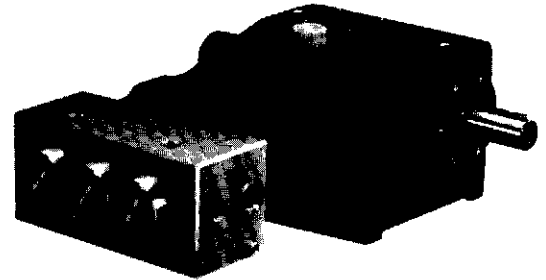


APPLICATIONS

VH Series pumps are designed for industrial applications that include water demolition, food processing, metal cutting and other specialized water blasting processes that require working pressures in excess of 10,000 PSI.

FEATURES

- Heavy cast iron crankcase
- Stainless steel manifold
- Horizontal in-line stainless steel valves
- Internal packing cooling system
- Double projection, gas-nitride, hardened steel crankshaft
- Forged steel connecting rods with anti-friction bearings
- Ceramic plungers
- Built-in pre-set pressure relief valve



PERFORMANCE DATA

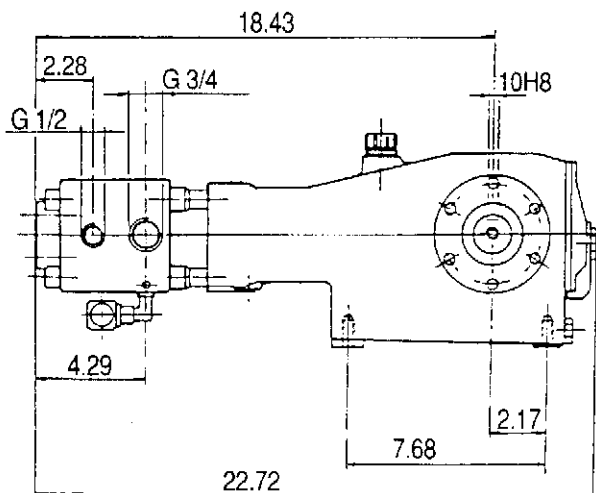
RPM	VH 12	VH 14	VH 16	FLOW
500	1.7	2.4	3.1	GPM
600	2.1	2.9	3.8	GPM
750	2.6	3.6	4.7	GPM
MAX PSI	14500	14500	10800	
HORSEPOWER FORMULA		RPM FORMULA		
$\frac{\text{GPM} \times \text{PSI}}{1460} = \text{REQUIRED BRAKE H.P.}$		$\frac{\text{RATED RPM} \times \text{DESIRED GPM}}{\text{RATED GPM}} = \text{PUMP RPM}$		

Performance data stated at 100% volumetric efficiency. Based on inlet water conditions, pump volumetric efficiency is 95% or greater.

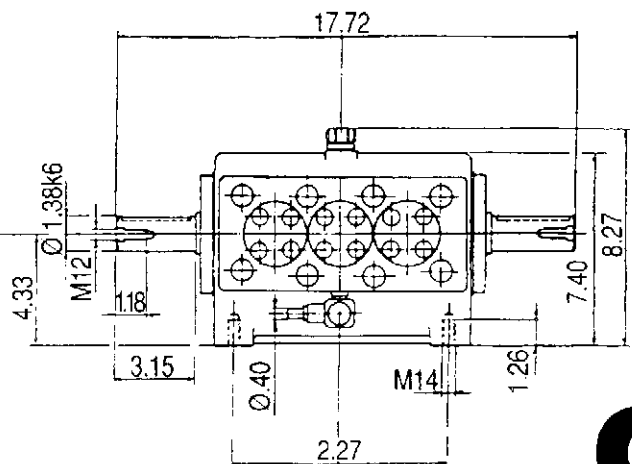
SPECIFICATIONS

- Volumes 2.6 - 4.7 GPM
- Discharge Pressure 10800 - 14500 PSI
- Max. Inlet Pressure 75 PSI Min. to 145 PSI Max.
- Fluid Temperature 85°F Max.
- Crankcase Capacity 64 oz
- Inlet Port/Fitting 3/4 in. BGT, 3/4 in. NPT M/F
- DischargePort 1/2 in. BGT
- Discharge Fitting 1/2 in. NPT M/F
- Shaft Diameter 35 mm
- Weight 185 lbs.
- Dimensions 22.7 in. L x 17.7 in. W x 8.2 in. H

SIDE VIEW



END VIEW





DESIGN CRITERIA

General Industrial VH Series Triplex Plunger Pumps are designed and manufactured to pump water and other liquids of similar viscosity compatible with the construction materials used in the pump.

Durable by design, VH Series Pumps are ideal for a wide variety of high-pressure applications including high-pressure cleaning and water sandblasting.

Optimum pump performance can only be achieved if the entire fluid system is designed and built using properly sized plumbing and accessories. General VH Industrial Pumps are positive displacement pumps and require the use of a properly designed pressure relief mechanism in the discharge plumbing of any system using these pumps. **Failure to install a relief mechanism could result in personal injury or damage to the system.**

General Pump, Inc. does not assume any liability or responsibility for the design and operation of a customer's high-pressure system.

PUMP SELECTION - NORMAL DUTY

The General Industrial VH Series offers a range of flows, pressures and drive options. Pump performances indicated for the VH Series (RPM, GPM, PSI, fluid temperature) are the designed maximum for pumps operated on a **normal intermittent duty cycle**. Each VH Series pump is supplied with an **SV12 Safety Valve that is adjusted, set and sealed at the factory in accordance with the maximum operating pressures specified with the order.**

PUMP INSTALLATION

When designing a system, **keep the inlet plumbing as simple as possible with a minimum amount of fittings or elbows, with no elbows within 12" of pump inlet.**

Pump life is considerably influenced by the condition of the fluid supplied to the inlet of the pump. **Inlet plumbing should be flexible reinforced hose, 1.5 to 2 times larger than the specified inlet port size.** Inlet and discharge fittings are furnished with each pump.

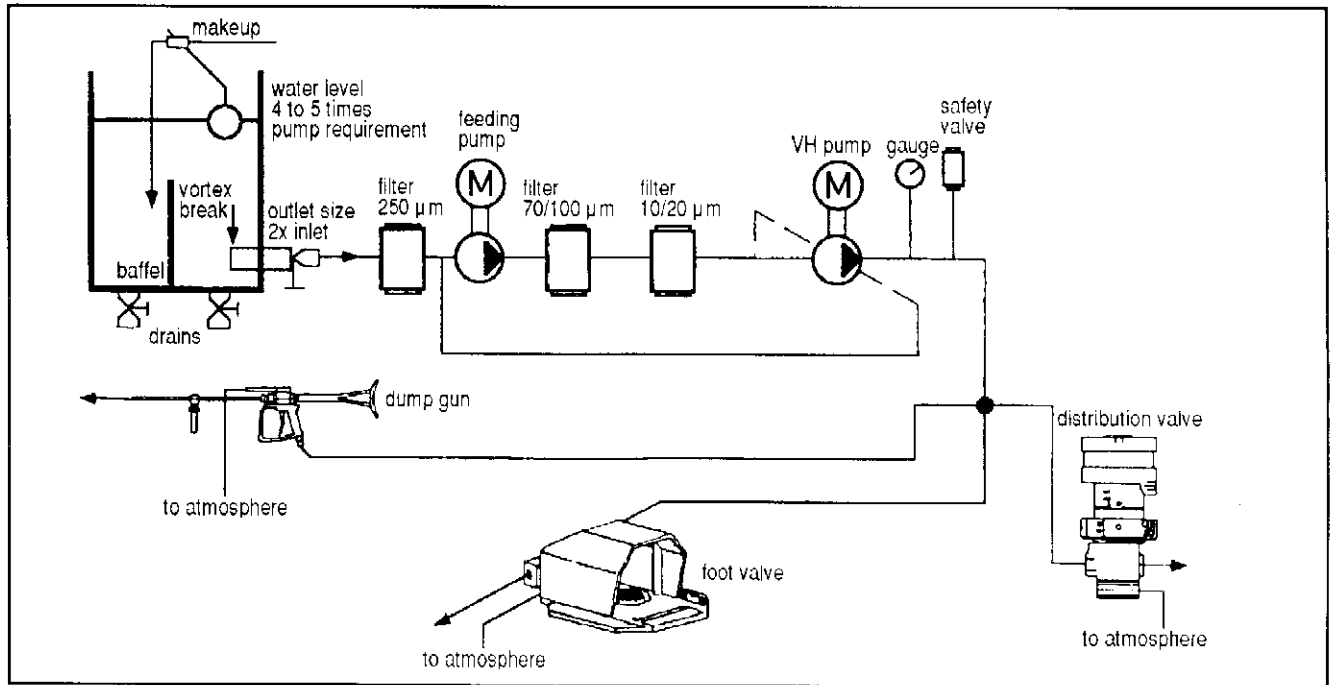
It is critical to provide airtight inlet plumbing sized to deliver an adequate volume of settled fluid to the pump.

All VH Series Pumps require inlet pressures between 75 PSI and 145 PSI. This requires the use of an independently driven centrifugal pump capable of delivering a minimum of 10 GPM at the required inlet pressures. The feed pump must operate prior to starting the VH Pump and must operate during all phases of system operation.

When using an inlet holding tank (float tank), size it according to the maximum rated output of the pump. Provide a **minimum of 5 times the operating flow rate (a 10 GPM pump requires a 50 GPM tank)**. The feed tank should contain sufficient baffling to eliminate air bubbles and turbulence. Feed tanks should be mounted so the water level in the tank is always higher than the feed lines and the inlet port of the pump. Diffusers should be installed on all return lines to the tank.



Installation diagram:



FLUID TEMPERATURE

VH Series Pumps are rated for 85°F maximum fluid temperature.

FILTERS

Install inlet filters on all VH Systems. **Filters should be sized and positioned as shown in the installation diagram. The capacity of each filter must be a minimum of three times the rated output of the pump.**

PUMP MOUNTING

The pump must be mounted in a horizontal position on a rigid base in a manner to permit drainage of crankcase oil. The pump should be flat with no more than a 5 degree incline. Pumps can be operated using pulley or direct drive. **Observe the specified pump rotation indicated by the arrows on the crankcase.** General Industrial Pumps are splash lubricated. By observing the proper rotation and crankshaft speed (500 RPM minimum), the crank mechanism puts oil in circulation through internal crankcase grooves so the connecting rods, bearings, piston guides and other surfaces requiring lubrication receive proper coverage.

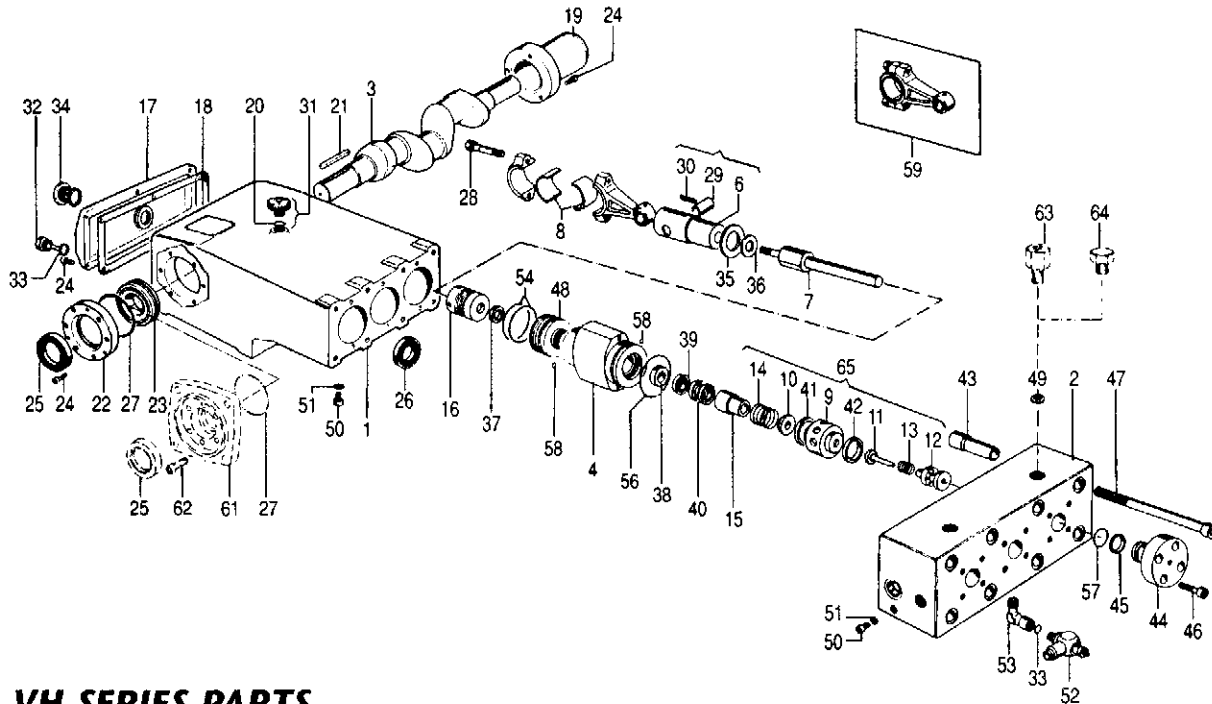
Crankcase oil (Pennzoil RO 220 or equivalent) should be checked frequently and changed as follows: Initial oil change between the first 50 and 100 hours of operation; then after each successive 500 hours of operation.

START-UP

Check oil prior to start-up, and open all inlet and discharge valves and activate the feed pump. **Always start the pump in a zero pressure condition. Never let pump run dry.**

WARRANTY

General Pump products are warranted by the manufacturer to be free from defects in material and workmanship. Period of warranty shall be 1 year from date product is received by original buyer. Liability of manufacturer under the foregoing warranty is limited to **repair or replacement** at the option of manufacturer of that product which according to the manufacturer's investigation was deemed defective at time of shipment. Damage resulting from neglect, abuse, tampering or misapplication voids the warranty. This warranty is in lieu of all other warranties, expressed or implied, including any warranty of merchantability and or any and all other obligations or liabilities on the part of the manufacturer.



VH SERIES PARTS

Pos. Code	Description	Qty.	Pos. Code	Description	Qty.	Pos. Code	Description	Qty.
1	F060100320 Crankcase	1	18	F080600000 Rear Cover Gasket	1	40	F080500040 Pressure Packing VH12	6
2	F064200230 Manifold	1	19	F040400010 Crankshaft Cover	1		F080500060 Pressure Packing VH14	6
3	F050000030 Crankshaft	1	20	F881011173 O-Ring	3		F080500080 Pressure Packing VH16	6
4	F062200300 Cylinder VH12	3	21	F071000030 Key	1	41	F080500020 Packing (Suction Side)	3
	F062200310 Cylinder VH14	3	22	F063400100 Bearing Cover	2	42	F080500030 Packing (Discharge Side)	3
	F062200320 Cylinder VH16	3	23	F8111110002 Bearing	2	43	F043500030 Screw Protector	8
5	F250001050 Complete Piston Guide	3	24	F871115153 Screw	18	44	F063200100 Manifold Plug	3
6	F020000060 Guide Piston	3	25	F881080014 Crankshaft Oil Seal	2	45	F010500020 Spring Ring	3
7	F124200090 Plunger VH12	3	26	F881081002 Piston Guide Oil Seal	3	46	F871125306 Screw	12
	F124200100 Plunger VH14	3	27	F881013100 O-Ring	2	47	F871135323 Screw	8
	F124200110 Plunger VH16	3	28	F871350002 Screw	6	48	F022200000 Packing Support VH12	3
8	F812000002 Brass Bushing	3	29	F071000020 Wrist Pin	3		F022200010 Packing Support VH14	3
9	F081200410 Suction/Discharge Seat	3	30	F872138010 Retainer Pin	3		F022200020 Packing Support VH16	3
10	F082200130 Suction Disk	3	31	F801054002 Oil Fill Plug	1	49	F083200210 Conical Seal	4
11	F082200140 Discharge Disk	3	32	F801057001 Magnetic Plug	1	50	F821203100 Plug 1/8" G	5
12	F021300170 Discharge Disk Guide	3	33	F872043001 Washer	1	51	F872042000 Aluminum Washer	5
13	F090200130 Discharge Spring	3	34	F801053003 Oil Level Sight Glass	1	52	F821100050 Reducing Fitting	1
14	F090200120 Suction Spring	3	35	F041200000 Wiper	3	53	F821100005 Reducing Elbow	1
15	F031500000 Packing Retainer	3	36	F010200010 Spacer	3	54	F881010124 O-Ring	3
	Bush VH12		37	F881030004 Ring Nut Packing VH12	3	55	F881010012 O-Ring	3
	F031500010 Packing Retainer	3		F881030005 Ring Nut Packing VH14	3	56	F881010125 O-Ring	3
	Bush VH14			F881030007 Ring Nut Packing VH16	3	57	F881010200 O-Ring	3
	F031500020 Packing Retainer	3	38	F021300180 Packing Support VH12	3	58	F881011056 O-Ring	12
	Bush VH16			F021300190 Packing Support VH14	3	58	F250000050 Complete Connecting Rod	3
16	F033300000 Packing Ring Nut VH12	3		F021300200 Packing Support VH16	3	63	F084200100 Gauge Port	1
	F033300010 Packing Ring Nut VH14	3	39	F080500050 Rear Packing VH12	3	64	F084200220 Plug 1/2" G	1
	F033300020 Packing Ring Nut VH16	3		F080500070 Rear Packing VH14	3	65	F260100150 Suction/Discharge Valve Assembly	3
17	F063400120 Rear Cover	1		F080500090 Rear Packing VH16	3			

REPAIR KITS

POSITIONS INCLUDED	N.PCS.	VH 12	VH14	VH 16
37 39 40	3-6	KIT 469	KIT 470	KIT 471
38	3	KIT 472	KIT 473	KIT 474
15	3	KIT 475	KIT 476	KIT 477
15 37 38 39 40	1-2	KIT 478	KIT 479	KIT 480
9 10 11 12 13 14 41 42 (65)	1		KIT 481	
26	3		KIT 425	
25	2		KIT 426	
20 27 33 41 42 45 51 54	3-30		KIT 482	
56 57 58				

TORQUE SPECS

Position	Ft./lbs.
7	29
28	29
46	54
47	144

GENERAL PUMP INCORPORATED

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