

## Performance Information

Series PAVC100 Pressure Compensated,  
 Variable Volume, Piston Pump

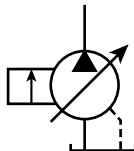
### Features

- High Strength Cast-Iron Housing
- Built-In Supercharger
- High Speed Capability - 2600 RPM
- Cartridge Type Controls - Field Changeable
- Replaceable Bronze Clad Port Plate
- Airbleed Standard for Quick Priming
- Hydrodynamic Cylinder Barrel Bearing
- Full Pressure Rating on Water Glycol Fluids
- Filtered and/or Cooled Drain Line Capable 7 bar (100 PSI) Maximum
- Thru-Shaft Capable

### Controls

- Pressure Compensation
- Remote Pressure Compensation
- Load Sensing
- Power (Torque) Limiting
- Power Limiting and Load Sensing
- Adjustable Maximum Volume Stop
- Electrohydraulic Pressure
- Electrohydraulic Flow and Pressure (Servo Control)
- Low Pressure Standby

### Schematic Symbol (Basic Pump)



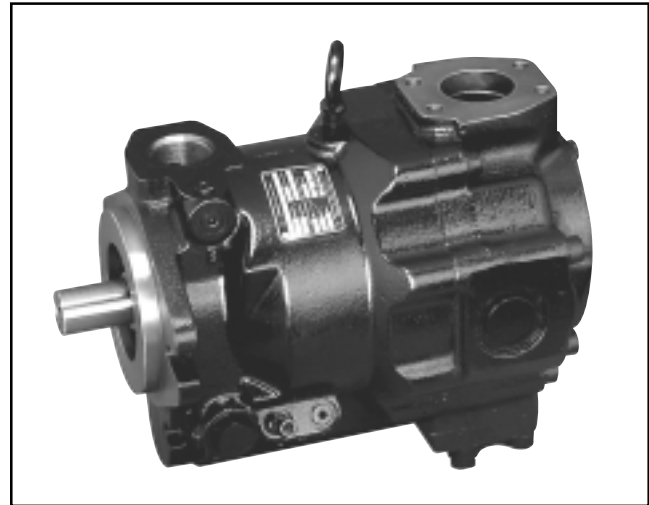
### Weight and Package Size

| Model   | Weight In Kg (Lb) | Length From Mounting Face in CM (Inches) | Height in CM (Inches) | Width in CM (Inches) |
|---------|-------------------|--|-----------------------|----------------------|
| PAVC100 | 50 (110)          | 30.73 (12.10)                            | 24.90 (9.82)          | 21.59 (8.50)         |

### Quick Reference Data Chart

| Pump Model | Displacement CM <sup>3</sup> /REV (IN <sup>3</sup> /REV) | Pump Delivery @ 21 bar (300 PSI) in LPM (GPM) |              | *Approximate Noise Levels dB(A) @ Full Flow 1800 RPM (1200 RPM) |                    |                    | Input Power At 1800 RPM, Max. Displacement & 207 bar (3000 PSI) |
|------------|--|---|--------------|---|--------------------|--------------------|---|
|            |  | 1200 RPM                                      | 1800 RPM     | 69 bar (1000 PSI)   | 138 bar (2000 PSI) | 207 bar (3000 PSI) |   |
| PAVC100    | 100 (6.1)  | 119.6 (31.6)                                  | 179.8 (47.5) | 82 (78)   | 82 (79)            | 85 (80)            | 71.2 kw (95.5 hp)   |

\* 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.



### Specifications

Pressure Ratings:

Outlet Port: 207 bar (3000 PSI) Continuous (P1)  
 248 bar (3600 PSI) Peak (P3)

Inlet Port: 1.7 bar (25 PSI) Maximum  
 1.7 bar (5 In. Hg.) Minimum  
 @ 1800 RPM (See Inlet Chart for other speeds)

Control Drain: 7 bar (100 PSI) Maximum

Speed Ratings: 600 to 2600 RPM

Operating Temperature Range: - 40°C to 71°C  
 (- 40°F to 160°F)

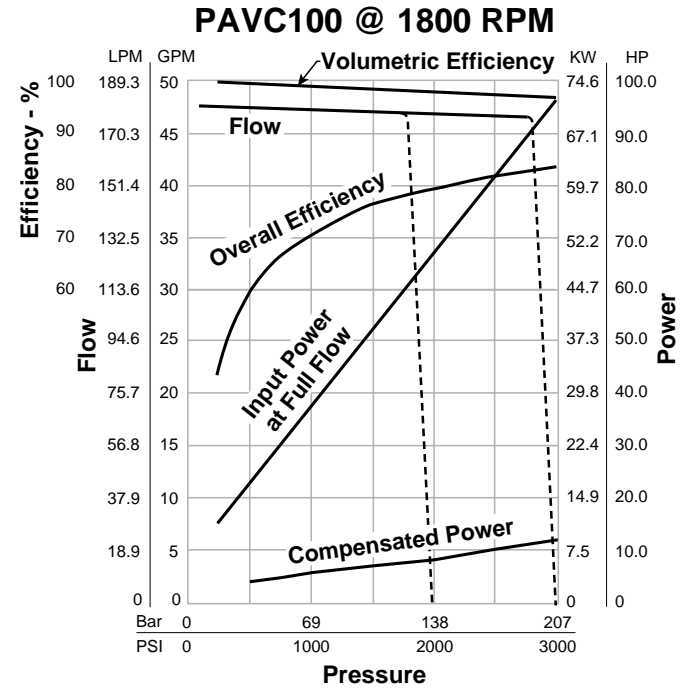
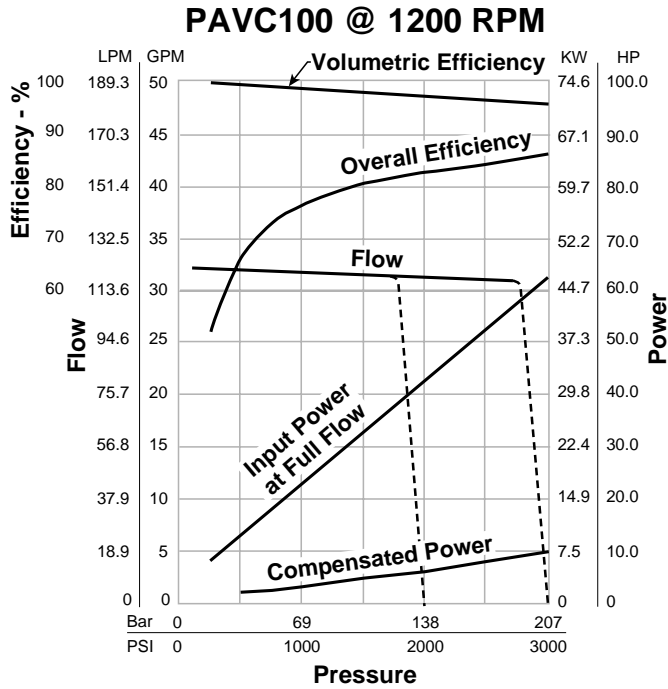
Housing Material: Cast-Iron

Filtration: Maintain SAE Class 4, ISO 16/13,  
 ISO 18/15 Maximum Recommended

Mounting: SAE C 2-Bolt Flange Mount or Diagonally  
 on SAE C 4-Bolt Flange Mount

Installation Data: See page A180 of this catalog 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.

**Typical Performance Data - Fluid: Standard Hydraulic Oil 100 SSU @ 49°C (120°F)**



NOTE: The efficiencies and data in the graph are good only for pumps running at 1800 RPM and stroked to maximum. To calculate approximate input power for the other conditions, use the following formula:

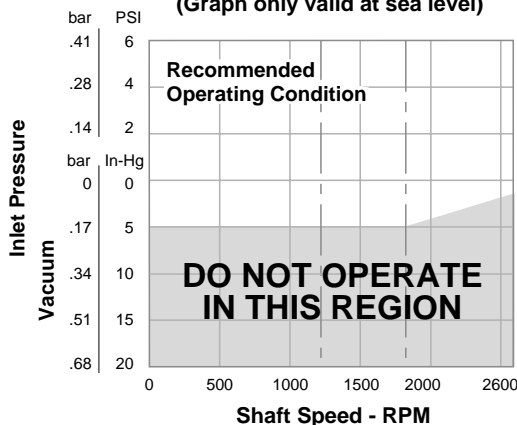
$$HP = \left[ \frac{Q \times (PSI)}{1714} \right] + (CHp)$$

Actual GPM is directly proportional to drive speed and maximum volume setting. Flow loss, however, is a function of pressure only.

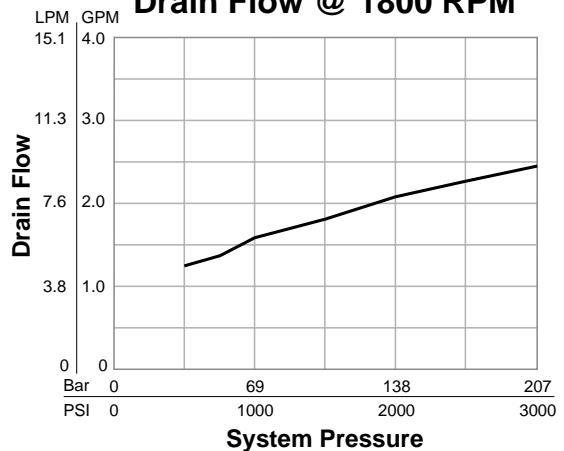
WHERE:

- Q = Actual Output Flow in GPM
- PSI = Pressure At Pump Outlet
- CHp = Input Power @ Full Compensation @ 1800 RPM (from graph read at operating pressure)

**PAVC100 Inlet Characteristics at Full Displacement**  
 (Graph only valid at sea level)

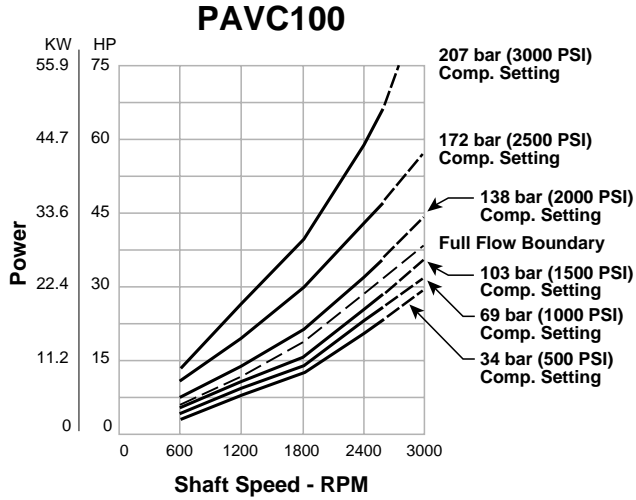


**Compensated Control Drain Flow @ 1800 RPM**



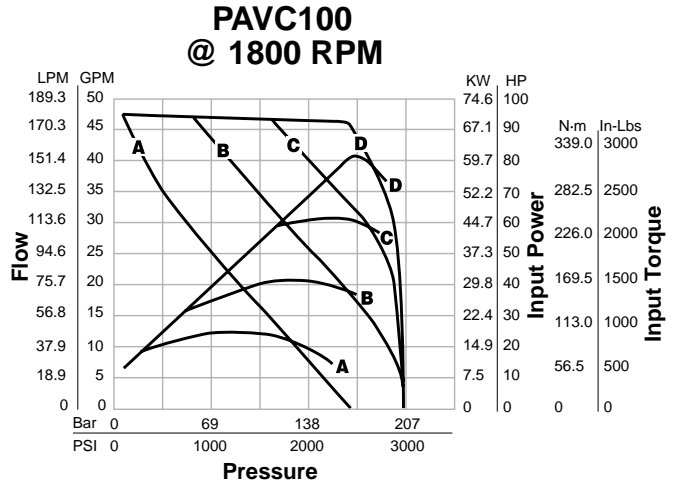
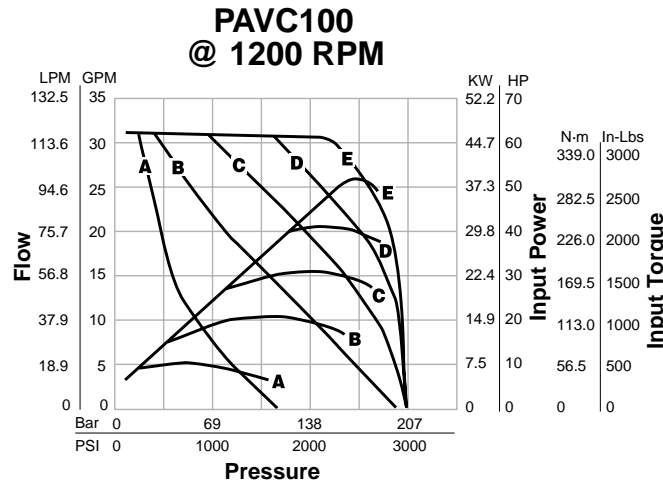
**Typical Performance Data -**

**Minimum Power Settings Attainable  
 With Control Options C, H, CM & HM**



NOTE: Minimum attainable HP setting means that input power will not exceed the indicated setting at the indicated RPM and that the pump will achieve full compensator pressure selected. If setting input power limiter below full flow boundary, full flow may not be obtained at low operating pressure. Determine maximum input power limitation at desired RPM. All points above desired compensator setting curve can be achieved.

**Power (Torque) Limiting Curves**



See page A144 for "How to Read Curves" information.

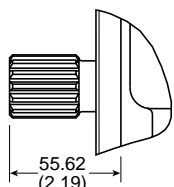
**Rear Ported Pump Dimensions**

\* Inch equivalents for millimeter dimensions are shown in (\*\*).

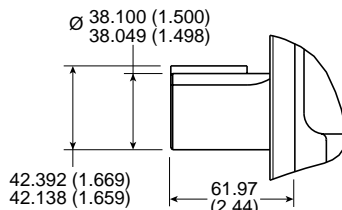
**NOTE:**

Pump shown and dimensioned is a clockwise rotation pump. For a counterclockwise rotation pump the outlet port, control drain, signal port and pump controls will be on other side.

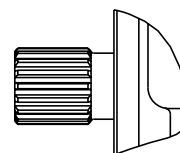
| Port Location |              |  |   |                                    |                                    |
|---------------|--------------|--|---|------------------------------------|------------------------------------|
| Outlet Option | Inlet Option | Outlet Port  | Inlet Port  | Control Drain                      | Signal Port                        |
| Omit          | Omit         | SAE-20 Straight Thread (1-5/8-12UNC)                                   | 2" SAE 4-Bolt Flange 1/2-13UNC Threads Standard Pressure Series (Code 61) | SAE-6 Straight Thread (9/16-18UNF) | SAE-4 Straight Thread (7/16-20UNF) |
| 3             | Omit         | 1-1/4" SAE Flange 7/16-14UNC Thread Standard Pressure Series (Code 61) | 2" SAE 4-Bolt Flange 1/2-13UNC Threads Standard Pressure Series (Code 61) | SAE-6 Straight Thread (9/16-18UNF) | SAE-4 Straight Thread (7/16-20UNF) |



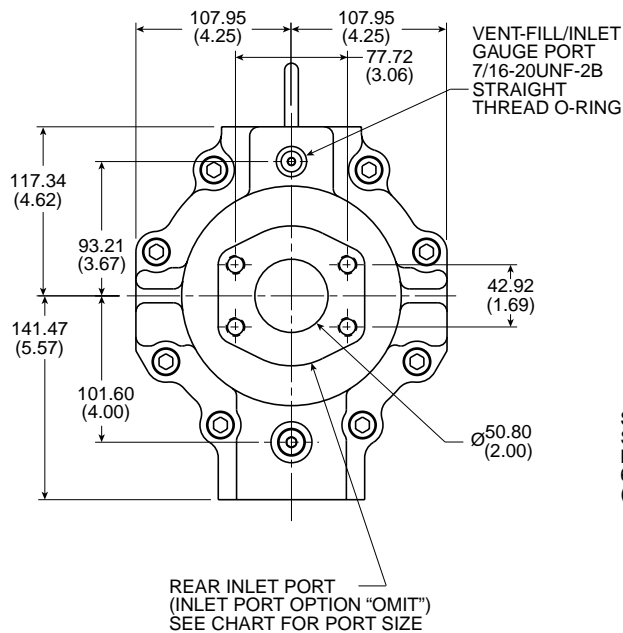
**SHAFT OPTION "B"**  
 SAE "C" SPLINE  
 14 TOOTH 12/24 DP  
 MAX. TORQUE =  
 639 N·m (5,680 IN-LBS)



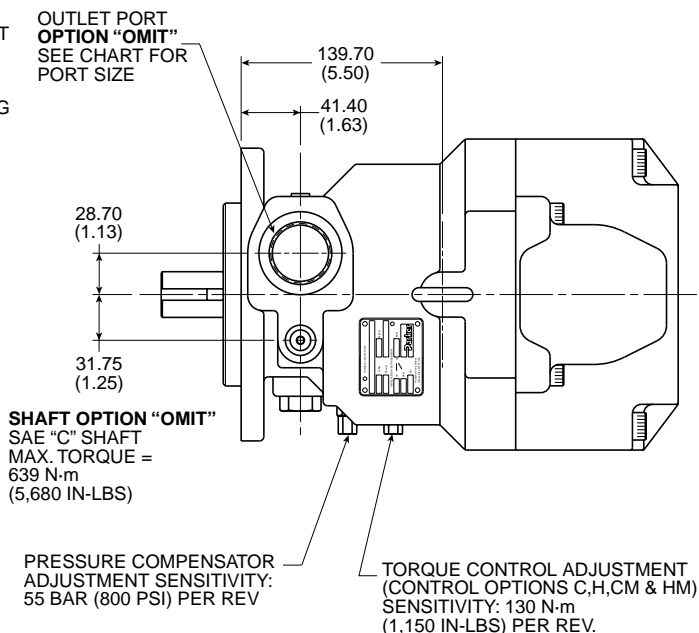
**SHAFT OPTION "C"**  
 SAE "C-C" SHAFT  
 MAX. TORQUE =  
 1,218 N·m (10,780 IN-LBS)



**SHAFT OPTION "D"**  
 SAE "C-C" SPLINE  
 17 TOOTH 12/24 DP  
 MAX. TORQUE =  
 1,218 N·m (10,780 IN-LBS)



**Rear View**



**Top View**

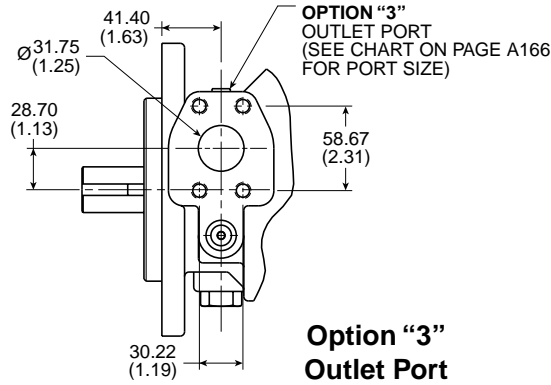


**Rear Ported Pump Dimensions**

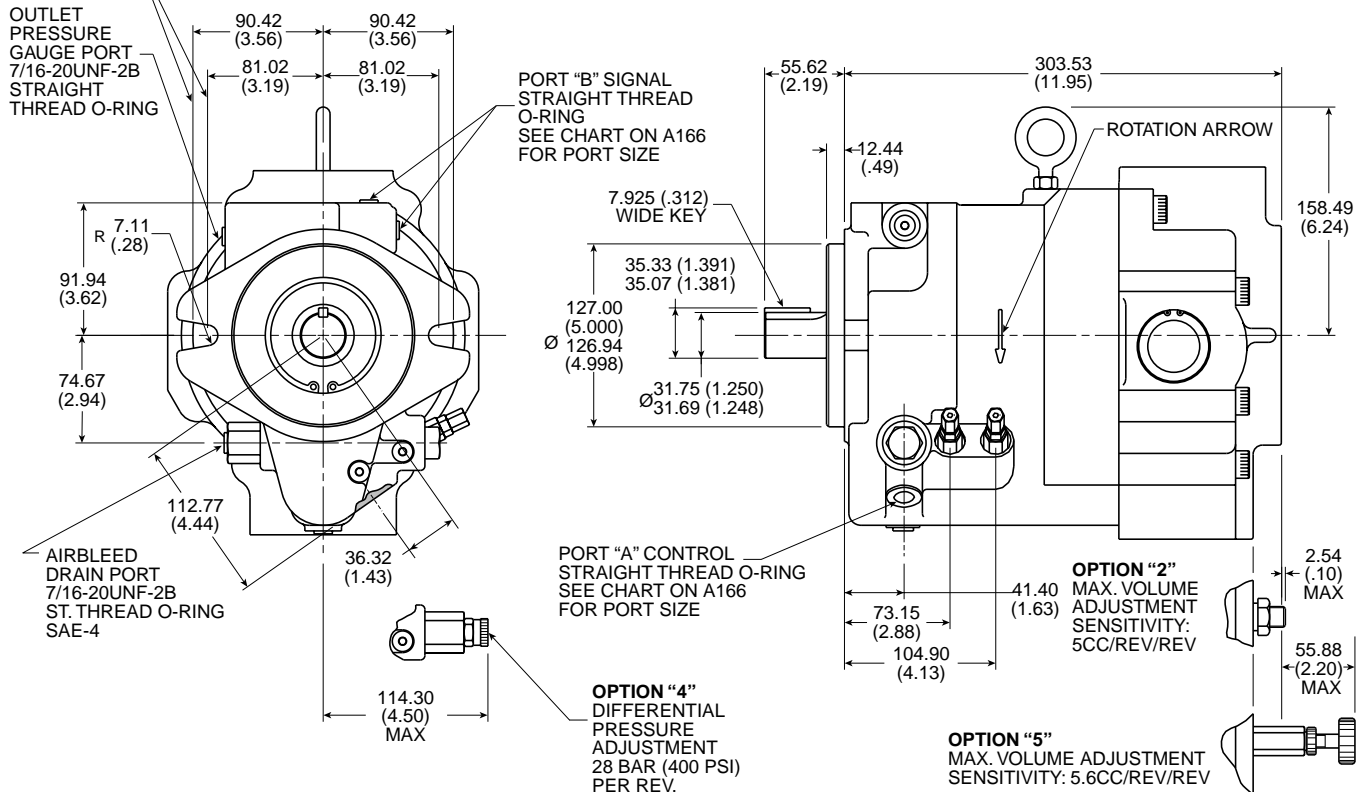
\* Inch equivalents for millimeter dimensions are shown in (\*\*).

**NOTE:**

Pump shown and dimensioned is a clockwise rotation pump. For a counterclockwise rotation pump the outlet port, control drain, signal port and pump controls will be on other side.



ADAPTABLE TO SAE "C" 2-BOLT  
 MOUNTING OR DIAGONALLY ON  
 SAE "C" 4-BOLT MOUNTING



**Front View**

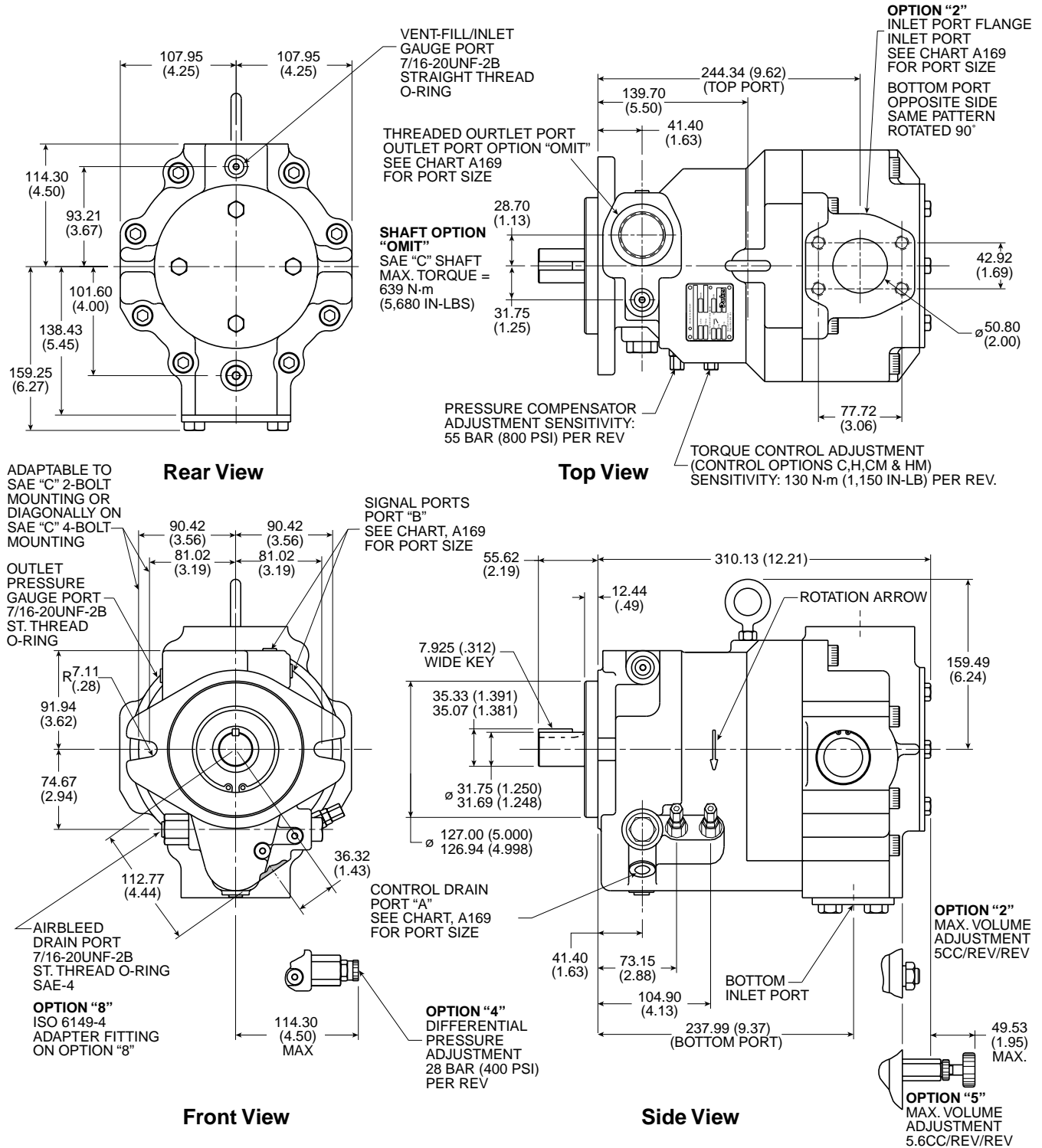
**Side View**

**Top/Bottom Ported Pump Dimensions**

\* Inch equivalents for millimeter dimensions are shown in (\*\*).

**NOTES:**

1. Pump shown and dimensioned is a clockwise rotation top/bottom inlet option pump. For a counterclockwise rotation pump the outlet port, control drain, signal port, and pump controls will be on other side.
2. For other available shafts see page A165.



**Top/Bottom Ported Pump Dimensions**

\* Inch equivalents for millimeter dimensions are shown in (\*\*).

**NOTE:**

Pump shown and dimensioned is a clockwise rotation pump. For a counterclockwise rotation pump the outlet port, control drain, signal port and pump controls will be on other side.

| Port Location |              |  |  |   |   |
|---------------|--------------|--|--|---|---|
| Outlet Option | Inlet Option | Outlet Port  | Inlet Port   | Control Drain                               | Signal Port                                 |
| Omit          | 2            | SAE-20 Straight Thread<br>(1-5/8-12UN)                                       | 2" SAE 4-Bolt Flange<br>1/2-13UNC Threads Standard<br>Pressure Series (Code 61)  | SAE-6<br>Straight Thread<br>(9/16-18UNF)    | SAE-4<br>Straight Thread<br>(7/16-20UNF)    |
|               | 8            | ISO6149-20<br>Straight Thread<br>(M42 x 2)                                   | 2" SAE 4-Bolt Flange<br>M12 x 1.75 Threads Standard<br>Pressure Series (Code 61) | ISO6149-5<br>Straight Thread<br>(M14 x 1.5) | ISO6149-4<br>Straight Thread<br>(M12 x 1.5) |
| 3             | 2            | 1-1/4" SAE Flange<br>7/16-14UNC Thread Standard<br>Pressure Series (Code 61) | 2" SAE 4-Bolt Flange<br>1/2-13UNC Threads Standard<br>Pressure Series (Code 61)  | SAE-6<br>Straight Thread<br>(9/16-18UNF)    | SAE-4<br>Straight Thread<br>(7/16-20UNF)    |
|               | 8            | 1-1/4" SAE Flange<br>M10 x 1.5 Thread Standard<br>Pressure Series (Code 61)  | 2" SAE 4-Bolt Flange<br>M12 x 1.75 Threads Standard<br>Pressure Series (Code 61) | ISO6149-5<br>Straight Thread<br>(M14 x 1.5) | ISO6149-4<br>Straight Thread<br>(M12 x 1.5) |

**Dimensions – Thru-Shaft Options**

\* Inch equivalents for millimeter dimensions are shown in (\*\*).

| Variation | A                | B                                | C                 | D                 | E             | F            | G                                    | H                |
|-----------|------------------|----------------------------------|-------------------|-------------------|---------------|--------------|--------------------------------------|------------------|
| 6A1       | 12.70<br>(.500)  | Ø 50.83/50.85<br>(2.001/2.002)   | 82.55<br>(3.250)  | N/A               | 5/16-18UNC-2B | N/A          | Ø 12.70 x 3.175 Key<br>(.500 x .125) | N/A              |
| 6A3       | 12.70<br>(.500)  | Ø 50.83/50.85<br>(2.001/2.002)   | 82.55<br>(3.250)  | N/A               | 5/16-18UNC-2B | N/A          | 9 Tooth 20/40 Pitch                  | N/A              |
| 6A4       | —                | Ø 82.58/82.60<br>(3.251/3.252)   | 106.38<br>(4.188) | N/A               | 3/8-16UNC-2B  | N/A          | 9 Tooth 16/32 Pitch                  | N/A              |
| 6B1       | 53.98<br>(2.125) | Ø 101.63/101.65<br>(4.001/4.002) | 146.05<br>(5.750) | 89.81<br>(3.536)  | 1/2-13UNC-2B  | 1/2-13UNC-2B | Ø 22.23 x 6.35 Key<br>(.875 x .250)  | △ <sub>2</sub>   |
| 6B2       | 53.98<br>(2.125) | Ø 101.63/101.65<br>(4.001/4.002) | 146.05<br>(5.750) | 89.81<br>(3.536)  | 1/2-13UNC-2B  | 1/2-13UNC-2B | Ø 25.4 x 6.35 Key<br>(1.000 x .250)  | △ <sub>2</sub>   |
| 6B3       | 53.98<br>(2.125) | Ø 101.63/101.65<br>(4.001/4.002) | 146.05<br>(5.750) | 89.81<br>(3.536)  | 1/2-13UNC-2B  | 1/2-13UNC-2B | 13 Tooth 16/32 Pitch                 | N/A              |
| 6B4       | 53.98<br>(2.125) | Ø 101.63/101.65<br>(4.001/4.002) | 146.05<br>(5.750) | 89.81<br>(3.536)  | 1/2-13UNC-2B  | 1/2-13UNC-2B | 15 Tooth 16/32 Pitch                 | N/A              |
| 6C2       | 53.98<br>(2.125) | Ø 127.03/127.05<br>(5.001/5.002) | 180.98<br>(7.125) | 114.50<br>(4.508) | 5/8-11UNC-2B  | 1/2-13UNC-2B | Ø 31.75 x 7.92 Key<br>(1.250 x .312) | 82.55<br>(3.250) |
| 6C3       | 53.98<br>(2.125) | Ø 127.03/127.05<br>(5.001/5.002) | 180.98<br>(7.125) | 114.50<br>(4.508) | 5/8-11UNC-2B  | 1/2-13UNC-2B | 14 Tooth 12/24 Pitch                 | N/A              |
| 9A1       | 12.70<br>(.500)  | Ø 50.83/50.85<br>(2.001/2.002)   | 82.55<br>(3.250)  | N/A               | M8 x 1.25     | N/A          | Ø 12.70 x 3.175 Key<br>(.500 x .125) | N/A              |
| 9A3       | 12.70<br>(.500)  | Ø 50.83/50.85<br>(2.001/2.002)   | 82.55<br>(3.250)  | N/A               | M8 x 1.25     | N/A          | 9 Tooth 20/40 Pitch                  | N/A              |
| 9A4       | —                | Ø 82.58/82.60<br>(3.251/3.252)   | 106.38<br>(4.188) | N/A               | M10 x 1.50    | N/A          | 9 Tooth 16/32 Pitch                  | N/A              |
| 9B1       | 53.98<br>(2.125) | Ø 101.63/101.65<br>(4.001/4.002) | 146.05<br>(5.750) | 89.81<br>(3.536)  | M12 x 1.75    | M12 x 1.75   | Ø 22.23 x 6.35 Key<br>(.875 x .250)  | △ <sub>2</sub>   |
| 9B2       | 53.98<br>(2.125) | Ø 101.63/101.65<br>(4.001/4.002) | 146.05<br>(5.750) | 89.81<br>(3.536)  | M12 x 1.75    | M12 x 1.75   | Ø 25.4 x 6.35 Key<br>(1.000 x .250)  | △ <sub>2</sub>   |
| 9B3       | 53.98<br>(2.125) | Ø 101.63/101.65<br>(4.001/4.002) | 146.05<br>(5.750) | 89.81<br>(3.536)  | M12 x 1.75    | M12 x 1.75   | 13 Tooth 16/32 Pitch                 | N/A              |
| 9B4       | 53.98<br>(2.125) | Ø 101.63/101.65<br>(4.001/4.002) | 146.05<br>(5.750) | 89.81<br>(3.536)  | M12 x 1.75    | M12 x 1.75   | 15 Tooth 16/32 Pitch                 | N/A              |
| 9C2       | 53.98<br>(2.125) | Ø 127.03/127.05<br>(5.001/5.002) | 180.98<br>(7.125) | 114.50<br>(4.508) | M16 x 2       | M12 x 1.75   | Ø 31.75 x 7.92 Key<br>(1.250 x .312) | 82.55<br>(3.250) |
| 9C3       | 53.98<br>(2.125) | Ø 127.03/127.05<br>(5.001/5.002) | 180.98<br>(7.125) | 114.50<br>(4.508) | M16 x 2       | M12 x 1.75   | 14 Tooth 12/24 Pitch                 | N/A              |

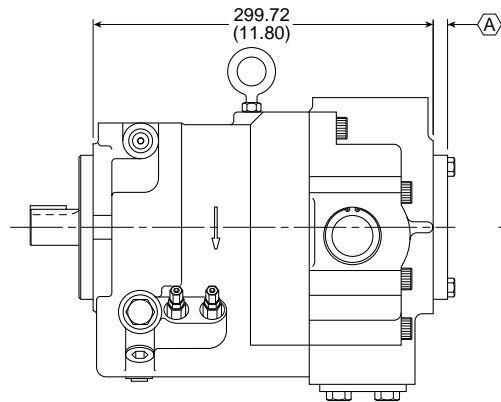
△<sub>2</sub> 88.90 (3.500) for pumps with shaft lengths between 53.34 (2.10) and 58.67 (2.31) inches.  
 76.20 (3.000) for pumps with shaft lengths between 40.64 (1.60) and 45.72 (1.80) inches.

**Thru-Shaft Options – Dimensions**

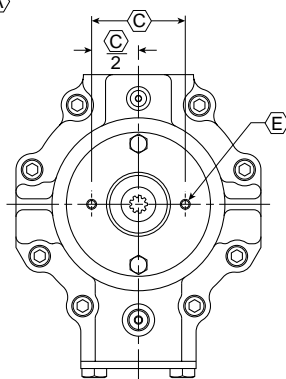
\* Inch equivalents for millimeter dimensions are shown in (\*\*).

**NOTES:**

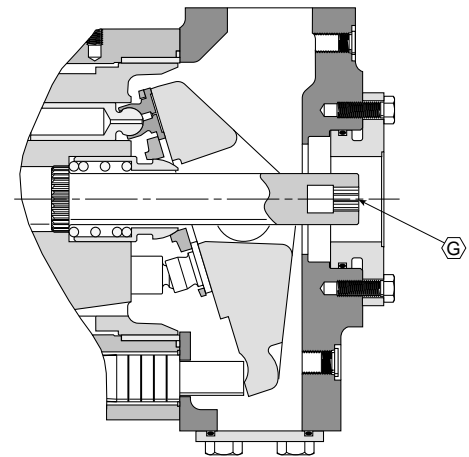
1. Rear adapters may be rotated 90°.
2. Pump shown is a clockwise rotation pump. For a counterclockwise pump the outlet port, control drain and control adjustments will be on opposite side.
3. Maximum torque transmitting capacity for rear mounting of pumps is 639 N•m (5,680 In. Lbs). Lower allowables may apply based on pump mounted on rear.



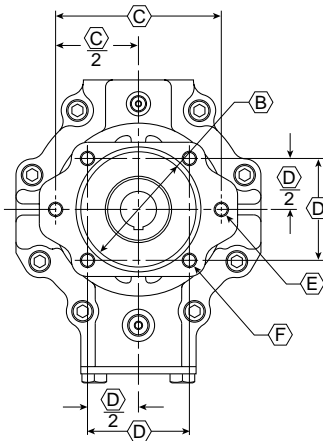
**Side View**



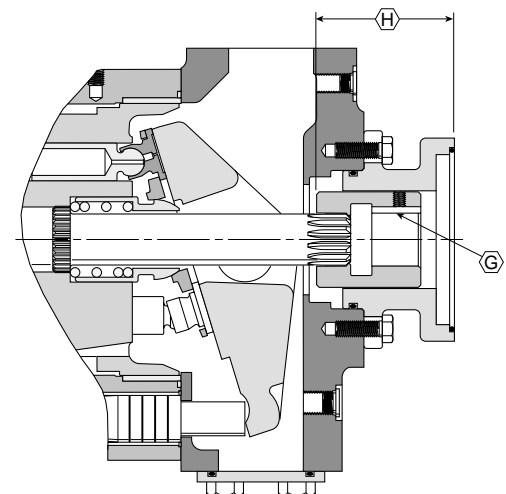
**Rear View**



**Variations 6A\* & 9A\***



**Rear View**



**Variations 6B\* & 6C\*  
 9B\* & 9C\***

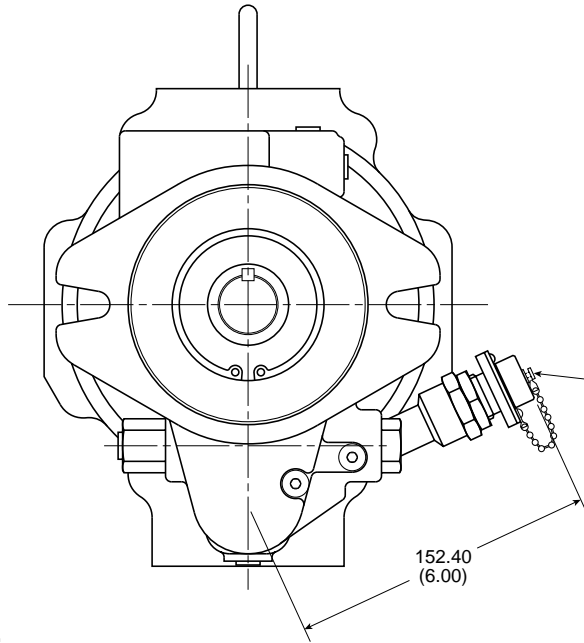




**Electrohydraulic Pump Dimensions**

\* Inch equivalents for millimeter dimensions are shown in (\*\*).

**NOTE:** Reference "Electrohydraulic Accessories" Catalog 2600-400-1 for more complete information.



FEEDBACK CONNECTOR MS3102R14S-2PY  
 MATES WITH MS3106A14S-2SY  
 (PART NO. 800722)

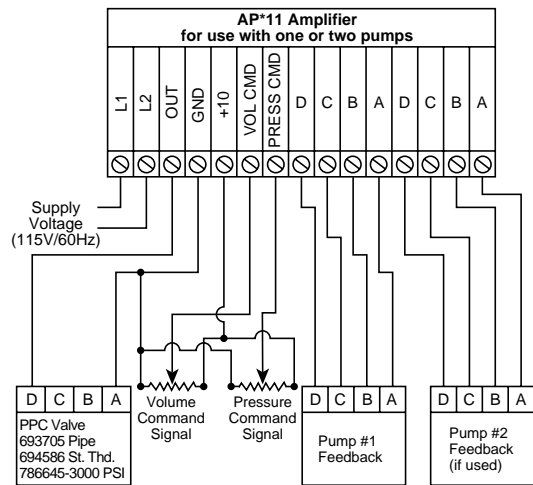
ELECTROHYDRAULIC CABLE CAN BE  
 ORDERED AS EHC\*4Y\*

| Accessories for S & SE Options          |   |
|---|---|
| PPC Valve (2500 PSI)                    | 694586                                  |
| PPC Valve (3000 PSI)                    | 786645                                  |
| Amp Single Pump                         | AP11                                    |
| Amp Double Pump                         | AP211                                   |
| Seq. Valve<br>[227 LPM (40 GPM) Max.]   | SX6PM8, SX6MM8<br>(Inline) (Manifold)   |
| Seq. Valve<br>[340 LPM (90 GPM) Max.]   | SX10PM8, SX10MM8<br>(Inline) (Manifold) |
| Electrohydraulic Cable<br>[Pump to Amp] | EHC*4YB                                 |
| Electrohydraulic Cable<br>[PPC to Amp]  | EHC*2AB                                 |

\* = Length in Feet

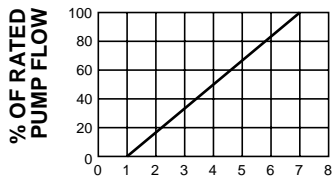
**NOTES:**

1. Consult factory for information relative to pump option selection and additional components required for desired pump function.
2. For electrohydraulic flow and pressure control of one or two pumps, make electrical connections per Figure IV. When one pump is used, omit connections to pump #2 feedback.
3. For electrohydraulic flow only, eliminate pressure command signal and place jumper between "Press CMD" and "+10V" terminals (compensating pressure will be controlled by maximum setting on pump or remote compensator if used).
4. For electrohydraulic pressure only, eliminate volume command signal and place jumper between "VOL CMD" and "+10V" terminals or use 801179 pressure driver card.
5. Figures I thru III show nominal input vs. output relationships. The actual values will vary with component tolerances. Full volume range will be realized with 0 to 7 volts. Full pressure range will be realized with 0 to 7 volts, or 0-500MA.
6. Pump shown is a clockwise rotation. For a counterclockwise rotation LVDT feedback is on opposite side.
7. For further detail on installation of AP11/AP211, refer to Catalog 2600-400-1/USA.



Typical hookup for infinitely variable electrohydraulic pressure & volume control.

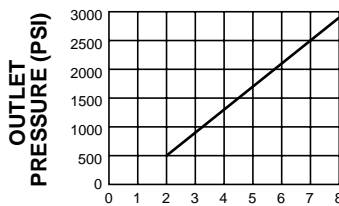
**Fig. IV**



**Volume Command Voltage**

Nominal output flow vs. input command voltage when used in conjunction with AP\*11 amplifier and 786645 proportional pressure controller.

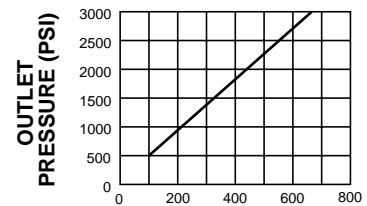
**Fig. I**



**Pressure Command Voltage**

Nominal output pressure vs. input command voltage when used in conjunction with AP\*11 amplifier and 786645 proportional pressure controller.

**Fig. II**



**Input Current (MA)**

Nominal input current vs. pressure when used in conjunction with a current source and 786645 proportional pressure controller.

**Fig. III**

