



PUMP SELECTION GUIDE

When purchasing Red Lion products, you receive more than quality products. The informative packaging makes it easy for in-store pump selection, access to Technical Support for installation and troubleshooting assistance, and ongoing support from the Customer Support Team.

KEY TERMS

- **Max Flow:** The maximum gallons per hour (gph) or gallons per minute (gpm) a pump can produce at 0 feet.
- **Shutoff:** The maximum height that a pump can pump water vertically. $\text{Height in feet} \div 2.31 = \text{maximum pressure in psi}$
- **Maximum Pressure:** The maximum pressure a pump can pump water vertically, measured in pounds per square inch (psi). $\text{psi} \times 2.31 = \text{maximum height in feet}$ (also known as "shutoff")
- **On/Off Level:** For pumps that come with float switches, the on/off level lists the height of the water level when the pump will turn on or off.



LAWN & IRRIGATION PUMPS

What is a sprinkler pump?

Red Lion offers two types: small portable sprinkler/booster pumps designed for use with a single sprinkler, and larger sprinkler/irrigation system pumps designed for multiple sprinkler heads in one or more zones. Sprinkler pumps transport water from a lake, pond, or well with suction lifts down to 25'.

What is a zone?

Large properties have multiple zones so that different parts of the property are watered at different times. Multiple zones allow more sprinklers to be set up with just one pump.

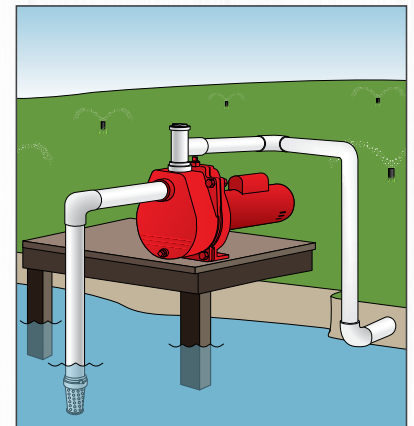
To correctly size the sprinkler/irrigation pump, use the following steps:

1. Count the number of sprinkler heads in each zone (use the largest number).
2. Determine your pipe fitting size and the multiplier needed:
 - 1/2" fittings require 3 gpm per head, so multiply the number in step one by 3.
 - 3/4" fittings require 6 gpm per head, so multiply the number in step one by 6.
3. Compare the result in step two with the gpm listed at 30 psi on the packaging or spec sheet.

$$\text{My largest zone has } \underline{\hspace{1cm}} \text{ sprinkler heads} \times \underline{\hspace{1cm}} \text{ gpm each} = \text{minimum } \underline{\hspace{1cm}} \text{ gpm required at 30 psi}$$

Sprinkler/Booster Pumps: 7 to 12 gpm at 30 psi*

Sprinkler/Irrigation Pumps: 38 to 95 gpm at 30 psi*



*At 5' lift



SUMP PUMPS

What does a sump pump do?

A sump pump removes standing water from the sump basin in a basement or crawl space. When the water reaches a certain level, the sump pump turns on and removes the water through a discharge pipe or hose.

Information to Consider When Choosing Your Sump Pump

Horsepower: You will want to choose a pump that has at least the same horsepower as your current pump. If your existing pump isn't sufficient (water is found on the basement floor), move up a size. If your existing pump is wearing out prematurely, such as before the warranty period ends, move down a size. The average home requires pumping capability of 10' vertically and 100' horizontally or less.

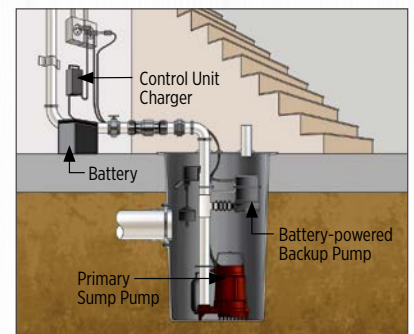
Light Usage or Backup Pump: 1/4 hp

Average Usage: 1/3 hp

High Volume Usage: 1/2 hp

Types of Float Switches**

- **Tethered:** A float attached with a cord that raises and lowers with the water level, activating a switch inside the pump telling it to turn on, drain the water, and then turn off once the water level has subsided. This switch is used for sump, effluent or sewage applications. Replacement switches are available.
- **Vertical:** A float attached with a rod that raises and lowers with the water level, activating a switch attached outside the pump telling it to turn on, drain the water and then turn off once the water level has subsided. This style allows for installation in confined areas.** This switch is not designed for sewage or effluent applications. Replacement switches are available.
- **Snap-Action:** A contractor-preferred switch built into the pump. It's designed for confined areas,** but unlike a traditional vertical float switch, debris can't hinder operation so it is suitable for sump and effluent applications. The switch features a solid float that will never become waterlogged.



Submersible Sump Pump with Battery Backup



**Consult packaging for basin size requirements.



EFFLUENT & SEWAGE PUMPS

Why do you need an effluent pump?

Effluent pumps are designed to pump filtered effluent from a septic tank to a leach field. They are typically designed to handle 1/2" solids.

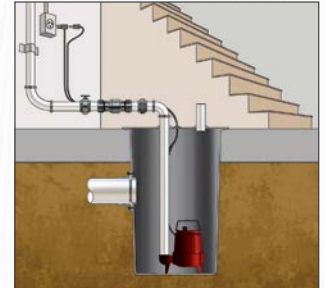
Why do you need a sewage pump?

A necessity for homes with basement toilets or those without gravity sewage drains provided by the community, a sewage pump lifts flushable waste up to 2" in diameter from the sewage basin into the main sewer line.

Replacing an Existing Sewage Pump

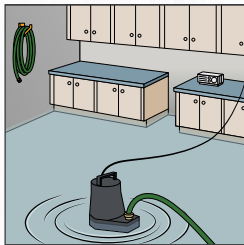
Determine the size of your current pump: Check the identification plate to determine the horsepower (hp) needed. Generally, you will want to select a pump with the same horsepower as your current pump. If you have recently added plumbing fixtures (such as a bathroom add-on), please call Technical Support and they can assist you with finding the correct size pump for your needs.

Determine the size and type of discharge pipe you have: Sewer lines are 2" in diameter or larger, so it is important to measure the line. To determine the pipe size, measure the inside diameter. Ensure the discharge size on the pump matches the discharge pipe you have.

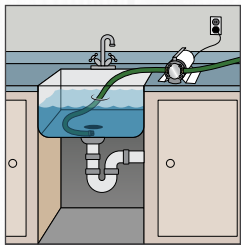


MULTI-PURPOSE PUMPS

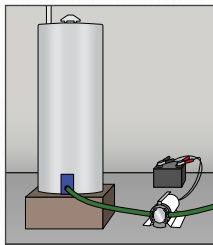
Typical Applications



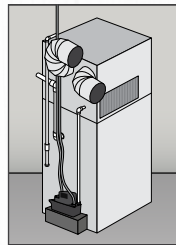
Removing/transferring water from basements, rooftops, hot tubs, and crawl spaces



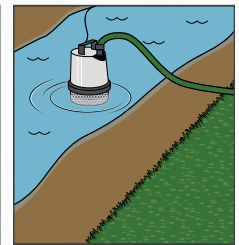
Draining hot water tanks, appliances, aquariums, boat bilges, and other emergency dewatering needs



Removing condensation buildup from air handlers, boilers, furnaces, ice makers, and dehumidifiers



Boosting household water pressure for washing vehicles, sidewalks, and driveways



General dewatering; livestock watering, flood irrigation



ENGINE DRIVE PUMPS

What does an engine drive pump do?

The majority of gasoline-powered pumps sold in North America are referred to as general purpose, utility, or transfer. This is simply moving liquid from one point to another.

Types of Engine Drive Pumps

- **Agricultural:** Pumps designed to handle today's agricultural chemicals (fertilizer, herbicides, and pesticides) would fall into this category. Construction is either a poly derivative or cast iron. Aluminum is usually not used as it does not provide strong chemical resistance. Solids handling is not required. The seal elastomer is usually EPDM or fluoroelastomer.
- **Semi-Trash:** A pump is considered semi-trash if it has some solids handling capabilities. The pump impeller is designed to pass a spherical solids 1/2" to 3/4" in diameter. The mechanical seal faces are usually of a hard material like silicon carbide. This is for abrasion resistance. Typical applications are drainage, construction dewatering, etc.
- **Trash:** Similar in application to the above, except that solids handling is typically 50% of the suction port size, passing solids larger than 1". These pumps have a removable casing to allow access to internals for cleaning and repair.

CATEGORY	CONSTRUCTION	APPLICATION EXAMPLES
General Purpose	Poly, Aluminum, Cast Iron	Water Transfer, Flood Control
Agricultural	Poly, Cast Iron	Chemical Transfer (Fertilizer), Nurse Trailer
Solids Handling	Aluminum, Cast Iron	Construction, Semi-Trash, Trash

