


# TB-004

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## RULES FOR INSTALLING CENTRIFUGAL PUMPS

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SUBJECT: Rules for Installing Centrifugal Pumps		PAGES: 3

- **SCOPE**

The purpose of this Bulletin is to help install centrifugal pumps. It is imperative that the pump chosen is sized properly for the intended density of the slurry, that it will deliver the minimum pressure energy required to maintain a high velocity stream from minimum to maximum viscosity.

- **Rules for Installing Centrifugal Pumps:**

- **Rule 1**


- Position the pump in an accessible location. When laying out the system, locate the pump in an area with ample space around the pump to provide easy access and working room for routine maintenance. Also, make sure overhead space is adequate for lifting and working clearance.

- **Rule 2**

- The pipe diameter should be the same size for both the pump inlet and outlet. Example: 8" x 6" centrifugal pump. An 8" x 6" concentric reducer should be installed at the pump suction flange. The suction and pressure (discharge) side of the pump becomes the same (6").

- **Rule 3**

- Eliminate mounted elbow on the inlet (suction) flange of the pump. There is always an uneven flow in an elbow. Installing an elbow on the suction of centrifugal pump introduces that non-uniform flow into the eye of the impeller. This can create unnecessary turbulence and air entrainment, which may cause pump cavitation, vibration and impeller damage.

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- **Rule 4**

- Provide the suction side with a straight run of pipe, in a length equivalent to 6 times the pipe diameter size. Liquid should arrive at the impeller eye with the proper pressure and a smooth uniform flow.

- **Rule 5**

- Tank Suction Installation: A bell-mouth design or concentric design should be used to reduce the formation of vortices that will cause turbulence that may draw air into the suction pipe. Keep a sufficient liquid level over the tank suction to avoid air entrainment.

- **Rule 6**

- Arrange the piping so it does not impose a strain on the pump casing. Accurately align pipe flanges before the bolts are tightened and independently support all piping, valves and related fittings.