PURETEC®
Industrial Water

Water Solutions Catalog 2020

TOLL FREE: 800.906.6060 ■ **EMAIL:** sales@puretecwater.com ■ **WEB:** www.puretecwater.com

PURETEC Industrial Water

Welcome to our interactive catalog. Click on the topics of interest below to view in depth. Navigate back to this page by clicking on "Table of Contents" at the base of each page.

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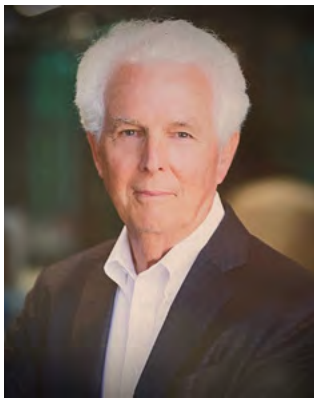
Company Overview

Great Place To Work.® Certified APR 2020–APR 2021 USA ™



JIM HARRIS
CEO, Puretec Industrial Water

Puretec has been awarded the "Great Place to Work" certification three years in a row. This achievement is evident in everything we do.

- Puretec Industrial Water is a privately held company founded in 1944.
- We are the fastest growing company in our vertical space and geography.
- Our success and growth comes primarily through repeat business and referrals from our delighted customers.
- Off-site regeneration, equipment, and maintenance service is our core business.

PORTABLE DEIONIZATION & SOFTENING

PRE-FILTRATION AND CHEMICAL PRE-TREATMENT PACKAGES

REVERSE OSMOSIS, MICRO FILTRATION & ULTRA FILTRATION

ULTRAVIOLET (UV) AND OZONE STERILIZATION SYSTEMS

DISTRIBUTION, RECIRCULATION & PUMPING SKIDS

Our Core Values

Do what's right
Work with integrity and look out for our customers and each other.

Do it well
Always strive towards continuous improvement and take pride in every job that you do.

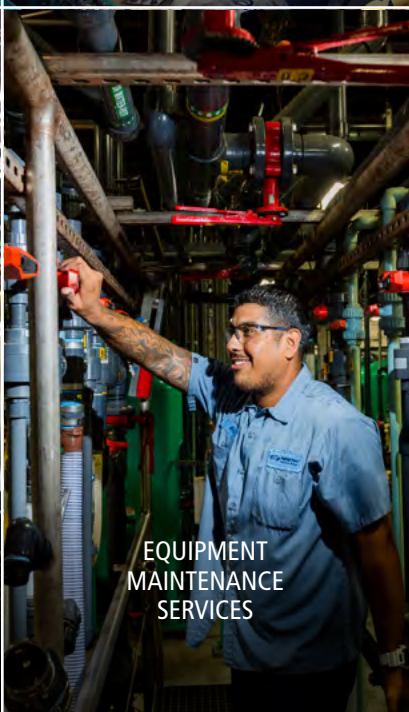
Show people you care
Take extra steps to "wow" our customers and coworkers by providing service above and beyond what is expected.

STORAGE & HOLDING TANKS

MOBILE FLEET WASH

MOBILE TRAILER DI, SOFTENING & CUSTOMER DEMINERALIZATION

MEMBRANE CLEANING & REPLACEMENT SERVICES



EQUIPMENT MAINTENANCE SERVICES

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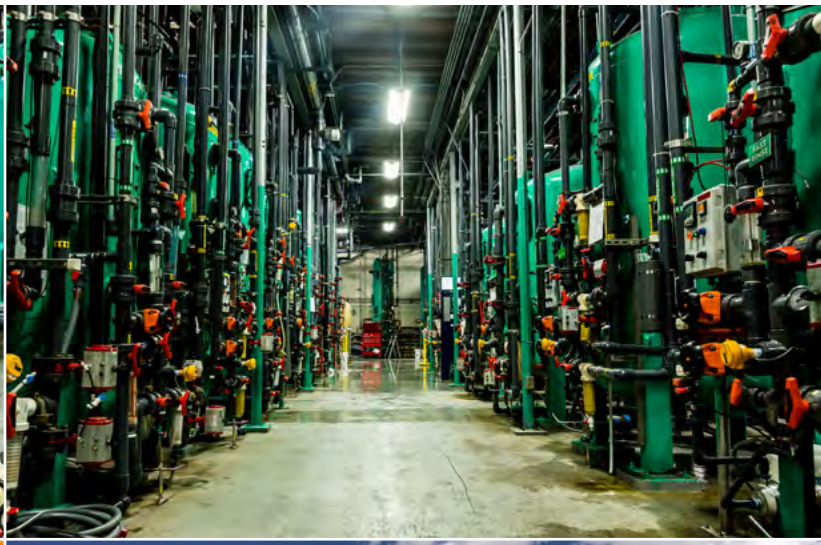
Philanthropy

Puretec worked with Global Water to give the town of Serabu in Sierre Leone (pop 4,000) access to clean water.

Clean drinking water and sanitation for all is one of the biggest global challenges of the 21st century—and business has an important role to play. We are proud to do our part to help.

Capabilities and Services



INDUSTRIAL SYSTEMS TECHNOLOGY

- High Purity Deionized Water
- Reverse Osmosis Systems
- Boiler Feedwater Pretreatment
- Water Reclamation
- Membrane Separations

PROCESS TECHNOLOGY

- Reverse Osmosis
- Ultra Filtration
- Micro Filtration
- UV Irradiation
- Carbon Adsorption
- Deionization
- E-cell EDI
- Softening
- Ozonation
- Chemical

CAPABILITIES & SERVICES

- Owned & Operated Systems
- Design, Manufacturing & Installation
- Pure Water Management Programs
- Large Parts Inventory
- Mobile RO/DI Systems
- System Maintenance
- System Upgrade
- System Refurbishment
- Laboratory Analysis
- Pilot Study
- 24 Hour Service
- Leasing Programs

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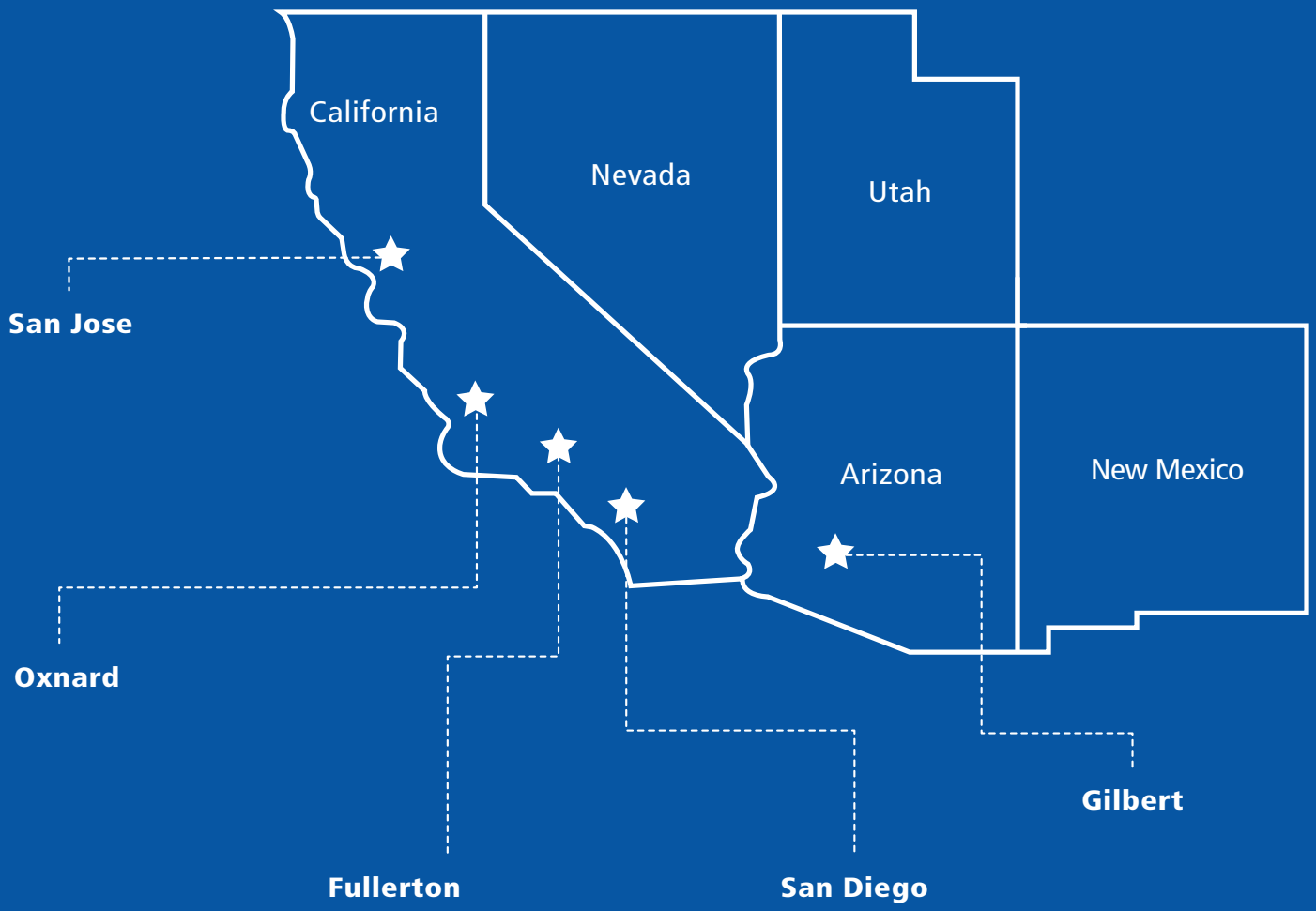
Contact Us



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SDI

Exchange Services

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Off-site Regeneration

We provide mission-critical water systems that produce water up to 1,000x more pure than tap water.

- Newest regeneration facility on the West Coast.
- Our 3 regeneration plants are strategically located to serve clients throughout the southwest.
- Built from the ground up and meticulously engineered to provide the highest quality regeneration.
- All resins are segregated by quality and closely tracked.
- Dedicated and isolated regeneration is available.
- Custom regeneration of customer owned resins is available.
- Puretec does not mix resins from alternate sources. We have used the same brand and type of cation and anion resins for years.

DI Exchange Tanks

DI Exchange Tanks are an economical and reliable way to achieve high quality 18.2 Meg-ohm demineralized water free of nearly all ionic contaminants that are harmful to many industrial processes. We offer a wide range of sizes and resin types to ensure that you receive the proper quality and quantity of water that you need. Our service team will install, service and replace exhausted DI tanks based on your schedule 24/7.

ADDITIONAL AVAILABLE MEDIAS

Mixed Bed
Strong and Weak Acid Cation
Strong and Weak Base Anion
Cation—Hydrogen Form

ADVANTAGES

- Fast local service 24/7
- No capital investment
- Strict quality control and documentation
- Various tank sizes to meet your exact needs
- State of the art regeneration facilities
- Simple hook-up
- Emergency Service

DI EXCHANGE TANK OPTIONS

Quality instrumentation and controls Automatic switch over panels
Dedicated ion exchange resins
Recirculating pump skids
316 stainless steel sanitary tanks
Pre & post Filtration
Water Linx Remote Monitoring Service

FLOMAX DI TANK OPTIONS

Quality instrumentation and controls
Automatic switch over panels
Dedicated ion exchange resins
Recirculating pump skids
37 & 45 cubic foot sizes
Water Linx remote monitoring service

DI Exchange Tanks

Flomax DI Tanks

✓ 24/7 Emergency Service ✓ Fast Local Service
✓ Units are Certified to Your Specifications Before Delivery
✓ No Capital Investment

Softening Exchange Tanks

Softening Exchange Tanks are an economical and reliable way to achieve high quality soft water for high flow rate commercial and industrial applications. We offer a wide range of sizes and media types to ensure that you receive the proper quality and quantity of water that you need. Our service team will install, service and replace exhausted softening tanks based on your schedule 24/7.

ADDITIONAL AVAILABLE MEDIAS

Deionization
Filtration
Activated Carbon

ADVANTAGES

- Fast local service 24/7
- No capital investment
- Strict quality control and documentation
- Various tank sizes to meet your exact needs
- State of the art regeneration facilities
- Simple hook-up
- Emergency Service
- Improved overall water quality
- No chemicals on site

SOFTENING EXCHANGE TANK OPTIONS

Quality monitors and controls
Automatic switch over panels
Recirculating pump skids
Pre & post Filtration
Water Linx Remote Monitoring Service

FLOMAX SOFTENING TANK OPTIONS

Quality instrumentation and controls
Automatic switch over panels
Dedicated ion exchange resins
Recirculating pump skids
37 & 45 cubic foot sizes
Water Linx remote monitoring service

Softening Exchange Tanks

Flomax Softening Tanks

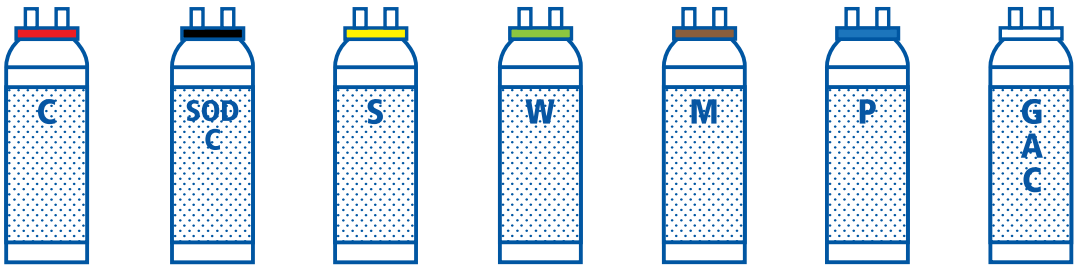
✓ 24/7 Emergency Service ✓ Improved overall water quality ✓ No chemicals on site ✓ No Capital Investment

Exchange Tank Guide & Color Codes

Unit Designation	8" Fiberglass	10" Stainless	10" Fiberglass	14" Fiberglass	14" Stainless	Flomax 37	Flomax 45
Volume	0.5 ft³	1.6 ft³	1.6 ft³	3.6 ft³	3.6 ft³	37 ft³	45 ft³
Weight	0.5 ft³	148 lbs	135 lbs	303 lbs	316 lbs	3120 lbs	3790 lbs
Footprint	8"	10"	10"	14"	14"	40"	43"
Height w/ Fittings	23"	42"	45"	50"	50"	96"	96"
Inlet Connection	1" Fem Union	1" Fem Union	1" Fem Union	1" Fem Union	1" Fem Union	2" Fem Camlock	3" Fem Camlock
Outlet Connection	1" Male Union	1" Male Union	1" Male Union	1" Male Union	1" Male Union	2" Male Camlock	3" Male Camlock
Operating Psi (max)	80 psi	80 psi	80 psi	80 psi	80 psi	80 psi	80 psi
Temperature Rating	80° F	180° F	80° F	80° F	180° F	80° F	80° F
Optimum Flow DI (GPM)*	1 to 2 GPM	2 to 8 GPM	2 to 8 GPM	3 to 20 GPM	3 to 20 GPM	35 to 120 GPM	45 to 200 GPM

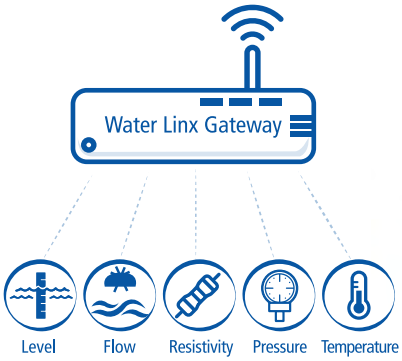
*Lower flows can be achieved with a recirculation system and different flow rates will be suitable for medias other than ion exchange resins

Colored electrical tape is wrapped around the top neck or outlet fitting to designate what type of ion exchange resin is inside the tank.



	Red	Black	Yellow	Green	Brown	Blue	Clear
Resin Type	Strong Acid Cation (SAC) in Hydrogen (H^+) Form	Strong Acid Cation (SAC) in Sodium (Na^+) Form	Strong Base Anion (SBA) in Hydroxide (OH^-) Form	Weak Base Anion (WBA) in Free base (OH^-) Form	Mixed Bed Resin (contains both SAC and SBA)	Mixed Bed Polisher Resin (contains both SAC and SBA)	Granular Activated Carbon (GAC)
Commonly Referred to As	"C" or "Cation" Tank	"Sodium C" or "Softening Tank"	"S" or "Strong Base Tank"	"W" or "Weak Base Tank"	"M" or "Mixed Bed Tank"	"P" or "Polisher Tank"	"GAC" or "Carbon Tank"

Water Linx Remote Monitoring



Water Linx provides secure remote access to up to the minute analytics of your water treatment system. With a wide variety of sensor support, Water Linx can be installed on any complex system that requires real-time normalized calculations and trending or simply as an early warning system for a few sensors. Water Linx is a cost effective way to provide visibility and protection of mission critical systems.

FEATURES

- Live sensor dashboard and hourly saved history
- Accessible from any computer, phone or tablet with internet access
- Individual sensor history with trend charts
- Email or SMS alarm notifications
- Multiple alarm notification set points for each sensor
- Calculated sensors with trending and notification capabilities
- Secure read-only push communication
- Works with existing control room systems
- Unlimited authorized users accounts
- Predefined, custom, and calculated sensors
- Real-time normalized sensors w/ trend view

✓ Secure Read-Only Access ✓ Up to the Minute Data ✓ Text Message and E-mail Notifications

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Mobile Fleet Wash

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Car Wash and Vehicle Pressure Wash

Puretec Industrial Water is the leading provider of high quality "spot-free" water filtration products and services for vehicle cleaning and maintenance to the automotive and rental car industry.

Our water treatment systems remove spot causing dissolved minerals from city water providing our customers with water that is perfect for washing vehicle fleets of any size. This eliminates the need to hand dry which reduces your labor cost and keeps your inventory "spot-free" and ready to move. All of our systems are designed to provide years of reliable service with minimal maintenance.

BENEFITS

- Removes spot causing minerals from city water eliminating the need to hand dry vehicles
- Scalable systems are able to service a vehicle fleet of any size
- All systems are designed to provide years of reliable service with minimal maintenance

STATE-OF-THE-ART EQUIPMENT

- Designed for efficient high production of ultra pure water.
- Built for the long haul and can absorb day to day use.
- Equipment customized to meet challenging applications.
- Simple & Quick Installations.
- On-site training and service that you can count on.
- The most qualified technicians in the industry.
- System upgrades available.
- Engineering Analysis.
- Full and preventive maintenance agreements available.
- Emergency service available 24/7 365 days year.
- Affordable purchase and lease programs available.

OTHER TECHNOLOGY AVAILABLE

- Service Deionization
- Water Softening
- Carbon Adsorption
- R/O Membrane Cleaning
- Multi Media Filtration
- UV Sterilization
- Service and Maintenance Agreements
- Instrument Calibration Services

OPTIONS

Reverse Osmosis with pretreatment and storage tank
Single operator truck mounted systems
Portable & Stationary Electric or Gas Deionized Water Pressure washers
Final rinse arch for existing drive through systems

✓ On-site Training ✓ Emergency Service
✓ Affordable Purchase and Lease Programs Available
✓ Simple Installation

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Mobile Services

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Mobile Demineralizer Trailers

Mobile Demineralizer Trailers provide a reliable supply of high quality demineralized water for nearly any application. With our mobile demineralizer trailer fleet, and strict quality control standards, we are able to respond to nearly any mobile DI water requirement. Each trailer also includes Water Linx, our remote monitoring platform for detailed performance data analysis.

TYPICAL USES

- Capacity Expansions
- Zero Discharge Mobiles
- Interim Use
- Process Water Changes
- Scheduled Shutdowns
- Emergency Water Needs

SPECIFICATIONS

Resin Capacity	Up To 630 CFT 10 Million Grain
Flow Rate min/max	50 gpm / 400 gpm
Dimensions L x W x H	53' x 8.5' x 13.5'
Electrical Requirements	(2) 115 V, single phase, 60 hz, 20 amps
Instrumentation	Conductivity on feed and effluent, flow indicator and flow totalizer, pressure gauges, quality sample ports, and Water Linx remote monitoring service
Typical Water Quality	Conductivity <0.06 µS, Silica <10 ppb

*Based on a 1 µS/cm end point

✓ Water Linx Remote Monitoring Service Included ✓ 24/7 Dispatch
✓ No Capital Investment ✓ Flexible Configuration

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Bulk Deionized Water

Bulk Deionized Water is purified by a high efficiency Reverse Osmosis / Ion Exchange / TOC Reduction system and delivered with a single purpose designed, all stainless steel mobile tanker and transfer platform.

The Bulk Water treatment system includes a dedicated storage tank and a continuous recirculation system equipped with low silica mixed bed polishing demineralizers, TOC reduction UV unit and submicron filtration to ensure the immediate availability of scheduled or emergency bulk requirements. With our new local service we have the ability to further support a magnitude of your demanding water treatment needs on a cost effective basis.

TYPICAL USES

- Support of ultrapure makeup equipment system outages to permit performance of scheduled or emergency maintenance procedures
- Supply of short term supplemental makeup quality demineralized water
- Supply of "one time" ultrapure water requirements
- Makeup capacity in lieu of fixed site equipment to save capital expenses, operating expenses, crucial space and personnel

SPECIFICATIONS

Capacity	6,000 Gallons Nominal
Loaded Quality	Resistivity 18.1 Meg, < 5 PPB Silica, < 10 PPB TOC
Delivery Rate	100 GPM @ 30 PSI
Electrical Requirements	None Required
Auxiliary Equipment	Diesel Powered, Stationary, Stainless Steel, Delivery Pump Gallonage Totalizer, Ultrapure Transfer Hoses.

✓ Makeup Quality Demineralized Water ✓ 24/7 Emergency Service

Equipment Technologies

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In House Fabrication, Manufacturing & Engineering

All fabrication is done in-house.

- Headquarters Facility in Oxnard, California
- 2,000 ft² Welding and Fabrication Shop
- 7,500 ft² Assembly and UL Panel Shop
- All fabrication aside from painting done by Puretec staff

N1 Series Reverse Osmosis

N1-Series Reverse Osmosis Systems are designed as a competitive solution for capacities ranging from 2,000–10,000 gallons per day. Ideal for water purification of private residences, restaurants, cafés, car washes, hydroponics, misting and more.

ADVANTAGES

- Capacities from 2,000–10,000 GPD
- Fully Equipped and Customizable
- Low Operation and Maintenance Costs
- Most economical RO system available
- Individually Tested and Preserved

STANDARD FEATURES

- AX–5000 Computer Controller
- Permeate Flow Meter
- Concentrate Flow Meter with Stainless Steel Needle Valve
- Concentrate Recycle Flow Meter with Stainless Steel Needle Valve
- Pre-Filter, 0–100 Panel Mounted Glycerin Filled Gauges
- Pump Discharge, 0–300psi Panel Mounted Glycerin Filled Gauges
- Conductivity Sensor
- Chemical Injection Port and Electrical Connection
- HF4-Series Membrane Elements

N1-10000
Reverse Osmosis System

✓ Complete Maintenance Service Available ✓ Fully Equipped and Customizable
✓ Most Economical RO System Available ✓ AX-5000 Computer Controller ✓ Individually Tested and Preserved

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N1 Series Reverse Osmosis Product Specifications				
Models	**N1 - 2000**	**N1 - 4000**	**N1 - 8000**	**N1 - 10000**
Design				
Configuration	Single Pass	Single Pass	Single Pass	Single Pass
Feedwater TDS max (ppm)†	2,000	2,000	2,000	2,000
Standard Recovery %	32	48	65	58
Rejection and Flow Rates†††				
Permeate Flow Rate (gpd / lpd)	2,000 / 7,570	4,000 / 15,141	8,000 / 30,283	10,000 / 37,854
Permeate Flow Rate (gpm / lpm)	1.40 / 5.26	2.80 / 10.60	5.60 / 21.20	8.30 / 31.42
Minimum Concentrate Flow Rate (gpm / 1pm)	3 / 11.35	3 / 11.35	3 / 11.35	6 / 22.71
Concentrate Recycle Flow Rate (gpm / 1pm)	Up to 2 / 7.57	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93
Connections				
Feed Connection (in)	1 FNPT	1 FNPT	1 FNPT	1 FNPT
Permeate Connection (in)	1 / 2 QC	1 / 2 QC	1 / 2 QC	1 FNPT
Concentrate Connection (in)	1 / 2 QC	1 / 2 QC	1 / 2 QC	1 FNPT
Membranes				
Membrane(s) Per Vessel	1	1	1	1
Membrane Quantity	1	2	4	6
Membrane Size	4040	4040	4040	4040
Vessels				
Vessel Array	1	1:1	1:1:1:1	2:2:2
Vessel Quantity	1	2	4	6
Pumps				
Pump Type	Multi-Stage	Multi-Stage	Multi-Stage	Multi-Stage
Motor HP	1	1	2	2
RPM at 60 Hz	3450	3450	3450	3450
System Electrical				
Standard Voltage + Amp Draw	220V, 60Hz, 1PH, 8A**	220V, 60Hz, 1PH, 8A**	220V, 60Hz, 1PH, 11A**	220V, 60Hz, 1PH, 11A**
System Dimensions				
Approximate Dimensions* L x W x H (in / cm)	38 x 53 x 142	38 x 53 x 142	58 x 71 x 142	58 x 89 x 145
Approximate Weight (lbs / kg)	110 / 49.9	120 / 54.4	190 / 86.2	220 / 99.8

Test Parameters: 550 TDS Filtered (5 - Micron), Dechlorinated, Municipal Feedwater, 65 psi / 4.50 bar Feed Pressure, l 00 psi / 6. 9 bar Operating Pressure, 77°F / 25°C, Recovery as stated, 7.0 pH. Data taken alter 60 minutes of operation.
* Does not include operating space requirements.
** Varies with motor manufacturer.

OPERATING LIMITS†

Maximum Feed Temperature (°F / °C)	85 I 29	Maximum Free Chlorine (ppm)	0
Minimum Feed Temperature (°F / °C)	40 / 4	Maximum TDS (ppm)	2,000
Maximum Ambient Temperature (°F / °C)	120 / 49	Maximum Hardness (gpg)	0
Minimum Ambient Temperature (° F / °C)	40 / 4	Maximum pH (Continuous)	11
Maximum Feed Pressure (psi / bar)	85 I 6	Minimum pH (Continuous)	2
Minimum Feed Pressure (psi / bar)	45 /3	Maximum pH (Cleaning 30 Minutes)	13
Maximum Pressure (psi / bar)	200 I 14	Minimum pH (Cleaning 30 Minutes)	I
Maximum Feed Silt Density Index (SDI)	<3	Maximum Turbidity NTU	I

† Low temperatures and feedwater quality, such as high TDS levels will significantly affect the systems production capabilities and performance. Computer projections must be run for individual applications which do not meet or exceed minimum and maximum operating limits far such conditions.
†† System pressure is variable due to water conditions. Permeate flow will increase at a higher temperature and will decrease at a lower temperature.
††† Product flow and maximum recovery rates are based on feedwater conditions as stated above. Do not exceed recommended permeate flow.
Design conditions are not identical to test conditions, please contact the manufacturer or your supplier for more information.

R1 Series Reverse Osmosis

R1–Series Reverse Osmosis Systems feature a new, innovative design. These Systems feature only the highest quality components, including a programmable computer controller with many built-in standard features, a stainless steel booster pump for high performance and corrosion resistance, ultra low energy membranes and fiber-glass membrane housings for enhanced performance.

ADVANTAGES

- Capacities from 1,800–21,600 GPD
- Fully Equipped and Customizable
- Low Operation and Maintenance Costs
- 20% Less Energy Use than Std RO System
- Individually Tested and Preserved

STANDARD FEATURES

- S-150 Computer Controller
- LCD Backlit Display
- Pre-Treatment Lockout
- Tank Level Input
- Low Pressure Monitoring and Alarm
- TDS Monitoring
- Feed Flush
- Hour Meter
- Permeate and Concentrate Flow Meters
- Concentrate Recycle with Flow Meter
- Pre-Filter, 0–100psi Panel Mounted Glycerin Filled Gauges
- Pump Discharge and Concentrate 0–300 psi Panel Mounted Glycerin Filled Gauges
- 5–Micron Sediment Pre-Filter
- HF5–Series Ultra Low Energy Membrane Elements
- FRP–Series Membrane Housings–300psi
- Pentek® 20" Big Grey Cartridge Housings
- Goulds® Multi-Stage Stainless Steel Booster Pump
- ASCO™ Composite Feed Solenoid Valve
- Feed Low Pressure Switch
- White Powder Coated Aluminum Frame
- Dual Chemical Pump Outlets

Array Specifications					
Model	**Vessel Array**	**Vessel Size**	**Vessel Quantity**	**Membrane Size**	**Membrane Quantity**
R1-1140	1	4040	1	4040	1
R1-2140	1:1	4040	2	4040	2
R1-3140	1:1:1	4040	3	4040	3
R1-4140	1:1:1:1	4040	4	4040	4
R1-5140	1:1:1:1:1	4040	5	4040	5
R1-6140	2:2:2	4040	6	4040	6
R1-8140	2:2:2:2	4040	8	4040	8
R1-10140	2:2:2:2:2	4040	10	4040	10
R1-12140	2:2:2:2:2:2	4040	12	4040	12

R1 Series Reverse Osmosis Specifications									
Models	**R1 – 1140**	**R1 – 2140**	**R1 – 3140**	**R1 – 4140**	**R1 – 5140**	**R1 – 6140**	**R1 – 8140**	**R1 – 10140**	**R1 – 12140**
Design									
Configuration	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass
Feedwater TDS max (ppm†)	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Standard Recovery %	29	45	56	63	68	56	63	68	71
Rejection and Flow Rates†††									
Permeate Flow Rate (gpd / lpd)	1,800 / 6,813	3,600 / 13,627	5,400 / 20,441	7,200 / 27,254	9,000 / 34,068	10,800 / 40,882	14,400 / 54,509	18,000 / 68,137	21,600 / 81,764
Permeate Flow Rate (gpm / lpm)	1.25 / 4.73	2.50 / 9.46	3.75 / 14.19	5.00 / 18.93	6.25 / 23.66	7.50 / 28.39	10.00 / 37.85	12.50 / 47.32	15.00 / 56.78
Minimum Concentrate Flow Rate (gpm / lpm)	3 / 11.35	3 / 11.35	3 / 11.35	3 / 11.35	3 / 11.35	6 / 22.71	6 / 22.71	6 / 22.71	6 / 22.71
Concentrate Recycle Flow Rate (gpm / lpm)	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93	Up to 5 / 18.93
Connections									
Feed Connection (in)	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT
Permeate Connection (in)	3/4 FNPT	3/4 FNPT	3/4 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT
Concentrate Connection (in)	3/4 FNPT	3/4 FNPT	3/4 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT
Membranes									
Membrane(s) Per Vessel	1	1	1	1	1	1	1	1	1
Membrane Quantity	1	2	3	4	5	6	8	10	12
Membrane Size	4040	4040	4040	4040	4040	4040	4040	4040	4040
Nominal TDS Rejection %	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
Vessels									
Vessel Array	1	1:1	1:1:1	1:1:1:1	1:1:1:1:1	2:2:2	2:2:2:2	2:2:2:2:2	2:2:2:2:2:2
Vessel Quantity	1	2	3	4	5	6	8	10	12
Pumps									
Pump Type	Multi–Stage	Multi–Stage	Multi–Stage	Multi–Stage	Multi–Stage	Multi–Stage	Multi–Stage	Multi–Stage	Multi–Stage
Motor HP	1.5	1.5	1.5	1.5	3	3	3	3	3
RPM at 60 Hz	3450	3450	3450	3450	3450	3450	3450	3450	3450
System Electrical									
Standard Voltage + Amp Draw	220V, 60Hz, 1PH, 8.8A**	220V, 60Hz, 1PH, 8.8A**	220V, 60Hz, 1PH, 8.8A**	220V, 60Hz, 1PH, 8.8A**	220V, 60Hz, 1PH, 16A**	220V, 60Hz, 1PH, 16A**	220V, 60Hz, 1PH, 16A**	220V, 60Hz, 1PH, 16A**	220V, 60Hz, 1PH, 16A**
Systems Dimensions									
Approximate Dimensions L x W x H (in / cm)	*26 x 26 x 60 / 73.66 x 66.04 x 154.94	26 x 26 x 60 / 73.66 x 66.04 x 154.94	26 x 26 x 60 / 73.66 x 66.04 x 154.94	32 x 26 x 60 / 78.74 x 66.04 x 154.94	32 x 26 x 60 / 78.74 x 66.04 x 154.94	32 x 26 x 60 / 78.74 x 66.04 x 154.94	32 x 50 x 60 / 83.82 x 127 x 154.94	32 x 50 x 60 / 83.82 x 127 x 154.94	32 x 50 x 60 / 83.82 x 127 x 154.94
Approximate Weight (lbs / kg)	250 / 113.40	290 / 131.54	330 / 149.68	370 / 167.83	430 / 195.05	470 / 213.19	510 / 231.33	550 / 249.48	590 / 267.62

Test Parameters: 550 TDS Filtered (5 – Micron), Dechlorinated, Municipal Feedwater, 65 psi / 4.50 bar Feed Pressure, 80 psi / 5.5 bar Operating Pressure, 77ºF / 25ºC, Recovery as stated, 7.0 pH.
Data taken after 60 minutes of operation.
* Does not include operating space requirements.
** Varies with motor manufacturer.

OPERATING LIMITS ††

Maximum Feed Temperature (°F / °C)	85 / 29	Maximum Free Chlorine (ppm)	0
Minimum Feed Temperature (°F / °C)	40 / 4	Maximum TDS (ppm)	2,000
Maximum Ambient Temperature (°F / °C)	120 / 49	Maximum Hardness (gpg)	0
Minimum Ambient Temperature (°F / °C)	40 / 4	Maximum pH (Continuous)	11
Maximum Feed Pressure (psi / bar)	85 / 6	Minimum pH (Continuous)	2
Minimum Feed Pressure (psi / bar)	45 / 3	Maximum pH (Cleaning 30 Minutes)	13
Maximum Pressure (psi / bar)	200 / 14	Minimum pH (Cleaning 30 Minutes)	1
Maximum Feed Silt Density Index (SDI)	<3	Maximum Turbidity NTU	1

† Low temperatures and feedwater quality, such as high TDS levels will significantly affect the systems production capabilities and performance. Computer projections must be run for individual applications which do not meet or exceed minimum and maximum operating limits for such conditions.

†† System pressure is variable due to water conditions. Permeate flow will increase at a higher temperature and will decrease at a lower temperature.

††† Product flow and maximum recovery rates are based on feedwater conditions as stated above. Do not exceed recommended permeate flow.

Design conditions are not identical to test conditions, please contact the manufacturer or your supplier for more information.

M1 Series Reverse Osmosis

M1–Series Reverse Osmosis Systems are designed for overall superior performance, high recovery, minimal energy consumption and offer great savings with low maintenance and low operation costs. The systems range in capacities from 12,000 to 36,000 gallons per day. To achieve higher recovery rates, each base model includes a concentrate recycle loop.

These systems can be upgraded with features such as a variable frequency drive, digital instrumentation, a chemical feed system, blending valve and permeate divert.

BENEFITS

- Fully Equipped and Customizable
- Skid Mounted Components
- Easily Accessible Pre–Plumbed, Wired and Assembled
- Easy Maintenance and Servicing
- 20% Less Energy than Standard Membranes
- 1–Year Limited Warranty

ADVANTAGES

- Capacities from 12,000–36,000 GPD
- Low Operation and Maintenance Costs
- Individually Tested and Preserved

STANDARD FEATURES

- S–150/200 Computer Controller
- LCD Backlit Display
- Pre-Treatment Lockout
- Low Pressure Monitoring and Alarm
- TDS Monitoring
- Pump Discharge and Concentrate 0–300 psi Panel Mounted Glycerin Filled Gauges
- 5–Micron Sediment Pre-Filter
- HF5–Series Ultra Low Energy Membrane Elements
- FRP–Series Membrane Housings–300psi
- Pentek® 20" Big Grey Cartridge Housings
- Goulds® Multi-Stage Stainless Steel Booster Pump
- ASCO™ Composite Feed Solenoid Valve
- White Powder Coated Aluminum Frame
- Dual Chemical Pump Outlets

M1 – Series Reverse Osmosis Systems Specifications					
Models	**M1 – 4240**	**M1 – 6240**	**M1 – 8240**	**M1 – 10240**	**M1 – 12240**
Design					
Configuration	Single Pass	Single Pass	Single Pass	Single Pass	Single Pass
Feedwater Source†	TDS <2,000 ppm	TDS <2,000 ppm	TDS <2,000 ppm	TDS <2,000 ppm	TDS <2,000 ppm
Standard Recovery Rate %	50 – 75	50 – 75	50 – 75	50 – 75	60 – 75
Rejection and Flow Rate†s††					
Nominal Salt Rejection %	98.5	98.5	98.5	98.5	98.5
Permeate Flow (gpm / lpm)	8.30 / 31.42	12.50 / 47.32	16.70 / 63.22	20.80 / 78.74	25.00 / 94.63
Minimum Feed Flow (gpm / lpm)	14.30 / 54.00	18.50 / 70.00	22.70 / 85.93	26.80 / 101.45	31.00 / 117.35
Maximum Feed Flow (gpm / lpm)	28.00 / 106.00	28.00 / 106.00	42.00 / 159.00	42.00 / 159.00	42.00 / 159.00
Minimum Concentrate Flow (gpm / lpm)	6.00 / 22.70	6.00 / 22.70	6.00 / 22.70	6.00 / 22.70	6.00 / 22.70
Connections					
Feed (in)	1.5 FNPT	1.5 FNPT	1.5 FNPT	1.5 FNPT	1.5 FNPT
Permeate (in)	1 FNPT	1 FNPT	1 FNPT	1.5 FNPT	1.5 FNPT
Concentrate (in)	1 FNPT	1 FNPT	1 FNPT	1.5 FNPT	1.5 FNPT
CIP (in)	1 FNPT	1 FNPT	1 FNPT	1 FNPT	1 FNPT
Membranes					
Membrane(s) Per Vessel	2	2	2	2	2
Membrane Quantity	8	12	16	20	24
Membrane Size	4040	4040	4040	4040	4040
Vessels					
Vessel Array	2:2	2:2:2	3:3:2	3:3:2:2	3:3:2:2:2
Vessel Quantity	4	6	8	10	12
Pumps					
Pump Type	Multi–Stage	Multi–Stage	Multi–Stage	Multi–Stage	Multi–Stage
Motor HP	3	3	5	7.5	7.5
RPM @ 60 Hz	3450	3450	3450	3450	3450
RPM @ 50 Hz	2900	2900	2900	2900	2900
System Electrical					
Standard Voltage + Amp Draw	220V, 60Hz, 3PH, 9A**	220V, 60Hz, 3PH, 9A**	220V, 60Hz, 3PH, 14.2A**	220V, 60Hz, 3PH, 19.5A**	220V, 60Hz, 3PH, 19.5A**
Voltage Options + Amp Draw	220V, 50Hz, 3PH, 10.6A** 460V, 60Hz, 3PH, 5A**	220V, 50Hz, 3PH, 10.6A** 460V, 60Hz, 3PH, 5A**	220V, 50Hz, 3PH, 16.1A** 460V, 60Hz, 3PH, 7A**	220V, 50Hz, 3PH, 22.9A** 460V, 60Hz, 3PH, 9.7A**	220V, 50Hz, 3PH, 22.9A** 460V, 60Hz, 3PH, 9.7A**
Systems Dimensions					
Approximate Dimensions* L x W x H (in / cm)	31 x 100 x 64 / 78.74 x 254 x 162.56	31 x 100 x 64 / 78.74 x 254 x 162.56	31 x 100 x 64 / 78.74 x 254 x 162.56	31 x 100 x 64 / 78.74 x 254 x 162.56	31 x 100 x 64 / 78.74 x 254 x 162.56
Approximate Weight (lbs / kg)	1060 / 480.81	1150 / 476.27	1260 / 571.53	1350 / 612.35	1450 / 657.71

Test Parameters: 550 TDS Filtered (5 – Micron), Dechlorinated,Municipal Feedwater, 65 psi / 4.50 bar Feed Pressure, 80 psi / 5.5 bar Operating Pressure, 77ªF / 25ºC, Recovery as stated, 7.0 pH. Data taken after 60 minutes of operation.

* Does not include operating space requirements.

** Varies with motor manufacturer.

OPERATING LIMITS ††

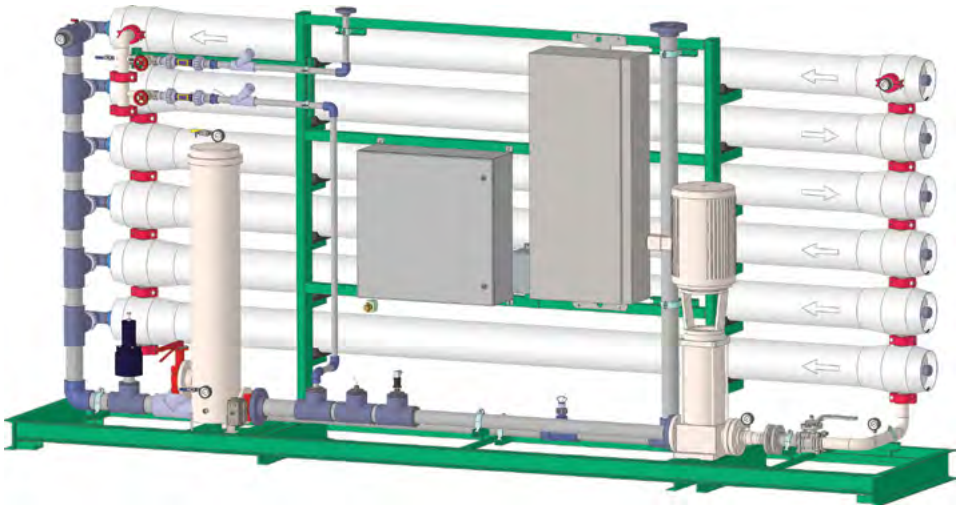
Maximum Feed Temperature (°F / °C)	85 / 29	Maximum Turbidity (NTU)	1
Minimum Feed Temperature (°F / °C)	40 / 5	Maximum Free Chlorine (ppm)	0
Maximum Ambient eTmperature (°F / °C)	120 / 49	Maximum TDS (ppm)	2000
Minimum Ambient Temperature (°F / °C)	40 / 4	Maximum Hardness (gpg)	0
Maximum Feed Pressure (psi / bar)	85 / 6	Maximum pH (Continuous)	11
Minimum Feed Pressure (psi / bar)	45 / 3	Minimum pH (Continuous)	2
Maximum Operating Pressure (psi / bar)	200 / 14	Maximum pH (Cleaning 30 Minutes)	13
Maximum Feed Silt Density Index (SDI)	<3	Minimum pH (Cleaning 30 Minutes)	1

† Low temperatures and feedwater quality, such as high TDS levels will significantly affect the systems production capabilities and performance. Computer projections must be run for individual applications which do not meet or exceed minimum and maximum operating limits for such conditions

†† System pressure is variable due to water conditions. Permeate flow will increase at a higher temperature and will decrease water er temperature.

††† Product flow and maximum recovery rates are based on feedwater conditions as stated above. Do not exceed recommended permeate flow.

P Series Industrial Reverse Osmosis



Puretec P Series Systems are designed for a variety of industrial water applications ranging from 50 GPM (72,000 GPD) to 300 GPM (432,000 GPD). These units are built using high quality components that will provide reliable long-term operation. They arrive hydrostatically tested and ready to produce water with documentation and operator training available. Puretec can also provide the pretreatment equipment and chemistry required to ensure optimal performance and life span for your RO membranes. As always you can feel confident that our full-service support team is available 24/7 to assist with any emergencies.

OPTIONS

Remote Monitoring and RO Normalization Software
Variable Frequency Drive (P50 thru P100)
Chemical Feed System
Permeate Divert Valve
Permeate Flush
pH Monitoring
ORP Monitoring

ADVANTAGES

- Pre-engineered ready to go
- Save water with high recovery systems complete start up documentation and training
- Low energy RO membranes that provide optimal rejection, productivity and reliability
- Powder coated carbon steel frame
- High quality valves, pumps and fittings provided for each unit
- UL508, PLC/HMI instrumentation with remote monitoring and normalization available
- Compact footprint saves space
- Complete maintenance service available
- Build/Own operate and lease programs
- Water Linx Remote Monitoring and normalization service available
- UL508, PLC / HMI instrumentation panels available

✓ Complete Maintenance Service Available ✓ Build/Own Operate and Lease Programs
✓ Water Linx Remote Monitoring and Normalization Service Available ✓ UL508, PLC/HMI, Instrumentation Panels Available

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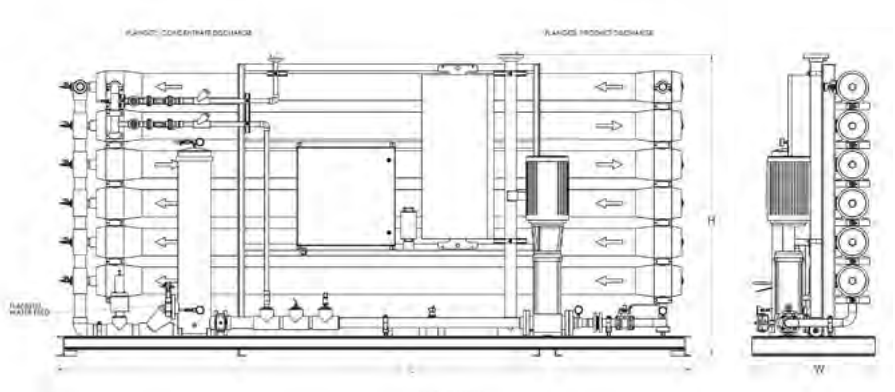
P Series Industrial Reverse Osmosis System Specifications												
Model	Flow Rates		Pressure Vessels			Connection Sizing			Utilities			
	Product	Reject	Vessel Staging	Membranes per Vessel	Membrane Qty	Feed	Product	Reject	Voltage	Amp Draw	Pump HP	Instrument Air
P50-4M-12	50	12	2:1	4	12	2″	2″	1″	460V/60Hz 3 phase	24.31	15	2 SCFM
P75-3M-18	75	19	3:2:1	3	18	3″	2″	1.5″	460V/60Hz 3 phase	29.47	20	2 SCFM
P100-4M-24	100	25	4:2	4	24	3″	3″	2″	460V/60Hz 3 phase	35.49	25	2 SCFM
P150-6M-36	150	38	4:2	6	36	4″	3″	2″	460V/60Hz 3 phase	50.9	40	2 SCFM
P200-6M-48	200	50	5:3	6	48	4″	4″	2″	460V/60Hz 3 phase	62.1	50	2 SCFM
P250-6M-60	250	63	6:4	6	60	6″	4″	3″	460V/60Hz 3 phase	72.4	60	2 SCFM
P300-6M-72	300	75	8:4	6	72	6″	4″	3″	460V/60Hz 3 phase	88.8	75	2 SCFM

STANDARD FEATURES

- 8-inch Low Energy Membrane Elements (400 SF)
- 8-inch Fiberglass Membrane Housings with 316L Stainless Steel
- Side Ports (300 PSIG)
- Multi–Cartridge Stainless Steel Filter Housing
- Vertical 316L Stainless Steel Multi–Stage Pump
- Low Pressure Pump Protection
- Programmable Logic Controller (PLC) with Switches and Indicator Lights
- Concentrate and Recycle Rotameters
- Permeate Digital Paddlewheel Sensors (Local Display)
- Feed and Permeate TDS Monitoring (Local Display)
- 316L Stainless Steel Pressure Gauges
- Pneumatic Actuated Feed Butterfly Valve
- 316L Stainless Steel Pump Discharge Throttling Valve
- 316L Stainless Steel Globe Concentrate Valve
- 316L Stainless Steel Globe Concentrate Recycle Valve
- Powder Coated Carbon Steel Frame
- Schedule 80 PVC Low Pressure Piping
- 316 Stainless Steel High Pressure Piping
- Permeate Sample Valves
- 460 VAC 3PH 60Hz

Design Criteria*	
Max Turbidity	1 NTU
Max Silt Density Index (SDI)	< 3
Max Free Chlorine/Chloramine	< 0.1 ppm
Min Water Temperature	50 F
Max Water Temperature	95 F
Design Feed Water Temperature	60 F
Feed Press (PSIG) **	30-60
Recovery (Nominal)	80%

* Variables such as feed water quality and temperature will affect system performance and design. Computer projections need to be ran to verify operating limitations.
** System pressure is a function of water temperature and chemistry.



Dimensions				
Model	Height (in)	Length (in)	Width (in)	Weight (lbs)
P50-4M-12	70	193	38	2,512
P75-3M-18	92	154	39	3,814
P100-4M-24	92	195	39	3,967
P150-6M-36	92	274	39	4,847
P200-6M-48	98	274	62	5,143
P250-6M-60	98	274	62	5,411
P300-6M-72	98	274	62	5,735

Reverse Osmosis Systems

Puretec offers a wide selection of single & double pass high recovery configurations with capacities up to 1000 GPM. These rugged units are designed to provide years of reliable service even in the most demanding applications and environments.

Puretec also provides a complete solution of pre and post treatment components such as filters, softeners, carbon filters, chemical feed systems, instrumentation, tanks, pumps and demineralizers to provide a full turnkey solution.

ADVANTAGES

- Guaranteed water quality and quantity with a custom RO unit based on your exact needs
- Save water with high recovery systems
- Full spare parts inventory
- Complete start up support and documentation
- High quality RO membranes that provide optimum rejection, productivity and durability
- All piping materials available (schedule 80 PVC, socket welded polypropylene, PVDF, sanitary and orbital welded stainless steel)
- UL508, PLC/HMI instrumentation with remote monitoring and performance normalization available

✓ Complete Maintenance Service Available ✓ Build/Own Operate and Lease Programs
✓ Water Linx Remote Monitoring and Normalization Service Available ✓ UL508, PLC/HMI, Instrumentation Panels Available

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ReFlex™ Reverse Osmosis

Desalitech's ReFlex Reverse Osmosis systems can be used for all of the same applications as traditional reverse osmosis and much more. Built with our patented Closed Circuit Reverse Osmosis™ (CCRO) technology, all Desalitech systems can reach up to 98% water recovery, guaranteed, and are only limited by water chemistry.

STANDARD FEATURES

- Maximum Recovery—Guaranteed
- Patented high recovery, low fouling/scaling, low energy performance
- Adjustable recovery—up to 98%
- Automatic response to feed variations
- Premium brackish water RO membranes
- Programmable logic controller with remote monitoring and control functionality
- Chemical dosing systems
- NSF-certified components

OPERATING PARAMETERS

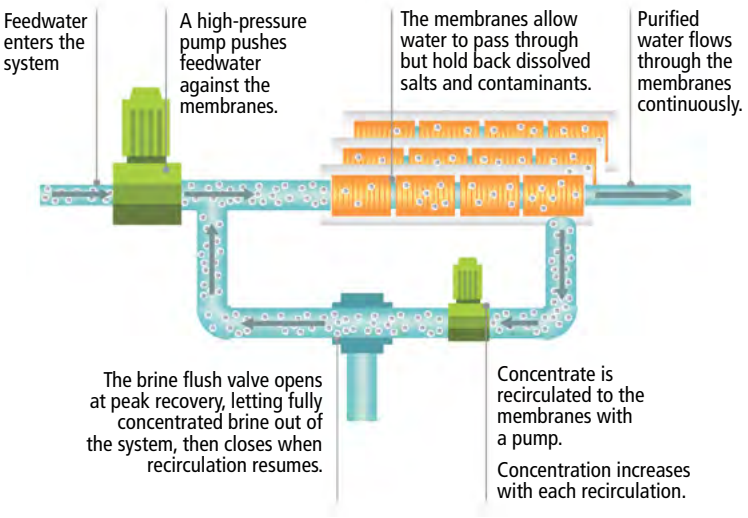
- Adjustable Recovery: 75-98%
- Rejection: 95.0-99.5%
- Adjustable Flux: 6-25 gfd (10-42 lmh)
- Feed TDS 0-10,000 mg/L
- Temperature: 36-113F (2-45C)
- Max Pressure: 450 psi (31 bar)
- Inlet Pressure: 10-60 psi (0.8-4.0 bar)

MATERIALS

- High-pressure piping—316SS Sch.10
- Low-pressure piping—PVC Sch.80
- Frame - Epoxy painted carbon steel
- Enclosure—Nema 4
- Clamps/Braces—Galvanized steel
- Housings FRP, 316SS ports
- Membrane Elements—TFC

MEMBRANE OPTIONS

- 440 ft2 (std), 400 ft2 or 365 ft2
- 28 mil feed spacer (std) or 34 mil
- Low energy or high rejection



OPTIONS

Ultra-filtration or multi-media filtration
Clean-in-Place (CIP) and flushing systems
Mixed-bed permeate polishing
Transfer pumps, storage tanks

✓ Complete Maintenance Service Available ✓ Build/Own Operate and Lease Programs

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ReFlex™ Reverse Osmosis Specifications									
MODEL	**R2**	**R3**	**R5**	**R8**	**R10**	**R15**	**R20**	**R30**	**R36**
Average Permeate Flow 16.4 GFD (5 gpm per 440 ft2 mem.) 28.4 LMH (1.1 m³/h per 40.9 m2 mem.)	72,000 gpd 50 gpm 11 m³/hr	108,000 gpd 75 gpm 17 m³/hr	180,000 gpd 125 gpm 28 m³/hr	288,000 gpd 200 gpm 45 m³/hr	360,000 gpd 250 gpm 57 m³/hr	540,000 gpd 375 gpm 85 m³/hr	720,000 gpd 500 gpm 114 m³/hr	1,080,000 gpd 750 gpm 170 m³/hr	1,296,000 gpd 900 gpm 205 m³/hr
High Pressure Pump (HPP)									
Design Flow Rate	56 gpm	84 gpm	140 gpm	223 gpm	279 gpm	418 gpm	557 gpm	835 gpm	1,002 gpm
Design Flow Rate	13 m³/hr	19 m³/hr	32 m³/hr	51 m³/hr	64 m³/hr	95 m³/hr	127 m³/hr	190 m³/hr	228 m³/hr
Design Boost Pressure (base)	175 PSI (12.1 bar)	185 PSI (12.8 bar)	185 PSI (12.8 bar)	185 PSI (12.8 bar)	175 PSI (12.1 bar)	165 PSI (11.4 bar)	150 PSI (10.3 bar)	165 PSI (11.4 bar)	160 PSI (11 bar)
Design Boost Pressure (step 1)	250 PSI (17.2 bar)	275 PSI (19 bar)	260 PSI (17.9 bar)	250 PSI (17.2 bar)	230 PSI (15.9 bar)	240 PSI (16.6 bar)	190 PSI (13.1 bar)	240 PSI (16.6 bar)	200 PSI (13.8 bar)
Design Boost Pressure (step 2)	325 PSI (22.4 bar)	385 PSI (26.6 bar)	360 PSI (24.8 bar)	385 PSI (26.6 bar)	385 PSI (26.6 bar)	385 PSI (26.6 bar)	385 PSI (26.6 bar)	385 PSI (26.6 bar)	385 PSI (26.6 bar)
Motor (TEFC) base	15 HP	20 HP	25 HP	40 HP	40 HP	75 HP	100 HP	150 HP	200 HP
Motor (TEFC) step 1	20 HP	25 HP	30 HP	60 HP	60 HP	100 HP	100 HP	200 HP	200 HP
Motor (TEFC) step 2	25 HP	15+25 HP	50 HP	40+60 HP	50+60 HP	60+100 HP	100+100 HP	–	–
Circulation Pump (CP)									
Design Flow Rate (40 PSI) Design Flow Rate (2.8 bar) Motor (TEFC)	68 gpm 16 m³/hr 5 HP	102 gpm 23 m³/hr 5 HP	170 gpm 39 m³/hr 7.5 HP	272 gpm 62 m³/hr 7.5 HP	340 gpm 77 m³/hr 15 HP	510 gpm 116 m³/hr 20 HP	680 gpm 155 m³/hr 25 HP	1,020 gpm 232 m³/hr 20+20 HP	1,224 gpm 278 m³/hr 20+20 HP
Membrane Elements and Housings									
Element Quantity	10	15	25	40	50	75	100	150	180
Element Area (8" dia.)	440 ft²	440 ft²	440 ft²	440 ft²	440 ft²	440 ft²	440 ft²	440 ft²	440 ft²
Housing Quantity (PV's)	2	3	5	8	10	15	20	30	36
Elements per Housing (6M long)	5	5	5	5	5	5	5	5	5
Cartridge Filtration									
Housing Quantity	One (1)	One (1)	One (1)	One (1)	One (1)	One (1)	One (1)	One (1)	One (1)
Cartridge Filter Length (2.5" dia.)	40"	40"	40"	40"	40"	40"	40"	40"	40"
Cartridge Filter Quantity	3	5	7	12	15	25	32	52	60
Installation and Utility Requirements									
Inlet (flooded suction)	2" (3") 150 Flange	2.5" (3") 150 Flange	3" (4") 150 Flange	4" (6") 150 Flange	6" (6") 150 Flange	6" (8") 150 Flange	6" (8") 150 Flange	8" (10") 150 Flange	8" (10") 150 Flange
Permeate	2" 150 Flange	2.5" 150 Flange	3" 150 Flange	4" 150 Flange	4" 150 Flange	6" 150 Flange	6" 150 Flange	6" 150 Flange	6" 150 Flange
Brine	2" 300 Flange	2.5" 300 Flange	3" 300 Flange	4" 300 Flange	4" 300 Flange	6" 300 Flange	6" 300 Flange	8" 300 Flange	8" 300 Flange
Inlet Water Pressure	20 - 90 PSI	20 - 75 PSI	20 - 90 PSI	20 - 75 PSI	20 - 75 PSI	20 - 75 PSI	20 - 75 PSI	20 - 75 PSI	20 - 75 PSI
Design Drain Flow Rate	53 gpm (12 m3/h)	80 gpm (18 m3/h)	134 gpm (30 m3/h)	214 gpm (49 m3/h)	267 gpm (61 m3/h)	401 gpm (91 m3/h)	535 gpm (121 m3/h)	801 gpm (182 m3/h)	962 gpm (219 m3/h)
FLA (base / step 1 / step 2)	25 / 31 / 36	31 / 36 / 53	38 / 43 / 65	54 / 77 / 121	61 / 84 / 139	106 / 131 / 198	136 / 136 / 244	209 / 262 / -	478 / 478 / -
Footprint and Weight									
Length	272" (690 cm)	272" (690 cm)	278" (705 cm)	268" (679 cm)	268" (679 cm)	340" (837 cm)	349" (884 cm)	303" (768 cm)	275" (884 cm)
Width	42" (107 cm)	42" (107 cm)	60" (152 cm)	72" (183 cm)	72" (183 cm)	88" (224 cm)	87" (222 cm)	168" (427 cm)	174" (442 cm)
Height	85" (216 cm)	85" (216 cm)	93" (236 cm)	93" (236 cm)	90" (229 cm)	90" (229 cm)	106" (269 cm)	116" (295 cm)	172" (437 cm)
Weight w/o Membranes	4,000 lb (1,800 kg)	4,000 lb (1,800 kg)	5,000 lb (2,300 kg)	7,500 lb (3,400 kg)	9,000 lb (4,000 kg)	10,500 lb (4,700 kg)	14,600 lb (6600 kg)	24,300 lb (11,000 kg)	29,800 lb (13,500 kg)
Weight of Membranes	500 lb (250 kg)	500 lb (250 kg)	700 lb (300 kg)	1,200 lb (550 kg)	1,500 lb (700 kg)	2,200 lb (1,000 kg)	3,386 lb (1,536 kg)	4,230 lb (1,920 kg)	6,770 lb (3,072 kg)
Wet Weight	5,000 lb (2,300 kg)	5,000 lb (2,300 kg)	7,000 lb (3,200 kg)	10,500 lb (4,700 kg)	12,800 lb (5,800 kg)	16,500 lb (7,500 kg)	26,000 lb (11,800 kg)	42,500 lb (19,300 kg)	58,000 lb (26,300 kg)

Containerized Reverse Osmosis Systems

Puretec P Series Systems are designed for a variety of industrial water applications ranging from 50 GPM (72,000 GPD) to 300 GPM (432,000 GPD). These units are built using high quality components that will provide reliable long-term operation. They arrive hydrostatically tested and ready to produce water with documentation and operator training available. Puretec can also provide the pretreatment equipment and chemistry required to ensure optimal performance and life span for your RO membranes. As always you can feel confident that our full-service support team is available 24/7 to assist with any emergencies.

ADVANTAGES

- Pre-engineered ready to go
- Save water with high recovery systems
- Complete start up documentation and training
- Low energy RO membranes that provide optimal rejection, productivity and reliability
- Powder coated carbon steel frame
- High quality valves, pumps and fittings provided for each unit
- Instrumentation with remote monitoring and normalization available
- Compact footprint saves space
- Complete maintenance service available
- Build/own operate and lease programs
- Water Linx Remote Monitoring and normalization service available
- UL508, PLC/HMI instrumentation panels available

OPTIONS

Variable Frequency Drive (P50 thru P100)
Chemical Feed System
Permeate Divert Valve
Permeate Flush
pH Monitoring
ORP Monitoring
Insulation
Heat Pump
Man Door(s)
Air Conditioning

✓ Complete Maintenance Service Available ✓ Build/Own Operate and Lease Programs
✓ Water Linx Remote Monitoring and Normalization Service Available ✓ UL508, PLC/HMI, Instrumentation Panels Available

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Containerized Reverse Osmosis System Specifications												
Model	Flow Rates		Pressure Vessels			Connection Sizing			Utilities			
	Product	Reject	Vessel Staging	Membranes per Vessel	Membrane Qty	Feed	Product	Reject	Voltage	Amp Draw	Pump HP	Instrument Air
P50-4M-12	50	12	2:1	4	12	2″	2″	1″	460V/60Hz 3 phase	24.31	15	2 SCFM
P75-3M-18	75	19	3:2:1	3	18	3″	2″	1.5″	460V/60Hz 3 phase	29.47	20	2 SCFM
P100-4M-24	100	25	4:2	4	24	3″	3″	2″	460V/60Hz 3 phase	35.49	25	2 SCFM
P150-6M-36	150	38	4:2	6	36	4″	3″	2″	460V/60Hz 3 phase	50.9	40	2 SCFM
P200-6M-48	200	50	5:3	6	48	4″	4″	2″	460V/60Hz 3 phase	62.1	50	2 SCFM
P250-6M-60	250	63	6:4	6	60	6″	4″	3″	460V/60Hz 3 phase	72.4	60	2 SCFM
P300-6M-72	300	75	8:4	6	72	6″	4″	3″	460V/60Hz 3 phase	88.8	75	2 SCFM

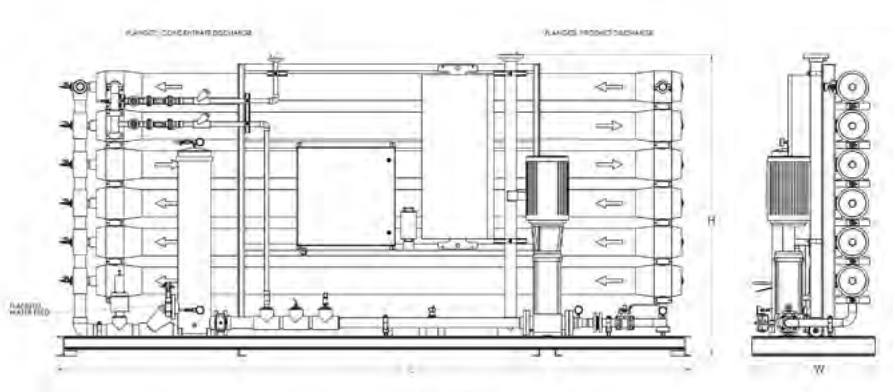
STANDARD FEATURES

- 8-inch Low Energy Membrane Elements (400 SF)
- 8-inch Fiberglass Membrane Housings with 316L Stainless Steel Side Ports (300 PSIG)
- Multi–Cartridge Stainless Steel Filter Housing
- Vertical 316L Stainless Steel Multi–Stage Pump
- Low Pressure Pump Protection
- Programmable Logic Controller (PLC) with Switches and Indicator Lights
- Concentrate and Recycle Rotameters
- Permeate Digital Paddlewheel Sensors (Local Display)
- Feed and Permeate TDS Monitoring (Local Display)
- 316L Stainless Steel Pressure Gauges
- Pneumatic Actuated Feed Butterfly Valve
- 316L Stainless Steel Pump Discharge Throttling Valve
- 316L Stainless Steel Globe Concentrate Valve
- 316L Stainless Steel Globe Concentrate Recycle Valve
- Powder Coated Carbon Steel Frame
- Schedule 80 PVC Low Pressure Piping
- 316 Stainless Steel High Pressure Piping
- Permeate Sample Valves
- 460 VAC 3PH 60Hz
- LED Lighting & 120V Outlets Wired to Junction Box

Design Criteria*	
Max Turbidity	1 NTU
Max Silt Density Index (SDI)	< 3
Max Free Chlorine/Chloramine	< 0.1 ppm
Min Water Temperature	50 F
Max Water Temperature	95 F
Design Feed Water Temperature	60 F
Feed Press (PSIG) **	30-60
Recovery (Nominal)	80%

* Variables such as feed water quality and temperature will affect system performance and design. Computer projections need to be ran to verify operating limitations.

** System pressure is a function of water temperature and chemistry.



Dimensions				
Model	Height (in)	Length (in)	Width (in)	Weight (lbs)
P50-4M-12	70	193	38	2,512
P75-3M-18	92	154	39	3,814
P100-4M-24	92	195	39	3,967
P150-6M-36	92	274	39	4,847
P200-6M-48	98	274	62	5,143
P250-6M-60	98	274	62	5,411
P300-6M-72	98	274	62	5,735

HT & JT Series Reverse Osmosis

HT & JT Series Wall Mount Reverse Osmosis Systems are designed for easy filter and membrane servicing, as well as for higher recovery rates and minimal energy consumption, while offering higher flow rates and contaminant rejection levels. System capacities range from 250 to 4,000 gallons per day (GPD).

ADVANTAGES

- Wall mounted and space saving
- Minimal capital investment
- Designed for high rejection
- Low energy consumption
- Low maintenance and consumable cost

FLEXEON Wall Mount Reverse Osmosis Systems							
Model	**Production (GPD)**	**Element Size**	**Element Qty**	**Vessel Qty**	**Membranes Per Vessel**	**Vessel Array Staging**	**Motor HP**
HT-250	250	2521	1	1	1	1	1/3
HT-500	500	2521	2	2	1	1:1	1/3
HT-1000	1000	2521	3	3	1	1:1:1	1/2
HT-1500	1500	2540	2	2	1	1:1	3/4
HT-2000	2000	2540	3	3	1	1:1:1	3/4
JT-2000	2000	4040	1	1	1	1	1 1/2
JT-4000	4000	4040	2	2	1	1:1	1 1/2

Model	**Connections**			**Dimensions**			**Weight–Dry (lbs.)**
	Feed (FNPT)	**Permeate (TUBE)**	**Concentrate (TUBE)**	**Depth**	**Width**	**Height**	
HT-250	3/4″	3/8″	3/8″	10″	38″	38″	60
HT-500	3/4″	3/8″	3/8″	10″	38″	38″	65
HT-1000	3/4″	3/8″	3/8″	10″	38″	38″	70
HT-1500	3/4″	3/8″	3/8″	10″	38″	45″	95
HT-2000	3/4″	3/8″	3/8″	10″	38″	45″	135
JT-2000	1″	1/2″	1/2″	12″	48″	49″	150
JT-4000	1″	1/2″	1/2″	12″	48″	49″	175

Industrial UV Systems: OptiVenn™ Series

The OptiVenn Series is a family of robust and flexible UV Systems with advanced technology designed to meet the stringent requirements of Pharmaceutical, Food & Beverage, Microelectronics and other Industrial Markets.

The treatment chamber is constructed of 316L SS with two finish options. The control panel is constructed of 304 SS and is equipped with a Universal Controller which provides control, monitoring and operational information in a single convenient location.

STANDARD FEATURES

Compact Footprint. Optimized chamber design and multiple lamp arrays enable cost-effective installation in extremely compact spaces.

Proven, Robust Components. UV sensors, lamps, drivers and panels have demonstrated reliability worldwide in thousands of installations.

Flexible Panel Installation. All stainless steel control panels provide maximum installation flexibility and are able to be mounted in different locations such as on the chamber or remotely to adapt to stringent space requirements.

Compact Chamber Design. The configurable treatment chamber makes it easy to fit the UV System into small spaces and tight pipe networks. The cylinder can be rotated to allow inlet and outlet connections at 4 different angles.

User-friendly Human Machine Interface (HMI). Intuitive interface enables at-a-glance system status checks.

Improved Lamp Technology. Low-pressure high-output lamp [LPHO] technology provides increased process performance and extended lamp life.

BENEFITS:

UV for Broad-based Disinfection

- Inactivates bacteria, viruses and chlorine-resistant protozoa.
- 254 nm UV penetrates the cell wall of microorganisms, attacking DNA genetic material and preventing replication.
- Chemical-free process; no carcinogenic disinfection byproducts are created, and no transportation, storage or handling of toxic or corrosive chemicals is necessary.

UV for TOC Reduction

- 185 nm UV at a minimum dose of 90 mJ/cm^2 creates powerful hydroxyl radicals that oxidize total organic carbon (TOC) molecules.
- UV can be used together with Deionization (DI) and Reverse Osmosis (RO) to reduce TOC to levels below 1.0 ppb.

	Standard Control Panel	Optional Control Panel
Systems with 4 lamps or less	Stainless Steel UL Type1 (IP51) Includes Fan Flat Top Mount on chamber or remotely*	Stainless Steel UL Type 4X (IP55) with fan/shroud Includes Fan Sloped Top Mount on chamber or remotely
Systems with 6 to 8 lamps	Stainless Steel UL Type1 (IP51) Includes Fan Flat Top Mount on chamber or remotely**	Stainless Steel UL Type12 (IP54) with fan UL Type 4X (IP55) with fan/shroud UL Type 4X (IP66) with AC Sloped Top Remote mount only
Systems with 10 to 12 lamps	Stainless Steel UL Type 12 (IP54) with fan Sloped Top Remote mount only	Stainless Steel UL Type 4X (IP55) with fan/shroud UL Type 4X (IP66) with AC Sloped Top Remote mount only

*No mounting option for 01CDS and 03CDS **Mounting options vary by model and configuration

OptiVenn ™ Series—DISINFECTION																
Model:	**01CDS**	**03CDS**	**02CDM**	**02DDM**	**04CDM**	**04DDM**	**04CDL**	**04DDL**	**06DDL**	**08DDL**	**08EDL**	**08FDL**	**08GDL**	**10GDL**	**12GDL**	**12HDL**
Maximum Flow Rate																
Flow rate (gpm)*	12gpm - 2,200 gpm															
Flow rate (m^3/hr)*	2.7 m^3/hr - 500 m^3/hr															
Number of UV lamps	1	3	2	2	4	4	4	4	6	8	8	8	8	10	12	12
Electrical Requirements																
Electrical supply	110-240B, 50/60Hz, L-L or L-N, 2W+GND															
Operating power [WI	63	165	155	155	297	297	583	583	1, 153	1,438	1,438	1, 438	1,438	1,723	2,008	2,008
Treatment Chamber																
Material of Construction	316L Stainless Steel															
Lamp Length - in 1cm)	15 (38)			30 (76)				60 (152)								
Chamber diameter - in [cm]	6 (15)			8 (20)	6 (15)	8 (20)	6 (15)	8 (20)			10 (25)	12 (30)	14 (36)			16 (41)
ANSI flanges size - in lcml Optional—Tri-clamp size - in 1cm)	2 (5)			3 (8)		4 (10)		6 (15)			8 (20)					10 (25)
Monitoring and Controls																
Standard	Base Package : Lamp status indicator, System hours of operation, Lamp out alert (LOA) and Remote start/stop (HOA)															
Optional	UV Monitoring Package: UV intensity reading with NIST certified sensor															
Control Panel																
Standard																
Material of Construction	304 Stainless Steel															
Rating	UL Type 1 (IP51)													UL Type 12 (IP54) with Fan		
Size (HxWxD) in (cm)	16x16x7 (41x41x18)								16x20x9 (41x51x23)					22x23x9 (56x59x23)		
Shape	Flat Top													Sloped Top		
Cooling Mechanism	Fan								Fan							
Operating Temp °F (°C)	34°-104° (1°- 40°)								34° - 104° (1° - 40°)							
Optional																
Rating	UL Type 4X (IP55)								UL Type 12 (IP54) with Fan UL Type 4X (IP55) with Fan/Shroud UL Type 4X (IP66) with AC					UL Type 4X (IP55) with Fan/Shroud UL Type 4X (IP66) with AC		
Size (HxWxD) in (cm)**	18x19x8 (46x49x21)								22x23x9 (56x59x23) 24.5x23x9 (62x59x23)					23x24.5x9 (59x56x23) 24.5x23x9 (62x59x23)		
Shape	Sloped Top															
Elastomers																
Standard	EPDM															
Optional	Viton															
Surface Finish																
Standard	Ra32															
Optional	Ra15															
Operating Conditions																
Maximum water operating temperature F(C)	40° - 104° (5°-40°)															
Maximum Operating Pressure PSI (BAR)	150 (10)															
Hot Water Sanitization °F (°C)	194° (90°) with stainless steel sleeve bolts and viton elastomers only															

*Dose Level: 30 mJ/cm2 after 9,000 hours of operation.

**Please consult drawings for exact specifications.

OptiVenn ™ Series—TOC							
Model	**04CTM**	**06CTM**	**08DTM**	**08DTL**	**10DTL**	**12DTM**	**12DTL**
Maximum Flow Rate							
Flow rate (gpm)*	6gpm - 36gpm						
Flow rate (m^3/hr)*	1.4 m3/hr - 8.2 m3/hr						
Number of UV lamps	4	6	8	8	10	12	12
Electrical Requirements							
Electrical Supply	110-240V, 50/60Hz, L-L or L-N, 2W+GND						
Operating power (W)	297	723	868	1,438	1,723	1,153	2,008
Treatment Chamber							
Material of Construction	316L Stainless Steel						
Lamp Length - in [cml	30 (76)			60 (152)		30 (76)	60 (152)
Chamber Diameter - in (cm)	6 (15)		8 (20)				
ANSI flanges size - in (cm) Optional - Tri-clamp size - in (cm)	2 (5)	2 (5) or 4 (10)					
Monitoring and Controls							
Standard	Base Package: Lamp Status Indicator, System Hours of Operation, Lamp out alert (LOA) and Remote start/stop (HOA)						
Optional	UV Monitoring Package: UV Intensity Reading with NIST Certified Sensor Control Panel						
Control Panel							
Standard							
Material of Construction	304 Stainless Steel						
Rating	UL Type 1 (IP51)				UL Type 12 (IP54) with Fan		
Size (HxWxD) in (cm)	16x16x7 (41x41x18)	16x20x9 (41x51 x23)			22x23x9 (56x59x23)		
Shape	Flat Top				Sloped Top		
Cooling Mechanism	Fan	Fan					
Operating Temp °F (°C)	34° - 104° (1° -40°)	34° - 104° (1° -40°)					
Optional							
Rating	UL Type 4X (IP55)	UL Type 4X (IP55) with Fan/Shroud UL Type 4X (IP66) with AC			UL Type 4X (IP55) with Fan/Shroud UL Type 4X (IP66) with AC		
Size (HxWxD) in (cm)**	18x19x8 (46x49x21)	22x23x9 (56x59x23) 24.5x23x9 (62x59x23)			23x24.5x9 (59x56x23) 24. 5x23x9 (62x59x23)		
Shape	Sloped Top						
Elastomers							
Standard	Viton						
Surface Finish							
Standard	Ra32						
Optional	Ra15						
Operating Conditions							
Maximum water operating temperature °F (°C)	40° - 104° (5° - 40°)						
Maximum Operating Pressure PSI (BAR)	150 (10)						
Hot Water Sanitization °F (°C)	194° (90°) with stainless steel sleeve bolts and viton elastomers only						

*Dose Level: > 600 mJ/cm' after 9,000 hours of operation

**Please consult drawings for exact specifications.

Industrial UV Systems: AVANT™ Series

Avant is a highly advanced product line that provides TOC reduction performance in up to a three times smaller footprint than prior series. The Avant Series utilizes less energy and provides full flexibility for skid-mounted designs, with the ability to mount eight reactors. With Predictive Maintenance capabilities, Avant reduces unplanned maintenance by monitoring individual lamps and alerting operators before the lamps fail, reducing costs and downtime.

BENEFITS

- **Improved Performance.** Up to three times more flow for a given TOC Destruction compared to the prior series systems to satisfy the stringent low level TOC requirement for high flow UPW plants.
- **Compact Footprint.** Use of high performance lamp and sleeve material reduces the footprint by up to 75%, and in turn lowering the construction and installation costs, providing unparalleled cost and maintenance advantages.
- **User-friendly Operator Interface.** Intuitive interface enables at-a-glance system status checks, making life easier for engineers and plant operators.
- **Predictive Diagnostics.** The advanced control features provide predictive maintenance alerts when the lamp approaches end of lamp life and show unusual power consumption or operating pattern to help in preventing downtime.
- **Reduced OPEX.** Fewer UV units to maintain and significantly less lamps result in extremely low power consumption.

Available configurations range with options for different manifolds and valves.

Aquafine

System Specifications*	
System Characteristics	**Avant High Performance (HP)**
Avant (4 Models)**	50-300 gpm (11-68 m3/hr)
Avant-High Performance (4 Models)**	100-900 gpm (22-204 m3/hr)
Lamp Type	Low Pressure High Output
Lamp Driver	Electronic (variable power)
Chamber Material	316L Stainless Steel
Flange Size	4 - 8 inch [10 16 cm - 20.32 cm)
Pressure Rating	Up to 150 psi [PN10)
Panel Rating, Material	**MODULAR:** UL Type 1 (IP51) Painted Carbon Steel **STANDALONE:** UL Type 12 (IP52) Painted Carbon Steel **STANDALONE:** UL Type 4X (IP55 with fan)

*Please contact Puretec for additional details. **Pressure loss< 2 psi and 600 mJ/cm2 UV dose.

STATE OF THE ART SYSTEM DESIGN AND ADVANCED CONTROLS

Programmable Logic Controller (PLC)

The controller continuously monitors and controls UV system functions including safety conditions. Critical and non-critical alarms are generated based on these safety conditions. Critical alarms shutdown the UV lamps and drivers.

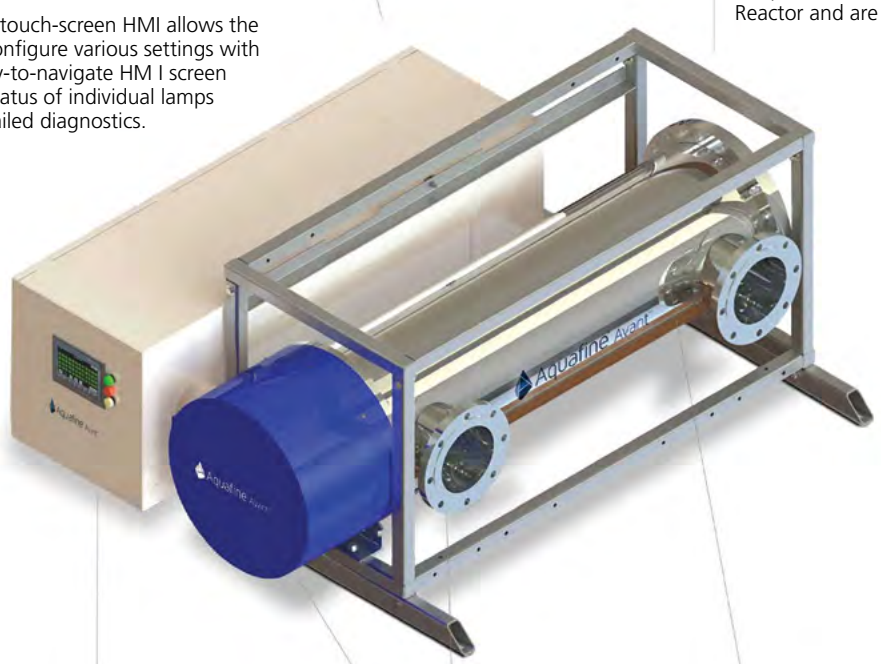
An intuitive T touch-screen HMI allows the operator to configure various settings with ease. The easy-to-navigate HM I screen displays the status of individual lamps including detailed diagnostics.

Configurable Inlet/Outlet

Water can flow in either direction allowing the units to adapt to customer's piping requirements.

UV Intensity Sensor*

UV sensors measure the intensity of UV light within the reactor while the system is in operation: these sensors are critical in monitoring the performance of the UV Reactor and are supplied.



Panel Enclosure

The Painted Carbon Steel is a UL Type 12 panel. The panels are available in skid-mounted or stand-alone variations.

End Cap

The end cap protects and isolates connections for components such as lamps and sleeves. Power is automatically disconnected if end cap is removed thereby ensuring a safe working environment for operators.

UV Chamber

Electropolished 316L stainless steel chamber available in multiple configurations for a wide range of flow rates. Optional flange orientations allow chambers to fit into existing piping galleries or tight spaces.

Lamps

High Efficiency, High Output lamps are energy efficient to provide superior system performance, and save operating costs due to reduced electric consumption. Single ended lamps are located within protective quartz sleeves with easy access from the service entrance.

*Part of Upgrade Package

Filter Cartridges and Housings

Puretec Cartridge Filters and Cartridge Filter Housings are available in many materials and sizes for a wide range of applications. Below are the most common styles, please inquire for cartridges not on the list.

Filter Cartridges

CARTRIDGE FILTERS

Lengths:
5 to 40 inches
Micron Ratings:
0.03 to 100 µm
Materials:
- Polyethersulfone (PES) Membrane
- PTFE Membrane
- Pleated Polypropylene
- Melt Blown

End Configuration:
- Double Open End
- 226/Flat Single Open End
- 222/Flat Single Open End
- Self-Seal Spring on One End
- 226/Fin Single Open End
- 222/Fin Single Open End
- Single Open End, Internal O-Ring
- Double Open End, Internal O-Ring

Ratings:
- Absolute
- Nominal

Cartridge Filter Housings

CARTRIDGE FILTER HOUSINGS

Lengths:
10 to 40 inches
Number of Cartridges:
1 to 22
Materials:
- 316L Stainless Steel
- 304L Stainless Steel
- Polypropylene

End Configuration:
- Double Open End
- 226/Flat Single Open End
- 222/Flat Single Open End
- Self-Seal Spring on One End
- 226/Fin Single Open End
- 222/Fin Single Open End
- Single Open End, Internal O-Ring
- Double Open End, Internal O-Ring

LRW/LRS Series DI Recirculator

LRW Series
DI Recirculator

LRS Series
DI Recirculator

LRW/LRS Series Recirculators are distribution and deionization polishing systems. The systems offer a complete package including re-pressurization pump, pre/post filtration, bacteria destruct UV, and optional on-board water quality monitor. Standard product water flow rates from 3-5 gallons per minute and offered as a wall mount or floor mount system.

ADVANTAGES

- Quick delivery
- Compact and easy to install
- Multiple flow arrangements
- Plug-in electrical (110VAC, 60hz)
- Sub-micron filter & UV included

OPTIONS

- Skid mounted
- Reverse Osmosis feed water system
- Digital quality monitor
- Dry Safety System (Leak Alert Option)

LRW/LRS Series DI Recirculator Specifications

System	Flow Rate	Feed Water Pressure	Feedwater Inlet Size	Loop Feed/Return Size	Electrical	Overall Dimensions (LxDxH) in.	Approx. Weight (lbs.)
LR-W (Wall Unit)	3gpm	Min: 40psi, Max: 90psi	1/2"	3/4"	115Vac, 60Hz, 15A	38x9x40	60
LR-S (Skid Unit)	4gpm	Min: 40psi, Max: 90psi	1/2"	3/4"	115Vac, 60Hz, 15A	30x24x65	297

DP Series DI Recirculator

DP Series Recirculators are distribution and deionization polishing systems. The systems offer a complete package including re-pressurization pump, pre/post filtration, bacteria destruct UV, optional TOC destruct UV, PLC Controlled and on-board water quality monitor. Standard product water flow rates from 5-50 gallons per minute and offered in schedule 80 PVC or Polypropylene.

ADVANTAGES

- Quick delivery
- Minimal field installation required
- PLC controlled with available alarms
- Seismic zone 4 compliant
- Custom configurations available

OPTIONS

- Duplex Distribution Pumps
- TOC Destruct UV Sterilizer
- Rapid Installation Kit
- Polypropylene Plumbing Material

DP Series DI Recirculator System Specifications

System Size	Loop Flow Rate (GPM)	Feedwater Inlet	Loop Supply & Return	Control	Quality Meter	Electrical	Overall Dimensions (LxDxH) In.	Weight (Lb.)
DP05	5.0	1/2"	3/4"	PLC	THORNTON, M300	110 VAC, 1PH	41x32x74	200
DP10	10.0	3/4"	1"	PLC	THORNTON, M300	110 VAC, 1PH	41x32x74	240
DP20	20.0	1"	1 1/4"	PLC	THORNTON, M300	220/460 VAC, 3PH	41x32x74	280
DP30	30.0	1 1/4"	1 1/2"	PLC	THORNTON, M300	220/460 VAC, 3PH	60x32x74	350
DP40	40.0	1 1/2"	2"	PLC	THORNTON, M300	220/460 VAC, 3PH	60x32x74	420
DP50	50.0	2"	2"	PLC	THORNTON, M300	220/460 VAC, 3PH	72x32x74	550

✓ Emergency Service ✓ Build Own Operate Systems ✓ Financing Options are Available

TOLL FREE: 800.906.6060 ■ **EMAIL:** sales@puretecwater.com ■ **WEB:** www.puretecwater.com

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Custom Ultrapure Water Skids and Systems

Puretec UPW skids and systems are completely customizable with endless options for the Pharmaceutical and Semiconductor industries.

ADVANTAGES

- Engineered in house to meet your specifications
- Fabrication & Assembly in house to ensure quality

OPTIONS

- GF certified technicians for bead & crevice free, IR fusion piping
- Sanitary Stainless Steel piping
- NIST instrumentation
- Installation and commissioning
- Validation

TOLL FREE: 800.906.6060 ■ **EMAIL:** sales@puretecwater.com ■ **WEB:** www.puretecwater.com

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P Series Granular Activated Carbon Filter

P Series Carbon Filters Puretec Water offers a wide range of back-washable activated carbon filters. These filters offer a reliable way to remove Chlorine, Chloramines, and reduce organics from your feed water supply. The systems feature a fiberglass reinforced (FRP) resin tank, automatic backwash flow controller and Puretec Granular Activated Carbon. This ensures a simple & automated process of maintaining the equipment.

ADVANTAGES

- Fast local delivery
- Minimal capital investment
- Automatic backwash controller
- NSF 44 Certified
- Simple controls and maintenance

OPTIONS

- Skid mounted & Seismic available
- Timer controller
- Catalytic carbon available
- 220 VAC electrical power

P Series GAC Filter Specifications

Carbon Filter	Tank Diameter (in)	Media Height (in)	Active Media (ft3)	Minimum Flow Rate (GPM)[1]	Nominal Flow for Chloramine Removal (GPM)[2]	Nominal Flow for TOC Removal (GPM)[3]	Nominal Flow for Chlorine Removal (GPM)[4]	Maximum Flow Rate (GPM)[5]	Valve Size
P-GAC-S10x54	10	33	1.5	0.6	1.1	1.5	4.5	6.0	1"
P-GAC-S12x52	12	31	2.0	0.8	1.5	2.0	6.0	8.0	1"
P-GAC-S14x65	14	34	3.0	1.2	2.3	3.0	9.0	12.0	1"
P-GAC-S16x65	16	34	4.0	1.6	3.0	4.0	12.0	16.0	1"
P-GAC-S18x65	18	41	6.0	2.4	4.5	6.0	18.0	24.0	1.5"
P-GAC-S2lx62	21	40	8.0	3.2	6.0	8.0	24.0	32.0	1.5"
P-GAC-S24x72	24	42	11.0	4.4	8.3	11.0	33.0	44.0	1.5"
P-GAC-S30x72	30	44	18.0	7.2	13.5	18.0	54.0	72.0	2"
P-GAC-S36x72	36	42	25.0	10	18.8	25.0	75.0	100.0	2"
P-GAC-S42x72	42	41	33.0	13.2	24.8	33.0	99.0	132.0	3"

P Series Twin Water Softener

P Series Twin Water Softeners are meter initiated, lightweight, corrosion resistant FRP pressure vessels with top-mounted valve controllers. The twin-alternating design provides a continuous supply of softened water for critical feed applications, such as boiler feed, reverse osmosis, pre-treatment water and laboratory feed water.

ADVANTAGES

- Fast local service 24/7
- Minimal capital investment
- Automatic regeneration controller
- 30,000 grain/cubic ft. capacity resin
- Simple controls and maintenance

OPTIONS

- Skid mounted & Seismic available
- Timer controller
- Larger or Smaller brine tank
- 220 VAC electrical power

P Series Twin Water Softener Specifications

Tank Size	Pipe Size	Service Flow Rate (GPM)	Peak Flow Rate (GPM)	Backwash Flow Rate (GPM)	Resin Per Tank (CF)	Brine Tank	Overall Dimensions (LxDxH) In.	Approx Weight (lb)
9X40	1.0	14	19	2	1.0	18x33	33x20x49	190
10X54	1.0	13	18	2.4	1.5	18x33	34x20x63	250
12X52	1.0	16	21	3.5	2.0	18x40	36x20x62	310
14X65	1.0, 1.5	17	42	5	3.0	18x40	44x24x75	550
16X65	1.0, 1.5	34	46	6	4.0	24x40	46x24x75	700
18X65	1.0, 1.5	38	50	8	5.0	24x40	50x24x75	1050
21X62	1.5	39	52	12	7.0	24x40	50x24x80	1220
24X72	1.5	43	57	15	10.0	24x40	60x30x88	1610
30X72	1.5	45	62	25	15.0	30x50	102x30x88	2725

✓ Minimal Capital Investment ✓ Fast Local Service 24/7
✓ Simple Controls and Maintenance

P Series Water Softener

P Series Water Softeners are meter initiated, light-weight, corrosion resistant FRP pressure vessels with top-mounted valve controllers. The systems are available in Simplex, Duplex or Triplex configurations in parallel or series plumbing configuration. Softener systems are suitable for critical feed applications, such as boiler feed, reverse osmosis, pre-treatment water and laboratory feed water.

ADVANTAGES

- Fast local service 24/7
- Minimal capital investment
- Automatic regeneration controller
- 30,000 grain/cubic ft. capacity resin
- Simple controls and maintenance

OPTIONS

- Skid mounted & Seismic available
- Timer controller
- Larger or Smaller brine tank
- 220 VAC electrical power

P Series Water Softener Specifications

Tank Size (In.)	Pipe Size	Service Flow Rate (GPM)	Peak Flow Rate (GPM)	Backwash Flow Rate (GPM)	Resin Per Tank (CF)	Brine Tank Size	Overall Dimensions (LxDxH) in.	Approx. Weight (lb.)
9X40	1.0	14	19	2	1.0	18x33	33x18x56	100
10X54	1.0	17	22	2.4	1.5	18x33	34x18x62	140
12X52	1.0	20	25	3.5	2.0	18x40	36x18x60	175
14X65	1.0, 1.5	21,33	26,44	5	3.0	18x40	38x18x73	280
16X65	1.0, 1.5	25,47	34,60	6	4.0	24x40	46x24x73	360
18X65	1.0, 1.5	27,53	35,69	8	5.0	24x40	48x24x78	455
21X62	1.5	42	58	12	7.0	24x40	51x24x78	655
24X72	1.5, 2.0	45, 73	60,94	15	10.0	24x40	54x24x86	925
30X72	2.0, 3.0	84,160	105,213	25	15.0	30x50	66x30x85	1370
36X72	3.0	185	225	35	20.0	39x48	81x39x98	2040
42X72	3.0	165	250	40	30.0	42x60	90x42x110	3421
48X72	3.0	205	275	56	40.0	42x60	96x48x110	4394

MST Series Water Softener Systems

The MST water softener systems are designed to fit the requirements of many types of commercial and institutional applications. Whether it is for boiler feed or domestic supply water for a school or hotel, the MST offers a robust and efficient solution for reducing mineral scale, soap usage, and energy consumption in the plumbing and other water using equipment.

Note: Twin system shown with skid mount option & copper piping

STANDARD FEATURES

- Carbon steel resin tanks with epoxy-lined interior
- Upper/Lower vessel handholes (4"x 6")
- Piston driven, multiport, top mount control valves
- Meter initiated regeneration cycle
- Brine tank assembly with safety overflow
- Sodium form cation exchange resin
- Water hardness testing kit

MATERIALS OF CONSTRUCTION

- Control Valve Body: Low-lead brass
  Fleck 2900 - 2" valve
  Fleck 3900 - 3" valve
- Resin Tanks: Carbon steel with Safety Blue exterior paint
- Tank Lining: NSF 61 rated epoxy coating
- Internal Distributors: Sch 80 PVC/ABS
- Brine Tank: Corrosion resistant polyethylene

INSTRUMENTATION/CONTROLS

- Metered 'NXT' control interface
- LED Display screen, status lights
- On board diagnostics and error reporting
- Meter: 2" Noryl turbine or 3" Signet paddle-type flow totalizer

OPERATING PARAMETERS

- Inlet pressure: 30 – 100 psig
- Electrical: 24V circuitry
- 120/24 VAC, 50/60 Hz wall mount transformer
- Temperature: 35 – 100 °F

OPTIONS

Skid mounted and pre-piped system Sch 80 PVC or Copper piping
Multi-tank system configurations (Twin, Triple)
Alternating or Progressive flow configurations
Building Management System (BMS) communication
ASME rated pressure vessels
Seismic rated designs
Stainless steel turbine type meters (2" and 3")
Inlet/Outlet pressure gauges and sample valves
Larger brine tanks
Multiple voltage options
Side mount control valves

MST Series Water Softener Specifications

MODEL NUMBER	EXCHANGE CAPACITY (Grains) ❶		FLOW RATES			PIPE SIZE	RESIN PER TANK	TANK SIZES		SALT STORAGE	OVERALL DIMENSIONS (INCHES) ❹			SHIPPING WEIGHT (LBS) ❺		
			SERVICE		BACK WASH			SOFTENER	BRINE							
	MAX.	MIN.	CONT. GPM ❷	PEAK GPM ❸	GPM	INCHES	CU. FT.	INCHES	INCHES	LBS	SINGLE (L1xWxH)	TWIN (L2xWxH)	TRIPLE (L3xWxH)	SINGLE	TWIN	TRIPLE
MST-210-2	210,000 105	140,000 42	78	100	15	2	7	24x60	24x50	540	51x24x92	84x24x92	117x24x92	805	1580	2365
MST-300-2	300,000 150	200,000 60	90	119	20	2	10	30x60	24x50	410	54x24x92	90x24x92	126x24x92	1070	2105	3150
MST-450-2	450,000 225	300,000 90	84	105	20	2	15	30x60	30x50	640	66x30x92	108x30x92	150x30x92	1505	2945	4415
MST-300-3	300,000 150	200,000 60	167	235	20	3	10	30x60	24x50	410	54x24x97	90x24x97	126x24x97	1130	2165	3210
MST-450-3	450,000 225	300,000 90	158	212	20	3	15	30x60	30x50	640	66x30x97	108x30x97	150x30x97	1565	3005	4475
MST-600-3	600,000 300	400,000 120	185	250	30	3	20	36x60	39x60	1700	81x39x107	129x39x107	177x39x107	2565	5045	7565
MST-900-3	900,000 450	600,000 180	200	268	45	3	30	42x60	42x60	1940	90x42x109	144x42x109	198x42x109	3810	7510	11,265
MST-1200-3	1,200,000 600	800,000 240	213	280	55	3	40	48x60	50x60	2800	104x50x117	164x50x117	224x50x117	4985	9830	14,735

MST Series Dimensions

NOTE: Installation piping by others

Single:

Twin:

Triple:

Notes:

❶ Maximum capacity base on 30,000 grains per cubic foot of resin when regenerated with 15 lbs. salt. Minimum capacity based on 20,000 grains per cubic foot of resin when regenerated with 6 lbs. salt.

❷ At pressure loss not exceeding 15 psi.

❸ At pressure loss not exceeding 25 psi.

❹ Dimensions are estimates only. Actual dimensions may vary based on job-site space limits and piping layout. Allow a minimum of 24" above height dimension for resin loading. Use of ASME rated tanks may add up to 12" of tank height.

❺ Shipping weights are estimate only. Weights include resin and support gravel, which are added to the tanks after installation.

MHC Series Water Softener Systems

The MHC Series water softener system is designed to effectively meet the rigorous demands of institutional and industrial facilities where high flow rates and hardness capacities are required.

The standard, all-steel exterior design will be reliable for many years of service. A modular platform allows for single, twin, or triplex tank designs to be easily configured to meet the exact flow requirements matched with the incoming water quality. Numerous custom engineered options are available to meet most specifications.

STANDARD FEATURES

- Carbon steel resin tanks with epoxy-lined interior
- Water actuated diaphragm style control valves (3"& 4")
- Air actuated butterfly style control valves (6"& 8")
- Volume and/or time initiated regeneration cycle
- Polyethylene brine tank assembly with injector
- Sodium form cation exchange resin
- Inlet/Outlet tank sampling valves
- Water hardness testing kit
- Factory Hydro-tested at 100 psig

MATERIALS OF CONSTRUCTION

- Resin Tanks: Carbon steel with Safety Blue exterior paint
- Tank Lining: NSF 61 rated epoxy coating
- Exterior Piping: Galvanized steel pipe & cast iron fittings
- Internal Distributors: Sch 80 PVC/ABS
- Control Valves: Painted cast iron body

INSTRUMENTATION/CONTROLS

- Marlo MX-III electronic system controller
- Time or metered control with bypass for single tank
- Alternating or parallel progressive metered control for twin and triple tank units
- NEMA-4X electrical enclosures
- Signet paddle-type flow sensors
- Inlet/Outlet pressure gauges

OPERATING PARAMETERS

- Inlet Pressure: 30-100 psig
- Electrical: 120 VAC, 1-Ph, 60Hz
- Temperature: 35-110 °F

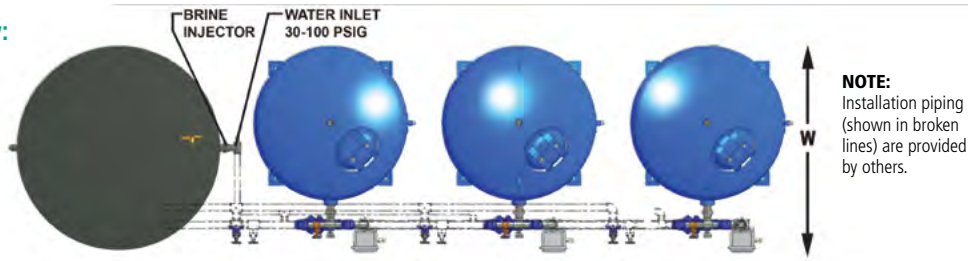
OPTIONS

Skid mounted, pre-piped, pre-wired systems
ASME code stamped resin tanks
Allen-Bradley PLC systems
Remote communication to BMS
Alternate water meter types
Brine silo and/or brine pump systems
PVC or CPVC exterior piping
Copper or Stainless steel exterior piping
Stainless steel internal distributor piping
Seismic zone rated systems
Butterfly control valves (for 3"& 4" systems)
'SRS' Salt Recycling Systems
Online hardness monitor

MHC Series Water Softener Specifications

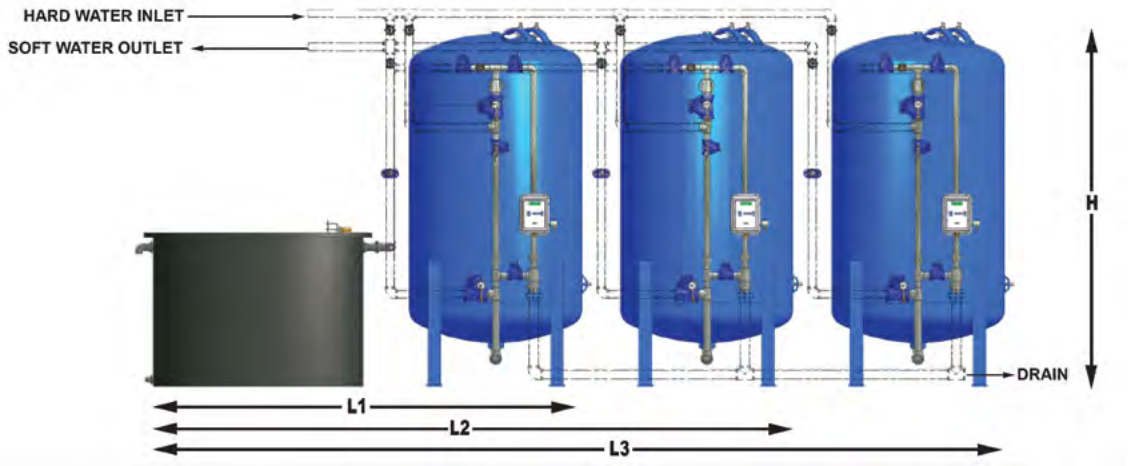
CATALOG NUMBER	EXCHANGE CAPACITY (Grains) SALT USAGE (LBS) ❶		FLOW RATES			PIPE SIZE		RESIN	TANK SIZES		SALT STORAGE	REGEN PER SALT REFILL		OVERALL DIMENSIONS (INCHES) ❹			SHIPPING WEIGHT (LBS) ❺		
			SERVICE		BACK WASH	SERVICE	DRAIN		SOFTENER	BRINE		MIN. SALT	MAX. SALT	SINGLE (L1xWxH)	TWIN (L2xWxH)	TRIPLE (L3xWxH)	SINGLE	TWIN	TRIPLE
	MAX. SALT	MIN. SALT	CONT. GPM ❷	PEAK GPM ❸	GPM	INCHES	INCHES	CU. FT.	INCHES	INCHES	LBS								
MHC-1200-3	1,200,000 600	800,000 240	215	300	60	3	2	40	48 x 60	56 x 62	3000	12	5	120x64x98	188x64x98	252x64x98	5,700	10,800	15,900
MHC-1200-4			310	410		4	2							120x68x98	188x68x98	252x68x98	5,730	10,860	16,000
MHC-1500-3	1,500,000 750	1,000,000 300	225	308	80	3	2-1/2	50	54 x 60	56 x 62	2700	9	4	140x70x100	214x70x100	288x70x100	6,850	13,050	19,100
MHC-1500-4			405	600		4	2-1/2							140x74x100	214x74x100	288x74x100	6,880	13,110	19,200
MHC-1950-3	1,950,000 975	1,300,000 390	235	325	100	3	3	65	60 x 60	74 x 64	5500	14	5	158x76x102	232x76x102	312x76x102	8,500	16,200	23,950
MHC-1950-4			445	650		4	3							158x80x102	232x80x102	312x80x102	8,550	16,250	24,000
MHC-2400-3	2,400,000 1,200	1,600,000 480	245	340	120	3	3	80	66 x 72	74 x 64	5200	10	4	170x84x114	256x84x114	342x84x114	10,700	20,500	30,300
MHC-2400-4			480	690		4	3							170x86x114	256x86x114	342x86x114	10,750	20,600	30,500
MHC-2400-6			650	940		6	3							170x92x114	256x92x114	342x92x114	10,800	20,700	30,700
MHC-3000-3	3,000,000 1,500	2,000,000 600	255	355	140	3	3	100	72 x 72	86 x 62	7000	11	4	174x88x117	266x88x117	358x88x117	12,300	23,600	34,900
MHC-3000-4			500	720		4	3							174x92x117	266x92x117	358x92x117	12,350	23,700	35,100
MHC-3000-6			700	1050		6	3							174x96x117	266x96x117	358x96x117	12,400	23,800	35,300
MHC-4200-6	4,200,000 2,100	2,800,000 1,080	780	1130	190	6	3	140	84 x 72	96 x 60	8000	7	3	194x110x120	298x110x120	402x110x120	16,250	31,200	45,900
MHC-4200-8			1000	1450		8	3							194x118x120	298x118x120	402x118x120	16,300	31,300	46,150
MHC-5400-6	5,400,000 2,700	3,600,000 1,080	880	1250	250	6	4	180	96 x 72	96 x 60	7500	6	2	206x122x123	322x122x123	438x122x123	21,600	41,800	61,800
MHC-5400-8			1150	1700		8	4							206x134x123	322x134x123	438x134x123	21,700	41,950	62,950

MHC Series–Top View:



NOTE:
Installation piping (shown in broken lines) are provided by others.

MHC Series–Front View:



Notes:

❶ Maximum capacity based on 30,000 grains per cubic foot of resin when regenerated with 15 lbs. salt. Minimum capacity based on 20,000 grains per cubic foot of resin when regenerated with 6 lbs. salt.

❷ At pressure loss not exceeding 15 psi.

❸ At pressure loss not exceeding 25 psi.

❹ Dimensions are estimate only. Actual dimensions may vary based on job-site space limits and piping layout. Allow a minimum of 24" above height dimension for resin loading. Use of ASME rated tanks may add up to 12" of tank height. Consult factory for dimensions on skid mounted systems.

❺ Shipping weights are estimate only. Weights include resin and support gravel, which are added to the tanks after installation.

MFS-Series Media Filter Systems

The 'MFS' Series automatic backwashing media filter system is designed to provide the highest quality in water filtration equipment while covering a wide variety of commercial and industrial applications including turbidity reduction, iron removal, and chlorine removal. A broad range of filter media and component options are offered to fit your exact specifications.

'MID' Multi-Media Filters
High efficiency, in-depth filter system using a layered media bed of anthracite, silica sand, and two grades of garnet for excellent filtration down to the order of 5-10 micron.

'MZA' Natural Zeolite Filters
An alternative, single media approach to traditional multi-media filters that achieves a finer filtration to 3-5 micron with longer service run times.

'MGA' Iron Removal Filters
Filter system capable of reducing iron, manganese, and hydrogen sulfide using manganese greensand filter media.

'ACA' Carbon Filters
Granular Activated Carbon (GAC) is designed for the reduction of chlorine, taste, odor, and dissolved organic material from municipal and industrial water supplies.

MATERIALS OF CONSTRUCTION

- Media Tanks: Carbon steel with Safety Blue exterior paint
- Tank Lining: NSF 61 rated epoxy coating
- Exterior Piping: Galvanized steel pipe & cast iron fittings
- Internal Distributors: Sch 80 PVC/ABS
- Control Valves: Painted cast iron body

STANDARD EQUIPMENT/FEATURES

- MX-II electronic system controller
- Timer initiated backwash cycle
- Water activated diaphragm style control valves
- NEMA-4X electrical enclosures (FRP)
- Inlet/Outlet pressure gauges and sampling valves
- Factory Hydro-tested at 100 psig

OPERATING PARAMETERS

- Inlet Pressure: 30-100 psig
- Electrical: 120 VAC, 1-Ph, 60Hz
- Temperature: 35-110 °F

OPTIONS

Skid mounted, pre-piped, pre-wired systems
Differential pressure switch backwash cycle
Multiple tank parallel configurations
ASME code stamped resin tanks
Allen-Bradley PLC systems
PVC or CPVC exterior face-piping (PVC standard for filters with 6" service)
Copper or Stainless steel exterior face-piping
Stainless steel internal distributor piping
Seismic zone rated systems
Butterfly control valves (air operated; standard for filters with 6" service)
Air-scour backwash system
Steam / hot water sanitizable carbon filters
Alternate filter media (Birm, Filter-AG, Calcite)

MZA - Natural Zeolite Filter Specifications

CATALOG NUMBER	FLOW RATES			PIPE SIZE		MEDIA	TANK SIZE	OVERALL DIMENSIONS (INCHES) ❷	SHIPPING WEIGHT (LBS) ❸
	SERVICE		BACK WASH	SERVICE	DRAIN				
	CONT. GPM ❶	PEAK GPM	GPM	INCHES	INCHES	CU. FT.	INCHES	SINGLE (LxWxH)	SINGLE
MZA-20	20	45	35	1.5	1.5	5	20x54	21x30x72	650
MZA-24	30	60	45	1.5	2	8	24x54	25x34x73	900
MZA-30	50	100	75	2	2.5	12	30x54	31x40x76	1,400
MZA-36	70	140	105	2.5	3	18	36x60	37x48x84	2,100
MZA-42	100	200	145	2.5	4	24	42x60	43x54x88	2,700
MZA-48	125	250	190	3	4	32	48x60	49x62x95	4,000
MZA-54	160	320	240	3	4	40	54x60	55x70x97	4,900
MZA-60	200	400	300	3	6	50	60x60	61x76x103	6,200
MZA-66	240	480	360	4	6	60	66x60	67x82x105	8,600
MZA-72	285	570	425	4	6	70	72x60	73x88x107	11,700
MZA-84	385	770	580	6	6	95	84x60	85x104x102	15,600
MZA-96	500	1000	750	6	6	125	96x60	96x122x110	20,100
MZA-108	640	1280	950	8	8	160	108x60	109x134x112	25,000
MZA-120	800	1600	1175	8	8	200	120x60	121x146x115	29,500

MID - Multimedia Filter Specifications

CATALOG NUMBER	FLOW RATES			PIPE SIZE		MEDIA	TANK SIZE	OVERALL DIMENSIONS (INCHES) ❷	SHIPPING WEIGHT (LBS) ❸
	SERVICE		BACK WASH	SERVICE	DRAIN				
	CONT. GPM ❶	PEAK GPM	GPM	INCHES	INCHES	CU. FT.	INCHES	SINGLE (LxWxH)	SINGLE
MID-20	20	45	35	1.5	1.5	5	20x54	21x30x72	1,200
MID-24	30	60	45	1.5	2	8	24x54	25x34x73	1,500
MID-30	50	100	75	2	2.5	12	30x54	31x40x76	2,200
MID-36	70	140	105	2.5	3	18	36x60	37x48x84	2,900
MID-42	100	200	145	2.5	4	24	42x60	43x54x88	3,700
MID-48	125	250	190	3	4	32	48x60	49x62x95	5,100
MID-54	160	320	240	3	4	40	54x60	55x70x97	6,300
MID-60	200	400	300	3	6	50	60x60	61x76x103	8,100
MID-66	240	480	360	4	6	60	66x60	67x82x105	11,000
MID-72	285	570	425	4	6	70	72x60	73x88x107	14,300
MID-84	385	770	580	6	6	95	84x60	85x104x102	19,600
MID-96	500	1000	750	6	6	125	96x60	96x122x110	25,200
MID-108	640	1280	950	8	8	160	108x60	109x134x112	31,500
MID-120	800	1600	1175	8	8	200	120x60	121x146x115	37,500

ACA - Activated Carbon Filter Specifications

CATALOG NUMBER	FLOW RATES			PIPE SIZE		MEDIA	TANK SIZE	OVERALL DIMENSIONS (INCHES) ❷	SHIPPING WEIGHT (LBS) ❸
	SERVICE		BACK WASH	SERVICE	DRAIN				
	CONT. GPM ❶	PEAK GPM	GPM	INCHES	INCHES	CU. FT.	INCHES	SINGLE (LxWxH)	SINGLE
ACA-20	10	20	20	1	1.25	5	20x54	21x30x72	500
ACA-24	15	30	30	1.5	1.5	8	24x54	25x34x73	700
ACA-30	25	50	50	1.5	1.5	12	30x54	31x40x76	1,100
ACA-36	35	70	70	2	2	18	36x60	37x48x84	1,600
ACA-42	50	100	100	2	2.5	24	42x60	43x54x88	2,100
ACA-48	65	125	125	3	3	32	48x60	49x62x95	3,100
ACA-54	80	160	160	3	4	40	54x60	55x70x97	3,900
ACA-60	100	200	200	3	4	50	60x60	61x76x103	4,900
ACA-66	120	240	240	3	4	60	66x60	67x82x105	7,000
ACA-72	140	285	285	3	4	70	72x60	73x88x107	9,900
ACA-84	195	385	385	4	6	95	84x60	85x104x102	13,300
ACA-96	250	500	500	6	6	125	96x60	96x122x110	16,900
ACA-108	320	640	640	6	6	160	108x60	109x134x112	21,000
ACA-120	400	800	800	6	6	200	120x60	121x146x115	24,500

MGA - Manganese Greensand Filter Specifications

CATALOG NUMBER	FLOW RATES			PIPE SIZE		MEDIA	TANK SIZE	OVERALL DIMENSIONS (INCHES) ❷	SHIPPING WEIGHT (LBS) ❸
	SERVICE		BACK WASH	SERVICE	DRAIN				
	CONT. GPM ❶	PEAK GPM	GPM	INCHES	INCHES	CU. FT.	INCHES	SINGLE (LxWxH)	SINGLE
MGA-20	10	15	20	1	1.25	5	20x54	21x30x72	900
MGA-24	15	30	30	1.5	1.5	8	24x54	25x34x73	1,300
MGA-30	20	40	50	1.5	1.5	12	30x54	31x40x76	2,000
MGA-36	30	60	70	2	2	18	36x60	37x48x84	3,000
MGA-42	40	80	100	2	2.5	24	42x60	43x54x88	4,000
MGA-48	50	100	125	3	3	32	48x60	49x62x95	5,600
MGA-54	65	130	160	3	4	40	54x60	55x70x97	7,000
MGA-60	80	160	200	3	4	50	60x60	61x76x103	8,800
MGA-66	95	190	240	3	4	60	66x60	67x82x105	11,500
MGA-72	115	230	285	3	4	70	72x60	73x88x107	14,000
MGA-84	150	300	385	4	6	95	84x60	85x104x102	18,300
MGA-96	200	400	500	6	6	125	96x60	96x122x110	23,500
MGA-108	250	500	640	6	6	160	108x60	109x134x112	29,300
MGA-120	315	630	800	6	6	200	120x60	121x146x115	35,000

MFS Series Dimensions:

Notes:

❶ At expected pressure loss not exceeding 5 psig, based on a clean filter bed.

❷ Dimensions are estimate only. Actual dimensions may vary based on job-site space limits and piping layout. Allow a minimum of 24" above height dimension for resin loading. Use of ASME rated tanks may add up to 12" of tank height. Consult factory for dimensions on skid mounted systems.

❸ Shipping weights are estimate only. Weights include resin and support gravel, which are added to the tanks after installation.

Storage & Holding Tanks

Storage and Holding Tanks are available in a wide range of sizes and materials.

TANKS (MOLDED & FABRICATED)

- Polyethylene
- Polypropylene
- Fiberglass
- PVC
- PVDF
- Lined Steel tanks

MIXERS

- Electric and pneumatic
- Low RPM
- Mixers for all applications

SEISMIC SYSTEMS

- Seismic tank restraints
- Totally engineered systems
- Cable sestraint systems
- "Wet Stamped" calculations

Chemical Feed: Dual Containment Tank Systems

Puretec tanks are available in a wide range of sizes—from 5 to 500 gallon capacities. Our tanks come standard with vented twist lid, pump suction pick up port and return drain built into pump mounting shelf and connection fittings standard on dome top. Common accessories include at-a-glance visual float gauge, quick coupler dry brake fill adapter, pump, and more.

FEATURES

- All tanks made from LDPE SD 1.5
- Pump pick-up tube port—Install pump suction line with check valve quickly and easily. Once installed, tank contents are sealed from outside environment.
- Durable dual wall construction—Standard tanks rated 1.5 SPG, "Tank in a Tank" design for instances where primary tank fails, the chemical will be safely contained in secondary tank.
- Standard secondary tank leak detection port—for optional leak detection alarm.
- Integral pump mounting platform—Lid has 240 pound rating allowing for use with metering pump or mixer mounted directly to tank dome. Models with sump reservoir collects and drains liquid back to primary.
- Integral mouse door—Molded directly into most models, recessed mouse door allows for inexpensive installation of optional bottom bulkhead fitting for flooded suction connection or bottom fill.

ADVANTAGES

- Linear polyethylene (LDPE) construction. Polypropylene (PPL), XLPE and PVDF available—Superior chemical resistance for acids, caustics, sodium hypochlorite, biocides, etc. Handles aggressive applications that stainless steel will not.
- All of our tanks meet or exceed the EPA's requirements for secondary containment under 49-CFR.
- NSF/ANSI 61 compliant.

Most Popular Dual Containment Tank System Specifications

Tank Size Gal/Liter	Diameter	Height	Capacity		Polyethylene LDPE SD 1.5, Blue
			Inner	Outer	
40 G / 151 L	23.5 in / 59.69 cm	39.5 in / 100.33 cm	40 G / 151 L	50 G / 189 L	† 01-14874
62 G / 235 L	25.5 in / 64.77 cm	38 in / 96.52 cm	62 G / 235 L	74 G / 280 L	† 01-14877

† NSF/ANSI 61 Compliant.

Chemical Feed: Metering Pumps

The DDA can not only inject chemicals and verify injection; it can also measure valuable data such as flow or pressure. The pump can then diagnose the operation status based on the relationship between the diaphragm displacement and the pressure inside the head. The pump is so smart it can tell you if there are air bubbles inside the head. Thanks to its impressive logic capabilities, the DDA can make decisions to display and/or correct failures such as overpressure, valve leaks or air bubbles.

Smooth and Continuous Dosing
Ensures an optimum mixing ratio at the injection point without the need for additional accessories, such as static mixers. It also provides significant reduction of pressure peaks, preventing mechanical stress on wearing parts such as diaphragm, tubing, and connections, resulting in less maintenance required.

Full Stroke Length at All Times
The pump always operates at full stroke length, irrespective of the capacity set; this ensures maxi-mum volume displacement per stroke, optimum accuracy, easy priming and improved suction.

Up to 3000:1 Turndown Ratio
The range is designed to give you superior flexibility and accuracy even when dosing very small volumes.

Maximum Capacity Setting
With the DDA series you decide what the maximum capacity should be. You can select any value within the performance range of each model and the pump will redefine the injection speed and adjust the operation scale within that range. So you only need a few models to cover multiple applications -.

Anti-Cavitation / SlowMode
The variable speed of DDA pumps facilitates a unique anti-cavitation function for high viscosity liquids. This function provides slower suction speed (50 or 25% of the maximum speed), ensuring optimal priming and pumping of even the most difficult liquids.

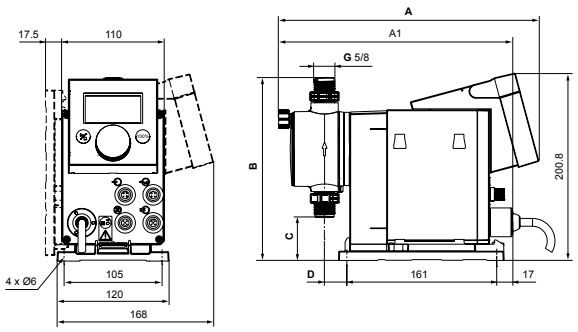
Flow Monitoring
The DDA FCM pump can precisely measure and display the actual dosing flow. Via the analog 4–20 mA output, the actual flow signal can easily be integrated in any process control system, with-out needing additional measurement equipment.

Pressure Monitoring
The integrated pressure sensor measures the actual pressure of the system, which is shown in the display. In case of an overpressure situation, the pump will stop injecting, generate an alarm on the display, and trigger a relay. The pressure can also be monitored via the 4-20mA signal output.

AutoFlowAdapt
The DDA FCM pump can recognize pressure fluctuations on the discharge line and adapt the speed to compensate the injection, maintaining a constant feeding set point.

Product Range and Performance Data		
Pump type	**Capacity**	**DDA 7.5-16**
Capacity at max. Pressure	g/h (l/h)	1.98 (7.5)
Max. Pressure	psi (bar)	232 (16)
Setting Range		3000:1
Stroke Frequency	spm	190
Suction lift: primed/dry	ft (m)	19.6 (6)/6.5 (2)
Viscosity (slow mode)*	cps	2500/50
Power supply	V, Hz	100-240V, 50/60 Hz
Accuracy	%	+/-1

Dimensions [inches (mm)]	
	DDA 7.5
A	11 (280)
B	7.72 (196)
C	1.83 (46.5)
D	0.94 (24)



Chemical Feed: Electromagnetic Metering Pumps

Our electronic metering pumps offer superior high speed dosing capability with more standard features. The flexibility of our pumps enable them to be integrated into virtually any chemical feed application using a universal-voltage, digital controller with an expanded set of control features. Superb valve performance and advanced solenoid engineering combine to make a highly precise pump for the most demanding applications.

Puretec pumps have outputs to 6.7 GPH (25.2 L/h) and a maximum pressure of 290 PSI (20 bar). The high speed of operation results in high resolution chemical feed and long service life. Quiet and compact, the EWN pumps prime in seconds and hold prime reliably.

High Speed Performance

E-Series pumps operate up to 360 strokes-per-minute with adjustments in 1 spm increments, providing high resolution chemical feed. Adjustable stroke length further increases the ability to refine the output, making the E-Series one of the most versatile solenoid metering pumps on the market.

Multi-function Digital Controller

The controller provides for flexible pump control including scalable Analog control, Digital Input with both Multiply and Divide capability, external stop control, or simple speed and stroke length control. Display can be adjusted between flow rate units or % speed for easy-to-read output and quick adjustment.

Engineered Longevity

All E-Series pumps feature dual bearing support. The armature and shaft are supported with a bearing on each end, which ensures proper axial movement, enabling the E-Series to operate at 360 SPM while extending the life of the diaphragm.

Superior Check Valve Performance

Dual Check Valve Assemblies in both suction and discharge fittings feature precision ball guides and tapered seats. Precise machining and molding of parts limit valve ball travel, ensuring that balls fully seat and seal with every stroke. This superior check valve design guarantees fast priming and reliable performance.

Flexible Connections

A removable tubing insert provides flexibility of tubing sizes and eliminates twisting of the tubing during connection. A threaded insert can be used in place of the tubing adapter to easily convert any connection to NPT.

High Compression Ratio

The compression ratio of a metering pump is important because it affects the pump's ability to prime and vent. The compression ratio is raised when you reduce the dead volume of the pump head during operation. All E-Series pumps feature a very high compression ratio that ensures proper feed especially with off-gassing products (i.e. Sodium Hypochlorite).

Electromagnetic Metering Pump Wet End Materials

Model	Pump Head	Diaphragm	Valve Balls	Valve Seat	O-Ring Seal	Gasket
VC	Polyvinylchloride (translucent)	Polytetrafluoroethylene + Ethylene propylene diene monomer	Alumina ceramic	Fluoroelastomer	Fluoroelastomer	Polytetrafluoroethylene

Electromagnetic Metering Pump Specifications

Model	Max Output Capacity			Max rated discharge pressure (PSI)	Max usable pressure (PSI)	Stroke Rate % (spm)	Stroke Length Rate % (mm)
	GPH	mL/min	mL/shot				
B11	0.6	38	0.02-0.11	150	203	0.1 to 100 (1 to 360)	20 to 100 (0.2 to 1.0)

Equipment Maintenance Services

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System Maintenance

A water service preventative maintenance plan is an economical and trouble free way to ensure that your water treatment system is operating at peak performance.

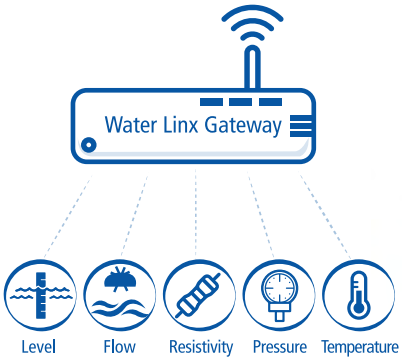
Puretec Industrial Water offers preventative maintenance agreements to ensure that your Reverse Osmosis and pre/post treatment systems are functioning at peak performance. An experienced engineer can work with you to develop a customized preventative maintenance schedule that is designed specifically for your water treatment system.

Our trained service technicians specialize in the operation, maintenance and troubleshooting of high purity water treatment systems and will make sure that your water system is proactively being monitored and maintained. Reports on your system performance along with any suggested action items will be provided to you after each service visit.

PREVENTATIVE MAINTENANCE OPTIONS INCLUDE:

- **Pretreatment System** includes multi-media filters, carbon filters, microfiltration units, degasifiers, RO pre-filters, softeners, chemical feed pump calibration, chemical tank replenishment (such as anti-scalant, chlorine/chloramine reducers, and coagulants for depth filters), and chemical feed pump calibration.
- **Reverses Osmosis System** includes data collection and analysis, cleaning and calibrating critical sensors, and RO membrane cleaning as needed based on normalized data trends.
- **Post Treatment** includes deionizers, storage tanks, ultraviolet (UV) sterilizers, submicron point of use filters, calibration of quality instrumentation and periodic system sanitizations.

Water Linx Remote Monitoring



Water Linx provides secure remote access to up to the minute analytics of your water treatment system. With a wide variety of sensor support, Water Linx can be installed on any complex system that requires real-time normalized calculations and trending or simply as an early warning system for a few sensors. Water Linx is a cost effective way to provide visibility and protection of mission critical systems.

FEATURES

- Live sensor dashboard and hourly saved history
- Accessible from any computer, phone or tablet with internet access
- Individual sensor history with trend charts
- Email or SMS alarm notifications
- Multiple alarm notification set points for each sensor
- Calculated sensors with trending and notification capabilities
- Secure read-only push communication
- Works with existing control room systems
- Unlimited authorized users accounts
- Predefined, custom, and calculated censors
- Real-time normalized sensors w/ trend view

✓ Secure Read-Only Access ✓ Up to the Minute Data ✓ Text Message and E-mail Notifications

TOLL FREE: 800.906.6060 ■ **EMAIL:** sales@puretecwater.com ■ **WEB:** www.puretecwater.com

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Membrane Cleaning & Replacement Services

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Off-site Reverse Osmosis Membrane Cleaning

Puretec Off-Site RO Cleaning is available when cleaning on-site is not practical or possible. RO membranes are pre-tested, cleaned and post-tested with the goal of restoring performance to original factory specifications.

Off-Site RO Cleaning uses equipment specifically designed to provide ideal flow rates, water temperature, and cleaning pressures. Pre- and post-cleaning test data confirm improved permeate flow and rejection and reduced delta pressure to predict the results of a full-scale system cleaning.

Replacement Reverse Osmosis Membranes

- Puretec carries membranes for a wide variety of applications

Materials

- Cross-linked fully aromatic polyamide composite membrane
- Cross-linked polypiperazine polyamide composite membrane
- Cellulose acetate membrane

Products

- High rejection for high salinity brackish water applications
- Ultra low pressure for low salinity brackish water applications

High rejection for sea water applications

- High pressure & rejection for high salinity sea water applications
- Commercial & household 2" to 4" tap water elements

SPECIAL FEATURES

- Hot water sanitizable elements
- Chlorine resistant NF elements
- Pre-rinsed ultra pure water elements
- Custom-made elements for various special applications

Helpful Information

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The Basics of Ion Exchange

NaCl or Sodium Chloride is a common salt. When dissolved in water, NaCl dissociates into its ion components, **Na+** (sodium) and **Cl-** (chloride).

NaCl

The sodium ion represents any given ion that has a positive charge.

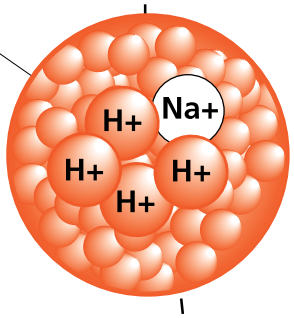
Na+

The chloride ion represents any given ion that has a negative charge.

Cl-

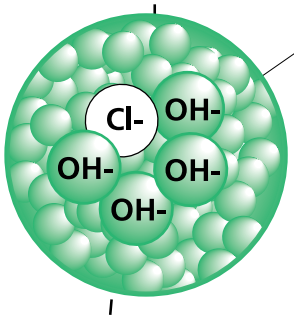
Strong acid cation ion exchange bead in the Hydrogen form

Each small caion bead has millions of exchange sites. An exchange site has a fixed negative charge and a mobile positive charge (in this case Hydrogen, expressed as **H+**). When a positively charged ion, like sodium, encounters the cation resin bead, the sodium is attracted to the fixed negative charge (+ attracted to -) on the resin bead and sticks to it.



Strong base anion ion exchange bead in the Hydroxide form

Each small anion bead has millions of exchange sites (just like the cation bead). However, on an anion bead, the fixed exchange sites are positive and the mobile charge is negative (**OH-**, or Hydroxl). When a negatively charged ion, like chloride, encounters the anion resin bead, the chloride is attracted to the fixed negative charge on the resin bead and sticks to it.



H+

OH-

Immediately the cation resin bead then gives up one of its Hydrogen (H+) ions. This is the basis for "ion exchange"—one ion is given up for another.

The anion bead then gives up one of its Hydroxy (OH-) ions.

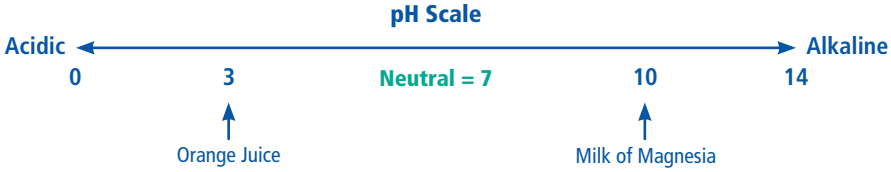
H2O

When the Hydrogen (**H+**) and Hydroxyl (**OH-**) ions meet up, they form pure water, **H20.**

Although this process is fairly simple in concept, its application is complicated by variables in raw water composition, treated water quality requirements, resin selection and condition, chemical dosages and control system requirements.

Water Quality Conversion Chart

	Resistivity	Conductivity	Dissolved Solids	Dissolved Solids	pH	
	Ω = ohms	µS = Microseimens mS = Miliseimens	TDS (ppm)	GPG 1 Grain = 17.1 ppm	Max	Min
Quality ↑	18 M Ω	0.056 µS	0.028	0.000	7.8	6.2
	17 M Ω	0.058 µS	0.029	0.002	7.8	6.2
	16 M Ω	0.063 µS	0.031	0,002	7.9	6.1
	15 M Ω	0.066 µS	0.033	0.002	7.9	6.1
	14 M Ω	0.071 µS	0.036	0.002	7.9	6.1
	13 M Ω	0.077 µS	0.038	0.002	7.9	6.1
	12 M Ω	0.083 µS	0.042	0.002	8.0	6.0
	11 M Ω	0.091 µS	0.045	0.003	8.0	6.0
	10 M Ω	0.1 µS	0.05	0.003	8.1	5.9
	9 M Ω	0.11 µS	0.055	0.003	8.1	5.9
	8 M Ω	0.125 µS	0.063	0.004	8.2	5.8
	7 M Ω	0.143 µS	0.0715	0.004	8.3	5.7
	6 M Ω	0.167 µS	0.0835	0.005	8.3	5.7
	5 M Ω	0.2 µS	0.1	0.006	8.4	5.6
	4 M Ω	0.250 µS	0.125	0.007	8.5	5.5
	3 M Ω	0.333 µS	0.1665	0.010	8.6	5.4
	2 M Ω	0.5 µS	0.25	0.015	8.8	5.2
Less Dissolved Solids ↑	1 M Ω QC Light	1 µS	0.5	0.029	9.1	4.9
	900 K Ω	1.11 µS	0.55	0.032	9.2	4.8
	800 K Ω	1.25 µS	0.625	0.037	9.2	4.7
	700 K Ω	1.43 µS	0.715	0.042	9.3	4.6
	600 K Ω	1.67 µS	0.835	0.049	9.4	4.5
	500 K Ω	2 µS	1	0.058	9.5	4.4
	400 K Ω	2.5 µS	1.25	0.073	9.6	4.4
	300 K Ω	3.3 µS	1.65	0.096	9.7	4.3
	200 K Ω QC Light	5 µS	2.5	0.146	9.7	4.3
	100 K Ω	10 µS	5	0.292	10.1	3.9
	50 K Ω	20 µS	10	0.585	10.4	3.6
	40 K Ω	25 µS	12.5	0.731	10.5	3.5
	30 K Ω	33.3 µS	16.65	0.974	10.6	3.4
	20 K Ω QC Light	50 µS	25	1.462	10.8	3.2
	10 K Ω	100 µS	50	2.974	11.1	2.9
	5 K Ω	200 µS	100	5.848	11.4	2.6
	1 K Ω	1 mS	500	29.240	12.1	1.9



Water Quality Standards

ASTM STANDARDS FOR LABORATORY REAGENT WATER (ASTM D1193-91)

Measurement (unit)	Type I	Type II	Type III	Type IV
Resistivity (MΩ-cm)	> 18	> 1	> 4	> 0.2 (200KΩ)
Conductivity (µS/cm)	< 0.056	< 1	< 0.25	< 5.0
pH at 25°C	N/A	N/A	N/A	5.0 – 8.0
Total Organic Carbon (TOC) ppb or µg/L	<50	<50	<200	N/A
Sodium (ppb or µg/L)	< 1	< 5	< 10	< 50
Chloride (ppb or µg/L)	< 1	< 5	< 10	< 50
Silica (ppb or µg/L)	< 3	< 3	< 500	N/A

ADDITIONAL ASTM SUB-STANDARDS FOR LABORATORY REAGENT WATER

Measurement (unit)	A	B	C
Heterotrophic Bacteria Count (CFU/ml)	< 1	< 10	< 1000
Endotoxin (units per ml)	< 0.03	< 0.25	N/A

ISO 3696 STANDARD

Parameter	Grade 1	Grade 2	Grade 3
Conductivity µS/cm (Temp Corrected)	< 0.1	< 0.1	< 5.0
pH at 25°C	N/A	N/A	5.0 – 7.0
Oxidizable matter Oxygen (O2) content mg/L	N/A	< 0.08	< 0.4
Absorbance at 254 nm and 1 cm optical path length, absorbance units	< 0.001	< 0.01	N/A
Residue after evaporation on heating at 110°C mg/kg	N/A	< 1	< 2
Silica (Si02) mg/L	< 0.01	< 0.02	N/A

CLSI[1]-CLRW GUIDELINES

Contaminant	Parameter and Unit	Type 3	Type2	Type1	CLRW
Ions	Resistivity (MΩ-cm)	> 0.05 (50 KΩ)	> 1	> 18	> 10
Organics	Total Organic Carbon (TOC) ppb	< 200	< 50	< 10	< 500
Pyrogens	(Eu/ML)	N/A	N/A	<0.03	——
Particles	Particles >0.2 µm (units/mL)	N/A	N/A	< 1 (0.22µ filtration required)	Include 0.22µ filtration
Colloids	Silica (ppb)	< 1000	< 100	< 10	——
Bacteria	Bacteria (cfu/ml)	< 1000	< 100	< 1	< 10

Water Quality Standards

LABORATORY WATER PURITY SPECIFICATIONS CONSOLIDATED GUIDELINES

Contaminant	Parameter and Unit	Type 1	Type 2	Type 3
Ions	Resistivity (MΩ-cm)	> 0.05 (50 KΩ)	> 1	> 0.05 (50 KΩ)
	Silica (ppb)	< 10	<100	<1000
Organics	Total Organic Carbon (TOC) ppb	< 20	< 50	< 200
Particles	Particles > 0.2 µm (#/ml)	< 1	N/A	N/A
Bacteria	Bacteria (cfu/ml)	< 1	< 100	< 1000
	Endotoxin (EU/mL)	< 0.001	N/A	N/A

USP STANDARDS

Properties	USP Purified Water	USP Water for Injection & Highly Purified Water
Conductivity (µS/cm @ 25˚C))	< 1.3	< 1.3
Total Organic Carbon (TOC) ppb or µg/L	< 500	< 500
Bacteria (guideline)	< 100 cfu/ml	< 10 cfu/ml
Endotoxin (EU/ml)	N/A	< 0.25 EU/ml

Filtration Spectrum Chart

Below is a chart comparing the sizes of typical water contaminants and various filtration technologies that can address each contaminant. This chart emphasizes the importance of proper pretreatment before a Reverse Osmosis unit or Ion Exchange bed to avoid premature plugging by larger suspended solids.