

Series U - Universal Pumps

The Universal Pump Design combines the innovation of the Universeal shaft seal, the rugged simplicity of Haight's proven "gear within gear" internal gear configuration, with the flexibility of a bolt-on, integral Relief Valve assembly. This combination of pump features offers pump users unsurpassed flexibility to adapt their pumps to changing system requirements.

Universal Relief valve - can be added at any time. Can be used for either suction or return.

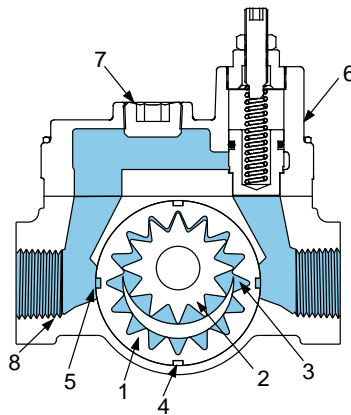
"Gear within Gear" internal design - for nearly 70 years this design has demonstrated if effectiveness in a broad range of applications.

Universeal shaft seal - the pump can easily be converted from lip to mechanical or packed gland without disconnecting the piping.

Superior High Viscosity Rotary Gear Pumping Features

Input drive at the inner gear provides a built in gear reduction which means less cavitation at standard motor input speeds. The inner gear drive also permits a bearing to be provided on either side of the drive shaft and also provides a balanced rotor. These features make the Haight Pump superior for high viscosity pumping. The same features also offer increased life through lower rotor surface speeds and better bearing support. Most other rotary gear pumps have input drive at the rotor which increases risk of cavitation, rotor wear, rotor side load and higher bearing loads.

1. Patented Haight Gear and Rotor for more efficient Positive Displacement pumping.
2. Three Tooth Contact for smoother uninterrupted pressure discharge.
3. Extra Deep Meshing of Gears reduces noise and avoids trapping.
4. Outer Rotor Flutes lubricate and expel foreign matter.
5. Special Port Slots wash rotor continually during pumping.



6. New "Bolt on" reversible relief valve system for greater bypass versatility and simple field conversion
7. Pipe Plug type auxiliary port for tank return relief or for extra circuit installations.
8. Top quality ferrous metal bodies are standard with Gramix iron bearings.

New "UniverSeal" design allows for simple and quick seal replacement or change to an alternative shaft seal type.

SELECTION INFORMATION - STANDARD PUMPS

For pumping high viscosity mineral oils or vegetable oils. The standard models feature cast iron casing and cover components, steel shaft and pinion gear, high tensile iron rotor, self lubrication iron or bronze bearings and Buna-N lip seals. As a general rule, the Cast Iron pump will handle most liquids which have a reasonable level of lubricity providing that the liquid is compatible with ferrous components and shaft seal. These models are usually all available from Australian inventory with or without relief valves.

Pressure Ratings. Pressure rating for standard Buna-N shaft seals is 5.2 BAR for liquids less than 20 cSt and 7 BAR for liquids of higher viscosity not exceeding 1000 cSt. It is normal practice for lip seals to weep a small amount of liquid during operation. For pressures above 7 BAR, special mechanical seals are recommended. Maximum pressure with mechanical seal is 17 BAR.

Temperature Ratings. Temperature limitation for standard pumps

is 100°C with Buna N seals. For higher temperatures a modified standard pump with wider running clearances and Viton seals is supplied.

For Double backed pumps, Hatrided Iron Pumps and Corrosion Resistant Pumps contact our sales office.

INPUT SHAFT RADIAL LOADING

All of the pump configurations shown below are for direct coupling applications. Where belt or chain drive is used, a special pump with overhung load adapter must be used. Consult sales office for stock options.

VISCOSITY VERSES FLOW RATE AND PUMP SPEED

With the Haight range of rotary gear pumps there is a direct relationship between fluid viscosity and allowable pump speed. Consult table below. The table is based on the use of oil with low levels of abrasive inclusions. Where fluids with high levels of abrasives and/or low levels of lubricity are to be pumped, please consult our sales engineers. During start up operations for brief peak periods, a 12% increase in viscosity is acceptable.

Max Viscosity cSt	Pump Speed RPM
22000	100
5500	250
2500	500
1750	720 to 850
1100	960 to 1150
850	1300 to 1550
650	1750
500 to 25	1800

ROTATION VERSES OIL FLOW

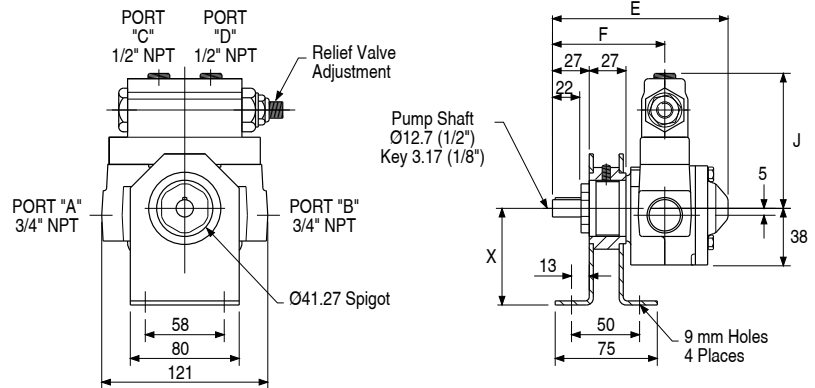
Relief valve type pumps as shown are rigged for clockwise rotation when viewed from shaft end of pump. Pressure port will be A and suction port B. If anti clockwise rotation is required, invert pressure relief assembly and place it in left side of pump. Port B will then become pressure port and port A the suction port. Non relief valve pumps can be run in either direction as delivered.

PUMP SIZE	PUMP DISPLACEMENT Per REV		INPUT POWER kW*	
	CC PER REV	Flow @ 1500 RPM L/min	Power @ 1500 RPM Oil 43 cSt	Power @ 1500 RPM Oil 430 cSt
1	3.41	5	0.13	0.24
3	7.20	11	0.13	0.32
5	10.03	15	0.22	0.48
8	18.17	27	0.37	0.63
10	26.12	39	0.52	1.04
15	34.07	51	0.63	1.38
20	43.53	65	0.89	1.60
24	51.85	78	0.82	1.41
30	68.13	102	1.00	1.75
40	89.70	134	1.50	2.16

*Input power figures are based on use with oil at 50 PSI (350 kPa) pressure and suction at 5 ins HG. When viscosity exceeds the 430 cSt stated above, contact our sales office for revised power requirements.

HAIGHT PUMP SIZES 1U, 3U, 5U, 8U WITH FOOT BRACKETS

Brackets - pumps 1, 3, 5 & 8	
Bracket part number	Centre Height X
90/08071F	71
90/08080F	80

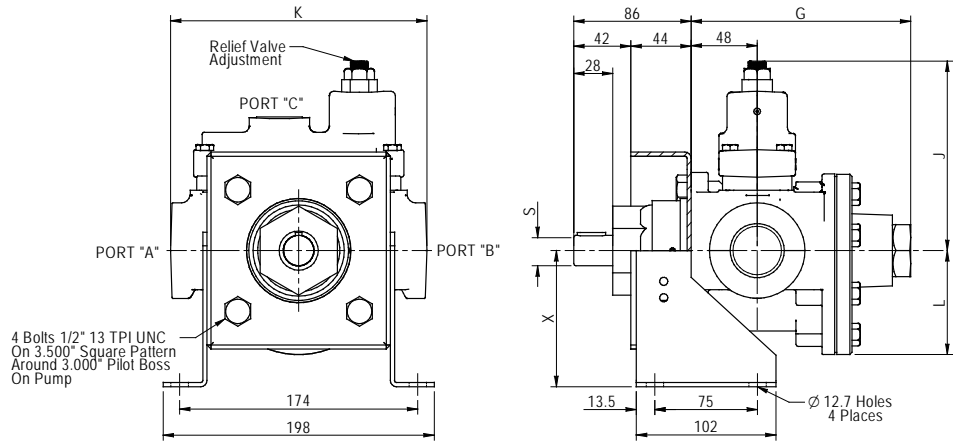


Pump size	E	F	J	WT kg*
1, 3, 5	130	85	95	4.5
8	151	83	103	5

*Weights are for relief valve pumps

HAIGHT PUMP SIZES 10U, 15U, 20U, 24U, 30U AND 40U WITH FOOT BRACKETS

Foot brackets for pumps 10U, 15U, 20U, 24U, 30U, 40U	
Bracket part number	Centre Height X
90/40080F	80
90/40090F	90
90/40100F	100
90/40112F	112
90/40132F	132



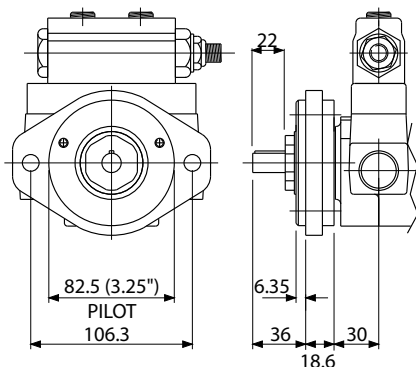
Pump	Ports A & B	Ports C & D	G	J with R.V.	J w/o R.V.	K	L	"S" Shaft Ø	WT-kg*
10U	1" NPT	1" NPT	157	103	57	178	70	15.87 (5/8" x 0.187" KEY)	13
15U-20U	1 1/4" NPT	1" NPT	157	103	57	178	70	15.87 (5/8" x 0.187" KEY)	14
24U-30U-40U	1 1/2" NPT	1" NPT	169	103	57	187	76	22.22 (7/8" x 0.187" KEY)	15

*Weights are for pumps with relief valve fitted.

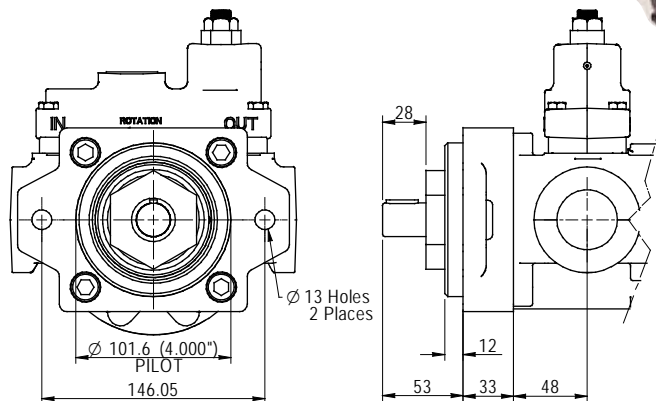
PORTS C & D. These ports can be supplied on all sizes of relief valve type pumps. They are auxiliary ports for pressure gauges, vacuum gauges, or for secondary relief valves. The auxiliary pressure port is always the one at the opposite end to the relief valve adjustment screw. On above drawing the auxiliary pressure port is C.

U SERIES PUMP WITH SAE 2 HOLE HYDRAULIC INTERFACING

SAE A Flange
Pump Sizes 1U, 3U, 5U, 8U
Part No - 56/03/06033



SAE B Flange
Pump Sizes 10U, 15U, 20U, 24U, 30U & 40U
Kit Part No. - 90/04025 (Flange + Bolts)
Flange Part No. - 56/02/04025



All dimensions in mm unless noted otherwise 0-50 are ± 1. 50-1500 are ± 3.

Larger Capacity Pumps Available -- Consult Factory