



# **PGP 620 Series** **PGM 620 Series**

*Single and Multiple Cast-Iron pumps and motors*

*Catalog HY09-620/US*



## **The Parker Hannifin Gear Pump Division Assures:**

- Consistent quality
- Technical innovation
- Premier customer service

## **Worldwide Sales and Service**

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The Gear Pump Division's ability to engineer specialty products for unique applications has kept us at the forefront of technology, and ensured our position as the industry leader. Our success has come from providing a quality product with excellent sales and service support.

We manufacture hydraulic components for a wide range of industries including:

- Construction
- Refuse/dump truck
- Material handling
- Forestry
- Agriculture
- Industrial
- Turf care



### **WARNING**

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### **Offer of Sale**

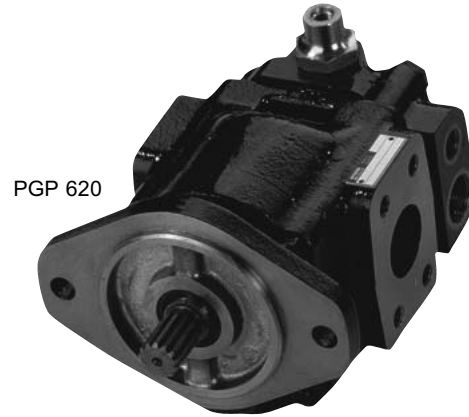
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**PGP/PGM 620**

Parker Hydraulics has supplied gear pumps and motors to worldwide mobile and industrial markets for many years, especially material handling, turf care, and construction equipment applications. Many Parker pumps and motors have been developed and tested for the specific needs of these industries.

Parker's defined strategy to provide engineered solutions, coupled with an award-winning flexible manufacturing system has resulted in a wide range of SAE/DIN/European and other special options being available as standard.



PGP 620

**Features of PGP/PGM 620**

- Patented, interlocking body design
- 12 tooth gears, bronze thrust plates
- Tandem, triple and cross-frame pumps available
- Common inlets available for tandem and triple pumps
- Continuous operating pressures up to 275 bar
- Production run-in available to suit OEM application conditions and to provide optimized volumetric efficiencies
- Pressure balanced design for high efficiency
- Reduced system noise levels compared to earlier models and competitors' pumps
- High power through-drive capability
- Wide range of integral valves for power steering, power brakes, fan drives and implement hydraulics
- Load sense and solenoid-operated unloading valves

**Characteristics**

Product Features	Description
<b>Pump type</b>	Heavy-duty, cast iron, external gear.
<b>Mounting</b>	SAE, Rectangular. Specials on request.
<b>Ports</b>	SAE and metric split flanges and others.
<b>Shaft style</b>	SAE splined, keyed, tapered, cylindrical. Specials on request.
<b>Speed</b>	500 - 3500 rpm, see tables.
<b>Theor. displacem.</b>	See tables
<b>Drive</b>	Drive direct with flexible coupling is recommended.
<b>Inlet pressure</b>	Operating range absolute pressure 0.8 to 2 bar. Absolute minimum inlet pressure 0.5 bar, short time without load. Consultation is recommended.
<b>Outlet pressure</b>	See tables
<b>Axial / Radial load</b>	Axial or Radial loading is not allowed.
<b>Hydraulic fluids</b>	Mineral oil Fire resistant fluids: - water-oil emulsions 60/40, HFB - water-glycol, HFC - phosphate-esters, HFD Engineering approval is recommended.
<b>Fluid temperature</b>	Range of operating temperature -15 to +80°C. Max. permissible operating pressure dependent on fluid temperature. Temperature for cold start -20 to -15°C at speed ≤ 1500 rpm. Max. permissible operating pressure dependent on fluid temperature.

Product Features	Description
<b>Fluid viscosity</b>	Range of operating viscosity 20 to 100 mm <sup>2</sup> /s. Max. operating viscosity should not exceed 1000 mm <sup>2</sup> /s. Recommended min. viscosity 8 mm <sup>2</sup> /s.
<b>Range of ambient temperature</b>	-40°C - +70°C
<b>Filtration</b>	According to ISO 4406 Cl. 16/13
<b>Flow velocity</b>	See tables.
<b>Direction of rotation</b>	Clockwise, counter-clockwise or double.
<b>Multiple pump assemblies</b>	- Available in two or three section configurations. - Max. shaft loading must conform to the limitations shown in the Shaft Load Rating table in this catalog. - The max. load is determined by adding the torque values for each pumping section that will be simultaneously loaded.
<b>Separate or common inlet capability</b>	Separate Inlet configuration: - Each gear housing has individual inlet and outlet ports.  Common Inlet configuration: - Two or more gear sets share a common inlet.

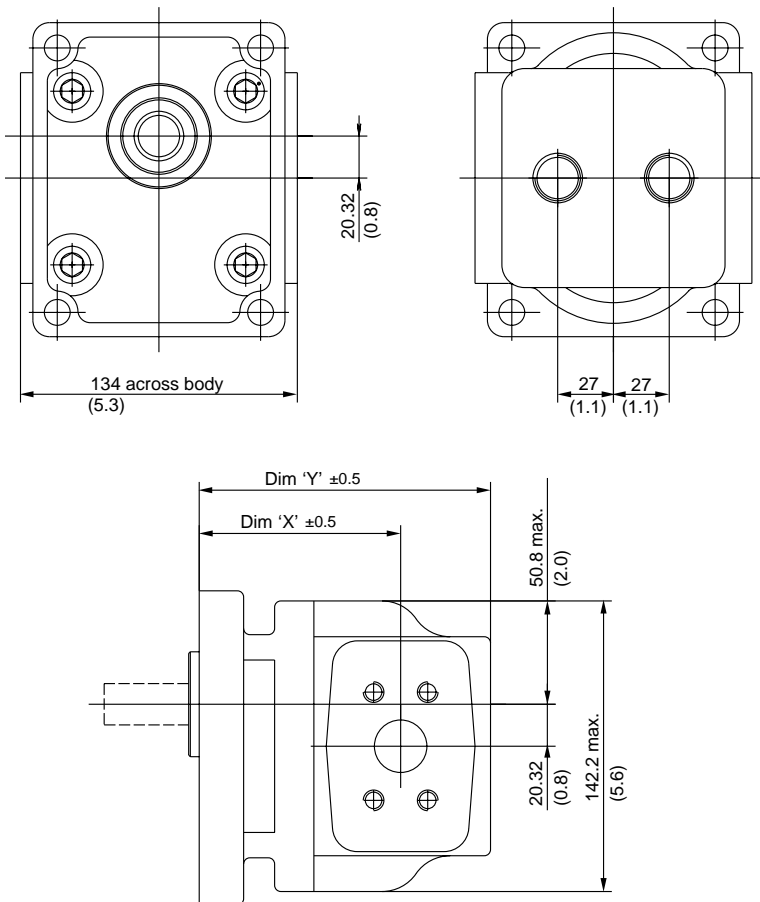
**PGP/PGM 620 Dimensions**

**PGP/PGM 620 Specification - Standard Displacements - Single Unit**

Pump Displacement	Code	0160	0190	0210	0230	0260	0290	0330	0360	0370	0410	0440	0460	0500	0520
		cm <sup>3</sup> /rev	16.0	19.0	21.0	23.0	26.0	29.0	33.0	36.0	37.0	41.0	44.0	46.0	50.0
	in <sup>3</sup> /rev	.98	1.16	1.28	1.4	1.6	1.8	2.01	2.2	2.3	2.5	2.7	2.8	3.1	3.2
<b>Continuous Press.</b>	bar psi	275	275	275	275	275	275	275	250	250	220	210	210	210	210
<b>Intermittent Press.</b>	bar psi	300	300	300	300	300	300	300	275	275	245	230	220	210	210
<b>Minimum Speed</b> @ Max. outlet press.	rpm	500	500	500	500	500	500	500	500	500	500	500	500	500	500
<b>Maximum Speed</b> @ 0 Inlet & Max. outlet press.	rpm	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3000	3000
Dimension "X"	mm	79.2	82.5	84.7	86.9	90.2	93.5	97.9	101.2	102.3	106.7	110.0	112.2	116.6	118.8
	in	3.1	3.2	3.3	3.4	3.6	3.7	3.9	4.0	4.0	4.2	4.3	4.4	4.6	4.7
Dimension "Y"	mm	120.2	123.5	125.7	127.9	131.2	134.5	138.9	142.2	143.3	147.7	151.0	153.2	157.6	159.8
	in	4.7	4.9	4.9	5.0	5.2	5.3	5.5	5.6	5.6	5.8	5.9	6.0	6.2	6.3
<b>Approx. Weight</b>	kg	12.0	12.1	12.1	12.2	12.3	12.6	12.7	12.8	12.9	13.0	13.1	13.2	13.3	13.4
	lb	26.4	26.6	26.6	26.8	27.1	27.7	27.9	28.1	28.4	28.6	28.8	29.04	29.3	29.5

**Single Unit PGP/PGM 620**

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



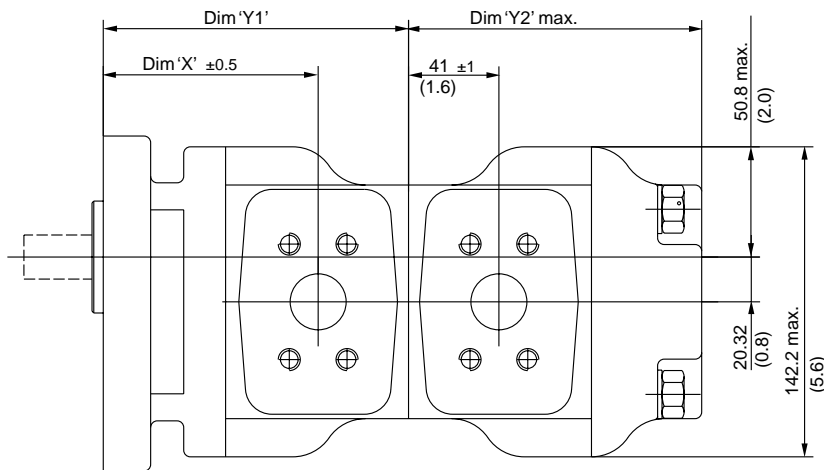
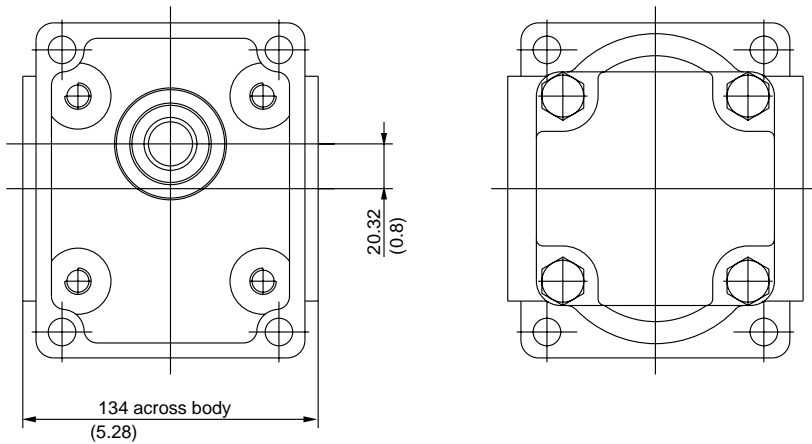
**PGP/PGM 620 Dimensions**

**PGP/PGM 620 Specification - Standard Displacements - Tandem Unit**

Pump Displacement	Code	0160	0190	0210	0230	0260	0290	0330	0360	0370	0410	0440	0460	0500	0520	
		cm <sup>3</sup> /rev	16.0	19.0	21.0	23.0	26.0	29.0	33.0	36.0	37.0	41.0	44.0	46.0	50.0	52.0
		in <sup>3</sup> /rev														
Dimension "X"	mm	79.2	82.5	84.7	86.9	90.2	93.5	97.9	101.2	102.3	106.7	110.0	112.2	116.6	118.8	
	in	3.1	3.2	3.3	3.4	3.5	3.7	3.9	4.0	4.0	4.2	4.3	4.4	4.6	4.7	
Dimension "Y1 "	mm	120.2	123.5	125.7	127.9	131.2	134.5	138.9	142.2	143.3	147.7	151.0	153.2	157.6	159.8	
	in	4.7	4.9	4.9	5.0	5.2	5.3	5.5	5.6	5.6	5.8	5.9	6.0	6.2	6.3	
Dimension "Y2" max.	mm	115.2	118.5	120.7	122.9	126.2	129.5	133.9	137.2	138.3	142.7	146.0	148.2	152.6	154.8	
	in	4.5	4.7	4.8	4.8	5.0	5.1	5.3	5.4	5.4	5.6	5.7	5.8	6.0	6.1	
<b>Approximate Weight</b> (front section)	kg	12.0	12.1	12.1	12.2	12.3	12.6	12.7	12.8	12.9	13.0	13.1	13.2	13.3	13.4	
	lb	26.4	26.62	26.62	26.84	27.06	27.72	27.94	28.16	28.38	28.6	28.82	29.04	29.26	29.48	
<b>Approximate Weight</b> (rear section)	kg	10.4	10.5	10.5	10.6	10.7	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	
	lb	22.88	23.10	23.10	23.32	23.54	24.2	24.42	24.64	24.86	25.08	25.3	25.52	25.74	25.96	

**Tandem Unit PGP/PGM 620**

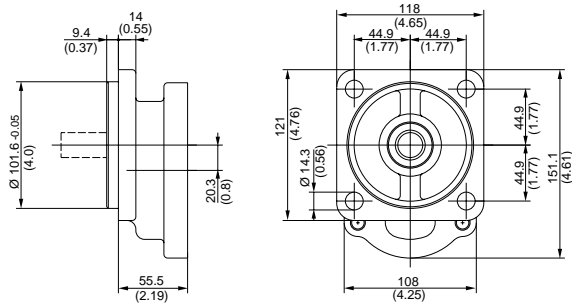
Inch equivalents for millimeter dimensions are shown in (\*\*).



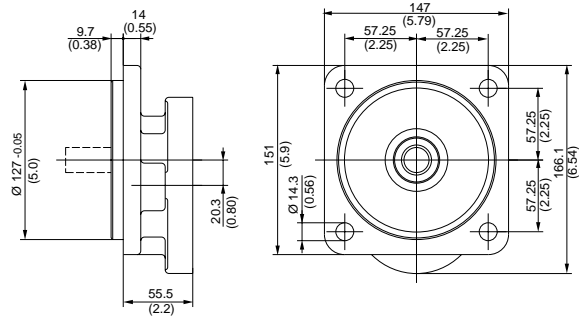
**PGP/PGM 620 Mounting Flange**

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

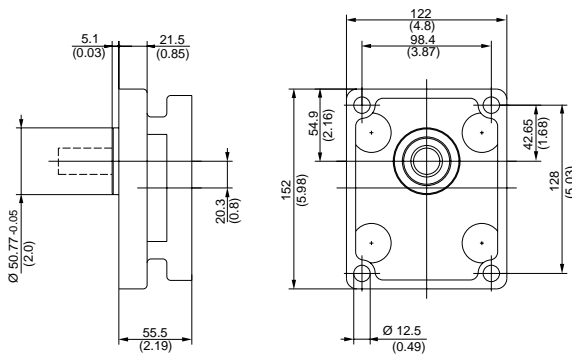
**Code A3**



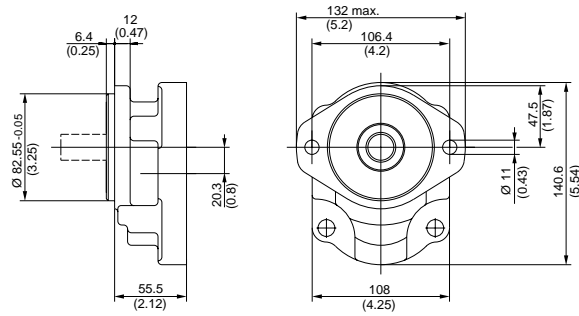
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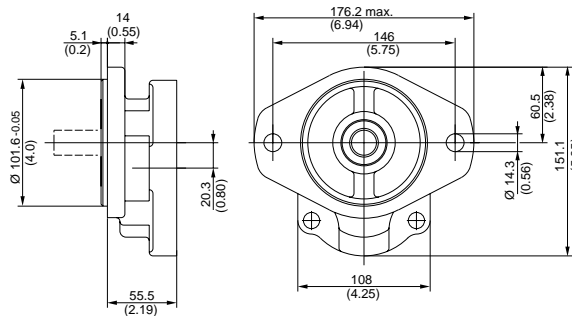
**Code D7**



**Code H2**



**Code H3**

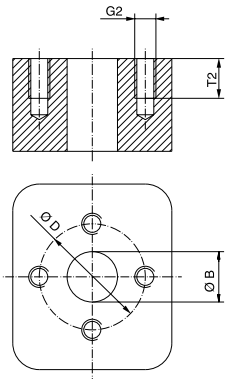




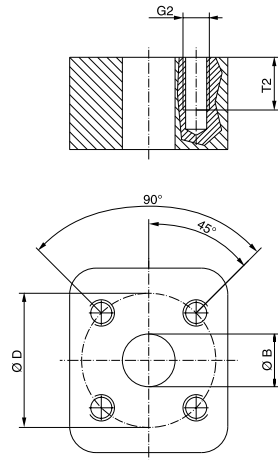
**PGP/PGM 620 Porting**

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

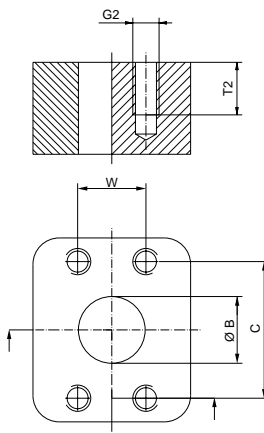
**Code L**  
 4-Bolt flange



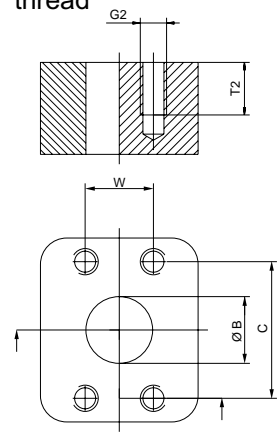
**Code J**  
 European flange



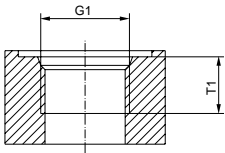
**Code N**  
 SAE split flange



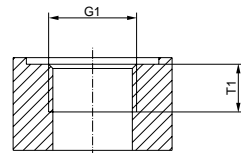
**Code P**  
 SAE split flange metric thread



**Code D**  
 SAE straight thread



**Code E**  
 BSP - thread



**PGP/PGM 620**

Code	G2	Ø B	Ø D	C	W	T2
	Thread					
<b>J5</b>	M6	15.0 (0.59)	35.0 (1.38)			12.5 (0.49)
<b>J9</b>	M8	26.0 (1.02)	55.0 (2.17)			15.0 (0.59)
<b>L1</b>	M6	13.0 (0.5)	30.0 (1.18)			13.0 (0.5)
<b>L2</b>	M8	19.0 (0.75)	40.0 (1.57)			15.0 (0.59)
<b>L3</b>	M10	27.0 (1.06)	51.0 (2.01)			18.0 (0.71)
<b>N1</b>	5/16-18 UNC	12.7 (0.5)		38.10 (1.5)	17.48 (0.69)	15.0 (0.59)
<b>N2</b>	3/8-16 UNC	19.0 (0.75)		47.63 (1.88)	22.23 (0.88)	14.0 (0.55)
<b>N3</b>	3/8-16 UNC	25.4 (1.0)		52.37 (2.06)	26.19 (1.03)	20.6 (0.81)
<b>N4</b>	7/16-14 UNC	31.8 (1.25)		58.72 (2.31)	30.17 (1.19)	20.6 (0.81)
<b>N5</b>	1/2-13 UNC	38.1 (1.5)		69.82 (2.75)	35.71 (1.4)	20.6 (0.81)
<b>N6</b>	1/2-13 UNC	50.8 (2.0)		77.77 (3.06)	42.88 (1.69)	20.6 (0.81)
<b>P1</b>	M8	12.7 (0.5)		38.10 (1.5)	17.48 (0.69)	15.0 (0.59)
<b>P2</b>	M10	19.0 (0.75)		47.63 (1.88)	22.23 (0.88)	20.6 (0.81)
<b>P3</b>	M10	25.4 (1.0)		52.37 (2.06)	26.19 (1.03)	21.4 (0.84)
<b>P4</b>	M10	31.8 (1.25)		58.72 (2.31)	30.17 (1.19)	20.6 (0.81)
<b>P5</b>	M12	38.1 (1.5)		69.82 (2.75)	35.71 (1.41)	20.6 (0.81)
<b>P6</b>	M12	50.8 (2)		77.77 (3.06)	42.88 (1.69)	20.6 (0.81)

**PGP/PGM 620**

Code	G1	T1
	Thread	Dimensions
<b>D3</b>	3/4-16 UNF	14.3 (0.56)
<b>D4</b>	7/8-14 UNF	16.7 (0.68)
<b>D5</b>	1 1/16-12 UN	19.0 (0.75)
<b>D6</b>	1 5/16-12 UN	19.0 (0.75)
<b>D7</b>	1 5/8-12 UN	19.0 (0.75)
<b>D8</b>	1 7/8-12 UN	19.0 (0.75)
<b>E2</b>	3/8-19 BSP	12.0 (0.47)
<b>E3</b>	1/2-14 BSP	14.0 (0.55)
<b>E4</b>	5/8-14 BSP	16.3 (0.64)
<b>E5</b>	3/4-16 BSP	16.0 (0.63)
<b>E6</b>	1-11 BSP	18.0 (0.71)
<b>E7</b>	1 1/4-11 BSP	20.0 (0.79)
<b>E8</b>	1 1/2-11 BSP	22.0 (0.87)

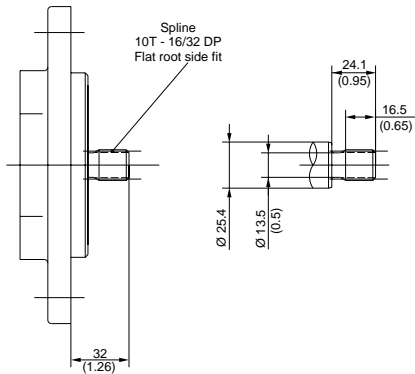
Inch equivalents for millimeter dimensions are shown in (\*\*).



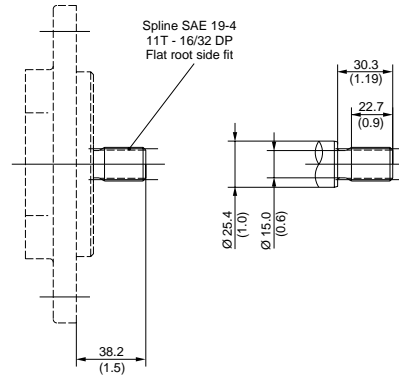
**PGP/PGM 620 Drive Shaft**

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

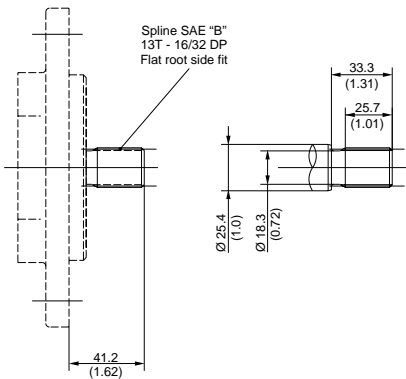
**Code B1**



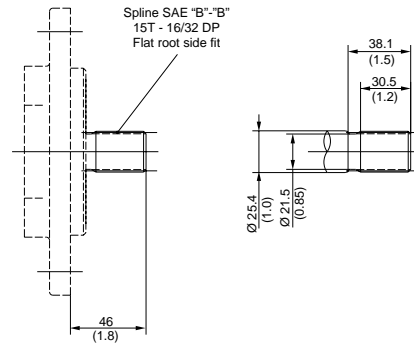
**Code C1**



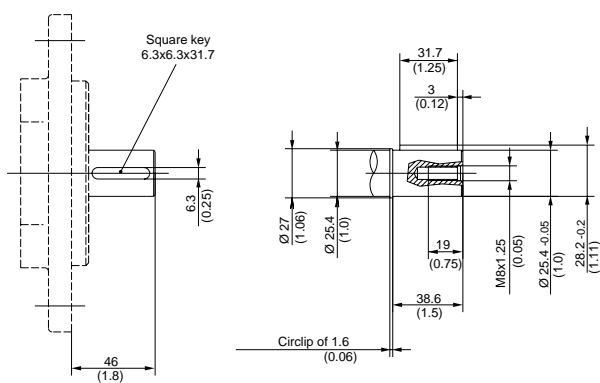
**Code D1**



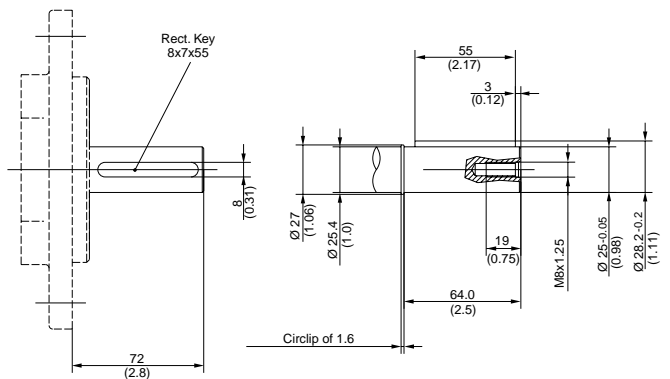
**Code E1**



**Code M3**



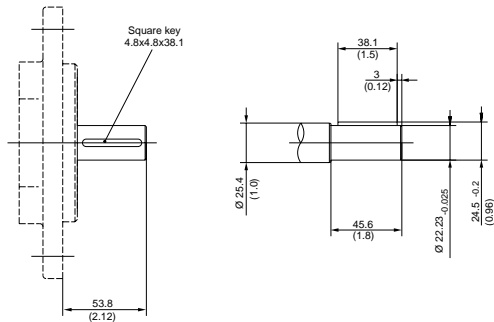
**Code M4**



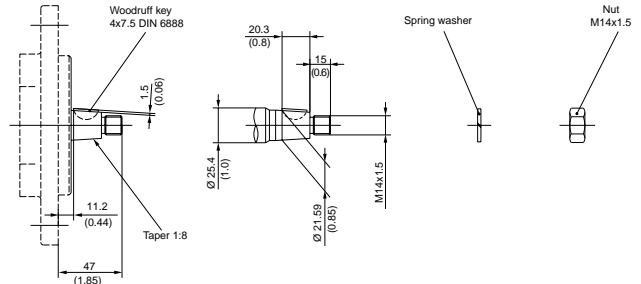
**PGP/PGM 620 Drive Shaft**

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

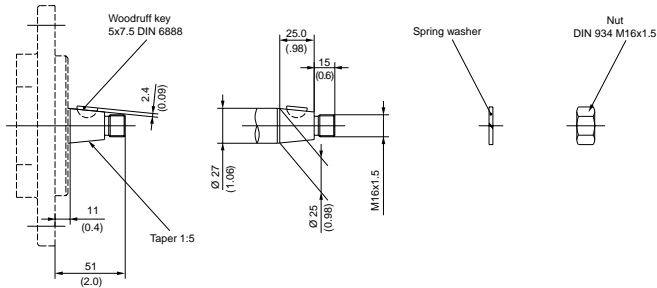
**Code M6**



**Code T1**



**Code T2**



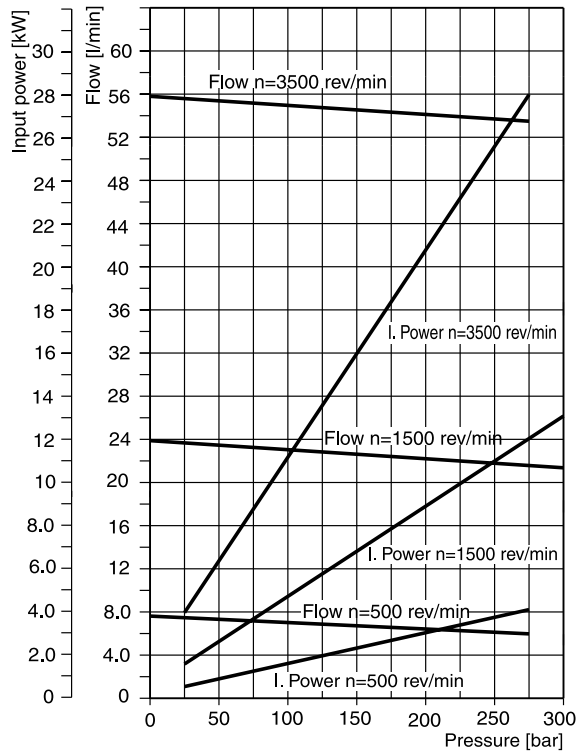
**PGP/PGM 620- Shaft Load Capacity**

Code	Description	Torque Rating [Nm]
B1 10T,16/32 DP, 32L	spline	124
C1 11T,16/32 DP, 38.2L, SAE 19-4	spline	144
D1 13T,16/32 DP, 41.2L, SAE "B"	spline	272
E1 15T,16/32 DP, 46L, SAE "B-B"	spline	460
M3 Ø25.4,6.3 KEY, M8, 46L, SAE "B-B"	keyed	325
M4 Ø25.0,8.0 KEY, M8, 72L	keyed	325
M6 Ø22.2,4.8 KEY, no thread, 53.8L	keyed	218
T1 Ø21.59,11.2L, 4.0 KEY, M14x1.5	taper 1:8	218
T2 Ø25.0,12.0L, 5.0 KEY, M16x1.5	taper 1:5	301

$$\text{Torque [Nm]} = \frac{\text{Displacement [cm}^3\text{/rev]} \times \text{Pressure [bar]}}{57.2}$$

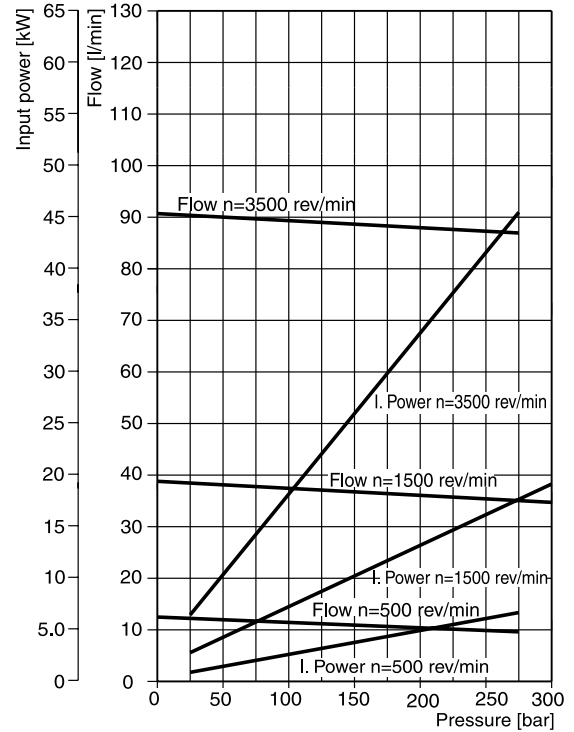
**PGP 620 - 16.0 CC**

Fluid Temperature  
 Viscosity  
 Inlet Pressure

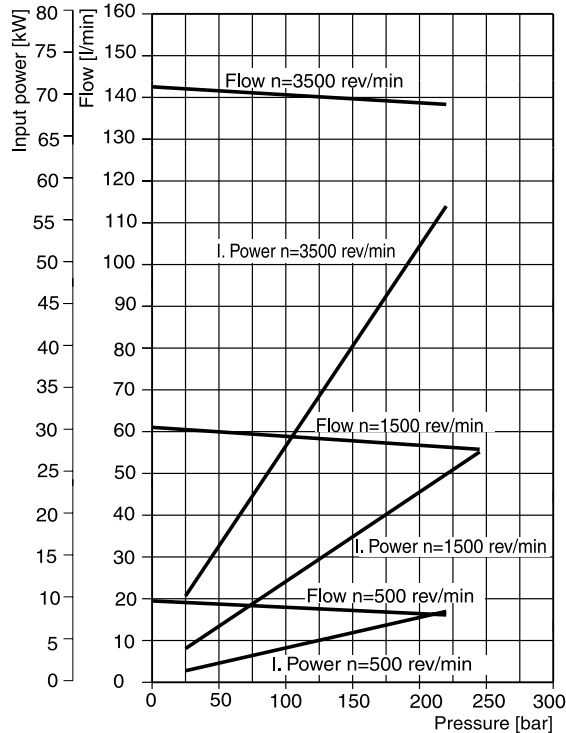


**PGP 620 - 26.0 CC**

= 45 ± 2 °C  
 = 36 mm<sup>2</sup>/s  
 = 0.9 + 0.1 bar absolute



**PGP 620 - 41.0 CC**



**PGP 620 - 52.0 CC**

