

Single Speed Pump vs. 2-Speed Pump Comparison

<http://waterheatertimer.org/Intermatic-timers-and-manuals.html#P1353>

STANDARD FILTRATION COSTS:

A standard single speed pool filtration system operates on a time clock for approximately eight hours per day. A 2 horsepower pump consumes approximately 1.5kw per hour. Assuming an electric rate of \$0.10 per kWh, the following equation would apply: 8 hours X 1.5kw per hour X the rate of \$0.10 per kWh = \$1.20 per day. \$1.20 per day X 30 days = \$36.00 per month total.

TWO-SPEED SYSTEM COSTS:

A two-speed system can operate your pool's filtration system 24-hours per day; 3 hours per day on high speed (2 horsepower) and 21 hours per day on low speed (1/3 horsepower) this is one example. For this comparison we will only consider equal water turnover and filtration. High-speed cost is the same as above per hour; low-speed cost is about 1/4th-1/6th of high-speed. Thus if you run your 2-speed pump for; 4 hours X 1.5 kWh per hour X the rate of \$0.10 per kWh = \$0.60 per day. 8 hours X 0.375 kWh per hour (1/4th the 1.5 kWh cost) X the rate of \$0.10 per kWh = \$0.30 per day. / \$.90 per day X 30 days = \$27.00 per month total. In this scenario we have turned over the same amount of water as above (standard filtration costs) yet saved about 25% in utility costs.

24 HOUR CIRCULATION:

3 hours X 1.5 kWh per hour X the rate of \$0.10 per kWh = \$0.45 per day. 21 hours X 0.375 kWh per hour X the rate of \$0.10 per kWh = \$0.7875 per day. \$.7875 per day X 30 days = \$23.625 per month total.

(These are the FAIR comparisons) The bottom line is this, for about the same money as running a single speed pump for 8 hours on high speed you can run a 2-speed pump 24 hrs a day and take advantage of all the items listed below. This does not even take into consideration time of use plans where you could save more money on utility bills. 2-Speed pumps make a lot of sense. Smaller pumps will save even more energy as well!

BENEFITS OF THE TWO-SPEED SYSTEM

1. 24-hour per day filtration keeps your pool cleaner by circulating and filtering water 24/7. You turnover the water in the pool almost twice as many times - this results in healthier water conditions.
2. Chemical needs are reduced, as your pool remains cleaner because it is filtering constantly. Chemicals and temperature are evenly mixed throughout the pool.
3. Energy and chemical costs can be reduced. Especially with an Ozone System
4. This helps your pool remain clean, fresh and ready for swimming.
5. If you use a robotic cleaner, most of them will only work in high-speed. Since you would be running the pump in high-speed less than 1/2 the time of a single speed pump, you could effectively increase the life of your cleaner by twice as long.

• A single speed two horsepower pump running at 3450 RPM with a flow rate of 140GPM @ 40 feet of TDH operating for 8 hours will filter 67,200 gallons of water. An average pool is 12,500 gallons - this gives us a turnover of 5.376 times. A two-speed pump running at 3450 RPM with a flow rate of 140 GPM @ 40 feet of TDH in high-speed for (3) three hours and in low-speed for 21 twenty one hours at 1725 RPM with a flow rate of 70 GPM will filter 113,400 gallons of water. This will produce 9.408 turnovers. Actual turnover rates will vary depending on your system installation. Actual energy bills may be different; this comparison guide is for illustration purposes only results may vary. Contact your local utility provider for actual rates.

This information brought to you by Swim World Pools

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