

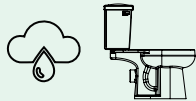
GENERAL INFORMATION

Pump Selection

WHAT YOU NEED TO KNOW:



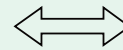
Voltage



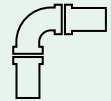
What is being pumped



Vertical height of material being pumped



Horizontal distance of material being pumped



Type and size of pipe

» SIZING A SEWAGE PUMP

There are three ways to size a sewage pump. Each method will provide an estimate of peak flow conditions.

1

FIXTURE UNIT CALCULATION

This method uses the “Hunter Curves” for approximating water usage by a typical plumbing fixture. This is an acceptable way of estimating the pump flow requirement for residential and small commercial applications.

2

LARGER CAPACITY SYSTEM CHART

This is a derivation of the fixture unit method. It takes into consideration that in a high density environment, a ratio of plumbing fixture use can be applied to approximate peak flows. This method can be utilized for structures such as motels, apartment complexes, trailer parks, large office buildings, etc.

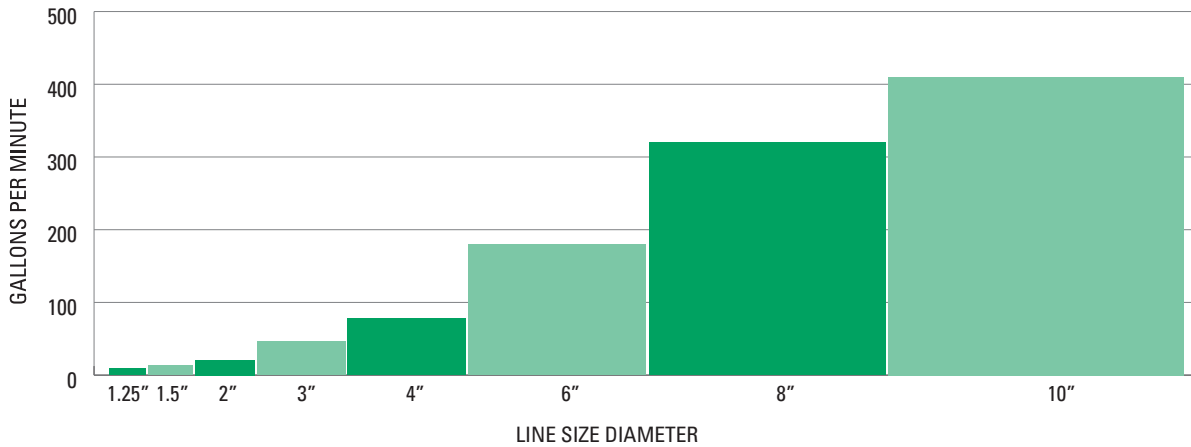
3

POPULATION METHOD

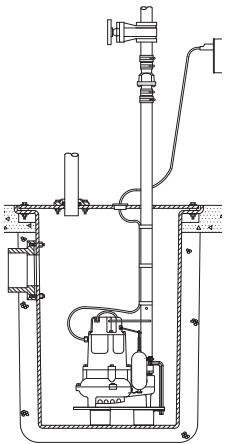
A method of calculating demand used by civil engineers when designing municipal sewage systems. A gallon-per-day usage pattern is established for each type of building structure. Then, a peak factor is applied, which is spread over a 24-hour period. This method is used for homes and other residences where sewage flows into a municipal sewage system. This method can only be used in those applications where a large basin is used.

» LINE SIZES:

Regardless of what your peak flow requirement is for a given application, the pump must always be able to provide a minimum velocity of 2 feet per second through the line. Line sizes, with their accompanied minimum flow rates, are as follows:



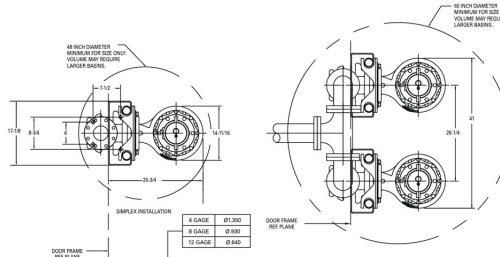
» OTHER FACTORS CONCERNING PUMP SELECTION:



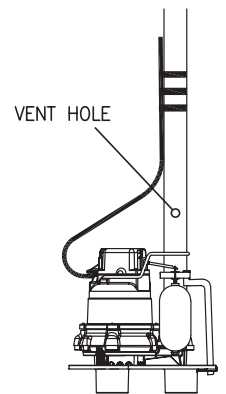
The pump selected must be capable of pumping to the **highest vertical point** in the system.



Total dynamic head (TDH) in feet is the total resistance in the piping network which you are pumping against. Do not select a pump if the TDH is less than the minimum point shown on its curve.



Do not under-size the basin. If possible, always select a pump and basin assembly which will allow for at least a 30-second pump cycle and no more than 6 starts per hour.



Air can interfere with the pump's ability to work. **Always drill a vent hole in the discharge line between the pump and check valve.** In long horizontal runs of pipe, air relief valves may be required.