

VERTICAL GLANDLESS PUMP "MVGP" SERIES

"MVGP" Pumps are Vertical molded Polypropylene corrosion resistant pumps. Pumps for Leakproof and Maintenance free pumping of corrosive and Abrasive Liquids.



PRINCIPAL OF VERTICAL GLANDLESS PUMP:-

The "MALHAR" Pump is similar Hydraulic design to any Conventional centrifugal pump. It Differs in so far as it is always mounted in the vertical position. A Restriction is provided above the impeller and need for any form of liquid seal is obylated by allowing a small leakage to escape by way of an overflow connection in the upper pump body return to suction vessel.

The most suitable method of Installation will depend on the pumping application. The simplest and most widely adopted method is mount the pump close to the feed tank at such a level that the impeller is flooded and the pump therefore pumped when the liquid reaches a certain height in the tank. The pump will Deliver liquid until the suction pipe becomes uncovered, when it will run dry until the liquid level is restored to the point where re-printing can take place, this cycle of operation may be repeated indefinitely.

OPERATION ADVANTAGES OF GLANDLESS PUMP:-

- The recognizable leading improvement is the deletion of problems get to your feet from the use of powered seal, insulation box and inside bearing.
- The aptitude of pump to run dry eliminates single reason of interruption which is regularly attributable to the human component this feature is very convenient in process needing continuous transference of a corrosive fluid with a high gradation of reliability e.g. Disposal of acid effluent.
- The glandless pumps lend itself to process incorporating automatic control of a pump discharge valve. The "controlled leakage" acts as an integral by-pass. The pump suffers no ill effects if the discharge valve is partially or fully closed.
- The maximum main improvements to be derivative from the use of glandless pump are in the province of maintenance and following reduction in down time invention victims. Normal maintenance on the glandless pump is confined to lubrication of the driving.

SAILENT FEATURES OF VERTICAL GLANDLESS PUMP

- No mechanical seal, stuffing box and internal bearings provided.
- No maintenance since the pump can even run dry indefinitely as there is no packing, bushes or internal Bearings.
- Reduction of downtime production losses in view of above features.
- All the wet-end parts are in solid molded construction to with stand corrosion and erosion.
- The impeller is semi-open type used in our all-vertical pumps to suit both clear and polluted fluids.
- Pump mounted outside the suction tank and is not submerged type.
- Polypropylene are manufactured by solid injection molding process with high pressure hence.

TEMPERATURE RESISTANCE

- PP 50° TO 80 ° C
- PPH 90 ° TO 100 °C
- PVDF 100° TO 115°C

RANGE OF PERFORMANCE:-

- Because glandless pumps do not have any packing bush or internal bearing, full advantage can be taken of available drive speeds. The pump may be run at 1450 and 2900 RPM respectively and a range of impeller diameter for each pump size gives a wide spread of performance.
- In general the range cover flow up to 100m³/hr. and discharge head up to 50 meters.

MATERIAL OF CONSTRUCTION:-

CASING:- Top centerline discharge and integrated flanges, single piece, joint less casing formed out of Injection moulded polypropylene.

IMPELLER:- Hydraulically balanced and accurately matched to casing profile, the semi open type impeller with practical shroud and glass finished smooth flow passage ensure high efficiency low NPSH performance Impeller made from compressor moulded U.H.M.W

EXPLOROR:- Made from U.H.M.W

OVER FLOW BODY:- Heavy duty, one piece, joint less design made from compressor moulded U.H.M.W

SHAFT:- The shaft is made from SS 316 protected by shaft sleeve of U.H.M.W

APPLICATION:-

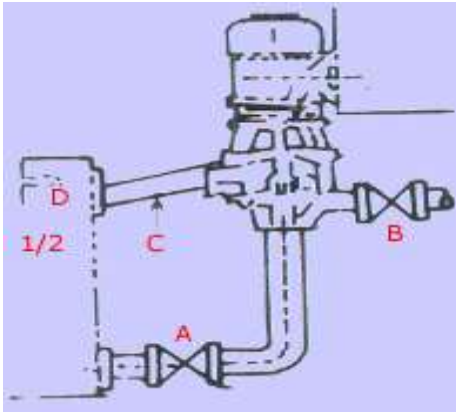
- Water treatment Plant
- Effluent Treatment
- Filter Press for dyes and chemicals
- Fertilizer Plants Thermal and atomic power plants
- Drugs & Pharmaceutical Industries
- Descaling of Tubes
- Scrubbing of corrosive gases like C12 , Br , I So2 , NH3 , F2 Etc.
- Excellent for vacuum ejectors
- Transferring of concentrated HCL from road tankers
- Paper & Pulp industries
- Pickling in steel rolling mills
- **Caustic soda plants :-** Chlorinated brine, conc. HCL, H2SO4 etc. Other application are in metal refineries, pickling Installations, paper and fertilizer plants-in fact all chemical process industries.
- **PHOSPHORIC Acid Plants :-** H3PO4 , H2SO4 , HF and their mixtures with or without solid (gypsum) up to 40% conc.
- **Gas Washing Plants :-** Scrubbed liquids containing F, CL, SO2, Ammonia gases etc. With solids Replace hast alloy.
- **Rayon Plants:-** Spin bath solution (H2SO4 , ZNSO4 , NaSo4 , etc.)

WATER RATING CHART OF VERTICAL POLY PROPELENE PUMPS

Model	HP x RPM	PUMP SIZE	Head in Meters									Imp Dia
			6	10	12	15	20	25	30	35	40	
MVGP-25/1/2	1 x 2900	25 x 25	130	50	0	-	-	-	-	-	-	110 MM
MVGP-40/2/4	2 x 1450	50 x 40	75	-	-	-	-	-	-	Discharge		150 MM
MVGP-40/2/2	2 x 2900	40 x 25	250	150	100	-	-	-	-	- in -		130 MM
MVGP-50/2/4	2 x 1450	50 x 40	266	183	-	-	-	-	-	- Litre -		190 MM
MVGP-50/3/4	3 x 1450	50 x 40	400	300	200	0	-	-	-	- Per -		290 MM
MVGP-50/3/2	3 x 2900	50 x 40	480	415	350	325	200	0	-	- Minute -		140 MM
MVGP-50/5/2	5 x 2900	50 x 40	530	450	440	415	330	260	133	-	-	150 MM
MVGP-75/5/4	5 x 1450	75 x 65	-	500	430	400	160	-	-	-	-	200 MM
MVGP-75/10/2	10 x 2900	75 x 65	-	830	750	700	650	580	500	330	330	190 MM

VERTICAL GLANDLESS INSTALLATION GUIDE:-

INSTALLATION 1:-



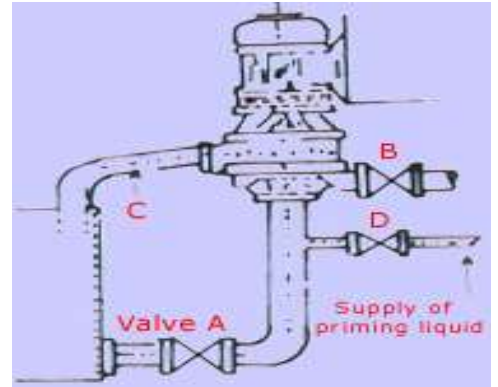
- Fully open valve 'A'
- Allow level of liquid to rise in supply tank up to overflow 'D' level
- Close valve 'B'
- Start pump
- Open valve 'B' gradually for required flow

Tank overflow 'D' is to prevent liquid level rising in pump body and damaging the motor. The lower lip of overflows 'D' should not to move than 1/2" above center of pump overflow. Isolation valve for scaling the tank during **maintenance not essential for efficient working of the pump.**

INSTALLATION 2:-

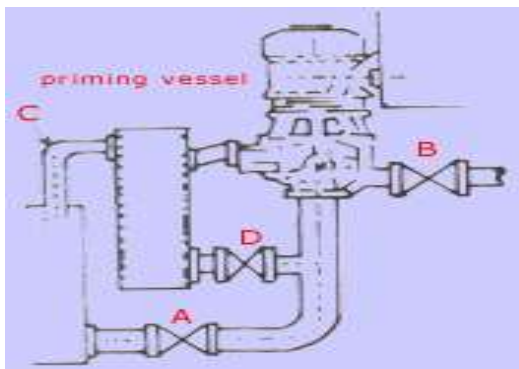
- Close valves 'A' and 'B'
- Open valve 'D' and leave running until liquid flows out of 'C'
- Start pump and immediately open valve 'A' fully
- Close valve 'D'
- Open valve 'B' gradually for required flow

A Vertical suction pipe with non-return valve with entering top of tank may be used when liquid is free from suspended solids.



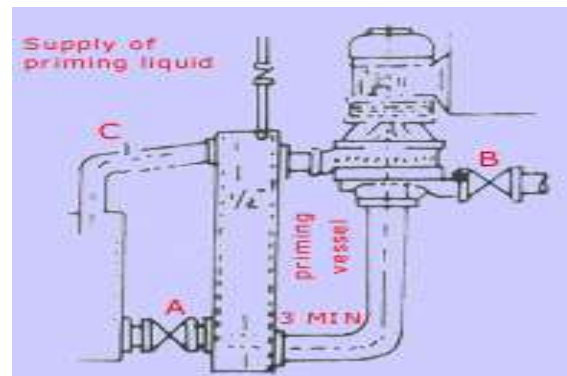
INSTALLATION 3:-

- Close valves 'A' and 'B'
- Open valve 'D'
- Fill priming vessel to overflow 'C'
- Start pump
- Open valves 'A'
- Close valve 'D' and open valve 'B' for flow required

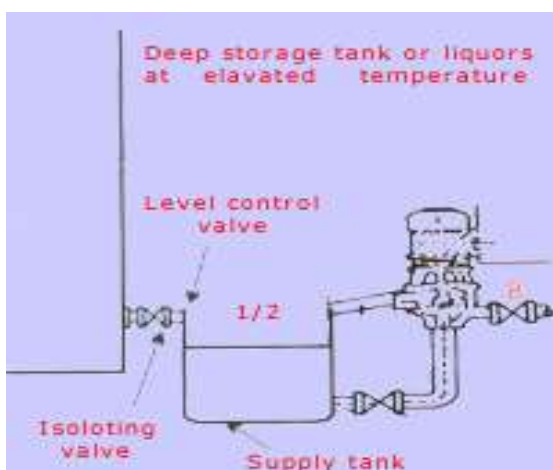


INSTALLATION 4:-

- Close valve 'A' and 'B'
- Fill priming vessel
- Start pump
- Open valve 'A' gradually until fully open
- Open valve 'B' gradually for required flow



Valve 'A' must be at least 1/2 size large in bore than suction pipe



INSTALLATION 5 :-

This installation is basically scheme 1 but level in supply tank is regulated by a mechanical or electrical flow control valve.

Installation for deep variable head storage tanks, or where suction lifts must be kept to a minimum

INSTALLATION & OPERATION

- Where Low Level priming is not required.
- Where Low Level priming is required.
- Where priming at all levels is required.
- Where priming at all levels is required without re-circulation.
- For deep variable head storage tanks or where suction lifts must be kept to a minimum.

All installation must have the overflow from the pump to the supply or priming vessel:-

- **Straight**
- **Have no restriction (valves etc.)**
- **Stop down -1 in 20 or more**
- **Preferably 12" long maximum**
- **Valves 'A' to be of the free flow type**