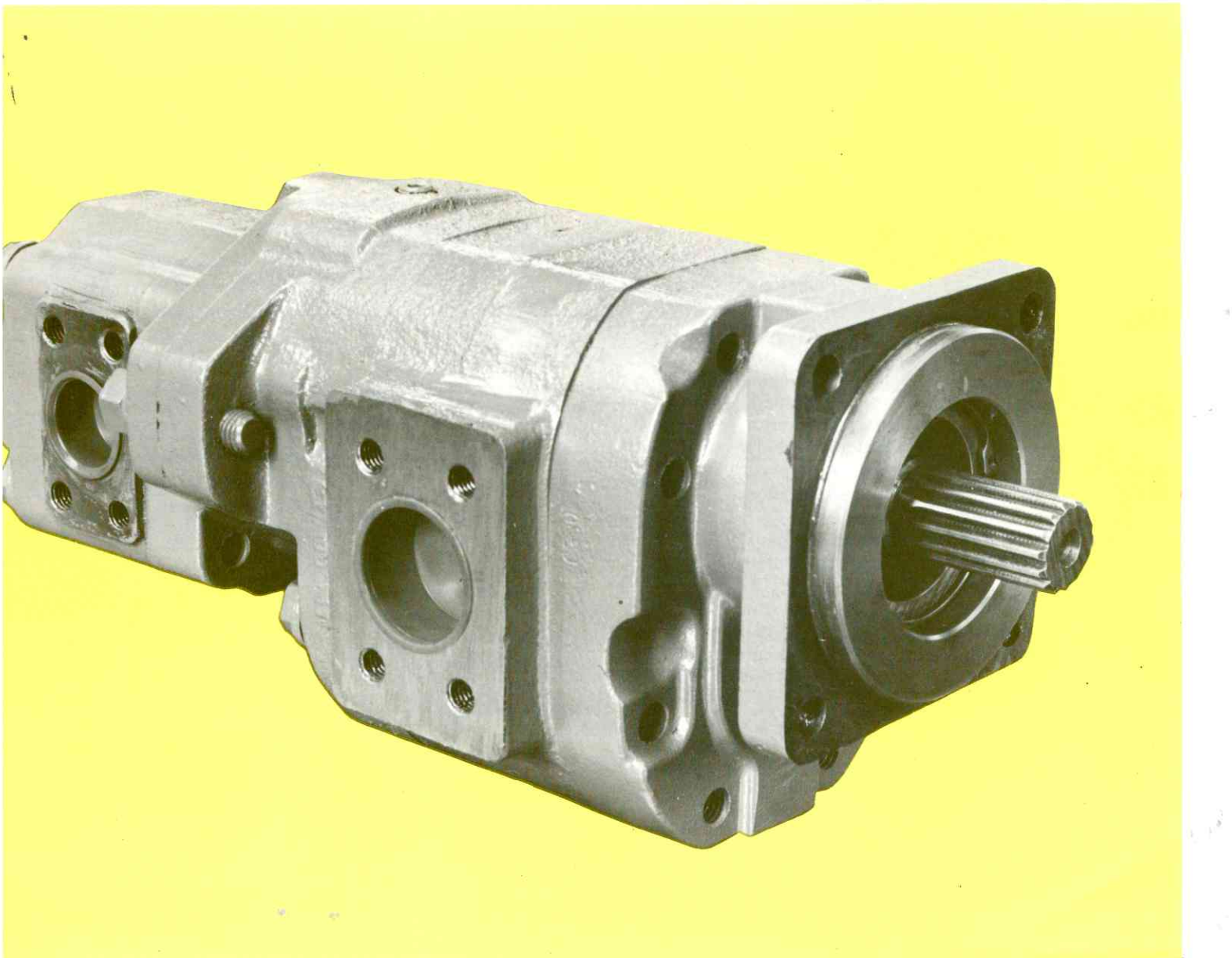
PIGGYBACK PUMPS

- Multiple output supply with one pump mounting.
- Improved pumping efficiency over a wider output range.
- No mixing of fluids from separate reservoirs.

Commercial Intertech



piggyback pumps performance/dimensional data

Piggyback, multiple pumping assemblies combine separate hydraulic pumps on one common drive shaft. These units are assembled with standard P30, P31, P50, P51, P75 or P76 pumps as the front section, and the same or smaller series pumps as the second, or even third, sections. Fluid from separate reservoirs, as well as different types of hydraulic fluids, can be pumped with piggyback units without intermixing. This allows the designer more freedom with reservoir capacities and oil specifications.

The piggyback configuration also provides a much greater range of pump outputs than is available from standard multiple units by allowing the pump sections to be sized for optimum efficiency. For example, a main system might require 100 gpm as a primary supply and 15 gpm as a secondary supply. The ideal assembly would be a P75 with a 3" gear producing 100 gpm at 2000 rpm and a P30 with a 1" gear supplying 15 gpm at the same speed.

Applications for piggyback pumps are usually found where the range of pump outputs is not within conventional multiple pump capabilities. Examples are main and steering systems, main system and torque convertor supercharging, steering system and torque convertor supplies. Other applications include those using two reservoirs or a reservoir and a sump which require the separation of pumped fluids.

Some of the best uses for piggyback pumps are on utility vehicles, articulated front-end loaders and shovel loaders.

Piggyback construction adds versatility to flow divider and pressure intensifier applications. See our Flow Divider Bulletin H-57.

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

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; oil viscosity rating 150 SSU at 100°F. Requests for more specific data should be directed to our Technical Service Department through our sales representatives.

multiple units

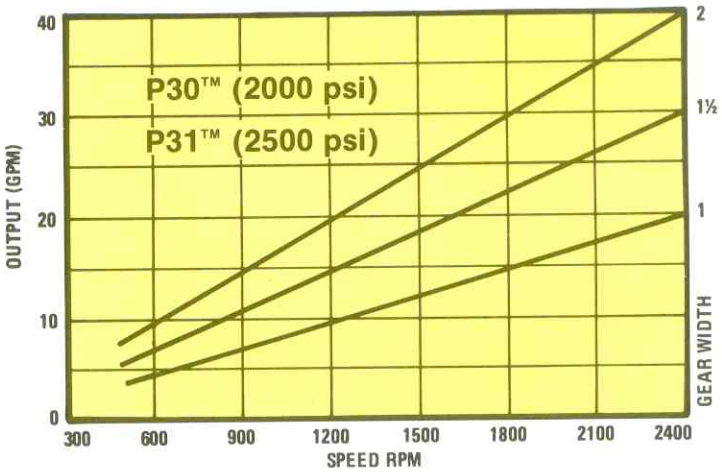
Each section of a multiple pump should be regarded as a single pumping unit with corresponding delivery and power input requirements. Since the entire input is fed through the drive shaft, the power delivered to or from the pump is limited by the physical strength of the shaft.

To assure proper application, all piggyback assemblies should be reviewed with Commercial's Product Support Department in Youngstown, OH.

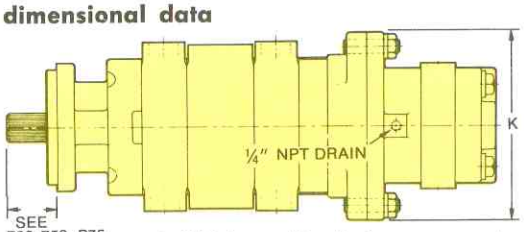
GEAR DISPLACEMENT

Shown in cubic inches per inch of gear width per revolution.

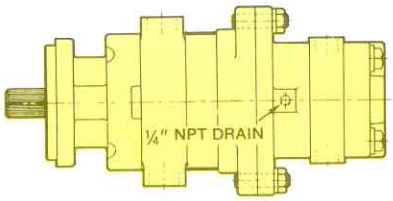
P30/P31	1.97
P50/P51	2.55
P75/P76	4.10



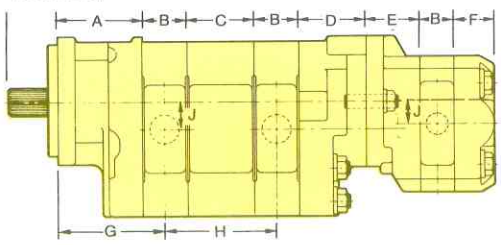
dimensional data

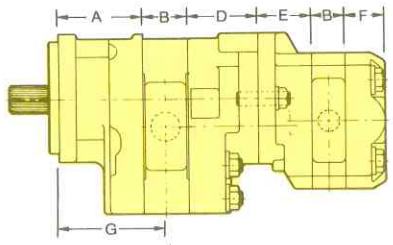


SEE P30, P50, P75 or P31, P51, P76 CATALOG.



Available for special applications upon request. Not a stock item.





P30/50/75 Catalog H-60

P31/51/76 Catalog H-58

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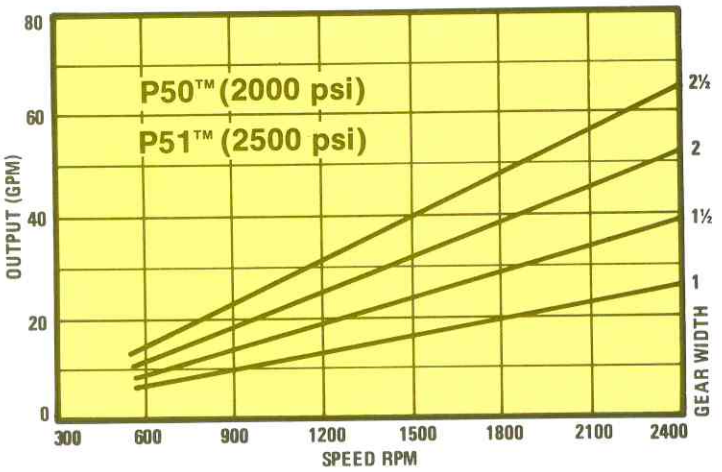
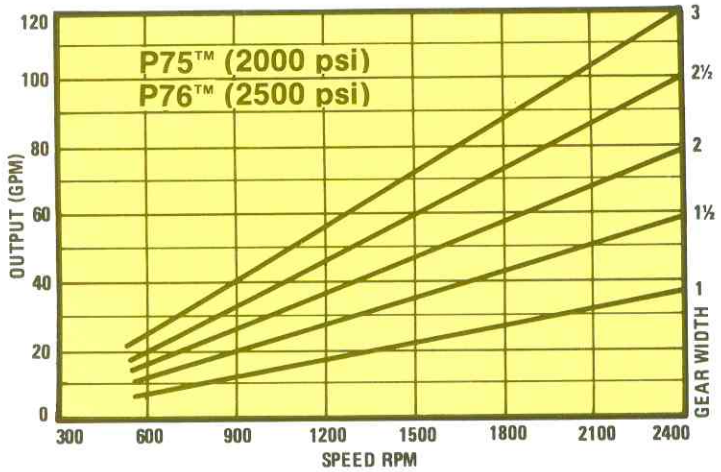
coding



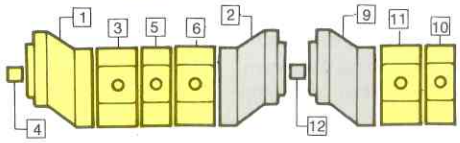


dimensional data shown in inches (mm)

Dimension	MODEL P30/P31	P50/P51	P75/P76
A Type I	2.94 (74.6)	3.38 (85.7)	3.75 (95.2)
A Type II	1.81 (46.0)	2.38 (60.3)	N/A
B	.75 (19.0) + gear width	.75 (19.0) + gear width	1.00 (25.4) + gear width
C	2.50 (63.5)	2.88 (73.2)	3.00 (76.2)
D	2.00 (50.8)	2.25 (57.2)	2.75 (69.8)
E	1.75 (44.4)	2.25 (57.2)	
F	1.75 (44.4)	1.75 (44.4)	
G Type I	3.31 (84.1) + ½ gear width	3.75 (95.2) + ½ gear width	4.25 (107.9) + ½ gear width
G Type II	2.19 (55.9) + ½ gear width	2.75 (69.8) + ½ gear width	N/A
H	3.25 (82.5) + ½ width of both gears	3.62 (92.1) + ½ width of both gears	4.00 (101.6) + ½ width of both gears
J	.88 (22.2)	1.00 (25.4)	1.25 (31.8)
K	6.88 (174.6) For P30/30, P50/30, and P50/50 Assemblies	6.88 (174.6)	8.38 (212.7) For P75/50 and P75/30 Assemblies

N/A = Not Available

Coding Piggyback Assemblies



Piggyback assemblies are coded starting from the shaft end cover the same as Commercial's multiple pumps. Component codes are found in the P30, P50 and P75 catalogs. Codes shown in this catalog pertain to the special piggyback components.

Code Explanation

P50B 142 KO OV22-7 COJ12-1/P30A 191 BE OJ15-22

Underlined codes are special piggyback components.

Pump—P
Series—50
Model—B

1. Shaft End Cover 142
2. Port End Cover KO
3. Gear Housing OV22
4. Drive Shaft 7
5. Bearing Carrier C
6. Gear Housing OJ12
7. Connecting Shaft—1 (not shown)
8. Piggyback Pump—P Series 30, Model A
9. Shaft End Cover 191
10. Port End Cover BE
11. Gear Housing OJ 15
12. Piggyback Shaft—22

Piggyback Component	Assembly Model 30/30 31/31	50/30 51/31	75/30 76/31	50/50 51/51	75/50 76/51
Port End Cover					
CW	KO	KO	KO	KO	KO
CCW	LO	LO	LO	LO	LO
BOTH	MO	MO	MO	MO	MO
Shaft End Cover Second Unit					
CW	191	191	192	191	192
CCW	291	291	292	291	292
BOTH	391	391	392	391	392
Piggyback Shaft	14	22	23	22	23

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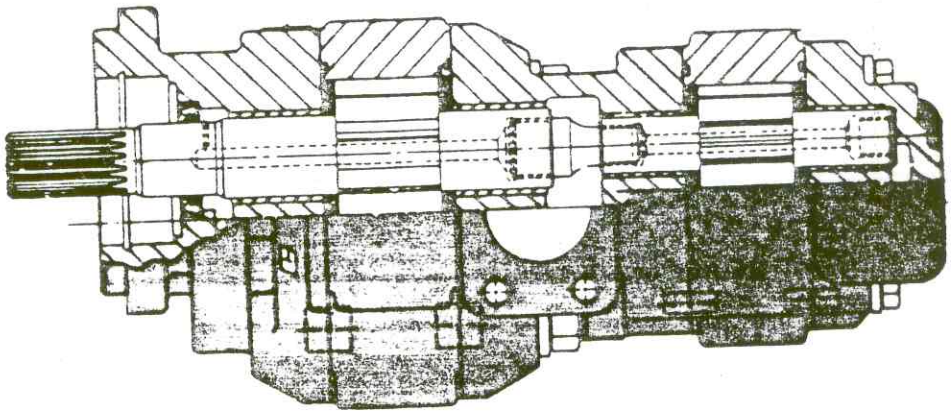


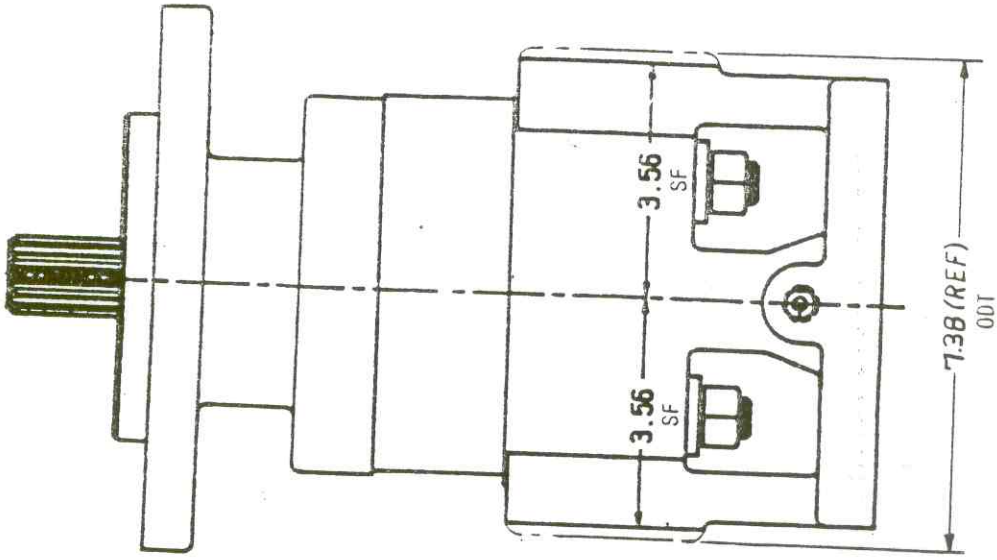
Phase II Piggyback Distributor Information

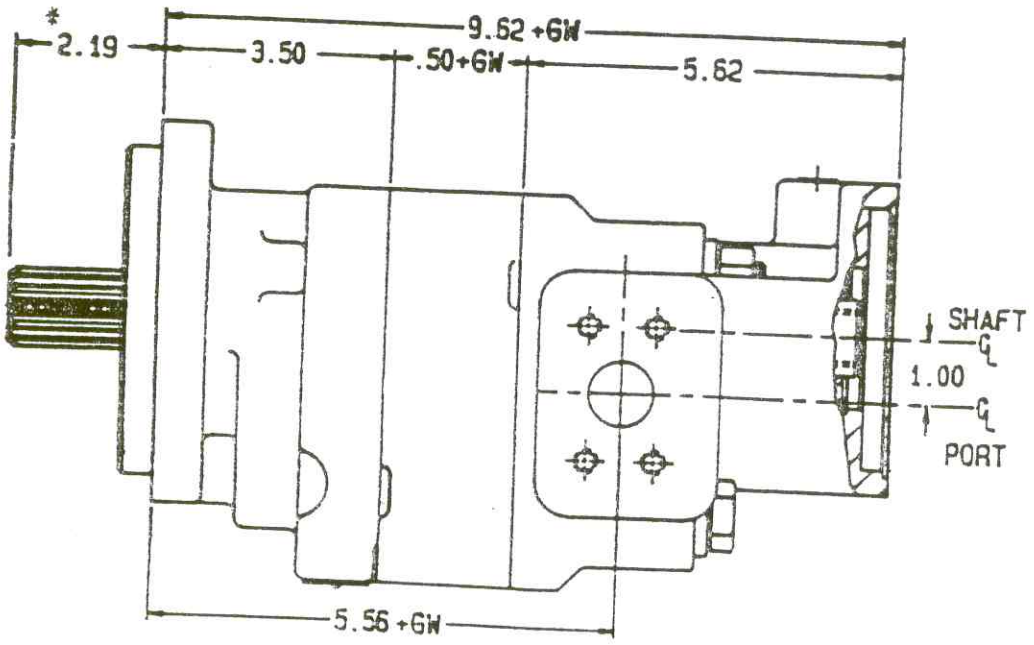
Combinations
P365 P330
P350 P315
P330 P315

Phase II Add-A-Pump Piggyback

Dimensional data
shown in inches

P350



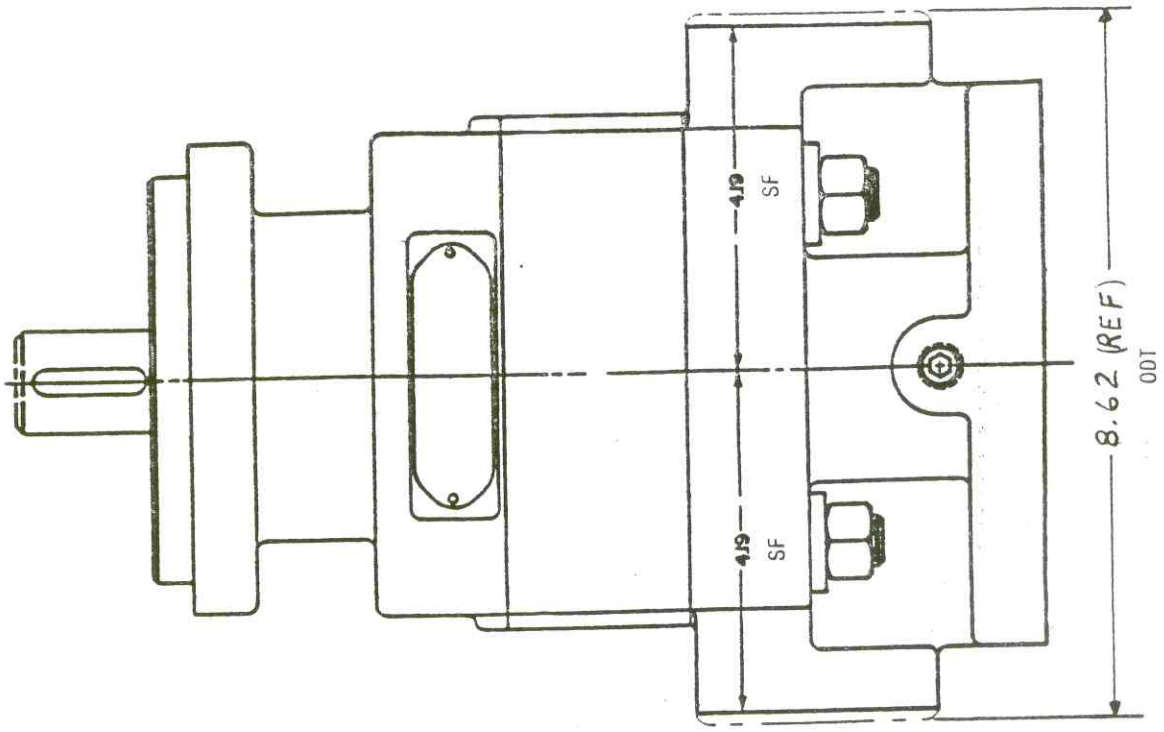


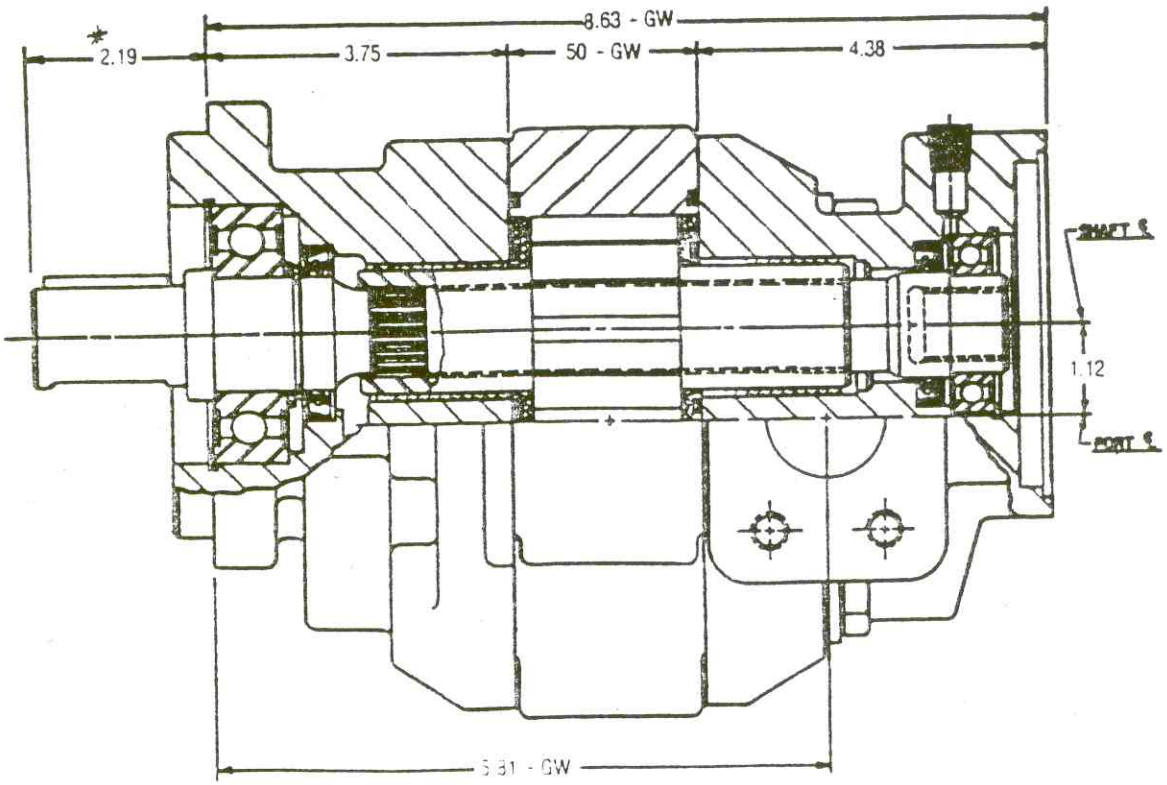
* This dimension will vary with type of drive shaft.

Phase II Add-A-Pump Piggyback

Dimensional data
shown in inches

P365





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