



Do I Need To Replace My Swimming Pool Filtration Pump?

Every pool owner needs to replace their filtration pump if:

- It is larger than 3/4 horsepower,
- It is a standard efficiency single speed pump,
- It is noisy, and
- You want to reduce your pool pump-related energy cost by up to 50%.

What Type Of Pump Is RIGHT For My Pool?

Multi-speed Pumps.

Multiple speed pumps (variable- and two-speed) provide the greatest energy savings when used on low speed. Most pool equipment will operate on low speed, however when more flow and pressure are needed these pumps have the higher speed(s).

What Will Happen If I Install A New Multi-Speed Pump and Motor And Use The Low Speed(s)?

All of the following:

- your pump will run much quieter,
- your pump will run cooler, potentially extending the motor life,
- your pump will use about 1/2 the electricity of your existing single-speed pump,
- your filter will work more efficiently, for most filter types,
- your pool water will circulate through the filter for more hours per day,
- you can **save as much as 50%** on pumping energy cost, and
- you may qualify for a **\$100.00 rebate** from PG&E*.

*Please visit www.pge.com/res/rebates for rebate program requirements.

How Much Does It Cost To Install A Multi-Speed Filtration Pump And Control System?

Based on an informal survey of pool professionals throughout the PG&E service area, the purchase and installation of a multi-speed pump and motor with automatic controller can range from \$800 to \$1200 (assuming no significant additional plumbing or wiring is needed). Please consult your pool maintenance professional for your actual cost.



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How Can Multi-Speed Pumps Save Me So Much Money?

Here are cost and savings calculations for a common retrofit where a 1-1/2 HP standard efficiency single speed pump and motor operating at 6 hours per day is replaced by a 1-1/2 HP two-speed pump and motor. The two-speed pump will operate two hours on high speed, to run a pool cleaner, and eight hours on low speed.

EXAMPLE:

Type of 1-1/2 HP Motor	High Speed Amps at 230V	Low Speed Amps at 230V	Daily Hours of Operation	kWh per Day	kWh per Year*	Annual Cost to operate at \$0.23/kWh
Standard Efficiency Single Speed	10.0	N/A	6	13.8	5,037	\$1,159
Two-Speed on High Speed	10.0		2	4.6	1,679	\$386
Two-Speed on Low Speed		2.6	8	4.8	1,752	\$403
Two-Speed with Both Speeds Combined			10	9.4	3,431	\$789
ANNUAL SAVINGS =						\$370
* $\frac{\text{Amps} \times 230 \text{ Volts}}{1000} = \text{kWh} \times \text{hr/day} = \text{kwh/day} \times 365 = \text{kWh/yr}$						

NOTE: PG&E residential customers are billed on a tiered electrical rate structure based on energy use. Due to the large amount of electricity used for pool filtration, most pool owners significantly exceed baseline electrical use and have bills that reflect higher tiered cost. Please review your monthly electricity bill to determine your highest rate tier and multiply it by the kWh/yr in the chart above for the appropriate pump to calculate your actual cost and savings.

What Should I Be Aware Of With Low-Speed Pool Filtration?

- Low speed operation may not provide adequate circulation if your system utilizes roof mounted solar water heating units. Consider using a separate, small, energy-efficient pump and motor for this application or starting a two-speed pump on high speed and switch to low speed after solar panels are filled and the water is flowing freely.
- Pressure and suction side pool sweeps may not have sufficient water flow when the pump is operated on low speed. A booster pump and operation on high speed during pool cleaning may be required. If required you can still save a substantial amount of energy by operating these pool cleaners on high speed for 1-2 hours and completing the remainder of the daily filtration cycle on low speed.



REMEMBER: When filtering your pool, quicker is not better, large single speed pumps and motors may filter your pool more quickly, but they use substantially more energy than multi-speed or small single-speed pumps and motors.

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