

6.1 FOOT VALVE

When the suction lift is not very high, it is advisable to install a foot valve to facilitate timing and prevent dry running of pump. Foot valves should not be used when the pump is operating against a high suction head.

The foot valve should be of low loss flap type and have a clear passage for liquid at least of the same area as that of the suction pipe.

Care must be taken to prevent foreign substances from being drawn into the pump choking the foot valve.

Many a times, it is observed that due to lesser passage area of the foot valve results in higher head losses and thereby reduces the pump capacity.

7. DISCHARGE PIPING

The discharge pipe should be laid out continually rising from the pump. The valve is to be fitted near the pump discharge to regulate the flow.

In case of long pipe and higher discharge heads, it is recommended to fit a check valve between the pump discharge nozzle and the discharge valve to prevent harmful waterhammer on the pump and the foot valve.

8. OPERATION AND MAINTENANCE

8.1 GENERAL

The shaft should be easily turnable by hand. The direction of rotation of motor should correspond to the direction of rotation of the pump as indicated by an arrow mark on the pump. Uncouple the pump and check the rotation of the motor by switching on for a moment. Wrong direction of rotation can be injurious to the pump and hampers its performance, as the impeller unlock and gets touched the casing and pump get jammed.

It is necessary to check the stuffing box and see that the gland is not too tight. One should not try to tighten the gland nuts in order to stop the leakage completely, as there will always be some leakage through gland packings. When the leakage can no longer be controlled by adjusting the gland, all packing rings should be replaced. The addition of a single ring to restore gland adjustment is not recommended. Pumps handling hazardous or expensive liquids or liquids where the leakage from the stuffing box is objectionable, are often fitted with mechanical seals.

A mechanical seal consists of a rotating element and a stationary element. The sealing faces are highly lapped surfaces on materials selected for their low coefficient of friction and their resistance to corrosion by the liquid being pumped.

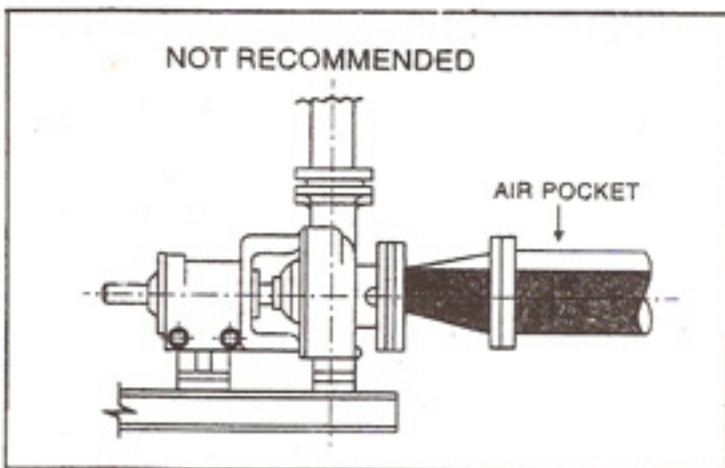
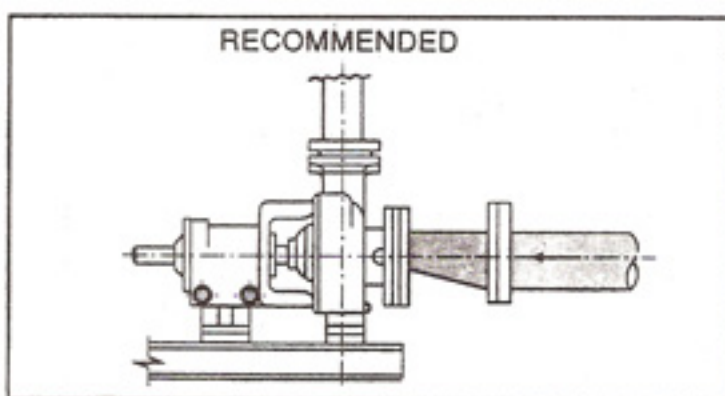


FIG. 6 REDUCER AT PUMP SUCTION