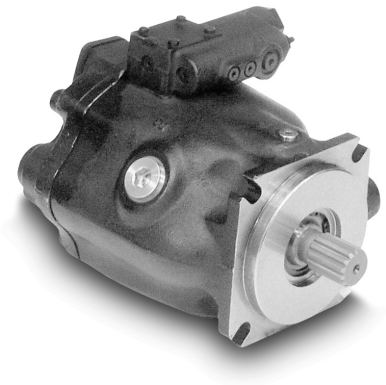
P1 Series
Axial Piston Pumps
Variable Displacement

Catalog HY28-2664-01/NA,EU

Contents

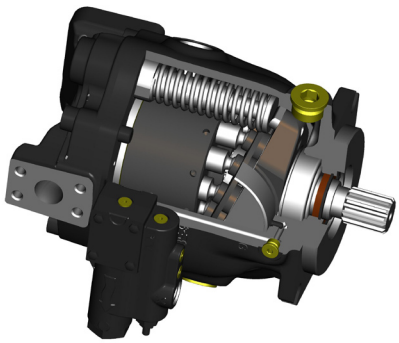
Parker Hannifin Corporation
Hydraulic Pump Division
Marysville, Ohio USA

General Information



Description

- Variable displacement, axial piston pump for open-circuit applications
- Medium pressure, continuous operation at pressures up to 280 bar
- High drive speed models for mobile markets
- Quiet and efficient control capability



Benefits

- Compact overall package size
- Quiet operation
- Low flow ripple to further reduce noise
- Elastomer seals that eliminate gaskets and external leakage
- High operating efficiency for lower power consumption and reduced heat generation
- Simple hydraulic controls with “no-leak” adjustments
- SAE and ISO standard mounting flanges and ports
- Long life, tapered-roller shaft bearings
- Long life, low friction, hydrostatically balanced swash plate saddle bearings
- Full power through-drive capability
- End or side inlet and outlet ports
- Case drain ports for horizontal or vertical, shaft-up mounting
- Optional minimum and maximum displacement adjustments
- Optional case-to-inlet check valve to extend shaft seal life
- Easy to service

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P1	075	P	S	01	S	R	M	5	A
Pump Series	Displacement	Type	Mounting & Ports	Shaft Options	Shaft Seal	Shaft Rotation	Application	Seal Material	Design Level

Code	Series
P1	Standard

Code	Displacement
060	60 cc/rev (3.66 in³/rev)
075	75 cc/rev (4.58 in³/rev)
100	100 cc/rev (6.41 in³/rev)
140	140 cc/rev (8.85 in³/rev)

Code	Type
P	Open circuit, Variable displacement

Code	Mounting/Ports
S	SAE - Inch Mount & Ports
A	SAE - Inch Mount, metric flange threads, BSPP threaded ports
M	ISO - Metric mount & metric ports
B	ISO - Metric mount & BSPP ports

Code	Shaft Options
01	SAE Spline
03	ISO/DIN Spline

NOTE: For keyed shaft, consult factory.

Code	Shaft Seal
S	Single Shaft Seal

Code	Shaft Rotation
R	Clockwise Rotation
L	Counterclockwise rotation

Code	Application
M	Mobile

Code	Seal Material
5	Fluorocarbon

Code	Design Level
A	Current Design Series

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L0	0	E	0	0	0	00	
Controls	Additional Control Options	Port Orientation	Mechanical Displacement Adjustment	Case-to-Inlet Check Valve	Thru-Drive Mounting Pad & Coupling	Paint	Special Features

Code	Paint
00	No Paint
PB	Black Paint

Code	Thru-Drive Mounting Pad/Coupling
0	None (valid for end or side ported only)
A*	SAE 82-2 (A pilot) & 16 (A 9 t spline) coupling
H*	SAE 82-2 (A pilot) & 19 (spline) coupling
B*	SAE 101-2 (B pilot) & 22 (B 13 t spline) coupling
Q*	SAE 101-2 (B pilot) & 25 (B-B 15 t spline) coupling
C*	SAE 127-4 (C pilot) & 32 (C 14 t spline) coupling
N**	SAE 127-4 (C pilot) & 38 (C-C 17 t spline) coupling
D***	SAE 152-4 (D pilot) & 44 (D/E 13 t spline) coupling
R*	ISO 80A2 pilot & K20N splined coupling
S*	ISO 100A2 pilot & K20N splined coupling
T*	ISO 100A2 pilot & K25N splined coupling
V*	ISO 125B4 pilot & K32N splined coupling
W**	ISO 125B4 pilot & K40N splined coupling
X***	ISO 180B4 pilot & K50N splined coupling

*Available on 060 thru 140 models.
** Available on 100 thru 140 models.
*** Available on 140 models.

Code	Case-to-Inlet Check Valve
0	No
1	Yes

Code	Special Features
00	No Special Features
M2	Special Modification

Code	Mechanical Displacement Adjustment
0	None
1	Adjustable Maximum Displacement (not available on thru-drive)
2	Adjustable Minimum Displacement (not available on thru-drive)
3	Adjustable Maximum & Minimum Displacement (not available on thru-drive)

Code	Port Orientation
E	End Ports
S	Side Ports
T	Side Ports with Thru Drive

Code	Additional Control Options
0	None

Code	Controls
C0	Pressure Limiter, 80-280 bar Adjustment Range
C1	Pressure Limiter, 20-80 bar Adjustment Range
L0	Load sensing, 10-30 bar ΔP and Pressure Limiter 80-280 bar
L1	Load sensing, 10-30 bar ΔP and Pressure Limiter 20-80 bar
RN	Pilot Operated Control with ISO-4401 (NG 6) Interface and Shipping Cover
RH	Pilot Operated Control with Vent Port
RM	Pilot Operated Pressure Limiter Control with Mechanical Adjustment and Vent Port
RE	Pilot Operated Pressure Limiter Control with Proportional Electronic Pressure Adjustment
EY	Integrated Digital Electronic Displacement and Pressure Control (075 only)

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Technical Data

Model	P060	P1075	P1100	P1140
Maximum Displacement, cm^3/rev cu.in./rev	60 3.66	75 4.58	100 6.01	140 8.54
Outlet Pressure – Continuous, bar psi	280 4000			
Intermittent*, bar psi	320 4500			
Peak, bar psi	350 5000			
Maximum Speed – Boosted Inlet, rpm	2800	2700	2500	2400
(1.0 bar abs inlet), rpm	2400	2300	2100	2000
(0.8 bar abs inlet), rpm	2000	1900	1700	1600
Minimum Speed, rpm	600			
Inlet Pressure – Maximum, bar psi	10 145			
Rated, bar psi	1.0 absolute (0.0 gage) 14.5			
Minimum, bar psi	0.8 absolute (-0.2 gage) 11.6			
Case Pressure – Peak, bar	4.0 absolute (3.0 gage) and less than 0.5 bar above inlet pressure			
Rated, bar	2.0 absolute (1.0 gage) and less than 0.5 bar above inlet pressure			
Fluid Temperature Range, °C °F	-40 to +95 -40 to +203			
Fluid Viscosity – Rated, cSt	6 to 160			
Max. Intermittent, cSt	5000 (for cold starting)			
Min. Intermittent, cSt	5			
Fluid Contamination – Rated, ISO	20/18/14			
Maximum, ISO	21/19/16			
SAE Mounting – Flange, SAE	127-4 (C)			152-4 (D)
Spline Shaft, SAE	14T–12/24P		17T-12/24P	13T-8/16P
Weight – End Port, kg lb	29 64	30 66	51 112	66 145
Side Port, kg lb	30 67	31 68	53 117	67 147
Thru-Drive, kg lb	34 75	35 77	55 121	82 180

*Intermittent pressure is defined as less than 10% of operation time, not exceeding 6 successive seconds

Typical Control Reponse Times*

Control Description	Pump Operating Condition	Typical Control Response Time (ms) 060	075	100	140
”C” Pressure Limiter	Maximum Displacement to Zero	37	21	26	30
	Zero Displacement to Maximum	119	89	108	125
”L” Load Sensing	Maximum Displacement to Zero	54	40	43	45
	Zero Displacement to Maximum	186	97	189	280
”R” Pilot Operated Control	Maximum Displacement to Zero	43	37	39	40
	Zero Displacement to Maximum	125	115	123	130

* Based on NFPA testing standards

For max volume stops:

Pump Size	% Stroke reduction per turn
P*060	6.76
P*075	6.2
P*100	5.5
P*140	4.8

Control Adjustment Sensitivity:

- Load Sense 28 Bar/Turn
- Pressure Compensator 80 to 280 bar range (C0) = 40 Bar/Turn
- Pressure Compensator 20 to 80 bar range (C1) = 18.6 Bar/Turn

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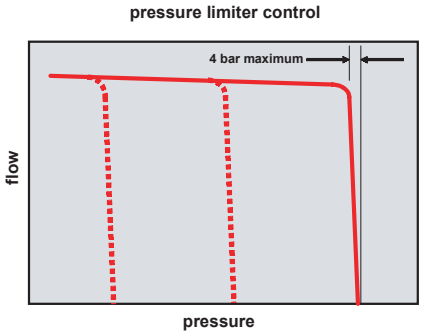
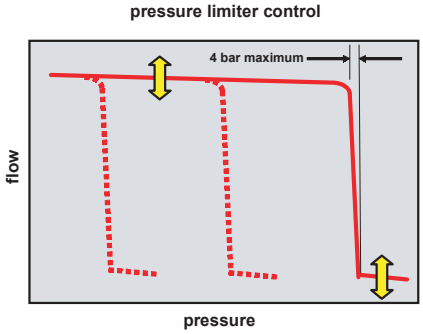
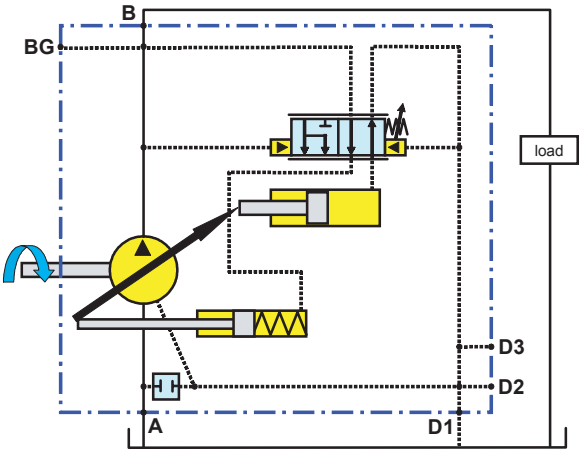
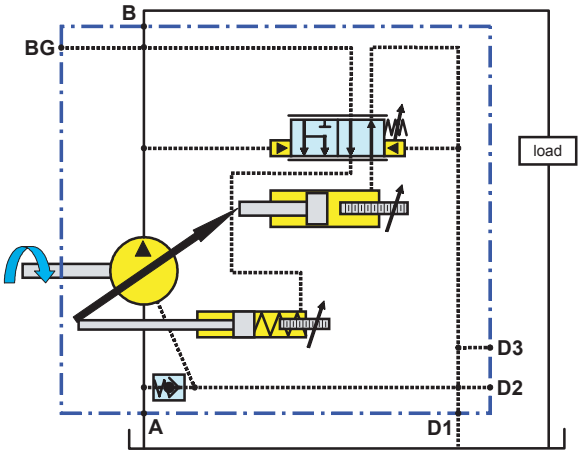
Control Option "C"
Pressure Limiter Control

The pressure limiter control is used to limit the maximum system pressure. The control acts such that full pump displacement is achieved unless the system valve restricts the output flow or the load pressure reaches the maximum setting of the control. If pump flow is restricted by the system valve, the pump will provide only the flow demanded, but at the maximum pressure setting of the compensator control. If the outlet flow is completely blocked, the pump will destroke to zero displacement and maintain the pressure at the setting of the compensator spring.









Pressure Limiter Control

Pressure Limiter Control
with Optional Maximum & Minimum Displacement Adjustments and Case-to-Inlet Check Valve
(A minimum displacement stop requires the use of a system relief valve.)

Refer to page 4 for typical control characteristics.

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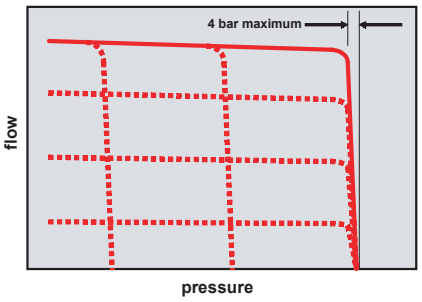
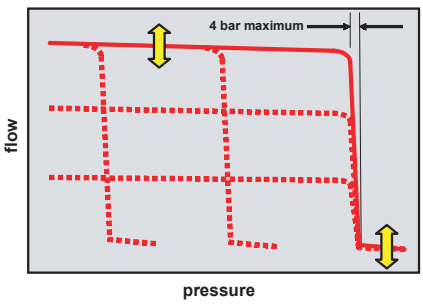
Control Option "L"
Load Sensing and Pressure Limiter Control

These controls feature load sensing and maximum pressure compensation. Load sense controls are used to match pump flow and pressure to system demands, thus minimizing losses due to wasted horsepower. The pump automatically adjusts for changes in drive speed and load pressures to match the pump output flow to the load requirement. Since the pump load sense control will maintain a constant pressure drop across the main system throttling valve, the flow rate will remain constant, independent of changes in load pressure and pump shaft speed.

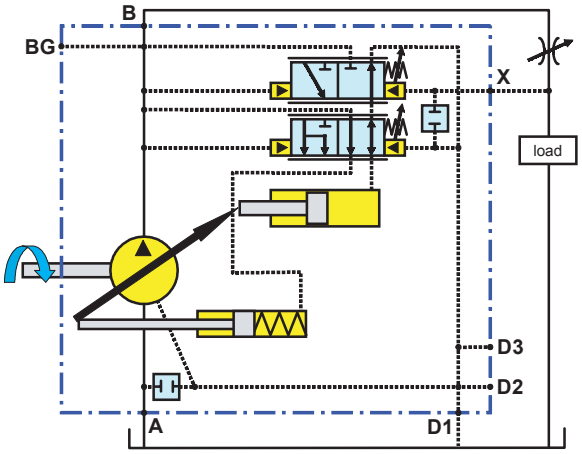
load sensing and pressure limiter control

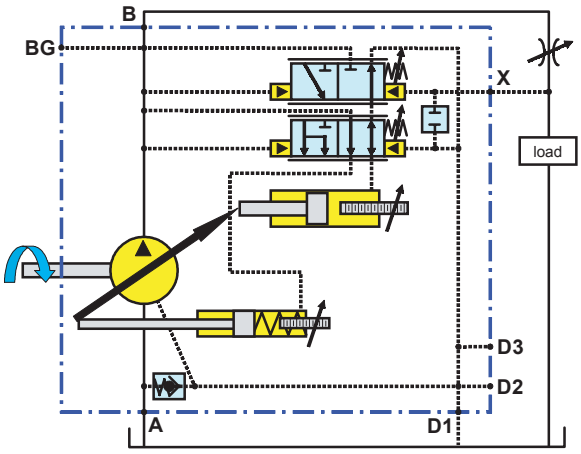


load sensing and pressure limiter control



schematic diagram





Load Sensing and Pressure Limiter Control

Load Sensing and Pressure Limiter Control with Optional Minimum & Maximum Displacement Adjustments and Case-to-Inlet Check Valve
(A minimum displacement stop requires the use of a system relief valve.)

Refer to page 4 for typical control characteristics.

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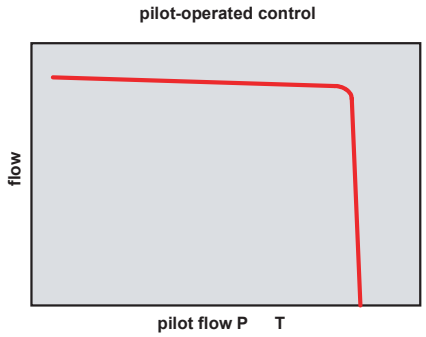
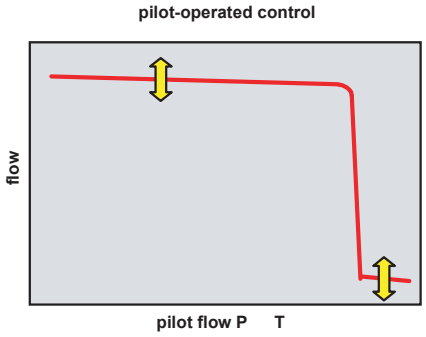
Control Options "RN"

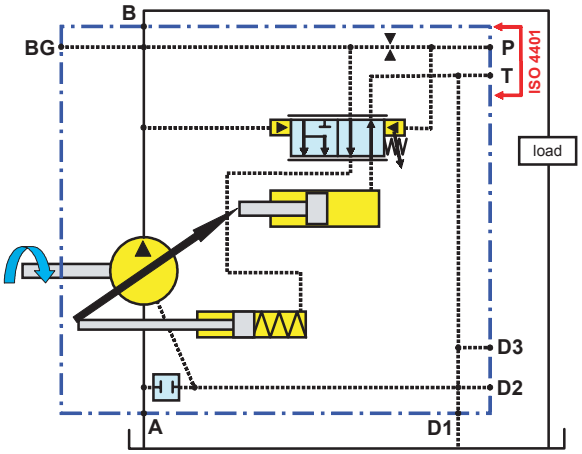
Pilot Operated Control with ISO 4401 NG6 Interface

This control allows the pump pressure compensator setting to be adjusted from a remote relief valve. The control acts such that full pump displacement is achieved unless the system valve restricts the output flow or the load pressure reaches the maximum setting of the control. If pump flow is restricted by the system valve, the pump will provide only the flow demanded, but at the maximum pressure setting of the compensator control. If the outlet flow is completely blocked, the pump will destroke to zero displacement and maintain the pressure at the setting of the remote relief valve.

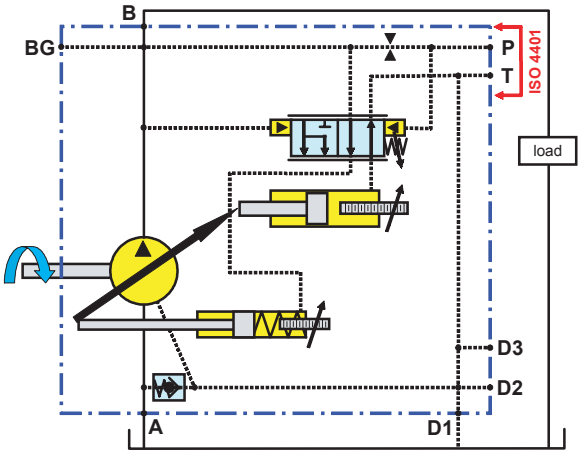
Note: Non-functioning control, provides ISO 4401 interface.







"RN"
Pilot Operated Control with ISO 4401 NG6 Interface



"RN"
with Optional Minimum & Maximum Displacement Adjustments and Case-to-Inlet Check Valve
(A minimum displacement stop requires the use of a system relief valve.)

Refer to page 4 for typical control characteristics.

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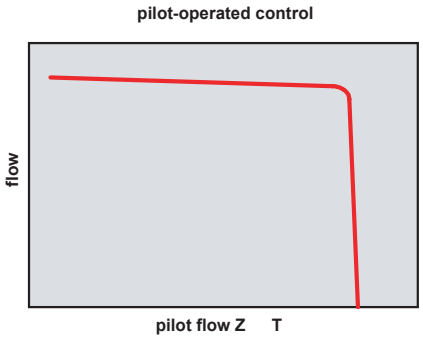
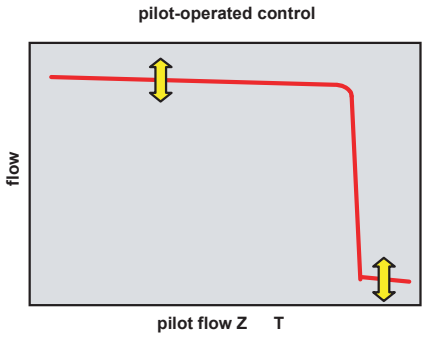
Control Options "RH"

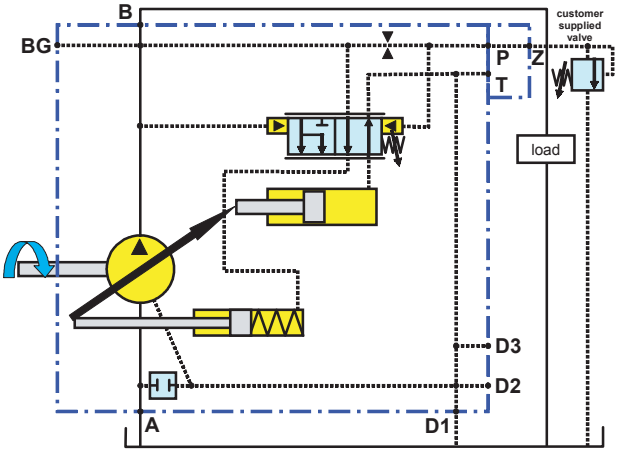
Pilot Operated Control with Remote Control Port Z

This control allows the pump pressure compensator setting to be adjusted from a remote relief valve. The control acts such that full pump displacement is achieved unless the system valve restricts the output flow or the load pressure reaches the maximum setting of the control. If pump flow is restricted by the system valve, the pump will provide only the flow demanded, but at the maximum pressure setting of the compensator control. If the outlet flow is completely blocked, the pump will destroke to zero displacement and maintain the pressure at the setting of the remote relief valve.

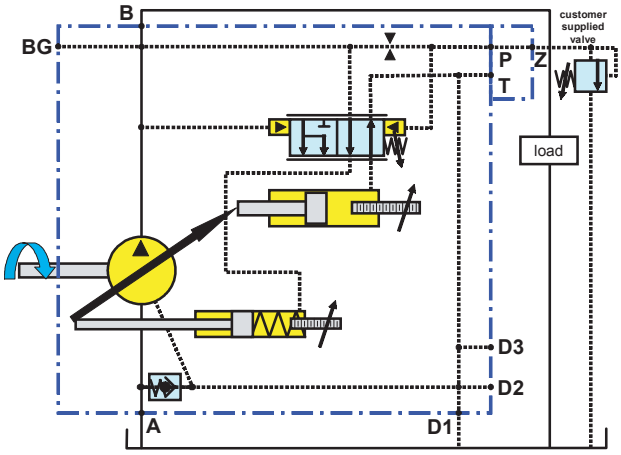
Note: If control port "Z" is plugged, the pump will remain fixed at maximum displacement and not compensate.







"RH"
Pilot Operated



"RH"
with Optional Minimum & Maximum Displacement Adjustments and Case-to-Inlet Check Valve
(A minimum displacement stop requires the use of a system relief valve.)

Refer to page 4 for typical control characteristics.

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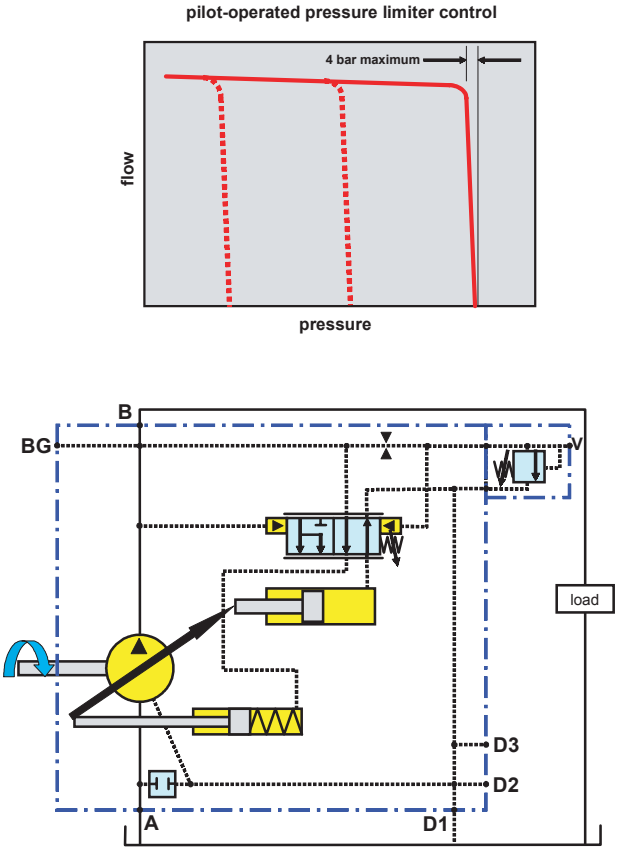
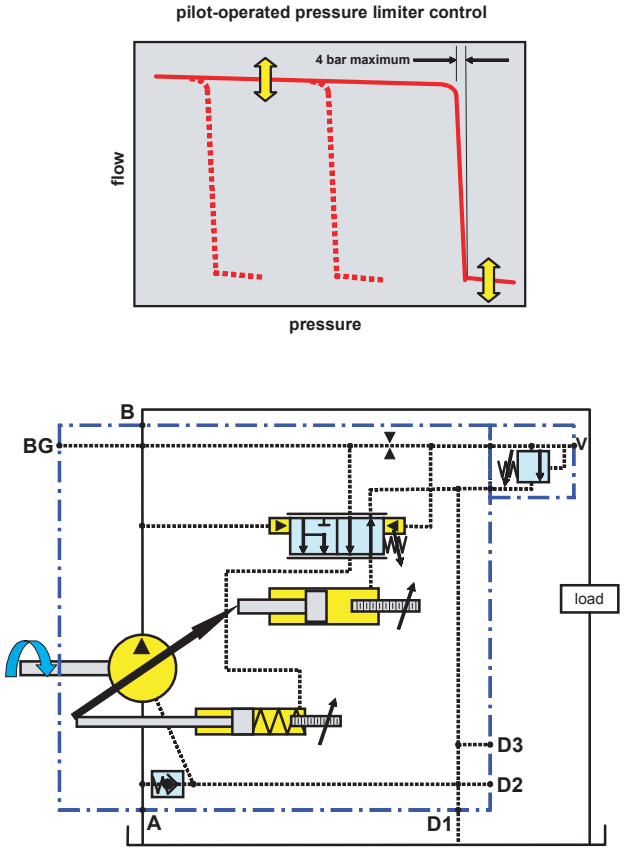
Control Options "RM"

Pilot Operated Pressure Limiter Control with Vent Port V

This control allows the pump pressure compensator setting to be adjusted from a remote relief valve. The control acts such that full pump displacement is achieved unless the system valve restricts the output flow or the load pressure reaches the maximum setting of the control. If pump flow is restricted by the system valve, the pump will provide only the flow demanded, but at the maximum pressure setting of the compensator control. If the outlet flow is completely blocked, the pump will destroke to zero displacement and maintain the pressure at the setting of the remote relief valve.



"RM"
Pilot Operated Pressure Control



"RM"
with Optional Minimum & Maximum Displacement Adjustments and Case-to-Inlet Check Valve
(A minimum displacement stop requires the use of a system relief valve.)

Refer to page 4 for typical control characteristics.

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Control Options "RE"

Pilot Operated Pressure Limiter Control with Proportional Electronic Adjustment

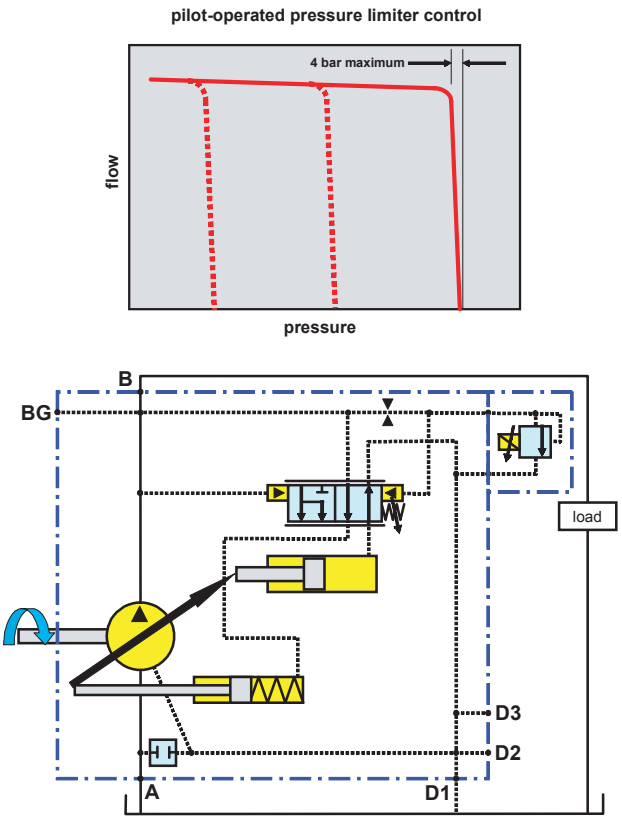
This control allows the pump pressure compensator setting to be adjusted by an on-board 4VP01 proportional, electronic relief valve. The control acts such that full pump displacement is achieved unless the system valve restricts the output flow or the load pressure reaches the maximum setting of the control. If pump flow is restricted by the system valve, the pump will provide only the flow demanded, but at the maximum pressure setting of the compensator control. If the outlet flow is completely blocked, the pump will destroke to zero displacement and maintain the pressure at the setting of the remote relief valve.

The information below is required for the RE control.

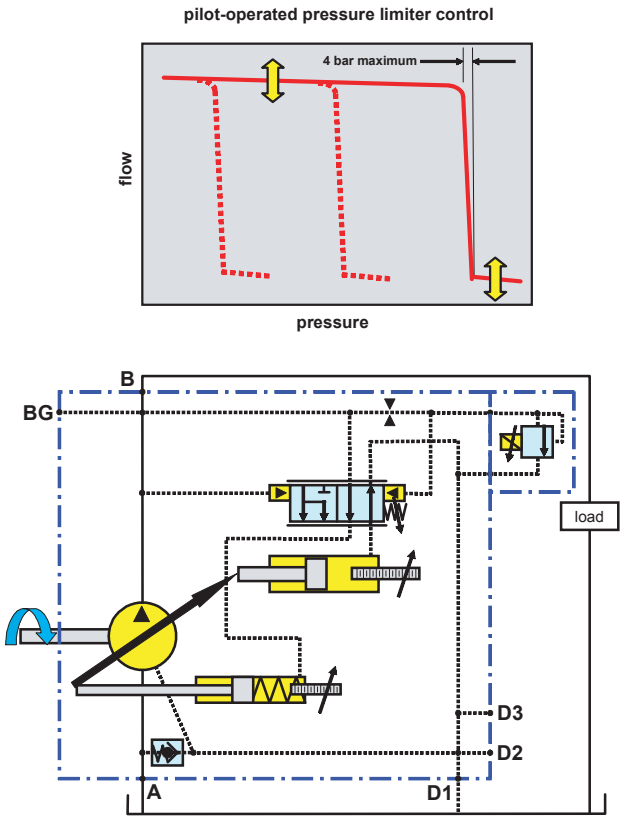
The following are recommended to drive the 4VP01 valve on the RE pump:

Parker Denison Part#	Description
701-00600-8	Proportional Amplifier
701-00007-8	Card Holder
701-00023-8	Power Supply
701-00066-8	Card Holder
701-00013-8	Potentiometer

Reference catalogs 3-EN2200-B and 9-EN601-A for setup.



"RE"
Pilot Operated Pressure Limiter Control with Proportional Electcronic Adjustment



"RE"
with Optional Minimum & Maximum Displacement Adjustments and Case-to-Inlet Check Valve
(A minimum displacement stop requires the use of a system relief valve.)

Refer to page 4 for typical control characteristics.

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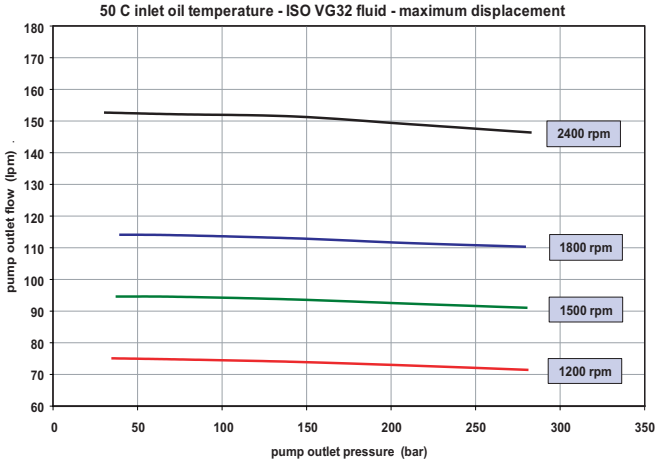
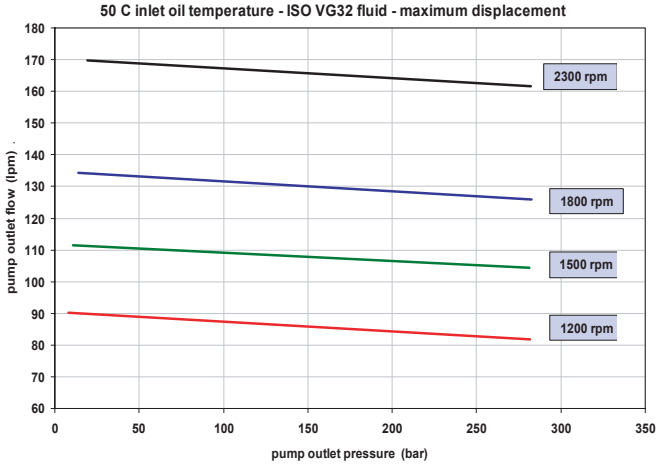
P1 Series Pump Outlet Flow

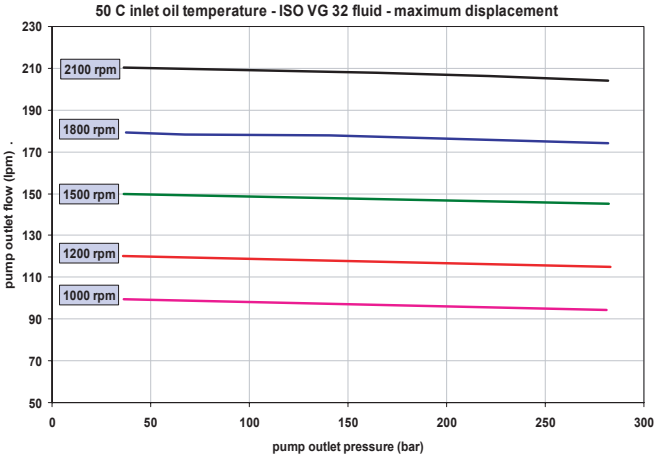
P1 060
50 C inlet oil temperature - ISO VG32 fluid - maximum displacement



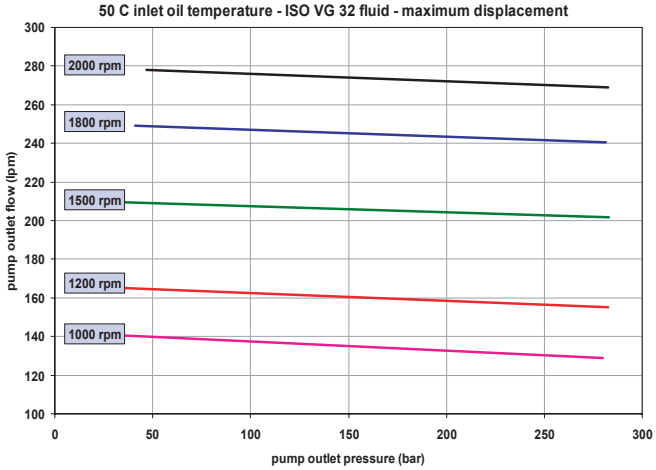
P1 075
50 C inlet oil temperature - ISO VG32 fluid - maximum displacement



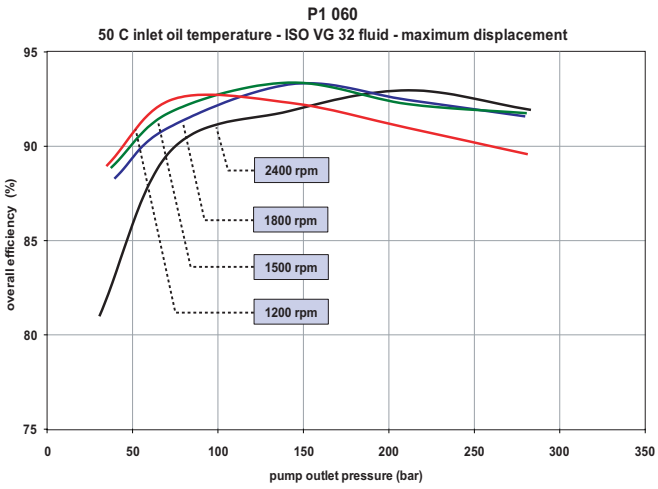
P1 100
50 C inlet oil temperature - ISO VG 32 fluid - maximum displacement

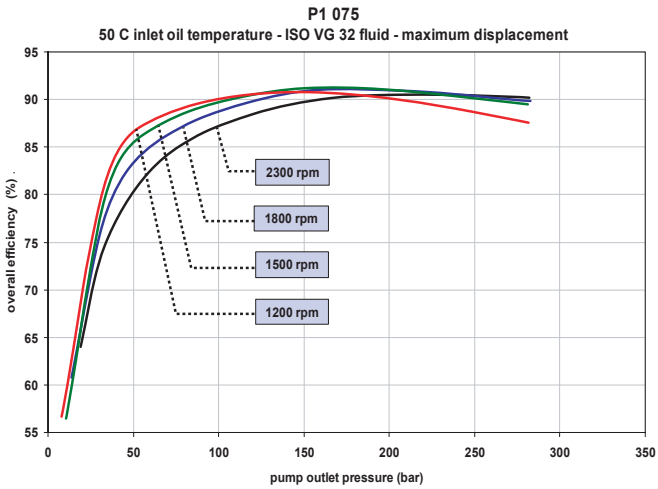


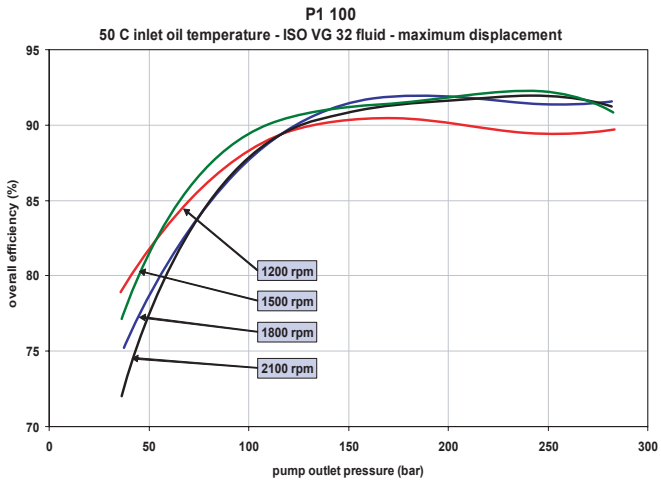
P1 140
50 C inlet oil temperature - ISO VG 32 fluid - maximum displacement

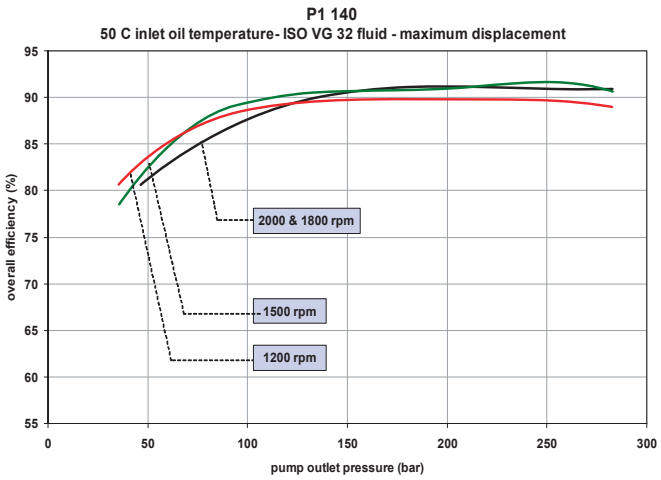


P1 Series Overall Efficiency

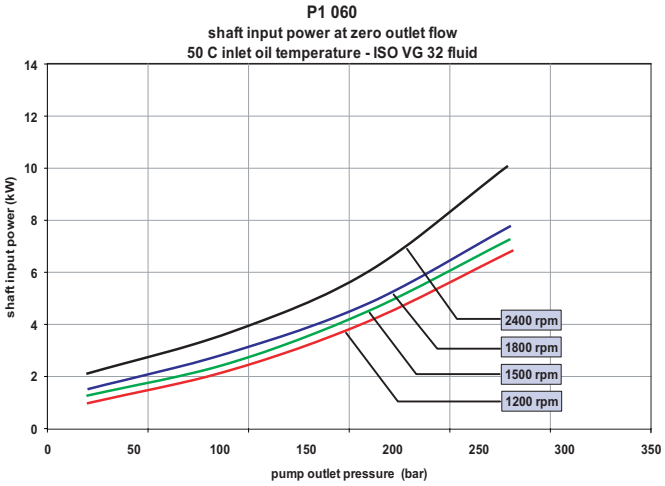


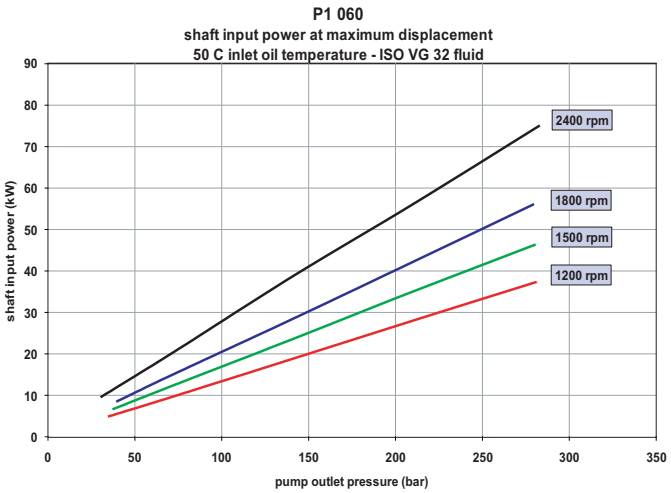


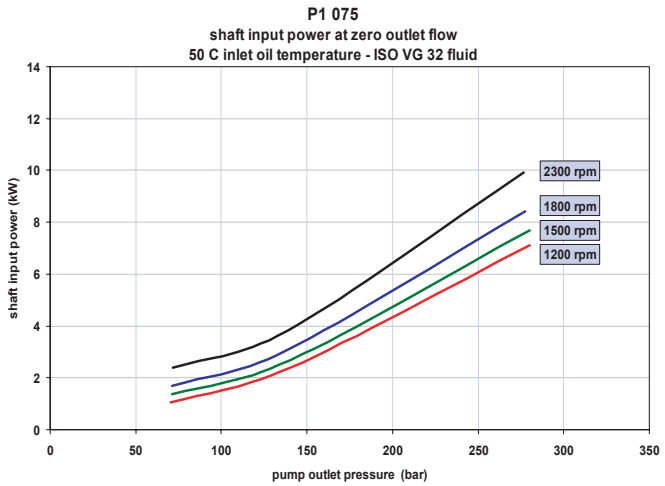


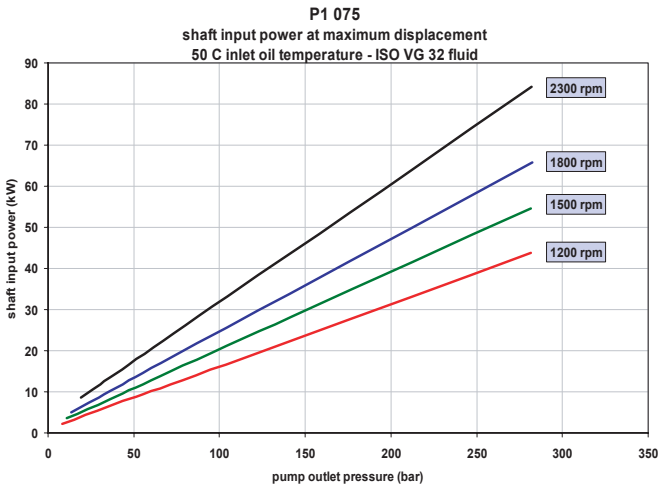


P1 Series Shaft Input Power

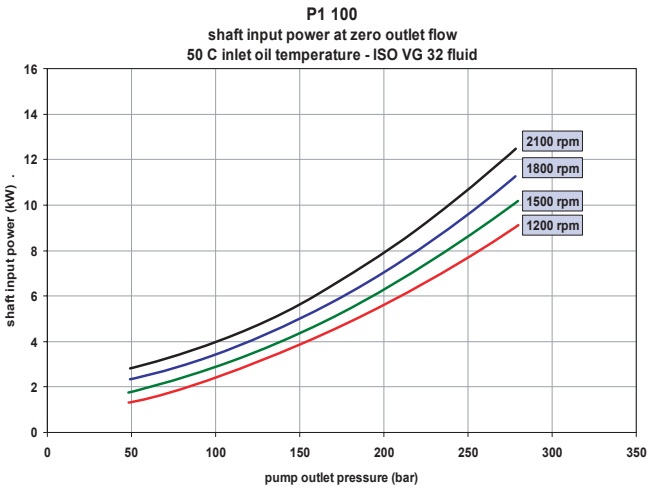


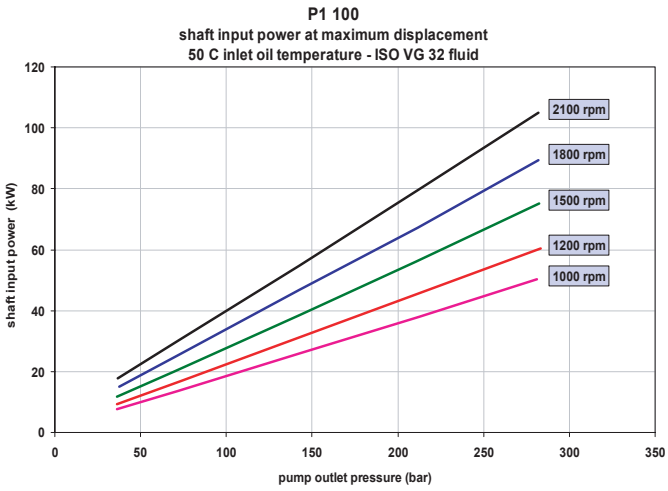


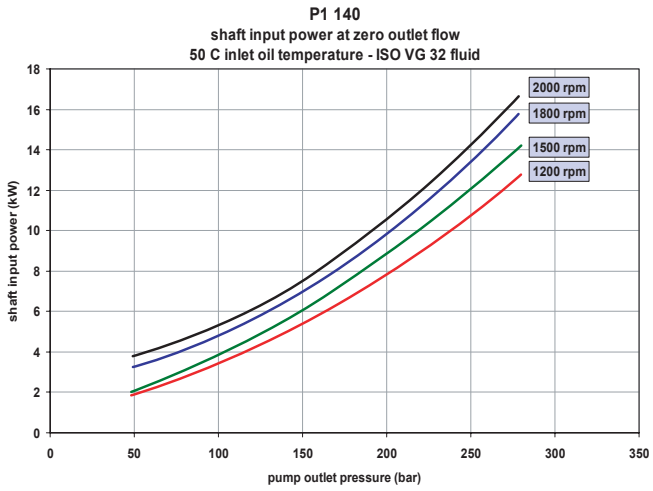


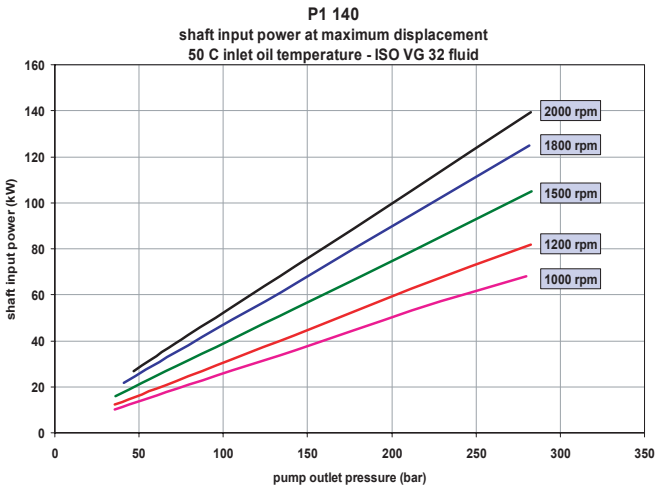


P1 Series Shaft Input Power



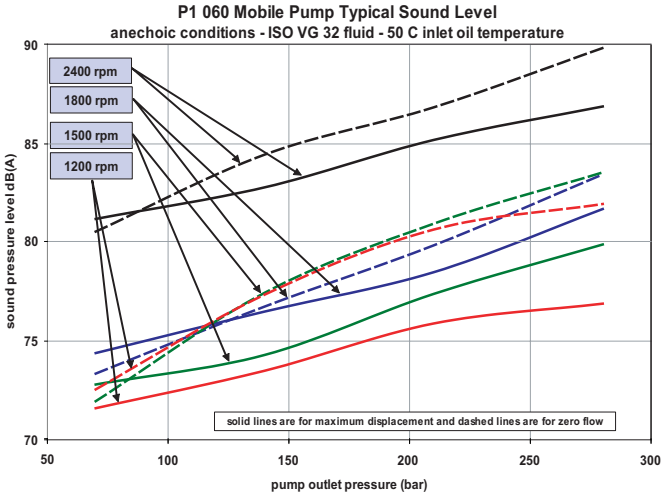


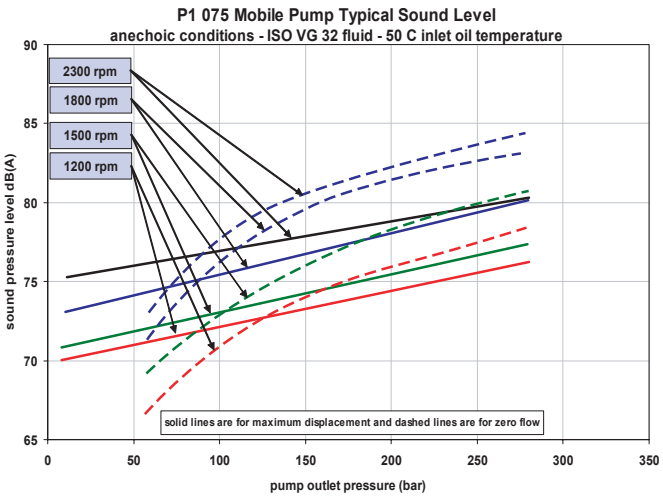


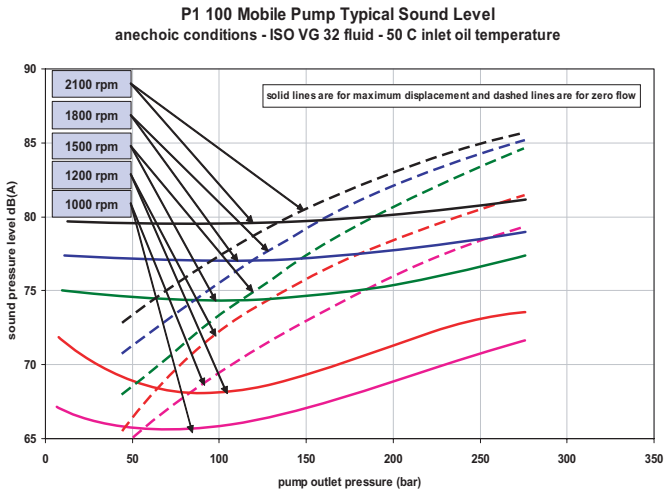


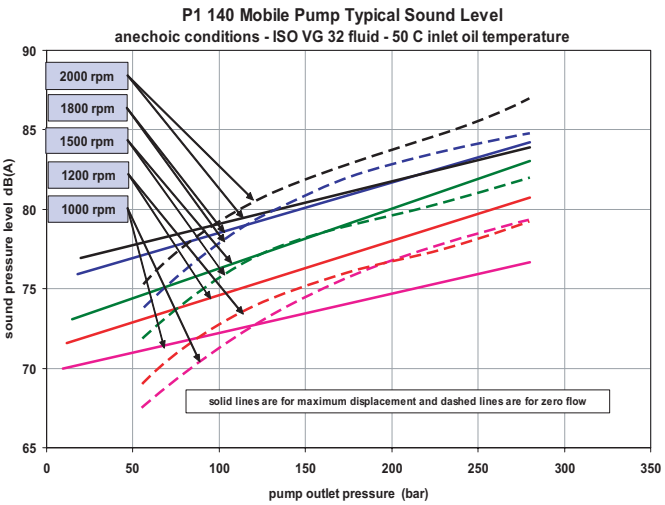
P1 Series Typical Noise Characteristics

(These are anechoic sound pressure readings.)



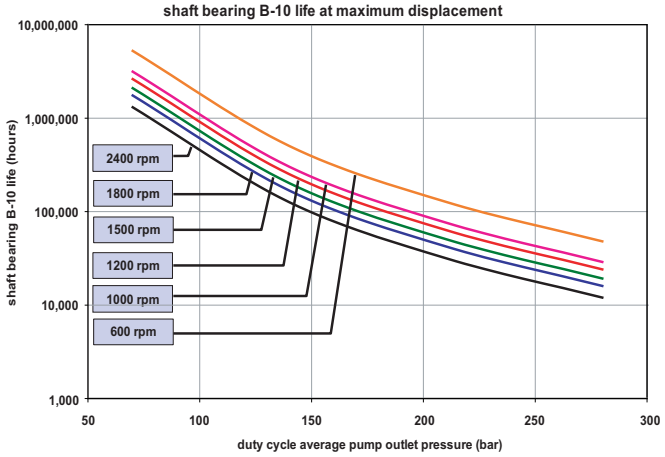




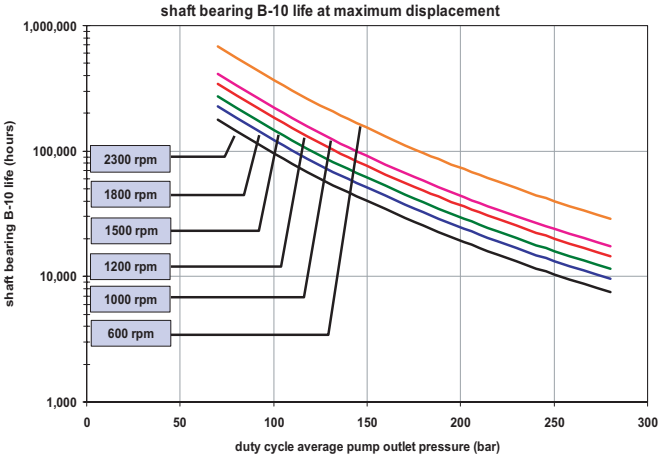


P1 Series Shaft Bearing Life

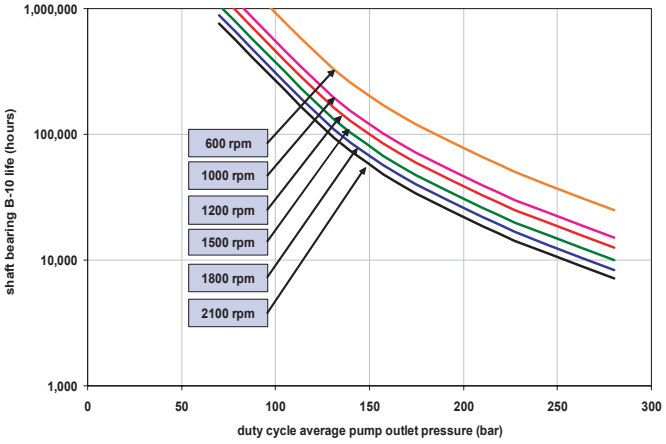
P1 060
shaft bearing B-10 life at maximum displacement



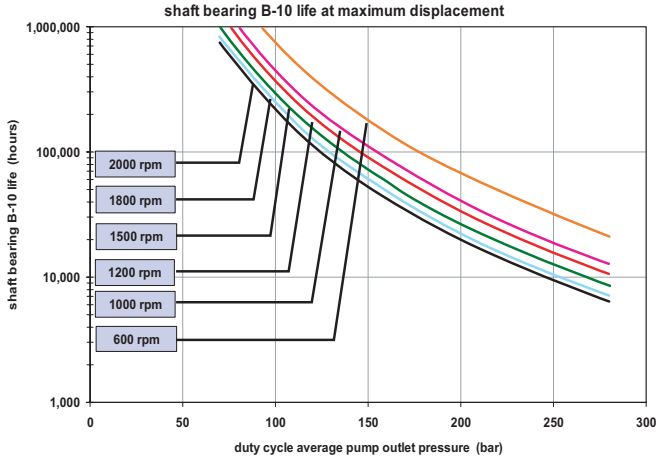
P1 075
shaft bearing B-10 life at maximum displacement



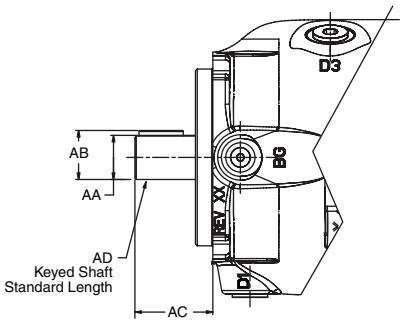
P1 100
shaft bearing B-10 life at maximum displacement

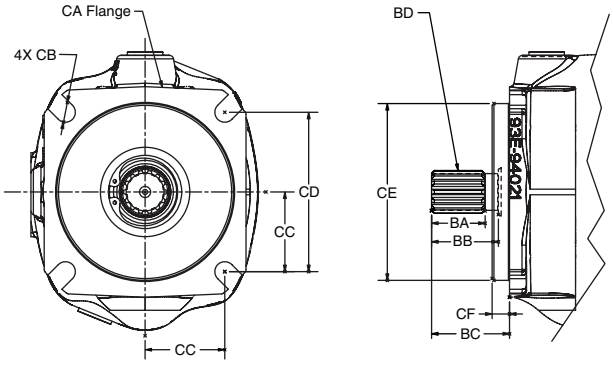


P1 140
shaft bearing B-10 life at maximum displacement



Pump Installation - P1060
Input Shaft Dimensions





P1060	ISO	SAE
BA	22.0	38.0
BB	36	48
BC	47.0/46.0	56.8/55.2
BD	SPLINE: ISO 3019/202991-P32N (REF DIN 5480) INVOLUTE SPLINE DATA FLAT ROOT SIDE FIT NUMBER OF TEETH - 14 MODULE - M2 PRESSURE ANGLE - 30 MAJOR DIAMETER - 32 TOOTH THICKNESS - 9e	SPLINE: SAE J744 SAE 32-4C INVOLUTE SPLINE DATA CLASS 2 FLAT ROOT SIDE FIT NUMBER OF TEETH - 14 PITCH - 12/24 PRESSURE ANGLE - 30 MAJOR DIAMETER - 1.2268 IN PITCH DIAMETER - 1.1666
CA	ISO 3019/202991 125B4SW	SAE J744 JUN96 127-4 C
CB	13.77/13.50	14.4 DIA.
CC	56.6	57.2
CD	113.2 SQUARE	114.5 SQUARE
CE	125.00/124.94 ISO 3019/2	127.00/126.95 SAE J744
CF	9.5/9.0	12.7/12.2

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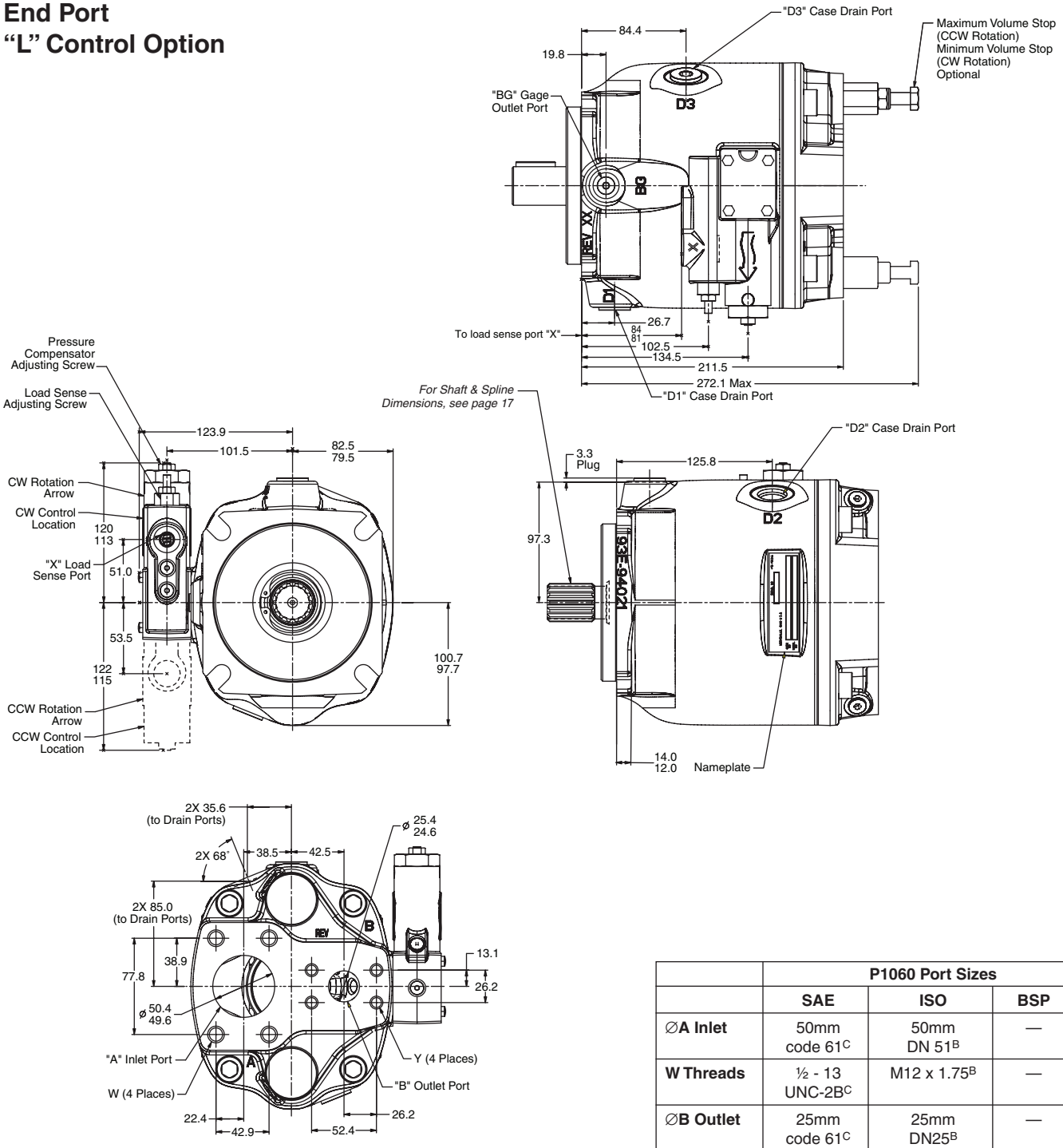
Marysville, Ohio USA

Pump Installation - P1060
End Port
"L" Control Option



	P1060 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	50mm code 61[C]	50mm DN 51[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	25mm code 61[C]	25mm DN25[B]	—
Y Threads	⅜- 16 UNC-2B[C]	M10 x 1.5[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-10[D]	M22x1.5[A]	¾"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

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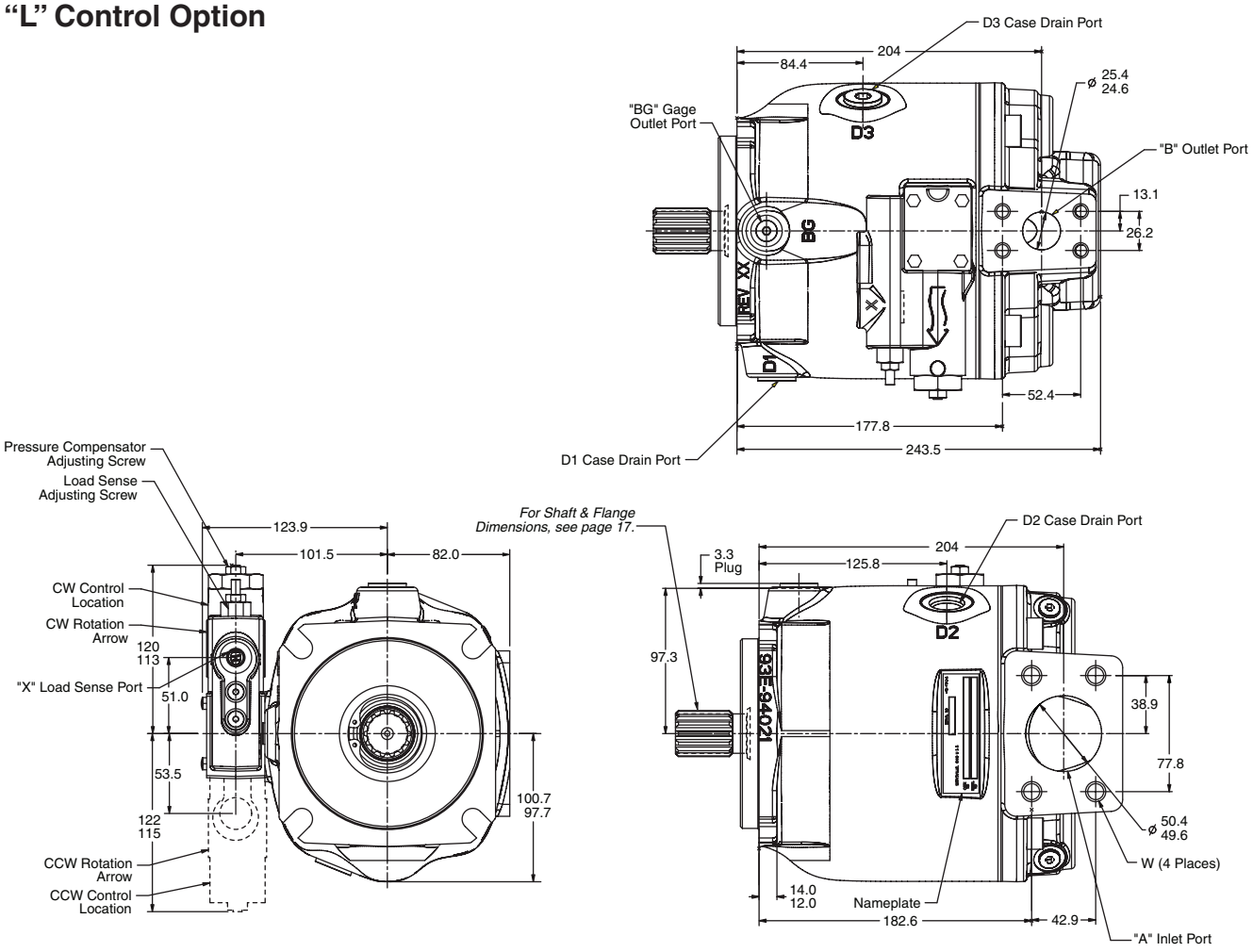
Pump Installation - P1060
Side Port
"L" Control Option



	P1060 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	50mm code 61[C]	50mm DN 51[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	25mm code 61[C]	25mm DN25[B]	—
Y Threads	⅜- 16 UNC-2B[C]	M10 x 1.5[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-10[D]	M22x1.5[A]	¾"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

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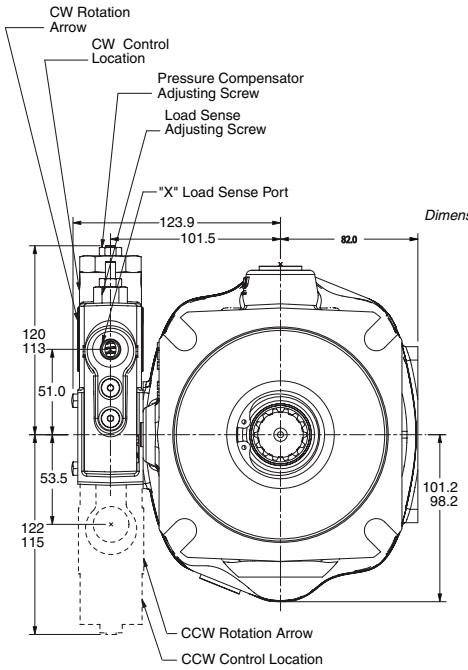
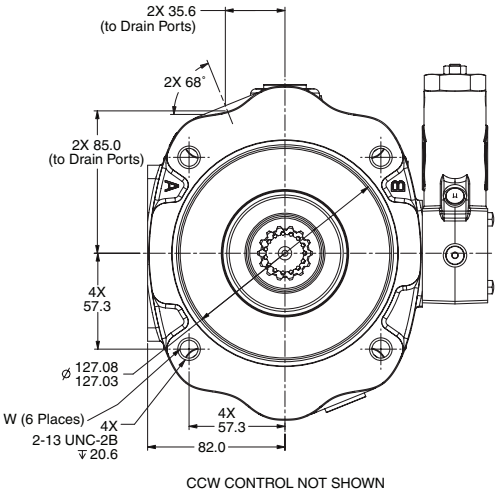
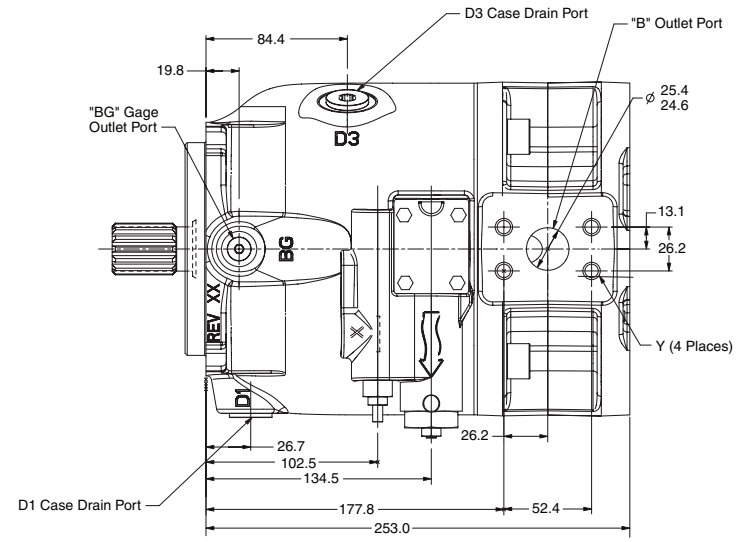
Marysville, Ohio USA

Pump Installation - P1060
Side Ports with Thru-Drive
"L" Control Option

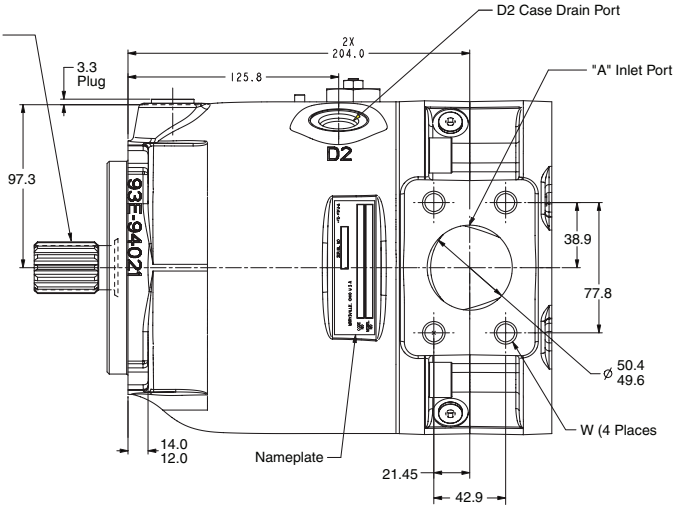




CCW CONTROL NOT SHOWN



For Shaft & Flange Dimensions, see page 17.



Shaft Location	P1060 Shaft Size & Type	Shaft Torque Capacity (Nm)
Input End	SAE C 14T Spline	732
	ISO 14T Spline	732
Thru-Drive End	Spline Coupling	366

	P1060 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	50mm code 61[C]	50mm DN 51[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	25mm code 61[C]	25mm DN25[B]	—
Y Threads	⅜- 16 UNC-2B[C]	M10 x 1.5[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-10[D]	M22x1.5[A]	¾"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

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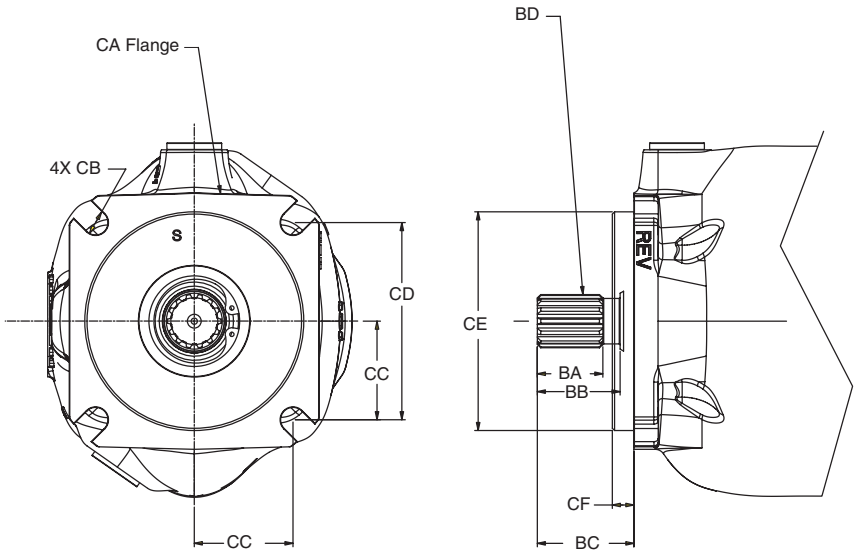
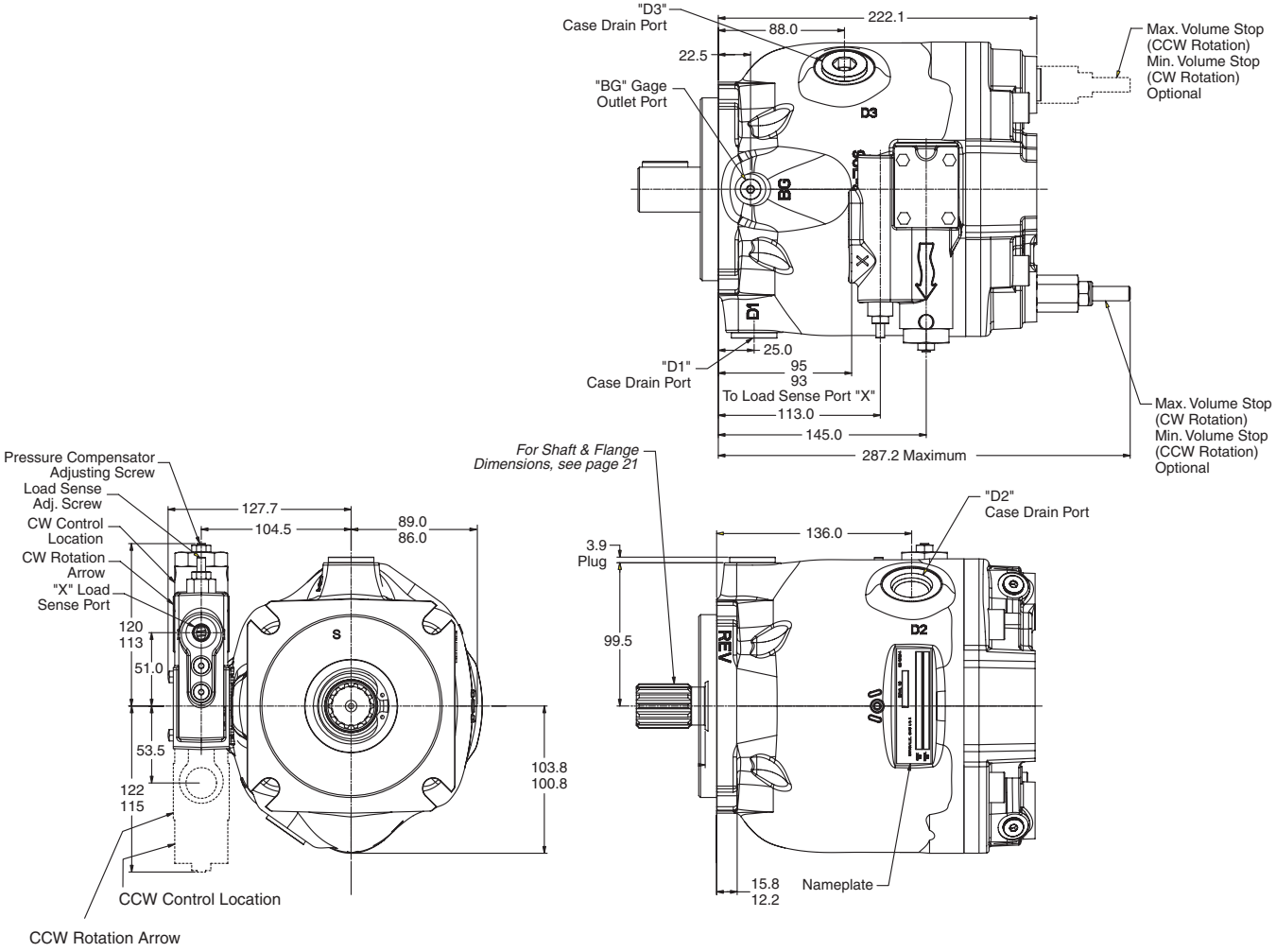
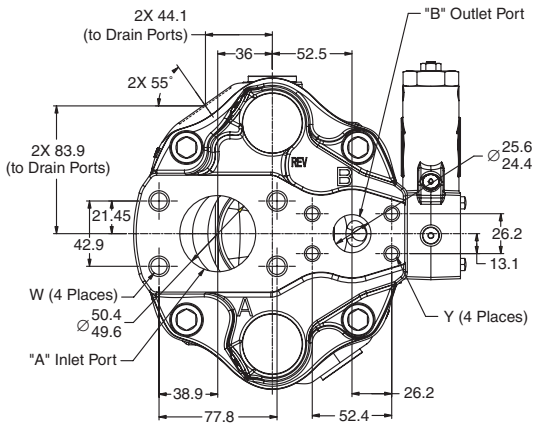
Pump Installation - P1075
Input Shafts



P1075	ISO	SAE
BA	22.0	38.0
BB	36	48
BC	47.0/46.0	56.8/55.2
BD	SPLINE: ISO 3019/202991-P32N (REF DIN 5480) INVOLUTE SPLINE DATA FLAT ROOT SIDE FIT NUMBER OF TEETH - 14 MODULE - M2 PRESSURE ANGLE - 30 MAJOR DIAMETER - 32 TOOTH THICKNESS - 9e	SPLINE: SAE J744 SAE 32-4C INVOLUTE SPLINE DATA CLASS 2 FLAT ROOT SIDE FIT NUMBER OF TEETH - 14 PITCH - 12/24 PRESSURE ANGLE - 30 MAJOR DIAMETER - 1.2268 IN PITCH DIAMETER - 1.1666
CA	ISO 3019/202991 125B4SW	SAE J744 JUN96 127-4 C
CB	13.77/13.50	14.4 DIA.
CC	56.6	57.2
CD	113.2 SQUARE	114.5 SQUARE
CE	125.00/124.94 ISO 3019/2	127.00/126.95 SAE J744
CF	9.5/9.0	12.7/12.2

Pump Installation - P1075
End Port
"L" Control Option





	P1075 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	50mm code 61[C]	50mm DN 51[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	25mm code 61[C]	25mm DN25[B]	—
Y Threads	⅜- 16 UNC-2B[C]	M10 x 1.5[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-12[D]	M27x2[A]	¾"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

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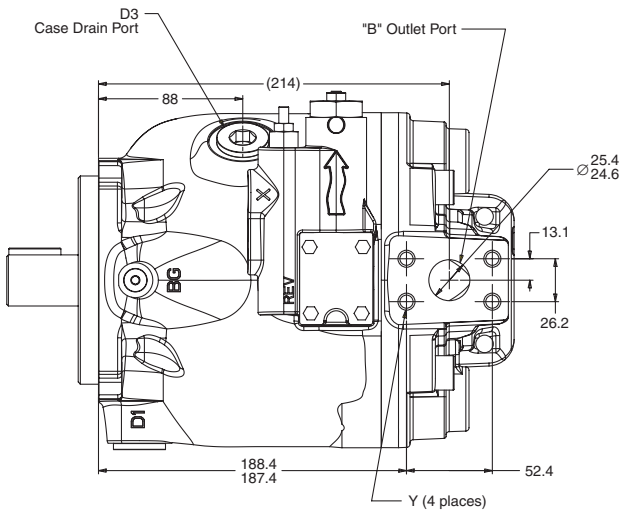
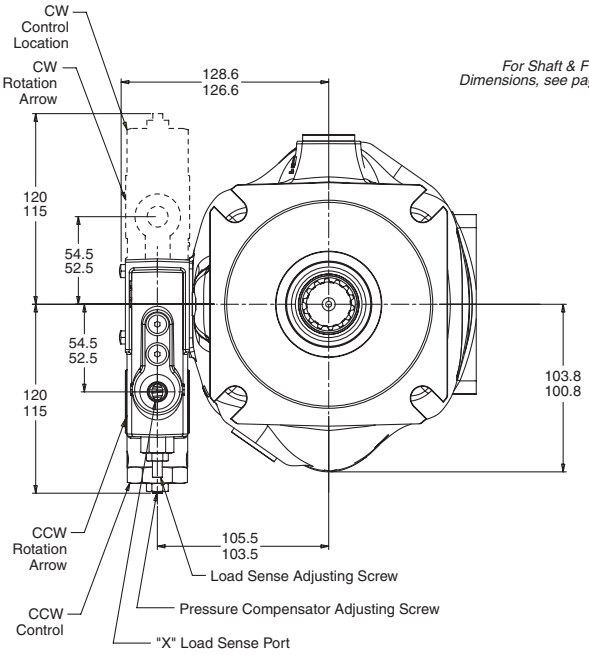
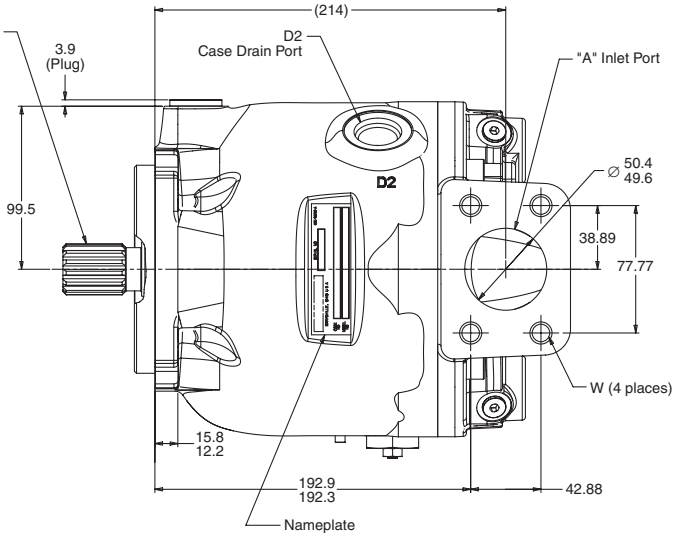
Marysville, Ohio USA

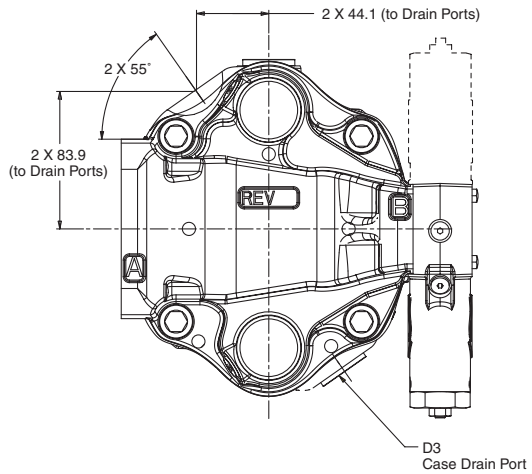
Pump Installation - P1075
Side Port
"L" Control Option





For Shaft & Flange Dimensions, see page 21





	P1075 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	50mm code 61[C]	50mm DN 51[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	25mm code 61[C]	25mm DN25[B]	—
Y Threads	⅜- 16 UNC-2B[C]	M10 x 1.5[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-12[D]	M27x2[A]	¾"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

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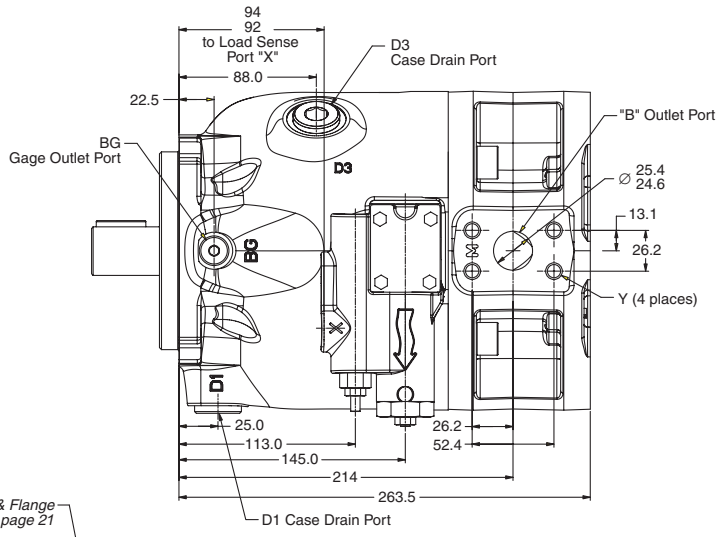
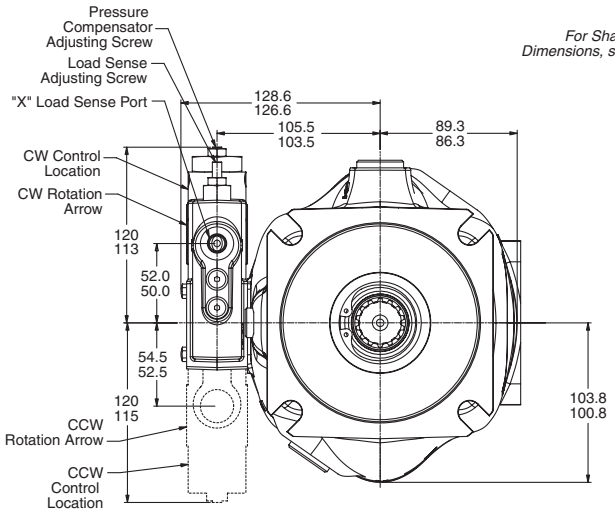
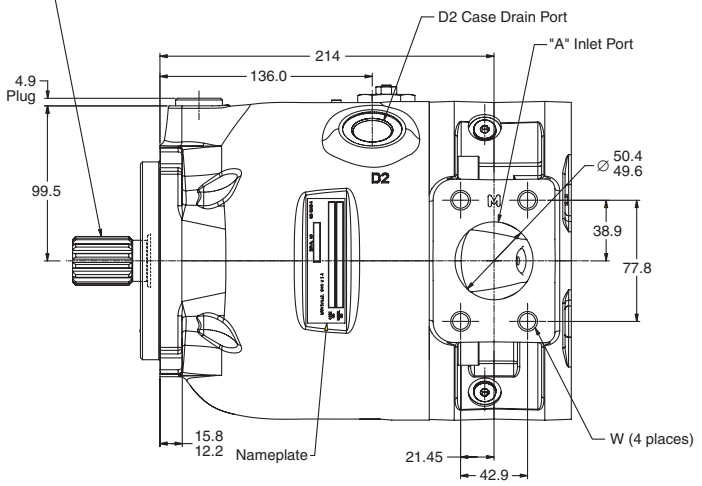
Marysville, Ohio USA

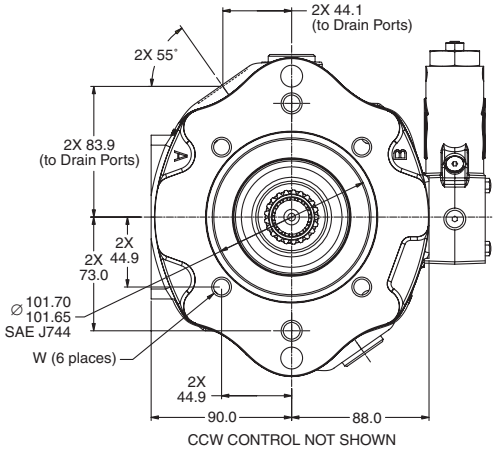
Pump Installation - P1075
Side Ports with Thru-Drive
"L" Control Option





For Shaft & Flange Dimensions, see page 21





Shaft Location	P1075 Shaft Size & Type	Shaft Torque Capacity (Nm)
Input End	SAE C 14T Spline	915
	ISO 14T Spline	915
Thru-Drive End	Spline Coupling	458

	P1075 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	50mm code 61[C]	50mm DN 51[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	25mm code 61[C]	25mm DN25[B]	—
Y Threads	⅜- 16 UNC-2B[C]	M10 x 1.5[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-12[D]	M27x2[A]	¾"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

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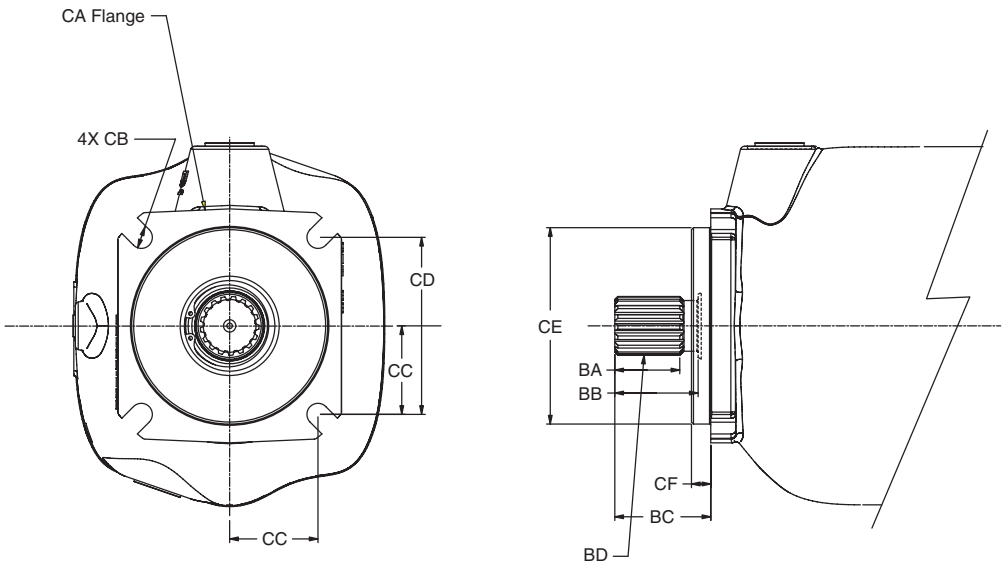
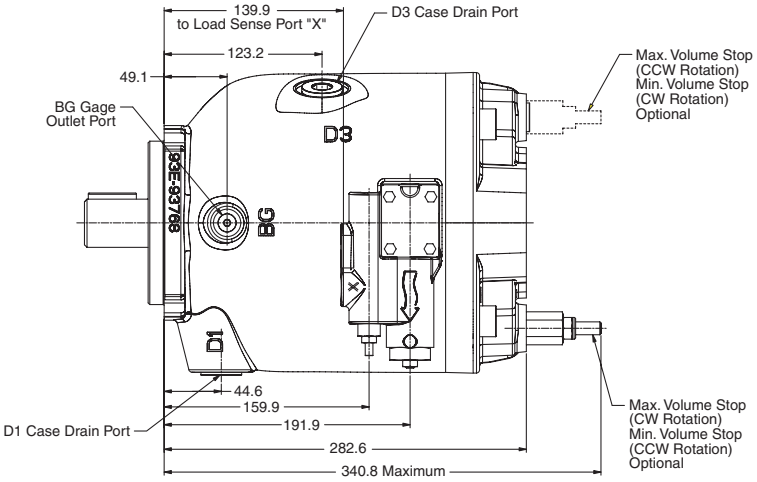
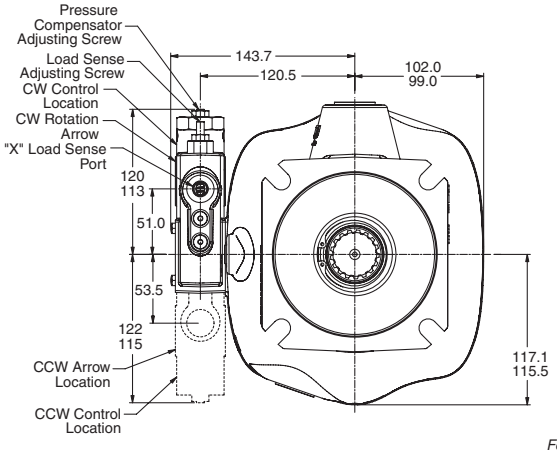
Pump Installation - P1100
Input Shafts

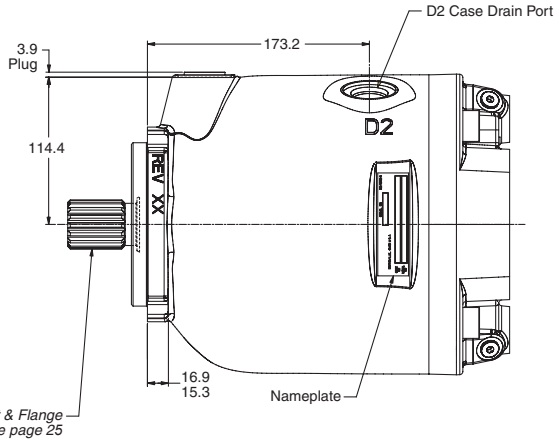


P1100	ISO	SAE
BA	20.0	42.1
BB	45.0	54.0
BC	56.0/55.0	62.8/61.2
BD	SPLINE: ISO 3019/2-2001-P40N (REF DIN 5480) INVOLUTE SPLINE DATA FLAT ROOT SIDE FIT NUMBER OF TEETH - 18 MODULE - M2 PRESSURE ANGLE - 30 MAJOR DIAMETER - 39.60 TOOTH THICKNESS - 9e	SPLINE: SAE ASA-B 1960 SAE 38-4(C-C) INVOLUTE SPLINE DATA CLASS 2 FLAT ROOT SIDE FIT NUMBER OF TEETH - 17 PITCH - 12/24 PRESSURE ANGLE - 30 MAJOR DIAMETER - 1.4793/1.4763 IN PITCH DIAMETER - 1.4167
CA	ISO 3019/2-2001 125B2SW	SAE J744 JUN96 127-4 C
CB	13.77/13.50	14.4 DIA.
CC	56.6	57.2
CD	113.2 SQUARE	114.5 SQUARE
CE	125.00/124.94 ISO 3019/2	127.00/126.95 SAE J744
CF	9.5/9.0	12.7/12.2

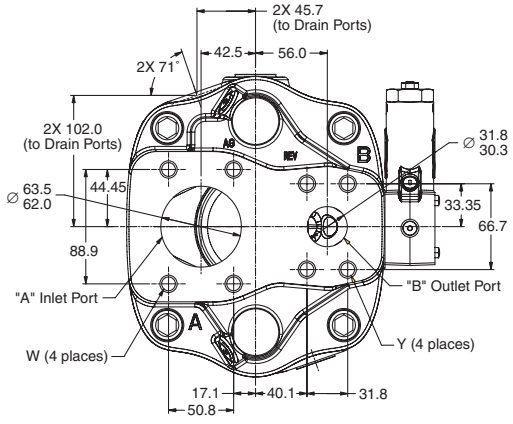
Pump Installation - P1100
End Ports
"L" Control Option







For Shaft & Flange
Dimensions, see page 25

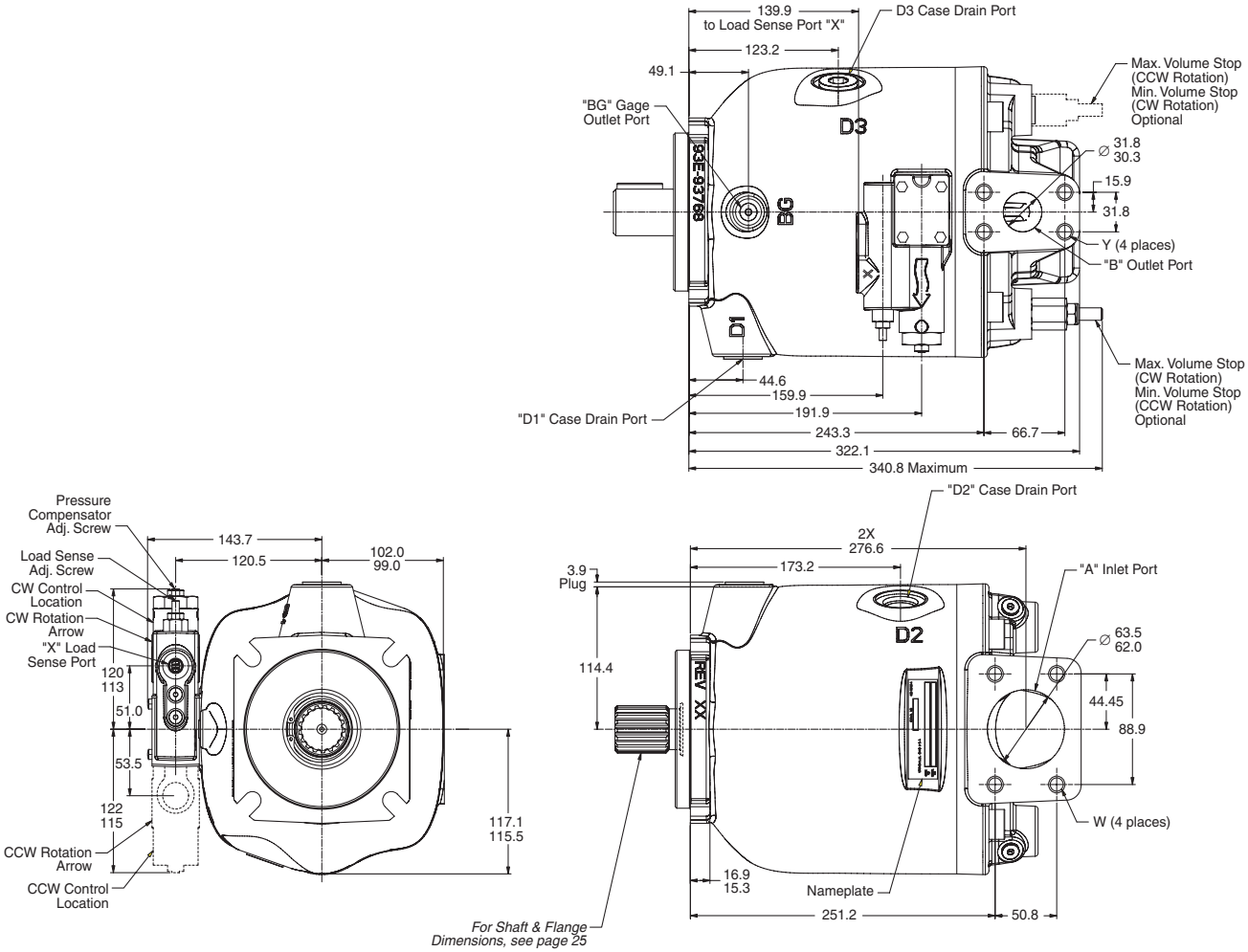


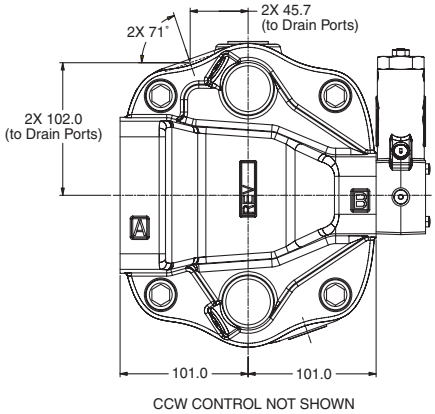
	P1100 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	63mm code 61[C]	63mm DN 64[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	32mm code 62[C]	32mm DN 32[B]	—
Y Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-12[D]	M27x2[A]	¾"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

Parker Hannifin Corporation
Hydraulic Pump Division
Marysville, Ohio USA

Pump Installation - P1100
Side Ports
"L" Control Option





CCW CONTROL NOT SHOWN

	P1100 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	63mm code 61[C]	63mm DN 64[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	32mm code 62[C]	32mm DN 32[B]	—
Y Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-12[D]	M27x2[A]	¾"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

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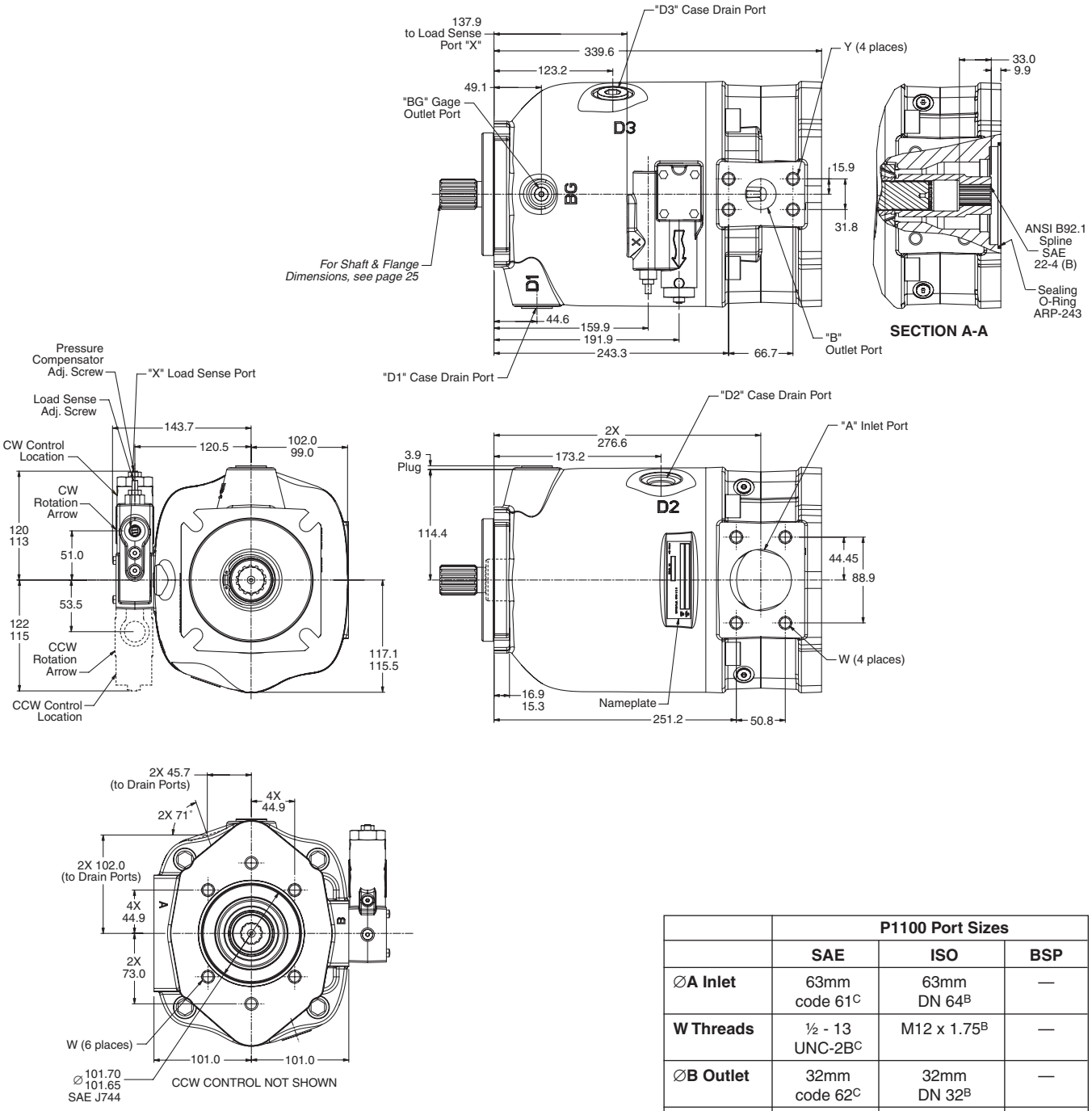
Pump Installation - P1100
Side Ports with Thru-Drive
"L" Control Option



Shaft Location	P1100 Shaft Size & Type	Shaft Torque Capacity (Nm)
Input End	SAE C-C 17T Spline	1220
	ISO 18T Spline	1220
Thru-Drive End	Spline Coupling	610

	P1100 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	63mm code 61[C]	63mm DN 64[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	32mm code 62[C]	32mm DN 32[B]	—
Y Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-12[D]	M27x2[A]	¾"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

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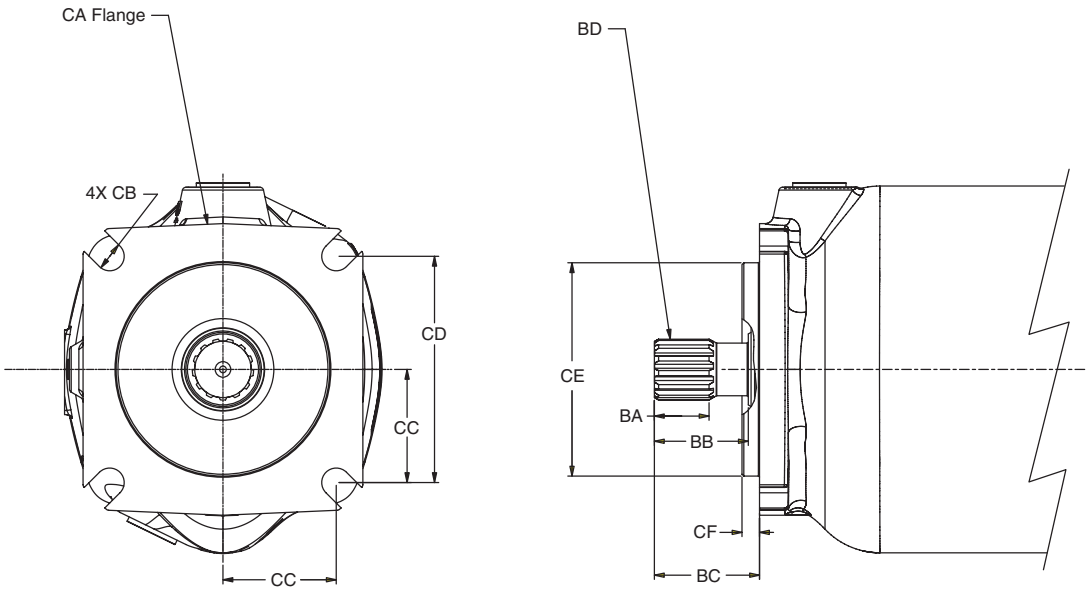
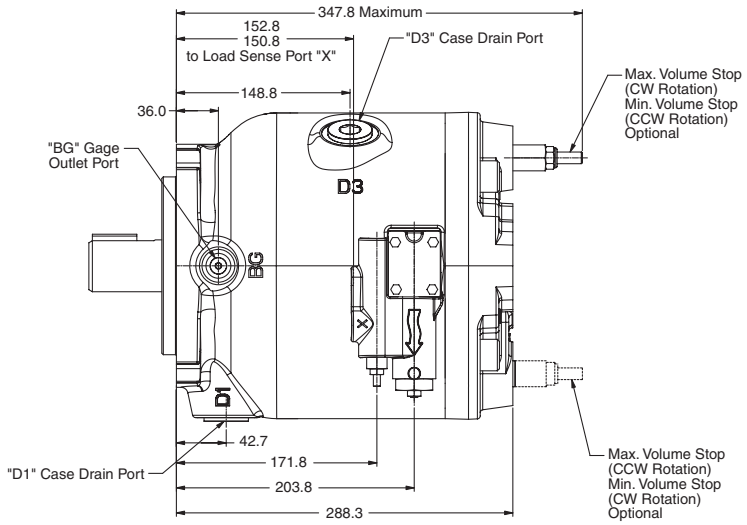
Marysville, Ohio USA

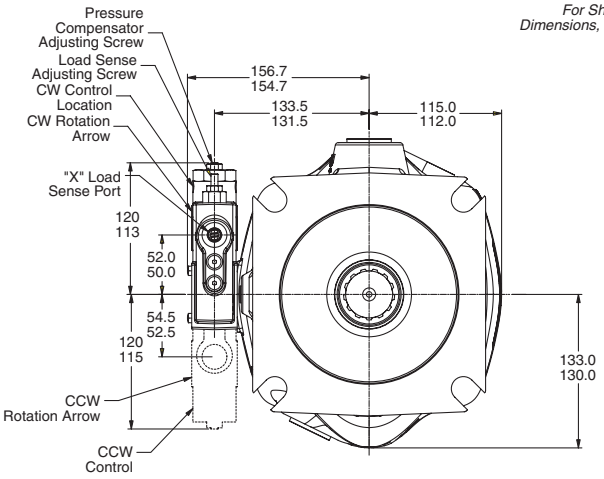
Pump Installation - P1140
Input Shafts

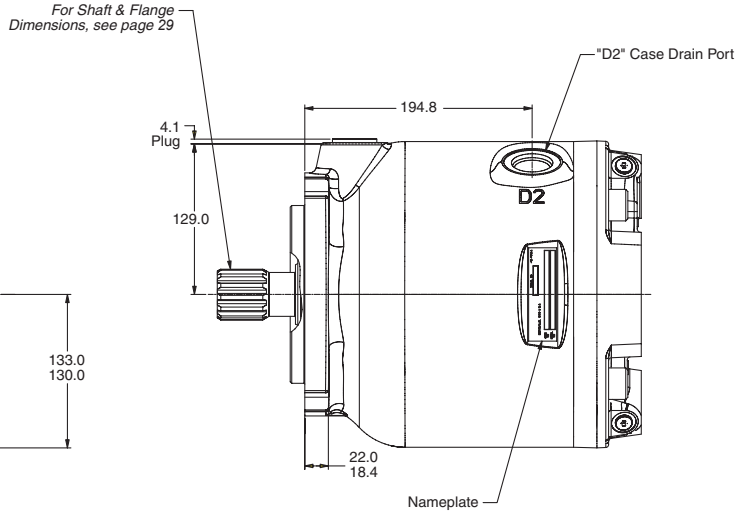


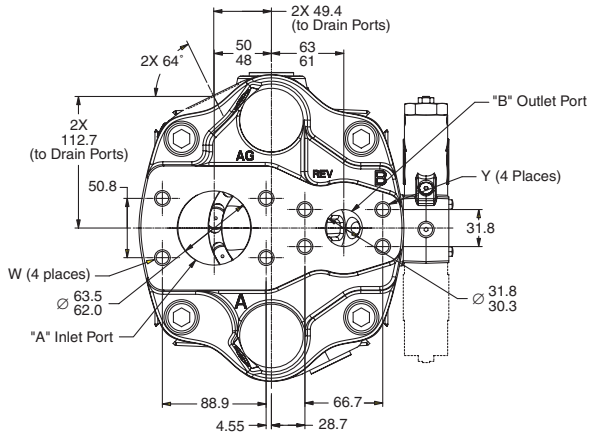
P1140	ISO	SAE
BA	41.0	39.0
BB	55.0	67.0
BC	66.0/65.0	75.8/74.2
BD	SPLINE: ISO 3019/2-2001-P50N (REF DIN 5480) INVOLUTE SPLINE DATA FLAT ROOT SIDE FIT NUMBER OF TEETH - 24 MODULE - M2 PRESSURE ANGLE - 30 MAJOR DIAMETER - 49.60 TOOTH THICKNESS TOLERANCE - 9g	SPLINE: SAE J498-B 1969 SAE 44-4(D) INVOLUTE SPLINE DATA CLASS 1 FLAT ROOT SIDE FIT NUMBER OF TEETH - 13 PITCH - 8/16 PRESSURE ANGLE - 30 MAJOR DIAMETER - 1.7210/1.7160 IN PITCH DIAMETER - 1.6250
CA	ISO 3019/2-2001 180B4SW	SAE J744 JUN96 152-4(D)
CB	18.20/17.80	20.9/20.5 DIA.
CC	79.2	80.8
CD	158.4 SQUARE	161.6 SQUARE
CE	180.00/179.95 ISO 3019/2	152.40/152.35 SAE J744
CF	9.5/9.0	12.7/12.2

Pump Installation - P1140
End Ports
"L" Control Option







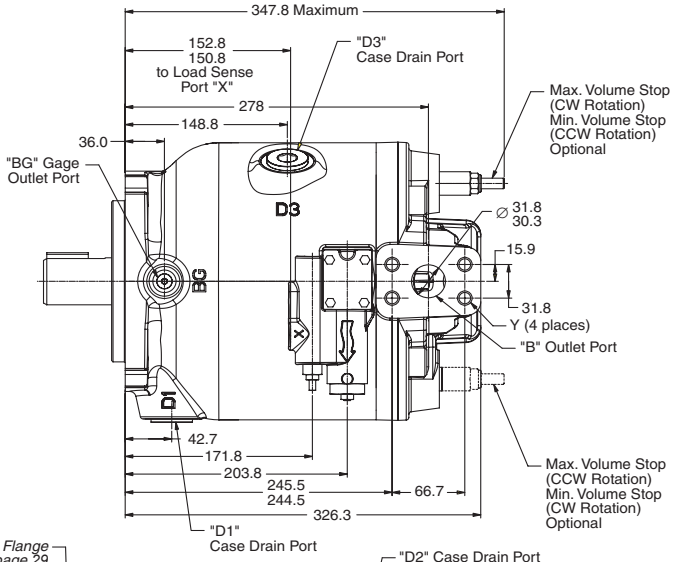


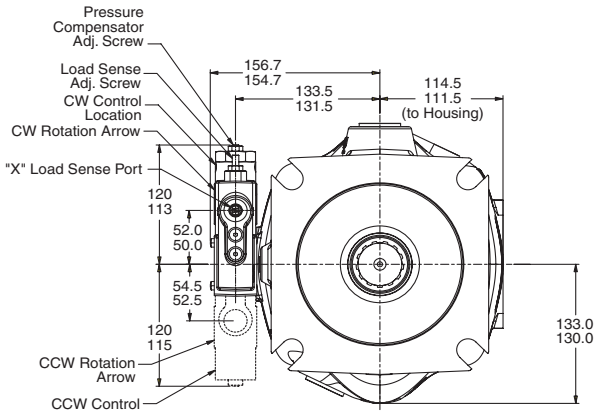
	P1140 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	63mm code 61[C]	63mm DN 64[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	32mm code 62[C]	32mm DN 32[B]	—
Y Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-16[D]	M33x2[A]	1"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

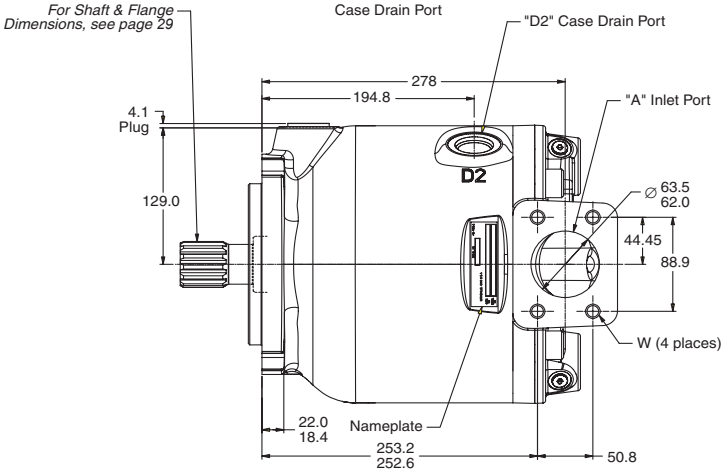
Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

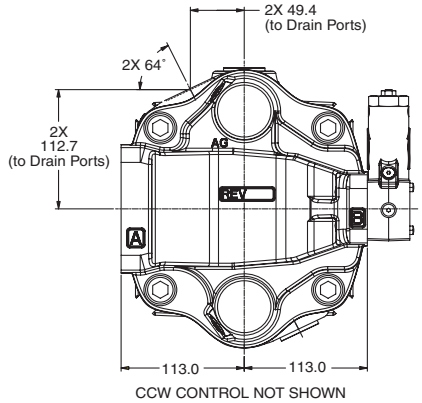
Parker Hannifin Corporation
Hydraulic Pump Division
Marysville, Ohio USA

Pump Installation - P1140
Side Ports
"L" Control Option









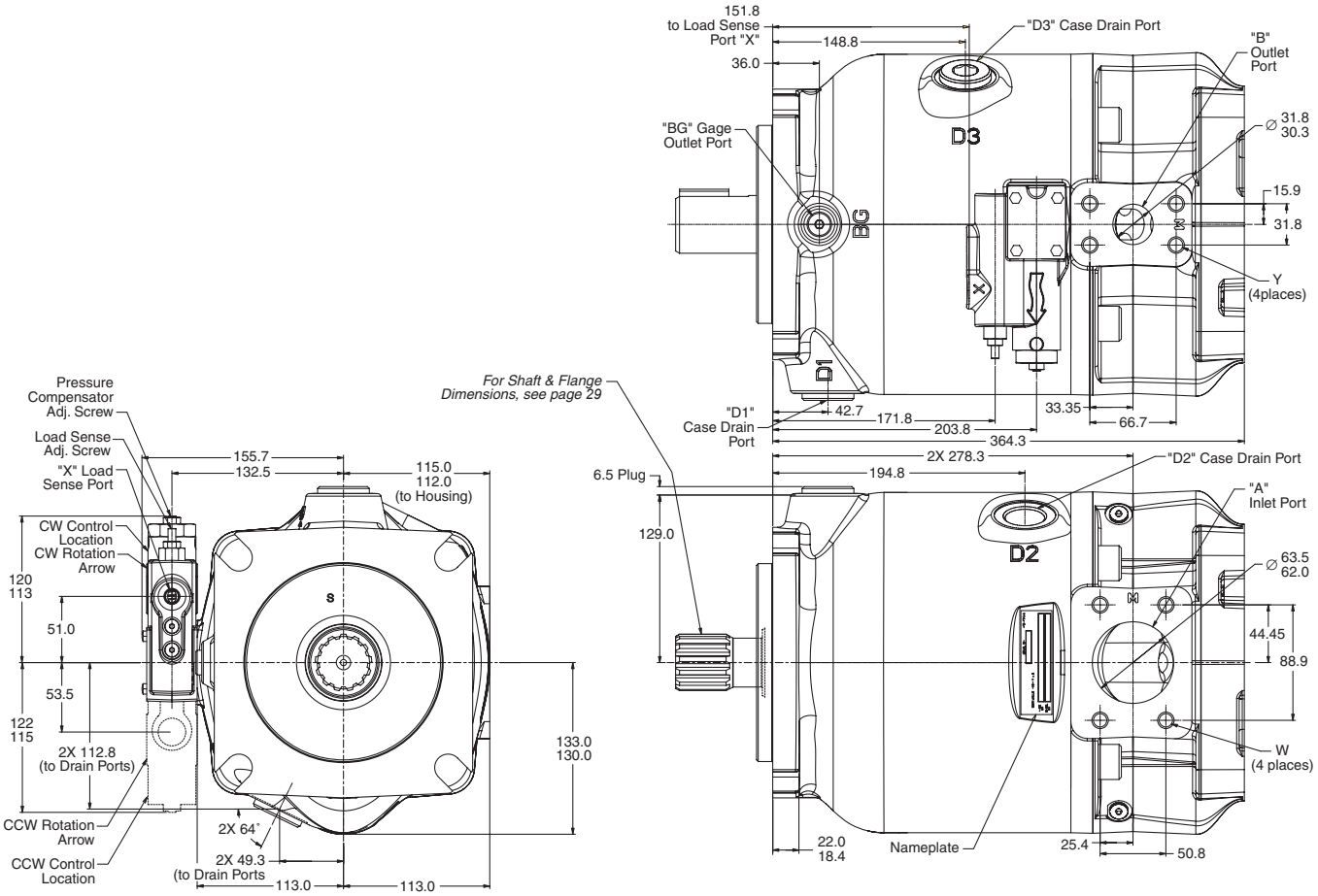
CCW CONTROL NOT SHOWN

	P1140 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	63mm code 61[C]	63mm DN 64[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	32mm code 62[C]	32mm DN 32[B]	—
Y Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-16[D]	M33x2[A]	1"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

Parker Hannifin Corporation
Hydraulic Pump Division
Marysville, Ohio USA

Pump Installation - P1140
Side Ports with Thru-Drive
"L" Control Option



Shaft Location	P1140 Shaft Size & Type	Shaft Torque Capacity (Nm)
Input End	SAE D 13T Spline	1708
	ISO 24T Spline	1708
Thru-Drive End	Spline Coupling	854

	P1140 Port Sizes		
	SAE	**ISO**	**BSP**
∅A Inlet	63mm code 61[C]	63mm DN 64[B]	—
W Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
∅B Outlet	32mm code 62[C]	32mm DN 32[B]	—
Y Threads	½ - 13 UNC-2B[C]	M12 x 1.75[B]	—
BG	SAE-4[D]	M12x1.5[A]	¼"[E]
D1 D2 D3	SAE-16[D]	M33x2[A]	1"[E]
X	SAE-4[D]	M12x1.5[A]	¼"[E]

Note A: Metric o-ring boss port conform to ISO 6149-1
Note B: Metric 4-bolt flange port conforms to ISO 6162
Note C: Inch 4-bolt flange port conforms to SAE J518
Note D: Inch o-ring boss port conforms to SAE J514
Note E: BSP boss port conforms to ISO 228-1

Parker Hannifin Corporation
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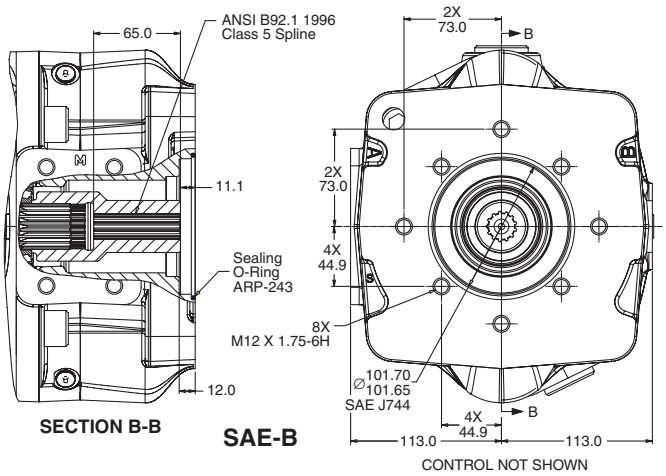
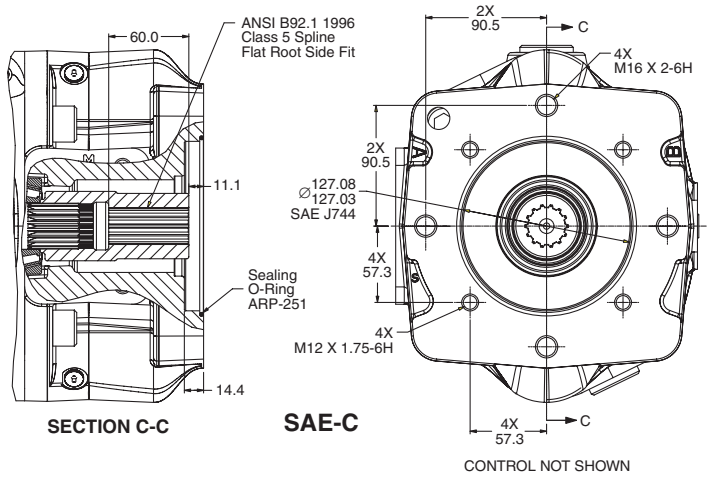
Marysville, Ohio USA

Pump Installation - P1140
Side Ports with Thru-Drive
Mounting Options





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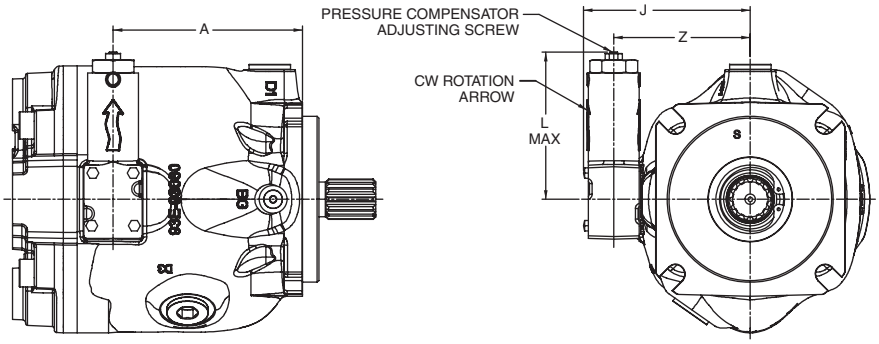
Marysville, Ohio USA

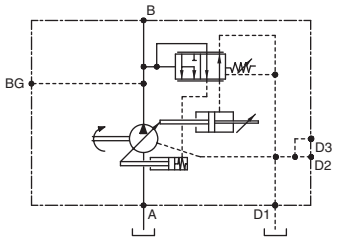
C** Control
Pressure Limiter



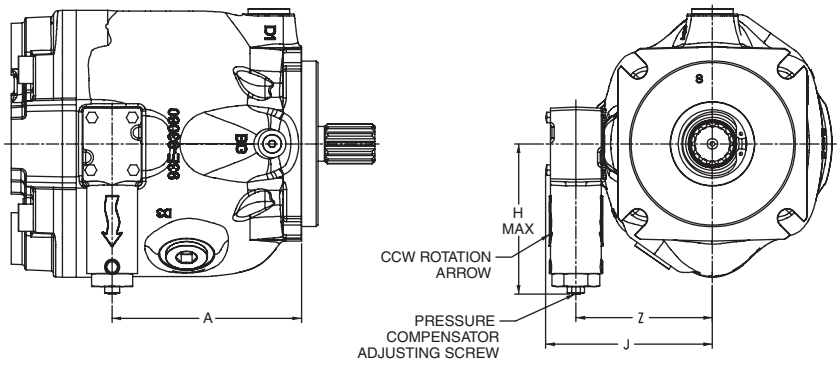
CW ORIENTATION
P*075 Shown

C CONTROL**

ADJUSTMENT SENSITIVITY	
C00	40 Bar per Turn
C10	18.6 Bar per Turn



CCW ORIENTATION
P*075 Shown



Dimensions

Model	A	H Max	J	L Max	Z
P*060	134.5	122	124.7	120	101.5
P*075	145.0	122	127.7	120	104.5
P*100	191.9	122	143.7	120	120.5
P*140	203.8	122	155.7	120	132.5

Parker Hannifin Corporation
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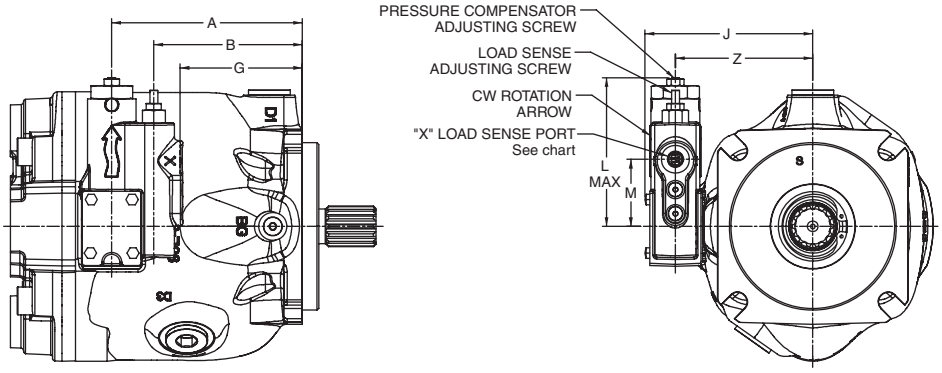
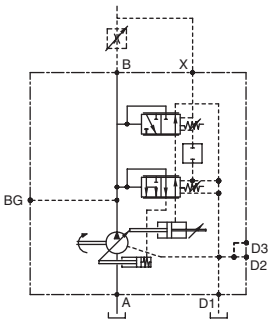
Marysville, Ohio USA

L** Control
Load Sensing with Pressure Limiter



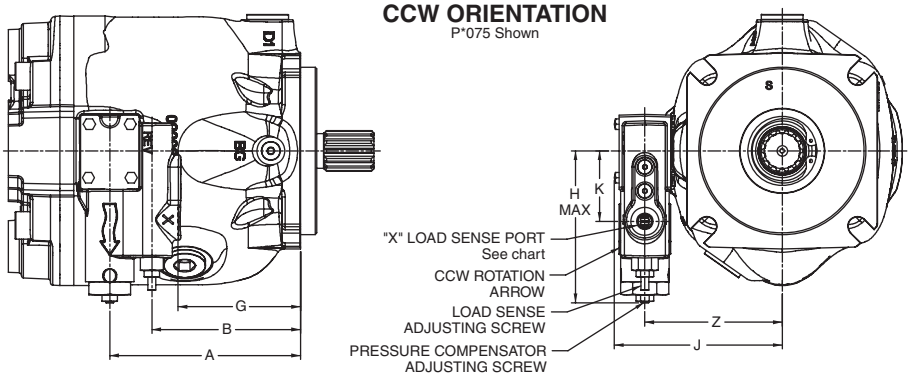
CW ORIENTATION
P*075 Shown

L CONTROL**



ADJUSTMENT SENSITIVITY	
Load Sense	28 Bar per Turn
Pressure Compensator L0	40 Bar per Turn
Pressure Compensator L1	18.6 Bar per Turn

CCW ORIENTATION
P*075 Shown



LOAD SENSE PORT "X"	
P**PS**	SAE J514 Straight Thread O-Ring Port 7/16-20 UNF-2B (SAE-4)
P**PA**	1/4" BSPP per ISO 228-1
P**PB**	1/4" BSPP per ISO 228-1
P**PM**	M12 x 1.5-6H per ISO 6149-1

Dimensions

Model	A	B	G	H Max	J	K	L Max	M	Z
P*060	134.5	102.5	82.5	122	124.7	53.5	120	51.0	101.5
P*075	145.0	113.0	93.0	122	127.7	53.5	120	51.0	104.5
P*100	191.9	159.9	139.9	122	143.7	53.5	120	51.0	120.5
P*140	203.8	171.8	151.8	122	155.7	53.5	120	51.0	132.5

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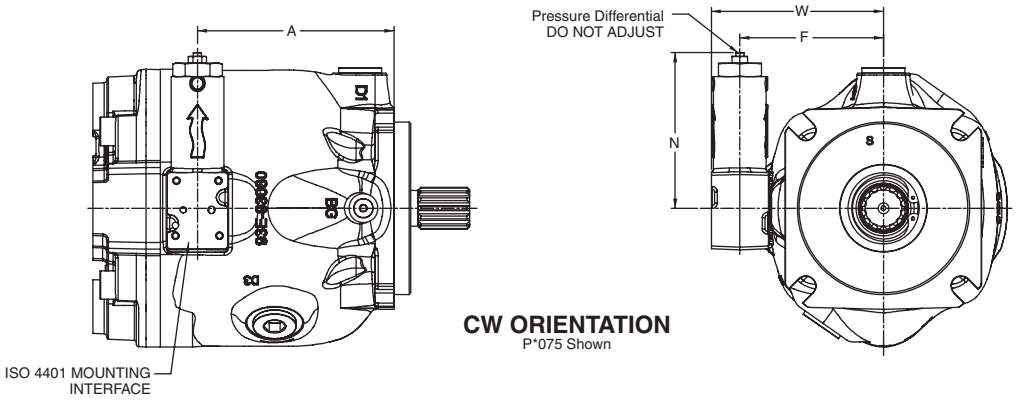
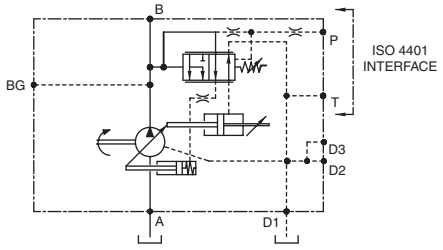
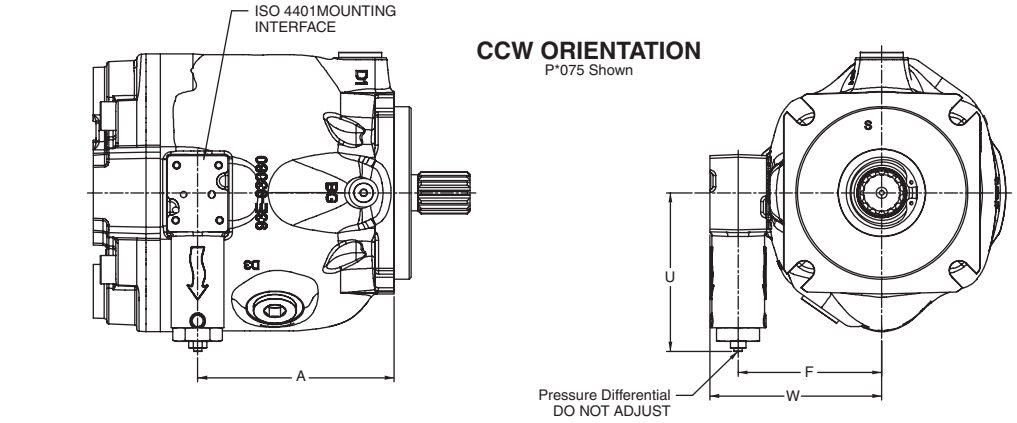
Marysville, Ohio USA

RN Control
Control with ISO 4401 Interface and Shipping Cover



RN CONTROL





Dimensions

Model	A	F	N	U	W
P*060	134.5	103.0	114.6	116.8	124.0
P*075	145.0	106.0	114.6	116.8	127.0
P*100	191.9	122.0	114.6	116.8	143.0
P*140	203.8	134.0	114.6	116.8	155.0

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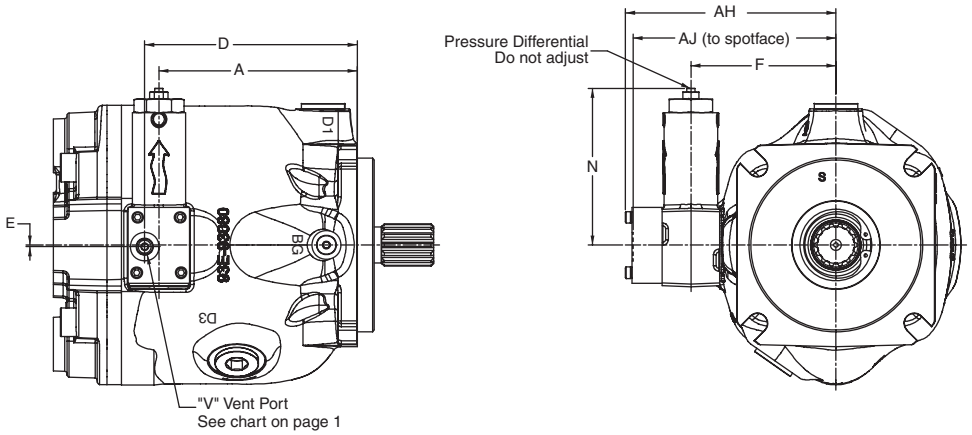
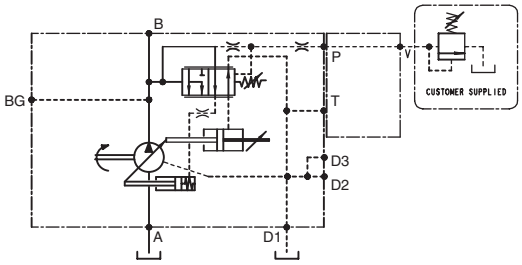
Marysville, Ohio USA

RH Control
Remote Pilot Operated Pressure Limiter

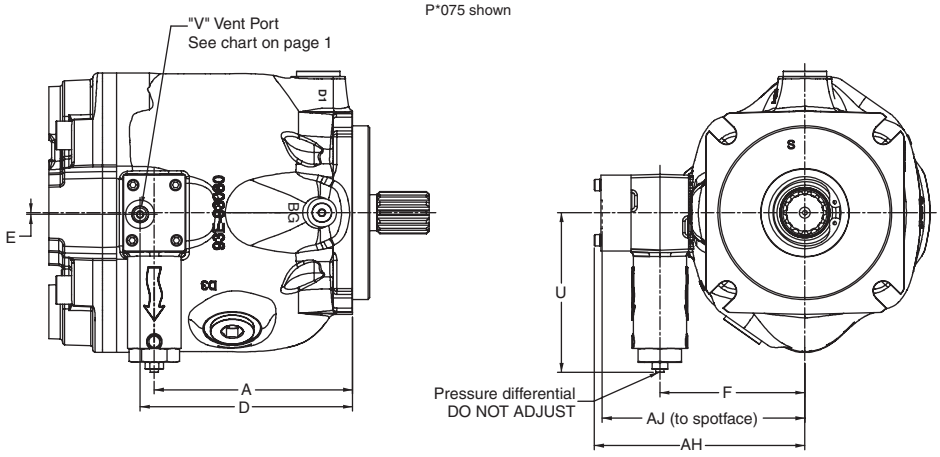


CW ORIENTATION

RH CONTROL



CCW ORIENTATION
P*075 shown

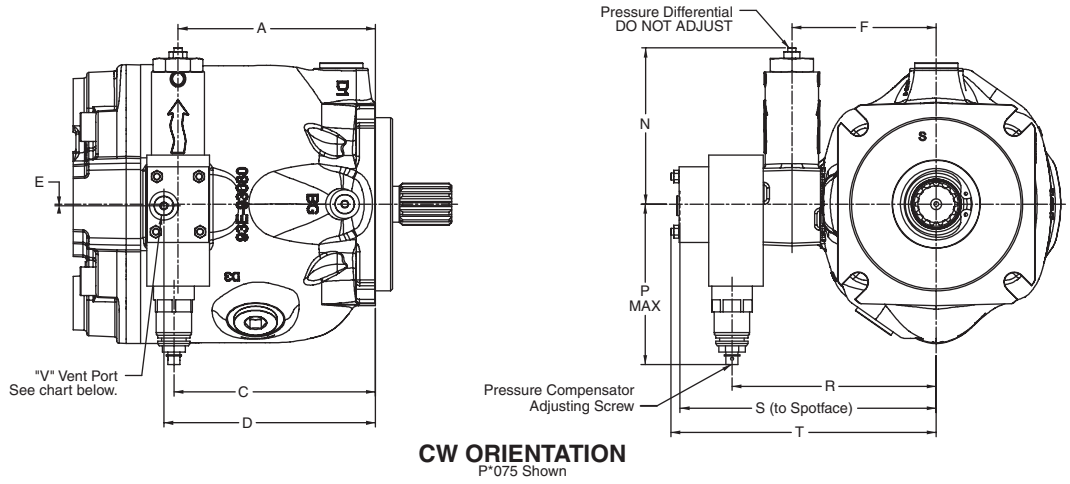


Dimensions

Model	A	D	E	F	N	U	AH	AJ
P*060	134.5	144.9	1.3	103.0	114.6	116.8	150.9	145.2
P*075	145.0	155.4	1.3	106.0	114.6	116.8	153.9	148.2
P*100	191.9	202.3	1.3	122.0	114.6	116.8	169.9	164.2
P*140	203.8	214.2	1.3	134.0	114.6	116.8	181.9	176.2

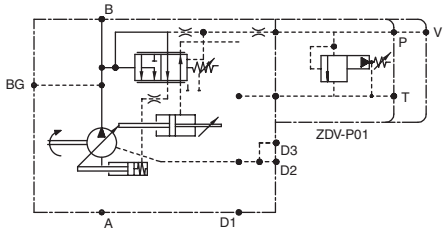
Parker Hannifin Corporation
Hydraulic Pump Division
Marysville, Ohio USA

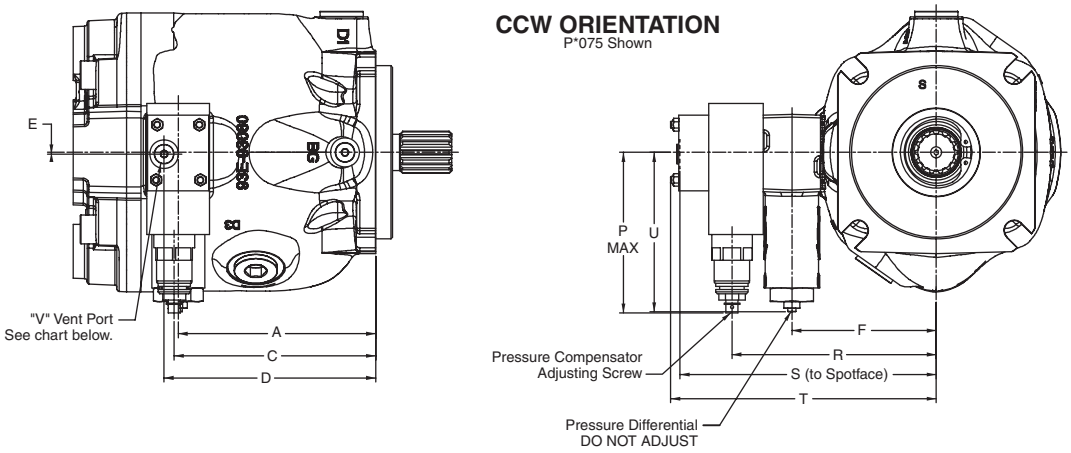
RM Control
Pilot Operated Pressure Limiter with Mechanical Adjustment and Vent Port



CW ORIENTATION
P*075 Shown

RM CONTROL





CCW ORIENTATION
P*075 Shown

Model	Vent Port "V"
P****PS	SAE J514 Straight Thread O-Ring Port 7/16-20 UNF-2B (SAE-4)
P****PA	1/4" BSPP per ISO 228-1
P****PB	1/4" BSPP per ISO 228-1
P****PM	M12 x 1.5-6H per ISO 6149-1

Dimensions

Model	A	C	D	E	F	N	P Max	R	S	T	U
P*060	134.5	137.5	144.9	1.3	103.0	114.6	117.8	147	185.2	192.0	116.8
P*075	145.0	148.0	155.4	1.3	106.0	114.6	117.8	150.0	188.2	195.0	116.8
P*100	191.9	194.9	202.3	1.3	122.0	114.6	117.8	166.0	204.2	211.0	116.8
P*140	203.8	206.8	214.2	1.3	134.0	114.6	117.8	178.0	216.2	223.0	116.8

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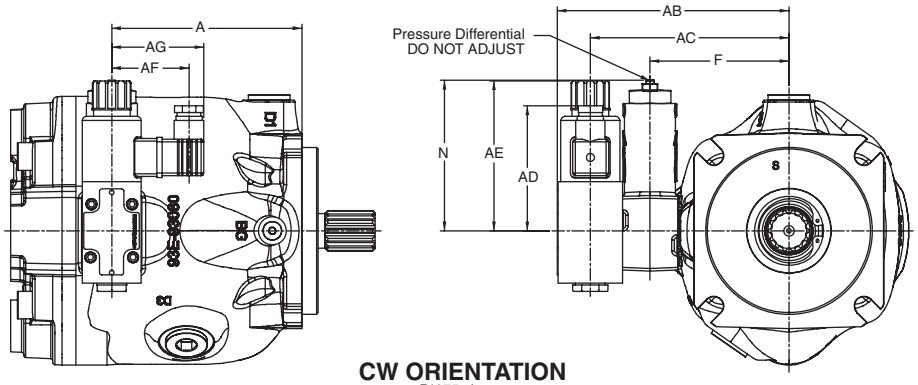
Marysville, Ohio USA

RE Control
Pilot Operated Pressure Limiter with Electrical Adjustment

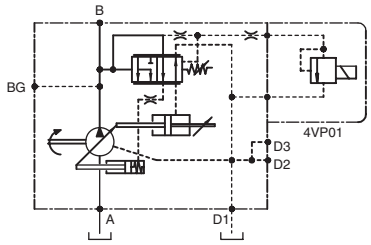


CW ORIENTATION
P*075 shown

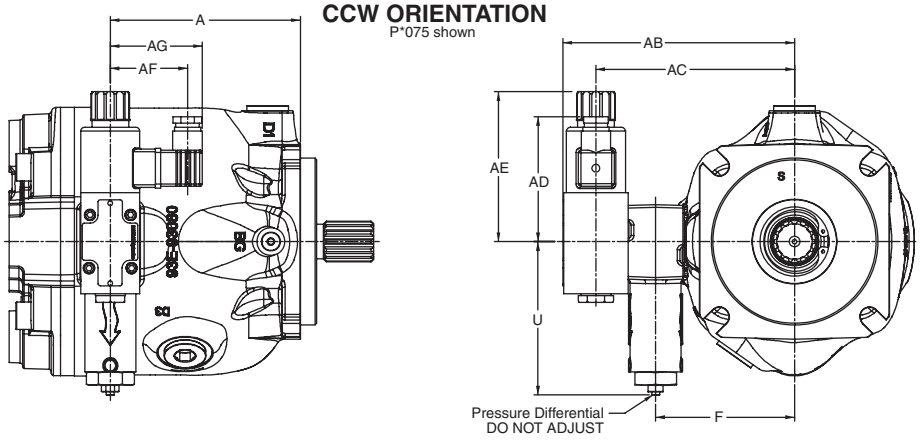
THE FOLLOWING ARE RECOMMENDED TO DRIVE THE 4VP01 VALVE

PART NUMBER	DESCRIPTION
701-00600-8	Proportional Amplifier
701-00007-8	Card Holder
701-00023-8	Power Supply
701-00066-8	Card Holder
701-00013-8	Potentiometer
REFERENCE	3-EN 2200-B
REFERENCE	9-EN601-A for Setup

RE CONTROL



CCW ORIENTATION
P*075 shown



Dimensions

Model	A	F	N	U	Z	AB	AC	AD	AE	AF	AG
P*060	134.5	103.0	114.6	116.8	101.5	173.8	148.5	95.1	114.1	R59.0	R70.2
P*075	145.0	106.0	114.6	116.8	104.5	176.8	151.5	95.1	114.1	R59.0	R70.2
P*100	191.9	122.0	114.6	116.8	120.5	192.8	167.5	95.1	114.1	R59.0	R70.2
P*140	203.8	134.0	114.6	116.8	132.5	204.8	179.5	95.1	114.1	R59.0	R70.2

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