WHISPERFLOXF® VS

COMMERCIAL VARIABLE SPEED PUMP - 5HP

The WhisperFloXF VS Commercial Pump is the first five-horsepower variable-speed pool pump that runs on single-phase or three-phase power. It's an economical, combined motor/drive solution for both HMAC (hotel, motel, apartment, condominium) or large residential installations. The WhisperFloXF VS Commercial Pump provides sophisticated, energy-saving pump technology without the high costs typically associated with independent pump/external drive setups.

STANDARD FEATURES

- Integrated 5HP motor/drive; no expensive external drive required.
- Versatile power input capability; runs off a wide range of single- or three-phase power.
- Speed or flow control for maximum efficiency and pool performance*.
- External control capability through automation systems or relays.
- Intuitive programming and operation.
- Meets commercial codes and agency requirements.

*When connected to Pentair's inline 4-20mA flowmeter for 3" plumbing (P/N 97014-4203KIT– sold separately), or similar 4-20mA flowmeters, this pump is capable of maintaining a constant flow based on the needs of your pool system. To connect the flowmeter and pump, the digital input cable provided in the External Control Wiring Kit (P/N 353129Z– sold separately) is required.



KEY TECHNOLOGY INNOVATIONS DRIVE SIGNIFICANT ENERGY SAVINGS.

The WhisperFlo**XF**® VS Commercial Pump combines breakthrough motor and controllable, variable speed technology that combine to drive down energy use and cost. Increased savings potential may be measured in thousands of dollars over its long life.

The WhisperFlo**XF** VS Commercial Pump features variable speed capability, along with digital controls and proprietary software that allow custom programming of optimum pump speeds for specific tasks—filtering, heating, cleaning, spa jets, etc. Traditional pool pump speeds are almost always greater than needed to meet the health department turnover requirements.

The WhisperFlo**XF** VS Commercial Pump has four programmable settings that can be set to any speed ranging from 300 to 3450 RPMs. This allows you to program the exact flow requirements for each task, assuring the lowest energy use possible...adding to your savings. Plus with the WhisperFlo**XF** VS Commercial Pump, you may be able to further reduce energy costs by reducing flow rates during non-pool use hours while maintaining 24 hour-a-day filtration...at a much lower cost. Check with your local health department for requirements in your area.

HERE'S JUST ONE COMPARATIVE EXAMPLE:

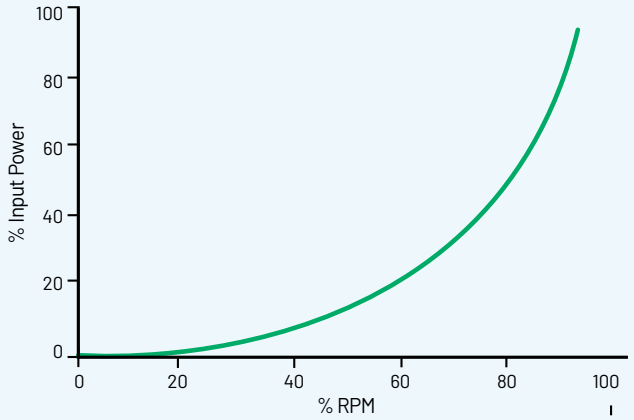
Pump	Annual Energy Use	Annual Electric Cost @ $.16 / kWh	Annual Savings*
Traditional Single Speed Pump	27,681 kWh	$4,429	—
WhisperFloXF VS Commercial Pump**	13,276 kWh	$2,124	$2,305

*Actual savings may vary based on local utility rates, pool size, run time, pump rpm, plumbing size/length and service and other hydraulic factors. Example reflects savings for an avg. 30,000 gallon commercial pool operating 24hrs/day at a flow rate sufficient to perform a min. 6hr turnover.
**WEF: 5.0 THP: 5.0

WHY SLOWER IS BETTER

The surprising secret to minimizing pump energy costs is to operate at the lowest speed needed to accomplish a job. It takes far less energy to move water slowly than quickly. Why? Because there's lower resistance in the filter, accessories and plumbing system. Even with only modest pump speed reductions, the effect on electricity usage can be dramatic. In fact, reducing pump motor speed by 25% actually reduces the power needed by 58% of what's consumed at the higher speed. A good analogy is your car: you get much better gas mileage at 30 mph than at 90 mph. The same is true with pool pumps—run slower to reduce energy used.

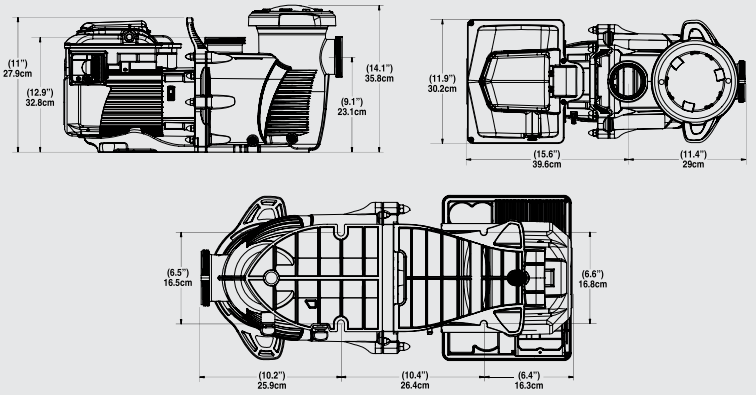
PUMP MOTOR SPEED VS. POWER CONSUMPTION



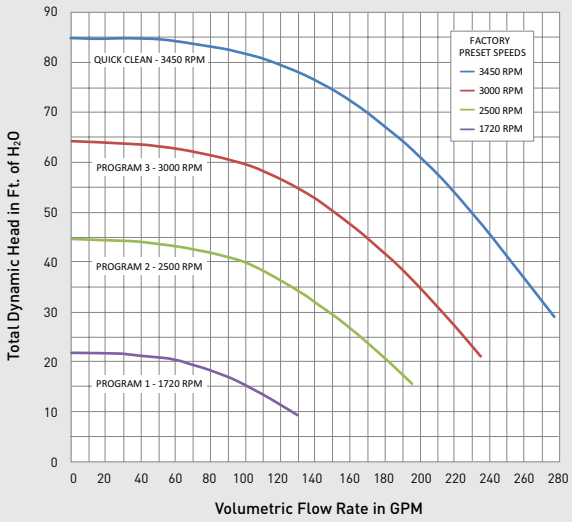
This graph shows the huge increase in energy consumption as pump speed increases. Slow down the pump and you cut energy costs dramatically.

ENERGY STAR

WHISPERFLOXF VS COMMERCIAL PUMP



PERFORMANCE CURVES – WHISPERFLOXF VS COMMERCIAL PUMP



MATERIALS AND DESIGN

Pump Body

Volute type back pull out design for ease of working on impeller, diffuser and seal.

- Port Size
  - Inlet (suction): 2.5" union can be adapted to 3 inches.
  - Outlet (discharge): 2.5" union can be adapted to 3 inches.
- Material
  - 30% glass filled polypropylene materials.
  - 1/4" NPT thermoplastic drain plug of thumbscrew (no tool required) design on the strainer for winterizing.
- Impeller
  - Noryl glass filled PPO resin enclosed design for corrosion prevention and maximum flow efficiency.
  - Threaded brass with stainless steel locking screws.
- Diffuser
  - Glass filled noryl thermoplastic material with bronze impeller wear ring.
  - Hydraulic isolator design for maximum efficiency.
- Seal plate
  - Fiberglass reinforced modified PPE thermoplastic material.
- Mechanical Seal
  - Ceramic and carbon seal.
  - Stainless steel and EPDM materials
- Base
  - Fiberglass reinforced modified PPE thermoplastic with slotted holes for easy mounting.
- Gaskets
  - Buna N rubber compression resistant.
- Bolts, Nuts, and Washers
  - Stainless steel and brass with nickel plating.
- Corrosion Prevention
  - All thermoplastic pump body for maximum hydraulic performance, noise reduction and corrosion prevention.

Hair and Lint Strainer

- Basket
  - HDPE (polyethylene) basket colored white for easy debris removal.
  - Securely positioned below the suction inlet of the trap, with access for inspection and cleaning through the removable lid.
- Lid
  - Clear polycarbonate thermoplastic lid for easy view into the basket area.
- Lid Locking Ring
  - Cam and Ramp™ Lid and Locking Ring allow for quick and easy access to the basket.
  - O-ring seal

Motor

- Frame and Type
  - NEMA Rated 56 Frame totally enclosed fan-cooled construction.
  - Variable speed induction motor.
- Shaft
  - 300 series stainless steel construction.
- Thermal Overload Protection
  - Thermal overload protection provided by the integral motor control.
- Sealed Bearings
  - Lubricated, double sealed, stainless steel, single row ball bearings.

Electrical

- 208-230/277-460V single-phase.
- 208-460V three-phase.
- 50/60Hz.
- WEF 5.0 THP 5.0.
- Single part number to cover all voltage ranges.

Pump Maximum Thermal Limits

- Ambient air temperature: 122° F (50° C).
- Liquid temperature: 104° F (40° C).

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ENGINEERING SPECIFICATIONS

Recirculation pump shall be Pentair Series Model No. _____ self-priming centrifugal pump, ____ phase, 60 Hz/50 Hz.

General Notes

- Install pump in a cool, dry, well vented location away from pool heaters, and protected from excessive moisture after storage.
- Pump should be firmly mounted with pipe supported to prevent vibration and undue operational noise.
- Allow 12" minimum clearance above lid for servicing.
- Allow 12" minimum clearance behind motor for servicing.
- Motor overheating may be caused by a voltage drop or excessive voltage. Be sure that wire size and voltage input is properly regulated.
- Follow installation details as found in the operation and installation manual.
- This product has been independently tested and certified to UL 1081 and NSF 50 standards.

Specifications

- The recirculation pump shall be a self-priming, centrifugal design with a hair and lint strainer as shown in the plans.
- The pump body and attached hair and lint strainer shall be constructed of non-corrosive 30% glass filled polypropylene materials, and close-coupled to an electric motor by means of a seal plate. The pump body shall have a single suction port with a 2.5" NPT on the hair and lint strainer. A discharge port of 2.5" NPT and a winterizing drain port of 1/4" NPT shall be a part of the design.
- The pump shall be a back pull-out design to allow servicing without disturbing piping. The pump shall have a 30% glass filled polypropylene diffuser to aid in priming and it shall contain a bronze wear ring for the impeller. The impeller shall be of the closed type and glass filled PPO resin, non-overloading at any point on the performance curve. The mechanical shaft seal shall be constructed of ceramic and carbon seal faces, with stainless steel and EPDM materials in the spring bellows portion. The impeller shall be secured to the motor shaft by means of a molded in brass insert and a stainless steel locking screw into the end of the motor shaft. The pump shall be capable of operating at up to 42 psi, 104˚ F continuous water temperature, 122˚ F ambient air temperature.
- The electric motor coupled to the pump shall be of the NEMA Rated 56 Frame induction motor totally enclosed fan cooled series with stainless steel shaft and double shielded, single row, lubricated steel ball bearings. Motors shall be continuous duty rated at 122˚ F (or better) ambient air temperature and be suitable for outdoor installation.
- The pump shall be rated for____ volt electric supply and for ____ GPM at ____ TDH. The pump shall be tested and certified by a nationally recognized testing laboratory to conform to National Sanitation Foundation Standard 50.

Hair and Lint Strainer

- The strainer shall consist of a polypropylene body, polycarbonate cover with buna-nitrile O-ring seal, Cam and Ramp™ Lid and Locking Ring and a strainer basket of high density polycarbonate material.
- The strainer body shall be 2.5" NPT suction. The strainer body shall have a removable drain plug for winterizing.
- The strainer basket shall be securely positioned below the suction inlet of the trap, with access for inspection and cleaning through a removable trap body lid. The trap body lid shall be secured by means of a Cam and Ramp lid and locking ring.

PENTAIR

ENERGY STAR

ENERGY STAR® Certified WhisperFloXF VS pumps from Pentair meet strict energy-efficiency criteria set by the U.S. Environmental Protection Agency and the U.S. Department of Energy. These pumps save money, reduce energy use and protect the environment.

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