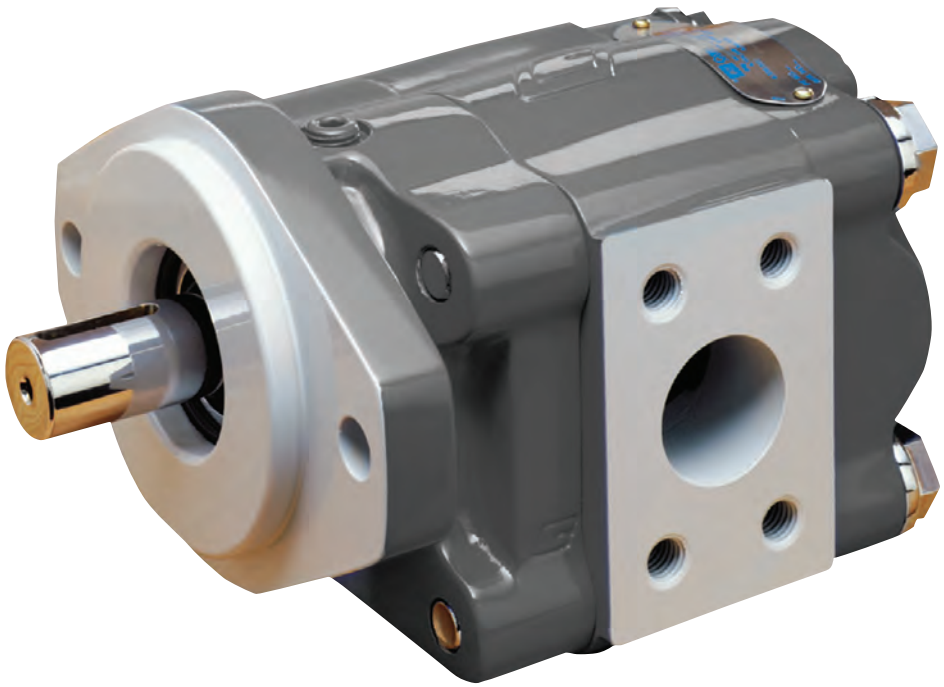
aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



PGP030/031™ Series
PGP050/051™ Series
PGP075/076™ Series

Single and Multiple Pumps and Motors

Parker

ENGINEERING YOUR SUCCESS.

The Parker Hannifin Gear Pump Division Assures:

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- Technical innovation
- Premier customer service

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

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

WARNING

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Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

Index

Pump/Valve Products

PGP030/031
- Flows to 41 GPM
- Pressures to 3000 psi
- Speeds to 2400 rpm
- Priority valves
- Two-speed valves
- Piggybacks
- Winch motors
- Flow dividers

PGP050/051
- Flows to 66 GPM
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- Speeds to 2400 rpm
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- Unloader valve
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PGP075/076
- Flows to 128 GPM
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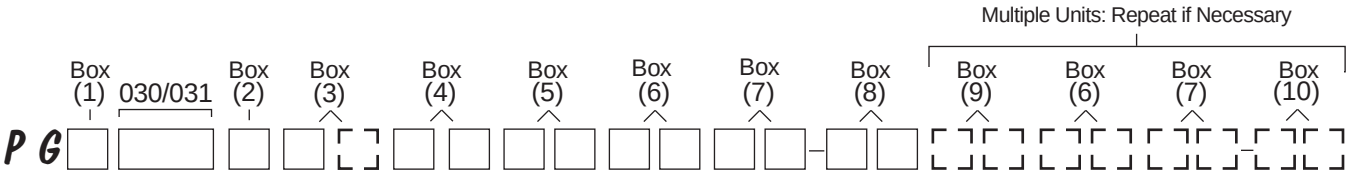
- Speeds to 2400 rpm
- Two-speed valves
- Piggybacks
- Winch motors
- Flow dividers

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA



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 (030 series only)
4	Pump, cw with O.B. bearing
5	Pump, ccw with O.B. bearing
6	Pump, bi-rotational with O.B. bearing (030 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	Pad mount
05	6 bolt flange - 3.25" dia. bolt circle: Pilot Dia. 2 5/8"
42	SAE 4 bolt "B" ANSI 101-4: Pilot Dia. 4"
78	SAE 4 bolt "C" ANSI 127-4: Pilot Dia. 5"
91	030-030, 031-031, & 050-030, 051-031
	for piggyback: Pilot Dia. 4"
92	075-030, 076-031 for piggyback: Pilot Dia. 5"
94	SAE 2 bolt "A" ANSI 82-2: Pilot Dia. 3¼"
96*	SAE 2 bolt "B" ANSI 101-2, **type 2**: Pilot Dia. 4"
*(not available with O.B. bearing)	
97	SAE 2 bolt "B" ANSI 101-2: Pilot Dia. 4"

Box 5 Port End Cover (Rear Ported)

Left	Right	Single	Tandem	Extended Studs
Unported				
-	-	**BE**	**BI**	**BY**
NPT Porting (030 series only)				
¾"	-	**KE**	**KI**	**KY**
-	¾"	**LE**	**LI**	**LY**
¾"	¾"	**ME**	**MI**	**MY**
NPT Porting (030 series only) - Modified Casting*				
1"	1"	**QU**	**QU**	**-**

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 pump inlet 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 5 Port End Cover (Rear Ported) *continued*

Left	Right	Single	Tandem	Extended Studs
O.D.T. Porting				
¾"	-	**CE**	**CI**	**CY**
-	¾"	**DE**	**DI**	**DY**
¾"	¾"	**FE**	**FI**	**FY**
1"	¾"	**GE**	**GI**	**GY**
¾"	1"	**HE**	**HI**	**HY**
O.D.Tube Porting (30 series only)				
1"	1"	**JE**	**JI**	**JY**
O.D.Tube Porting - Modified Casting*				
¾"	-	**CA**	**CU**	**CO**
-	¾"	**DA**	**DU**	**DO**
¾"	¾"	**JA**	**JU**	**BO**
1"	¾"	**KA**	**KU**	**-**
¾"	1"	**LA**	**LU**	**-**
1"	-	**MA**	**MU**	**YO**
-	1"	**RA**	**SU**	**RO**
1"	1"	**ZA**	**ZU**	**ZO**
1 ¼"	1"	**GU**	**GU**	**-**
1"	1 ¼"	**HU**	**HU**	**-**
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**
1"	¾"	**RE**	**RI**	**RY**
¾"	1"	**SE**	**SI**	**SY**

Port End Cover (5) (Side Ported)

Left	Right	Single	Tandem	Extended Studs
O.D.Tube Porting - Modified Casting*				
1 ¼"	1"	**TU**	**TU**	**-**
1"	1 ¼"	**XU**	**XU**	**-**

	CW	CCW	Double
Piggyback Port End - Pump Only			
Type 030-030, 031-031 (double 030-030 only)	**KO**	**LO**	**MO**

***** *Modified PEC casting is for higher pressure/larger port applications.*

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

Box 6 Gear Housing

				030 Series						031 Series				
Housing Code				07	10	12	15	17	20	10	12	15	17	20
Displacement (C.I.R.)				1.48	1.97	2.46	2.96	3.45	3.94	1.97	2.46	2.96	3.45	3.94
Maximum (PSI)				2500	2500	2500	2500	2250	2250	3000	3000	3000	2500	2500
IN	**OUT**	**CW**	**CCW**											
													No Porting	
-	-	**AB**	**AB**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**
													NPT Porting	
½"	-	**IL**	**IM**	**X**	**X**									
-	½"	**IM**	**IL**	**X**	**X**									
½"	½"	**IR**	**IR**	**X**										
¾"	-	**IC**	**ID**		**X**	**X**	**X**	**X**	**X**					
-	¾"	**ID**	**IC**		**X**	**X**	**X**	**X**	**X**					
¾"	¾"	**IF**	**IF**		**X**	**X**	**X**	**X**	**X**					
1"*	¾"	**IJ**	**IG**		**X***	**X**	**X**	**X**						
1 ¼"*	¾"	**IK**	**IH**				**X***	**X**						
1"*	-	**YC**	**YD**		**X***	**X**	**X**	**X**						
-	1"	**YD**	**YC**			**X**	**X**	**X**						
1"	1"	**YF**	**YF**			**X**	**X**	**X**	**X**					
1 ¼"*	1"	**YJ**	**YG**				**X***	**X**	**X**					
1 ¼"*	-	**IA**	**IB**				**X***	**X**	**X**					
-	1 ¼"	**IB**	**IA**					**X**	**X**					
1 ¼"	1 ¼"	**YL**	**YL**					**X**	**X**					
1 ½"*	-	**YA**	**YB**						**X***					
1 ½"*	1 ¼"	**YP**	**YM**						**X***					
													OD Tube Porting	
¾"*	-	**EC**	**ED**		**2000**	**X**	**X**	**X**		**X***	**X**	**X**	**X**	**X**
-	¾"	**ED**	**EC**		**2000**	**X**	**X**	**X**			**X**	**X**	**X**	**X**
¾"	¾"	**EF**	**EF**		**2000**	**X**	**X**	**X**	**X**		**X**	**X**	**X**	**X**
1"*	¾"	**EJ**	**EG**		**2000***	**X***	**X**	**X**	**X**		**X***	**X***		
1 ¼"*	¾"	**EK**	**EH**				**X***	**X***				**X***	**X***	
1 ½"*	¾"	**IP**	**IN**					**X***	**X***				**X***	
7/8"	-	**EZ**	-			**X**								
-	7/8"	**-**	**EZ**			**X**								
1"*	7/8"	**EM**	**EL**			**X***								
1"*	-	**AC**	**AD**		**X***	**2000**	**X**	**X**	**X**	**X***	**X***	**2500**	**X**	**X**
-	1"	**AD**	**AC**			**2000**	**X**	**X**	**X**			**2500**	**X**	**X**
1"	1"	**AF**	**AF**				**X**	**X**	**X**			**2500**	**X**	**X**
1 ¼"*	1"	**AJ**	**AG**				**X***	**X***	**X**			**2500***	**X***	**X***
1 ½"*	1"	**AK**	**AH**					**X***	**X***				**X***	**X***
1 ¼"*	-	**AA**	**AO**				**X***	**2000**				**X***	**X***	
-	1 ¼"	**AO**	**AA**					**2000**						
1 ¼"	1 ¼"	**AL**	**AL**					**2000**	**X**					**X**
1 ½"*	1 ¼"	**AP**	**AM**					**2000***	**X***					**X***
1 ½"*	-	**AE**	**AU**					**X***	**2000**					**X***
-	1 ½"	**AU**	**AE**						**2000**					

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

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

Box 6 Gear Housing *continued*

				030 Series						031 Series				
Housing Code				07	10	12	15	17	20	10	12	15	17	20
Displacement (C.I.R.)				1.48	1.97	2.46	2.96	3.45	3.94	1.97	2.46	2.96	3.45	3.94
Maximum (PSI)				2500	2500	2500	2500	2250	2250	3000	3000	3000	2500	2500
IN	**OUT**	**CW**	**CCW**											
												Split Flange Porting		
¾"	-	**UC**	**UD**		**X**	**X**	**X**	**X**		**X**	**X**	**X**	**X**	
-	¾"	**UD**	**UC**		**X**	**X**	**X**	**X**		**X**	**X**	**X**	**X**	
¾"	¾"	**UF**	**UF**	**X**	**X**		**X**			**X**	**X**	**X**		
1"*	¾"	**UJ**	**UG**		**X**	**X**	**X**	**X**	**X**	**X***	**X**			
1 ¼"*	¾"	**UK**	**UH**			**X**	**X**	**X**	**X**		**X***	**X***		
1"*	-	**OC**	**OD**			**X**	**X**	**X**	**X**	**2500**	**X**	**X**		
-	1"	**OD**	**OC**			**X**	**X**	**X**	**X**	**2500**	**X**	**X**		
1"	1"	**OF**	**OF**		**X**	**X**	**X**	**X**	**X**	**2500**	**X**	**X**	**X**	**X**
1 ¼"*	1"	**OJ**	**OG**			**X***	**X**	**X**	**X**		**X***	**X***	**X**	**X**
1 ½"*	1"	**OK**	**OH**					**X***	**X**				**X***	**X***
1 ¼"*	-	**OA**	**OB**			**2000**	**X**	**X**	**X**		**X***	**2500**		
-	1 ¼"	**OB**	**OA**			**2000**	**X**	**X**	**X**			**2500**		
1 ¼"	1 ¼"	**OL**	**OL**				**X**	**X**	**X**				**X**	**X**
1 ½"*	1 ¼"	**OP**	**OM**					**X***	**X**				**X***	**X***
1 ½"*	-	**OE**	**OU**					**2000**	**X**				**X***	**X**
-	1 ½"	**OU**	**OE**					**2000**	**X**					**X**
												BSPP Porting		
¾"*	-	**YN**	**YQ**	**X***	**X**	**X**	**X**	**X**	**X**	**2500**	**X**	**X**		**X**
-	¾"	**YQ**	**YN**		**X**	**X**	**X**	**X**	**X**	**2500**	**X**	**X**		**X**
¾"	¾"	**YS**	**YS**		**X**	**X**		**X**	**X**	**2500**	**X**	**X**		**X**
1"*	¾"	**YV**	**YT**		**X***	**X***	**X**	**X**		**2500***	**X***	**X***	**X**	**X**
1 ¼"*	¾"	**YW**	**YU**					**X***	**X***			**X***	**X***	
1"*	-	**SL**	**RQ**			**2000**	**X**	**X**	**X**	**X**		**2500**	**X**	
-	1"	**RQ**	**SL**			**2000**	**X**	**X**	**X**			**2500**	**X**	
1"	1"	**MP**	**MP**			**2000**	**X**	**X**					**X**	**X**
1 ¼"*	1"	**IX**	**VY**				**X***	**X***	**X***			**2500***	**X***	
1 ¼"*	-	**NJ**	**UI**					**2000**	**X***					**X***
-	1 ¼"	**UI**	**NJ**					**2000**	**X***					
1 ¼"	1 ¼"	**PF**	**PF**						**2000**					
1 ½"*	1"	**VI**	**HW**										**X***	**X***
										Metric Straight Thread Porting				
¾"*	-	**EN**	**TQ**		**X**	**X**	**X**			**2500**	**X**			
-	¾"	**TQ**	**EN**		**X**	**X**	**X**			**2500**	**X**			
¾"	¾"	**ES**	**ES**		**X**	**X**				**2500**	**X**			
1"*	¾"	**EV**	**ET**		**X***	**X***	**X**	**X**			**X***	**X***		
1 ¼"*	¾"	**EW**	**EU**									**X***		
1"*	-	**NL**	**ER**		**X***		**X**	**X**	**X**			**2500**		
-	1"	**ER**	**NL**				**X**	**X**	**X**			**2500**		
1"	1"	**CM**	**CM**			**2000**	**X**					**2500**		
1 ¼"*	1"	**EX**	**VE**				**X***	**X***	**X***			**2500***		
1 ½"*	1"	**VA**	**HA**				**X***	**X***	**X***				**X***	**X***
1 ¼"	1 ¼"	**PA**	**PA**					**2000**	**X**					
1 ½"	1 ¼"	**SA**	**QA**						**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.

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

Box 6 Gear Housing *continued*

				030 Series					031 Series				
Housing Code				07	10	12	15	17	20	10	12	15	17	20
Displacement (C.I.R.)				1.48	1.97	2.46	2.96	3.45	3.94	1.97	2.46	2.96	3.45	3.94
Maximum (PSI)				2500	2500	2500	2500	2250	2250	3000	3000	3000	2500	2500
IN	**OUT**	**CW**	**CCW**											
										Metric Split Flange Porting				
¾"	-	**VN**	**VQ**		**X**	**X**	**X**	**X**	**X**	**X**	**X**			**X**
-	¾"	**VQ**	**VN**		**X**	**X**	**X**	**X**	**X**	**X**	**X**			**X**
¾"	¾"	**VS**	**VS**		**X**	**X**				**X**				
1"*	¾"	**RV**	**VT**		**X**	**X**	**X**	**X**		**X***	**X**			
1 ¼"*	¾"	**RW**	**RU**			**X***		**X**			**X***	**X***		
1"*	-	**UL**	**UR**		**X**	**X**	**X**	**X**	**X**	**2500**	**X**	**X**		
-	1"	**UR**	**UL**		**X**	**X**	**X**	**X**	**X**	**2500**	**X**	**X**		
1"	1"	**UM**	**UM**			**X**	**X**	**X**			**X**	**X**	**X**	**X**
1 ¼"*	1"	**UX**	**VU**			**X***	**X**	**X**	**X**		**X***	**X***	**X**	**X**
1 ½"*	1"	**VO**	**HO**					**X***	**X**				**X***	**X***
1 ¼"*	-	**NO**	**UO**				**X**		**X**		**X***	**2500**		
-	1 ¼"	**UO**	**NO**				**X**		**X**		**X***	**2500**		
1 ¼"	1 ¼"	**PO**	**PO**				**X**	**X**	**X**				**X**	**X**
1 ½"*	1 ¼"	**SO**	**QO**					**X***	**X**				**X***	**X***
1 ½"*	-	**UY**	**TO**				**X***	**2000**					**X***	**X**
-	1 ½"	**TO**	**UY**					**2000**						**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

030 Series

	Gear Width	in.³/rev.	cm³/rev.	Max Pressure
05	½"	0.99	16.1	2500 psi (172 bar)
07	¾"	1.48	24.2	2500 psi (172 bar)
10	1"	1.97	32.3	2500 psi (172 bar)
12	1 ¼"	2.46	40.4	2500 psi (172 bar)
15	1 ½"	2.96	48.4	2500 psi (172 bar)
17	1 ¾"	3.45	56.5	2250 psi (155 bar)
20	2"	3.94	64.6	2250 psi (155 bar)

031 Series

	Gear Width	in.³/rev.	cm³/rev.	Max Pressure
05	½"	0.99	16.1	3000 psi (207 bar)
07	¾"	1.48	24.2	3000 psi (207 bar)
10	1"	1.97	32.3	3000 psi (207 bar)
12	1 ¼"	2.46	40.4	3000 psi (207 bar)
15	1 ½"	2.96	48.4	3000 psi (207 bar)
17	1 ¾"	3.45	56.5	2500 psi (172 bar)
20	2"	3.94	64.6	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 (two piece only)
12	Keyed shaft .75 dia., .19”X.19”X1.56” key (two piece only)
14	030-030, 031-031 piggyback shaft
22	050-030, 051-031 piggyback shaft
23	075-030, 076-031 piggyback shaft
25	SAE “B” 13 tooth spline .88” dia., ANSI 22-4
30	SAE “B” keyed .88” dia., ¼”X3/8” X 1” key, ANSI 22-1
32	Clutch pump shaft, tapered & keyed, 1:4 taper (single & two piece), #6 woodruff key
43	SAE “B-B” keyed 1.00” dia. ¼”X3/8”X1 ¼” key, ANSI 25-1 modified length
65	SAE “B” 13 tooth spline .875” dia., ANSI 22-4, **type 2** (single & tandem)
66	SAE “B” keyed .88” dia, ¼”X3/8”X1” key, **type 2** (single & tandem)
67	SAE “B-B” keyed 1.00” dia., ¼”X3/8”X1 ¼” key, ANSI 25-1 modified length, **type 2** (single & tandem)
68	6 tooth spline 1.00” dia.
90	SAE “B” keyed w/ 5/8”-18 thread, .875” dia, ANSI 22-2 modified length (single & tandem)
95	SAE “A” 9 tooth spline, .62” dia. ANSI 16-4 (single only)
98	SAE “B-B” 15 tooth spline, 1.00” dia., ANSI 25-4 (single & tandem)

Box 9 Bearing Carriers Pump Only

Orientation
Rear Section

Front Section

Common Inlet Passage

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

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

NPT Porting (030 Series only)

IN	OUT	CW	CCW
1”	-	**TB**	**BT**
1 ¼”	-	**VB**	**BV**
1”	¾”	**TX**	**XT**
1 ¼”	¾”	**VX**	**XV**
1 ¼”	1”	**VZ**	**ZV**
1”	¾”	**TJ**	**JT**
1 ¼”	¾”	**VJ**	**JV**
1 ¼”	1”	**VK**	**KV**
1 ½”	1”	**KW**	**-**
1”	¾”	**ZX**	**XZ**
1”	¾”	**ZS**	**SZ**

ODT Porting

IN	OUT	CW	CCW
1”	-	**CB**	**BC**
1 ¼”	-	**DB**	**BD**
1 ½”	-	**FB**	**BF**
* -	¾”	**-**	**JP**
1”	¾”	**CJ**	**JC**
1 ¼”	¾”	**DJ**	**JD**
1 ½”	¾”	**FJ**	**JF**
1 ¼”	1”	**DK**	**KD**
1 ½”	1”	**FK**	**KF**

** 030 Series only.*

IN	OUT	CW	CCW
1”	¾”	**CR**	**RC**
1 ¼”	¾”	**DR**	**RD**
* 1 ½”	¾”	**FR**	**RF**
1 ¼”	1”	**DS**	**SD**
1 ½”	1”	**FS**	**SF**

** 030 Series only.*

IN	OUT	CW	CCW
1”	¾”	**KJ**	**JK**
1”	¾”	**KX**	**XK**

Split Flange Porting

IN	OUT	CW	CCW
1”	-	**LB**	**BL**
1 ¼”	-	**MB**	**BM**
1 ½”	-	**NB**	**BN**
-	¾”	**BR**	**RB**
1”	¾”	**LR**	**RL**
1 ¼”	¾”	**MR**	**RM**
1 ½”	¾”	**NR**	**RN**
1 ¼”	1”	**MS**	**SM**
1 ½”	1”	**NS**	**SN**
1”	¾”	**LX**	**XL**
1 ¼”	¾”	**MX**	**XM**
* 1 ½”	¾”	**NX**	**XN**
1 ¼”	1”	**MZ**	**ZM**
1 ½”	1”	**NZ**	**ZN**

** 030 Series only.*

IN	OUT	CW	CCW
1”	¾”	**SR**	**RS**
1”	¾”	**RZ**	**ZR**

BSPP Porting

IN	OUT	CW	CCW
1”	-	**CX**	**XC**
1 ¼”	-	**DX**	**XD**
1 ½”	-	**FX**	**XF**
* -	¾”	**-**	**TL**
1”	¾”	**CT**	**TC**
1 ¼”	¾”	**DT**	**TD**
1 ½”	¾”	**FT**	**TF**
1 ¼”	1”	**DV**	**VD**
1 ½”	1”	**FV**	**VF**

** 031 Series only.*

IN	OUT	CW	CCW
1”	¾”	**GM**	**MG**
1 ¼”	¾”	**HM**	**MH**
1 ½”	¾”	**WM**	**MW**
1 ¼”	1”	**HN**	**NH**
1 ½”	1”	**WN**	**NW**
1”	¾”	**PN**	**NP**
1”	¾”	**SX**	**XS**

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

Box 9 Bearing Carriers (Pump Only) - *continued*

Metric Split Flange Porting

IN	OUT	CW	CCW
1"	-	CH	HC
1 ¼"	-	DH	HD
1 ½"	-	FH	HF
-	¾"	PW	WP
1"	¾"	CW	WC
1 ¼"	¾"	DW	WD
1 ½"	¾"	FW	WF
1 ¼"	1"	DC	CD
1 ½"	1"	FC	CF
1"	¾"	GQ	QG
1 ¼"	¾"	HQ	QH
1 ½"	¾"	WQ	QW
1 ¼"	1"	HS	SH
1 ½"	1"	WS	SW
1"	¾"	ST	TS
1"	¾"	PX	XP

Metric Straight Thread Porting

IN	OUT	CW	CCW
1"	-	CL	LC
1 ¼"	-	DL	LD
1 ½"	-	FL	LF
1"	¾"	CZ	ZC
1 ¼"	¾"	DZ	ZD
1 ½"	¾"	FZ	ZF
1 ¼"	1"	DN	ND
1 ½"	1"	FN	NF
1"	¾"	GT	TG
1 ¼"	¾"	HT	TH
1 ¼"	1"	HV	VH
1 ½"	1"	WV	VW
1"	¾"	KL	LK
1"	¾"	PV	VP

Box 9 Bearing Carriers (Motor Only)

No Ports

IN	OUT	DUAL
-	-	B

NPT Porting (030 Series only)

IN	OUT	DUAL
1"	1"	TT
1 ¼"	1 ¼"	VV

ODT Porting

IN	OUT	DUAL
1"	1"	CC
1 ¼"	1 ¼"	BB
1 ½"	1 ½"	FF

Split Flange Porting

IN	OUT	DUAL
1"	1"	LL
1 ¼"	1 ¼"	MM
1 ½"	1 ½"	NN

BSPP Porting

IN	OUT	DUAL
1"	1"	EE
1 ¼"	1 ¼"	GG

Metric Split Flange Porting

IN	OUT	DUAL
1"	1"	RR
1 ¼"	1 ¼"	SS

Metric Straight Thread Porting

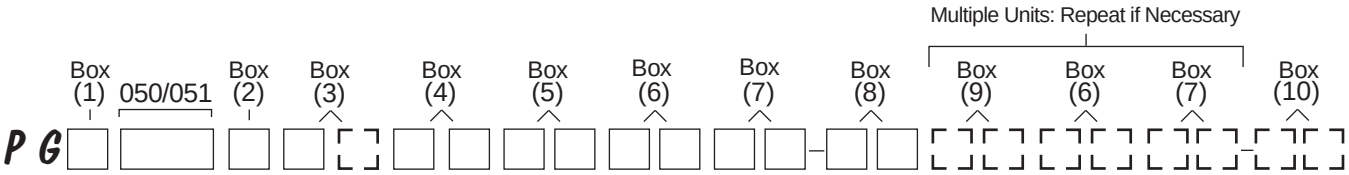
IN	OUT	DUAL
1"	1"	KK
1 ¼"	1 ¼"	JJ

Box 10 Connecting Shaft

For connecting tandem units.

1	Connecting Shaft - Multiple Units
14	Piggyback Pump Connecting Shaft 030 to 030, 031 to 031
22	Piggyback Pump Connecting Shaft 050 to 030, 051 to 031
23	Piggyback Pump Connecting Shaft 075 to 030, 076 to 031

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



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.

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

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**															
																No Porting		
-	-	**AB**	**AB**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**
																NPT Porting		
¾"	-	**IC**	**ID**		**X**	**X**	**X**	**X**										
-	¾"	**ID**	**IC**		**X**	**X**	**X**	**X**										
¾"	¾"	**IF**	**IF**		**X**	**X**	**X**	**X**	**X**									
1"*	¾"	**IJ**	**IG**		**X***	**X**	**X**	**X**	**X**									
1 ¼"	¾"	**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 ¼"*	1"	**YJ**	**YG**				**X***	**X**	**X**	**X**	**X**							
1 ¼"*	-	**IA**	**IB**				**X***	**X***	**X**	**X**	**X**							
-	1 ¼"	**IB**	**IA**						**X**	**X**	**X**							
1 ¼"	1 ¼"	**YL**	**YL**					**X**	**X**	**X**	**X**							
1 ½"	1"	**YK**	**YH**								**X**							
1 ½"*	1 ¼"	**YP**	**YM**						**X***	**X**	**X**							
1 ½"*	1 ½"	**YR**	**YR**								**X**							
																OD Tube Porting		
¾"*	-	**EC**	**ED**		**2000**	**2000**	**X**	**X**	**X**			**X***	**X***		**X**			
-	¾"	**ED**	**EC**		**2000**	**2000**	**X**	**X**	**X**						**X**			
¾"	¾"	**EF**	**EF**		**2000**	**2000**	**X**	**X**	**X**					**2500**	**X**			
1"*	¾"	**EJ**	**EG**		**2000***	**2000***	**X***	**X***	**X**						**X***			
1 ¼"*	¾"	**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 ¼"*	1"	**AJ**	**AG**				**2000***	**X***	**X***	**X**	**X**					**X***		
1 ½"*	1"	**AK**	**AH**					**X***	**X***	**X***						**X***		**X**
1 ¼"*	-	**AA**	**AO**				**X***	**X***	**X***	**X**	**X**			**X***	**X***		**X**	**X**
-	1 ¼"	**AO**	**AA**							**X**	**X**						**X**	**X**
1 ¼"	1 ¼"	**AL**	**AL**						**X**	**X**	**X**						**X**	**X**
1 ½"*	1 ¼"	**AP**	**AM**						**X***	**X***	**X**						**X**	**X**
1 ½"*	-	**AE**	**AU**						**X***	**X***						**X***	**X**	**X**
-	1 ½"	**AU**	**AE**						**X***	**X**								**X**
1 ½"	1 ½"	**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.

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

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**												***Split Flange Porting***		
¾"	-	**UC**	**UD**	**X**	**X**	**X**	**X**				**2500**	**X**					
-	¾"	**UD**	**UC**	**X**	**X**	**X**	**X**				**2500**	**X**					
¾"	¾"	**UF**	**UF**					**X**		**X**	**2500**	**X**	**X**				
1"*	¾"	**UJ**	**UG**	**X***	**X***	**X**	**X**	**X**			**2500***	**X***	**X***				
1 ¼"*	¾"	**UK**	**UH**									**X***	**X***	**X***			
1"*	-	**OC**	**OD**	**2000**	**X***	**X**	**X**	**X**	**X**	**X**		**X***	**2500**	**X**	**X**		
-	1"	**OD**	**OC**	**2000**	**2000**	**X**	**X**	**X**	**X**	**X**			**2500**	**X**	**X**		
1"	1"	**OF**	**OF**		**2000**	**X**	**X**	**X**	**X**	**X**			**2500**	**X**	**X**	**X**	**X**
1 ¼"*	1"	**OJ**	**OG**		**2000***	**X***	**X***	**X**	**X**	**X**			**2500***	**X***	**X***		
1 ½"*	1"	**OK**	**OH**			**X***	**X***	**X***	**X**	**X**			**2500***	**X***	**X***	**X**	**X**
1 ¼"*	-	**OA**	**OB**		**X***	**X***	**X***	**X**	**X**	**X**		**X***	**X***				
-	1 ¼"	**OA**	**OB**					**X**	**X**	**X**							
1 ¼"	1 ¼"	**OL**	**OL**			**2000**	**X**	**X**	**X**	**X**					**X**	**X**	**X**
1 ½"*	1 ¼"	**OP**	**OM**			**2000***	**X***	**X***	**X**	**X**					**X***	**X**	**X**
1 ½"*	-	**OE**	**OU**			**X***	**X***	**X**		**X**			**X***	**X***	**X***		
-	1 ½"	**OU**	**OE**					**X**		**X**							
1 ½"	1 ½"	**OR**	**OR**					**X**	**X**	**X**						**X**	**X**
2"*	-	**XB**	**ZB**												**X***		
2"*	1"	**UQ**	**UB**					**X***	**X***	**X***							
2"*	1 ¼"	**OQ**	**ON**					**X***	**X***	**X***					**X***	**X***	**X***
2"*	1 ½"	**OV**	**OS**					**X***	**X***	**X***						**X***	**X***
2"	2"	**OX**	**OX**							**X***							
																BSPP Porting	
¾"*	-	**YN**	**YQ**	**X***	**X**	**X**	**X**				**X***	**2500**	**2500**	**X**	**X**		
-	¾"	**YQ**	**YN**		**X**	**X**	**X**					**2500**	**2500**	**X**	**X**		
¾"	¾"	**YS**	**YS**	**2000**	**X**	**X**				**X**		**2500**	**2500**		**X**		
1"*	¾"	**YV**	**YT**	**2000***	**X***	**X***	**X***	**X**				**2500***	**2500***	**X***	**X***		
1 ¼"*	¾"	**YW**	**YU**			**X***											
1"*	-	**SL**	**RQ**		**X***	**X***	**X***	**X**	**X**	**X**	**X***	**X***	**X***	**X***	**X***	**X**	**X**
-	1"	**RQ**	**SL**					**X**	**X**	**X**					**2500**	**X**	**X**
1"	1"	**MP**	**MP**			**2000**	**X**	**X**		**X**					**2500**		**X**
1 ¼"*	1"	**IX**	**VY**			**2000***	**X***	**X***	**X**	**X**					**2500***	**X**	**X**
1 ½"*	1"	**VI**	**HW**							**X**					**X***		**X***
1 ¼"*	-	**NJ**	**UI**				**X***		**X**	**X**						**X**	**X**
-	1 ¼"	**UI**	**NJ**						**X**	**X**						**X**	**X**
1 ¼"	1 ¼"	**PF**	**PF**						**X**	**X**						**X**	**X**
1 ½"*	1 ¼"	**IS**	**IQ**							**X**							**X***
														Metric Straight Thread			
¾"*	-	**EN**	**TQ**	**X***	**X**	**X**	**X**				**X***	**X***	**X***	**X**			
-	¾"	**TQ**	**EN**		**X**	**X**	**X**					**2500**	**2500**	**X**			
¾"	¾"	**ES**	**ES**	**2000**	**X**							**2500**					
1"*	¾"	**EV**	**ET**	**2000***	**X***	**X***	**X**	**X**				**2500***	**2500***	**X***	**X***		
1"*	-	**NL**	**ER**			**X***	**X**	**X**	**X**				**X***	**X***	**X***	**X**	
-	1"	**ER**	**NL**				**X**	**X**	**X**								
1"	1"	**CM**	**CM**			**2000**	**X**	**X**						**2500**			
1 ¼"*	-		**UA**					**X***	**X**	**X**					**X***	**X**	**X**
1 ¼"*	1"	**EX**	**VE**			**2000***	**X***	**X***	**X**	**X**				**2500***	**X***	**X**	**X**
1 ¼"	1 ¼"	**PA**	**PA**					**X***	**X**	**X**						**X**	**X**
1 ½"*	1 ¼"	**SA**	**QA**					**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 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***		
¾"*	-	**VN**	**VQ**	**X**	**X**	**X**	**X**				**X***						
-	¾"	**VQ**	**VN**	**X**	**X**	**X**	**X**										
1"*	¾"	**RV**	**VT**	**X***	**X***	**X**	**X**	**X**			**2500***	**X***					
1 ¼"*	¾"	**RW**	**RU**									**X***	**X***				
1"*	-	**UL**	**UR**		**X***	**X**	**X**	**X**	**X**			**X***	**X***	**X**	**X**		
-	1"	**UR**	**UL**			**X**	**X**	**X**	**X**					**X**	**X**		
1"	1"	**UM**	**UM**		**2000**	**X**	**X**	**X**	**X**				**2500**	**X**	**X**	**X**	
1 ¼"*	1"	**UX**	**VU**		**2000***	**X***	**X***	**X**	**X**	**X**			**2500***	**X***	**X***		
1 ½"*	1"	**VO**	**HO**			**X***	**X***	**X***					**2500***	**X***	**X***	**X**	
1 ¼"*	-	**NO**	**UO**				**X***	**X**	**X**	**X**		**X***	**X***				
-	1 ¼"	**UO**	**NO**					**X**	**X**	**X**							
1 ¼"	1 ¼"	**PO**	**PO**			**2000**	**X**	**X**	**X**	**X**					**X**	**X**	**X**
1 ½"*	1 ¼"	**SO**	**QO**			**2000***	**X***	**X***	**X**	**X**					**X***	**X**	**X**
1 ½"*	-	**UY**	**TO**			**X***	**X***		**X**					**X***	**X***		
-	1 ½"	**TO**	**UY**						**X**								
1 ½"	1 ½"	**SV**	**SV**					**X**	**X**	**X**						**X**	**X**
2"*	1 ¼"	**JM**	**JR**					**X***	**X***	**X***					**X***	**X***	**X***
2"*	1 ½"	**JQ**	**JN**					**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.	cm³/rev.	Max Pressure
05	½"	1.28	20.9	2500 psi (172 bar)
07	¾"	1.91	31.3	2500 psi (172 bar)
10	1"	2.55	41.8	2500 psi (172 bar)
12	1 ¼"	3.19	52.2	2500 psi (172 bar)
15	1 ½"	3.83	62.7	2500 psi (172 bar)
17	1 ¾"	4.46	73.1	2000 psi (138 bar)
20	2"	5.10	83.6	2000 psi (138 bar)
22	2 ¼"	5.74	94.0	2000 psi (138 bar)
25	2 ½"	6.38	104.5	2000 psi (138 bar)

051 Series

	Gear Width	in.³/rev.	cm³/rev.	Max Pressure
05	½"	1.28	20.9	3000 psi (207 bar)
07	¾"	1.91	31.3	3000 psi (207 bar)
10	1"	2.55	41.8	3000 psi (207 bar)
12	1 ¼"	3.19	52.2	3000 psi (207 bar)
15	1 ½"	3.83	62.7	3000 psi (207 bar)
17	1 ¾"	4.46	73.1	3000 psi (207 bar)
20	2"	5.10	83.6	2500 psi (172 bar)
22	2 ¼"	5.74	94.0	2500 psi (172 bar)
25	2 ½"	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 ½" 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. ¼"X3/8"X1 ¼" 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., ¼"X3/8"X1 ¼" key, ANSI 25-1, **type 2** (single & tandem)
73	SAE "C" keyed 1.25" dia., 5/16" x 15/32" x 2 ¼" key, extended length (two-piece only)
98	SAE "B-B" 15 tooth spline, 1.00" dia., ANSI 25-4 (single & tandem)

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

Box 9 Bearing Carriers Pump Only

Common Inlet Passage

IN	OUT	CW	CCW
		C	D
-	-	A	U
* -	-	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 ¼”	-	VB	BV
1 ½”	-	WB	BW
1”	¾”	TX	XT
1 ¼”	¾”	VX	XV
1 ½”	¾”	WX	XW
1 ¼”	1”	VZ	ZV
1 ½”	1”	WZ	ZW
1”	¾”	TJ	JT
1 ¼”	¾”	VJ	JV
1 ¼”	1”	VK	KV
1 ½”	1”	WK	KW
1”	¾”	ZX	XZ

ODT Porting

1”	-	CB	BC
1 ¼”	-	DB	BD
1 ½”	-	FB	BF
-	¾”	PJ	*JP
1”	¾”	CJ	JC
1 ¼”	¾”	DJ	JD
1 ½”	¾”	FJ	JF
1 ¼”	1”	DK	KD
1 ½”	1”	FK	KF

* 051 Series only.

1”	¾”	CR	RC
1 ¼”	¾”	DR	RD
* 1 ½”	¾”	FR	RF
1 ¼”	1”	DS	SD
1 ½”	1”	FS	SF
-	1”	HZ	*ZH

* 051 Series only.

1”	¾”	KJ	JK

Split Flange Porting

IN	OUT	CW	CCW
1”	-	LB	BL
1 ¼”	-	MB	BM
1 ½”	-	NB	BN
-	¾”	BR	RB
1”	¾”	LR	RL
1 ¼”	¾”	MR	RM
1 ½”	¾”	NR	RN
1 ¼”	1”	MS	SM
1 ½”	1”	NS	SN
1”	¾”	LX	XL
1 ¼”	¾”	MX	XM
1 ¼”	1”	MZ	ZM
1 ½”	1”	NZ	ZN
1”	¾”	SR	RS

BSPP Porting

1”	-	CX	XC	
1 ¼”	-	DX	XD	
1 ½”	-	FX	XF	
* -	¾”	-	TL	
1”	¾”	CT	TC	
1 ¼”	¾”	DT	TD	
1 ½”	¾”	FT	TF	
1 ¼”	1”	DV	VD	
1 ½”	1”	FV	VF	

* 050 Series only.

1”	¾”	GM	MG
1 ¼”	¾”	HM	MH
1 ½”	¾”	WM	MW
1 ¼”	1”	HN	NH
1 ½”	1”	WN	NW
1”	¾”	PN	NP

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”	-	CH	HC
1 ¼”	-	DH	HD
1 ½”	-	FH	HF
-	¾”	PW	WP
1”	¾”	CW	WC
1 ¼”	¾”	DW	WD
1 ½”	¾”	FW	WF
1 ¼”	1”	DC	CD
1 ½”	1”	FC	CF
1”	¾”	GQ	QG
1 ¼”	¾”	HQ	QH
1 ½”	¾”	WQ	QW
1 ¼”	1”	HS	SH
1 ½”	1”	WS	SW
1”	¾”	ST	TS

Metric Straight Thread Porting

IN	OUT	CW	CCW
1”	-	CL	LC
1 ¼”	-	DL	LD
1 ½”	-	FL	LF
1”	¾”	CZ	ZC
1 ¼”	¾”	DZ	ZD
1 ½”	¾”	FZ	ZF
1 ¼”	1”	DN	ND
1 ½”	1”	FN	NF
1”	¾”	GT	TG
1 ¼”	¾”	HT	TH
1 ½”	¾”	WT	TW
1 ¼”	1”	HV	VH
1 ½”	1”	WV	VW
1”	¾”	KL	LK

Box 9 Bearing Carriers (Motor Only)

No Ports

IN	OUT	DUAL
		B
-	-	B

NPT Porting (030 Series only)

1”	1”	TT
1 ¼”	1 ¼”	VV
1 ½”	1 ½”	WW

ODT Porting

1”	1”	CC
1 ¼”	1 ¼”	BB
1 ½”	1 ½”	FF

Split Flange Porting

1”	1”	LL
1 ¼”	1 ¼”	MM
1 ½”	1 ½”	NN

BSPP Porting

IN	OUT	DUAL
1”	1”	EE
1 ¼”	1 ¼”	GG

Metric Split Flange Porting

1”	1”	RR
1 ¼”	1 ¼”	SS

Metric Straight Thread Porting

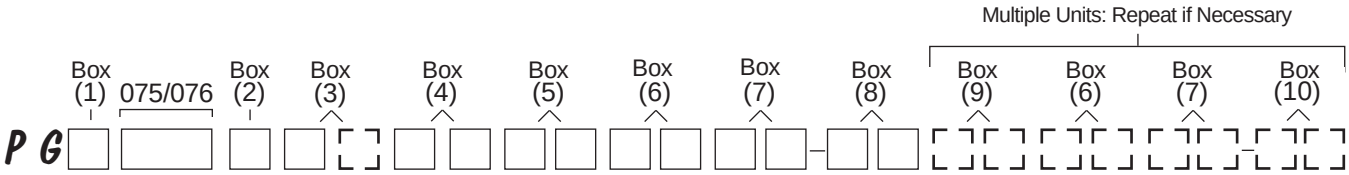
1”	1”	KK
1 ¼”	1 ¼”	JJ

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

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA



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 (075 series only)
4	Pump, cw with O.B. bearing
5	Pump, ccw with O.B. bearing
6	Pump, bi-rotational w/ O.B. bearing (075 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 only)*

42	SAE 4 bolt "B" ANSI 101-4: Port dia. 4"
78	SAE 4 bolt "C" ANSI 127-4: Port dia. 5"
80	SAE 4 bolt "D" ANSI 152-4: Port dia. 6"
98	SAE 2 bolt "C" ANSI 127-2: Port dia. 5"

(Rear Ported)

		CW	CCW	Double
Unported				
-	-	**BE**	**BI**	**BY**
O.D.T. Porting				
1"	1"	**JE**	**JI**	**JY**
Metric Straight Thread				
1"	1"	**TE**	**TI**	**TY**
Piggyback Port End - Pump Only				
Type 075-050, 076-051 & 075-030, 076-031		**KO**	**LO**	**MO**

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.

Gear Housing (6)

				075 Series								075/076 Series		076 Series					
Housing Code				07	10	12	15	17	20	22	25	27	30	10	12	15	17	20	22	25
Displacement (C.I.R.)				3.07	4.1	5.12	6.15	7.17	8.2	9.22	10.25	11.275	12.3	4.1	5.12	6.15	7.17	8.2	9.22	10.25
Maximum (PSI)				2500	2500	2500	2500	2500	2500	2250	2250	2000	2000	3000	3000	3000	3000	2500	2500	2500
IN	**OUT**	**CW**	**CCW**																***No Porting***	
-	-	**AB**	**AB**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	
																			NPT Porting	
¾"	-	**IC**	**ID**	**X**	**X**	**X**	**X**													
-	¾"	**ID**	**IC**	**X**	**X**	**X**	**X**													
1"	¾"	**IJ**	**IG**		**X**	**X**	**X**													
1"	-	**YC**	**YD**			**X**	**X**		**X**											
-	1"	**YD**	**YC**			**X**	**X**		**X**											
1"	1"	**YF**	**YF**		**X**	**X**														
1 ¼"	1"	**YJ**	**YG**			**X**	**X**													
1 ¼"	1 ¼"	**YL**	**YL**			**X**	**X**	**X**												
																			OD Tube Porting	
¾"	-	**EC**	**ED**	**X**	**X**	**X**	**X**													
1"*	¾"	**EJ**	**EG**	**X***		**X**	**X**							**2500***						
1 ¼"*	¾"	**EK**	**EH**		**X***										**X***					
1"*	-	**AC**	**AD**			**X**	**X**								**2500**	**X**				
-	1"	**AD**	**AC**			**X**	**X**								**2500**	**X**				
1"	1"	**AF**	**AF**		**2000**	**X**	**X**	**X**	**X**						**2500**	**X**				
1 ¼"*	1"	**AJ**	**AG**		**2000***	**X***									**2500***	**X***				
1 ½"*	1"	**AK**	**AH**				**X***									**X***				
1 ¼"	1 ¼"	**AL**	**AL**				**2000**	**2000**	**2000**	**X**	**X**		**X/-**							
1 ½"*	1 ¼"	**AP**	**AM**				**2000***	**2000***												
1 ½"	1 ½"	**AR**	**AR**							**X**	**X**									
																			Split Flange Porting	
¾"	-	**UC**	**UD**	**X**	**X**	**X**	**X**													
-	¾"	**UD**	**UC**	**X**	**X**	**X**	**X**													
1"	¾"	**UJ**	**UG**	**X**	**X**	**X**	**X**	**X**	**X**					**X**						
1"	-	**OC**	**OD**		**X**	**X**	**X**	**X**	**X**											
-	1"	**OD**	**OC**		**X**	**X**	**X**	**X**	**X**											
1"	1"	**OF**	**OF**		**X**	**X**	**X**	**X**	**X**		**X**	**X/-**	**X/-**	**X**	**X**	**X**	**X**	**X**		
1 ¼"*	1"	**OJ**	**OG**		**2000***	**X**	**X**	**X**	**X**	**X**	**X**		**-/X**	**X***	**X***					
1 ½"*	1"	**OK**	**OH**			**X***	**X***	**X***	**X**	**X**					**X***	**X***	**X***			
1 ¼"	-	**OA**	**OB**			**X**	**X**	**X**	**X**	**X**	**X**									
-	1 ¼"	**OB**	**OA**			**X**	**X**	**X**	**X**	**X**	**X**									
1 ¼"	1 ¼"	**OL**	**OL**		**2000**	**X**	**X**	**X**	**X**	**X**	**X**	**X/X**	**X/X**		**2500**	**X**	**X**	**X**	**X**	
1 ½"*	1 ¼"	**OP**	**OM**			**X***	**X***	**X***	**X**	**X**	**X**	**X**	**X**		**2500***	**X***	**X***	**X**		
1 ½"	-	**OE**	**OU**						**X**	**X**	**X**	**X**	**X**					**X**		
-	1 ½"	**OU**	**OE**						**X**	**X**	**X**	**X**	**X**					**X**		
1 ½"	1 ½"	**OR**	**OR**				**2000**	**2000**	**X**	**X**	**X**	**X/X**	**X**					**X**	**X**	
2"*	1"	**UQ**	**-**						**X***											
2"*	1 ¼"	**OQ**	**ON**					**X***	**X***	**X***	**X***	**X/X**	**X/X**				**X***	**X***	**X***	
2"*	1 ½"	**OV**	**OS**					**2000***	**X***	**X***	**X***	**X/X**	**X/X**					**X***	**X***	
2"	2"	**OX**	**OX**								**X**	**X/X**	**X/X**							
2 ½"*	1 ¼"	**US**	**UN**								**X***									
2 ½"*	1 ½"	**OW**	**OT**								**X***	**X*/X***	**X*/X***						**X***	
2 ½"*	2"	**OZ**	**OY**										**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.

Gear Housing (6) *continued*

				075 Series								075/076 Series		076 Series						
Housing Code				07	10	12	15	17	20	22	25	27	30	10	12	15	17	20	22	25
Displacement (C.I.R.)				3.07	4.1	5.12	6.15	7.17	8.2	9.22	10.25	11.275	12.3	4.1	5.12	6.15	7.17	8.2	9.22	10.25
Maximum (PSI)				2500	2500	2500	2500	2500	2500	2250	2250	2000	2000	3000	3000	3000	3000	2500	2500	2500
IN	**OUT**	**CW**	**CCW**																	
																				BSPP Porting
¾"	-	**YN**	**YQ**	**X**	**X**	**X**	**X**		**X**					**X**	**X**	**X**				
-	¾"	**YQ**	**YN**	**X**	**X**	**X**	**X**		**X**					**X**	**X**	**X**				
¾"	¾"	**YS**	**YS**											**X**						
1"*	¾"	**YV**	**YT**	**X***	**X***	**X**	**X**		**X**					**X***	**X***	**X**		**X**		
1"*	-	**SL**	**RQ**			**X**	**X**	**X**	**X**		**X**			**X***	**X***	**X**			**X**	
-	1"	**RQ**	**SL**			**X**	**X**	**X**	**X**		**X**					**X**			**X**	
1"	1"	**MP**	**MP**		**2000**	**X**	**X**								**2500**	**X**	**X**			
1 ¼"*	1"	**IX**	**VY**		**2000***	**X***	**X***		**X**	**X**			**X/-**		**2500***	**X***		**X***		
1 ¼"*	-	**NJ**	**UI**			**X***													**X**	
-	1 ¼"	**UI**	**NJ**																**X**	
1 ¼"	1 ¼"	**PF**	**PF**				**2000**	**2000**	**X**		**X**		**-/X**					**X**	**X**	
1 ½"*	1"	**VI**	**HW**				**X***	**X***	**X***							**X***				
1 ½"*	1 ¼"	**IS**	**IQ**				**2000***	**2000***	**X***									**X***		
																				Metric Straight Thread
¾"	-	**EN**	**TQ**	**X**	**X**	**X**	**X**							**X**	**X**	**X**				
-	¾"	**TQ**	**EN**	**X**	**X**	**X**	**X**							**X**	**X**	**X**				
1"*	¾"	**EV**	**ET**	**X***		**X**	**X**								**X***	**X**				
1"*	-	**NL**	**ER**												**X***	**X**				
-	1"	**ER**	**NL**			**X**	**X**								**2500**	**X**				
1"	1"	**CM**	**CM**		**2000**	**X**	**X**								**2500**	**X**				
																				Metric Split Flange Porting
¾"	-	**VN**	**VQ**	**X**	**X**	**X**	**X**													
-	¾"	**VQ**	**VN**	**X**	**X**	**X**	**X**													
1"	¾"	**RV**	**VT**	**X**	**X**	**X**	**X**	**X**	**X**					**X**						
1"	-	**UL**	**UR**		**X**	**X**	**X**	**X**	**X**											
-	1"	**UR**	**UL**		**X**	**X**	**X**	**X**	**X**											
1"	1"	**UM**	**UM**		**X**	**X**	**X**	**X**	**X**					**X**	**X**	**X**	**X**			
1 ¼"*	1"	**UX**	**VU**		**X***	**X**	**X**	**X**	**X**	**X**	**X**			**X***	**X***					
1 ½"*	1"	**VO**	**HO**			**X***	**X***								**X***	**X***				
1 ¼"	-	**NO**	**UO**			**X**	**X**	**X**	**X**	**X**	**X**									
-	1 ¼"	**UO**	**NO**			**X**	**X**	**X**	**X**	**X**	**X**									
1 ¼"	1 ¼"	**PO**	**PO**			**X**	**X**	**X**	**X**	**X**	**X**	**X/X**	**X/X**		**2500**	**X**	**X**	**X**	**X**	
1 ½"*	1 ¼"	**SO**	**QO**				**X***	**X***	**X**	**X**	**X**	**X**	**X**		**2500***	**X***	**X***			
1 ½"*	-	**UY**	**TO**						**X**	**X**	**X**	**X**	**X**				**X***	**X**		
-	1 ½"	**TO**	**UY**						**X**	**X**	**X**	**X**	**X**					**X**		
1 ½"	1 ½"	**SV**	**SV**					**2000**	**X**	**X**	**X**	**X/X***	**X/X***					**X**	**X**	
2"*	1 ¼"	**JM**	**JR**					**X***	**X***	**X***	**X***	**-/X***	**-/X***				**X***	**X***	**X***	
2"*	1 ½"	**JQ**	**JN**					**2000***	**X***	**X***	**X***	**X/X**	**X/X**					**X***	**X***	
2"	2"	**JS**	**JS**									**-/X**	**X/X**							
2 ½"*	1 ½"	**LJ**	**JX**									**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.

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

Box 7 Gear Width

075 Series

	Gear Width	in.³/rev.	cm³/rev.	Max Pressure
07	¾"	3.08	50.4	2500 psi (172 bar)
10	1"	4.10	67.2	2500 psi (172 bar)
12	1 ¼"	5.13	84.0	2500 psi (172 bar)
15	1 ½"	6.15	100.8	2500 psi (172 bar)
17	1 ¾"	7.18	117.6	2500 psi (172 bar)
20	2"	8.20	134.4	2500 psi (172 bar)
22	2 ¼"	9.23	151.2	2250 psi (155 bar)
25	2 ½"	10.25	168.0	2250 psi (155 bar)
27	2 ¾"	11.28	184.8	2000 psi (138 bar)
30	3"	12.30	201.6	2000 psi (138 bar)

076 Series

	Gear Width	in.³/rev.	cm³/rev.	Max Pressure
07	¾"	3.08	50.4	3000 psi (207 bar)
10	1"	4.10	67.2	3000 psi (207 bar)
12	1 ¼"	5.13	84.0	3000 psi (207 bar)
15	1 ½"	6.15	100.8	3000 psi (207 bar)
17	1 ¾"	7.18	117.6	3000 psi (207 bar)
20	2"	8.20	134.4	2500 psi (172 bar)
22	2 ¼"	9.23	151.2	2500 psi (172 bar)
25	2 ½"	10.25	168.0	2500 psi (172 bar)
27	2 ¾"	11.28	184.8	2000 psi (138 bar)
30	3"	12.30	201.6	2000 psi (138 bar)

Box 8 Shaft Type

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 ½" key, ANSI 32-1

Box 9 Bearing Carriers (Pump Only)

Common Inlet Passage

	-	-	**C**	**D**
*	-	-	**A**	**U**

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

Box 9 Bearing Carriers (Motor Only)

No Ports

IN	OUT	DUAL
-	-	**B**

ODT Porting

1"	1"	**CC**
1 ¼"	1 ¼"	**BB**

Split Flange Porting

*	1"	1"	**LL**
	1 ¼"	1 ¼"	**MM**
	1 ½"	1 ½"	**NN**

* 076 Series only.

BSPP Porting

1"	1"	**EE**
1 ¼"	1 ¼"	**GG**
1 ½"	1 ½"	**HH**

Metric Split Flange Porting

IN	OUT	DUAL
1"	1"	**RR**
1 ¼"	1 ¼"	**SS**
1 ½"	1 ½"	**XX**

Metric Straight Thread Porting

1"	1"	**KK**
1 ¼"	1 ¼"	**JJ**
1 ½"	1 ½"	**ZZ**

Box 10 Connecting Shaft

For connecting tandem units.

1	Connecting Shaft - Multiple Units
23	Piggyback Pump Connecting Shaft for 075 to 075

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

Notes

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

Performance Data

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 the oil reservoir temperature at 120°F and viscosity 150 SSU at 100°F. Requests for more specific data should be directed to our Product Support Department through our sales representatives.

PGP030/031

Flow data at 2500 PSI (172 bar) unless noted.

Speed RPM	Gear Width Output *(gpm/lpm)*				
	1"	1 ¼"	1 ½"	1 ¾"	2"
900	**6.5**	**8**	**10**	**12**	**13.5**
	24.5	30	38	45.5	51
1200	**9**	**11.5**	**14**	**16**	**18.5**
	34	43.5	53	60.5	70
1500	**11.5**	**14.5**	**17.5**	**20.5**	**23.5**
	43.5	55	66	77.5	89
1800	**14**	**18**	**21.5**	**25**	**29**
	53	68	81.5	94.5	110
2100	**16.5**	**21**	**25**	**29.5**	**34**
	62.5	79.5	94.5	112	129
2400	**19**	**24**	**29**	**34**	**39**
	72	91	110	129	148

PGP050/051

Flow data at 2500 PSI (172 bar) unless noted.

Speed RPM	Gear Width Output *(gpm/lpm)*						
	1"	1 ¼"	1 ½"	1 ¾"	2"	2 ¼"	2 ½"
900	**8.5**	**10.5**	**13**	**15**	**17.5**	**20**	**22**
	32	39.5	49	57	66	75.5	83.5
1200	**12**	**15**	**18**	**21**	**24**	**27**	**30**
	45.5	57	68	79.5	91	102	114
1500	**15**	**19**	**23**	**27**	**31**	**35**	**39**
	57	72	87	102	117	132	148
1800	**18**	**23**	**27.5**	**32.5**	**37.5**	**42**	**47**
	68	87	104	123	142	159	178
2100	**21.5**	**27**	**32.5**	**38.5**	**44**	**49.5**	**55**
	81.5	102	123	146	167	187	208
2400	**25**	**31**	**37**	**44**	**51**	**57**	**63.5**
	94.5	117	140	167	193	216	240

PGP075/076

Flow data at 2500 PSI (172 bar) unless noted.

Speed RPM	Gear Width Output *(gpm/lpm)*								
	1"	1 ¼"	1 ½"	1 ¾"	2"	2 ¼"	2 ½"	2 ¾"*	3"*
900	**11.5**	**15.5**	**19.5**	**23**	**27**	**30.5**	**34.5**	**38**	**42**
	43.5	58.5	74	87	102	115.5	130.5	144	159
1200	**17**	**22**	**27**	**32**	**37.5**	**42**	**48**	**52.5**	**58**
	64.5	83.5	102	121	142	159	182	199	220
1500	**22**	**29**	**35.5**	**41.5**	**48**	**54.5**	**61**	**67**	**74**
	83.5	110	134	157	182	206	231	254	280
1800	**27.5**	**35.5**	**43.5**	**51**	**59**	**66**	**74**	**81.5**	**90**
	104	134	165	193	223	250	280	308	341
2100	**33**	**42**	**51.5**	**60**	**69.5**	**78**	**87**	**96.5**	**106**
	125	159	195	227	263	295	329	365	401
2400	**38**	**49**	**59.5**	**70**	**80**	**90**	**101**	**111**	**122**
	144	185	225	265	303	341	382	420	462

*Flow data at 2000 PSI (138 bar) rated pressure.

PL FACTOR

Each section of a multiple pump or motor 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 or from the unit is limited by the physical strength of the shaft. This limit is defined as a "PL" factor; "P" being the operating pressure and "L" the summation of gear widths.

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.

PGP030/031

Input power at 2500 PSI (172 bar) unless noted.

Speed RPM	Gear Width Inches (HP/kW)				
	1"	1 ¼"	1 ½"	1 ¾"	2"
900	**14**	**17**	**20**	**23**	**25**
	11	13	15	17	19
1200	**19**	**22**	**26**	**30**	**33**
	14	17	20	22	25
1500	**23**	**28**	**33**	**37**	**42**
	17	21	24	27	31
1800	**27**	**33**	**39**	**44**	**50**
	20	25	29	33	37
2100	**32**	**38**	**45**	**51**	**58**
	24	29	34	38	43
2400	**36**	**44**	**51**	**58**	**66**
	26	33	38	43	49

PGP050/051

Input power at 2500 PSI (172 bar) unless noted.

Speed RPM	Gear Width Inches (HP/kW)						
	1"	1 ¼"	1 ½"	1 ¾"	2"	2 ¼"	2 ½"
900	**19**	**22**	**26**	**30**	**34**	**38**	**42**
	14	17	20	23	26	29	32
1200	**25**	**30**	**34**	**40**	**45**	**51**	**56**
	18	22	26	30	34	38	42
1500	**31**	**37**	**43**	**50**	**56**	**63**	**69**
	23	27	32	37	42	47	51
1800	**36**	**44**	**51**	**59**	**67**	**75**	**82**
	27	33	38	44	50	56	61
2100	**42**	**51**	**60**	**69**	**78**	**87**	**96**
	31	38	44	51	58	65	72
2400	**47**	**57**	**68**	**79**	**89**	**99**	**110**
	35	43	51	59	66	74	82

PGP075/076

Input power at 2500 PSI (172 bar) unless noted.

Speed RPM	Gear Width Inches (HP/kW)								
	1"	1 ¼"	1 ½"	1 ¾"	2"	2 ¼"	2 ½"	2 ¾"*	3"*
900	**26**	**32**	**39**	**45**	**51**	**58**	**64**	**57**	**62**
	19	24	29	34	38	43	48	42	46
1200	**35**	**43**	**52**	**60**	**69**	**78**	**86**	**76**	**83**
	26	32	39	45	51	58	64	57	62
1500	**44**	**55**	**65**	**76**	**87**	**98**	**109**	**96**	**105**
	33	41	49	57	65	73	81	72	78
1800	**53**	**66**	**79**	**93**	**106**	**119**	**132**	**116**	**127**
	39	49	59	69	79	89	99	87	95
2100	**62**	**77**	**93**	**108**	**124**	**139**	**154**	**136**	**148**
	46	58	69	81	92	104	115	101	111
2400	**71**	**88**	**106**	**124**	**141**	**159**	**176**	**155**	**169**
	53	66	79	92	105	118	132	116	126

*Input power at 2000 PSI (138 bar).

Pressure X Total Gear Width = PL

PL MUST NOT EXCEED NUMBER SHOWN FOR APPROPRIATE SHAFT.

PL Chart		
Shaft Style	**Integral Shaft & Gear**	**Two Piece Style**
030/031		
SAE "A" Spline	2,600	2,600
SAE "B" Spline	7,900	5,850
SAE "B" Key	4,850	4,850
SAE "BB" Spline	12,150	--
SAE "BB" Key	7,250	5,850
SAE "C" Spline	--	5,850
Connecting Shaft	--	5,850
050/051		
SAE "B" Spline	6,100	6,100
SAE "B-B" Spline	9,400	--
SAE "B-B" Key	5,600	5,600
SAE "C" Spline	12,900	8,500
SAE "C" Key	10,900	8,500
Connecting Shaft	--	8,500
075/076		
SAE "C" Single	8,000	8,000
SAE "C" Tandem	12,500	--
SAE "C" Key	7,500	7,500
Connecting Shaft	--	10,000

PGM030

Motor performance data at 2000 PSI (138 bar).

Speed RPM	1" Gear			1 ½" Gear			2" Gear		
	Output		Input	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	**550**	**7**	**9**	**870**	**11**	**13**	**1150**	**14.5**	**17**
	62	5	34	98.5	8	49	130	11	64.5
1200	**550**	**10.5**	**13**	**870**	**16.5**	**18**	**1150**	**22**	**23.5**
	62	8	49	98.5	12.5	68	130	16.5	89
1600	**550**	**14**	**16**	**860**	**22**	**23**	**1140**	**29**	**30.5**
	62	10.5	60.5	97	16.5	87	129	21.5	115
2000	**550**	**17.5**	**19.5**	**850**	**27**	**28**	**1125**	**36**	**37**
	62	13	74	96	20	106	127	27	140

U.S./*Metric* Torque: **In.-lbs.** / Nm Flow: **GPM** / LPM Power: **HP** / kW

PGM050

Motor performance data at 2000 PSI (138 bar).

Speed RPM	1" Gear			1 ½" Gear			2" Gear			2½" Gear		
	Output		Input	Output		Input	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	**670**	**8.5**	**10.5**	**1070**	**13.5**	**15.5**	**1450**	**18**	**21**	**1850**	**23.5**	**26**
	75.5	6.5	39.5	121	10	58.5	164	13.5	79.5	209	17.5	98.5
1200	**680**	**13**	**15.5**	**1075**	**20.5**	**22.5**	**1450**	**27.5**	**30.5**	**1840**	**35**	**37.5**
	77	9.5	58.5	121.5	15	85	164	20.5	115	208	26	142
1600	**670**	**17**	**20**	**1045**	**26.5**	**30**	**1440**	**36.5**	**40**	**1750**	**44.5**	**49.5**
	75.5	12.5	75.5	118	20	114	162.5	27	151	197.5	33	187
2000	**660**	**21**	**25**	**1030**	**32.5**	**37**	**1415**	**44.5**	**49**	**1720**	**54.5**	**61.5**
	74.5	15.5	94.5	116.5	24	140	160	33	185	194.5	40.5	233

U.S./*Metric* Torque: **In.-lbs.** / Nm Flow: **GPM** / LPM Power: **HP** / kW

PGM075

Motor performance data at 2000 PSI (138 bar).

Speed RPM	1" Gear			1 ½" Gear			2" Gear			2½" Gear			3" Gear		
	Output		Input	Output		Input	Output		Input	Output		Input	Output		Input
	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	**1050**	**13.5**	**20.5**	**1650**	**21**	**28**	**2200**	**28**	**35.5**	**2875**	**36.5**	**43**	**3625**	**46**	**50.5**
	118.5	10	77.5	186.5	15.5	106	248.5	21	134	325	27	163	409.5	34.5	191
1200	**1025**	**19.5**	**27.5**	**1600**	**30.5**	**38**	**2200**	**42**	**49.5**	**2850**	**54**	**60.5**	**3575**	**68**	**72**
	116	14.5	104	181	22.5	144	248.5	31.5	187	322	40.5	229	404	50.5	273
1600	**1000**	**25.5**	**34**	**1575**	**40**	**49**	**2175**	**55**	**64**	**2800**	**71**	**78.5**	**3500**	**89**	**93**
	113	19	129	178	30	185	245.5	41	242	316.5	53	297	395.5	66.5	352
2000	**950**	**30**	**41.5**	**1550**	**49**	**59**	**2175**	**67.5**	**78**	**2750**	**87**	**96.5**	**3425**	**109**	**114**
	107.5	22.5	157	175	36.5	223	245.5	50.5	295	310.5	65	365	387	81.5	431

U.S./*Metric* Torque: **In.-lbs.** / Nm Flow: **GPM** / LPM Power: **HP** / kW

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

PGM031

Motor performance data at 2500 PSI (172 bar).

Speed	1" Gear			1 ½" Gear			2" Gear		
	Output		Input	Output		Input	Output		Input
RPM	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	**675**	**8.5**	**9**	**1035**	**13**	**13**	**1385**	**17.5**	**17**
	76.5	6.5	34	117	9.5	49	156.5	13	64.5
1200	**685**	**13**	**13**	**1055**	**20**	**18**	**1410**	**27**	**23.5**
	77.5	9.5	49	119	15	68	159.5	20	89
1600	**680**	**17.5**	**16**	**1030**	**26**	**23**	**1390**	**35**	**30.5**
	77	13	60.5	116.5	19.5	87	157	26	115
2000	**660**	**21**	**19.5**	**1010**	**32**	**28**	**1370**	**43.5**	**37**
	74.5	15.5	74	114	24	106	155	32.5	140

U.S./*Metric* Torque: **In.-lbs.** / Nm Flow: **GPM** / LPM Power: **HP** / kW

PGM051

Motor performance data at 2500 PSI (172 bar).

Speed	1" Gear			1 ½" Gear			2" Gear			2½" Gear		
	Output		Input	Output		Input	Output		Input	Output		Input
RPM	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	**825**	**10.5**	**10.5**	**1310**	**16.5**	**15.5**	**1810**	**23**	**21**	**2330**	**29.5**	**26**
	93	8	39.5	148	12.5	58.5	204.5	17	79.5	263.5	22	98.5
1200	**850**	**16**	**15.5**	**1340**	**25.5**	**22.5**	**1830**	**35**	**30.5**	**2340**	**44.5**	**37.5**
	96	12	58.5	151.5	19	85	207	26	115	264.5	33	142
1600	**830**	**21**	**20**	**1330**	**34**	**30**	**1805**	**46**	**40**	**2300**	**58.5**	**49.5**
	94	15.5	75.5	150.5	25.5	114	204	34.5	151	260	43.5	187
2000	**800**	**25.5**	**25**	**1290**	**41**	**37**	**1770**	**56**	**49**	**2250**	**71.5**	**61.5**
	90.5	19	94.5	146	30.5	140	200	42	185	254	53.5	233

U.S./*Metric* Torque: **In.-lbs.** / Nm Flow: **GPM** / LPM Power: **HP** / kW

PGM076

Motor performance data at 2500 PSI (172 bar) unless noted.

Speed	1" Gear			1 ½" Gear			2" Gear			2½" Gear			3" Gear*		
	Output		Input	Output		Input	Output		Input	Output		Input	Output		Input
RPM	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow	Torque	Power	Flow
800	**1410**	**18**	**20.5**	**2140**	**27**	**28**	**2875**	**36.5**	**35.5**	**3650**	**46.5**	**43**	**3625**	**46**	**50.5**
	159.5	13.5	77.5	242	20	106	325	27	134	412.5	34.6	163	409.5	34.5	191
1200	**1400**	**26.5**	**27.5**	**2140**	**41**	**38**	**2870**	**54.5**	**49.5**	**3650**	**69.5**	**60.5**	**3575**	**68**	**72**
	158	20	104	242	30.5	144	324.5	40.5	187	412.5	52	229	404	50.5	273
1600	**1375**	**35**	**34**	**2110**	**53.5**	**49**	**2830**	**72**	**64**	**3600**	**91.5**	**78.5**	**3500**	**89**	**93**
	155.5	26	129	238.5	40	185	319.5	53.5	242	406.5	68	297	395.5	66.5	352
2000	**1350**	**43**	**41.5**	**2090**	**66.5**	**59**	**2800**	**89**	**78**	**3500**	**111**	**96.5**	**3425**	**109**	**114**
	152.5	32	157	236	49.5	223	316.5	66.5	295	395.5	83	365	387	81.5	431

*Motor performance data at 2000 PSI (138 bar).

U.S./*Metric* Torque: **In.-lbs.** / Nm Flow: **GPM** / LPM Power: **HP** / kW

Parker Hannifin Corporation
Gear Pump Division
Kings Mountain, North Carolina USA

Pumps and Motors (see drawings on page 23)

Model		A[1]	Bs[2][3]	Bm[3][4]	C[5][6]	D[5][7]	E[3]	F[2]	G	H	I	J	K	L[3][8]	M[4]
030/031	**in.**	**1.62**	**5.44**	**8.69**	**5.44**	**5.88**	**2.94**	**0.75**	**1.75**	**2.50**	**0.88**	**2.69**	**5.38**	**3.31**	**3.25**
	mm.	41.3	138.1	220.7	138.1	149.2	74.6	19.1	44.5	63.5	22.2	68.3	136.5	84.1	82.6
050/051	**in.**	**2.19**	**5.88**	**9.50**	**5.44**	**5.88**	**3.38**	**0.75**	**1.75**	**2.88**	**1.00**	**3.00**	**6.00**	**3.75**	**3.62**
	mm.	55.6	149.2	241.3	138.1	149.2	85.7	19.1	44.5	73.0	25.4	76.2	152.4	95.3	92.1
075/076	**in.**	**2.19**	**6.75**	**10.75**	**7.75**	**7.94**	**3.75**	**1.00**	**2.00**	**3.00**	**1.25**	**3.94**	**7.88**	**4.75**	**4.00**
	mm.	55.6	171.5	273.1	196.9	201.6	95.3	25.4	50.8	76.2	31.8	100.0	200.0	120.7	101.6

***U.S.**/Metric*

NOTES

1. Dimension will vary with shaft type
2. Dimension + gear width
3. Dimension is for Type 1 SEC. For Type 2: subtract 1.12" (28.4 mm) for 030/031: subtract 1.00" (25.4 mm) for 050/051.
4. Dimension + total gear width
5. Dimension will vary with port type. Subtract 0.25" (6.4 mm) for S.F. ports.
6. For 2.25" and 2.50" gear width in 050/051 series, dimention is 6.75" (171.5 mm).
7. Dimension is for wide B-C. Narrow B-C dimensions: 5.00" (127 mm) for 030/031 and 050/051; 7.19" (182.6 mm) for 075/076.
8. Dimension + ½ front section gear width

Approximate Weight: Pumps and Motors

Single Unit

Model	Unit Weight	1"	1 ¼"	1 ½"	1 ¾"	2"	2 ¼"	2 ½"	2 ¾"	3"
030/031	**Pounds**	**33**	**34**	**35**	**36**	**37**	**-**	**-**	**-**	**-**
	KG	15	15.5	16	16.5	17	-	-	-	-
050/051	**Pounds**	**37**	**38.5**	**40**	**41.5**	**43**	**48.5**	**50**	**-**	**-**
	KG	17	17.5	18	19	19.5	22	22.5	-	-
075/076	**Pounds**	**72**	**75**	**77**	**80**	**82**	**85**	**87**	**90**	**92**
	KG	33	34	35	36	37	39	40	41	42

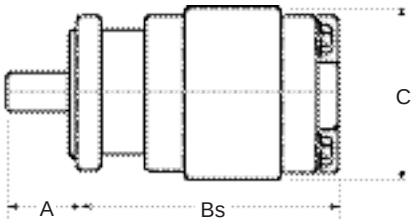
Approximate Weight: Pumps and Motors

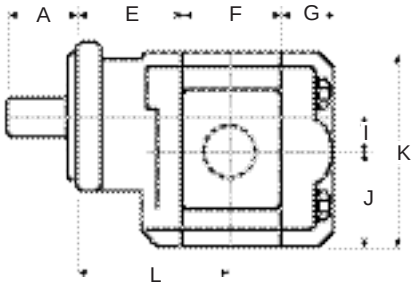
Multiple Unit*

Model	Add per gear section	1"	1 ¼"	1 ½"	1 ¾"	2"	2 ¼"	2 ½"	2 ¾"	3"
030/031	**Pounds**	**27**	**28**	**29**	**31**	**32**	**-**	**-**	**-**	**-**
	KG	12	12.5	13	14	14.5	-	-	-	-
050/051	**Pounds**	**31**	**32.5**	**34**	**35.5**	**37**	**42.5**	**44**	**-**	**-**
	KG	14	15	15.5	16	17	19	20	-	-
075/076	**Pounds**	**59**	**62**	**64**	**67**	**69**	**72**	**74**	**77**	**79**
	KG	27	28	29	31	32	33	34	35	36

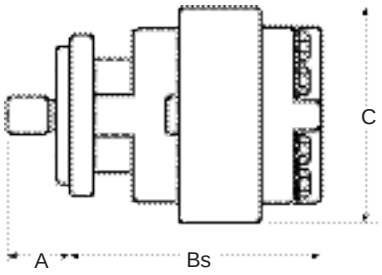
*Determine the approximate weight from Single Unit chart and add weight of each additional assembly from this chart.

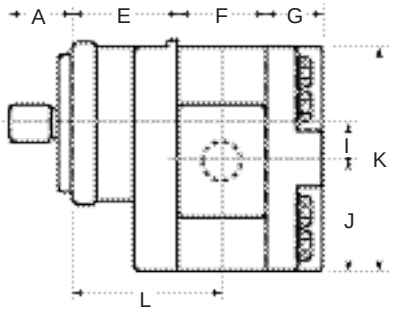
Single Unit - 030/031/050/051



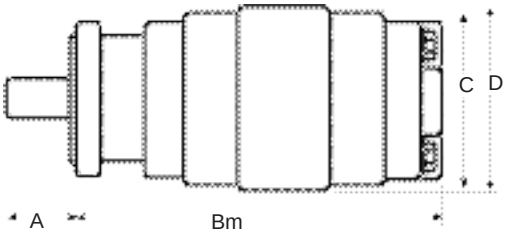


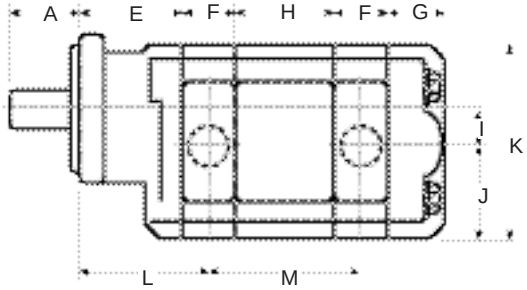
Single Unit - 075/076



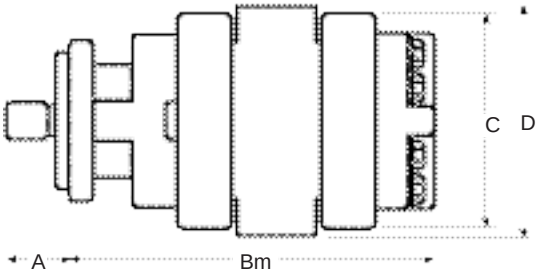


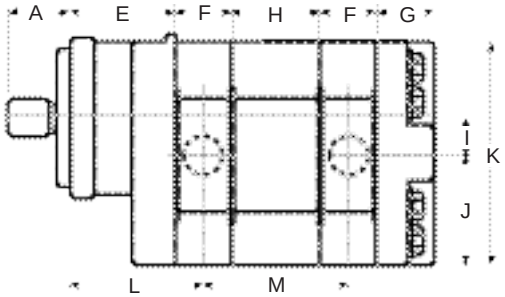
Multiple Unit - 030/031/050/051





Multiple Unit - 075/076





Offer of Sale

The items described in this document are hereby offered for sale at prices to be established by Parker Hannifin Corporation, its subsidiaries and its authorized distributors. This offer and its acceptance by any customer ("Buyer") shall be governed by all of the following Terms and Conditions. Buyer's order for any item described in its document, when communicated to Parker Hannifin Corporation, its subsidiary or an authorized distributor ("Seller") verbally or in writing, shall constitute acceptance of this offer.

1. Terms and Conditions of Sale: All descriptions, quotations, proposals, offers, acknowledgments, acceptances and sales of Seller's products are subject to and shall be governed exclusively by the terms and conditions stated herein. Buyer's acceptance of any offer to sell is limited to these terms and conditions. Any terms or conditions in addition to, or inconsistent with those stated herein, proposed by Buyer in any acceptance of an offer by Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the contract between Buyer and Seller unless expressly accepted in writing by Seller. Seller's acceptance of any offer to purchase by Buyer is expressly conditional upon Buyer's assent to all the terms and conditions stated herein, including any terms in addition to, or inconsistent with those contained in Buyer's offer. Acceptance of Seller's products shall in all events constitute such assent.

2. Payment: Payment shall be made by Buyer net 30 days from the date of delivery of the items purchased hereunder. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer's receipt of the shipment.

3. Delivery: Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

4. Warranty: Seller warrants that the item sold hereunder shall be free from defects in material or workmanship for a period of 547 days from the date of shipment to Buyer, or 3,000 hours of use, whichever expires first. **THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED.**

NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON ITEMS BUILT OR ACQUIRED WHOLLY OR PARTIALLY, TO BUYERS DESIGNS OR SPECIFICATIONS.

5. Limitation of Remedy: SELLER'S LIABILITY ARISING FROM OR IN ANY WAY CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF THE ITEMS SOLD OR REFUND OF THE PURCHASE PRICE PAID BY BUYER, AT SELLER'S SOLE OPTION IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL OR SEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST PROFITS ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ITEM SOLD HEREUNDER, WHETHER ALLEGED TO ARISE FROM BREACH OF CONTRACT, EXPRESS OR IMPLIED WARRANTY, OR IN TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, FAILURE TO WARN OR STRICT LIABILITY.

6. Changes, Reschedules and Cancellations: Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.

7. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

8. Buyer's Property: Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

9. Taxes: Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

10. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter 'Intellectual Property Rights'). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said time so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

11. Force Majeure: Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter 'Events of Force Majeure'). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.

12. Entire Agreement/Governing Law: The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.

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Parker Hannifin Corporation

About Parker Hannifin Corporation

Parker Hannifin is a leading global motion-control company dedicated to delivering premier customer service. A Fortune 500 corporation listed on the New York Stock Exchange (PH), our components and systems comprise over 1,400 product lines that control motion in some 1,000 industrial and aerospace markets. Parker is the only manufacturer to offer its customers a choice of hydraulic, pneumatic, and electromechanical motion-control solutions. Our Company has the largest distribution network in its field, with over 7,500 distributors serving more than 350,000 customers worldwide.

Parker's Charter

To be a leading worldwide manufacturer of components and systems for the builders and users of durable goods. More specifically, we will design, market and manufacture products controlling motion, flow and pressure. We will achieve profitable growth through premier customer service.

Product Information

North American customers seeking product information, the location of a nearby distributor, or repair services will receive prompt attention by calling the Parker Product Information Center at our toll-free number: 1-800-C-PARKER (1-800-272-7537). In the UK, a similar service is available by calling 0500-103-203.

The Aerospace Group is a leader in the development, design, manufacture and servicing of control systems and components for aerospace and related high-technology markets, while achieving growth through premier customer service.

The Climate & Industrial Controls Group designs, manufactures and markets system-control and fluid-handling components and systems to refrigeration, air-conditioning and industrial customers worldwide.

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The Seal Group designs, manufactures and distributes industrial and commercial sealing devices and related products by providing superior quality and total customer satisfaction.

The Hydraulics Group designs, produces and markets a full spectrum of hydraulic compnents and systems to builders and users of industrial and mobile machinery and equipment.

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