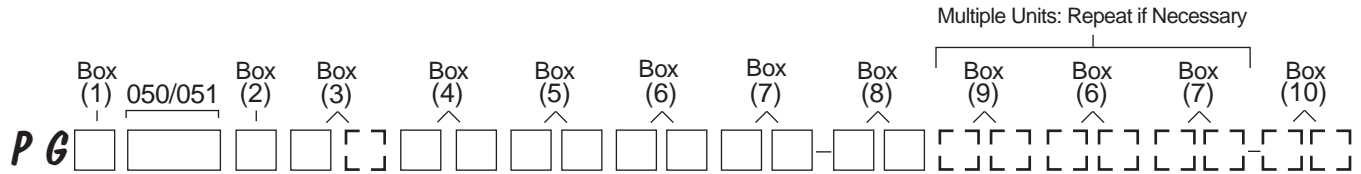


Pump/Valve Products

PGP050/051

- Flows to 66 GPM
- Pressures to 3000 psi
- Speeds to 2400 rpm
- Priority valves
- Two-speed valves
- Unloader valve
- Winch motors
- Flow dividers
- Piggybacks





Box 1 Pump/Motor

P	Pump
M	Motor

Box 2 Unit

A	Single Unit
B	Tandem Unit
C	Single or Tandem w. two-piece shaft (O.B. bearing required)

Box 3 Shaft End Cover

1	Pump, cw w/o O.B. bearing
2	Pump, ccw w/o O.B. bearing
3	Pump, bi-rotational w/o O.B. bearing (050 series only)
4	Pump, cw with O.B. bearing
5	Pump, ccw with O.B. bearing
6	Pump, bi-rotational with O.B. bearing (050 series only)
8	Motor, bi-rot. with O.B. bearing + ¼" NPT drain
9	Motor, bi-rot. w/o O.B. bearing + ¼" NPT drain
18	Motor, bi-rot. with O.B. bearing + ¼" BSPP drain
19	Motor, bi-rot. w/o O.B. bearing + ¼" BSPP drain

Box 4 Shaft End Cover (type 1 unless noted)

00	4 bolt pad mount
42	SAE 4 bolt "B" ANSI 101-4: Pilot dia. 4"
78	SAE 4 bolt "C" ANSI 127-4: Pilot dia. 5"
91	050-050, 051-051 for piggyback: Pilot dia. 4"
92	075-050, 076-051 for piggyback: Pilot dia. 5"
96	SAE 2 bolt "B" ANSI 101-2, type 2 : Pilot dia. 4"
97	SAE 2 bolt "B" ANSI 101-2: Pilot dia. 4"
98	SAE 2 bolt "C" ANSI 127-2: Pilot dia. 5"
99	SAE 2 bolt "C" ANSI 127-2, type 2 : Pilot dia. 5"

Box 5 Port End Cover (Rear Ported)

Left	Right	Single	Tandem	Extended Studs
Unported				
-	-	BE	BI	BY

NPT Porting (050 series only)

¾"	-	KE	KI	KY
-	¾"	LE	LI	LY
¾"	¾"	ME	MI	MY

O.D.T. Porting

¾"	-	CE	CI	CY
-	¾"	DE	DI	DY
¾"	¾"	FE	FI	FY

Box 5 Port End Cover continued

Left	Right	Single	Tandem	Extended Studs
BSPP Porting				
¾"	-	WE	WI	WY
-	¾"	XE	XI	XY
¾"	¾"	ZE	ZI	ZY

Metric Straight Thread

¾"	-	NE	NI	NY
-	¾"	PE	PI	PY
¾"	¾"	QE	QI	QY

Note
 ¾" PEC ports are rated to 2500 PSI max.

	CW	CCW	Double
Piggyback Port End - Pump Only			
Type 050-050, 051-051 & 050-030, 051-031	KO	LO	MO

- Optional:
- Port end cover with integral R/V
 - Larger rear ports
 1 ¼ x 1 S.F. or ODT
 - Larger side ports
 1 ¼ S.F. or ODT inlet
 1" ODT outlet
 - Larger rear ports, but requires special gear housing and cap screws
 1 ½ x 1 ½ NPT up to 1500 PSI
- Contact Product Support Development for additional information.

FOR ALL UNITS
 To determine direction of shaft rotation, view the unit with the shaft pointing toward you, and the idler (driven) gear beneath the shaft. With clockwise rotation, flow will be left to right. The inlet pump port will be on the left, outlet on the right. The flow is in the opposite direction with counter-clockwise rotation. Inverting the pump will reverse the inlet and outlet ports but not the direction of rotation.

Box 6 Gear Housing																						
050 Series										051 Series												
Housing Code	07	10	12	15	17	20	22	25	10	12	15	17	20	22	25							
Displacement (C.I.R.)	1.91	2.55	3.19	3.83	4.46	5.10	5.74	6.38	2.55	3.19	3.83	4.46	5.10	5.74	6.38							
Maximum (PSI)	2500	2500	2500	2500	2000	2000	2000	2000	3000	3000	3000	3000	2500	2500	2500							
IN	OUT	CW	CCW																			
-	-	AB	AB	X	X	X	X	X	X	X	X	X	X	X	X	No Porting						
																X	X	X	X	X	X	X
NPT Porting																						
3/4"	-	IC	ID		X	X	X	X														
-	3/4"	ID	IC		X	X	X	X														
3/4"	3/4"	IF	IF		X	X	X	X	X													
1"	3/4"	IJ	IG		X*	X	X	X	X													
1 1/4"	3/4"	IK	IH				X															
1"	-	YC	YD			X	X	X	X	X												
-	1"	YD	YC			X	X	X	X	X												
1"	1"	YF	YF			X	X	X	X	X	X											
1 1/4"	1"	YJ	YG				X*	X	X	X	X											
1 1/4"	-	IA	IB				X*	X*	X	X	X											
-	1 1/4"	IB	IA						X	X	X											
1 1/4"	1 1/4"	YL	YL					X	X	X	X											
1 1/2"	1"	YK	YH											X								
1 1/2"	1 1/4"	YP	YM						X*	X	X											
1 1/2"	1 1/2"	YR	YR								X											
OD Tube Porting																						
3/4"	-	EC	ED		2000	2000	X	X	X							X*	X*		X			
-	3/4"	ED	EC		2000	2000	X	X	X										X			
3/4"	3/4"	EF	EF		2000	2000	X	X	X									2500	X			
1"	3/4"	EJ	EG		2000*	2000*	X*	X*	X										X*			
1 1/4"	3/4"	EK	EH				X*	X*										2500*	X			
1"	-	AC	AD		X*	X*	2000	X	X	X	X					X*	X*	X*	X*	X		
-	1"	AD	AC				2000	X	X	X	X								X			
1"	1"	AF	AF				2000	X	X		X								X	X	X	
1 1/4"	1"	AJ	AG				2000*	X*	X*	X	X								X*			
1 1/2"	1"	AK	AH					X*	X*	X*									X*			X
1 1/4"	-	AA	AO				X*	X*	X*	X	X							X*	X*		X	X
-	1 1/4"	AO	AA							X	X										X	X
1 1/4"	1 1/4"	AL	AL						X	X	X										X	X
1 1/2"	1 1/4"	AP	AM					X*	X*	X											X	X
1 1/2"	-	AE	AU					X*	X*										X*	X	X	
-	1 1/2"	AU	AE					X*	X													X
1 1/2"	1 1/2"	AR	AR								X											X

* This porting is acceptable for low pressure inlet port only.

NOTES

1. NPT ports are not recommended for use at pressures in excess of 1500 PSI.
2. Shaded cells are acceptable for motor codes.
3. "X" Means both codes are available.
4. "2000" or "2500" indicates maximum pressure rating on port.



050/051 Ordering Information

Box 6 Gear Housing <i>continued</i>																	
		050 Series							051 Series								
Housing Code		10	12	15	17	20	22	25	10	12	15	17	20	22	25		
Displacement (C.I.R.)		2.55	3.19	3.83	4.46	5.10	5.74	6.38	2.55	3.19	3.83	4.46	5.10	5.74	6.38		
Maximum (PSI)		2500	2500	2500	2000	2000	2000	2000	3000	3000	3000	3000	2500	2500	2500		
IN	OUT	CW	CCW								Split Flange Porting						
3/4"	-	UC	UD	X	X	X	X		2500	X							
-	3/4"	UD	UC	X	X	X	X		2500	X							
3/4"	3/4"	UF	UF				X	X	2500	X	X						
1"	3/4"	UJ	UG	X*	X*	X	X	X	2500*	X*	X*						
1 1/4"	3/4"	UK	UH							X*	X*	X*					
1"	-	OC	OD	2000	X*	X	X	X	X	X*	2500	X	X				
-	1"	OD	OC	2000	2000	X	X	X	X		2500	X	X				
1"	1"	OF	OF		2000	X	X	X	X		2500	X	X	X	X		
1 1/4"	1"	OJ	OG		2000*	X*	X*	X	X		2500*	X*	X*				
1 1/2"	1"	OK	OH			X*	X*	X*	X		2500*	X*	X*	X	X		
1 1/4"	-	OA	OB		X*	X*	X*	X	X		X*	X*					
-	1 1/4"	OA	OB				X	X	X								
1 1/4"	1 1/4"	OL	OL		2000	X	X	X	X								
1 1/2"	1 1/4"	OP	OM		2000*	X*	X*	X	X								
1 1/2"	-	OE	OU			X*	X*	X	X		X*	X*	X*				
-	1 1/2"	OU	OE				X	X	X								
1 1/2"	1 1/2"	OR	OR				X	X	X								
2"	-	XB	ZB							X*							
2"	1"	UQ	UB				X*	X*	X*								
2"	1 1/4"	OQ	ON				X*	X*	X*	X* X* X*							
2"	1 1/2"	OV	OS				X*	X*	X*	X* X*							
2"	2"	OX	OX					X*									
											BSP Porting						
3/4"	-	YN	YQ	X*	X	X	X			X*	2500	2500	X	X			
-	3/4"	YQ	YN		X	X	X				2500	2500	X	X			
3/4"	3/4"	YS	YS	2000	X	X		X			2500	2500	X				
1"	3/4"	YV	YT	2000*	X*	X*	X*	X			2500*	2500*	X*	X*			
1 1/4"	3/4"	YW	YU			X*											
1"	-	SL	RQ		X*	X*	X*	X	X	X*	X*	X*	X*	X*	X	X	
-	1"	RQ	SL				X	X	X								
1"	1"	MP	MP		2000	X	X		X								
1 1/4"	1"	IX	VY		2000*	X*	X*	X	X								
1 1/2"	1"	VI	HW						X								
1 1/4"	-	NJ	UI			X*		X	X								
-	1 1/4"	UI	NJ				X	X	X								
1 1/4"	1 1/4"	PF	PF					X	X								
1 1/2"	1 1/4"	IS	IQ						X								
											Metric Straight Thread						
3/4"	-	EN	TQ	X*	X	X	X			X*	X*	X*	X				
-	3/4"	TQ	EN		X	X	X				2500	2500	X				
3/4"	3/4"	ES	ES	2000	X						2500						
1"	3/4"	EV	ET	2000*	X*	X*	X	X			2500*	2500*	X*	X*			
1"	-	NL	ER			X*	X	X	X								
-	1"	ER	NL				X	X	X								
1"	1"	CM	CM		2000	X	X			2500							
1 1/4"	-	UA					X*	X	X								
1 1/4"	1"	EX	VE		2000*	X*	X*	X	X								
1 1/4"	1 1/4"	PA	PA				X*	X	X								
1 1/2"	1 1/4"	SA	QA				X*	X*	X								



050/051 Ordering Information

Box 6 Gear Housing *continued*

		050 Series							051 Series										
Housing Code		10	12	15	17	20	22	25	10	12	15	17	20	22	25				
Displacement (C.I.R.)		2.55	3.19	3.83	4.46	5.10	5.74	6.38	2.55	3.19	3.83	4.46	5.10	5.74	6.38				
Maximum (PSI)		2500	2500	2500	2000	2000	2000	2000	3000	3000	3000	3000	2500	2500	2500				
IN	OUT	CW	CCW								Metric Split Flange Porting								
3/4"	-	VN	VQ	X	X	X	X		X*										
-	3/4"	VQ	VN	X	X	X	X												
1"	3/4"	RV	VT	X*	X*	X	X	X	2500*	X*									
1 1/4"	3/4"	RW	RU							X*	X*								
1"	-	UL	UR		X*	X	X	X	X	X*	X*	X	X						
-	1"	UR	UL				X	X	X	X									
1"	1"	UM	UM		2000	X	X	X	X			2500	X	X	X				
1 1/4"	1"	UX	VU		2000*	X*	X*	X	X	X			2500*	X*	X*				
1 1/2"	1"	VO	HO				X*	X*	X*			2500*	X*	X*	X				
1 1/4"	-	NO	UO					X*	X	X	X	X*	X*						
-	1 1/4"	UO	NO						X	X	X								
1 1/4"	1 1/4"	PO	PO		2000	X	X	X	X						X	X	X		
1 1/2"	1 1/4"	SO	QO		2000*	X*	X*	X	X						X*	X	X		
1 1/2"	-	UY	TO				X*	X*	X						X*	X*			
-	1 1/2"	TO	UY							X									
1 1/2"	1 1/2"	SV	SV					X	X	X						X	X		
2"	1 1/4"	JM	JR						X*	X*	X*						X*	X*	X*
2"	1 1/2"	JQ	JN					X*	X*	X*						X*	X*	X*	

* This porting is acceptable for low pressure inlet port only.

NOTES

1. Shaded cells are acceptable for motor codes.
2. "X" Means both codes are available.
3. "2000" or "2500" indicates maximum pressure rating on port.

Box 7 Gear Width

050 Series				
	Gear Width	in. ³ /rev.	cm ³ /rev.	Max Pressure
05	1/2"	1.28	20.9	2500 psi (172 bar)
07	3/4"	1.91	31.3	2500 psi (172 bar)
10	1"	2.55	41.8	2500 psi (172 bar)
12	1 1/4"	3.19	52.2	2500 psi (172 bar)
15	1 1/2"	3.83	62.7	2500 psi (172 bar)
17	1 3/4"	4.46	73.1	2000 psi (138 bar)
20	2"	5.10	83.6	2000 psi (138 bar)
22	2 1/4"	5.74	94.0	2000 psi (138 bar)
25	2 1/2"	6.38	104.5	2000 psi (138 bar)
051 Series				
	Gear Width	in. ³ /rev.	cm ³ /rev.	Max Pressure
05	1/2"	1.28	20.9	3000 psi (207 bar)
07	3/4"	1.91	31.3	3000 psi (207 bar)
10	1"	2.55	41.8	3000 psi (207 bar)
12	1 1/4"	3.19	52.2	3000 psi (207 bar)
15	1 1/2"	3.83	62.7	3000 psi (207 bar)
17	1 3/4"	4.46	73.1	3000 psi (207 bar)
20	2"	5.10	83.6	2500 psi (172 bar)
22	2 1/4"	5.74	94.0	2500 psi (172 bar)
25	2 1/2"	6.38	104.5	2500 psi (172 bar)

Box 8 Shaft Type (type 1 unless noted)

For single, tandem, or two-piece shaft unless noted.

07	SAE "C" 14 tooth spline 1.25" dia., ANSI 32-4
11	SAE "C" keyed 1.25" dia., 5/16"X15/32"X1 1/2" key, ANSI 32-1
22	050-050, 051-051 piggyback shaft
23	075-050, 076-051 piggyback shaft
25	SAE "B" 13 tooth spline .88" dia., ANSI 22-4
43	SAE "B-B" keyed 1.00" dia. 1/4"X3/8"X1 1/4" key, ANSI 25-1
53	SAE "C" 14 tooth spline 1.25" dia., ANSI-32-4, type 2 (single & tandem)
65	SAE "B" 13 tooth spline .88" dia., ANSI 22-4, type 2 (single & tandem)
67	SAE "B-B" keyed 1.00 dia., 1/4"X3/8"X1 1/4" key, ANSI 25-1, type 2 (single & tandem)
73	SAE "C" keyed 1.25" dia., 5/16" x 15/32" x 2 1/4" key, extended length (two-piece only)
98	SAE "B-B" 15 tooth spline, 1.00" dia., ANSI 25-4 (single & tandem)

050/051 Ordering Information

Single and Multiple Pumps and Motors PGP050/051™ Series

Box 9 Bearing Carriers Pump Only

Common Inlet Passage

IN	OUT	CW	CCW
-	-		
		C	D
*	-	A	U

* 051 Series only. Used when only one adjacent gear housing has an inlet port.

NPT Porting (050 Series only)

1"	-	TB	BT
1 1/4"	-	VB	BV
1 1/2"	-	WB	BW
1"	3/4"		
1 1/4"	3/4"	VX	XV
1 1/2"	3/4"	WX	XW
1 1/4"	1"	VZ	ZV
1 1/2"	1"	WZ	ZW
1"	3/4"		
1 1/4"	3/4"	VJ	JV
1 1/4"	1"	VK	KV
1 1/2"	1"	WK	KW
1"	3/4"		

ODT Porting

1"	-	CB	BC
1 1/4"	-	DB	BD
1 1/2"	-	FB	BF
-	3/4"		*JP
1"	3/4"	CJ	JC
1 1/4"	3/4"	DJ	JD
1 1/2"	3/4"	FJ	JF
1 1/4"	1"	DK	KD
1 1/2"	1"	FK	KF
* 051 Series only.			
1"	3/4"		
1 1/4"	3/4"	DR	RD
* 1 1/2"	3/4"	FR	RF
1 1/4"	1"	DS	SD
1 1/2"	1"	FS	SF
-	1"	HZ	*ZH

* 051 Series only.

1"	3/4"		
----	------	--	--

NOTE

Split flange thread depths may be more shallow than S.A.E. standard. Contact Product Support Department for actual dimensions.

Bearing Carriers (9) Pump Only - continued

Metric Split Flange Porting

IN	OUT	CW	CCW
1"	-		
1 1/4"	-	DH	HD
1 1/2"	-	FH	HF
-	3/4"		
1"	3/4"	CW	WC
1 1/4"	3/4"	DW	WD
1 1/2"	3/4"	FW	WF
1 1/4"	1"	DC	CD
1 1/2"	1"	FC	CF
1"	3/4"		
1 1/4"	3/4"	HQ	QH
1 1/2"	3/4"	WQ	QW
1 1/4"	1"	HS	SH
1 1/2"	1"	WS	SW
1"	3/4"		

Metric Straight Thread Porting

IN	OUT	CW	CCW
1"	-		
1 1/4"	-	DL	LD
1 1/2"	-	FL	LF
-	3/4"		
1"	3/4"	CZ	ZC
1 1/4"	3/4"	DZ	ZD
1 1/2"	3/4"	FZ	ZF
1 1/4"	1"	DN	ND
1 1/2"	1"	FN	NF
1"	3/4"		
1 1/4"	3/4"	HT	TH
1 1/2"	3/4"	WT	TW
1 1/4"	1"	HV	VH
1 1/2"	1"	WV	VW
1"	3/4"		

Box 9 Bearing Carriers (Motor Only)

No Ports

IN	OUT	DUAL
-	-	

NPT Porting (030 Series only)

1"	1"	TT
1 1/4"	1 1/4"	VV
1 1/2"	1 1/2"	WW

ODT Porting

1"	1"	CC
1 1/4"	1 1/4"	BB
1 1/2"	1 1/2"	FF

Split Flange Porting

1"	1"	LL
1 1/4"	1 1/4"	MM
1 1/2"	1 1/2"	NN

BSP Porting

IN	OUT	DUAL
1"	1"	
1 1/4"	1 1/4"	GG

Metric Split Flange Porting

1"	1"	
1 1/4"	1 1/4"	SS

Metric Straight Thread Porting

1"	1"	
1 1/4"	1 1/4"	JJ

Box 10 Connecting Shaft

For connecting tandem units.

1 Connecting Shaft - Multiple Units

22 Piggyback Pump Connecting Shaft for 050 to 050, 051 to 051

23 Piggyback Pump Connecting Shaft for 075 to 050, 076 to 051