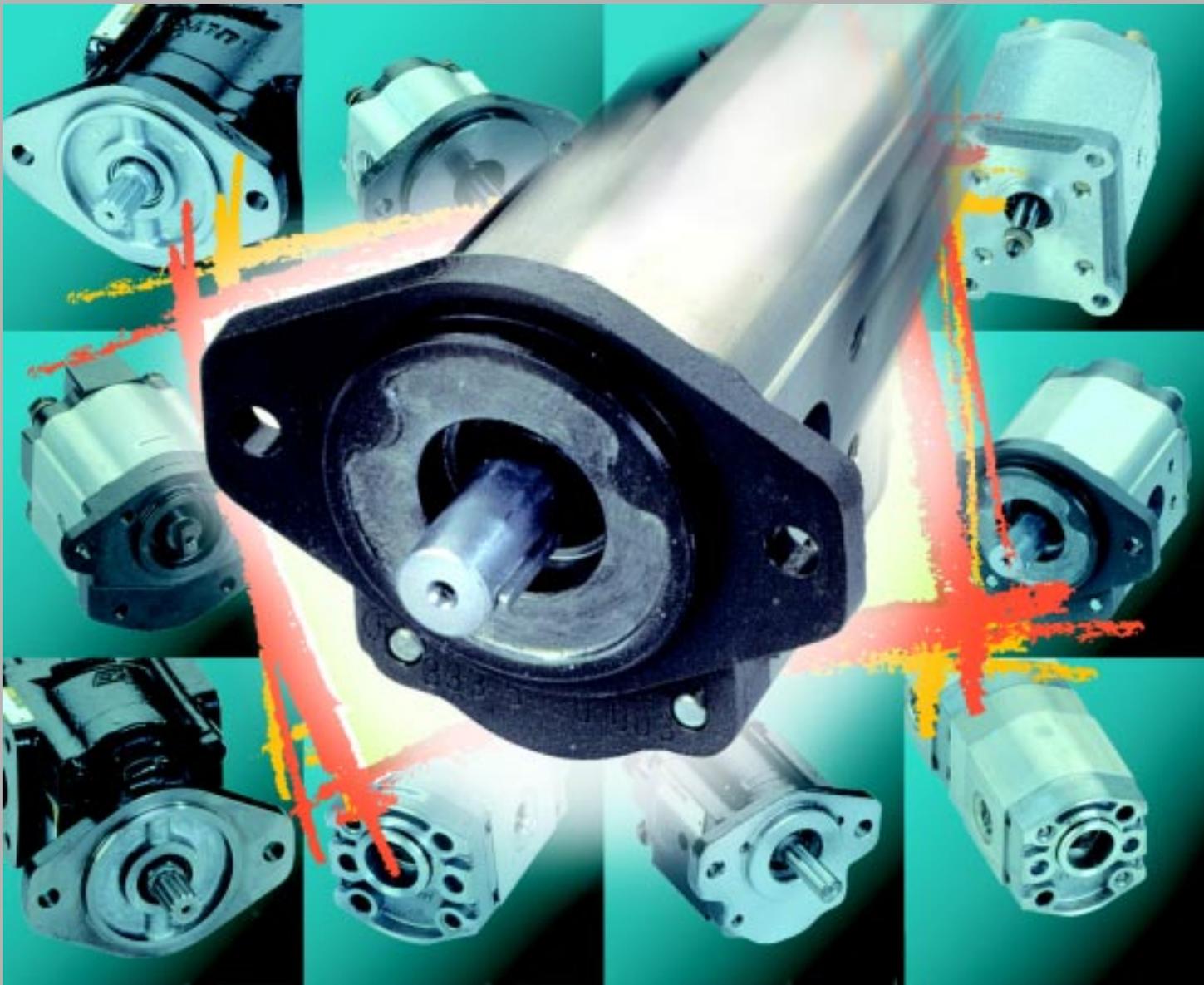




*Gear Pumps / Motors  
Series PGP / PGM  
Cast-Iron and Aluminium Designs*

*Catalogue HY11-3252/UK  
January 2002*



**Note**

This document and other information from Parker Hannifin GmbH, its subsidiaries, sales offices and authorized distributors provide product or system options for further investigation by users having technical expertise. Before you select or use any product or system it is important that you analyse all aspects of your application and review the information concerning the product or system in the current product catalogue. Due to the variety of operating conditions and applications for these products or systems, the user, through his own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance and safety requirements of the application are met. The products are subject to change by Parker Hannifin GmbH at any time without notice.

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**Parker Series 300**

**Design**

- Three-piece cast-iron construction
- Low-friction bushing design
- Heavy-duty application
- Single, multiple, piggyback, and thru-drive assemblies

**Description**

The Parker 300 Series pumps and motors set the standard for superior performance and reliability in heavy-duty hydraulic application. The three-piece cast-iron construction with large area, low-friction bushings provide strength, high efficiency, and long life in severe operating environments. The design includes an advanced thrust plate and seal configuration, which optimizes performance even in high temperature and low viscosity conditions.

300 Series pumps are available in single, multiple, piggyback, and thru-drive assemblies. Multiple pumps reduce mounting costs, allow for a small package size and common inlet capabilities. Assemblies up to six pumping sections are available.

Piggyback pumps allow the combination of pump sections of different frame sizes in a common inlet, tandem configuration, while the thru-drive feature allows an independent piston or gear pump to be mounted to a rear SAE drive



PGP 315B

pad. Multiple section motors are also available providing enhanced torque and speed control as well as smooth torque ripple.

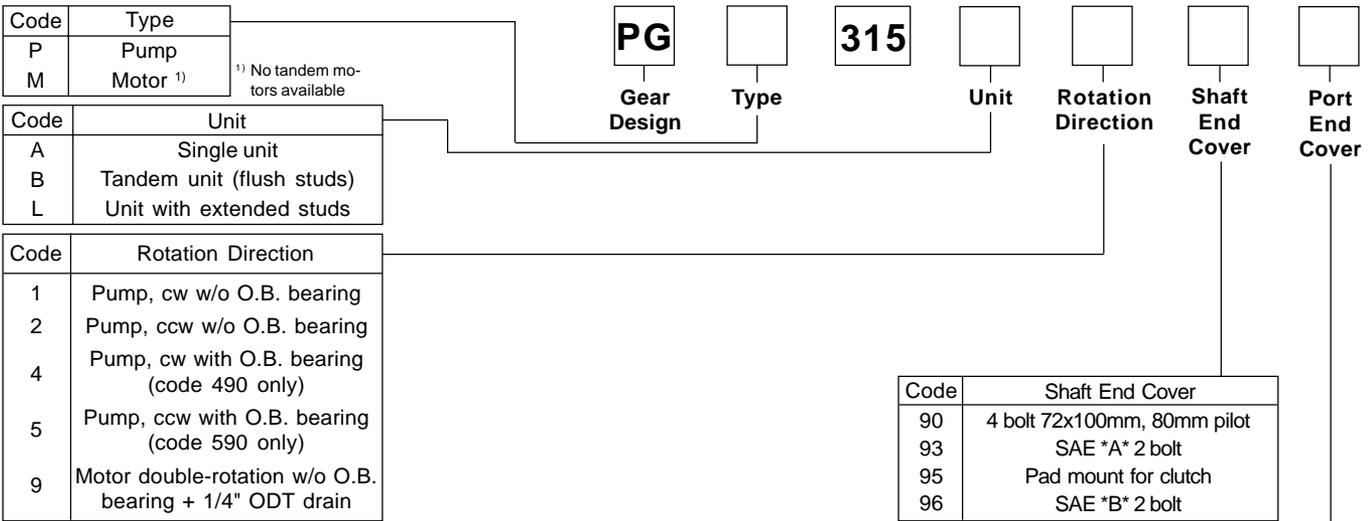
Relief valve, priority valve, load-sense unloading, and other integrated or bolt-on valve options are also available.

**Characteristics**

<b>Pump type</b>	Heavy-duty, cast-iron, external gear
<b>Mounting Ports</b>	SAE standard flanges, ZF, others SAE split flanges and other types of threaded ports (cp. table)
<b>Shaft style</b>	SAE splined, keyed, and others (see table)
<b>Drive</b>	Clockwise, counter-clockwise, double. Drive direct with flexible coupling is recommended. Pumps subject to radial loads must be specified with an outward bearing. Axial loading is not allowed.
<b>Speed</b>	From 400 to 3000 rev/min
<b>Theoretical displacem.</b>	See table
<b>Max. radial loads with outboard bearing</b>	PGP 315 = 3200 N PGP 330 = 3500 N PGP 350 = 5000 N PGP 365 = 6500 N
<b>Inlet pressure</b>	0.8 to 2 bar absolute at operating temp.
<b>Outlet pressure</b>	See table
<b>Hydraulic fluids</b>	Mineral oil, fire resistant fluids: - water-oil emulsions 60/40, HFB - water-glycol, HFC - phosphate-esters, HFD
<b>Fluid temperature</b>	Mineral oil with standard seals: -20°C to 80°C Fire resistant fluids HFB, HFC -20°C to +60°C
<b>Fluid viscosity</b>	From 7.5 to 1600 cSt Recommended 15 to 75 cSt

<b>Filtration</b>	ISO 4406 code: - 19/16 at 140 bar - 17/14 at 210 bar - 15/12 at 275 bar
<b>Flow velocity</b>	Mineral oil and HFD - Inlet up to 2.5 m/s - Outlet up to 6.0 m/s Fire resistant fluids HFB, HFC - Inlet up to 1.5 m/s - Outlet up to 4.0 m/s
<b>Multiple pump assemblies</b>	Up to 6 gear sections of the same model, even with different gear widths
<b>Piggyback assemblies</b>	Several models can be mounted together, one at the rear of the other. Fluids are intermixing even from separate reservoirs: 330/315, 350/315, 365/330, 365/330/315
<b>Add-a-pump assemblies</b>	Similar to piggyback, but fluids are not intermixing. (AI: aluminium pumps) 350/AI, 350/330, 350/350, 330/AI, 365/AI, 365/330, 365/350
<b>Priority outlet pumps</b>	Available for models 315, 330, 350
<b>General</b>	- For operations outside given parameters, please contact us. - The smallest gear is not recommended for single units at the max. rated pressure. - Theoretical displacement is equal to theoretical flow at 1.000 rev/min.

Ordering code



Port End Cover

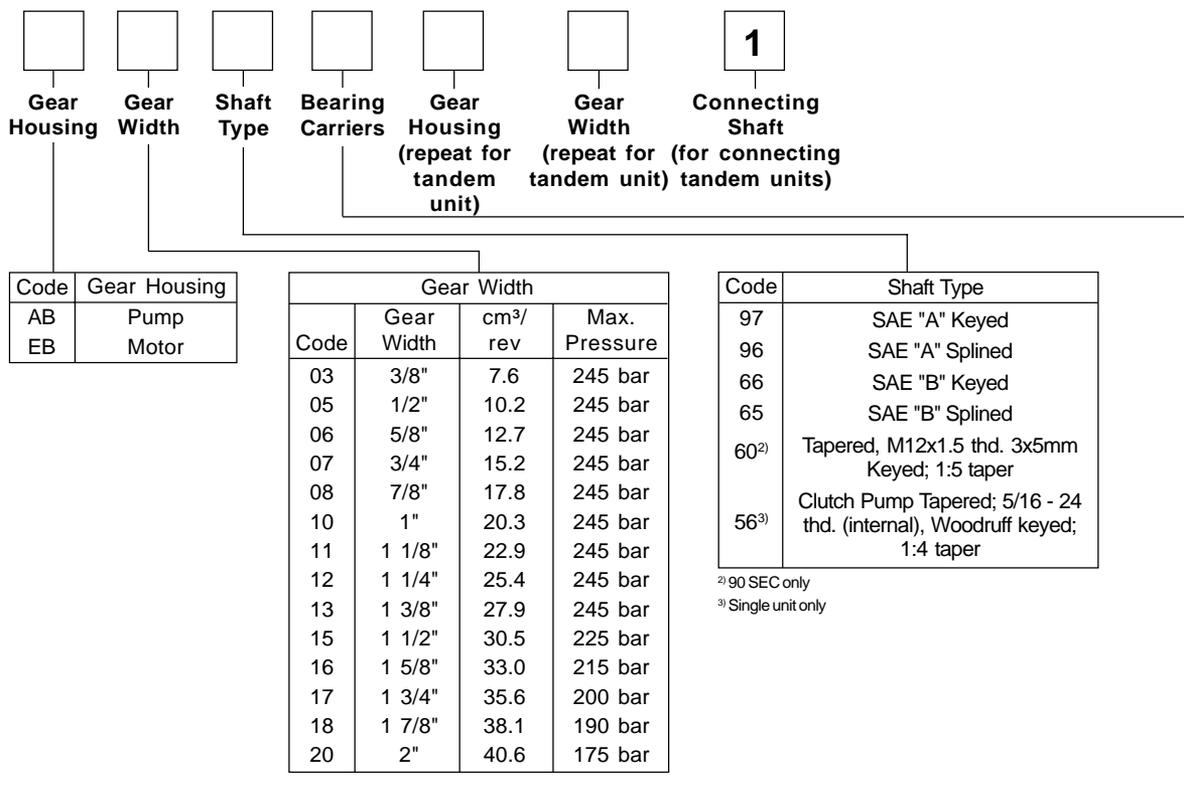
Side Ported Pumps      Rear Ported Pumps

Ports		OD Tube Porting		BSPB Porting		SAE Split Flange		National Pipe Thread		Metric Split Flange		OD Tube Porting		BSPB Porting	
IN	OUT	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code
1 1/4"	1"	FB	BF	FN	NF	—	—	AJ	JA	—	—	UC	CU	US	SU
1 1/4"	7/8"	FC	CF	FP	PF	—	—	—	—	—	—	UF	FU	UT	TU
1 1/4"	3/4"	FG	GF	FR	RF	—	—	AK	KA	—	—	UN	NU	UV	VU
1 1/4"	5/8"	FJ	JF	—	—	—	—	—	—	—	—	—	—	—	—
1"	1"	FL	LF	FS	SF	—	—	AL	LA	—	—	UD	DU	UW	WU
1"	7/8"	FV	VF	FT	TF	—	—	—	—	—	—	UP	PU	UX	XU
1"	3/4"	FW	WF	BP	PB	EJ	JE	AM	MA	EV	VE	UQ	QU	UY	YU
1"	5/8"	FX	XF	—	—	—	—	—	—	—	—	UR	RU	—	—
1"	1/2"	—	—	—	—	EK	KE	—	—	EW	WE	—	—	—	—
7/8"	7/8"	FY	YF	BQ	QB	—	—	—	—	—	—	LN	NL	LU	UL
7/8"	3/4"	FZ	ZF	BR	RB	—	—	—	—	—	—	LP	PL	LV	VL
7/8"	5/8"	BC	CB	—	—	—	—	—	—	—	—	LQ	QL	—	—
7/8"	1/2"	BG	GB	BT	TB	—	—	—	—	—	—	—	—	—	—
3/4"	3/4"	BJ	JB	BU	UB	EL	LE	AR	RA	EX	XE	LR	RL	LX	XL
3/4"	5/8"	BL	LB	—	—	—	—	—	—	—	—	LS	SL	—	—
3/4"	1/2"	BN	NB	PQ	QP	EM	ME	—	—	EY	YE	LT	TL	LZ	ZL
1 1/4"	—	BV	VB	PR	RP	—	—	—	—	—	—	—	—	—	—
1"	—	BW	WB	PS	SP	OE	EO	—	—	OP	PO	—	—	—	—
7/8"	—	BX	XB	PT	TP	—	—	—	—	—	—	—	—	—	—
3/4"	—	BY	YB	PV	VP	—	—	—	—	OR	RO	—	—	—	—
—	1"	BZ	ZB	PW	WP	—	—	—	—	—	—	—	—	—	—
—	7/8"	PD	DP	PX	XP	—	—	—	—	—	—	—	—	—	—
—	3/4"	PE	EP	PY	YP	OJ	JO	—	—	OT	TO	—	—	—	—
—	5/8"	PM	MP	—	—	—	—	—	—	—	—	—	—	—	—
—	1/2"	PN	NP	PZ	ZP	OL	LO	—	—	OV	VO	—	—	—	—

Unported (Tandem) Code BI

Side Ported Motors (Double Rotation)      Rear Ported Motors (Double Rotation)

Ports		OD Tube Porting	BSPB Porting	SAE Split Flange	National Pipe Thread	Metric Split Flange	OD Tube Porting	BSPB Porting	National Pipe Thread
IN	OUT	Code	Code	Code	Code	Code	Code	Code	Code
1"	1"	VN	VY	DR	DM	DV	RN	RT	RX
3/4"	3/4"	VR	VZ	DS	DN	DW	RQ	RV	RY
1/2"	1/2"	VQ	VV	—	DQ	—	RS	RW	RZ



Code	Gear Housing
AB	Pump
EB	Motor

Gear Width			
Code	Gear Width	cm <sup>3</sup> /rev	Max. Pressure
03	3/8"	7.6	245 bar
05	1/2"	10.2	245 bar
06	5/8"	12.7	245 bar
07	3/4"	15.2	245 bar
08	7/8"	17.8	245 bar
10	1"	20.3	245 bar
11	1 1/8"	22.9	245 bar
12	1 1/4"	25.4	245 bar
13	1 3/8"	27.9	245 bar
15	1 1/2"	30.5	225 bar
16	1 5/8"	33.0	215 bar
17	1 3/4"	35.6	200 bar
18	1 7/8"	38.1	190 bar
20	2"	40.6	175 bar

Code	Shaft Type
97	SAE "A" Keyed
96	SAE "A" Splined
66	SAE "B" Keyed
65	SAE "B" Splined
60 <sup>2)</sup>	Tapered, M12x1.5 thd. 3x5mm Keyed; 1:5 taper
56 <sup>3)</sup>	Clutch Pump Tapered; 5/16 - 24 thd. (internal), Woodruff keyed; 1:4 taper

<sup>2)</sup> 90 SEC only  
<sup>3)</sup> Single unit only

Bearing Carriers

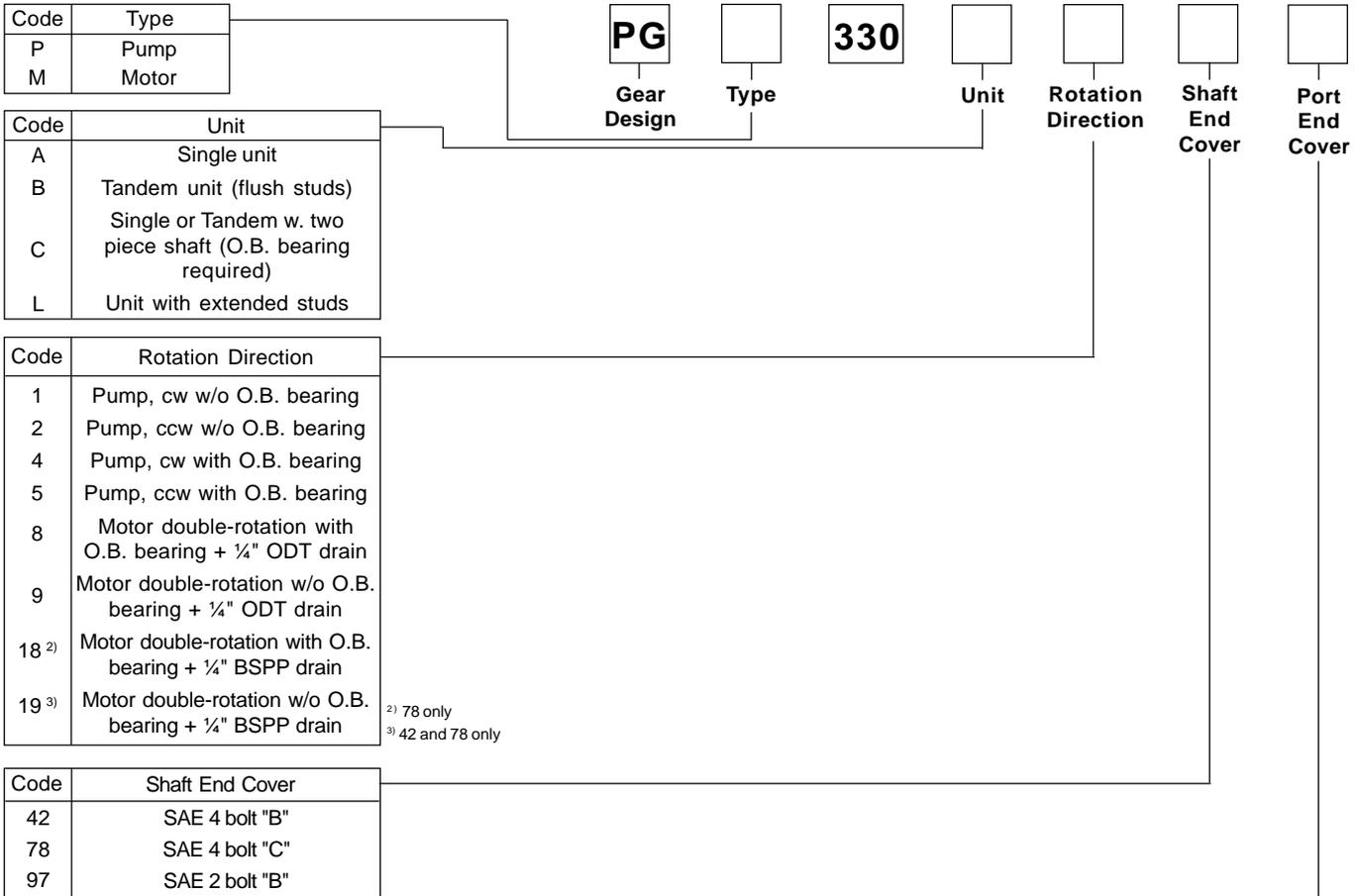
Dual Outlet Pumps      Single Outlet Pumps

**Note**  
Outlets: For clockwise porting the top port number comes first. For counter-clockwise porting the bottom port number comes first.

**Note**  
Outlet for front section.

Ports			OD Tube Porting		BSPP Porting		SAE Split Flange		Metric Split Flange		Ports			OD Tube Porting		BSPP Porting		SAE Split Flange		Metric Split Flange			
IN	OUT	OUT	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	IN	OUT	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code			
1 1/2"	1"	1"	JG	GJ	HJ	JH	—	—	—	—	1 1/2"	1 1/2"	KB	BK	KR	RK	—	—	—	—			
1 1/2"	1"	7/8"	KG	GK	KJ	JK	—	—	—	—	1 1/2"	1 1/4"	KC	CK	KS	SK	—	—	—	—			
1 1/2"	7/8"	7/8"	LG	GL	LJ	JL	—	—	—	—	1 1/2"	1"	KF	FK	KT	TK	—	—	—	—			
1 1/2"	1"	3/4"	MG	GM	MJ	JM	—	—	—	—	1 1/2"	7/8"	KL	LK	KU	UK	—	—	—	—			
1 1/2"	3/4"	3/4"	NG	GN	NJ	JN	—	—	—	—	1 1/2"	3/4"	KM	MK	KV	VK	—	—	—	—			
1 1/4"	1"	1"	PG	GP	PJ	JP	—	—	—	—	1 1/4"	1 1/4"	KN	NK	KW	WK	CJ	JC	CN	NC			
1 1/4"	1"	7/8"	QQ	QJ	JQ	—	—	—	—	—	1 1/4"	1"	KO	OK	KX	XK	CL	LC	CP	PC			
1 1/4"	7/8"	7/8"	RG	GR	RJ	JR	—	—	—	—	1 1/4"	7/8"	KP	PK	KY	YK	—	—	—	—			
1 1/4"	1"	3/4"	SG	GS	SJ	JS	—	—	—	—	1 1/4"	3/4"	KQ	QK	KZ	ZK	CM	MC	CQ	QC			
1 1/4"	3/4"	3/4"	TG	GT	TJ	JT	CA	AC	BD	DB	1 1/4"	5/8"	MB	BM	—	—	—	—	—	—			
1 1/4"	3/4"	5/8"	UG	GU	—	—	—	—	—	—	1 1/4"	1/2"	ML	LM	HO	OH	HB	BH	HR	RH			
1 1/4"	3/4"	1/2"	VG	GV	UJ	JU	DA	AD	CD	DC	1"	1"	MN	NM	HP	PH	HC	CH	HS	SH			
1 1/4"	5/8"	5/8"	WG	GW	—	—	—	—	—	—	1"	7/8"	MQ	QM	HQ	QH	—	—	—	—			
1 1/4"	1/2"	1/2"	XG	GX	VJ	JV	EA	AE	ED	DE	1"	3/4"	MR	RM	HX	XH	HF	FH	HT	TH			
1"	1"	1"	YG	GY	WJ	JW	—	—	—	—	1"	5/8"	MS	SM	—	—	—	—	—	—			
1"	1"	7/8"	ZG	GZ	XJ	JX	—	—	—	—	1"	1/2"	MT	TM	HY	YH	HL	LH	HU	UH			
1"	7/8"	7/8"	RC	CR	YJ	JY	—	—	—	—	3/4"	3/4"	MU	UM	HZ	ZH	HM	MH	HV	VH			
1"	1"	3/4"	SC	CS	ZJ	JZ	—	—	—	—	3/4"	5/8"	MV	VM	—	—	—	—	—	—			
1"	3/4"	3/4"	TC	CT	JD	DJ	FA	AF	FD	DF	3/4"	1/2"	MW	WM	MX	XM	HN	NH	HW	WH			
1"	3/4"	5/8"	VC	CV	—	—	—	—	—	—	Common inlet passage			CW	CCW								
1"	5/8"	5/8"	XC	CX	—	—	—	—	—	—	No ports			C	D								
1"	3/4"	1/2"	WC	CW	KD	DK	GA	AG	GD	DG													
1"	1/2"	1/2"	YC	CY	LD	DL	HA	AH	HD	DH													

**Ordering code**



**Port End Cover**

**Side Ported Pumps**

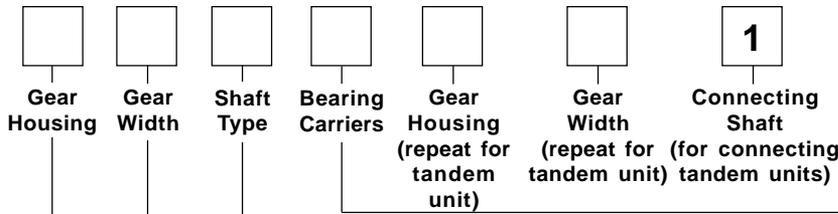
Ports		OD Tube Porting		BSPP Porting		SAE Split Flange		Metric Split Flange	
IN	OUT	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code
1 1/2"	1 1/4"	—	—	—	—	EJ	JE	EV	VE
1 1/2"	1"	—	—	—	—	EK	KE	EW	WE
1 1/4"	1 1/4"	—	—	—	—	EL	LE	EX	XE
1 1/4"	1"	FJ	JF	FS	SF	EM	ME	EY	YE
1"	1"	FL	LF	FT	TF	EN	NE	EZ	ZE
1 1/2"	—	—	—	—	—	OF	FO	OR	RO
1 1/4"	—	BG	GB	BQ	QB	OG	GO	OS	SO
1"	—	BJ	JB	BR	RB	OJ	JO	OT	TO
—	1 1/4"	—	—	—	—	OM	MO	OW	WO
—	1"	BN	NB	BU	UB	ON	NO	OX	XO

Unported (Tandem) Code BI

**Side Ported Motors (Double Rotation)**

Ports		OD Tube Porting	BSPP Porting	SAE Split Flange	Metr. Straight Thread	Metric Split Flange
IN	OUT	Code	Code	Code	Code	Code
1 1/4"	1 1/4"	VC	VX	CS	VS	CX
1"	1"	VN	VY	CT	VT	CY
3/4"	3/4"	VR	VZ	CV	VW	CZ

Unported (Tandem) Code BA



Code	Gear Housing
AB	Pump
EB	Motor

Gear Width			
Code	Gear Width	cm <sup>3</sup> /rev	Max. Pressure
05	½"	16.1	245 bar
07	¾"	24.2	245 bar
10	1"	32.3	245 bar
12	1 ¼"	40.4	245 bar
15	1 ½"	48.4	245 bar
17	1 ¾"	56.5	225 bar
20	2"	64.6	210 bar

Code	Shaft Type <sup>4)</sup>
07	SAE "C" Spline (two piece only)
25	SAE "B" Spline
30	SAE "B" Keyed
98	SAE "BB" Splined
43	SAE "BB" Keyed

<sup>4)</sup> For single, tandem or two piece shaft, unless noted.

**Bearing Carriers**

Dual Outlet Pumps	Single Outlet Pumps	Combined Outlet Pumps
<b>Note</b> Outlets: For clockwise porting the top port number comes first. For counter-clockwise porting the bottom port number comes first.	<b>Note</b> Outlet for front section.	

Ports			SAE Split Flange		Metric Split Flange		OD Tube Porting		Ports		SAE Split Flange		Metric Split Flange		OD Tube Porting		SAE Split Flange		OD Tube Porting	
			CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code			CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code
2"	1 ¼"	1 ¼"	AM	MA	DM	MD	—	—	2"	1 ½"	HB	BH	HR	RH	—	—	UN	NU	—	—
2"	1 ¼"	1"	AN	NA	DN	ND	—	—	2"	1 ¼"	HC	CH	HS	SH	—	—	UO	OU	—	—
2"	1"	1"	AP	PA	DP	PD	—	—	2"	1"	HF	FH	HT	TH	—	—	—	—	—	—
1 ½"	1 ¼"	1 ¼"	AT	TA	DT	TD	—	—	1 ½"	1 ½"	HL	LH	HU	UH	—	—	UP	PU	—	—
1 ½"	1 ¼"	1"	AU	UA	DU	UD	—	—	1 ½"	1 ¼"	HM	MH	HV	VH	KM	MK	UQ	QU	PQ	QP
1 ½"	1"	1"	AV	VA	DV	VD	GV	VG	1 ½"	1"	HN	NH	HW	WH	KN	NK	—	—	—	—
1 ¼"	1 ¼"	1 ¼"	AW	WA	DW	WD	—	—	1 ¼"	1 ¼"	HO	OH	HX	XH	KO	OK	UR	RU	PR	RP
1 ¼"	1 ¼"	1"	AX	XA	DX	XD	—	—	1 ¼"	1"	HP	PH	HY	YH	KP	PK	—	—	—	—
1 ¼"	1"	1"	AY	YA	—	—	GY	YG	1"	1"	HQ	QH	HZ	ZH	KQ	QK	—	—	—	—
1"	1"	1"	AZ	ZA	DZ	ZD	GZ	ZG	5/16"	1"	RS	SR	—	—	—	—	—	—	—	—

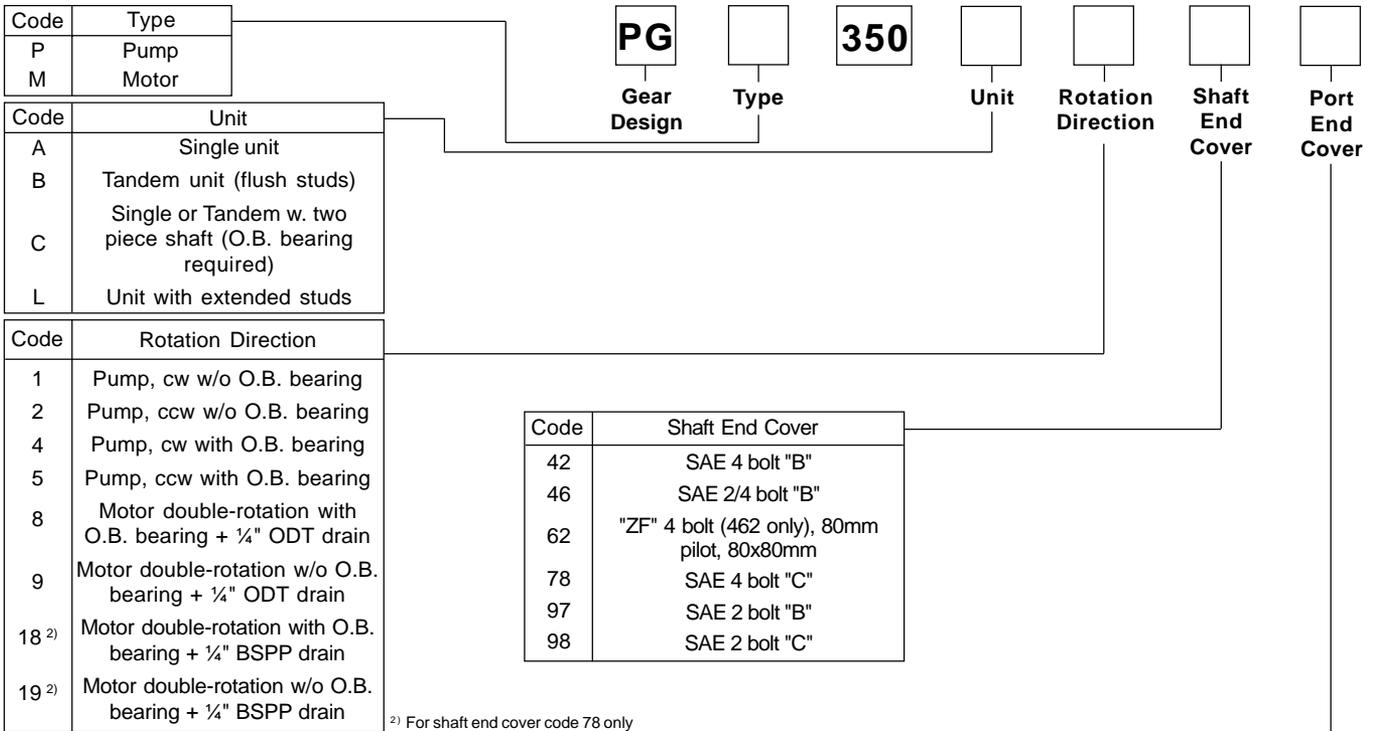
<sup>5)</sup> Outlet port for rear section

Common inlet passage	CW	CCW
No ports	C	D

**Combined Outlet Motors (Double Rotation)**

Ports		OD Tube Porting	BSPP Porting	SAE Split Flange	Metr. Straight Thread	Metric Split Flange
IN	OUT	Code	Code	Code	Code	Code
1 ½"	1 ½"	—	—	BB	—	HH
1 ¼"	1 ¼"	NN	XX	CC	TT	JJ
1"	1"	QQ	YY	EE	UU	KK
¾"	¾"	RR	ZZ	FF	VV	LL

Ordering code



Port End Cover

Side Ported Pumps

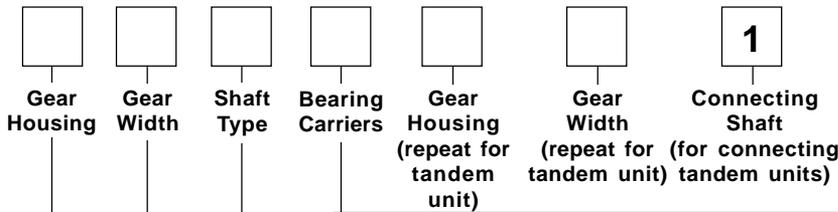
Ports		OD Tube Porting		BSPP Porting		SAE Split Flange		Metric Split Flange	
IN	OUT	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code
2"	1 1/2"	—	—	—	—	EC	CE	ER	RE
2"	1 1/4"	—	—	—	—	EF	FE	ES	SE
2"	1"	—	—	—	—	EG	GE	ET	TE
1 1/2"	1 1/2"	—	—	—	—	EH	HE	EU	UE
1 1/2"	1 1/4"	FB	BF	FN	NF	EJ	JE	EV	VE
1 1/2"	1"	FC	CF	FP	PF	EK	KE	EW	WE
1 1/4"	1 1/4"	FG	GF	FR	RF	EL	LE	EX	XE
1 1/4"	1"	FJ	JF	FS	SF	EM	ME	EY	YE
1"	1"	FL	LF	FT	TF	EN	NE	EZ	ZE
2"	—	—	—	—	—	OE	EO	OP	PO
1 1/2"	—	BC	CB	BP	PB	OF	FO	OR	RO
1 1/4"	—	BG	GB	BQ	QB	OG	GO	OS	SO
1"	—	BJ	JB	BR	RB	OJ	JO	OT	TO
—	1 1/2"	—	—	—	—	OL	LO	OV	VO
—	1 1/4"	BL	LB	BT	TB	OM	MO	OW	WO
—	1"	BN	NB	BU	UB	ON	NO	OX	XO

Unported (Tandem)	CW Code	BI	CCW Code	IB
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Side Ported Motors (Double Rotation)

Ports		OD Tube Porting	BSPP Porting	SAE Split Flange	Metr. Straight Thread	Metric Split Flange
IN	OUT	Code	Code	Code	Code	Code
1 1/2"	1 1/2"	—	—	CR	—	CW
1 1/4"	1 1/4"	VC	VX	CS	VS	CX
1"	1"	VN	VY	CT	VT	CY
3/4"	3/4"	VR	VZ	CV	VW	CZ

Unported (Tandem)	Code BA
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Code	Gear Housing
AB	Pump
EB	Motor

Gear Width			
Code	Gear Width	cm <sup>3</sup> /rev	Max. Pressure
05	½"	20.9	245 bar
07	¾"	31.3	245 bar
10	1"	41.8	245 bar
12	1 ¼"	52.2	245 bar
15	1 ½"	62.7	245 bar
17	1 ¾"	73.1	225 bar
20	2"	83.6	210 bar
22	2 ¼"	94.0	190 bar
25	2 ½"	104.5	175 bar

Code	Shaft Type <sup>3)</sup>
06	B8x32x36 DIN 5462 Spline (two piece only)
07	SAE "C" Spline
11	SAE "C" Keyed
25	SAE "B" Spline
43	SAE "BB" Keyed
73	SAE "C" Keyed long (single and two piece only)
98	SAE "BB" Splined (tandem only)

<sup>3)</sup> For single, tandem or two piece shaft, unless noted.

**Bearing Carriers**

Dual Outlet Pumps	Single Outlet Pumps
<b>Note</b> Outlets: For clockwise porting the top port number comes first. For counter-clockwise porting the bottom port number comes first.	<b>Note</b> Outlet for front section.

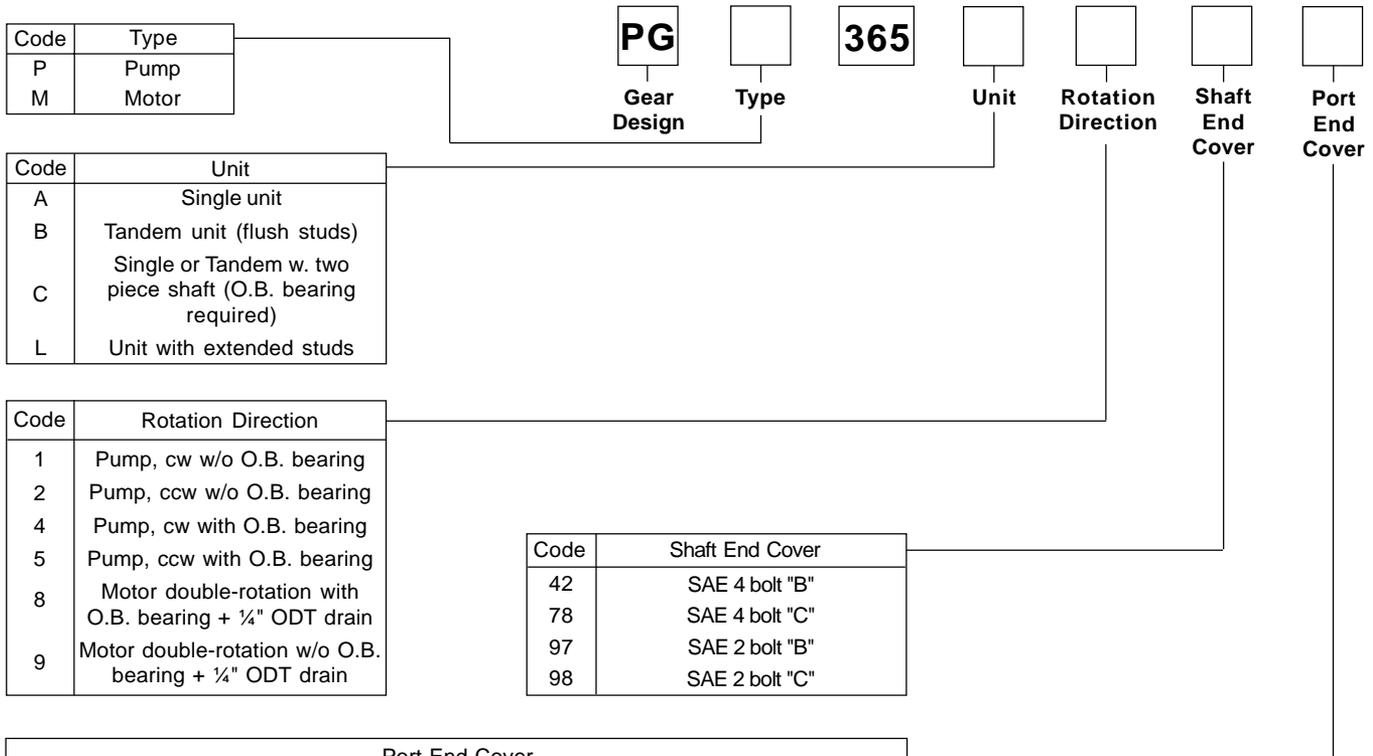
Ports			SAE Split Flange		Metric Split Flange		OD Tube Porting		Ports		SAE Split Flange		Metric Split Flange		BSPP Porting		OD Tube Porting	
IN	OUT	OUT	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	IN	OUT	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code
2 ½"	1 ¼"	1 ¼"	AF	FA	—	—	—	—	2"	1 ½"	HB	BH	RH	HR	KR	RK	KB	BK
2 ½"	1 ¼"	1"	AG	GA	—	—	—	—	2"	1 ¼"	HC	CH	SH	HS	KS	SK	KC	CK
2 ½"	1"	1"	AH	HA	—	—	—	—	2"	1"	HF	FH	TH	HT	KT	TK	KF	FK
2"	1 ¼"	1 ¼"	AM	MA	DM	MD	GM	MG	1 ½"	1 ½"	HL	LH	UH	HU	KU	UK	KL	LK
2"	1 ¼"	1"	AN	NA	DN	ND	GN	NG	1 ½"	1 ¼"	HM	MH	VH	HV	KV	VK	KM	MK
2"	1"	1"	AP	PA	DP	PD	GP	PG	1 ½"	1"	HN	NH	WH	HW	KW	WK	KN	NK
1 ½"	1 ¼"	1 ¼"	AT	TA	DT	TD	GT	TG	1 ¼"	1 ¼"	HO	OH	XH	HX	KX	XK	KO	OK
1 ½"	1 ¼"	1"	AU	UA	DU	UD	GU	UG	1 ¼"	1"	HP	PH	YH	HY	KY	YK	KP	PK
1 ½"	1"	1"	AV	VA	DV	VD	GV	VG	1"	1"	HQ	QH	ZH	HZ	KZ	ZK	KQ	QK
1 ¼"	1 ¼"	1 ¼"	AW	WA	DW	WD	GW	WG	4)1 ¼"	1"	RS	SR	—	—	—	—	—	—
1 ¼"	1 ¼"	1"	AX	XA	DX	XD	GX	XG	Common inlet passage		CW	CCW	<sup>4)</sup> Outlet port for rear section					
1 ¼"	1"	1"	AY	YA	DY	YD	GY	YG	No ports		C	D						
1"	1"	1"	AZ	ZA	DZ	ZD	GZ	ZG										

Combined Outlet Motors (Double Rotation)						
Ports		OD Tube Porting	BSPP Porting	SAE Split Flange	Metr. Straight Thread	Metric Split Flange
IN	OUT	Code	Code	Code	Code	Code
2"	2"	—	—	AA	—	GG
1 ½"	1 ½"	MM	WW	BB	SS	HH
1 ¼"	1 ¼"	NN	XX	CC	TT	JJ
1"	1"	QQ	YY	EE	UU	KK
¾"	¾"	RR	ZZ	FF	VV	LL

Combined Outlet Pumps							
Ports		SAE Split Flange		Metric Split Flange		OD Tube Porting	
IN	OUT	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code
2"	1 ½"	UN	NU	VU	UV	PE	EP
2"	1 ¼"	UO	OU	WU	UW	PM	MP
1 ½"	1 ½"	UP	PU	XU	UX	PN	NP
1 ½"	1 ¼"	UQ	QU	YU	UY	PQ	QP
1 ¼"	1 ¼"	UR	RU	ZU	UZ	PR	RP

**Ordering code**

**Series PGP, PGM 300**



**Port End Cover**

**Side Ported Pumps**

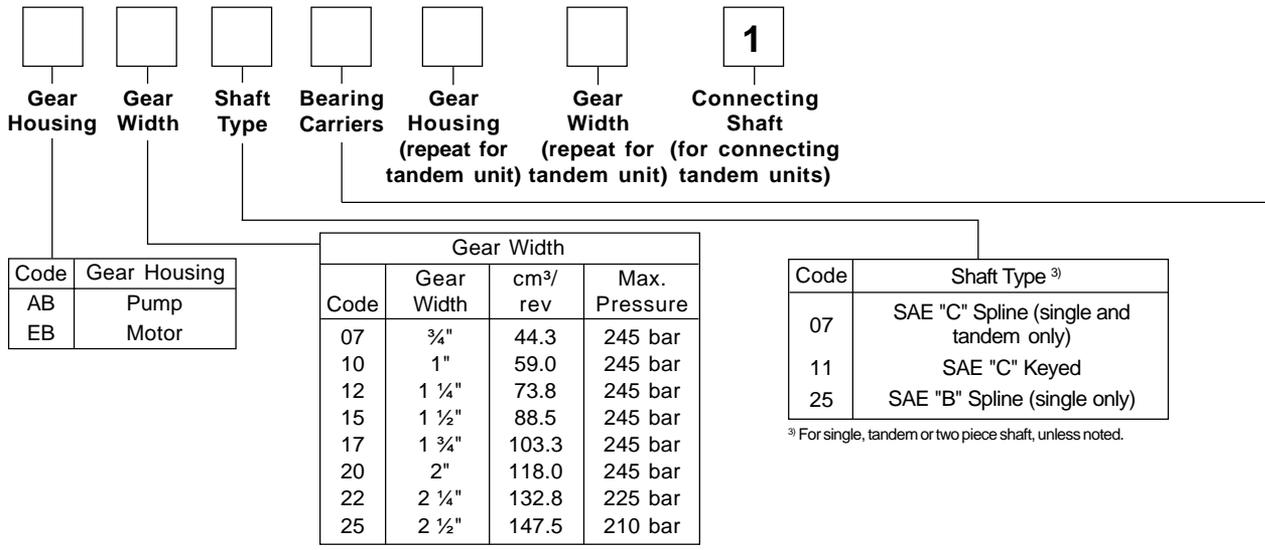
Ports		OD Tube Porting		BSPP Porting		SAE Split Flange		Metric Split Flange	
IN	OUT	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code
2"	1 ½"	—	—	—	—	EC	CE	ER	RE
2"	1 ¼"	—	—	—	—	EF	FE	ES	SE
2"	1"	—	—	—	—	EG	GE	ET	TE
1 ½"	1 ½"	—	—	—	—	EH	HE	EU	UE
1 ½"	1 ¼"	FB	BF	FN	NF	EJ	JE	EV	VE
1 ½"	1"	FC	CF	FP	PF	EK	KE	EW	WE
1 ¼"	1 ¼"	FG	GF	FR	RF	EL	LE	EX	XE
1 ¼"	1"	FJ	JF	FS	SF	EM	ME	EY	YE
1"	1"	FL	LF	FT	TF	EN	NE	EZ	ZE
2"	—	—	—	—	—	OE	EO	OP	PO
1 ½"	—	BC	CB	BP	PB	OF	FO	OR	RO
1 ¼"	—	BG	GB	BQ	QB	OG	GO	OS	SO
1"	—	BJ	JB	BR	RB	OJ	JO	OT	TO
—	1 ½"	—	—	—	—	OL	LO	OV	VO
—	1 ¼"	BL	LB	BT	TB	OM	MO	OW	WO
—	1"	BN	NB	BU	UB	ON	NO	OX	XO

Unported (Tandem) | CW Code | BI | CCW Code | IB

**Side Ported Motors (Double Rotation)**

Ports		OD Tube Porting	BSPP Porting	SAE Split Flange	Metr. Straight Thread	Metric Split Flange
IN	OUT	Code	Code	Code	Code	Code
1 ½"	1 ½"	—	—	CR	—	CW
1 ¼"	1 ¼"	VC	VX	CS	VS	CX
1"	1"	VN	VY	CT	VT	CY
¾"	¾"	VR	VZ	CV	VW	CZ

Unported (Tandem) | Code BA



**Bearing Carriers**

**Dual Outlet Pumps**

**Note** Outlets: For clockwise porting the top port number comes first. For counter-clockwise porting the bottom port number comes first.

Ports			SAE Split Flange		Metric Split Flange		OD Tube Porting		BSPB Porting	
			CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code
2 ½"	1 ½"	1 ½"	AC	CA	DB	BD	—	—	—	—
2 ½"	1 ½"	1 ¼"	AD	DA	DC	CD	—	—	—	—
2 ½"	1 ½"	1"	AE	EA	DE	ED	—	—	—	—
2 ½"	1 ¼"	1 ¼"	AF	FA	DF	FD	—	—	—	—
2 ½"	1 ¼"	1"	AG	GA	DG	GD	—	—	—	—
2 ½"	1"	1"	AH	HA	DH	HD	—	—	—	—
2"	1 ½"	1 ½"	AJ	JA	DJ	JD	GJ	JG	JH	HJ
2"	1 ½"	1 ¼"	AK	KA	DK	KD	GK	KG	JK	KJ
2"	1 ½"	1"	AL	LA	DL	LD	GL	LG	JL	LJ
2"	1 ¼"	1 ¼"	AM	MA	DM	MD	GM	MG	JM	MJ
2"	1 ¼"	1"	AN	NA	DN	ND	GN	NG	JN	NJ
2"	1"	1"	AP	PA	DP	PD	GP	PG	JP	PJ
1 ½"	1 ½"	1 ½"	AQ	QA	DQ	QD	GQ	QG	JQ	QJ
1 ½"	1 ½"	1 ¼"	AR	RA	DR	RD	GR	RG	JR	RJ
1 ½"	1 ½"	1"	AS	SA	DS	SD	GS	SG	JS	SJ
1 ½"	1 ¼"	1 ¼"	AT	TA	DT	TD	GT	TG	JT	TJ
1 ½"	1 ¼"	1"	AU	UA	DU	UD	GU	UG	JU	UJ
1 ½"	1"	1"	AV	VA	DV	VD	GV	VG	JV	VJ
1 ¼"	1 ¼"	1 ¼"	AW	WA	DW	WD	GW	WG	JW	WJ
1 ¼"	1 ¼"	1"	AX	XA	DX	XD	GX	XG	JX	XJ
1 ¼"	1"	1"	AY	YA	DY	YD	GY	YG	JY	YJ
1"	1"	1"	AZ	ZA	DZ	ZD	GZ	ZG	JZ	ZJ

**Single Outlet Pumps**

**Note** Outlet for front section.

Ports		SAE Split Flange		Metric Split Flange		OD Tube Porting	
		CW Code	CCW Code	CW Code	CCW Code	CW Code	CCW Code
2 ½"	1 ½"	CJ	JC	CN	NC	—	—
2 ½"	1 ¼"	CL	LC	CP	PC	—	—
2 ½"	1"	CM	MC	CQ	QC	—	—
2"	1 ½"	HB	BH	HR	RH	KB	BK
2"	1 ¼"	HC	CH	HS	SH	KC	CK
2"	1"	HF	FH	HT	TH	KF	FK
1 ½"	1 ½"	HL	LH	HU	UH	KL	LK
1 ½"	1 ¼"	HM	MH	HV	VH	KM	MK
1 ½"	1"	HN	NH	HW	WH	KN	NK
1 ¼"	1 ¼"	HO	OH	HX	XH	KO	OK
1 ¼"	1"	HP	PH	HY	YH	KP	PK
1"	1"	HQ	QH	HZ	ZH	KQ	QK
<sup>4)</sup> 2 ½"	1 ½"	NR	RN	—	—	—	—
<sup>4)</sup> 1 ¼"	1"	RS	SR	—	—	—	—

<sup>4)</sup> Outlet port for rear section

**Combined Outlet Pumps**

Ports		SAE Split Flange		OD Tube Porting	
		CW Code	CCW Code	CW Code	CCW Code
2 ½"	1 ½"	UC	CU	—	—
2 ½"	1 ¼"	UF	FU	—	—
2"	1 ½"	UN	NU	PE	EP
2"	1 ¼"	UO	OU	PM	MP
1 ½"	1 ½"	UP	PU	PN	NP
1 ½"	1 ¼"	UQ	QU	PQ	QP
1 ¼"	1 ¼"	UR	RU	PR	RP

Common inlet passage	CW	CCW
No ports	C	D

**Combined Outlet Motors**

Ports		OD Tube Porting	BSPB Porting	SAE Split Flange	Metr. Straight Thread	Metric Split Flange
IN	OUT	Code	Code	Code	Code	Code
2"	2"	—	—	AA	—	GG
1 ½"	1 ½"	MM	WW	BB	SS	HH
1 ¼"	1 ¼"	NN	XX	CC	TT	JJ
1"	1"	QQ	YY	EE	UU	KK
¾"	¾"	RR	ZZ	FF	VV	LL

Performance data

PGP/PGM

Model PGP =pump PGM =motor	Gear width			Theoret. displacem. cm <sup>3</sup> /rev.	Mineral Oil max. pressure bar		Weight	
	Inch	Code	mm		Cont.	Intermitt.	Single	Multiple
							kg	add per sect. kg
PGP 315 PGM 315	1/2	05	12.7	10.2	245	275	6.7	6.7
	5/8	06	15.9	12.7	245	275	6.9	6.9
	3/4	07	19.1	15.2	245	275	7.1	7.1
	7/8	08	22.2	17.8	245	275	7.3	7.3
	1	10	25.4	20.3	245	275	7.6	7.6
	11/8	11	28.6	22.9	245	275	7.8	7.8
	11/4	12	31.8	25.4	245	265	8.1	8.1
	13/8	13	34.9	27.9	245	255	8.3	8.3
	11/2	15	38.1	30.5	225	245	8.5	8.5
	15/8	16	41.3	33.0	215	230	8.7	8.7
	13/4	17	44.5	35.6	200	215	9.0	9.0
	17/8	18	47.6	38.1	190	205	9.2	9.2
	2	20	50.8	40.6	175	190	9.4	9.4
PGP 330 PGM 330	1/2	05	12.7	16.1	245	275	15.0	12.0
	3/4	07	19.1	24.2	245	275	15.5	12.5
	1	10	25.4	32.3	245	275	16.0	13.0
	11/4	12	31.8	40.4	245	275	16.5	13.5
	11/2	15	38.1	48.4	245	265	17.0	14.0
	13/4	17	44.5	56.5	225	245	17.5	14.5
	2	20	50.8	64.6	210	225	18.0	15.0
PGP 350 PGM 350	1/2	05	12.7	20.9	245	275	19.0	16.0
	3/4	07	19.1	31.3	245	275	20.0	17.0
	1	10	25.4	41.8	245	275	21.0	18.0
	11/4	12	31.8	52.2	245	275	22.0	19.0
	11/2	15	38.1	62.7	245	265	23.0	20.0
	13/4	17	44.5	73.1	225	245	24.0	21.0
	2	20	50.8	83.6	210	225	25.0	22.0
	21/4	22	57.2	94.0	190	210	26.0	23.0
	21/2	25	63.5	104.5	175	190	27.0	24.0
PGP 365 PGM 365	3/4	07	19.1	44.3	245	275	26.0	23.0
	1	10	25.4	59.0	245	275	27.0	24.0
	11/4	12	31.8	73.8	245	275	28.0	25.0
	11/2	15	38.1	88.5	245	275	29.0	26.0
	13/4	17	44.5	103.3	245	275	30.0	27.0
	2	20	50.8	118.0	245	265	31.0	28.0
	21/4	22	57.2	132.8	225	245	32.0	29.0
	21/2	25	63.5	147.5	210	225	33.0	30.0

**Pump Performance Data**

**PGP 315**

Speed RPM	Output flow Input power	Gear Widths						
		1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"
900	LPM	8	12	17	21	26	30	34
	kW	4	6	8	10	11	11	11
1200	LPM	11	17	23	29	35	40	46
	kW	5	8	11	13	15	15	15
1500	LPM	14	21	29	36	44	51	58
	kW	7	10	13	16	19	19	19
1800	LPM	17	26	35	44	53	62	70
	kW	8	12	16	20	22	23	23
2100	LPM	20	30	41	51	62	72	83
	kW	9	14	18	23	26	27	26
2400	LPM	23	35	47	59	71	83	95
	kW	11	16	21	26	30	31	30
3000	LPM	29	44	59	74	90	104	119
	kW	13	20	26	33	37	38	38

Performance data shown are the average results based on a series of laboratory tests of production units and are not necessarily representative of any one unit. Tests were run with an oil reservoir temperature of 50°C and a viscosity of 38mm<sup>2</sup>/s at 40°C.

**Note:**

Pump output flow is at the maximum rated pressure (see page14).

**Motor Performance Data**

**PGM 315**

Speed RPM	Gear Widths									
	1" 245 bar		1 1/4" 245 bar		1 1/2" 225 bar		1 3/4" 200 bar		2" 175 bar	
	A	B	A	B	A	B	A	B	A	B
900	27	75.1	32	93.8	37	106.2	41	109.0	46	107.3
1200	33	75.1	40	93.8	46	106.2	52	109.0	59	107.3
1500	40	74.6	48	93.2	56	105.6	63	107.9	71	106.8
1800	46	74.0	56	92.6	65	105.1	74	107.3	84	106.2
2100	53	74.0	64	92.6	75	105.1	85	107.3	96	106.2
2400	59	72.3	72	90.4	84	102.8	96	105.1	109	103.9
3000	72	72.3	87	90.4	103	102.3	118	104.5	134	103.4

A: Input Flow LPM; B: Output Torque Nm

**Note:**

In accordance with our policy of continuing development, we reserve the right to change specifications shown in this catalogue without notice.

**Performance data**

**Pump Performance Data**

**PGP 330**

Speed RPM	Output flow Input power	Gear Widths							
		1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	
900	LPM	12	19	26	33	40	47	54	
	kW	6	10	13	16	19	21	22	
1200	LPM	17	26	36	45	55	64	73	
	kW	8	13	17	21	25	28	29	
1500	LPM	22	34	46	57	69	81	93	
	kW	11	16	21	26	32	34	36	
1800	LPM	27	41	55	70	84	98	112	
	kW	13	19	25	32	38	41	44	
2100	LPM	32	48	65	82	98	115	131	
	kW	15	22	30	37	44	48	51	
2400	LPM	36	55	75	94	113	132	151	
	kW	17	25	34	42	51	55	58	
3000	LPM	46	70	94	118	142	166	190	
	kW	21	32	42	53	64	69	73	

Performance data shown are the average results based on a series of laboratory tests of production units and are not necessarily representative of any one unit. Tests were run with an oil reservoir temperature of 50° C and a viscosity of 38 mm<sup>2</sup>/s at 40° C.

**Note:**

Pump output flow is at the maximum rated pressure (see page14).

**Motor Performance Data**

**PGM 330**

Speed RPM	Gear Widths									
	1" 245 bar		1 1/4" 245 bar		1 1/2" 245 bar		1 3/4" 225 bar		2" 210 bar	
	A	B	A	B	A	B	A	B	A	B
900	38	114.1	47	143.5	55	172.9	63	188.1	72	200.0
1200	49	113.6	59	142.9	70	172.3	81	187.6	92	198.9
1500	59	113.0	72	141.8	85	171.2	99	186.4	112	197.7
1800	69	112.4	85	141.2	101	170.0	116	185.3	132	196.6
2100	80	111.9	98	140.1	116	168.9	134	183.6	152	194.3
2400	90	111.3	111	139.5	131	167.2	152	181.3	172	191.5
3000	110	110.7	136	139.0	161	166.7	186	180.2	212	190.4

A: Input Flow LPM; B: Output Torque Nm

**Note:**

In accordance with our policy of continuing development, we reserve the right to change specifications shown in this catalogue without notice.

**Pump Performance Data**  
**PGP 350**

Speed RPM	Output flow Input power	Gear Widths								
		1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"
900	LPM	15	24	33	42	52	61	70	79	89
	kW	8	12	17	21	25	27	28	29	30
1200	LPM	21	33	46	58	71	83	95	108	120
	kW	11	17	22	28	33	36	38	39	39
1500	LPM	28	43	59	74	89	105	120	136	151
	kW	14	21	28	34	41	45	47	49	49
1800	LPM	34	52	71	89	108	127	145	164	183
	kW	17	25	33	41	50	54	57	58	59
2100	LPM	40	62	84	105	127	149	171	192	214
	kW	19	29	39	48	58	63	66	68	69
2400	LPM	46	71	96	121	146	171	196	220	245
	kW	22	33	44	55	66	72	76	78	79

Performance data shown are the average results based on a series of laboratory tests of production units and are not necessarily representative of any one unit. Tests were run with an oil reservoir temperature of 50° C and a viscosity of 38 mm<sup>2</sup>/s at 40° C.

**Note:**

Pump output flow is at the maximum rated pressure (see page14).

**Motor Performance Data**  
**PGM 350**

Speed RPM	Gear Widths													
	1" 245 bar		1 1/4" 245 bar		1 1/2" 245 bar		1 3/4" 225 bar		2" 210 bar		2 1/4" 190 bar		2 1/2" 175 bar	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
900	51	149.1	61	188.7	70	228.8	80	251.4	90	265.5	100	274.0	110	276.8
1200	64	148.6	77	187.6	90	227.7	103	250.3	116	264.4	129	272.3	142	275.1
1500	77	146.9	93	185.3	110	224.8	126	248.0	142	261.6	158	269.5	174	272.3
1800	91	146.3	110	184.7	129	223.7	148	246.3	167	259.9	187	268.3	206	270.6
2100	104	145.2	126	183.0	149	222.0	171	244.6	193	258.2	216	266.1	238	268.9
2400	117	142.9	143	180.8	168	219.2	194	241.2	219	254.8	245	262.7	270	265.5

A: Input Flow LPM; B: Output Torque Nm

**Note:**

In accordance with our policy of continuing development, we reserve the right to change specifications shown in this catalogue without notice.

**Performance data**

**Pump Performance Data**

**PGP 365**

Speed RPM	Output flow		Gear Widths							
	Input power		3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"
900	LPM		30	44	57	70	83	96	109	122
	kW		18	23	29	35	41	47	49	50
1200	LPM		44	61	79	96	114	131	149	166
	kW		23	31	39	47	55	63	65	67
1500	LPM		57	79	101	123	145	167	188	211
	kW		29	39	49	59	68	78	82	84
1800	LPM		70	97	123	149	176	202	228	255
	kW		35	47	59	70	82	94	98	101
2100	LPM		83	114	145	176	207	238	268	299
	kW		41	55	68	82	96	110	114	117
2400	LPM		97	132	167	203	238	273	308	343
	kW		47	63	78	94	110	125	131	134

Performance data shown are the average results based on a series of laboratory tests of production units and are not necessarily representative of any one unit. Tests were run with an oil reservoir temperature of 50°C and a viscosity of 38 mm<sup>2</sup>/s at 40°C.

**Note:**  
Pump output flow is at the maximum rated pressure (see page14).

**Motor Performance Data**

**PGM 365**

Speed RPM	Gear Widths													
	1" 245 bar		1 1/4" 245 bar		1 1/2" 245 bar		1 3/4" 245 bar		2" 245 bar		2 1/4" 225 bar		2 1/2" 210 bar	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
900	70	210.7	83	266.1	97	323.1	111	380.8	124	435.0	138	454.2	152	466.1
1200	88	208.5	106	263.3	124	319.7	142	376.8	160	430.5	179	449.7	197	461.0
1500	107	205.1	129	259.3	152	314.1	174	370.6	197	423.7	219	442.3	242	454.2
1800	125	203.9	152	257.6	179	312.4	206	368.9	233	421.4	260	440.1	287	451.4
2100	144	198.3	175	250.8	206	303.9	238	357.0	269	407.9	300	426.0	332	436.7
2400	162	192.6	198	243.5	234	295.5	269	345.2	305	394.3	341	411.8	377	422.6

A: Input Flow LPM; B: Output Torque Nm

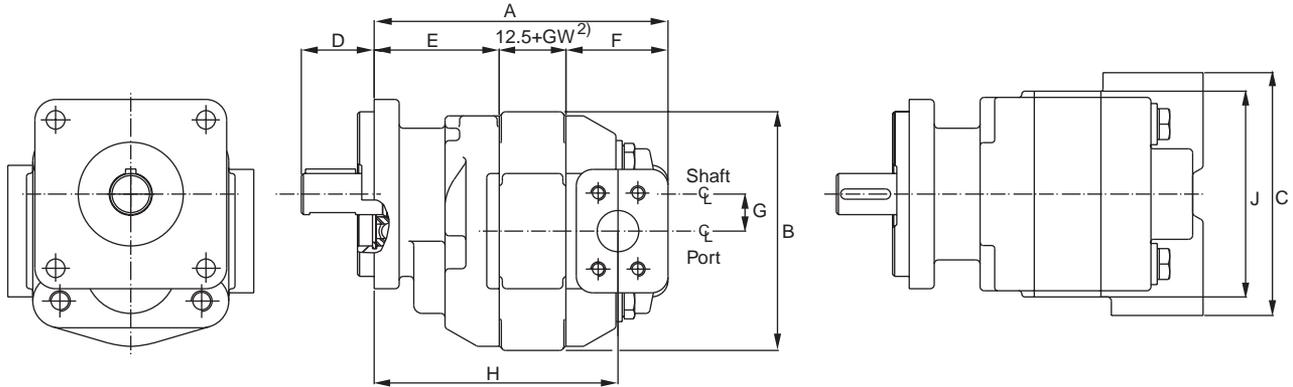
**Note:**

In accordance with our policy of continuing development, we reserve the right to change specifications shown in this catalogue without notice.

**Dimensions**

**Single pumps and motors**

Model	Dimensions mm									
	A	B	C <sup>4)</sup>	D <sup>3)</sup>	E	F	G	H	J(P)	J(M)
315	108.5+GW <sup>1)</sup>	120.7	108.0	41.1	47.8	50.8	19.1	83.1+GW	101.6	106.4
330	157.2+GW	149.4	174.8	41.1	79.2	65.0	22.2	125.5+GW	122.2	127.0
350	179.3+GW	152.4	108.8	55.6	88.9	77.7	25.4	141.2+GW	146.1	146.1
365	185.7+GW	184.2	187.5	55.6	95.3	77.7	28.6	147.6+GW	158.8	158.8



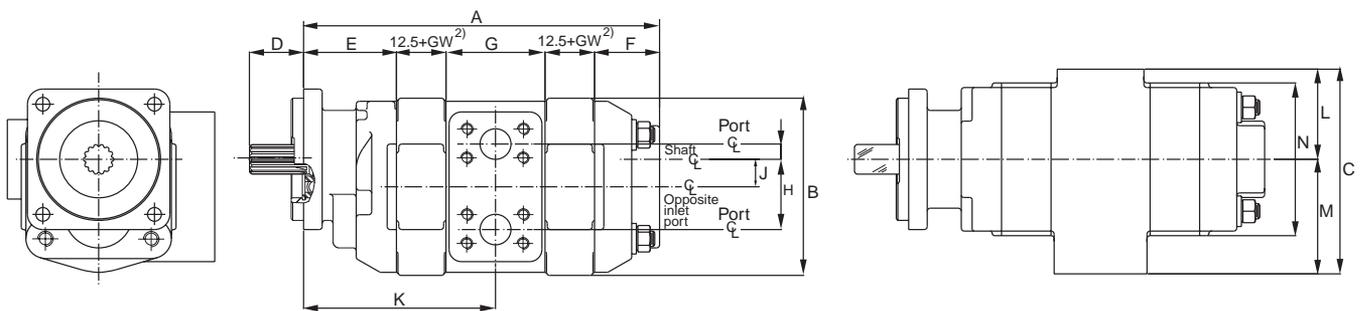
Front view

Side view

Top view

**Tandem pumps and motors**

Model	Dimensions mm															
	A	B	C <sup>4)</sup>	D <sup>3)</sup>	E	F	G	H	I	J	K	L**	M**	N(P)	N(M)	
315	179.1+T.GW <sup>1)</sup>	120.7	127.0	41.1	47.8	44.5	66.5	46.7	8.6	19.1	91.2+GW	57.2	699	101.6	106.4	
330	250.9+T.GW	149.4	172.2	41.1	79.2	57.2	88.9	60.5	15.7	22.2	136.7+GW	78.5	93.7	122.2	127.0	
350	260.4+T.GW	152.4	195.3	55.6	88.9	57.2	88.9	63.5	12.7	25.4	146.1+GW	90.4	104.6	146.1	146.1	
365	289.1+TGW	184.2	212.9	55.6	95.3	66.5	101.6	73.3	15.7	28.6	158.8+GW	93.7	119.1	158.8	158.8	



Front view

Side view

Top view

<sup>1)</sup>GW =Gear width

<sup>2)</sup>PGP 315 is 10.2+GW

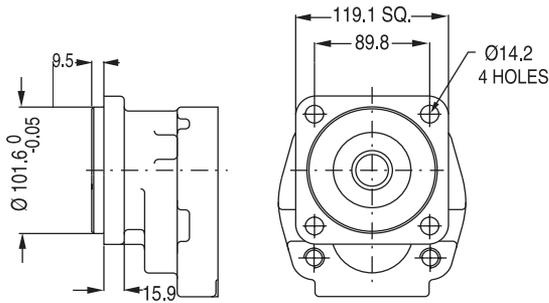
<sup>3)</sup>This dimension will vary with type of drive shaft.

<sup>4)</sup>This dimension will vary with type of ports. T = Total.

**Mounting flange options**

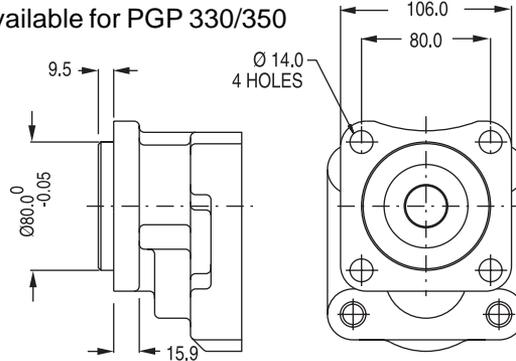
**Code 42**

SAE "B" 4 Bolt ANSI 101-4  
available for PGP 330/350/365



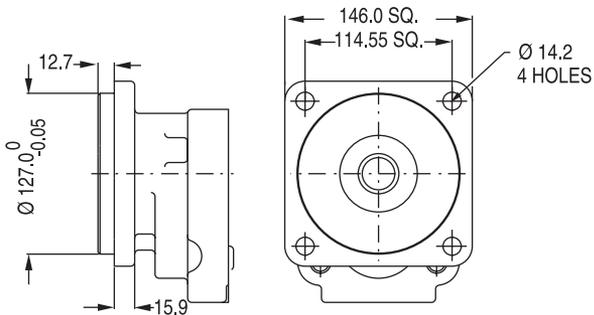
**Code 62**

BNA Standard NF R 17-102  
available for PGP 330/350



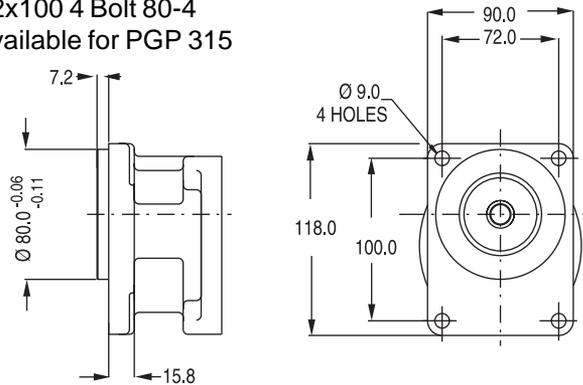
**Code 78**

SAE "C" 4 Bolt ANSI 127-4  
available for PGP 330/350/365



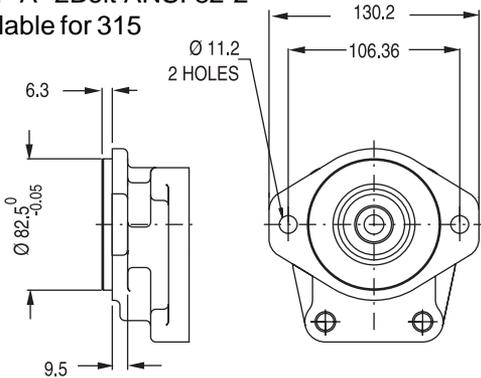
**Code 90**

72x100 4 Bolt 80-4  
available for PGP 315



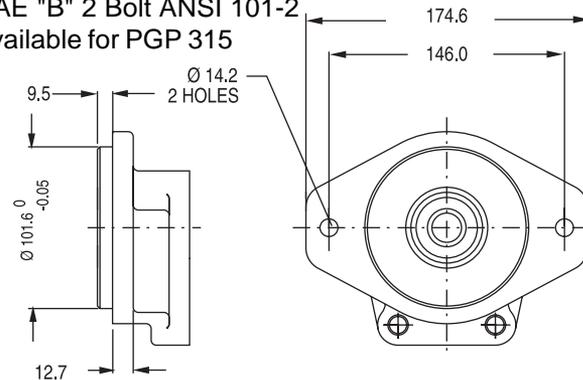
**Code 93**

SAE "A" 2 Bolt ANSI 82-2  
available for 315



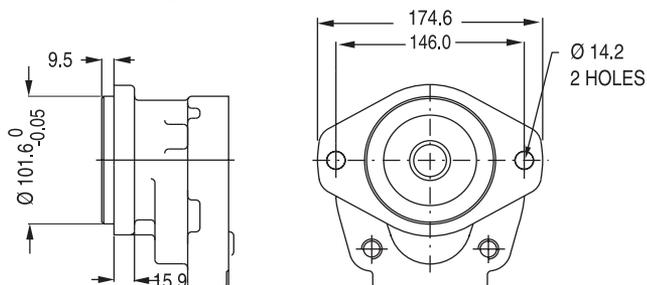
**Code 96**

SAE "B" 2 Bolt ANSI 101-2  
available for PGP 315



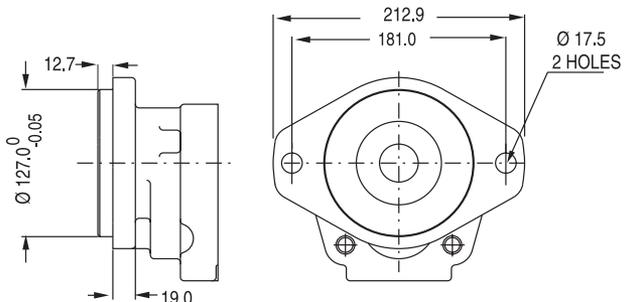
**Code 97**

SAE "B" 2 Bolt ANSI 101-2  
available for PGP 315/330/350/365



**Code 98**

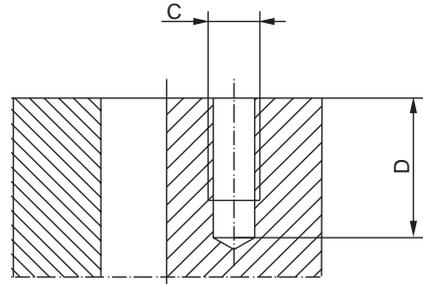
SAE "C" 2 Bolt ANSI 127-2  
available for PGP 350/365



**Port options**

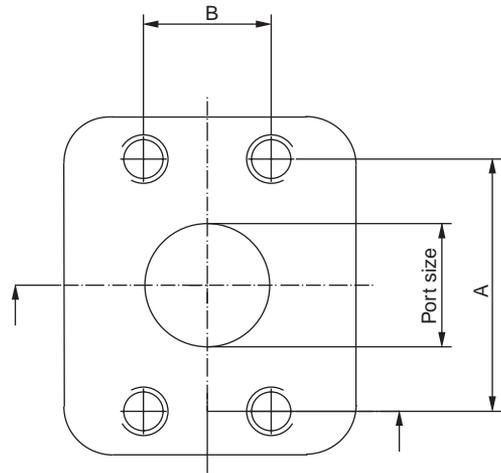
**SAE flanged ports metric thread (SSM)**

Port Size	B	A	C	D
mm	mm	mm	mm	mm
12.7	17.5	38.1	M8x1.25	23.9
19.1	22.2	47.6	M10x1.50	22.4
25.4	26.2	52.2	M10x1.50	22.4
31.8	30.2	58.7	M10x1.50	28.4
36.1	35.7	69.9	M12x1.75	26.9
50.8	42.9	77.8	M12x1.75	26.9
63.5	50.8	88.9	M12x1.75	30.2



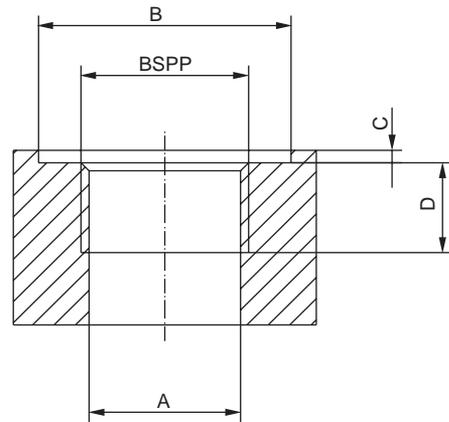
**SAE flanged ports UNC (SSS)**

Port Size	B	A	C	D
mm	mm	mm	mm	mm
12.7	17.5	38.1	5/16"-18	23.9
19.1	22.2	47.6	3/8"-16	22.4
25.4	26.2	52.2	3/8"-16	22.4
31.8	30.2	58.7	7/16"-14	28.4
36.1	35.7	69.9	1/2"-13	26.9
50.8	42.9	77.8	1/2"-13	26.9
63.5	50.8	88.9	1/2"-13	30.2



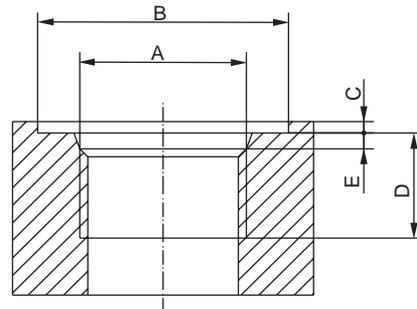
**British Standard Pipe Parallel (BSPP)**

BSPP	A	B	C	D
	mm	mm	mm	mm
0.50"-14	19.0	34.0	2.5	14.0
0.75"-14	24.50	40.0	2.5	16.0
1.00"-11	30.75	50.0	2.5	18.0
1.25"-11	39.50	58.0	2.5	20.0
1.50"-11	45.25	64.0	2.5	22.0
2.00"-11	56.25	78.0	3.0	24.0



**SAE straight thread (ODT)**

ODT	A	D	B	C	E
	UNF	mm	mm	mm	mm
1/2"	3/4"-16	14.3	30.2	2.4	2.55
5/8"	7/8"-14	16.7	34.1	2.4	2.55
3/4"	11/16"-12	19.1	41.3	2.4	3.30
7/8"	13/16"-12	19.1	44.8	2.4	3.30
1"	15/16"-12	19.1	48.5	2.4	3.35
1 1/4"	15/8"-12	19.1	57.7	2.4	3.35
1 1/2"	17/8"-12	19.1	65.0	2.4	3.35
2	2 1/2"-12	19.1	88.4	2.4	3.35



**Drive shaft options**

**PL factor**

Each section of a multiple pump should be regarded as a single unit with corresponding delivery and power input requirements. Since the entire input horsepower is fed through a common drive shaft, the power delivered to the unit is limited by the physical strength of the shaft. This limit is defined as a "PL" factor; "P" being the operating pressure in "bar" and "L" the summation of gear widths on all sections in "mm".

In multiple units the "PL" must be calculated for the first connecting shaft as well as the drive shaft. Each style or type of shaft has a unique "PL" factor as noted in the table below.

Operating Pressure (bar) x Total Gear Width (mm) = PL

PL MUST NOT EXCEED NUMBER SHOWN IN CHART FOR APPROPRIATE SHAFT.

For gear width depending on displacement, see previous tables on Pump resp. Motor Performance data.

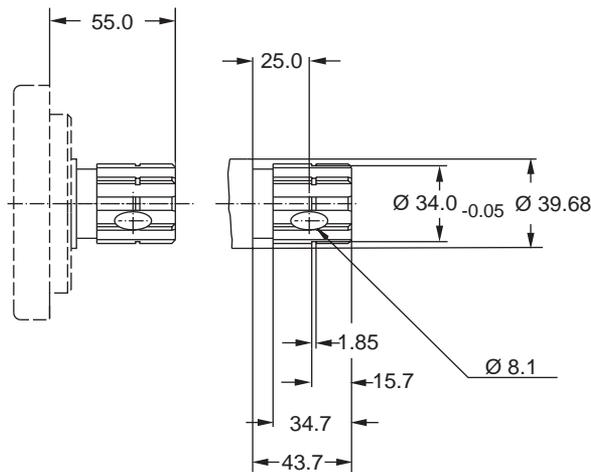
**PL chart**

Shaft style	Integral shaft a. gear	Cont. Shaft
<b>PGP/PGM 315</b>		
SAE "A" Spline (up to 1.25" GW)	7.793	-
SAE "A" Key	6.305	-
SAE "B" Spline	23.467	-
SAE "B" Key	17.338	-
Connecting Shaft	-	9720
<b>PGP/PGM 330</b>		
SAE "B" Spline	14.798	10.945
SAE "B" Key	10.945	10.945
SAE "B-B" Spline	22.766	10.945
SAE "B-B" Key	16.287	10.945
SAE "C" Spline	-	10.945
SAE "C" Key	-	10.945
Connecting Shaft	-	10.945
<b>PGP/PGM 350</b>		
SAE "B" Spline	11.296	11.296
SAE "B" Key	8.319	8.319
SAE "B-B" Spline	17.338	15.761
SAE "B-B" Key	12.434	12.434
SAE "C" Spline	33.449	15.761
SAE "C" Key	24.343	15.761
Connecting Shaft	-	15.761
<b>PGP/PGM 365</b>		
SAE "B" Spline	8.844	8.844
SAE "B" Key	6.480	6.480
SAE "B-B" Spline	13.572	13.573
SAE "B-B" Key	9.720	9.720
SAE "C" Spline	26.094	20.928
SAE "C" Key	18.914	20.928
Connecting Shaft	-	20.928

**PGP/PGM 300 Drive Shaft**

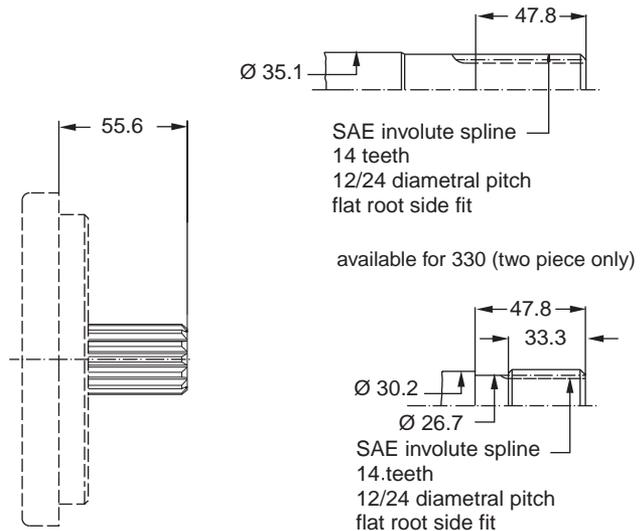
**Code 06**

DIN 5462 B8x32x36  
available for 330/350



**Code 07**

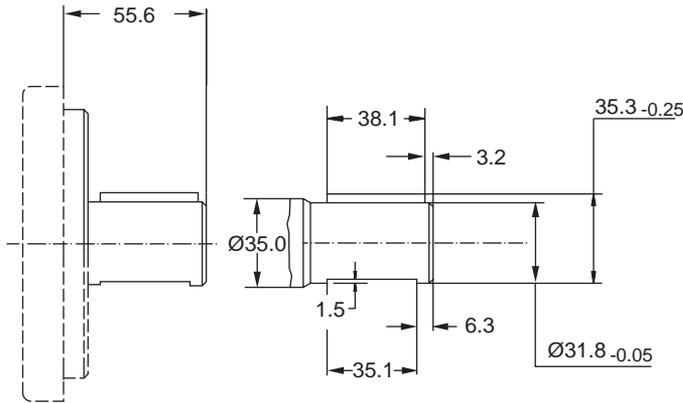
SAE "C" teeth ANSI 32-4  
available for 350/365



**Drive shaft options**

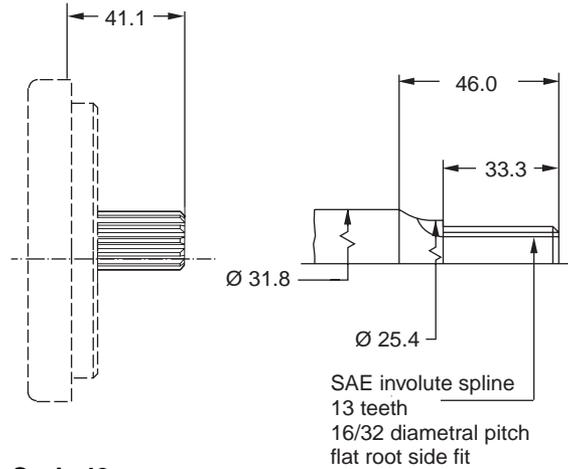
**Code 11**

SAE "C" keyed ANSI 32-1  
available for 350/365



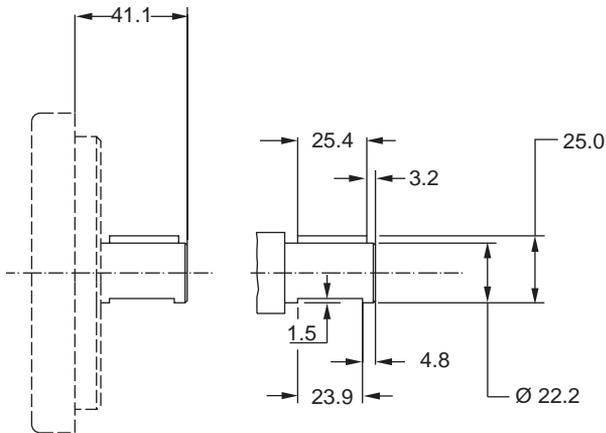
**Code 25**

SAE "B" 13 teeth ANSI 22-4  
available for 330/350/365 (single only)



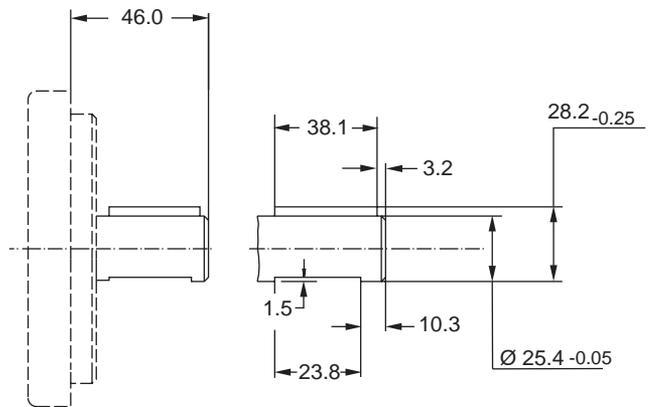
**Code 30**

SAE "B" keyed ANSI 22-1  
available for 330



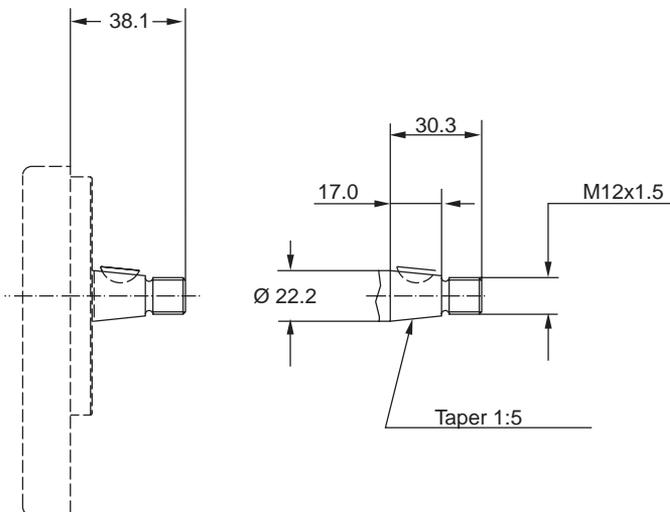
**Code 43**

SAE "BB" keyed ANSI 25-1  
available for 330



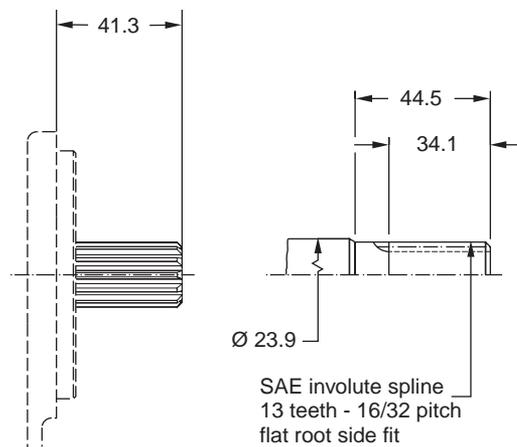
**Code 60**

DIN 254 tapered with thread  
available for 315



**Code 65**

SAE "B" 13 teeth ANSI 22-4  
available for 315

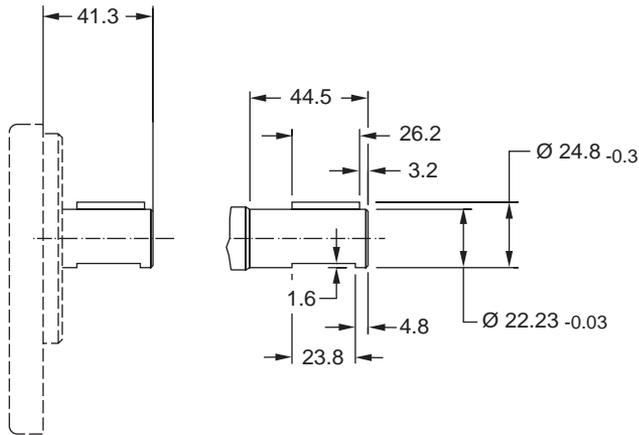


Drive shaft options

PGP/PGM 300 Drive Shaft

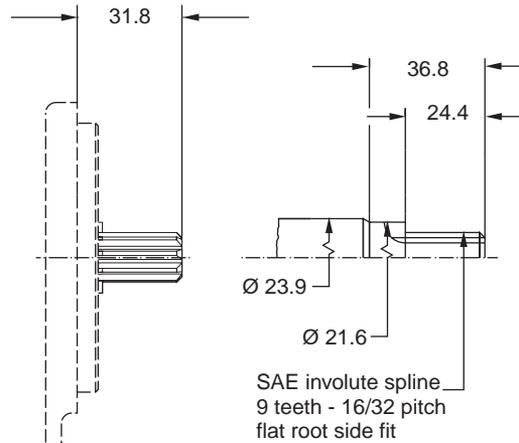
**Code 66**

SAE "B" keyed ANSI 22-1  
available for 315



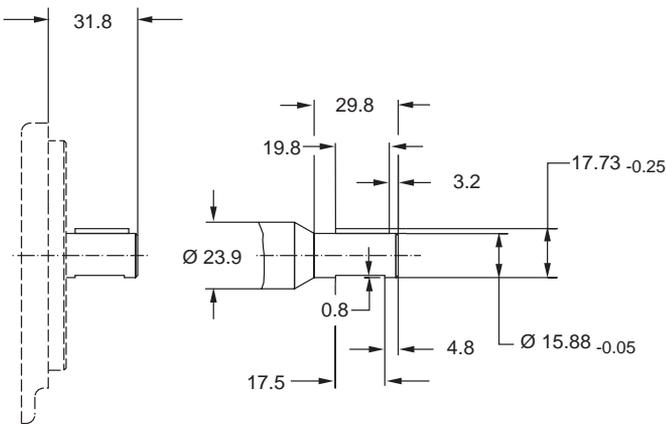
**Code 96**

SAE "A" 9 teeth ANSI 16-4  
available for 315



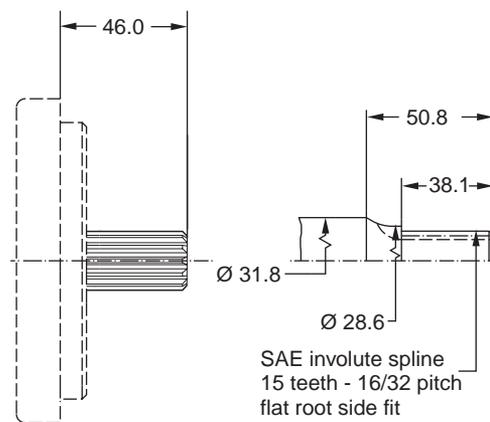
**Code 97**

SAE "A" keyed ANSI 16-1  
available for 315



**Code 98**

SAE "BB" 15 teeth ANSI 25-4  
available for 330/350 (tandem only)



Drive Shaft max. input torque

Shaft Style • Integral: 1 • 2 pieces: 2			PGP 315	PGP 330	PGP 350	PGP 365
			Nm	Nm	Nm	Nm
SAE A	splined 9 teeth	1	109	-	-	-
		2	-	-	-	-
SAE A	keyed	1	84	-	-	-
		2	-	-	-	-
SAE B	splined 13 teeth	1	328	328	328	328
		2	-	215	328	328
SAE B	keyed	1	226	226	226	226
		2	-	215	226	226
SAE BB	splined 15 teeth	1	-	503	503	503
		2	-	215	407	503
SAE BB	keyed	1	-	339	339	339
		2	-	215	339	339
SAE C	splined 14 teeth	1	-	-	960	960
		2	-	215	407	678
SAE C	keyed	1	-	-	678	678
		2	-	215	407	678
DIN 5462 B8x32x36		2	-	215	407	-
DIN 254 taper 1:5		1	74	-	-	-
Connecting Shaft			122	215	407	723

**Parker Series 500**

**High Performance.**

**High Efficiency.**

**High pressure operation.**

PGP 500 series pumps offer superior performance, high efficiency and low noise operation at high operating pressures. They are produced in four frame sizes (PGP 503, PGP 505, PGP 511, PGP 517) with displacements ranging from 0.8 to 70 cm<sup>3</sup>/rev. A wide variety of standard options is available to meet specific application requirements.



PGP 500

**Description**

- **Up to 275 bar continuous operation**  
High strength materials and large journal diameters provide low bearing loads for high pressure operation.
- **Low noise**  
PGP 503-9 tooth gear profile, PGP 505 and 517-13 tooth gear profile, PGP 51-12 tooth gear profile and optimized flow metering provide reduced pressure pulsation and exceptionally quiet operation.

- **High efficiency**  
Pressure balanced bearing blocks assure maximum efficiency under all operating conditions.
- **Application flexibility**  
International mounts and connections, integrated valve capabilities and common inlet multiple pump configurations provide unmatched design and application versatility.

**Characteristics**

<b>Pump type</b>	Heavy-duty, aluminium, external gear
<b>Mounting</b>	SAE, rectangular, thru-bolt standard specials on request
<b>Ports</b>	SAE and metric Split flanges and others
<b>Shaft style</b>	SAE splined, keyed, tapered, cylindrical tang drive, specials on request.
<b>Speed</b>	500 - 4000 rpm, see tables.
<b>Theor. displacem.</b>	See tables.
<b>Drive</b>	Drive direct with flexible coupling is recommended.
<b>Axial / Radial Load</b>	Units subject to axial or radial loads must be specified with an outboard bearing.
<b>Inlet pressure</b>	Operating range 0.8 to 2 bar abs. min. inlet pressure 0.5 bar short time without load Consultation is recommended.
<b>Outlet pressure</b>	see tables
<b>Hydraulic fluids</b>	Mineral oil, fire resistant fluids: - water-oil emulsions 60/40, HFB - water-glycol, HFC - phosphate-esters, HFD
<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.

<b>Fluid viscosity</b>	Range of operating viscosity 8 to 1000 mm <sup>2</sup> /s max. Permissible operating pressure dependent on viscosity. Viscosity range for cold start 1000 to 2000 mm <sup>2</sup> /s at operating pressure p ≤ 10 bar and speed n ≤ 1500 rpm.
<b>Range of ambient temperature</b>	-40°C to +70°C.
<b>Filtration</b>	According to ISO 4406 Cl. 16/13.
<b>Flow velocity</b>	See table.
<b>Direction of rotation (looking at the drive shaft)</b>	Clockwise, counter-clockwise or double Attention! Drive pump only in indicated direction of rotation.
<b>Multiple pump assemblies</b>	- Available in two, three or four section configurations. - Max. shaft loading must conform to the limitations shown in the shaft loading rating table in this catalogue. - 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 gear sets share a common inlet. - Inlet is located in the front (and third for tripple or quad constr.) gear housing section.

Ordering code

	<b>PG</b>		<b>503</b>										
	Gear Design	Type		Unit	Displacement	Rotation	Shaft	Flange	Shaft Seal	Side Suction Port	Side Pressure Port	Rear Suction Port <sup>1)</sup>	Rear Pressure Port <sup>1)</sup>

Code	Type
P	Pump
M	Motor

Code	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)

Displacement	
Code	ccm
0008	0.8
0012	1.2
0016	1.6
0021	2.1
0025	2.5
0033	3.3
0036	3.6
0043	4.3
0048	4.8
0058	5.8
0062	6.2
0079	7.9

Code	Rotation
C	Clockwise
A	Counter clockwise
B	bi-directional

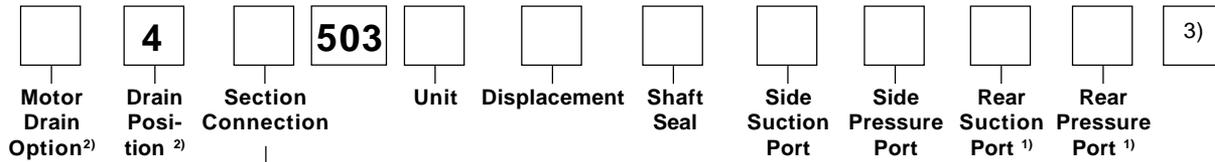
  

Code	Shaft
H1	Ø10, 3.0Key, no thread, 36L, parallel
P1	Ø10, 8.0L, 2.0Key, M6, taper 1:5
P2	Ø9.35, 8.8L, 2.4Key, M6, taper 1:8
P3	Ø9.35, 8.8L, 2.0Key, M6, taper 1:8
V1	5x6.5 long shaft w/o coupling tang drive
V2	5x4.5 short shaft w/o coupling tang drive
V3	5x4.5 short shaft w/ coupling tang drive

<sup>1)</sup> Only coded for the last section.

**For products of short-term delivery please consult page 76**



Code	Section Connection
S	Seperate inlets
C	Common inlets

Code	Drain Position
4	Rear drain

Code	Motor Drain Option
B1	no drain
N	M10x1 metric thread

Code	Port Options
B1	No ports
D2	9/16 - 18 UNF thread
D3*	3/4 - 16 UNF thread
E1	1/4 - 19 BSP thread
E2	3/8 - 19 BSP thread
E3*	1/2 - 14 BSP thread
G1	M14x1.5 thread
G3*	M18x1.5 thread
J1*	8mm - Ø26mm - M5 square flange
J2*	10mm - Ø26mm - M5 square flange
J3*	8mm - Ø30mm - M6 square flange
J4*	12mm - Ø30mm - M6 square flange

\*) Not usable for rear ports

Code	Shaft Seal
X	No seal
N	NBR
V	FPM, FKM

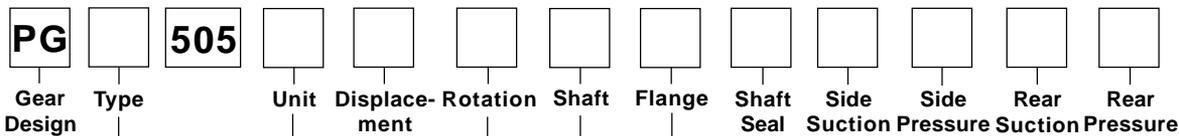
Code	Flange
D1	52.2x72.0 - Ø25.4 rectangular
H1	82.5 - Ø50.8 SAE "A-A" 2bolt flange
P1	40.0x40.0 - Ø32.0 w/ seal ported, thrubolt flange
P2	40.0x40.0 - Ø32.0 w/o seal ported, thrubolt flange
P3	40.0x40.0 - Ø32.0 w/ seal, thrubolt flange
P4	40.0x40.0 - Ø32.0 w/ seal f. short shaft, thrubolt flange
P5	40.0x40.0 - Ø32.0 w/ seal f. long shaft, thrubolt flange

<sup>2)</sup> Only for motors

<sup>3)</sup> For further "B" triple unit repeat displacement, shaft seal between sections, side suction port, side pressure port, rear suction port, rear pressure port.

**Ordering code**

**Series PGP, PGM 500**



Code	Type
P	Pump
M	Motor

Code	Unit	
	Pump	Motor
A	Single unit	Standard Motor without checks
B	Multiple unit	Standard Motor with two checks
C	—	Standard Motor w. one anti cavitation check (ACC)
M	Single distributor unit	—
N	Multiple distributor unit	—

Displacement	
Code	ccm
0030	3.0
0040	4.0
0050	5.0
0060	6.0
0070	7.0
0080	8.0
0100	10.0
0110	11.0
0120	12.0

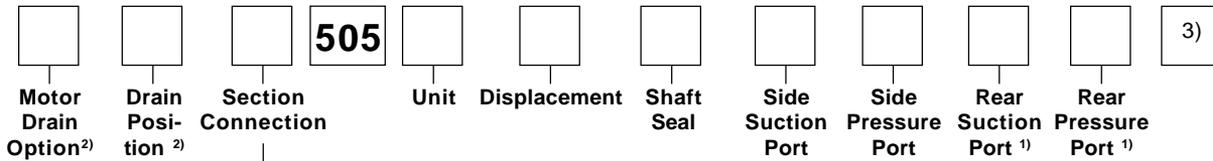
Code	Rotation
C	Clockwise
A	Counter clockwise
B	bi-directional

Code	Shaft
A1	9T, 16/32DP, 32L, SAE "A" spline
A2	9T, 20/40DP, 27L, SAE "AA" spline
J1	Ø12.7, 3.2Key, no thread, 38L, parallel
J2	Ø13.45, 3.2Key, 10-32UNF 33.3L, parallel
K1	Ø15.88, 4.0Key, no thread, 32L, SAE "A", parallel
Q1	Ø12.7, 7.6L, 2.4Key, M8x1.25, taper 1:8
Q2	Ø14.25, 5.5L, 3.0Key, M10x1, taper 1:8
V4	11x2.8, 1/4UNF for flange code A1, tang drive

Code	Flange
A1	50.8x50.8 - Ø45.25 4bolt square flange
D2	56.0x73.0 - Ø30.0 rectangular
D3	71.4x96.0 - Ø36.47 rectangular
H1	82.5 - Ø50.8 SAE "A-A" 2bolt flange
H2	106.4 - Ø82.55 SAE "A" 2bolt flange

<sup>1)</sup> Only coded for the last section.

**For products of short-term delivery please consult page 76**



Code	Section Connection
S	Separate inlets
C	Common inlets

Code	Drain Position
2	Drain on bottom
3	Drain on top
4	Rear drain

Code	Motor Drain Option
B1	no drain
A	7/16-20 UNF thread
C	9/16-18 UNF thread
G	1/4 BSP thread

Code	Port Options
B1	No ports
C2	3/8 - 18 NPT
C3*	1/2 - 14 NPT
D2	9/16 - 18 UNF thread
D3	3/4 - 16 UNF thread
D4*	7/8 - 14 UNF thread
D5*	1 1/16 - 12UN
E1	1/4 - 19 BSP thread
E2	3/8 - 19 BSP thread
E3*	1/2 - 14 BSP thread
E5*	3/4 - 16BSP thread
G1	M14x1.5 thread
G3*	M18x1.5 thread
G4*	M22x1.5 thread
J3*	8mm - Ø30mm - M6 square flange
J4*	12mm - Ø30mm - M6 square flange
J5*	15mm - Ø35mm - M6 square flange
J7*	20mm - Ø40mm - M6 square flange
K5*	14.2mm - 25.15 - 1/4 - 20UNC, square flange

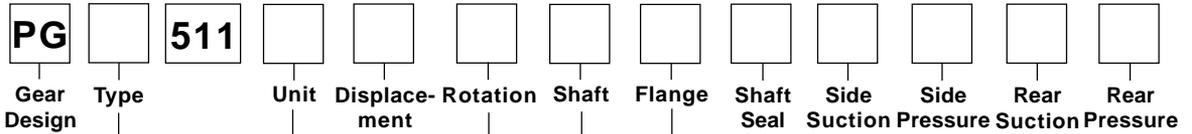
<sup>2)</sup> Only for motors

<sup>\*)</sup> Not usable for rear ports

<sup>3)</sup> For further "B" triple unit repeat displacement, shaft seal between sections, side suction port, side pressure port, rear suction port, rear pressure port.

Code	Shaft Seal
X	No seal
N	NBR
V	FPM, FKM
M	Double NBR
W	Double FPM

Ordering code



Code	Type
P	Pump
M	Motor
F	Flow divider

Code	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)
D	—	Standard Motor w. one ACC + restrictor
M	Single distributor unit	—
N	Multiple distributor unit	—
S <sup>1)</sup>	Single split gear unit	—
T <sup>1)</sup>	Multiple split gear unit	—

<sup>1)</sup> Only for displacement codes 0060 to 0280

Displacement*	
Code	ccm
0040	4.0
0060	6.0
0080	8.0
0100	10.0
0110	11.0
0140	14.0
0160	16.0
0190	19.0
0230	23.0
0270	27.0
0310	31.0
0330	33.0

Code	Rotation
C	Clockwise
A	Counter clockwise
B	bi-directional

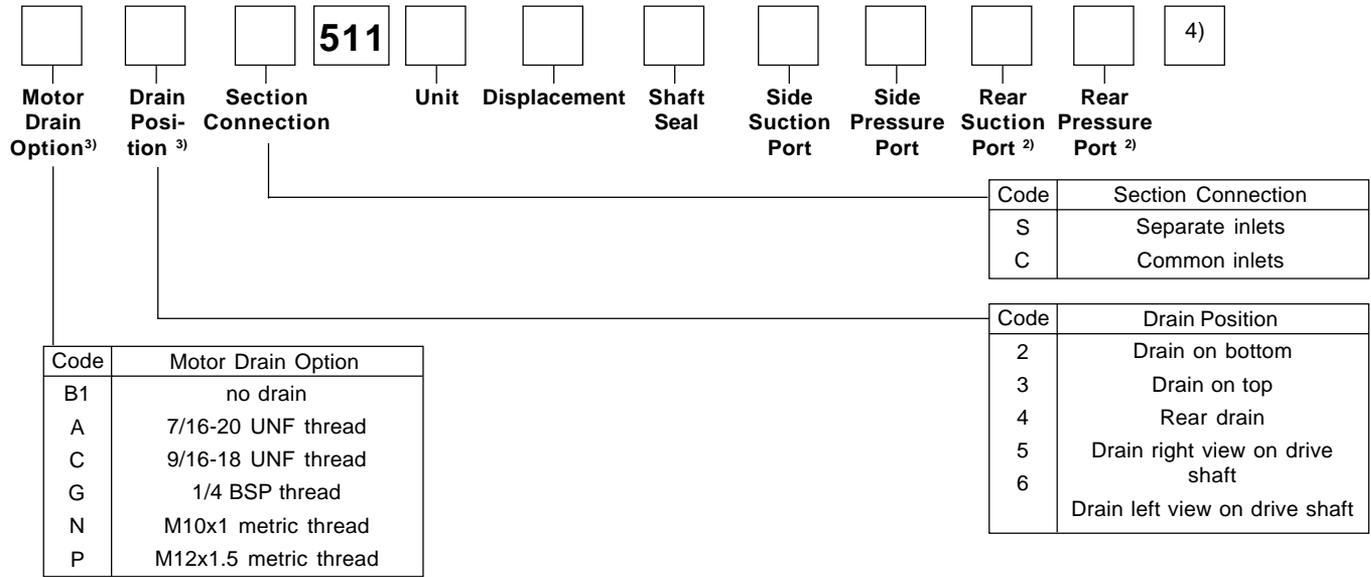
Code	Shaft Seal
X	No seal
N	NBR
V	FPM, FKM
M	Double NBR
W	Double FPM

Code	Shaft
A1	9T, 16/32DP, 32L, SAE "A" spline
B1	10T, 16/32DP, 32L spline
B2	10T, 16/32DP, 38.2L spline
C1	11T, 16/32DP, 38.2L, SAE 19-4 spline
C2	11T, 16/32DP, 32.2L, SAE 19-4 spline
F1	9T, B17x14, 23L, DIN 5482 spline
F2	13T, W18x1.25, 24L, DIN 5480 spline
F3	14T, W20x1.25, 24L, DIN 5480 spline
K1	Ø15.88, 4.0Key, no thread, 32L, SAE "A", parallel
K4	Ø15.88, 3.95Key, no thread, 58.7L, parallel
L1	Ø17.46, 4.8Key, 7/16UNF ext., 44.2L, parallel
L6	Ø19.05, 4.8Key, no thread, 32L, SAE 19-1, parallel
R1	Ø15.9, 8.0L, 4.0Key, 1/2 UNF, SAE "A", taper 1:8
S1	Ø17.0, 7.7L, 3.0Key, M12x1.5, taper 1:5
S2	Ø16.65, 12.0L, 3.2Key, M12x1.5, taper 1:8
S4	Ø16.65, 12.0L, 4.0Key, M12x1.5, taper 1:8
V5	8x6.5 short shaft, tang drive

<sup>2)</sup> Only coded for the last section.

<sup>3)</sup> Only for motors

**For products of short-term delivery please consult page 76**



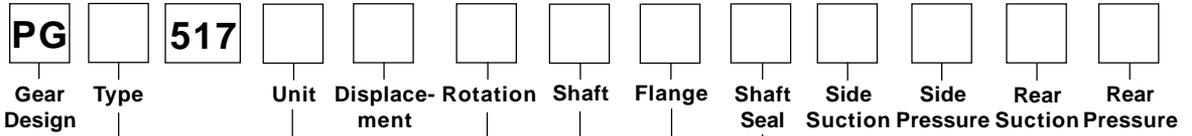
Code	Flange
D3	71.4x96.0 - Ø36.47 rectangular
D4	72.0x100.0 - Ø80 rectangular
H2	106.4 - Ø82.55 SAE "A" 2bolt flange
H3	146.1 - Ø101.6 SAE "B" 2bolt flange
Q1	60.0x60.0 - Ø52.0 w/o seal ,O' thru bolt flange
Q2	60.0x60.0 - Ø50.0 w. seal ,O' thru bolt flange
Q3	60.0x60.0 - Ø52.0 w/o seal ,O' thru bolt flange
Q4	60.0x60.0 - Ø50.0 w. seal ,O' thru bolt flange
J5	H2 with slots, spec 2bolt
F3	71.4x96.0 - Ø36.47 rect., w. OBB and cont. drive shaft
F4	72.0x100.0 - Ø80.0 rect., w. OBB and cont. drive shaft
L2	106.4 - Ø82.55 SAE "A" 2bolt, w. OBB + cont. drive shaft
L3	146.1 - Ø101.6 SAE "B" 2bolt, w. OBB + cont. drive shaft

Code	Port Options	Code	Port Options
B1	No ports	K1*	19mm-30.48mm-5/16-18UNF square
C2	3/8 - 18 NPT thread	K2*	19mm-30.48mm-M8 square
C3	1/2 - 14 NPT thread	K3*	19mm-32mm-M6 square
D2	9/16 - 18 UNF thread	K4*	16mm-25.15mm-M6 square
D3	3/4 - 16 UNF thread	L1*	13mm-Ø30mm-M6 diamond
D4	7/8 - 14 UNF thread	L2*	19mm-Ø40mm-M8 diamond
D5	1 1/16 - 12 UN thread	L4*	13mm-Ø30mm-1/4-20UNF diamond
D6*	1 5/16 - 12 UN thread	L5*	19mm-Ø40mm-5/16-18UNF diamond
D7*	1 5/8 - 12 UN thread	M1*	15mm-30.16mm-M6 diamond
D8*	1 7/8 - 12 UN thread	M2*	15mm-30.16mm-1/4-20UNF diamond
E2	3/8 - 19 BSP thread	M3*	14.2mm-35.57mm-1/4-20UNF diamond
E3	1/2 - 12 BSP thread	N1*	1/2"-5/16-18UNC SAE Split Flange
E4*	5/8 - 14 BSP thread	N2*	3/4"-3/8-16UNC SAE Split Flange
E5*	3/4 - 14 BSP thread	N3*	1"-3/8-16UNC SAE Split Flange
E6*	1 - 11 BSP thread	N4*	1 1/4"-7/16-14UNC SAE Split Flange
E7*	1 1/4 - 11 BSP thread	P1*	12.7mm - M8 Metric Split Flange
E8*	1 1/2 - 11 BSP thread	P2*	19.0mm - M10 Metric Split Flange
G1	M14x1.5 thread	P3*	25.4mm - M10 Metric Split Flange
G3	M18x1.5 thread	P4*	31.8mm - M10 Metric Split Flange
G4	M22x1.5 thread	P5*	38.1mm - M12 Metric Split Flange
G5*	M26x1.5 thread		
G7*	M30x1.5 thread		
G8*	M33x2 thread		
H1	M14x1.5 thread w. O-ring		
H2	M16x1.5 thread w. O-ring		
H3	M18x1.5 thread w. O-ring		
H4	M22x1.5 thread w. O-ring		
H6*	M27x2 thread w. O-ring		
H8*	M33x2 thread w. O-ring		
J3*	8mm - Ø30mm - M6 square		
J4*	12mm - Ø30mm - M6 square		
J5*	15mm - Ø35mm - M6 square		
J6*	15mm - Ø40mm - M8 square		
J7*	20mm - Ø40mm - M6 square		
J8*	18mm - Ø55mm - M8 square		
J9*	26mm - Ø55mm - M8 square		

\* Not usable for rear ports.

4) For further "B" triple unit repeat displacement, shaft seal between sections, side suction port, side pressure port, rear suction port, rear pressure port.

Ordering code



Code	Type
P	Pump
M	Motor
F	Flow divider

Code	Unit	
	Pump	Motor
A	Single unit	Standard Motor without checks
B	Multiple unit	Standard Motor with two checks
C	—	Standard Motor w. one anti cavitation check (ACC)
M	Single distributor unit	—
N	Multiple distributor unit	—

Displacement*	
Code	ccm
0140	14
0160	16
0190	19
0230	23
0250	25
0280	28
0330	33
0380	38
0440	44
0520	52
0700	70

\*) Others on request

Code	Rotation
C	Clockwise
A	Counter clockwise
B	bi-directional

Code	Shaft
D1	13T, 16/32DP, 41.2L, SAE "B" spline
E1	15T, 16/32DP, 46L, SAE "B-B" spline
F4	18T, W25x1.25, 34L, DIN 5480 spline
M1	Ø22.2, 6.3Key, no thread, 41.2L, SAE "B", parallel
M2	Ø25.4, 6.3Key, no thread, 46L, SAE "B-B", parallel
T1	Ø21.59, 11.2L, 4.0Key, M14x1.5, taper 1:8
T2	Ø25, 12L, 5.0Key, M16x1.5, taper 1:5

<sup>1)</sup> Only coded for the last section.

**For products of short-term delivery please consult page 76**

**Motor Drain Option<sup>2)</sup>**

**Drain Position<sup>2)</sup>**

**Section Connection**

517

**Unit**

**Displacement**

**Shaft Seal**

**Side Suction Port**

**Side Pressure Port**

**Rear Suction Port<sup>1)</sup>**

**Rear Pressure Port<sup>1)</sup>**

3)

Code	Section Connection
S	Separate inlets
C	Common inlets

Code	Drain Position
2	Drain on bottom
3	Drain on top
4	Rear drain

Code	Motor Drain Option
B1	no drain
A	7/16-20 UNF thread
C	9/16-18 UNF thread
G	1/4 BSP thread
N	M10x1 metric thread
P	M12x1.5 metric thread

Code	Shaft Seal
X	No seal
N	NBR
V	FPM, FKM
M	Double NBR
W	Double FPM
T	Teflon (only for motors)

Code	Flange
D5	88.4x132.0 - Ø99.94 rectangular
D6	102.0x145.0 - Ø104.96 rectangular
D7	98.4x128.2 - Ø50.77 rectangular
H2	106.4 - Ø82.55 SAE "A" 2bolt flange
H3	146.1 - Ø101.6 SAE "B" 2bolt flange
L2	106.4 - Ø82.55 SAE "A" 2bolt flange with OBB
L3	146.1 - Ø101.6 SAE "B" 2bolt flange with OBB
L5	106.4 - Ø82.55 SAE "A" 2bolt, w. OBB + int. drive shaft
L6	146.1 - Ø101.6 SAE "B" 2bolt, w. OBB + int. drive shaft

Code	Port Options	Code	Port Options
B1	No ports	L1*	13mm-Ø30mm-M6 diamond
C3	1/2 - 14 NPT thread	L2*	19mm-Ø40mm-M8 diamond
C4	3/4 - 14 NPT thread	L3*	27mm-Ø51mm-M10 diamond
D3	3/4 - 16 UNF thread	L5*	19mm-Ø40mm-5/16-18UNF diamond
D4	7/8 - 14 UNF thread	L6*	27mm-Ø51mm-3/8-16UNF diamond
D5	1 1/16 - 12 UN thread	M4*	19mm-48.13mm-5/16-18UNF diamond
D6	1 5/16 - 12 UN thread	M5*	25.4mm-48.13mm-5/16-18UNF diamond
D7*	1 5/8 - 12 UN thread	N1*	1/2"-5/16-18UNC SAE Split Flange
D8*	1 7/8 - 12 UN thread	N2*	3/4"-3/8-16UNC SAE Split Flange
E3	1/2 - 12 BSP thread	N3*	1"-3/8-16UNC SAE Split Flange
E4	5/8 - 14 BSP thread	N4*	1 1/4"-7/16-14UNC SAE Split Flange
E5	3/4 - 16 BSP thread	N5*	1 1/2"-1/2-13UNC SAE Split Flange
E6	1 - 11 BSP thread	P1*	12.7mm - M8 Metric Split Flange
E7*	1 1/4 - 11 BSP thread	P2*	19.0mm - M10 Metric Split Flange
E8*	1 1/2 - 11 BSP thread	P3*	25.4mm - M10 Metric Split Flange
G4	M22x1.5 thread	P4*	31.8mm - M10 Metric Split Flange
G5	M26x1.5 thread	P5*	38.1mm - M12 Metric Split Flange
G7	M30x1.5 thread		
G8	M33x2 thread		
G9*	M42x2 thread		
J5*	15mm - Ø35mm - M6 square		
J6*	15mm - Ø40mm - M8 square		
J7*	20mm - Ø40mm - M6 square		
J8*	18mm - Ø55mm - M8 square		
J9*	26mm - Ø55mm - M8 square		

<sup>2)</sup> Only for motors

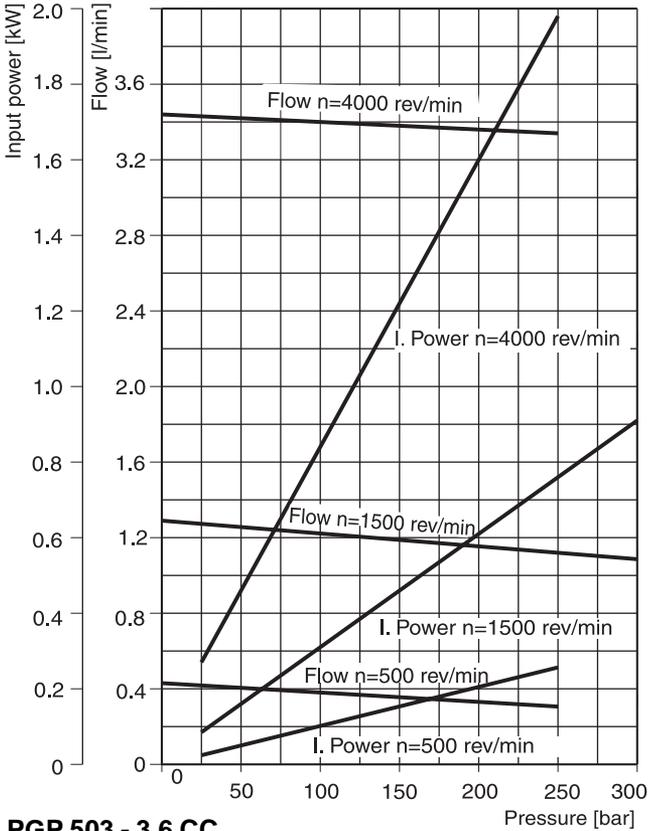
<sup>3)</sup> For further "B" triple unit repeat displacement, shaft seal between sections, side suction port, side pressure port, rear suction port, rear pressure port.

\* Not usable for rear ports.

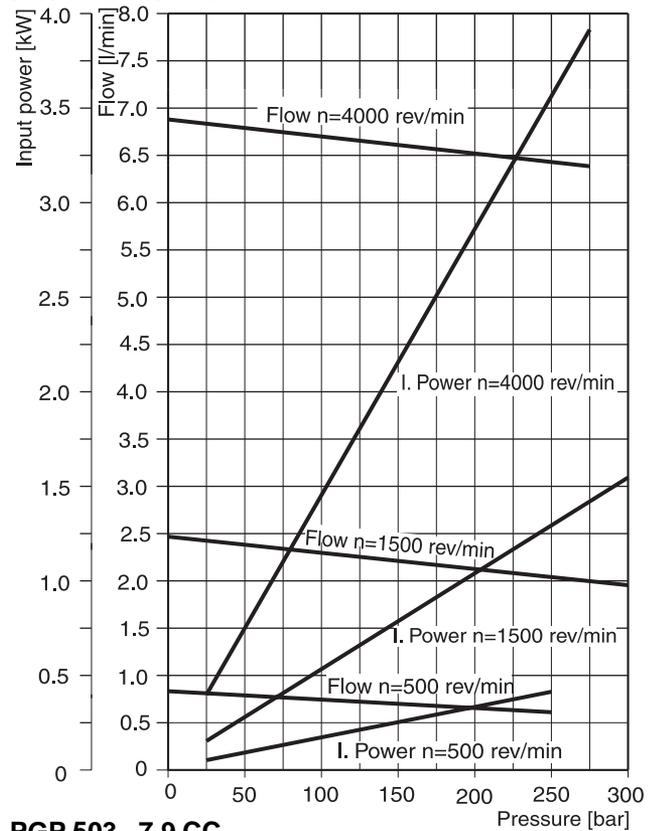
Performance data

Fluid Temperature =  $45 \pm 2^\circ\text{C}$   
 Viscosity =  $36\text{mm}^2/\text{s}$   
 Inlet Pressure =  $0.9 + 0.1$  bar absolute

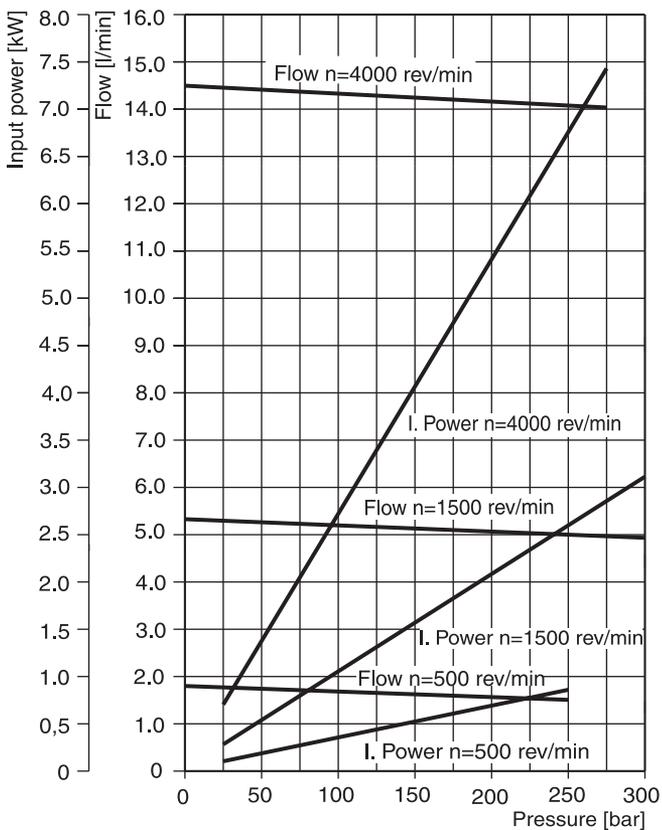
**PGP 503 - 0.8 CC**



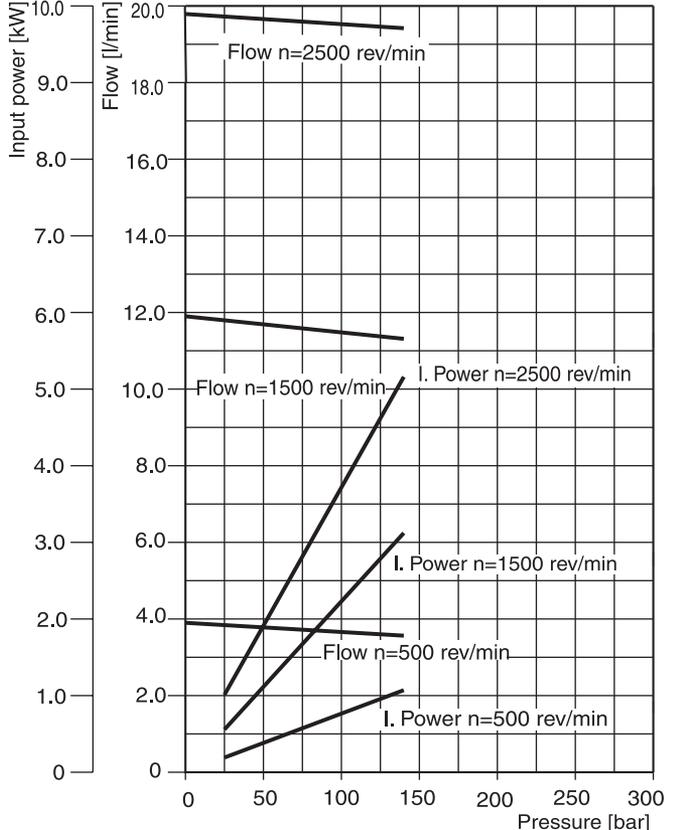
**PGP 503 - 1.6 CC**



**PGP 503 - 3.6 CC**



**PGP 503 - 7.9 CC**

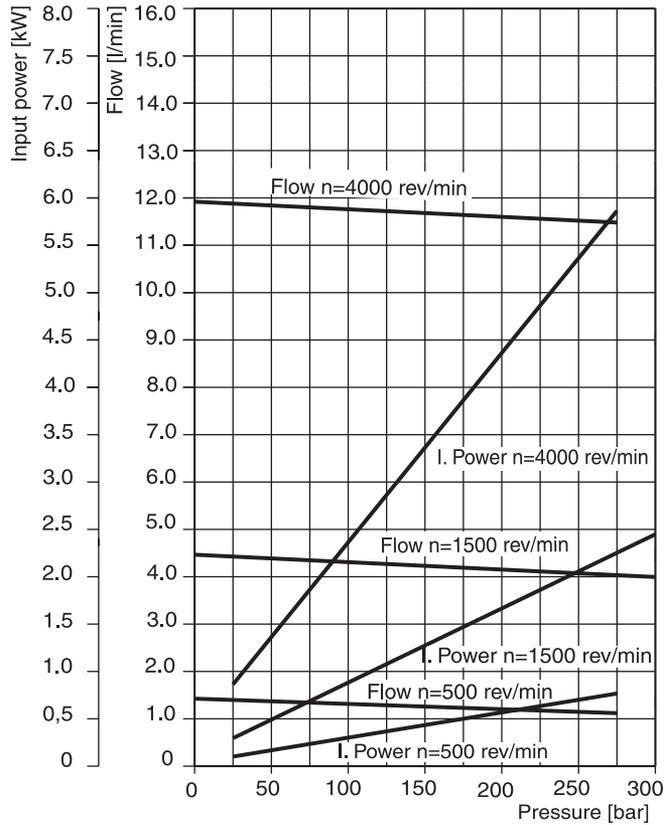


PI PG300-600\_UK-11.PM6.5MM

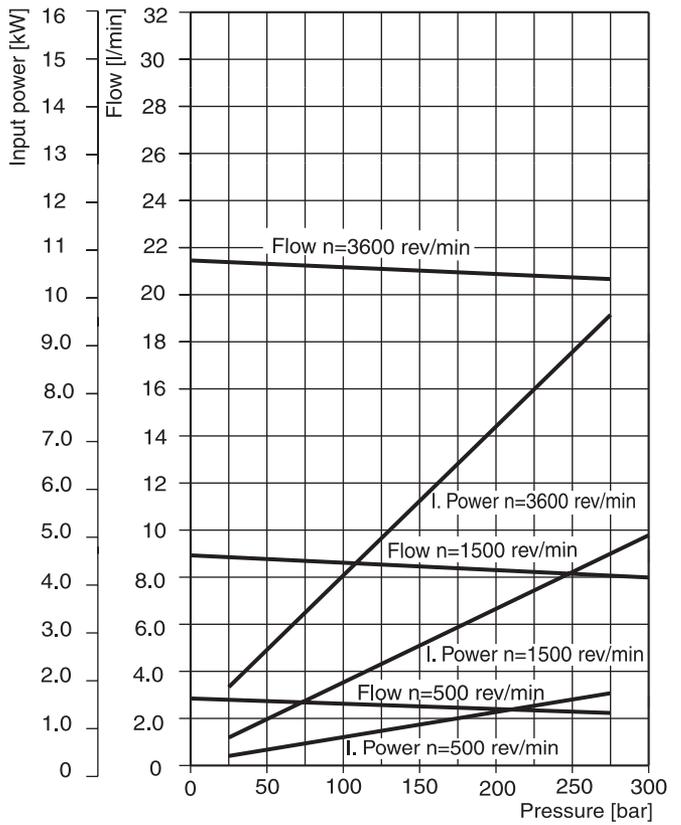
Performance data

Fluid Temperature = 45± 2°C  
 Viscosity = 36mm<sup>2</sup>/s  
 Inlet Pressure = 0.9 + 0.1 bar absolute

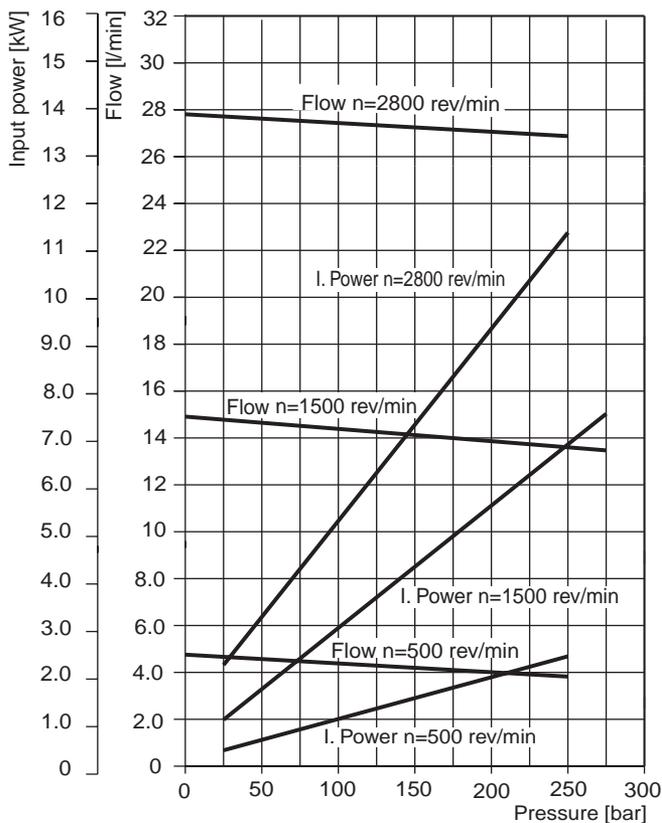
**PGP 505 - 3.0CC**



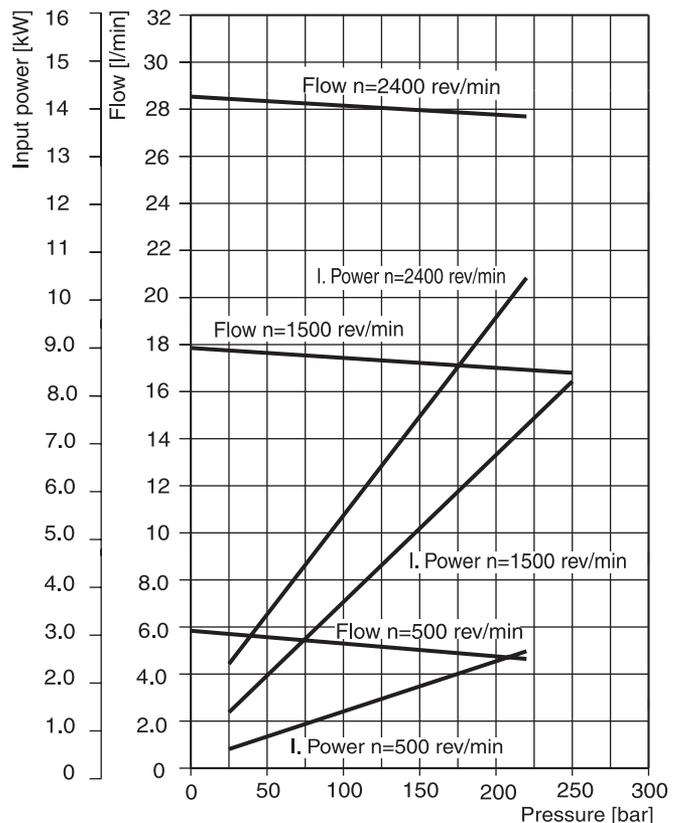
**PGP 505 - 6.0 CC**



**PGP 505 - 10.0 CC**



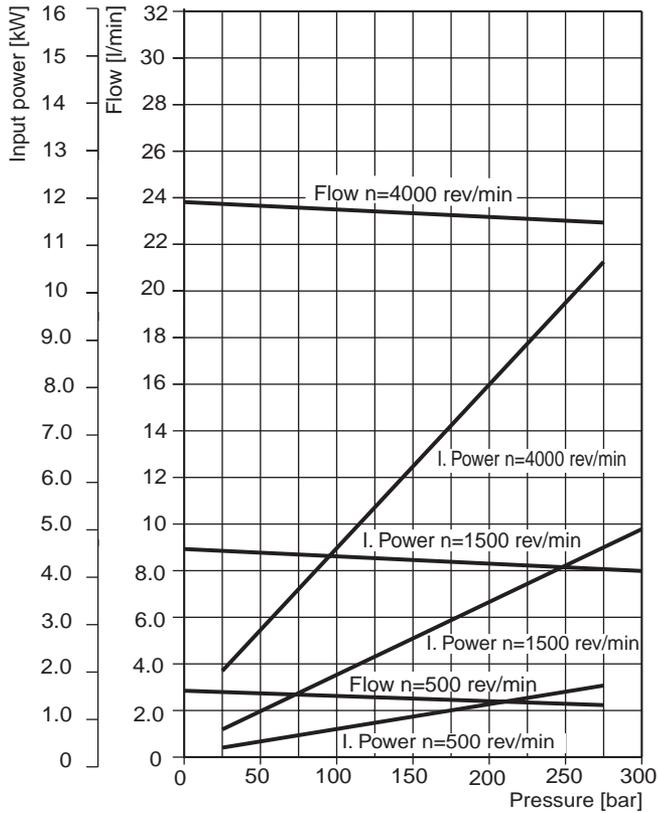
**PGP 505 - 12.0 CC**



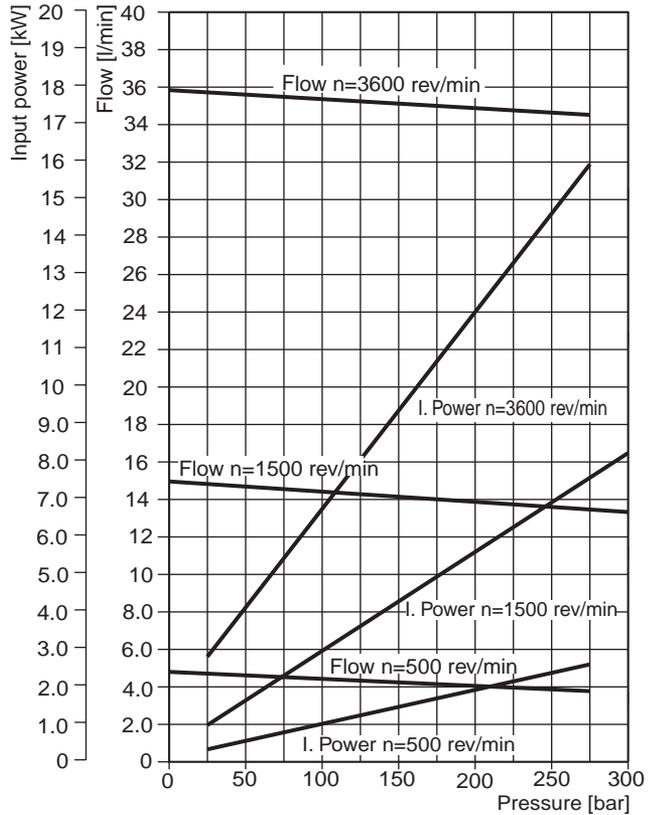
**Performance data**

Fluid Temperature = 45± 2°C  
Viscosity = 36mm<sup>2</sup>/s  
Inlet Pressure = 0.9 + 0.1 bar absolute

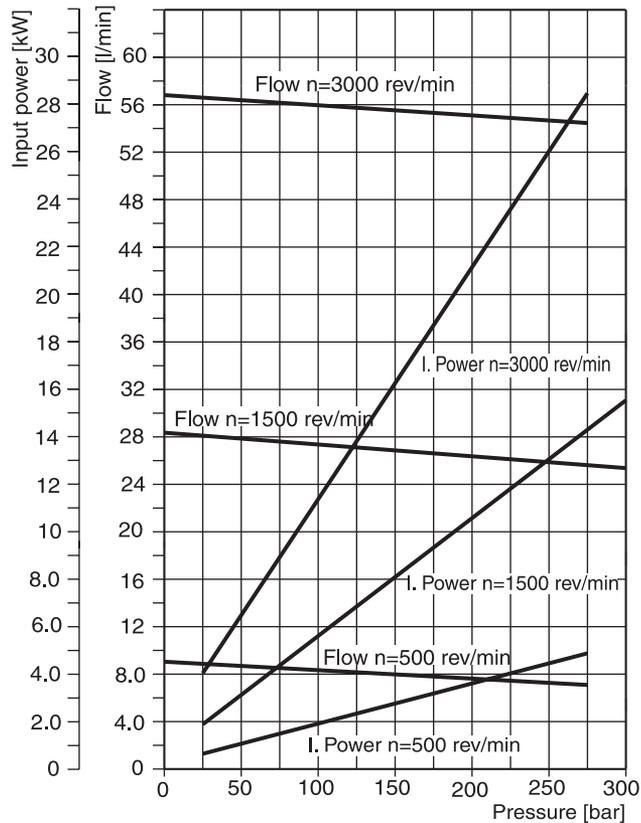
**PGP/PGM 511 - 6.0 CC**



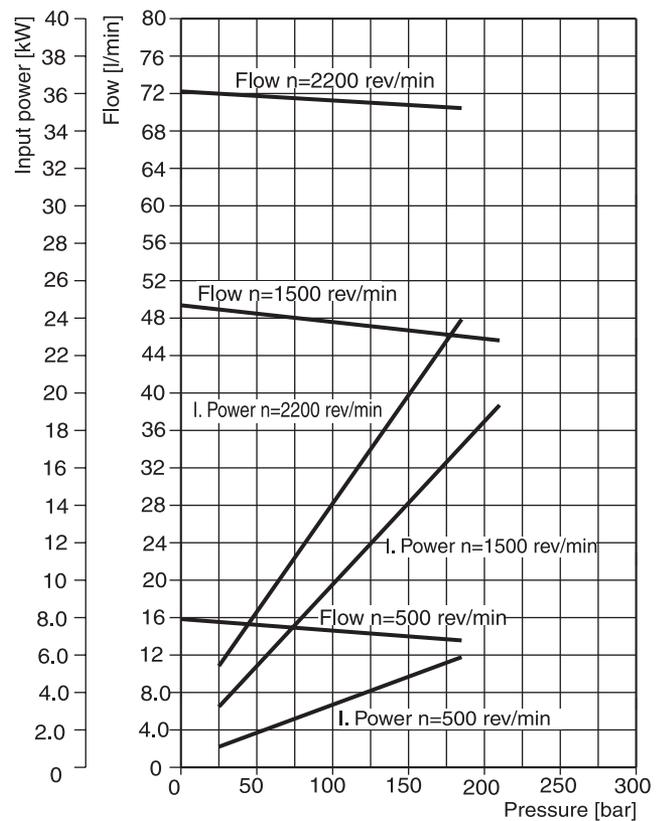
**PGP 511 - 10.0 CC**



**PGP/PGM 511 - 19.0 CC**



**PGP 511 - 33.0 CC**

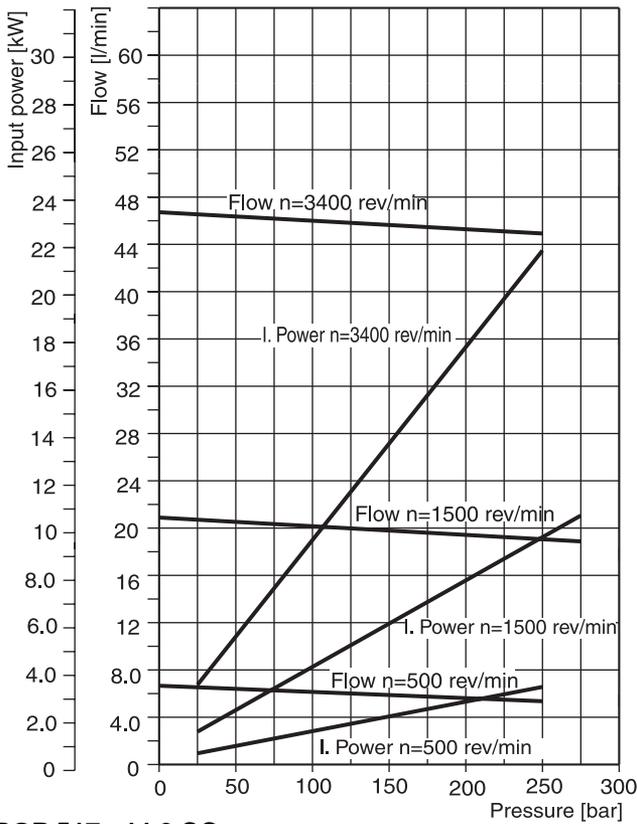


PI PG300-600\_UK-11.PM6.5MM

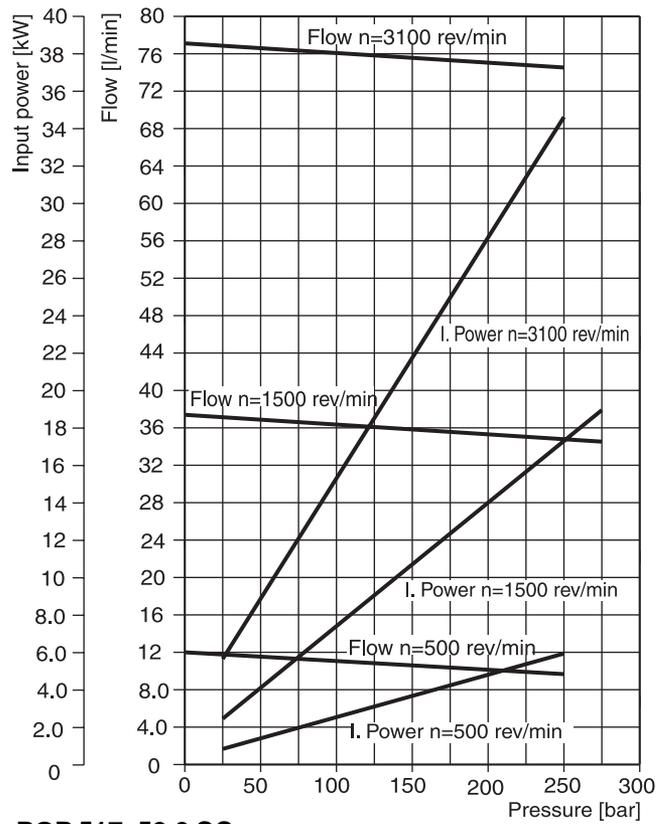
Performance data

Fluid Temperature = 45± 2°C  
Viscosity = 36mm<sup>2</sup>/s  
Inlet Pressure = 0.9 + 0.1 bar absolute

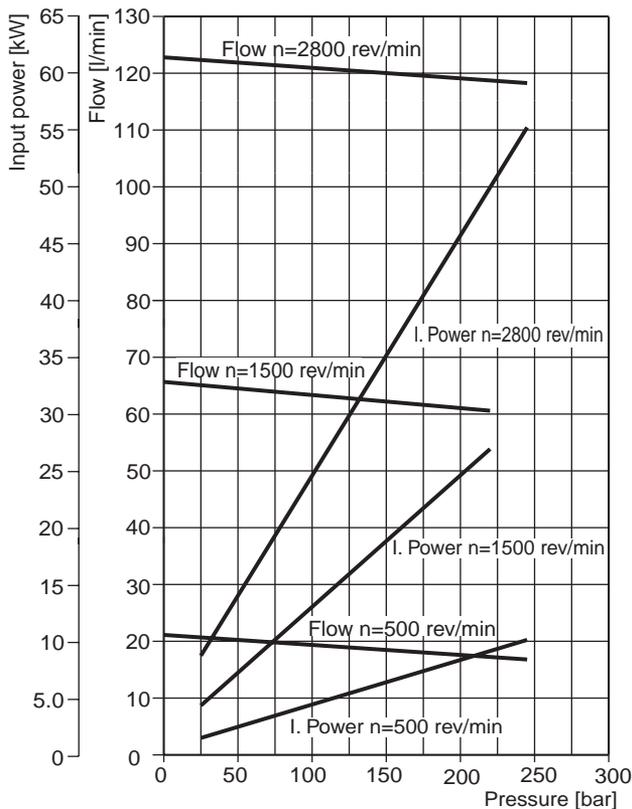
PGP 517- 14.0 CC



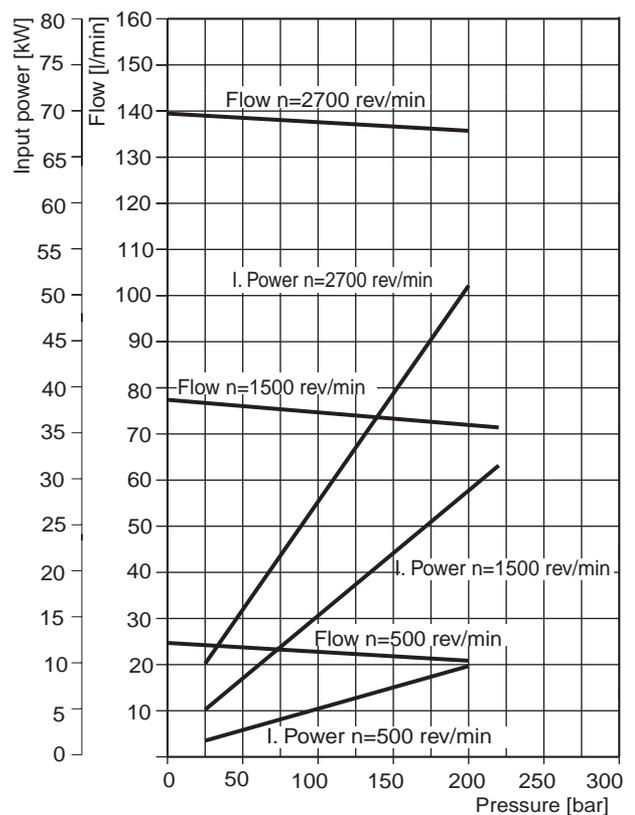
PGP/PGM 517 -25.0 CC



PGP 517 - 44.0 CC



PGP 517- 52.0 CC



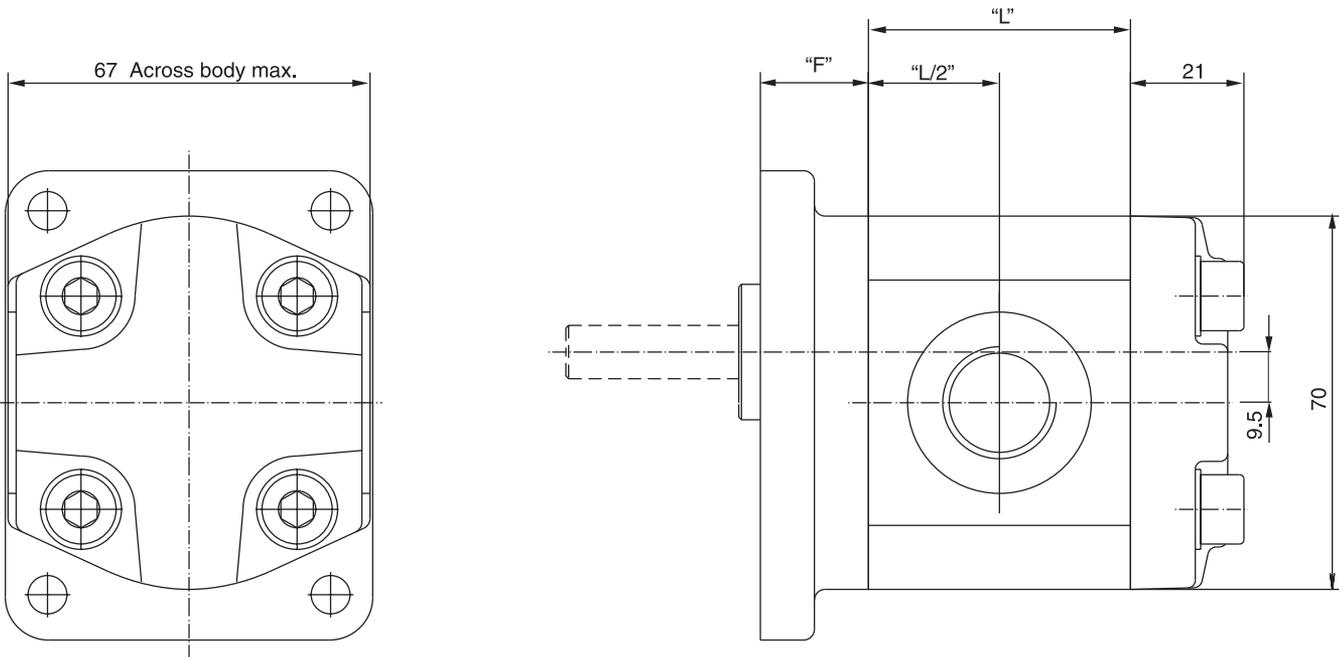
**Dimensions**

**PGP/PGM 503 Pump Specification - Standard Displacements**

Pump Displacement	Code	0008	0012	0016	0021	0025	0033	0036	0043	0048	0058	0062	0079
	cm³/rev	0.8	1.2	1.6	2.1	2.5	3.3	3.6	4.3	4.8	5.8	6.2	7.9
<b>Continous Pressure</b>	bar	275	275	275	275	275	275	250	210	160	160	150	120
<b>Intermittent Pressure</b>	bar	300	300	300	300	300	300	280	230	180	180	170	140
<b>Minimum Speed</b> @ Max. outlet press.	rpm	500	500	500	500	500	500	500	500	500	500	500	500
<b>Maximum Speed</b> @ 0 Inlet & Max.outlet press.	rpm	4000	4000	4000	4000	4000	4000	4000	3500	3000	3000	3000	2500
<b>Pump Input Power</b> @ Max. Press. and 1500 rpm	kW	0.82	1.1	1.4	1.7	2.0	2.5	2.6	2.6	2.4	2.8	2.9	3.0
<b>Dimension "L"</b>	mm	35.3	36.8	38.3	39.9	41.5	44.5	45.6	48.5	50.0	53.8	55.3	61.6
<b>Approximate Weight<sup>1)</sup></b>	kg	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.4	1.4	1.5	1.6

<sup>1)</sup> Single pump with Flange D1 and Port end cover B1

**Single Unit PGP/PGM 503**

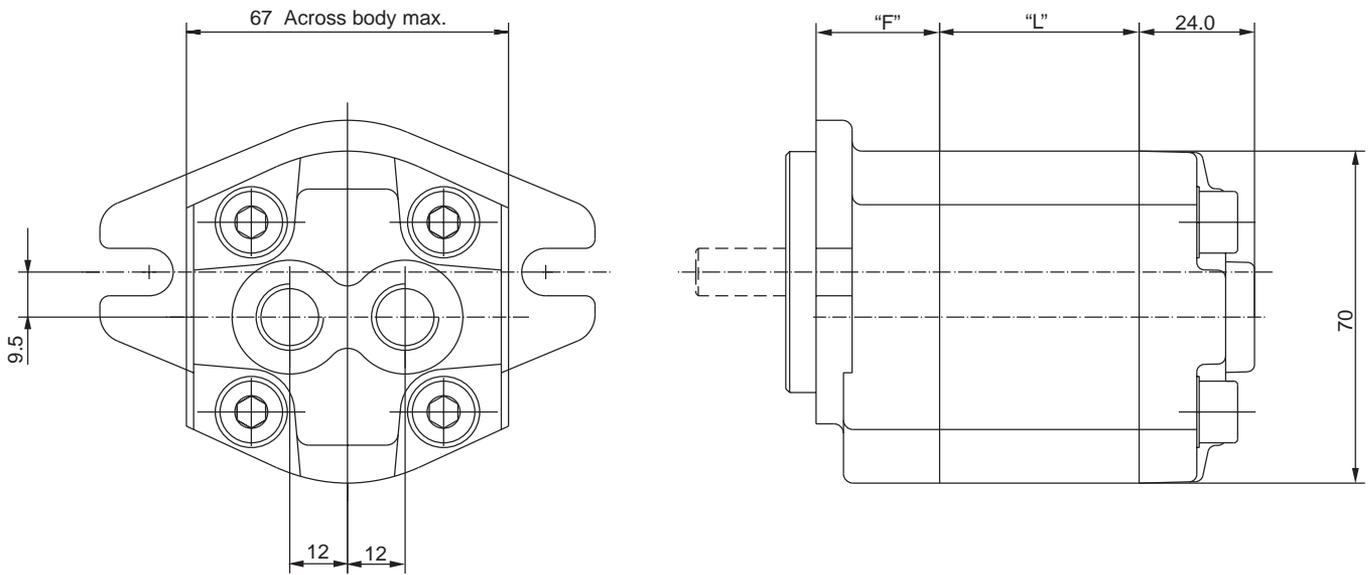


**Dimension "F"** see flanges

**Dimension "L"** see table

**Dimensions**

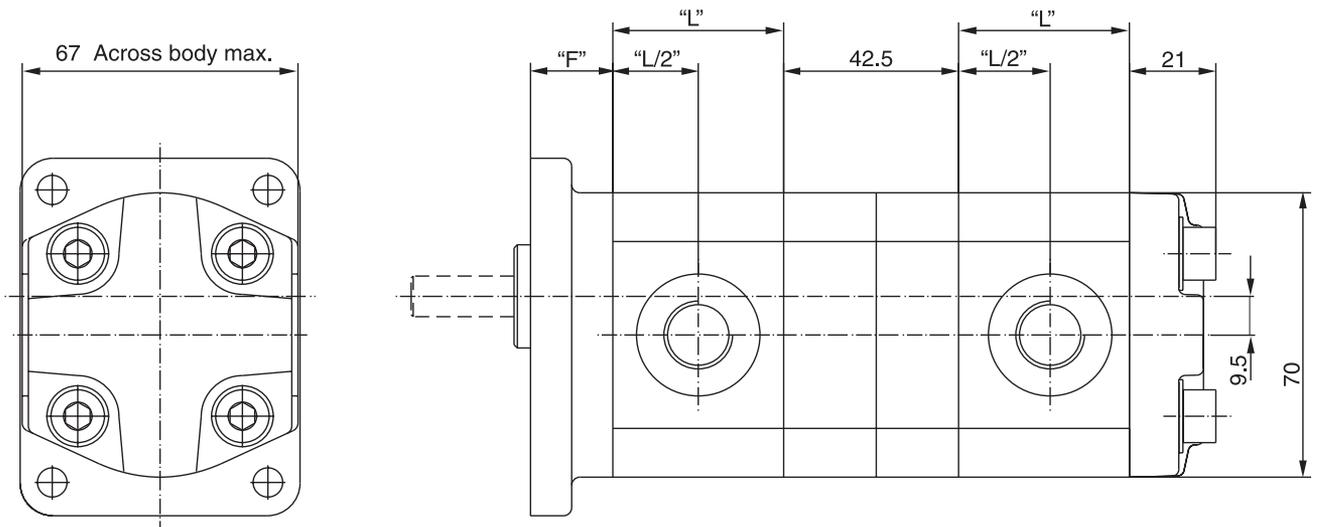
**Single Unit PGP/PGM 503 with rear ports**



**Dimension "F"** see flanges

**Dimension "L"** see table

**Tandem Unit PGP/PGM 503**



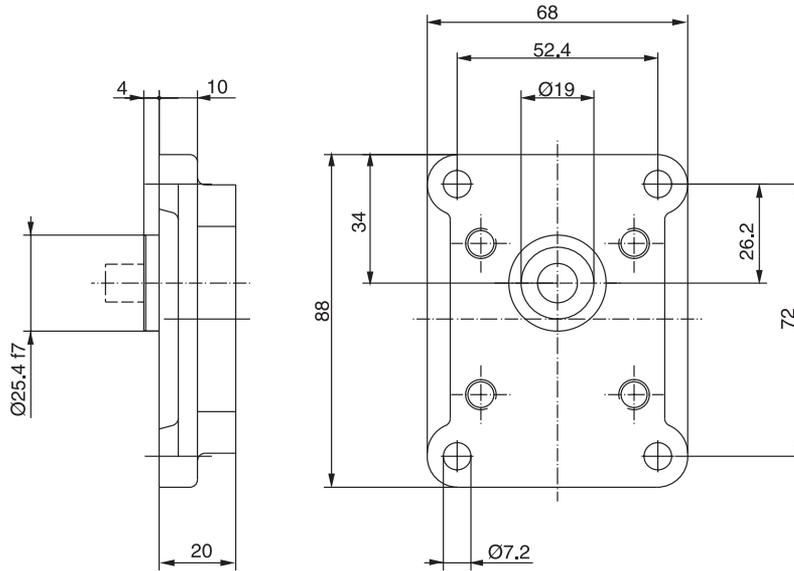
**Dimension "F"** see flanges

**Dimension "L"** see table

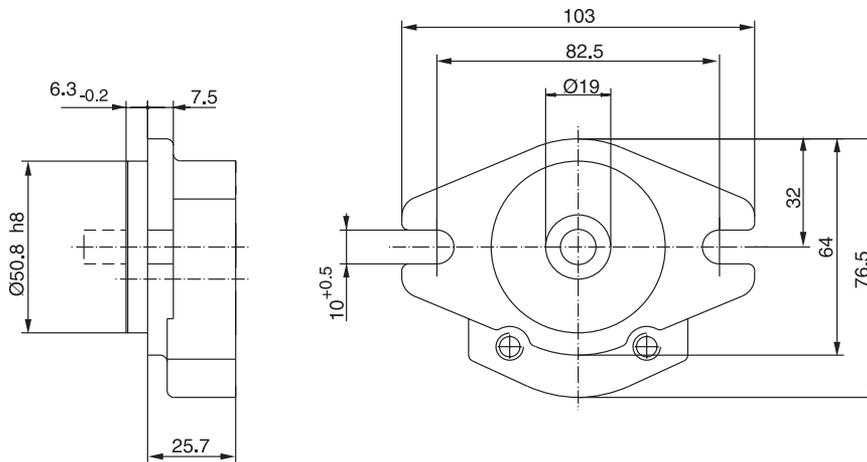
Mounting flange options

PGP/PGM 503 Mounting Flange

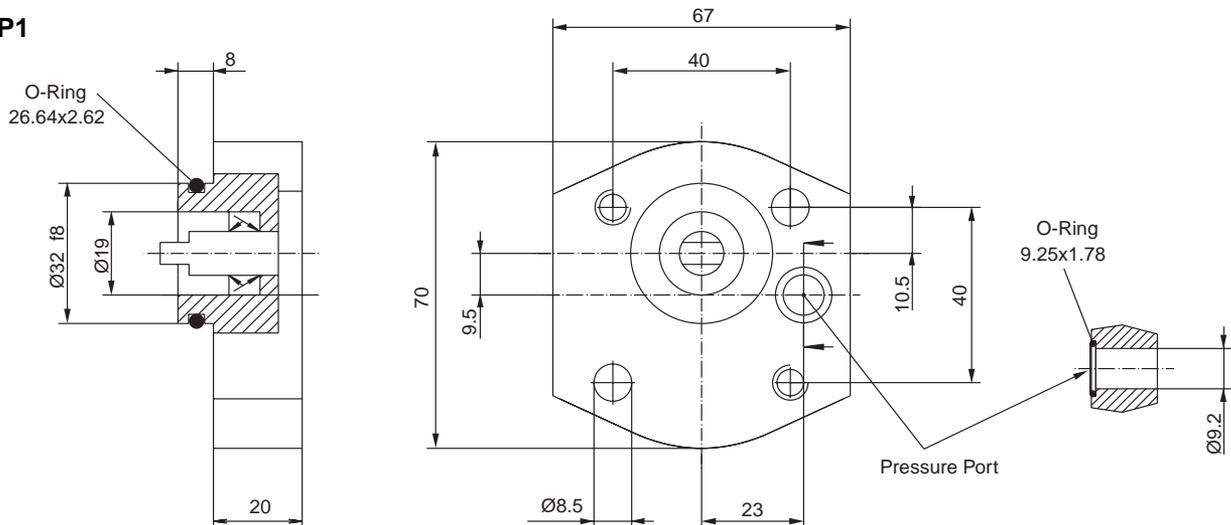
Code D1



Code H1

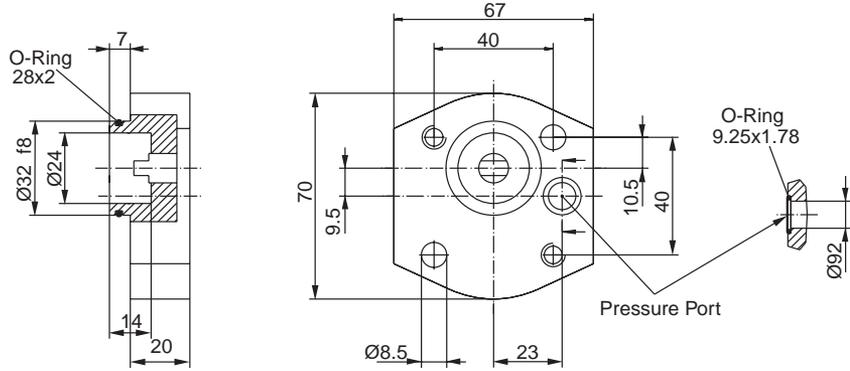


Code P1

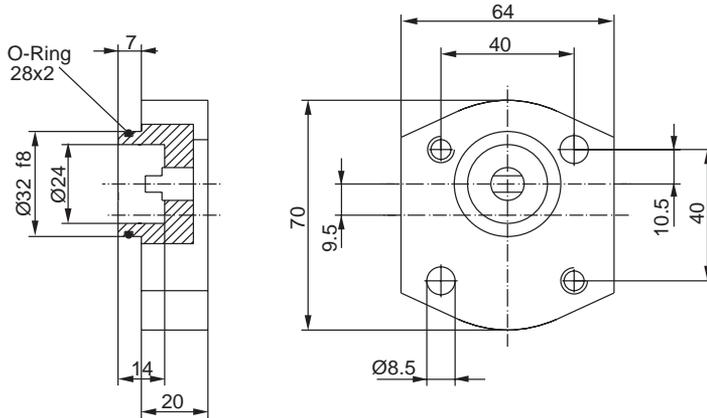


**PGP/PGM 503 Mounting Flange**

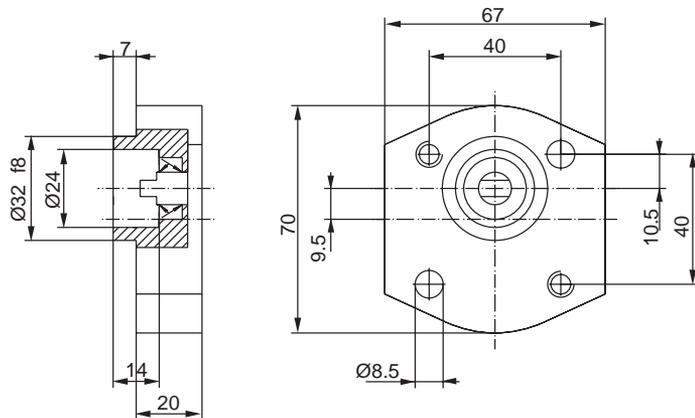
**Code P2**



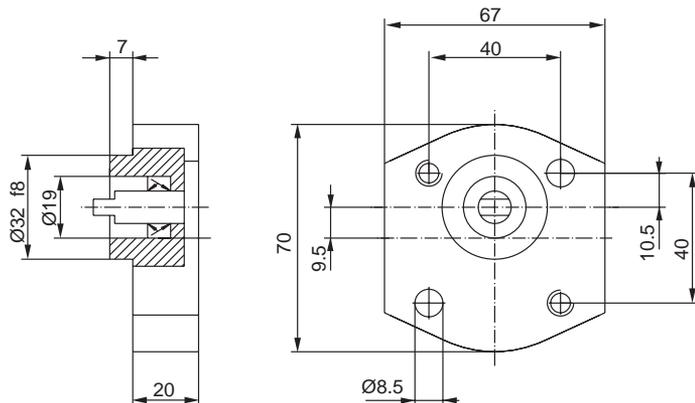
**Code P3**



**Code P4**

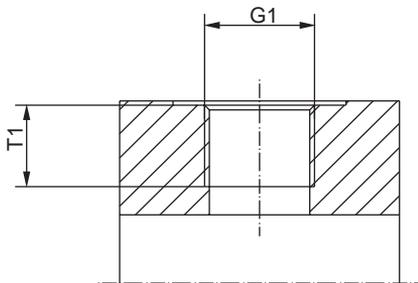


**Code P5**

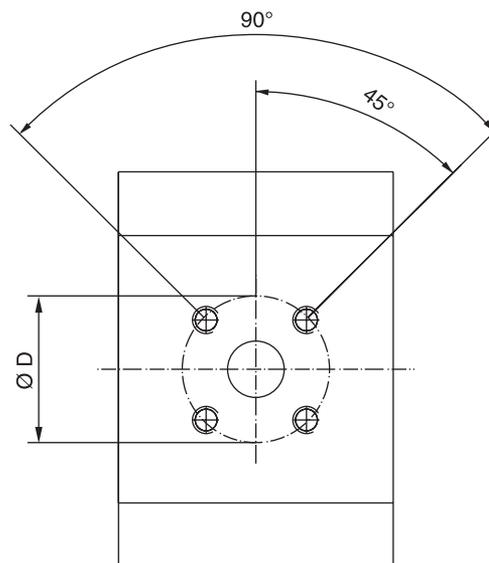
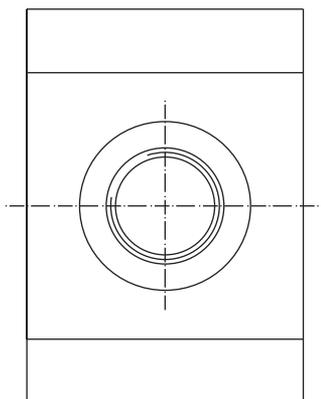
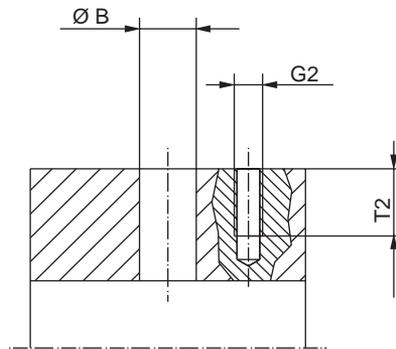


**Port options**

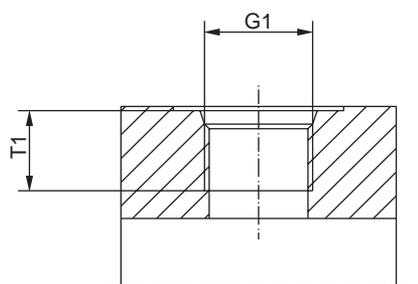
**PGP/PGM 503 Porting**



**Code E** British Standard Pipe Parallel (BSPP)  
**Code G** Metric straight thread



**Code J** European flange



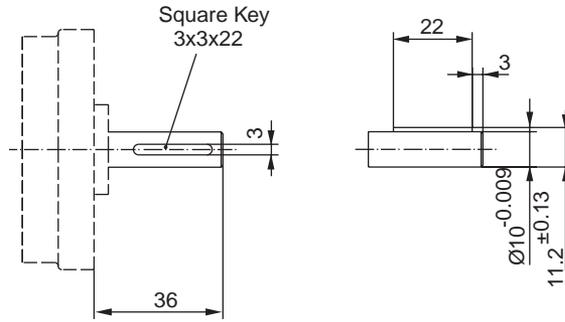
**Code D** SAE straight thread

**PGP/PGM 503**

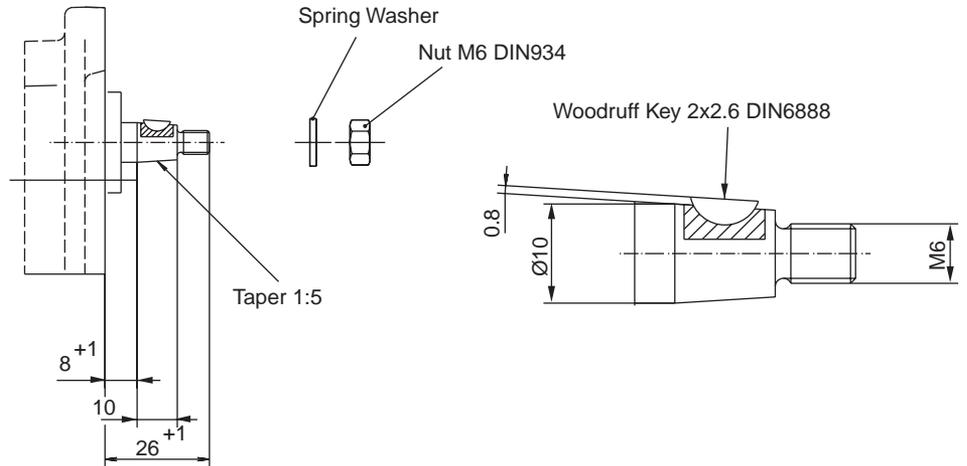
Code	G1	G2	T1	Ø B	Ø D	T2
	Thread	Thread				
D2	9/16-18 UNF		12.7			
D3	3/4-16 UNF		14.3			
E1	1/4-19 BSP		12.0			
E2	3/8-19 BSP		12.0			
E3	1/2-14 BSP		14.0			
G1	M14x1.5		12.0			
G3	M18x1.5		12.0			
J1		M5		8.0	26.0	12.0
J2		M5		10.0	26.0	12.0
J3		M6		8.0	30.0	12.0
J4		M6		12.0	30.0	12.0

**PGP/PGM 503 Drive Shaft**

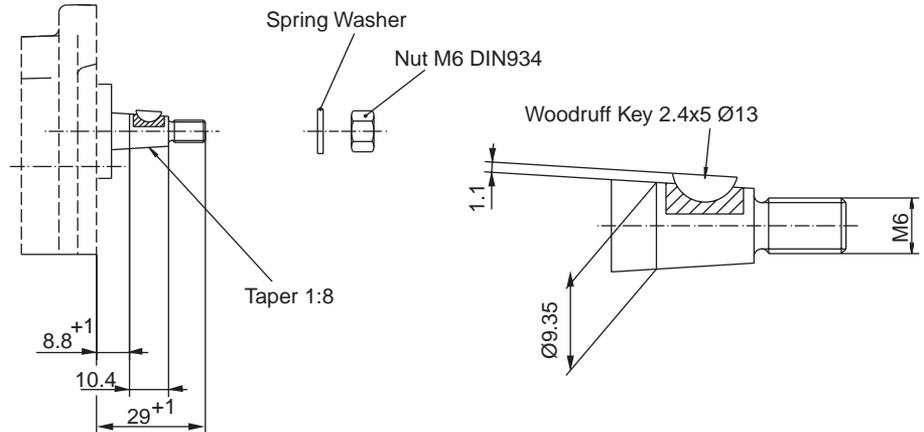
**Code H1**



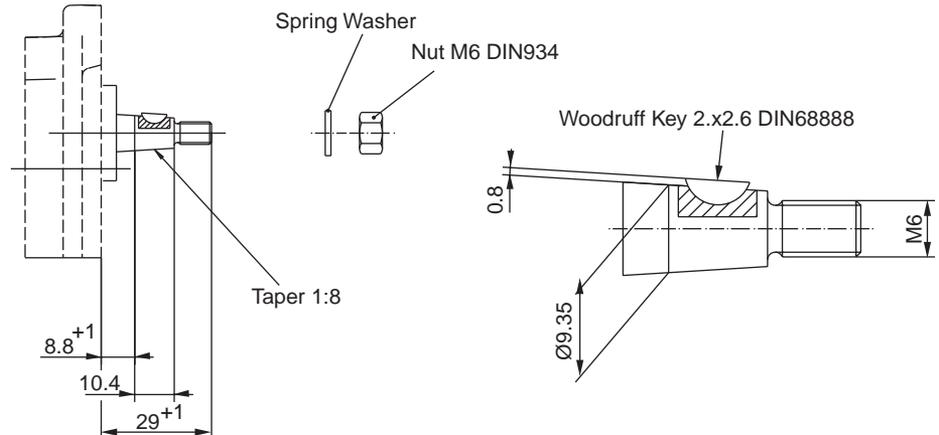
**Code P1**



**Code P2**



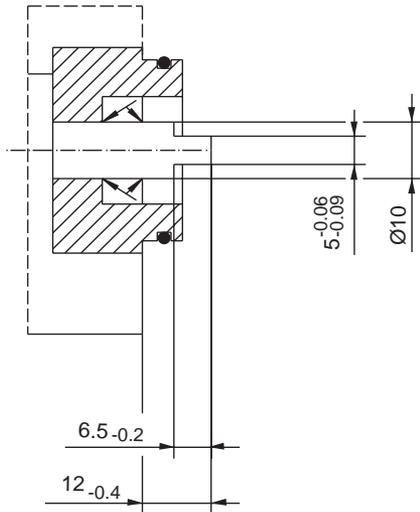
**Code P3**



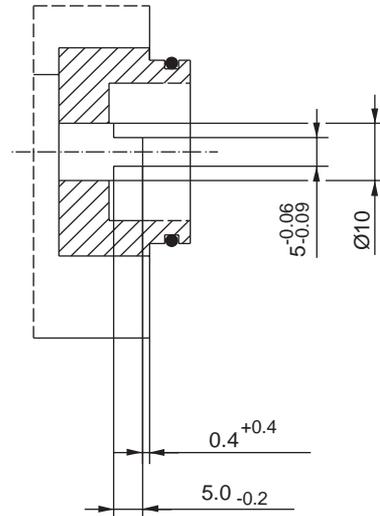
Drive shaft options

PGP/PGM 503 Drive Shaft

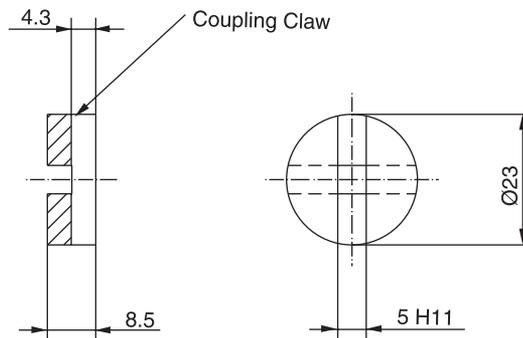
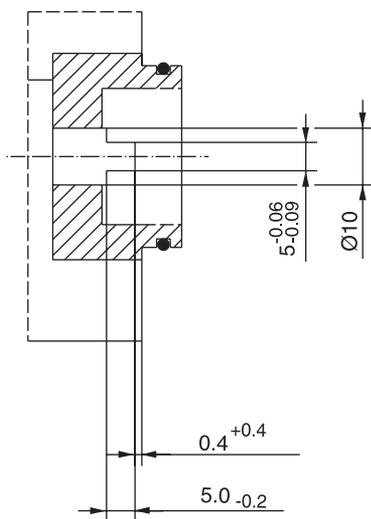
Code V1



Code V2



Code V3



PGP/PGM 503 - Shaft Load Capacity

Code	Description	Torque Rating [Nm]
H1	$\text{Ø}10, 3.0 \text{ KEY}$ , no thread, 36L parallel	30
P1	$\text{Ø}10.0, 8.0 \text{L}$ , 2.0 KEY, M6 taper 1:5	30
P2	$\text{Ø}9.95, 8.8 \text{L}$ , 2.4 KEY, M6 taper 1:8	30
P3	$\text{Ø}9.95, 8.8 \text{L}$ , 2.0 KEY, M6 taper 1:8	30
V1	5x6.5 long shaft w/o coupling tang drive	20
V2	5x4.5 short shaft w/o coupling tang drive	20
V3	5x4.5 short shaft w/ coupling tang drive	20

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

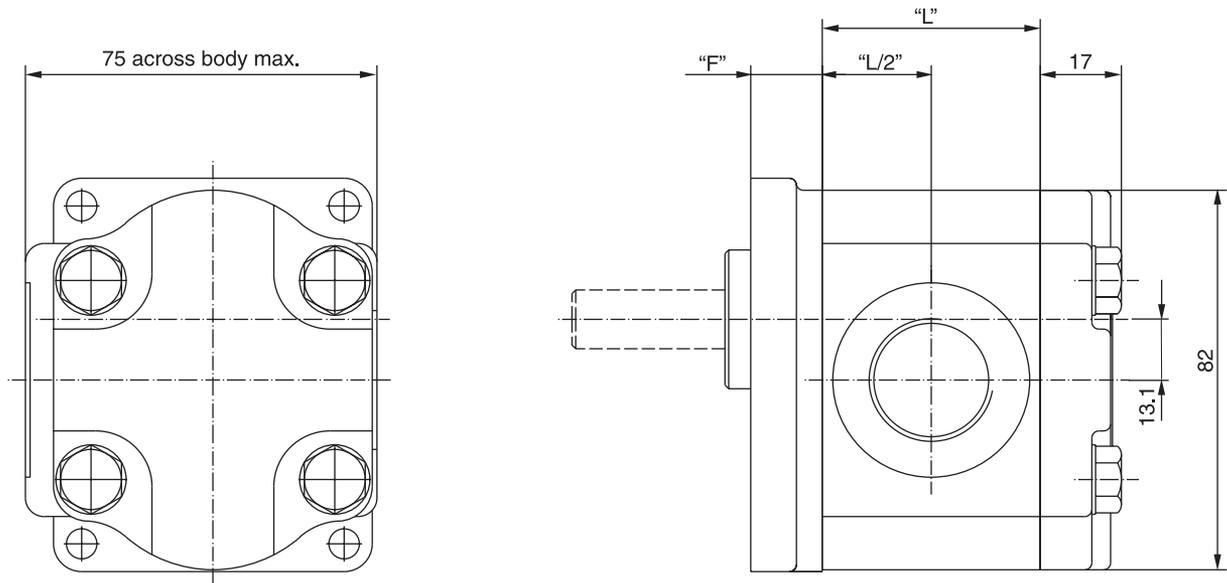
**Dimensions**

**PGP/PGM 505 Specification - Standard Displacements**

Pump Displacement	Code	0030	0040	0050	0060	0070	0080	0100	0110	0120
	cm <sup>3</sup> /rev	3.0	4.0	5.0	6.0	7.0	8.0	10.0	11.0	12.0
<b>Continous Pressure</b>	bar	275	275	275	275	275	275	250	250	220
<b>Intermittent Pressure</b>	bar	300	300	300	300	300	300	275	275	220
<b>Minimum Speed</b>	rpm	500	500	500	500	500	500	500	500	500
@ Max. outlet pressure										
<b>Maximum Speed</b>	rpm	4000	4000	4000	3600	3300	3000	2800	2400	2400
@ 0 Inlet & Max. outlet pressure										
<b>Pump Input Power</b>	kW	2.3	3.0	3.8	4.5	5.3	6.0	6.9	7.6	7.5
@ Max. Pressure and 1500 rpm										
<b>Dimension "L"</b>	mm	41.1	43.8	46.5	49.1	51.8	54.5	59.8	62.5	65.2
<b>Approximate Weight<sup>1)</sup></b>	kg	2.22	2.27	2.32	2.38	2.43	2.48	2.58	2.63	2.68

<sup>1)</sup> Single pump with Flange D3 and Port end cover B1

**Single Unit PGP/PGM 505**

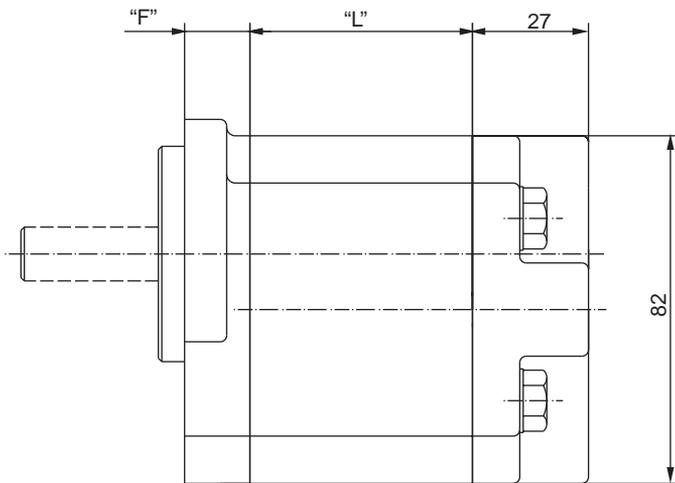
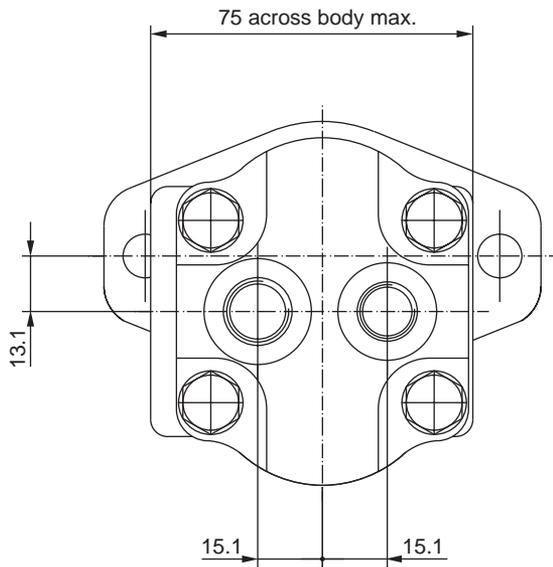


**Dimension "F"** see flanges

**Dimension "L"** see table

**Dimensions**

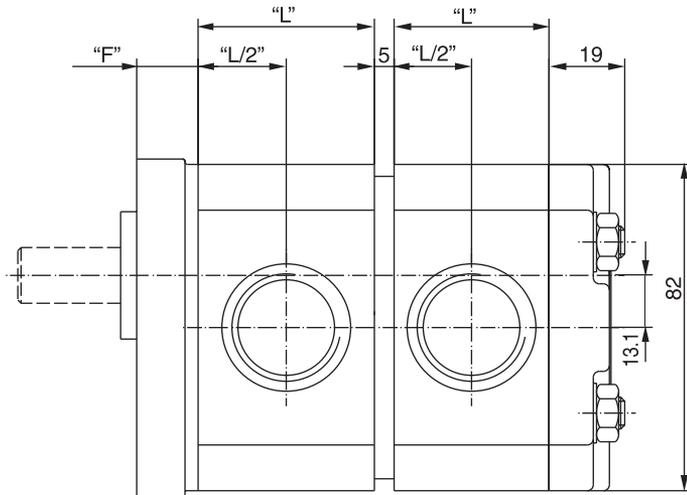
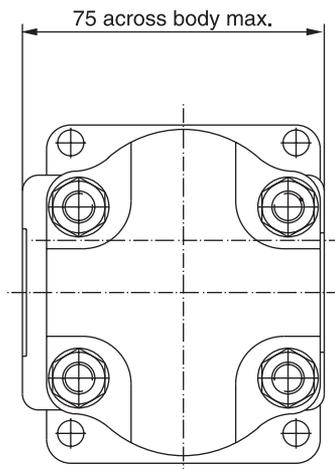
**Single Unit PGP/PGM 505 with rear ports**



**Dimension "F"** see flanges

**Dimension "L"** see table

**Tandem Unit PGP/PGM 505**

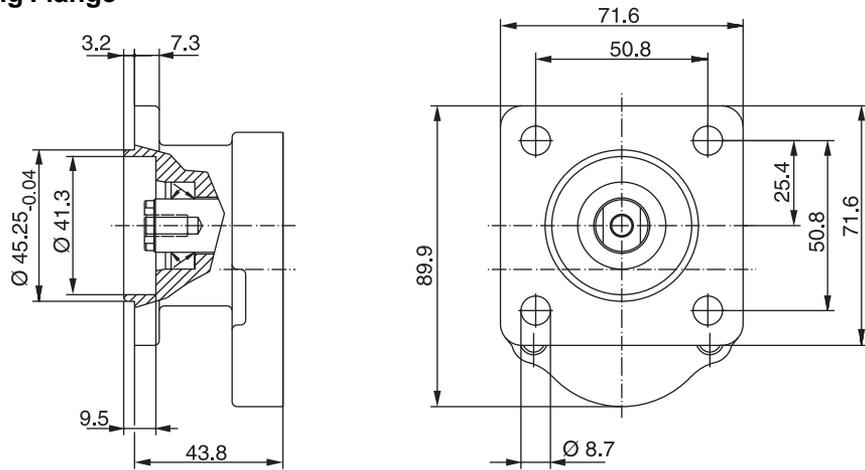


**Dimension "F"** see flanges

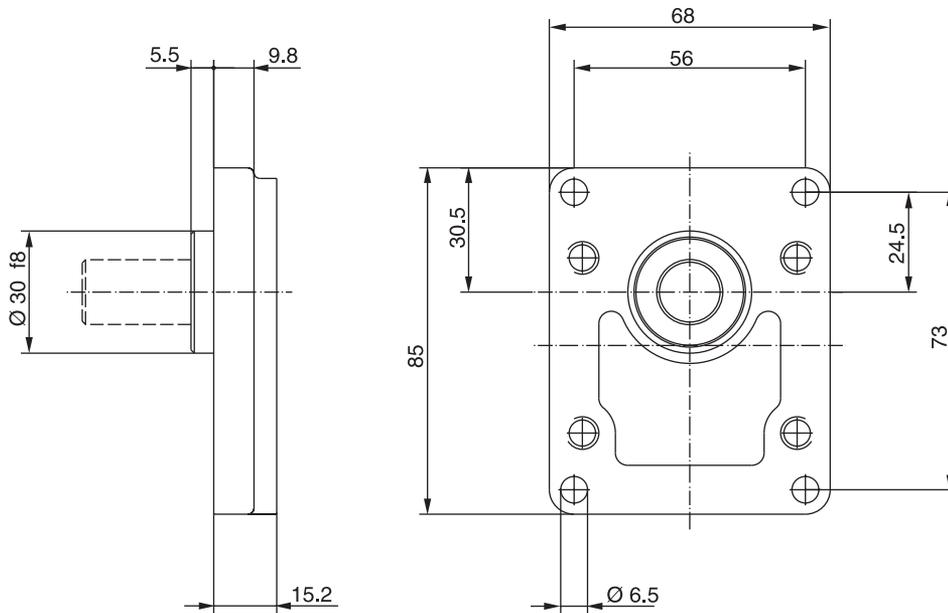
**Dimension "L"** see table

**PGP/PGM 505 Mounting Flange**

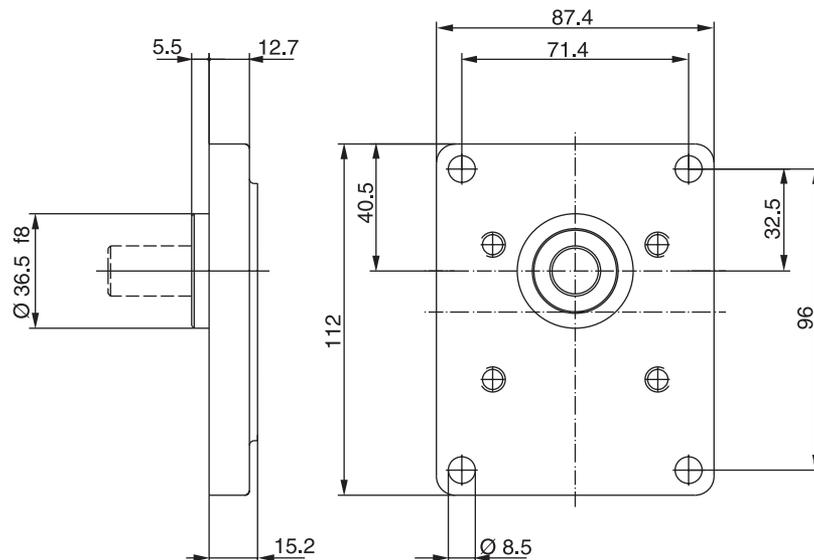
**Code A1**



**Code D2**



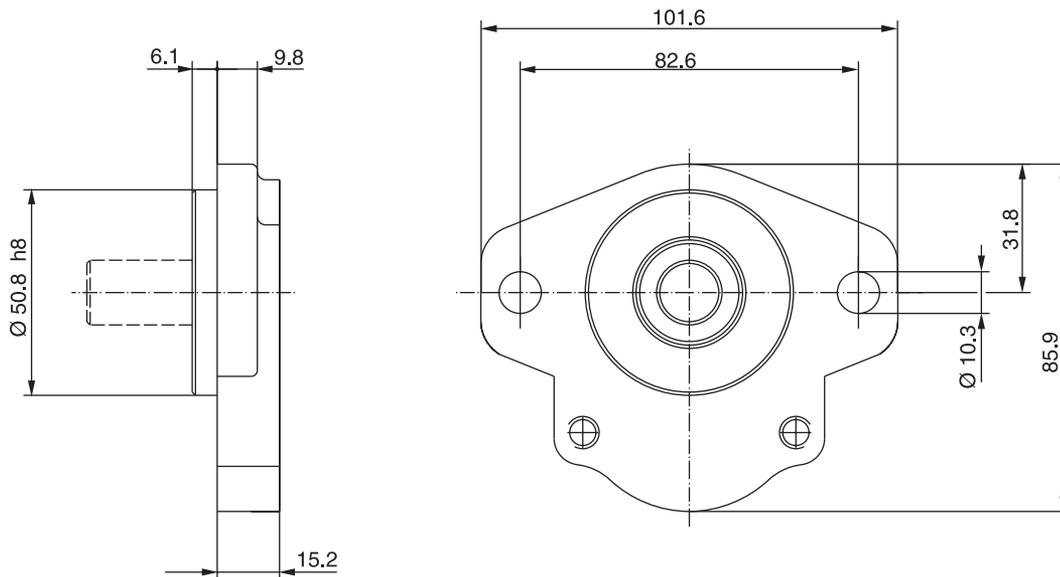
**Code D3**



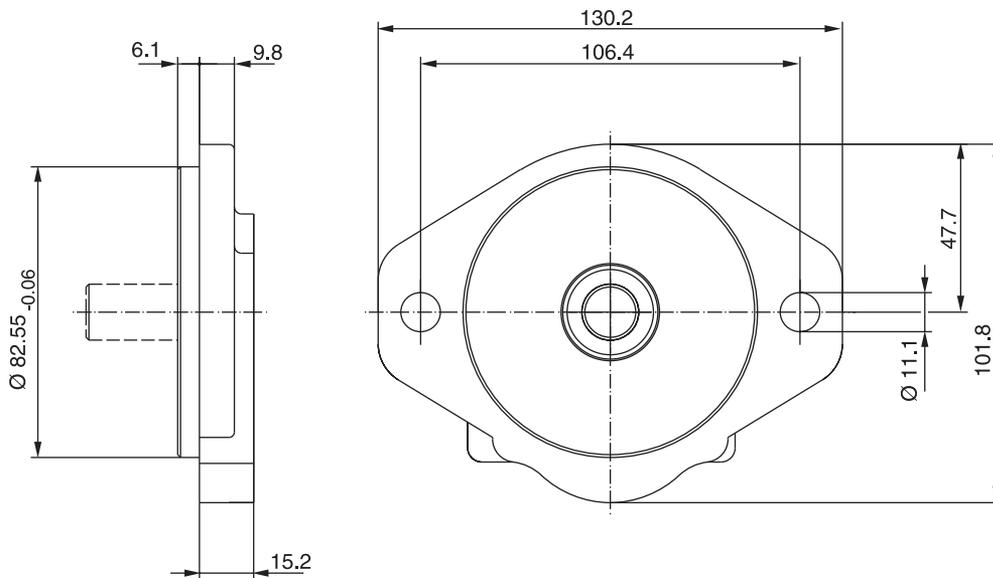
**Mounting flange options**

**PGP/PGM 505 Mounting Flange**

**Code H1**



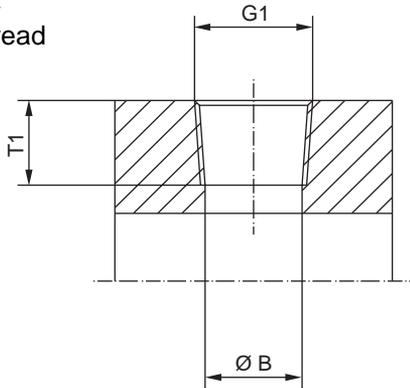
**Code H2**



**Port options**

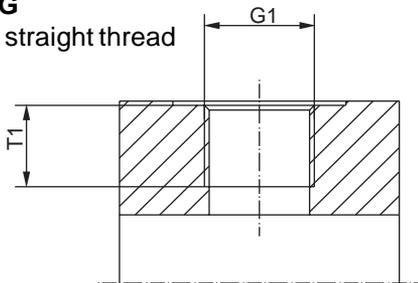
**PGP/PGM 505 Porting**

**Code C**  
NPT thread

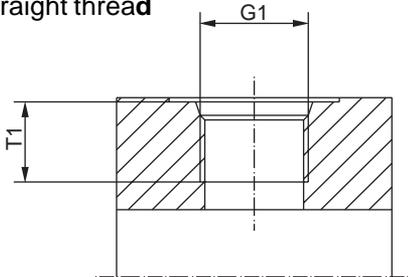


**Code E**  
British Standard Pipe

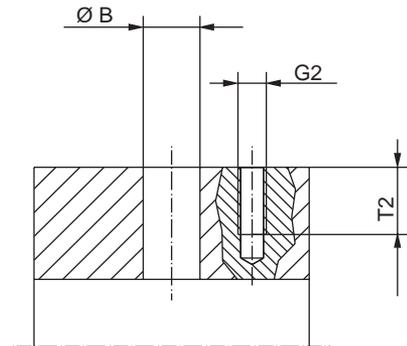
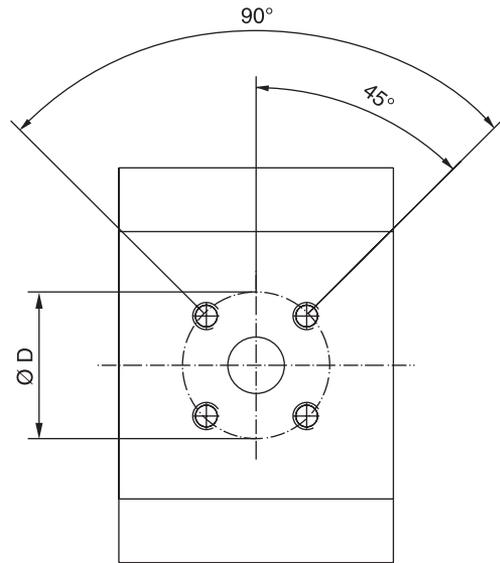
**Code G**  
Metric straight thread



**Code D**  
SAE straight thread



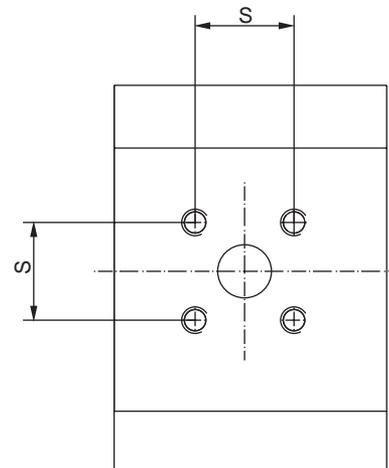
**Code J**  
European flange



**PGP/PGM 505**

Code	G1 Thread	G2 Thread	T1	Ø B	Ø D	S	T2
Dimensions							
C2	3/8-18 NPT		16.0				
C3	1/2-14 NPT		20.8				
D2	9/16-18 UNF		12.7				
D3	3/4-16 UNF		14.3				
D4	7/8-14 UNF		16.7				
D5	1 1/16-12 UN		19.0				
E1	1/4-19 BSP		12.0				
E2	3/8-19 BSP		12.0				
E3	1/2-14 BSP		14.0				
E5	3/4-14 BSP		16.0				
G1	M 14x1.5		12.0				
G3	M 18x1.5		12.0				
G4	M 22x1.5		14.0				
J3		M6		8.0	30.0		12.0
J4		M6		12.0	30.0		12.0
J5		M6		15.0	35.0		12.5
J7		M6		20.0	40.0		13.0
K5		1/4UNC	14.2			25.15	13.0

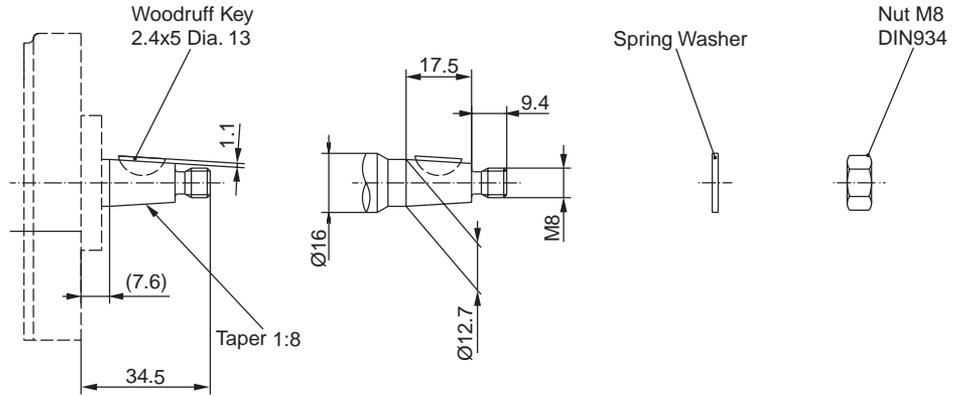
**Code K**  
4-Bolt flange



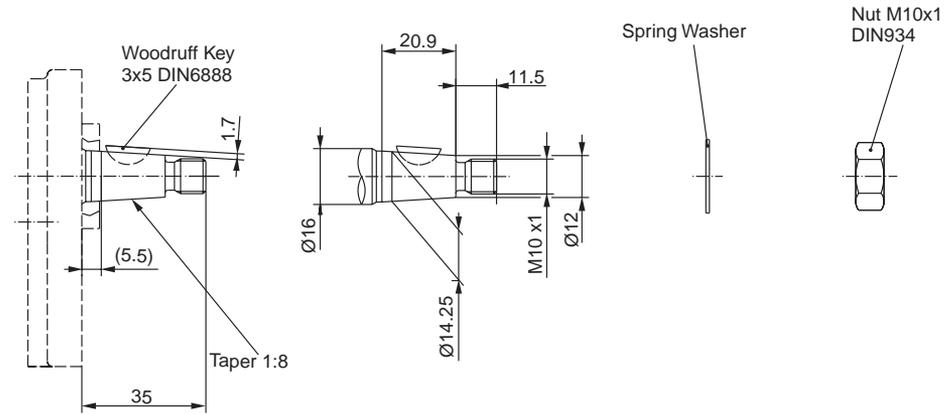
Drive shaft options

PGP/PGM 505 Drive Shaft

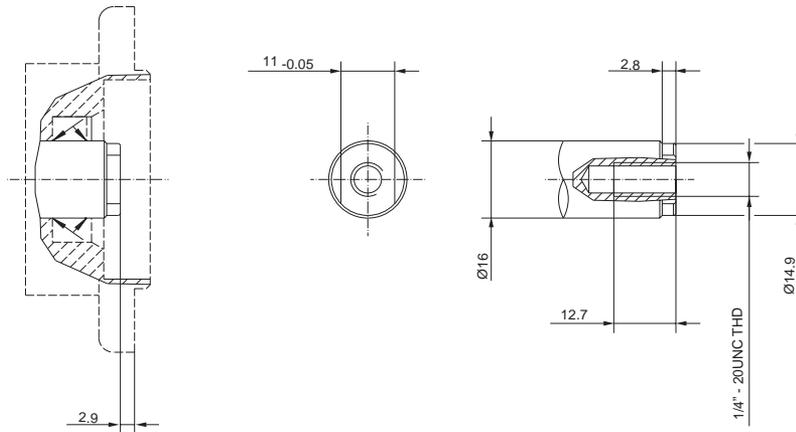
Code Q1



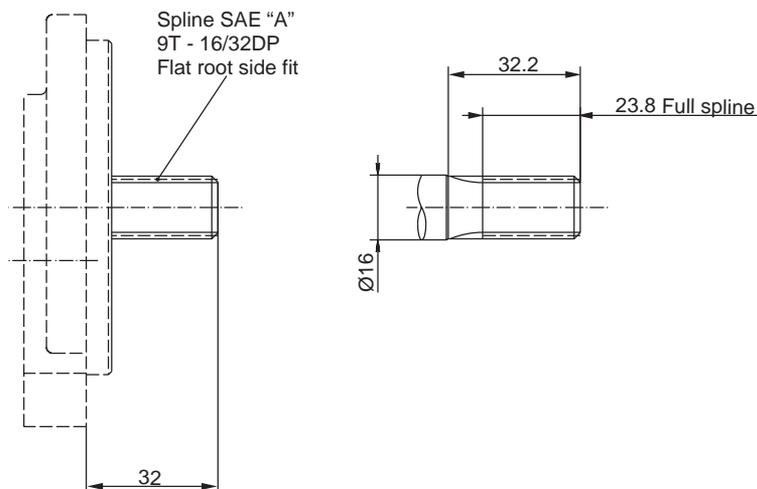
Code Q2



Code V4

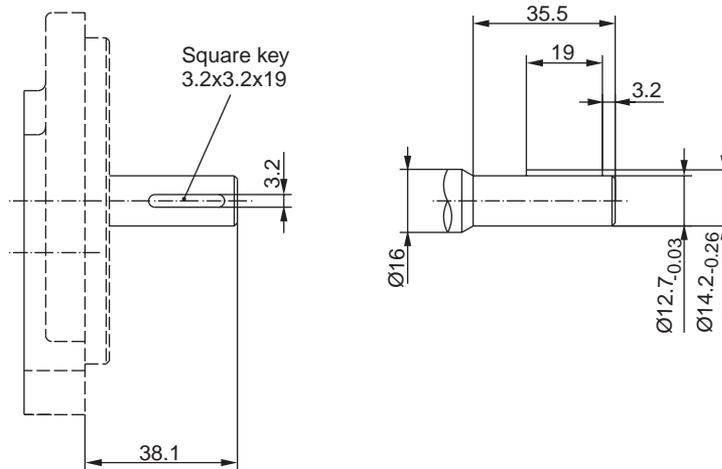


Code A1

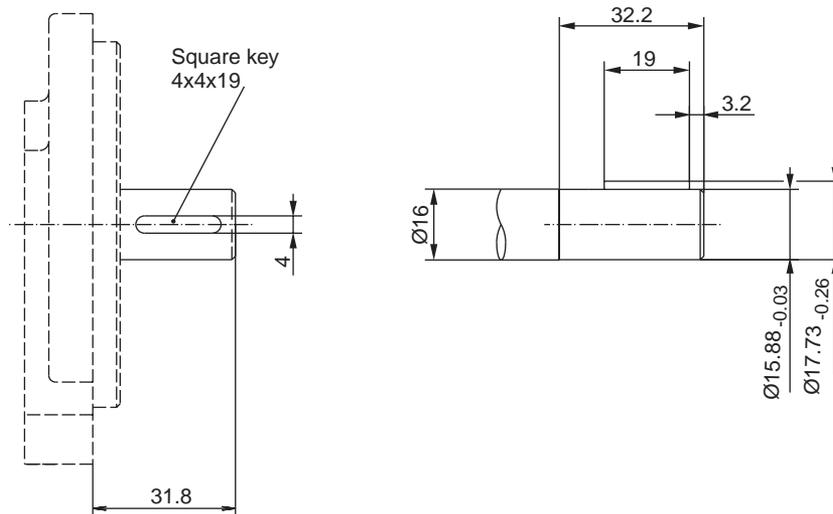


PGP/PGM 505 Drive Shaft

Code J1



Code K1



PGP/PGM 505 - Shaft Load Capacity

Code	Description		Torque Rating [Nm]
A1	9T,16/32DP, 32L, SAE"A"	spline	108
J1	Ø12.7, 3.2 KEY, no thread, 38L	parallel	43
J2	Ø13.45, 3.2 KEY,10-32UNF, 33.3L	parallel	52
K1	Ø15.88, 4.0 KEY, no thread, 32L, SAE"A"	parallel	85
Q1	Ø12.70, 7.6L, 2.4 KEY, M8x1.25	taper 1:8	43
Q2	Ø14.25, 5.5L, 3.0 KEY, M10x1	taper 1:8	68
V4	11x2.8,1/4UNF for flange code A1	tang drive	44
	Multiple pump connection shaft		36

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

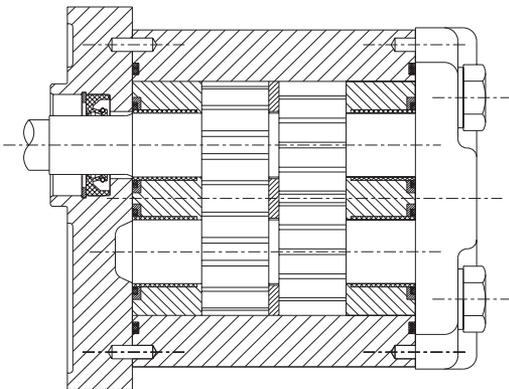
**Dimensions**

**PGP/PGM 511 Specification - Standard Displacements**

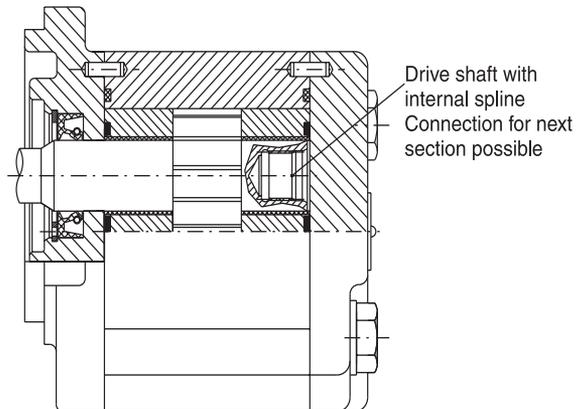
Pump Displacement	Code	0060	0080	0100	0110	0140	0160	0190	0230	0270	0310	0330
	cm <sup>3</sup> /rev	6.0	8.0	10.0	11.0	14.0	16.0	19.0	23.0	27.0	31.0	33.0
<b>Continous Pressure</b>	bar	275	275	275	275	275	275	250	225	190	165	155
<b>Intermittent Pressure</b>	bar	300	300	300	300	300	300	275	245	210	180	170
<b>Minimum Speed</b> @ Max. outlet pressure	rpm	500	500	500	500	500	500	500	500	500	500	500
<b>Maximum Speed</b> @ 0 Inlet & Max. outlet pressure	rpm	3500	3500	3500	3500	3500	3500	3250	2750	2350	2100	2000
<b>Pump Input Power</b> @ Max. Pressure and 1500 rpm	kW	4.5	6.0	7.5	8.3	10.5	12.0	14.3	14.7	14.9	16.7	17.3
<b>Dimension "L"</b>	mm	50.1	53.3	56.5	58.0	62.8	65.9	70.6	76.9	83.2	89.5	92.6
<b>Approximate Weight<sup>1)</sup></b>	kg	3.40	3.47	3.55	3.57	3.71	3.79	3.91	4.06	4.21	4.37	4.45

<sup>1)</sup> Single pump with Flange Q1 and Port end cover B1

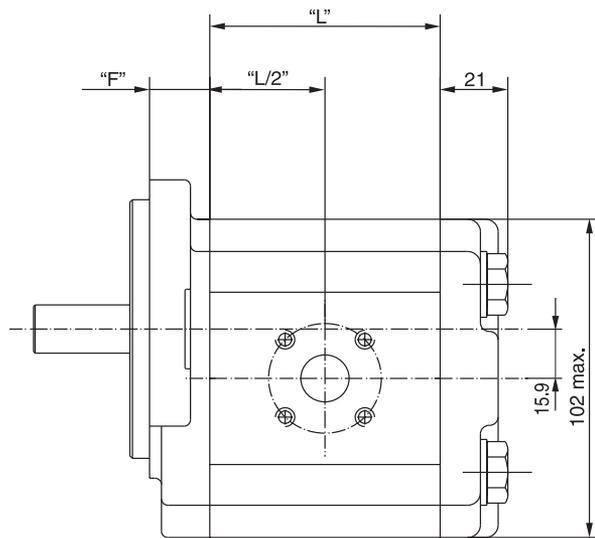
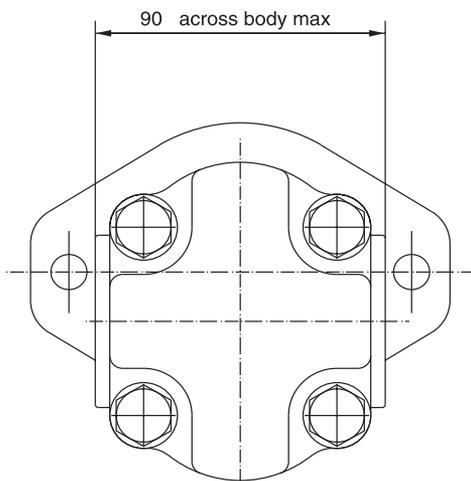
**Split Gear Unit PGP 511**



**Distributor Unit PGP 511**

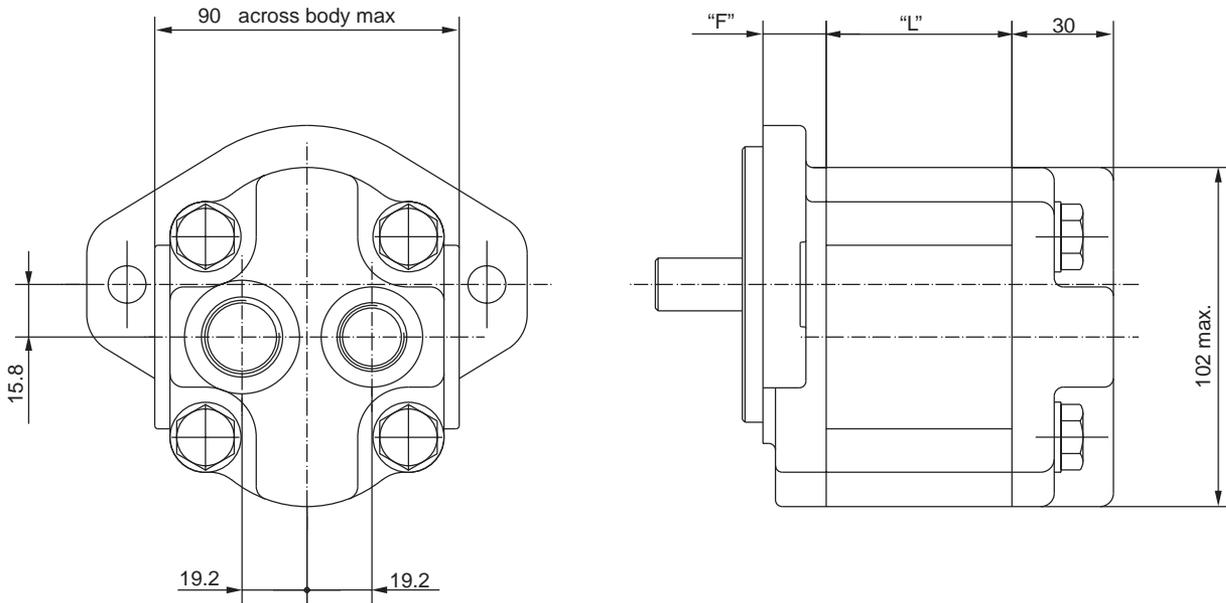


**Single Unit PGP/PGM 511**



**Dimension "F"** see flanges  
**Dimension "L"** see table

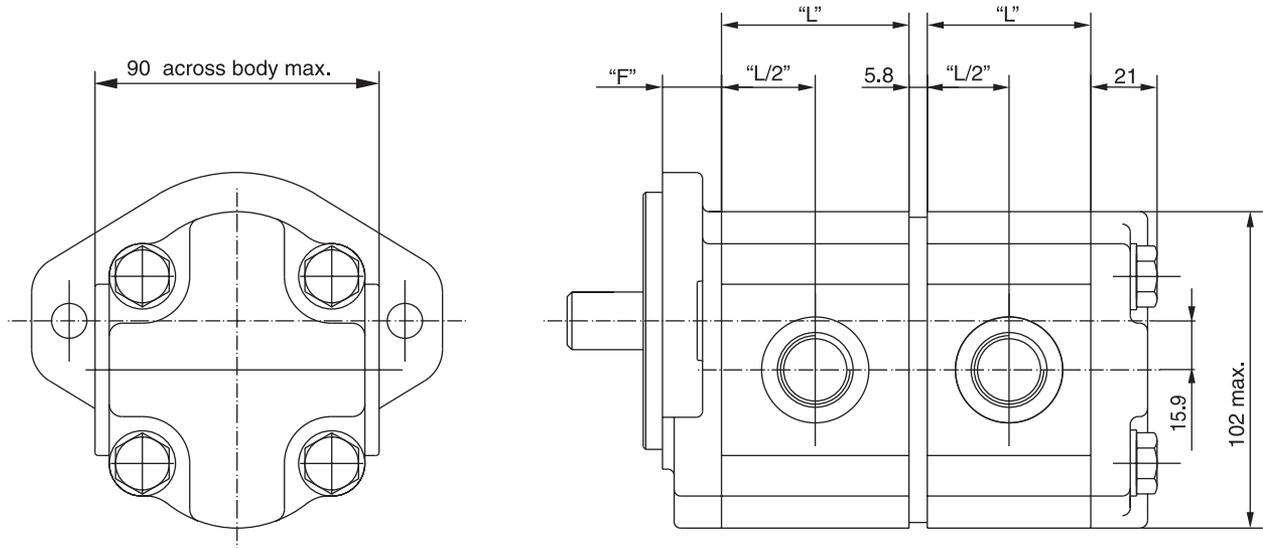
**Single Unit PGP/PGM 511 with rear ports**



**Dimension "F"** see flanges

**Dimension "L"** see table

**Tandem Unit PGP/PGM 511**



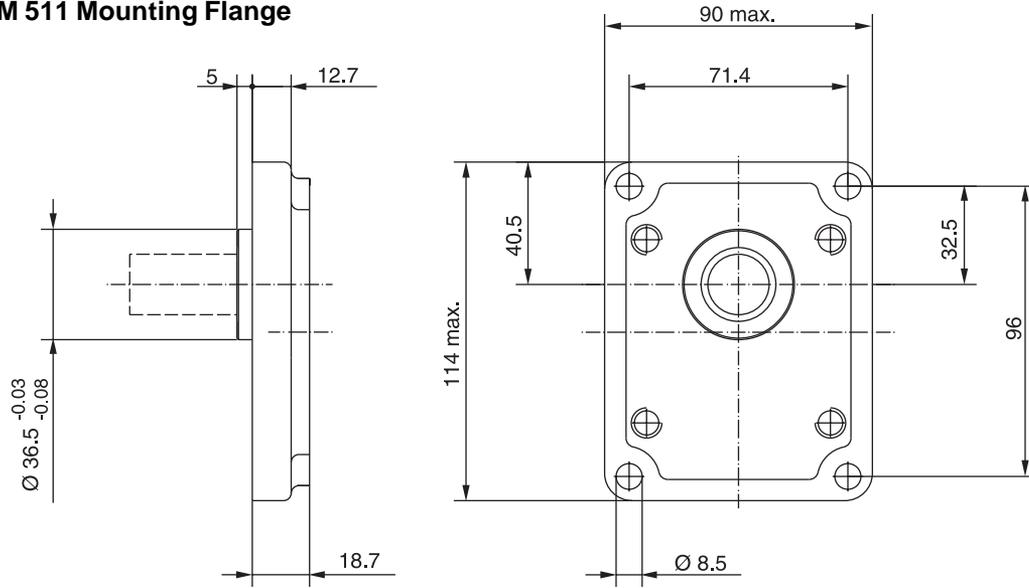
**Dimension "F"** see flanges

**Dimension "L"** see table

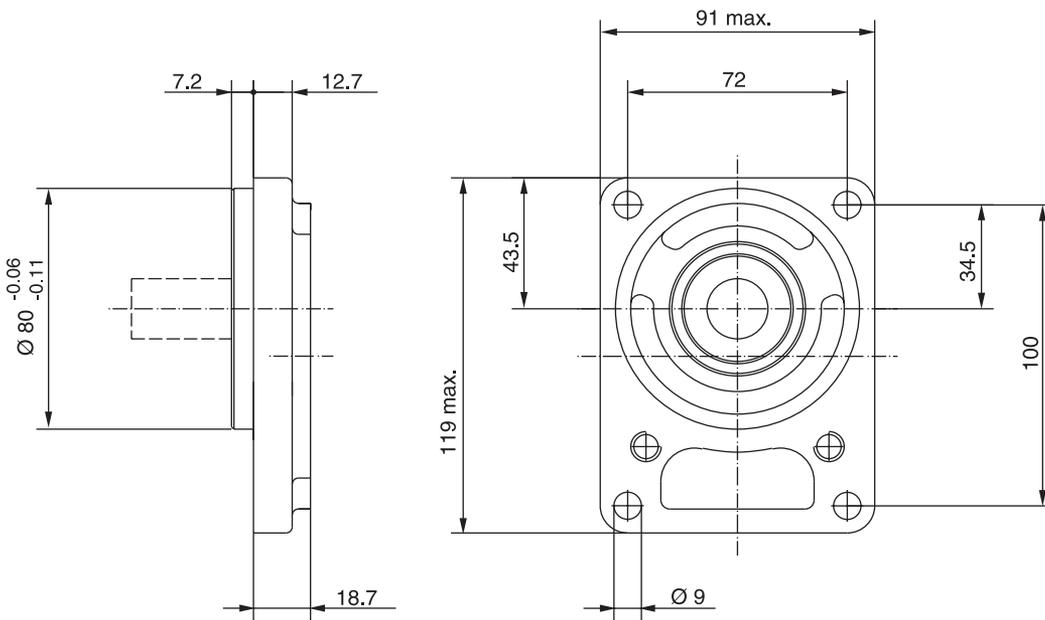
**Mounting flange options**

**PGP/PGM 511 Mounting Flange**

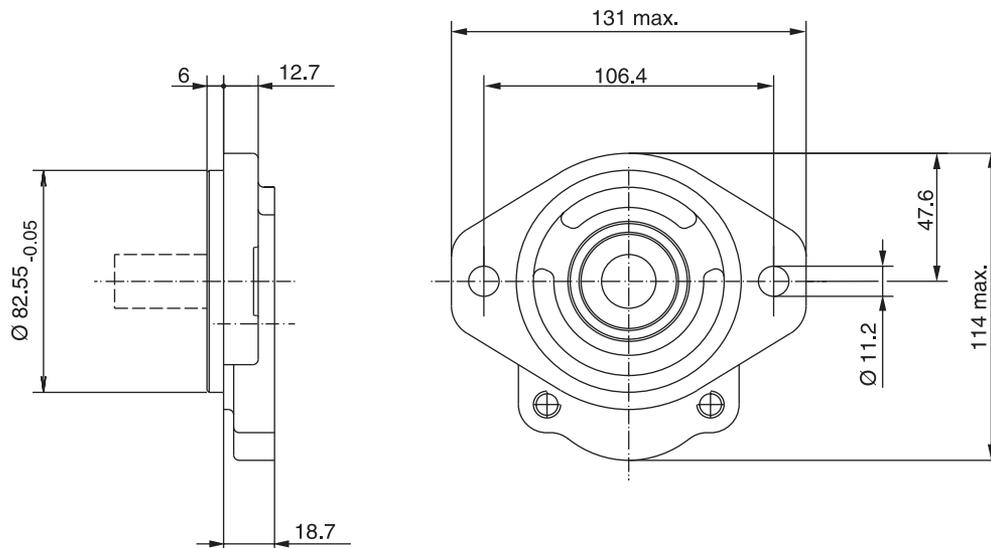
**Code D3**



**Code D4**

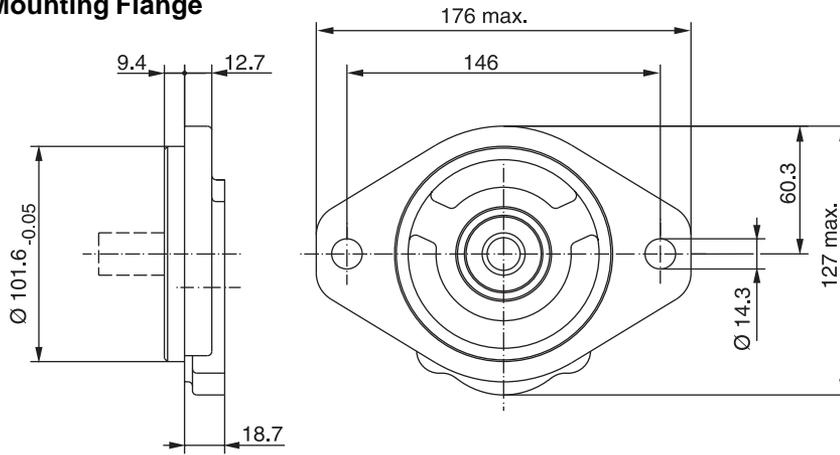


**Code H2**

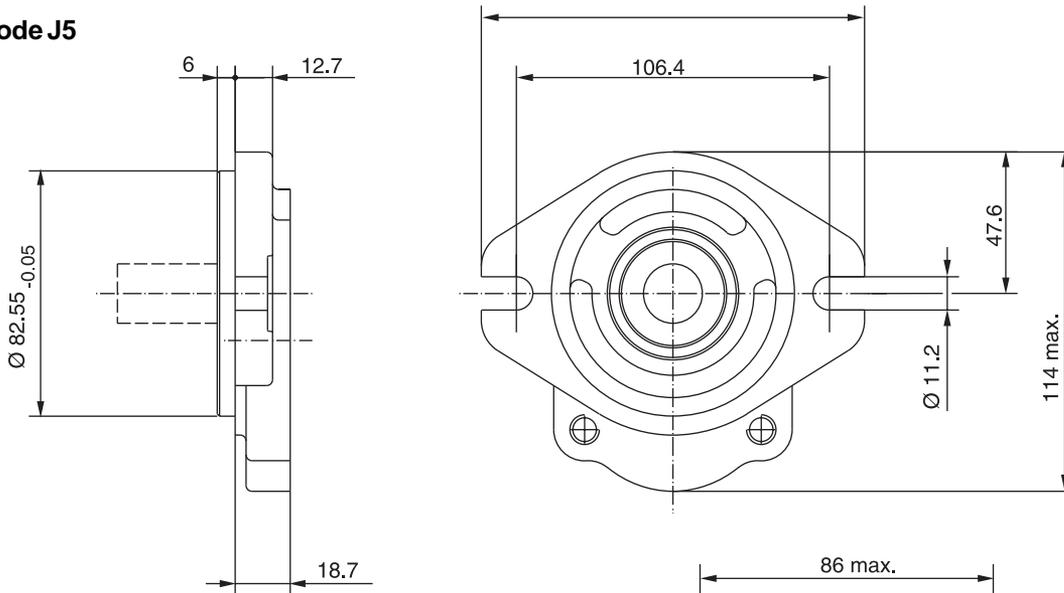


**PGP/PGM 511 Mounting Flange**

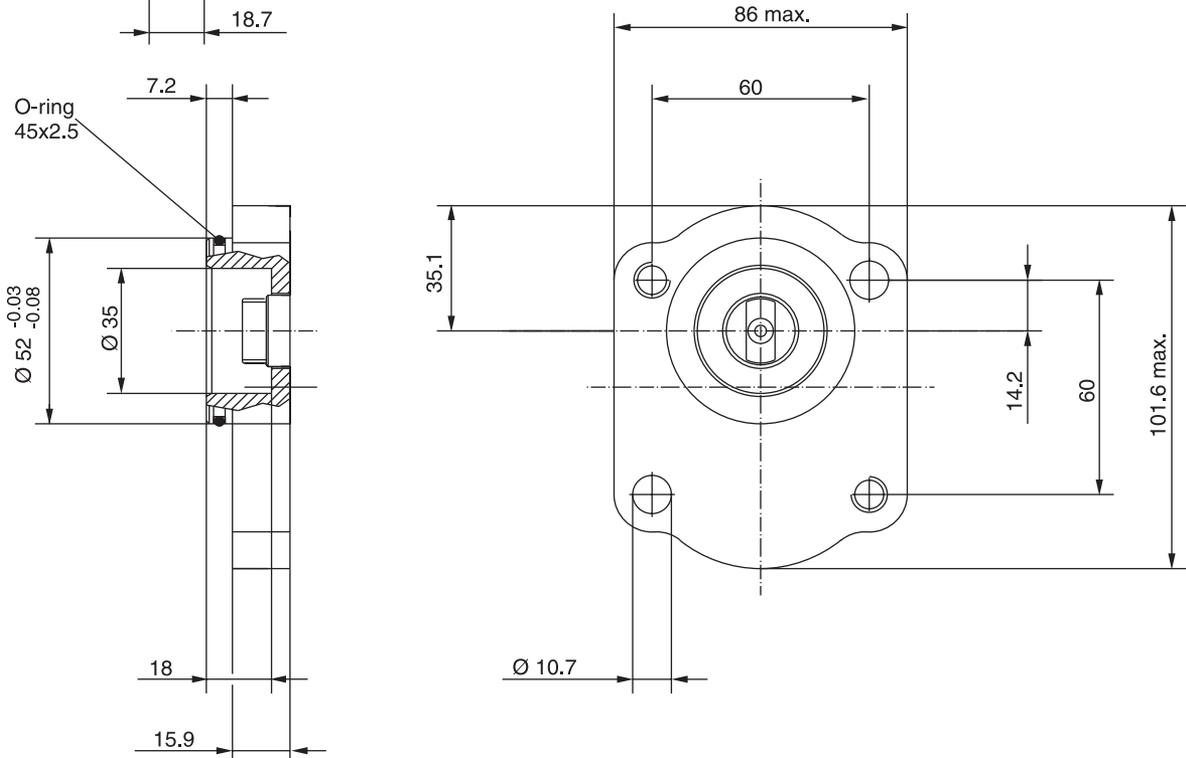
**Code H3**



**Code J5**



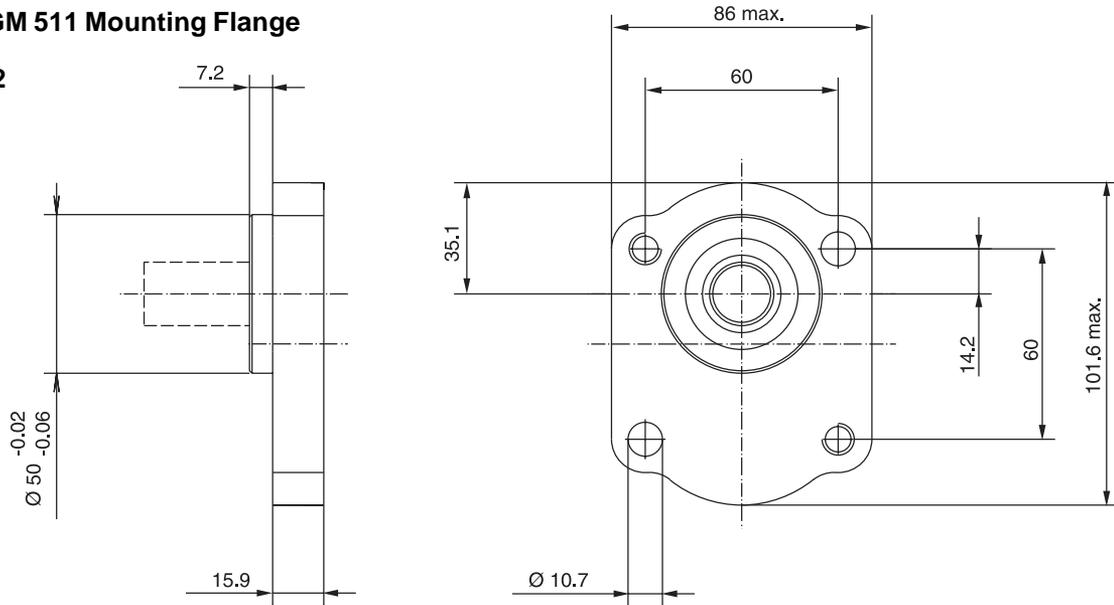
**Code Q1**



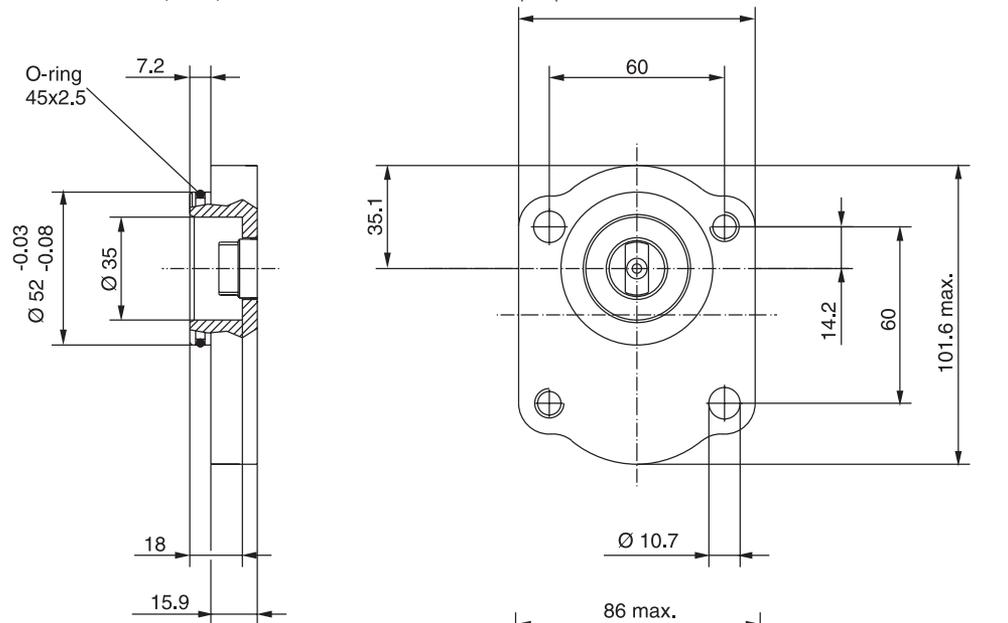
Mounting flange options

PGP/PGM 511 Mounting Flange

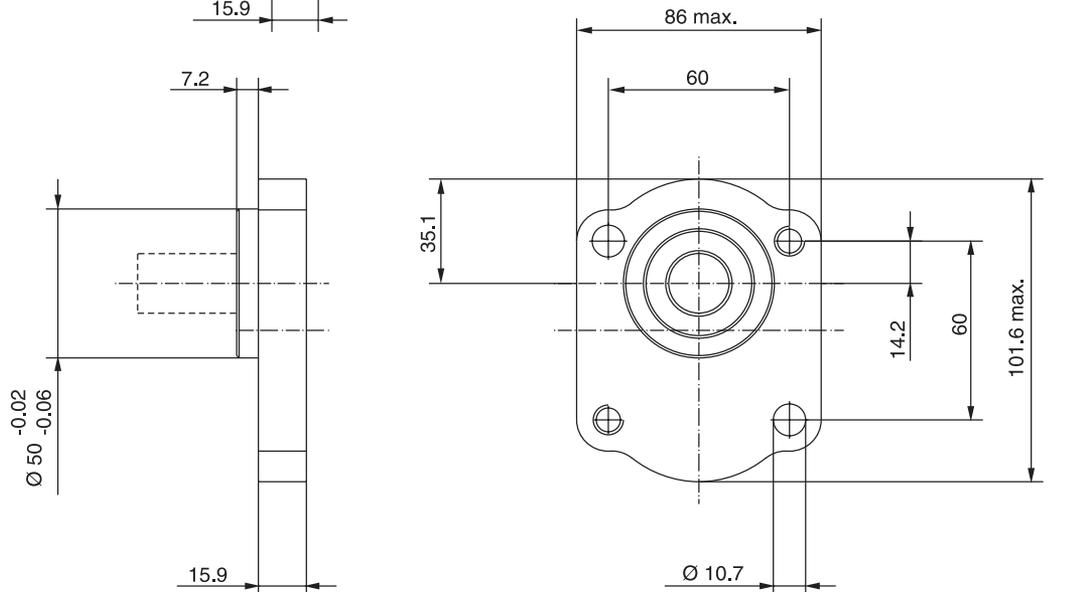
Code Q2



Code Q3

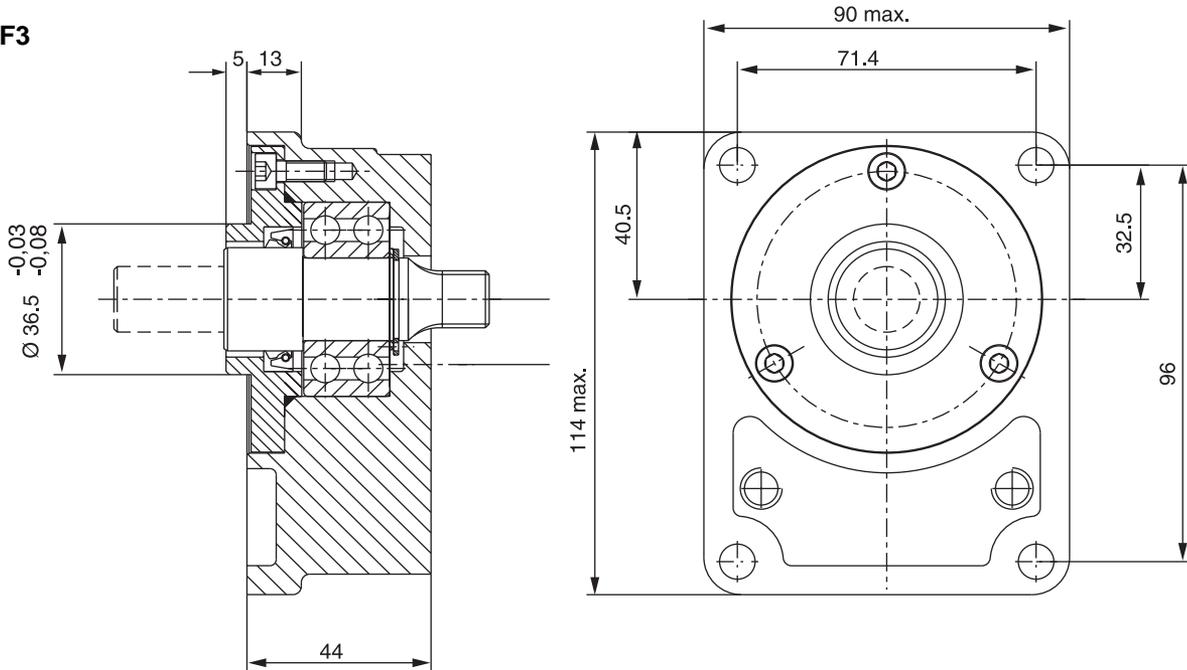


Code Q4

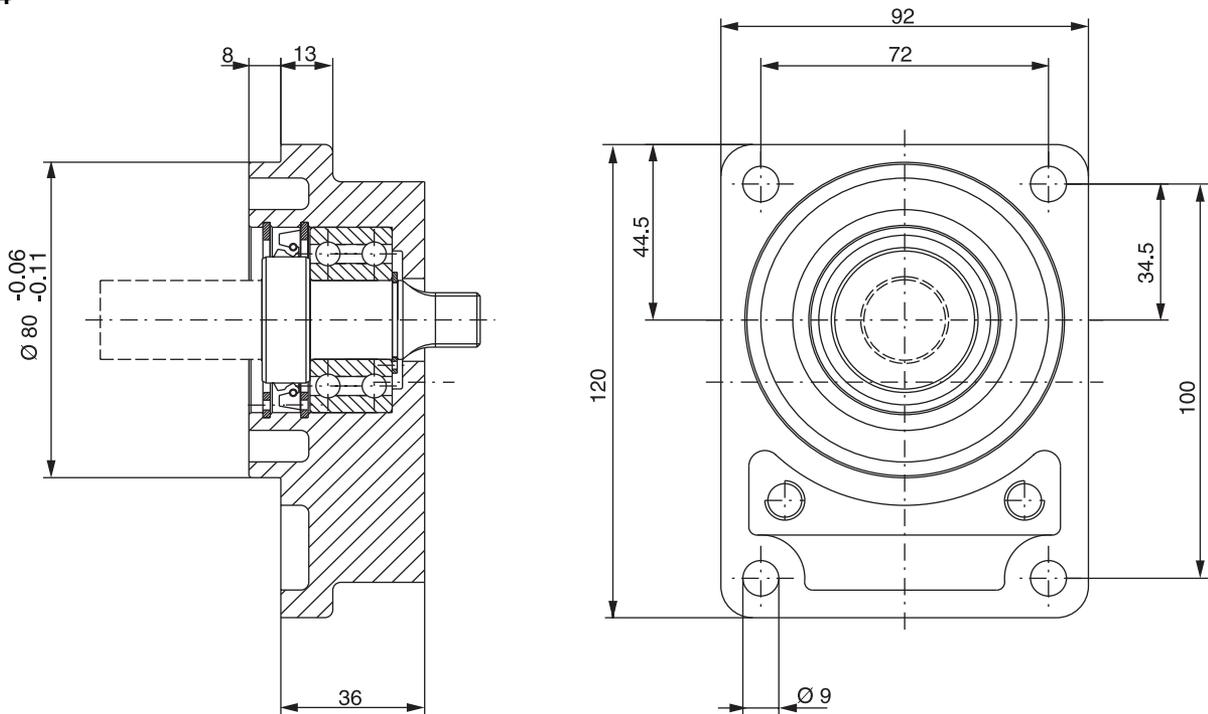


**PGP/PGM 511 Mounting Flange**

**Code F3**

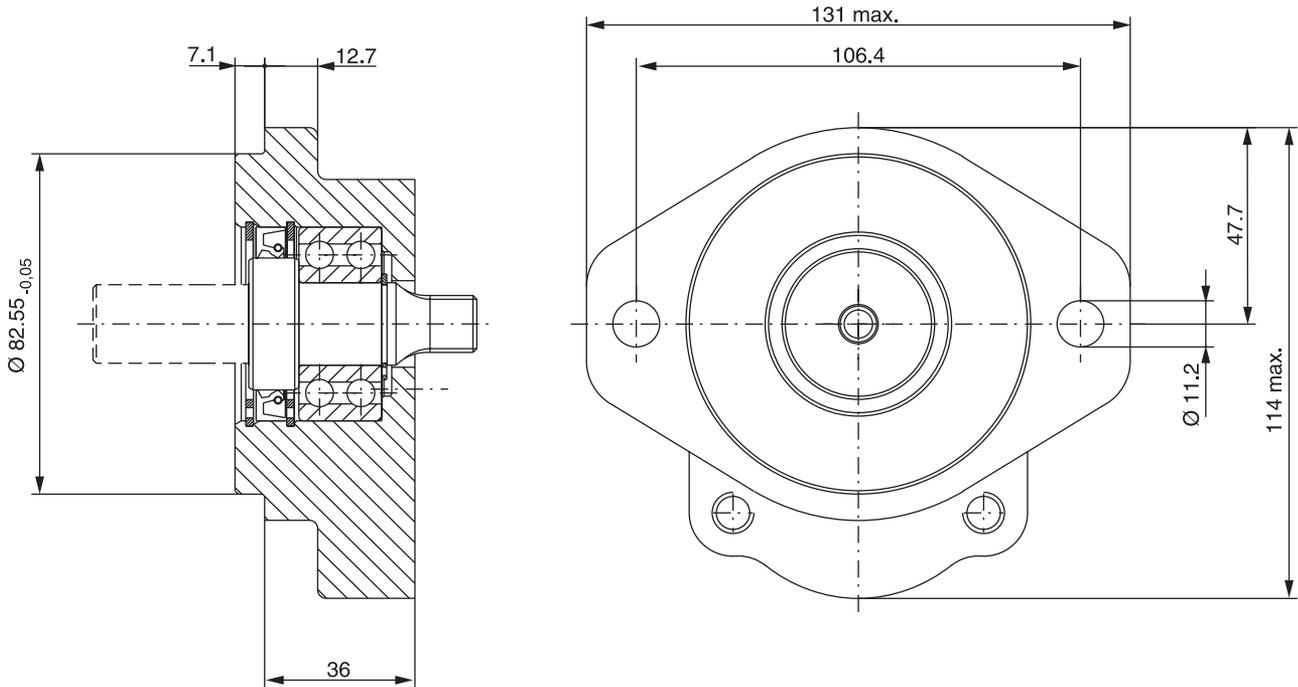


**Code F4**

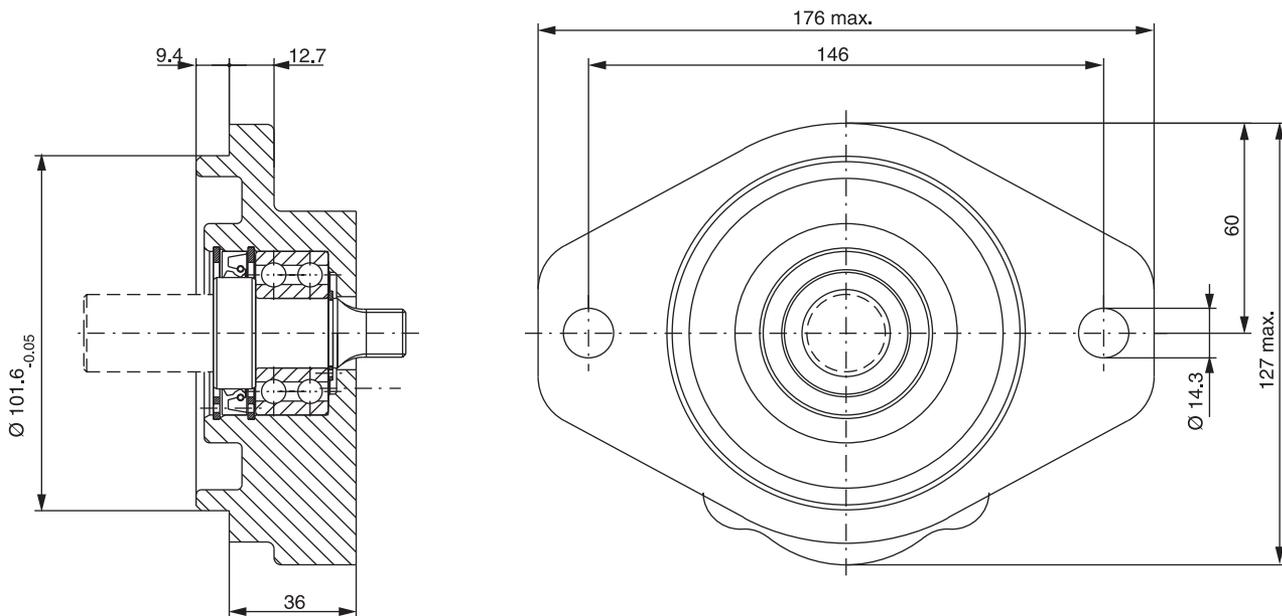


**PGP/PGM 511 Mounting Flange**

**Code L2**



**Code L3**

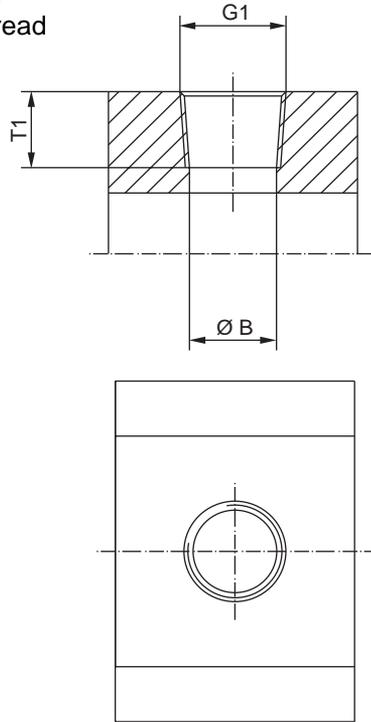


**Port options**

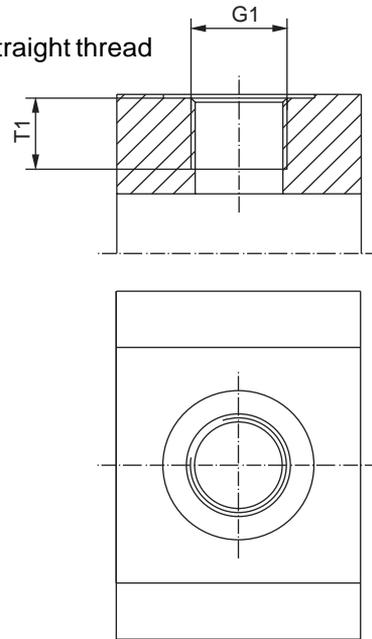
**Heavy-duty aluminium pumps and motors  
Series PGP, PGM 500**

**PGP/PGM 511 Porting**

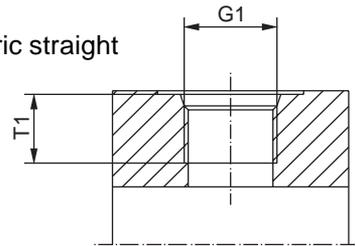
**Code C**  
NPT thread



**Code E**  
British Standard Pipe  
**Code G**  
Metric straight thread



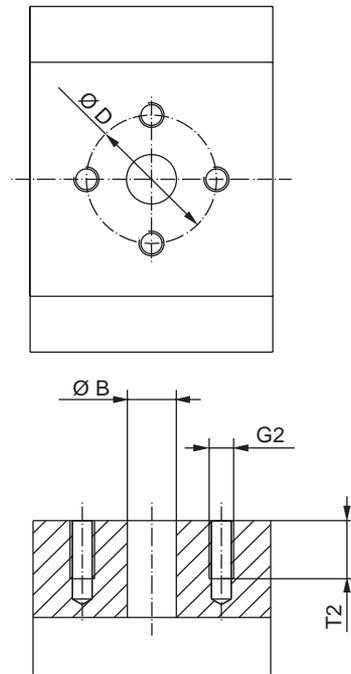
**Code D**  
SAE straight thread  
**Code H**  
ISO metric straight



**PGP/PGM 511**

Code	G1	T1
	Thread	Dimensions
C2	3/8-18 NPT	16.0
C3	1/2-14 NPT	20.8
D2	9/16-18 UNF	12.7
D3	3/4-16 UNF	14.3
D4	7/8-14 UNF	16.7
D5	1 1/16-12 UN	19.0
D6	1 5/16-12 UN	19.0
D7	1 5/8-12 UN	19.0
D8	1 7/8-12 UN	19.0
E2	3/8-19 BSP	12.0
E3	1/2-14 BSP	14.0
E4	5/8-14 BSP	16.3
E5	3/4-16 BSP	16.0
E6	1-11 BSP	18.0
E7	1 1/4-11 BSP	20.0
E8	1 1/2-11 BSP	22.0
G1	M 14x1.5	12.0
G3	M 18x1.5	12.0
G4	M 22x1.5	14.0
G5	M 26x1.5	16.0
G7	M 30x1.5	12.0
G8	M 33x2	18.0
H1	M 14x1.5 w/o	11.5
H2	M 16x1.5 w/o	13.0
H3	M 18x1.5 w/o	14.5
H4	M 22x1.5 w/o	15.5
H6	M 27x2 w/o	19.0
H8	M 33x2 w/o	19.0

**Code L, M**  
4-Bolt flange

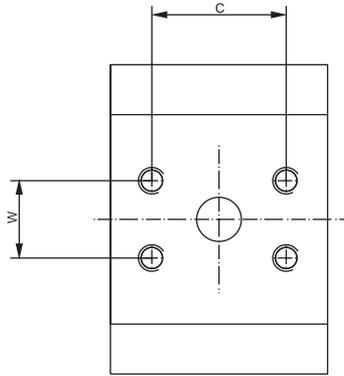


Port options

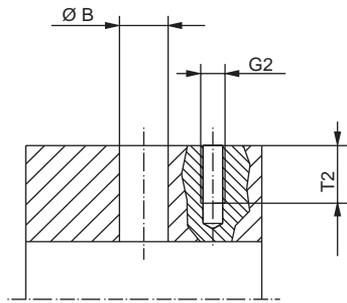
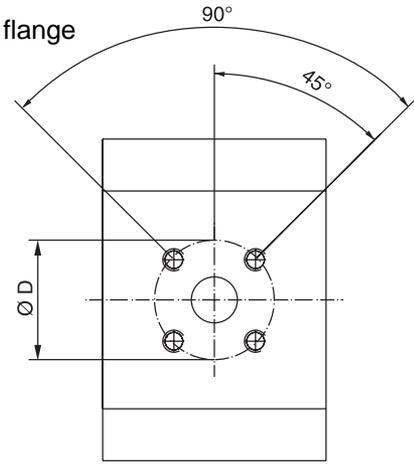
PGP/PGM 511 Porting

**Code N**  
SAE Split flange

**Code P**  
SAE Split flange  
metric thread



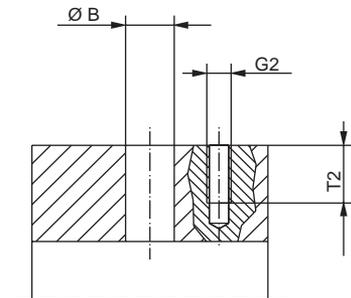
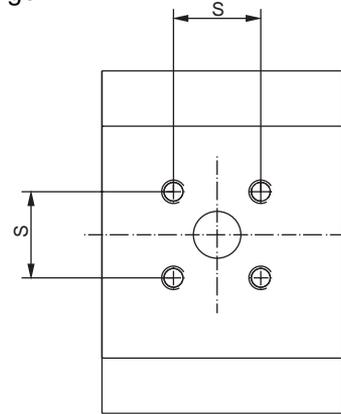
**Code J**  
European flange



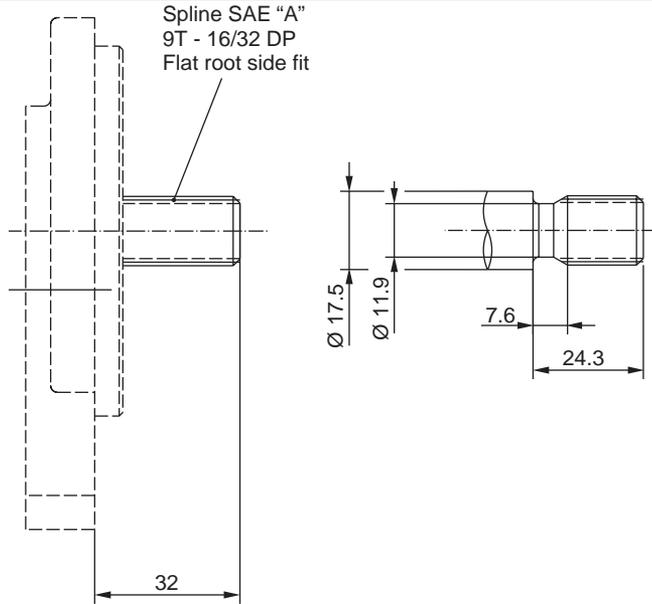
PGP/PGM 511

Code	G2	Ø B	Ø D	S	C	W	T2
	Thread						
J3	M6	8.0	30.0				12.0
J4	M6	12.0	30.0				12.0
J5	M6	15.0	35.0				12.5
J6	M8	15.0	40.0				15.0
J7	M6	20.0	40.0				13.0
J8	M8	18.0	55.0				15.0
J9	M8	26.0	55.0				15.0
K1	5/16-18 UNF	19.0		30.48			15.0
K2	M8	19.0		30.48			15.0
K3	M6	19.0		32.00			13.0
K4	M6	16.0		25.15			13.0
L1	M6	13.0	30.0				13.0
L2	M8	19.0	40.0				15.0
L4	1/4-20 UNF	13.0	30.0				13.0
L5	5/16-18 UNF	19.0	40.0				15.0
M1	M6	15.0	30.16				13.0
M2	1/4-20 UNF	15.0	30.16				13.0
M3	1/4-20 UNF	14.2	35.57				13.0
N1	5/16-18 UNC	12.7			38.10	17.48	15.0
N2	3/8-16 UNC	19.0			47.63	22.23	14.0
N3	3/8-16 UNC	25.4			52.37	26.19	20.6
N4	7/16-14 UNC	31.8			58.72	30.17	20.6
P1	M8	12.7			38.10	17.48	15.0
P2	M10	19.0			47.63	22.23	20.6
P3	M10	25.4			52.37	26.19	21.4
P4	M10	31.8			58.72	30.17	20.6
P5	M12	38.1			69.82	35.71	20.6

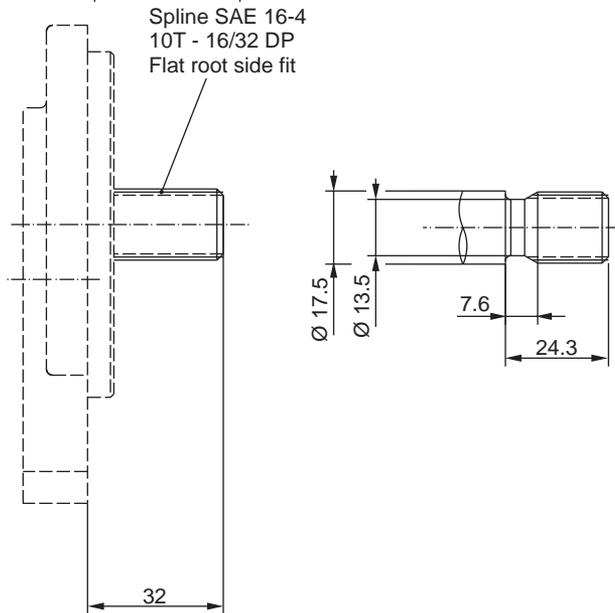
**Code K**  
4-Bolt flange



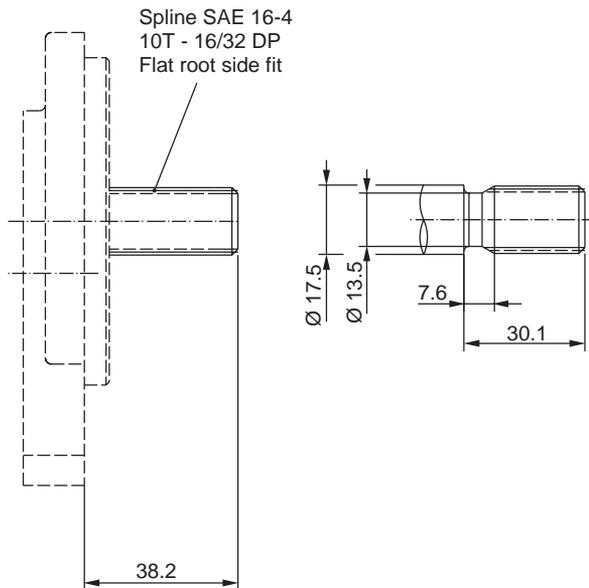
**PGP/PGM 511 Drive Shaft  
Code A1**



**Code B1**



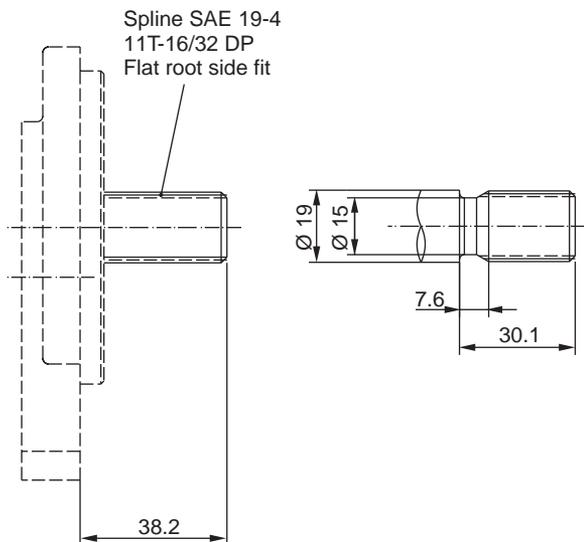
**Code B2**



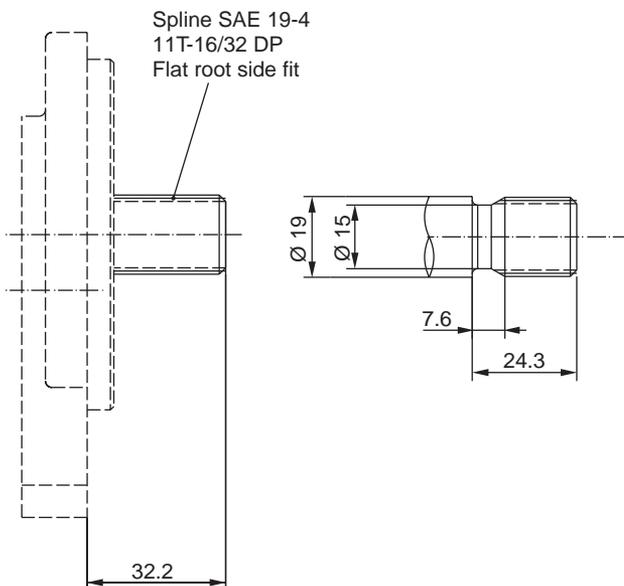
Drive shaft options

PGP/PGM 511 Drive Shaft

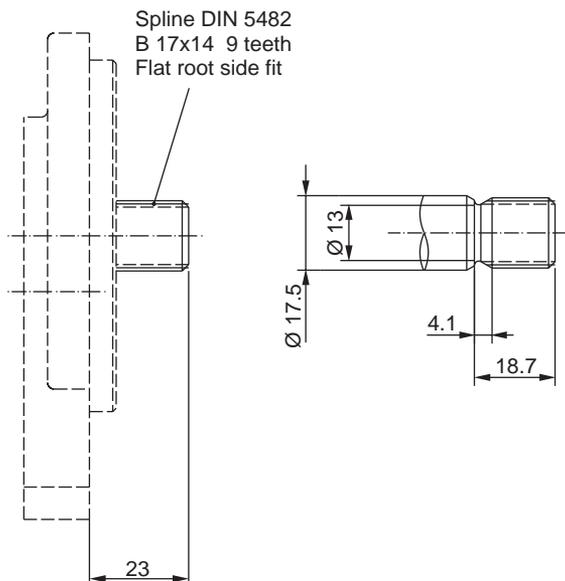
Code C1



Code C2

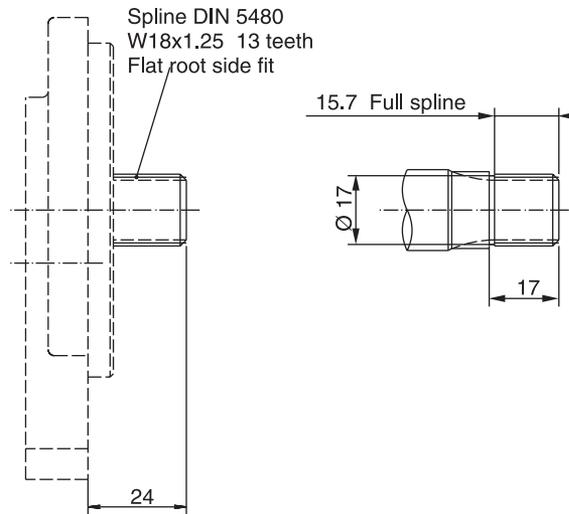


Code F1

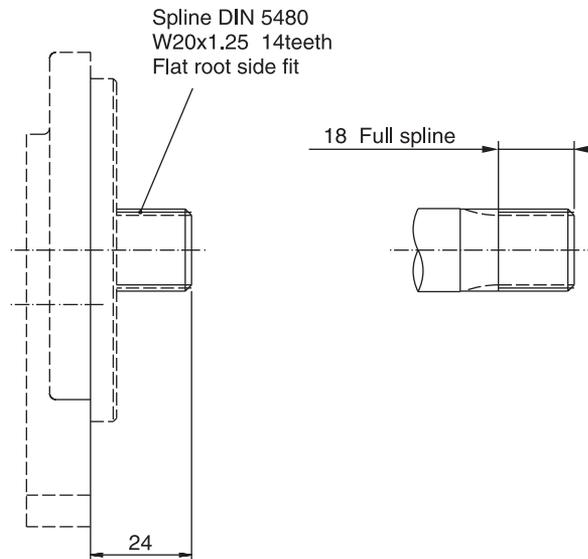


**PGP/PGM 511 Drive Shaft**

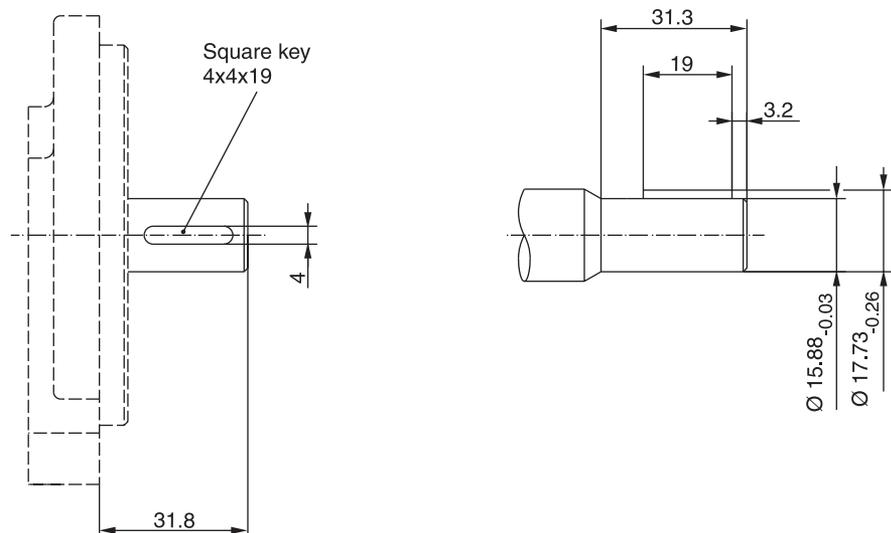
**Code F2**



**Code F3**



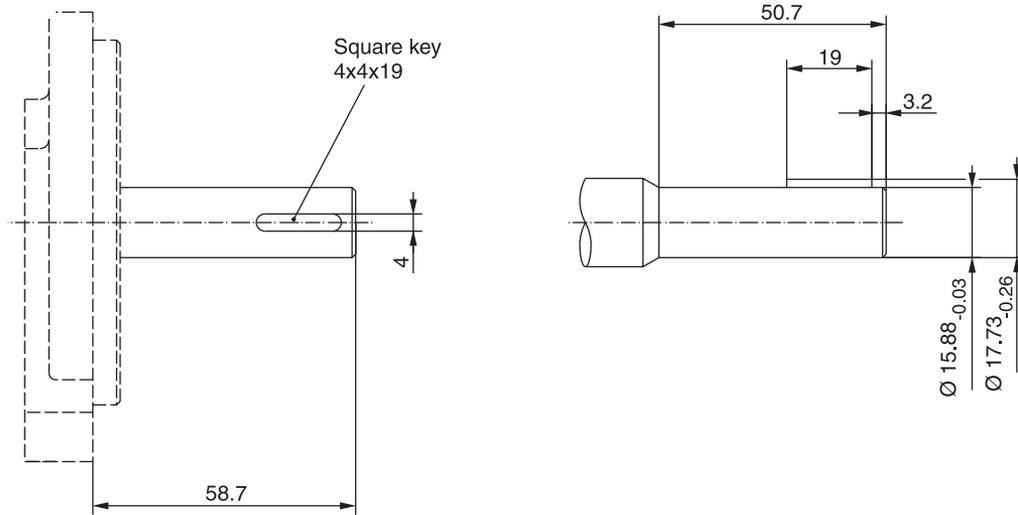
**Code K1**



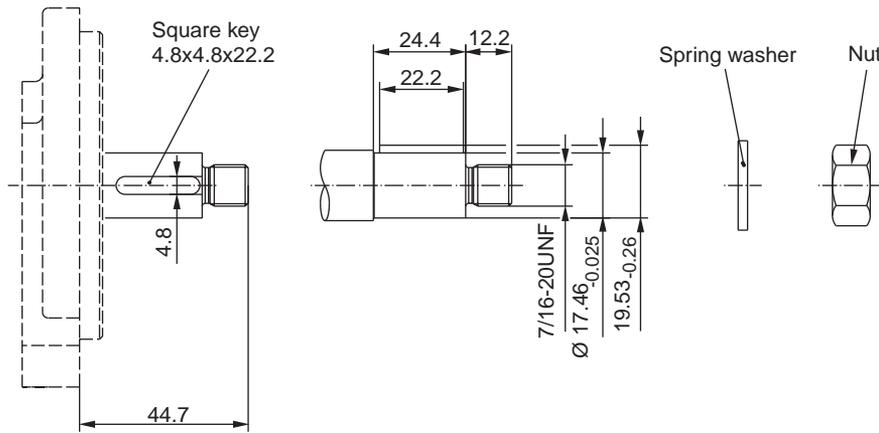
Drive shaft options

PGP/PGM 511 Drive Shaft

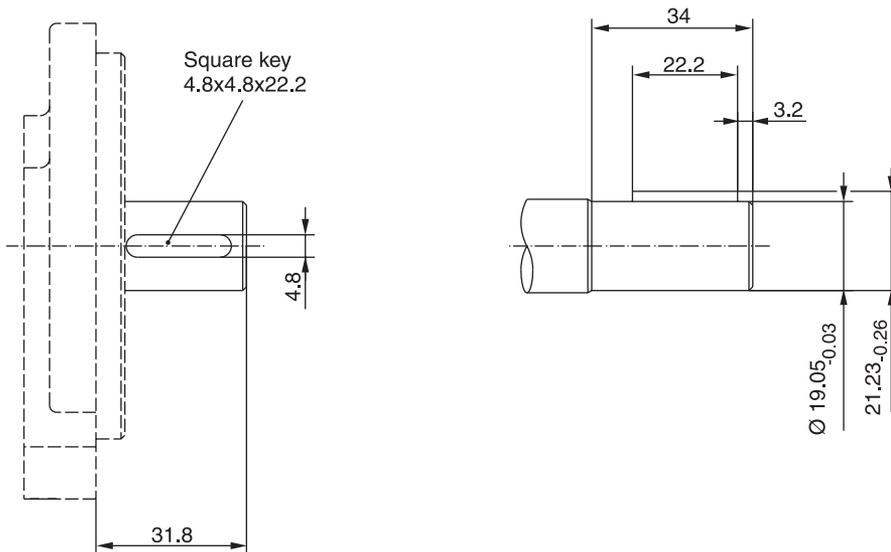
Code K4



Code L1

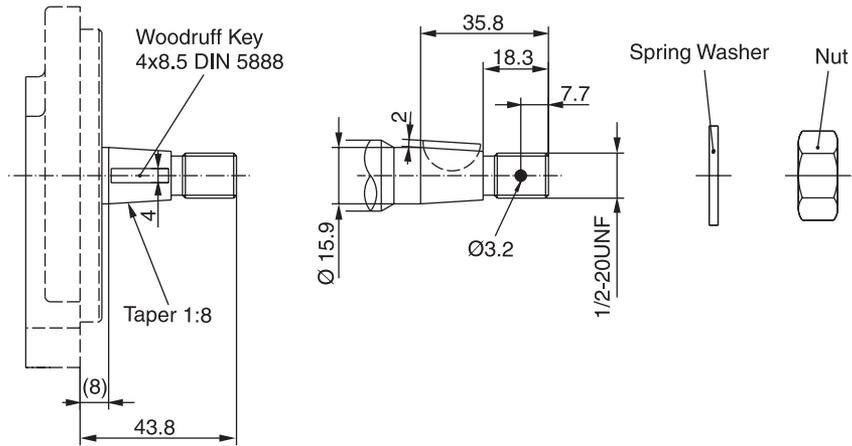


Code L6

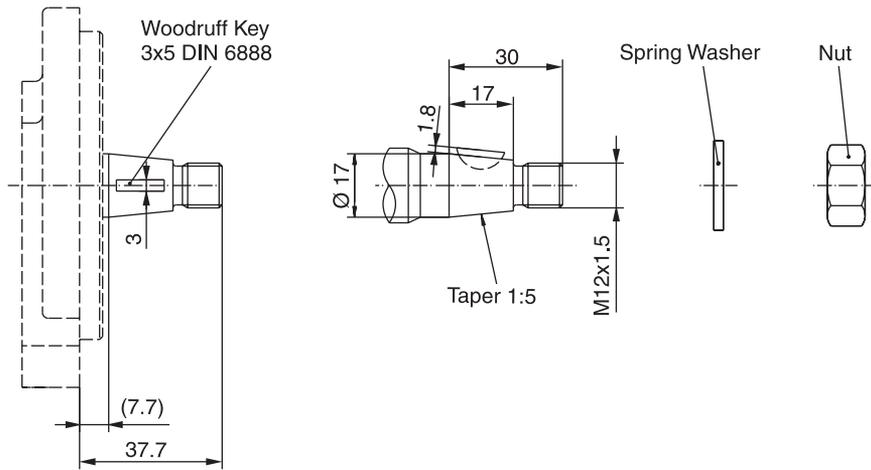


**PGP/PGM 511 Drive Shaft**

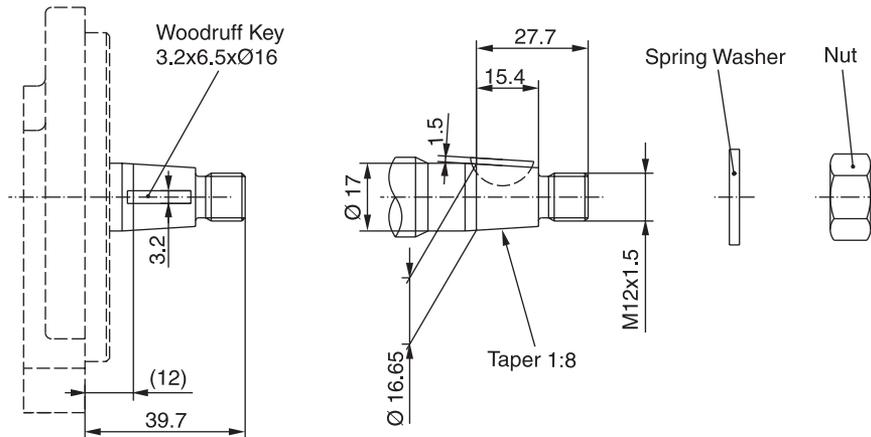
**Code R1**



**Code S1**



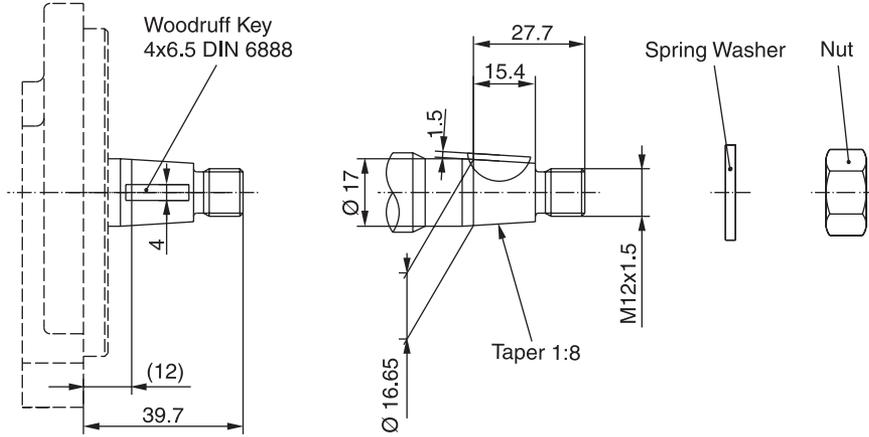
**Code S2**



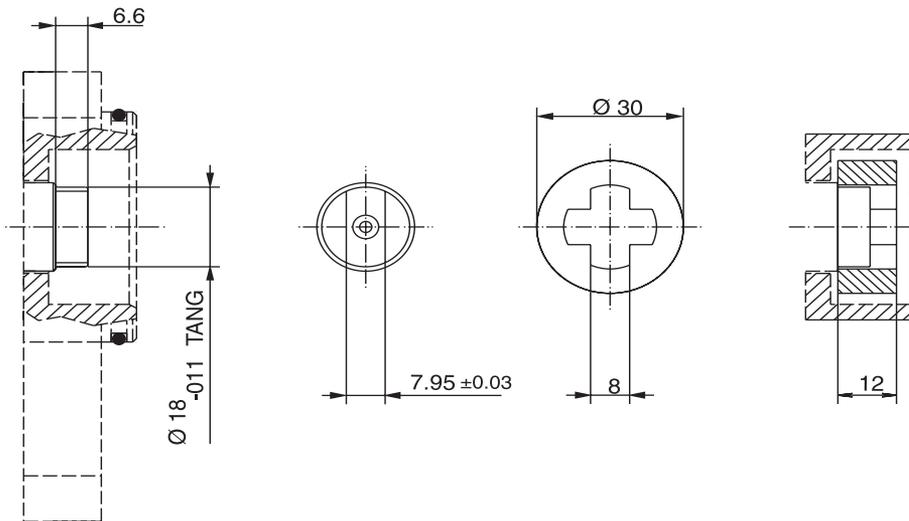
Drive shaft options

PGP/PGM 511 Drive Shaft

Code S4



Code V5



PGP/PGM 511 - Shaft Load Capacity

Code	Description	Torque Rating [Nm]
A1	9T,16/32DP, 32L, SAE"A"	86
B1	10T,16/32DP, 32L	124
B2	10T,16/32DP, 38.2L	124
C1	11T, 16/32DP, 38.2L, SAE 19-4	184
C2	11T,16/32DP, 32.2L, SAE 19-4	184
F1	9T,B17x14,23L, DIN 5482	101
F2	13T, W18x1.25,24L, DIN 5480	190
F3	14T,W20x1.25,24L, DIN 5480	110
K1	Ø15.88,4.0 KEY, no thread, 32L, SAE"A"	75
K4	Ø15.88,3.95 KEY, no thread, 58.7L	75
L1	Ø17.46,4.8 KEY, 7/16UNFext, 44.2L	112
L6	Ø19.05,4.8 KEY, no thread, 32L, SAE 19-1	145
R1	Ø15.9,8.0L, 4.0 KEY, 1/2UNF, SAE"A"	156
S1	Ø17.0,7.7L, 3.0 KEY, M12x1.5	193
S2	Ø16.65,12.0L,3.2 KEY, M12x1.5	198
S4	Ø16.65,12.0L,4.0 KEY, M12x1.5	198
V5	8x6.5 short shaft	60
	Multiple pump connection shaft	110

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

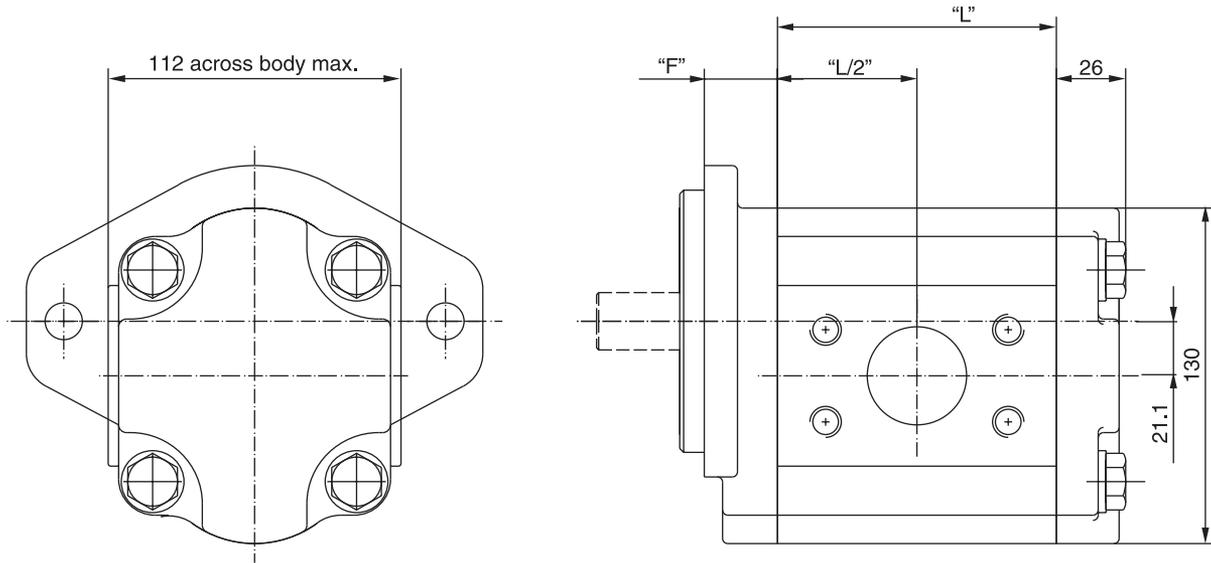
**Dimensions**

**PGP/PGM 517 Specification - Standard Displacements**

Pump Displacement	Code	0140	0160	0190	0230	0250	0280	0330	0380	0440	0520	0700
	cm <sup>3</sup> /rev	14.0	16.0	19.0	23.0	25.0	28.0	33.0	38.0	44.0	52.0	70.0
<b>Continous Pressure</b>	bar	250	250	250	250	250	250	250	250	220	200	160
<b>Intermittent Pressure</b>	bar	275	275	275	275	275	275	275	255	220	215	160
<b>Minimum Speed</b> @ Max. outlet pressure	rpm	500	500	500	500	500	500	500	500	500	500	500
<b>Maximum Speed</b> @ 0 Inlet & Max. outlet pressure	rpm	3400	3400	3300	3300	3100	3100	3000	3000	2800	2700	2400
<b>Pump Input Power</b> @ Max. Pressure and 1500 rpm	kW	9.6	11	13.1	15.8	17.2	19.3	22.7	26.1	27	28.6	31.2
<b>Dimension "L"</b>	mm	68.3	70.3	73.3	77.4	79.4	82.4	87.5	92.5	98.6	106.7	124.9
<b>Approximate Weight<sup>1)</sup></b>	kg	7.92	8.00	8.12	8.29	8.37	8.50	8.70	8.91	9.16	9.49	10.24

<sup>1)</sup> Single pump with Flange H3 and Port end cover B1

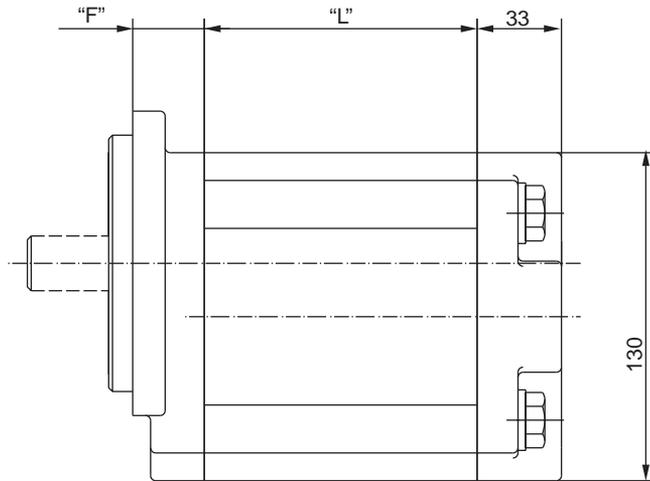
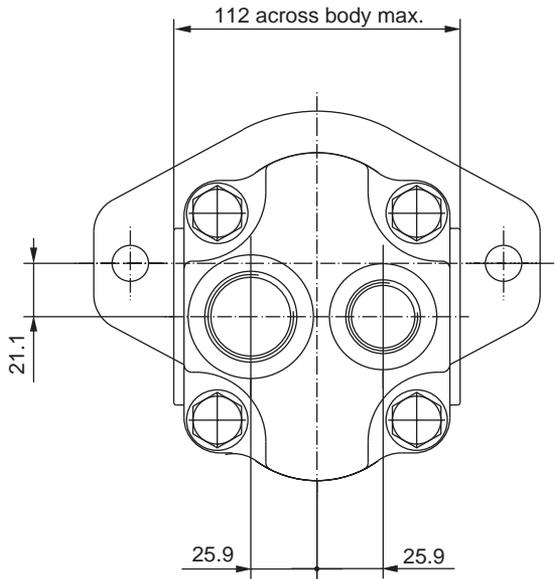
**Single Unit PGP/PGM 517**



**Dimension "F"** see flanges  
**Dimension "L"** see table

**Dimensions**

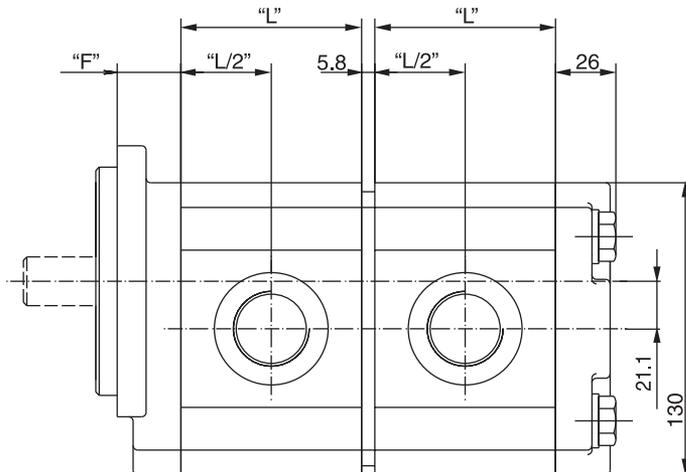
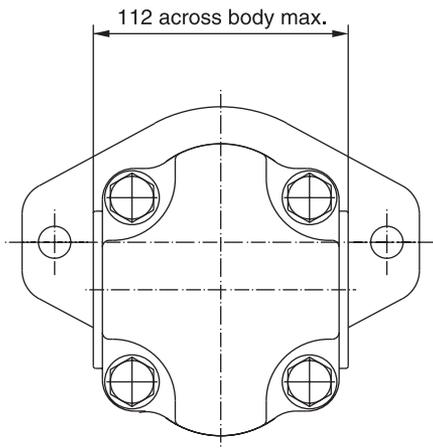
**Single Unit PGP/PGM 517 with rear ports**



**Dimension "F"** see flanges

**Dimension "L"** see table

**Tandem Unit PGP/PGM 517**

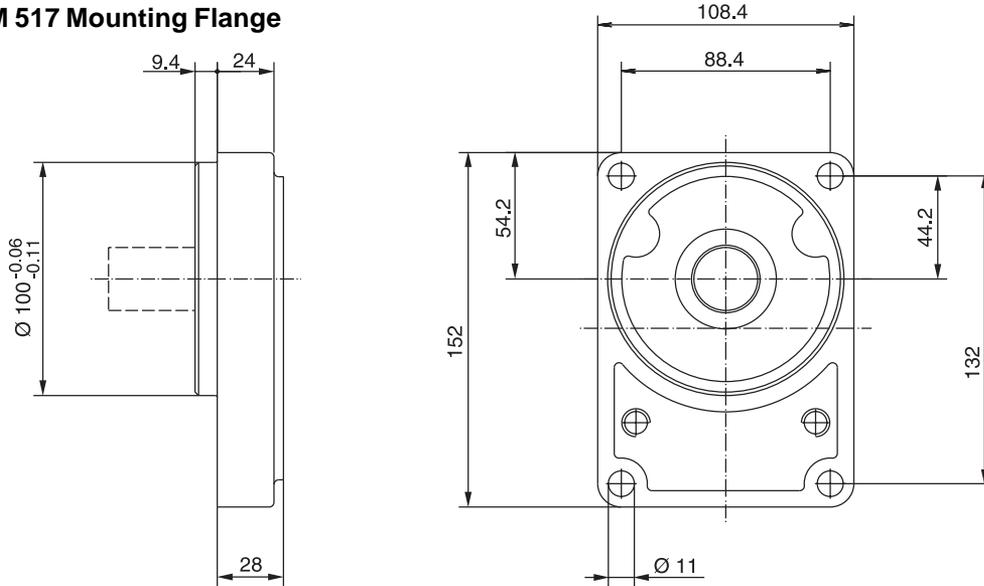


**Dimension "F"** see flanges

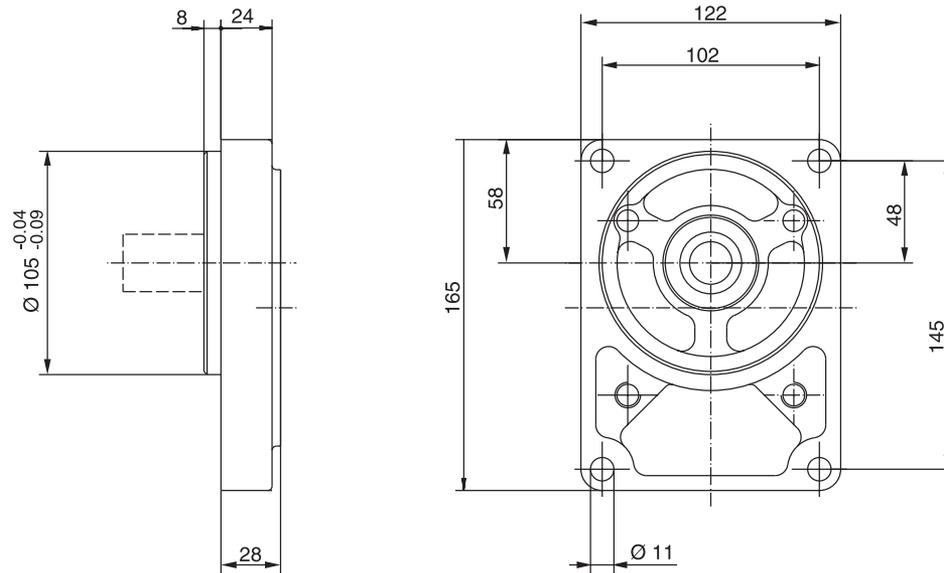
**Dimension "L"** see table

**PGP/PGM 517 Mounting Flange**

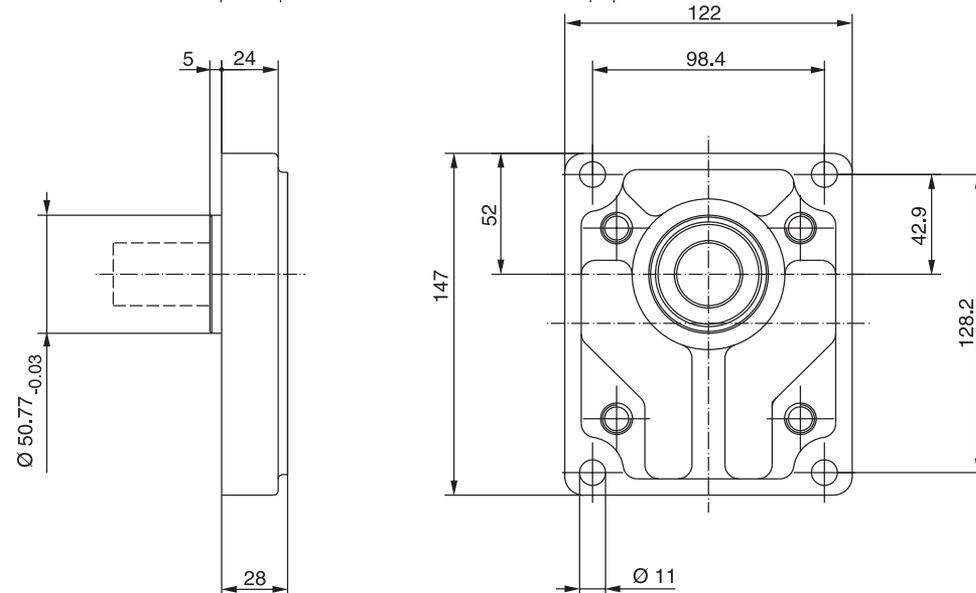
**Code D5**



**Code D6**



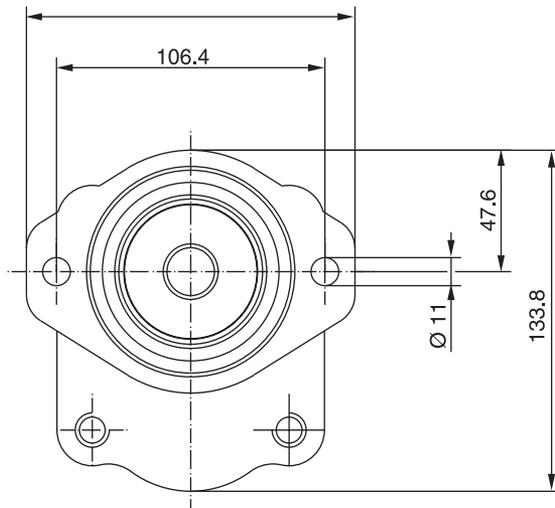
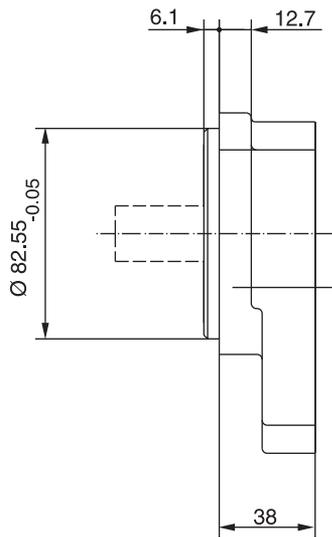
**Code D7**



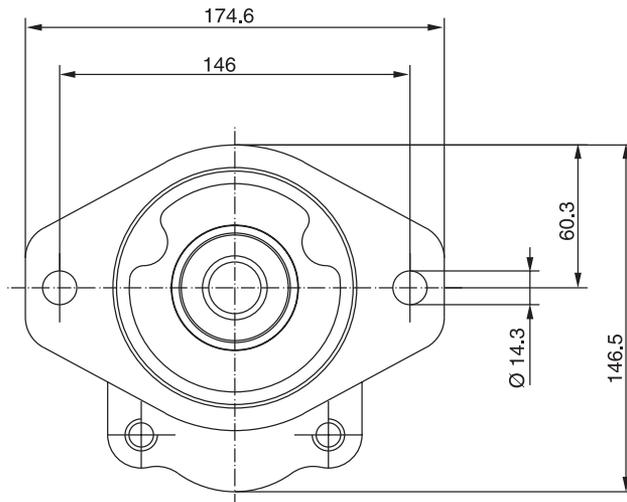
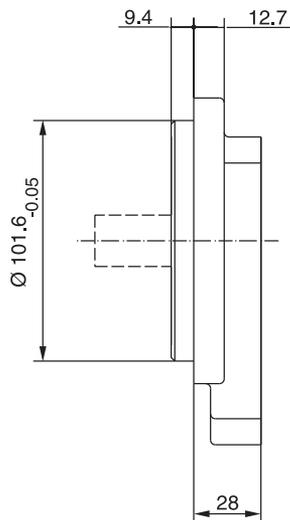
**Mounting flange options**

**PGP/PGM 517 Mounting Flange**

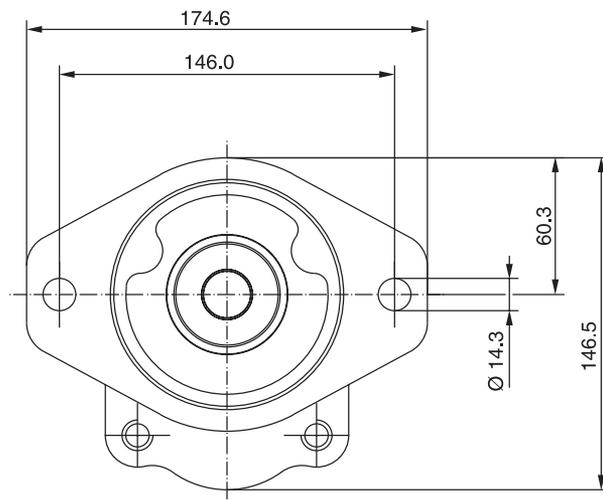
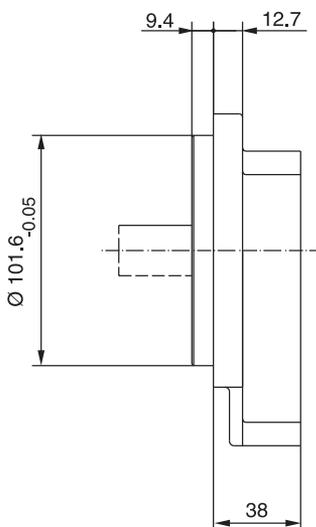
**Code H2/L2**



**Code H3**



**Code L3**

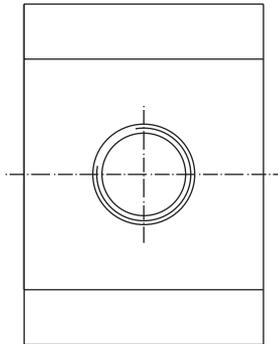
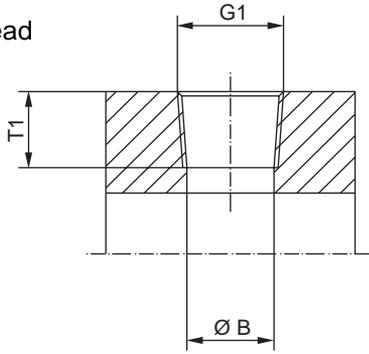


**Port options**

**PGP/PGM 517 Porting**

**Code C**

NPT thread

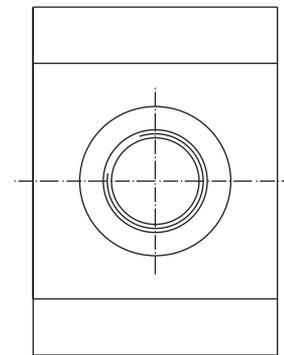
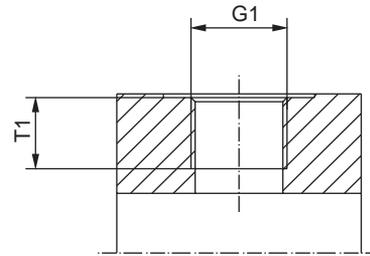


**Code E**

British Standard Pipe

**Code G**

Metric straight thread

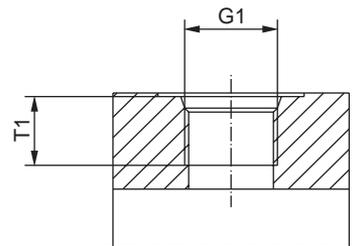


**PGP/PGM 517**

Code	G1	T1
	Thread	Dimensions
C3	1/2-14 NPT	20.8
C4	3/4-14 NPT	21.3
D2	9/16-18 UNF	12.7
D3	3/4-16 UNF	14.3
D4	7/8-14 UNF	16.7
D5	1 1/16-12 UN	19.0
D6	1 5/16-12 UN	19.0
D7	1 5/8-12 UN	19.0
D8	1 7/8-12 UN	19.0
E2	3/8-19 BSP	12.0
E3	1/2-14 BSP	14.0
E4	5/8-14 BSP	16.3
E5	3/4-16 BSP	16.0
E6	1-11 BSP	18.0
E7	1 1/4-11 BSP	20.0
E8	1 1/2-11 BSP	22.0
G4	M 22x1.5	14.0
G5	M 26x1.5	16.0
G7	M 30x1.5	12.0
G8	M 33x2	18.0
G9	M 42x2	20.0

**Code D**

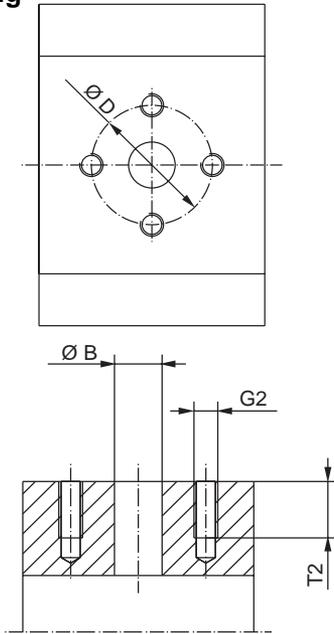
SAE straight thread



**Port options**

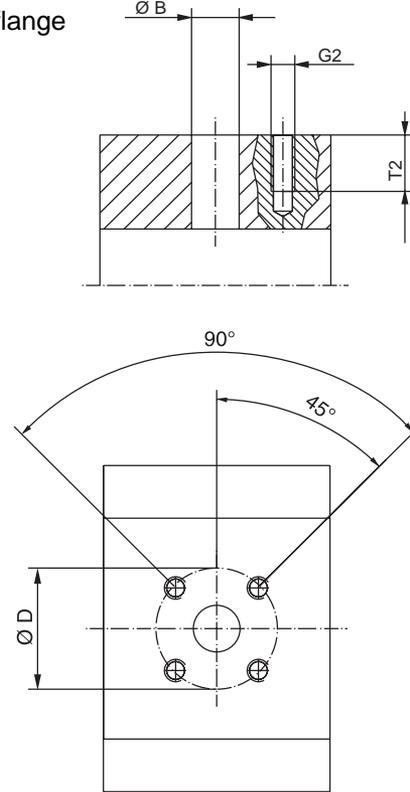
**PGP/PGM 517 Porting**

**Code L, M**  
4-Bolt flange



**Code J**

European flange

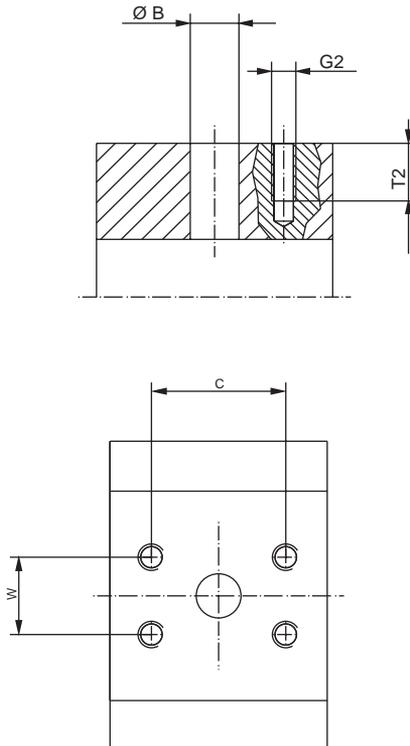


**Code N**

SAE split flange

**Code P**

SAE split flange metric thread



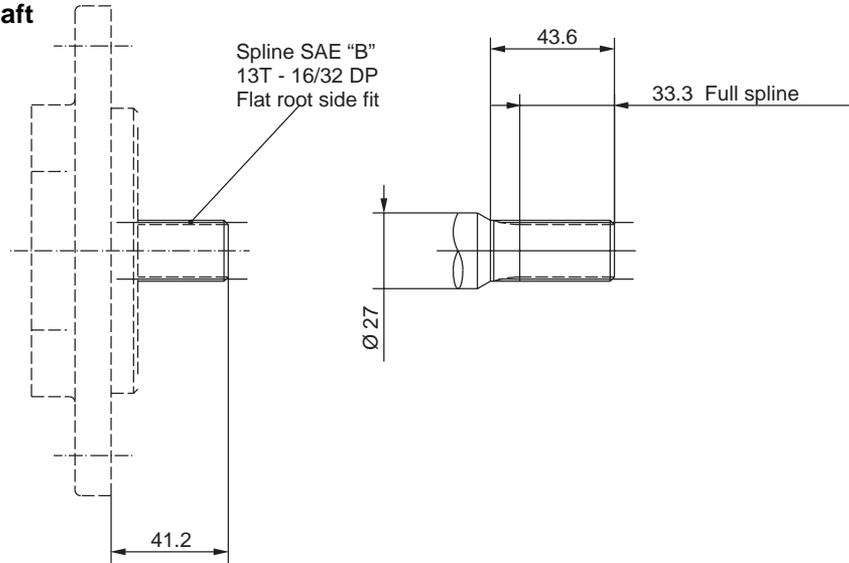
**PGP/PGM 517**

Code	G2	Ø B	Ø D	S	C	W	T2
	Thread						
J5	M6	15.0	35.0				12.5
J6	M8	15.0	40.0				15.0
J7	M6	20.0	40.0				13.0
J8	M8	18.0	55.0				15.0
J9	M8	26.0	55.0				15.0
L1	M6	13.0	30.0				13.0
L2	M8	19.0	40.0				15.0
L3	M10	27.0	51.0				18.0
L4	1/4-20 UNF	13.0	30.0				13.0
L5	5/16-18 UNF	19.0	40.0				15.0
L6	3/8-16 UNF	27.0	51.0				18.0
M4	5/16-18 UNF	19.0	48.1				15.0
M5	5/16-18 UNF	25.4	48.1				15.0
N1	5/16-18 UNC	12.7			38.10	17.48	15.0
N2	3/8-16 UNC	19.0			47.63	22.23	14.0
N3	3/8-16 UNC	25.4			52.37	26.19	20.6
N4	7/16-14 UNC	31.8			58.72	30.17	20.6
N5	1/2-13 UNC	38.1			69.82	35.71	20.6
P1	M8	12.7			38.10	17.48	15.0
P2	M10	19.0			47.63	22.23	20.6
P3	M10	25.4			52.37	26.19	21.4
P4	M10	31.8			58.72	30.17	20.6
P5	M12	38.1			69.82	35.71	20.6

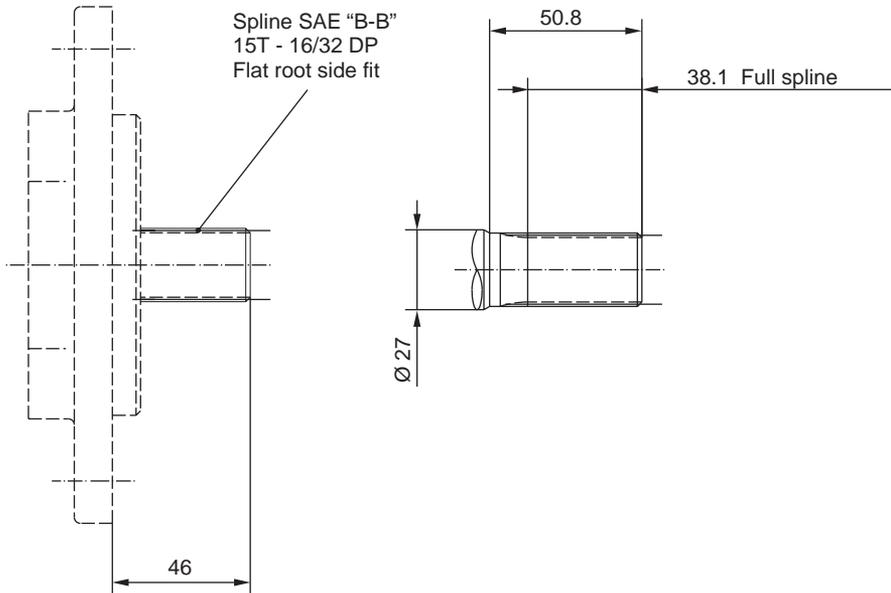
PI PG300-600\_UK-11.PM6.5MM

**PGP/PGM 517 Drive Shaft**

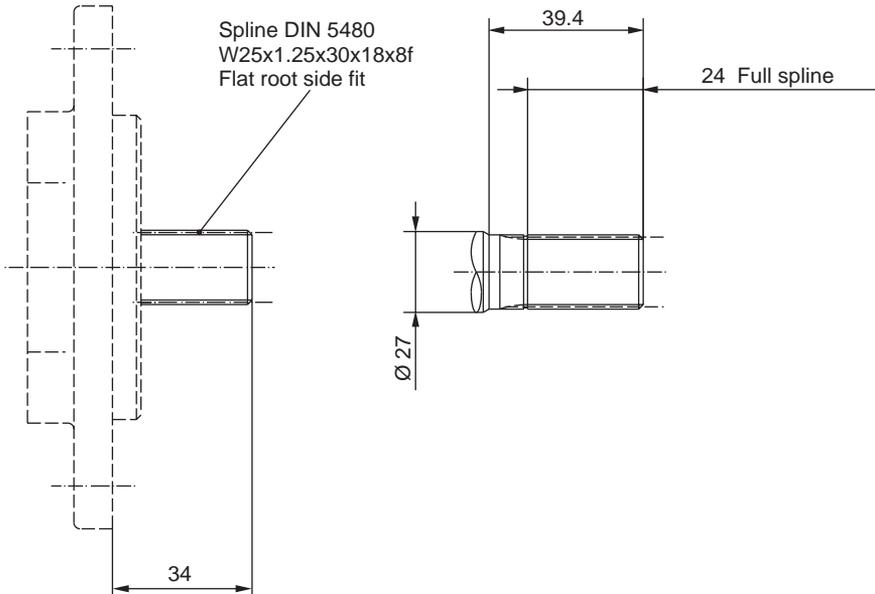
**Code D1**



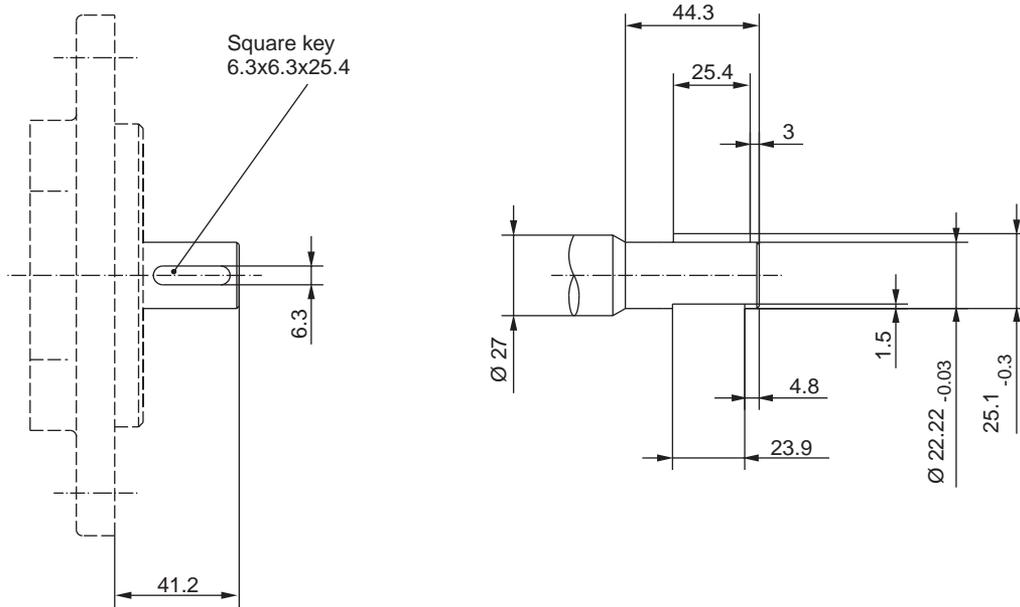
**Code E1**



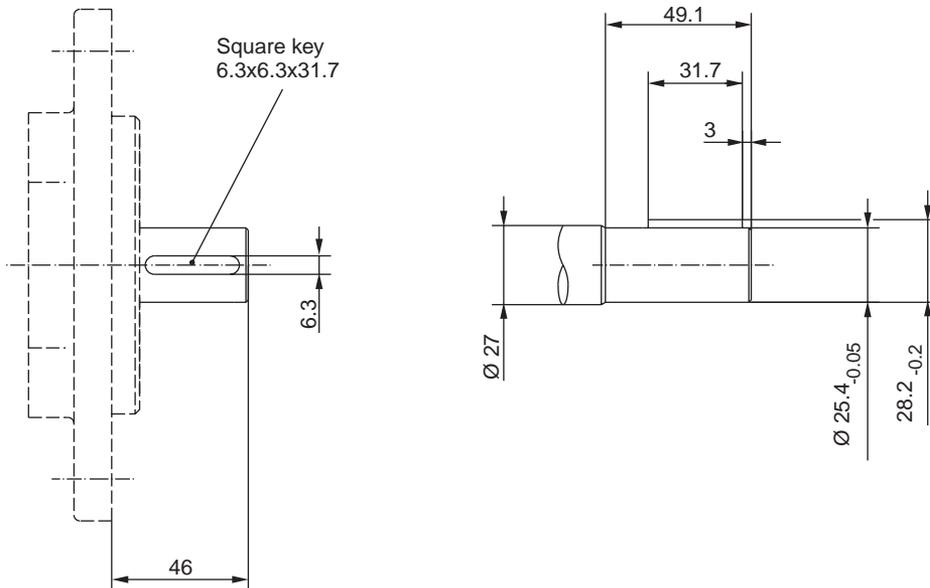
**Code F4**



**PGP/PGM 517 Drive Shaft  
Code M1**

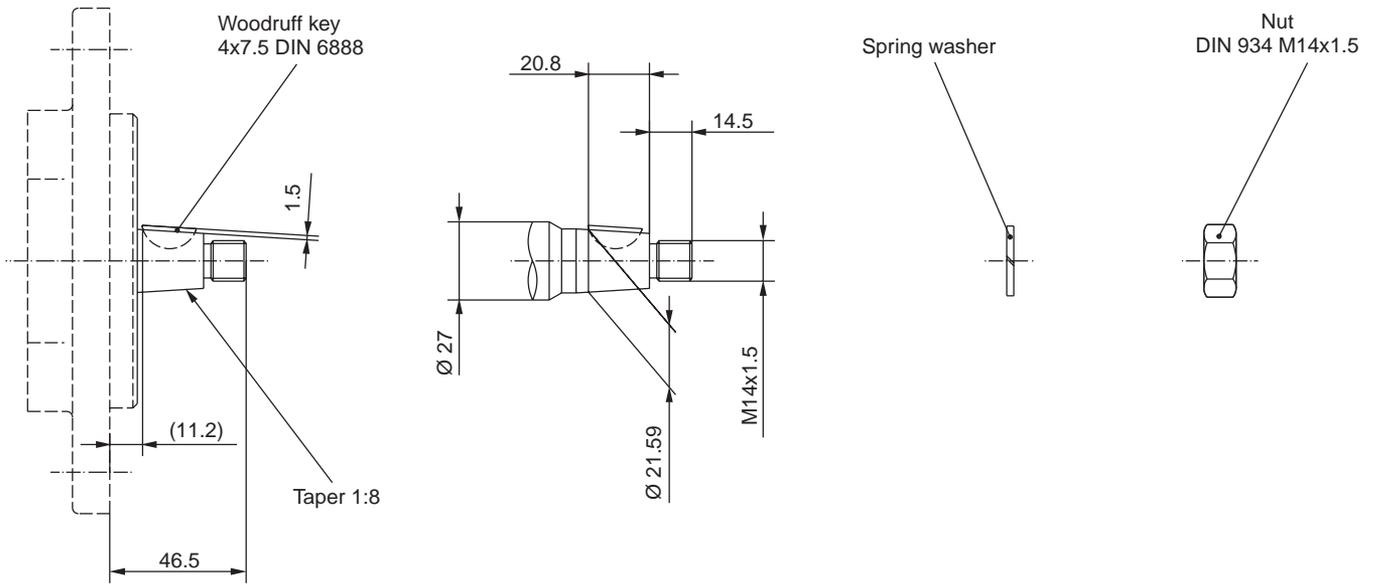


**Code M2**

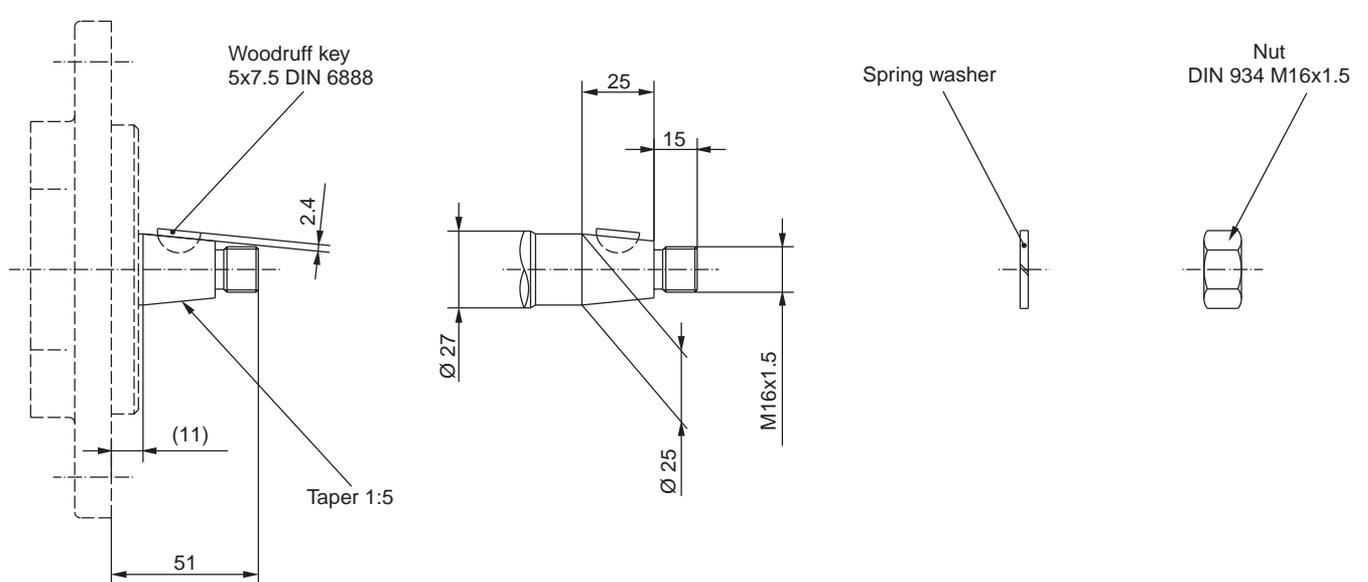


**PGP/PGM 517 Drive Shaft**

**Code T1**



**Code T2**



**PGP/PGM 517 - Shaft Load Capacity**

Code	Description	Torque Rating [Nm]
D1	13T,16/32DP, 41.2L, SAE"B"	spline 345
E1	15T, 16/32DP, 46L, SAE"B-B"	spline 530
F4	18T, W25x1.25, 34L, DIN 5480	spline 500
M1	Ø22.2, 6.3 KEY, no thd, 41.2L, SAE"B"	parallel 251
M2	Ø25.4, 6.3 KEY, no thd, 46L, SAE"B-B"	parallel 395
T1	Ø21.59,11.2 L,4.0 KEY, M14x1.5	taper 1:8 250
T2	Ø25.0,12.0 L,5.0 KEY, M16x1.5	taper 1:5 350
	Multiple pump connection shaft	228

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

**Standard pump range ex-stock****Series PGP, PGM 500****Standard pump range available ex-stock**

<b>PGP 503 A</b>	0016	C	P2	D1	N	J2	J1	B1	B1
<b>PGP 503 A</b>	0016	A	P2	D1	N	J2	J1	B1	B1
<b>PGP 503 A</b>	0025	C	P2	D1	N	J4	J3	B1	B1
<b>PGP 503 A</b>	0025	A	P2	D1	N	J4	J3	B1	B1
<b>PGP 503 A</b>	0036	C	P2	D1	N	J4	J3	B1	B1
<b>PGP 503 A</b>	0036	A	P2	D1	N	J4	J3	B1	B1
<b>PGP 503 A</b>	0058	C	P2	D1	N	J4	J3	B1	B1
<b>PGP 503 A</b>	0058	A	P2	D1	N	J4	J3	B1	B1
<b>PGP 505 A</b>	0040	C	Q2	D2	N	J7	J5	B1	B1
<b>PGP 505 A</b>	0040	A	Q2	D2	N	J7	J5	B1	B1
<b>PGP 505 A</b>	0060	C	Q2	D2	N	J7	J5	B1	B1
<b>PGP 505 A</b>	0060	A	Q2	D2	N	J7	J5	B1	B1
<b>PGP 505 A</b>	0080	C	Q2	D2	N	J7	J5	B1	B1
<b>PGP 505 A</b>	0080	A	Q2	D2	N	J7	J5	B1	B1
<b>PGP 505 A</b>	0100	C	Q2	D2	N	J7	J5	B1	B1
<b>PGP 505 A</b>	0100	A	Q2	D2	N	J7	J5	B1	B1
<b>PGP 511 A</b>	0060	C	S4	D3	N	J7	J5	B1	B1
<b>PGP 511 A</b>	0060	A	S4	D3	N	J7	J5	B1	B1
<b>PGP 511 A</b>	0120	C	S4	D3	N	J7	J5	B1	B1
<b>PGP 511 A</b>	0120	A	S4	D3	N	J7	J5	B1	B1
<b>PGP 511 A</b>	0190	C	S4	D3	N	J9	J8	B1	B1
<b>PGP 511 A</b>	0190	A	S4	D3	N	J9	J8	B1	B1
<b>PGP 511 A</b>	0270	C	S4	D3	N	J9	J8	B1	B1
<b>PGP 511 A</b>	0270	A	S4	D3	N	J9	J8	B1	B1
<b>PGP 511 S</b>	0080	C	S4	D3	N	J7	J5	B1	B1
<b>PGP 511 S</b>	0080	A	S4	D3	N	J7	J5	B1	B1
<b>PGP 511 S</b>	0120	C	S4	D3	N	J7	J5	B1	B1
<b>PGP 511 S</b>	0120	A	S4	D3	N	J7	J5	B1	B1
<b>PGP 511 S</b>	0170	C	S4	D3	N	J9	J8	B1	B1
<b>PGP 511 S</b>	0170	A	S4	D3	N	J9	J8	B1	B1
<b>PGP 511 S</b>	0250	C	S4	D3	N	J9	J8	B1	B1
<b>PGP 511 S</b>	0250	A	S4	D3	N	J9	J8	B1	B1
<b>PGP 517 A</b>	0140	C	T1	D7	N	J9	J8	B1	B1
<b>PGP 517 A</b>	0140	A	T1	D7	N	J9	J8	B1	B1
<b>PGP 517 A</b>	0250	C	T1	D7	N	J9	J8	B1	B1
<b>PGP 517 A</b>	0250	A	T1	D7	N	J9	J8	B1	B1
<b>PGP 517 A</b>	0360	C	T1	D7	N	P5	P3	B1	B1
<b>PGP 517 A</b>	0360	A	T1	D7	N	P5	P3	B1	B1
<b>PGP 517 A</b>	0500	C	T1	D7	N	P5	P3	B1	B1
<b>PGP 517 A</b>	0500	A	T1	D7	N	P5	P3	B1	B1

**Parker Series 620**

Parker Hydraulics has supplied the gear pumps and motors to mobile and industrial markets worldwide for many years, especially materials handling, commercial grass cutting 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.

**Description**

- Patented interlocking body design.
- 12 tooth gears, bronze balance 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 suite OEM application conditions and to provide optimized volumetric efficiencies.



PGP 600

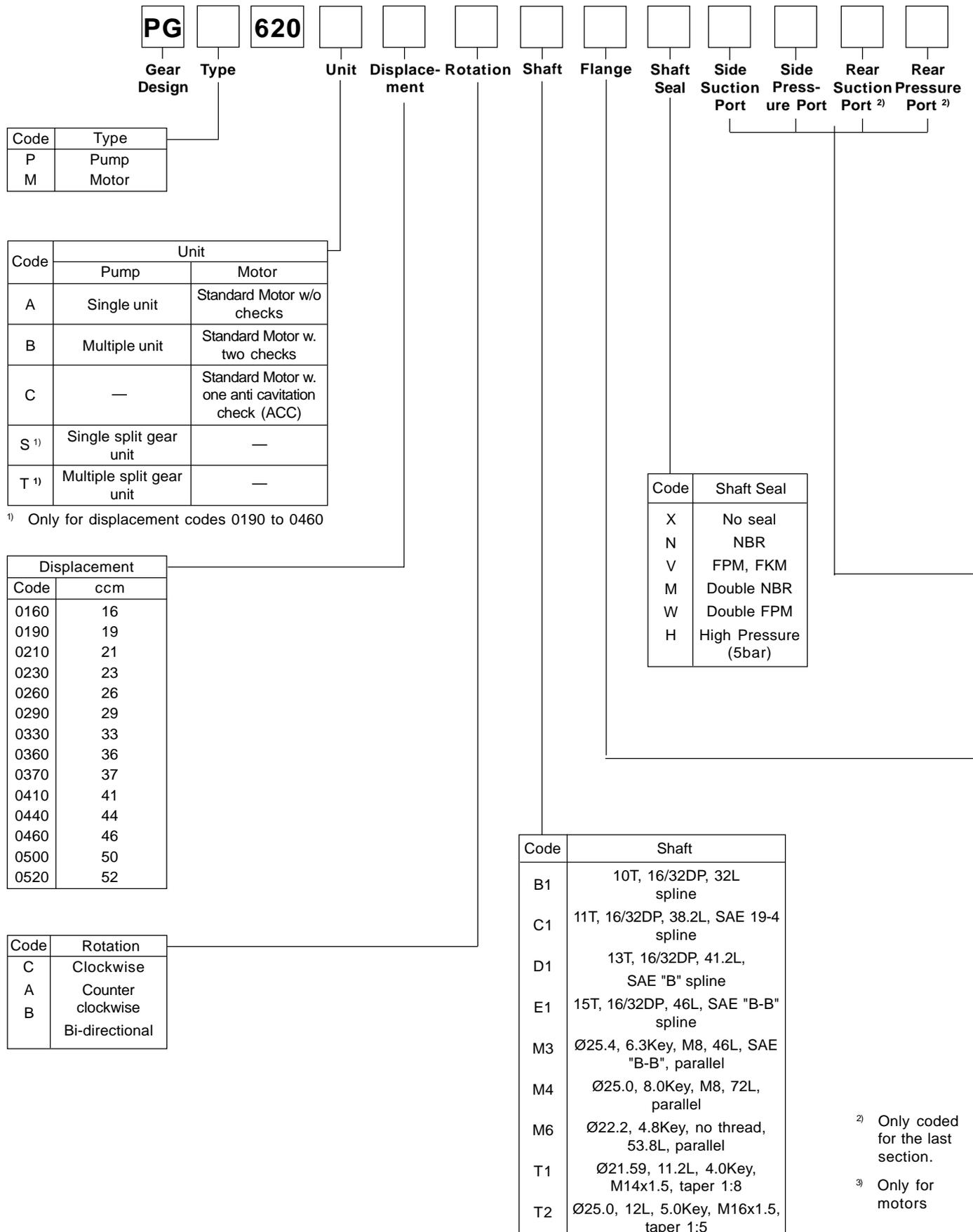
- Pressure balanced design for high efficiency.
- Reduced system noise levels compared to earlier models and competitor's pumps.
- High power through-drive capability.
- Wide range of integral valves for power steering, power brakes, fan drivers and implement hydraulics.
- Load sense and solenoid operated unloading valves.

**Characteristics**

<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 0.8 to 2 bar abs. Min. 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 Consultation 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. permiss. operating press. dependent on fluid temperature.

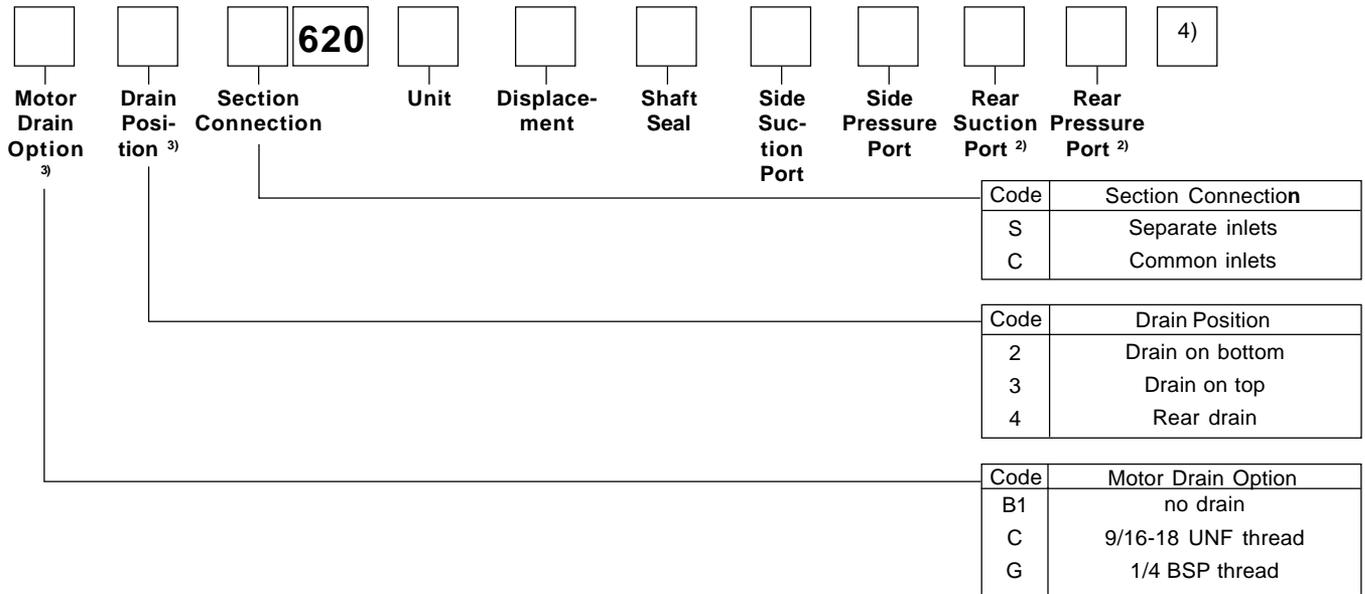
<b>Fluid viscosity</b>	Range of operating viscosity 20 to 100 mm <sup>2</sup> /s. Max. operating viscosity should not exceed 1000 mm <sup>2</sup> /s recommended min. viscosity 8 mm <sup>2</sup> /s.
<b>Filtration</b>	According to ISO 4406 Cl. 16/13
<b>Flow velocity</b>	See table.
<b>Direction of rotation</b>	Clockwise, counter-clockwise or double.
(looking at the drive shaft)	Attention! Drive pump only in indicated direction of rotation.
<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 catalogue. - 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 gear sets share a common inlet.

Ordering code



<sup>2)</sup> Only coded for the last section.

<sup>3)</sup> Only for motors



Code	Flange
A3	89.8x89.8 - Ø101.6, SAE "B" 4bolt square
A4	114.5x114.5 - Ø127, SAE "C" 4bolt square
D7	98.4x128.2 - Ø50.77 rectangular
H2	106.4 - Ø82.55 SAE "A" 2bolt flange
H3	146.1 - Ø101.6 SAE "B" 2bolt flange

Code	Port Options	Code	Port Options
B1	No ports	N1*	1/2"-5/16-18UNC SAE Split Flange
D3	3/4 - 16 UNF thread	N2*	3/4"-3/8-16UNC SAE Split Flange
D4	7/8 - 14 UNF thread	N3*	1"-3/8-16UNC SAE Split Flange
D5	1 1/16 - 12 UN thread	N4*	1 1/4"-7/16-14UNC SAE Split Flange
D6*	1 5/16 - 12 UN thread	N5*	1 1/2"-1/2-13UNC SAE Split Flange
D7*	1 5/8 - 12 UN thread	N6*	2"-1/2-13UNC SAE Split Flange
D8*	1 7/8 - 12 UN thread	P1*	12.7mm - M8 Metric Split Flange
E2	3/8 - 19BSP thread	P2*	19.0mm - M10 Metric Split Flange
E3	1/2 - 14 BSP thread	P3*	25.4mm - M10 Metric Split Flange
E4	5/8 - 14 BSP thread	P4*	31.8mm - M10 Metric Split Flange
E5	3/4 - 16 BSP thread	P5*	38.1mm - M12 Metric Split Flange
E6*	1 - 11 BSP thread	P6*	50.8mm - M12 Metric Split Flange
E7*	1 1/4 - 11 BSP thread		
E8*	1 1/2 - 11 BSP thread		
J5*	15mm - Ø35mm - M6 square		
J9*	26mm - Ø55mm - M8 square		
L1*	13mm-Ø30mm-M6 diamond		
L2*	19mm-Ø40mm-M8 diamond		
L3*	27mm-Ø51mm-M10 diamond		

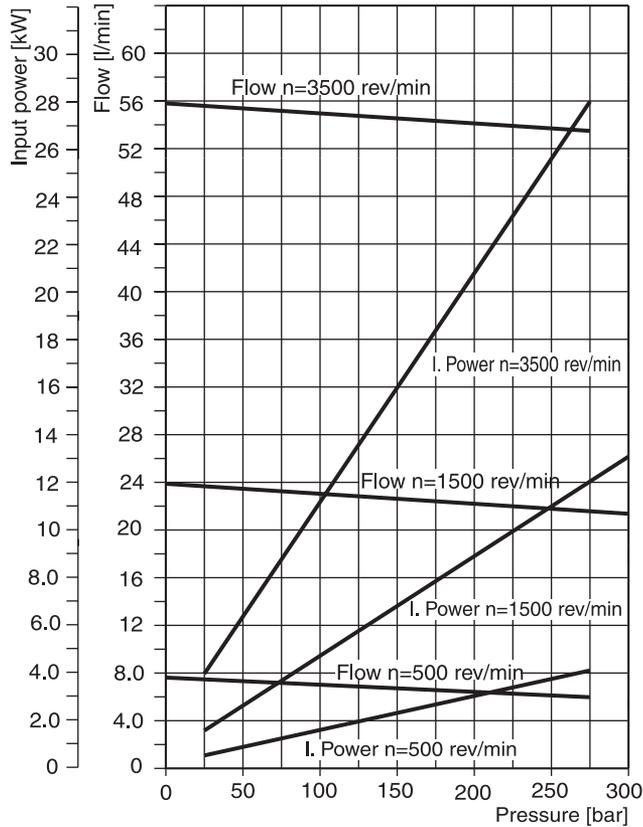
\* Not usable for rear ports.

4) For further "B" triple unit repeat displacement, shaft seal between sections, side suction port, side pressure port, rear suction port, rear pressure port.

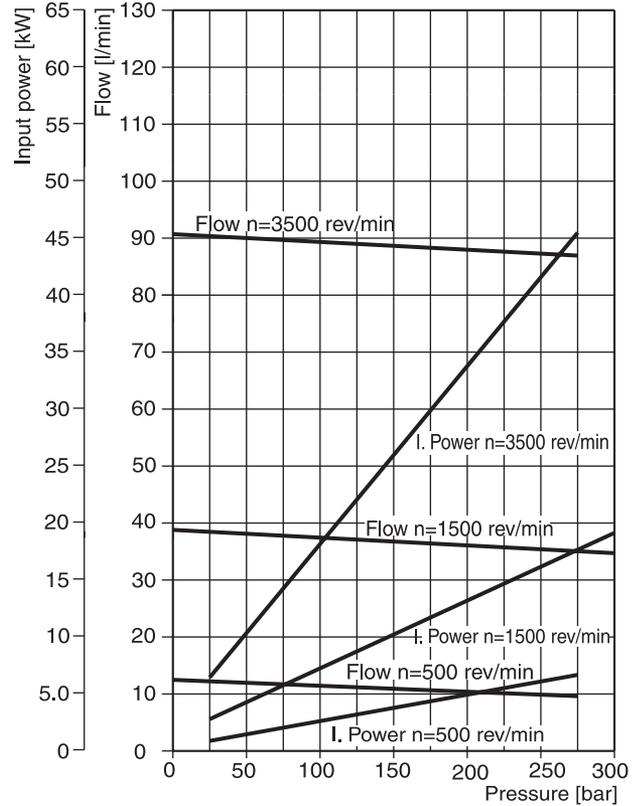
Performance data

Fluid Temperature =  $45 \pm 2^\circ\text{C}$   
 Viscosity =  $36\text{mm}^2/\text{s}$   
 Inlet Pressure =  $0.9 + 0.1$  bar absolute

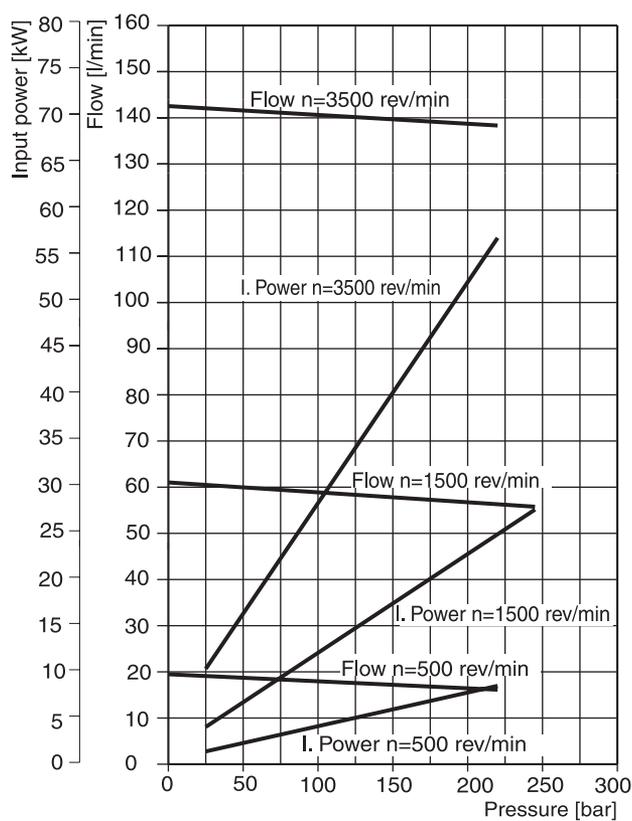
**PGP 620 - 16.0 CC**



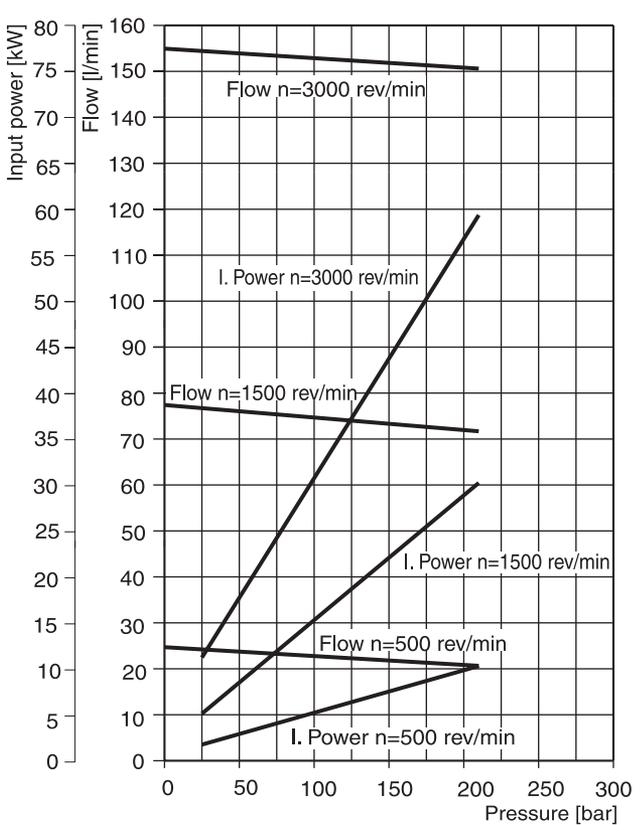
**PGP 620 - 26.0 CC**



**PGP 620 - 41.0 CC**



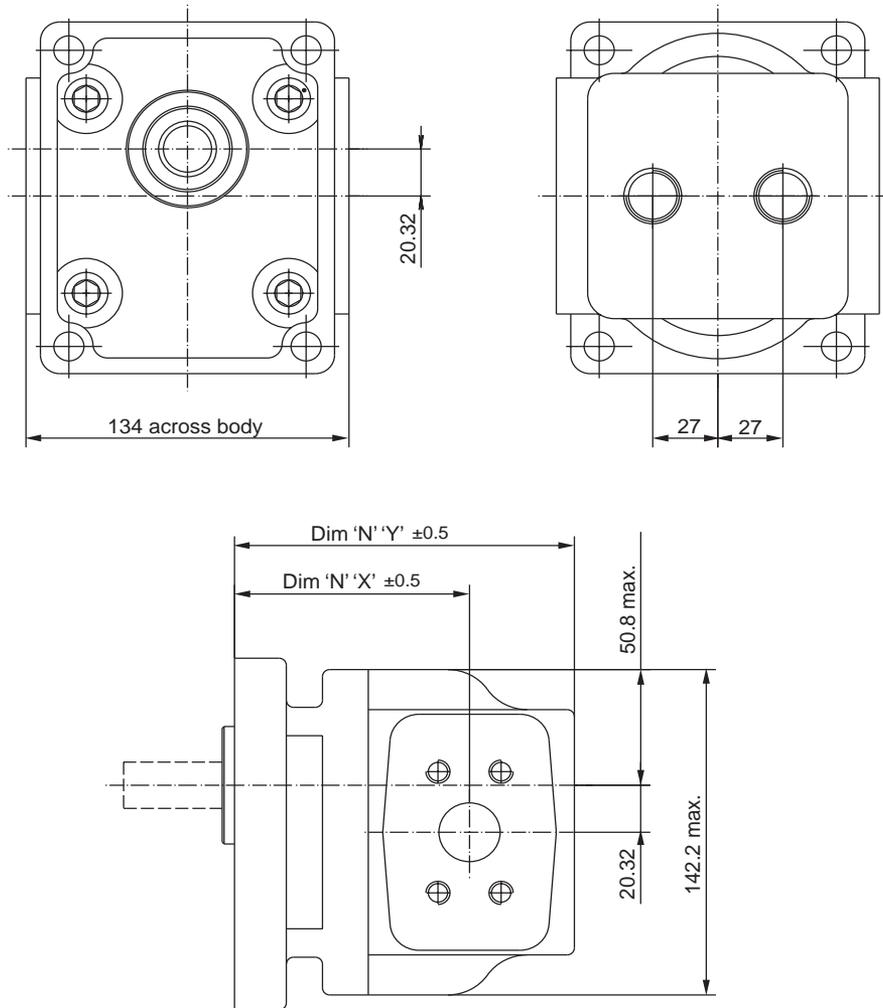
**PGP 620 - 52.0 CC**



**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
<b>Continous Press.</b>	bar	275	275	275	275	275	275	275	250	250	220	210	210	210	210
<b>Intermittent Press.</b>	bar	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
<b>Dimension "X"</b>	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
<b>Dimension "Y"</b>	mm	122.7	126.0	128.2	130.4	133.7	137.0	141.4	144.7	145.8	150.2	153.5	155.7	160.1	162.3
<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

**Single Unit PGP/PGM 620**

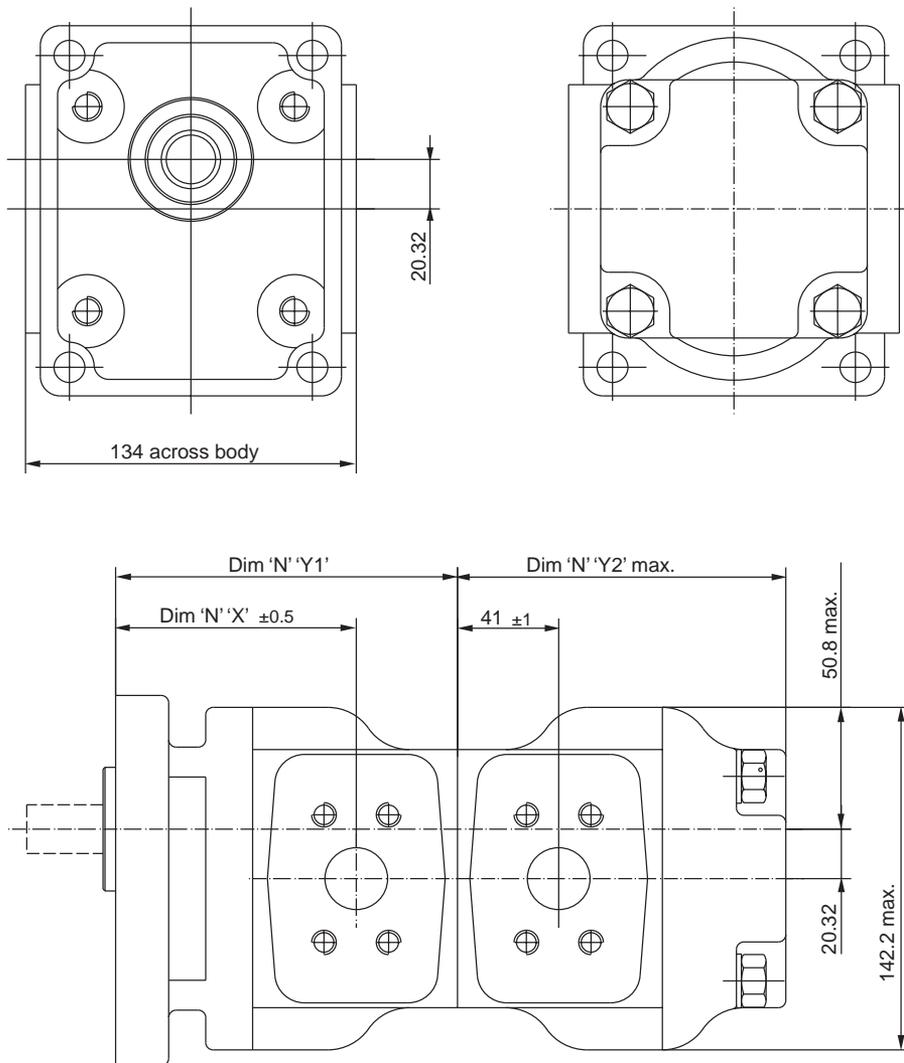


**Dimensions tandem unit**

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

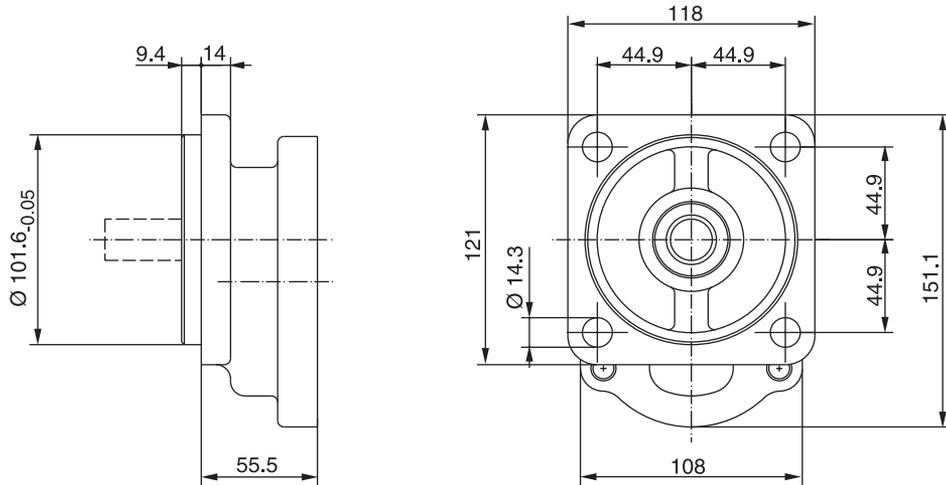
Pump Displacement	Code	0160	0190	0210	0230	0260	0290	0330	0360	0370	0410	0440	0460	0500	0520
	cm <sup>3</sup> /rev	16.0	19.0	21.0	23.0	26.0	29.0	33.0	36.0	37.0	41.0	44.0	46.0	50.0	52.0
Dimension "X"	mm	79.2	82.5	84.7	86.9	90.2	93.5	97.9	101.2	102.3	106.7	110.0	112.2	116.6	118.8
Dimension "Y1 "	mm	120.2	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
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
<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
<b>Approx. 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

**Tandem Unit PGP/PGM 620**

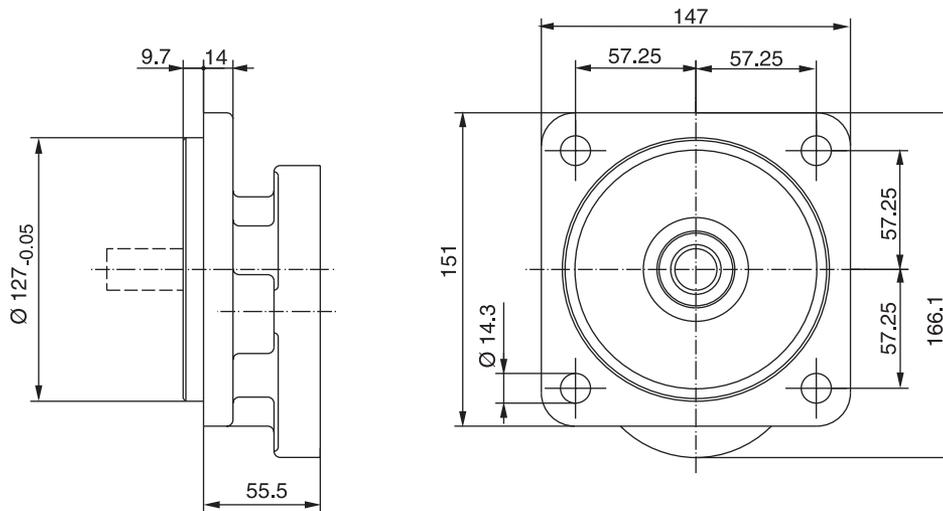


**PGP/PGM 620 Mounting Flange**

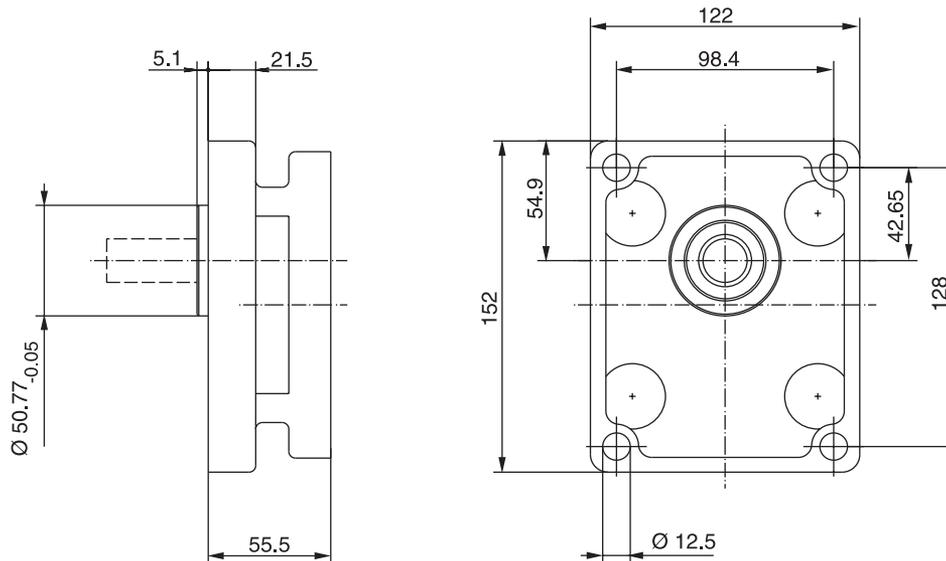
**Code A3**



**Code A4**



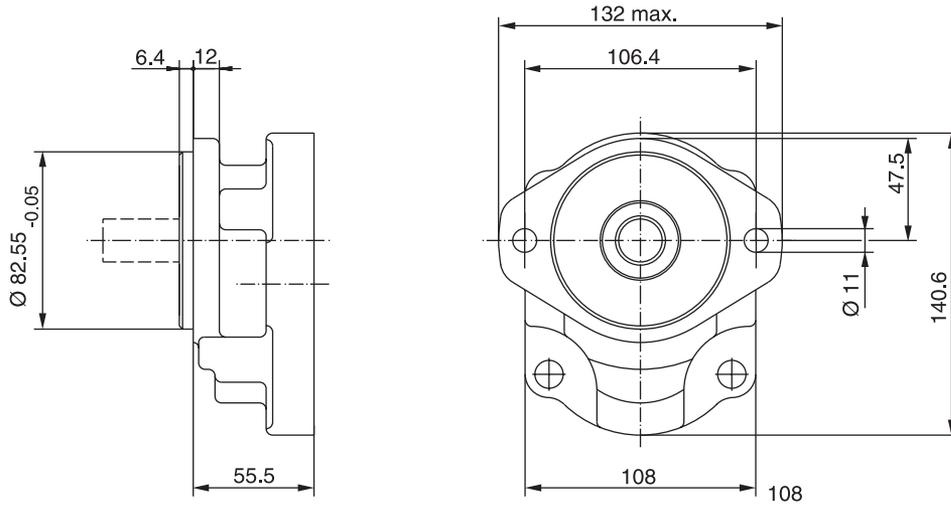
**Code D7**



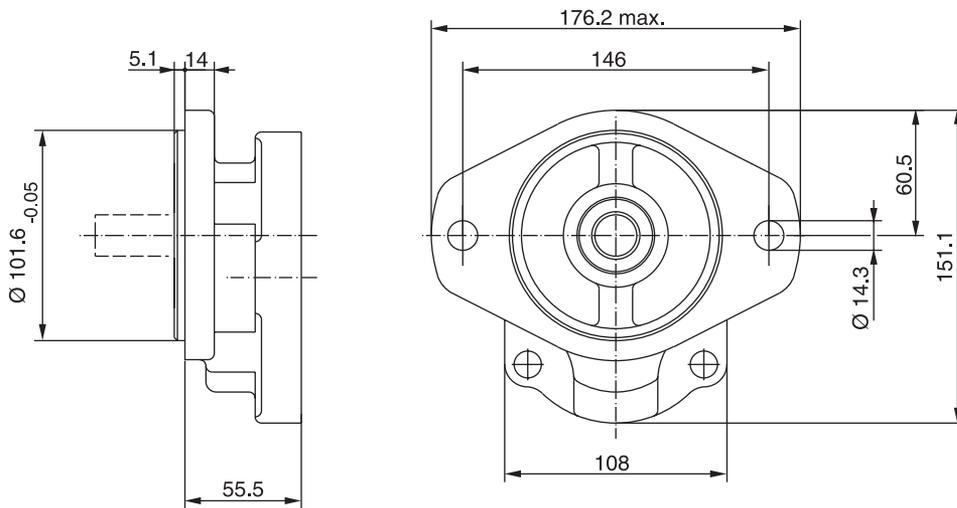
**Mounting flange options**

**PGP/PGM 620 Mounting Flange**

**Code H2**



**Code H3**

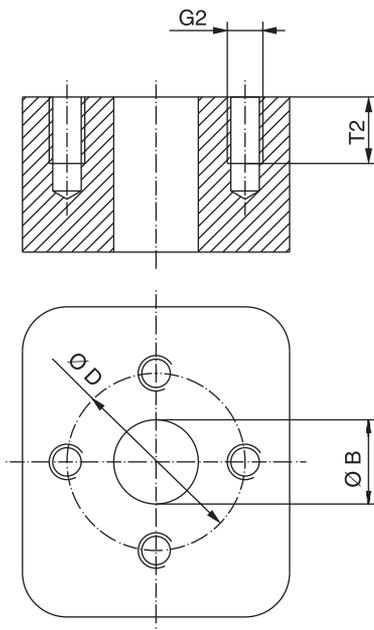


**Port options**

**PGP/PGM 620 Porting**

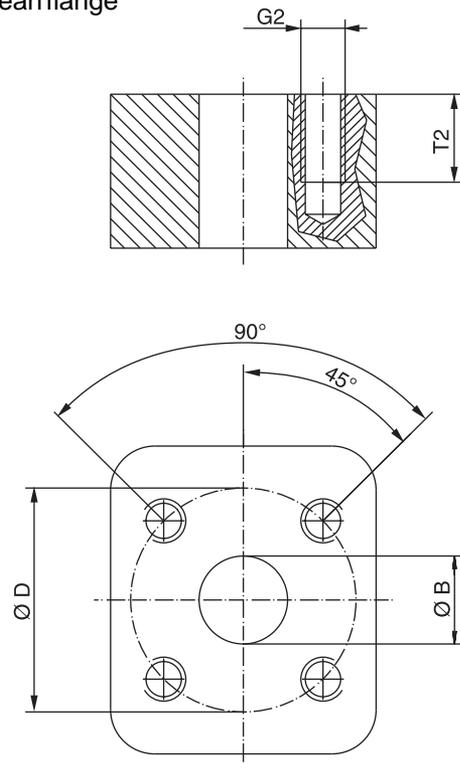
**Code L**

4-Bolt flange



**Code J**

European flange

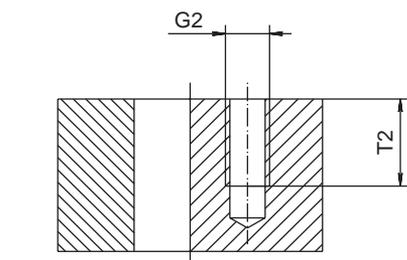


**PGP/PGM 620**

Code	G2	Ø B	Ø D	C	W	T2
	Thread					
J5	M6	15.0	35.0			12.5
J9	M8	26.0	55.0			15.0
L1	M6	13.0	30.0			13.0
L2	M8	19.0	40.0			15.0
L3	M10	27.0	51.0			18.0
N1	5/16-18 UNC	12.7		38.10	17.48	15.0
N2	3/8-16 UNC	19.0		47.63	22.23	14.0
N3	3/8-16 UNC	25.4		52.37	26.19	20.6
N4	7/16-14 UNC	31.8		58.72	30.17	20.6
N5	1/2-13 UNC	38.1		69.82	35.71	20.6
N6	1/2-13 UNC	50.8		77.77	42.88	20.6
P1	M8	12.7		38.10	17.48	15.0
P2	M10	19.0		47.63	22.23	20.6
P3	M10	25.4		52.37	26.19	21.4
P4	M10	31.8		58.72	30.17	20.6
P5	M12	38.1		69.82	35.71	20.6
P6	M12	50.8		77.77	42.88	20.6

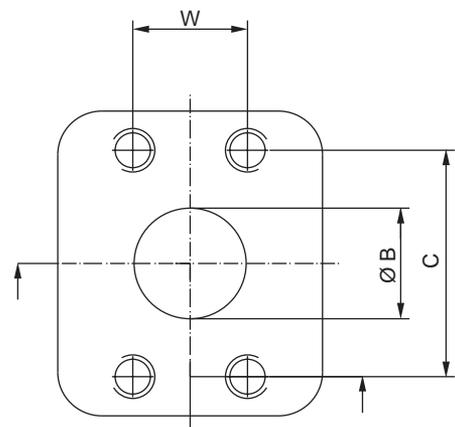
**Code N**

SAE split flange



**Code P**

SAE split flange metric thread

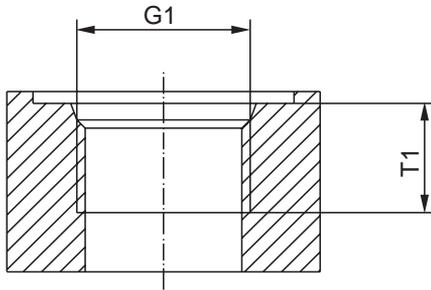


**Port options**

**PGP/PGM 620 Porting**

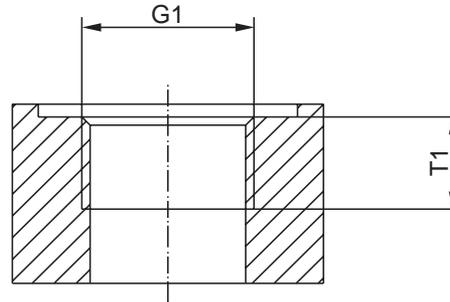
**Code D**

SAE straight thread



**Code E**

BSP - thread

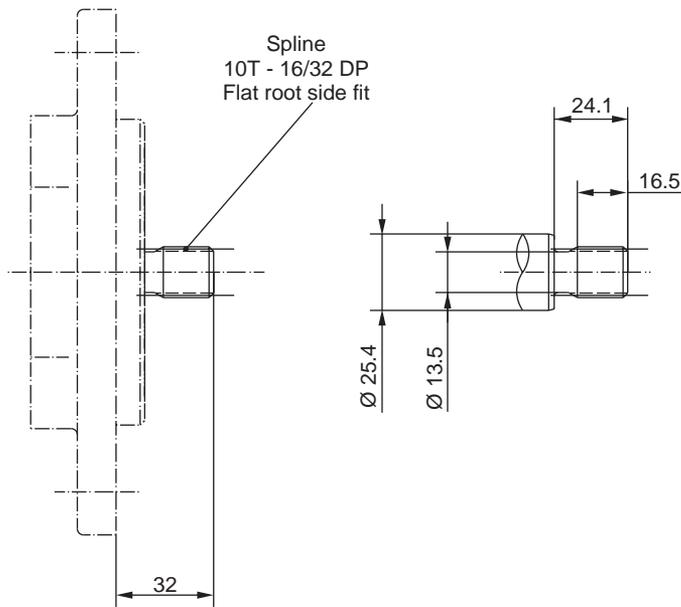


**PGP/PGM 620**

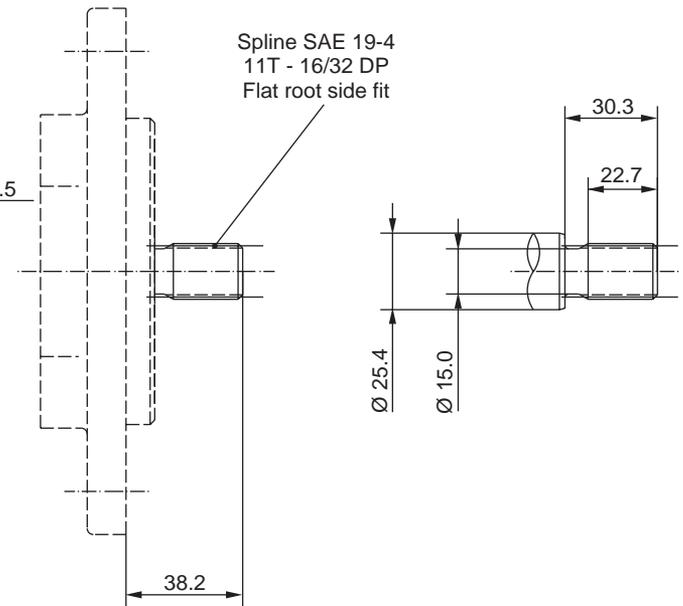
Code	G1	T1
	Thread	Dimensions
D3	3/4-16 UNF	14.3
D4	7/8-14 UNF	16.7
D5	1 1/16-12 UN	19.0
D6	1 5/16-12 UN	19.0
D7	1 5/8-12 UN	19.0
D8	1 7/8-12 UN	19.0
E2	3/8-19 BSP	12.0
E3	1/2-14 BSP	14.0
E4	5/8-14 BSP	16.3
E5	3/4-16 BSP	16.0
E6	1-11 BSP	18.0
E7	1 1/4-11 BSP	20.0
E8	1 1/2-11 BSP	22.0

**PGP/PGM 620 Drive Shaft**

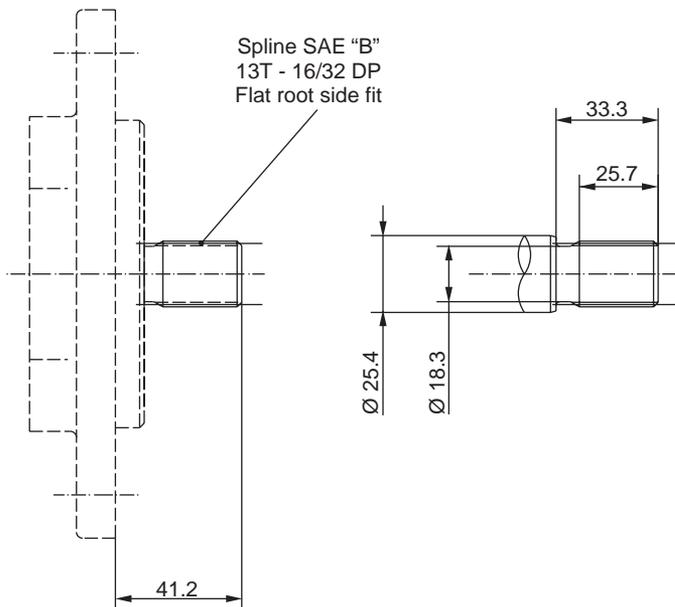
**Code B1**



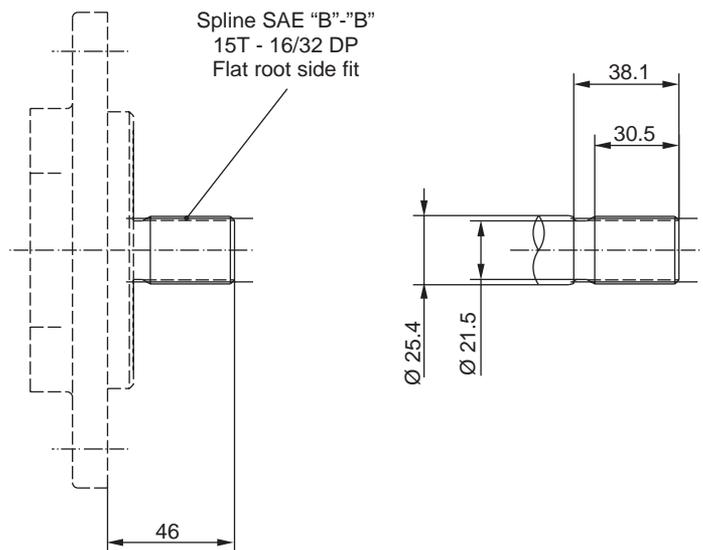
**Code C1**



**Code D1**



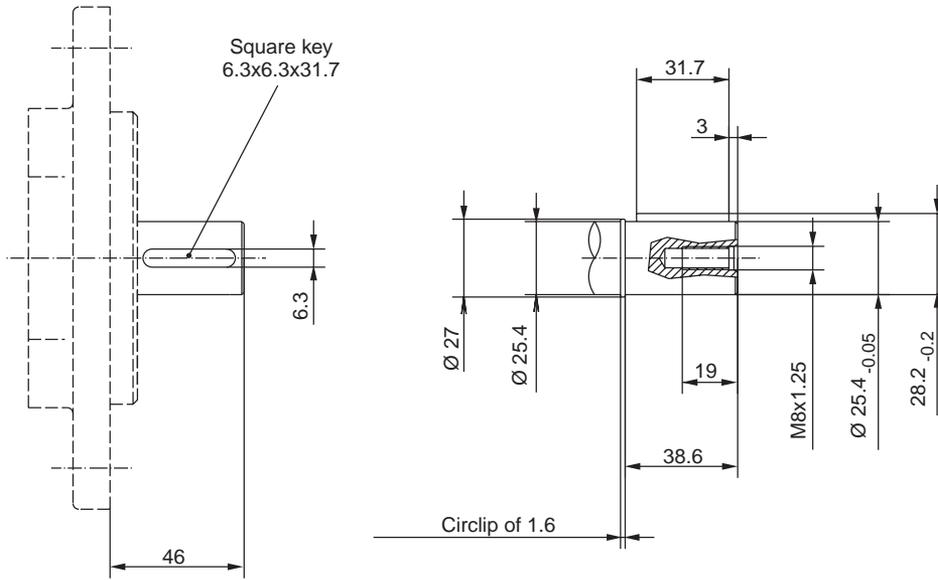
**Code E1**



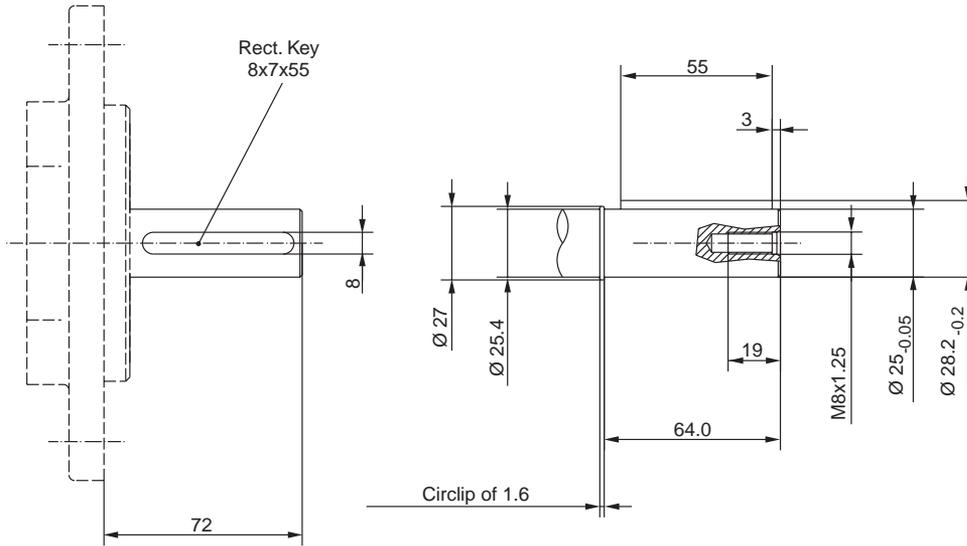
Drive shaft options

PGP/PGM 620 Drive Shaft

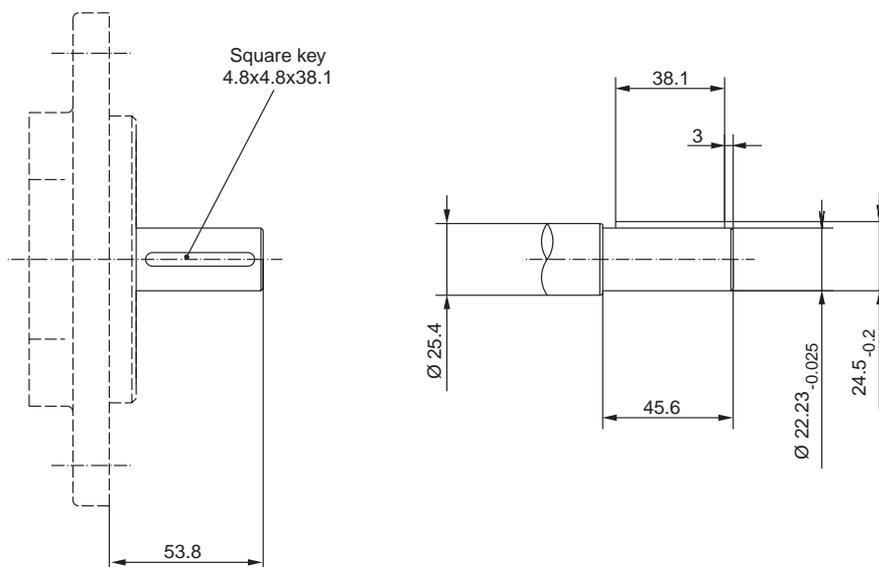
Code M3



Code M4

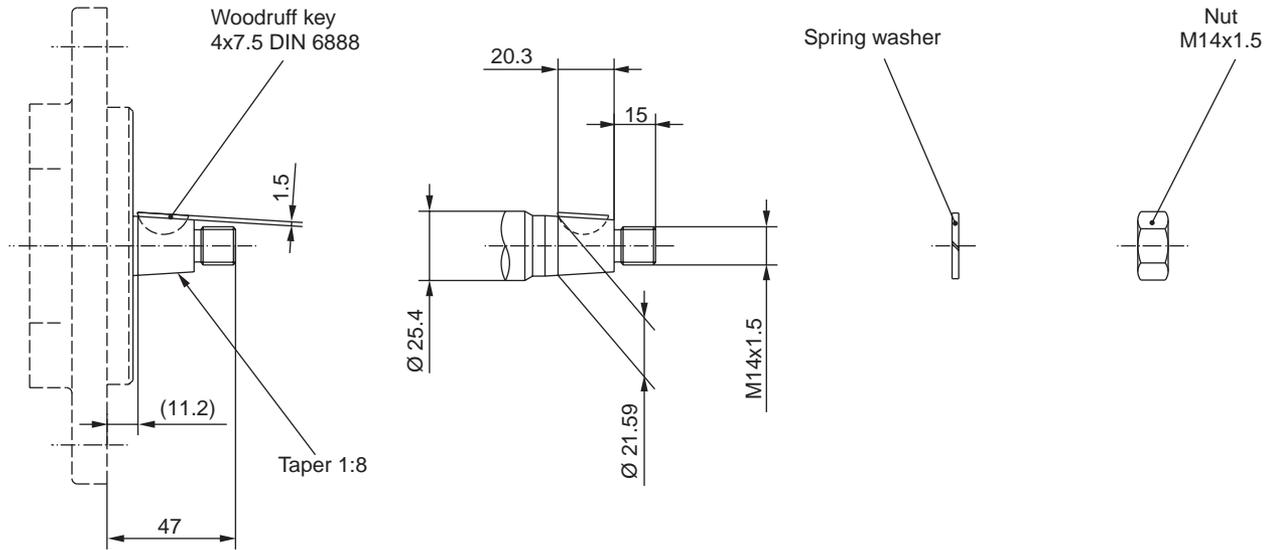


Code M6

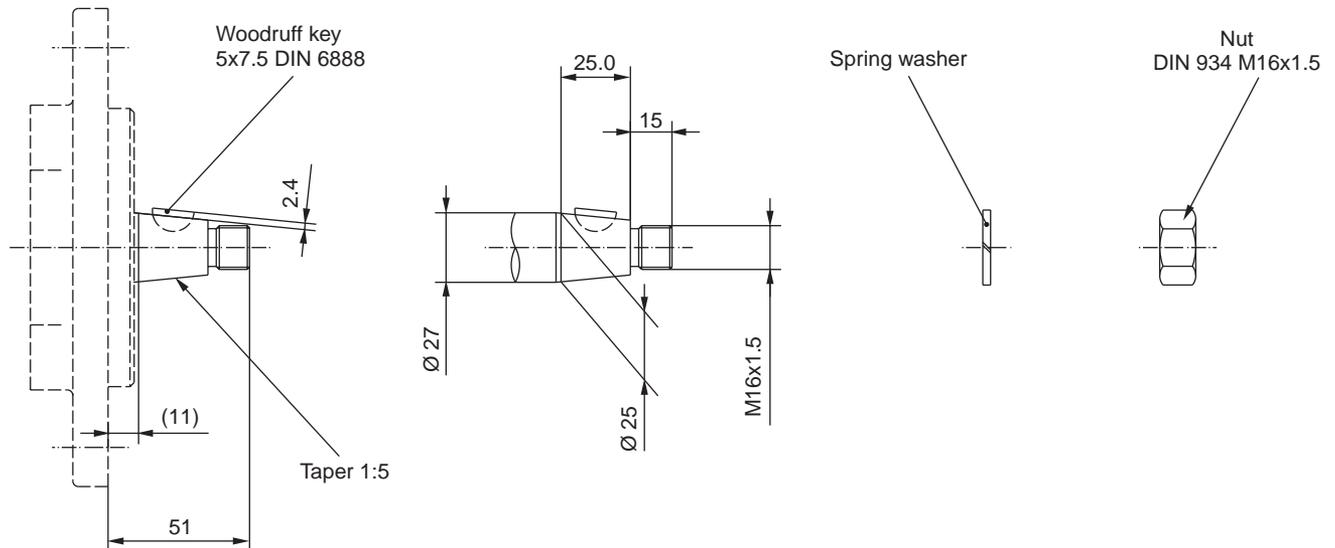


**PGP/PGM 620 Drive Shaft**

**Code T1**



**Code T2**



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

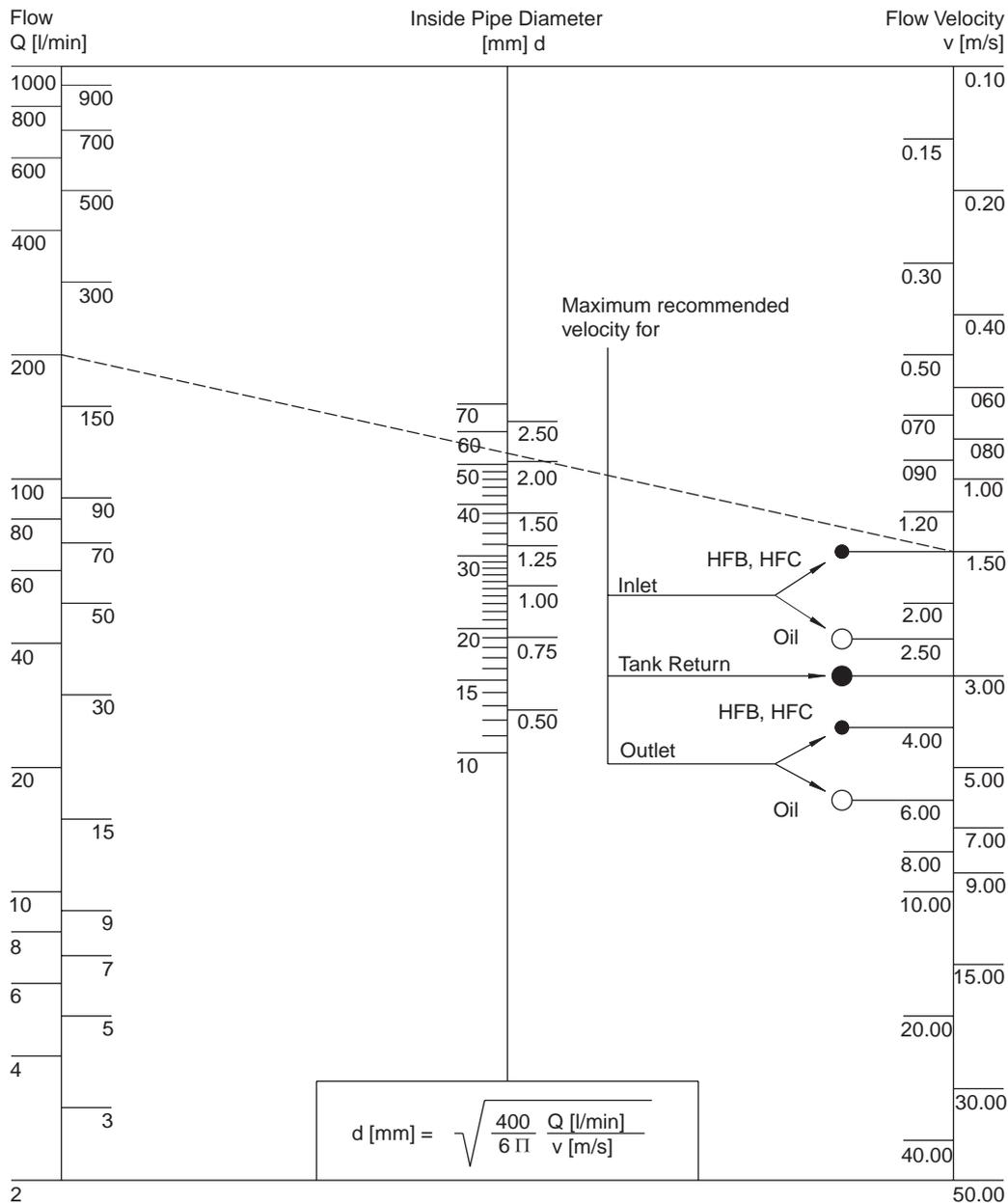
Code	Description	Torque Rating [Nm]
B1	10T,16/32 DP, 32L spline	124
C1	11T,16/32 DP, 38.2L, SAE 19-4 spline	144
D1	13T,16/32 DP, 41.2L, SAE "B" spline	272
E1	15T,16/32 DP, 46L, SAE "B-B" spline	460
M3	Ø25.4,6.3 KEY, M8, 46L, SAE "B-B" parallel	325
M4	Ø25.0,8.0 KEY, M8, 72L parallel	325
M6	Ø22.2,4.8 KEY, no thread, 53.8L parallel	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
	Multiple pump connection shaft	228

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

List of available pump combinations

First pump	Second pump								
	PGP 503	PGP 505	PGP 511	PGP 517	PGP 315	PGP 330	PGP 350	PGP 365	PGP 620
PGP 503	X								
PGP 505		X							
PGP 511	X		X						
PGP 517	X	X	X	X					
PGP 315					X				
PGP 330		X	X	X	X	X			
PGP 350		X	X	X	X	X	X	X	X
PGP 365		X	X	X	X	X	X	X	X
PGP 620			X						X

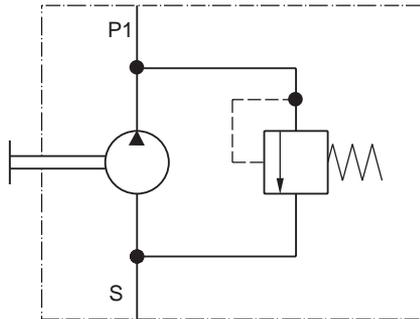
Nomograph for Pipe Velocity



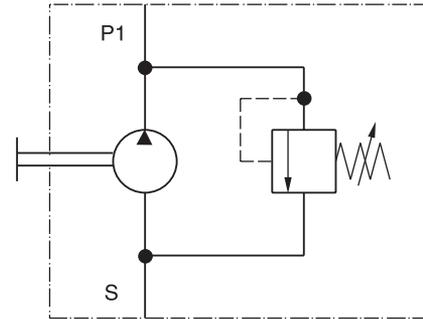
**Valve options**

Valve type	PGP								
	315	330	350	365	503	505	511	517	620
Pressure Relief Valve	X				X	X	X	X	X
Load Sensing Pressure Relief Valve							X	X	X
Solenoid Unloading Pressure Relief Valve		X					X	X	X
Pressure Unloading Relief Valve (Port Mounted)	X	X	X	X			X	X	X
Solenoid Unloading Relief Valve (Port Mounted)	X	X	X	X			X	X	X
Priority Flow Divider	X	X					X	X	X
Priority Flow Divider (Port Mounted)	X	X	X	X			X	X	X
Load Sensing Priority Valve							X	X	X
Load Sensing Priority Valve (Port Mounted)	X	X	X	X			X	X	X
Two - Stage Pump						X	X	X	X
Single Accumulator Charge Valve							X		X
Dual Accumulator Charge Valve							X		X
Steering and Accumulator Charge Valve (STAC)									X
Composite Priority and Accumulator Charge Valve									X
Combined Valve for Boosted Brakes and Power Steering							X		

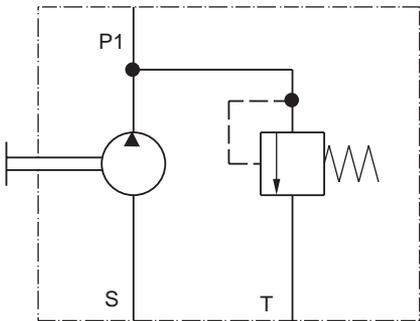
**Pressure Relief Valve**



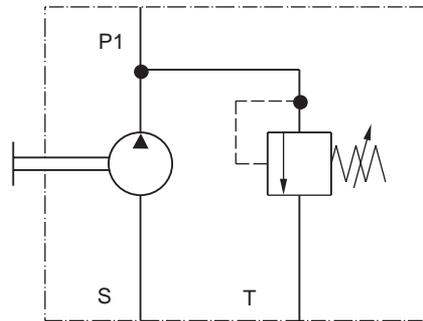
non adjustable, internal vent



adjustable, internal vent



non adjustable, external tank port

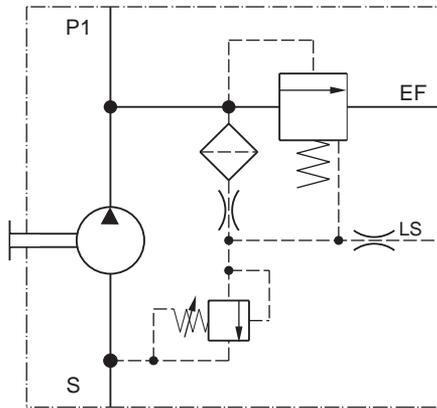


adjustable, external tank port

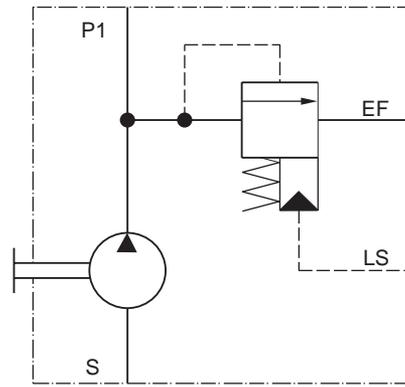
- Variations:** For PGP 315, PGP 503, PGP 505, PGP 511, PGP 517 and PGP 620  
 Non adjustable, internal vent  
 Non adjustable, external tank port  
 Adjustable, internal vent  
 Adjustable, external tank port

Valve options

Load Sensing Pressure Relief Valve



Detailed Symbol



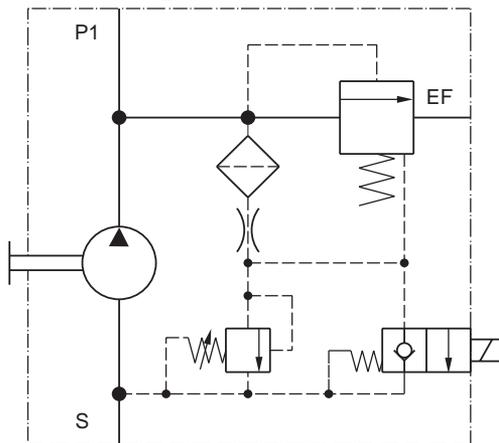
Simplified Symbol

- Variations:** For PGP 511  
Integral with pump 70 l/min  
With solenoid unloading  
For PGP 517 and PGP 620  
Integral with pump, 100 l/min  
With solenoid unloading
- Press. Range:** Stand-by pressure setting 5 bar  
Max. setting 250 bar
- Max. Flow:** For PGP 511 70 l/min  
For PGP 517 and PGP 620 100 l/min

**Comments:**

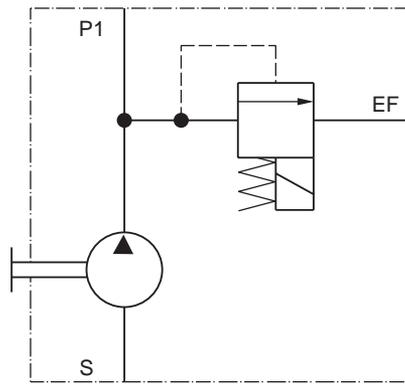
Load sensing feature allows gear pump and integral valve to be used with load sensing directional valves. The load sense feature also allows remote adjustment of the pump pressure up to the limited set with the internal pilot relief. Conversation to the pilot operated relief is achieved by plugging the LS port. The pump body requires an outlet port. This pump and valve assembly can also be used with a small, external direct acting relief valve for remote pressure control of the pump. Applications include man lifts, constant tension winches, road pavers, traction control skid steer loaders, 0.5 to 2 yd. Wheel loaders, and rough terrain lift trucks.

Solenoid Unloading Pressure Relief Valve



Detailed symbols

Above: normally closed (N/C)  
normally opened (N/O)



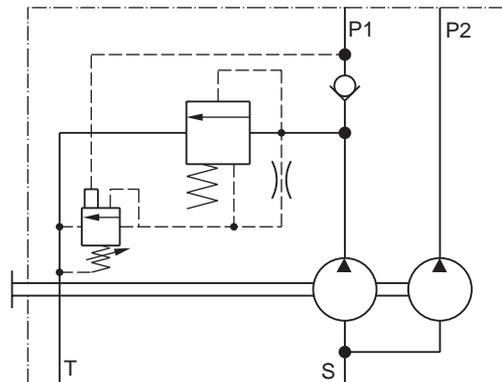
Simplified Symbol

- Variations:** For PGP 330, PGP 511, PGP 517 and PGP 620  
Specify voltage and whether N/O or NC
- Press. Range:** Stand-by pressure setting 5 bar  
Max. setting 250 bar
- Max. Flow:** For PGP511 70 l/min  
For PGP330 89 l/min  
For PGP517 and PGP620 100 l/min

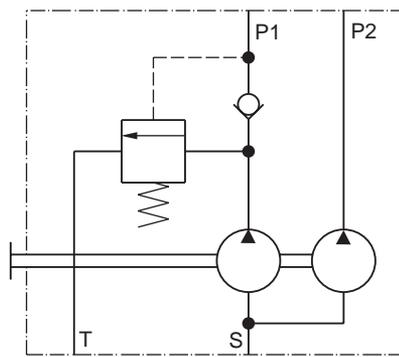
**Comments:**

This valve utilizes the same casting, main spool, and pilot relief as the Load Sensing Pressure Relief Valve. A small solenoid operated cartridge valve vents the internal pilot flow to pump inlet to unload the main spool. The outlet port is in the pump body and the EF is connected to the reservoir via heat exchanger and/or return line filter.

Unloading relief valve, pressure operated



Detailed Symbol



Simplified Symbol

**Variations:** For PGP 315, PGP 330, PGP 350<sup>1)</sup>, PGP 365<sup>1)</sup>, PGP 511<sup>2)</sup>, PGP 517 and PGP 620

Port mounted, integral with pump

<sup>1)</sup>Limit. to smaller displacem. for these series

<sup>2)</sup>Limit. to larger displacem. for this series

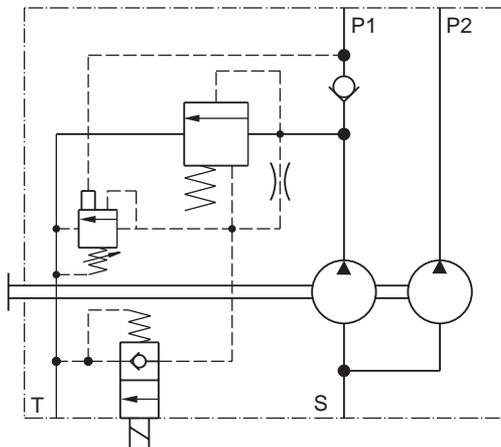
**Press. Range:** Stand-by pressure setting 5 bar  
Max. setting 250 bar  
Min setting 55 bar

**Max. Flow:** 80 l/min

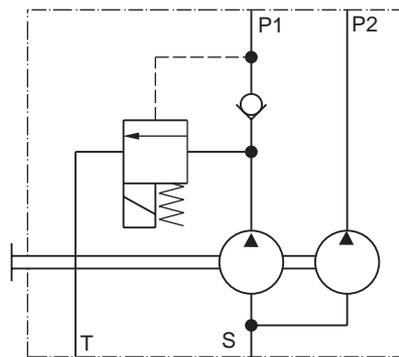
**Comments:**

This valve permits pressure unloading of the first section in a tandem. The valve may also be remote mounted for use with tandem or dual pumps. The flow from port P1 is typically combined with the flow from port P2. Often used on construction machinery, such as backhoe loaders, wheel loaders and cranes, to provide high flow (from both sections of the tandem) at low or medium pressures and high pressure with reduced flow (from the rear section only). This allows maximum productivity of the machine in accord with the power available to the pump.

Unloading Relief Valve, Solenoid Operated



Detailed Symbol



Simplified Symbol

**Variations:** For PGP 315, PGP 330, PGP 350<sup>1)</sup>, PGP 365<sup>1)</sup>, PGP 511<sup>2)</sup>, PGP 517 and PGP 620

Port mounted, integral with pump

<sup>1)</sup>Limit. to smaller displacem. for these series

<sup>2)</sup>Limit. to larger displacem. for this series

**Press. Range:** Stand-by pressure setting 5 bar  
Max. setting 250 bar  
Min setting 55 bar

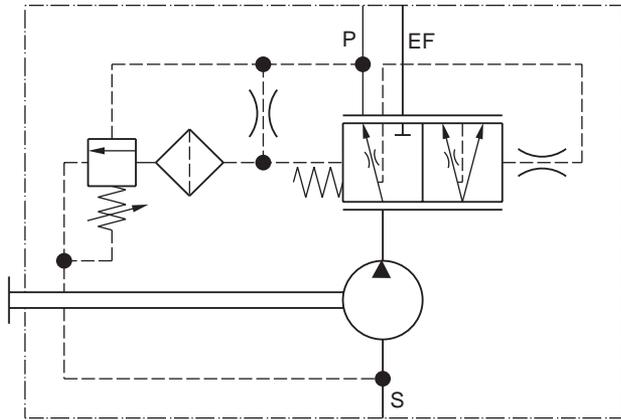
**Max. Flow:** 80 l/min

**Comments:**

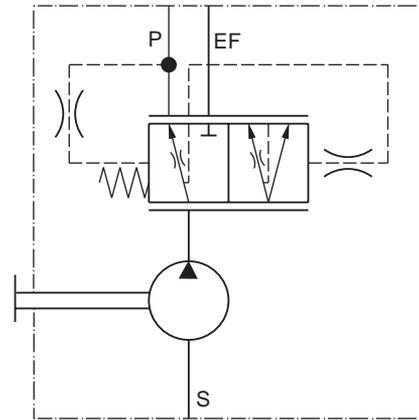
This valve permits pressure or solenoid unloading of the first section in a tandem. The valve may also be remote mounted for use with tandem or dual pumps. The flow from port P1 is typically combined with the flow from port P2. Often used on construction machinery, such as backhoe loaders, wheel loaders and cranes, to provide high flow (from both sections of the tandem) at low or medium pressures and high pressure with reduced flow (from the rear section only). This allows maximum productivity of the machine in accord with the power available to the pump.

**Valve options**

**Priority Flow Divider**



With Pilot Priority Relief Valve



Without Priority Relief Valve

**Variations:**

**Rear Mounted Versions:**

For PGP 511, PGP 517 and PGP 620

Without priority relief; With full flow priority relief (not shown)

With pilot priority relief valve

For PGP 315

Without priority relief; With pilot priority relief valve

For PGP 330

Without priority relief

**Port Mounted Version:**

For PGP 315, PGP 330, PGP 350<sup>1)</sup>, PGP 365<sup>1)</sup>, PGP 511, PGP 517, PGP 620

Without priority relief

<sup>1)</sup>Limit. to smaller displ. for these series

<b>Press. Range:</b>	Priority Port Min. setting	35 bar
	Priority Port Max. setting	210 bar
	Extended Flow Max. equal to max. rating of pump	

<b>Max. Flow:</b>	Valve for PGP 511 & Port Mounted Version	
	Priority Flow Max.	32 l/min
	Extended Flow Max.	70 l/min
	Max. input flow	70 l/min
	Valve for PGP 517 and PGP 620	
	Priority Flow Max.	45 l/min
	Extended Flow Max.	100 l/min
	Max. input flow	100 l/min

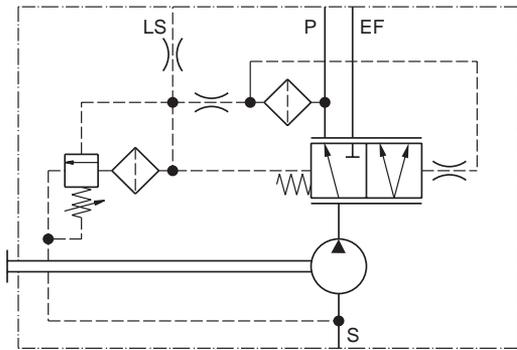
**Comments:**

The Priority Flow Divider provides a constant and specified flow for power steering or other priority functions. The balance of the flow produced by the pump is available from the EF port for additional functions such as open center directional control valves, fan drives, etc.

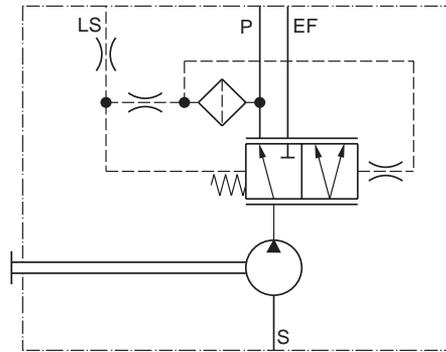


PGP 620 + Valve

**Load Sense Priority Valve**



With Priority Relief Valve and for Dynamic LS Signal



Without Priority Relief Valve and for Dynamic LS Signal

**Variations:**

**Rear Mounted Versions:**

- For PGP511, PGP517 and PGP620
- Without relief, static LS signal;
- With pilot relief, dynamic LS signal
- Without relief, dynamic LS signal;
- With pilot relief, dynamic LS signal

**Port Mounted Version:**

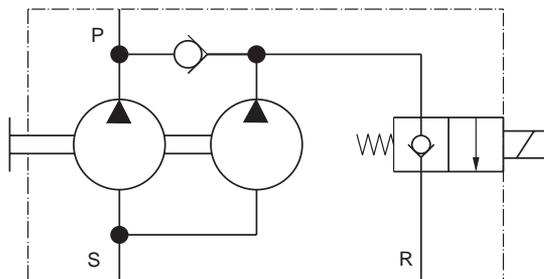
- For PGP315, PGP330, PGP350<sup>1)</sup>, PGP365<sup>1)</sup>, PGP511, PGP517, PGP620
  - Without relief, static LS signal;
  - Without relief, dynamic LS signal
- <sup>1)</sup>Limit. to smaller displ. for these series

<b>Press. Range:</b>	Priority Port Min. setting	35 bar
	Priority Port Max. setting	210 bar
	Extended Flow Max. equal to max. rating of pump	
<b>Max. Flow:</b>	Valve for PGP511 & Port Mounted Version	
	Priority Flow Max.	32 l/min
	Extended Flow Max.	70 l/min
	Max. input flow	70 l/min
	Valve for PGP517 and PGP620	
	Priority Flow Max.	45 l/min
	Extended Flow Max.	100 l/min
	Max. input flow	100 l/min

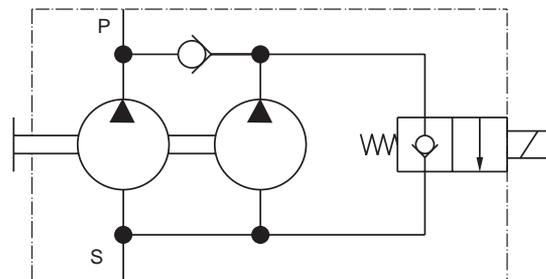
**Comments:**

The Load Sensing Priority Valve provides priority flow on demand, typically for LS power steering. The balance of the flow produced by the pump is available from the EF port for additional functions such as open center directional control valves, fan drives, etc. When the power steering is idle, full pump flow is available for these functions. The selection of pilot relief and static or dynamic signal is dependent on the characteristics of the selected steering unit.

**Two-Stage Pump**



With External Tank Port (recommended)



With Internal Vent to Pump Inlet

**Variations:**

- For PGP505, PGP511, PGP517 and PGP620
  - With internal vent to inlet
  - With external tank port
- Note:** Specify solenoid voltage

<b>Press. Range:</b>	To application requirements
<b>Rated Flow:</b>	A variety of solenoid valves are available. Selection of valve size and flow rate is in accord with application requirements.

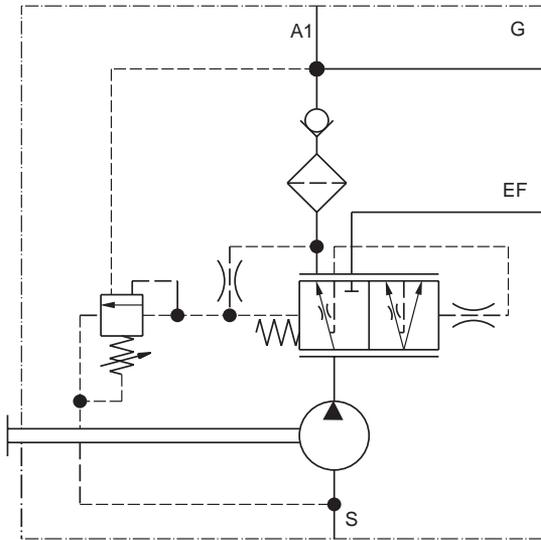
**Comments:**

The Parker Two-Stage or High-Low pump is a tandem with equal or dissimilar displacements and a two position / two way valve in the rear cover to allow unloading of the rear pump. This pump is applied when the prime mover (engine or electric motor) has limited power. When high pressure is required, the rear section is unloaded to the pump inlet or the tank. When high flow is required at low or medium pressure, the flow of both sections is combined at the outlet port P. In both cases, the displacements and pressures are selected to be within the power limits of the prime mover.

**Note:** When the internal vent to the inlet is selected, caution is suggested to prevent operating in the unloading condition for extended periods. The heat generated in doing so may lower the fluid viscosity below minimums required for the pump possibly damaging the pump.

Valve options

Single Accumulator Charge Valve

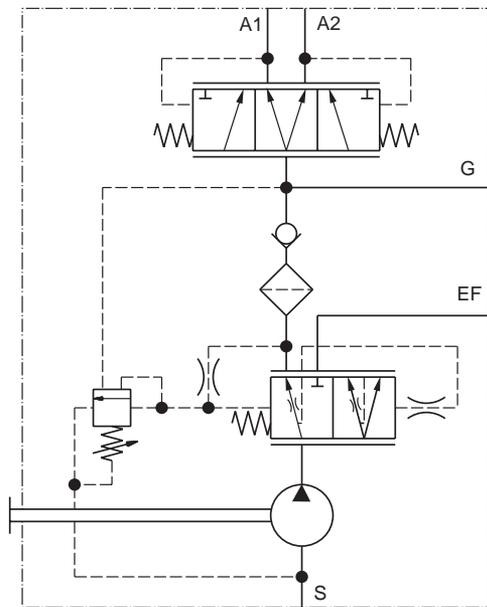


<b>Variations:</b>	For PGP 511	
	Integral with pump	70 l/min
	For PGP 620	
	Integral with pump	100 l/min
<b>Press. Range:</b>	A1, G Ports Min. setting	35 bar
	A1, G Ports Max. setting	210 bar
	Extended Flow Max. equal to max. rating of pump	
<b>Max. Flow:</b>	Valve for PGP 511	
	Charge Flow Max.	32 l/min
	Extended Flow Max.	70 l/min
	Max. Input Flow	70 l/min
	Valve for PGP 620	
	Charge Flow Max.	45 l/min
	Extended Flow Max.	100 l/min
	Max. Input Flow	100 l/min

**Comments:**

The Single Accumulator Charge Valve (SACV) provides priority flow to charge an accumulator for vehicle brakes or any application requiring stored hydraulic energy. The SACV has an integral differential pilot relief valve to provide a wide variety of cut-in/cut-out pressure ratios. Typical ratios are 80%, 70%, 60% and 50%. Custom ratios are available for OEM applications. A variety of port locations and sizes are available. The balance of the pump flow at the EF port is available for an open circuit directional control valve, fan drive or other ancillary functions.

Dual Accumulator Charge Valve



<b>Variations:</b>	For PGP 511	
	Integral with pump	70 l/min
	For PGP 620	
	Integral with pump	100 l/min
<b>Press. Range:</b>	A1, A2, G Ports Min. setting	35 bar
	A1, A2 G Ports Max. setting	210 bar
	Extended Flow Max. equal to max. rating of pump	
<b>Max. Flow:</b>	Valve for PGP 511	
	Charge Flow Max.	32 l/min
	Extended Flow Max.	70 l/min
	Max. Input Flow	70 l/min
	Valve for PGP 620	
	Charge Flow Max.	45 l/min
	Extended Flow Max.	100 l/min
	Max. Input Flow	100 l/min

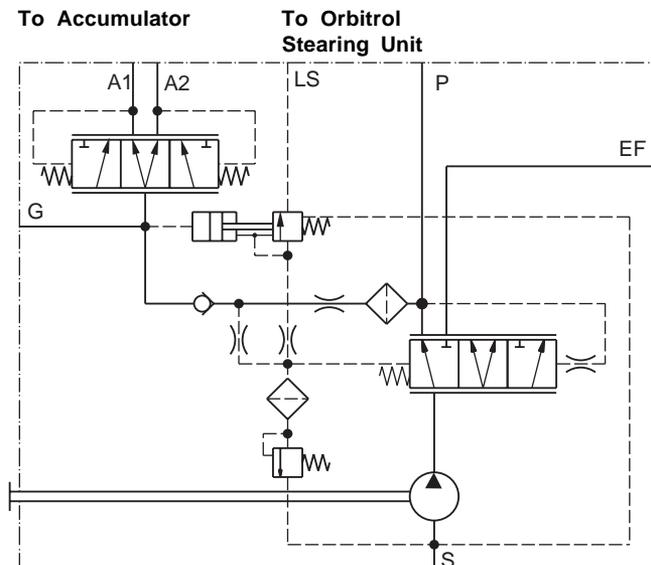
**Comments:**

The Dual Accumulator Charge Valve provides priority flow to charge two accumulators for dual circuit vehicle brakes or any application requiring stored hydraulic energy. The Dual Accumulator Charge Valve has an integral differential pilot relief valve to provide a wide variety of cut-in/cut-out pressure ratios. Typical ratios are 80%, 70%, 60% and 50%. Custom ratios are available for OEM applications.

An inverse shuttle spool isolates the two circuits so that pressure and oil volume is maintained in one circuit should the other experience a break in the hydraulic line.

A variety of port locations and sizes is available.

**Steering & Accumulator Charge (STAC) Valve**



**Variations:** Integral with PGP 620 pump  
Single or dual accumulator charge circuit (Dual circuit schematic shown)

**Press. Range:** A1, A2, Port Min. setting 35 bar  
A1, A2, Port Max. setting 210 bar  
Priority Port Max. setting 210 bar  
Extended Flow Max. equal to max. rating of pump  
Steering stand-by pressure up to 20 bar

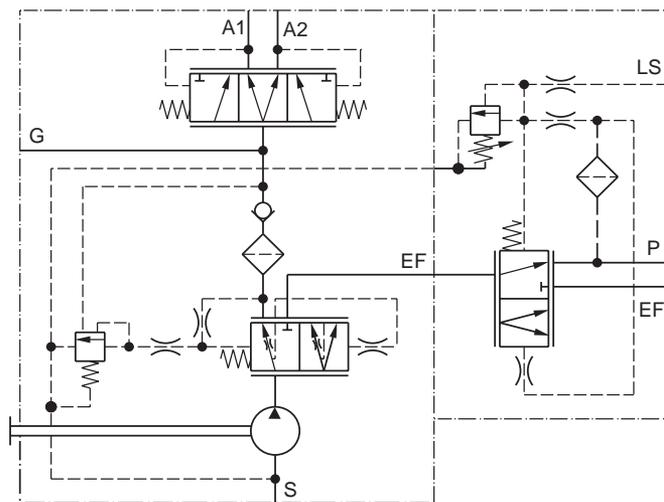
**Rated Flows:** Total Charge Flow up to 60 l/min depending on stand-by pressure  
Priority Port 45 l/min  
Extended Flow Max. 100 l/min  
Max. Input Flow 100 l/min

**Comments:**

The combined LS Priority Valve and Accumulator Charge Valve provides equal priority flow to load sense power steering and to charge one or more accumulators for hydraulic vehicle brakes. Excess pump flow is available from the EF port for the implement hydraulics, fan drives or other services. The accumulator charge function has an differential pilot relief valve to provide a wide variety of cut-in/cut-out pressure ratios. Typical ratios are 80%, 70%, 60% and 50%. Custom ratios are available for OEM applications.

Steering relief pressure (at P port) must be equal to or greater than maximum charge cut-out pressure. Valve is available with inverse shuttle for dual circuit braking systems (above schematic) or without inverse shuttle for single braking systems.

**Composite Load Sense Priority and Accumulator Charge Valve**



**Variations:** Integral with PGP 620 pump  
Single accumulator charge valve + Load sensing priority valve  
Dual accumulator charge valve + Load sensing priority valve (schematic shown)  
Single accumulator charge valve + Priority flow divider  
Dual accumulator charge valve + Priority flow divider

**Press. Range:** A1, A2, G Port Min. setting 35 bar  
A1, A2, G Port Max. setting 210 bar  
Priority Port Max. setting 210 bar  
Extended Flow Max. equal to max. rating of pump

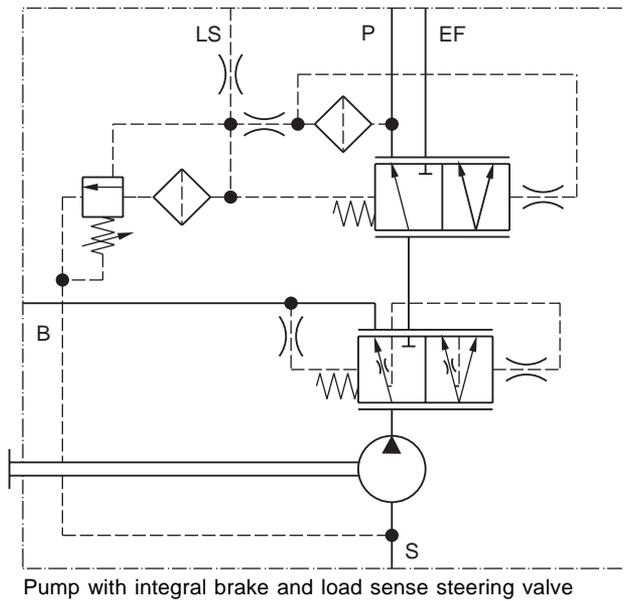
**Rated Flow:** Charge Max. 45 l/min  
Extended Flow Max. 100 l/min  
Max. Input Flow 100 l/min

**Comments:**

The Composite Load Sense Priority and Accumulator Charge Valve provides first priority flow to charge one or two accumulators for vehicle brakes and second priority to power steering. The balance of the pump flow at the EF port is available for an open circuit directional control valve. The accumulator charge valve has an integral differential pilot relief valve to provide a wide variety of cut-in/cut-out pressure ratios. Typical ratios are 80%, 70%, 60% and 50%. Custom ratios are available for OEM applications. The combination is possible with Single and Dual Accumulator Charge Valves or Priority Flow Dividers. The Composite Valve is also available for remote mounting.

**Valve options**

**Combined Priority Valve for Boosted Brakes and Power Steering**



**Variations:** Integral with PGP 511 pump  
 Priority for boosted brake +  
 Load sensing priority valve for steering  
 (schematic shown)  
 Priority for boosted brake +  
 Priority flow divider for steering

**Press. Range:** Priority Port Min. setting 35 bar  
 Priority Port Max. setting 175 bar  
 Extended Flow Max. equal to  
 max. rating of pump  
 B port Max. setting 175 bar

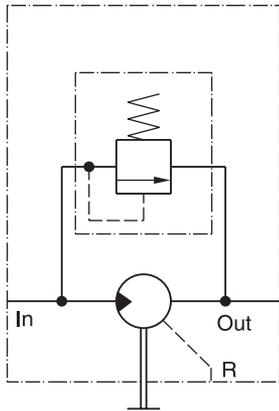
**Rated Flow:** Priority Flow Max. 32 l/min  
 Extended Flow Max. 70 l/min  
 B Port Flow Max. 10 l/min  
 Max. Input Flow 70 l/min

**Comments:**

The brake port provides a constant and specified flow for hydraulically boosted power brakes. The power brakes have first priority. The second priority from the P port provides priority flow on demand for load sensing power steering. The balance of flow produced by the pump is available from the EF port for additional functions such as open center directional control valves, fan drives, etc. When the power steering is idle, full pump flow, less the brake flow, is available for these functions. The combined brake and LS steering valve is also available with priority flow dividers (PFD) for open center steering systems.

Valve type	PGM					
	350	365	505	511	517	620
Single Pressure Relief Valve			X	X		
Single Pressure Relief Valve with Anti-Cavitation				X	X	X
Cross Port Pressure Relief Valve				X		
Cross Port Pressure Relief Valve with Anti-Cavitation	X	X		X		X
Solenoid Unloading Pressure Relief Valve for Motors				X		X
Brake Valve				X		
Check Valve and Restrictor				X		X

**Single Pressure Relief Valve**



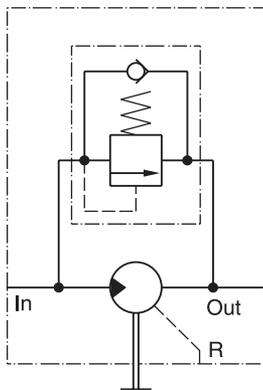
**Variations:** Integral with PGM 505 and PGM 511  
With internal or external drain  
Adjustable and non adjustable

**Press. Range:** Min. setting 25 bar  
Max. setting 250 bar

**Comments:**

Integral relief to protect motor. Motors fitted with this relief valve may be applied in series with the relief valve providing a limit to the pressure differential, and hence, the output torque.

**Single Pressure Relief Valve with Anti-Cavitation**



**Variations:** For PGM 511  
Non adjustable, with reverse flow check  
With internal or external drain  
For PGM 517  
Adjustable, with reverse flow check  
With internal or external drain  
For PGM 620  
Adjustable with shims, with reverse flow check  
With internal or external drain

**Press. Range:** Min. setting 25 bar  
Max. setting 250 bar

**Applications:** Compressor drives, fan drives, mower blade drives and water pump drives

**Comments:**

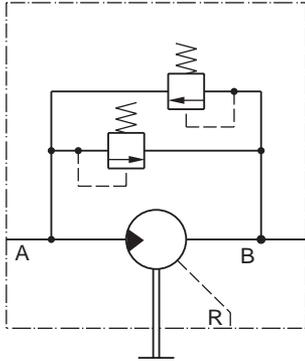
Integral relief to protect motor. Motors fitted with this relief valve may be applied in series with the relief valve providing a limit to the pressure differential, and hence, the output torque. The check valve allows the motor and driven load to “spool down” when the fluid supply is shut off or reduced due to engine speed fluctuations.

In series operation, the check valve permits the motor to come to a controlled stop should the outlet flow be suddenly blocked. This check valve reduces the risk of damaging the motor or blowing a hydraulic line.

Motors fitted with this valve are available with side or rear facing ports.

**Valve options**

**Cross Port Pressure Relief Valve**

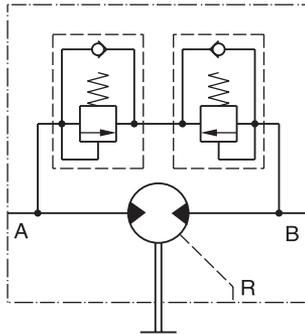


- Variations:** For PGM 511  
 Adjustable with shims  
 With internal or external drain
- Press. Range:** Max. setting 250 bar
- Max. Flow:** 30 l/min
- Applications:** Mower reel drives and all low-medium power reversible drives

**Comments:**

Integral cross port pressure relief to protect motor and to limit torque in both directions of rotation. Motors fitted with this relief valve cover may be operated in series with other motors downstream when using external case drain. Limited change to the factory set pressure is possible by adding or removing shims. Side ports are standard in order to minimize overall length.

**Cross Port Pressure Relief Valve with Anti-Cavitation**

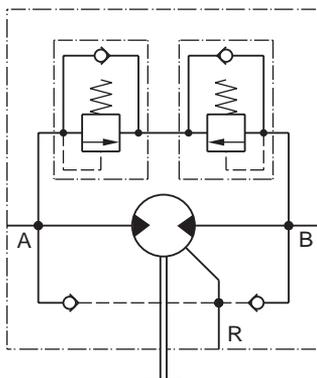


- Variations:** For PGM 350, PGM 365, PGM 511 and PGM 620  
 Non adjustable, with reverse flow check  
 With internal or external drain
- Press. Range:** Min setting 25 bar  
 Max. setting 250 bar
- Applications:** Mower blade drives, water pump drives and reversible hydrostatic transmissions

**Comments:**

Motors fitted with this relief valve may applied in series or in a hydrostatic transmission with the relief valve providing a limit to the pressure differential, and hence, the output torque. The check valves allow flow to return to the inlet of the motor to prevent cavitation. Available with side, rear, or combination of side and rear ports.

**Cross Port Pressure Relief Valve with Anti-Cavitation**

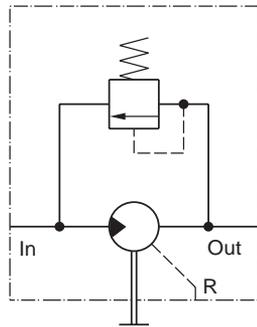


- Variations:** For PGM 511 and PGM 620  
 Non adjustable, with reverse flow check  
 With internal or external drain
- Press. Range:** Min setting 25 bar  
 Max. setting 250 bar
- Applications:** Mower blade drives, water pump drives, reversible hydrostatic transmissions, vibration drives on vibratory rollers and winches

**Comments:**

Motor with cross-port relief valve and anti-cavitation check valves in case drain passages. Motors with this configuration are suitable for open-circuit applications with closed center valves and hydrostatic transmissions. When the motor and load are stopped with the relief valve, the anti-cavitation checks allow internal leakage to be returned to the inlet side of the motor. For winches, make up flow at low pressure is introduced at the case.

**Brake Valve**

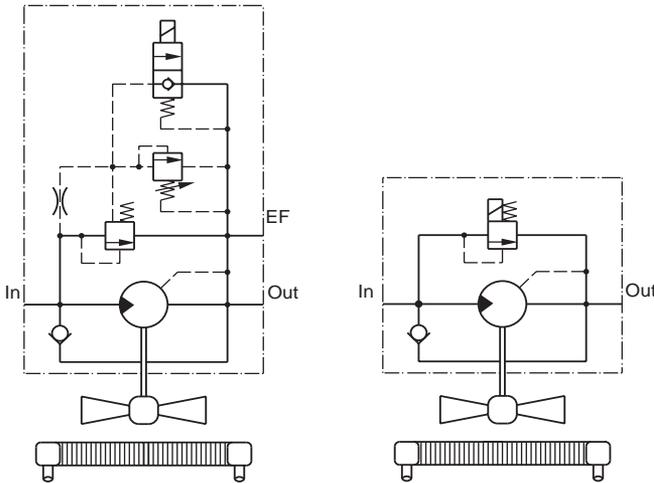


- Variations:** For PGM 511  
Adjustable with shims  
With internal or external drain
- Press. Range:** Max. setting 250 bar
- Max. Flow:** 30 l/min
- Applications:** Mower blade drives, winch drives, and blower drives

**Comments:**

Brake valves are available with the Parker motors to provide controlled braking of the motor and load. The pressure setting of the valve and the stored energy in the load will jointly determine the time to stop the motor. Brake valves must be used with appropriate directional valves, usually valves with closed center rather than motor spools.

**Solenoid Unloading Pressure Relief Valve for Motors**

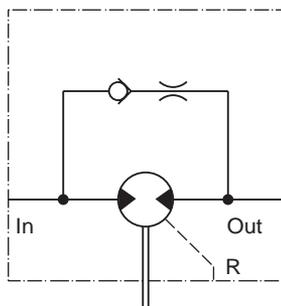


- Variations:** For PGM 511 and PGM 620  
With internal return for single motor operation  
With tank port for series motor operation  
Specify solenoid voltage and whether N/O or N/C
- Press. Range:** Stand-by pressure differential 5 bar  
Max. setting 250 bar
- Max. Flow:** For PGM 511 70 l/min  
For PGM 620 100 l/min

**Comments:**

This valve is similar to the solenoid unloading relief valve used on PGP 511, PGP 517 and PGP 620. A small solenoid operated cartridge valve vents the internal pilot to the motor outlet to unload the main spool. The outlet port is connected to tank via filter and heat exchanger (if installed). The motor control can be set to provide low speed operation rather than coming to a full stop. This allows a quiet start for the fan as it will start from approximately 100 rpm. The solenoid in the valve can be supplied for normally open or normally closed operation. The anti-cavitation check valve allows motor spool-down, when engine is shut down with the fan running.

**Check Valve and Restrictor**



- Variations:** For PGM 511 and PGM 620  
Metered flow from motor outlet to inlet
- Press. Range:** Max. setting 250 bar
- Max. Flow:** 30 l/min
- Applications:** Mower blade drives, winch drives, and blower drives

**Comments:**

The Check Valve and Restrictor is used to control pressure spikes between motors in series circuit. The check valve allows the motor and driven load to "spool down" when the fluid supply is shut off, or reduced due to engine speed fluctuations. In series operation, the check valve permits the motor to come to a controlled stop should the outlet flow be suddenly blocked. This check valve reduces the risk of damaging the motor or blowing a hydraulic line. The restrictor valve permits operation in reverse with reduced efficiency for cleaning debris or backlapping of the cutters.

**Ordering examples**

**Series 300 Single Unit**

<b>PG P</b>	<b>350</b>	<b>A</b>	<b>1</b>	<b>78</b>	<b>EG</b>	<b>AB</b>	<b>25 - 07</b>
PGP	Gear Design / Type		PARKER Gear Pump				
350	Series						
A	Unit		Single Unit				
1	Rotation Direction		Pump, Clockwise w/o O.B. bearing				
78	Shaft End Cover		Mounting Flange SAE 4 bolt"C"				
EG	Port End Cover		Side Ports Inlet - 2" SAE Split Flange Outlet - 1" SAE Split Flange				
AB	Gear Housing		Pump Housing				
25	Gear Width		2 1/2" / 104.5 cm <sup>3</sup> /rev., max. 175 bar				
07	Shaft Type		SAE "C" Spline 14T, 12/24 DP				

**Series PGP 517 Single Unit**

<b>PG P</b>	<b>517</b>	<b>A</b>	<b>0230</b>	<b>A</b>	<b>D1</b>	<b>H3</b>	<b>N</b>	<b>L3</b>	<b>L2</b>	<b>B1</b>	<b>B1</b>
PGP	Gear Design / Type		PARKER Gear Pump								
517	Series										
A	Unit		Single Unit								
0230	Displacement		23.0 cm <sup>3</sup> /rev.								
A	Rotation Direction		Counter Clockwise								
D1	Shaft		SAE „B“ Spline, 13T, 16/32 DP								
H3	Flange		Mounting Flange SAE 2 bolt „B“								
N	Shaft Seal		Shaft Seal NBR								
L3	Side Suction Port		Ø 27 Diamond Flange								
L2	Side Pressure Port		Ø 19 Diamond Flange								
B1	Rear Suction Port		No Port								
B1	Rear Suction Port		No Port								

**Series PGP 620 Single Unit**

<b>PG P</b>	<b>620</b>	<b>A</b>	<b>0330</b>	<b>C</b>	<b>D1</b>	<b>H3</b>	<b>N</b>	<b>D6</b>	<b>D5</b>	<b>B1</b>	<b>B1</b>
PGP	Gear Design / Type		PARKER Gear Pump								
620	Series										
A	Unit		Single Unit								
0330	Displacement		33.0 cm <sup>3</sup> /rev.								
C	Rotation Direction		Clockwise								
D1	Shaft		SAE „B“ Spline, 13T, 16/32 DP								
H3	Flange		Mounting Flange SAE 2 bolt „B“								
N	Shaft Seal		Shaft Seal NBR								
D6	Side Suction Port		1 5/16 - 12 UN Thread								
D5	Side Pressure Port		1 1/16 - 12 UN Thread								
B1	Rear Suction Port		No Port								
B1	Rear Suction Port		No Port								

**Series PGP 511 Tandem Unit**

<b>PG P</b>	<b>511</b>	<b>B</b>	<b>0100</b>	<b>A</b>	<b>C1</b>	<b>H2</b>	<b>N</b>	<b>J7</b>	<b>H3</b>	<b>S - 511</b>	<b>A</b>	<b>0110</b>	<b>X</b>	<b>J7</b>	<b>H3</b>	<b>B1</b>	<b>B1</b>
PGP	Gear Design / Type		PARKER Gear Pump														
511	Series First Section																
B	Unit		Multiple Unit														
0100	Displacement		10.0 cm <sup>3</sup> /rev														
A	Rotation Direction		Counter Clockwise														
C1	Drive shaft		SAE 19-4 Spline 11T, 16/32 DP														
H2	Flange		Mounting Flange SAE 2 bolt „A“														
N	Shaft Seal		Shaft Seal NBR														
J7	Side Suction Port		Ø - 20 mm European Flange														
H3	Side Pressure Port		M 18x1.5 Metric Thread w. O-Ring														
S	Section Connection		Separate Inlets														
511	Series Second Section																
A	Unit		Single Unit														
0110	Displacement		11.0 cm <sup>3</sup> /rev														
X	Shaft Seal		No Seal														
J7	Side Suction Port		Ø - 20 mm European Flange														
H3	Side Pressure Port		M 18x1.5 Metric Thread w. O-Ring														
B1	Rear Suction Port		No Port														
B1	Rear Suction Port		No Port														



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