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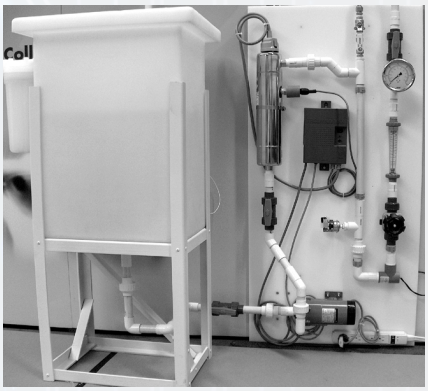
PRNT2015-1011

Recirculating UV Sterilization System

Application:



In nature, the sun produces UV rays, which have a germicidal effect on disease causing pathogens in water. By mimicking this natural process, our Ultraviolet (UV) purification systems are designed specifically to kill harmful microorganisms like bacteria and viruses. By exposing contaminated water to high intensity UV light, disease-causing pathogens are rendered harmless and the water produced is safe, clean and fresh. This technology will also destroy harmful volatile organic compounds often found in industrial applications. A dependable process, UV sterilization adds nothing to, and removes nothing from the water and is extremely cost effective by volume.

How it works

Ultraviolet purification uses a UV light source, which is enclosed in a protective transparent sleeve. Water passing through the flow chamber is exposed to UV-C rays. Bacteria, viruses, and other microorganisms are destroyed by the UV interfering with the DNA and RNA in the organisms' reproductive cycles.

Municipal water is passed through filters on its way to the system's storage tank(s). The system will then continuously pump the water through the room distribution and return piping, passing through the UV bulb sleeve, removing contaminants, viruses and bacteria. The tank also contains a level sensor to determine if additional water is needed to replenish the supply.

Additional Features

- System includes flow regulators for system control and isolation valves for system maintenance
- UV Controller includes monitor and counter
- UV bulb and sleeve can be changed or cleaned without draining the entire system
- Connect to new and existing valves and manifolds
- Monitor Pressure, Flow, UV light and Tank Level with Rees Scientific EMS

Available Options

- Back-up pump configuration
- Compact Tanks
- Cage Rack Flushing

Type	Order #
Recirculating Watering Pump System. Includes single 4.6 GPM pump, UV sterilizer, return water pressure regulating valve, pressure gauge, and sensors for flow, UV light, and pressure. For systems with water supply flowing from right to left.	**PUMPSYS-1-L**
Same as PUMPSYS-1-L but for systems with water supply entering flowing from left to right.	**PUMPSYS-1-R**
Recirculating Watering Pump System with dual 4.6 GPM pumps with automatic switch-over in the event of pump failure, UV sterilizer, return water pressure regulating valve, pressure gauge, and sensors for flow, UV light, and pressure. For systems with water supply flowing from right to left.	**PUMPSYS-2-L**
Same as PUMPSYS-2-L but for systems with water supply flowing from left to right.	**PUMPSYS-2-R**

Assemblies are mounted to 24" x 48" HDPE sheet for easy wall mounting and requires 115 VAC power.
*NOTE: Pump Systems will support up to 1000 ft of 3/4" pipe. Greater lengths of pipe will require additional pump assemblies.

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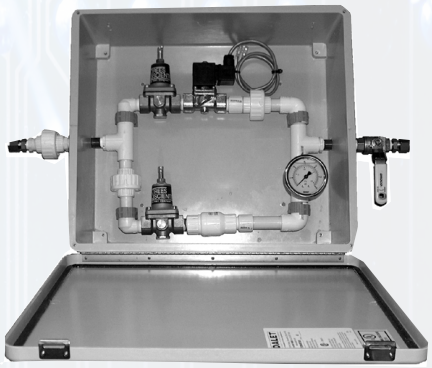
Pressure Reducing Water System with Auto Flush

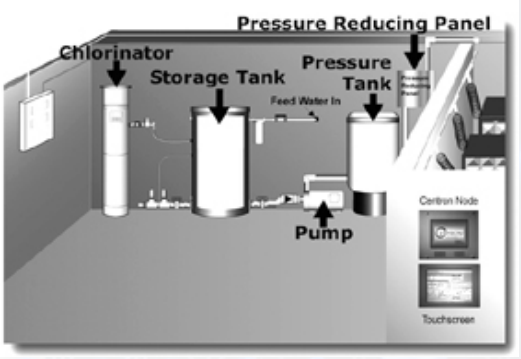
Application:



The Automated PRP (Pressure Reducing Panel) automates the flushing of rack manifolds and room distribution piping to avoid stagnation and to combat bacteria growth. This flushing process enhances water quality by bringing fresh water into the piping and flushing all of the potentially stagnant or contaminated water out of the system. Combining our output control capabilities with our pressure reducing panels, The Auto Flushing Pressure Reducing Watering System gives you the flexibility to schedule multiple flushing sequences per day, all performed automatically.

How it works

Flushing is initiated by a transition to higher water pressure and the subsequent actuation of solenoids installed at piping termination points. This high-pressure flush provides a more vigorous and more complete flush of the manifold than if it was done at the normal operating range of 3 to 5psi. After a few minutes, the pressure is indexed to normal, and the solenoid valve closes. The water is flushed from the manifolds through the drain lines to a nearby sink or drain.



Enjoy integration of Critical Monitoring, Alarming and Flush Control with Centron EMS

- Monitor Pressure and Flow
- Record flush event
- Program multiple flush sequences/schedule
- Separate flush and drinking pressure regulators
- Optional Cage Rack flushing available
- Choose between PVC or Stainless Steel piping

Available Options

- Chlorinator
- RO System
- Water Softener
- Mixing pumps
- Compact Tanks
- Cage Rack Flushing

Type	Order #
Pressure Reducing Panel with PVC Piping and Automatic Flushing for systems with water supply flowing right to left. Includes surface mounted fiberglass enclosure, 2-stage pressure regulators, and electric solenoid valves for automatic flush. For systems with water supply flowing from right to left. Requires Microprocessor Controlled Flush Sequencer(s) listed below or Centron EMS output control(s). *NOTE: All wetted parts in Panel are Stainless Steel or PVC.	**PRP-AF-L**
Same as PRP-AF-PVC-L but for systems with water supply flowing from left to right.	**PRP-AF-R**
Pressure Reducing Panel with PVC Piping and Manual Flush Controls for systems with water supply flowing from right to left. Includes surface mounted fiberglass enclosure, 2-stage pressure regulators, water filter, and valves for manual flushing of the room piping. *NOTE: All wetted parts in Panel are Stainless Steel or PVC.	**PRP-MF-L**
Same as PRP-MF-PVC-L but for systems with water supply flowing from left to right.	**PRP-MF-R**
Pressure Reducing Panel with PVC Piping for use with high pressure recirculating systems with water supply flowing from right to left. Includes surface mounted fiberglass enclosure, single-stage pressure regulator , and flow sensor. *NOTE: All wetted parts in Panel are Stainless Steel or PVC.	**PRP-RS-L**
Same as PRP-RS-PVC-L but for systems with water supply flowing from left to right.	**PRP-RS-R**

All Pressure Reducing Panels require 24v AC power.

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Flush Sequencers

Application:

Microprocessor Flush Sequencers control the Automated Flushing in Pressure Reducing Water Systems. Housed inside a NEMA 4 Fiberglass enclosure, external flush cycle start and stop buttons

Type	Order #
Microprocessor Flush Sequencer. Controls up to 2 Pressure Reducing Panels (PRP) for automatic flushing. Requires 24VAC power. (24VAC-PS4)	**2PMFS**
Microprocessor Flush Sequencer. Controls up to 4 Pressure Reducing Panels (PRP) for automatic flushing. Requires 24VAC power. (24VAC-PS4)	**4PMFS**
Power Supply. Outback 24 VAC @ 4 Amp. Used to power Flush Sequencers. Requires 115VAC power. Specify one power supply per flush sequencer.	**24VAC-PS4**

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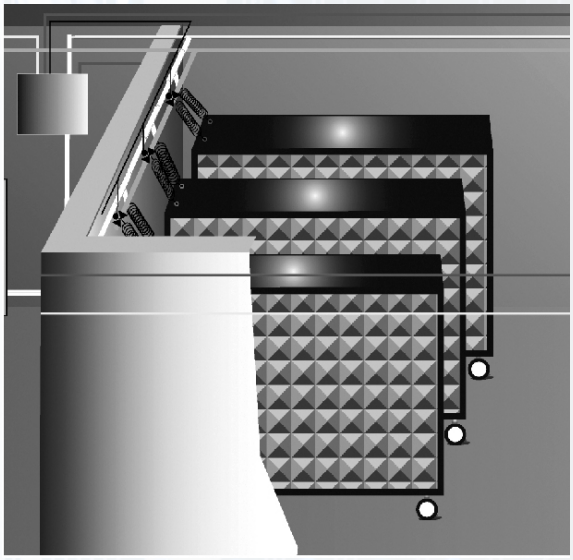
Animal Cage Rack and Hose Flushing Systems

Application:

Periodic flushing of cage rack piping, manifolds and recoil hoses helps to ensure animals are receiving clean drinking water. Our Automatic Flush Systems and Sanitizers utilize fresh or chlorinated water and clean, compressed air. Manual flush systems are also available.

Up to 8 cage racks can be flushed automatically using our Rack Flush Sequencer. All of our Recoil Hose Flush Systems can flush up to 6 recoil hoses at a time.



Type	Order #
Microprocessor controlled Rack Flush Sequencer for automatic flushing of up to 8 Cage Racks. Controller is housed in a NEMA 4 Fiberglass enclosure. Requires 24v AC power and one FLUSH-SOL for each rack.	**RCKFLSH-CTLR**
Flush Solenoid. Stainless Steel Solenoid for use with Rack Flush Sequencer for Cage Rack Flushing. Requires 24v AC power. One Solenoid needed per rack.	**FLUSH-SOL**
Automatic Cage Rack Manifold Flush System and Sanitizer. Provides fully automated fresh water flush of cage rack manifolds. Includes microprocessor based Controller and on-board Air Compressor for evacuating water from manifold after final fresh water flush. Requires 115v AC power and connection to water supply.	**RCK-SANITZR-F**
Same as RCK-SANITZR-F but for chlorinated flush. Also includes Chlorine Solution Tank with injection pump and circulator	**RCK-SANITZR-C**
Manual Cage Rack Manifold Flush System. Requires clean oil-free air at 30 PSI and house water connection at 10-25 PSI.	**RACK-FLUSH**
Automatic Recoil Hose Flush System and Sanitizer. Provides fully automated fresh water flush of up to 6 recoil hoses at a time. Includes microprocessor based Controller, and on-board Air Compressor for evacuating water from hoses after final fresh water flush. Requires 115v AC power and connection to water supply.	**HSE-SANITZ-F**
Same as HSE-SANITZ-F butfor chlorinated flush. Also includes Chlorine Solution Tank with injection pump and circulator	**HSE-SANITZ-C**
Manual Recoil Hose Flush System. Flush up to 6 recoil hoses at a time. Requires clean oil-free air at 30 PSI and house water connection at 10-25 PSI.	**HOSE-FLUSH**

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Water Storage Tank Assemblies

Application:

Rees Scientific can offer a full range of water storage tanks in a variety sizes and capacities to fit your facility's needs. All of our tanks are made of Linear Polyethylene and are FDA approved for use with potable water.

These rigid, self-supporting tanks have excellent resistance to chemicals, impact and abrasion. They withstand continuous operating temperatures up to 180 degrees F; intermittent service to 212 degrees F.

Specifications:

All water storage tank assemblies include

- cover
- intake water filter
- float valve assembly
- water level sensors
- all fittings and valves to connect tank to pump assembly.

Capacity (gallons)	Dimensions (inches) w x h	Wall Thickness (inches)	Order #
55	24 x 36	1/4	**TANK-55**
100	29 x 50	1/4	**TANK-100**
200	38 x 50	5/16	**TANK-200**
360	50 x 50	3/8	**TANK-360**
550	50 x 74	3/8	**TANK-550**

If a specific size tank is required but not listed, RSC engineers can provide alternate sizes.

Optional tank stands available.

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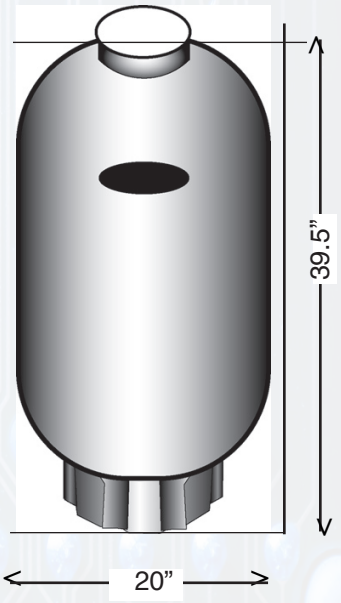
Water Pressure Tank

Application:

Adding a Water Pressure Tank to a Pressure Reducing Water System that includes water conditioning through Chlorination or Reverse Osmosis ensures that the proper flow of water is maintained throughout the system. The on-demand pump fills the diaphragm pressure tank from the water storage tank and provides a reserve of pressurized water. This reduces wear on the pump and provides a constant supply of water.



Specifications

Inner Liner:	One-piece high density polyethylene
Outer Shell:	Fiberglass-wound & epoxy resin sealed
Air Cell:	Heavy mil ethyl-vinyl-acetate (EVA)
Upper & Lower Flanges:	Reinforced polypropylene
Base:	One-piece high density polyethylene
Service Connection:	Stainless steel
Air Valve:	Brass body, Schrader core assembly
Weather Cap:	High density polyethylene

Maximum Capacity /Equivalent Tank Size	Diameter x height (inches)	Wall Thickness (inches)	Draw down (Gallons)			Connection size Female
			20-40	30-50	40-60	
35 gal/80 gal	20” x 39.50”	1/4	12.1	10.3	9.0	1”

Type	Order #
Water Pressure Tank. Includes Pump for use with Pressure Reducing Systems with Water Tanks when Chlorinator and/or Reverse Osmosis Water Maker is added to system.	**PRES-TANK**

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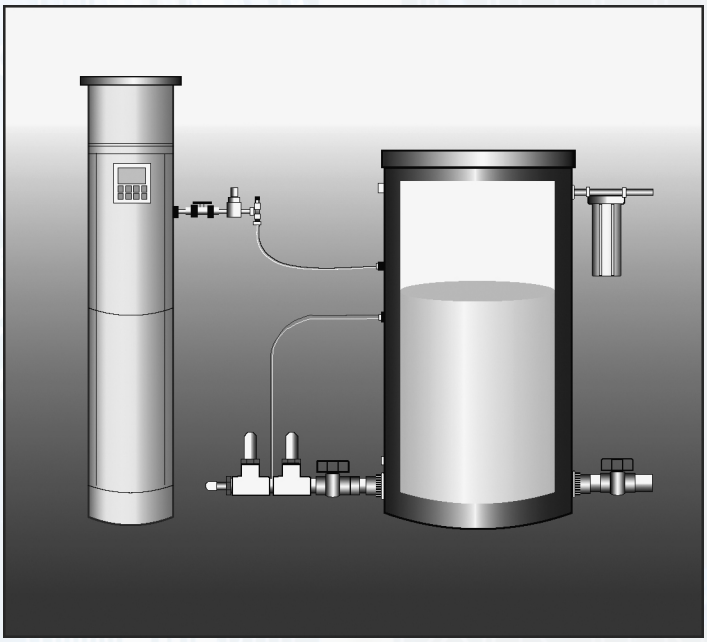
Chlorinator

Application:



Rees Scientific's approach to Chlorination is different from any method used before in this industry. Rather than injecting chlorine into the system supply line, which can result in "clouds" of chlorine, or inaccurate control, Rees Scientific using a premise method to chlorinate the supply water, while monitoring both Chlorine and PH levels. Using a circulating pump and a precise control, our chlorinator can maintain a user selectable level of Chlorine up to 2 PPM in the water supply tank, insuring the proper levels are reaching your valuable animals. Chlorine and pH levels are indicated on its large backlit local display, and readings can be logged and documented with integration to any Rees Scientific EMS. The Rees Scientific Chlorinator is suitable for use with both circulating and pressure reducing systems, and can be retrofitted to any existing watering system, regardless of manufacturer.

Type	Order #
Chlorinator Unit for use with UV Recirculating Watering System. Automatically maintains a user selectable Chlorine level in Animal Drinking Water Supply Tank. Includes Free-Chlorine Sensor, pH Sensor, microprocessor-based Controller with display, mixing pump, tank water level Float Valve, Intake water Filter, and associated piping for sensor suite. Requires Water Storage Tank and 115VAC power.	**CHLORINE-R**
Chlorinator Unit for use with Pressure Reducing Watering System. Automatically maintains a user selectable Chlorine level in Animal Drinking Water Supply Tank. Includes Free-Chlorine Sensor, pH Sensor, microprocessor-based Controller with display, mixing pump and associated piping for sensor suite. Requires Water Storage Tank and 115VAC power.	**CHLORINE-P**

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Reverse Osmosis System

Application:

Reverse osmosis can remove dissolved minerals that cause hardness, toxic chemicals, and other impurities such as chromium, mercury and nitrates. It can improve the taste of your water, plus treated water will not produce a mineral build-up in pipes. Our Reverse Osmosis Systems remove 95-99% of most contaminants, providing a standardized water quality despite variations in location, water source and/or outside environmental factors such as weather conditions.

RO-44

Produces 44 gallons of water per day

Performance Specifications

Inorganics	up to 98% rejection
Organics	> 99% rejection
Particulates	> 99% removal
Bacteria	< 5 CFU/ml
TOC	< 0.1 ppm
Flow Rate	1.82 gpm @ 77° F

Feed Water Parameters

Feed Water	Potable
Maximum Fouling Index	10
Maximum Conductivity	1400 µS/cm
Maximum Free Chlorine	< 0.5 ppm
Temperature	34 - 95° F
Pressure (w/o Booster Pump)	60 - 90 psi

System Dimensions

H x W x D*	18.2 x 16.2 x 8.3 inches
Weight	25.4 lbs

*Does not include operating space requirements

RO-1000

Produces 1000 gallons of water per day

Performance Specifications

Inorganics	up to 98% rejection
Organics	> 99% rejection
Particulates	> 99% removal
Bacteria	< 5 CFU/ml
TOC	< 0.1 ppm
Flow Rate	0.8 gpm @ 77° F

Feed Water Parameters

Feed Water	Well or Softened
Maximum Fouling Index	3 SDI
Maximum Free Chlorine	< 0.02 ppm
Maximum Turbidity	1 NTU
Temperature	50 - 113° F
Inlet Pressure	25 - 50 psi

System Dimensions

H x W x D*	62 x 17 x 26 inches
Weight	80 lbs

*Does not include operating space requirements

Type	Order #
Reverse Osmosis Water Maker. Produces 44 gallons of water per day. Includes pre-filter system to include 5 micron pre-filter and .25 cubic foot carbon tank. Only for use with UV Recirculating systems. Requires 115v AC power.	**RO-44**
Reverse Osmosis Water Maker. Produces 1000 gallons of water per day. Includes 10" diameter multi-media sand filter, 9" diameter water softener filter, and 6" diameter exchange carbon filter. Requires 115v AC power.	**RO-1000**

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Water Softening and Conditioning

Application:

According to the U.S. Geological Survey, more than 85 percent of the United States geography has hard water. Our Water Softening and Conditioning System purifies city or well water by removing the minerals that lead to lime scale buildup and hard water.
Based on a detailed analysis of your water, individual components will be selected to properly condition your water supply. Includes sand and carbon filter systems.

Water Softeners are lightweight, with corrosion-resistant Fiberglass Reinforced Plastic (FRP) pressure vessel and cost-effective top mounted valve for commercial and light industrial applications.

Specifications

- Fiberglass tanks are durable and corrosion-free
- Tank liners are blow-molded plastic wrapped in high-strength fiberglass and have epoxy resin for worry-free service
- Softeners include a motorized, 5-cycle control valve that is quiet, efficient and dependable
- Automatic regeneration controller is an electromechanical timer
- Duplex systems are available for applications that require a continuous supply of softened water
- Pretreatment lock-out switch assembly is included to deactivate downstream equipment during regeneration

Type	Order #
Water Softening/Conditioning System. Conditions city or well water. A detailed Water Analysis must be performed prior to final pricing to ensure selected components are suitable.	WATERSOFT

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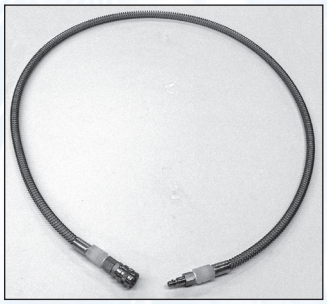
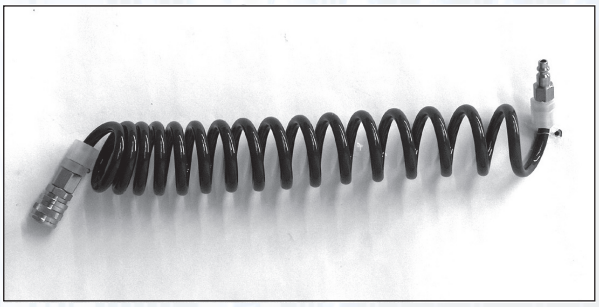
Hoses

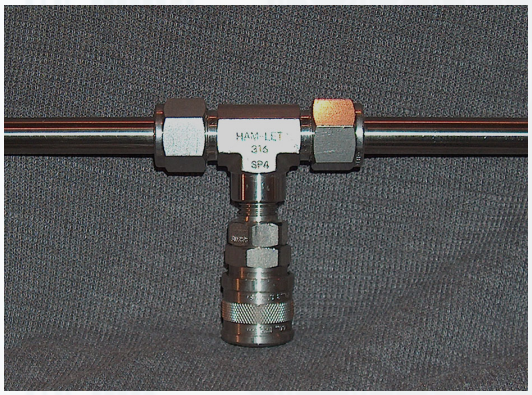




Type	Inside diameter	material	length	Order #
Recoil Hose for use with Animal Racks. Connects to Quick Disconnect on Room Piping.	1/4”	Polyurethane (Kynar Optional)	6’ Extended	**RECOILHOSE-6**
Recoil Hose for use with Animal Racks. Connects to Quick Disconnect on Room Piping.	1/4”	Polyurethane (Kynar Optional)	12’ Extended	**RECOILHSE-12**
Quick Disconnect Hose for use with Primates. Hose has spiral wrapped, Stainless Steel protection.	1/4”	Kynar	6’	**PRIMATEHOSE**

Quick Disconnects

Quick Disconnect Assembly for Animal Racks. Used with Recirculating and Pressure Reducing Systems. One Disconnect needed per rack serviced by watering system.



Type	Order #
Quick Disconnect Assembly for Animal Racks. For use with 3/4” PVC in-room piping. Includes 3/4” PVC “T” fitting with Quick Disconnect pre-installed.	**DISCONNECT-P**
Quick Disconnect Assembly for Animal Racks. For use with 1/2” Stainless Steel in-room piping. Includes 1/2” Stainless Steel “T” fitting with Quick Disconnect pre-installed.	**DISCONNECT-S**

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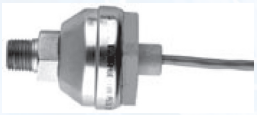
Transmitters

Application:

Optional Transmitters provide analog readings and integrate with Centron EMS.

Pressure Transmitter



Performance Specifications
Pressure Readings . . . . . 0 - 25 psi
Pressure Limits . . . . . 2x maximum range
Temperature Limits . . . . . -40° - 260° F

Flow Transmitter

Performance Specifications
Flow Range . . . . . 1.5 - 15 GPM
Pressure Limits . . . . . 500 psi
Temperature Limits . . . . . 20° - 225° F

Type	Order #
Optional Pressure Transmitter. Provides analog reading of water system pressure. Will be installed in PRP panel. Requires Centron EMS output control(s).	**PT1**
Optional Flow Transmitter provides analog reading of system flow 0-15 GPM. Only for use with UV Recirculating system. Requires Centron EMS output control(s).	**FLOW-TX**

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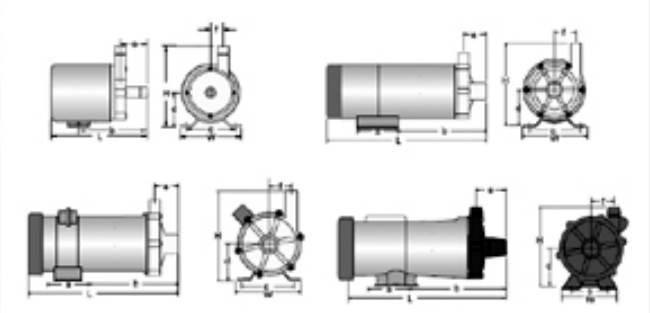
Pumps

Application:

Rees Scientific offers a range of pumps to meet your facility's needs. All of our pumps are non-metallic centrifugal pumps with alumina ceramic bearing materials and polypropylene. Totally enclosed, permanent split capacitor motors are compact, cool and economical.

Our mixing pumps are capable of evenly distributing additives in water storage tanks of any size.



Recirculating Pump for use in Recirculating UV Sterilization System

PUMP

Specifications

Max Capacity	4.6 GPM
Max Head	36.1 FT
Motor Output	1/16 HP
Voltage	115 VAC
Current	1.1 A
Suction	3/4 in NPT - Male
Discharge	3/4 in NPT - Male

Dimensions

W x H x L	4.72 x 5.12 x 9.05 inches
Weight	8 lbs

MIXPUMP

Specifications

Max Capacity	19 GPM
Max Head	13.5 FT
Motor Output	1/16 HP
Voltage	115 VAC
Current	1.00 A
Suction	1in NPT - Male
Discharge	1in NPT - Male

Dimensions

W x H x L	3.50 x 5.37 x 12.12 inches
Weight	9 lbs

Type	Order #
Mixing Pump. Evenly distributes chlorine or other additives in water storage tank. Requires 115VAC power.	MIXPUMP
Recirculating Pump. Requires 115VAC power.	PUMP

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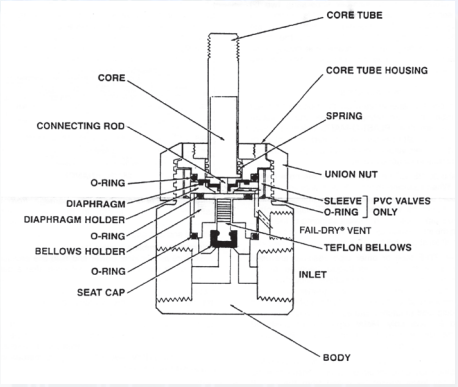
Solenoid Valves

Application:

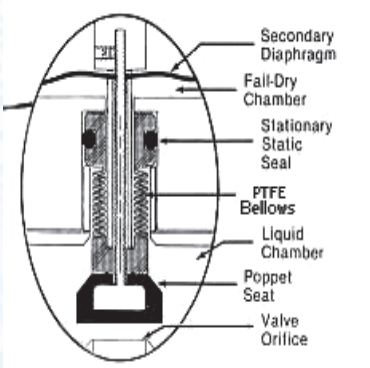
For applications requiring a compact, cost effective and high pressure rated valve with extended cycle life.

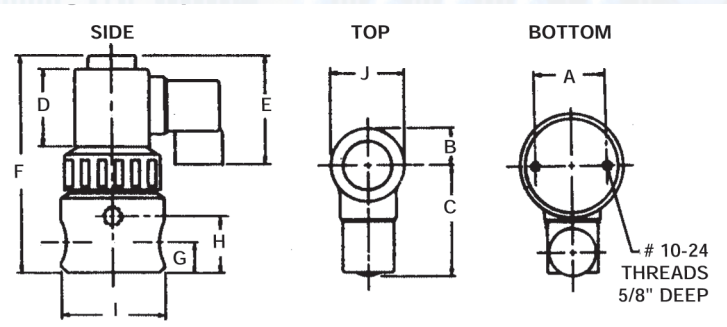
Unsurpassed performance in a compact plastic solenoid valve. High pressure ratings and considerable flow rates, PTFE bellows barrier type dynamic seal, and Fail Dry safety vent make this valve ideal for acids, caustics, solvents, chlorine solutions and ultra-pure liquids.



Specifications:

- Full vacuum through 70 PSI inlet, 60 PSI backpressure rating
- 0.8 Cv factor
- 2,000,000+ cycle life (tested under laboratory conditions)
- Continuous duty, NEMA 4X CSA approved coil
- ¼" & ½" NPT size in Geon® PVC, Virgin Polypropylene and Kynar® PVDF
- Elastomer seat seal in FKM (Viton®) or EPDM





Features:

- Corrosion Resistant
- Continuous Duty
- Safe Operating Temp
- NEMA 4x water and dust tight enclosure
- Moisture proof
- Fungus proof

Type	Order #
Solenoid Valve for end of line, high pressure and cage rack flushing	**W-FLUSH-SOL-P**

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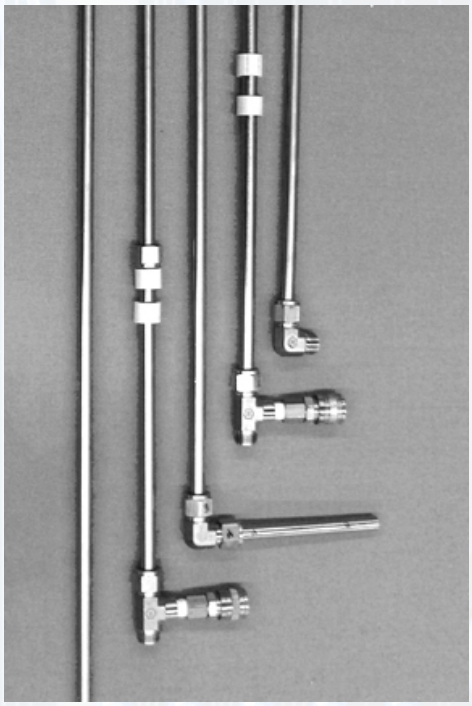
Room and Zone Piping Kits

Application:

Piping kits for distributing water within a room. Kits include precut pipes, elbows, pipe hangers and trim rings.

Zone isolation kits for recirculating watering systems include ball and diaphragm valves, pressure gauge and associated fittings.



Type	Order #
Room Piping Kit for PVC Pipes. Includes precut pipes for Quick Disconnects on design centers, corner elbows, pipe hangers and Stainless Steel Trim Rings. One kit needed per room.	**ROOMKIT-PVC**
Room Piping Kit for Stainless Steel Pipes. Includes precut pipes for Quick Disconnects on design centers, corner elbows, pipe hangers and Stainless Steel Trim Rings. One kit needed per room.	**ROOMKIT-SS**
Zone Isolation Kit for UV Recirculating Watering Systems using PVC piping. Includes ball and diaphragm valves, pressure gauge, and associated fittings. One kit needed per desired zone.	**ZONEKIT-PVC**
Zone Isolation Kit for UV Recirculating Watering Systems using Stainless Steel piping. Includes ball and diaphragm valves, pressure gauge, and associated fittings. One kit needed per desired zone.	**ZONEKIT-SS**

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