



Grow the Crop

Handout 17

Priming Pumps

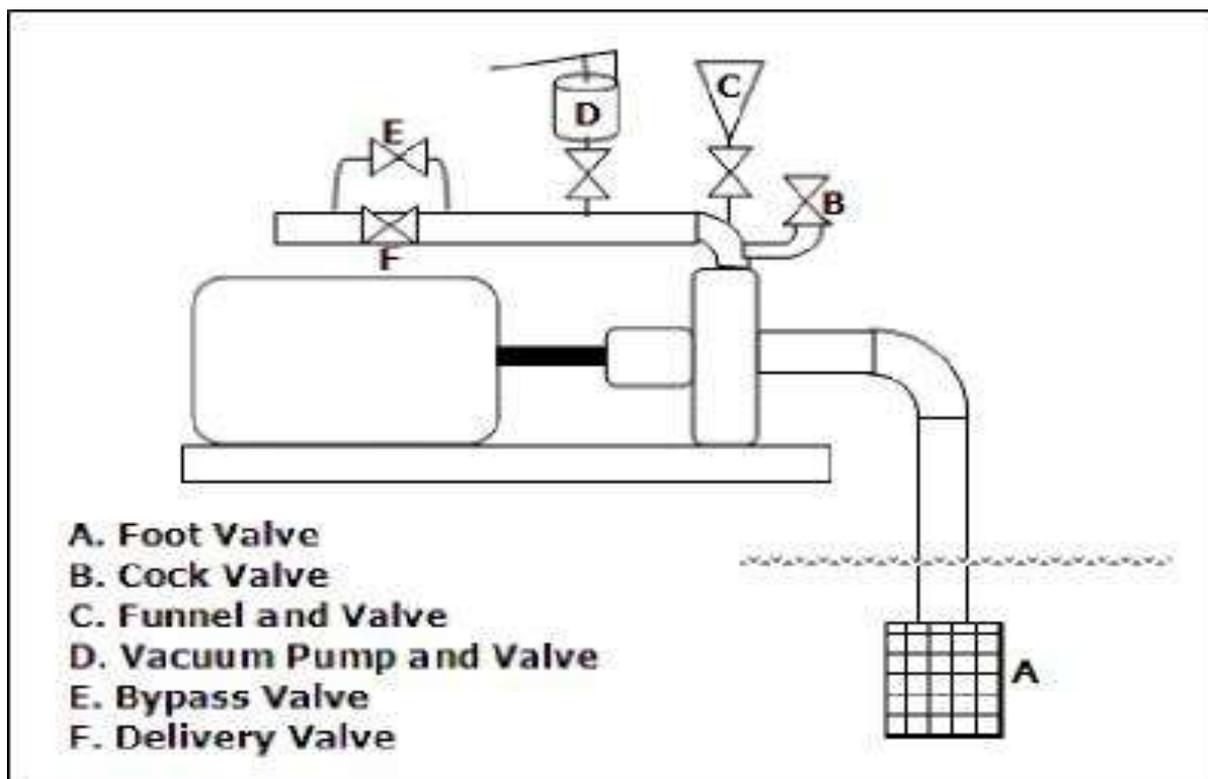
Priming Pumps

Priming pumps

Priming means to fill the pump with water so that all air is expelled. If the pump is not primed, it will not be able to draw water from the water source, which will result in cavitation. If the pump is fully primed, it will be able to draw and pump water. Centrifugal pumps must be fully primed in order to work properly.

To check whether the pump is primed, open the cock valve on the delivery side of the pump. This is a small valve that is used to expel air and to check whether the pump is full of water. If water squirts from the valve, the pump is primed, but if no water is present, the pump still has to be primed.

There are various methods that can be used to prime a pump. To prime a pump that is below the water level, for example a pump at the bottom of the dam wall, simply open the cock valve and keep it open until all the air has escaped and only water squirts out. Once the cock valve has been closed again, the pump is primed.



If the pump is above the water level, the pump can be primed using the funnel, the vacuum pump or the line pressure.

To prime the pump using the funnel

- Ensure that the delivery valve is closed;
- Open the valve below the funnel;
- Pour water into the funnel using a bucket. The water goes into the pump and the air will be expelled through the funnel;
- Continue to fill the pump until the funnel is brimming with water and no more air is expelled;
- The pump is now primed and the valve below the funnel can be closed.

To prime the pump using the vacuum pump

- Ensure that the delivery valve and all other valves are closed;
- Open the valve below the vacuum pump;
- Use the handle of the vacuum pump to pump all the air out;
- The pump is now primed and the valve below the vacuum pump can be closed.
- When the main line is filled with water, the line pressure can be used to prime the pump. If a non-return valve is fitted at the delivery valve, the bypass valve as well as the cock valve must be opened. Air will blow from the cock valve. When water squirts from the cock valve, the pump is primed, and the cock and bypass valves can be closed.

In some instances, the pump won't prime, which could be due to either a leak on the suction pipe or a faulty foot valve. Report such an incident immediately to the supervisor or manager.