N/A	SAE-B Spline 13 Tooth 16/32 Pitch	1/2-13 UNC-2B THD	M12 x 1.75 THD	N/A	N/A	46.5 kg (102.5 lbs)
B2	325.5 (11.7)	101.676/ 101.625 (4.002/ 4.000)	146.05 (5.75)	N/A	SAE-BB Spline 15 Tooth 16/32 Pitch	1/2-13 UNC-2B THD	M12 x 1.75 THD	N/A	N/A	46.5 kg (102.5 lbs)
C1 C3	299 (11.8)	127.076/ 127.025 (5.002/ 5.000)	180.98 (7.125)	114.5 (4.58)	SAE-C Spline 14 Tooth 12/24 Pitch	5/8-11 UNC-2B THD	M16 x 2 THD	1/2-13 UNC-2B THD	M12 x 1.75 THD	48 kg (105.9 lbs)

A1 CONFIGURATION

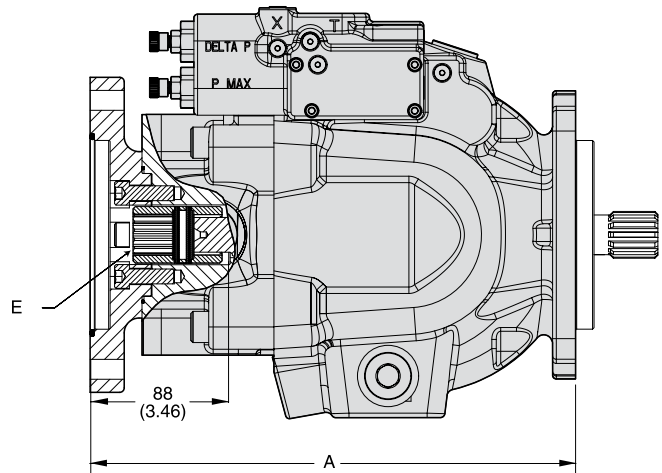
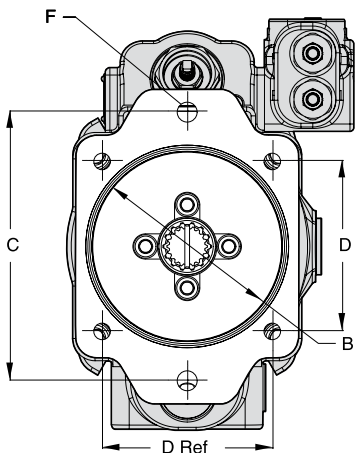


B1 & B2 CONFIGURATION



**Pumps will be assembled with flange adapters as shown.
 Options B1, B2, C1 and C3 can be rotated 90°.**

C1 & C3 CONFIGURATION



Max Thru-Drive Torque is 336 Nm (2973 lb in)