Parker Hydraulics

Series PHP10 Variable Volume, Piston Pumps

A

Bulletin 2600-108/USA

Performance Information Series PHP10 Pressure Compensated, Variable Volume, Piston Pumps

Features

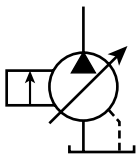
- High Strength Cast-Iron Housing for Reliability and Quiet Operation
- Optional Inlet/Outlet Locations for Ease of Installation
- Replaceable Bronze Port Plate
- Replaceable Piston Slipper Plate
- Low Noise Levels - Promote More Comfortable Operating Environment
- Fast Response Times
- Metric Pilot, Shaft, and Ports Available

Controls

- Pressure Compensation
- Remote Pressure Compensation
- Load Sensing
- Torque (Horsepower) Limiting
- Adjustable Maximum Volume Stop
- Low Pressure Standby

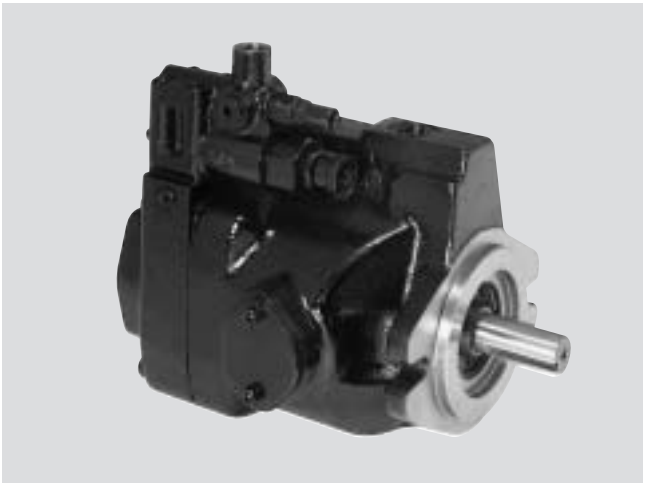
Schematic Symbol

(Basic Pump)



Special Installation or Fluids

Consult your Parker representative on applications requiring higher than rated pressure, over-speed conditions, indirect drive, fluids other than mineral base fluid, and operation at temperatures above 160°F (71°C).



Specifications

Pressure Ratings

Outlet Port:	5000 PSI (345 bar) Continuous (P1) 5500 PSI (380 bar) Peak (P3)
Inlet Port:	25 PSI (1.72 bar) Maximum 5 In. Hg. Minimum @ 1800 RPM (See inlet chart for other speeds.)
Case Drain:	5 PSI Maximum Differential over Inlet Port. 15 PSI Maximum
Speed Ratings:	600 to 3000 RPM
Operating Temperature Range:	– 40˚F to 160˚F (– 40˚C to 71˚C)
Housing Material:	Cast-Iron
Filtration:	Maintain SAE Class 4, ISO 16/13, ISO 18/15 Maximum
Mounting:	SAE “A” 2-Bolt or Metric

Installation Data:
See “Installation Information” on page A116 of Catalog 2600-102-1/USA for specific recommendations pertaining to system cleanliness, fluids, start-up, inlet conditions, shaft alignment, drain line restrictions and other important factors relative to the proper installation and use of these pumps.

Quick Reference Data Chart

Pump Model	Displacement cc/rev (In³/rev)	Pump Delivery @ 400 PSI (28 bar) in GPM (LPM)		*Approx. Noise Levels dB(A) @ Full Flow 1800 RPM (1200 RPM)						Horsepower At 1800 RPM, Max. Displacement & 5000 PSI
		1200 RPM	1800 RPM	500 PSI (34 bar)	1000 PSI (69 bar)	2000 PSI (138 bar)	3000 PSI (207 bar)	4000 PSI (275 bar)	5000 PSI (345 bar)	
PHP10	10 (0.6)	3.0 (11.4)	4.8 (18.2)	64 (60)	64 (60)	66 (62)	67 (63)	68 (64)	70 (66)	15

* Since many variables such as mounting, tank style, plant layout, etc., effect noise levels, it cannot be assumed that the above readings will be equal to those in the field. The above values are for guidance in selecting the proper pump. Noise levels are A-weighted, mean sound pressure levels at 1 meter from the pump, measured and recorded in accordance with applicable ISO and NFPA standards.

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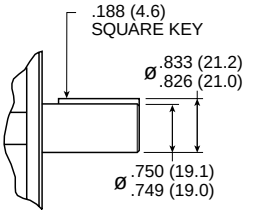
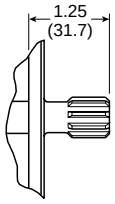
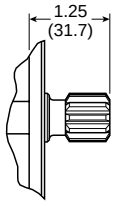
Dimensions - Rear Ported Pump



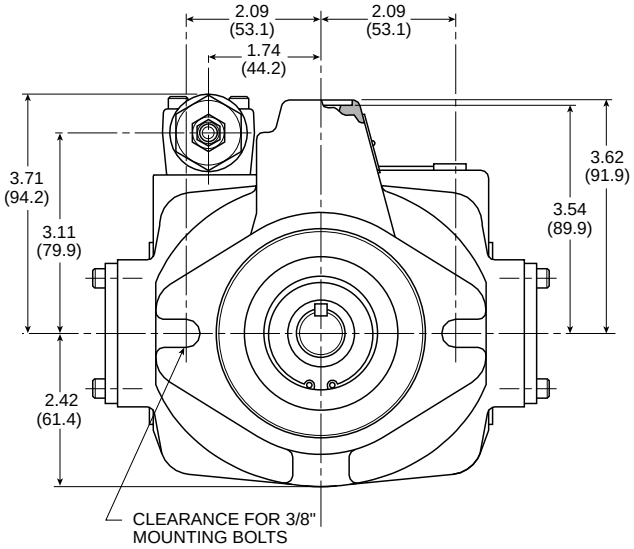
SHAFT OPTION "OMIT"
(MAX TORQUE = 1030 IN LBS)



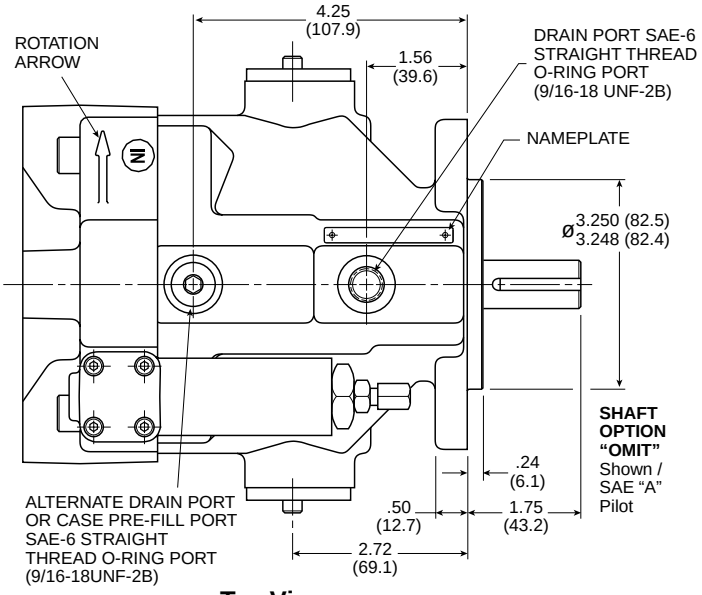
SHAFT OPTION "B" (SAE "A")
9T 16/32 DP
30° INVOLUTE SPLINE



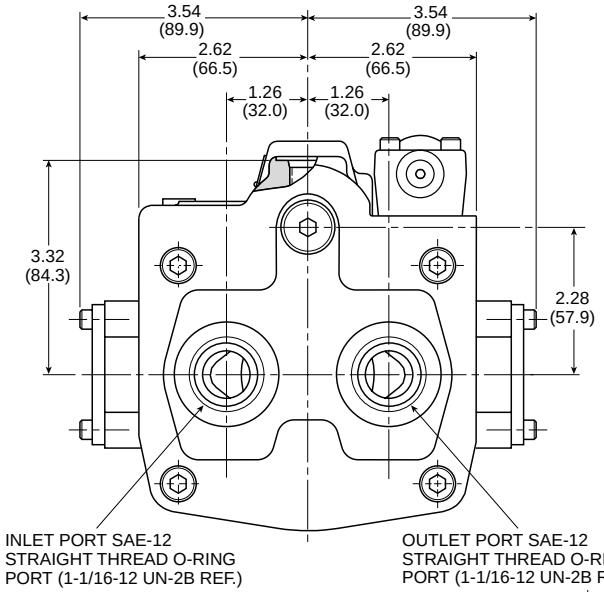
SHAFT OPTION "C"
11 T 16/32 DP
30° INVOLUTE SPLINE
(MAX TORQUE = 909 IN LBS)



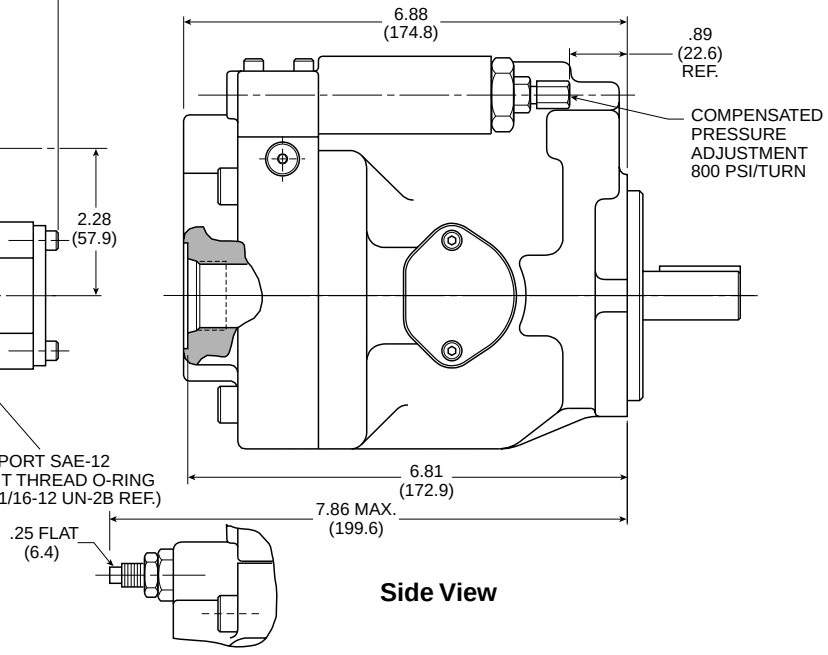
Front View



Top View



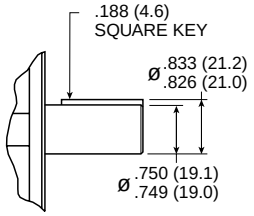
Rear View



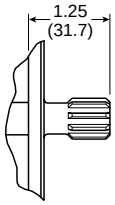
Side View

Note: Right Hand (CW) rotation, rear ported pump shown. Counter Clockwise (CCW) pumps will have inlet and outlet ports reversed with compensator on outlet side.

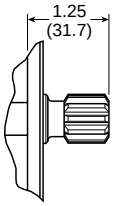
Dimensions - Side Ported Pump



SHAFT OPTION "OMIT"
(MAX TORQUE = 1030 IN LBS)



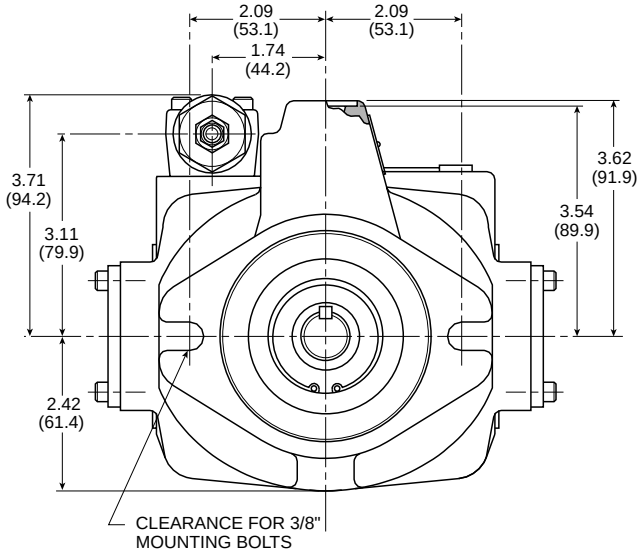
SHAFT OPTION "B" (SAE "A")
9T 16/32 DP
30° INVOLUTE SPLINE



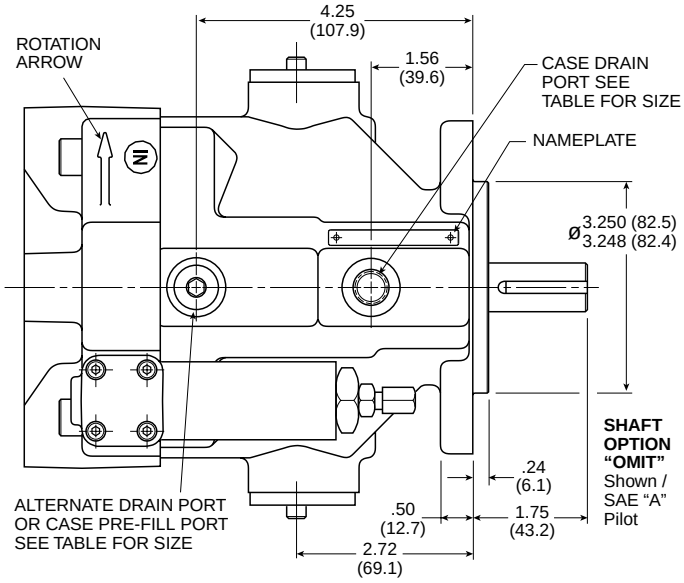
SHAFT OPTION "C"
11 T 16/32 DP
30° INVOLUTE SPLINE
(MAX TORQUE = 909 IN LBS)

Port Size, Type, and Location

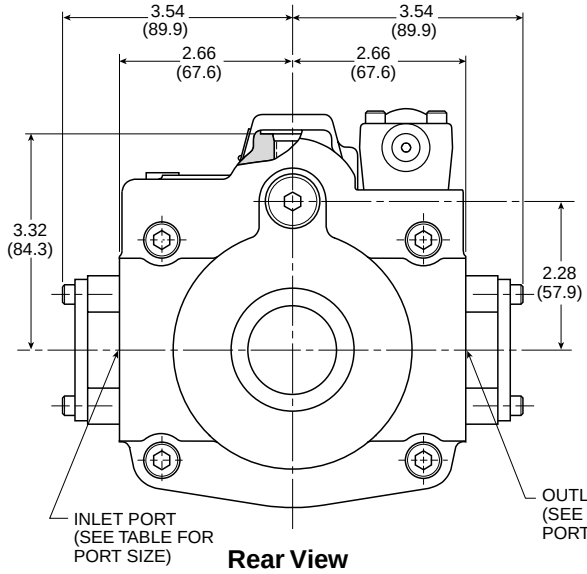
Option	Inlet and Outlet Ports	Drain Port
2	3/4" SAE 4-Bolt Flange High PSI Series (Code 62) 3/8-16 Thread	SAE-6 STR THRD (9/16-18 UNC)
8	3/4" SAE 4-Bolt Flange High PSI Series (Code 62) M10 X 1.5 Thread	ISO 6149-6 M16 X 1.5



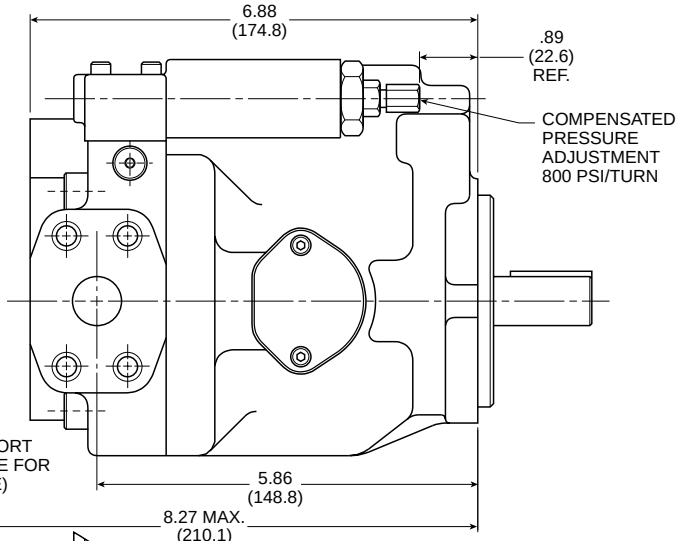
Front View



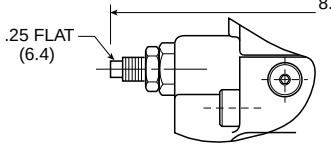
Top View



Rear View



Side View

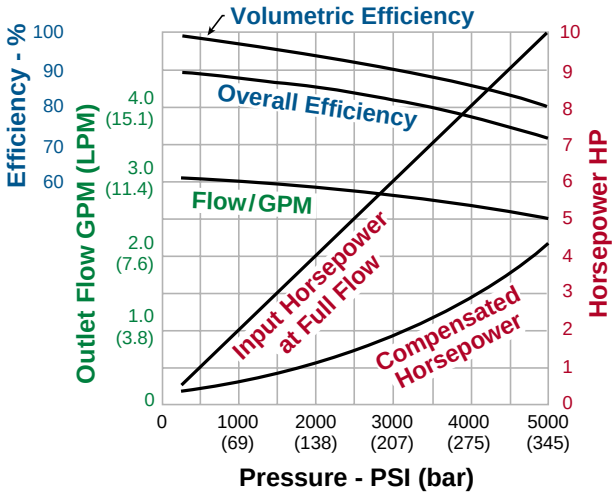


ADJ. MAX.VOLUME STOP
(1.6 CC/REV/TURN)
(OPTION 2)

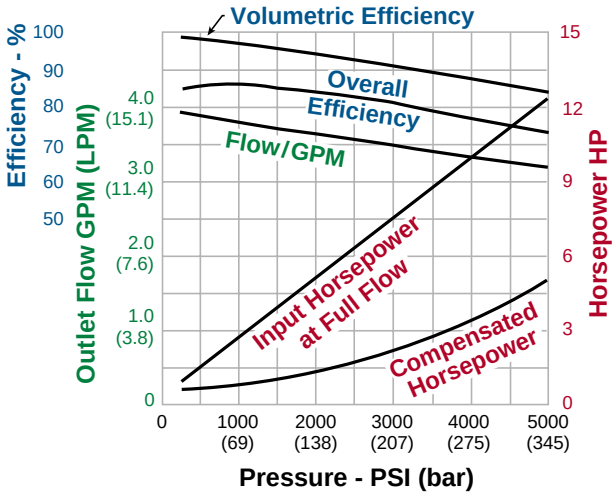
Note: Right Hand (CW) rotation, side ported pump shown. Counter Clockwise (CCW) pumps will have inlet and outlet ports reversed with compensator on outlet side.

A

PHP10 @ 1200 RPM



PHP10 @ 1500 RPM

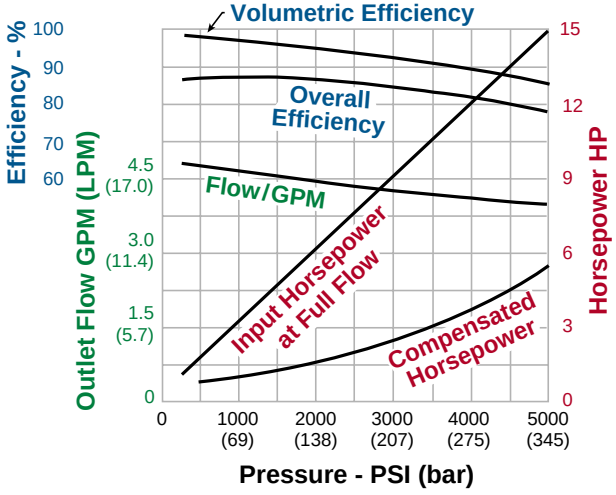


Note: Compensated horsepower curves are shown for the standard pressure compensator option. For remote type compensators the compensated horsepowers will be 10-15% higher.

Note: The efficiencies and data in the graphs are accurate for pumps running at speeds shown and maximum stroke. To calculate approximate horsepower for other conditions, use the following formula...

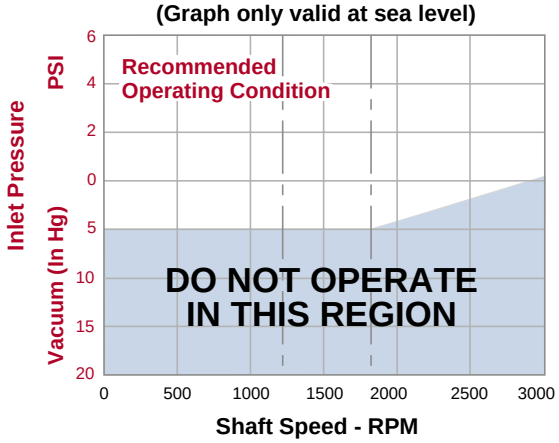
$$HP = \left[\frac{Q \times (PSI)}{1714}\right] + \text{Compensated HP}$$

PHP10 @ 1800 RPM



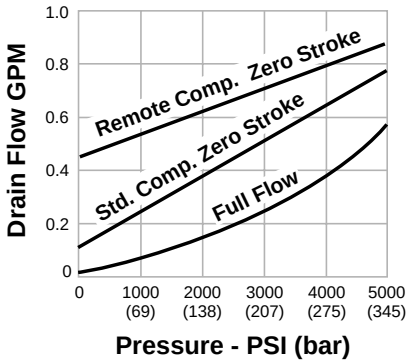
PHP10 - Inlet Characteristics

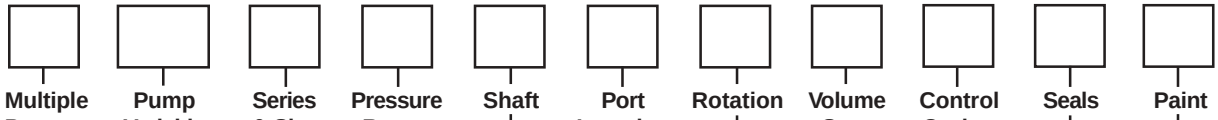
(Graph only valid at sea level)



Nominal Case Drain Flow

1800 RPM





Code	Multiple Pumps
Omit	Single Pump
—	Factory Mounted To Rear Of Another Pump

Code	Maximum Displacement CC's/REV. (Cu.In's/Rev.)
10	10 (0.6)

Code	Pressure Range
50	350-5000 PSI*

*Minimum value of pressure range only applies on control option "omit" code.

Code	Shaft	Pilot
Omit	3/4" Keyed x 1.75" Lg.	SAE A
B	SAE A 9-Tooth Spline	SAE A
C	11-Tooth Spline	SAE A
K*	18mm Keyed	Metric

* Available with 8 port option only.

Code	Port Location	Port Type
Omit	Rear – Straight Thread	SAE
2	Side – Flange (Inch Thds.)	SAE
8	Side – Flange (Metric Thds.)	ISO 6149

Rotation *	
R	CW
L	CCW

* As viewed from shaft end.

Code	Vol. Stop Option
Omit	No Volume Stop
2	Adj. Max. Vol. Stop

Code	Control Options
Omit	Press. Compensated
****M**	Remote Pressure (Int.)
****ME**	Remote Pressure (Ext.)
A	Pressure and Flow
C*	PSI, Flow and HP Limiting
H*	Pressure Compensated and HP Limiting

*Specify RPM, HP and Compensator or will be set to default.
** "M" (May be remotely controlled)
"ME" (Requires external pilot)

Code	Seals
Omit	Nitrile
V	Fluoroelastomers*

* "**FLUOROELASTOMERS** are available under various registered trademarks, including **VITON** (a registered trademark of DuPont) and **FLUOREL** (a registered trademark of 3M)."

Code	Paint Option
Omit	Not Painted
P	Painted