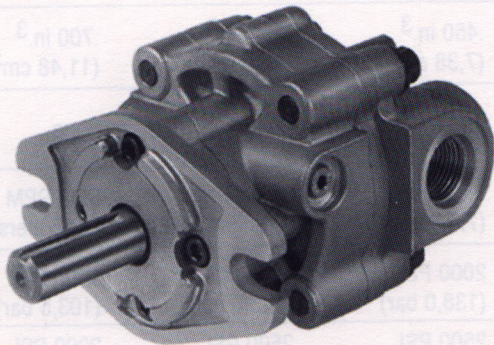


# Model PGG2



Description . . . . . Hydraulic Pumps  
 Flow Range . . . . . To 10 GPM (37.8 LTR)  
 Displacements . . . . . To .700 C.I.R. (11.47 CC's/REV)  
 Maximum Pressure to . . . . . 2000 PSI (138 BAR)  
 Maximum Speed to . . . . . 3500 RPM  
 Rotation . . . . . Bi-Directional  
 Bearings . . . . . Roller  
 Construction . . . . . All aluminum

## Performance Data

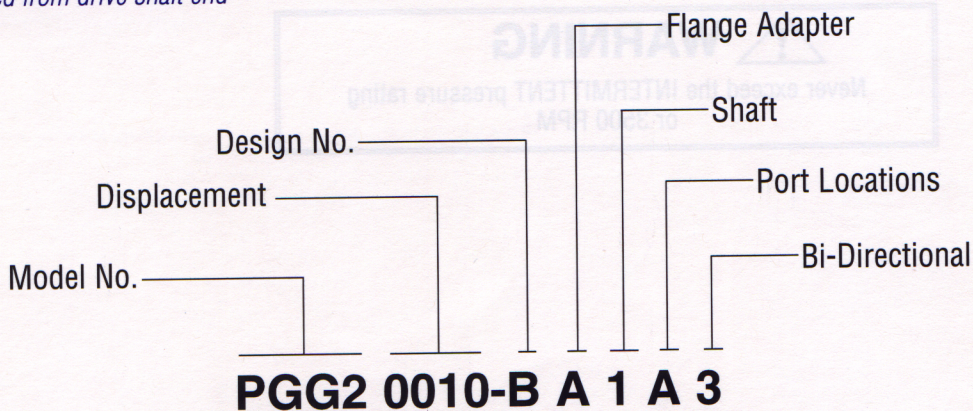
PUMP MODEL	DISPLACEMENT/REVOLUTION (Theoretical)					MAXIMUM PRESSURE		MAXIMUM SPEED
	US Gallons	Cubic Inches	Liters	Cubic Centimeters	Imperial Gallons	PSI	BAR	RPM
PGG20010	.0010	.218	.0039	3.572	.0008	2000	138	3500
PGG20016	.0016	.372	.0062	6.096	.0013	2000	138	3500
PGG20020	.0020	.450	.0078	7.374	.0016	2000	138	3500
PGG20025	.0025	.580	.0097	9.505	.0021	2000	138	3500
PGG20030	.0030	.700	.0116	11.471	.0025	1500	104	3000

**CAUTION:** "Inlet vacuum" should not exceed 5" Hg at normal operating speed and temperature. Operation of pumps in excess of 5" Hg requires factory approval. Back pressure is limited to 20 PSIG maximum.

When sizing pumps, refer to the performance charts in the back of the the PGG Section to determine the volumetric efficiency and input horsepower requirements.

## How To Order

'A' denotes counterclockwise rotation  
 'C' denotes clockwise rotation  
 When viewed from drive shaft end





# PGG Displacement

MODEL NO.	PGG20010	PGG20016	PGG20020	PGG20025	PGG20030	
DISPLACEMENT PER REVOLUTION	.218 in. <sup>3</sup> (3,57 cm <sup>3</sup> )	.372 in. <sup>3</sup> (6,20 cm <sup>3</sup> )	.450 in. <sup>3</sup> (7,38 cm <sup>3</sup> )	.580 in. <sup>3</sup> (9,50 cm <sup>3</sup> )	.700 in. <sup>3</sup> (11,48 cm <sup>3</sup> )	
MAXIMUM RATED RPM	3500	3500	3500	3500	3000	
RATED FLOW PER 1000 RPM (NOMINAL)	.95 GPM (3,6 liters/min)	1.61 GPM (6,1 liters/min)	1.95 GPM (7,4 liters/min)	2.51 GPM (9,5 liters/min)	3.03 GPM (11,5 liters/min)	
MAXIMUM RATED PRESSURE	CONTINUOUS	2000 PSI (138,0 bar)	2000 PSI (138,0 bar)	2000 PSI (138,0 bar)	2000 PSI (138,0 bar)	1500 PSI (103,5 bar)
	INTERMITTENT	2500 PSI (172,5 bar)	2500 PSI (172,5 bar)	2500 PSI (172,5 bar)	2500 PSI (172,5 bar)	2000 PSI (138,0 bar)
HORSEPOWER HP (KgM/sec)* REQUIRED PER 1000 PSI	.50 HP (38,0 KgM/sec)	.94 HP (71,4 KgM/sec)	1.14 HP (86,6 KgM/sec)	1.46 HP (111,0 KgM/sec)	1.77 HP (134,6 KgM/sec)	
WEIGHT	2.8 pounds (1,25 kg)	3.0 pounds (1,36 kg)	3.1 pounds (1,41 kg)	3.3 pounds (1,50 kg)	3.5 pounds (1,59 kg)	
SIDE LOAD**	170 lbs. (77,0 kg)	130 lbs. (59,0 kg)	110 lbs. (50,0 kg)	70 lbs. (31,7 kg)	30 lbs. (13,5 kg)	

**\* THEORETICAL**

**\*\* SIDE LOAD:** Maximum Permissible Shaft Side Load at 2500 RPM and 1000 PSI (69,0 bar) (B-10 Bearing Life of 1000 Hrs.)

**OIL TEMPERATURE:** Maximum recommended oil temperature 180°F (82,2°C)

**OIL VISCOSITY:** Recommended viscosity 150 SUS (3,65 engler). (32 centistokes)  
Minimum recommended viscosity 60 SUS (2,1 engler). (13 centistokes)

**FILTRATION:** Minimum recommended filtration 10 Micron.

**END THRUST:** 80 LBS. (36,3 kg.) maximum.



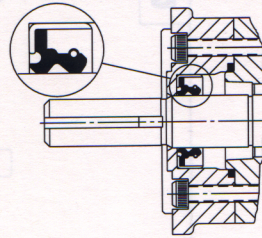
## WARNING

Never exceed the INTERMITTENT pressure rating  
or 3500 RPM



# Design

## B Bi-Directional Standard Seal



PGG-B

## Shafts Available

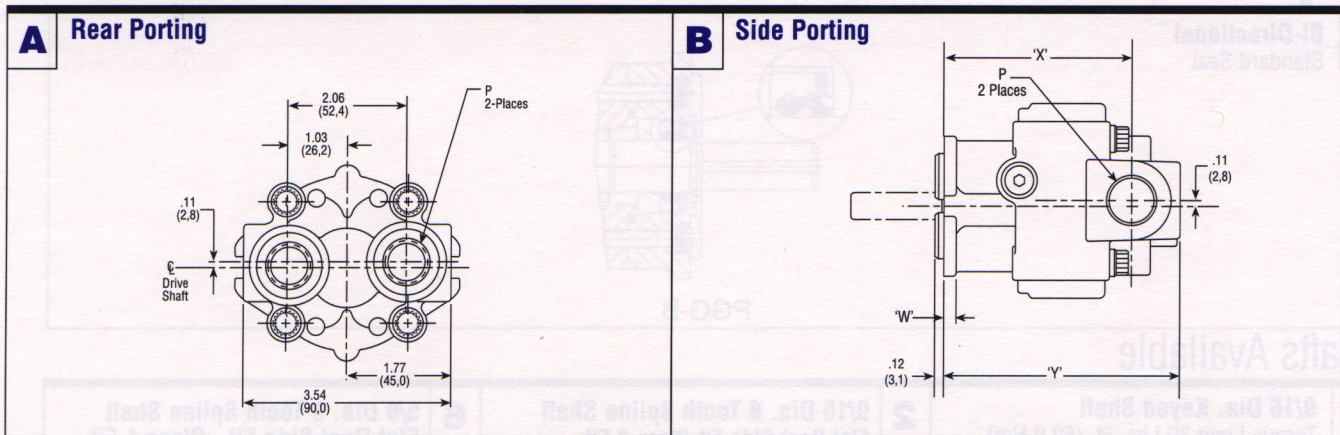
<p><b>1</b> 9/16 Dia. Keyed Shaft Torque Limit 39 Lbs. Ft. (52,9 Nm)</p>	<p><b>2</b> 9/16 Dia. 8 Tooth Spline Shaft Flat Root Side Fit-Class 2 Fit Torque Limit 39 Lbs. Ft. (52,9 Nm)</p> <p><b>Spline Data</b> Diameter Pitch . . . . . 16/32 Pressure Angle . . . . . 30° No. of Teeth . . . . . 8</p>	<p><b>6</b> 5/8 Dia. 9 Tooth Spline Shaft Flat Root Side Fit - Class 1 Fit Torque Limit 52 Lbs. Ft. (70,5 Nm) Available in Models MGG20010, 20 25 &amp; 30 Only</p> <p><b>Spline Data</b> Diameter Pitch . . . . . 16/32 Pressure Angle . . . . . 30° No. of Teeth . . . . . 9</p>
<p><b>7</b> 7/16 Dia. Keyed Shaft Torque Limit 19 Lbs. Ft. (25,8 Nm)</p>	<p><b>8</b> 9/16 Dia. 8 Tooth Spline Shaft Flat-Root Side Fit-Class 2 Fit Torque Limit 39 Lbs. Ft. (52,9 Nm)</p> <p><b>Spline Data</b> Diameter Pitch . . . . . 16/32 Pressure Angle . . . . . 30° No. of Teeth . . . . . 8</p>	<p><b>9</b> 1/2 Dia. Keyed Shaft (Threaded) Torque Limit 26.3 Lbs. Ft. (35,6 Nm)</p>

## Mounting Flanges Available

<p><b>A</b> SAE 'AA' 2-Bolt Adapter</p>	<p><b>B</b> 4-Bolt Adapter</p>	<p><b>C</b> SAE 'A' 2-Bolt Adapter</p>
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# Cover Plates Available

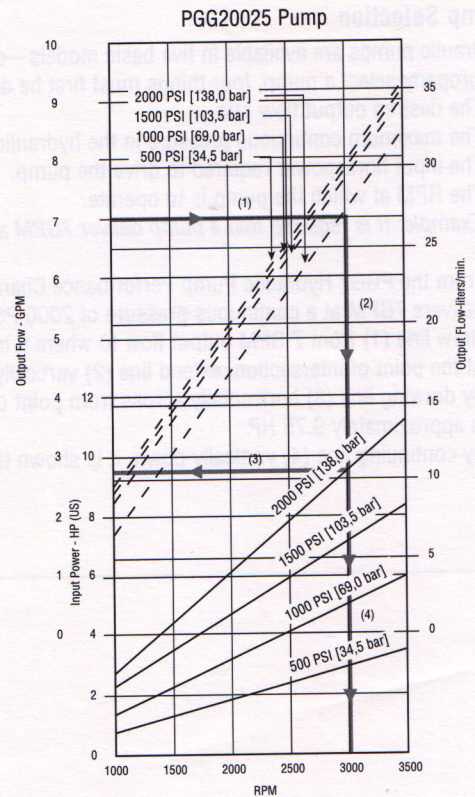
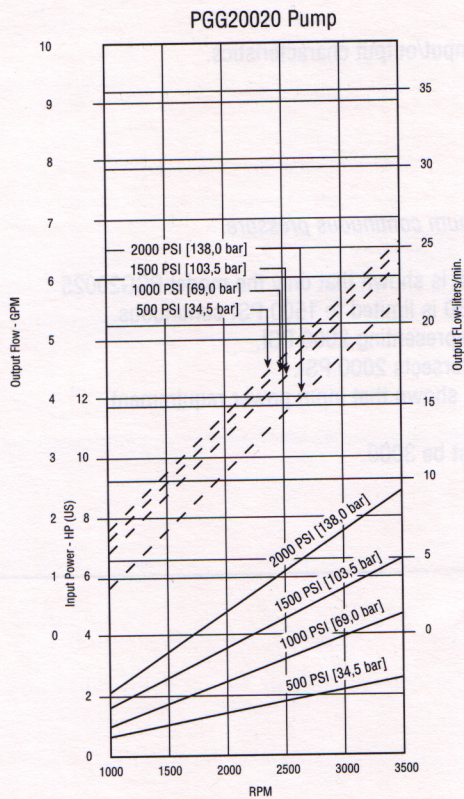
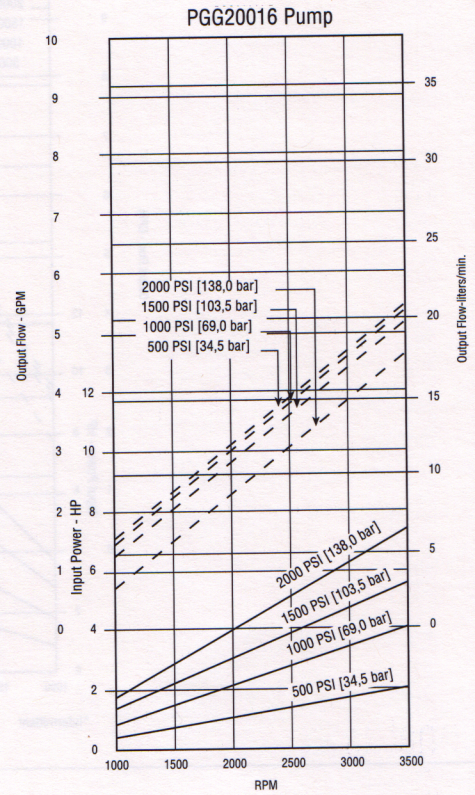
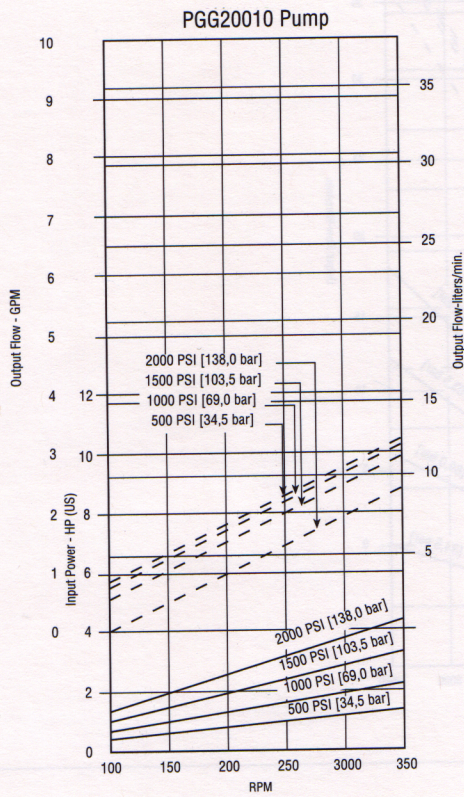


## Dimensional Data

MODEL NO.	DIMENSIONS				FLANGE	'W'	MODEL NO.	STRAIGHT TH'D O-RING PORT PER SAE SPEC. 514d 'P'
	'X'		'Y'					
PGG20010	2.86	(72,6)	3.62	(91,9)	2-BOLT 'A-A'	.25 (6,3)	PGG20010	SAE 8
PGG20016	3.02	(76,7)	3.78	(96,0)	4-BOLT	.25 (6,3)	PGG20016	SAE 8
PGG20020	3.10	(78,7)	3.87	(98,3)	2-BOLT 'A'	.38 (9,5)	PGG20020	SAE 8
PGG20025	3.25	(82,5)	4.00	(101,6)			PGG20025	SAE 10
PGG20030	3.38	(85,8)	4.14	(105,1)			PGG20030	SAE 10

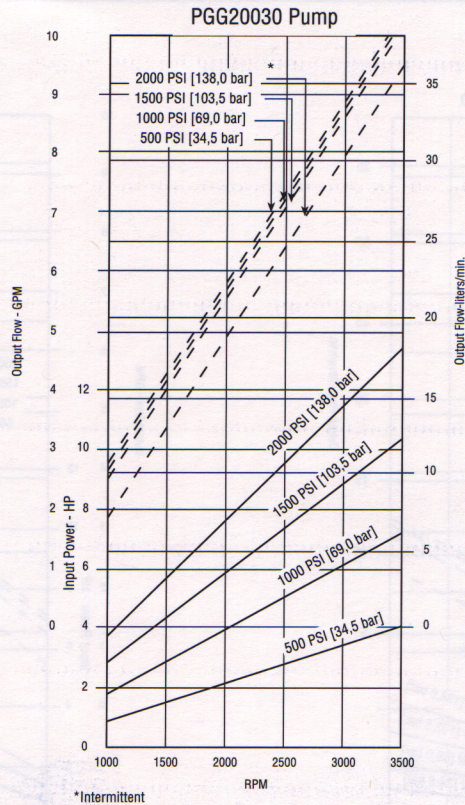


# Flow, Pressure, Horsepower & RPM Selection Chart





# Flow, Pressure, Horsepower & RPM Selection Chart



## Pump Selection

Hydraulic pumps are available in five basic models—each with its own input/output characteristics.

To properly select a pump, four things must first be determined:

1. The desired output flow rate.
2. The maximum continuous pressure in the hydraulic system.
3. The input horsepower required to drive the pump.
4. The RPM at which the pump is to operate.

*Example: It is required that a pump deliver 7GPM at 2000 PSI, maximum continuous pressure.*

1. From the PGG2 Hydraulic Pump Performance Characteristics Charts, it is shown that only the model PGG20025 delivers 7GPM at a continuous pressure of 2000 PSI. NOTE: PGG20030 is limited to 1500 PSI continuous.
2. Draw line (1) from 7 GPM output flow to where it intersects the line representing 2000 PSI.
3. At the point of intersection, extend line (2) vertically down where it intersects 2000 PSI.
4. By drawing line (3) horizontally across from point of intersection, it is shown that input power requirement is approximately 9.75 HP.
5. By continuing line (4) vertically down, it is shown that input RPM must be 3000.