

Proper Pump Installation

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One of the key factors in obtaining a reliable pump installation is, well, the installation. A properly and well installed machine can provide years of trouble-free operation, whereas one not so well done can be a maintenance nightmare causing untold dollars in otherwise unnecessary repairs.

A Firm Foundation

One major component of the installation is the foundation. The foundation's job is to provide rigid support for the machine and sufficient mass

to absorb vibration. Ideally, foundation pads would be poured at the same time as the floor and be homogenous with it. Of course, that can cause problems where you have this large expanse of flat concrete floor with foundation pads sticking up all over. Now you have to move machinery and other components in that area and contend with these obstacles you've placed in your own way. In addition, plants and mills are often upgraded and modernized, and those changes require foundation pads to be installed where there weren't any previously.

A few simple guidelines should be considered when planning foundation pads. These are based on what the foundation pad is supposed to do: provide rigid support and added mass.

Foundation Pad Preparation

Rigid support and added mass can both be accomplished with the pad being firmly attached to the floor.

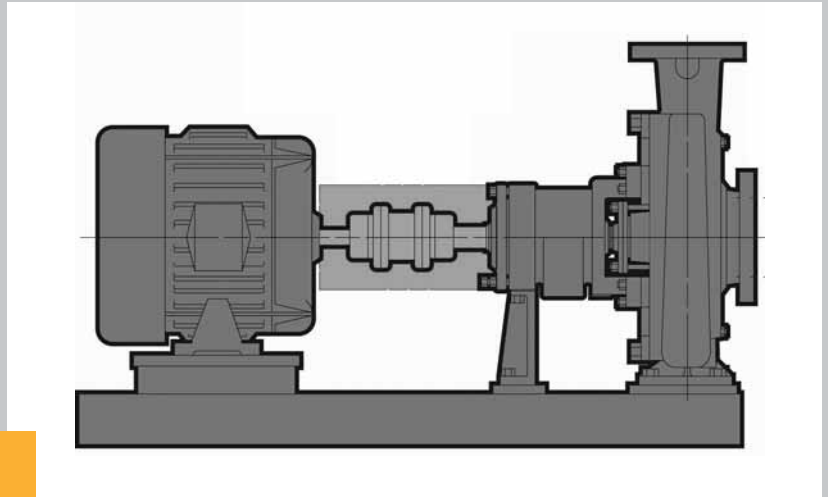
- The floor should be prepared by chipping the surface down to the aggregate.
- Completely remove / clean grease, paint or any other coatings or contaminants that would cause the new concrete not to adhere to the existing floor.
- Reinforcement rod should be installed in the floor to provide even better attachment.

The "Rule of Thumb" for the size of the foundation is:

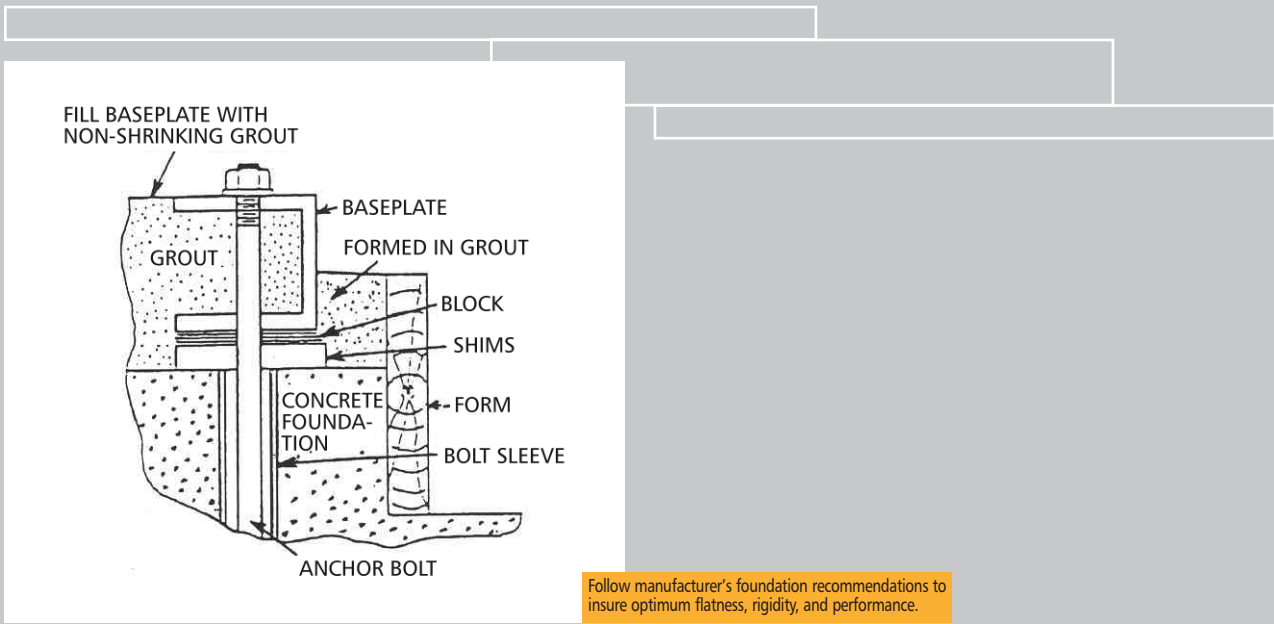
- Centrifugal pumps, the mass of the foundation should be equal to three times the mass of the machine.

- Reciprocating pump the rule is five times the mass of the machine.
- Vertical pumps, the rule is five times the mass of the rotating assembly. The mass of the rotating assembly would include the shafts, impellers, coupling, the motor rotor, essentially all the rotating parts.

While there are many other things that can be considered in the foundation design, keeping in mind the purpose of the foundation, these few notes can go a long way toward providing a good installation and benefits associated with it.



Foundations must provide permanent rigid support over the full area of the baseplate to absorb strains and shocks.



Follow manufacturer's foundation recommendations to insure optimum flatness, rigidity, and performance.