Viron P300 Filtration Pump

Application

- A filtration pump for pool owners seeking quiet operation, reduced carbon emissions and significant reductions in operating costs.
- Provides three speeds for multiple applications such as perfect flow rate for spa jets, water features, backwashing your filter and filtration of your pool and spa.
- Significant Noise Reduction
    - 6dBA is lower than conventional pumps.
    - A reduction of 3dBA halves the audible noise.
    - A 6dBa reduction is a quarter the noise of a conventional pump.
- Significant Reduction of Carbon Emissions
    - When replacing a 1Hp pump it will reduce CO2 emissions by 4.38kg per day.
    - An annual saving of 1.6 tonnes of CO2 emissions.
- Significant Reduction in Running Costs
    - At low speed runs at 291 watts.
    - At 20 cents per kw hr this equals 5.8 cents per hour.
    - A BX1.0 costs 23.2 cents per hour.
    - This is a 75% reduction in running costs.

Installation

1. Plumb pool suction into inlet of pump.
2. Ideally provide 300mm of pipe between riser and pump inlet.
3. Leave adequate clearance at back of pump to provide ventilation for cooling (150mm).
4. Plumb out of pump outlet to inlet of filter.

Installation Guidelines

- Ideally 50mm high pressure PVC plumbing but will also be suitable for 40mm pipe.
- Use 45 degree bends instead of 90 degree elbows where possible.
- Minimise changes of direction and use of elbows.
- If possible, use large cartridge filter (200Sq Ft or more) to reduce friction loss.
- Keep equipment as close to pool as possible.
- Ideally, equipment should be within 10 metres of pool.
- Suitable for use with 600mm, 700mm and 800mm sand filters .

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Operation

1. Plug pump into power supply (GPO, Sanitiser or Control System).

2. Fill the lint pot with water to assist with priming.
   - This should be done each time the lid is removed from the lint pot.
   - The basket in the lint pot should be checked periodically and emptied of debris.

3. Turn power supply on.
   - Pump will start in FAST speed.
   - This allows the pump to prime and expel any air in the system.
   - Beneficial for backwashing sand filters as the consumer does not have to remember to switch to FAST speed since it automatically starts in this position.

4. Select preferred filtration speed.
   - This will typically be LOW speed
   - Once selected pump will always revert to pre-selected speed on start up after 5 minutes on FAST speed.

Other Information

- Effects of Changing Motor Speed – The Pump Affinity Laws explain the effects changing a motors speed has on water flow, pressure and power consumption.

Below is a summary of these factors at each of the 3 optional speeds.

Speed	Flow lpm	Pressure	Power
Fast 2850 RPM	302 lpm	8 metres head	983 watts
Medium 2410 RPM	255 lpm	5.7 metres head	595 watts
Slow 1900 RPM	202 lpm	3.6 metres head	291 watts

- Why is Slow Speed -1900 RPM?
  - Using a DC motor incorporating 20 rare earth magnets instead of an AC motor with 2 poles allows us to select any motor speed we like.
  - We chose 1900 RPM as pump affinity laws state that at this speed we will achieve a flow rate of 202lpm.
  - This flow rate is important to ensure we maintain capability to drive several components of the swimming pool. Including the skimmer, filter, salt chlorinator and gas heater.

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Other Information

- How does the reduction in flow affect the system?
  - Historically swimming pools have been driven by pumps ranging from 1 to 2 horse power, achieving flow rates of 300 to 550lpm. Due to salt chlorinators being sized on the provision that they will be operated for 8 hours a day these pumps in most cases have always provided well above required turnover rates.
  - Take a 60,000 litre pool with a BX1.5 turning over 440lpm. Operating for 8 hours a day this pool will be turned over 3.5 times per day. This is excessive and costly to the consumer, approximately $847 per year.
  - Take the same pool with a P300 installed. We achieve 1.6 turnovers per day, operating for 8 hours per day. This satisfies your swimming pool requirements. Our operating costs are now approximately $155 per year.

- What if the pool is larger than 60,000 litres?
  - With a larger pool the solution is easy. Run the pump for longer and still benefit in the cost savings. A 100,000 litre pool running a BX2.0 eight hours a day with a flow rate of 540lpm will turn that pool over 2.6 times per day and cost $1,062 per year.
  - Take the same pool with a P300 installed. We achieve 1.6 turnovers per day, operating for 13 hours per day. Again we have satisfied requirements and reduced our operating costs to approximately $252 per year.

- Why are there 2 other speeds – Medium 2410 rpm and Fast 2850 rpm?
  - Medium can be used when low is not quite enough flow to run suction cleaners. Sometimes this can be due to the plumbing, distance away from the pool and many other site related issues. Medium can also be used for a Spa or water features, when slightly better flows are required.
  - Fast – Can be used in the same manner as above.