



Canadian Pipe & Pump Supply

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Redi-Flo3™ and CU 300

Environmental Pumps
60Hz



BE → THINK → INNOVATE →

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Redi-Flo3 Submersible Pumps

Redi-Flo3 pumps are suitable for both continuous and intermittent operation for a variety of environmental applications including:

- Remediation
- Pollution Recovery
- Leachate Recovery
- Dewatering
- Tank Applications

Redi-Flo3 pumps offer the following features:

- Dry-Run Protection
- High Efficiency Pump End and Motor
- High Starting Torque
- Protection Against Up-Thrust
- Soft-Start
- Over- and Under-Voltage Protection
- Overload Protection
- Over-temperature Protection
- Variable Speed
- Electronic Control and Communication

Redi-Flo3 pumps incorporate a totally new motor design. With the use of permanent-magnet technology within the motor, Redi-Flo3 pumps deliver unmatched performance. The combination of permanent-magnet motors and Grundfos' own micro frequency converter, we are now able to communicate with the pump in ways never before possible. Just a few of the features that come out of this combination are constant level control, soft-start and integrated dry-run protection. These are just a few of the many features that Redi-Flo3 pumps can offer.

Redi-Flo3 pumps use the Grundfos "Smart Motor". This permanent-magnet motor is single phase input and with a 2-wire design makes installation easy. The combination of integrated microelectronics in the pump with the optional CU300 status box and R100 at the surface allows communication with the pump through standard electrical motor power leads. No additional wires are required. This feature allows the direct use of multiple sensors, digital input and relays without adding extra control electronics and costs.

The surface CU300 status box allows communication with the "Smart Motor" through the R100 infrared remote control unit or via the CU300 PC Software Tool. This gives you the ability to monitor and setup or change your pumping system to meet the specific needs of your application.

The Redi-Flo3 can operate without the status control box much like a traditional submersible electric pump. Some communication and program functions will not be available in this configuration, but the internal motor protection features are still active.

Pump and Motor Range

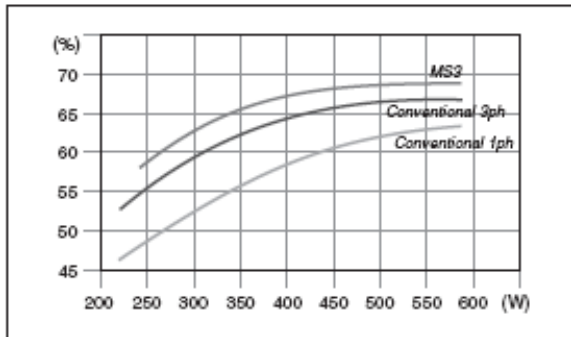
Product	Description
Redi-Flo3 Pump End	10, 22, GPM
MSE3NE Motor	Single Phase 1/2 - 1.5 Hp

Dry-Run Protection

The Redi-Flo3 incorporates integrated Dry-Run protection. When the fluid level falls below the inlet of the pump, the pump automatically shuts off. After a programmable period of time, the pump automatically starts up again.

High Motor Efficiency

Redi-Flo3 motors are based on a permanent magnet rotor, which produce high efficiency within a wide load range. The high and flat efficiency curve of the Permanent-Magnet (PM) motor allows for coverage of a wide power range with the same motor as compared to conventional submersible AC motors. For Redi-Flo3 pumps, this means only three motors to cover the horsepower range from 1/2 to 1.5Hp.



High Pump Efficiency

The pump end components are made from Polyvinylidene Fluoride (PVDF). The pumps are designed to deliver at peak efficiency levels. Because of high pump efficiencies, overall power consumption will be reduced.

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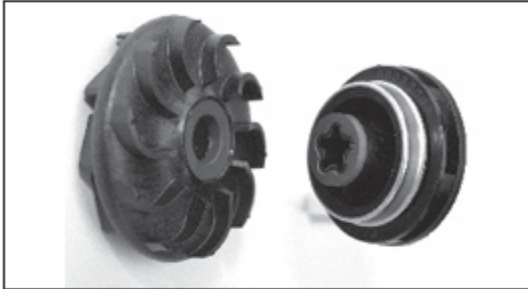
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Wear Resistance

Redi-Flo3 pump design uses "floating" impellers. Each impeller has its own tungsten carbide/ceramic bearing. This design and the environmental quality of materials make this pump an excellent choice for environmental application projects.



Protection Against Up-Thrust

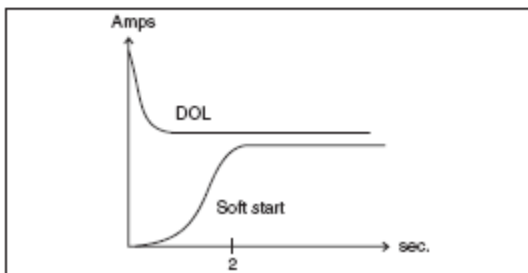
During start-up many pumps start in an up-thrust condition. To prevent damage caused by up-thrust, a top bearing has been placed in the motor to protect both the pump and the motor against up-thrust.

Soft-Start

Redi-Flo3 have a soft-start feature possible because of the integrated electronics. Soft-start reduces the starting current and gives the pump a smooth and steady acceleration.

High Starting Torque

Because of the permanent-magnet motor, the Redi-Flo3 pumps have excellent starting capabilities. The high locked rotor torque produced by the PM motor provides a starting torque that is 1.5 times greater than conventional submersible pump motors. Even if the voltage is low, the PM motor will still maintain a high starting torque.



Overvoltage and Undervoltage Protection

Overvoltage and undervoltage may occur at any time, especially if you have an unstable voltage supply. The integrated protection in the Redi-Flo3 motor protects itself when voltage falls outside of permissible voltage range. The 230V pump motor will cut out if voltage falls below 150V or above 280V. The motor will automatically start when the voltage is within the permissible range. It is not necessary to have additional voltage protection.

Overload Protection

When the pump load rises above the maximum amp level, the motor will automatically compensate and reduce the speed to maintain its maximum amp level. If the speed drops to 65% of the nominal speed, the motor will shut off.

Overtemperature Protection

Permanent-magnet motors emit very little heat because of their high efficiency. Redi-Flo3 motors are designed with an internal circulation system to effectively cool all the internal components.

As extra protection, the electronic unit also has a built-in temperature sensor. When the temperature rises too high, the motor will automatically shut-off; when the temperature drops the motor will automatically restart.

Variable Speed

The Redi-Flo3 "Smart" motor enables continuous variable speed control within 30%-100% (3,000-10,700 rpm). The pump can be set to operate at any duty point in the range between 30% and 100% of the pumps performance curve. The pump can be adapted to any specific requirement. The variable speed control requires the status box and R100 or potentiometer.

Installation

Redi-Flo3 pumps can be installed vertically or horizontally (Note: the pump must not fall below the horizontal level in relation to the motor). For horizontal installations, a flow sleeve is recommended to ensure sufficient flow past the motor to provide proper cooling and prevent the unit from being buried in sand or silt.

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GRUNDFOS REDI-FLO2® AND REDI-FLO 4™ VARIABLE PERFORMANCE PUMPS

The **Redi-Flo2®** Variable Performance Pump combines state-of-the-art technology into a light, compact and yet powerful submersible pump for precise, accurate and reproducible groundwater sampling. Designed for long-term reliability in dedicated monitoring wells, the **Redi-Flo2®** provides optimal sample quality with either traditional purging prior to sampling, or low draw-down passive sampling when operated with the new Redi-Flo VFD.

Studies have shown the **Redi-Flo2®** Variable Performance Pump is the ideal sampling device for representative groundwater samples.

The **Redi-Flo4®** Variable Performance Pumps are submersibles constructed of virgin Teflon® and stainless steel to handle the rigors of contaminated groundwater monitoring and continuous operation in remediation applications. The **Redi-Flo4®** Variable Performance Pumps are designed to operate in 4 inch and larger wells to depths of 524 feet. The **Redi-Flo4®** pumps have a built-in check valve to prevent back-flow in the well after the pump is shut down. A user-friendly cable guard aids in the ease of variable length motor lead installation.



- Discharge/Pump Housing***
corrosion-resistant with Female NPT discharge pipe connection
- Integral Check Valve (Redi-Flo4® only)**
offers reliable, jam-free back flow prevention
- Guide Vane***
increases pump efficiency by providing optimal fluid movement
- Impeller***
long-wearing, corrosion-resistant with a high strength-to-mass ratio; a fabricated design allows for optimum hydraulic performance
- Spacer Ring and Wear Ring (Redi-Flo2® only)**
placed at each impeller, eliminating vibration and maintains pump efficiency
- Seal Ring and Intermediate Bearing (Redi-Flo4® only)**
placed at each stage to support the shaft and maintain pump efficiency; constructed of 100% virgin Teflon®
- Inlet Screen***
non-corrosive inlet screen prevents the impellers from clogging



Smooth, continuous, uninterrupted discharge flow rate is possible with the **Redi-Flo2®**.



The **Redi-Flo4®** provides up to 45 gallons per minute for purging and remediation.

*On these features, the material of construction for the **Redi-Flo2®** is 316 stainless steel, and the **Redi-Flo4®** is 304 stainless steel.

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