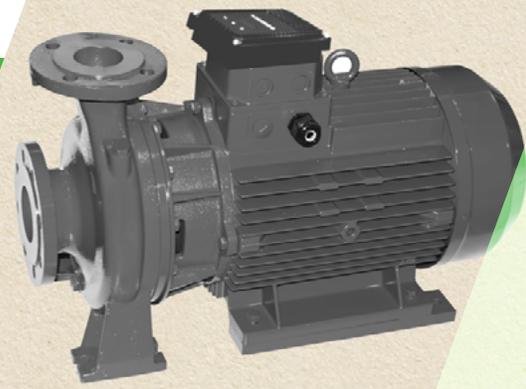


PUMPS FACT SHEET

Smart Pumps in New Construction



What makes a smart pump so smart?

Smart pumps—often termed a ‘self-sensing’ or ‘sensor-less’—integrate variable speed controls to optimize operation based on system requirements. They come packaged as a pump, motor, and variable speed drive with built-in control strategies. Manufacturers test and program the controls, and use on-board monitoring to determine the pump load. This eliminates the need for downstream sensors, minimizing potential sources of error.

Benefits of smart pumps in new construction:

- **Lower overall install cost.** Integrated design saves on labor and material costs. Variable frequency drive and flow measurement are included.
- **Better quality installation/better product.** Eliminate the need for aftermarket installations and adjustments in new construction applications. Built-in controls help simplify integration.
- **Process improvements and enhanced control.** Increase overall system efficiency and productivity, which allows operators to monitor status and maintain performance.
- **Less reliance on a controls’ contractor.** Control logic is simplified by pre-programmed head and flow requirements, and self-balancing capabilities.
- **Save space.** Smart pumps tend to be smaller in size than older pumps, reducing the amount of space needed in the mechanical room.

Common applications:

- 1/ Large buildings > 50,000 ft².
- 2/ Hospitals, campuses, offices, data centers, etc.
- 3/ HVAC and domestic hot water.

When to consider a smart pump:

- Any time you include a clean water pump in your design.
- When you want savings in either constant or variable load. Most pumps are oversized and are balanced using throttling valves, which wastes electricity. A study from Northwest Energy Efficiency Alliance shows smart pumps can save up to 38% of electricity used by slowing the system down instead of throttling.



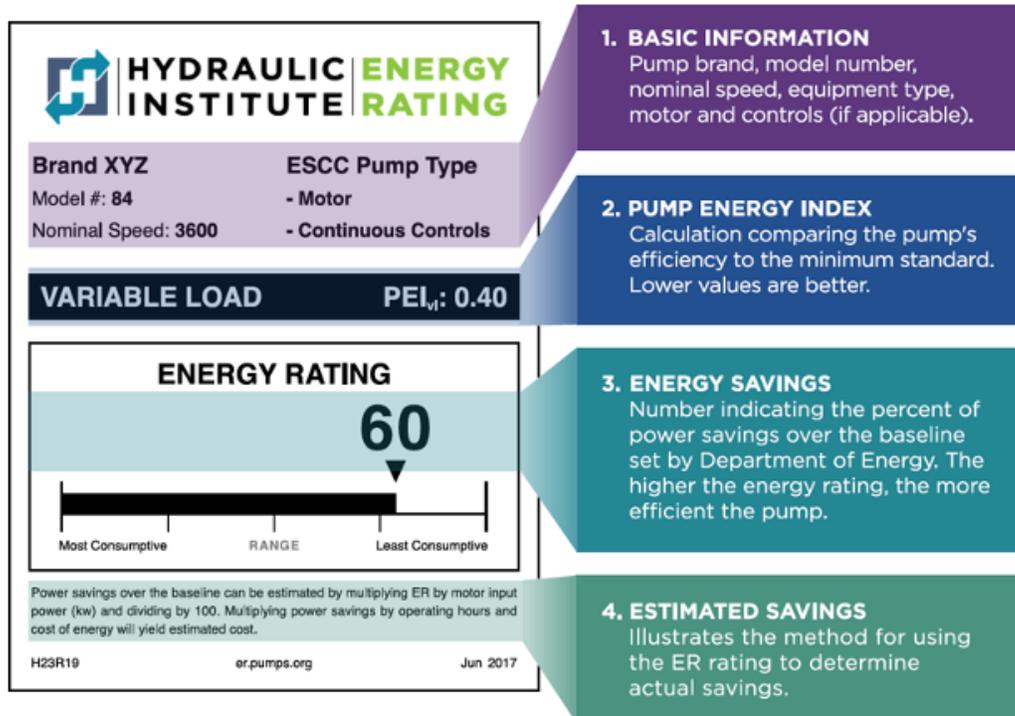
Purchasing a Smart Pump or Circulator

Availability:

Most major manufacturers have smart pump models in a range of sizes on the market. If a pump needs to be specified, energy-efficient options that may perform better and help save money are also available.

Energy Rating Labels:

These labels feature measurements and other indicators of pump efficiency. Smart pumps with higher ratings are likely to perform better than those with separately installed sensors and variable frequency drive controls. [Energy Rating labels for Circulator pumps](#) are also available.



View the [Commercial and Industrial Energy Rating](#) label here.

Utility Incentives

Many Northwest utilities offer incentives and rebates for smart pumps and circulators in new construction applications. Make sure to ask your manufacturer about available design tools and software.



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¹Source: [need.org/resources/power-drive-systems-energy-savings-and-non-energy-benefits-in-constant-variable-load-applications](https://www.need.org/resources/power-drive-systems-energy-savings-and-non-energy-benefits-in-constant-variable-load-applications)

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