

Arizona Energy Requirements

Frequently Asked Questions: Arizona Pool & Spa Energy Requirements (Title 44)

1. What does the Arizona Energy Law require?

As of January 1, 2012, Arizona's Title 44 provides that residential swimming pool filtration pumps, motors, controls, and portable spas must meet certain requirements when they are sold or installed:

Residential Swimming Pool Filtration Pumps & Filtration Pump Motors

- a. All Pool Pumps and Pool Pump Motors must be certified with the governor's energy office as meeting the efficiency requirements. Or, they can be certified and published in a database of compliant products from other states. Two databases are known to qualify, the APSP energy efficient pool pump and replacement pool pump motor database, and the California Energy Commission's Appliance Efficiency Database.
- b. Residential filtration pool pump motors cannot be split-phased or capacitor start-induction run types with two exceptions:
 - i. The low-speed section of two-speed motors may be capacitor start-induction run type.
 - ii. Forty-eight-frame motors designed for use with aboveground pools are exempt from this requirement.
- c. If the total horsepower ($\text{Total-HP} = \text{Nameplate HP} \times \text{Service Factor}$) of a residential filtration pool pump or filtration pool pump motor is **one Total HP or larger** then the pump and pump motor must have at least two speeds.
- d. Residential pool filter pump controls, for use with a multi-speed pump, must be capable of operating at a minimum of two speeds.
- e. Default pool filtration speed must be a speed that results in a flow rate that will NOT turnover the pool in less than six hours, and any high speed override must default back to the pool filtration speed in less than 24 hours (this allows solar pool heating systems to run at higher speeds during periods of usable heat gain).

Portable Spas (Factory Built)

- f. The law requires portable spas to meet a certain standby power, based on the industry test protocol found in ANSI/APSP/ICC-14 2011 Standard for Energy Efficiency of Self Contained Portable Electric Spas and Hot Tubs.

2. Does the law allow for single speed pumps?

Yes, if the pump is less than one Total-HP, a single speed pump can be installed. If the pump is NOT for filtration purposes, i.e. a booster pump for a cleaner or water feature, it can be any size single speed pump. Multi-speed (2 speed or greater) pumps are only required if the pump is one Total- HP or greater and being used for filtration purposes. The law requires pool owners be given a choice when selecting a replacement pump of either a single-speed pump or a multi-speed pump that offers increased energy efficiency.

3. Does the law apply to existing pools and spas and not just new construction?

Yes, manufacturers will most likely continue to make single speed pumps and pump motors for non-pool filtration purposes, (i.e., waterfalls, fountains) therefore it is the installers' responsibility to choose and install a compliant model whenever replacing a pool filter pump or pool filter pump motor.

4. What if the existing pump or pump motor is under warranty?

If the pump/motor in question is still under the manufacturer's warranty and the manufacturer provides the replacement then it is not being sold and replacing it with a single speed pump should be okay. Extended warranties not provided by the manufacturer do not comply as the third party is purchasing the replacement pump/motor.

5. How will I know if a pump or motor meets the Arizona energy requirements?

All residential pumps/motors used to filter pool water must meet the Arizona Pool requirements. The Arizona law does not cover pumps and pump motors installed in addition to the pool filtration pump provided the pump is used exclusively for other purposes, such as booster pumps for cleaners, water feature pumps, etc. The Association of Pool & Spa Professionals (APSP) provides a database of certified pumps and replacement motors at APSP.org/GoGreen. The California Energy Commission also publishes certified Pool Products in the Appliance Efficiency Database (Appliances.energy.ca.gov).

6. What are the cost savings to the consumer by using energy efficient pumps?

According to the Consortium of Energy Efficiency (CEE) High Efficiency Residential Swimming Pool Initiative, energy savings can be substantial. The annual energy savings for both warm and cool climates can be found in Table A-3 in the link above and included below:

Table A-3: Estimated Energy Savings

Equipment	Per Unit Energy Use (kWh/yr)	Per Unit Energy Savings (kWh/yr)	Per Unit Energy Savings (Dollars) ^{4a}	Average Incremental Price	Pay back period
Warm Climate					
Single Speed Pump	4,714				
Multi Speed Pump	2,521	2,193	\$241	\$100	2 months
Variable Speed Pump	948	3,766	\$414	\$846	2 years
Cool Climate					
Single Speed Pump	2,723				
Multi Speed Pump	843	1,880	\$206	\$100	6 months
Variable Speed Pump	317	2,406	\$264	\$846	3 years and 2 months

^{4a} Assuming an average residential electricity rate of 0.1176 cents/kWh from the Energy Information Administration November 2011. http://www.eia.gov/electricity/monthly/elec_elec_profile05_3.xls. © 2012 Consortium for Energy Efficiency, Inc. All rights reserved.

7. Are there penalties for not complying?

Arizona’s Title 44 provides for a civil violation and penalty if someone engages in a deceptive trade practice, when in the course of the person’s business they knowingly sell or install a product that does not meet or exceed an applicable energy efficient standard as set forth in Title 44. Manufacturers are either required to certify in writing to the governor's energy office that products sold in Arizona meet the Title 44 efficiency standards or use published databases of compliant products from other states that have the same requirements, i.e. the California Energy Commission database or APSP database.