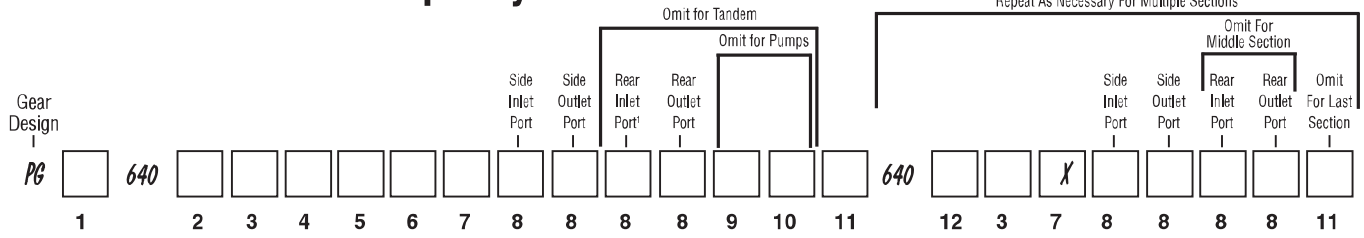


# PGP/PGM 640 How to Specify



1 Pump/Motor	
P	Pump
M	Motor

2 Unit		
	Pump	Motor
A	Single unit	Standard Motor w/o checks
B	Multiple unit	Standard Motor w/ two checks
C	—	Standard Motor w/one anti cavitation check (ACC)

3 Displacement	
0300	30 cc/rev (1.83 in <sup>3</sup> /rev)
0350	37 cc/rev (2.14 in <sup>3</sup> /rev)
0450	45 cc/rev (2.75 in <sup>3</sup> /rev)
0550	55 cc/rev (3.36 in <sup>3</sup> /rev)
0650	65 cc/rev (4.00 in <sup>3</sup> /rev)
0750	75 cc/rev (4.58 in <sup>3</sup> /rev)
0800	80 cc/rev (4.88 in <sup>3</sup> /rev)

4 Rotation	
C	Clockwise
A	Counter clockwise
B	Bi-directional (Motor Only)

5 Shaft	
D1	SAE "B" spline, 13T
E1	SAE "B-B" spline, 15T
E4	SAE "C" spline, 14T
M2	SAE "B-B" parallel key
N1	SAE "C" parallel key

\*See Note 1

6 Flange	
A3	SAE "B" 4-bolt square
A4	SAE "C" 4-bolt square
H3	SAE "B" 2-bolt flange
K3	SAE "C" 2-bolt flange

7 Shaft Seal	
X	No seal
N	NBR (Buna-N) (pump only)
V	FPM, FKM (Fluorocarbon) (pump only)
M	Double NBR (Buna-N) (pump only)
W	Double FPM (Fluorocarbon) (pump only)
H	High Pres.(5bar) (motor only)

\*See Note 2

9 Motor Drain Option	
B1	No drain
C	SAE-6, Straight thread o-ring

10 Motor Drain Position	
4	Rear drain

11 Inlet Options (Multi Section Units Only)	
C	Common inlet (passage)
S	Separate

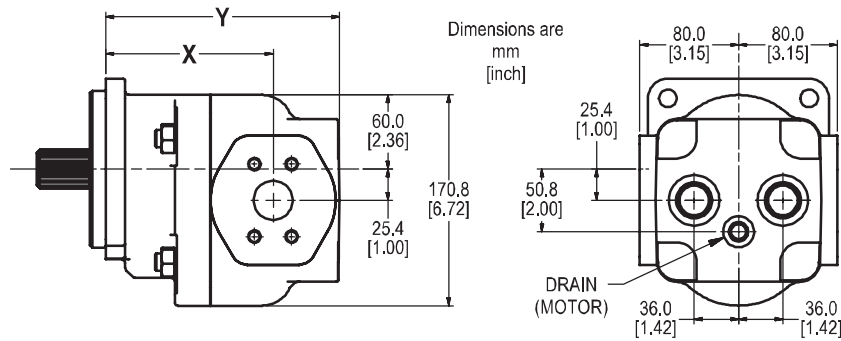
12 Multiple Unit	
A	Last section
B	Middle section

8 Port Options*			
Code	Description	Rear Ports	Available Displacements for Side Ports
B1	No ports	n/a	30 thru 80 cc
D5	SAE-12 straight thread o-ring	Yes	30 thru 80 cc
D6	SAE-16 straight thread o-ring	Yes	30 thru 80 cc
D7	SAE-20 straight thread o-ring	Yes	30 thru 80 cc
D8	SAE-24 straight thread o-ring	Yes	30 thru 80 cc
D9	SAE-32 straight thread o-ring	No	30 thru 80 cc
S2	¾" Split Flange, SAE Code 61	No	30 thru 80 cc
S3	1" Split Flange, SAE Code 61	No	30 thru 80 cc
S4	1¼" Split Flange, SAE Code 61	No	30 thru 80 cc
S5	1½" Split Flange, SAE Code 61	No	30 thru 80 cc
S6	2" Split Flange, SAE Code 61	No	40 thru 80 cc

# PGP/PGM 640 Dimensions

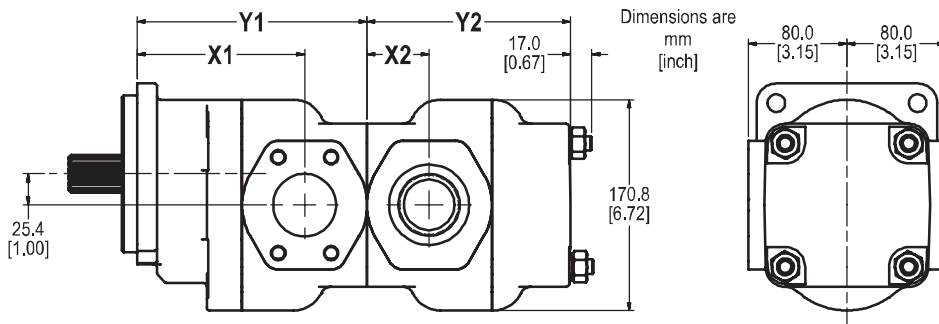
## PGP/PGM 640 Specification - Standard Displacements - Single Unit

Pump Displacement	Code	0300	0350	0450	0550	0650	0750	0800
	cc/rev	30.0	35.0	45.0	55.0	65.0	75.0	80.0
	in <sup>3</sup> /rev	1.83	2.14	2.75	3.36	3.97	4.58	4.88
Continuous Pressure	bar	275	275	275	275	275	235	215
	psi	3989	3989	3989	3989	3843	3408	3118
Intermittent Pressure	bar	300	300	300	300	300	260	240
	psi	4351	4351	4351	4351	4206	3771	3481
Port Location "X"	mm	128.6	128.6	131.8	135.6	138.4	142.2	142.2
	inch	5.07	5.07	5.19	5.34	5.45	5.60	5.60
Overall Length "Y"	mm	176	176	183	189	196	203	203
	inch	6.90	6.93	7.19	7.45	7.71	7.99	7.99
*Weight	kg	20.6	20.6	21.2	22.0	22.6	23.3	24.0
	lb	42.2	45.4	46.7	48.5	49.8	51.4	53.0



## PGP/PGM 640 Specification - Standard Displacements - Tandem Unit

Pump Displacement	Code	0300	0350	0450	0550	0650	0750	0800
	cc/rev	30.0	35.0	45.0	55.0	65.0	75.0	80.0
	in <sup>3</sup> /rev	1.83	2.14	2.75	3.36	3.97	4.58	4.88
Front Port Location "X1"	mm	128.6	128.6	131.8	135.6	138.4	142.2	142.2
	inch	5.06	5.06	5.19	5.34	5.45	5.60	5.60
Rear Port Location "X2"	mm	44.5	44.5	47.9	50.7	54.5	58.0	58.0
	inch	1.75	1.75	1.89	2.00	2.15	2.28	2.28
Front Overall Length "Y"	mm	173.1	173.1	179.7	186.3	192.9	200.2	200.2
	inch	6.81	6.81	7.07	7.33	7.59	7.88	7.88
Rear Overall Length "Y"	mm	150.9	150.9	157.5	164.1	170.7	178.0	178.0
	inch	5.94	5.94	6.20	6.46	6.72	7.01	7.01
*Weight Front Section	kg	20.3	20.3	20.9	21.7	22.3	23.0	23.0
	lb	44.8	44.8	46.1	47.8	49.2	50.7	50.7
*Weight Rear Section	kg	19.3	19.3	19.9	20.7	21.3	22.0	22.0
	lb	42.5	42.5	43.9	45.6	47.0	48.5	48.5



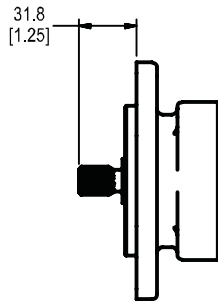
# Spline Shaft Options

## PGP/PGM 600 Spline Shaft

Dimensions are shown as  $\frac{\text{mm}}{[\text{in}]}$

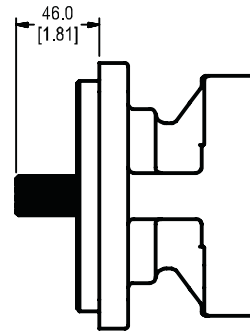
### Code A1 (610 only)

9T, 16/32 PITCH, 32L S.A.E. "A" SPLINE  
FLAT ROOT SIDE FIT



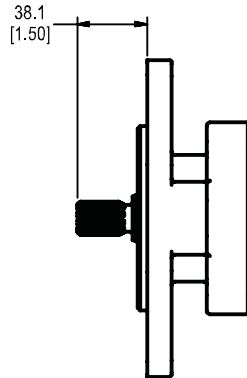
### Code E1 (620 & 640 only)

15T, 16/32 PITCH, 46L S.A.E. "B-B" SPLINE  
FLAT ROOT SIDE FIT



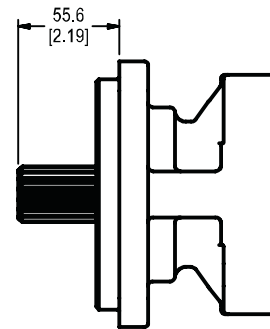
### Code C1 (610 & 620 only)

11T, 16/32 PITCH, 38.1L S.A.E. "19-4" SPLINE  
FLAT ROOT SIDE FIT



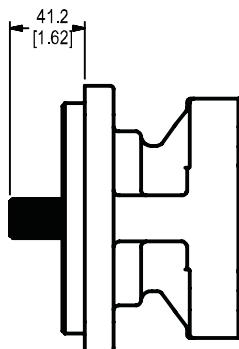
### Code E4 (640 only)

14T, 12/24 PITCH, 55.6L S.A.E. "C" SPLINE  
FLAT ROOT SIDE FIT



### Code D1 (610, 620 & 640)

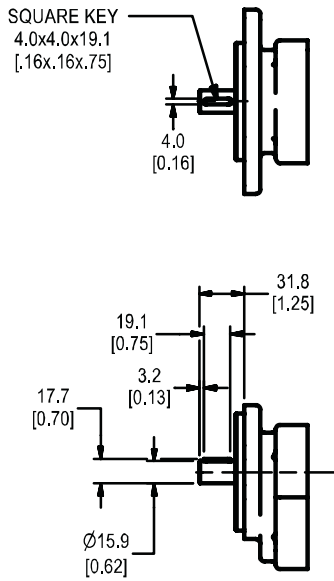
13T, 16/32 PITCH, 41.2L S.A.E. "B" SPLINE  
FLAT ROOT SIDE FIT



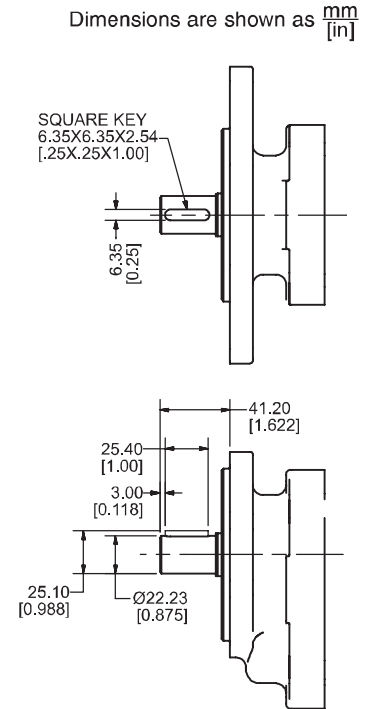
# Key Shaft Options

## PGP/PGM 600 Drive Shaft

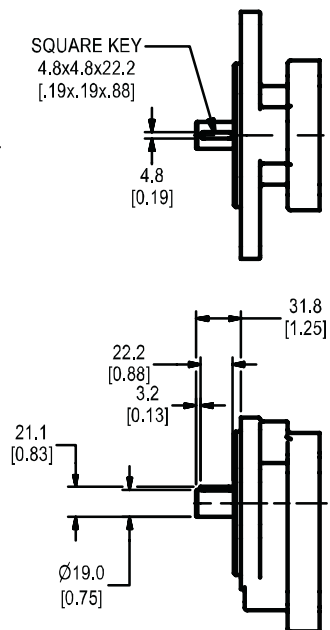
**Code K1 (610 only)**  
 Ø15.88, 4.0 KEY,  
 NO THREAD, 32L  
 S.A.E. "A" PARALLEL



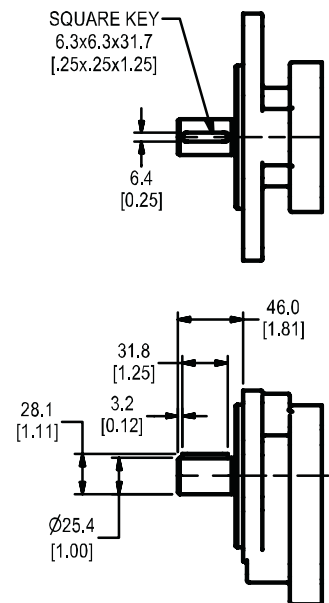
**Code M1  
 (620 only)**  
 Ø22.22, 6.3 KEY,  
 NO THREAD, 41.2L  
 S.A.E. "B" PARALLEL



**Code L6  
 (610 & 620 only)**  
 Ø19.05, 4.8 KEY,  
 NO THREAD, 32L  
 S.A.E. "19-1" PARALLEL



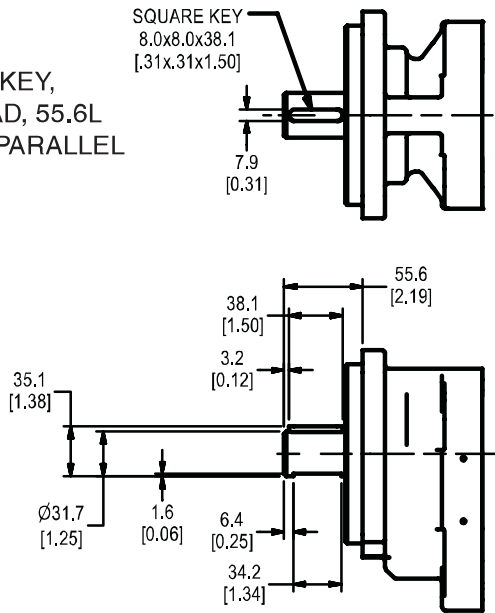
**Code M2  
 (620 & 640 only)**  
 Ø25.4, 6.3 KEY,  
 NO THREAD, 46L  
 S.A.E. "B-B" PARALLEL



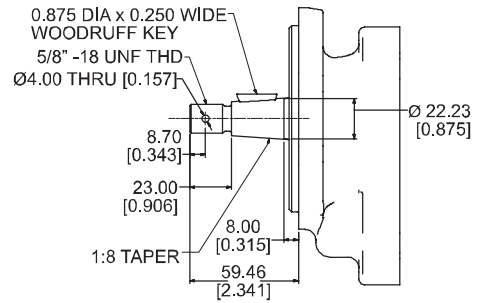
# Key Shaft Options

## PGP/PGM 600 Drive Shaft

**Code N1  
(640 only)**  
 Ø31.7, 8.0 KEY,  
 NO THREAD, 55.6L  
 S.A.E. "C" PARALLEL



**Code R3 (620 only)**  
 SAE "B" TAPER w/Key



## PGP/PGM 600- Shaft Load Capacity - Continuous Rating

Code	Type	Shaft Description	Maximum Allowable Torque					
			PGP610		PGP620		PGP640	
			Nm	lb-ft	Nm	lb-ft	Nm	lb-ft
A1	spline	SAE A, 9 tooth, 16/32 pitch	85	62	N/A	N/A	N/A	N/A
C1	spline	SAE 19-4, 11 tooth, 16/32 pitch	125	92	125	92	N/A	N/A
D1	spline	SAE B, 13 tooth, 16/32 pitch	245	181	245	181	350	258
E1	spline	SAE B-B, 15 tooth, 16/32 pitch	N/A	N/A	390	288	535	395
E4	spline	SAE C, 14 tooth, 12/24 pitch	N/A	N/A	N/A	N/A	1040	767
n/a	spline	Connecting Shaft-Tandem Units	130	96	225	166	435	321
K1	key	SAE A, 0.625" dia, 0.156" key	85	63	N/A	N/A	N/A	N/A
L6	key	SAE 19-1, 0.750" dia, 0.188" key	170	125	170	125	N/A	N/A
M1	key	SAE B, 0.875" dia, 0.250" key	200	148	200	148	N/A	N/A
M2	key	SAE BB, 1.000" dia, 0.250" key	N/A	N/A	320	236	320	236
N1	key	SAE C, 1.250" dia, 0.312" key	N/A	N/A	N/A	N/A	630	465
R3	taper	SAE B, 1:8 taper, 5/8" - 18 thd	N/A	N/A	190	140	N/A	N/A

To calculate the theoretical torque of a pump or motor:

$$\text{Torque (Nm)} = \frac{\text{Pressure (bar)} \times \text{Displacement (cc/rev)}}{62.8}$$

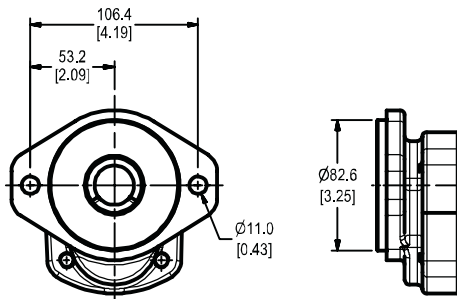
$$\text{Torque (lb-ft)} = \frac{\text{Pressure (psi)} \times \text{Displacement (cuin/rev)}}{75.4}$$

# Mounting Flange Options

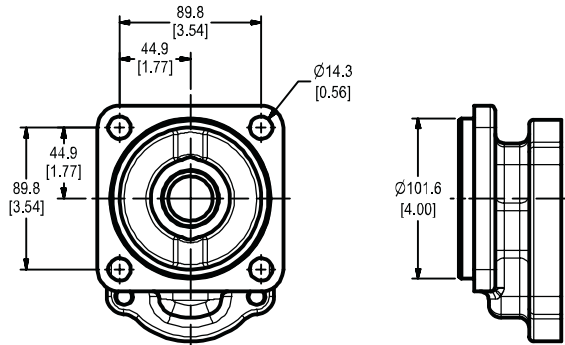
## PGP/PGM 600 Mounting Flange

Dimensions are shown as  $\frac{\text{mm}}{\text{[in]}}$

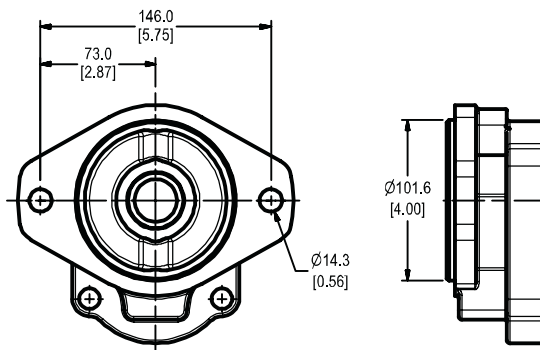
**Code H2 (610 & 620 only)**  
S.A.E. "A" 2-BOLT



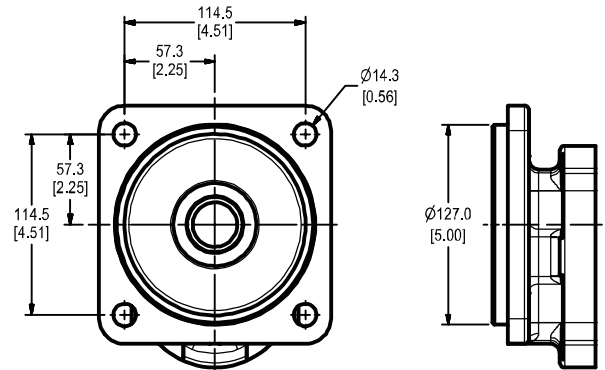
**Code A3 (620 & 640 only)**  
S.A.E. "B" 4-BOLT



**Code H3 (610, 620 & 640)**  
S.A.E. "B" 2-BOLT



**Code A4 (620 & 640 only)**  
S.A.E. "C" 4-BOLT



**Code K3 (640 only)**  
S.A.E. "C" 2-BOLT

