



Windmills & Water Pumps

To have a complete working system you will require the following components:

- 1) Windmill
- 2) Tower
- 3) Pump System

1) Windmills are available in sizes from 6' to 16' with a variety of tower heights. All windmills are new, rebuilt models are not available. The wheel size you will require will depend on the following factors; depth of water, volume of water required and the size of windmill you desire.

2) Tower height is dictated by the surrounding topography, trees, hills, building etc. Obstructions within 400' need to be considered. If in doubt, taller is always better since a windmill will withstand more severe winds with a taller tower.

3) Windmills must be mounted directly above the water source (well in most cases). For pumping you will require a pump, pump cylinder and the connecting pump rod and drop pipe to complete the connections. At the well head you can opt for a sealed flange or an unsealed flange. For drinking water, you will require a sealed flange.

To help you determine the windmill size you need please refer to the following table. The table is based on 15-20 mile per hour wind and is approximate. You do not need the biggest windmill to achieve your desired results. Under ordinary conditions the actual water quantity delivered will fall below the theoretical outlined capacity. Where the prevailing winds are light or variable, where the wind usually blows only a few hours each day, where the wind exposure is poor, or where it is desired to have the wheel run at less than maximum speed, these conditions should be taken into consideration in determining the size of windmill and tower needed to supply the required water flow.

Size of Cylinder	Water Capacity gph		Elevation in feet to which water can be raised (depth of well)					
	6'	8'-16'	6'	8'	10'	12'	14'	16'
2"	130	190	95	140	215	320	460	750
2 1/2"	225	325	65	94	140	210	300	490
3"	320	470	47	68	100	155	220	360

Tower information:

Towers are supplied as specific sizes to match the correct wheel head. The size matches are outlined in the price list pdf.

Towers are hot dipped galvanized steel to ensure maximum corrosion resistance. Supplied complete with bolts, pump pole, anchors and platform. All these parts are built to ensure maximum safety and durability.

Pump Cylinders and parts:

Hand Pumps: refer to website for current pricing

There are currently 3 models of hand pumps for you to choose from.

Model 11HA-The most basic of the hand pumps it is designed only for shallow well applications. Will pump water to a maximum depth of 25'. Requires a cylinder. This pump is not suitable for human drinking water as it does not have sealed packing inside. It is ideal for watering gardens and flowers or livestock.

Model 11HD- The most popular hand pump, will work to depths of 200'. With its sealed packing it is ideal for human consumption drinking water. For Hand use, windmill hookups or pump jacks-motorized.

This model comes with a siphon spout which means that the water will only be allowed to come out of the spout on the front of the unit, it cannot be diverted like the 12HD.

Model 12HD- Almost identical to the Model 11HD, will pump as deep as 200'. Sealed packing makes it

safe for human drinking water. This unit includes a bibb spout which means it has a shut off on the spout and a connection on the rear of the pump in order to divert the flow of water through a pipe or garden hose to another location. For hand use, windmill connection or pump jack (motorized).

Pump Rod

The pump rod provides the connection between the hand pump and the plunger in the cylinder. This drives the water to the well. The pump rod is sold in 21' lengths or 7' lengths, by 7/16" diameter and comes complete with couplings. The rod and couplings are zinc plated to prevent rusting. Order enough pump rod to extend at least 15' into the well, below the static level of the water. You will also need an equal amount of PVC pipe to complete your system. Also, you will need to order one extra coupling to attach to the pump. Due to sizing a shipping surcharge is required on pump rod. **Part # PR21 or #HA20.**

Table of Hand Pump Data

Depth to water that can be pumped by average person and showing the three columns possible with 5", 7.5" and 10" pin positions on the pump handle. Note: These calculations are based on 50lbs applied perpendicular to the pump handle and includes the hydraulic lift with 10% added for leather friction and weight of rod at minimum mechanical advantage which occurs at midstroke.

NOTE: In the chart below **DTW-ft** means Depth to Water measured in feet.

Cylinder Size	Part #	5" Stroke DTW-ft	7.5" Stroke DTW-ft	10" Stroke DTW-ft
2" Cylinder	11003	201	140	108
2.5" Cylinder	11004	141	99	76
3" Cylinder	11005	104	72	56

Cylinders

A cylinder is required for all pumps. The cylinder is the apparatus which creates the pressure to drive the water up to the top of the well and out the pump. When you stroke the pump handle the cylinder plunger goes up and down forcing water up the pipe and out the pump. See the table on page 1 to figure out what size cylinder you will require. When referring to the table note that pump models 11HD and 12HD have adjustable stroke settings (5", 7.5" and 10" on the handle (see table to the right).

All cylinders are made of solid brass. Refer to website for current pricing.

Flanges

It is highly recommended that you use a pump flange to attach your pump to the well. This will give it a secure and stable fit. The flange

attaches to the well casing and the pump to the flange. You provide the nuts and bolts to attach the flange (available at any local hardware store). Flanges are available sealed or unsealed. It is recommended that you use a sealed flange where drinking water applications are involved. Please refer to website for Pricing.

Flange Size	Type	Part #
4"	Sealed	PFS64
5"	Sealed	PFS65
6"	Sealed	PFS66
4"	Unsealed	PF64
5"	Unsealed	PF65
6"	Unsealed	PF66

Shipping Policy: All windmills and towers are shipped F.O.B. USA factory.

We will quote you a shipping price for your order. Commercial addresses are always better to ship to as the costs can be greatly reduced. Whenever possible it is best to use a commercial address. A 50% deposit is required for all windmill orders. Balance due on shipping