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MARCH PUMPS
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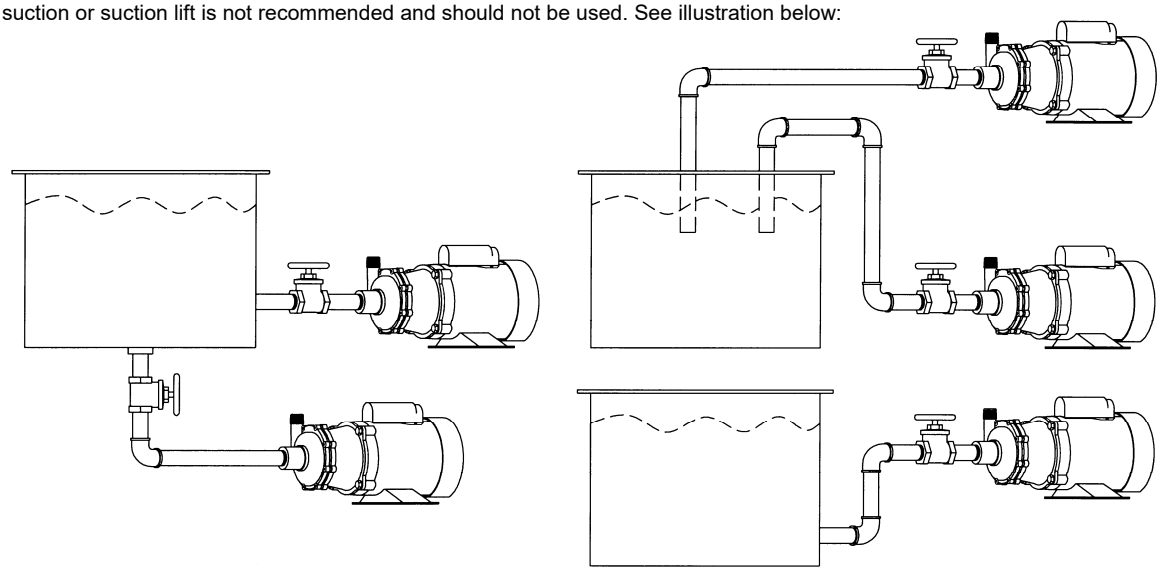
GENERAL INSTALLATION INSTRUCTIONS

1. The Pump should be mounted horizontally on a foundation and secured by Anchor Bolts.
2. Install the pump as near to the suction source and as low as possible. Suction must be flooded. When using an elbow, valve, etc., the suction must have straight piping in length at least five (5) times the diameter of the pipe.
3. Suction piping should not be smaller than the pump suction size and preferably one size larger than pump suction. Liquid supply vessel should not have a pipe size smaller than the pump suction and then increased to pump suction size.
4. Piping and valves should be independently supported. Do not allow the pump to support the weight of the piping.
5. All suction piping should be direct and short as possible with as little bending as possible. Excessive bending and pump suction length will lead to flow distortion and pump cavitation.
6. Available NPSH should exceed 120% of pump required NPSH. Contact a March Distributor for pump requirements.
7. Suction velocity should not exceed 6.5 feet per second. Viscous and hot liquids will have an effect on velocity.
8. If reducers or increasers are necessary, caution is to be used as to proper installation so as not to trap air.
9. Use a vacuum gauge in the suction line and it should be as close as possible to the pump suction. This is for monitoring the performance of the pump while in operation.
10. Ball valves may be installed on the suction side to allow maintenance and service. NEVER use the valve to limit flow into the pump.
11. Negative suction or suction lift is not recommended and should not be used. See illustration below:



CORRECT **INCORRECT**

12. Suction Pressure: Systems utilizing high suction pressure where a pump is used to boost system pressure is of concern. Be sure that the pressures do not exceed that of pump design, otherwise severe damage and possible operator injury could result.
13. If checking the system for leaks with air, do not exceed 20 PSI if plastic pumps are attached.

DISCHARGE

1. All discharge piping size should be determined by flow velocity which should not exceed 15 feet per second.
2. A Throttling Valve should be installed for flow and pressure control. Caution—Location of check valves on long discharge piping, high static discharge of 50 feet or more and two or more pumps used on the same common piping.
3. Install Discharge Pressure Gauge to monitor performance during operation.
4. Connect electrical power to the motor in accordance with motor manufacture's nameplate instructions.

OPERATION

1. Check pump for proper rotation by allowing fluid into the pump and turning power to motor on and off in a quick manner. If motor is not rotating in proper rotation, the leads should be changed to conform to motor manufacturer's nameplate. Improper rotation reduces capacity.

—CAUTION—

2. Do not run pump without liquid. Be sure liquid is in the pump. If pump is run dry, excessive heat will occur damaging internal parts and could result in operator injury.
3. Open suction valve completely.
4. Open discharge valve slightly (crack).
5. Observe all connections for leaks. If leaks occur, close all valves and repair all leaks before further operation.
6. Start motor.
7. Open discharge valve gradually until desired flow and pressure is attained.

—CAUTION—

IF DISCHARGE VALVE IS WIDE OPEN ON START UP, DECOUPLING COULD OCCUR OR MOTOR OVERLOAD IS POSSIBLE

8. Operating the pump for excessive periods of time at shut off (discharge valve fully closed) or at near shut off conditions could cause the liquid to rise in temperature which could cause failure of internal parts and failure of pump.
9. Flow rates should be controlled by the discharge valve only, never by the suction valve.
10. Electrical operation is also critical. High or low voltage could have an effect on pump performance. Caution—Do not operate the motor at varied voltages without consulting a March Distributor first.

PUMP INSTALLATION POSITIONS

Before running, ensure that all centrifugal pumps are primed as they have limited suction capabilities.

Pumps should be on a flat, stable surface or supports which are suitable to prevent movement of the pump and motor when in operation. It is advisable to mount the motor on a dampening/insulation surface to reduce noise and vibration caused by the moving components while operation.

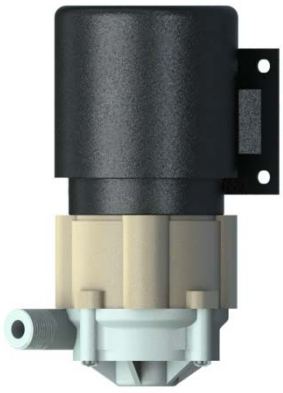
Always ensure that the outlet port is higher than the inlet port. This allows a path for the air to escape through. If the outlet is not higher than air can build up and may cause problems within the system. See figures for examples of correct and incorrect set up.

HORIZONTAL MOUNTING

			
CORRECT	**CORRECT**	**INCORRECT**	**INCORRECT**

The pump should never be mounted vertically with the pump head at the lowest point. This will create an air pocket within the pump chamber and may cause problems.

VERTICAL MOUNTING

	
CORRECT	**INCORRECT**

For application assistance, contact March Pump.