

PH Manual Pump

DESCRIPTION

The single-acting, positive-displacement PH Manual Pump will deliver 0.15 cubic inches (2.46 cm³) with one full stroke of the handle. The PH Pump is available with a choice of standard clear plastic or metal Modu-Flo[®] reservoirs for either oil or grease. These reservoirs, with 5, 6, 12, and 20 pint or pound capacities, can be mounted interchangeably atop the pump.

Modular pump/reservoir design plus built-in features (see below) enable the PH Manual Pump to be customized for a wide range of applications. The PH Manual Pump permits increased standardization with resultant economies in spare parts stocking and greater employee familiarity with plant or job site lubrication systems.

This pump is sturdily built with aluminum and steel components to meet the high standards of performance and quality you expect from Graco[®] products. It is a compact, space-saving unit. Even with an integrally mounted 20-pint or 20-pound capacity reservoir and bottom-mounted optional outlet valve, it stands only 27.84 inches (70.7 cm) high, is 7.25 inches (18.4 cm) wide and 11.03 inches (28.0 cm) deep. It requires only 24.3 inches clearance (61.7 cm) from the mounting surface for a full range of handle pull.

The PH Manual Pump is ideal for use with Trabon[®] MS divider valves or MJ divider valves on stationary equipment as well as the E-Z Luber[®] Valves on many types of mobile equipment. It comes complete with 3,000 psi gauge for easy verification of system operation, and a 2,500 psi automatic relief valve to protect system components.



FEATURES/ADVANTAGES

- Built-in volume indicator provides easy verification that lubricant is being delivered to the system and that divider valves are completing lube cycles.
- Interchangeable reservoirs make it convenient to expand or contract the lube distribution system, to switch from oil to grease or from grease to oil – without replacing the entire system.
- Wide applicability is provided by an optional two- or four-outlet valve that mounts under the pump outlet. This valve allows the pump to serve up to four different systems or to supply one or two separate manual reversing systems.
- Single-acting positive displacement pump design minimizes the number of moving and wearing parts for extended pump life and reduced maintenance.
- Built-in automatic relief valve protects system components from over-pressure.
- Built-in outlet check valve prevents back pressure from damaging pump and minimizes chance for contaminants to get into the pump or the lube supply.
- 3,000 psi (207 bar) pressure gauge, shown in photo, provides a fast check on system status.

OPERATION

As the pump handle (A) is pulled down, the piston (B) moves to close off the inlet (C) from the reservoir, and to push the lubricant to and through the passage (D) to the outlet (E) for delivery to the system.

As the handle returns to its original upright position, the piston (B) returns to the “prime” position, opening the inlet (C) in preparation for the next cycle.

The number of pump handle strokes needed to fulfill lube requirements can be determined by adding up the cubic inches required by each lube point in the system and dividing the total by 0.15 (PH Pump output per handle stroke).

To utilize the lube volume indicator, the system master divider must be designed to provide .200 cu.in. from one outlet during a complete system cycle. A line should be run from this divider valve outlet to the return inlet (F) on the PH Pump. This line allows the lubricant to move the volume indicator plunger (G) to its full “out” position until the undercut (H) on the plunger is exposed. This means that 0.200 cubic inches of the oil or grease have been delivered to the indicator and that the complete system has cycled. Any excess lubricant will return to the reservoir through the check valve (I). When the volume indicator is pushed in by the lube maintenance person, the lubricant it displaces will also be returned to the reservoir through the check valve.

GREASE RESERVOIR FILL PROCEDURE

Fill the reservoir with grease, free of air, using a suitable fill pump at the quick disconnect fill plug located in the base of the reservoir. Note, for first time grease filling, or if the grease reservoir has been allowed to go empty, open the petcock in the bottom right side of the reservoir. Slowly begin to fill the reservoir, allowing air trapped under follower to exhaust out the open petcock. When grease free of air flows from the petcock, close petcock and continue to fill the reservoir until follower is at

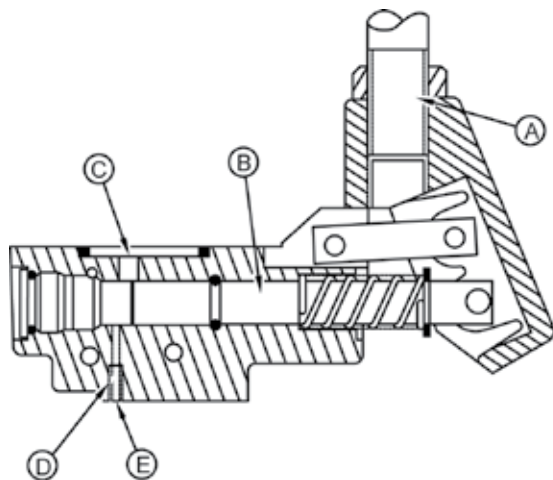
vent hole in reservoir tube (any remaining air and small amount of grease will exit vent).

Loosen system mainline connection at pump outlet. Operate pump until lubricant free of air flows from outlet port. Tighten mainline connection at pump. Pump is now free of air.

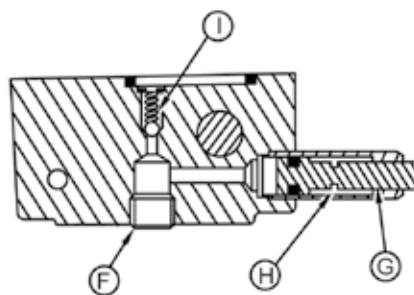
Note, for extreme cases where the pump will not take a prime, it may be helpful to inject several ounces of heavy oil through the grease fill quick disconnect. The pump will then prime on oil pulling the grease behind it. If it becomes necessary to use this method, all injected oil should be discharged at the loosened system supply connection along with any air.

Refer to bulletin 12411 (Grease Filler Pump) for manual operated fill pump.

SPECIFICATION	
Pump Body Material	Aluminum and Steel
Pump Output	0.150 cu.in. (2.46 cm ³) per full stroke
Max Operating Pressure	3000 psi (207 bar)
High Pressure Protection Relief Valve	Set @ 2500 psi (172 bar)
Force to Operate Handle	29 lbs (13.14 kg) per 1000 psi @ rated pressure
Lubricant	Oil or Grease
Reservoir capacities for Oil or Grease, Metal or Plastic	5 pints (2.37 liters) or 5 lbs (2.27 kg)
	6 pints (2.84 liters) or 6 lbs (2.72 kg)
	12 pints (5.68 liters) or 12 lbs (5.44 kg)
	20 pints (9.46 liters) or 20 lbs (9.06 kg)



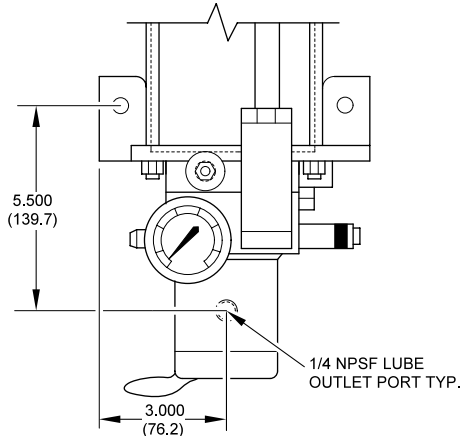
SIDE VIEW



END VIEW

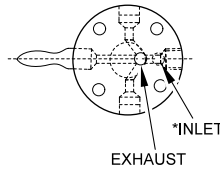
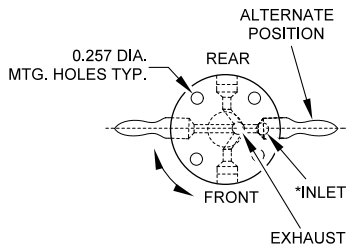
OPTIONS

Two- and Four-Outlet Valves

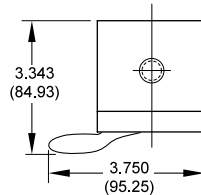
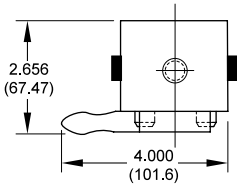


Two-Outlet Valve —

Four-Outlet Valve —



*INLET MUST BE IN LINE WITH OUTLET PORT OF PUMP WHEN INSTALLED



Two-Outlet Valve —

The two-outlet valve can be used to distribute oil or grease either to two separate manual systems, or to a single manual reversing system (Series Reversing or Bi-Flo).

ORDERING INFORMATION		
Description	Part No.	Old Part No.
PH Pump & 5 pint Plastic Oil Reservoir	564378	521-800-100
PH Pump & 5 lb Plastic Grease Reservoir	564379	521-800-130
PH Pump & 5 lb Metal Grease Reservoir	564381	521-800-160
PH Pump & 6 pint Plastic Oil Reservoir	564387	521-800-370
PH Pump & 6 lb Plastic Grease Reservoir	564389	521-800-400
PH Pump & 6 lb Metal Grease Reservoir	—	521-800-430
PH Pump & 12 pint Plastic Oil Reservoir	—	521-800-190
PH Pump & 12 lb Plastic Grease Reservoir	564383	521-800-220
PH Pump & 12 lb Metal Grease Reservoir	564384	521-800-250
PH Pump & 20 pint Plastic Oil Reservoir	564385	521-800-280
PH Pump & 20 lb Plastic Grease Reservoir	564386	521-800-310
PH Pump & 20 lb Metal Grease Reservoir	—	521-800-340
PH Pump Only	563393	521-800-000
Two-Outlet Valve	564365	511-048-001
Four-Outlet Valve	—	511-080-000
3000 psi Pressure Gauge	557864	543-362-000
Automatic 2500 psi Relief Valve	563160	508-210-250
PH Manual Pump Body Seal Kit	563924	560-001-930
Coupler for Grease Fill Stud	558906	506-322-000

Four-Outlet Valve —

The four-outlet valve can be used to supply lubricant to four separate manual systems or two separate manual reversing systems.

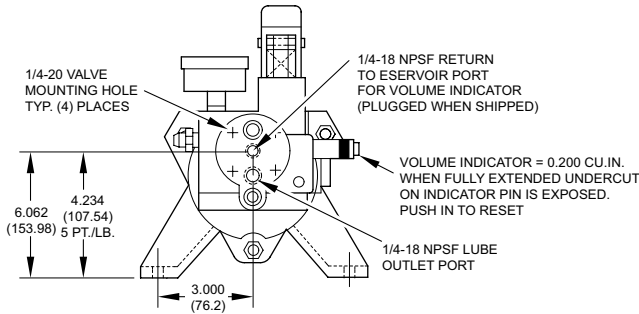
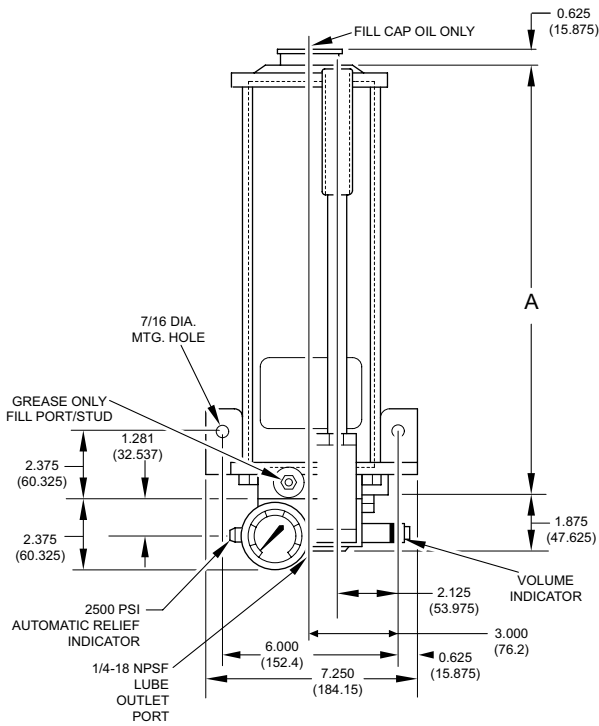
With both valves, the inlet port directly above the position of the handle is connected to the outlet port on the bottom of the pump. This handle also indicates the direction of the flow. The outlet port can be changed by repositioning the handle under another outlet. The port opposite the handle is always connected directly to the return port on the bottom of the pump. When these valves are used in a reversing system, the ports opposite each other must be tubed to the delivery lines of the system.

OUTLINE AND MOUNTING DIMENSIONS

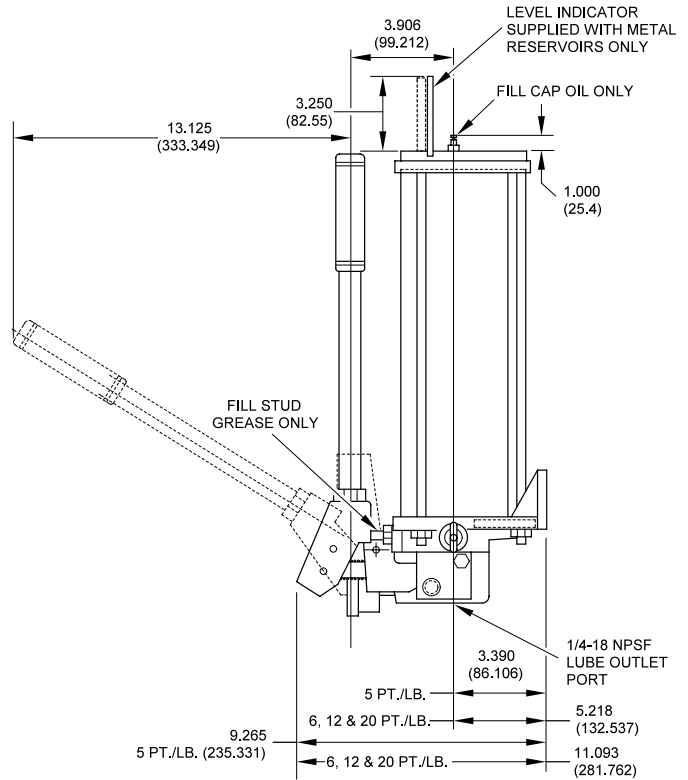
Dimension "A" Varies With the Reservoir

Capacity	Metal	Plastic
5 lb/5 pt.	15* (381)	15 (381)
6 lb/6 pt.	10.5* (266.7)	10.5 (266.7)
12 lb/12 pt.	15* (381)	15 (381)
20 lb/20 pt.	22* (559)	22 (559)

* Level Indicator adds 3.250 (82.55) to height.



BOTTOM VIEW



Look to GRACO Inc. for all of your Centralized Lubrication System needs.

Products include:

DIVIDER VALVES: for oil and grease...to 7,500 psi... 1 to 24 points from a single valve assembly...up to 256 points from a Master/Secondaries circuit...or systems that handle an entire plant.

PUMPS: fixed and variable displacement...manual and air, hydraulic, electric motor or mechanically driven.

TIMERS/AUTOMATIC CONTROLS: from simple on/off to complete flow and pressure monitoring, either time- or machine-actuated.

ACCESSORY VALVES: balancing, check and flow.

INDICATORS: performance and broken line.

ACCESSORIES: fittings, brackets, clamps, filters and strainers.

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