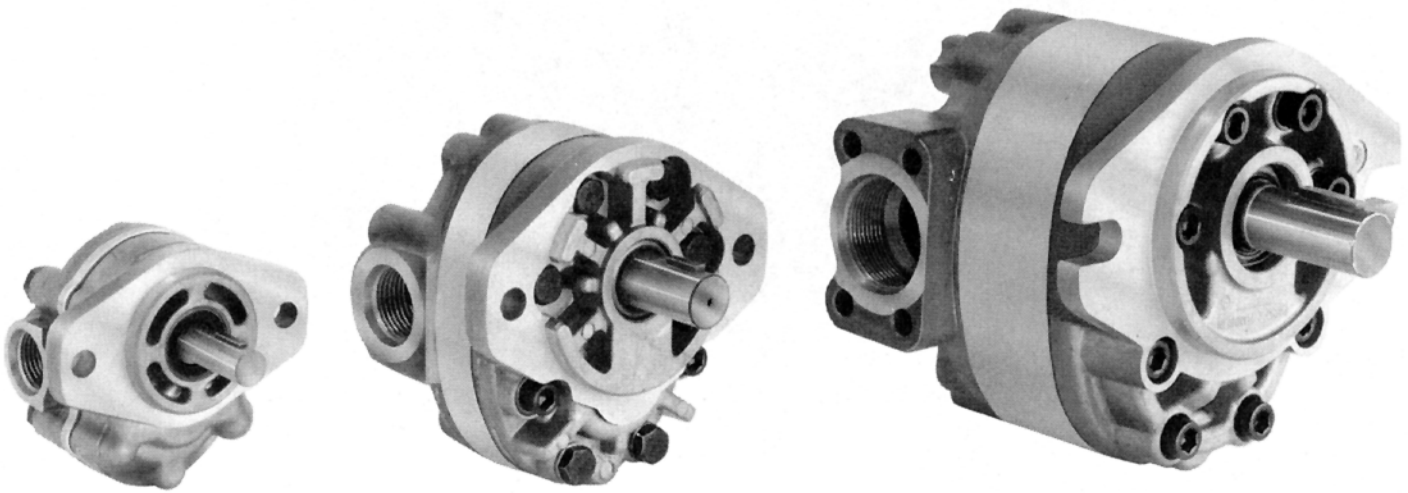
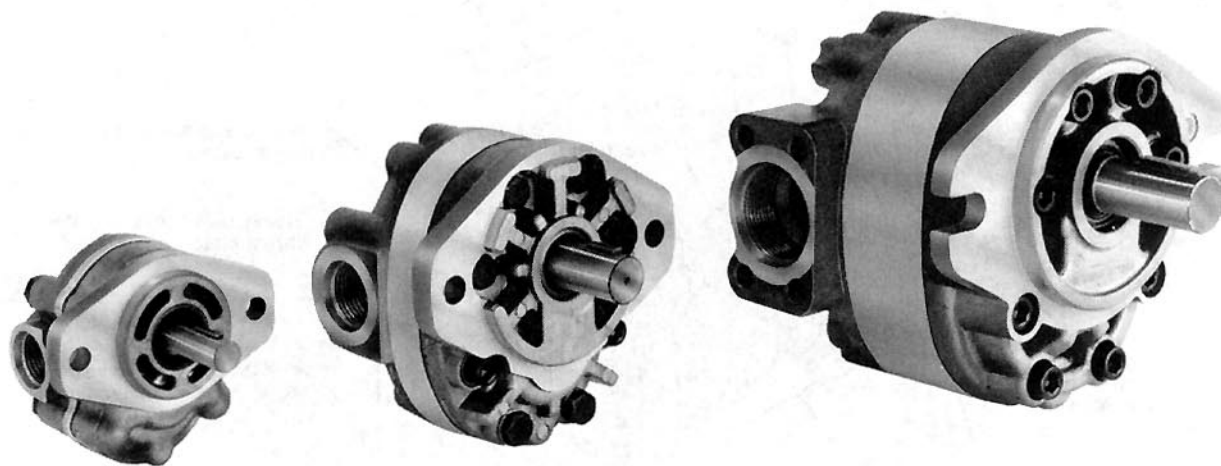


Series D/H/M/HD/PGH Fixed Displacement Gear Pumps



Hydraulic Pump/Motor Division
Otsego, MI 49078

**Quick Reference Data Chart**

Pump Series	Displacement IN ³ /REV. (CC/REV.)	Pump Delivery @ 1000 RPM In GPM (LPM)	Weight In Pounds (Kg)
D	.114 - .641 (1.87 - 10.50)	.5 - 2.7 (1.9 - 10.2)	2 - 3 (.9 - 1.4)
H	.603 - 2.227 (9.88 - 36.50)	2.5 - 9.3 (9.5 - 35.2)	5 - 7 (2.3 - 3.2)
M	2.146 - 3.353 (35.17 - 54.95)	9.0 - 14.1 (34.1 - 53.4)	11 - 13 (4.9 - 5.9)
HD	See above	See above	See above

Features

- Pressure Loaded Design
- Efficient, Simple Design — few moving parts
- Exceptionally Compact and Lightweight for Their Capacity
- Efficient At High Pressure Operation
- Resistant to Cavitation Effects
- High Tolerance to System Contamination
- Reliable Under Cold Weather Operation
- Sleeve Bearing Construction
- Multi-Fluid Compatibility

Pressure Capabilities

- D — to 2500 PSI (172 Bar) Continuous
- H — to 2500 PSI (172 Bar) Continuous
- M — to 2500 PSI (172 Bar) Continuous

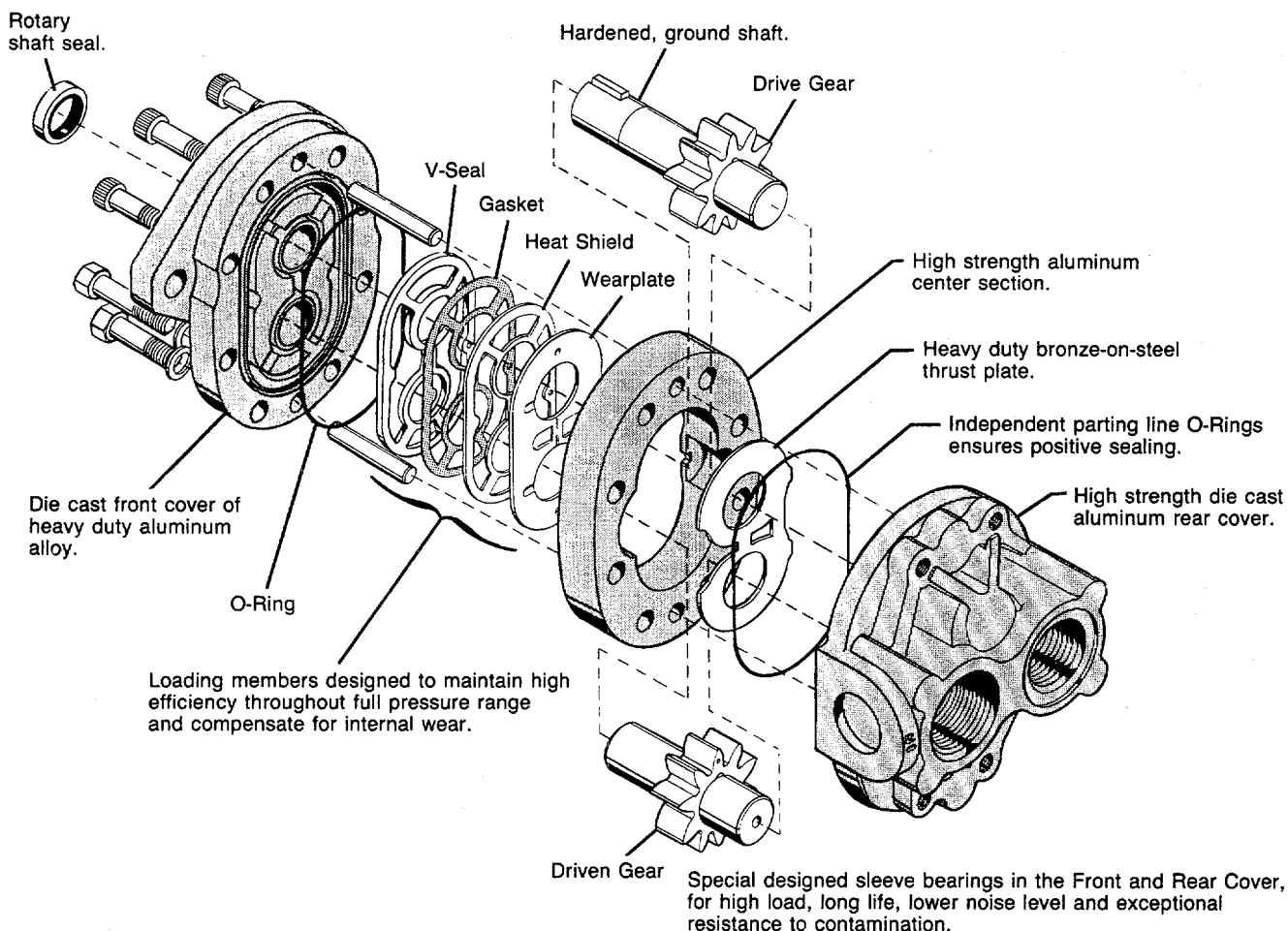
Controls

- Optional Built In Relief Valve On "D" Series
- Optional Built In Relief Valve On "H" Series
- Optional Built In Relief Valve, and Flow Divider On "H" Series
- Consult Factory for Special Controls

Speed Capabilities

- D — to 4000 RPM
- H — to 4000 RPM
- M — to 3000 RPM

General Description



A Parker pressure loaded gear pump consists of two intermeshing, hardened steel, precision ground gear assemblies. These precision gears are enclosed by a high strength, die cast aluminum front cover, back cover and a high yield strength extruded aluminum center section.

Gear assemblies consist of one drive gear shrink fit on precision ground and polished drive shaft. This shaft extends outside the pump to permit coupling to an external prime mover by means of a standard key way. The second gear being the driven gear is also shrink fit on a precision ground and polished driven shaft. Retaining rings installed in grooves provided on the shaft ensure that the gears will not move axially and a key keeps the drive gear from moving radially.

A lip type shaft seal is provided at the drive shaft to prevent external leakage of pump fluid. The sealing lip in contact with the fluid is spring loaded. Vent passages within the housings and driven shaft communicate pump inlet pressure to the rotary seal area, thus imposing the lowest possible pressure at the rotary seal for extended seal life.

The phenolic heat shield, backup gasket, and molded rubber seal form chambers behind the steel backed bronze wearplate. These chambers are connected either to inlet or discharge pressure. Discharge pressure, acting within the chambers, axially loads and deflects the wear plate toward the gear faces to take up gear side clearances. This pressure loading on the wear plate increases pump efficiency by reducing internal leakage to a minimum, providing longer pump life.

Pump rotation is dependent on proper orientation of the heat shield, backup gasket, and rubber seal in the front cover housing, the center section and rear cover oriented respectively.

Pumping action is achieved by connecting the pump drive shaft to a prime mover and rotating the gears away from the inlet port. Rotation causes the gear mesh to increase on the inlet side and decrease on the outlet (pressure) side.

**For additional information – call your local
Parker Fluidpower Motion & Control Distributor.**

Technical Information

Performance Data

Series D Fixed Displacement, Pressure Loaded Gear Pump

Features

- Pressure Loaded Design
- Efficient, Simple Design — Few Moving Parts
- Exceptionally Compact and Lightweight for Their Capacity
- Efficient At High Pressure Operation
- Resistant to Cavitation Effects
- High Tolerance to System Contamination
- Reliable Under Cold Weather Operation
- Sleeve Bearing Construction
- Multi-Fluid Compatibility

Controls

- Optional Built In Relief Valve
- Consult Factory for Special Controls

Specifications

Flow Ratings: .5 GPM (1.9 LPM) to 2.7 GPM (10.2 LPM)
(At 1000 RPM) See next page for additional flow data

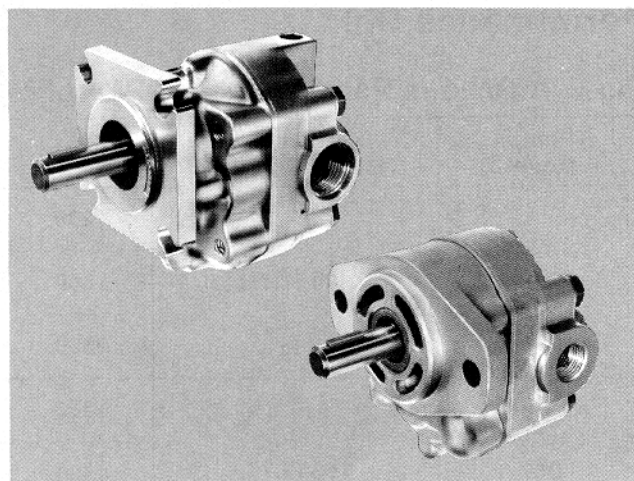
Pressure Ratings: D05 thru D22 — 2500 PSI (172 Bar)
Continuous

D27 — 2000 PSI (138 Bar)
Continuous

Speed Ratings: D05 thru D22 — 500 to 4000 RPM
D27 — 3000 RPM

Mounting: SAE-AA — 2 Bolt Flange
4 Bolt Flange

Housing Material: Die Cast Aluminum



Schematic Symbol

(Basic Pump)



Installation Data

Inlet Conditions: 10 In. Hg. Max. Vacuum Condition
(At 1800 RPM)

5 In. Hg. Max. Vacuum Condition
(At Max. RPM)

20 PSI (1.4 Bar) Max.
Positive Pressure

Operating Temperature Range: -40°F to 185°F
(-40°C to 85°C)

Filtration: Maintain SAE Class 4

Installation Note: See "Installation Information" for specific recommendations pertaining to system cleanliness, fluids, start-up, inlet conditions, shaft alignment, and other important factors relative to the proper installation and use of these pumps.

Performance Data

Flow In Gallons Per Minute — GPM (LPM)

Data Based on 100 SSU
Viscosity Fluids at 120°F (49°C)

Pump Model	Displacement IN ³ (CC/REV.)	RPM	100 PSI (6.9 Bar)	1000 PSI (69 Bar)	1500 PSI (103 Bar)	2000 PSI (138 Bar)	2500 PSI (172 Bar)
D05	.114 (1.87)	1200	.58 (2.20)	.48 (1.82)	.42 (1.59)	.37 (1.40)	.32 (1.21)
		1800	.87 (3.30)	.77 (2.92)	.71 (2.69)	.66 (2.50)	.61 (2.31)
		3600	1.73 (6.56)	1.65 (6.25)	1.61 (6.10)	1.56 (5.91)	1.52 (5.76)
D07	.168 (2.76)	1200	.85 (3.22)	.73 (2.77)	.68 (2.58)	.62 (2.35)	.56 (2.12)
		1800	1.28 (4.85)	1.16 (4.40)	1.10 (4.17)	1.05 (3.98)	.99 (3.75)
		3600	2.56 (9.70)	2.47 (9.36)	2.42 (9.17)	2.37 (8.98)	2.33 (8.83)
D09	.210 (3.45)	1200	1.06 (4.02)	.94 (3.56)	.87 (3.30)	.81 (3.07)	.75 (2.84)
		1800	1.60 (6.06)	1.48 (5.61)	1.41 (5.34)	1.35 (5.12)	1.29 (4.89)
		3600	3.19 (12.09)	3.09 (11.71)	3.04 (11.52)	2.99 (11.33)	2.94 (11.14)
D11	.262 (4.29)	1200	1.32 (5.00)	1.19 (4.51)	1.12 (4.24)	1.06 (4.02)	.99 (3.75)
		1800	1.99 (7.54)	1.86 (7.05)	1.79 (6.78)	1.73 (6.56)	1.66 (6.29)
		3600	3.97 (15.05)	3.86 (14.63)	3.81 (14.44)	3.76 (14.25)	3.70 (14.02)
D14	.329 (5.38)	1200	1.66 (6.29)	1.52 (5.76)	1.44 (5.46)	1.37 (5.19)	1.30 (4.92)
		1800	2.49 (9.44)	2.35 (8.91)	2.27 (8.60)	2.20 (8.34)	2.13 (8.07)
		3600	4.99 (18.91)	4.88 (18.50)	4.82 (18.27)	4.76 (18.04)	4.70 (17.81)
D17	.404 (6.62)	1200	2.04 (7.73)	1.88 (7.13)	1.80 (6.82)	1.72 (6.52)	1.64 (6.22)
		1800	3.07 (11.64)	2.91 (11.03)	2.83 (10.73)	2.75 (10.42)	2.67 (10.12)
		3600	6.14 (23.27)	6.01 (22.78)	5.95 (22.55)	5.88 (22.29)	5.82 (22.06)
D22	.522 (8.55)	1200	2.64 (10.00)	2.46 (9.32)	2.37 (8.98)	2.28 (8.64)	2.19 (8.30)
		1800	3.97 (15.05)	3.79 (14.36)	3.70 (14.02)	3.61 (13.68)	3.52 (13.34)
		3600	7.93 (30.05)	7.79 (29.52)	7.71 (29.22)	7.64 (28.96)	7.57 (28.69)
D27	.641 (10.50)	1200	3.25 (12.32)	3.05 (11.56)	2.95 (11.18)	2.85 (10.80)	—
		1800	4.87 (18.46)	4.67 (17.70)	4.57 (17.32)	4.47 (16.94)	—
		3000	8.12 (30.77)	7.96 (30.17)	7.88 (29.86)	7.80 (29.56)	—

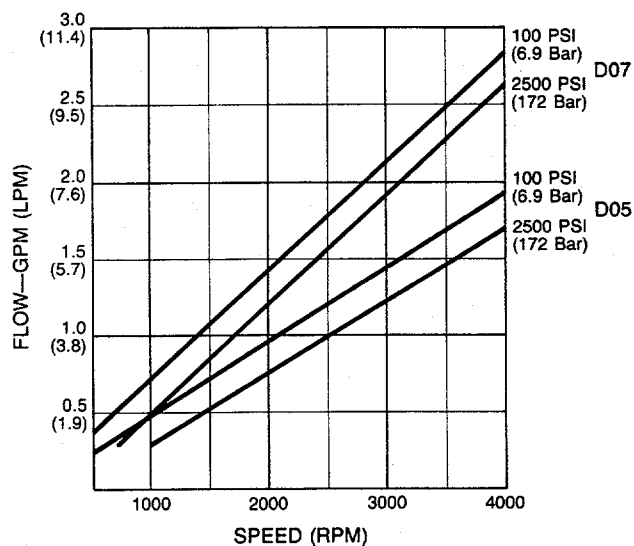
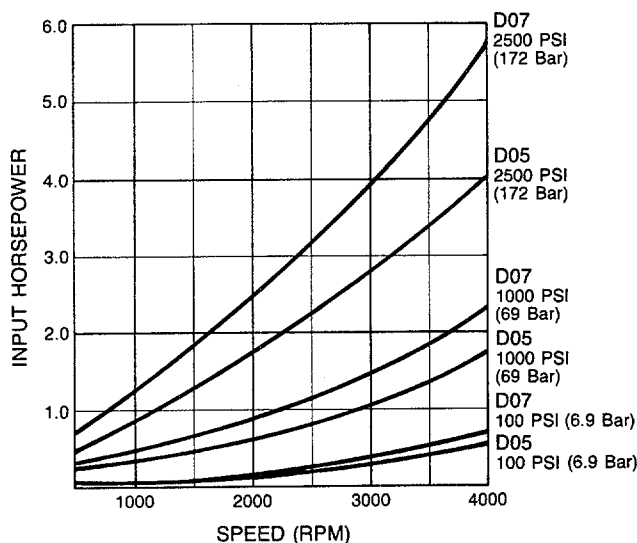
**For additional information – call your local
Parker Fluidpower Motion & Control Distributor.**

Performance Data

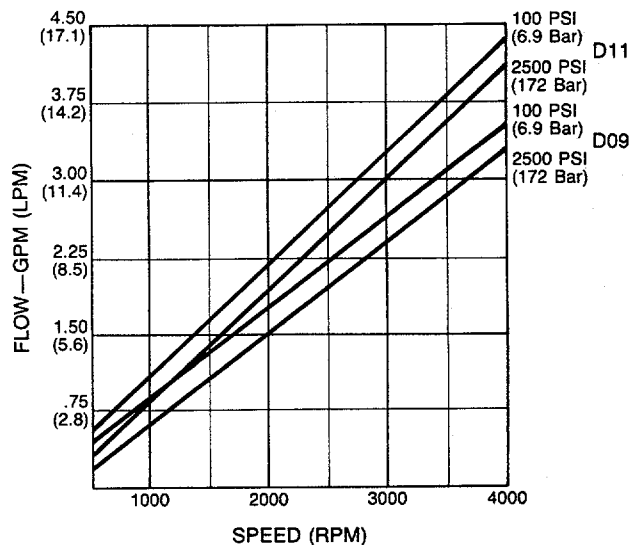
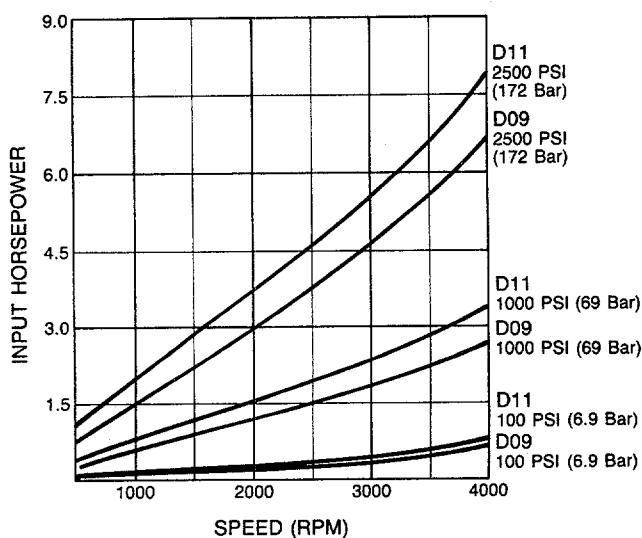
Based On Oil Temperature of 120°F (49°C)
(100 SSU) Atmospheric Inlet

A

D05, D07



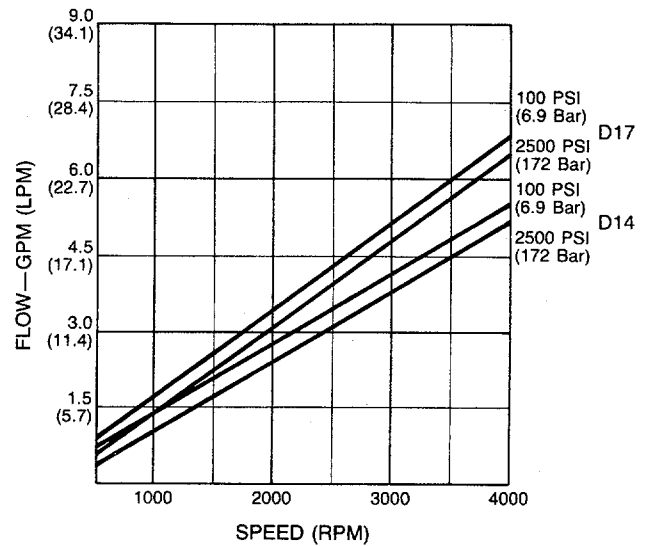
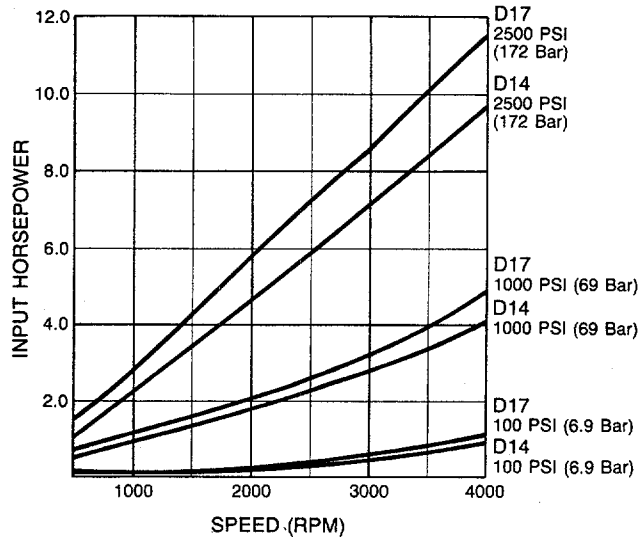
D09, D11



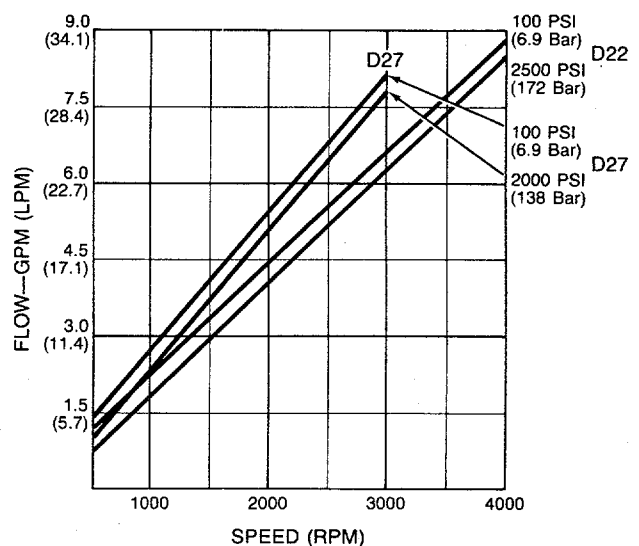
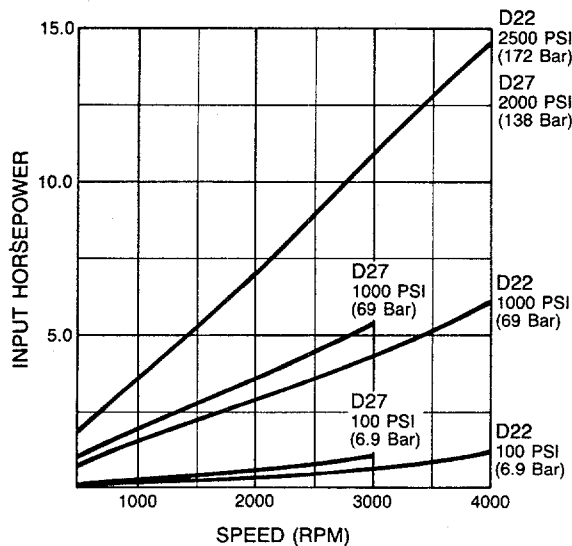
Performance Data

Based On Oil Temperature of 120°F (49°C)
(100 SSU) Atmospheric Inlet

D14, D17



D22, D27



For additional information – call your local
Parker Fluidpower Motion & Control Distributor.

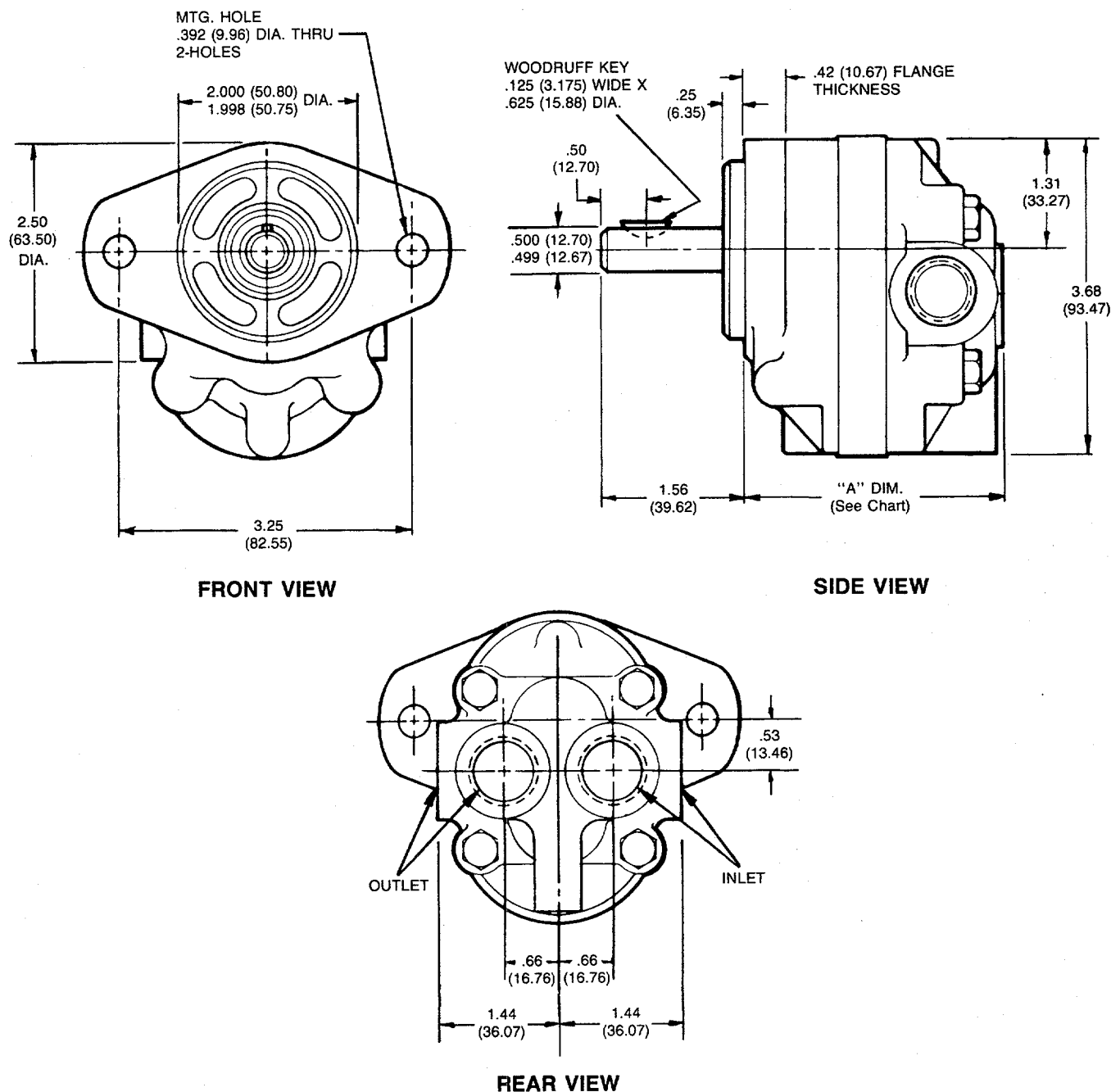
Technical Information

Dimensions — 2 Bolt Mounting

Millimeter equivalents for inch dimensions are shown in (**)

Clockwise Rotation and "A" Shaft Shown

(Port locations reverse for CCW rotation)



"A" Dimensions: Inches (mm)

D05	D07	D09	D11	D14	D17	D22	D27
2.48 (62.99)	2.57 (65.28)	2.64 (67.06)	2.72 (69.09)	2.83 (71.88)	2.96 (75.18)	3.15 (80.01)	3.34 (84.84)

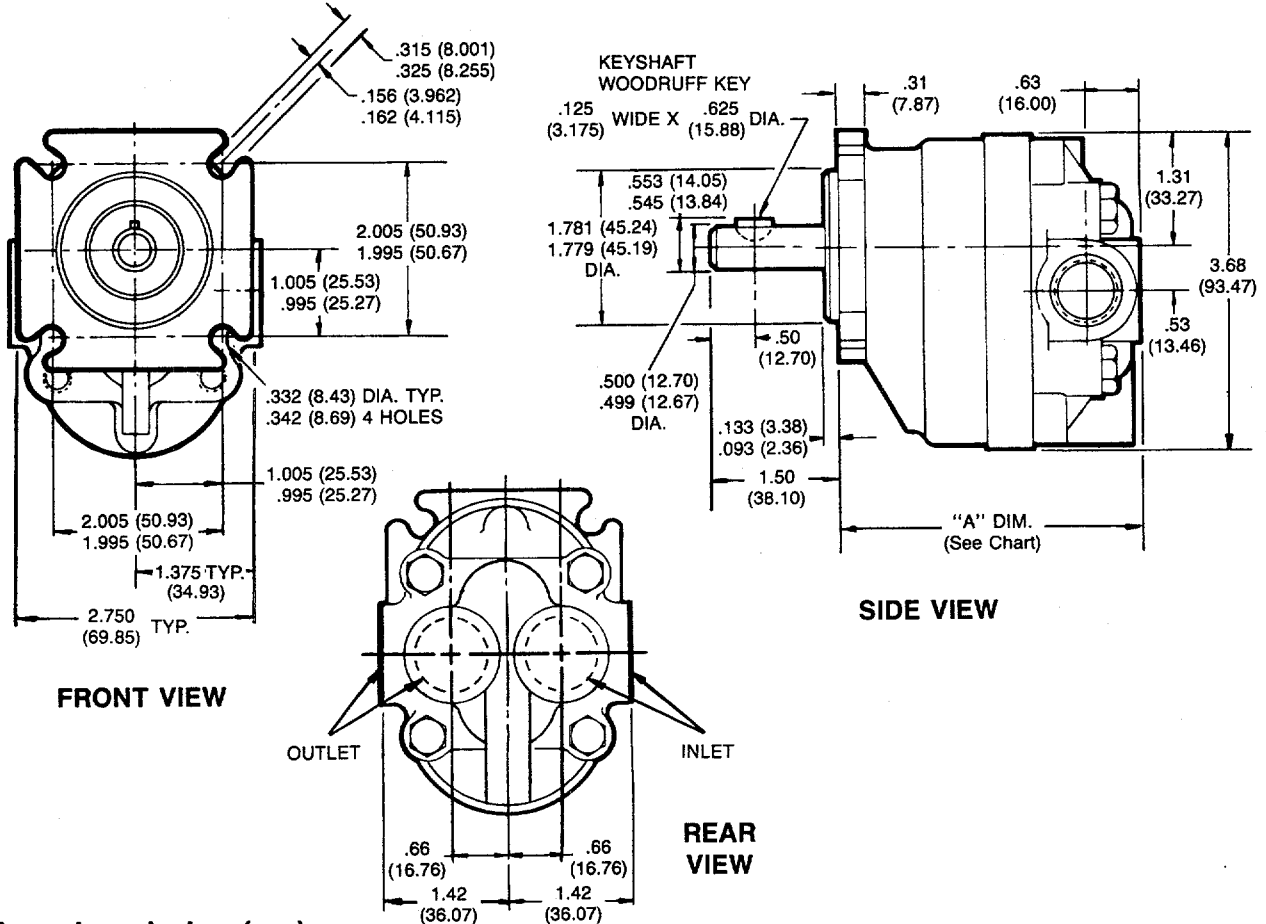
Technical Information

Dimensions — 4 Bolt Mounting

Millimeter equivalents for inch dimensions are shown in (**)

Clockwise Rotation and "A" Shaft Shown

(Port locations reverse for CCW rotation.)

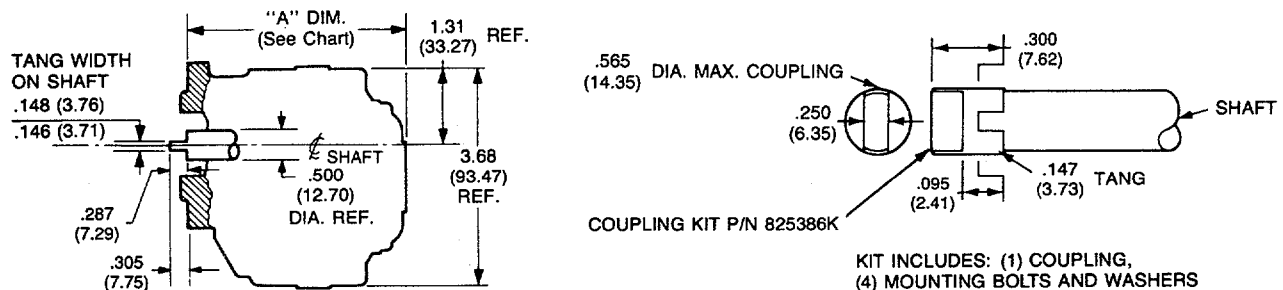


"A" Dimensions: Inches (mm)

D05	D07	D09	D11	D14	D17	D22	D27
3.22 (81.79)	3.31 (84.07)	3.38 (85.85)	3.47 (88.14)	3.58 (90.93)	3.70 (93.98)	3.90 (99.06)	4.09 (103.89)

"S" Tang-end Shaft Option — For Use With 4 Bolt Mounting

Primarily used to direct couple to electric motor drive.



**For additional information — call your local
Parker Fluidpower Motion & Control Distributor.**

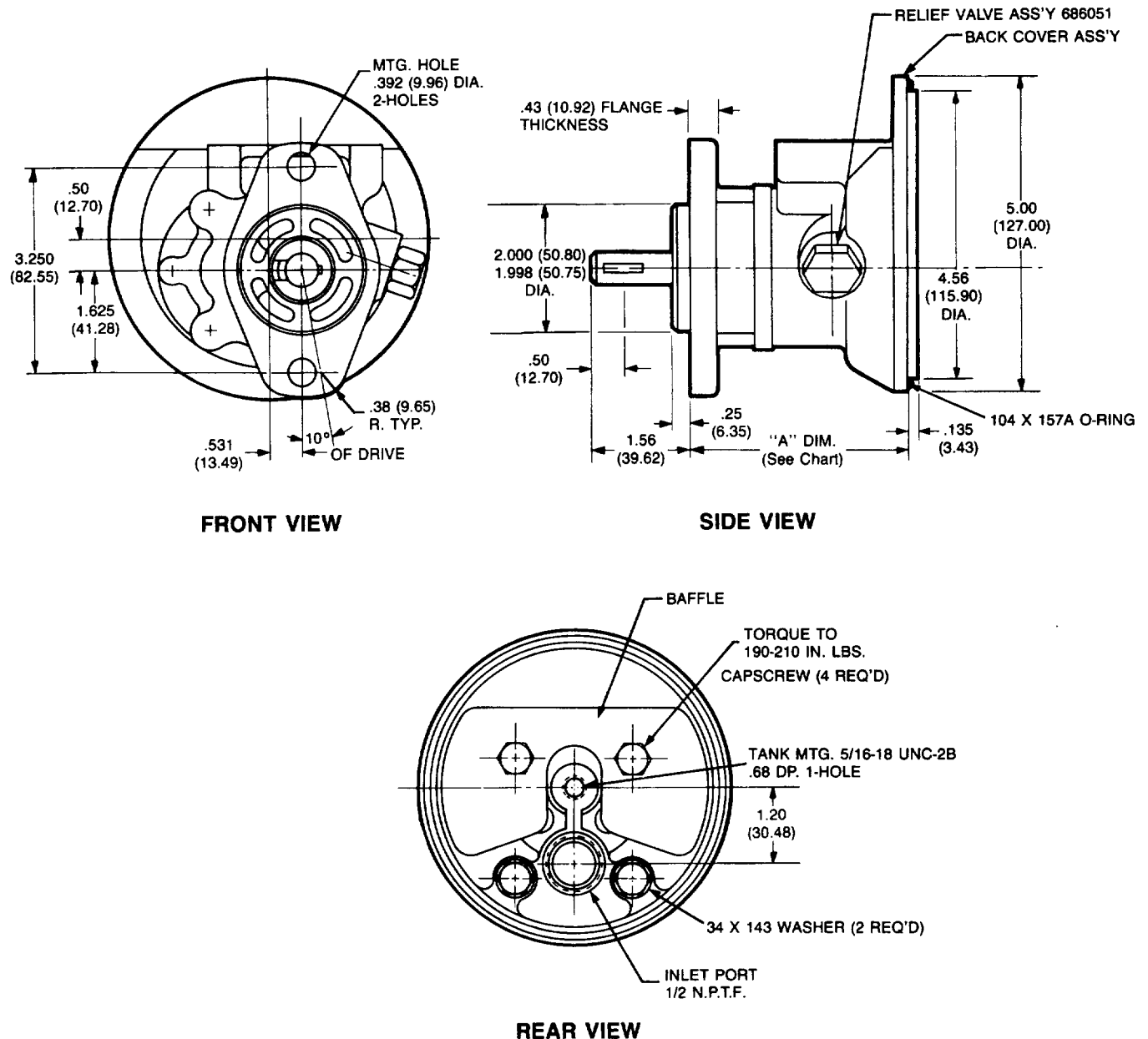
Dimensions — 2 Bolt Mounting

(With "L" Back Cover For Tank Mounting)

Millimeter equivalents for inch dimensions are shown in (**)

Counterclockwise Rotation and "A" Shaft Shown

(Pump mounting flange opposite side of back cover centerline for CW rotation.)



"A" Dimensions: Inches (mm)

D05	D07	D09	D11	D14	D17	D22	D27
3.39 (86.11)	3.48 (88.39)	3.55 (90.17)	3.64 (92.46)	3.75 (95.25)	3.87 (98.30)	4.06 (103.12)	4.26 (108.20)

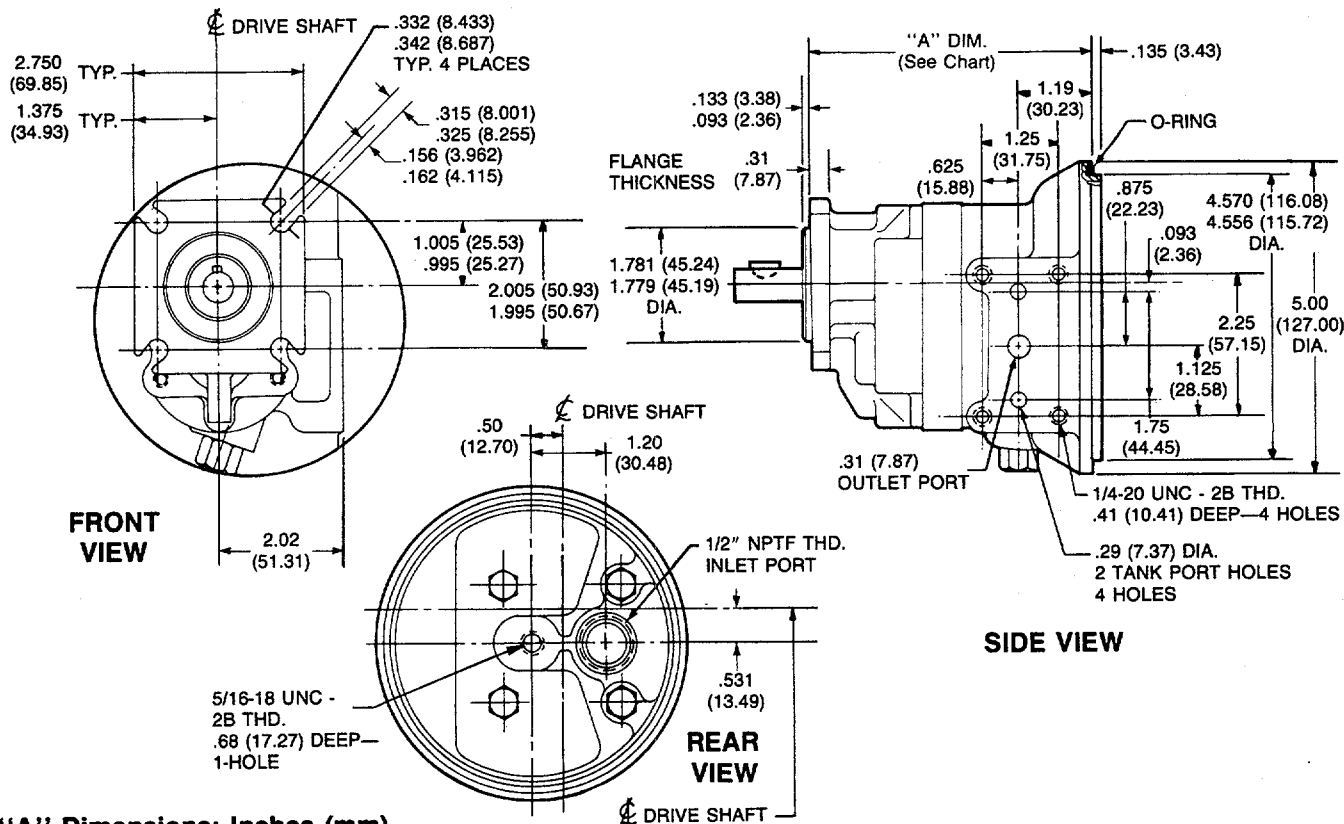
Dimensions — 4 Bolt Mounting

(With "L" Back Cover For Tank Mounting)

Millimeter equivalents for inch dimensions are shown in (**)

Clockwise Rotation and "A" Shaft Shown

(Pump mounting flange opposite side of back cover centerline for CCW rotation.)

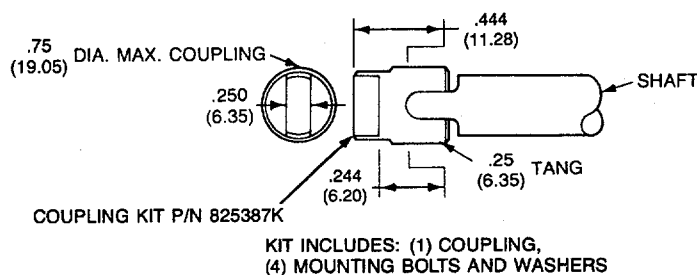
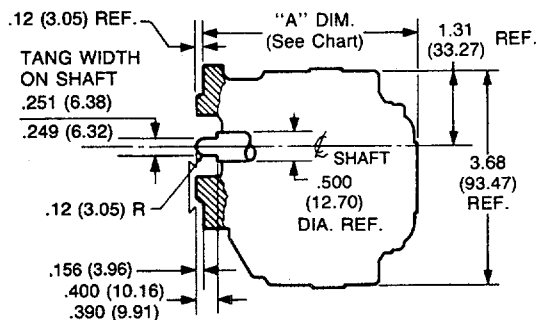


"A" Dimensions: Inches (mm)

D05	D07	D09	D11	D14	D17	D22	D27
4.14 (105.16)	4.23 (107.44)	4.30 (109.22)	4.39 (111.51)	4.50 (114.30)	4.62 (117.35)	4.81 (122.17)	5.01 (127.25)

"R" Tang-end Shaft Option — For Use With 4 Bolt Mounting

Primarily used to direct couple to electric motor drives.

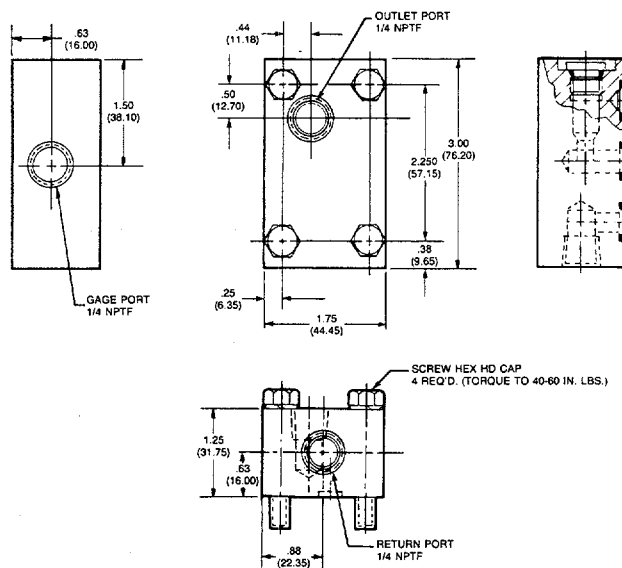


**For additional information — call your local
Parker Fluidpower Motion & Control Distributor.**

Dimensions — Accessories For “L” Back Cover Pump

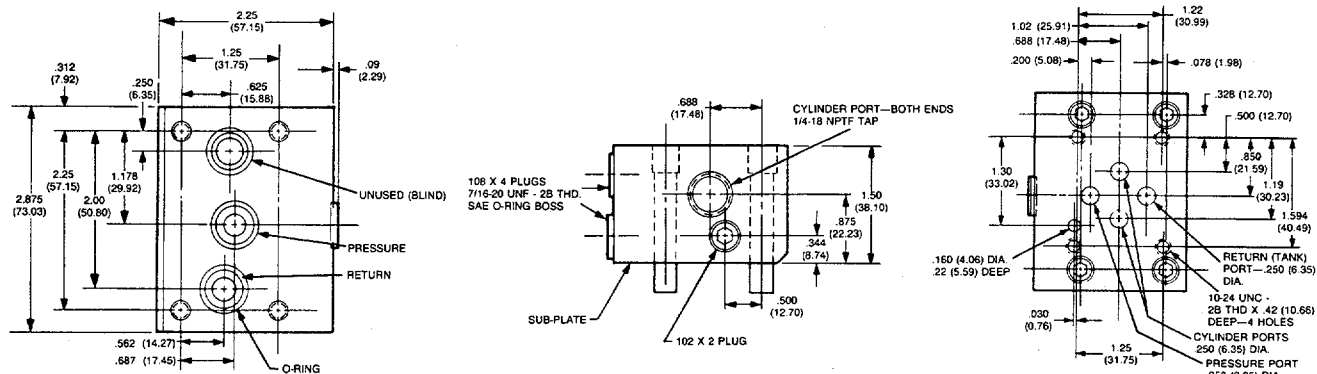
Millimeter equivalents for inch dimensions are shown in (**)

Sub-Plate for Supply, Return and Gage Ports — Kit No. 73555K



Note: Kit includes: (1) sub-plate, (4) mounting bolts, (3) O-rings, (1) plug.

Sub-Plate For Mounting (NPTA D01) Directional Control Valve — Kit No. 825602K



Note: Kit includes: (1) sub-plate, (4) mounting bolts, (3) O-rings, (1) plug.

Tanks (Hydraulic Reservoir)

2-Quart Capacity Tank — Kit No. 715631

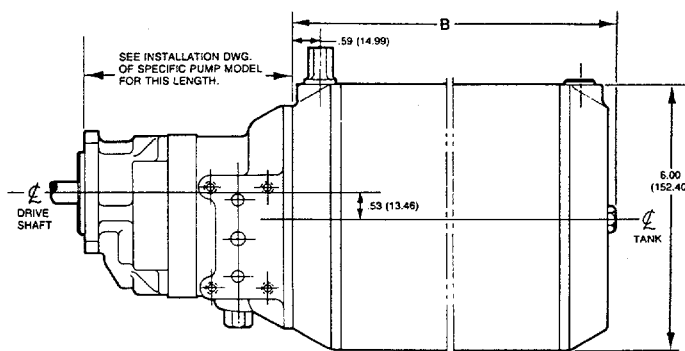
“B” Dimension 4.67 (118.62) inches

4-Quart Capacity Tank — Kit No. 715632

“B” Dimension 10.17 (258.32) inches

6-Quart Capacity Tank — Kit No. 735560

“B” Dimension 14.17 (359.92) inches



Note: Kit includes: (1) reservoir assembly, (1) suction strainer, (1) filler cap.

Fixed Displacement Gear Pumps

Series D

Ordering Information

D																																																		
Frame Size Code "D"	Displacement	Front Cover	Shaft	Rotation	Port Options	Relief Valve Setting	Seals	Bushings																																										
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Code</th> <th style="width: 90%;">Gals. Per 1000 RPM</th> </tr> </thead> <tbody> <tr><td>05</td><td>.48</td></tr> <tr><td>07</td><td>.71</td></tr> <tr><td>09</td><td>.89</td></tr> <tr><td>11</td><td>1.10</td></tr> <tr><td>14</td><td>1.39</td></tr> <tr><td>17</td><td>1.71</td></tr> <tr><td>22</td><td>2.20</td></tr> <tr><td>27</td><td>2.71</td></tr> </tbody> </table>	Code	Gals. Per 1000 RPM	05	.48	07	.71	09	.89	11	1.10	14	1.39	17	1.71	22	2.20	27	2.71	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Code</th> <th style="width: 90%;">Front Cover</th> </tr> </thead> <tbody> <tr><td>A</td><td>SAE AA 2-Bolt</td></tr> <tr><td>B</td><td>4-Bolt</td></tr> </tbody> </table>	Code	Front Cover	A	SAE AA 2-Bolt	B	4-Bolt		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Code</th> <th style="width: 90%;">Dir.</th> </tr> </thead> <tbody> <tr><td>1</td><td>CCW</td></tr> <tr><td>2</td><td>CW</td></tr> </tbody> </table>	Code	Dir.	1	CCW	2	CW			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Code</th> <th style="width: 90%;">Type</th> </tr> </thead> <tbody> <tr><td>Omit</td><td>Nitrile</td></tr> <tr><td>V</td><td>Fluoroelastomer</td></tr> </tbody> </table>	Code	Type	Omit	Nitrile	V	Fluoroelastomer	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Code</th> <th style="width: 90%;">Type</th> </tr> </thead> <tbody> <tr><td>Omit</td><td>Bronze</td></tr> <tr><td>K</td><td>PTFE</td></tr> </tbody> </table>	Code	Type	Omit	Bronze	K	PTFE
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Accessories For "D" Pump	
P & T Subplate Kit	73555K
D01 — Subplate Kit	825602K
2 Qt. Tank Kit	715631
4 Qt. Tank Kit	715632
6 Qt. Tank Kit	735560
"R" Shaft Coupling	825387K
"S" Shaft Coupling	825386K
Buna-N Seal Kit	686632K
Viton Seal Kit	745083K