

# Basepump

## Water powered back-up sump pumps

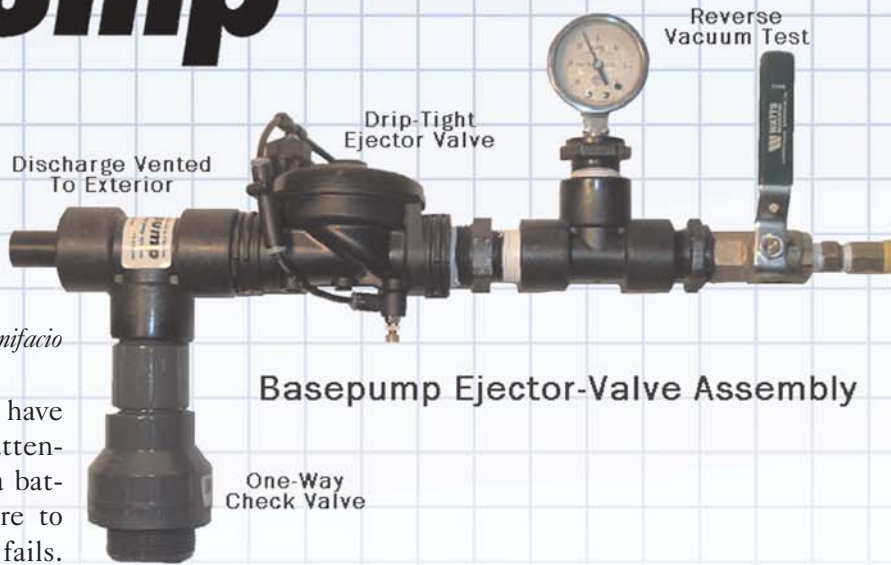
are not all created equal when it comes to cross contamination

by William Bonifacio

### A BRIEF HISTORY.

Water-powered, back-up sump pump designs have been in existence for years, but have received little attention. These devices operate without electricity or a battery. They use the home's domestic water pressure to pump out the water if the primary pump fails. Comparatively priced to the battery-powered pumps with regard to initial installation, long-term maintenance costs are far less.

All manufacturers of water-powered, back-up sump pumps use a venturi principle to create suction produced by municipal water flowing through a nozzle. The suction pulls the sump water into a chamber where it is mixed with the municipal water and then discharged outdoors.



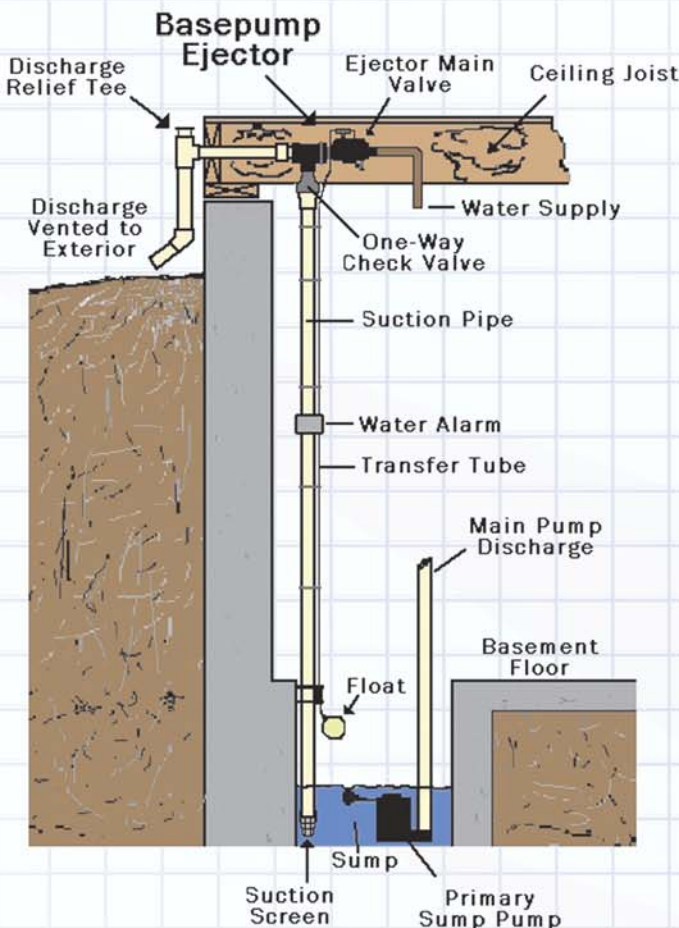
Basepump Ejector-Valve Assembly

Typically, a mechanical float valve that rises when the water level rises and opens the valve as a result of the primary pump failing to maintain or properly function activates the pumps. Newer hydraulic float valve designs have proven to be more durable and reliable than the older weighted or spring designs used in earlier pumps.

Of the water powered designs, one design stands out as a complete and independent system. The Basepump device is the only design that is mounted to the floor joist system above the sump crock, which protects it from the high moisture environment and mineral deposits of the sump crock, and eliminates component interferences within the crock. Also it has a completely independent discharge from the primary pump, and has a timing control built-in to allow the pump to run as long as needed to empty the sump pit and minimize operating cycles.

The Basepump also has a distinct advantage over other designs with regard to pumping flow rates and protection from cross connection of potable water. All other water-powered devices mount inside the sump crock and require the municipal water to be plumbed down into the crock. This allows for potential cross connection and possible health risks along with creating more static head and substantially lower flow rates. The Basepump, with its joist-mounted installation, assures no cross connection because the discharge is vented to atmosphere, not allowing a back-siphon condition and also maintains optimum flow rates. The system can operate with water pressures ranging from 50-100 PSI and will discharge 750 GPH of sump water with 60 PSI and a lift of 10 feet. Therefore, the homeowner can even leave for extended periods of time confident that pumping will continue as necessary until the primary pump is working again.

The Basepump, with its joist-mounted installation





assures no possible cross connection because of the inherent design features incorporated into the product. First, the ejector is located outside the sump pit dry and without any internal sump water. The ejector is vented to the atmosphere on the discharge side that will not allow backflow of sump water. It would be like trying to draw liquid up a straw that has a hole in it. It can't be done.

Secondly, the ejector has a main valve that is connected to the potable water supply. This main valve has a solid rubber diaphragm that isolates the potential sump water from the potable water supply. Should, as an example, sump water reverse flow it will be stopped by this solid diaphragm. And in addition, the Basepump is designed and patented with an integral check valve that locks in the potable water pressure in the upper chamber, in affect, closing the main ejector valve drip tight. Our factory testing has determined that a full vacuum source (or

backflow) condition applied to the main ejector valve in the reverse direction closes the valve drip tight and without any leakage. In fact, the greater the reverse flow or vacuum, the better the drip tight seal will be!

When it comes to performance and cross connection issues, there is no equal to the Basepump. Visit our web site at [www.basepump.com](http://www.basepump.com).

*[Editor's note: The author and DW&BP are very interested in learning your opinions on this product. Comments for the author may be directed to:*

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*For your reference, the Uniform Plumbing Code - 2003 references ejectors/sump pumps in sections 710 and 810. The International Plumbing Code - 2003 references ejectors/sump pumps in sections 712 and 1113.*

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