



Pumps

Contents

Selecting the Best:

Submersible Well Pumps

Non-Submersible Well Pumps

Sump Pumps

Sewage Pumps

Booster Pumps

Submersible Well Pumps

Choosing the right pump involves considering well depth, water demand, and pump horsepower.

Assess Well Depth: Deeper wells require more horsepower to lift water. Generally, 0.5 HP is needed for every 100 feet of depth.

Calculate Total Dynamic Head (TDH): This includes the vertical lift, pressure needed at the outlet, and friction loss in piping. It's crucial for selecting the right pump size.

Flow Rate: Estimate your household's peak water usage in gallons per minute (GPM). A typical home requires 8-12 GPM, but this varies based on the number of water fixtures, appliances, and household occupancy.

To calculate the gallons per minute (GPM) a household will use, follow these steps:

1. **List Key Water Fixtures and Appliances:** Include faucets, showers, toilets, dishwashers, washing machines, and garden hoses.
2. **Assign Average Flow Rates:** Typical rates are 1-2 GPM for faucets, 1.5-3 GPM for showers, 2-4 GPM for dishwashers, 3-5 GPM for washing machines, and 5-10 GPM for hoses.

Non-Submersible Well Pumps

Selecting Non-Submersible Well Pumps

Non-submersible well pumps, often referred to as jet pumps, are essential for drawing water in residential settings where the well is not too deep. These pumps are installed above ground and are suitable for shallow to moderately deep wells.

Key Considerations for Choosing Non-Submersible Well Pumps

Well Depth: Non-submersible pumps are ideal for wells up to about 25 feet deep (shallow well pumps) and can also be used for wells up to 110 feet deep (deep well jet pumps) with the appropriate jet assembly.

Flow Rate: Calculate your household's peak water demand in gallons per minute (GPM). Include all water fixtures and add a buffer to accommodate unexpected demand.

Horsepower (HP): The pump's horsepower should match the well depth and flow rate requirements. More depth and higher flow rates typically require more horsepower.

Suction Lift Capability: This refers to the pump's ability to lift water from the well's water level to the pump. Ensure the pump's suction lift capacity exceeds your well depth.

Energy Efficiency: Choose energy-efficient models to reduce operational costs.

Advantages of Non-Submersible Well Pumps

Ease of Maintenance: Being installed above ground, these pumps are easier to access for maintenance and repairs.

Cost-Effectiveness: Generally, they are less expensive to install and maintain compared to submersible pumps.

Here is a chart for selecting the correct pump:

ORDERING INFORMATION – SHALLOW WELL						
Catalog Number	HP	Discharge Pressure in Lbs.	Capacity in U.S. Gallons per Minute Suction Lift in Feet			Shut-Off PSI
			5	15	20	
HJ505*	1/2	20	14.5	11.5	6	65
		30	16.5	11.5	6	
		40	10	8	5	
		50	5.5	3.5	2	
HJ755*	3/4	20	23.5	17.5	10.5	69
		30	23.5	17.5	10.5	
		40	19.5	16.5	10.5	
		50	12.5	9	5	
HJ1005*	1	20	27.5	21	13	67
		30	27.5	21	13	
		40	25.5	21	13	
		50	19	15.5	12	

*For brass impeller add "-1" to Catalog Number, i.e.: HJ50D-1

ORDERING INFORMATION – DEEP WELL																		
Catalog Number	HP	Pressure Switch Setting	Average Regulator Setting	Jet Package Cat. Number			Capacity in U.S. Gallons per Minute Distance to Low Water Level in Feet											
				Cast Iron	Bronze	Packer for 2" Well	30	40	50	60	70	80	90	100	110	120		
HJ50D*	1/2	20/40	22	DW50-I	DW50	P50	10.5	9.5	8	6	5	4	2.5					
		30/50	22	DW50-I	DW50	P50	9	8	7	5.5	4.5	3.5						
HJ75D*	3/4	20/40	26	DW75-I	DW75	P75	16.5	13.5	10	8	7	6	4	3	1			
		30/50	26	DW75-I	DW75	P75	15.5	12	10.5	7.5	6	5	3	2				
HJ100D*	1	20/40	34	DW100-I	DW100	P100	18	15.5	12.5	10	9	8	5.5	4.5	2.5	1		
		30/50	34	DW100-I	DW100	P100	18	15	12	10	9	7.5	5	4	2	1		

*For brass impeller add "-1" to Catalog Number, i.e.: HJ50D-1

Sump Pumps

Considerations for Selecting Sump Pumps

Pump Type:

Submersible Sump Pumps: Installed inside the sump pit and ideal for heavy-duty use. Quieter and typically more powerful.

Pedestal Sump Pumps: The motor is mounted above the sump, making it easier to service but less efficient in heavy water flow.

Horsepower (HP):

Choose based on the level of water accumulation and area size. Common residential sump pumps range from 1/3 to 1 HP.

Switch Type:

Automatic switches including float and pressure switches, are common and provide hands-free operation.

Manual pumps, less common in residential settings, require manual activation.

Pump Capacity:

Measured in gallons per minute (GPM) or gallons per hour (GPH). Ensure the pump can handle the typical volume of water in your area..

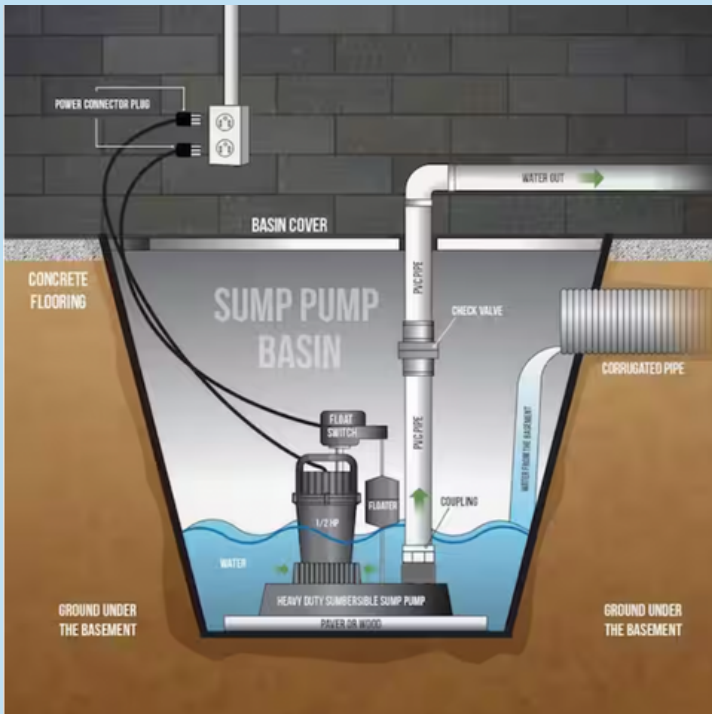
Head Pressure:

The pump's ability to lift water, measured in feet. Higher head pressure means the pump can move water to a higher elevation. **Make sure to refer to the pumps spec sheet to determine it can handle your requirements.**

Material and Durability:

Opt for corrosion-resistant materials like stainless steel or thermoplastic for longevity

Typical Sump Pump System:



Sewage Pumps

Selecting the Right Sewage Pump

Sewage pumps are vital for managing wastewater in residential properties, efficiently moving sewage and greywater from homes to septic tanks or sewer systems.

Pump Type:

Sewage Ejector Pumps: Installed in the sewage basin, they handle large solids and are suitable for heavy-duty applications.

Grinder Pumps: Equipped with grinding blades to chop solid waste before pumping, ideal for homes with a smaller diameter sewage piping.

Motor Power:

Typically ranging from 1/2 HP to 1 HP for residential use. The choice depends on the demands of the household and the vertical lift required to move sewage to the main sewer line.

Flow Rate and Discharge Head:

Ensure the pump can handle the expected volume of wastewater (GPM) and can pump it to the necessary height (head) to reach the sewer line or septic tank. **Make sure to refer to the pumps spec sheet to determine it can handle your requirements.**

Switch Type:

Automatic float switches are common for hands-free operation, turning the pump on and off based on the water level in the basin.

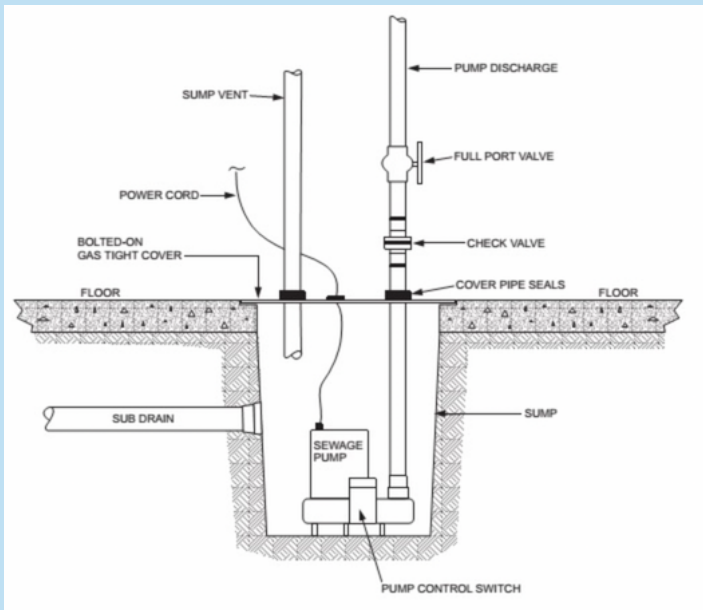
Material and Build Quality:

Durable, corrosion-resistant materials like cast iron and stainless steel extend the pump's lifespan.

Solid Handling Capability:

Sewage pumps are rated by the size of solids they can handle. This is particularly important for households with higher solid waste content.

Typical Sewage Pump System:



Booster Pumps

Considerations for Choosing a Booster Pump

Assessing Water Pressure Needs: Determine the current water pressure and the desired increase. Residential water pressure typically ranges from 40 to 60 psi, and a booster pump can help achieve or maintain this range.

Flow Rate Requirement: Calculate the peak water usage in gallons per minute (GPM) by considering all water fixtures. This will help in selecting a pump that can handle your household's water demand.

Pump Size and Power: Choose a pump with the appropriate horsepower (HP) to efficiently increase water pressure without overloading the system. The size should correspond to your home's plumbing and the required flow rate.







Energy Efficiency: Opt for energy-efficient models to minimize additional costs on your electricity bill.

Noise Level: Since booster pumps can vary in noise production, consider a model that operates quietly, especially if it will be installed near living spaces.

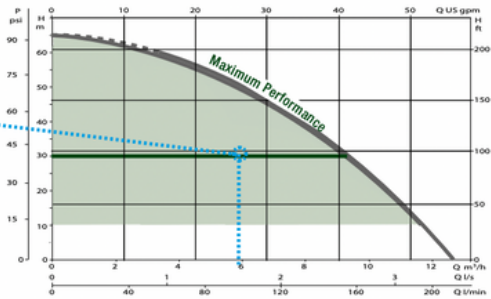
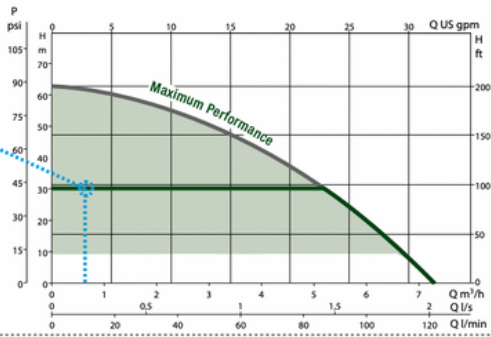
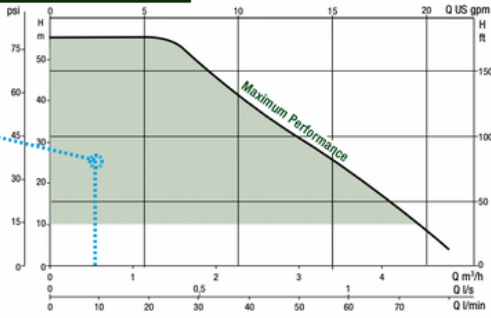
Automatic Operation: Look for pumps with automatic pressure sensors that activate the pump only when necessary, providing convenience and energy savings.

Here are a few example of the types of spec sheets that can help you select the correct pump for the application. These happen to be from a preferred brand at Streamline.

SELECTION TABLE

		WATER PRESSURE		
MAXIMUM NUMBER OF FLOORS	SMALL SIZE APARTMENT with 1 bathroom (6' )	MEDIUM SIZE APARTMENT with 2 bathrooms (10' )	LARGE SIZE APARTMENT with 2 bath, plus a garden (15' )	
	MAXIMUM NUMBER OF APARTMENTS			
 esybox mini	1	2	2	1
	2	2	2	1
	3	2	1	1
 esybox	1	9	5	4
	2	8	5	4
	3	7	5	4
	UP TO 6	6	3	-
 esytwp	1	16	10	6
	UP TO 3	16	10	6
	4	15	9	5
	5	14	8	5
	6	12	7	5
	UP TO 8	11	6	-

PERFORMANCE DATA



esyLINE

STREAMLINE PLUMBING

Guide 5