

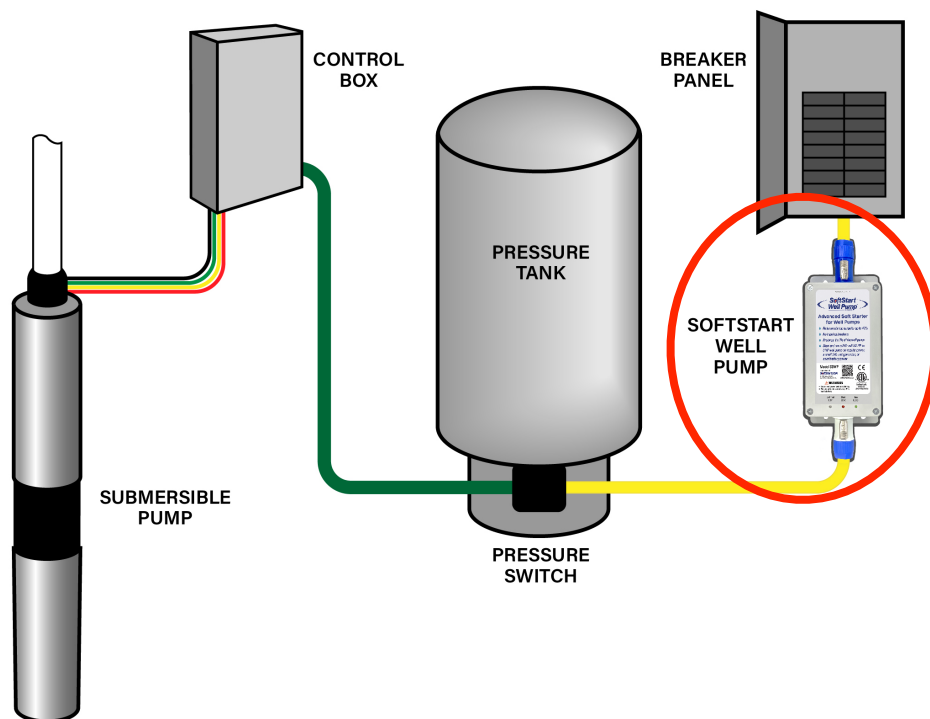
SoftStart Well Pump™ Generator Compatibility for 115- and 230-Volt Submersible Well Pumps

The following generator ratings are for gasoline-powered generators. Dual-fuel generators produce at least 10% less wattage when running on propane, so be sure to take that into consideration when sizing a generator to your specific application.

SYSTEM PARAMETERS

- SSWP works with 115-volt and 230-volt submersible pumps between 0.5 HP and 3.5 HP, single phase.
- SSWP must be connected to a 15- or 20-amp single-pole breaker (for 115-volt pumps from 0.5 to 1.5 HP) or a 20-amp, 2-pole breaker in the service panel.
- SSWP can only power a single submersible well pump – no other devices.
- SSWP only reduces inrush starting current, not running current.
- SSWP must be connected between the service panel circuit breaker and the well pump disconnect switch and pressure switch, depending on local codes and pump location.

NOTE: Generators are typically rated for 120 or 240 volts AC output, while induction motors are typically rated at 115 or 230 volts AC operation to account for normal voltage drops in long wiring runs.



Examples of Submersible Well Pump/Generator Combinations

230-volt Submersible Pump – ½ HP up to 1 HP

Requires a 120/240-volt 4000 to 5000-watt class generator

Example: WEN 4750/3500W 120V/240V dual-fuel portable generator



230-volt Submersible Pump – up to 1.5 HP

Requires a 120/240-volt 6000-watt class generator

Example: Westinghouse 6600W/5300W gasoline-powered portable generator



230-volt Submersible Pump – up to 3.0 HP

Requires a 120/240-volt 7000-watt class generator

Example: DuroMax XP7000iHT 7000W/5500W portable tri-fuel inverter generator



230-volt Submersible Pump – up to 3.5 HP

Requires a 120/240-volt 8000-watt class generator



Example: Energizer eZV8000 6500W/8000W Gas Powered Inverter Generator

Calculating a Submersible Well Pump/Generator Combination

(actual results may vary)

A typical home well pump's starting amperage (or inrush) is often 5 to 7 times its running amperage, with specific values varying significantly by pump size and type. Starting amperage can range from around 12-15 amps for a 1/2 HP pump to 20-55 amps or more for a 1 HP to 3 HP pump.

Here is the math:

An 8000-watt generator divided by 240 volts = 33.33 Amps generator starting current.

$$8000 \text{ watts} / 240 \text{ volts} = 33.33 \text{ Amps}$$

A 3.0 HP well pump requires about 40 to 55 Amps of inrush current to start.

With the SSWP installed, this reduces the inrush by 40% – which equals about 24 to 33 Amps.

$$40 \text{ Amps} \times .60 = 24 \text{ Amps inrush current} \quad | \quad 60 \text{ Amps} \times .60 = 33 \text{ Amps inrush current}$$

Results: the 8000-watt generator should produce enough power to start the well pump.

How to Determine the Generator Capacity Required to Power a 240-volt Well Pump plus a Refrigerator

Adding a refrigerator requires an additional 4 to 5 Amps of running current. So operating both the 3.0 HP well pump with 17 Amps running current and a refrigerator with 5 Amps running current will require about 22 running Amps. This should work with many mid-size generators.

However, starting both the refrigerator compressor and well pump motor SIMULTANEOUSLY may require too much inrush current which can cause the generator to go into overload and shut down. So even with the startup-energy-saving SoftStart Well Pump soft starter, be sure to size generators according to the electrical startup needs of the appliances that are most vital to keep running.

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