# wellcare® information for you about
# Well Components: Your Well Pump

The well pump raises water from your well and delivers it to a storage tank, where it is held under pressure until you need it. The pump refers to both the pump itself and an electric motor, which together make up the pumping unit.

There are many types, kinds and sizes of pumps for water systems. Some are designed simply to remove water from a source. Others also force water through the rest of the system.

Some pumps serve special purposes, such as boosting water pressure or supplying a special water outlet.
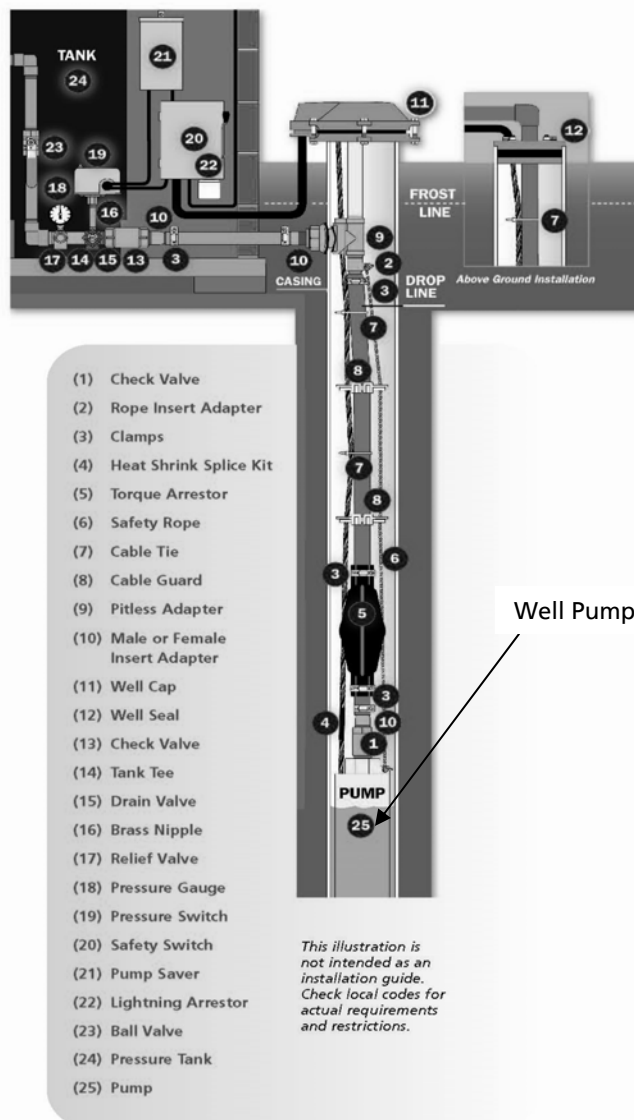
Pumps vary in sizes and types. Pump sizes include shallow-well and deep-well. Jet pumps and submersible pumps are the most common pump types. Selecting the appropriate pump size and type is a critical step in the design of your water well system. If your pump installation is not properly planned, you won't receive satisfactory water delivery.

The size of your well pump is based on the yield of your well and the needs of your household. The pump must meet normal peak demand for the household, rather than average use.

One general rule is to never install a pump that has a greater capacity than your well, unless you need to use well storage, along with well yield, to meet your peak demand for water.

If the peak demand exceeds the maximum rate of water available, the pump must be sized within the well capacity and the peak demand reached through added storage. Usually a large-size pressure tank can perform this function.

## Typical Water Well System



(1)  Check Valve
(2)  Rope Insert Adapter
(3)  Clamps
(4)  Heat Shrink Splice Kit
(5)  Torque Arrestor
(6)  Safety Rope
(7)  Cable Tie
(8)  Cable Guard
(9)  Pitless Adapter
(10) Male or Female Insert Adapter
(11) Well Cap
(12) Well Seal
(13) Check Valve
(14) Tank Tee
(15) Drain Valve
(16) Brass Nipple
(17) Relief Valve
(18) Pressure Gauge
(19) Pressure Switch
(20) Safety Switch
(21) Pump Saver
(22) Lightning Arrestor
(23) Ball Valve
(24) Pressure Tank
(25) Pump

*This illustration is not intended as an installation guide. Check local codes for actual requirements and restrictions.*

In fact, a larger water storage tank can prolong the life of your pump, as it reduces the need for the pump to cycle as often. Most wear and tear on a well pump occurs when it stops and starts.

There are times, however, when the well capacity is so low that a two-pump system is needed. The well pump supplies water to an atmospheric storage tank. A second pump, a shallow well or submersible unit, then moves water from the atmospheric tank and discharges it into a pressurized storage tank or directly into your system. Its operation is controlled by a pressure switch.

Your water well professional can determine the correct pump size and type for your system and suggest options for improved water pressure or expanded storage capacity.

## For more information on Your Well Pump

Water Systems Council. (2006). Chapter 3: Sizing and Selection. In Book I of the *Water Systems Handbook* (12th Edition)*.

Water Systems Council. (September 2003). Information sheet on "Sizing a Well Pump." Available at www.watersystemscouncil.org/wellcare/infosheets.cfm.

## For more information on your drinking water

The following websites provide up-to-date information on efforts to protect drinking water supplies and steps you can take as a private well owner. In addition, you may contact the wellcare® hotline at **1-888-395-1033**.

Underwriters Laboratories Inc. Drink Well™ Well Water Testing   www.uldrinkwell.com
U.S. Environmental Protection Agency   www.epa.gov
Water Quality Association   www.wqa.org

## For more information about wells and other wellcare® publications

wellcare® is a program of the **Water Systems Council (WSC). WSC** is a national nonprofit organization dedicated to promoting the wider use of wells as modern and affordable safe drinking water systems and to protecting ground water resources nationwide. This publication is one in a series of wellcare® information sheets. There were more than 60 available at the time this document was published. They can be downloaded FREE from the WSC website at www.watersystemscouncil.org. Well owners and others with questions about wells or ground water can also contact the wellcare® hotline at **888-395-1033** or visit **www.wellcarehotline.org**