New DOE Energy Conservation Standards for Circulator Pumps

The U.S. Department of Energy (DOE) recently set new efficiency standards for circulator pumps, mandating all small circulators meet the new 2028 energy rating requirements.

We invite you to visit the Hydraulic Institute Energy Rating website* for further information on Grundfos pump ratings and the U.S. Energy Information Administration (EIA) website, specifically this table on the monthly average price of electricity.†

Key points about the 2028 DOE energy rating requirements:

- Compliance date: May 22, 2028
- Standard impacts: circulator pumps
- Regulatory body: U.S. Department of Energy
- Key aspect: Pumps must meet specified energy efficiency levels, typically measured by an Energy Rating score through the Hydraulic Institute

Upgrade to more energy-efficient circulator pumps to ensure compliance with these federally mandated requirements to reduce energy consumption and contribute to a more sustainable future.

What does the new standard cover?

The standard covers circulators, defined as any wet rotor or dry rotor circulator less than 1 HP. The specific motor technology has not been formally defined, yet the industry strongly infers that only ECM (electronically commutated motor) motors will meet the new standard. The regulation requires a strict procedure to measure and rate performance.

Why ban standard efficiency PSC (permanent split capacitor) motor circulators (under 1 HP)?

Standard efficiency PSC motor circulators under 1 HP will be banned due to lower energy efficiency compared to newer technologies. The DOE set the latest energy efficiency standards to reduce energy consumption and promote sustainable practices.

Grundfos ECM motors utilize microprocessor-managed speed regulation, allowing them to adjust speed according to the demand for flow. This results in lower energy usage and a longer pump lifespan. Installers and homeowners often prefer high-efficiency variable-speed ECM, as they offer various enhanced features, energy savings, maintenance needs, and lower overall operating costs. These pumps provide precise system control, LED display read-outs (flow, watts, head), dry run monitoring, higher starting torque, automatic self-venting, and trend data.

Are PSC circulators illegal?

PSC circulators are not illegal. However, since they do not meet the new federal efficiency standards, they will no longer be produced after 2027. Individual state-level ECM circulator mandates may be enacted before the federal mandates.

Which is better, ECM or PSC motor circulators?

ECM circulators are more efficient than PSC circulators. ECM circulators can have efficiency improvements of up to 80%, decreasing energy consumption and costs. ECMs use permanent magnet motors with electronic speed control that are more efficient than the older PSC motor technology. ECM circulators with integrated sensors enable precise flow control, which enhances both comfort & efficiency. This smart ECM technology optimizes system performance. The built-in Bluetooth programming offers a simple guided system setup that automatically records labor-saving trend data.

Can I replace PSC circulators with ECM circulators?

Yes. As the world leader in ECM circulator technology, Grundfos has a full line of highly efficient ECM circulators that can replace standard circulators in heating and hot water recirculation applications and typically require little or no system piping changes.



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