

SSPMA

Sump and Sewage Pump Manufacturers Association

Since 1956, we are a North American trade organization of sump, effluent, and sewage pump manufacturers and their suppliers.

Working together to:

- train wastewater and plumbing professionals, and
- create product performance and safety standards.

SSPMA members collaborate with each other and government regulators to educate consumers and professionals on the latest products, their application, proper sizing techniques, safe installation and use, and good maintenance practices.



Pumps bearing the “SSPMA-Certified” seal have been tested by the member manufacturer in accordance with SSPMA Industry Standards.



The Standards are designed to provide accurate performance data for sump, effluent and sewage pumping equipment, to assist in their proper application and selection.



SSPMA MEMBERS

Barnes Pumps / Crane Pumps & Systems

Champion Pump Company, Inc.

Eco-Flo Products Inc. / Ashland Pump Company

Franklin Electric / Little Giant

Glentronics, Inc.

Goulds Water Technology, a xylem brand

Liberty Pumps

Pentair Water

Superior Pump Company

Zoeller Company



SSPMA ASSOCIATE MEMBERS

Alderon Industries

John Crane, Inc.

SJE-Rhombus

Topp Industries, Inc.



Backup Sump Pump Systems

Why Backup Systems?

Who can use Backup Systems?

What is the reason for damage?

Types of Systems

Descriptions & Pros/Cons

Best Practices.

Best System?

Best Protection!

Where we are headed.



Backup Sump Pump Systems

**Why do we need
backup sump
pump systems?**



Backup Sump Pump Systems

**PREVENT
PROPERTY
DAMAGE!**



Backup Sump Pump Systems



Backup Sump Pump Systems

**Who needs
backup sump
pump systems?**



Backup Sump Pump Systems

Everyone with property to protect, especially:

- Locations that have previously flooded
- Homes and buildings with active sump pumps
- Homes with limited or no insurance against flood damage
- Anyone whose Peace of Mind increases by improving the protection of their property



Backup Sump Pump Systems

Damage occurs because we are not in control!

- Power outages are not scheduled
- Mechanical pump/switch/check valve don't have "wear bars"
- Piping issues such as blockages & freezing are never planned
- Recirculation of sump water is not anticipated
- **Incoming sump water cannot be turned off**
- Only ¼" of water can destroy a basement



Backup Sump Pump Systems

The Point:

The reason we need
backup sump pumps
is to protect against the
UNKNOWN.



Types of Backup Sump Pump Systems

Inverter – 1 or more batteries connected to an inverter, which provides AC power for primary pump(s).

Water Power – A venturi effect pump plumbed into the domestic supply line.

Battery – DC pump, running off battery, which is maintained by a charger. Includes various alarms, and communication methods, depending on system.



Inverter Systems

12v and 24v systems for 1 or 2 (wired in series) batteries.

The existing primary AC sump pump is typically plugged into the inverter. It is better to install a 2nd sump pump to plug into the inverter. Even better is to use an alternator device to allow both pumps access to the inverter system.



Care must be taken to size pumps according to the inverter's output.



Inverter Systems

Pros:

Simple to install. Existing pump(s) simply plug into inverter.

Retain pumping capacity of primary pump.

Cons:

Less efficient use of battery power = Limited run times

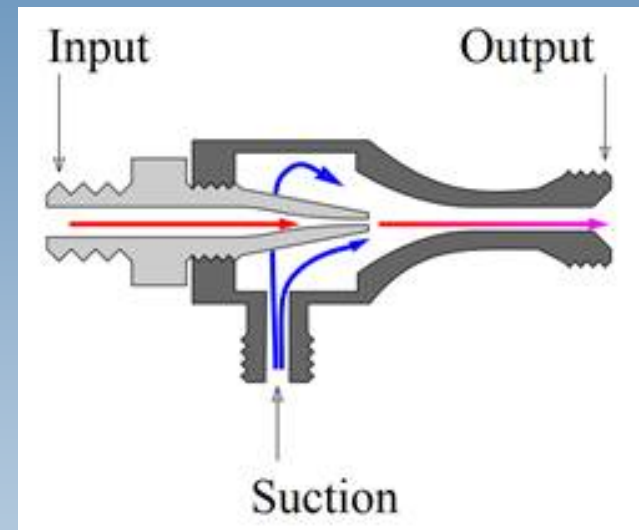
Usually installed with single pump. Better to install second pump and pipe, etc.



Water Powered Systems

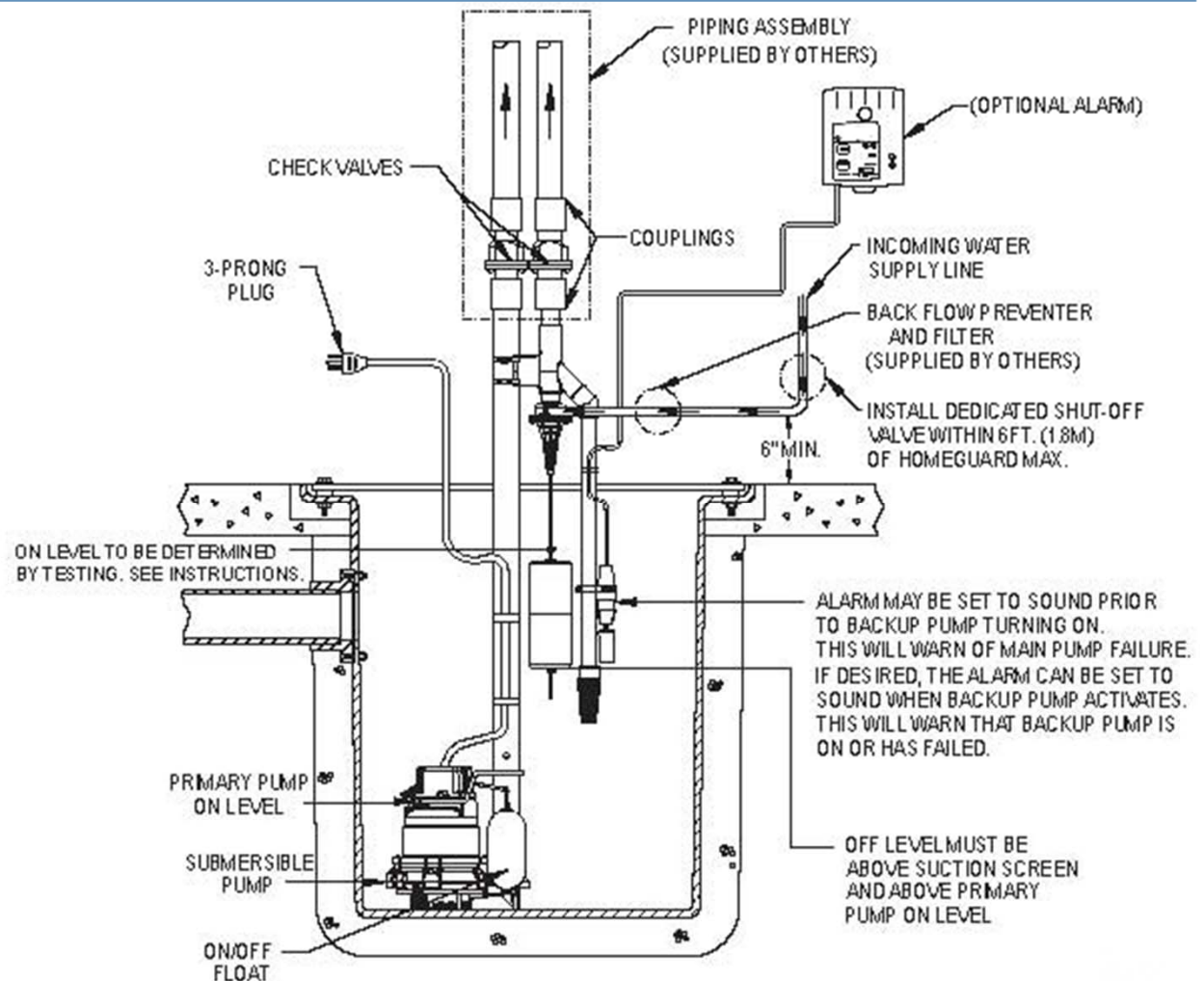
A float switch is installed slightly higher in sump basin than primary pump. When this switch rises, a valve opens allowing the pressurized domestic water to flow through a venturi effect pump. This creates suction on the draw pipe, pulling water from the sump.

This is a purely mechanical operation. Theoretically, since no electronics are required, the pumping can take place indefinitely.



Water Powered Systems

Installation often requires copper piping and preventative backflow equipment.



Water Powered Systems

Pros:

Unlimited run time

Less space required in sump

Professional installation often required

Cons:

Lower pump capacity

Domestic water supply being used, possibly adding to water outdoors

“Hidden” costs to owner of RPZ valves and annual inspections and certifications



Battery Powered Systems

Systems range from low cost, basic protection often found in retail, to premium systems costing much more.

DC Pump: Performance can range from 10 GPM to 30 GPM at 10' lifts. The quality level ranges from inexpensive imported bilge pumps to domestic, individually tested DC sump pumps.

Controller: Simple chargers to sophisticated control equipment.

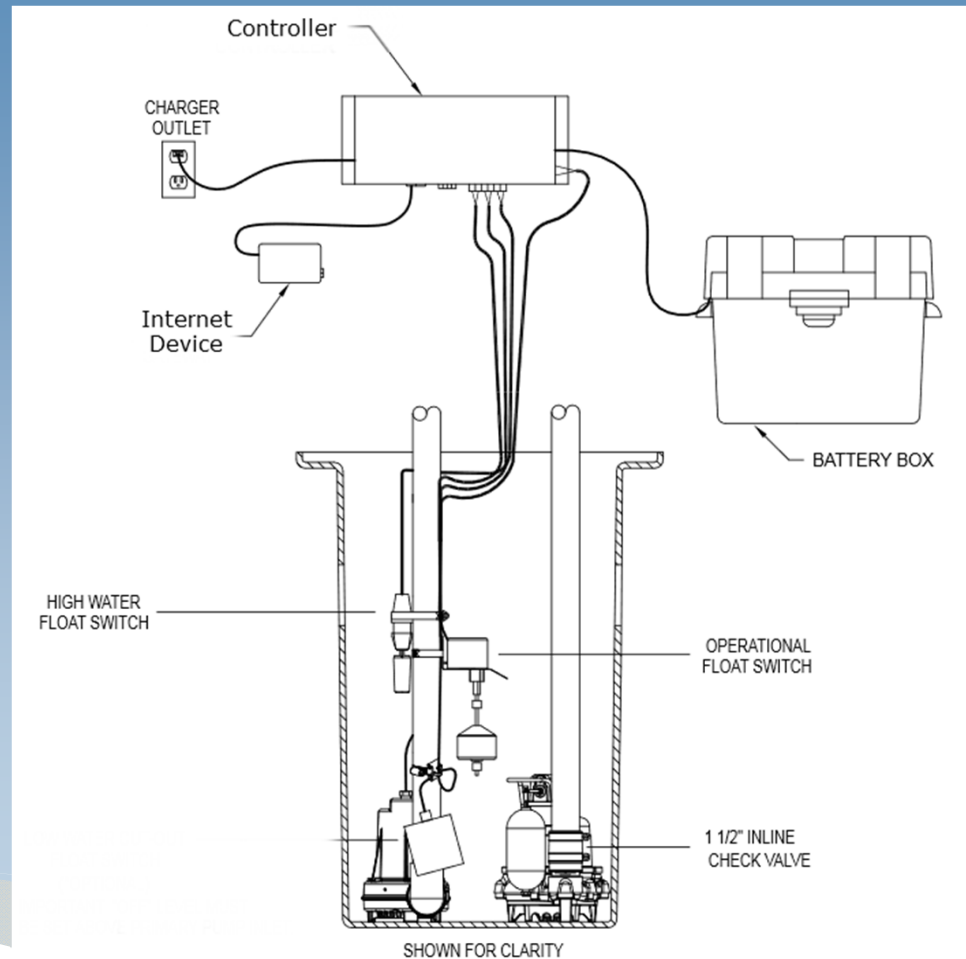
Switch: Traditional mechanical floats, vertical floats, & reed sensors. Some systems may also have high water alarm floats.

Battery: AGM and Wet/Calcium. Avoid Gel.

Alarms: Visual & audible. You can connect to communication equipment such as home security systems, and even ***internet connected devices***.



Typical Installation with Separate Discharge pipe



Battery Powered Systems

Pros:

Wide variety of systems: simple to sophisticated, entry level to premium, high levels of technology

Long warranties

Cons:

Run time limited by battery

More moving parts

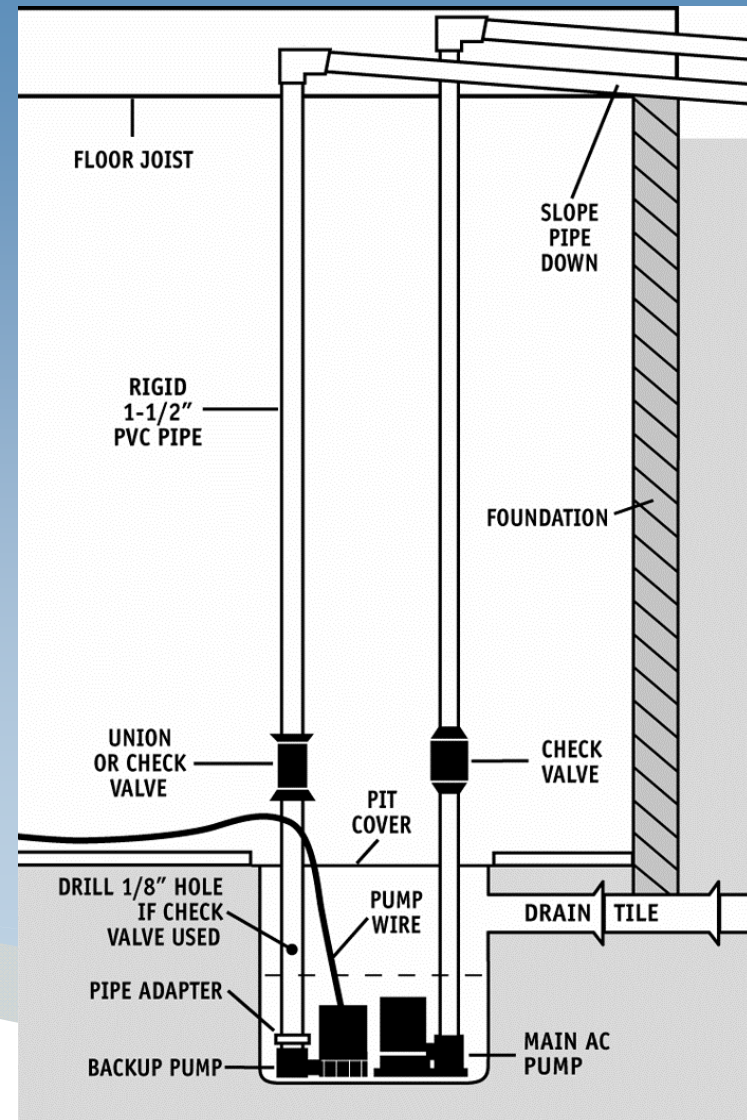
Sump can more easily get crowded



Best Practices

Discharge Piping

- Pipe up to highest point as soon as possible.
- Then continuously down from that point.
- This will result in the least amount of total dynamic head, and therefore, better performance and longer running times.
- Relief holes and air gaps.



Best Practices

Separate discharge pipes when possible.

Prevents problems related to check valves, and allows for more pumping capacity if both pumps needed to run

Clean basin. Clean out debris that can interfere with switch operation or jam pumps.

Straight pipes and tidy wires. A professional looking installation goes a long way toward customer satisfaction and confidence. Cable ties are a must.

Dedicated circuit. Plug backup pump equipment into an outlet that is on its own circuit, separate from the primary pump.



What is the “BEST” system?

After discussing the Pros and Cons of these systems, can we conclude which is the best type of system to protect property?

Answer:

The system that meets the needs of the owner.



What is the “Best” protection?

Despite which system is deemed “Best”, and independent of cost, the best protection includes these 5 essentials:

Redundancy

Performance

Self Activation/Diagnostics

Notification

Connectivity



Redundancy

The more redundancy the better:

Power

Pump

Control

Switch

Discharge

The best protection includes complete redundancy.



Performance

- Typically measured in GPH or GPM. These numbers can vary greatly according to head height, the number of bends in the piping, available voltage, pressure, and other variables, so comparisons must be done carefully.
- For DC pumps, the voltage at which the capacity is measured is very important, but rarely stated.
- The pumping capacity of a backup pump system needs to be sized to worst case required because that's when it will be needed.
- Going small because “it's just a backup” is illogical.



Self Activation/Diagnostics

Biggest killer of stand-by equipment:

Dormancy and Neglect

A system that can self-test its crucial components reduces the dependency on the owner to test the equipment.

The more tests, the better.

Trust but verify.



Notification

The biggest reason people flood isn't from power outage, it's because:

they didn't have prior knowledge that something needed attention.

Self-testing doesn't serve its purpose if the system doesn't notify of potential problems.

Loud audible alarm and meaningful LED indicators.



Connectivity

Enhances Notification.

Alarms/LEDs are great but don't help if they aren't heard/seen.

An email, text, or push notification (via app) of important information is increasingly the expectation from consumers.

Remote access to equipment to initiate tests, adjust settings, silence alarms, etc. is available on certain systems today.



Where is the backup pump market headed?

Increased efficiency and performance. Advances in pump and motor designs will lead to improved protection.

Improved validation. Most systems will soon be able to verify their own operation and communicate faults in even better ways.

Remote access. Anywhere access and notification from pump equipment.



Don't let this be your customer's future.



Questions?
Comments?

Thank you!

