



We will not compete in the race to the bottom!

POE Product Catalog

Supplying Water Quality Improvement Professionals

We support the American workforce. The majority of our systems and components are made and assembled in the USA!



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The pages with  include technical information that will assist you in your system sizing, maintenance, repairs and application. Please read through our technical articles and writings in order to gain a better understanding of the water improvement industry!





!mpACT

WATER PRODUCTS

We will not compete in the race to the bottom!

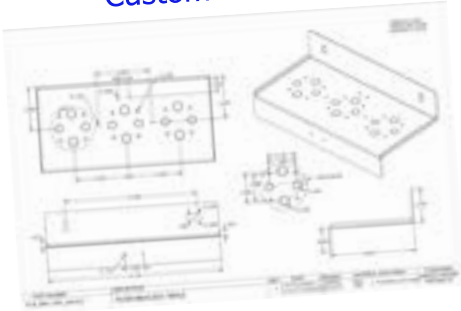
Impact Water Products actively supports American manufacturing by sourcing primarily USA-made products from respected U.S.-based companies. We believe the bitterness of poor quality lingers long after the sweetness of a low price is forgotten. Serving water quality improvement professionals and distributors, we offer exceptional customer support, technical assistance, custom literature, and quality products at competitive prices. Contact our friendly WQA Master Water Specialist (MWS) certified support team and experience the difference.



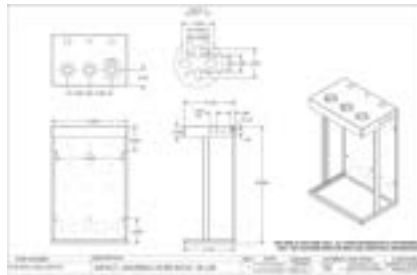
Commercial Customization

Impact Water Products delivers fully customized water system builds tailored to your exact requirements. From initial prototype through to finished product, our research and development team partners with you to create a successful solution. Whether you need a simple residential RO system with customized controls or a complex ultra-high-purity water system, we bring the experience and technical expertise to turn your ideas into reality.

Custom Brackets



Light Commercial RO



Custom Skid Design



Custom PLC



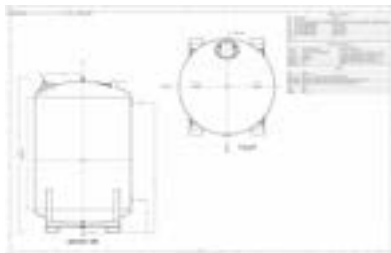
3D CAD



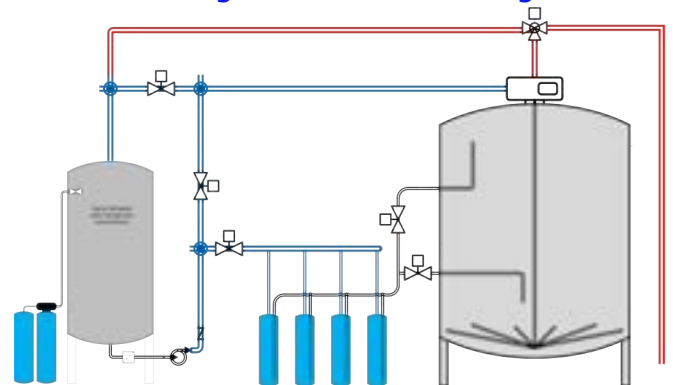
Bracket Prototyping



Custom Steel Tanks



Regeneration Plant Design



Common Water Contaminants

Contaminant	MCL/Action Level	Common Sources/Notes	Conventional Treatment Method(s)
Alkalinity	400 mg/L	Naturally Occurring/Subsequent to Treatment	Reverse Osmosis, Anion Exchange
Aluminum	0.05 to 0.2 mg/L	Natural deposits	Distillation, Reverse Osmosis, PE Cation
Ammonia	Highly Variable	Natural/Industrial Waste/Disinfection with Chloramines	Distillation, Ion Exchange with Clinoptilolite, Specifically Designed Redundant Series Softening
Antimony	6 ug/L	Natural/Industrial Waste	Coagulation, Reverse Osmosis
Arsenic	10 ug/L	Natural deposits, smelters, glass, electronics wastes, orchards	Reverse Osmosis, NTO, Anion Exchange, Activated Alumina, Manganese Greensand
Asbestos	7 MFL (Million Fibers per liter)	Failure of asbestos cement water mains, erosion of natural deposits	1 micron physical filtration, RO, UF, NF
Barium	2 mg/L	Natural deposits, pigments, epoxy sealants, spent coal Circulatory system effects	Reverse Osmosis, Distillation, Cation Exchange Softening
Boron	1 mg/L	Natural/Boiler Blowdown Pollutant	Reverse Osmosis, Distillation, Selective Anion Exchange, Deionization
Cadmium	0.005 mg/L	Natural deposits, galvanized pipe corrosion, batteries, paints	Reverse Osmosis, Distillation, Submicron Filtration
Calcium	N/A	Natural deposits	See Hardness
Chloramines (as Cl ₂)	1-4 mg/L	Municipal Disinfection (Total-Free)	Water additive used to control microbes, Catalytic GAC, Fine Mesh GAC, KDF-85, Clinoptilolite for Residual Ammonia Adsorption
Chloride	250 mg/l	Naturally occurring	Reverse Osmosis
Chlorine	1-4 mg/L	Water disinfection (Test as Free Chlorine)	Activated Carbon, KDF
Chromium-6	0.1 mg/L	Natural deposits, mining, electroplating, pigments	Reverse Osmosis, Anion Exchange
Coliform	Zero	Indicated Contamination by Animal Wastes and Possible Pathogens	Redundant Monitored Disinfection. Chlorination, Contact Time, Absolute Filtration, UV
CO ₂	N/A	Naturally Occurring/ levels above 50 ppm may need treatment	Aeration, Soda Ash or Caustic Soda Injection, Calcium Carbonate and/or magnesium oxide filtration
Color	15 Color Units	Multiple	Reverse Osmosis, pilot testing, Bone Char, Coagulation, Anion Exchange, Ultrafiltration
Copper	1.3 mg/L	Natural / industrial deposits, wood preservatives, plumbing corrosion	Reverse Osmosis, Polyphosphates, Ion Exchange Softening
Cryptosporidium	Zero	Animal or human waste, contaminated food products	Reverse Osmosis, UV, 1 Micron Absolute Filtration
E.coli (Escherichia coli)	Zero	Naturally occurring, human or animal wastes	Ultraviolet, Redundant Monitored Disinfection. Chlorination, Contact Time, Filtration, UV
Fluoride	2 mg/L	Natural deposits, fertilizer, aluminum industries, water additive	Reverse Osmosis, Bone Char, Activated Alumina
Giardia	Zero	Naturally occurring, human or animal wastes	Reverse Osmosis, Carbon Block (0.5 micron), UV, 1 Micron Absolute Filtration
Glyphosate	700 ug/L	Agricultural run-off	Activated Carbon
Gross Alpha (pCi/L)	15	Erosion of natural deposits	
Gross Beta (pCi/L)		Decay of natural and man-made deposits	
Hardness	≈3 GPG	Naturally Deposits	Ion Exchange Softening and Various Alternates.
Heavy Metals	Varies	Naturally occurring, manufacturing byproduct	KDF, Titanium Oxide, RO, Distillation
Hydrogen Sulfide	N/A .05 mg/L	Natural Rotten egg taste and odor	Iron Reduction Filter, KDF 85, Catalytic GAC, Oxidation or Aeration Followed by Filtration, Replace Magnesium Water Heater Anode with Aluminum or Zinc.
Iron	0.3 mg/L	Natural deposits	Iron Reduction Filter Oxidation or Aeration, Followed by Physical Filtration, Ion Exchange, Special Media (e.g. FerriLite) Filtration.
Langelier Index	>0.0	Natural and Human Impact	Used to predict corrosivity of water. -2 to 0.0= Moderately Aggressive, <-2.0= Highly Aggressive.



Contaminant	MCL/Action Level	Common Sources/Notes	Conventional Treatment Method(s)
Lead	0-15 ug/L	Pollution, corrosion	Micro-D, Reverse Osmosis, DI, Special Design Ion Exchange Softener, Special Design GAC Cartridge., KDF
Magnesium	N/A	Natural deposits	See Hardness
Manganese	0.05 mg/L	Natural deposits	Iron Reduction Filter Oxidation or Aeration, Followed by Physical Filtration, Ion Exchange, Special Media (e.g. Ferri-Lite) Filtration.
Mercury	0.002 mg/L	Crop runoff, natural deposits, batteries, electrical switches	Reverse Osmosis, Activated Carbon
Methyl Tertiary-Butyl Ether (MTBE)	20-40 ug/L	Leaking underground gasoline storage tanks.	High Capacity GAC, Air Stripping above ≈100 ug/L.
Nitrate	10 mg/L	Animal waste, fertilizer, natural deposits, septic tanks, sewage	Reverse Osmosis, Ion Exchange
Nitrite	1 mg/L	Animal waste, fertilizer, natural deposits, septic tanks, sewage	Reverse Osmosis, Ion Exchange
PCB's			Clinoptilolite followed by Coal Based Carbon (GAC) with post .5 micron sediment filter
PCE (Tetrachloroethylene)	5 ug/L	Industrial waste	GAC, if not effective add air stripping
Perchlorate	≈4 ug/L	Industrial waste	Reverse Osmosis, Anion Exchange
pH	≈ <6.5 or >8.5	Natural and Human Causes	Low pH: Calcium Carbonate, Magnesium Oxide, Soda Ash. High pH: Acidify e.g. White Vinegar.
PFC's, PFOA, PFOS	PFOA 4 PPT, PFAS 10 PPT	Water near chemical manufacturing or military bases	Certified Reduction methods recommended. Pioneer, Reverse Osmosis, Home Shield
PFOA (Perfluorooctanoic Acid)	10 PPT California	Water near chemical manufacturing or military bases	Certified Reduction methods recommended. Pioneer, Reverse Osmosis
PFOS (perfluorooctanesulfonic acid)	40 PPT California	Water near chemical manufacturing or military bases	Certified Reduction methods recommended. Pioneer, Reverse Osmosis
Radium	5 pCi/L	Natural deposits	Reverse Osmosis, Special Designed Ion Exchange Softening
Radon	3000 pCi/L	Natural deposits	Aeration/Venting, Activated Carbon,
Ryznar Index	>7 or <5		
Selenium	0.05 mg/L	Natural deposits, mining, smelting, coal/oil combustion	Reverse Osmosis, NTO
Silica (Unreactive Polymerized or colloidal)	N/A	Natural deposits	Ultra Filtration (UF), Reverse Osmosis
Silica (Reactive SiO4)	N/A	Natural deposits	Reverse Osmosis in conjunction with deionization to remove up to 90%, low levels can mimic hardness and etch glass.
Silt Density Index (SDI)	≈4 at 15 Minutes	Suspended Matter, used primarily to predict membrane fouling potential	Physical filtration, coagulant, settling tank. No correlation to NTU.
Sodium	N/A	Natural and Human Causes	Reverse Osmosis
Sulfate	250 mg/L	Naturally-occurring	Reverse Osmosis, ion exchange
Tannin	≈50 APHA Units	Naturally-occurring	Anion Exchange, Bone Char, Chlorination, Reverse Osmosis
Total Dissolved Solids	500 mg/L	Erosion of naturally occurring mineral de-	Reverse Osmosis
Trihalomethanes (THMs)	0.08 mg/L	By-product of chlorination in drinking water	Activated Carbon, KDF
123 TCP	N/A	Man made industrial solvent	Activated Carbon
Turbidity	N/A (1 NTU max. recom-	Soil runoff, Natural	Whole-House Sediment Filter, Reverse Osmosis, Coagulant
Uranium	0.03 mg/L	Natural occurring	Reverse Osmosis, Anion exchange
Volatile Organic Compounds	Varies	Industrial Wastes	Activated Carbon, Aeration
Vanadium			NTO

i5 1" Control Valve



The i5 series controller by IWP. Simple and intuitive programming. Exceptional troubleshooting and diagnostics capabilities. Private labelling and marketing. Clack reliability!

Features!

- ♦ Dual MAV Drivers, timed, flow, regeneration, cycle based control!
 - ♦ Dual relay driver, highly programmable
- ♦ 1", 1.25", 1.5", 2" single, 1" and 1.5" twin plastic, 1.5" and 2" brass
 - ♦ Progressive flow without a system controller, up to 4 units!
- ♦ Your name, phone number on the main screen for repeat business!
- ♦ Programmable service alarms based on time and/or volume used.
 - ♦ Algorithmic salt level indicator!

Customize your i5 or standard Clack valve! All polyurethane domed stickers are available for easy customization!

Not ready to customize? No worries, our stock polyurethane domed stickers are included and look amazing! When you are ready, chose the stickers you want to customize and our team is ready to assist!



Specifications

Inlet/Outlet 3/4" to 1-1/2" NPS
 Cycles Up to 6
 Valve Material..... Noryl or equivalent
 Regeneration..... Upflow/Downflow

Control valve Flow Rates

Service @15 psi drop (includes meter).....27 gpm
 Backwash @ 25 psi drop..... 27 gpm
 Cv Service..... 7.0
 Cv Backwash.....5.4

Operating Pressures

Minimum/Maximum.....20 psi – 125 psi

Operating Temperatures

Minimum/Maximum..... 40° – 110° F

Meter specifications

Accuracy..... ± 5%
 Flow Rate Range.....0.25 – 27 GPM
 Gallon Range..... 20 – 1,500,000 gallons
 Totalizer.....1000 – 9,999,000 gallons

Dimensions & Weight / Distributor Pilot

Distributor Pilot.....1.05" OD (3/4" NPS)
 Drain:3/4" or 1" Male NPT
 Brine Line Connection.....3/8" or 1/2" OD Poly Tube Compression
 Mounting Base..... 2-1/2"- 8 NPSM
 Height From Top Of Tank.....7-3/8"
 Shipping Weight With Meter.....4.5 lbs.

Electrical Specifications	AC Adapter	U.S.	International
Supply Voltage.....	120V AC.....	230V AC	
Supply Frequency.....	60 Hz.....	50 Hz	
Output Voltage.....	15VDC.....	15VDC	
Output Current.....	500 mA.....	500 mA	

Tank Applications

Water Softener..... 6" – 21" diameter
 Water Filter @ 10 gpm, per ft2.....6" – 21" diameter

Cycles of Operation	Softener	Filter
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Cycle Range of time in minutes

1. Backwash 1st (upflow).....1-95.....	Backwash 1-95
2. Regenerate Draw/Slow Rinse (downflow)....1-180	
3. Backwash 2nd (upflow).....1-95	
4. Fast Rinse (downflow).....1-95.....	Rinse 1-95
5. Regenerant Refill0.1-99.0 or off	
6. Service (downflow)	

Options: External Inline Mixing Valve, Backwash Filter, Bypass, Weather Cover, No Hard Water Bypass, Alternate Source Valve, Alternator Valves, Micro-Switches, and Much More.

Compatible with the following typical concentration of regenerants or chemicals: Sodium chloride, potassium chloride, potassium permanganate, sodium bisulfite, chlorine and chloramines



Standard Clack valves in stock!

- 1" top mount control valve suited for residential and light commercial applications
- Noryl or equivalent valve body
- Optional integrated meter assembly
- Service flow rate of 27 gpm, backwash 27 gpm
- Solid state microprocessor with easy access front panel settings
- Front panel display for time of day, days until next regeneration, volume remaining, current flow rate and total volume used (Totalizer)
- Four methods to initiate regeneration; meter immediate, meter delayed, time clock delayed or pressure differential
- Double backwash feature offers optimum regeneration, cleaning ability and efficiency
- Fully adjustable cycle times with 6-cycle control delivers controlled backwash, downflow brining or upflow brining, slow rinse, second backwash, fast rinse, refill and down-flow service
- Coin Cell Lithium battery back-up with a 8 hour carry over
- 15-volt output DC Adapter provides safe and easy installation
- Post treated water regenerant refill
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127
- Reliable and proven DC drive



*Optional External
 Inline Mixing Valve*



Certified to NSF/
 ANSI 61 and 372*

i5 1" Metered Softener

The i5 series by IWP. Simple maintenance, highly adaptable, and impressive flow rates. Ideal for most homes or light commercial applications. 1" i5 series systems include a high flow bypass. Add the brine tank and plumbing connector of your choice.



Item Number	Media Tank	Ft ³ Resin	Recommended Brine Tank	DLFC Flow Rate	Service Flow	Peak Flow	Height Inches	Dry Pounds
WS-i10M-0948-AA6	9x48	1	15"x17"	2.2	1-8	21	57	90
WS-i10M-1054-AA6	10x54	1.5	15"x17"	2.2	2-10	21	63	120
WS-i10M-1235-AA6	12x35	1.5	15"x17"	3.2	2-15	23	44	120
WS-i10M-1252-AA6	12x52	2	18"x33"	3.2	2-15	23	61	155
WS-i10M-1354-AA6	13x54	2.5	18"x40"	4.2	3-18	24	63	190
WS-i10M-1465-AA6	14x65	3	18"x40"	5.3	3-21	25	74	240
WS-i10M-1653-AA6	16x53	3	18"x40"	6.5	4-23	26	61	250
WS-i10M-1665-AA6	16x65	4	24"x41"	6.5	4-23	26	74	320

See the 1" /1.25" i5 Installation page and choose the installation kit and brine tank of your choice

Salt-based water softeners stand as one of the most effective and reliable solutions for tackling hard water problems in homes. By using ion exchange technology, they replace stubborn calcium and magnesium minerals with sodium ions, dramatically reducing scale buildup that can shorten the lifespan of water heaters, dishwashers, washing machines, and plumbing systems. The result is noticeably softer skin and silkier hair, brighter and spot-free dishes and glassware, and far more efficient use of soaps, detergents, and shampoos—often cutting usage by up to 50%. Over time, homeowners enjoy lower energy bills, fewer repairs, and the peace of mind that comes from protecting their investment in appliances and fixtures, all while enjoying the luxurious feel of truly soft water straight from every tap. Our systems include a commercial grade 10% crosslink resin, 8% available on request.



Available with the traditional EE electronics package. Shown with optional 90° adapters, John Guest connectors and hardness blender valve.



i5 1" Backwashing Systems

The i5 Backwashing series by IWP. Simple maintenance, highly adaptable and superb flow rates. Ideal for larger houses or light commercial applications. i5 1" series backwashing units include a high flow totalizing meter and bypass. Add a connector of your choice.

Coconut shell carbon is used to reduce chlorine, trihalomethanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Catalytic carbon is used to reduce chloramine (NH₂Cl) and chlorine, trihalomethanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Nano Titanium oxide removes arsenic (III & V), lead, mercury, cadmium, and other heavy metals from drinking water.

Clinoptilolite has nearly replaced multimedia in the past 30 years. Finer filtration, lower backwash rates and higher capacity make this a popular choice for clarifying water.

Calcite helps neutralize acidic water, tanks include a dome hole for refilling.

Katalox Light is a catalytic filter media that effectively removes iron, manganese, and hydrogen sulfide and turbidity from water. Most effective when an oxidant is added. AIO and AIO3 versions available.

Item Number	Media Tank	Ft ³ Media	DLFC Flow Rate	Service Flow	Peak Flow	Height Inches	Dry Pounds
i510 12x40 Acid Washed Coconut Shell GAC							
BW-i10M-0948-C1A	9x48	1	4.2	Cl 1-4	8	57	75
BW-i10M-1054-C1A	10x54	1.5	5.3	Cl 2-5	10	63	90
BW-i10M-1235-C1A	12x35	1.5	7.5	Cl 2-7	15	44	90
BW-i10M-1252-C1A	12x52	2	7.5	Cl 2-7	15	61	115
BW-i10M-1354-C1A	13x54	2.5	9	Cl 3-9	18	63	140
BW-i10M-1465-C1A	14x65	3	10	Cl 3-11	22	74	180
BW-i10M-1653-C1A	16x53	3	13	Cl 3-14	25	61	190
BW-i10M-1665-C1A	16x65	4	13	Cl 4-14	25	74	230
i510 12x40 Catalytic GAC							
BW-i10M-0948-C2A	9x48	1	4.2	NH ₂ Cl 1-2	8	57	75
BW-i10M-1054-C2A	10x54	1.5	5.3	NH ₂ Cl 2-3	10	63	90
BW-i10M-1235-C2A	12x35	1.5	7.5	NH ₂ Cl 2-3	15	44	90
BW-i10M-1252-C2A	12x52	2	7.5	NH ₂ Cl 2-4	15	61	115
BW-i10M-1354-C2A	13x54	2.5	9	NH ₂ Cl 3-5	18	63	140
BW-i10M-1465-C2A	14x65	3	10	NH ₂ Cl 3-6	22	74	180
BW-i10M-1653-C2A	16x53	3	13	NH ₂ Cl 4-6	25	61	190
BW-i10M-1665-C2A	16x65	4	13	NH ₂ Cl 4-8	25	74	230
i510 Nano Titanium Oxide (Arsenic and Heavy Metal Reduction)							
BW-i10M-1054-NTA	10x54	1.25	2.2	As < 5 ¹	< 5	63	115
BW-i10M-1235-NTA	12x35	1.25	3.2	As < 6 ¹	< 6	44	115
BW-i10M-1252-NTA	12x52	1.5	3.2	As < 7 ¹	< 7	61	135
BW-i10M-1354-NTA	13x54	2	4.2	As < 9 ¹	< 9	63	155
BW-i10M-1447-NTA	14x47	2	5.3	As < 10 ¹	< 10	56	165
i510 Clinoptilolite AKA Filter-Ag+/Zeolite (5 Micron Sediment Reduction, Water Clarifying)							
BW-i10M-0948-CLA	9x48	1	6.5	1-5	8	57	105
BW-i10M-1054-CLA	10x54	1.5	7.5	2-6	10	63	135
BW-i10M-1235-CLA	12x35	1.5	11	2-9	15	44	135
BW-i10M-1252-CLA	12x52	2	11	2-9	15	61	175
BW-i10M-1354-CLA	13x54	2.5	13	3-11	18	63	215
BW-i10M-1465-CLA	14x65	3	15	3-13	22	74	270
BW-i10M-1653-CLA	16x53	3	20	4-16	27	61	280
BW-i10M-1665-CLA	16x65	4	20	4-16	27	74	350
i510 Calcite (pH Adjustment and Remineralizing)							
BW-i10M-1054DH-CCA	10x54DH	1.5	5.3	2-4	10	63	165
BW-i10M-1354DH-CCA	13x54DH	2.5	9	3-6	15	63	260
i510 Katalox Light (Also available with Filter-Ox)							
BW-i10M-0948-FLA	9x48	1	5.3	1-5	6	57	115
BW-i10M-1054-FLA	10x54	1.5	6.5	2-6	8	63	150
BW-i10M-1235-FLA	12x35	1.5	10	2-9	11	44	150
BW-i10M-1252-FLA	12x52	2	10	2-9	11	61	195
BW-i10M-1354-FLA	13x54	2.5	11	3-11	13	63	240
BW-i10M-1465-FLA	14x65	3	13	3-13	16	74	300
BW-i10M-1653-FLA	16x53	3	17	4-16	20	61	310
BW-i10M-1665-FLA	16x65	4	17	4-16	20	74	390

See the 1" /1.25" i5 Installation page and choose the installation kit of your choice



Basic EE and TC valve available.



Liberator 1" & 1.25" Catalytic Carbon & Softening



Clear tank is not included,
actual tank is Black.

Highly effective Catalytic
Carbon for enhanced
Chloramines, chlorine,
taste and odor reduction.

Mid Plate keeps the medi-
as properly separated
and creates the most
effective backwashing!

Softening resin makes your
water silky smooth by reduc-
ing scale forming minerals.

Bottom Plate for the
highest flow rates!

The "Liberator" Carbon/Softener plated system!
The upper chamber contains a high grade cata-
lytic carbon for the highest levels of chloramine
and chlorine reduction. Catalytic GAC is excellent
for the reduction of many contaminants including
many of the byproducts of chlorine. The lower
chamber includes a commercial grade water
softening resin for the most luxurious water!
Available in many more configurations. Call your
customer service representative to discuss cus-
tom system designs.

**GAC targets organic compounds and related issues common
in treated municipal supplies**

- **Taste and odor compounds** — Such as those from algae (e.g., geosmin, MIB) or organic matter. This is one of its primary traditional uses.
- **Chlorine and chloramine** — Reduces residual disinfectants, improving taste and reducing chemical smells.
- **Disinfection byproducts (DBPs)** — Especially trihalomethanes (THMs) and other halogenated organics formed when chlorine reacts with natural organic matter.
- **Volatile Organic Compounds (VOCs)** — Such as chlorinated solvents (e.g., trichloroethylene/TCE, tetrachloroethylene/PCE), benzene, and industrial chemicals. Removal efficiencies can reach up to 99.9% for many VOCs.
- **Pesticides, herbicides, and other synthetic organics** — From agricultural runoff or industrial sources.
- **Per- and polyfluoroalkyl substances (PFAS)** — Including PFOA, PFOS, and others ("forever chemicals").

**Twin Alternating
Valve Available!**



Liberator Carbon & Softening										
Model #	Control Valve	Tank Size	Ft ³ of Resin	Ft ³ of Catalytic	DLFC GPM	Recommended Brine Tank	≈Design Service GPM	≈Peak GPM	≈Height	≈Weight Lbs. Dry
WS-i10M-1054V2-AA6	i5 1"	10x54	1	.5	2.2	15"x17"	2-10	21	63"	110
WS-i10M-1354V2-AA6	i5 1'	13x54	1.5	1	4.2	15"x17"	3-18	24	63"	170
WS-i12M-1054V2-AA6	i5 1.25"	10x54	1	.5	1.7	15"x17"	2-10	28	63"	110
WS-i12M-1354V2-AA6	i5 1.25'	13x54	1.5	1	3	15"x17"	3-18	32	63"	170
Liberator Carbon & Softening Twin Alternating Valve 1"										
WS-i10A-1054V2-AA6	i5 Twin 1" (2)	10x54	2	1	2.2	15"x17"	2-10	21	63"	220
WS-i10A-1354V2-AA6	i5 Twin 1" (2)	13x54	3	2	4.2	15"x17"	3-18	24	63"	340

See the 1" /1.25" i5 Installation page and choose the installation kit and brine tank of your choice



Midway Cation & Anion Resin

Finally, an appropriately designed Cation and Anion resin system in a single tank. All cation/anion systems include an up-flow regeneration control valve to mitigate the resin fouling that is common with mixed resin designs. The upper chamber uses a high grade cation resin for softening the water prior to entering the anion chamber. call for details!

Model Number	Media Tank Size	Softener Resin ft ³	Anion Media Type/ft ³	≈Service / Peak GPM	≈Height	≈Dry Lbs.	Rec. Brine Tank	Valve Model
ASN-i10M-1054V2-AA	10x54	1.25	Nitrate/.5	2/20	63"	90	15x17	i5
ASN-i10M-1354V2-AA	13x54	1.75	Nitrate/1	4/20	63"	130	18x40	i5
ASU-i10M-1054V2-AA	10x54	1.25	Arsenic or Uranium/.5	2/20	63"	90	15x17	i5
ASU-i10M-1354V2-AA	13x54	1.75	Arsenic or Uranium/1	4/20	63"	130	18x40	i5
AST-i10M-1054V2-AA	10x54	1.25	Tannin/.5	2/20	63"	90	15x17	i5
AST-i10M-1354V2-AA	10x54	1.75	Tannin/1	4/20	63"	130	18x40	i5



Clear tank is not included, actual tank is Black.

Twin Alternating i5

Model Number	Media Tank Size	Softener Resin ft ³	Anion Media Type/ft ³	≈Service / Peak GPM	≈Height	≈Dry Lbs.	Rec. Brine Tank	Valve Model
ASN-i10A-1054V2-AA	(2) 10x54	2.5	Nitrate/1	2/20	63"	180	15x17	I5 Twin
ASN-i10A-1354V2-AA	(2) 13x54	3.5	Nitrate/2	4/20	63"	260	18x40	I5 Twin
ASU-i10A-1054V2-AA	(2) 10x54	2.5	Arsenic or Uranium/1	2/20	63"	180	15x17	I5 Twin
ASU-i10A-1354V2-AA	(2) 13x54	3.5	Arsenic or Uranium/2	4/20	63"	260	18x40	I5 Twin
AST-i10A-1054V2-AA	(2) 10x54	2.5	Tannin/1	2/20	63"	180	15x17	I5 Twin
AST-i10A-1354V2-AA	(2) 13x54	3.5	Tannin/2	4/20	63"	260	18x40	I5 Twin

Choose the installation kit and brine tank of your choice



High levels of nitrate in well water often result from improper well construction, well location, overuse of chemical fertilizers, or improper disposal of human and animal waste.



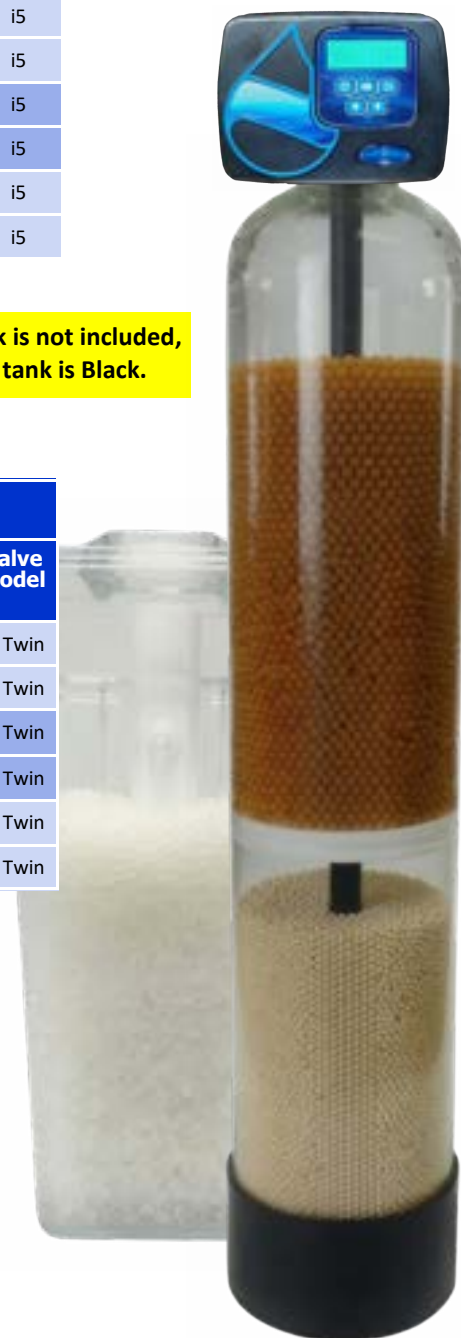
Uranium is a common naturally occurring and radioactive substance that enters the water by leaching from soil and rocks.



Arsenic is a common naturally occurring substance that enters the water by leaching from soil and rocks.



Tannin in water is caused by organics in the water. Tannin selective resin is a common solution though pilot testing should be considered.



i5 1" Twin Alternating Softener

The i5 Twin series by IWP. Simple maintenance, highly adaptable, and impressive flow rates 24/7. Ideal for most homes or light commercial applications. Most i5 series systems include a high flow bypass. Add the brine tank and plumbing connector of your choice.

Item Number	Media Tank	Ft ³ Resin	Recommended Brine Tank	DLFC Flow Rate	Service Flow	Peak Flow	Height Inches	Dry Pounds
WS-i10A-0948-AA6	9x48	2	15"x17"	2.2	1-8	21	57	180
WS-i10A-1054-AA6	10x54	3	15"x17"	2.2	2-10	21	63	240
WS-i10A-1235-AA6	12x35	3	15"x17"	3.2	2-15	23	44	240
WS-i10A-1252-AA6	12x52	4	18"x33"	3.2	2-15	23	61	310
WS-i10A-1354-AA6	13x54	5	18"x40"	4.2	3-18	24	63	380
WS-i10A-1465-AA6	14x65	6	18"x40"	5.3	3-21	25	74	480
WS-i10A-1653-AA6	16x53	6	18"x40"	6.5	4-23	26	61	500
WS-i10A-1665-AA6	16x65	8	24"x41"	6.5	4-23	26	74	640
WS-i10A-1865-AA6	18x65	10	24"x40"	7.5	5-23	26	75	850
WS-i10A-2162	21x62	12	24"x50"	11	7-23	26	75	1050

See the 1" /1.25" i5 Installation page and choose the installation kit and brine tank of your choice



- Excellent service rates (up to 28 GPM and 15 GPM backwash flow rate, valve only)
- Regenerates with soft water for optimum operating efficiency and reduced maintenance
- i5 Controller for ease of service and maintenance
- Micro-switch available for lock-out
- Cartridge rebuild for fast maintenance
- Large display, easy to program control
- Electronic positioning for the most consistent performance
- Soft water refill for better brine saturation.
- Highly programmable and simple i5 Electronics
- Programming will not be lost due to power outages
- Time of day backup for up to 12 hours of power loss



Bypass Included



EE Available



Cabinet Softeners



Finally, a high quality USA made cabinet softener system! Maximum capacity with the 12"x35" mineral tank is 1½ ft³ of resin! All systems include a safety float assembly, sliding cover, and a clear protective cover over the valve. Add the straight plumbing connector of your choice.

45" Tall Cabinet Systems (45"x14"x21")							
Item Number	Media Tank	Ft³ Resin	DLFC Flow Rate	Service Flow	≈Peak	Height Inches	≈Dry
WCWS-i10m-1035-AA6	10x35	1	2.2	1-8	16	45	100
WCWS-i10M-1235-AA6	12x35	1.5	3.2	2-15	20	45	130
28" Tall Cabinet Systems (28"x14"x21")							
WCWS-i10m-1018-AA6	10x18	.33	2.2	1-6	12	45	70

RV Softener/Mini Exchange Tanks

RV softeners include a drinking water rated garden hose and large removable cap with wrench for easy regeneration. Just remove the cap, add the appropriate amount of salt and rinse until the water is no longer salty. Mini portable exchange tanks are ideal for espresso, steamers and other small commercial applications where soft water is required. Call your IWP rep for assistance in designing your exchange tank.



Item # RV Softener	Tank Size	Ft³ Resin Capacity	≈Grains Capacity*	≈Gallons Capacity*	≈Salt #'s Per Regeneration
IOR-11F-1018	10"x18"	.6	14,400	960	5

*Based on 15 Grains incoming hardness and 8# salt per ft³ per regeneration
Add 5" to the tank height for the systems total height.



Unique ultra low profile fine mesh heavy duty bottom screen maximizes system capacity and reliability!



IWP can custom build your portable exchange tanks to meet your needs!



Ox i Mag Salt Free Conditioning

The Ox i Mag featuring advanced electronic controls with your company name and phone number prominently displayed. Integrated flow meter allows you to show the homeowner relevant data including daily water use, peak flow rate and a totalizer. Our unique media blend uses a high grade "All Catalytic" coconut shell carbon, not a blend of the less expensive and less effective standard carbon. Polishing layers of natural Clinoptilolite, Almandine Garnet, and Quartz under-bedding ensure impactful whole house water filtration.

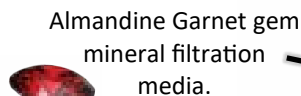
Optional tank jacket adds durability and enhanced aesthetics.

Highly effective catalytic coconut shell carbon for enhanced chlorine, chloramines and organic chemical reduction.



Ox i Mag
for enhanced scale reduction

Natural Clinoptilolite reduces sediment down to the 3-5 micron range. For superior water clarification.



Quartz media for enhanced distribution and cleaner water.



Item Number	Media Tank	Ft ³ Media	DLFC Flow Rate	Service Flow	Peak Flow	Height Inches	Dry Pounds
i510 12x40 Catalytic GAC with Conditioner							
OM-i10M-1054-C2A	10x54	1.5	5.3	NH2Cl 2-3	10	63	90
OM-i10M-1354-C2A	13x54	2.5	9	NH2Cl 3-5	18	63	140

The conditioner module includes a "Tri-Pole" magnetic field featuring a strong neodymium magnetic module. This device is designed for limited scale reduction in constantly wetted areas only.



The Superior Water Conditioner® are designed to retain minerals, such as calcium and magnesium that are beneficial for human consumption. The Superior unit is a salt free technology, but not a water softener and should not be represented as such. The Superior unit conditions the water to mitigate the minerals ability to form hard water scale, though evaporative spotting may occur due to the retention of these desirable minerals.

Item #	Description	Design Flow
OxiMag Conditioner w/Riser & Bottom Screen		
IWP-MAG105-54	1.05" (3/4" PVC) Magnetic Module Riser 54"	8 GPM
IWP-MAG131-54	1.315" (1" PVC) Magnetic Module Riser 54"	15 GPM
OxiMag Module Only		
IWP-MAG105	1.05" (3/4" PVC) Magnetic Module	8 GPM
IWP-MAG131	1.315" (1" PVC) Magnetic Module	15 GPM
Superior Riser Pipe Module		
91-D08	1.05" (3/4" PVC) Riser Module	8 GPM
91-D15	1.32" (1" PVC) Riser Module	15 GPM
91-D50	1.5" Riser Module	50 GPM
91-D75	2" Riser Module	75 GPM





AOS-HS-1200

HomeShield™ Whole House Water Filtration With PFAS Reduction

Experience healthier, cleaner water throughout your home with A. O. Smith HomeShield™. This robust, cutting-edge system features patent-pending anti-channeling technology for consistent water flow through a patent-pending media blend, ensuring superior filtration and extended contaminant reduction. With real-time performance monitoring, long-lasting reliability, and a space-saving design, HomeShield is the smart choice to

- Certified to reduce PFAS¹ to less than 4 ng/L for 500,000 gallons
- Reduces chlorine (taste & odor) for improved taste and quality water from every tap
- Space-saving design and no drain line required for greater installation flexibility
- No wastewater for economical and eco-friendly performance

¹ PFAS substances include: PFNA, PFOA, PFOS, PFHpA, PFHxS.

SPECIFICATIONS	
Rated Flow Rate	5.7 gpm
Flow Rate @ 15 psid ²	11.2 gpm
Chlorine Reduction Capacity ³	500K gal @ 2 ppm free chlorine
Min / Max Pressure	25 psi / 100 psi
Min / Max Temperature	40° F (4° C) / 90° F (32° C)
Cold Water Line	Yes
Total Dimensions	15.5" W x 59.5" H

¹PFAS substances include: PFNA, PFOA, PFOS, PFHpA, PFHxS.

²Claim is not performance tested by WQA. System is not validated for contaminant reduction at this flow rate. Frequent operation at this flow rate may result in reduced overall capacity.

³Chlorine reduction capacity based on internal validation. Not tested and certified by WQA.



Double Barrel Backwash

Backwashing Carbon and Anti-Scale

Combine a backwashing carbon tank and a Scale Reduction tank



The Double Barrel BW from IWP offers effective scale mitigation and exceptional chemical reduction without salt. Ideal for those who prefer a “Salt Free” alternative to traditional water softening and the highest performing chemical reduction system. The addition of a backwashing valve virtually eliminates the problems associated with non backwashing carbon tanks. No slippery feeling and great tasting water at every tap! The “Double Barrel BW” by IWP includes the interconnector and bypasses for a quick and professional installation. Available with plumbing connections from 3/4” to 1-1/2”. Tank jackets, various plumbing connections and many more options available. Contact your IWP associate for more details.

Purge kit and
Ban T included!



Double Barrel

Scale and Chemical Reduction



Combine an In/Out carbon tank and a Scale Reduction tank

The Double Barrel from IWP offers effective scale and chemical reduction without salt, electricity, or regenerant water. Ideal for those who prefer a “Salt Free” alternative to traditional water softening. No slippery feeling and great tasting water at every tap! The “Double Barrel” by IWP includes the interconnector, bypasses, a purge kit and Ban T. Available in Upflow/Upflow and Downflow/Upflow configurations.

Shown with optional pressure gauge.



Shown with optional tank jackets.



Purge kit and
Ban T included!



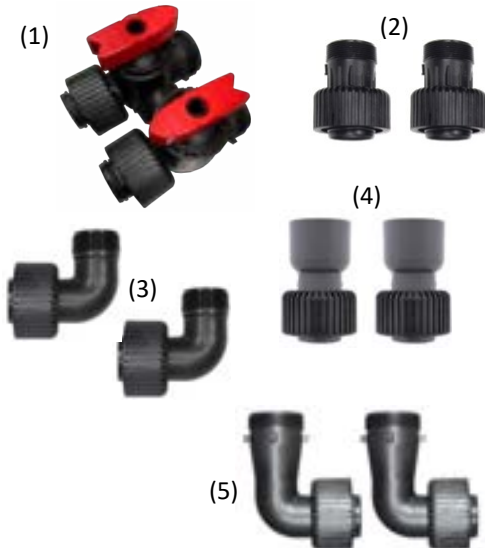
1" - 2" In/Out Carbon Tanks

Simple Downflow and Upflow carbon tanks for economical water treatment. 1" and 1.25" systems include a bypass and purge kit for easy start up and future maintenance. Downflow is the most common and preferred method but installations with sediment in the water can be problematic without regular purging. Upflow is not prone to sediment fouling but flow rates and effectiveness will be reduced. Contact IWP for application assistance.

Purge kit included on 1" and 1-1/4" systems.



1.5" and 2" Connectors	
Bypass	(1) 39V-V4678
1.5" Strait NPT Kit	(2) 39V-V4430-01
1.5" Elbow NPT Kit	(3) 39V-V4430-07
1.5" & 2" PVC Glue Kit	(4) 39V-V4430-13
QC Elbow Kit	(5) 39V-V4430-14



Item #	Media Tank	Carbon Ft3	Service Flow	Peak Flow	Height Inches	Dry Pounds
1" Upflow Carbon (Add Connectors 39V-V3007-XX)						
IO-11-0844-C8A	8x44	.75	1-2	4	51	60
IO-11-0948-C8A	9x48	1	1-3	5	55	70
IO-11-1054-C8A	10x54	1.5	2-4	8	61	100
IO-11-1235-C8A	12x35	1.5	2-4	8	42	100
IO-11-1252-C8A	12x52	2	2-6	12	59	145
IO-11-1354-C8A	13x54	2.5	3-8	14	61	170
1.25" Upflow Carbon (Add Connectors 39V-V3007-XX)						
IO-13-1054-C8A	10x54	1.5	2-4	8	61	100
IO-13-1235-C8A	12x35	1.5	2-4	8	42	100
IO-13-1252-C8A	12x52	2	2-6	12	59	145
IO-13-1354-C8A	13x54	2.5	3-8	14	61	170
IO-13-1465-C8A	14x65	3	3-9	17	72	200
IO-13-1653-C8A	16x53	3	4-9	18	60	210
IO-13-1665-C8A	16x65	4	4-12	20	72	245
1" Downflow Carbon (Add Connectors 39V-V3007-XX)						
IOD-11-0948-C1A	9x48	1	1-4	8	55	70
IOD-11-1054-C1A	10x54	1.5	2-5	10	61	100
IOD-11-1235-C1A	12x35	1.5	2-7	15	42	100
IOD-11-1252-C1A	12x52	2	2-7	15	59	145
IOD-11-1354-C1A	13x54	2.5	3-9	18	61	170
1.25" Downflow Carbon (Add Connectors 39V-V3007-XX)						
IOD-13-1054-C1A	10x54	1.5	2-5	10	61	100
IOD-13-1235-C1A	12x35	1.5	2-7	15	42	100
IOD-13-1252-C1A	12x52	2	2-7	15	59	145
IOD-13-1354-C1A	13x54	2.5	3-9	18	61	170
IOD-13-1465-C1A	14x65	3	3-11	22	72	200
IOD-13-1653-C1A	16x53	3	3-14	28	60	210
1.5" and 2" Downflow Carbon (Add Connectors 39V-V4430-XX)						
IOD-15-1465-1C1	14x65	3	3-14	28	61	210
IOD-15-1665-1C1	16x65	4	4-14	28	73	245

Add Connectors

Upflow/Upflow systems pass water through an expanding, partially fluidized GAC media bed. As water demand increases, media expansion, contact time and contaminant removal decreases. The service flow will lift the smallest and lightest media fines to the top of the tank and out to the application plumbing system. A typical top screen may alleviate this for a period, but ultimately the fines break down enough to pass through the slots of the screen. Mitigation options include lessening the media content to about half the tank volume, limiting service rate with a flow control and installing an effluent sediment cartridge to capture exiting fines. These methods cannot overcome the lost contact time in the partially fluidized media bed. Sprinting through a sprinkler leaves you mostly dry, but swimming through a pool soaks you to the bone. The same is true with GAC as decreased contact time produces insufficient performance. Downflow/Upflow systems will benefit from an inlet sediment filter and may require periodic manual upflow purging especially in applications where the incoming water contains sediment. Downflow carbon systems with intermittent manual backwashing is the preferred option but does require that the system be maintained and that the water supply be relatively free of sediment. Our systems include a purge kit that is ideal for this procedure!



1" - 3" Scale Reduction

Scale Reduction systems are used in place of traditional salt softeners in many applications. Recommended where salt based softeners are not allowed, desired, or are economically unfeasible. Popular uses include whole house residential, pre-treatment to commercial RO systems, and many commercial applications. Simple installation and low maintenance make this a popular alternative for some traditional softening applications. Water must be free of copper, iron, and other contaminants that may foul the scale reduction media. It is highly recommended that pre-treatment include a properly designed carbon system and a post filter to minimize the potential for media loss during excessive flow rate conditions. Scale Reduction systems are installed in an Up-Flow configuration so as to fluidize the media during service.

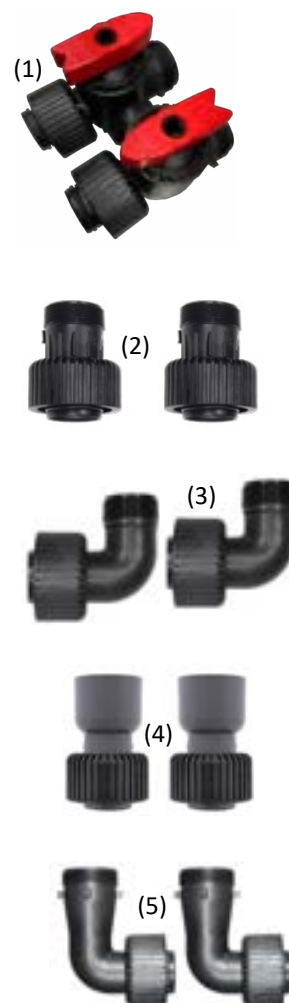
Item #	Media Tank	Anti-Scale Media	Bypass Included	Service Flow	Peak Flow	Height Inches	Dry Pounds
1" Scale Reduction System (Add Connectors 39V-V3007-XX)							
SR-11-0844	8x44	3	Yes	6	9	51	40
SR-11-0948	9x48	4	Yes	8	12	55	45
SR-11-1054	10x54	4.5	Yes	9	13	61	55
SR-11-1235	12x35	4.5	Yes	9	13	42	55
SR-11-1252	12x52	6.5	Yes	13	19	59	70
SR-11-1354	13x54	7.5	Yes	15	22	61	80
1.25" Scale Reduction System (Add Connectors 39V-V3007-XX)							
SR-13-1054	10x54	4.5	Yes	9	13	61	55
SR-13-1235	12x35	4.5	Yes	9	13	42	55
SR-13-1252	12x52	6.5	Yes	13	19	59	70
SR-13-1354	13x54	7.5	Yes	15	22	61	80
SR-13-1465	14x65	12.5	Yes	25	30	72	90
SR-13-1653	16x53	12.5	Yes	25	35	60	90
SR-13-1665	16x65	16.5	Yes	30	35	72	100
1.5" and 2" Scale Reduction System (Add Connectors 39V-V4430-XX)							
SR-15-1665	16x65	16.5	Optional	33	49	72	140
SR-15-1865	18x65	20	Optional	40	60	73	190
SR-15-2162	21x62	28	Optional	56	60	73	260
SR-15-2472	24x72	40	Optional	80	100	93	325
3" FIP Scale Reduction System							
SR-3-3072	30x72	60	No	120	160	104	620

Add Connectors

Purge kit and Ban T included on 1" and 1-14/" systems.



1.5" and 2" Connectors	
Bypass	(1) 39V-V4678
1.5" Strait NPT Kit	(2) 39V-V4430-01
1.5" Elbow NPT Kit	(3) 39V-V4430-07
1.5" & 2" PVC Glue Kit	(4) 39V-V4430-13
QC Elbow Kit	(5) 39V-V4430-14

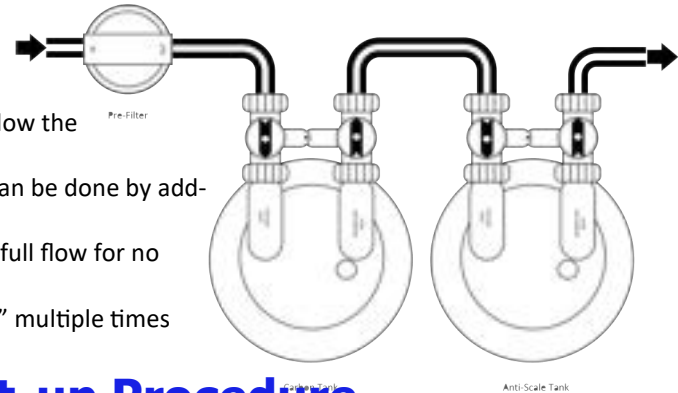


Scale Reduction & Up-Flow/Down-Flow Start-Up

System performance, longevity, and water quality all depend on a proper start-up procedure. Follow the start-up procedure below carefully. Do not rush! Take the time to start up your equipment properly and you can experience years of trouble free service. The included "Purge Kit" can be used to clear the top screen in "Up-Flow" systems, or to manually backwash "Down-Flow" systems with ease!

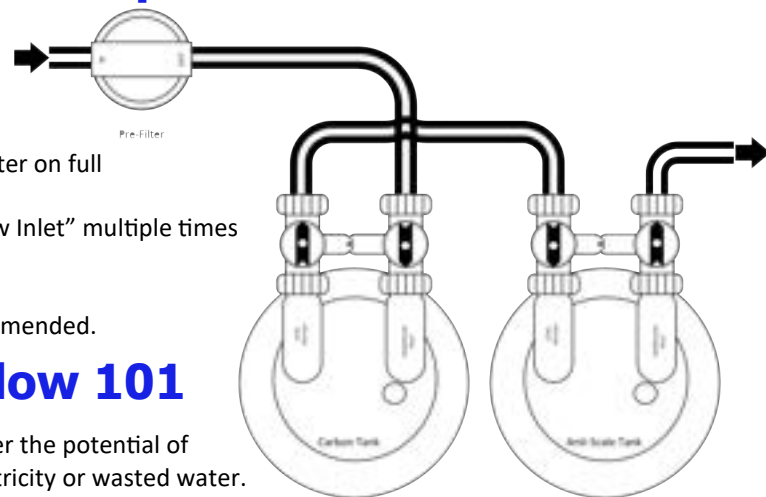
Carbon Tank Start-up Procedure

- 1) Attach the purge kit to the "Upflow Inlet." Connect a standard garden hose to the purge kit and open the water very slowly. Allow the tank to fill with water. To prevent damage to the upper screen.
- 2) Once water comes out of the "Downflow Inlet" turn off the water and allow the media to soak for 48 hours.
- 3) If soaking is not possible or feasible, an accelerated start-up procedure can be done by adding the extended downflow purge in step 4.
- 4) Switch the purge kit to the "Downflow Inlet" port and turn the water on full flow for no less than 20 minutes.
- 5) Alternate the purge kit between the "Upflow Inlet" and "Downflow Inlet" multiple times until the water runs clear.



Anti-Scale Tank Start-up Procedure

- 1) Attach the purge kit to the "Upflow Inlet." Connect to a standard garden hose and open the water very slowly. Allow the tank to fill with water.
- 2) Once water comes out of the "Downflow Inlet" turn off the water.
- 3) Switch the purge kit to the "Downflow Inlet" port and turn the water on full flow for no less than 2 minutes.
- 4) Alternate the purge kit between the "Upflow Inlet" and "Downflow Inlet" multiple times until the water runs clear.
- 5) Disconnect the purge kit and continue with the installation.
- 6) The use of a teaspoon of "BanT" in the dishwasher is highly recommended.



UpFlow/DownFlow 101

Simple "Inlet Outlet" filter systems offer the potential of effective treatment without electricity or wasted water.

These systems do not incorporate an automatic back wash valve which is designed to reclassify the media, dispose of media fines and minimize particulate accumulation on top of the media bed. Down flow systems pass through a compacted media bed providing for increased contact time which improves contaminant reduction and overall capacity. However, the accumulation of particulates within the media tank may eventually lead to channeling and flow restriction. Maintaining an inlet filter may slow this process, but it is not a solution. A thorough manual back wash upon installation is essential and periodic backwashing will greatly improve the long-term performance and capacity of a down flow inlet outlet GAC system. Upflow systems pass water through an expanding, partially fluidized media bed. As water demand increases, media expansion also increases causing contact time and contaminant removal to decrease. The service flow will lift the smallest and lightest media fines to the top of the tank and out to the applications plumbing system. A typical top screen may alleviate this for a period, but ultimately the fines break down enough to pass through the slots of the screen. Mitigation options include lessening the media content to about half the tank volume, limiting service rate with a flow control and installing an effluent sediment cartridge to capture exiting fines. Sprinkling through a sprinkler leaves you mostly dry, but swimming through a pool soaks you to the bone. The same is true with GAC as decreased contact time produces insufficient performance.



1" Scaliminator® Max

Anti-Scale and Catalytic Carbon

Scaliminator® MAX can provide years of trouble free water conditioning for your residential or light commercial application. The single tank design uses mid and bottom plates eliminating the need for multiple units or stacked tank designs.

Scaliminator Max							
Model #	Tank Size	Anti-Scale Qty.	Ft³ of Catalytic	≈Design Service GPM	≈Design peak	≈Height	≈Weight Lbs. Dry
SP-11-1035V2-A	10x35	2.5 Ltr.	.75	6	9	41	70
SP-11-1054V2-A	10x54	4 Ltr.	.1	8	13	61	90
SP-11-1354V2-A	13x54	6 Ltr.	1.5	13	19	61	160

GAC targets organic compounds and related issues common in treated municipal supplies

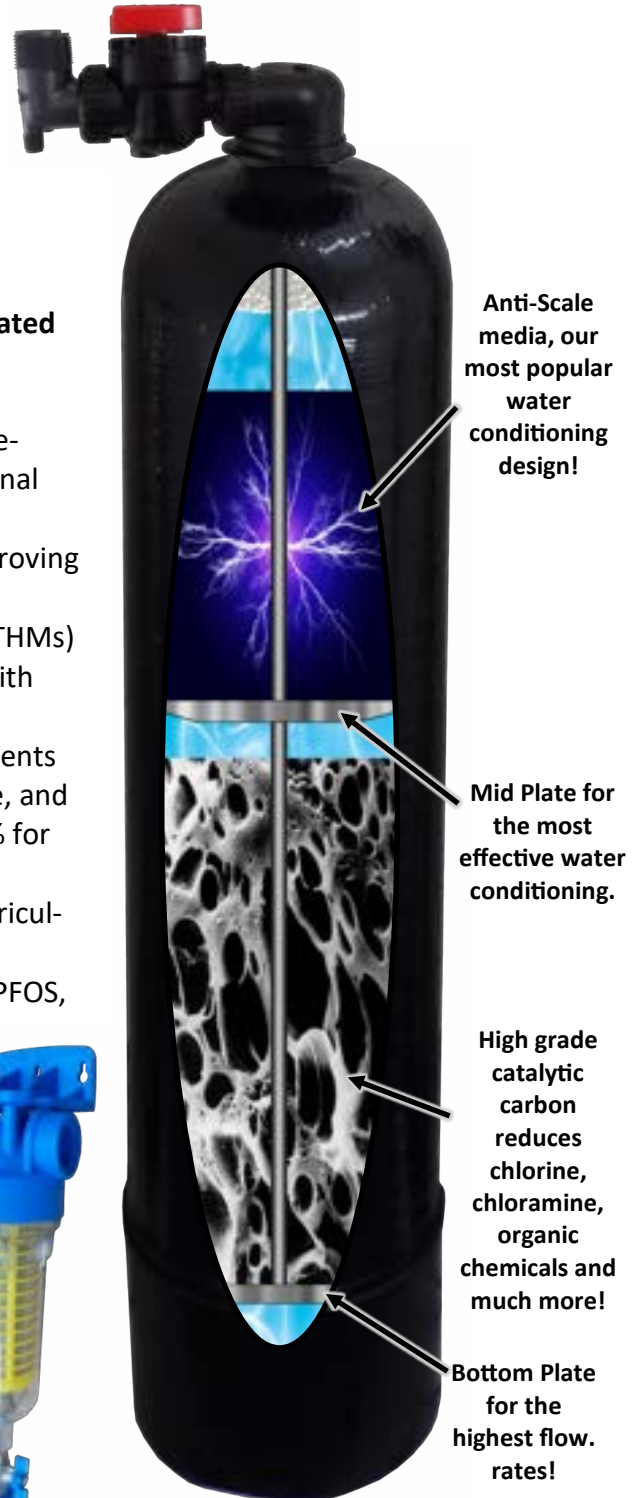
- **Taste and odor compounds** — Such as those from algae (e.g., geosmin, MIB) or organic matter. This is one of its primary traditional uses.
- **Chlorine and chloramine** — Reduces residual disinfectants, improving taste and reducing chemical smells.
- **Disinfection byproducts (DBPs)** — Especially trihalomethanes (THMs) and other halogenated organics formed when chlorine reacts with natural organic matter.
- **Volatile Organic Compounds (VOCs)** — Such as chlorinated solvents (e.g., trichloroethylene/TCE, tetrachloroethylene/PCE), benzene, and industrial chemicals. Removal efficiencies can reach up to 99.9% for many VOCs.
- **Pesticides, herbicides, and other synthetic organics** — From agricultural runoff or industrial sources.
- **Per- and polyfluoroalkyl substances (PFAS)** — Including PFOA, PFOS, and others ("forever chemicals").

Options	Pre-Filter
78-H116-PP5	Hydra, 50 Micron 1" Pre and/or Post Filter
78-H116-PE9	Hydra, 90 Micron 1" Pre and/or Post Filter

Add install connectors, see the i5 install parts page



Purge kit and Ban T included!



ECOMIX®

ECOMIX is an Advanced softening material for the reduction of hardness, iron, manganese and tannins from potable water. The media is regenerated in the same manner as a standard water softener with sodium chloride.

ECOMIX has the ability to reduce ferrous and organic iron by adsorption and oxidation on the surface of the media. ECOMIX C works in waters with pH ranging from 5.0-9.0.

ECOMIX reduces tannins with a patented media blend that does not impart an odor if chlorine levels are below 1 ppm. Hydrogen Sulfide does not affect the media and simply passes through.

In areas where high TOC is present additional pre-treatment may be needed.

The ECOMIX media is Certified in compliance with NSF/ANSI standards:

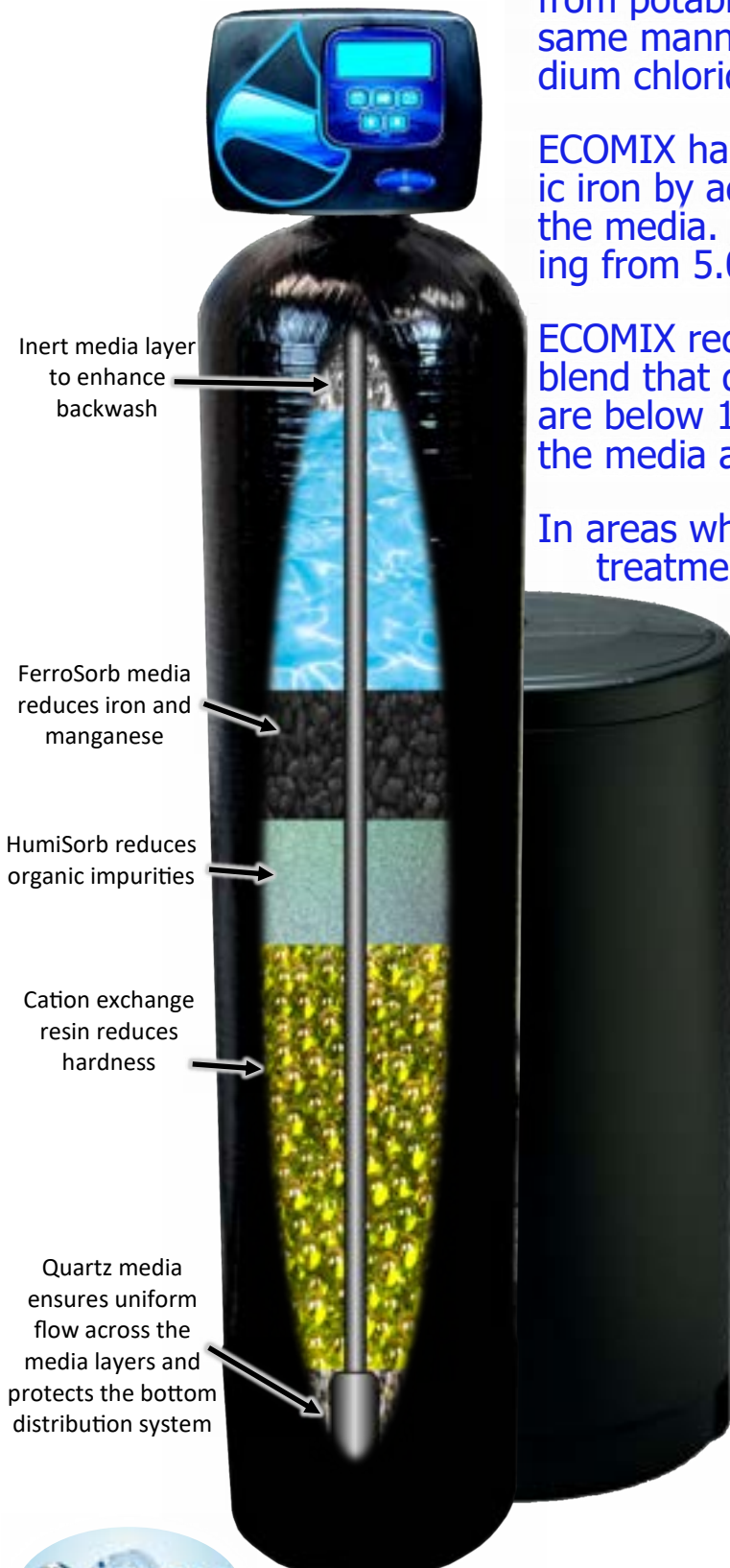
-NSF/ANSI Standard 44 Residential Cation Exchange Water Softeners

-NSF/ANSI Standard 61 Drinking Water System Components - Health Effects

-NSF/ANSI Standard 372 Drinking Water System Components -Lead Content

IWP recommended that a 50 micron Hydra filter system and a 5µ sediment filter be installed ahead of the ECOMIX unit.

The ECOMIX media has an average service life of 5 years and will require re-bedding as performance diminishes.



EcoMix with i5 Valve

Item #	≈Service GPM	≈Backwash Rate/Time	Hardness Grains Capacity	Pounds Salt/Regeneration	Rec. Brine Tank	Injector/Brine-Rinse	≈Width/Height	≈Ship Weight
EM-i10M-1054	4-6	3.2/15 Min	17,000	9	15"x17"	Red/60 Min	11"/67"	100
EM-i10M-1235	4-6	4.2/15 Min	17,000	9	15"x17"	Red/60 Min	12"/42"	100
EM-i10M-1252	6-8	4.2/15 Min	23,000	11	15"x17"	White/60 Min	13"/65"	125
EM-i10M-1354	8-10	5.3/15 Min	28,500	14	18"x40"	White/60 Min	14"/67"	150
EM-i10M-1465	10-12	6.5/15 Min	34,500	17	18"x40"	#Blue/60 Min	17"/79"	200
EM-i10M-1665	12-15	7.5/15 min	46,000	22	24"x40"	Orange/60 Min	17"/82"	250
EM-i10M-2162	20-25	11/15 Min	69,000	33	24"x40"	Light Blue/60 Min	22"/82"	350

Add plumbing connectors of your choice, see i5 Install parts page

Advantages

- Broad operating range for high iron reduction
- Mixture of natural and synthetic ion exchange adsorptive medias reduce equipment costs
- Effective hardness, iron, manganese and tannin reduction
- Reduces organic color due to tannins without the risk of odor common with other tannin reduction medias
- Not affected by Hydrogen Sulfide and may slightly reduce the rotten egg smell
- Low attrition loss for long bed life
- Resistant to chlorine, up to 1 ppm
- No amine smell

Specifications/Operating Parameters

- Hardness 44 GPG
- Iron 15 ppm
- Tannins 5 ppm (TOC 17 ppm)
- Manganese 3 ppm
- TDS 4000 ppm
- Resistant to chlorine, up to 1 ppm
- pH 5.0-9.0
- Service Flow 8-10 GPM/ft²
- EcoMix comes in 25 liter bags (.88 ft³). System sized by the bag. 12 liter bags available
- Use non chemically treated salt only, iron cleaning salt will reduce system life
- Regeneration override should be set to 4 days.

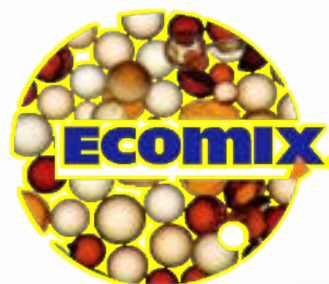
85SC-21P-202
Pilot test filter available, simulates 4 GPM on a 12x52 tank



BB 20" Filter Assembly
FS-42U-116TW

5 micron Sediment Cartridge
60-SD422505

IWP highly recommends a 5 micron filter ahead of the ECOMIX Systems.



15 AIO3/AIO Backwashing Systems

Katalox Light/Filter-Ox Backwashing Systems for Well Water Treatment

Katalox Light and Filter-Ox are high-performance catalytic medias used in backwashing filtration systems to remove iron, manganese, and hydrogen sulfide from well water. The media works by oxidizing dissolved metals and gases, which then precipitate and are trapped in the filter bed. During the regeneration cycle, the system uses either ozonated or non ozonated air draw to introduce oxygen (or ozone) into the media bed, recharging its oxidative capacity without harsh chemicals. Standard air draw is simple, inexpensive, and low maintenance, relying on ambient air to oxidize contaminants, however, it can promote bacterial growth (such as iron-oxidizing bacteria) in certain conditions potentially leading to biofouling, reduced efficiency, and unpleasant odors. Ozonated air draw addresses this by introducing a powerful oxidant and disinfectant that rapidly oxidizes iron, manganese, and H₂S while killing bacteria and breaking down organics. Ozone offers superior performance in most applications.



Ozone/Air Blocker traps water in its chambers, blocking the head of air in the tank from entering the control valve, reducing iron oxidation in the valve.



Greatly enhance the performance of your system with Ozone!



Ozone Components	
79T-47026	Inlet Check Valve
79T-47070	Brine Elbow Check Valve
79T-47044	CD Cell Cleaning kit
79T-218	Replacement CD Cell

Item #	Media Tank	Ft ³ Media	DLFC Flow Rate	Service Flow	Peak Flow	Height Inches	Dry Pounds
1" AIO3 Ozonated Air Draw							
BW-i10M3-1054-FLA	10x54	1	6.5	2-6	8	63	130
BW-i10M3-1235-FLA	12x35	1	10	2-9	11	44	130
BW-i10M3-1252-FLA	12x52	1.5	10	2-9	11	61	175
BW-i10M3-1354-FLA	13x54	2	11	3-11	13	63	220
BW-i10M3-1465-FLA	14x65	2.5	13	3-13	16	74	280
BW-i10M3-1665-FLA	16x53	2.5	17	4-16	20	61	290
1" AIO3 Air Draw (No Ozone)							
BW-i10M2-1054-FLA	10x54	1	6.5	2-6	8	63	130
BW-i10M2-1235-FLA	12x35	1	10	2-9	11	44	130
BW-i10M2-1252-FLA	12x52	1.5	10	2-9	11	61	175
BW-i10M2-1354-FLA	13x54	2	11	3-11	13	63	220
BW-i10M2-1465-FLA	14x65	2.5	13	3-13	16	74	280
BW-i10M2-1665-FLA	16x65	2.5	17	4-16	20	61	290
1.25" AIO3 Ozonated Air Draw							
BW-i12M3-1354-FLA	13x54	2	11	3-11	13	63	220
BW-i12M3-1465-FLA	14x65	2.5	13	3-13	16	74	280
BW-i12M3-1653-FLA	16x53	2.5	17	4-16	20	61	290
BW-i12M3-1665-FLA	16x65	3.5	17	4-16	20	74	370
BW-i12M3-1865-FLA	18x65	4.5	20	5-21	27	75	440
1.25" AIO3 Air Draw (No Ozone)							
BW-i12M2-1354-FLA	13x54	2	11	3-11	13	63	220
BW-i12M2-1465-FLA	14x65	2.5	13	3-13	16	74	280
BW-i12M2-1653-FLA	16x53	2.5	17	4-16	20	61	290
BW-i12M2-1665-FLA	16x65	3.5	17	4-16	20	74	370
BW-i12M2-1865-FLA	18x65	4.5	20	5-21	27	75	440
1.5" AIO3 Ozonated Air Draw							
BW-i15PC3-1465-FLA	14x65	2.5	13	3-13	16	74	280
BW-i15PC3-1665-FLA	16x65	3.5	17	4-16	20	74	370
BW-i15PC3-1865-FLA	18x65	4.5	20	5-21	27	75	440
1.5" AIO3 Air Draw (No Ozone)							
BW-i15PC3-1465-FLA	14x65	2.5	13	3-13	16	74	280
BW-i15PC3-1665-FLA	16x65	3.5	17	4-16	20	74	370
BW-i15PC3-1865-FLA	18x65	4.5	20	5-21	27	75	440



Calcium Carbonate Neutralizing System

Water with low pH can cause corrosion of the copper plumbing and bluish green staining on the plumbing fixtures. Calcium Carbonate and Magnesium Oxide are commonly used to raise the pH of acidic water. Calcium carbonate is typically used when water is $\approx 5\text{-}7\text{pH}$. For inordinately low influent pH or to achieve accelerated pH adjustment, blends of magnesium oxide may be advantageous. Neutralization with calcium carbonate and or magnesium oxide will increase the water hardness, install a subsequent softener as needed. Periodic replenishment of the media(s) will be required. Monitor performance to confirm proper operation. Careful consideration should be taken when designing a system. Flow rates are key to a successful application. Backwashing systems ensure consistent performance, upflow systems are less costly but require consistent water flow for optimum water quality results.



Available in many more configurations, Contact IWP for assistance.

Upflow Calcium Carbonate In/Out w/ Refill Head						
Model #	Tank Size	Ft ³ of Media	≈Design Service GPM	≈Peak GPM	≈Height	≈Weight Lbs. Dry
IO-11F-1044-CCA	10x44	1.25	1-2.5	4	54	120
IO-11F-1054-CCA	10x54	1.5	1-3	4	64	145
IO-11F-1235-CCA	12x35	1.5	1-3	4	45	145
IO-11F-1252-CCA	12x52	2	1-4	6	62	205
IO-11F-1354-CCA	13x54	2.5	2-5	7	64	260
IO-11F-1447-CCA	14x47	2.5	2-5	7	57	260
IO-11F-1465-CCA	14x65	3	3-6	8	75	315
IO-11F-1653-CCA	16x53	3	3-6	8	63	315
IO-11F-1665-CCA	16x65	4	4-8	10	75	370
Upflow Calcium Carbonate In/Out w/Dome Hole						
IO-11F-1054DH-CCA	10x54	1.5	1-3	4	64	145
IO-11F-1354DH-CCA	13x54	2.5	2-5	7	64	260
i5 Backwashing Calcium Carbonate w/Dome Hole						
BW-i10M-1054DH-CCA	10x54DH	1.5	2-4	10	63	165
BW-i10M-1354DH-CCA	13x54DH	2.5	3-6	15	63	265



Enhanced picture of a calcite crystal

Calcium Carbonate/Magnesium Oxide and Accessories	
15-C	Puri-Cal Calcium Carbonate .50 Ft ³ (45 lbs.) 60 Bags/Skid
15-CC	Calcite Calcium Carbonate .50 Ft ³ (45 lbs.) 49 Bags/Skid
15-MX	Magnesium Oxide .66 Ft ³ (55 lbs.) 49 Bags Skid
56-F25	Refill Head Funnel 2.5"
26-CDF	Clack Dome Hole Tank Funnel



Certified to NSF/
ANSI 61 and 372*

i5 1.25" Control Valve



**WATER
SPECIALIST
CONTROL
VALVE**



Certified to NSF/ANSI 61 and 372*



Specifications			
Inlet/Outlet	3/4" to 1-1/2" NPS		
Cycles	Up to 6		
Valve Material.....	Noryl or equivalent		
Regeneration.....	Upflow/Downflow		
Control valve Flow Rates			
Service @15 psi drop (includes meter).....	34 gpm		
Backwash @ 25 psi drop.....	32 gpm		
Cv Service.....	8.8		
Cv Backwash.....	6.4		
Operating Pressures			
Minimum/Maximum.....	20 psi – 125 psi		
Operating Temperatures			
Minimum/Maximum.....	40° – 110° F		
Meter specifications			
Accuracy.....	± 5%		
Flow Rate Range.....	0.25 – 34 GPM		
Gallon Range.....	20 – 1,500,000 gallons		
Totalizer.....	1000 – 9,999,000 gallons		
Dimensions & Weight / Distributor Pilot			
Distributor Pilot.....	1.32" OD (1" NPS)		
Drain:	3/4" or 1" Male NPT		
Brine Line Connection.....	3/8" or 1/2" OD Poly Tube Compression		
Adapter Included.....	1/2" OD Poly Tube Compression		
Mounting Base.....	2-1/2" - 8 NPSM		
Height From Top Of Tank.....	7-3/8"		
Shipping Weight With Meter.....	4.5 lbs.		
Electrical Specifications			
AC Adapter	U.S.	International	
Supply Voltage.....	120V AC.....	230V AC	
Supply Frequency.....	60 Hz.....	50 Hz	
Output Voltage.....	15V DC.....	15V DC	
Output Current.....	500 mA.....	500 mA	
Tank Applications			
Water Softener.....	6" – 21" diameter		
Water Filter @ 10 gpm, per ft2.....	6" – 24" diameter		
Cycles of Operation	Softener	Filter	
Cycle Range of time in minutes			
1. Backwash 1st (upflow).....	1-95	Backwash 1-95	
2. Regenerate Draw/Slow Rinse (downflow).....	1-180		
3. Backwash 2nd (upflow).....	1-95		
4. Fast Rinse (downflow).....	1-95	Rinse 1-95	
5. Regenerant Refill	0.1-99.0 or off		
6. Service (downflow)			

Options: External Inline Mixing Valve, Backwash Filter, Bypass, Weather Cover, No Hard Water Bypass, Alternate Source Valve, Alternator Valves, Micro-Switches, and Much More.

Compatible with the following typical concentration of regenerants or chemicals: Sodium chloride, potassium chloride, potassium permanganate, sodium bisulfite, chlorine and chloramines

Shown with i5 valve, optional EE valve available shown below. Optional 90° adapters, John Guest connectors and hardness blender valve also pictured.



- 1-1/4" top mount control valve suited for residential and light commercial applications
- Noryl or equivalent valve body
- Optional integrated meter assembly
- Service flow rate of 34 gpm, backwash 32 gpm
- Solid state microprocessor with easy access front panel settings
- Front panel display for time of day, days until next regeneration, volume remaining, current flow rate and total volume used (Totalizer)
- Four methods to initiate regeneration; meter immediate, meter delayed, time clock delayed or pressure differential
- Double backwash feature offers optimum regeneration, cleaning ability and efficiency
- Fully adjustable cycle times with 6-cycle control delivers controlled backwash, downflow brining or upflow brining, slow rinse, second backwash, fast rinse, refill and downflow service
- Coin Cell Lithium battery back-up with a 8 hour carry over
- 15-volt output DC Adapter provides safe and easy installation
- Post treated water regenerant refill
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127



i5 1.25" Softener

The i5 series by IWP. Simple maintenance, highly adaptable, and impressive flow rates. Ideal for most homes or light commercial applications. i5 series systems include a high flow bypass. IWP uses commercial grade 10% crosslinked resin.



Discover the unmatched excellence of a true salt softener, the ultimate guardian of your home's water quality. It effortlessly transforms harsh, mineral-laden water into pure, silky softness, banishing scale buildup, boosting soap efficiency, and extending appliance life. Experience luxurious showers, spotless dishes, and effortless cleaning—pure hydration perfection delivered by time-tested salt-powered innovation.

i5 1.25" Softeners								
	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i12M-1054-AA6	10x54	1.5	2.2	2-10	28	63	15x17	120
WS-i12M-1235-AA6	12x35	1.5	3.2	2-15	31	44	15x17	120
WS-i12M-1252-AA6	12x52	2	3.2	2-15	31	61	18x33	155
WS-i12M-1354-AA6	13x54	2.5	4.2	3-18	32	63	18x40	190
WS-i12M-1465-AA6	14x65	3	5.3	3-21	33	74	24x40	240
WS-i12M-1653-AA6	16x53	3	6.5	4-28	34	61	24x40	250
WS-i12M-1665-AA6	16x65	4	6.5	4-28	34	74	24x40	310
WS-i12M-1865-AA6	18x65-4	5	7.5	5-31	35	75	24x40	410
WS-i12M-2162-AA6	21x62-4	6	11	7-31	35	75	24x50	520

See the "Click Parts & Accessories" page for installation parts



i5 1.25" Twin Alternating Softeners								
	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i12A-1054-AA6	10x54	1.5	2.2	2-10	28	63	(2) 15x17	240
WS-i12A-1235-AA6	12x35	1.5	3.2	2-15	31	44	(2) 15x17	240
WS-i12A-1252-AA6	12x52	2	3.2	2-15	31	61	(2) 18x33	310
WS-i12A-1354-AA6	13x54	2.5	4.2	3-18	32	63	(2) 18x40	380
WS-i12A-1447-AA6	14x47	2.5	5.3	3-21	33	56	(2) 18x40	400
WS-i12A-1465-AA6	14x65	3	5.3	3-21	33	74	(2) 24x40	480
WS-i12A-1653-AA6	16x53	3	6.5	4-28	34	61	(2) 24x40	500
WS-i12A-1665-AA6	16x65	4	6.5	4-28	34	74	(2) 24x40	620
WS-i12A-1865-AA6	18x65-4	5	7.5	5-31	35	75	(2) 24x40	820
WS-i12M-2162-AA6	21x62-4	6	11	7-31	35	75	(2) 24x50	1040

See the "Click Parts & Accessories" page for installation parts

i5 1.25" Progressive Flow Softener

Up to (4) "i5" units are controlled without a System Controller allowing for high efficiencies and flow rates. Simple programming and exceptionally functional. The 1.25" i5 valves come pre-plumbed with the NHWP on the valve side of the bypass as shown! Soft water or standard regeneration available. Installing the NHWBP on the inlet creates a Soft Water Regeneration configuration.



i5 1.25" Progressive Flow Softener Specifications and Ordering Guide

Type	Order Softener (2-4)	Order Progressive Kit	Media Tank	Ft ³ Resin	Recommended Brine Tank	DLFC Flow Rate	Service Flow GPM	Peak Flow GPM	Height Inches	Dry Pounds
10x54 Twin	(2) WS-i12M-1054-AA6	WS-i10X2	(2) 10x54	3	(2) 15x17	2.2	2-10	28	63	240
10x54 Triple	(3) WS-i12M-1054-AA6	WS-i10X3	(3) 10x54	4.5	(3) 15x17	2.2	2-20	56	63	360
10x54 Quad	(4) WS-i12M-1054-AA6	WS-i10X4	(4) 10x54	6	(4) 15x17	2.2	2-30	84	63	480
12x35 Twin	(2) WS-i12M-1235-AA6	WS-i10X2	(2) 12x35	3	(2) 15x17	3.2	2-15	32	44	240
12x35 Triple	(3) WS-i12M-1235-AA6	WS-i10X3	(3) 12x35	4.5	(3) 15x17	3.2	2-30	61	44	360
12x35 Quad	(4) WS-i12M-1235-AA6	WS-i10X4	(4) 12x35	6	(4) 15x17	3.2	2-45	93	44	480
12x52 Twin	(2) WS-i12M-1252-AA6	WS-i10X2	(2) 12x52	4	(2) 18x33	3.2	2-15	31	61	310
12x52 Triple	(3) WS-i12M-1252-AA6	WS-i10X3	(3) 12x52	6	(3) 18x33	3.2	2-30	62	61	465
12x52 Quad	(4) WS-i12M-1252-AA6	WS-i10X4	(4) 12x52	8	(4) 18x33	3.2	2-45	93	61	620
13x54 Twin	(2) WS-i12M-1354-AA6	WS-i10X2	(2) 13x54	5	(2) 18x40	4.2	3-18	32	63	380
13x54 Triple	(3) WS-i12M-1354-AA6	WS-i10X3	(3) 13x54	7.5	(3) 18x40	4.2	3-36	64	63	570
13x54 Quad	(4) WS-i12M-1354-AA6	WS-i10X4	(4) 13x54	10	(4) 18x40	4.2	3-54	96	63	760
14x65 Twin	(2) WS-i12M-1465-AA6	WS-i10X2	(2) 14x65	6	(2) 18x40	5.3	3-21	33	74	480
14x65 Triple	(3) WS-i12M-1465-AA6	WS-i10X3	(3) 14x65	9	(3) 18x40	5.3	3-42	66	74	720
14x65 Quad	(4) WS-i12M-1465-AA6	WS-i10X4	(4) 14x65	13	(4) 18x40	5.3	3-63	99	74	960
16x53 Twin	(2) WS-i12M-1653-AA6	WS-i10X2	(2) 16x53	6	(2) 18x40	6.5	4-28	34	61	500
16x53 Triple	(3) WS-i12M-1653-AA6	WS-i10X3	(3) 16x53	9	(3) 18x40	6.5	4-56	68	61	750
106x53 Quad	(4) WS-i12M-1653-AA6	WS-i10X4	(4) 16x53	13	(4) 18x40	6.5	4-84	102	62	1000
16x65 Twin	(2) WS-i12M-1665-AA6	WS-i10X2	(2) 16x65	8	(2) 24x40	6.5	4-28	34	74	640
16x65 Triple	(3) WS-i12M-1665-AA6	WS-i10X3	(3) 16x65	12	(3) 24x40	6.5	4-56	68	74	980
16x65 Quad	(4) WS-i12M-1665-AA6	WS-i10X4	(4) 16x65	16	(4) 24x40	6.5	4-84	102	74	1280
18x65 Twin	(2) WS-i12M-1865-AA6	WS-i10X2	(2) 18x65	10	(2) 24x50	7.5	5-31	35	75	820
18x65 Triple	(3) WS-i12M-1865-AA6	WS-i10X3	(3) 18x65	15	(3) 24x50	7.5	5-62	70	75	1230
18x65 Quad	(4) WS-i12M-1865-AA6	WS-i10X4	(4) 18x65	20	(4) 24x50	7.5	5-93	105	75	1640
21x62 Twin	(2) WS-i12M-2162-AA6	WS-i10X2	(2) 21x62	12	(2) 24x50	11	5-31	35	75	1040
21x62 Triple	(3) WS-i12M-2162-AA6	WS-i10X3	(3) 21x62	18	(3) 24x50	11	5-62	70	75	1560
21x62 Quad	(4) WS-i12M-2162-AA6	WS-i10X4	(4) 21x62	24	(4) 24x50	11	5-93	105	75	2080

Upgrade to the Optional System Controller?

- ◆ Need more than four? The optional **System Controller** operates 2 – 8 units on 1 or 2 independent systems, or operates as a water monitor only
- ◆ Monochrome Graphics Display with blue backlight on front panel for time of day, day of week, days until next regeneration, current system flow rate, and total system volume used (Totalizer)
- ◆ Two input connections that can either be used for meters or other auxiliary inputs
- ◆ On-board Ethernet connection for remote, real-time monitoring of system performance
- ◆ Supports Modbus TCP/IP communications
- ◆ System diagnostic and programming information spreadsheet may be uploaded to a standard USB drive
- ◆ Two fused Single Pole Double Throw (SPDT) relay outputs
- ◆ Single demand-based meter output signal
- ◆ Coin cell lithium battery backup for time of day with easy access cover
- ◆ Front panel LED status indicators for Online, Standby, Regeneration, and Lead Unit Position
- ◆ Language options include: English, Spanish, French, German, Italian, Dutch, and Polish



Part #	Description
System Controller	39V-V3030
Power Cable 15'	39V-V4276-15
Power Cable 36'	39V-V4276-36
Com Cable 8'	39V-V3474
Com Cable 12'	39V-V3474-12
Com Cable 24'	39V-V3474-24
Com Cable 36'	39V-V3474-36

i5 1.25" Backwash Systems

The i5 Backwashing series by IWP. Simple maintenance, highly adaptable and superb flow rates. Ideal for larger houses or light commercial applications. i5 1.25" series backwashing units include a high flow totalizing meter and bypass. Add a connector of your choice.



Coconut shell carbon is used to reduce chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Catalytic carbon is used to reduce chloramine (NH₂Cl) and chlorine, trihalomethanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Katalox Lite and Filter-Ox are commonly used for the reduction of iron, manganese and hydrogen sulfide.

Clinoptilolite has nearly replaced multimedia in the past 30 years. Finer filtration, lower backwash rates and higher capacity make this a popular choice for clarifying water.

i5 1.25" 12x40 Non Catalytic GAC

Model #	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height	≈Weight Lbs. Dry
BW-i12M-1054-C1A	10x54	1.5	5.3	Cl 2-5	10	63	90
BW-i12M-1235-C1A	12x35	1.5	7.5	Cl 2-7	15	44	90
BW-i12M-1252-C1A	12x52	2	7.5	Cl 2-7	15	61	115
BW-i12M-1354-C1A	13x54	2.5	9	Cl 3-9	18	63	140
BW-i12M-1465-C1A	14x65	3	10	Cl 3-11	22	74	180
BW-i12M-1653-C1A	16x53	3	13	Cl 3-14	28	61	190
BW-i12M-1665-C1A	16x65	4	13	Cl 4-14	28	74	230
BW-i12M-1865-C1A	18x65-4	5	17	Cl 5-18	30	75	310
BW-i12M-2162-C1A	21x62-4	7	25	Cl 7-24	30	75	410

i5 1.25" 12x40 Catalytic GAC 12x40 Mesh

BW-i12M-1054-C2A	10x54	1.5	5.3	NH ₂ Cl 2-3	10	63	90
BW-i12M-1235-C2A	12x35	1.5	7.5	NH ₂ Cl 2-3	15	44	90
BW-i12M-1252-C2A	12x52	2	7.5	NH ₂ Cl 2-4	15	61	115
BW-i12M-1354-C2A	13x54	2.5	9	NH ₂ Cl 3-5	18	63	140
BW-i12M-1465-C2A	14x65	3	10	NH ₂ Cl 3-6	22	74	180
BW-i12M-1653-C2A	16x53	3	13	NH ₂ Cl 3-6	28	61	190
BW-i12M-1665-C2A	16x65	4	13	NH ₂ Cl 4-8	28	74	230
BW-i12M-1865-C2A	18x65-4	5	17	NH ₂ Cl 5-10	30	75	310
BW-i12M-2162-C2A	21x62-4	7	25	NH ₂ Cl 7-14	30	75	410

i5 1.25" Katalox Light

BW-i12M-1252-C2A	12x52	2	10	2-9	2-9	61	195
BW-i12M-1354-C2A	13x54	2.5	11	3-11	11	63	240
BW-i12M-1465-C2A	14x65	3	13	3-13	13	74	300
BW-i12M-1653-C2A	16x53	3	17	4-16	16	61	310
BW-i12M-1665-C2A	16x65	4	17	4-16	20	74	390
BW-i12M-1865-C2A	18x65-4	5	20	5-21	27	75	510

i5 1.25" Clinoptilolite AKA Filter-Ag+/Zeolite

BW-i12M-1252-C2A	12x52	2	11	2-9	15	61	175
BW-i12M-1354-C2A	13x54	2.5	13	3-11	18	63	205
BW-i12M-1465-C2A	14x65	3	15	3-13	22	74	280
BW-i12M-1653-C2A	16x53	3	20	4-16	28	61	280
BW-i12M-1665-C2A	16x65	4	20	4-16	28	74	350
BW-i12M-1865-C2A	18x65-4	5	25	5-21	30	75	460

See the i5 Installation page and choose the installation kit of your choice



All 1.25" systems include a bypass!



i5 1" - 1.25" Installation Parts & Accessories

Item #	Description
39V-V3007-18	(1) 3/4" Plastic Male NPT
39V-V3007-04	(2) 1" Plastic Male NPT
39V-V3007-05	(3) 1.25" Plastic Male NPT
IWP-V3007-07T	(4) 1.5" Plastic Male NPT
39V-V3007	(5) 1" PVC Male NPT Elbow
39V-V3007-01	(6) 3/4" x 1" PVC Solvent Elbow
39V-V3007-07	(7) 1.25" & 1.5" PVC Solvent
39V-V3007-03LF	(8) 3/4" Brass Sweat
39V-V3007-02LF	(9) 1" Brass Sweat
39V-V3007-09LF	(10) 1.25" x 1.5" Brass Sweat
39V-V3007-22	(11) 1" ProPress/Sweat
39V-V3007-15	(12) 3/4" John Guest Elbow
39V-V3007-19	(13) 3/4" John Guest
39V-V3007-20	(14) 1" John Guest Elbow
39V-V3007-17	(15) 1" John Guest
39V-V3007-12	(16) 3/4" Sharkbite
39V-V3007-13	(17) 1" Sharkbite
IC-V3712	(18) 3/4" Inter-Connector
IWP-V3007-GHT	(19) 3/4" GHT x Clack Purge Kit
39V-V3191-01	(20) Vertical 90° Adapter
39V-V3006	(21) Bypass Assembly
39V-V4099	(22) External In-line Mixing Valve
39V-V3014	(23) Microswitch Kit w/ Wire
39V-V3193-02	(24) Clack Service Tool
39V-V3022	(25) WS1 Stack Puller
39V-V3022-15	(26) WS1.25/WS1.5 Stack Puller
39V-V3070FM	(27) No Hard Water Bypass FxM
39V-V3070FF	(28) No Hard Water Bypass FxF
39V-V3069MM-01	(29) MAV MxM
39V-V3069FF-01	(30) MAV FxF
39V-V3175WC-W	(31) EE/TC White Weather Cover
40-V3366W	(32) I5 1"-1.5" Weather Cover
39V-V3192	(33) 5/8" Nut Only
39V-V3192K	(34) 5/8" Nut (1/2" Pex) and Insert
51-331	SS Flex Clack QC x 3/4" FNPT x 18"
51-449	SS Flex Clack QC x 1" FNPT x 18"
51-451	SS Flex Clack QC x 1" FNPT x 24"
51-453	SS Flex 3/4" JG x 3/4" Clack QC x 18"
51-455	(35) SS Flex 1" JG x 1" Clack QC x 24"
51-459	SS Flex Clack QC x Clack QC x 24"





Certified to NSF/
ANSI 61 and 372*

i5 1.25" Composite Control Valve



Specifications

Inlet/Outlet 1.5" Male NPT
Cycles Up to 6
Valve Material.....Glass Filled Composite
Regeneration.....Downflow/Upflow

Control valve Flow Rates

Service @15 psi drop (includes meter).....48 gpm
Backwash @ 25 psi drop..... 43 gpm

Operating Pressures

Minimum/Maximum..... 20 psi – 125 psi

Operating Temperatures

Minimum/Maximum..... 40° – 110° F

Meter specifications

Accuracy..... ± 5%
Flow Rate Range..... 0.5 – 75 GPM
Gallon Range..... 20 – 1,500,000 gallons
Totalizer..... 1 – 9,999,000 gallons

Dimensions & Weight / Distributor Pilot

Valve bodies with 1.5" Female NPT Inlet & Outlet..... 1.90" OD (1.5" NPS)
Drain: 1" Male NPT
Brine Line Connection..... 1/2" OD Poly Tube
Adapter Included..... 1/2" OD Poly Tube Compression
Mounting Base..... 4" - 8 UN
Height From Top Of Tank..... 10.75"
Shipping Weight9 lbs.

Electrical Specifications	AC Adapter	U.S.	International
Supply Voltage.....	120V AC.....	230V AC	
Supply Frequency.....	60 Hz.....	50 Hz	
Output Voltage.....	15V DC.....	15V DC	
Output Current.....	500 mA.....	500 mA	

Tank Applications

Water Softener..... 12" – 24" diameter
Filter: @ 10 gpm of backwash per ft² of bed area.....12" – 24" diameter

Cycle Range of time in minutes

1. Backwash 1st (upflow)..... 1-95
2. Regenerate Draw/Slow Rinse (downflow).....1-180
3. Backwash 2nd (upflow).....1-95
4. Fast Rinse (downflow).....1-95
5. Regenerant Refill (in service with treated water)..... 0.1-99.0 or off
6. Service (downflow)



Optional High Flow Bypass Available!

- 1.5" top mount control valve suited for large residential and mid-size commercial/industrial applications
- Glass filled composite valve body.
- Economical stainless steel optional meter assembly
- Service flow rate of 48gpm, backwash 42 gpm
- Solid state microprocessor with easy access front panel settings
- Front panel display for time of day, days until next regeneration, volume, remaining, current flow rate and total volume used (Totalizer)
- Four methods to initiate regeneration; meter immediate, meter delayed, time clock delayed or pressure differential
- Optional double backwash feature offers optimum regeneration, cleaning ability and efficiency
- Fully adjustable cycle times with 6-cycle control delivers controlled backwash, downflow brining or upflow brining, slow rinse, second backwash, fast rinse, refill and downflow service
- Coin Cell Lithium battery back-up with a 8 hour carry over
- 15-volt output DC Adapter provides safe and easy installation
- Post treated water regenerant refill
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127
- Reliable and proven DC drive



i15BP 1.5" Softener Systems

i15BP Softeners systems are easily configured for most applications. The dual MAV/NHWBP driver allows for separate source backwashing and/or no hard water bypass at the same time. Progressive flow up to four tanks without a System Controller.



i5PB 1.5" Composite Metered Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i15PBM-1465-1A96	14x65	3	5.3	3-21	40	81	24x40	240
WS-i15PBM-1665-1A96	16x65	4	6.5	4-27	45	81	24x40	310
WS-i15PBM-1865-1A96	18x65	5	7.5	5-35	48	82	24x40	410
WS-i15PBM-2162-1A96	21x62	7	11	7-48	48	82	24x50	570
WS-i15PBM-2460-1A96	24x60	8	15	9-48	48	80	24X60	740
WS-i15PBM-2472-1A96	24x72	10	15	9-48	48	90	30X48	900



i5PB 1.5" Twin Alternating Composite Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i15PTA-1465-1A96	(2)14x65	6	5.3	3-19	33	81	24x40	480
WS-i15PTA-1665-1A96	(2) 16x65	8	6.5	4-25	38	81	24x40	620
WS-i15PTA-1865-1A96	(2) 18x65	10	7.5	5-31	40	82	24x40	820
WS-i15PBM-2162-1A96	(2) 21x62	14	11	7-40	46	82	24x50	1140
WS-i15PTA-2460-1A96	(2) 24x60	16	15	9-41	47	80	24X60	1480
WS-i15PTA-2472-1A96	(2) 24x72	20	15	9-41	47	90	30X48	1800



Item #	Install Parts for i15 Composite
39V-V4678	Bypass
39V-V4430-01	1.5" MNPT QC Straight Fitting (2 Pieces)
39V-V4430-07	1.5" MNPT QC Elbow Fitting (2 Pieces)
39V-V4430-13	1.5" & 2" PVC Glue Kit (2 Pieces)
39V-V4430-14	QC Elbow Kit
39V-V4430-03	1.5" QC to QC Coupler Straight
39V-V4430-09	1.5" QC to QC Coupler Elbow
39V-V3035	No Hard Water Bypass (Add Connectors)
39V-V3034	Motorized Alternating Valve (Add connectors)
51-618	1.5" x 18" Stainless Flex Line
51-624	1.5" x 24" Stainless Flex Line
56-VAC150	1.5" Vacuum Break

i15PB 1.5" Progressive Flow Softener Systems

Up to (4) "i5" units are controlled without a System Controller allowing for high efficiencies and flow rates. Simple programming and exceptionally functional. Soft water or standard regeneration available. Installing the NHWBP on the inlet creates a Soft Water Regeneration configuration.

Update picture



i5 1.5" Progressive Flow Softener Specifications and Ordering Guide

Type	Order Softener (2-4)	Order Progressive Kit	Media Tank	Ft ³ Resin	Recommended Brine Tank	DLFC Flow Rate	Service Flow GPM	Peak Flow GPM	Height Inches	Dry Pounds
14x65 Twin	(2) WS-i1PBM-1465-AA6	WS-i15PX2	(2) 14x65	6	(2) 24x40	5.3	3-21	37	81	480
14x65 Triple	(3) WS-i15PBM-1465-AA6	WS-i15PX3	(3) 14x65	9	(3) 24x40	5.3	3-42	74	81	720
14x65 Quad	(4) WS-i15PBM-1465-AA6	WS-i15PX4	(4) 14x65	13	(4) 24x40	5.3	3-63	111	81	960
16x65 Twin	(2) WS-i15PBM-1665-AA6	WS-i15PX2	(2) 16x65	8	(2) 24x50	6.5	4-28	42	81	620
16x65 Triple	(3) WS-i15PBM-1665-AA6	WS-i15PX3	(3) 16x65	12	(3) 24x50	6.5	4-56	82	81	930
16x65 Quad	(4) WS-i15PBM-1665-AA6	WS-i15PX4	(4) 16x65	16	(4) 24x50	6.5	4-84	126	81	1240
18x65 Twin	(2) WS-i15PBM-1865-AA6	WS-i15PX2	(2) 18x65	10	(2) 24x50	7.5	5-35	45	82	820
18x65 Triple	(3) WS-i15PBM-1865-AA6	WS-i15PX3	(3) 18x65	15	(3) 24x50	7.5	5-70	90	82	1230
18x65 Quad	(4) WS-i15PBM-1865-AA6	WS-i15PX4	(4) 18x65	20	(4) 24x50	7.5	5-105	135	82	1640
21x62 Twin	(2) WS-i15PBM-2162-AA6	WS-i15PX2	(2) 21x62	14	(2) 24x50	11	7-45	48	82	1040
21x62 Triple	(3) WS-i15PBM-2162-AA6	WS-i15PX3	(3) 21x62	21	(3) 24x50	11	7-90	96	82	1560
21x62 Quad	(4) WS-i15PBM-2162-AA6	WS-i15PX4	(4) 21x62	28	(4) 24x50	11	7-135	144	82	2080
24x60 Twin	(2) WS-i15PBM-2460-AA6	WS-i15PX2	(2) 24x60	16	(2) 24x60	15	7-46	48	80	1480
24x60 Triple	(3) WS-i15PBM-2460-AA6	WS-i15PX3	(3) 24x60	24	(3) 24x60	15	7-92	96	80	2220
24x60 Quad	(4) WS-i15PBM-2460-AA6	WS-i15PX4	(4) 24x60	32	(4) 24x60	15	7-138	144	80	2960
24x72 Twin	(2) WS-i15PBM-2472-AA6	WS-i15PX2	(2) 24x72	20	(2) 30x48	15	9-45	48	90	1800
24x72 Triple	(3) WS-i15PBM-2472-AA6	WS-i15PX3	(3) 24x72	30	(3) 30x48	15	9-90	96	90	2700
24x72 Quad	(4) WS-i15PBM-2472-AA6	WS-i15PX4	(4) 24x72	40	(4) 30x48	15	9-135	144	90	3600



Upgrade to the Optional System Controller?

- Need more than four? The optional **System Controller** operates 2 – 8 units on 1 or 2 independent systems, or operates as a water monitor only
- Monochrome Graphics Display with blue backlight on front panel for time of day, day of week, days until next regeneration, current system flow rate, and total system volume used (Totalizer)
- Two input connections that can either be used for meters or other auxiliary inputs



- On-board Ethernet connection for remote, real-time monitoring of system performance
- Supports Modbus TCP/IP communications
- System diagnostic and programming information spreadsheet may be uploaded to a standard USB drive
- Two fused Single Pole Double Throw (SPDT) relay outputs

Item #	Install Parts for i15 Composite
39V-V4678	Bypass
39V-V4430-01	1.5" MNPT QC Straight Fitting (2 Pieces)
39V-V4430-07	1.5" MNPT QC Elbow Fitting (2 Pieces)
39V-V4430-13	1.5" & 2" PVC Glue Kit (2 Pieces)
39V-V4430-14	QC Elbow Kit
39V-V4430-03	1.5" QC to QC Coupler Straight
39V-V4430-09	1.5" QC to QC Coupler Elbow
39V-V3035	No Hard Water Bypass (Add Connectors)
39V-V3034	Motorized Alternating Valve (Add connectors)
51-618	1.5" x 18" Stainless Flex Line
51-624	1.5" x 24" Stainless Flex Line

Part #	Description
System Controller	39V-V3030
Power Cable 15'	39V-V4276-15
Power Cable 36'	39V-V4276-36
Com Cable 8'	39V-V3474
Com Cable 12'	39V-V3474-12
Com Cable 24'	39V-V3474-24
Com Cable 36'	39V-V3474-36

i15PB 1.5" Composite Valve Backwash Systems

The 1.5" i5 Backwashing series by IWP. Simple maintenance, highly adaptable and superb flow rates. Ideal for larger houses or light commercial applications. i5 series backwashing units offer an optional high flow totalizing meter, No Hard Water Bypass and a Motorized Alternating Valve.



Coconut shell carbon is used to reduce chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Catalytic carbon is used to reduce chloramine (NH2Cl) and chlorine, trihalomethanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Katalox Lite and Filter-Ox are commonly used for the reduction of iron, manganese and hydrogen sulfide.

Clinoptilolite has nearly replaced multimedia in the past 30 years. Finer filtration, lower backwash rates and higher capacity make this a popular choice for clarifying water.

i515P 12x40 Non Catalytic GAC							
Model #	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height	≈Weight Lbs. Dry
BW-i15PC-1465-1C1	14x65	3	10	Cl 3-11	22	81	180
BW-i15PC-1665-1C1	16x65	4	13	Cl 4-14	28	81	230
BW-i15PC-1865-1C1	18x65	5	17	Cl 5-18	36	82	310
BW-i15PC-2162-1C1	21x62	7	25	Cl 7-24	48	82	410
BW-i15PC-2460-1C1	24x60	8	30	Cl 9-31	50	80	560
BW-i15PC-2472-1C1	24x72	10	30	Cl 9-31	50	90	640

i515P 12x40 Catalytic GAC 12x40 Mesh							
BW-i15PC-1465-1C2	14x65	2.5	10	NH2Cl 3-6	22	81	180
BW-i15PC-1665-1C2	16x65	4	13	NH2Cl 4-8	28	81	230
BW-i15PC-1865-1C2	18x65	5	17	NH2Cl 5-10	36	82	310
BW-i15PC-2162-1C2	21x62	7	25	NH2Cl 7-14	48	82	410
BW-i15PC-2460-1C2	24x60	8	30	NH2Cl 9-16	50	80	560
BW-i15PC-2472-1C2	24x72	10	30	NH2Cl 9-20	50	90	640

i515P 12x40 Catalytic GAC 20x50 Fine Mesh							
BW-i15PC-3072-1C2	30x72-FL	15	20	NH2Cl 15-37	49	94	1000
BW-i15PC-3672-1C2	36x72-FL	20	30	NH2Cl 20-50	50	94	1250

i515P Katalox Light (Also available with Filter-Ox)							
BW-i15PC-1465-1FL	14x65	3	13	3-13	16	81	300
BW-i15PC-1665-1FL	16x65	4	17	4-16	20	81	390
BW-i15PC-1865-1FL	18x65	5	20	5-21	27	82	510
BW-i15PC-2162-1FL	21x62	7	30	7-28	36	82	640
BW-i15PC-2460-1FL	24x60	8	40	9-37	47	80	880
BW-i15PC-2472-1FL	24x72	10	40	9-37	47	90	1040

i515P Clinoptilolite AKA Filter-Ag+ (Also Available with Filter-Ag)*							
BW-i15PC-1465-1CL	14x65	3	15	3-13	22	81	280
BW-i15PC-1665-1CL	16x65	4	20	4-16	27	81	350
BW-i15PC-1865-1CL	18x65	5	25	5-21	36	82	460
BW-i15PC-2162-1CL	21x62	7	35	7-28	48	82	580



Item #	Install Parts for i15 Composite
39V-V4678	Bypass
39V-V4430-01	1.5" MNPT QC Straight Fitting (2 Pieces)
39V-V4430-07	1.5" MNPT QC Elbow Fitting (2 Pieces)
39V-V4430-13	1.5" & 2" PVC Glue Kit (2 Pieces)
39V-V4430-14	QC Elbow Kit
39V-V4430-03	1.5" QC to QC Coupler Straight
39V-V4430-09	1.5" QC to QC Coupler Elbow
39V-V3035	No Hard Water Bypass (Add Connectors)
39V-V3034	Motorized Alternating Valve (Add connectors)
51-618	1.5" x 18" Stainless Flex Line
51-624	1.5" x 24" Stainless Flex Line



How to Size a Softener

Proper water softener sizing must recognize the balance between water quality and efficiency. Under-sizing will lead to salt and water inefficiency and low quality water, over-sizing can lead to channeling and excessive equipment costs. Use the chart below as a guideline to properly size a softener. Local efficiency requirements, high TDS, and other competing ions may affect your system sizing. When in doubt, a larger or twin alternating system is preferable.

Water Consumption is an important factor to consider. The average residential water use in the USA is approximately 60 gallons of water per person per day. This does not include irrigation. Large multi-head showers, older plumbing fixtures, animals and other variables may impact your actual water usage.

Water Hardness must be tested every job, every time. Water hardness will vary and it is not uncommon to realize significant fluctuations. Every customer should be supplied with a quality hardness test kit. Employing proper analysis, even hardness levels in excess of 100 GPG (1 GPG = 17.1 ppm of hardness) can be treated with a softener. Since water softeners are an "Ion Exchange" technology, the hardness levels will decrease and the sodium levels will increase.

Compensated Hardness should be applied as the chart below indicates. Iron and manganese are discussed later in this catalog in the iron removal sections. It is IWP's belief that iron and manganese removal by traditional softening is highly inefficient and should be avoided whenever possible. Compensated hardness takes into consideration minerals and other ions that are not detected by a standard hardness test. To arrive at compensated hardness multiply your hardness by the factor in the chart below.

System Capacity is based on the balance of quality and efficiency. A cubic foot of resin can remove 32,000 grains of hardness but this will require excessive amounts of salt and is highly inefficient. 16 pounds of salt will net 30,000 grains removal, 4 pounds of salt per cubic foot will net approximately 15,000 grains removal. 4 times the salt for half the capacity is not a proper way to size a softener. The balance to consider is that lower salt settings will marginally lower water quality and efficiency. For most applications our personal preference is 4-8 pounds of salt per cubic foot for good efficiency and quality.

Regeneration Frequency greatly affects system efficiency. A single tank system should be sized to regenerate no less than every 7 days for high efficiency. You do not gain any noticeable efficiency increases beyond 15 days, and systems should regenerate no less than every 30 days. Modern high end softeners have automated reserve calculations and several of IWP's systems include highly complex algorithmic based regenerations that further increase system efficiencies. Twin alternating systems are ideal in excessive hardness or households with a high number of occupants. Twin alternating systems provide 24 hour soft water and can regenerate multiple times per day if needed. Twin alternators are highly recommended for most commercial applications.

The inlet and outlet diameter of the water softener must match the diameter of the water supply piping at the location where the softener will be installed. UPC 610.2

Water Softener Sizing Chart for Residential Applications

		Number of Residents				
		2	4	6	8	10
Water Hardness in GPG	10	1 ft ³	1 ft ³	1.5 ft ³	2 ft ³	2.5 ft ³
	15	1 ft ³	1.5 ft ³	2 ft ³	2.5 ft ³	1.5 ft ³ per tank Twin
	20	1 ft ³	2 ft ³	2.5 ft ³	1.5 ft ³ per tank Twin	1.5 ft ³ per tank Twin
	30	1.5 ft ³	2.5 ft ³	1.5 ft ³ per tank Twin	1.5 ft ³ per tank Twin	2 ft ³ per tank Twin
	40	2 ft ³	1.5 ft ³ per tank Twin	1.5 ft ³ per tank Twin	2 ft ³ per tank Twin	2.5 ft ³ per tank Twin
	50	2.5 ft ³	1.5 ft ³ per tank Twin	2 ft ³ per tank Twin	2.5 ft ³ per tank Twin	2.5 ft ³ per tank Twin
	75	1.5 ft ³ per tank Twin	2 ft ³ per tank Twin	2.5 ft ³ per tank Twin	2.5 ft ³ per tank Twin	2.5 ft ³ per tank Twin
	100	1.5 ft ³ per tank Twin	2.5 ft ³ per tank Twin	2.5 ft ³ per tank Twin	2.5 ft ³ per tank Twin	2.5 ft ³ per tank Twin

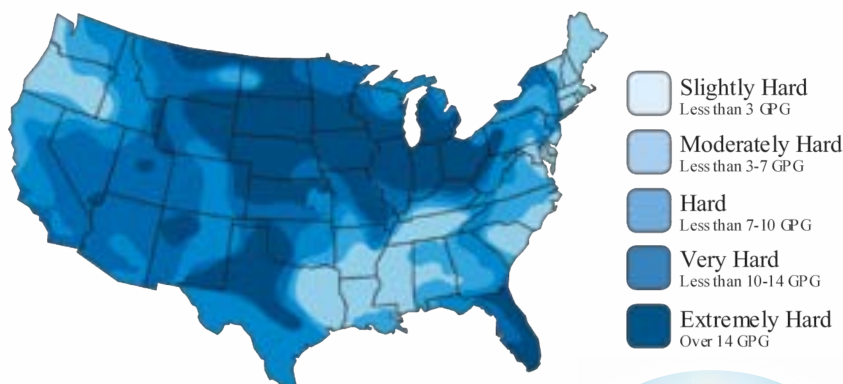
System sizing is based on 6 pounds of salt per ft³, 7 days between regenerations (Single Tank)

Compensated Hardness Chart

When sizing a softener use the compensated hardness chart below. Certain minerals and other factors will reduce the softening capacity of a softener and cannot be picked up by a standard hardness test.

Water Hardness	Multiply by
1 - 20 GPG	1.1
21 - 40 GPG	1.2
41 - 70 GPG	1.3
71 - 100 GPG	1.4
100+ GPG	1.5

Water Hardness Levels in the U.S.





Certified to NSF/
ANSI 61 and 372*

i5 Brass 1.5" Control Valve



Shown with Meter and NHWPB

Specifications

Inlet/Outlet 1.5" Female NPT
Cycles Up to 6
Valve Material..... Epoxy coated brass
Regeneration..... Downflow

Control valve Flow Rates

Service @15 psi drop (includes meter).....70 GPM
Backwash @ 25 psi drop..... 52 gpm
Cv Service..... 18.1
Cv Backwash..... 10.4

Operating Pressures

Minimum/Maximum..... 20 psi – 125 psi

Operating Temperatures

Minimum/Maximum..... 40° – 110° F

Meter specifications

Accuracy..... ± 5%
Flow Rate Range..... 0.5 – 75 GPM
Gallon Range..... 20 – 1,500,000 gallons
Totalizer..... 1 – 9,999,000 gallons

Dimensions & Weight / Distributor Pilot

Valve bodies with 1.5" Female NPT Inlet & Outlet..... 1.90" OD (1.5" NPS)
Drain: 1.25" Female NPT
Adapter Included..... 3/4" Male NPT Elbow
Brine Line Connection..... 3/4" Female NPT
Adapter Included..... 1/2" OD Poly Tube Compression
Mounting Base..... 4" - 8 UN
Height From Top Of Tank..... 7.5"
Shipping Weight With Meter..... 21 lbs.

Electrical Specifications	AC Adapter	U.S.	International
Supply Voltage.....	120V AC.....	230V AC	
Supply Frequency.....	60 Hz.....	50 Hz	
Output Voltage.....	15V DC.....	15V DC	
Output Current.....	500 mA.....	500 mA	

Tank Applications

Water Softener..... 12" – 30" diameter
Filter: @ 10 gpm of backwash per ft² of bed area.....12" – 30" diameter

Cycle Range of time in minutes

1. Backwash 1st (upflow)..... 1-95
2. Regenerate Draw/Slow Rinse (downflow).....1-180
3. Backwash 2nd (upflow).....1-95
4. Fast Rinse (downflow).....1-95
5. Regenerant Refill (in service with treated water)..... 0.1-99.0 or off
6. Service (downflow)



- 1.5" top mount control valve suited for mid-size commercial/ industrial applications
- Epoxy coated lead free brass valve body
- Economical stainless steel optional meter assembly
- Service flow rate of 70 GPM, backwash 52 GPM
- Solid state microprocessor with easy access front panel settings
- Front panel display for time of day, days until next regeneration, volume remaining, current flow rate and total volume used (Totalizer)
- Four methods to initiate regeneration; meter immediate, meter delayed, time clock delayed or pressure differential
- Optional double backwash feature offers optimum regeneration, cleaning ability and efficiency
- Fully adjustable cycle times with 6-cycle control delivers controlled backwash, downflow brining or up flow brining, slow rinse, second backwash, fast rinse, refill and downflow service
- Coin Cell Lithium battery back-up with a 8 hour carry over
- 15-volt output DC Adapter provides safe and easy installation
- Post treated water regenerant refill
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127
- Reliable and proven DC drive



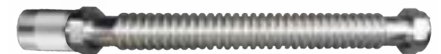
i5 Brass 1.5" Metered Softener Systems

I15 Brass softeners systems are easily configured for most applications. The dual MAV/NHWBP driver allows for separate source backwashing and/or no hard water bypass at the same time. Progressive flow up to four tanks without a System Controller.



Item #	Install Parts for i15 Brass Valve
39V-V3097	No Hard Water Bypass
39V-V3071	Motorized Alternating Valve
51-618P	1.5" x 18" Stainless Flex Line w/ Nipple
51-624P	1.5" x 24" Stainless Flex Line w/ Nipple
39V-V3666W	Outdoor Cover
56-VAC150	1.5" Vacuum Breaker

I5 1.5" Brass Metered Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i15M-1465-1A96	14x65	3	5.3	3-21	44	78	24x40	250
WS-i15M-1665-1A96	16x65	4	6.5	4-28	50	78	24x40	320
WS-i15M-1865-1A96	18x65	5	7.5	5-35	54	79	24x40	420
WS-i15M-2162-1A96	21x62	7	11	7-48	60	79	24x50	580
WS-i15M-2460-1A96	24x60	8	15	9-55	62	77	24X60	750
WS-i15M-2472-1A96	24x72	10	15	9-54	61	87	30X48	910
WS-i15M-3072-6A96	30x72-FL	15	20	15-55	62	94	39x48	1370



I5 1.5" Brass Twin Alternating Metered Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i15A-1465-1A96	(2) 14x65	6	5.3	3-21	44	78	24x40	555
WS-i15A-1665-1A96	(2) 16x65	8	6.5	4-28	50	78	24x40	645
WS-i15A-1865-1A96	(2) 18x65	10	7.5	5-35	54	79	24x40	845
WS-i15A-2162-1A96	(2) 21x62	14	11	7-48	60	79	24x50	580
WS-i15A-2460-1A96	(2) 24x60	16	15	9-55	62	77	24X60	1505
WS-i15A-2472-1A96	(2) 24x72	20	15	9-54	61	87	30X48	1825
WS-i15A-3072-6A96	(2) 30x72-FL	30	20	15-55	62	94	39x48	2745



i5 Brass 1.5" Progressive Flow Softener

Up to (4) "i5" units are controlled without a System Controller allowing for high efficiencies and flow rates. Simple programming and exceptionally functional. Soft water or standard regeneration available. Installing the NHWBP on the inlet creates a Soft Water Regeneration configuration.



i5 1.5" Progressive Flow Softener Specifications and Ordering Guide

Type	Order Softener (2-4)	Order Progressive Kit	Media Tank	Ft ³ Resin	Recommended Brine Tank	DLFC Flow Rate	Service Flow GPM	Peak Flow GPM	Height Inches	Dry Pounds
14x65 Twin	(2) WS-i1M-1465-AA6	WS-i15X2	(2) 14x65	6	(2) 24x40	5.3	3-21	44	78	480
14x65 Triple	(3) WS-i15M-1465-AA6	WS-i15X3	(3) 14x65	9	(3) 24x40	5.3	3-42	88	78	720
14x65 Quad	(4) WS-i15M-1465-AA6	WS-i15X4	(4) 14x65	13	(4) 24x40	5.3	3-63	132	78	960
16x65 Twin	(2) WS-i15M-1665-AA6	WS-i15X2	(2) 16x65	8	(2) 24x50	6.5	4-28	50	78	620
16x65 Triple	(3) WS-i15M-1665-AA6	WS-i15X3	(3) 16x65	12	(3) 24x50	6.5	4-56	100	78	930
16x65 Quad	(4) WS-i15M-1665-AA6	WS-i15X4	(4) 16x65	16	(4) 24x50	6.5	4-84	150	78	1240
18x65 Twin	(2) WS-i15M-1865-AA6	WS-i15X2	(2) 18x65	10	(2) 24x50	7.5	5-35	54	79	820
18x65 Triple	(3) WS-i15M-1865-AA6	WS-i15X3	(3) 18x65	15	(3) 24x50	7.5	5-70	108	79	1230
18x65 Quad	(4) WS-i15M-1865-AA6	WS-i15X4	(4) 18x65	20	(4) 24x50	7.5	5-105	162	79	1640
21x62 Twin	(2) WS-i15M-2162-AA6	WS-i15X2	(2) 21x62	14	(2) 24x50	11	7-48	60	79	1040
21x62 Triple	(3) WS-i15M-2162-AA6	WS-i15X3	(3) 21x62	21	(3) 24x50	11	7-96	120	79	1560
21x62 Quad	(4) WS-i15M-2162-AA6	WS-i15X4	(4) 21x62	28	(4) 24x50	11	7-144	180	79	2080
24x60 Twin	(2) WS-i15M-2460-AA6	WS-i15X2	(2) 24x60	16	(2) 24x60	15	9-55	62	77	1480
24x60 Triple	(3) WS-i15M-2460-AA6	WS-i15X3	(3) 24x60	24	(3) 24x60	15	9-110	124	77	2220
24x60 Quad	(4) WS-i15M-2460-AA6	WS-i15X4	(4) 24x60	32	(4) 24x60	15	9-165	186	77	2960
24x72 Twin	(2) WS-i15M-2472-AA6	WS-i15X2	(2) 24x72	20	(2) 30x48	15	9-54	61	87	1800
24x72 Triple	(3) WS-i15M-2472-AA6	WS-i15X3	(3) 24x72	30	(3) 30x48	15	9-108	122	87	2700
24x72 Quad	(4) WS-i15M-2472-AA6	WS-i15X4	(4) 24x72	40	(4) 30x48	15	9-162	183	87	3600
30x72 Twin	(2) WS-i15M-3072-AA6	WS-i15X2	(2) 30x72	30	(2) 39x48	20	15-55	62	94	2740
30x72 Triple	(3) WS-i15M-3072-AA6	WS-i15X3	(3) 30x72	45	(3) 39x48	20	15-110	124	94	4110
30x72 Quad	(4) WS-i15M-3072-AA6	WS-i15X4	(4) 30x72	60	(4) 39x48	20	15-165	186	94	5480



Upgrade to the Optional System Controller?

- ◆ Need more than four? The optional **System Controller** operates 2 – 8 units on 1 or 2 independent systems, or operates as a water monitor only
- ◆ Monochrome Graphics Display with blue backlight on front panel for time of day, day of week, days until next regeneration, current system flow rate, and total system volume used (Totalizer)
- ◆ Two input connections that can either be used for meters or other auxiliary inputs

Item #	Install Parts for i15 Composite
39V-V3666W	White Outdoor Cover
39V-V3071	Motorized Alternating Valve (Add connectors)
51-618P	1.5" x 18" Stainless Flex Line
51-624P	1.5" x 24" Stainless Flex Line
56-VAC150	1.5" Vacuum Breaker



- ◆ On-board Ethernet connection for remote, real-time monitoring of system performance
- ◆ Supports Modbus TCP/IP communications
- ◆ System diagnostic and programming information spreadsheet may be uploaded to a standard USB drive
- ◆ Two fused Single Pole Double Throw (SPDT) relay outputs
- ◆ Single demand-based meter output signal
- ◆ Coin cell lithium battery backup for time of day with easy access cover
- ◆ Front panel LED status indicators for Online,

Part #	Description
System Controller	39V-V3030
Power Cable 15'	39V-V4276-15
Power Cable 36'	39V-V4276-36
Com Cable 8'	39V-V3474
Com Cable 12'	39V-V3474-12
Com Cable 24'	39V-V3474-24
Com Cable 36'	39V-V3474-36

i5 1.5" Brass Valve Backwash Systems

The 1.5" i5 Backwashing series by IWP. Simple maintenance, highly adaptable and superb flow rates. Ideal for larger houses or light commercial applications. i5 series backwashing units offer an optional high flow totalizing meter, No Hard Water Bypass and a Motorized Alternating Valve.



Coconut shell carbon is used to reduce chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Catalytic carbon is used to reduce chloramine (NH₂Cl) and chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Katalox Lite and Filter-Ox are commonly used for the reduction of iron, manganese and hydrogen sulfide.

Clinoptilolite has nearly replaced multimedia in the past 30 years. Finer filtration, lower backwash rates and higher capacity make this a popular choice for clarifying water.

i5 1.5" 12x40 Non Catalytic GAC							
Model #	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height	≈Weight Lbs. Dry
BW-i15C-1465-1C1	14x65-4	3	10	CI 3-11	22	78	190
BW-i15C-1652-1C1	16x52-4	3	13	CI 3-14	28	65	200
BW-i15C-1665-1C1	16x65-4	4	13	CI 4-14	36	78	240
BW-i15C-1865-1C1	18x65-4	5	17	CI 5-18	48	79	320
BW-i15C-2162-1C1	21x62-4	7	25	CI 7-24	60	79	420
BW-i15C-2460-1C1	24x60-4	8	30	CI 9-31	60	77	570
BW-i15C-2472-1C1	24x72-4	10	30	CI 9-31	60	87	650
BW-i15C-3072-6C1	30x72-FL	15	50	CI 15-49	60	94	1000

i5 1.5" 12x40 Catalytic GAC							
BW-i15C-1465-1C2	14x65-4	3	10	NH ₂ Cl 3-6	22	78	190
BW-i15C-1652-1C2	16x52-4	3	13	NH ₂ Cl 4-6	28	65	200
BW-i15C-1665-1C2	16x65-4	4	13	NH ₂ Cl 4-8	36	78	240
BW-i15C-1865-1C2	18x65-4	5	17	NH ₂ Cl 5-10	48	79	320
BW-i15C-2162-1C2	21x62-4	7	25	NH ₂ Cl 7-14	60	79	420
BW-i15C-2460-1C2	24x60-4	8	30	NH ₂ Cl 10-16	60	77	570
BW-i15C-2472-1C2	24x72-4	10	30	NH ₂ Cl 10-20	60	87	650
BW-i15C-3072-6C2	30x72-FL	15	50	NH ₂ Cl 15-30	60	94	1000

i5 1.5" Katalox Light (Also available with Filter-Ox)							
BW-i15C-1465-1FL	14x65-4	3	13	3-13	16	78	310
BW-i15C-1652-1FL	16x52-4	3	17	4-16	20	65	320
BW-i15C-1665-1FL	16x65-4	4	17	4-16	20	78	400
BW-i15C-1865-1FL	18x65-4	5	20	5-21	27	79	520
BW-i15C-2162-1FL	21x62-4	7	30	7-28	36	79	650
BW-i15C-2460-1FL	24x60-4	8	40	9-37	47	77	890
BW-i15C-2472-1FL	24x72-4	10	40	9-37	47	87	1050

i5 1.5" Clinoptilolite (AKA Filter-Ag+)							
BW-i15C-1465-1CL	14x65-4	3	15	3-13	22	78	290
BW-i15C-1652-1CL	16x52-4	3	20	4-16	27	65	300
BW-i15C-1665-1CL	16x65-4	4	20	4-16	27	78	360
BW-i15C-1865-1CL	18x65-4	5	25	5-21	36	79	470
BW-i15C-2162-1CL	21x62-4	7	35	7-28	48	79	590
BW-i15C-2460-1CL	24x60-4	8	45	9-37	60	77	770
BW-i15C-2472-1CL	24x72-4	10	45	9-37	60	87	890



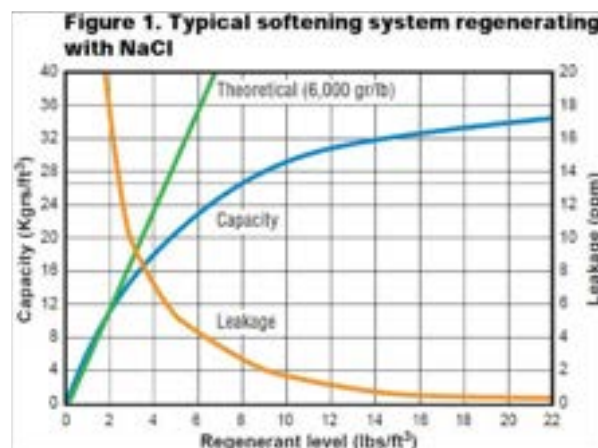
Item #	Install Parts for i5 Brass Valve
39V-V3097	No Hard Water Bypass
39V-V3071	Motorized Alternating Valve
51-618P	1.5" x 18" Stainless Flex Line w/ Nipple
51-624P	1.5" x 24" Stainless Flex Line w/ Nipple
39V-V3666W	Outdoor Cover
56-VAC150	1.5" Vacuum Breaker



Softening Efficiency, Capacity & Leakage

Softener efficiency, capacity, and hardness leakage are all linked. A highly efficient softener will typically produce a lower quality of softened water. Lower quality softened water is adequate for most residential and commercial applications and is important for minimizing the negative environmental impact of softeners. Some applications may require very high quality softened water and efficiency will be sacrificed. The lower efficiency setting can be minimized by a simple staged softening system design. The first softener is set for the highest possible efficiency, a second polishing softener is regenerated infrequently with a high salt setting. The chart below shows typical softening system curves for these three important factors. For most applications, softeners should be set to use 6 pounds or less per cubic foot to ensure highly efficient operation and 10 pounds or more for the lowest hardness leakage.

Lbs. per Ft ³	3	4	6	8	10	15
≈Capacity (gr/cu ft)	12,800	15,200	20,000	24,000	27,000	30,000
≈Efficiency (gr/lb salt)	4267	3800	3333	3000	2700	2000
Soft Water Quality	Fair	Fair	Good	Very Good	High	Highest

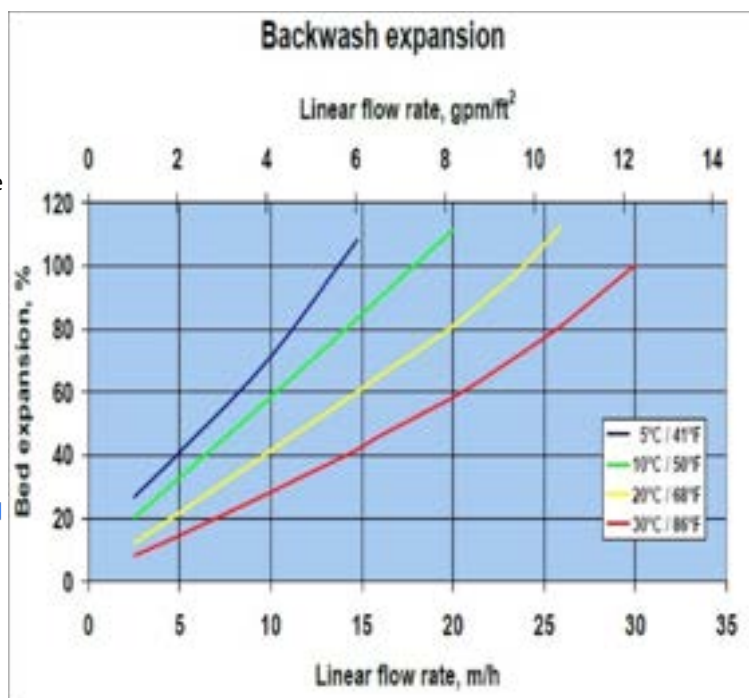
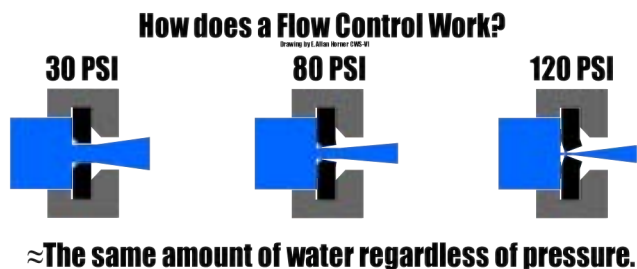


Backwash Rates & Water Temperature

Water temperature plays a critical role in properly installing a water treatment system. Water temperature affects flow rates, backwash rates, and even systems capacities. The most critical of these is the backwash rate. Colder water is more dense and requires considerably less water to properly backwash a system. Hot water requires much more. The chart below shows standard cation water softening resin backwash expansion at varying temperatures. A 50% bed expansion is achieved with only 2.5 gpm/ft² at 40°F. At 86°F, it requires 7 gpm/ft² or nearly three times more water to achieve the same bed expansion. Common backwash rate charts assume a water temperature of 68°F. It is important to consult with each media manufacturers temperature charts to ensure your system is properly applied.

Variable Pressure Flow Controllers Theory of Operation and Service

Flow controls are commonly used in water treatment to regulate the backwash required to expand and agitate the media in a tank (DLFC), control the amount of water going into the brine tank (BLFC) or to regulate the maximum flow going through a UV chamber. The variable pressure flow control principle is accurate among a wide range of pressures unlike a fixed orifice flow control. The specified rate of flow will be very close to the design parameters regardless of inlet pressure variations. This is accomplished by the changing orifice size of the flow washer as inlet pressure varies as shown in the drawing below.



i5 2" Composite Control Valve Specifications

Specifications

Inlet/Outlet 2" QC
Cycles Up to 6
Valve Material..... Glass filled composite
Regeneration.....Upflow or Downflow

Control valve Flow Rates

Service @15 psi drop (includes meter).....95 gpm
Backwash @ 25 psi drop..... 85 gpm
Cv Service..... 24.5
Cv Backwash..... 17.0

Operating Pressure

Minimum/Maximum..... 20 psi – 125 psi

Operating Temperatures

Minimum/Maximum..... 40° – 110° F

Meter specifications

Accuracy..... ± 5%
Flow Rate Range..... 1.5 – 150 GPM
Gallon Range..... 20 – 1,500,000 gallons
Totalizer..... 1 – 9,999,000 gallons

Dimensions & Weight / Distributor Pilot

Valve bodies with 2" Female NPT Inlet & Outlet..... 1.90" OD (1.5" NPS)
Drain:2" QC
Brine Line Connection..... 1" Male NPT

Mounting

Tank Adapter..... 4" - 8 UN
Height From Top Of Tank.....12.5"
Shipping Weight With Meter..... 11 lbs.

Electrical Specifications	AC Adapter	U.S.	International
Supply Voltage.....	120V AC.....	230V AC	
Supply Frequency.....	60 Hz.....	50 Hz	
Output Voltage.....	15V DC.....	15V DC	
Output Current.....	750 mA.....	750 mA	

Tank Applications

Water Softener..... 12" – 36" diameter
Filter: @ 10 gpm of backwash per ft² of bed area.....12" – 36" diameter

Cycle Range of time in minutes

1. Backwash 1st (upflow)..... 1-95
2. Regenerate Draw/Slow Rinse (downflow).....1-180
3. Backwash 2nd (upflow).....1-95
4. Fast Rinse (downflow).....1-95
5. Regenerant Refill (in service with treated water)..... 0.1-99.0 or off
6. Service (downflow)



- 2" Top mount control valve suited for commercial/industrial applications
- Glass filled composite valve body
- Economical glass filled composite optional meter assembly
- Service flow rate of 95 gpm, backwash 85 gpm
- Solid state microprocessor with easy access front panel settings
- Front panel display for time of day, days until next regeneration, volume remaining, current flow rate and total volume used (Totalizer)
- Four methods to initiate regeneration; meter immediate, meter delayed, time clock delayed or pressure differential
- Optional double backwash feature offers optimum regeneration, cleaning ability and efficiency
- Fully adjustable cycle times with 6-cycle control delivers controlled backwash, downflow brining or upflow brining, slow rinse, second backwash, fast rinse, refill and downflow service
- Coin Cell Lithium battery back-up with an 8 hour carry over
- 15-volt output DC Adapter provides safe and easy installation
- Post treated water regenerant refill
- Reliable and proven DC drive
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127



Certified to NSF/
ANSI 61 and 372*



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Data herein is provided as a courtesy and is subject to change without notice.

i5 2" Composite Commercial Softener

i15BP Softeners systems are easily configured for most applications. The dual MAV/NHWBP driver allows for separate source backwashing and/or no hard water bypass at the same time. Progressive flow up to four tanks without a System Controller.

I5 2" Composite Metered Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i20PM-1465-1A96	14"x65"	3	5.3	3-21	41	82	24"x40"	245
WS-i20PM-1665-1A96	16"x65"	4	6.5	4-28	48	82	24"x40"	315
WS-i20PM-1865-1A96	18"x65"	5	7.5	5-35	56	83	24"x40"	415
WS-i20PM-2162-1A96	21"x62"	7	11	7-48	74	83	24"x50"	575
WS-i20PM-2460-1A96	24"x60"	8	15	9-62	80	81	24"x60"	725
WS-i20PM-2472-1A96	24"x72"	10	15	9-62	78	91	24"x60"	895
WS-i20PM-3072-6A96	30"x72"	15	20	15-98	89	102	30"x60"	1365
WS-i20PM-3672-6A96	36"x72"	20	30	21-107	97	102	39"x48"	2125

I5 2" Composite Twin Alternating Metered Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i20PA-1465-1A96	(2) 14"x65"	6	5.3	3-21	41	82	24"x40"	490
WS-i20PA-1665-1A96	(2) 16"x65"	8	6.5	4-28	48	82	24"x40"	630
WS-i20PA-1865-1A96	(2) 18"x65"	10	7.5	5-35	56	83	24"x40"	830
WS-i20PA-2162-1A96	(2) 21"x62"	14	11	7-48	74	83	24"x50"	1150
WS-i20PA-2460-1A96	(2) 24"x60"	16	15	9-62	80	81	24"x60"	1450
WS-i20PA-2472-1A96	(2) 24"x72"	20	15	9-62	78	91	24"x60"	1790
WS-i20PA-3072-6A96	(2) 30"x72"	30	20	15-98	89	102	30"x60"	2730
WS-i20PA-3672-6A96	(2) 36"x72"	40	30	21-107	97	102	39"x48"	4250



Item #	Install Parts for i1 2" Composite Valve
39V-V3037	No Hard Water Bypass
39V-V3036	Motorized Alternating Valve
51-818	2" x 18" Stainless Flex Line
51-824	2" x 24" Stainless Flex Line
39V-V3783WC-W	Outdoor Cover
56-VAC150	1.5" Vacuum Breaker

i5 Composite 2" Progressive Flow Softener

Up to (4) "i5" units are controlled without a System Controller allowing for high efficiencies and flow rates. Simple programming and exceptionally functional. Soft water or standard regeneration available. Installing the NHWBP on the inlet creates a Soft Water Regeneration configuration.

Waiting on 3d drawing



i5 2" Progressive Flow Softener Specifications and Ordering Guide

Type	Order Softener (2-4)	Order Progressive Kit	Media Tank	Ft ³ Resin	Recommended Brine Tank	DLFC Flow Rate	Service Flow GPM	Peak Flow GPM	Height Inches	Dry Pounds
16x65 Twin	(2) WS-i20PM-1665-AA6	WS-i20PX2	(2) 16x65	8	(2) 24x50	6.5	4-28	48	78	660
16x65 Triple	(3) WS-i20PM-1665-AA6	WS-i20PX3	(3) 16x65	12	(3) 24x50	6.5	4-56	96	78	990
16x65 Quad	(4) WS-i20PM-1665-AA6	WS-i20PX4	(4) 16x65	16	(4) 24x50	6.5	4-84	144	78	1320
18x65 Twin	(2) WS-i20PM-1865-AA6	WS-i20PX2	(2) 18x65	10	(2) 24x50	7.5	5-35	56	79	860
18x65 Triple	(3) WS-i20PM-1865-AA6	WS-i20PX3	(3) 18x65	15	(3) 24x50	7.5	5-70	112	79	1290
18x65 Quad	(4) WS-i20PM-1865-AA6	WS-i20PX4	(4) 18x65	20	(4) 24x50	7.5	5-105	168	79	1720
21x62 Twin	(2) WS-i20PM-2162-AA6	WS-i20PX2	(2) 21x62	14	(2) 24x50	11	7-48	74	79	1180
21x62 Triple	(3) WS-i20PM-2162-AA6	WS-i20PX3	(3) 21x62	21	(3) 24x50	11	7-96	148	79	1770
21x62 Quad	(4) WS-i20PM-2162-AA6	WS-i20PX4	(4) 21x62	28	(4) 24x50	11	7-144	222	79	2360
24x60 Twin	(2) WS-i20PM-2460-AA6	WS-i20PX2	(2) 24x60	16	(2) 24x60	15	9-62	80	77	1480
24x60 Triple	(3) WS-i20PM-2460-AA6	WS-i20PX3	(3) 24x60	24	(3) 24x60	15	9-124	160	77	2220
24x60 Quad	(4) WS-i20PM-2460-AA6	WS-i20PX4	(4) 24x60	32	(4) 24x60	15	9-186	240	77	2960
24x72Twin	(2) WS-i20PM-2472-AA6	WS-i20PX2	(2) 24x72	20	(2) 30x48	15	9-62	78	87	1820
24x72 Triple	(3) WS-i20PM-2472-AA6	WS-i20PX3	(3) 24x72	30	(3) 30x48	15	9-124	156	87	2730
24x72 Quad	(4) WS-i20PM-2472-AA6	WS-i20PX4	(4) 24x72	40	(4) 30x48	15	9-186	234	87	3640
30x72 Twin	(2) WS-i20PM-3072-AA6	WS-i20PX2	(2) 30x72	30	(2) 39x48	20	15-89	89	94	2760
30x72 Triple	(3) WS-i20PM-3072-AA6	WS-i20PX3	(3) 30x72	45	(3) 39x48	20	15-188	188	94	4140
30x72 Quad	(4) WS-i20PM-3072-AA6	WS-i20PX4	(4) 30x72	60	(4) 39x48	20	15-267	267	94	5520
36x72 Twin	(2) WS-i20PM-3672-AA6	WS-i20PX2	(2) 36x72	40	(2) 39x60	30	21-97	97	98	4280
36x72 Triple	(3) WS-i20PM-3672-AA6	WS-i20PX3	(3) 36x72	60	(3) 39x60	30	21-194	194	98	6420
36x72 Quad	(4) WS-i20PM-3672-AA6	WS-i20PX4	(4) 36x72	80	(4) 39x60	30	21-291	291	98	8560



Upgrade to the Optional System Controller?

- ◆ Need more than four? The optional **System Controller** operates 2 – 8 units on 1 or 2 independent systems, or operates as a water monitor only
- ◆ Monochrome Graphics Display with blue backlight on front panel for time of day, day of week, days until next regeneration, current system flow rate, and total system volume used (Totalizer)
- ◆ Two input connections that can either be used for meters or other auxiliary inputs
- ◆ On-board Ethernet connection for remote, real-time monitoring of system performance
- ◆ Supports Modbus TCP/IP communications
- ◆ System diagnostic and programming information spreadsheet may be uploaded to a standard USB drive

Item #	Install Parts for i15 Composite
39V-V4460-04	QC x @" NPT Elbow Adapter (2 Pcs.)
39V-V4460-01	QC x 2" NPT Straight Adapter (2 Pcs.)
39V-V4460-13	QC x 2" PVC Socket Adapter (2 Pcs.)
39V-V3783WC-W	White Outdoor Cover
39V-V3036	Motorized Alternating Valve (Add connectors)
51-818	2" x 18" Stainless Flex Line
51-824	2" x 24" Stainless Flex Line
56-VAC150	1.5" Vacuum Breaker

- ◆ Two fused Single Pole Double Throw (SPDT) relay outputs
- ◆ Single demand-based meter output signal
- ◆ Coin cell lithium battery backup for time of day with easy access cover
- ◆ Front panel LED status indicators for Online, Standby, Re-generation, and Lead Unit Position
- ◆ Language options include: English, Spanish, French, German, Italian, Dutch, and Polish

Part #	Description
System Controller	39V-V3030
Power Cable 15'	39V-V4276-15
Power Cable 36'	39V-V4276-36
Com Cable 8'	39V-V3474
Com Cable 12'	39V-V3474-12
Com Cable 24'	39V-V3474-24
Com Cable 36'	39V-V3474-36



i5 2" Composite Valve Backwash Systems

The 1.5" i5 Backwashing series by IWP. Simple maintenance, highly adaptable and superb flow rates. Ideal for larger houses or light commercial applications. i5 series backwashing units offer an optional high flow totalizing meter, No Hard Water Bypass and a Motorized Alternating Valve.

Waiting on 3d cad drawings

Coconut shell carbon is used to reduce chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Catalytic carbon is used to reduce chloramine (NH₂Cl) and chlorine, trihalomethanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Katalox Lite and Filter-Ox are commonly used for the reduction of iron, manganese and hydrogen sulfide.

Clinoptilolite has nearly replaced multimedia in the past 30 years. Finer filtration, lower backwash rates and higher capacity make this a popular choice for clarifying water.

i5 2" Composite 12x40 Non Catalytic GAC							
Model #	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height	≈Weight Lbs. Dry
BW-i20PC-1665-1C1	16x65	4	13	CI 4-14	28	82	235
BW-i20PC-1865-1C1	18x65	5	17	CI 5-18	36	83	305
BW-i20PC-2162-1C1	21x62	7	25	CI 7-24	48	83	495
BW-i20PC-2460-1C1	24x60	8	30	CI 9-31	50	81	555
BW-i20PC-2472-1C1	24x72	10	30	CI 9-31	50	91	635
BW-i20PC-3072-6C1	30x72	15	50	CI 15-49	78	98	985
BW-i20PC-3672-6C1	36x72	20	70	CI 21-71	96	98	1435

i5 2" Composite 12x40 Catalytic GAC 12x40 Mesh							
BW-i20PC-1665-1C2	16x65	4	13	NH ₂ Cl 4-8	28	82	235
BW-i20PC-1865-1C2	18x65	5	17	NH ₂ Cl 5-10	36	83	305
BW-i20PC-2162-1C2	21x62	7	25	NH ₂ Cl 7-14	48	83	495
BW-i20PC-2460-1C2	24x60	8	30	NH ₂ Cl 9-16	50	81	555
BW-i20PC-2472-1C2	24x72	10	30	NH ₂ Cl 9-20	50	91	635
BW-i20PC-3072-6C2	30x72	15	50	NH ₂ Cl 15-30	78	98	985
BW-i20PC-3672-6C2	36x72	20	70	NH ₂ Cl 20-40	96	98	1435

i5 2" Composite Katalox Light (Also available with Filter-Ox)							
BW-i20PC-1665-1FL	16x65	4	17	4-16	20	81	395
BW-i20PC-1865-1FL	18x65	5	20	5-21	27	82	505
BW-i20PC-2162-1FL	21x62	7	30	7-28	30	82	635
BW-i20PC-2460-1FL	24x60	8	40	9-37	40	80	885
BW-i20PC-2472-1FL	24x72	10	40	9-37	40	90	1035
BW-i20PC-3072-1FL	30x72	15	65	15-58	65	98	1585

i5 2" Composite Clinoptilolite (AKA Filter-Ag+)							
BW-i20PC-1665-1CL	16x65	4	20	4-16	27	81	355
BW-i20PC-1865-1CL	18x65	5	25	5-21	36	82	455
BW-i20PC-2162-1CL	21x62	7	35	7-28	48	82	575
BW-i20PC-2460-1C2	24x60	8	45	9-37	62	80	815
BW-i20PC-2472-1C2	24x72	10	45	9-37	62	90	935
BW-i20PC-3072-6C2	30x72	15	75	15-58	90	98	1435

Item #	Install Parts for i1 2" Brass Valve
39V-V3098	No Hard Water Bypass
39V-V3076	Motorized Alternating Valve
51-818P	2" x 18" Stainless Flex Line w/ Nipple
51-824P	2" x 24" Stainless Flex Line w/ Nipple
39V-V3783WC-W	Outdoor Cover
56-VAC150	1.5" Vacuum Breaker



Iron, Manganese, H₂S Reduction



Next to hardness, iron is probably the most common water problem. The secondary (aesthetic) maximum contaminant level (MCL) for iron is 0.3 ppm and 0.05 ppm for manganese. Discolored water, laundry, and plumbing fixtures are the inevitable results. Iron is common in water due to the large amount of naturally occurring iron present in the soil and because corrosive water can pick up iron from pipes and well casings. Iron in water is usually dissolved (ferrous Fe 2+) clear and colorless. When this water contacts air, the iron precipitates to a solid (ferric or rust Fe 3+) which will stain bathtubs, sinks, laundry, sidewalks etc., a reddish brown color. Manganese will cause a darker brown to black stain. These impurities impart a metallic taste to water and food. The stains are not removed by soaps or detergents, and bleach will only make the staining worse. Iron can build up in plumbing, fixtures, water heaters and pipes reducing water pressure and quality even further. The pH of water should be above 6.5 and levels as high as 8.5 are preferred when using oxidizing media. Increasing the pH is usually done with a simple calcium carbonate or magnesium oxide filtration system. Sodium carbonate (soda ash Na₂CO₃) or sodium hydroxide (caustic soda NaOH) injection can also be considered.

Types of Iron

Bacterial Iron - A dark slime in toilet tanks, water filters or softeners can indicate the presence of bacterial Iron.

Ferric - "Red water iron." When Ferrous iron is exposed to air or other oxidant (bleach, ozone, potassium permanganate, or hydrogen peroxide) oxygen combines with the iron to form ferric iron (Fe+++).

Ferrous - "Clear water Iron" is found in water which contains low oxygen levels. Carbon dioxide reacts with iron in the ground to form water-soluble ferrous bicarbonate (Fe++).

Treatment Methods

Iron Bacteria - Iron bacteria should be controlled by continuous injection of chlorine with a contact tank and a carbon tank for dechlorination. Do not use aeration or hydrogen peroxide. pH must be considered as higher pH negatively affects the effectiveness of chlorine.

Ferric Iron - Simple sediment filtration can be used, but some ferrous iron is usually present so some additional oxidizing filtration (Filter-Ox or similar) should be used.

Ferrous Iron - Treating water with ferrous iron is simple. Several methods should be considered depending on the application and other water factors. Oxidation/filtration and ion exchange are the two most common methods for removing ferrous iron. pH must be taken into consideration as levels below 7.5 make oxidation increasingly difficult.

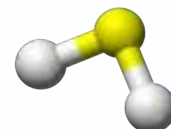
Ion Exchange (Water Softener) - Water softening is used by many companies due to its low cost. This method is highly inefficient and should be avoided. 1 ppm of iron or manganese use the same "compensated" capacity as 88 ppm of hardness. Only very low levels of iron or manganese should be removed with traditional softening. Many companies will treat up to 5 ppm of iron with softening but special resins, chemical feeders, expensive salts, and periodic acid cleaning of the resin should be considered. Softening does not remove Ferric iron. Softeners prefer a lower pH as higher pH levels can cause excessive resin fouling.

Oxidation/Filtration - Ferrous iron needs to be converted to a ferric iron (rust particle) which is then easily filtered. Oxidizers or oxidizing filter media are commonly used for this process. Aeration is effective at lower iron and manganese levels. Hydrogen peroxide or other oxidants may be needed when higher levels of iron or manganese are present. A simple ORP test can help you determine the likelihood of oxidation-reduction media's working effectively. ORP should be above -170MV otherwise an oxidizer should be used.

Oxidizing Filtration Media - Impact Water Products is a distributor of Filter-Ox, a lightweight manganese dioxide media that is impregnated and coated onto a basemedia. This hybrid media has proven to be an effective iron reduction media for most residential, commercial and municipal applications.

Hydrogen Sulfide - Treatment methods for the rotten egg odor produced by the dissolved gas Hydrogen Sulfide (H₂S) are similar to those used to combat iron and manganese. However, the use of a softener will be insufficient in nearly all H₂S applications. The other methods described herein will generally work for H₂S, though longer contact times and more stringent adherence to method may be required. In many low level H₂S applications, catalytic carbon has proven to be an excellent solution, but contact time must be significant and media replacement will be more frequent than normally expected.

Contaminant	Hydrogen Peroxide	Chlorine
Iron	1 ppm iron = .5 ppm H ₂ O ₂	1 ppm iron = 1 ppm H ₂ O ₂
Manganese	1 ppm manganese = 1 ppm H ₂ O ₂	1 ppm manganese = 2 ppm H ₂ O ₂
Hydrogen Sulfide	1 ppm hydrogen sulfide = 1.5 ppm H ₂ O ₂	1 ppm hydrogen sulfide = 3 ppm H ₂ O ₂



H₂O₂ & Chlorine Dosage for H₂S, Iron, Manganese

To achieve efficient filtration some water conditions may require Hydrogen Peroxide or Sodium Hypochlorite injection. Hydrogen sulfide (H₂S), clear water iron, and manganese can all benefit from proper H₂O₂/Chlorine injection. Bacterial iron should use only sodium hypochlorite injection. Non variable peristaltic pumps require knowing the well output rate. Water driven pumps automatically adjust to the flow rate and require no electricity. Tablet chlorinators have the lowest initial cost and have no moving parts. Solution strength: Common 5.25% (by weight) household bleach is 50,000 ppm of chlorine. A 100 -1 dilution ratio pump would reduce the chlorine to ≈500 ppm. Further dilution in the chemical storage tank is then used to reach a proper chlorine level. Tablet chlorinators are adjustable but they are not accurate enough to use without dechlorination. Retention tanks allow the water to be in contact with the chlorine or other oxidant allowing it enough time to properly react. Twenty minutes is the minimum recommended amount of time for effective oxidation and sanitization. Chlorine can be an effective means of reducing contaminants in water but extreme caution and a working knowledge of the dangers of chlorine must be understood. Safety measures must always be observed and followed. When using chlorine for water that has biological issues, a properly designed redundant system must be monitored and maintained.

i5 2" Brass Control Valve Specifications

Specifications

Inlet/Outlet 2" Female NPT
Cycles Up to 6
Valve Material..... Epoxy coated brass
Regeneration..... Downflow

Control valve Flow Rates

Service @15 psi drop (includes meter).....115 gpm
Backwash @ 25 psi drop..... 80 gpm
Cv Service..... 29.7
Cv Backwash..... 16.0

Operating Pressure

Minimum/Maximum..... 20 psi – 125 psi

Operating Temperatures

Minimum/Maximum..... 40° – 110° F

Meter specifications

Accuracy..... ± 5%
Flow Rate Range..... 1.5 – 150 GPM
Gallon Range..... 20 – 1,500,000 gallons
Totalizer..... 1 – 9,999,000 gallons

Dimensions & Weight / Distributor Pilot

Valve bodies with 2" Female NPT Inlet & Outlet..... 1.90" OD (1.5" NPS)
Drain: 1.5" Female NPT
Brine Line Connection..... 1" Male NPT

Mounting

Tank Adapter..... 4" – 8 UN
Height From Top Of Tank..... 8.5"
Shipping Weight With Meter..... 29 lbs.

Electrical Specifications

AC Adapter

U.S.

International

Supply Voltage.....120V AC..... 230V AC
Supply Frequency.....60 Hz..... 50 Hz
Output Voltage.....15V DC..... 15V DC
Output Current.....750 mA..... 750 mA

Tank Applications

Water Softener..... 12" – 48" diameter
Filter: @ 10 gpm of backwash per ft² of bed area.....12" – 36" diameter

Cycle Range of time in minutes

1. Backwash 1st (upflow)..... 1-95
2. Regenerate Draw/Slow Rinse (downflow).....1-180
3. Backwash 2nd (upflow).....1-95
4. Fast Rinse (downflow).....1-95
5. Regenerant Refill (in service with treated water)..... 0.1-99.0 or off
6. Service (downflow)



- 2" Top mount control valve suited for commercial/industrial applications
- Epoxy coated lead free brass valve body*
- Economical stainless steel optional meter assembly
- Service flow rate of 115 gpm, backwash 80 gpm
- Solid state microprocessor with easy access front panel settings
- Front panel display for time of day, days until next regeneration, volume remaining, current flow rate and total volume used (Totalizer)
- Four methods to initiate regeneration; meter immediate, meter delayed, time clock delayed or pressure differential
- Optional double backwash feature offers optimum regeneration, cleaning ability and efficiency
- Fully adjustable cycle times with 6-cycle control delivers controlled backwash, downflow brining or upflow brining, slow rinse, second backwash, fast rinse, refill and downflow service
- Coin Cell Lithium battery back-up with an 8 hour carry over
- 15-volt output DC Adapter provides safe and easy installation
- Post treated water regenerant refill
- Reliable and proven DC drive
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127

24" tanks and below use a 4" threaded valve



Shown with optional
NHWBP

Tanks 30" and above include the "QC"
Series i5 2" Valve with a 6" tank flange



Certified to NSF/
ANSI 61 and 372*

Shown with optional
NHWBP



i5 2" Brass Commercial Softener

i15BP Softeners systems are easily configured for most applications. The dual MAV/NHWP driver allows for separate source backwashing and/or no hard water bypass at the same time. Progressive flow up to four tanks without a System Controller.

i5 2" Brass Metered Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i20M-1465-1A96	14"x65"	3	5.3	3-21	50	78"	24"x40"	260
WS-i20M-1665-1A96	16"x65"	4	6.5	4-28	60	78"	24"x40"	330
WS-i20M-1865-1A96	18"x65"	5	7.5	5-35	69	79"	24"x40"	430
WS-i20M-2162-1A96	21"x62"	7	11	7-48	91	79"	24"x50"	590
WS-i20M-2460-1A96	24"x60"	8	15	9-62	98	77"	24"x60"	740
WS-i20M-2472-1A96	24"x72"	10	15	9-62	96	87"	24"x60"	910
WS-i20MQ-3072-6A96	30"x72"	15	20	15-98	109	98"	30"x60"	1380
WS-i20MQ-3672-6A96	36"x72"	20	30	21-107	119	98"	39"x48"	2140
WS-i20MQ-4272-7A96	42"x72"	30	45	28-114	127	106"	39"x60"	2650
WS-i20MQ-4872-7A96	48"x72"	35	55	38-114	127	108"	50"x60"	3350



i5 2" Brass Metered Twin Alternating Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-i20A-1465-1A96	(2) 14"x65"	6	5.3	3-21	50	78"	24"x40"	520
WS-i20A-1665-1A96	(2) 16"x65"	8	6.5	4-28	60	78"	24"x40"	660
WS-i20A-1865-1A96	(2) 18"x65"	10	7.5	5-35	69	79"	24"x40"	840
WS-i20A-2162-1A96	(2) 21"x62"	14	11	7-48	91	79"	24"x50"	1160
WS-i20A-2460-1A96	(2) 24"x60"	16	15	9-62	98	77"	24"x60"	1500
WS-i20A-2472-1A96	(2) 24"x72"	20	15	9-62	96	87"	24"x60"	1820
WS-i20AQ-3072-6A96	(2) 30"x72"	30	20	15-98	109	98"	30"x60"	2740
WS-i20AQ-3672-6A96	(2) 36"x72"	40	30	21-107	119	98"	39"x48"	4280
WS-i20AQ-4272-7A96	(2) 42"x72"	60	45	28-114	127	106"	39"x60"	5300
WS-i20AQ-4872-7A96	(2) 48"x72"	70	55	38-114	127	108"	50"x60"	6700

Item #	Install Parts for i1 2" Brass Valve
39V-V3098	No Hard Water Bypass
39V-V3076	Motorized Alternating Valve
51-818P	2" x 18" Stainless Flex Line w/ Nipple
51-824P	2" x 24" Stainless Flex Line w/ Nipple
39V-V3783WC-W	Outdoor Cover
56-VAC150	1.5" Vacuum Breaker

i5 Brass 2" Progressive Flow Softener Systems

Up to (4) "i5" units are controlled without a System Controller allowing for high efficiencies and flow rates. Simple programming and exceptionally functional. Ideal for most commercial applications where high flow rates and consistent soft water are required.



i5 2" Progressive Flow Softener Specifications and Ordering Guide

Type	Order Softener (2-4)	Order Progressive Kit	Media Tank	Ft ³ Resin	Recommended Brine Tank	DLFC Flow Rate	Service Flow GPM	Peak Flow GPM	Height Inches	Dry Pounds
16x65 Twin	(2) WS-i20M-1665-AA6	WS-i20X2	(2) 16x65	8	(2) 24x50	6.5	4-28	60	78	660
16x65 Triple	(3) WS-i20M-1665-AA6	WS-i20X3	(3) 16x65	12	(3) 24x50	6.5	4-56	120	78	990
16x65 Quad	(4) WS-i20M-1665-AA6	WS-i20X4	(4) 16x65	16	(4) 24x50	6.5	4-84	180	78	1320
18x65 Twin	(2) WS-i20M-1865-AA6	WS-i20X2	(2) 18x65	10	(2) 24x50	7.5	5-35	69	79	860
18x65 Triple	(3) WS-i20M-1865-AA6	WS-i20X3	(3) 18x65	15	(3) 24x50	7.5	5-70	138	79	1290
18x65 Quad	(4) WS-i20M-1865-AA6	WS-i20X4	(4) 18x65	20	(4) 24x50	7.5	5-105	207	79	1720
21x62 Twin	(2) WS-i20M-2162-AA6	WS-i20X2	(2) 21x62	14	(2) 24x50	11	7-48	91	79	1180
21x62 Triple	(3) WS-i20M-2162-AA6	WS-i20X3	(3) 21x62	21	(3) 24x50	11	7-96	182	79	1770
21x62 Quad	(4) WS-i20M-2162-AA6	WS-i20X4	(4) 21x62	28	(4) 24x50	11	7-144	273	79	2360
24x60 Twin	(2) WS-i20M-2460-AA6	WS-i20X2	(2) 24x60	16	(2) 24x60	15	9-62	98	77	1480
24x60 Triple	(3) WS-i20M-2460-AA6	WS-i20X3	(3) 24x60	24	(3) 24x60	15	9-124	182	77	2220
24x60 Quad	(4) WS-i20M-2460-AA6	WS-i20X4	(4) 24x60	32	(4) 24x60	15	9-186	273	77	2960
24x72Twin	(2) WS-i20M-2472-AA6	WS-i20X2	(2) 24x72	20	(2) 30x48	15	9-62	96	87	1820
24x72 Triple	(3) WS-i20M-2472-AA6	WS-i20X3	(3) 24x72	30	(3) 30x48	15	9-124	192	87	2730
24x72 Quad	(4) WS-i20M-2472-AA6	WS-i20X4	(4) 24x72	40	(4) 30x48	15	9-186	288	87	3640
30x72 Twin	(2) WS-i20M-3072-AA6	WS-i20X2	(2) 30x72	30	(2) 39x48	20	15-98	109	94	2760
30x72 Triple	(3) WS-i20M-3072-AA6	WS-i20X3	(3) 30x72	45	(3) 39x48	20	15-196	218	94	4140
30x72 Quad	(4) WS-i20M-3072-AA6	WS-i20X4	(4) 30x72	60	(4) 39x48	20	15-294	327	94	5520
36x72 Twin	(2) WS-i20M-3672-AA6	WS-i20X2	(2) 36x72	40	(2) 39x60	30	21-107	119	98	4280
36x72 Triple	(3) WS-i20M-3672-AA6	WS-i20X3	(3) 36x72	60	(3) 39x60	30	21-214	238	98	6420
36x72 Quad	(4) WS-i20M-3672-AA6	WS-i20X4	(4) 36x72	80	(4) 39x60	30	21-321	357	98	8560
42x72 Twin	(2) WS-i20M-4272-AA6	WS-i20X2	(2) 42x72	60	(2) 42x60	45	28-114	127	106	10,600
42x72 Triple	(3) WS-i20M-4272-AA6	WS-i20X3	(3) 42x72	90	(3) 42x60	45	28-228	254	106	15,900
42x72 Quad	(4) WS-i20M-4272-AA6	WS-i20X4	(4) 42x72	120	(4) 42x60	45	28-342	381	106	21,200
48x72 Twin	(2) WS-i20M-4872-AA6	WS-i20X2	(2) 48x72	70	(2) 50x60	55	38-114	127	108	13,400
48x72 Triple	(3) WS-i20M-4872-AA6	WS-i20X3	(3) 48x72	105	(3) 50x60	55	38-228	254	108	20,100
48x72 Quad	(4) WS-i20M-4872-AA6	WS-i20X4	(4) 48x72	140	(4) 50x60	55	38-342	381	108	26,800



Upgrade to the Optional System Controller?

- ◆ Need more than four? The optional **System Controller** operates 2 – 8 units on 1 or 2 independent systems, or operates as a water monitor only
- ◆ Monochrome Graphics Display with blue backlight on front panel for time of day, day of week, days until next regeneration, current system flow rate, and total system volume used (Totalizer)
- ◆ Two input connections that can either be used for meters or other auxiliary inputs
- ◆ On-board Ethernet connection for remote, real-time monitoring of system performance

Item #	Install Parts for i15 Composite
39V-V3783WC-W	White Outdoor Cover
39V-V3076	Motorized Alternating Valve (Add connectors)
51-818P	2" x 18" Stainless Flex Line
51-824P	2" x 24" Stainless Flex Line
56-VAC150	1.5" Vacuum Breaker



- ◆ Supports Modbus TCP/IP communications
- ◆ System diagnostic and programming information spreadsheet may be uploaded to a standard USB drive
- ◆ Two fused Single Pole Double Throw (SPDT) relay outputs
- ◆ Single demand-based meter output signal
- ◆ Coin cell lithium battery backup for time of day with easy access cover
- ◆ Front panel LED status indicators for Online, Standby, Regeneration, and Lead Unit Position
- ◆ Language options include: English, Spanish, French, German, Italian, Dutch, and Polish

Part #	Description
System Controller	39V-V3030
Power Cable 15'	39V-V4276-15
Power Cable 36'	39V-V4276-36
Com Cable 8'	39V-V3474
Com Cable 12'	39V-V3474-12
Com Cable 24'	39V-V3474-24
Com Cable 36'	39V-V3474-36

i5 2" Brass Valve Backwash Systems

The i5 Backwashing series by IWP. Simple maintenance, highly adaptable and superb flow rates. Ideal for larger houses or light commercial applications. i5 series carbon backwashing units include a high flow totalizing meter, bypass and 1" plastic 90° MPT plumbing connectors. Many more connection options available.



Coconut shell carbon is used to reduce chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Catalytic carbon is used to reduce chloramine (NH₂Cl) and chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Katalox Lite and Filter-Ox are commonly used for the reduction of iron, manganese and hydrogen sulfide.

Clinoptilolite has nearly replaced multimedia in the past 30 years. Finer filtration, lower backwash rates and higher capacity make this a popular choice for clarifying water.

i5 2" Brass 12x40 Non Catalytic GAC							
Model #	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height	≈Weight Lbs. Dry
BW-i20C-1665-1C1	16x65	4	13	Cl 4-14	28	82	250
BW-i20C-1865-1C1	18x65	5	17	Cl 5-18	36	83	320
BW-i20C-2162-1C1	21x62	7	25	Cl 7-24	48	83	410
BW-i20C-2460-1C1	24x60	8	30	Cl 9-31	62	81	570
BW-i20C-2472-1C1	24x72	10	30	Cl 9-31	62	91	650
BW-i20CQ-3072-6C1	30x72	15	50	Cl 15-49	98	98	1000
BW-i20CQ-3672-6C1	36x72	20	70	Cl 21-71	120	98	1450

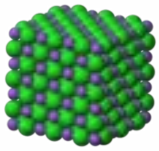
i5 2" Brass 12x40 Catalytic GAC 12x40 Mesh							
BW-i20C-1665-1C2	16x65	4	13	NH ₂ Cl 4-8	28	82	250
BW-i20C-1865-1C2	18x65	5	17	NH ₂ Cl 5-10	36	83	320
BW-i20C-2162-1C2	21x62	7	25	NH ₂ Cl 7-14	48	83	410
BW-i20C-2460-1C2	24x60	8	30	NH ₂ Cl 9-16	62	81	570
BW-i20C-2472-1C2	24x72	10	30	NH ₂ Cl 9-20	62	91	650
BW-i20CQ-3072-6C2	30x72	15	50	NH ₂ Cl 15-30	98	98	1000
BW-i20CQ-3672-6C2	36x72	20	70	NH ₂ Cl 20-40	120	98	1450

i5 2" Brass Katalox Light (Also available with Filter-Ox)							
BW-i20C-1665-1FL	16x65	4	17	4-16	20	81	410
BW-i20C-1865-1FL	18x65	5	20	5-21	27	82	520
BW-i20C-2162-1FL	21x62	7	30	7-28	36	82	650
BW-i20C-2460-1FL	24x60	8	40	9-37	47	80	900
BW-i20C-2472-1FL	24x72	10	40	9-37	47	90	1050
BW-i20CQ-3072-1FL	30x72	15	65	15-58	73	98	1600

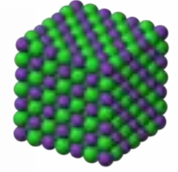
i5 2" Brass Clinoptilolite (AKA Filter-Ag+)							
BW-i20C-1665-1CL	16x65	4	20	4-16	27	81	370
BW-i20C-1865-1CL	18x65	5	25	5-21	36	82	470
BW-i20C-2162-1CL	21x62	7	35	7-28	48	82	590
BW-i20C-2460-1C2	24x60	8	45	9-37	62	80	830
BW-i20C-2472-1C2	24x72	10	45	9-37	62	90	950
BW-i20CQ-3072-6C2	30x72	15	75	15-58	90	98	1450

Item #	Install Parts for i1 2" Brass Valve
39V-V3098	No Hard Water Bypass
39V-V3076	Motorized Alternating Valve
51-818P	2" x 18" Stainless Flex Line w/ Nipple
51-824P	2" x 24" Stainless Flex Line w/ Nipple
39V-V3783WC-W	Outdoor Cover
56-VAC150	1.5" Vacuum Breaker

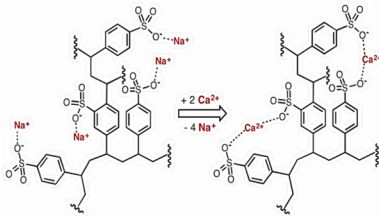




Sodium Chloride NaCl VS. Potassium Chloride KCl

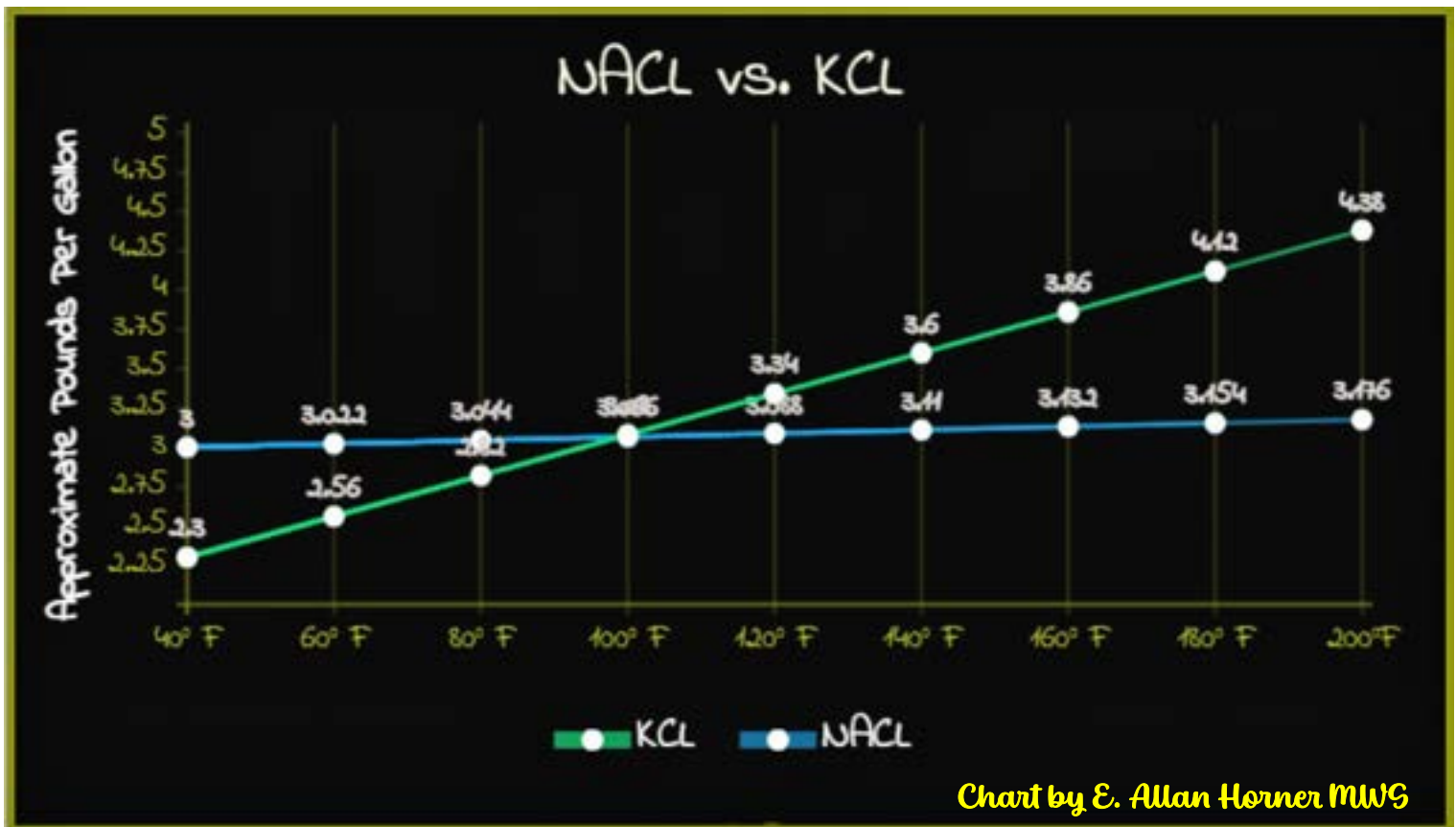


Sodium chloride and potassium chloride are the two most common regenerants used for water softening. Sodium Chloride requires little thought or planning. Potassium chloride requires considerable knowledge and a good understanding of water solubility based on varying water temperatures. The chart below shows the amount of NaCl and KCl that a gallon of water will dissolve at varying temperatures. When using KCl as a regenerant, the brine tank should be located in an environmentally



controlled location. If the brine tank can not be installed in such a location, caking, bridging, fouling, and other problems may occur. Outdoor and garage installations will commonly experience ambient temperature fluctuations in excess of 50°F. When the water temperature changes, recrystallization of the potassium chloride occurs causing a mush. This is due to potassium chloride's solubility based on water temperature. The

solubility increase is approximately 11% per 10 degrees of water temperature change. Controlling the temperature of the brine tank or programming the valve as a "brine fill first" will mitigate the problems common with KCl regeneration. More water in the brine tank will also be needed to achieve the same amount of capacity. Below 80°F you will need more water in the brine tank to achieve the same capacity. Larger brine tanks may also be needed if higher dosing rates are used.



Clack WS2HF



Specifications

Inlet/Outlet "Female NPT or BSPT
Cycles Up to 9
Valve Material..... Epoxy coated brass
Regeneration..... Downflow

Control valve Flow Rates

Service @15 psi drop (includes meter).....165 gpm
Backwash @ 25 psi drop.....175 gpm
Cv Service..... 42.6
Cv Backwash..... 35.0

Operating Pressures

Minimum/Maximum..... 20 psi – 125 psi

Operating Temperatures

Minimum/Maximum..... 40° – 110° F

Meter specifications

Accuracy..... ± 5%
Flow Rate Range..... 1.5 – 125 GPM
Gallon Range..... 10 – 999,000 gallons
Totalizer..... 1000– 999,999,000 gallons

Dimensions & Weight / Distributor Pilot

Valve bodies with 2" Female NPT Inlet & Outlet..... 2.375" OD (2" NPS)
Valve bodies with 2" Female BSPT Inlet & Outlet..... 63mm OD
Drain: 2" Female NPT/BSPT
Brine Line Connection..... 1" Male NPT elbow
Mounting Base..... 4" - 8 UN, 6" Flange or Side Mount
Height From Top Of Tank..... 11.4"
Shipping Weight With Meter..... 48 lbs.

Electrical Specifications	AC Adapter	U.S.	International
Supply Voltage.....	120V AC.....	230V AC	
Supply Frequency.....	60 Hz.....	60 Hz	
Output Voltage.....	24V DC.....	20V DC	
Output Current.....	800 mA.....	800 mA	

Tank Applications

Water Softener..... 18" – 63" diameter
Filter: @ 10 gpm of backwash per ft² of bed area.....18" – 54" diameter

Cycles of Operation

Cycle Range of time in minutes: Choose up to nine cycles in any order

1. Backwash 1st (upflow)..... 1-95
2. Regenerate Draw/Slow Rinse (downflow).....1-180
3. Slow Rinse.....1-95
4. Fast Rinse (downflow).....1-95
5. Regenerant Refill (in service with treated water).....0.1-99
6. Hold (service).....1-480 minutes

- 2" top mount or side mount control valve suited for commercial and industrial applications
- Modbus RS485 duplex to communicate with BMS
- Network up to 16 systems using Cat5 cables
- Programmable for Single, Alternating, Progressive Flow or Series
- Epoxy coated lead free brass valve body
- Built-in Internal Flow Meter standard with all valves
- Service flow rate 165 gpm (624 lpm) (37 m³/h), Backwash flow rate 175 gpm (662 lpm) (39 m³/h)
- Solid state microprocessor with removable screen
- Backlit display shows: Time of Date, Current Flow Rate, Volume Used, Volume Remaining, Days Remaining
- Four methods to initiate the down flow regeneration; meter delayed, meter immediate, time clock delayed, or pressure differential
- Fully programmable regeneration cycle sequences (maximum 9)
- Fully programmable regeneration cycle times
- Pre or Post treated water regenerant refill
- Days override feature; 1-28 days or 7 day
- 24-volt DC adapter provides a safe and easy installation
- Reliable and proven DC drive
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127

In March of 2020, Clack released a new electronics package for the WS2H and WS3 series control valves. If any electronic component needs replacing the entire kit must be replaced on all connected units.

ORDER NUMBER	DESCRIPTION
V4428	WS2H/3 PCB W/MODBUS UPGRADE KIT

NEW Monochrome Graphics



NEW Main Board



NEW Drive Bracket



OLD DESIGN:



NEW DC Power Supply



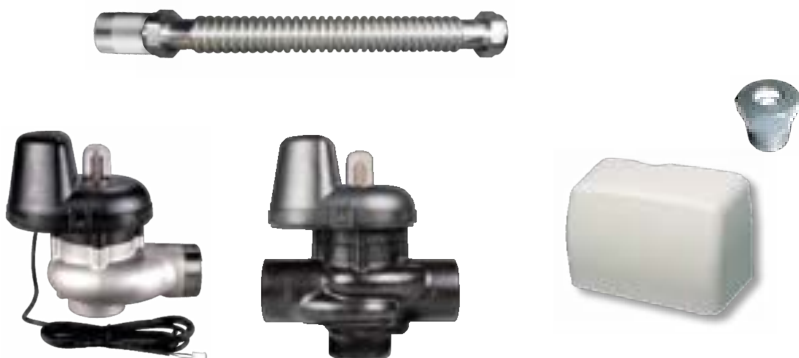
WS2HF 2" Commercial Softener



WS2HF 2" Brass Metered Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-2HFM-2472-1A96	24"x72"	10	15	9-62	120	93	24"x60"	910
WS-2HFM-3072-6A96	30"x72"	15	20	15-98	140	101	30"x60"	1380
WS-2HFM-3672-6A96	36"x72"	20	30	21-113	150	101	39"x48"	2040
WS-2HFM-4272-7A96	42"x72"	30	45	28-123	150	109	39"x60"	2650
WS-2HFM-4872-7A96	48"x72"	35	55	38-123	150	111	50"x60"	3350



WS2HF 2" Brass Twin Alternating Metered Softeners								
Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-2HFA-2472-1A96	(2) 24"x72"	20	15	9-62	120	93	24"x60"	1820
WS-2HFA-3072-6A96	(2) 30"x72"	30	20	15-98	140	101	30"x60"	2760
WS-2HFA-3672-6A96	(2) 36"x72"	40	30	21-113	150	101	39"x48"	4080
WS-2HFA-4272-7A96	(2) 42"x72"	60	45	28-123	150	109	39"x60"	5300
WS-2HFA-4872-7A96	(2) 48"x72"	70	55	38-123	150	111	50"x60"	6700



Item #	Install Parts for WS2HF" Brass Valve
39V-V3098	No Hard Water Bypass
39V-V3076	Motorized Alternating Valve
51-818P	2" x 18" Stainless Flex Line w/ Nipple
51-824P	2" x 24" Stainless Flex Line w/ Nipple
39V-V3783WC-W	Outdoor Cover
56-VAC150	1.5" Vacuum Breaker

WS2HF 2" Progressive Flow Softener Systems

Up to (16) "WS2HF" units are controlled without a System Controller allowing for high efficiencies and flow rates. Powerful programming make the WS2HF ideal for the most demanding commercial applications.

WS2HF 2" Progressive Flow Softener Specifications and Ordering

Type	Order Softener (2-4)	Order Progressive Kit	Media Tank	Ft ³ Resin	Recommended Brine Tank	DLFC Flow Rate	Service Flow GPM	Peak Flow GPM	Height Inches	Dry Pounds
24x72Twin	(2) WS-2HFM-2472-AA6	WS-2HX2	(2) 24x72	20	(2) 30x48	15	9-62	120	93	1820
24x72 Triple	(3) WS-2HFM-2472-AA6	WS-2HX3	(3) 24x72	30	(3) 30x48	15	9-124	240	93	2730
24x72 Quad	(4) WS-2HFM-2472-AA6	WS-2HX4	(4) 24x72	40	(4) 30x48	15	9-186	360	93	3640
30x72 Twin	(2) WS-2HFM-3072-AA6	WS-2HX2	(2) 30x72	30	(2) 39x48	20	15-98	140	101	2760
30x72 Triple	(3) WS-2HFM-3072-AA6	WS-2HX3	(3) 30x72	45	(3) 39x48	20	15-196	280	101	4140
30x72 Quad	(4) WS-2HFM-3072-AA6	WS-2HX4	(4) 30x72	60	(4) 39x48	20	15-294	420	101	5520
36x72 Twin	(2) WS-2HFM-3672-AA6	WS-2HX2	(2) 36x72	40	(2) 39x60	30	21-113	150	101	4280
36x72 Triple	(3) WS-2HFM-3672-AA6	WS-2HX3	(3) 36x72	60	(3) 39x60	30	21-226	300	101	6420
36x72 Quad	(4) WS-2HFM-3672-AA6	WS-2HX4	(4) 36x72	80	(4) 39x60	30	21-339	450	101	8560
42x72 Twin	(2) WS-2HFM-4272-AA6	WS-2HX2	(2) 42x72	60	(2) 42x60	45	28-123	150	109	10,600
42x72 Triple	(3) WS-2HFM-4272-AA6	WS-2HX3	(3) 42x72	90	(3) 42x60	45	28-246	300	109	15,900
42x72 Quad	(4) WS-2HFM-4272-AA6	WS-2HX4	(4) 42x72	120	(4) 42x60	45	28-369	450	109	21,200
48x72 Twin	(2) WS-2HFM-4872-AA6	WS-2HX2	(2) 48x72	70	(2) 50x60	55	38-123	150	111	13,400
48x72 Triple	(3) WS-2HFM-4872-AA6	WS-2HX3	(3) 48x72	105	(3) 50x60	55	38-246	300	111	20,100
48x72 Quad	(4) WS-2HFM-4872-AA6	WS-2HX4	(4) 48x72	140	(4) 50x60	55	38-369	450	111	26,800



Item #	Install Parts for WS2HF Valve
39V-V3098	No Hard Water Bypass
39V-V3076	Motorized Alternating Valve
51-818P	2" x 18" Stainless Flex Line w/ Nipple
51-824P	2" x 24" Stainless Flex Line w/ Nipple
39V-V4051WC	Outdoor Cover
56-VAC150	1.5" Vacuum Breaker



WS2HF 2" Valve Backwash Systems

The WS2HF Backwashing series by IWP. Simple maintenance, highly adaptable and superb flow rates. Ideal for larger commercial applications. The WS2HF backwashing units include Modbus connectivity and a highly programmable controller to meet the most demanding commercial and industrial needs.



Coconut shell carbon is used to reduce chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Catalytic carbon is used to reduce chloramine (NH₂Cl) and chlorine, trihalomethanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Katalox Lite and Filter-Ox are commonly used for the reduction of iron, manganese and hydrogen sulfide.

Clinoptilolite has nearly replaced multimedia in the past 30 years. Finer filtration, lower backwash rates and higher capacity make this a popular choice for clarifying water.

WS2HF 2" 12x40 Non Catalytic GAC							
Model #	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height	≈Weight Lbs. Dry
BW-2HFC-2472-1C1	24x72	10	30	CI 9-31	62	93	650
BW-2HFC-3072-6C1	30x72	15	50	CI 15-49	98	101	1000
BW-2HFC-3672-6C1	36x72	20	70	CI 21-71	142	101	1450
BW-2HFC-4272-7C1	42x72	30	95	CI 29-96	150	109	2050
BW-2HFC-4872-7C1	48x72	35	125	CI 38-126	150	111	2625
WS2HF 2" 12x40 Catalytic GAC 12x40 Mesh							
BW-2HFC-2472-1C2	24x72	10	30	NH ₂ Cl 9-20	62	93	650
BW-2HFC-3072-6C2	30x72	15	50	NH ₂ Cl 15-30	98	101	1000
BW-2HFC-3672-6C2	36x72	20	70	NH ₂ Cl 20-40	142	101	1450
BW-2HFC-4272-7C2	42x72	30	95	NH ₂ Cl 29-50	150	109	2050
BW-2HFC-4872-7C2	48x72	35	125	NH ₂ Cl 38-60	150	111	2625
WS2HF 2" Katalox Light (Also available with Filter-Ox)							
BW-2HFC-2472-1FL	24x72	10	40	9-47	62	93	1050
BW-2HFC-3072-6FL	30x72	15	65	15-73	98	101	1600
BW-2HFC-3672-6FL	36x72	20	90	21-105	140	101	2250
BW-2HFC-4272-7FL	42x72	30	120	28-135	150	109	3200
WS2HF 2" Clinoptilolite (AKA Filter-Ag+)							
BW-2HFC-2472-1CL	24x72	10	45	9-47	62	93	950
BW-2HFC-3072-6CL	30x72	15	75	15-73	98	101	1450
BW-2HFC-3672-6CL	36x72	20	100	21-105	140	101	2000
BW-2HFC-4272-7CL	42x72	30	145	28-115	150	109	2750



Item #	Install Parts for i1 2" Brass Valve
39V-V3098	No Hard Water Bypass
39V-V3076	Motorized Alternating Valve
51-818P	2" x 18" Stainless Flex Line w/ Nipple
51-824P	2" x 24" Stainless Flex Line w/ Nipple
39V-V3783WC-W	Outdoor Cover
56-VAC150	1.5" Vacuum Breaker
39V-V3094-15	2" Stainless Meter MxH

Clack WS3



- 3" top mount or side mount control valve suited for commercial and industrial applications
- Epoxy coated lead free brass valve body
- Economical stainless steel optional meter assembly
- Service flow rate 250 gpm (946 lpm) (56.8 m3/h), Backwash flow rate 220 gpm (833 lpm) (50.0 m3/h)
- Solid state microprocessor with easy access front removable POD
- Front panel display for Time of Day, Current Flow Rate, Totalizer and Volume/Days until Regeneration
- Four methods to initiate the down flow regeneration; meter delayed, meter immediate, time clock delayed, or pressure differential
- Fully programmable regeneration cycle sequences (maximum 9)
- Fully programmable regeneration cycle times
- Pre or Post treated water regenerant refill
- Days override feature; 1-28 days available
- Capacitor back-up with up to 24 hour carry over
- 24-volt output DC adapter provides safe and easy installation
- Reliable and proven DC drive
- Patented one piece expanding seal spacer stack assembly U.S. Patent 6,402,944
- Patented linearly reciprocating piston operation U.S. Patent 6,444,127

Specifications

Inlet/Outlet 3" Female NPT or BSPT
Cycles Up to 9
Valve Material..... Epoxy coated brass
Regeneration..... Downflow

Control valve Flow Rates

Service @ 15 psi drop (includes meter)..... 250 gpm
Backwash @ 25 psi drop..... 220 gpm
Cv Service..... 64.6
Cv Backwash..... 44.0

Operating Pressures

Minimum/Maximum..... 20 psi – 125 psi

Operating Temperatures

Minimum/Maximum..... 40° – 110° F

Meter specifications

Accuracy..... ± 5%
Flow Rate Range..... 3.5 – 350 GPM
Gallon Range..... 10 – 999,000 gallons
Totalizer..... 1000– 999,999,000 gallons

Dimensions & Weight / Distributor Pilot

Valve bodies with 3" Female NPT Inlet & Outlet..... 3.5" OD (3" NPS)
Valve bodies with 3" Female BSPT Inlet & Outlet..... 90mm OD
Drain: 3" Female NPT/BSPT
Brine Line Connection..... 1" Male NPT elbow
Adapter Included..... 3/4" x 1" solvent weld elbow
Mounting Base..... 6" Flange or Side Mount
Height From Top Of Tank..... 12.5"
Shipping Weight With Meter..... 57 lbs.

Electrical Specifications	AC Adapter	U.S.	International
Supply Voltage.....	120V AC.....	230V AC	
Supply Frequency.....	60 Hz.....	50 Hz	
Output Voltage.....	24V DC.....	24V DC	
Output Current.....	750 mA.....	750 mA	

Tank Applications

Water Softener..... 18" – 63" diameter
Filter: @ 10 gpm of backwash per ft² of bed area..... 18" – 63" diameter

Cycles of Operation

Cycle Range of time in minutes: Choose up to nine cycles in any order

1. Backwash 1st (upflow)..... 1-95
2. Regenerate Draw/Slow Rinse (downflow)..... 1-180
3. Slow Rinse..... 1-95
4. Fast Rinse (downflow)..... 1-95
5. Regenerant Refill (in service with treated water)..... 0.1-99.0
6. Hold (service)..... 1-480 minutes

In March of 2020, Clack released a new electronics package for the WS2H and WS3 series control valves. If any electronic component needs replacing the entire kit must be replaced on all connected units.

ORDER NUMBER	DESCRIPTION
V4428	WS2H/3 PCB W/MODBUS UPGRADE KIT

NEW Monochrome Graphics



NEW Main Board



NEW Drive Bracket



OLD DESIGN:



NEW DC Power Supply



WS3 3" Commercial Softener

The WS3 softener series by IWP. Simple maintenance, highly adaptable and superb flow rates. Ideal for the highest flow applications. The WS3 softening systems include Modbus connectivity and a highly programmable controller to meet the most demanding commercial and industrial needs. Up to 16 units can be connected together for the highest flow rates! Separate brine draw and slow rinse is ideal for salt silos. Available with a side mount option!

WS3 3" Brass Metered Softeners

Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-30C-2472-1A96	24"x72"	10	15	9-62	134	100	24"x60"	930
WS-30C-3072-6A96	30"x72"	15	20	15-98	186	108	30"x60"	1400
WS-30C-3672-6A96	36"x72"	20	30	21-141	222	108	39"x48"	2060
WS-30C-4272-7A96	42"x72"	30	45	28-185	244	118	39"x60"	2670
WS-30C-4872-7A96	48"x72"	35	55	38-200	251	120	50"x60"	3370
WS-30C-6386-7A96	63"x86"	50	100	65-248	275	125	50x50*	6000

*Requires Brine Cube



WS3 3" Brass Twin Alternating Metered Softeners

Softener Meter	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height Inches	Min. Rec. Brine Tank	≈Weight Lbs. Dry
WS-30C-2472-1A96	(2) 24"x72"	20	15	9-62	120	93	24"x60"	1860
WS-30C-3072-6A96	(2) 30"x72"	30	20	15-98	140	101	30"x60"	2800
WS-30C-3672-6A96	(2) 36"x72"	40	30	21-113	150	101	39"x48"	4120
WS-30C-4272-7A96	(2) 42"x72"	60	45	28-123	150	109	39"x60"	5340
WS-30C-4872-7A96	(2) 48"x72"	70	55	38-123	150	111	50"x60"	6740
WS-30C-6386-7A96	(2) 63"x86"	50	100	65-248	275	125	50x50*	12,000

*Requires Brine Cube

WS3 Accessories	Description
39V-V3764	3" Side Mount Adapter
39V-V3083	3" Motorized Alternating Valve
39V-V3099	3" No Hard Water Bypass
39V-V3783WC-W	Weather Cover
51-9315	3" x 15" MxF Flex Line
56-VAC	1.5" MNPT Vacuum Breaker
44-i60G	24" x 24" Brine Cube

WS3 3" Progressive Flow Softener Systems

Up to (16) "WS2HF" units are controlled without a System Controller allowing for high efficiencies and flow rates. Powerful programming make the WS2HF ideal for the most demanding commercial applications.

WS3 3" Progressive Flow Softener Specifications and Ordering Guide

Type	Order Softener (2-4)	Order Progressive Kit	Media Tank	Ft ³ Resin	Recommended Brine Tank	DLFC Flow Rate	Service Flow GPM	Peak Flow GPM	Height Inches	Dry Pounds
24x72Twin	(2) WS-30M-2472-AA6	WS-30X2	(2) 24x72	20	(2) 30x48	15	9-62	134	100	1860
24x72 Triple	(3) WS-30M-2472-AA6	WS-30X3	(3) 24x72	30	(3) 30x48	15	9-124	268	100	2790
24x72 Quad	(4) WS-30M-2472-AA6	WS-30X4	(4) 24x72	40	(4) 30x48	15	9-186	402	100	3720
30x72 Twin	(2) WS-30M-3072-AA6	WS-30X2	(2) 30x72	30	(2) 39x48	20	15-98	186	108	2800
30x72 Triple	(3) WS-30M-3072-AA6	WS-30X3	(3) 30x72	45	(3) 39x48	20	15-196	372	108	4200
30x72 Quad	(4) WS-30M-3072-AA6	WS-30X4	(4) 30x72	60	(4) 39x48	20	15-294	558	108	5600
36x72 Twin	(2) WS-30M-3672-AA6	WS-30X2	(2) 36x72	40	(2) 39x60	30	21-141	222	108	4120
36x72 Triple	(3) WS-30M-3672-AA6	WS-30X3	(3) 36x72	60	(3) 39x60	30	21-282	444	108	6180
36x72 Quad	(4) WS-30M-3672-AA6	WS-30X4	(4) 36x72	80	(4) 39x60	30	21-423	666	108	8240
42x72 Twin	(2) WS-30M-4272-AA6	WS-30X2	(2) 42x72	60	(2) 42x60	45	28-192	244	118	5340
42x72 Triple	(3) WS-30M-4272-AA6	WS-30X3	(3) 42x72	90	(3) 42x60	45	28-384	488	118	8010
42x72 Quad	(4) WS-30M-4272-AA6	WS-30X4	(4) 42x72	120	(4) 42x60	45	28-576	732	118	10,680
48x72 Twin	(2) WS-30M-4872-AA6	WS-30X2	(2) 48x72	70	(2) 50x60	55	38-248	251	120	6740
48x72 Triple	(3) WS-30M-4872-AA6	WS-30X3	(3) 48x72	105	(3) 50x60	55	38-496	502	120	10,110
48x72 Quad	(4) WS-30M-4872-AA6	WS-30X4	(4) 48x72	140	(4) 50x60	55	38-744	753	120	13,480
63x86 Twin	(2) WS-30M-4872-AA6	WS-30X2	(2) 63x86	100	(2) 50x60*	100	65-248	275	125	12,000
63x86 Triple	(3) WS-30M-4872-AA6	WS-30X3	(3) 62x86	150	(3) 50x60*	100	65-496	550	125	18,000
63x86 Quad	(4) WS-30M-4872-AA6	WS-30X4	(4) 63x86	200	(4) 50x60*	100	65-744	825	125	24,000

*Requires Brine Cube



Shown with optional
Separate Source MAV

WS3 Accessories	Description
39V-V3764	3" Side Mount Adapter
39V-V3083	3" Motorized Alternating Valve
39V-V3099	3" No Hard Water Bypass
39V-V3783WC-W	Weather Cover
51-9315	3" x 15" MxF Flex Line
56-VAC	1.5" MNPT Vacuum Breaker
44-i60G	24" x 24" Brine Cube



WS3 3" Commercial Backwash Systems

The WS3 Backwashing series by IWP. Simple maintenance, highly adaptable and superb flow rates. Ideal for larger commercial applications. The WS3 backwashing units include Modbus connectivity and a highly programmable controller to meet the most demanding commercial and industrial needs.



Coconut shell carbon is used to reduce chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Catalytic carbon is used to reduce chloramine (NH₂Cl) and chlorine, trihalo-methanes (THMs), VOCs, pesticides, and organic compounds while improving taste and reducing odors.

Katalox Lite and Filter-Ox are commonly used for the reduction of iron, manganese and hydrogen sulfide.

Clinoptilolite has nearly replaced multimedia in the past 30 years. Finer filtration, lower backwash rates and higher capacity make this a popular choice for clarifying water.

WS3 3" 12x40 Non Catalytic GAC							
Model #	Tank Size	Ft ³ of Media	DLFC GPM	≈Design Service GPM	≈Peak GPM	≈Height	≈Weight Lbs. Dry
BW-30C-3072-6C1	30x72	15	50	CI 15-49	98	108	1000
BW-30C-3672-6C1	36x72	20	70	CI 21-71	142	108	1450
BW-30C-4272-7C1	42x72	30	95	CI 29-96	192	118	2050
BW-30C-4872-7C1	48x72	35	125	CI 38-126	200	120	2625
BW-30C-6386-7C1	63x86	50	200	CI 65-216	250	125	4800

WS3 3" 12x40 Catalytic GAC 12x40 Mesh							
BW-30C-3072-6C2	30x72	15	50	NH ₂ Cl 15-30	98	108	1000
BW-30C-3672-6C2	36x72	20	70	NH ₂ Cl 21-40	142	108	1450
BW-30C-4272-7C2	42x72	30	95	NH ₂ Cl 29-50	192	118	2050
BW-30C-4872-7C2	48x72	35	125	NH ₂ Cl 38-60	200	120	2625
BW-30C-6386-7C2	63x86	50	200	NH ₂ Cl 65-100	250	125	4800

WS3 3" Katalox Light (Also available with Filter-Ox)							
BW-30C-3072-6FL	30x72	15	65	15-58	73	108	1600
BW-30C-3672-6FL	36x72	20	90	21-85	106	108	2250
BW-30C-4272-7FL	42x72	30	120	28-115	144	118	3200
BW-30C-4872-7FL	48x72	35	165	38-151	189	120	3200

WS3 3" Clinoptilolite (AKA Filter-Ag+)							
BW-30C-3072-6CL	30x72	15	75	15-58	98	108	1450
BW-30C-3672-6CL	36x72	20	100	21-85	142	108	2000
BW-30C-4272-7CL	42x72	30	145	28-115	192	118	2750
BW-30C-4872-7CL	48x72	35	185	38-151	250	120	2750



WS3 Accessories	Description
39V-V3083	3" Motorized Alternating Valve
39V-V3099	3" No Hard Water Bypass
39V-V3783WC-W	Weather Cover
51-9315	3" x 15" MxF Flex Line
56-VAC	1.5" MNPT Vacuum Breaker
39V-V3095-15	3" Meter

Grey Water Recycling & Brine Diversion



Water softeners use a small amount of water as a total of the treated water they provide. In locations where water is limited an IWP Grey Water Recycling/Brine Diversion system can greatly reduce the amount of water that is wasted. The high TDS water is diverted to the sewage and the lower TDS water is diverted to an irrigation system, French drain, or other locally allowed grey water reuse method. This high TDS load can negatively impact the sewage and reclamation plants that treat this waste water. Brine diversion and disposal is a viable alternative to this issue. Our Brine Diversion systems monitor the waste water TDS diverting the high TDS (brine) water to a storage tank where alternative forms of disposal can be completed. This system is also commonly used for grey water re-use where the sewer can accommodate high TDS but the low TDS backwash and rinse cycles are desired for reuse in irrigation, cooling towers, or other water recycling methods. Follow all local laws and regulations. Contact IWP for assistance in designing your Brine Diversion system. Standard units include a high quality 3 way ball valve, TDS monitoring with probe, and a simple plug and play design with an attached 110V cord. Systems are custom built specific to each application.

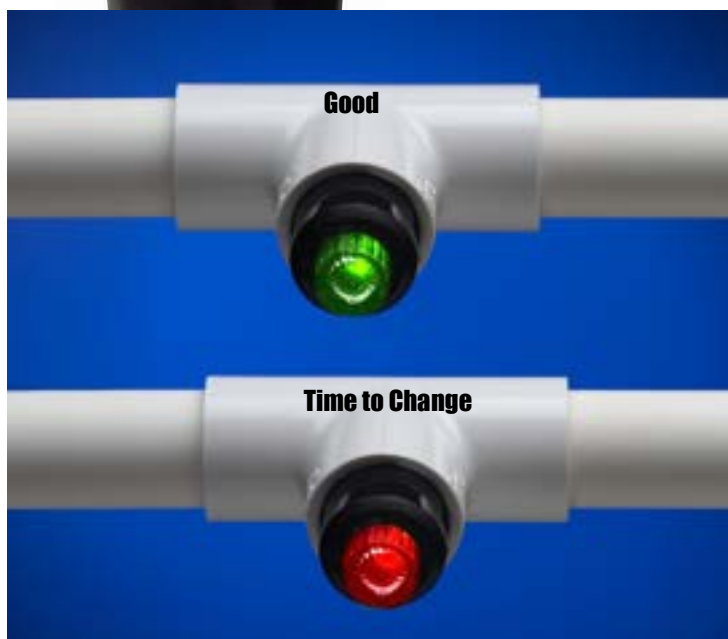


DI Tanks

Deionization removes the majority of dissolved ions and is ideal for RO polishing, spot free rinses, or any application requiring the lowest dissolved solids. Custom builds available. Available with and without the Resilite 500K Ω water quality monitor. Resilite monitors have an accuracy of $\pm 15\%$. All Resilite systems include a 110V transformer with a 9' cord. DI tanks can be custom built with any size tank and In/Out head.



1 cubic foot of new mixed bed DI resin has approximately 100,000 ppm



Water Quality Conversion Chart

RESISTIVITY (ohm-cm) Ω	CONDUCTIVITY (μ S/cm)	$\approx$ TDS $\pm 15\%$ (ppm)	EC Electrical Conductivity	Max/ Min pH
18 MEG Ω	0.056	.028	.044	7.8/6.2
14 MEG Ω	0.071	.036	.056	7.9/6.1
10 MEG Ω	0.1	.05	.078	8.1/5.9
6 MEG Ω	.167	.083	.13	8.3/5.7
2 MEG Ω	0.5	.25	.39	8.8/5.2
1 MEG Ω	1	.50	.78	9.1/4.9
500K Ω	2	1	1.56	9.4/4.6
200K Ω	5	2.5	3.9	9.8/4.2
50K Ω	20	10	15.6	10.4/3.6
20K Ω	50	24	37.5	10.9/3.2
10K Ω	100	48	75	11.2/2.9
5K Ω	200	95	148	11.3/2.6
1K Ω	1000	500	781	12.2/1.9

DI Systems w/500K Ohm Resilite

Item #	Tank Size	Resin Capacity Ft ³
IOD-89-1018-DX	10x18	0.6
IOD-89-0844-DX	8x44	1
IOD-89-0948-DX	9x48	1.5
IOD-89-1018-DX	10x18	.65
IOD-89-1054-DX	10x54	2.2
IOD-89-1235-DX	12x35	2.3
IOD-89-1252-DX	12x52	3
IOD-89-1354-DX	13x54	3.8
IOD-89-1465-DX	14x65	5
IOD-89-1653-DX	16x53	5.3
IOD-89-1665-DX	16x65	6.8

Many other sizes available.



DI Systems w/out Resilite

Item #	Tank Size	Resin Capacity Ft ³
IOD-89-1018-DX3	10x18	0.6
IOD-89-0844-DX3	8x44	1
IOD-89-0948-DX3	9x48	1.5
IOD-89-1018-DX3	10x18	.65
IOD-89-1054-DX3	10x54	2.2
IOD-89-1235-DX3	12x35	2.3
IOD-89-1252-DX3	12x52	3
IOD-89-1354-DX3	13x54	3.8
IOD-89-1465-DX3	14x65	5
IOD-89-1653-DX3	16x53	5.3
IOD-89-1665-DX3	16x65	6.8

Many other sizes available.



i5 Composite Control Valves

i5 control valves with composite bodies! Clack has mastered using the same parts across the entire platform minimizing inventory and maintenance. All of the i5 controls use the same electronics, backplate, cover and drivetrain. Composite control valves are resistant to difficult water conditions.

1" valve shown with optional bypass



1" AIO3 valve shown with optional bypass and 39V-V3007-01 connectors



1.25" i5 valve show with optional bypass.



Update PIC with BP

Update PIC with 2"

Item #	Type	Meter	DLFC GPM	Typical tank	Tank Neck	Riser Size	Brine Size	Drain Size	In/Out
1" i5 Control Valves									
39i-10FC	Filter	No	1-10	6"-13"	2.5"	1.05"	NA	3/4" MPT	3/4" to 1-1/2"
39i-10FC25	Filter	No	9-25	14"-21"	2.5"	1.05"	NA	1" MPT	3/4" to 1-1/2"
39i-10FM	Filter	Yes	1-10	6"-13"	2.5"	1.05"	NA	3/4" MPT	3/4" to 1-1/2"
39i-10FM25	Filter	Yes	9-25	14"-21"	2.5"	1.05"	NA	1" MPT	3/4" to 1-1/2"
39i-10SM	Softener	Yes	1-10	6"-18"	2.5"	1.05"	3/8"	3/4" MPT	3/4" to 1-1/2"
39i-10SM1	Softener	Yes	9-25	18"-21"	2.5"	1.05"	3/8"	1" MPT	3/4" to 1-1/2"
39i-10SMU	Upflow Softener	Yes	1-10	6"-18"	2.5"	1.05"	3/8"	3/4" MPT	3/4" to 1-1/2"
39i-10SM2	AIO	Yes	1-10	6"-18"	2.5"	1.05"	NA	3/4" MPT	3/4" to 1-1/2"
39i-10SM2-25	AIO	Yes	9-25	18"-21"	2.5"	1.05"	NA	1" MPT	3/4" to 1-1/2"
39i-10SM3	AIO3	Yes	1-10	6"-18"	2.5"	1.05"	NA	3/4" MPT	3/4" to 1-1/2"
39i-10SM3-25	AIO3	Yes	9-25	18"-21"	2.5"	1.05"	NA	1" MPT	3/4" to 1-1/2"
1" i5 Twin Alternator Control Valves									
39i-10TSM10	Twin Alternator	Yes	1-10	6"-10"	2.5"	1.05"	3/8"	3/4" MPT	3/4" to 1-1/2"
39i-10TSM16	Twin Alternator	Yes	1-10	12"-16"	2.5"	1.05"	3/8"	3/4" MPT	3/4" to 1-1/2"
39i-10TSM21	Twin Alternator	Yes	1-10	18"-21"	2.5"	1.05"	3/8"	1" MPT	3/4" to 1-1/2"
39i-TSM316	Twin Filter AIO3	Yes	1-10	6"-13"	2.5"	1.05"	NA	3/4" MPT	3/4" to 1-1/2"
1.25" i5 Control Valves									
39i-12FM	Filter	Yes	1-1	10"-13"	2.5"	1.32"	NA	3/4" MPT	3/4" to 1-1/2"
39i-12FM25	Filter	Yes	9-25	14"-24"	2.5"	1.32"	NA	1" MPT	3/4" to 1-1/2"
39i-12FM30	Filter	Yes	30	14"-24"	2.5"	1.32"	NA	1.5" FPT	3/4" to 1-1/2"
39i-12SM	Softener	Yes	1-10	10"-18"	2.5"	1.32"	3/8"	3/4" MPT	3/4" to 1-1/2"
39i-12SM21	Softener	Yes	9-25	21"	2.5	1.32"	3/8"	1" MPT	3/4" to 1-1/2"
39i-SM3-25	AIO3	Yes	9-25	18"-21"	2.5	1.32"	NA	1" MPT	3/4" to 1-1/2"
1.5" i5 Control Valves									
39i-15-PBFC	Filter	Optional	1-20	14"-24"	4"	1.9"	NA	1" MPT	1.5"-2"
39i-15-PBFC25	Filter	Optional	20-40	24"-30"	4"	1.9"	NA	1.5" MPT	1.5"-2"
39i-15-PBSC	Softener	Optional	1-25	14"-24"	4"	1.9"	1/2"	1" MPT	1.5"-2"
39i-15-PBSCM	Softener	Yes	1-25	14"-24"	4"	1.9"	1/2"	1" MPT	1.5"-2"
39i-15PBFC3	AIO3	Optional	1-20	14"-16"	4"	1.9"	NA	1" MPT	1.5"-2"
39i-15PBFC325	AIO3	Optional	20-40	18"-24"	4"	1.9"	NA	1.5" MPT	1.5"-2"
1.5" i5 Twin Alternator Control Valves									
39i-15PTASM	Twin Alternator	Optional		14"-24"	4"	1.9"	1/2"	1" MPT	1.5"-2"
2" i5 Control Valves									
39i-20PFC	Filter	No	0.7-75	14"-36"	4"	1.9"	1/2"-1"	2" MPT	2"
39i-20PSC	Softener	No	0.7-30	14"-36"	4"	1.9"	1/2"-1"	2" MPT	2"
39i-20PSM	Softener	No	0.7-30	14"-36"	4"	1.9"	1/2"-1"	2" MPT	2"

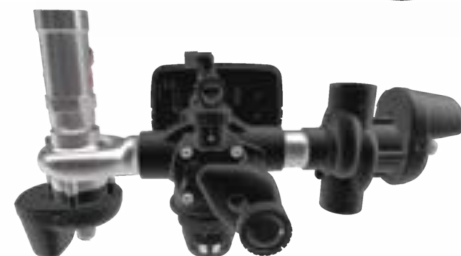


i5 Brass/WS2HF/WS3 Control Valves

i5 control valves with epoxy coated brass bodies! Clack has mastered using the same parts across the entire platform minimizing inventory and maintenance. WS2HF and WS3 include full Modbus capabilities!.

Item #	Type	Meter	DLFC GPM	Typical Tank	Tank Neck	Riser Size	Brine Size	Drain Size	In/Out
39i-15FC	Filter	No	1-10	12"-13"	4"	1.9"	NA	3/4" MPT	1.5" FPT
39i-15FC25	Filter	No	9-25	12"-24"	4"	1.9"	NA	1" MPT	1.5" FPT
39i-15FC50	Filter	No	8-50	30"	4"	1.9"	NA	1.5" FPT	1.5" FPT
39ii-15SC	Softener	No	1-10	12"-18"	4"	1.9"	1/2"	3/4" MPT	1.5" FPT
39i-15SC30	Softener	No	9-25	21"-30"	4"	1.9"	1/2"	1" MPT	1.5" FPT
39ii-15SC	Softener	Yes	1-10	12"-18"	4"	1.9"	1/2"	3/4" MPT	1.5" FPT
39i-15SC30	Softener	Yes	9-25	21"-30"	4"	1.9"	1/2"	1" MPT	1.5" FPT
39i-20FC10	Filter	No	1-10	12"-13"	4"	1.9"	NA	3/4" MPT	2" FPT
39i-20FC25	Filter	No	9-25	14"-24"	4"	1.9"	NA	1" MPT	2" FPT
39i-20FC85	Filter	No	9-85	30"-42"	4"	1.9"	NA	1.5" FPT	2" FPT
39i-20SC10	Softener	No	1-10	12"-18"	4"	1.9"	1/2"	3/4" MPT	2" FPT
39i-20SM10	Softener	Yes	1-10	12"-18"	4"	1.9"	1/2"	3/4" MPT	2" FPT
39i-20SC25	Softener	No	9-25	21"-30"	4"	1.9"	1/2"	1" MPT	2" FPT
39i-20SM25	Softener	Yes	9-25	21"-30"	4"	1.9"	1/2"	1" MPT	2" FPT
39i-2QFC85F	Filter	No	9-85	30"-42"	6" Flange	2.375"	NA	1.5" FPT	2" FPT
39i-2QSC254	Softener	No	9-25	18"-24"	4"	2.375"	1/2"	1" MPT	2" FPT
39i-2QSM254	Softener	Yes	9-25	18"-24"	4"	2.375"	1/2"	1" MPT	2" FPT
39i-2QSC25F	Softener	No	9-25	24"-30"	6" Flange	2.375"	1/2"	1" MPT	2" FPT
39i-2QSM25F	Softener	Yes	9-25	24"-30"	6" Flange	2.375"	1/2"	1" MPT	2" FPT
39i-2QSC85F	Softener	No	9-25	36"-48"	6" Flange	2.375"	1/2"	1.5" FPT	2" FPT
39i-2QSM85F	Softener	Yes	9-25	36"-48"	6" Flange	2.375"	1/2"	1.5" FPT	2" FPT

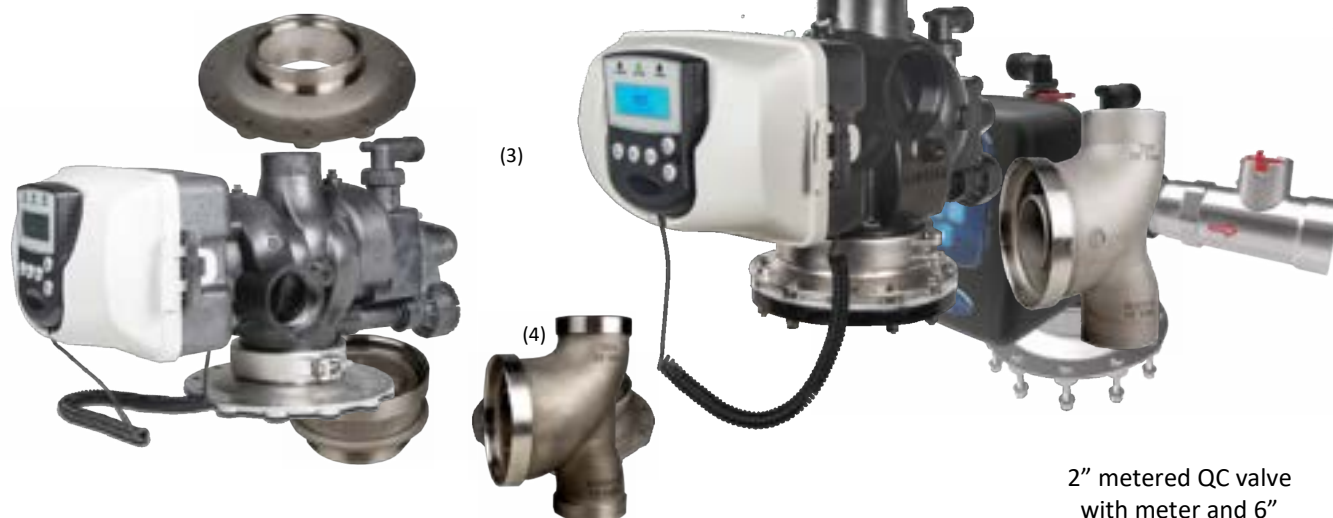
1.5" valve shown with meter and optional NHWBP



Backside of 2" metered valve shown with optional NHWBP and MAV



2" metered QC valve with optional NHWBP and 4" threaded tank adapter



2" metered QC valve with meter and 6" flange adapter

i5 & Clack Service Parts

Tools

39V-V3193-02	Service Wrench
39V-V3022	1" & 1.5" Twin Stack Puller
39V-V3022-15	1.25" & 1.5" Stack Puller

Rebuild Kit (Pistons, Stack, Cap)

39-CK10-CK	(1) 1" Downflow
39V-V3630	(2) WS2HF, WS3, WS2H*

Drive Cap

39V-V3004	(3) 1", 1" Twin, 1.25", 1.5", 1.5" Twin
39V-V3728	(4) 2", 2"QC (Not WS2HF)
39V-V3093	(5) WS2HF & WS3*

Pistons

39V-V3011	(6) 1" & 1" Twin Downflow
39V-V3011-01	(7) 1" & 1" Twin Upflow
39V-V3407	(8) 1.25", 1.5" Brass, 1.5" Plastic Downflow
39V-V4042	(9) 1.25", 1.5" Brass, 1.5" Plastic Upflow
39V-3725	(10) 2", 2"QC Downflow (Not WS2HF)
39V-V4059	(11) 2" Upflow (Not WS2HF)
39V-V3666-01	(12) WS2HF, WS3, WS2H*

Brine Piston

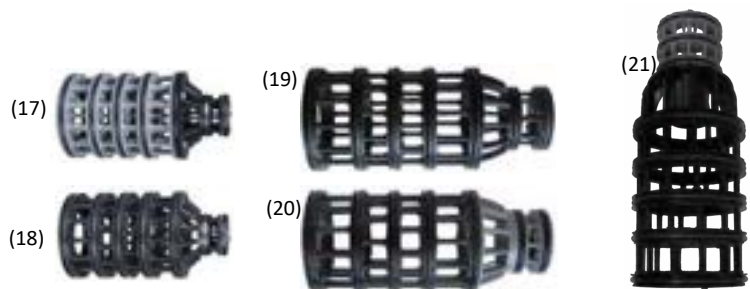
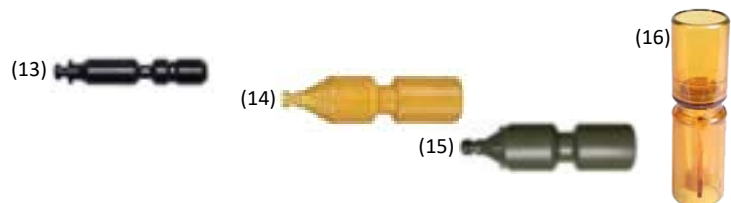
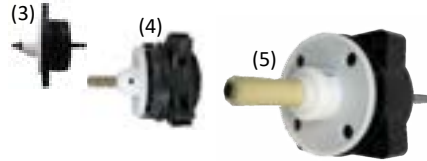
39V-V3174	(13) 1.25", 1.5" Brass, 1.5" Plastic
39V-V3726	(14) 2" & 2" QC (Not WS2HF)
39V-V3745	(15) 2" & 2" QC Upflow (Not WS2HF)
39V-V3238-01	(16) WS2HF, WS3, WS2H

Seal/Spacer Stack

39V-V3005-02	(17) 1" and 1" Twin
39V-V3430-01	(18) 1.25", 1.5" Brass, 1.5 Plastic
39V-V3729	(19) 2" & 2"QC
39V-V3729-01	(20) 2" & 2"QC Upflow (Not WS2HF)
39V-V3092	(21) WS2HF, WS3, WS2H*

Boards Excluding WS2H/HF/3

40-V4445	All i5 Systems
39V-V3818TC	3 Button 1" & 1.25" Valves
39V-V3408EE	4 Button EE
39V-V3108-5B	5 Button Standard, 1" & 1.25" Valves
39V-V4072SP-03	Solar for EE



Boards for WS2H/HF/3

39V-V3241-02	Pod Board
39V-V3082-01	Complete Replacement Pod w/Board
39V-V3242-03	Main Board w/Modbus
39V-V4427	Relay Expansion Kit
39V-V4428	Complete Upgrade Electronics Kit



i5 & Clack Service Parts



Motor

39V-V3107-01	(1) All Valves Except 1" Twin Transfer
39V-V4055	(2) 1" Twin Transfer Valve
39V-V3476	(3) MAV/NHWBP

Meter Rebuild

39V-V3003-05	(4) 1" & 1.25"
39V-V4055	1", 1.5" Twin
39V-V3003-06	Remote Meter with 28" Cord
39V-V3221	Remote Meter with 15' Cord
39V-V4039	Remote Meter with 4' Cord

MAV/NHWBP Piston

39V-V3506-01	1", 1.25", 1.5"
39V-V3634-01	2"
39V-V3695-01	3"

MAV Stack Assembly

39V-V3074	1", 1.5" S.S. & Plastic MAV (Single Stack)
39V-V3077	2" S.S. & Plastic MAV (Double Stack)
39V-V3084	3" Brass MAV (Double Stack)

NHWBP Stack Assembly

39V-V3074	1", 1.5" Plastic (Single Stack)
39V-V3077	2" Plastic (Double Stack)
39V-V3886	1.5" SS NHWBP (Single Stack)
39V-V3887	2" SS NHWBP (Single Stack)
39V-V3888	3" Brass NHWBP (Single Stack)

Power Supply

39V-V3186-06	110V to 15VDC Transformer
39V-V3186EU-06	220V to 15VDC Transformer Euro Plug
39V-3461-02	110V WS2H/WS2HF/WS3 Transformer

Solar Retrofit Parts

39V-V3846	Solar Retrofit Kit for EE Valves
39V-V3842	Solar Panel w/Bracket
39V-V3835-02	Battery Pack
39V-V4072SP-03	Solar for EE
39V-V3814-01	Drive Bracket w/out battery
39V-V3175SP-01	EE Solar Cover

Clack™ MAV and NHWBP Valves

NHWBP valves can be installed to shut off the outlet during regeneration to prevent untreated water from exiting the system, common in progressive flow designs. MAV's are used for twin alternating or to use a separate regeneration source.

Item #	Size	Type	Material	Notes
39V-V3069FF-01	1" & 1.25" Female QC	MAV	Composite	Bottom Port is Clack QC or 1-1/4 MPT
39V-V3069MM-01	1" & 1.25" Male QC	MAV	Composite	Bottom Port is Clack QC or 1-1/4 MPT
39V-V3070FF	1" & 1.25" Female QC	NHWBP	Composite	Add Connectors
39V-V3070FM	1" & 1.25" Male x Female QC	NHWBP	Composite	Add Connectors
39V-V3034	1.5" QC Female	MAV	Composite	Add Connectors
39V-V3035	1.5" QC Female	NHWBP	Composite	Add Connectors
39V-V3071	1.5" FPT	MAV	LF Brass	NA
39V-V3097	1.5" FPT/MPT	NHWBP	316 Stainless	NA
39V-V3036	2" QC Female	MAV	Composite	Add Connectors
39V-V3037	2" QC Female	NHWBP	Composite	Add Connectors
39V-V3076	2" FPT	MAV	LF Brass	NA
39V-V3098	2" FPT/MPT	NHWBP	316 Stainless	NA
39V-V3083	3" FPT	MAV	LF Brass	NA
39V-V3099	3" FPT x MPT	NHWBP	LF Brass	NA



Item #	1" & 1.25" Connectors*
39V-V3007	1" MPT Elbow
39V-V3007-18	3/4" MPT Straight
39V-V3007-04	1" MPT Straight
39V-V2007-05	1.25" MPT Straight
39V-V3007-01	3/4" & 1" PVC Solvent Elbow
39V-V3007-07	1.25" x 1.5" PVC Solvent Elbow
39V-V3007-22	1" Press and Sweat
1.5" Connectors*	
39V-V4430-01	1.5" Straight MPT
39V-V4430-07	1.5" MPT Elbow
39V-V4430-13	1.5" & 2" Solvent Straight
39V-V4430-03	QC x QC Coupler Straight
39V-V4430-09	QC x QC Coupler Elbow
2" Connectors*	
39V-V4460-01	2" Straight MPT
39V-V4460-04	2" MPT Elbow
39V-V4460-13	2" Solvent Straight
39V-V4460-03	QC x QC Coupler Straight
39V-V4460-06	QC x QC Coupler Elbow



* Connectors come in packs of two, couplers come in singles. Many more 1" and 1.25" connectors available, see 1" install parts page for details.



Commercial Water Softener Sizing

Water usage estimates vary widely due to factors like building size, occupancy, efficiency of fixtures/equipment, location (climate), operations (e.g., laundry kitchen), and water conservation measures. These are typical averages or ranges—actual usage should be measured or calculated for specific designs. Figures are generally in gallons per day (gpd) unless noted otherwise. Gallons per minute (GPM) is an important factor to consider and should be sized within the service flow rates while avoiding water flows near the peak flow. Hot water often represents 20–40%+ of total in hospitality/healthcare (higher for kitchens/laundry/showers) but is lower in offices.

Commercial Application	≈Gallons
Hotels Hot Only Per Room	100 "Per Day"
Hotels Hot/Cold Per Room	300 "Per Day"
Restaurants Hot Only Per Guest	3 "Per Day"
Restaurants Hot/Cold Per Guest	10 "Per Day"
Offices Hot Only Per Employee	5 "Per Day"
Offices Hot/Cold Per Employee	10 "Per Day"
Schools Hot Only Per Student	5 "Per Day"
Schools Hot/Cold	20 "Per Day"
Laundry Top Load	3 "Per Pound"
Laundry Front load	2 "Per Pound"
Laundry Tunnels	2 "Per Pound"

Livestock are more tolerant than humans but poor water reduces intake, feed efficiency, growth, reproduction, and health. Test your well water regularly (TDS, pH, alkalinity, sulfates, nitrates, bacteria etc.),

- **Total Dissolved Solids (TDS/Salinity):** <1,000 mg/L = excellent; 1,000–3,000 = satisfactory (mild diarrhea possible in new animals); 3,000–5,000 = marginal (avoid for young/pregnant/lactating); >7,000–10,000 = risky/unfit. Poultry is most sensitive.
- **pH:** Ideally 6.5–8.5 (most tolerate 5.5–9.0). Your well's pH 8.8 is on the high side—generally acceptable for mature ruminants but monitor for refusal or digestive upset. Very high pH (>9–10) can irritate mouths/eyes, reduce palatability, or cause issues with minerals.
- **Alkalinity** (as CaCO₃): <400–1,000 mg/L preferred. Your ~1,000 mg/L level is borderline/high—may cause laxative effects or reduced intake in sensitive animals. High bicarbonate alkalinity can contribute to urinary calculi (stones) in males or interact with diet.
- **Sulfates:** <500–1,000 mg/L (lower for calves/poultry). High levels cause diarrhea and copper deficiency.
- **Nitrates/Nitrites:** Nitrate-N <100 mg/L (safer <45); nitrite lower. High levels risk methemoglobinemia ("blue baby" syndrome), especially in young/ruminants.
- **Bacteria/Coliforms:** Low counts essential (<200 total bacteria/100 mL ideally). Avoid fecal contamination.
- **Other:** Iron/Mn (staining/taste), heavy metals (low limits, e.g., lead <0.1 mg/L), and toxins like blue-green algae.

General Best Practices

- Test water seasonally + after weather events.
- Ensure clean troughs (algae, debris reduce intake).
- In hot climates or with high-alkalinity water, monitor intake closely—animals may drink less, impacting health.
- For sensitive groups (young, lactating, pregnant), aim for highest quality.

Livestock Water Consumption	≈Gallons Per Day
Cattle (Beef/Dairy)	
Dry/Mature Cow	15
Lactating Cow/Dairy	45
Bulls	15
Calves (Young)	5
Horses	
Idle/Non Working	4-12
Working (Medium-Heavy)	15+
Lactating/Gestating	12
Sheep & Goats	
Adult (Dry)	3
Lactating (With Young)	4
Lamb/Kids (Feeder)	2
Pigs	
Finishing/Growing	6
Lactating Sows	8
Gestating Sow	6
Poultry (Per 100 Birds)	
Laying Hens	8
Broilers (Young to mature)	12
Turkeys	20

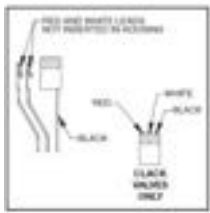
Pipe size is one of the more critical calculations when designing a water treatment system. The chart to the left show recommended maximum flow rates in GPM based on pipe size and water temperature. Hot water and high velocity can destroy copper plumbing. By using this chart you can ensure your systems are designed for the application. Water flowing above 8 Feet Per Second (FPS) can cause noise, erosion of the copper, water hammer and

Type "L" Copper	Cold (8 FPS Max)	Hot <140° F (5 FPS Max)	Hot >140° F (2 FPS Max)
1/2"	5.8 GPM	3.6 GPM	1.5 GPM
3/4"	12.1 GPM	7.5 GPM	3 GPM
1"	20.5 GPM	12.9 GPM	5.2 GPM
1-1/4"	31.3 GPM	19.6 GPM	7.8 GPM
1-1/2"	44 GPM	28 GPM	11 GPM
2"	77 GPM	48 GPM	19 GPM
2-1/2"	119 GPM	75 GPM	30 GPM
3"	170 GPM	106 GPM	43 GPM
4"	333 GPM	208 GPM	82 GPM
5"	514 GPM	321 GPM	128 GPM
6"	735 GPM	459 GPM	184 GPM

Clack™ Meters & Accessories



Item #	Description	Material	Pulses per Gal.	Min-Max GPM
39V-V3039*	(1) 1" w/28" Cable (Add V3007-XX Kit)	Plastic	66	.5-40
39V-V3039-15	1" w/15' Cable (Add V3007-XX Kit)	Plastic	66	.5-40
39V-V3045	(2) 1-1/2" w/28" Cable MxM	Plastic	37	.5-75
39V-V3045-15	1-1/2" w/15' Cable MxM	Plastic	37	.5-75
39V-V3045QC	(3) 1-1/2" w/28" Cable Quick Connect	Plastic	37	.5-75
39V-V3045QC-15	1-1/2" w/15' Cable Quick Connect	Plastic	37	.5-75
39V-V3048	(4) 2" w/28" Cable Quick Connect	Plastic	20	1.5-150
39V-V3048-15	2" w/15' Cable Quick Connect	Plastic	20	1.5-150
39V-V3048QC	(5) 2" w/28" Cable Quick Connect	Plastic	20	1.5-150
39V-V3048QC-15	2" w/15' Cable Quick Connect	Plastic	20	1.5-150
39V-V3040	1-1/2" MxF w/28" Cable	Stainless	37	.5-75
39V-V3040-15	(6) 1-1/2" MxF w/ 15' Cable	Stainless	37	.5-75
39V-V3094	2" MxF w/28" Cable	Stainless	20	1.5-150
39V-V3094-15	(7) 2" MxF w/15' Cable	Stainless	20	1.5-150
39V-V3095	3" MxF w/48" Cable	Stainless	8	3.5-350
39V-V3095-15	(8) 3" MxF w/15' Cable	Stainless	8	3.5-350
39V-V3003-02	(9) Meter Turbine w/28" Cable	N/A	N/A	N/A
39V-4039	Meter Turbine w/48" Cable	N/A	N/A	N/A
39V-V3221	Meter Turbine w/15' Cable	N/A	N/A	N/A

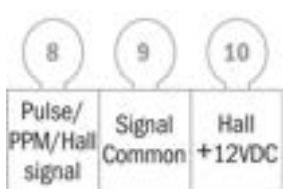


Wiring to an S Series Stenner

WHITE: Pulse/PPM/Hall signal

BLACK: Signal Common

RED: Hall +12VDC



*Add one of the connector kits below to complete the 39V-V3039 meter, see 1" install page for more connectors

Item #	Description
39V-V3008-18	(10) 3/4" Plastic Male NPT
39V-V3007-04	(11) 1" Plastic Male NPT
39V-V3007-05	(12) 1.25" Plastic Male NPT
39V-V3007-03LF	(13) 3/4" Brass Sweat (Lead Free)
39V-V3007-02LF	(14) 1" Brass Sweat (Lead Free)
39V-V3007-09LF	(15) 1.25" x 1.5" Brass Sweat (Lead Free)
39V-V3007-07	(16) 1.25" & 1.5" PVC Solvent
39V-V3007-19	(17) 3/4" John Guest
39V-V3007-17	(18) 1" John Guest

Clack Flow Controls

Clack WS1, 125, 1.0 Twin	
39V-V3962 (1)	3/4" Male NPT Elbow for Small Clack Button 0.7-10 GPM
39V-V3008-04 (2)	1" Male NPT for Large Clack Button 9-25 GPM
Clack WS1.5EE/iS Brass Valve	
39V-V3414 (3)	1-1/4" Adapter for use with 39V-V3962 or 39V-V3008-04
39V-V3079 (4)	1-1/4" Male NPT x 1-1/2" Female NPT uses (1) Large(6) Small Clack Buttons, Stainless. 9-85 GPM
Clack WS1.5EE/iS Plastic Valve	
39V-V4430-04NPT (5)	1" Elbow with Flow Control Retainer (1-5 Small DLFC Buttons)
39V-V4430-08 (6)	1.5" Elbow, to Replace the 1" Elbow Above 25 GPM
Clack WS2EE/iS and WS2QCEE/iS Valve	
39V-V3158-04 (7)	3/4" Male NPT Elbow for Small Clack Button 0.7-10 GPM
39V-V3008-05 (8)	1" Male NPT for Large Clack Button 9-25 GPM
39V-V3080 (9)	1-1/2" Male NPT x 1-1/2" Female NPT Uses (1) Large(6) Small Clack Buttons, Stainless. 9-85 GPM
Clack WS2HF	
39V-V3051 (10)	2" Male NPT x 2" Female NPT use up to (4) Large (5) Small Clack
Clack WS3	
39V-V3764 (7)	3" Male NPT x 3" Female NPT uses up to (9) Large Clack Buttons, Stainless 9-225 GPM



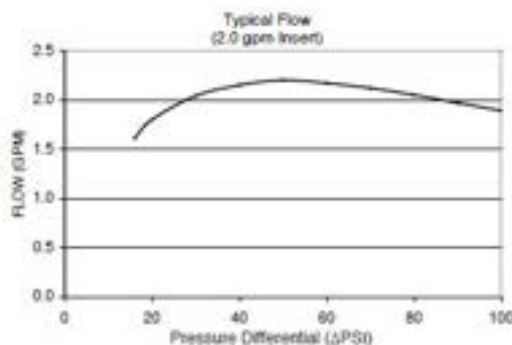
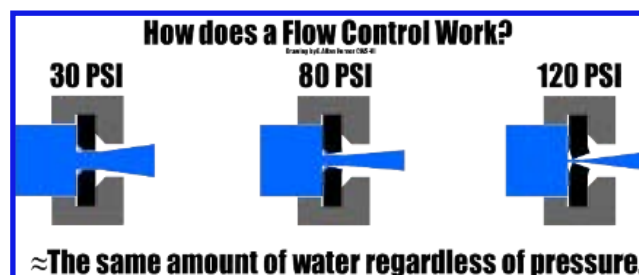
Clack Small Buttons	
39V-V3162-007	0.7 GPM
39V-V3162-010	1.0 GPM
39V-V3162-013	1.3 GPM
39V-V3162-017	1.7 GPM
39V-V3162-022	2.2 GPM
39V-V3162-027	2.7 GPM
39V-V3162-032	3.2 GPM
39V-V3162-042	4.2 GPM
39V-V3162-053	5.3 GPM
39V-V3162-065	6.5 GPM
39V-V3162-075	7.5 GPM
39V-V3162-090	9.0 GPM
39V-V3162-100	10.0 GPM
Clack Large Buttons	
39V-V3190-900	9 GPM
39V-V3190-100	10 GPM
39V-V3190-110	11 GPM
39V-V3190-130	13 GPM
39V-V3190-150	15 GPM
39V-V3190-170	17 GPM
39V-V3190-200	20 GPM
39V-V3190-250	25 GPM



Item #	FLOET Flow Controls
39P-V7A101C1-05	1" MPT PVC 5 GPM
39P-V7A101C1-10	1" MPT PVC 10 GPM
39P-V7A101C1-12	1" MPT PVC 12 GPM
39P-V7A101C1-15	1" MPT PVC 15 GPM
39P-V7A101C1-20	1" MPT PVC 20 GPM



Stocked items listed. Available in PVC threaded, glue and flanged ends. Sizes from .25 gpm-540 GPM in 1/2" to 6". Also available in Brass.



Clack Injectors, Draw & Feed Tubes

Downflow regeneration is the most common way to regenerate water softeners. It is easy to design and maintain, and works reliably with standard resin beds and you do not need to concern yourself with bed fluidization which can negatively affect the regeneration process. In some applications counter-current (upflow) regeneration can have some benefits that outweigh the negatives. Slightly higher efficiencies, variable brining, and slightly higher water quality can be achieved with counter-current regeneration but care must be taken to not fluidize the resin bed, thus much smaller injectors are typically used.

Upflow/Downflow Notes: Clack 1" and 1.25" single softener valves use a different valve body for upflow and downflow and can not be converted without the valve body. The 1.5" brass valve uses a different feed and draw tube and a different piston and stack and can be converted in the field with these parts. The 1" and 1.5" twin alternating valve and the 1.5" Plastic single valve require the piston be changed and the injector and injector plug locations be switched to the correct position. The 2" brass valve uses different feed and draw tubes and a different piston, brine piston and stack kit and can be converted in the field with these parts. Be sure to change the injector size according to the injector

Upflow (Counter-Current) Regeneration Conversion Parts			
Piston	Stack	Draw Tube	Feed Tube
1" and 1" Twin Alternator Composite			
39V-V3011-01	39V-V3005-02	NA	NA
1.25", 1.5", 1.5" Twin Alternator Composite			
39V-V4042	39V-V3430-01	NA	NA
1.5" Brass			
39V-V4042	39V-V3430-01	39V-V3969-01	39V-V3968-01
2" Composite			
39V-V4059	39V-V3279-01	NA	NA
2" Brass*			
39V-V4059	39V-V3279-01	39V-V3731-01	39V-V3730-01
WS2HF & WS3			
Upflow Not Available			

*For the 2" Brass valve a replacement brine piston is also required. Part# 39V-V3745



Item #	≈Draw/ Rinse Rate at 60 PSI	≈Total at 60 PSI	Tank Size Down Flow	Tank Size Up Flow
1"-1.25" Clack				
39V-V3010-1A Black	.06/.17	.23	6"	8"
39V-V3010-1B Brown	.14/.21	.35	7"	9"
39V-V3010-1C Violet	.18/.29	.47	8"	10"
39V-V3010-1D Red	.22/.34	.56	9"	12"
39V-V3010-1E White	.27/.39	.66	10"	13"
39V-V3010-1F Blue	.37/.55	.92	12"	13"
39V-V3010-1G Yellow	.45/.68	1.13	13"	16"
39V-V3010-1H Green	.46/.77	1.23	14"	18"
39V-V3010-1I Orange	.62/1.1	1.72	16"	21"
39V-V3010-1J Light Blue	.70/1.4	2.10	18"	NA
39V-V3010-1D Light Green	.78/1.9	2.68	21"	NA
1.5" Clack				
39V-V3010-15B Violet	.45/.70	1.15	12"	14"
39V-V3010-15C Red	.55/.80	1.35	13"	16"
39V-V3010-15D White	.80/1.3	2.10	14"	18"
39V-V3010-15E Blue	.95/1.4	2.35	16"	21"
39V-V3010-15F Yellow	1.3/2.1	3.4	18"	24"
39V-V3010-15G Green	1.8/2.8	4.6	21"	30"
39V-V3010-15H Orange	2.3/3.6	5.9	24"	NA
2" & 3" Clack				
39V-V3010-2-15	2" Injector to 1.5" Injector Adapter			
39V-V3010-2R-15B Violet*	.45/.70	1.15	12"	14"
39V-V3010-2S-15C Red*	.55/.80	1.35	13"	16"
39V-V3010-2T-15D White*	.80/1.3	2.10	14"	18"
39V-V3010-2U-15E Blue*	.95/1.4	2.35	16"	21"
39V-V3010-2A "A"	1.2/1.9	3.1	18"	24"
39V-V3010-2B "B"	1.6/2.4	4.0	21"	30"
39V-V3010-2C "C"	2.0/3.1	5.1	24"	36"
39V-V3010-2D "D"	3.2/4.9	8.1	30"	42"
39V-V3010-2E "E"	4.0/6.5	10.5	36"	48"
39V-V3010-2F "F"	5.0/8.0	13	42"	NA
39V-V3010-2G "G"	7.0/11	18	48"	NA
39V-V3010-2H "H"	14/21	35	63"	NA

* V3010-2X-15X Injectors contain a V3010-2-15 WS2 injector



Stainless Flex Lines



Out of this world performance! Full Flow flexible stainless steel connectors are a critical installation component, eliminating the need for unions and allowing for tank expansion. Flexible connections are required to maintain most mineral tank warranties and may prevent costly leaks. Made of premium grade 304 stainless steel, these high flow connectors will substantially reduce both installation and upkeep

Stainless Flex Lines				
Model #	Length	Tube Diameter	Connection Side 1	Connection Side 2
Clack QC x John Guest (Push to Connect)				
51-333	18"	3/4"	Clack DC	3/4" PTC
51-335	24"	3/4"	Clack DC	3/4" PTC
51-453	18"	1"	Clack DC	1" PTC
51-455	24"	1"	Clack DC	1" PTC
Clack QC x FPT				
51-331	18"	3/4"	Clack DC	3/4" FPT
51-449	18"	1"	Clack DC	1" FPT
51-451	24"	1"	Clack DC	1" FPT
Clack QC x Clack QC				
51-457	18"	1"	Clack DC	Clack DC
51-459	24"	1"	Clack DC	Clack DC
FPT x John Guest (Push to Connect)				
51-327	18"	3/4"	3/4" FPT	3/4" PTC
51-328	24"	3/4"	3/4" FPT	3/4" PTC
51-446	18"	1"	1" FPT	1" PTC
51-447	24"	1"	1" FPT	1" PTC
FPT x FPT				
51-312	12"	3/4"	3/4" FPT	3/4" FPT
51-315	15"	3/4"	3/4" FPT	3/4" FPT
51-318	18"	3/4"	3/4" FPT	3/4" FPT
51-321	18"	3/4"	3/4" FPT	1" FPT
51-324	24"	3/4"	3/4" FPT	3/4" FPT
51-322	24"	3/4"	3/4" FPT	1" FPT
51-418	18"	1"	1" FPT	1" FPT
51-424	24"	1"	1" FPT	1" FPT
51-421	18"	1"	1" FPT	1-1/4" FPT
51-422	24"	1"	1" FPT	1-1/4" FPT
51-518	18"	1-1/4"	1-1/4" FPT	1-1/4" FPT
51-524	24"	1-1/4"	1-1/4" FPT	1-1/4" FPT
51-618	18"	1-1/2"	1-1/2" FPT	1-1/2" FPT
51-624	24"	1-1/2"	1-1/2" FPT	1-1/2" FPT
51-818	18"	2"	2" FPT	2" FPT
51-824	24"	2"	2" FPT	2" FPT
MPT x FPT Stainless Flex Lines				
51-325	18"	3/4"	3/4" MPT	3/4" FPT
51-326	24"	3/4"	3/4" MPT	3/4" FPT
51-414	18"	1"	1" MPT	1" FPT
51-416	24"	1"	1" MPT	1" FPT
51-618P	18"	1-1/2"	1-1/2" MPT	1-1/2" FPT
51-624P	24"	1-1/2"	1-1/2" MPT	1-1/2" FPT
51-818P	18"	2"	2" MPT	2" FPT
51-824P	24"	2"	2" MPT	2" FPT
FPT x Copper Sweat Stainless Flex Lines				
51-319	18"	3/4"	3/4" FPT	3/4" Sweat
51-444	18"	1"	1" FPT	1" Sweat



Item Number	Common Options/ Accessories
51-075	3/4" x 2" Stainless Nipple
51-10	1" x 2" Stainless Nipple
51-15	1-1/2" x 4" Stainless Nipple
51-20	2" x 4" Stainless Nipple
51-W3	Washer For 3/4" FPT
51-W4	Washer For 1" FPT
51-W5	Washer For 1-1/4" FPT
51-W6	Washer For 1-1/2" FPT
51-W8	Washer For 2" FPT
51-J3R	O-Ring For 3/4" JG PTC
51-J4R	O-Ring For 1" JG PTC

Cartridge Tank Filtration

Clack's Hydro-Cure® Cartridge Tank is injection molded using glass filled composite material. Clack's design provides a continuous seamless tank for higher strength and pressure capabilities. Sediment, Carbon and fillable cartridges available.

Cartridge Tank/Accessories	
CTH-100*	Clack Tank w/Bypass & Blowdown
CT-C3039	Clack Tank Wrench
CT-100BP	Enpress Tank w/Bypass
CT-100BP-P	Enpress Tank w/Bypass Pioneer Electronics
CT-125	Enpress Tank 1.25" PVC Socket
CT-200	Enpress Tank 2" PVC Socket

*Add a Clack connector of your choice



Budget Melt Blown Sediment 1" & 1.25"	
CF-MB2501	25/01 Micron 30 GPM
CF-MB2505	25/05 Micron 30 GPM
CF-MB5005	50/05 Micron 30 GPM
CF-MB5025	50/25 Micron 30 GP
Pleated Sediment 1" & 1.25"	
CTG-02N	20/0.2 Micron Pleated Nano-AL
CF-PL01	1 Micron 30 GPM
CF-PL05	5 Micron 30 GPM
CF-PL20	20 Micron 30 GPM
CF-PL50	50 Micron 30 GPM
CTO Sediment/Carbon 1" & 1.25"	
CTU-PNR	Pioneer Certified PFAS
CF-CT2505	25/05 Micron w/Carbon 20 GPM
CF-CT2520	25/20 Micron w/Carbon 25 GPM
CF-CT2515	25/15 Chloramine Carbon 20 GPM
CTG-02NC	20/0.2 Micron Pleated Nano-AL Carbon
Fillable Cartridge Tank 1" & 1.25"	
CF-FCNM	.5 Ft ³ No Mid-Plate
CF-FCMP	.25 Ft ³ Per Chamber w/Mid Plate
2" Cartridge Filters	
CTP-05	5 Micron Melt Blown 100 GPM
CTP-20	20 Micron Melt Blown 100 GPM
CTR-001A	1 Micron Pleated Absolute 50 GPM
CTR-005	5 Micron Pleated 100 GPM
CTR-020	20 Micron Pleated 100 GPM
CTR-050	50 Micron Pleated 100 GPM
CTR-150	150 Micron Pleated 100 GPM



The **NanoAL** Series are electropositively charged dual gradient double pleated filtration solutions that remove contaminants from 1 to 0.2 microns. The filters are designed with a larger 20 micron pre-filtration layer externally and the charged media internally, extending filtration level contamination and service life. NanoAL filters feature the use of AgionR antimicrobial technology that provides built-in protection by working 24/7 resisting the growth of microbes.

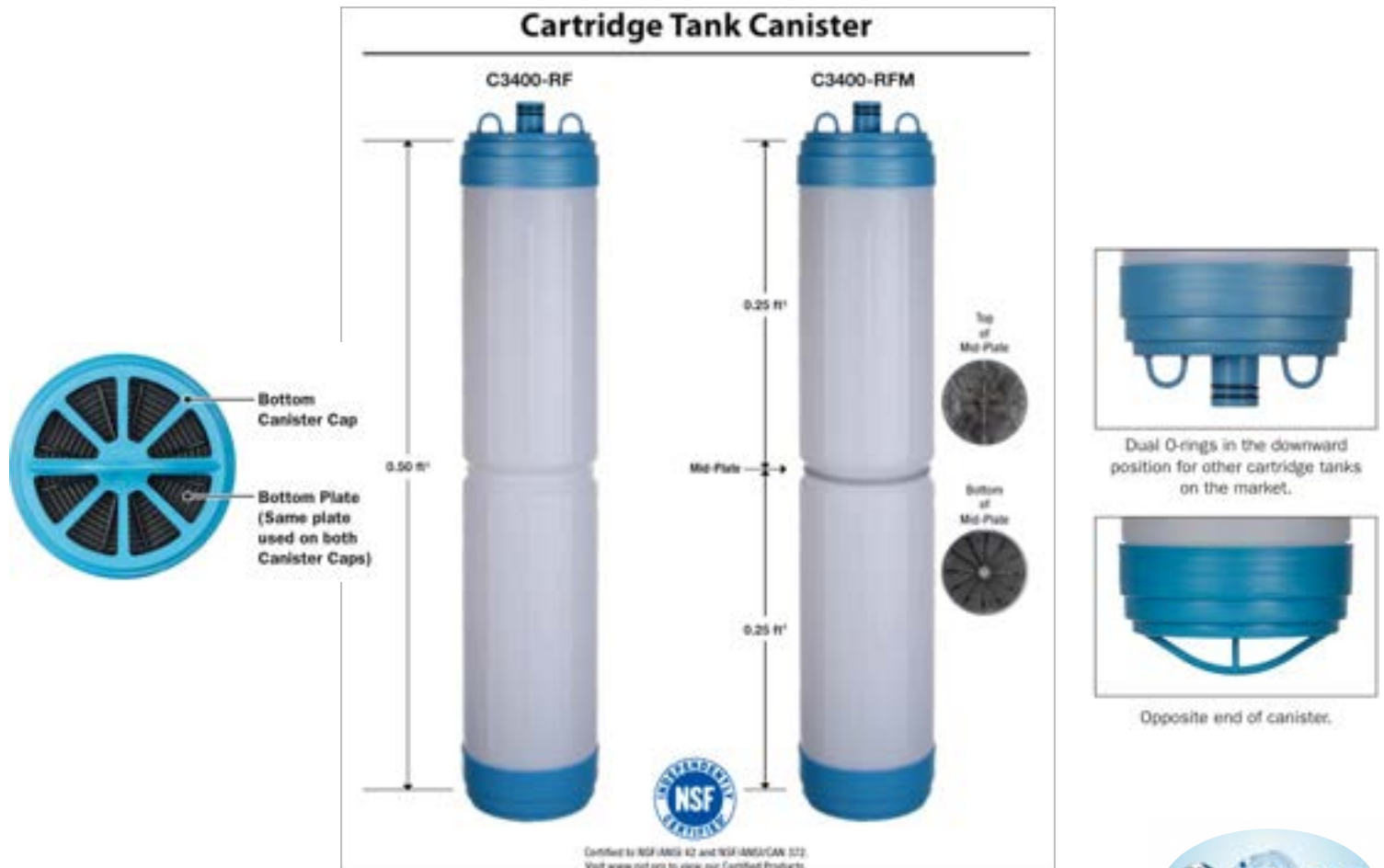


High Capacity Specialty Filters

Our largest Specialty filters feature up to ½ cubic feet of media. Simple maintenance and high capacity make these filters an excellent choice for residential and commercial applications. Don't see your filter in the list below, just call us and we will make it for you!

Item #	Description	Rec. Flow	Capacity	Function
CTE-C	Empty Cartridge ½ ft3	N/A	N/A	Empty, Single Chamber
CTE-CK	Empty Cartridge Kit ½ ft3	N/A	N/A	Empty, Single Chamber w/Foam
CTE-C2K	Empty Cartridge Kit ¼ X2 ft3 Mid Plate	N/A	N/A	Empty 2 Chamber w/Foam and Plug
CTE-MP	Empty Cartridge Mid Plate Plug	N/A	N/A	Mid Plate Plug
CTE-FM	Empty Cartridge Upflow Expansion Foam	N/A	N/A	Expansion Foam
CTE-120	Mixed Bed DI Resin	≈6 GPM	≈5000 Gallons @ 10 mg/L	Deionization
CTE-160	Cation Softening Resin	≈6 GPM	≈1500 Gallons @ 10 GPG	Hardness
CTE-180	Nitrate Selective Anion Resin	≈2 GPM	≈4500 Gallons @ 20 mg/L	Nitrate
CT-190	Chromium VI Selective Anion Resin	≈3 GPM	≈55,000 Gallons @ 15 ppb	Chromium(VI)
CTE-200	Coconut Shell GAC	≈5 GPM	≈50,000 Gallons	Chlorine/Organics
CTE-210	Catalytic GAC	≈3 GPM	≈36,000 Gallons	Chloramines
CTE-410	3.5 Liter Scale Reduction	≈10 GPM	≈12 Months	Scale Reduction
CTE-505	Calcium Carbonate	≈4 GPM	≈40,000 Gallons	Neutralization
CTE-510	Magnesium Oxide	≈4 GPM	≈40,000 Gallons	Neutralization
CTE-520	50% Magnesium Oxide/50% Calcium Carbonate	≈4 GPM	≈40,000 Gallons	Neutralization
CTE-610	Activated Alumina	≈1 GPM	≈2500 Gallons @ 4 mg/L	Fluoride/Bicarbonate
CTE-620	Filter-Ag Plus (Clinoptilolite)	½ GPM	25,000 Gallons @ 10 mg/L	Ammonia
CTE-640	Nano Titanium Oxide	≈2 GPM	≈120,000 Gallons @ 40 ppb	Arsenic
CTE-670	Bone Char	≈2 GPM	NA	Fluoride/Chlorine
CTE-AK	Alkaline Media (Ceramics)	≈2 GPM	≈60,000 Gallons (R.O. Feed)	pH/ORP Adjustment

Cartridge Tank Canister



Polymeric UF Ultrafiltration



TECHNOLOGY THAT IS EASY TO UNDERSTAND

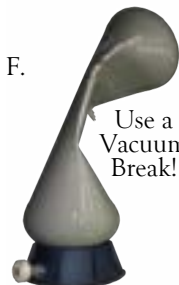
Water Savings. Environmentally Friendly. Innovative Design. ENPRESS LLC,[®] introduces its Polymeric Ultrafiltration (Poly-UF) Vessel system. The ENPRESS Poly-UF offers 0.02 micron filtration at service flow rates up to 12gpm, just another tool in the water treatment tool box. Another example of the innovative thinking you've come to expect from ENPRESS.

Utilizing ENPRESS' patented and industry exclusive liner design, the internal UF module treats colloids, bacteria, cysts, viruses, turbidity, tannins, and other particles down to 0.02 micron size. The back washable system, allows for multiple standard 2.5" top inlet connections, from standard back washable control valves to in/out heads. The high surface area UF bundles require normal line pressure to operate, low waste discharge when in backwash/cleaning mode, and offer low pressure drop with high service flow rates.

The ENPRESS Poly-UF can be utilized as a final polishing stage or on water reclamation systems for Rainwater or Grey water, along with offering protection during power outages and intermittent power. The membrane is NSF 61 certified, and the system is BioVir certified and tested for log reduction. The vessel also comes standard with a bottom drain opening for ease of drainage and cleaning purposes of the tank system. Technology that is easy to understand and use, another innovation from ENPRESS.

Specification:

- 0.02 micron.
- Operating Temperature: 35 to 100 degrees F.
 - Operation Pressure: 10 to 100 psi.
 - Continuous Flow Rate: 10 GPM.
- Peak Flow 12 GPM at 25 C and 60 psi.
 - Membrane is NSF 61 Certified.
 - Raw Water Specification:
 - Pre-filtration: 5 microns or less.
- Chlorine: 1 ppm maximum (up to 2000 ppm for cleaning only).
 - Iron: Less than .3 ppm.
 - Manganese: Less than .05 ppm.
 - Silt Density Index: Less than 6.0
 - pH: 3 to 11.
- Pressure Decay Test (PDT) is required upon installation.



TECHNICAL INFORMATION:

- Backflush: Once per day (5 minutes at 0.7 to 2 GPM).
- Drain Flush: Once per week (2 minutes at 5 GPM).
- Continuous flow at 10 GPM filtration at 0.02 microns.
 - 4.4 log reduction of Bacteria
 - 2.4 log reduction of Virus
 - 2.0 log (est) reduction of Cyst.
 - 100,000 MWC



**This product is not certified as a microbiological purifier and should not be applied as a stand-alone disinfection solution for microbiologically unsafe water.*



UF-E8-i10M24

1/2" MPT
Vacuum Break

3/4" MPT
Pressure Relief

UF-E8-i10M24 Includes

- ◆ 10 GPM UF Tank
- ◆ i5 Metered Control Valve
- ◆ Bypass Pre-plumbed as Shown
- ◆ Auto Daily Backwashing
- ◆ Auto Daily Tank Purge
- ◆ 1/2" Vacuum Break
- ◆ 3/4" pressure Relief Valve
- ◆ No Hard Water Bypass
- ◆ 40 gallon Clean Water Storage tank
- ◆ Ball Valve at Bottom of UF tank
- ◆ Automatic Tank Blow Down Valve
- ◆ Blow Down Flow Control
- ◆ Relay for Sending Signal to Pump Control

UF-E8-i10M24 Does Not Include

- ◆ Plumbing
- ◆ Ball Valve Above the 40 Gallon Tank
- ◆ UF Integrity tester

"40" Gallon Tank
(Actual Capacity ≈24 Gallons)

Item #	Description
UF-E8-i10M24	UF with Automatic Tank Flush, Clean Water Backwash, 40 Gallon Tank
UF-E8-i10M	UF with i5 and Manual Tank Flush Valve
UF-E8-10SC	UF with 15 and Manual Tank Flush Valve
UF-E8-BW	UF Ultra Filtration Replacement Tank
UF-E8-T	UF Integrity Tester
UF-E-PT	UF Pilot test ≈.8 GPM Peak
56-VAC	1/2" MPT Vacuum Break
56-PRV12SS	3/4" MPT Stainless Pressure Relief

Backwash Daily
5 minutes at 2 GPM

Drain every 1-5 Days
2 minutes at 5 GPM



The Poly-UF Stick offering 0.02 micron filtration at test flow rates up to 0.8 GPM is intended to be used as a pilot testing device for application of the Poly-UF ultrafiltration system.

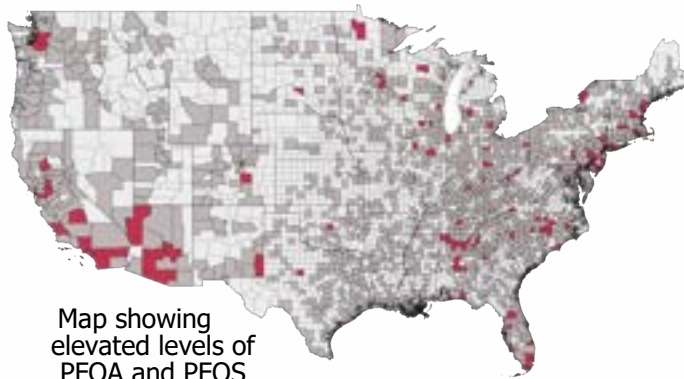
PIONEER™

Whole House PFOA, PFOS, Lead, Cyst, Chlorine, Chloramine Reduction

The chemicals Perfluorooctanoic acid (PFOA), also known as C8, and Perfluorooctane sulfonic acid (PFOS) are bio-permanent, are resistant to direct oxidation, and do not break down naturally in the environment or the human body. Studies suggest that exposure to the chemicals may lead to cancer.

PIONEER™ successfully removes these chemicals and is installed where the water line enters your home, business or restaurant. This system has been tested and third-party certified as required in the NSF/ANSI P473 standard for PFOA/PFOS, along with NSF/ANSI 53 standard for the reduction of lead and cyst.

It's obvious that PFOA/PFOS chemicals need to be removed from your water. The **PIONEER™** POE filtration system houses a strategically designed nominal 0.5-micron filter to remove BOTH chemicals along with BOTH forms of lead (soluble and particulate) from your house in a single filter. The **PIONEER™** is the First of its Kind Whole-House Chlorine, Chloramine, Lead, Cyst & PFOA/PFOS Removal System, providing safe drinking water throughout your entire home.



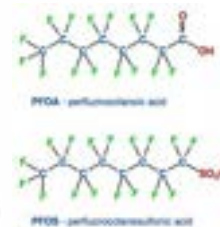
Map showing elevated levels of PFOA and PFOS in the US

Cartridge Tanks

CT-100BP-P	Cartridge Tank Assembly w/1" Bypass and 100K Meter
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Replacement Filter

CTU-PNR	Pioneer Cartridge NSF 53, NSF 42 .5 micron
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"Pioneer" 8 GPM lead, heavy metal chlorine, chloramine and cyst reduction. Certified in California and Iowa!



More Than One Road to Efficiency

By E. Allan Horner, CWS-VI Reprinted from Water Conditioning & Purification, June 2010

For years, water softener control valves and media manufacturers have been pushed by customers and legislation to achieve greater water and salt efficiency. Electronic controls, variable reserves, meters, lower salt settings and aggressive training on how to make all of these advances work while still providing long media life and customer satisfaction has been very successful in achieving this important goal. Some advances created improved efficiency; others created more problems. Lately, gains in efficiency have been almost insignificant. We have started to hit the practical limits of a water softener's salt efficiency. While some designs are more efficient than others, real savings have yet to be realized. Until a truly effective salt-free technology or a completely new design in water softening is invented, we need to start looking for ways to make bigger steps in efficiency. Many municipalities push customers with rebates to purchase highly energy-efficient, tankless water heaters, but then discourage them from also purchasing a softener, the simplest and most effective way to ensure this appliance does not quickly become a landfill candidate. Efficiency decreases rapidly with even small amounts of scale buildup, due to the heat exchanger's inability to transfer heat to the water. Total system failure is common when these systems are not maintained properly.

Hot versus cold installation

During a recent technical phone call, I was asked how to make a homeowner more satisfied with a softener system that could only be installed on the hot water side due to plumbing limitations. I advised the caller to lower the hot water heater temperature, thereby forcing the homeowner to use more hot water in the shower, where they would feel the soft water. (tankless water application only)

Installing a softener to hot water only may sound new, but it is common practice in most commercial and industrial applications. Softeners that feed cold water applications are relatively uncommon and are usually only done when the water quality requires it for a particular application. Hot-water-only installations are common in restaurants, hotels, hospitals and manufacturing plants. Protection and efficiency of water heating equipment and applications that are sensitive to hardness minerals are the primary concerns. Specialized equipment that requires softened water (such as espresso machines or steamers) usually has its own small water softener, so salt consumption and the associated costs can be kept to a minimum.

The advantages of hot-water-only installations in residential applications that have a tankless water heater are numerous:

- Up to 65-percent reduction in wastewater and salt consumption
- Smaller equipment requirements
- Typically easier installations
- Lower initial cost
- Lower operating costs
- Encouragement of safer water temperature (106°F [41.1°C])
- Additional equipment sales for whole-house treatment
- Acceptance of water softener by municipalities that have already banned, or plan to ban, salt-based water softeners

Some disadvantages are apparent in some applications:

- Installation of recommended remote temperature keypads adds to initial cost.
- Toilets and other cold-water applications remain untreated.



Further whole-house water treatment may still be needed for iron or other contaminant removal that can be done with properly designed multiple media systems.

I decided to start experimenting at my own house by replacing my 10-year-old tank water heater with a new tankless water heater. I installed flow meters with totalizers on the main feed to the house where my softener is installed, and a totalizing meter on the inlet side of the tankless water heater. I purchased remote keypads for the tankless water heater and installed them throughout the house, so the hot water temperature could easily be adjusted anytime. The basic premise was to find out if a residential hot-water-only installation could satisfy a homeowner's desire for soft water, what problems could arise from this type of installation and most importantly, how much savings could be achieved.

The results have far exceeded my expectations. Existing studies have shown conclusively that for a tankless water heater to remain efficient, scaling must be minimized or eliminated. Anti-scaling medias, polyphosphate filter systems and other technologies have fallen short on eliminating scale in heat exchanger systems like tankless water heaters. The sudden massive rise in temperature creates a condition that is ideal for precipitation of hardness minerals scaling to occur. Water softeners have been proven to effectively eliminate these problems, thus maintaining heat exchanger efficiency.

After the remote keypads for the tankless water heater were installed, my family started using the water as if the water softener were installed to the hot water only. (This has proved to be much easier and nicer than expected.) The initial set point of the tankless water heater was 120°F (48.8°C). For this test, it was changed to 106°F, which has been surprisingly beneficial for showers and baths; the right temperature is achieved every time. This lower temperature creates a safer home for children and the elderly; it has nearly zero potential to burn or even irritate skin. Household dishwashers, which use a very small amount of water and are fed with hot water, are not affected by the lower temperature. These appliances heat the water to the proper temperature, regardless of the temperature of incoming water.

Impressive results

Is soft water critical for the rinse water in residential laundry? Probably not, so a hot-water wash and cold rinse should be satisfactory for most customers. Soft water to the laundry can be achieved through different ways. In my own application, a cold soft-water-feed was plumbed due to close proximity to the water heater. Using a warm-water wash and rinse and simply turning off the cold water feed to the laundry also worked well in my testing. The final water consumption results after a month of testing were impressive. Approximately 35 percent of water use went through the tankless heater under these test procedures. This could result in a savings of 65 percent of salt consumption by a traditional water softener installation and an equal savings in regeneration. Installations are typically less expensive, and the equipment sizing could be considerably smaller.

Conclusion

By rethinking ways to make water softeners more efficient, we often overlook the obvious. The installation of tankless water heaters can open up new channels of business. Partnering with water heater installation companies or acquiring the knowledge, training and licensing to install and maintain tankless heaters yourself can help to expand business into new fields. The rapid growth of tankless water heaters gives us a new chance at increasing efficiency by simply reducing how much soft water we really need. And, as water softener brine discharge becomes more of an issue, our industry needs to pre-emptively do what is necessary.

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Clack Mineral Tanks 6"-35"



Clack® Mineral Tanks are made of high density polyethylene (HDPE) plastic liner with composite fiberglass filament winding over the liner. Clack's design provides a continuous seamless inner liner with a glass filled polypropylene inlet for higher strength and pressure capabilities. Clack USA made mineral tanks are available in sizes from 8" to 35" diameters. Most tanks are stocked in black.

Item #	Size	Height	Typical Ft ³
2.5" Tank opening			
22C-0835K	8"x35"	≈34.9"	0.5
22C-0844K	8"x44"	≈44.2"	0.75
22C-0918K	9"x18"	19"	.35
22C-0935K	9"x35"	≈34.8"	0.75
22C-0948K	9"x48"	≈48.3"	1
22C-1018K	10"x18"	≈18.4"	0.4
22C-1035K	10"x35"	≈35"	0.75
22C-1040K	10"x40"	≈40.6"	1
22C-1044K	10"x44"	≈44.3"	1
22C-1047K	10"x47"	≈47.2"	1.25
22C-1054K	10"x54"	≈54.4"	1.5
22C-1235K	12"x35"	≈35.4"	1.5
22C-1248K	12"x48"	≈48.3"	1.75
22C-1252K	12"x52"	≈52.8"	2
22C-1335K	13"x35"	≈35"	1.75
22C-1354K	13"x54"	≈55"	2.5
22C-14652K	14"x65"	≈65.6"	3
22C-1653K	16"x53"	≈54"	4
2-1/2 Tank with Dome Hole (Natural)			
22C-1054DN	10"x54"	≈54.4"	1.5
22C-1354DN	13"x54"	≈55"	2.5
4" Tank Opening			
22C-14654K	14"x65"	≈65.6"	3
22C-16654K	16"x65"	≈65.6"	4
22C-1865K	18"x65"	≈67.7"	5
22C-2162K	21"x62"	≈67.8"	7
22C-2472K	24"x72"	≈73.6"	10
6" Flange (Natural)			
22C-3072	30"x72"	≈76.0"	15
22C-3572	35"x72"	≈76.9"	20



This product is Tested and Certified by NSF International against NSF/ANSI 44 for material and structural integrity requirements and NSF/ANSI/CAN Standard 61 for material requirements. Certified to NSF/ANSI 372.

Available in Black, Blue, Almond, Grey and Natural

1/2" MPT Vacuum Break



56-VAC



Pentair Polyglass Mineral Tanks 6"-16"

MADE IN THE
USA
OF FOREIGN & DOMESTIC PARTS

Pentair® Structural® Poly Glass Vessels have been the industry standard for quality and performance for over 40 years. Featuring a one piece, seamless high density polyethylene liner and an encapsulated, leak free engineered polymer inlet, Structural Poly Glass Vessels are designed to provide you with years of worry free performance. Most tanks are stocked in black. Some tanks require extended lead time and or minimum order quantity. Other sizes, options and colors are available, contact IWP for details.



Item #	Size	Height	Typical Ft ³
2.5" Tank neck			
21-0735K	7"x35"	≈35.4"	0.5
21-0840K	8"x40"	≈40.1"	.75
21-0844K	8"x44"	≈44.5"	.75
21-0918K	9"x18"	≈18.4"	.35
21-0935K	9"x35"	≈35.3"	.75
21-0942K	9"x42"	≈41.9"	1
21-0948K	9"x48"	≈48.7"	1
21-1018K	10"x18"	≈18.9"	0.4
21-1035K	10"x35"	≈35.5"	1
21-1040K	10"x40"	≈40.3"	1
21-1044K	10"x44"	≈44.6"	1.25
21-1047K	10"x47"	≈47.7"	1.5
21-1054K	10"x54"	≈54.4"	1.5
21-12482K	12"x48"	≈49"	1.75
21-12522K	12"x52"	≈53"	2
21-13542K	13"x54"	≈54.3"	2.5
4" Tank neck			
21-13544K	13"x54"	≈54.9"	2.5
21-14474K	14"x47"	≈47"	2.5
21-14654K	14"x65"	≈66.1"	3
21-16654K	16"x65"	≈66.2"	4
4.5" Tank Neck Exchange Tank			
21-125245	12"x52"	≈53.14"	2.8
21-144745	14"x47"	≈47.3"	3.6



Vessels tested and certified by the Water Quality Association (WQA) to NSF/ANSI Std. 44 for material safety and structural integrity requirements and Std. 372 for low lead compliance.

Enpress Mineral Tanks

ENPRESS™ Vessels are manufactured with computer controlled cut-lengths which allow us to achieve the most consistent vessel height in the industry – consistent within 3/16". Our DI Exchange Poly Bases save up to 16 pounds per vessel compared to the competition, provide full support, roll easier and they won't come off. From top to bottom, nobody tops our mineral tanks and DI Exchange Vessels.



Vortech
DISTRIBUTION TECHNOLOGY™



ENPRESS™ Vortech MidPlate tanks allow for multiple medias to be properly separated inside of the same tank! Available for both 10" and 13" diameter tanks. Contact



Portable Exchange tanks available by special order! Unique Poly Base is lighter and more durable than traditional rubber bases.



Our special high temperature, high pressure injection process eliminates leaks and customer complaints. The glass-filled threaded inlet is mechanically and chemically welded to the dome so leak paths are eliminated.



This pressure vessel is tested and certified by NSF International against NSF/ANSI Standard 44 for materials and structural integrity requirements.

COMPONENT



Tank Jackets

HDPE jackets are economical, attractive and ideal for indoor or outdoor applications.

Molded Heavy Duty HDPE

Item #	Fits
28P-1054P	10"x54" Platinum
28P-12P	12"x52" Platinum
28P-13P	13"x54" Platinum
28K-1054K	10"x54" Black
28K-1054A	10"x54" Almond



"Bright" 430 Full

Item #	Fits	Size
28B-0948WC	Clack	9"x48"
28B-0948W	Structural	9"x48"
28B-0948WE	Enpress	9"x48"
28B-1054W	Clack/Structural	10"x54"
28B-1054WE	Enpress	10"x54"
28B-1252WC	Clack/Structural	12"x52"
28B-1252WE	Enpress	12"x52"
28B-1354WC	Clack	13"x54"
28B-1354W	Structural	13"x54"
28B-1354WE	Enpress	13"x54"
28B-1465W	Clack/Structural	14"x65"
28B-1653W	Clack	16"x53"
28B-1465W	Clack/Structural	14"x65"
28B-1653W	Clack	16"x53"
28B-1665W-4	Clack/Structural	16"x65"-4"

"Brushed" 304 Welded

Item #	Fits	Size
28D-0948WE	Enpress	9"x48"
28D-1054W	Clack/Structural	10"x54"
28D-1054WE	Enpress	10"x54"
28D-1252W	Clack/Structural	12"x52"
28D-1252WE	Enpress	12"x52"
28D-1354WE	Enpress	13"x54"

Brushed 304 stainless offer better corrosion resistance and a "refined" look.

"Brushed" 304 w/Plastic Cap

Item #	Fits	Size
28D-1054C	Clack/Structural	10"x54"
28D-1252C	Structural	12"x52"
28D-1354C	Structural	13"x54"

"Bright" 430 Welded to Floor

Item #	Fits	Size
28B-0948WX	Clack/Structural	9"x48"
28B-1054WX	Clack/Structural	10"x54"
28B-1252WX	Clack/Structural	12"x52"
28B-1354WX	Clack/Structural	13"x54"

"Bright" 430 Jacket w/Plastic Cap

Item #	Fits	Size
28B-0948C	Clack/Structural	9"x48"
28B-1054C	Clack/Structural	10"x54"
28B-1054CE	Enpress	10"x54"
28B-1252C	Structural	12"x52"
28B-1354C	Clack/Structural	13"x54"
28B-1354CE	Enpress	13"x54"

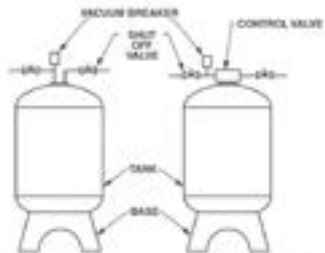


® Structural® vessels have been the industry standard for quality and performance for over 40 years. Featuring a one piece, seam-less liner. ASME Code tanks available. Most commercial tanks stocked in Natural. Some tanks require extended lead times and or minimum order quantity.

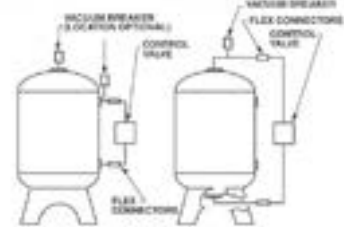


56-VAC150

Vacuum Breaker Installation



Flex Connectors Installation



Material of Construction

- Polyethylene inner shell

Operating Parameters

- Maximum operating pressure: 150 PSI
- Maximum operating temperature:

Pentair Design Parameters

- Safety factor: 4:1
- Minimum burst at 600 PSI
- Tested to 250,000 cycles without leakage

NOTE: Flexible connectors must be installed between hard piping and tank openings. These pressure vessels are rated for an internal negative pressure of 5y HG (17 Pa) vacuum below atmospheric. If negative pressure could ever exceed 5y Hg (17 Pa), an adequate vacuum breaker must be properly installed. Failure to install flex connection or improper installation of a vacuum breaker may void the warranty.

Item #	Size	Neck	Height	Code
21-18654K*	18"x65"	4" Top	67"	CH30948
21-21624K*	21"x62"	4" Top	67"	CH30953
21-2162FN	21"x62"	6" FLG Top	69"	CH34096
21-2162FFN	21"x62"	6" FLG Top/Bottom	80"	CH34097
21-24654N	24"x65"	4" Top	66"	CH33394
21-24654K*	24"x65"	4" Top	66"	CH33976
21-2465FFN	24"x65"	6" FLG Top/Bottom	79"	CH33397
21-24724N	24"x72"	4" Top	75"	CH31153
21-24724K*	24"x72"	4" Top	75"	CH31153
21-247244N	24"x72"	4" Top/Bottom	81"	CH33403
21-2472FN	24"x72"	6" FLG Top	77"	CH33406
21-2472FFN	24"x72"	6" FLG Top/Bottom	89"	CH33408
21-30724N	30"x72"	4" Top	79"	CH34157
21-307244N	30"x72"	4" Top/Bottom	78"	CH33409
21-3072FN	30"x72"	6" FLG Top	80"	CH33412
21-3072FFN	30"x72"	6" FLG Top/Bottom	89"	CH33414
21-3657FN	36"x57"	6" FLG Top	68"	CH33417
21-3657FFN	36"x57"	6" FLG Top/Bottom	78"	CH33418
21-36724N	36"x72"	4" Top	81"	CH34079
21-367244N	36"x72"	4" Top/Bottom	81"	CH33419
21-3672FN	36"x72"	6" FLG Top	83"	CH33421
21-3672FK	36"x72"	6" FLG Top	83"	CH33422
21-3673FFN	36"x72"	6" FLG Top/Bottom	91"	CH33424
21-3672FF44N	36"x72"	6" FLG Top/Bottom 4" Side Flange	91"	CH33246
21-4272FN	42"x72"	6" FLG Top	73"	CH33427
21-4272FFN	42"x72"	6" FLG Top/Bottom	91"	CH33429
21-4272FF44N	42"x72"	6" FLG Top/Bottom 4" Side Flange	95"	CH32175
21-4872FN	48"x72"	6" FLG Top	82"	CH33431
21-4872FFN	48"x72"	6" FLG Top/Bottom	91"	CH33429
21-4872FF44N	48"x72"	6" FLG Top/Bottom 4" Side Flange	97"	CH33434
21-4872MFN	48"x72"	16" MNWY Top/FLG Bottom	97"	CH31647
21-6367FFN	63"x67"	6" FLG Top/Bottom	82"	CH33629
21-6386FFN	63"x86"	6" FLG Top/Bottom	99"	CH33437
21-6386MFN	63"x86"	16" MNWY Top/FLG Bottom	99"	CH33436
21-63144MFN	63"x144"	16" MNWY Top/FLG Bottom	158"	CH31456

*Black Tank





Softener Flow Rates

The inlet and outlet diameters of the water softener must match the diameter of the water supply piping at the location where the softener will be installed. UPC610.2

Softener flow rates are misunderstood or poorly applied in many applications. Intermittent pressure drops, short resin or media life, low quality soft water or poor contaminant reduction and other problems occur when a system is improperly sized.

Service Flow Rate is a critical factor to calculate when sizing a water treatment system. Softening, neutralizing, chemical reduction and more require systems designed within set parameters. The most common medias can be found throughout our catalog with detailed flow rate information for each. Intermittent water softening flow rates can be as high as 10 gpm per ft³ (20-30 gpm per ft²) but slower flow rates are recommended. High flow rates for extended amounts of time will produce low quality water, excessive pressure drop and reduced resin life.

Pressure Drop will occur anytime something is added to the plumbing. A softener, pipe length, fittings and more all create flow restrictions increasing the pressure drop. Larger pipe sizes, wider tanks, high flow manifolds and multiple tank systems should be considered to reduce pressure drop.

Peak Flow Rates are based on the systems flow rate with a specified amount of pressure loss. All systems will create some pressure loss while water is flowing. Sizing a system to the peak flow rate should be avoided, but if a system will only hit the peak flow rates intermittently, this can be an effective way to prevent the installation of excessively large equipment.

Uniform Plumbing Code (UPC) and local plumbing codes must be followed when sizing and installing a water treatment system. The charts below can be used to assist in sizing a softener or water treatment device.

Velocity is the speed of water inside of a pipe. 1" Copper pipe can flow in excess of 40 gpm but the velocity at this flow rate can cause damage to the pipe, excessive noise and considerable water hammer. A properly designed plumbing system would limit the flow to less than 20 gpm in a cold water 1" pipe. The velocity charts below are guidelines to assist you in proper systems sizing.

Quick Reference Guide for Fixture Unit Count and Water Softener Sizing Reference: Plumbing Code UPC 610.2 UPC 610.6

The chart to the right is a quick reference guide for common fixture counts. Actual fixture counts may vary.

Fixture Location	Fixture Count
Bathroom Group	7.5
Kitchen Sink	1.5
Dishwasher	1.5
Washing Machine	4.0
Shower	2.0
Lavatory	1.0
Toilet	2.5
Bathtub	10
Hose Bib	3.5

Water line sizing was done at 50 to 60 PSI with a development length of 40-150 feet.

Number of Baths	Fixture Estimate	~Flow Rate Needed GPM	Water Meter	Main Line
1	14.5	11	5/8"	3/4"
2	22	15.5	3/4"	1"
2.5	25.5	18	3/4"	1"
3	29.5	20	1"	1"
3.5	33	22	1"	1"
4	37	24	1"	1.25"
4.5	40.5	25	1"	1.25"
5	44.5	27	1"	1.25"

Pipe Size vs. Velocity

An undersized piping system will cause excessive water velocity. Installation of larger piping will lower velocities and lessen undue wear, water hammer and equipment damage. The recommended maximum velocity for water in a copper pipe system is 8 feet per second (fps) for cold water systems, 5 fps for hot water systems < 140° F, and 2 fps for hot water systems with a temperature greater than 140°F. PEX, PVC and CPVC are rated at approximately 10 FPS. Poly tubing has a maximum recommended flow of 10 fps. The following charts are guidelines. Plumbing systems must be designed, engineered, installed and operated in accordance with accepted industry standards and practices, as well as any applicable code requirements.

Type "L" Copper	Cold (8 FPS Max)	Hot <140° F (5 FPS Max)	Hot >140° F (2 FPS Max)
1/2"	5.8 GPM	3.6 GPM	1.5 GPM
3/4"	12.1 GPM	7.5 GPM	3 GPM
1"	20.5 GPM	12.9 GPM	5.2 GPM
1-1/4"	31.3 GPM	19.6 GPM	7.8 GPM
1-1/2"	44 GPM	28 GPM	11 GPM
2"	77 GPM	48 GPM	19 GPM
2-1/2"	119 GPM	75 GPM	30 GPM
3"	170 GPM	106 GPM	43 GPM
4"	333 GPM	208 GPM	82 GPM
5"	514 GPM	321 GPM	128 GPM
6"	735 GPM	459 GPM	184 GPM

PVC Pipe	Sch. 40	Sch. 80
1/2"	9 GPM	7 GPM
3/4"	16 GPM	13 GPM
1"	26 GPM	21 GPM
1-1/4"	45 GPM	38 GPM
1-1/2"	62 GPM	53 GPM
2"	102 GPM	90 GPM
2-1/2"	146 GPM	128 GPM
3"	225 GPM	200 GPM
4"	391 GPM	350 GPM
5"	615 GPM	556 GPM
6"	890 GPM	798 GPM
8"	1543 GPM	1400 GPM

Poly Tubing	10 FPS Max
1/4"	.71 GPM
5/16"	.86 GPM
3/8"	1.53 GPM
1/2"	3.44 GPM
5/8"	4.8 GPM

PEX Tubing	10 FPS Max
3/8"	3 GPM
1/2"	5.5 GPM
5/8"	8 GPM
3/4"	11 GPM
1"	18 GPM

CPVC Tubing	10 FPS Max
1/2"	5.4 GPM
3/4"	12 GPM
1"	20 GPM

Pipe ID	75 PSI
1/2"	21 GPM
3/4"	36 GPM
1"	53 GPM
1-1/4"	95 GPM
1-1/2"	153 GPM
2"	329 GPM
2-1/2"	591 GPM
3"	955 GPM
4"	2035 GPM

~Maximum flow rate of water through an open pipe.



Filtration Medias & Carbon (GAC)

Sand is a common layer in multi-media filters and is used under Titanium Oxide.

Gravel is the most common under bedding used for most softeners and filtration systems.

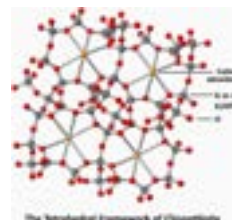
Garnet is commonly used as under bedding for heavier medias e.g. Filox, Pyrolox and KDF.

Anthracite is used in multi-media filtration systems.

Clinoptilolite (AKA Filter-Ag Plus) is a natural zeolite ore. Clinoptilolite is ideal for well water clarification. Reduction of sediment as small as 3-5 microns and excellent capacities has allowed clinoptilolite to replace multi-media multiple layer thereby simplifying the design and allows for significant water saving by reduced backwashing.

Filter-Ag is a near direct replacement to multi-media with far lower shipping weight and 1/3 the backwash water requirement. Excellent performance, low cost and reduction of sediment down to 20-40 microns make Filter-Ag the favorite choice for those replacing multi-media beds.

Item #	Media	Volume	Weight Lbs.	Pallet Qty.
16-FS4555	Filter Sand #35 (.45-.55mm) Bag	1 ft ³	100	30
16-GR216	Gravel 1/8" x 1/16" AKA #6 Bag	.5 ft ³	50	56
16-GR416	Gravel 1/4" x 1/8" Bag	.5 ft ³	50	56
16-GR416SS	Gravel 1/4" x 1/8" Super Sack	≈32 ft ³	≈3200	1
16-GR816	Gravel 1/2" x 1/4" Bag	.5 ft ³	50	56
16-GT812	Garnet #8-12 Bag	.36 ft ³	50	70
16-GT34	Garnet #30-40 Bag	.38 ft ³	50	70
16-ANT15	Anthracite #1.5	1 ft ³	50	50
16-FAP	Filter Ag+ (Clinoptilolite)	1 ft ³	55	40
16-FA	Filter-AG	1 ft ³	25	70



Activated Carbon

Standard coconut shell carbon is used to remove impurities like organic contaminants, chlorine, chloramine, pesticides, color and much more.

Acid Washed coconut shell carbon is used for applications where the raising of pH can negatively effect the process. Acid washing of the carbon reduces the slight pH rise that is common with carbon.

Coarse Catalytic 8x30 mesh carbon is popular for upflow systems where the larger carbon particles tend to fluidize less than finer mesh sizes. This can increase the performance of upflow carbon systems which can be compromised due to the fluidization of the bed.

Catalytic carbon has a higher affinity for chloramine and is preferred in most applications. Price is considerably higher. H2S reduction is greatly enhanced with catalytic carbon compared to standard carbons.

Fine Mesh Catalytic 20x50 mesh is an excellent choice where the quality of water is most critical and the highest levels of contaminant reduction are needed. Slightly reduced peak flow rates are to be expected.

Centaur Catalytic carbon is a bituminous catalytic carbon that is popular when coconut material is of concern.

Item #	Description	Material	Mesh	Volume	≈Backwash Rate ft ³	Weight lbs.	Pallet Qty.
12J-CC	Acid Washed	Coconut Shell	12x40	1 ft ³	10 GPM	27.5	40
12J-CT	Catalytic	Coconut Shell	12x40	1 ft ³	10 GPM	27.5	40
12J-CT8	Catalytic	Coconut Shell	8x30	1 ft ³	15 GPM	27.5	40
12J-CT20	Fine Mesh Catalytic	Coconut Shell	20x50	1 ft ³	5 GPM	27.5	40
12-CCT	Centaur Catalytic	Bituminous	12x40	1 ft ³	10 GPM	33	70



Iron, Manganese, H₂S, Arsenic, Fluoride Reduction

Filter-Ox® is an excellent media that does not create as high of a pH rise that is common with Katalox Light and can be used in place of Greensand+ in most applications. Soluble iron and manganese are oxidized and precipitated by contact with the catalytic coating (12.5% manganese dioxide) on the Filter-Ox® granules. A quick chlorine rinse on start up is all that is needed.

Katalox-Light® combines natural clinoptilolite with a 10% coating/impregnation of manganese dioxide. The unique structure of the media allows for suspended solids reduction to about 3-5 microns. Expect a pH increase of undetermined length and severity.

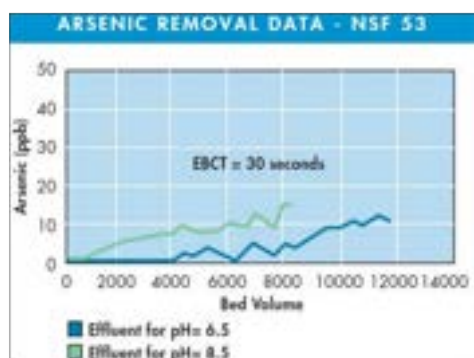
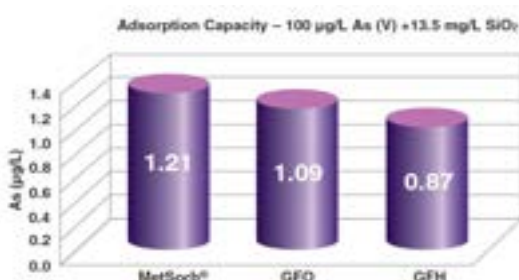
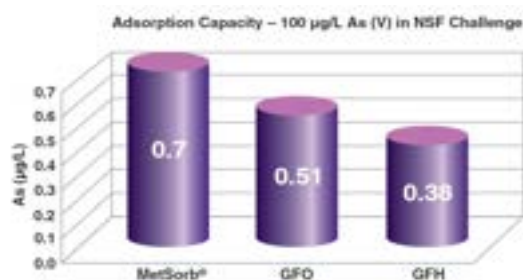
Greensand+® Low pH rise, excellent capacity and reasonable backwash rates make this a popular choice. Typically configured 60% Greensand +/40% Anthracite.

Nano-Titanium Oxide (NTO) is a highly effective granular adsorbent media. Properly applied, NTO media reduces arsenic III and V plus a wide variety of heavy metals and other contaminants including lead, cadmium, copper, chromium⁺⁶, selenium, uranium, antimony and zinc. Careful pre-treatment is important to the longevity and effectiveness of NTO.

Bone Char is a carbon material produced from animal bones that is used in water filtration primarily to remove fluoride, arsenic, and heavy metals through adsorption and ion exchange.

Activated Alumina is a form of aluminum oxide used in water treatment to effectively adsorb and remove fluoride, arsenic, and selenium through its high surface area.

Item #	Description	≈Service GPM/ft ²	≈Backwash GPM ft ²	Bag Size ft ³	≈Ship Lbs.	Notes
13-FX	Filter-Ox USA	2-12	12-15	.5	42	Best Seller, lower pH rise
13-FL	Katalox Light	2-12	10-15	1	66	pH rise can be an issue
13-GSP	GreenSand +	2-12	>12	.5	44	Replaces Greensand
13-NTX	Nano-Titanium Oxide	1-3	5	1	40	Sand underbed recommended
12-BC12	Bone Char	1-3	10	1	40	May impart taste
11R-SIR900	Activated Alumina	1-3	8	1	38	Lower capacity than Bone Char



Cation & Anion Resins

Impact Water Products stocks and distributes a wide variety of high quality cation, anion and mixed bed exchange resins for residential, commercial and industrial applications. Contact IWP for your specific water treatment needs.

Item #	Description	Volume	Weight	Bags Per Skid
11-IX08	8% Cross-Linked Softening Resin	1 Ft ³	50	42
11-IX08SS	8% Cross-Linked Softening Resin Super Sack	42 Ft ³	2100	1
11-IX10	10% Cross-Linked Softening Resin	1 Ft ³	50	42
11-IX10SS	10% Cross-Linked Softening Resin Super Sack	42 Ft ³	2100	1
11-IX10K	10% Cross-Linked Dark Softening Resin	1 Ft ³	50	42
11P-MB13	Mixed Bed DI Resin ≈13-15 Megohm Standard DI	1 Ft ³	44	42
11-IXMB16	Mixed Bed DI Resin ≈16 Megohm High Purity DI	1 Ft ³	44	42
11R-SBG2	Anion for Arsenic, Sulfates, Nitrates, Uranium, Regenerable NACL	1 Ft ³	44	42
11R-TN	Anion for Tannin, Pilot Testing Recommended Regenerable NACL	1 Ft ³	44	42
11-NT	Anion Nitrate Selective Resin for Residential/Commercial, Regenerable NACL	1 Ft ³	44	42
11P-A600E	Anion, Hexavalent Chromium Disposable Resin ≈110,000 gallons at 15 ppb influent.	1 Ft ³	44	42
11R-PFAS	Perchlorate, PFOA and PFOS Selective Resin, Non Regenerable.	1 Ft ³	44	42

New cation softening resin, round hard beads, consistent size



Cation resin long after it's reasonable service life. Irregular broken beads, "mushy".



Other Medias

KDF-55 Coarse reduces chlorine and can remove up to 99% of water-soluble lead, mercury, nickel, chromium, and other dissolved metals.

KDF-85 Coarse media act as catalysts to change soluble ferrous cations into insoluble ferric hydroxide which is easily removed by regular backwashing.

Slow Dissolving Polyphosphate This product appears as hard balls and dissolves at a controlled concentration to prevent scale formation and corrosion.

Scale Reduction Media is intended for upflow applications and the media should be fluidized during service. Flow rate of less than 3 gpm per liter and 5 gpm per ft² are recommended.

Calcium Carbonate is a consumable media that is used to raise the pH of water. It is a naturally occurring media composed of crushed marble and is commonly used for water neutralization of water between 5.5 and 7.0 pH.

Magnesium Oxide is used to neutralize acidity by increasing the pH value. Magnesium Oxide can neutralize 5X more acidity than calcium carbonate and is often blended with calcium carbonate.

Item #	Description	≈Service Flow	≈Backwash GPM	Notes
12-KDF55C	KDF-55 Coarse 57 Pound 1/3 FT ³ Drum	25-30 GPM ft ²	25-30 GPM ft ²	Chlorine and Heavy Metals
12-KDF85	KDF-85 57 Pound 1/3 FT ³ Drum	25-30 GPM ft ²	25-30 GPM ft ²	Ferrous Iron, Hydrogen Sulfide and Chloramines
14-PC	Slow Dissolving Polyphosphate Per Pound	Highly Variable	N/A	(≈120 lbs/ft ³) Scale, Iron, Corrosion Control
14-SRa	Scale Reduction Media Per Liter	2-3 GPM per L.	N/A	Scale Prevention/Reduction
15-C	Calcium Carbonate 45 Pound .5 ft ³ Bag (Puri-Cal)	≈3-6 GPM ft ²	8-12 GPM ft ²	60 Bags/Skid, pH Adjustment, Remineralization, Neutralization
15-MX	Magnesium Oxide 55 Pound .66 ft ³ Bag (Corosex)	≈5-6 GPM ft ²	10-12 GPM ft ²	49 Bags/Skid, pH Adjustment, Remineralization, Neutralization



Backwash Rated By Tank Diameter

Backwashing filtration media is critical for proper system performance and longevity. This chart will help you to properly size the backwash rate for the most common medias. If the media you are using is not included in the chart below, you will need to check with the manufacturer for the recommended backwash rate. A simple mathematical formula is used to determine the correct backwash rate. $\pi r^2 \div 144 \times$ the manufacturers recommended backwash rate. These charts are based on water temperatures of approximately 60° F. Higher water temperatures require higher backwash rates, lower temperatures require lower backwash rates.

Diameter	ft²	2 gpm	3 gpm	4 gpm	5 gpm	6 gpm	8 gpm	10 gpm	12 gpm	15 gpm	20 gpm	25 gpm	30 gpm
6"	.19	.4	.6	.8	1	1.1	1.5	1.9	2.3	2.9	3.8	4.8	5.7
7"	.26	.5	.8	1	1.3	1.6	2.1	2.6	3.1	3.9	5.2	6.5	7.8
8"	.34	.7	1	1.4	1.7	2	2.7	3.4	4.1	5.1	6.8	8.5	10
9"	.44	.9	1.3	1.8	2.2	2.6	3.5	4.4	5.3	6.6	8.8	11	13
10"	.54	1.1	1.6	2.2	2.7	3.2	4.3	5.4	6.5	8.1	11	14	16
12"	.78	1.6	2.3	3.1	3.9	4.7	6.2	7.8	9.4	12	16	20	23
13"	.92	1.8	2.8	3.7	4.6	5.5	7.4	9.2	11	14	18	23	28
14"	1.06	2.1	3.2	4.2	5.3	6.4	8.5	11	13	16	21	27	32
16"	1.39	2.8	4.2	5.6	7	8.3	11	14	17	21	28	35	42
18"	1.76	3.5	5.3	7	8.9	11	14	18	21	26	35	44	53
21"	2.40	4.8	7.2	10	12	14	19	24	29	36	48	60	72
24"	3.14	6.3	9.4	13	16	19	25	31	38	47	63	79	94
30"	4.90	10	15	20	25	29	39	49	59	74	98	125	150
36"	7.06	14	21	28	35	42	56	71	85	105	140	175	210
42"	9.62	19	29	38	48	58	77	96	115	145	190	240	290
48"	12.56	25	38	50	63	75	100	125	150	190	250	315	375
54"	15.90	31	47	62	78	94	125	155	185	235	310	390	470
60"	19.63	39	59	79	98	120	155	195	235	295	390	490	590
63"	21.64	43	65	87	110	130	175	215	260	325	435	540	650
72"	28.26	57	85	115	140	170	225	280	340	425	565	705	850
96"	50.24	100	150	200	250	300	400	500	605	755	1005	1255	1505

Approximate temperature compensation factors 40° F =.75, 50° F =.90, 60° F =1.0, 70° F =1.1, 80° F =1.2, 100° F =1.5, 120° F =1.7, 140° F =2.0

Media	Backwash Rate gpm ft²	% Bed Expansion	Lbs. Per ft³	Rec. serv. Flow gpm
Anion Resin	2-3	40-50	43	1-5 ft³
Softening Resin	4-5	40-50	50	3-20 ft²
Nano Titanium Oxide	4-5	20-40	40	8-10 ft²
Filter Ag	8-10	20-40	26	1-5 ft²
Activated Alumina	8-10	30-40	43	<3 ft³
MTM	8-10	50	45	2-5 ft²
GAC/Catalytic 12x40	8-12	30-40	28	1-10 ft³
GAC/Catalytic 20x50	4-6	30-40	28	1-10 ft³
Calcium Carbonate	8-12	35	90	3-6 ft²
Magnesium Oxide	10-12	Varies	75	5-6 ft²
Filter-Ox	12-15	35	86	2-12 ft²
Katalox-Light	10-15	20-30	66	6-12 ft²

Media	Backwash Rate gpm ft²	% Bed Expansion	Lbs. Per ft³	Rec. Serv. Flow gpm
Greensand +	12-15	35	86	2-12 ft²
#1 Anthracite	12-18	20-40	50	5 ft²
Crushed Glass	12-18	10-25	72	5-10 ft²
Garnet 30-40	15-20	10-20	140	n/a
Clinoptilolite/Filter-Ag Plus	15-20	30-40	50	12-20 ft²
Micro-Z/Zeolite/Nextsand	15-20	30-40	50	12-20 ft²
Multi-Media	15-25	20-40	Varies	5 ft²
Sand .45-.55 mm	15-20	10-20	100	5 ft²
Bone Char/GAC 8x30	15-20	20-40	25	2-4 ft³
Filox	20-30	10-20	120	1-6 ft³
Pyrolox	25-30	10-20	120	5 ft²
KDF 55/85	25-30	10-15	171	15 ft²

How does a Flow Control Work?

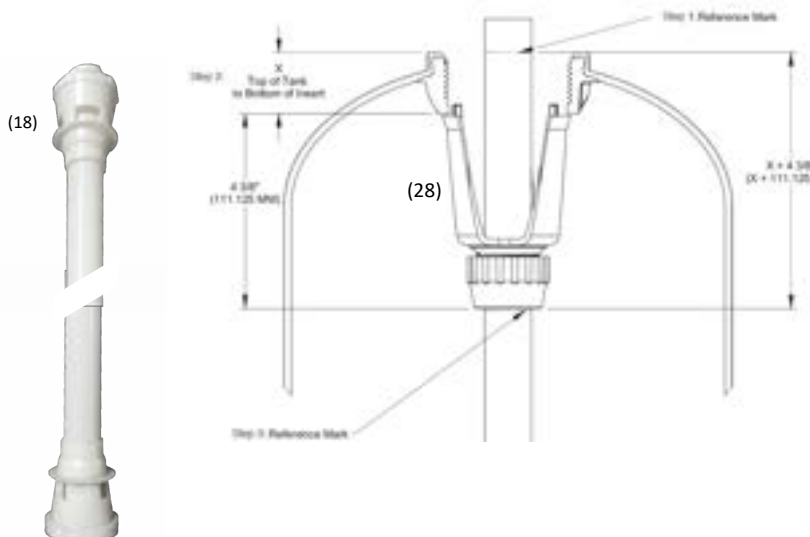
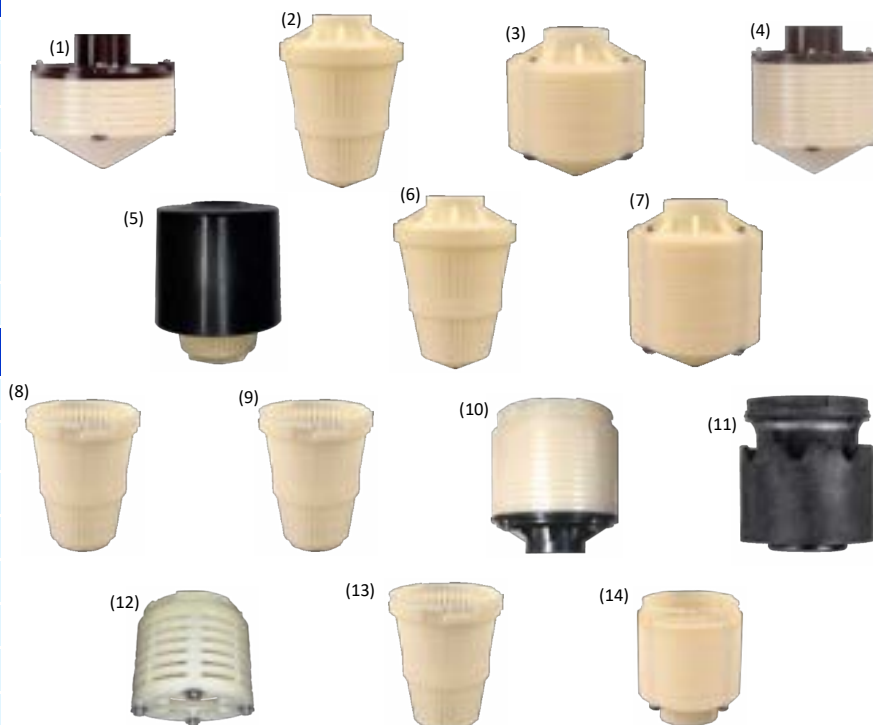


≈The same amount of water regardless of pressure.

The charts above are to be used as a guideline only. Field and pilot testing must be done to determine a medias actual performance. Water conditions will vary including water temperatures, pH, competing ions, seasonal changes, TDS, etc. The quality of water required for a specific application must be considered in order to successfully use the medias listed above. Please contact your IWP professional for assistance.

13/16", 1.05" & 1.32" Screens

Item #	Bottom Screens
27-081LH	(1) 13/16" 6 Segment Heavy Duty
27-105L	(2) 1.05" Light Duty
27-105LH	(3) 1.05" 11 Segment Heavy Duty
27-105LF	(4) 1.05" 11 Segment Fine Mesh
27-105LHW	(5) 1.05" Heavy Duty Hot Water
27-105AS	(6) 1.05" Upflow Specific
27-131H	(7) 1.32" 15 Segment Heavy Duty
Item #	Top Screens
27-T081	(8) 13/16" Light Duty Twist Lock
27-T105	(9) 1.05" Light Duty Twist lock
27-T105H	(10) 1.05" Fine Mesh Heavy Duty Twist Lock
27-T1052	(11) 1.05" AIO Air Blocker Twist Lock
27-R6	(12) 1.05" 6 Segment Diffuser
27-R6D	(13) 1.05" 6 Segment Diffuser Drilled
27-T132	(14) 1.32" Light Duty Twist Lock
27-T132H	(15) 1.32" 14 Segment Heavy Duty Twist lock
Item #	Misc.
27D-08112	13/16" Riser Pipe 12' Length
IWP-D105	1.05" Black Riser Pipe per Foot
IWP-D105-54	1.05" Riser Pipe with Heavy Bottom Screen 54"
IWP-D105-72	1.05" Riser Pipe with Heavy Bottom Screen 72"
IWP-CAP105	(16) 1.05" Riser Cap for Filling Tanks
IWP-D132	1.32" Black Riser Pipe per Foot
IWP-D132-54	1.32" Riser Pipe w/Heavy Bottom Screen 54"
IWP-D132-54	1.32" Riser Pipe w/Heavy Bottom Screen 72"
IWP-CAP125	1.32" Riser Cap for Filling Tanks
27-T105C	(17) 1.05" Riser Pipe Hold Down Clamp
27-DTA040	(18) Diffuser for RT40
27-DTA080	Diffuser for RT80



Common Distributor Sizes

13/16" O.D. is used on older valves and some in/out heads. It does not match any common PVC pipe size.

1.05" O.D. is common on the Clack 1" and the Fleck 5600, 5800, 9100, 2510 valves and is the same O.D. as 3/4" PVC pipe.

1.32" O.D. is common on the Clack 1.25" and is the same O.D. as 1" PVC pipe.



1-1/2" - 3" Commercial Distributor Systems

Item #	Bottom Screens
27-150L3	(1) 1.5" Solvent x 3" Typical for 12"-16" Tank
27-150L6	(2) 1.5" Solvent x 6" Typical for 18"-30" Tanks
27-200L	(3) 2" Solvent x 6" Typical for 12"-30" Tank



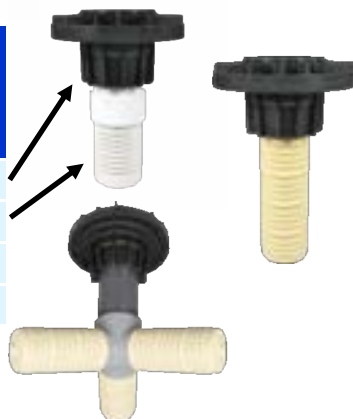
Item #	Upper Screen/Diffuser
27-D1300	(4) 1.5" Diffuser
27-D1300-01	2" Diffuser
27-150UK	(5) 1.5" Top Screen (Includes Screws)
27-D1058	(6) 1.5" Air Blocker
27-200UK	2" Top Screen (Includes Screws)



Item #	Lower Hub and Laterals for Side Mount Valves
27H-24B3F	24" Tank 6" Flange 3" FNPT
27H-30B3F	30" Tank 6" Flange 3" FNPT
27H-36B3F	36" Tank 6" Flange 3" FNPT
27H-42B3F	42" Tank 6" Flange 3" FNPT
27H-48B3F	48" Tank 6" Flange 3" FNPT
27H-63B3F	63" Tank 6" Flange 3" FNPT



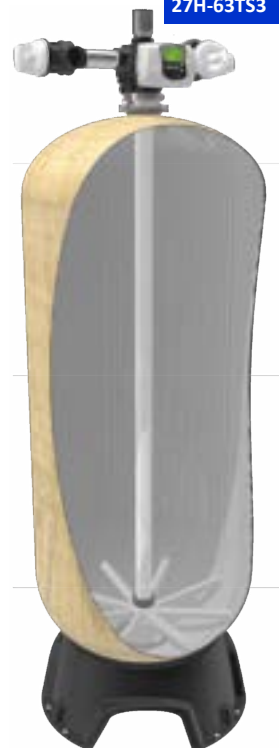
Item #	Upper Diffuser/ Screens for Side Mount Valves
26-TF3	Flange Adapter 3" FNPT
27B-1216A	3" MNPT
27B-DK3	6" Flange, 3" FNPT
27B-DK3X	6" Flange, 3" FNPT High Flow



Item #	Hub & Laterals 1.5"-2"
27-D1087	2" Socket PVC Hub
55H-437-251	2" x 1.5" PVC Bushing
27-D14TL	Laterals 14" Tanks (Order 6)
27-D16TL	Laterals 16" Tanks (Order 6)
27-D18TL	Laterals 18" Tanks (Order 6)
27-D21TL	Laterals 21" Tanks (Order 6)
27-D24TL	Laterals 24"-35" Tanks (Order 6)
37-D3036TLTL	Laterals 36" Tanks (Order 6)



Item #	Hub & Laterals 3"
27H-24T3S	24" Tank
27H-30T3S	30" Tank
27H-36T3S	35"-36" Tanks
27H-42T3S	42" Tank
27H-48T3S	48" Tanks
27H-63T3S	63" Tank



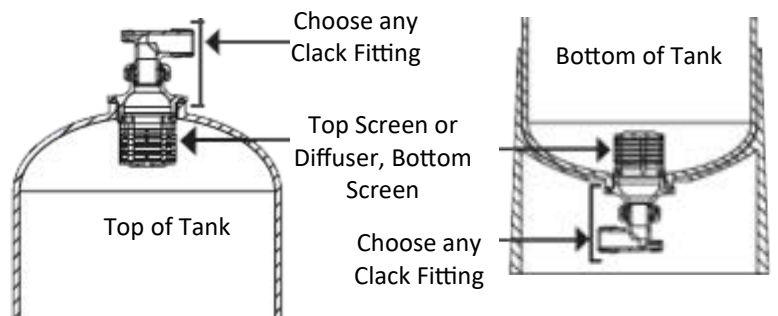
In/Out Heads

Ideal for simple in-out filters such as carbon, pH neutralizers, DI and much more.

1191 In/Out 1" to 1.25"	
26-1191	(1) In/Out Head 1.05" Riser, Add Bypass/Connectors
26-11913	(1) In/Out Head 1.32" Riser, Add Bypass/Connectors
26-1190F	(2) 1.05" With Fill Port Cap & Wrench, Add Bypass/Connectors
39V-V3006	(3) Bypass Assembly
39V-V3007	(4) 1" PVC Male NPT Elbow
39V-V3007-01	(5) 3/4" x 1" PVC Solvent Elbow
1192 In/Out 1.5" to 2"	
26-1192	(6) In/Out head 1.9" (1.5" PVC) Riser Add Bypass/Connector
39V-V4678	(7) Bypass Assembly
39V-V4430-01	(8) 1.5" MPT Straight Kit
39V-V4430-07	(9) 1.5" MPT Elbow Kit
39V-V4430-13	(10) 1.5" and 2" PVC Glue kit
39V-V4430-14	(11) QC Elbow Kit
Simple In/Out Heads & DI Heads	
26-890S	(12) 3/4" FNPT with 13/16" Distributor
26-990S	(13) 1" FNPT with 1.05" Distributor
39L-H890	(14) 3/4" FNPT w/ 1/2" Resilite Port 13/16" Distributor
39L-R73500	(15) 1/2" Resilite 500K (1 PPM)
Bottom Purge Tank Adapters	
39A-D1287	(16) Tank adapter with Cam Lock, 1" NPT Elbow
39A-D1288	(17) Tank adapter with Cam Lock, 1" x 3/4" PVC Solvent Elbow
39A-D1225-10	(18) Top/Bottom Screen for D1287/D1288
27-R6	(19) Top Only Diffuser



Many more install parts available, see install parts page

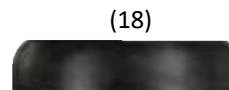


Portable Exchange Tank Components

Item #	In/Out Heads and Accessories For 2.5" Tanks
C650127	(1) 2-1/2"-8 Thread with 3/4" In-Out TOP, 13/16" Riser
26-IO-XW8IS	(2) 2-1/2"-8 Thread with 3/4" In-Out Side, 13/16" Riser
26-75HDL	(3) Aluminum Handle for 26-IO-XW8IS and 26-890S
27-081LH	(4) 13/16" Heavy Bottom Screen
27QD-M12T	(5) Quick Disconnect Male x 3/4" MNPT (C6MA75)
27QD-F12B	(6) Quick Disconnect Female Union x 3/4" Barb (C6UHB75)
27QD-F12T	(7) Quick Disconnect Female Union x 3/4" MNPT (C6UMA75)
27QD-M12B	(8) Quick Disconnect Male x 3/4" Barb (C6HB75)
Item #	In/Out Heads and Accessories For 4.5" Tanks
39X-D810344	(9) 4.5"-8 Buttress Thread, 1" MNPT In-Out-Fill Port, 1.32" Riser
39X-D810587	(10) 4.5"-8 Buttress Thread, 1" In-Out, 1-3/4" Fill Port, 1.32" Riser
27-132960	(11) 1.32" Offset Bottom Screen (C650113)
27QD-M16T	(12) Quick Disconnect Male x 1" MNPT (C6MA100)
27QD-F16B	(13) Quick Disconnect Female Union x 1" Barb (C6UHB100)
27QD-F16T	(14) Quick Disconnect Female Union x 1" MNPT (C6UMA100)
27QD-M16B	(15) Quick Disconnect Male x 1" Barb (C6HB100)
C6CAP-MA	(16) Dust Cap for Male Adapter
C6PLUG-UN	(17) Dust Plug for Union
39V-14RB	(18) 14" Rubber Bumper
Item #	Portable Exchange Tank With Rubber Base
22-144745NR	14" x 47" 3.64 Ft ³ 4.5"-8 Buttress Tank neck

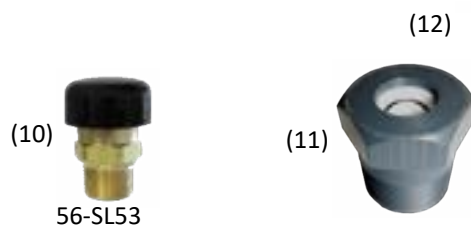


Exchange tanks are ideal for simple in-out filters such as carbon, pH neutralizers, DI and much more. High quality rubber bumper at the top of the tank reduce damage and extend the service life. Rubber bases are designed to last for years! Let IWP help you improve your exchange tank business!



Tank Adapters/Caps/Vacuum Breaks/Tools

Tank Adapters	
26-D1501	(1) 4"-8 x 2.5"-8 Noryl Tank Adapter
26F-D1504	(2) 6" Flange x 4"-8 Tank Adapter (Includes Hardware)
26-D1502	(3) 6" Flange x 3" FNPT x 3" FNPT (Includes Hardware)
Tank Closures	
26-25C1	(4) 2.5" Shipping Cap for 1.05" Riser (Not for Pressure Applications)
26-25C2	(5) 2.5" Shipping Cap for 1.32" Riser (Not for Pressure Applications)
IWP-4CAP	(6) 4" Shipping Cap (Not For Pressurized Applications)
26-25C8	(7) 2.5"-8 Cap
26-4C	(8) 4"-8 Cap
26-D1503	(9) 6" Flange Cap (Includes Hardware)
Vacuum Breaks	
56-VAC	(10) 1/2" MNPT for 16" and Smaller Tanks or <1-1/4" Pipe
56-VAC150	(11) 1-1/4" MNPT for 16" and Smaller Tanks or =>1-1/4" Pipe
Funnels	
56-F25	(12) 2.5" Funnel
56-F4	(13) 4" and 6" Funnel
26-CDF	(14) Funnel For Clack Dome Hole
Media Extractors/Tools	
IWP-X25	(15) Media Extractor Kit for 2.5" Opening
IWP-X40	(16) Media Extractor Kit for 4" Opening
IWP-X60	(17) Media Extractor Kit for 4" Opening
203766	(18) Media Vacuum Loader Tool for 2.5"
Other Tools	
56-SL53	Tube of Lube, Molykote Release Compound 7
68-PGRED	Test Pressure Gauge w/Max Indicator



Drain Components

IWP is your source for drain line components. Black, UV Resistant PVC 5/8" I.D. tubing is rated for up to 10 GPM! Larger drain tubing makes for a quieter regeneration! This unique tubing bends nicely without kinking. It also won't collapse like lower quality tubing.



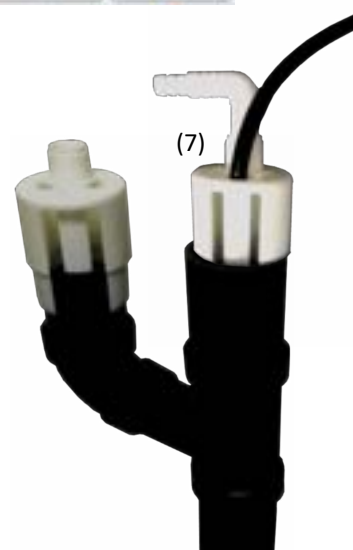
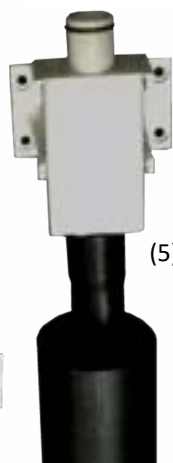
Item #	Description
65G-5878	(1) 5/8" I.D. PVC Drain Tubing 100 Ft.
55B-12F10B	(3) 3/4" FNPT x 5/8" Barb Straight (i5 1"/1.25", CK10/WS125)
55B-10BX3K	(4) 5/8" Barb Tee
94-HC8	(5) S.S. Clamp
39V-V3192K	1/2" PEX nut for (i5 1"/1.25", CK10/WS125) valves.
39V-V58T	1/2" PEX insert for (i5 1"/1.25", CK10/WS125) valves.

Air Gaps & Drain Line Adapters

Item #	RO Air Gaps and Components
56-AGDW1	Dishwasher Air Gap for RO w/1/4" QC connection
56-AGD	Universal Drain Line Adapter for Garbage Disposal
56-AG9	Drain Line Adapter 1-1/2" x 3/8" QC With Slip-Joint Tee



Item #	Softener/Backwash Air Gaps
56-AGMD	(1) Mr. Drain Universal Fit 1/2" Slip
56-AGS15	(2) DLA 3/4" FNPT, Installs on 1-1/2" Standpipe
56-AGS20	(3) DLA 1" FNPT, Installs on 2" Standpipe
56-AGGF	(4) Gap-A-Flo 1/4" and 3/4" Connections Inline Air Gap
56-AGT15	(5) Laundry Box Air Gap for 1-1/2" Standpipe 1/2" Slip
56-AGT20	(6) Laundry Box Air Gap for 2" Standpipe 1/2" Slip
56-AGT15	(7) Softener and RO Gap, Fits 1-1/2" and 2" standpipes. 1/2" Slip Connection



Brine Tanks and Components

Item #	Brine Tanks (Blow Molded)	≈Gal	≈Salt #'s
44-1016K6	10"x16" with 3/8" Safety Float	5	40
44-1138K6	11"x11"x38" with 3/8" Safety Float	19	150
44-14K6	15"x17"x36" with 3/8" Safety Float	27	250
44-14P6	15"x17"x36" Platinum with 3/8" Safety Float	27	250
44-14U6	15"x17"x36" Blue with 3/8" Safety Float	27	250
44-1633K6	16"x33" with 3/8" Safety Float	26	250
44-1640K6	16"x 40" with 3/8" Safety Float	34	325
44-1826K6	18"x26" with 3/8" Safety Float	28	250
44-1833K6	18"x33" with 3/8" Safety Float	36	350
44-1840K6	18"x40" with 3/8" Safety Float	43	450
44-1840K8	18"x40" with 1/2" Safety Float	43	450
44-1840K16	18"x40" with 1/2" to 1" Safety Float	43	450
44-2440F06	24"x41" with 3/8" Safety Float	80	700
44-2440F08	24"x41" with 1/2" Safety Float	80	700
44-2440F16	24"x41" with 1/2" to 1" Safety Float	80	700
44-2450F06	24"x50" with 3/8" Safety Float	100	900
44-2450F08	24"x50" with 1/2" Safety Float	100	900
44-2450F16	24"x50" with 1/2" to 1" Safety Float	100	900
44-3050F08	30"x50" with 1/2" Safety Float	150	1400
44-3050F16	30"x50" with 1/2" to 1" Safety Float	150	1400



Notes:

- ♦ Brine Tanks are **BLACK** Unless Otherwise Specified.
- ♦ Blow Molded Brine Tanks are a Popular Budget Choice
- ♦ 3/8" and 1/2" Floats are Rated Up to 1.5 GPM refill and Draw
- ♦ **1/2" to 1"** Float Rated Up to 10 GPM Refill/20 GPM Draw
- ♦ Special Order **BLUE**, **ALMOND** and **PLATINUM** Color Available on Some Brine tanks,



Item #	Deluxe Molded Cover
44-11IM	11"x11" Black
44-15IM	15"x17" Black
44-16IM	16" Black Round
44-18IM	18" Black Round



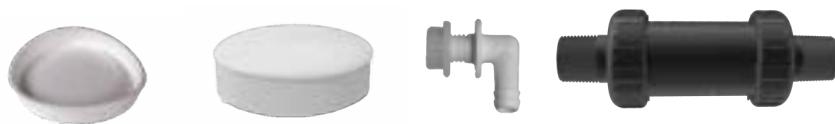


Brine Tanks & Components

Brine tank grids and cubes primary function is to allow for the use of a smaller brine tank by increasing the amount of water that can be in the brine tank. They will reduce dry salt capacity.



Item #	Heavy Duty Brine Tanks	≈Gal	≈Salt #'s
44-2460F08	24"x60" with 1/2" Safety Float	115	1000
44-2460F16	24"x60" with 1/2" to 1" Safety Float	115	1000
44-3060F08	30"x60" with 1/2" Safety Float	180	1600
44-3060F16	30"x60" with 1/2" x 1" Safety Float	180	1600
44-3948F16	39"x48" with 1/2" 1" Safety Float	250	2200
44-3960F16	39"x60" with 1/2" to 1" Safety Float	300	2700
44-4260F16	42"x60" with 1/2" to 1" Safety Float	350	3100
44-5060F16	50"x60" with 1/2" to 1" Safety Float	500	4500
Item #	Brine Tank Grids	≈Gal. Extra	
44-11GK	11" Brine Grid	2	
44-15GK	15"x17" Brine Grid	3.5	
44-16GK	16" Brine Grid	3.5	
44-18GK	18" Brine Grid	5	
44-18GKX3	3" Salt Grid Extender for 11-18" Grids	Varies	
44-18GKX	6" Salt Grid Extender for 11-18" Grids	Varies	
44-24GK	24" Brine Grid (Specify Height)	2 Gallons per Inch	
44-30GK	30" Brine Grid (Specify Height)	3 Gallons per inch	
44-i60G	24"x24"x24" Brine Cube	60 Total	
Item #	Safety Floats & Parts		
44-SF0634	4"x30" Brine Well w/474 Safety Float 3/8" (11x11, 15x17, 16x33, 18x33)		
44-SF0640	4"x36" Brine Well w/474 Safety Float 3/8" (18x40)		
44-SF06	4"x36" w/474 Safety Float Safety Float Kit w/out Brine Well		
44-SF08	4"x36" Brine Well w/474 Safety Float 1/2" (18x40)		
44-SF1	1/2" to 1" 494 60" Safety Float Kit w/out Brine Well		
44-SF148	1/2" to 1" 494 48" Safety Float Kit w/5" Brine Well		
44-SF160	1/2" to 1" 494 60" Safety Float Kit w/5" Brine Well		
39K-H4600	474 3/8" Brine Safety Valve Only		
39K-H4600-02	474 1/2" Brine Safety Valve Only		
44-BW448	4"x48" Brine Well		
44-BC4	4" Brine Well Cap		
44-BW560	5"x60" Brine Well		
44-BC5	5" Brine Well Cap		
44-BF	2 Piece Brine Well Overflow		
IWP-RFC	5 GPM Brine Refill Flow Control 1" MNPT		



Brine Tank Capacities

A brine grids primary function is to allow the use of a smaller brine tank by displacing the salt and allowing the brine tank to hold more water. Use this chart to determine the best brine tank for your system configuration.

≈Brine Tank Size	≈Dry Salt Pounds Capacity	≈Gallons per Inch/Total Gallons	≈Lbs as Brine Per In. Height No Grid/Grid	≈Max Ft³ @5Lb Per Ft³ ≈20 KGR/Ft³	≈Max Ft³ @8Lb Per Ft³ ≈24 KGR/Ft³	≈Max Ft³ @10Lb Per Ft³ ≈26 KGR/Ft³	≈Max Ft³ @15Lb Per Ft³ ≈30 KGR/Ft³
10x16	50	.35/6	.3/.75	.5	.3	.25	.15
10x16 w/5" Grid	35	.35/6	.3/.75	.75	.4	.35	.25
11x11x34	150	.5/17	.4/1	1.5	1	.75	.5
11x11x34 w/5" Grid	125	.5/17	.4/1	2	1.25	1	.5
14x14x34	200	.75/25	.6/1.5	2.5	1.5	1.25	.75
14x14x34 w/5" Grid	150	.75/25	.6/1.5	3	1.75	1.5	1
15x17x36 (#14)	250	.8/27	.8/2	3	1.75	1.5	1
15x17x36 w/5" Grid	200	.8/27	.8/2	4	2.5	2	1.5
16x33	275	.9/26	.6/1.5	2.5	1.5	1.25	.75
16x33 w/5" Grid	225	.9/26	.6/1.5	3	1.75	1.5	1
18x26	250	1.1/27	1/2.5	2.5	1.5	1.25	.75
18x26 w/5" Grid	200	1.1/27	1/2.5	3	1.75	1.5	1
18x26 w/11" Grid	150	1.1/27	1/2.5	4	3	2.5	1.5
18x33	350	1.1/35	1/2.5	4	2.5	2	1
18x33 w/5" Grid	300	1.1/35	1/2.5	5	3	2.5	1.5
18x33 w/11" Grid	250	1.1/35	1/2.5	6	3.5	3	2
18x40	400	1.1/45	1/2.5	5	3	2.5	1.5
18x40 w/5" Grid	350	1.1/45	1/2.5	6	3.5	3	2
18x40 w/11" Grid	300	1.1/45	1/2.5	7	5	4	2.5
24x40/41	700	2/80	2/5	10	6	5	3
24x40/41 w/5" Grid	600	2/80	2/5	11	7	6	4
24x40/41 w/20" Grid	350	2/80	2/5	18	10	9	6
24x50/54	900	2/100	2/5	12	7	6	4
24x50/54 w/5" Grid	800	2/100	2/5	15	9	8	5
24x50/54 w/24" Grid	450	2/100	2/5	20	12	10	7
24x60*	1050	2/115	2/5	15	8	7	5
24x60* w/5" Grid	950	2/115	2/5	20	12	10	6
24x60* w/30" Grid	500	2/115	2/5	28	16	14	9
30x48*/50	1100	3/150	3.2/8	20	12	10	6
30x48*/50 w/5" Grid	950	3/150	3.2/8	23	13	11	7
30x48*/50 w/24" Grid	550	3/150	3.2/8	30	18	15	10
30x60*	1500	3/180	3.2/8	24	14	12	8
30x60* w/5" Grid	1350	3/180	3.2/8	30	18	15	12
30x60* w/30" Grid	750	3/180	3.2/8	40	24	20	14
39x48*	2000	5/250	5.2	30	18	15	10
39x60*	2500	5/300	5.2	40	24	20	13
42x60*	3000	6/350	6.2	50	30	25	15
50x60*	4300	8.5/500	9	60	36	30	20
60x48 Storage Tank	4000	12.25/575	12.5	80	48	40	25
64x50 Storage Tank	4800	14/700	14	100	60	50	30
72x50 Storage Tank	5700	17.5/875	17.5	120	72	60	40
72x64 Storage Tank	7600	17/1100	17.5	170	100	85	55
85x64 Storage Tank	10,000	24.5/1600	24	230	135	115	75

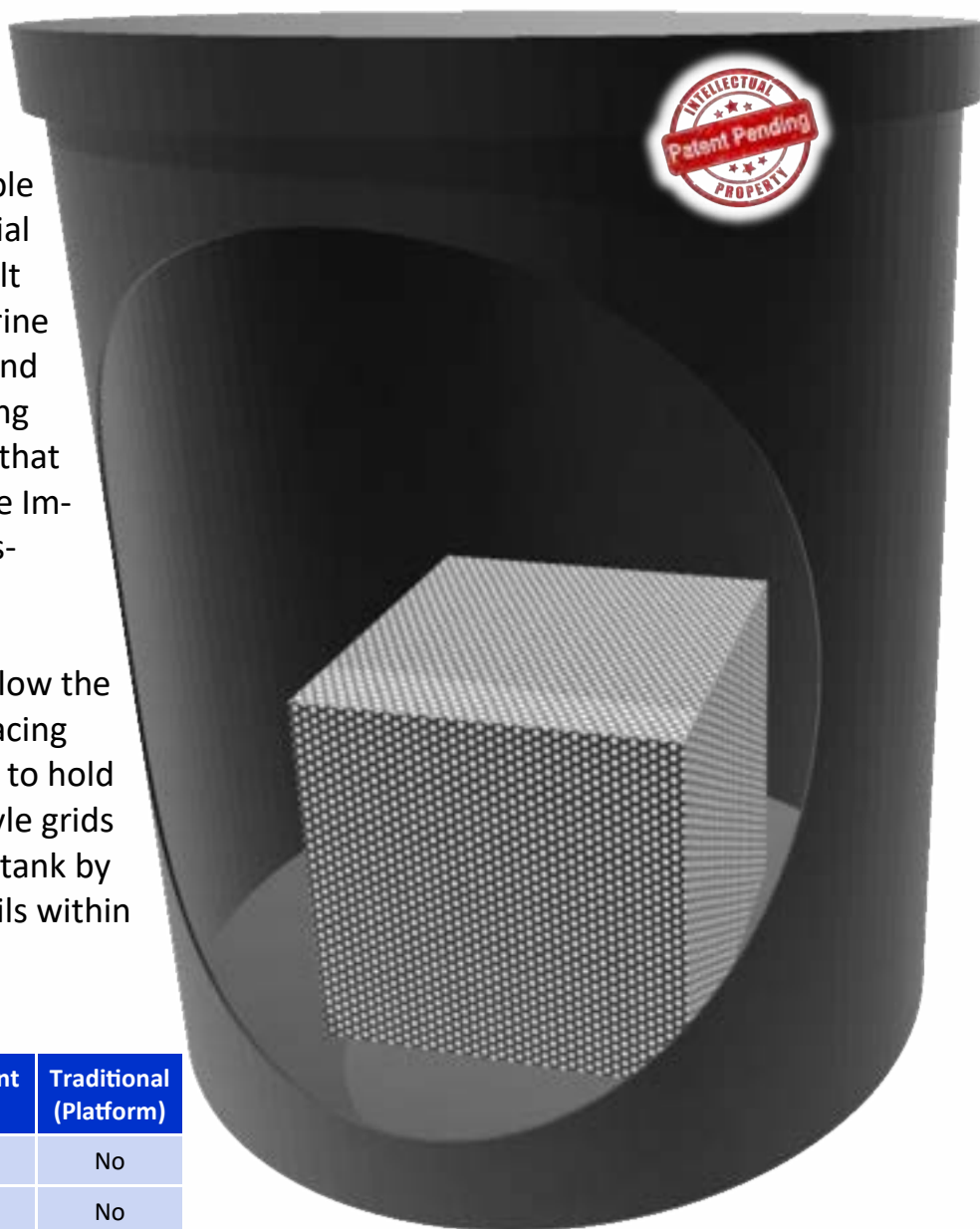


IMPACT Salt Displacement Cubes

Part #	Salt Displacement Cube Size	≈Water Capacity Added	Ideal for Brine Tank Diameter	Extra Brine Capacity
44-i60G	24"x24"x24"	60 Gallons	39" & Larger	150 Lbs.
44-i135G	36"x36"x24"	135 Gallons	60" & Larger	325 Lbs.

Finally, an effective high quality salt displacement component for large brine tanks! The IWP Impact Salt Displacement Cubes are available in a multitude of sizes for commercial applications. Our unique Impact Salt Displacement Cubes are ideal for brine tanks from 39" to 84" in diameter and are typically good in stock. Stop using the antiquated pressed wood grids that will fail shortly after installation. The Impact Water Products Impact Salt Displacement Cube is a game changer!

A salt grids primary function is to allow the use of a smaller brine tank by displacing the salt and allowing the brine tank to hold more water. Traditional platform style grids are typically custom made for each tank by hand out of particle board which fails within a few years of going into service.



	Salt Displacement Cube	Traditional (Platform)
Easily Installed	Yes	No
Reduces Salt Bridging	Yes	No
Easily Cleaned Underneath	Yes	No
Requires Height Calculations	No	Yes
Adjustable Height	Not Needed	Some
Potential for Collapse	No	Yes
Ideal for Shared Brine Tank	Yes	No
Fast Brine Production	Yes	No
Large Surface Area	Yes	No



ATLAS FILTRI®

improving water



"HYDRA" by Atlas Filtri. A revolutionary design that allows for the addition of a simple automated purge timer. High capacity and high flow rates make the "Hydra" your first choice for simple particulate filtration, rated at 50 or 90µ. The Hydra filter assemblies include a blowdown ball valve, wrench, bracket kit and a code compliant backflow preventer.

The i5 control valve includes a unique programming feature allowing the valve to operate a Clack No Hard Water bypass (NHWBP). This can allow the hydra to be automatically purged every 1-28 days.



Max working pressure: 116 psi (80 PSI UPC Code 608.2)

Min working pressure: 26 psi

Max working temperature: 113°F

Min working temperature: 40°F

Item #	Description
78-H112-PP5	3/4" Hydra 50 µ Pleated Polypropylene Screen 22 GPM Peak
78-H112-PE9	3/4" Hydra 90 µ Polyester Screen 22 GPM Peak
78-H112-SS9	3/4" Hydra 90 µ Stainless Screen 22 GPM Peak
78-H116-PP5	1" Hydra 50 µ Pleated Polypropylene Screen 26 GPM Peak
78-H116-PE9	1" Hydra 90 µ Polyester Screen 26 GPM Peak
78-H116-SS9	1" Hydra 90 µ Stainless Screen 26 GPM Peak
78-H124-PP5	1-1/2" Hydra 50 µ Pleated Polypropylene Screen 50 GPM Peak
78-H124-PE9	1-1/2" Hydra 90 µ Polyester Screen 50 GPM Peak
78-H124-SS9	1-1/2" Hydra 90 µ Stainless Screen 50 GPM Peak
78-H-PP5	Replacement 50 µ Pleated Polypropylene Screen
78-H-PE9	Replacement 90 µ Polyester Screen
78-H-SS9	Replacement 90 µ Stainless Steel Screen
78-XR25	Replacement O-Ring
78-H-SSP	Replacement Spring
IWP-HYDFi5	Auto Flush valve (Connects to i5 valve only)



Check out the "VIDEOS" section of our website for a demonstration of the "Hydra" filter system!





ATLAS FILTRI®

improving water



"HYDRA BIG" by Atlas Filtri. A revolutionary design that allows for the addition of a simple automated purge timer or install a Clack NHWBP for the ultimate in durability and reliability! High capacity and high flow rates make the "Hydra" your first choice for simple particulate filtration, rated at 50 or 90µ. The Hydra filter assemblies include a blowdown ball valve, wrench, bracket/hardware kit and a code compliant backflow preventer and barb fitting. Available in 1" and 1-1/2".



Max working pressure: 116 psi (80 PSI UPC Code 608.2)

Min working pressure: 26 psi

Max working temperature: 113°F

Min working temperature: 40°F

Item #	Description
78-HB1650	1" Hydra 50 µ Polyester Screen 50 GPM Peak
78-HB1690	1" Hydra 90 µ Polyester Screen 50 GPM Peak
78-HB2450	1-1/2" Hydra 50 µ Polyester Screen 75 GPM Peak
78-HB2490	1-1/2" Hydra 50 µ Polyester Screen 75 GPM Peak
78-HBX50	Replacement 50 µ Polyester Screen
78-HBX90	Replacement 90 µ Polyester Screen
78-HBXR	Replacement O-Ring
78-HBXSP	Replacement Spring
IWP-BBHYDFi5	Hydra Big Flush valve (Connects to i5 valve only)





Stenner Pumps

Established in 1957, the Stenner Pump Company manufactures peristaltic pumps for reliable and accurate dosing of liquid solutions for. Popular for antiscalant, chlorine, hydrogen peroxide, sodium metabisulfite, soda ash, citric acid, polyguard and several other water treatment chemicals.

The “Econ LD” is ideal for low flow/low dose application like antiscalant and polyphosphate injection. Simple potentiometer allows quick adjustments from 10-100% for precise control. Many other pump sizes available.

Econ LD Series Pumps	
75S-LD05	.45 GPD Max, .04-2.4 Ounces per Hour, 80 PSI, Pump Tube M, White Roller, 120V
75S-LD15	1.5 GPD Max, .04-2.4 Ounces per Hour, 80 PSI, Pump Tube F, White Roller, 120V
75S-LD05-2	.45 GPD Max, .04-2.4 Ounces per Hour, 80 PSI, Pump Tube M, White Roller, 220V
75S-LD15-2	1.5 GPD Max, .04-2.4 Ounces per Hour, 80 PSI, Pump Tube M, White Roller, 220V
Clack Chemical Tank	
75S-TKG15N	15 Gallon Natural Chemical Tank w/LD Pump Stand
75S-TKG15G	15 Gallon Grey Chemical Tank w/LD Pump Stand
75S-TKG35N	35 Gallon Natural Chemical Tank w/LD Pump Stand
75S-TKG35G	35 Gallon Grey Chemical Tank w/LD Pump Stand



The Charts Below are For .45 GPD Pumps

Powdered Antiscalant

Add 4#’s to the chemical tank. Set potentiometer as shown below

Powdered Antiscalant

Add antiscalant and water, set potentiometer as shown below

Liquid Antiscalant

Add 1 gallon of liquid antiscalant to the appropriate amount of clean water and set the potentiometer according to the charts below.

Water Flow GPM	Gallons of Water	Set pump %
2	10	10
3	10	20
4	10	25
5	10	30
6	10	40
7	10	45
8	10	50
10	10	60
12	10	70
15	10	100
17	5	50
20	5	70
25	5	80
30	5	90
35	5	100

Water Flow GPM	Gallons of Water	Pounds of Antiscalant	Set pump %
10	10	5	50
12	10	5	60
15	10	5	75
17	10	5	80
20	10	5	100
25	10	10	60
30	10	10	75
35	10	10	85
40	10	10	100
50	10	15	50
60	10	15	60
70	10	15	75
80	10	15	90
90	10	15	100

RO Feed GPM	Gallons of Water	Set pump %
Non Concentrate Liquid Antiscalant Settings for .45 GPD		
2	4	15
4	4	30
5	4	40
7	4	50
10	4	80
15	4	100
20	1	60

RO Feed GPM	Gallons of Water	Set pump %
8-10X Concentrate Liquid Antiscalant Settings for .45 GPD		
25	2	10
30	2	15
40	2	20
50	2	25
60	2	30
80	2	40
100	2	50
150	2	75

Use the equation below to determine the correct dilution/injection rates for other pumps and flow rates.
 Injection Pump GPD ÷ Reverse Osmosis Permeate & Concentrate flow in GPD x Chemical Solution Strength in PPM
 1.5 Pounds Antiscalant powder into 1 gallon of water = 1,000,000 ppm (Neat)



Reliable Peristaltic Metering Pumps Manufactured by Stenner



The "Econ FP" series has quickly become the preferred pump for the water treatment industry. Variable injection controlled by a pulse meter or any i5 metered controller. 80 PSI rated.

"S" Series! Select from the various modes of operation: Pump Signal Inputs: 4-20mA, 0-10VDC, Pulse and Hall Effect (use any Clack meter). The "S" series features pump signal outputs. Rated to 100 PSI. 110V, 220 available.

Item #	Econ FP Series
75S-FPX04	Up to 4.5 GPD, 80 PSI, Pump Tube F, White Roller, 120V
75S-FPX16	Up to 16 GPD, 80 PSI, Pump Tube G, Black Roller, 120V
75S-FPX30	Up to 30 GPD, 80 PSI, Pump Tube H, Black Roller, 120V
75S-FPX04-2	Up to 4.5 GPD, 80 PSI, Pump Tube F, White Roller, 220V
75S-FPX16-2	Up to 16 GPD, 80 PSI, Pump Tube G, Black Roller, 220V
75S-FPX30-2	Up to 30 GPD, 80 PSI, Pump Tube H, Black Roller, 220V



Item #	"S" Series
75S-311A	.05-5 GPD, Tube #1
75S-321A	.17-17 GPD Tube #2
75S-375A	.4-40 GPD Tube #7
75S-407X	.6-60 GPD Tube #7X
75S-570G	1.3-125 GPD Tube #7G

Item #	Econ FP Series Parts & Accessories
75S-RW	Econ White Roller
75S-RK	Econ Black Roller
75S-XEC355	Econ Pump Tube Cover
75S-FPM121	¾" Plastic Meter 1 Pulse per Gallon, .25-22 GPM
75S-FPM161	1" Plastic Meter w/Unions 1 Pulse per Gallon, .75-50 GPM
75S-FPM241	1½" Plastic Meter w/Unions 1 Pulse per Gallon, 2-100 GPM
75S-FPM321S	2" Stainless Meter w/Unions 1 Pulse per Gallon, 1-160 GPM
75S-TKG15N	15 Gallon Natural Chemical Tank w/LD Pump Stand
75S-TKG15G	15 Gallon Grey Chemical Tank w/LD Pump Stand
75S-TKG35N	35 Gallon Natural Chemical Tank w/LD Pump Stand
75S-TKG35G	35 Gallon Grey Chemical Tank w/LD Pump Stand
75S-CV41	Replacement Duckbill Check Valve (Each or discounted 5 pack)
75S-CVIJ14	1/4" Injection Check Valve Assembly 100 PSI
75S-TK14	20' x 1/4" UV Black Tubing per ft. (Discount at 20', 100, 1000)
75S-X14T	1/4" Connecting Nut (Each or discounted 10 Pack)
75S-X14F	1/4" Ferrule (Each or discounted 10 Pack)
75S-AK600	1/4" Flow Indicator

Pump Tubes	
75S-TB1	Santoprene #1 (Each or discounted 5 pack)
75S-TB2	Santoprene #2 (Each or discounted 5 pack)
75S-TB7	Santoprene #7 (Each or discounted 5 pack)
75S-TB7X	Santoprene #7X (Each or discounted 5 pack)
75S-TB4	Santoprene #4 (Each or discounted 5 pack)
75S-TB5	Santoprene #5 (Each or discounted 5 pack)
75S-TBA	"A" (Each or discounted 5 pack)
75S-TBB	"B" (Each or discounted 5 pack)
75S-TBC	"C" (Each or discounted 5 pack)
75S-TBF	"F" (Each or discounted 5 pack)
75S-TBG	"G" (Each or discounted 5 pack)
75S-TBH	"H" (Each or discounted 5 pack)
75S-TBM	"M" (Each or discounted 5 pack)

The roller, cover and pump tube should be changed annually as part of regular maintenance.



Item # 75S-MX35FP

35 Gallon chemical tank with a mixing/timer system to assist with mixing soda ash or citric acid. Timer included for intermittent automated mixing!



Clack Retention Tanks

Clack retention tanks are typically used to provide additional contact time for chlorine, air, ozone, hydrogen peroxide and other chemicals. The oxidized precipitates collect in the bottom where they are easily purged from the tank. By using the unique baffled diffuser, the Clack tanks have the inlet and outlet on the top of the tank making installation simple. All Clack retention tanks include the popular 1191 in/out head with 1-1/4" threaded and 1-1/4"x1-1/2" PVC glue connection on the inlet and outlet plus a 3/4" CPVC bottom drain. See the Clack accessories page for more connection options. You can use the retention tanks for sediment reduction by shortening the baffled diffuser.



Clack Retention Tanks

Item #	≈Capacity	In/Out	Drain	≈Dimensions
22C-RT040	40 Gallon	1-1/4 MPT, 1-1/4"x1-1/2" PVC	3/4" CPVC Pipe	21"x41"
22C-RT080	80 Gallons	1-1/4 MPT, 1-1/4"x1-1/2" PVC	3/4" CPVC Pipe	21"x68"
22C-RT120	120 Gallons	1-1/4 MPT, 1-1/4"x1-1/2" PVC	3/4" CPVC Pipe	24"x79"



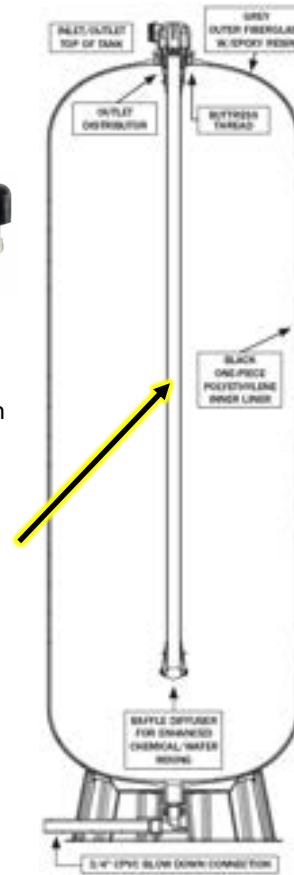
Retention Tank Operating Parameters

- Maximum Operating Pressure 75 psi/517 kPa
- Maximum Operating Temperature 120°F 49°C
- Maximum Allowable Operating Vacuum 0
- A Vacuum/Pressure Relief Valve of adequate size must be incorporated in the plumbing



i5 Valves include programming to flush the bottom of the tanks with a Clack NHWP valve!

Shorten the internal baffled diffuser when using the retention tank as a sand and sediment trap.



Retention Tank Accessories

Item #	Description
22C-RTK	3/4" 4.2 GPM Auto Purge Kit, Requires an i5 Softener or Backwashing System
22C-RTKM	3/4" PVC Manual Flush Kit with Ball Valve for 40-120 Gallon Retention Tanks
39V-V3006	Clack Bypass for 40-120 Gallon Retention Tanks
39V-V3007	1" MPT Threaded Elbow Connectors for 40-120 Gallon Retention Tanks
39V-V3007-01	3/4"x1" PVC Elbow Connectors for 40-120 Gallon Retention Tanks
56-VAC	1/2" MPT Vacuum Break

Static Mixer

The IWP static mixer design drastically reduces the time it takes to combine the fluids and maximizes the effective blend. This can boost the effectiveness of soda ash injection, chlorine, and hydrogen peroxide.



Item #	Description	Recommended Flow Rates GPM
18-CM10	1" MNPT	1-10
18-CM15	1.5" MNPT	4-30
18-CM20	2" MNPT	10-60



Flexcon Baffled Retention Tanks

Baffled retention tanks are typically used to provide additional contact time for hydrogen peroxide, chlorine, air or other chemicals. The oxidized precipitates collect in the bottom where they are easily purged from the tank. Call your IWP technical support team for assistance in sizing your retention tank. Inlet is in the bottom, outlet is at the top of the tank. **Flexcon's "MIXMASTER"** baffled retention tanks are up to 3-4 times more effective than a standard retention tank allowing for the use of smaller tanks. MixMaster Retention tanks include Sch. 80 PVC 1-1/4" MPT inlet/Drain on the bottom and a stainless 1-1/4" FPT outlet at the top. Rated at a .8 "Baffle Factor" by the WQA.

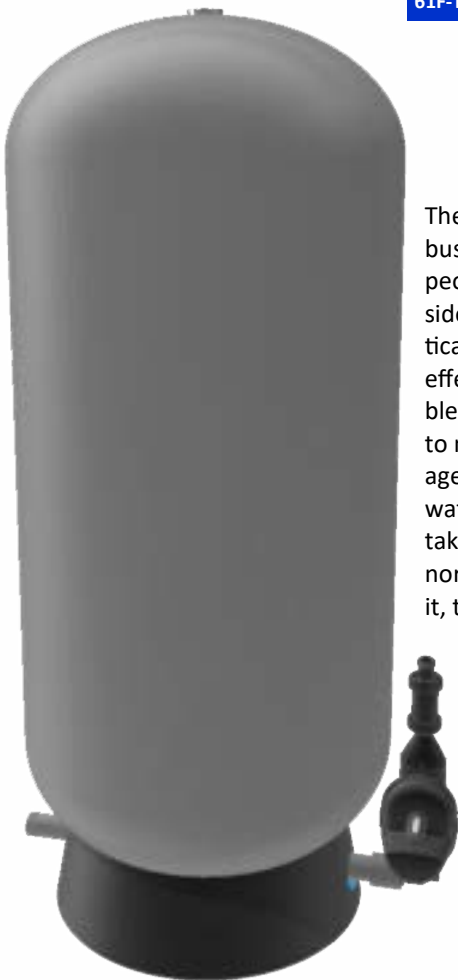
Mixmaster Baffled Retention tank

Item #	Baffled Retention Tank	~Dimensions
61F-TB080	MixMaster 80 Gal. Baffled	24"x57"
61F-TB120	MixMaster 119 Gal. Baffled Retention tank	24"x57"

Retention Tank Operating Parameters

- Maximum Operating Pressure 75 psi/517 kPa
- Maximum Operating Temperature 120°F 49°C
- Maximum Allowable Operating Vacuum 0
- A Vacuum/Pressure Relief Valve of adequate size must be incorporated in the plumbing

The board of health mandates water disinfection systems for businesses supplying potable well water to greater than 25 people, Chemical disinfection using chlorine is generally considered the method of choice because it is reliable and practical. Flexcon's **MIXMASTER** baffle tank is one of the most effective High Mixing Disinfection Systems currently available. It ensures uniform mixing, and sufficient residence time to meet the CT (contact time) standard set by most health agencies in the United States. This remains true even when water is flowing continuously. With a .8 baffle factor, it also takes up less space, because one tank does the work of 4 normal tanks. **MIXMASTER**, like the water that comes out of it, the choice is clear.



The IWP i5 valve compatible automated purge kit utilizes the Clack NHWBP for highly programmable flushing!



Baffled Retention Tank Accessories

Item #	Description
61F-RTK	3/4" 4.2 GPM Auto Blowdown Kit, Requires an i5 Backwashing System or i5 Softener
61F-RTKM	1" PVC Manual Blowdown Kit
56-VAC	1/2" MPT Vacuum break

1/2" MPT Vacuum Break
56-VAC



Neutralizing with Stenner

Treating water with high or low pH can be done safely and effectively with Stenner. Raising pH with soda ash is the most common method. Lowering pH with citric acid (Ban-T) is recommended for most applications. Neutra 7 is soda ash with polyphosphate and is ideal for post treatment pH correction. Neutra 5 is pure soda ash and is ideal for pH correction where the addition of polyphosphate could be detrimental.

Stenner Pump GPD ÷ Well Pump Output Rate (GPD) x Solution Strength (PPM) = PPM Injected.

Soda Ash (Neutra 7, Neutra 5, Sodium Carbonate, Na_2CO_3) can be used to raise the pH of acidic water without raising the hardness. If you are dealing with low hardness and low pH, chemical **injection** usually makes more sense versus a calcite filter which can significantly raise the hardness of water. If your water is already hard and a softener is going to be installed a calcite neutralizing system makes sense. Soda Ash solubility is highly variable based on the water temperature. One gallon of 50°F water can dissolve ≈1 pound of Soda Ash, at 68° water can dissolve approximately 1.75 pounds of Soda Ash. 0.926 pounds of Soda Ash in one gallon of water will make a 10% solution (100,000 ppm) and it is common to inject between 50-500 ppm of Soda Ash to increase the pH of your water. To get the correct injection amount some trial and error will be necessary. Each ppm of CO_2 is neutralized with 2.5 ppm of Soda ash. Only .85 ppm of Caustic Soda (Sodium Hydroxide, Lye, NaOH) would be needed to neutralize 1 ppm of CO_2 . Caustic Soda should only be used commercially by qualified personnel as it is far more dangerous to work with than Soda Ash and a failure in the pumping system can cause dangerously high pH levels in the plumbing. Use the chart below as a good starting point to raise the pH of your water. Using the Econ-FP with a meter is preferred over non metered injection systems if the water flow rate can vary.

4 pounds of soda ash into 5 gallons of clean water makes a 100,000 ppm solution
1 Pound of soda ash = ≈3/4 cup.

Soda Ash Injection Chart 150 ppm*

Well pump GPM	Gallons of Water	Pounds of Soda Ash	Pump GPD	Set pump %	Tank Size Gallons
5	5	4	23.5	45	30
10	5	4	23.5	90	30
15	5	4	40	80	30

Citric Acid Injection*

Well pump GPM	Gallons of Water	Ounces of Citric Acid	Pump GPD	Set pump %	Tank Size Gallons
5	5	4	23.5	50	30
10	5	4	23.5	100	30
15	5	4	40	75	30

Chlorine Reduction with Sodium Metabisulfite (SMBS)

Injecting 1.5-3 PPM of SMBS for each PPM of chlorine is an effective way to reduce chlorine in larger commercial applications. A 5% solution of SMBS is common and would be 4.2 pounds of SMBS into 10 gallons of clean water. This would make a 50,000 ppm solution. For water flow rates up to 50 GPM a 16 GPD injection pump is typically adequate. SMBS solutions have a finite shelf life once mixed. We recommend no longer than 3-4 weeks of solutions should be made at a time.

Iron, manganese and hydrogen sulfide reduction is typically accomplished with simple injection systems. Hydrogen Peroxide (H_2O_2) is recommended over chlorine for most applications as contact time is not as critical and harmful byproducts are less likely to occur. Residual levels are also less critical. Chlorine residuals should never exceed 4 ppm, 1 ppm is the desired level. H_2O_2 residual levels under 15 ppm are considered desirable. A simple static mixer may be beneficial when using H_2O_2 especially in lower pH water. If bacterial issues are present then high residuals of hydrogen peroxide may be necessary (>25 PPM) so chlorine may be a better choice. Contact time is important for chlorine to be effective so retention tanks should be considered and dechlorination systems including backwashing GAC tanks become an important part of your water quality improvement program. GAC will reduce chlorine and H_2O_2 levels to near zero.

Contaminant	(H_2O_2) Hydrogen Peroxide	Chlorine
Iron	1 ppm iron = .5 ppm H_2O_2	1 ppm iron = 1 ppm Cl_2
Manganese	1 ppm manganese = 1 ppm H_2O_2	1 ppm manganese = 2 ppm Cl_2
Hydrogen Sulfide	1 ppm hydrogen sulfide = 1.5 ppm H_2O_2	1 ppm hydrogen sulfide = 3 ppm Cl_2



Chemicals



Specialized chemicals are needed for difficult water treatment applications. Our experienced team is able to help you solve the most difficult water problems!

Item #	Automatic & liquid Resin Cleaners
18-RF	(1) Res-Up Feeder .4 oz Per Day (For Low Levels of Iron)
18-RF1	Res-Up Feeder 1 oz Per Day (For Higher Levels of Iron)
18-R4	(2) Res-Up 1 Gallon (4 per Case)
18-R1	(3) Res-Up Quart (12 per Case)
Powdered Resin Cleaner	
18P-RTP15	(4) Rust Out 1-1/2 lb. Bottle
Item #	Powdered Resin Cleaner & Alkaline Water neutralizer
18P-CDP01	(5) Ban T Citric Acid 1.5 lb. Bottle (Also an effective resin cleaner)
18P-CDP04	(6) Ban T Citric Acid 4 lb. Bottle (Also an effective resin cleaner)
18P-CDP45	(7) Ban T Citric Acid 45 lb. Bucket (Also an effective resin cleaner)
Acid Water Neutralizer	
18P-SDP5	(8) "Neutra 5" 40 lb. Bucket, Sodium Carbonate (Soda Ash)
18P-SDP7	(9) "Neutra 7" 40 lb. Bucket, Sodium Carbonate (Soda Ash) w/ Scale Inhibitor
Polyphosphate	
18P-PG01	(10) Poly Guard Liquid, 1 Gallon (Typical 10 ppm injection)
18P-PG05	(11) Poly Guard Liquid, 5 Gallon Pail (Typical 10 ppm injection)
Pot Perm Plus	
18P-PTP05	(12) 76 oz. Bottle Pot Perm Plus
Cleaners, Sanitizers, Oxidizers, Disinfectants	
18P-NS05	(13) 7% Hydrogen Peroxide (Stabilized) Neutra Sul 5 gal.
18P-SSP	(14) Sani-System Water Softener Sanitizer .5 fl. oz.
18P-RSP	(17) Sani-System RO Sanitizer .25 fl. oz.
Membrane Antiscalant, Inject 4-6 PPM	
18-ASP04	(18) 4 Lbs. Powdered Antiscalant (Treats ~520,000 Gallon)
18-ASP25	25 Lbs. Powdered Antiscalant (Treats ~3,333,200 Gallon)
18-AS25	5 Gal. Liquid Antiscalant (Treats ~1,000,000 Gallons)
18-AS25C	5 Gal. Liquid 8X Concentrate, (Treats ~8,000,000 Gallons)
18-AS25-55	55 Gal. Drum (Treats ~11,000,000 Gallons)
18-AS25C-55	(20) 55 Gal Drum 8X Concentrate, (Treats ~88,000,000 Gallons)

Many more chemicals available. Pictures are not to scale.

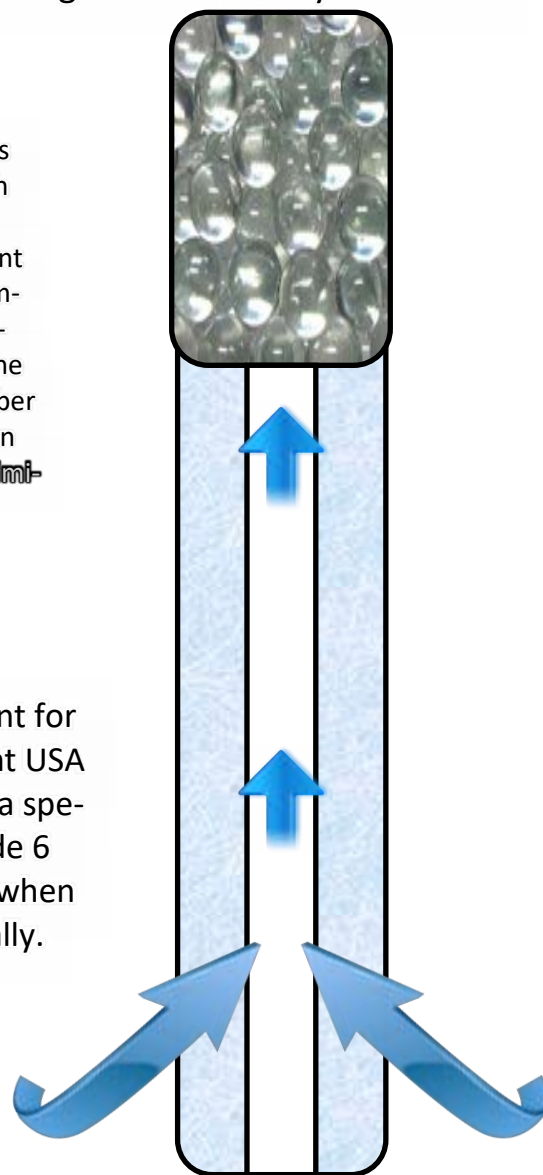


SCALIMINATOR

Tankless water heaters require higher quality water than traditional tank heaters. Our multi-gradient depth filtration removes particles as small as 5 microns and the **Scaliminator** chamber introduces an NSF 42 and NSF 60 certified anti-scalant to reduce hardness and inhibit the precipitation and formation of scale deposits. A protective coating provides corrosion protection against acidity, alkalinity, and many other mineral salts which may damage plumbing components. Featuring Atlas Filtri with an optional pressure gauge and reversible bracket or the Pentek 3G series housings with a liquid filled pressure gauge and an integrated bracket (Flow is Left to Right). Chose the design that best fits your needs!

The **Scaliminator** scale prevention filter cartridge is unique in that the water will not simply find a path around the media like other designs. Water flows through the 5 micron high flow USA made sediment cartridge before it enters the scale reduction chamber which has 2-3 times the media of the competition. Other companies simply stick a few balls in the core and hope for the best. Our forced flow chamber provides superior dissolution of the scale reduction media. Demand the best, ask for the original **Scaliminator**.

Original **Scaliminator** cartridges are a superior replacement for most scale reduction systems. High capacity multi gradient USA made sediment filter cartridge and nearly a full pound of a specially formulated slowly dissolving polyphosphate provide 6 months to a year of service in most applications. Replace when the media level drops below 40% or no less than annually.





Atlas Filtri **Scaliminator** have a crystal clear housing allowing your customer to see the effectiveness of the filtration system and monitoring of the slow dissolving polyphosphate media. Our systems utilize ≈1 lb. of NSF Listed Slowly Dissolving Polyphosphate and a 5" or 15" high capacity sediment filter! Reversible bracket makes installation a breeze!

Scaliminator Atlas Filtri

Item #	Description	List Price
FSS-2212CXX	10" Scaliminator Clear ¾" Atlas Filtri 8 GPM	
FSS-2212CXX	20" Scaliminator Clear ¾" Atlas Filtri 10 GPM	
FSS-2216CXX	20" Scaliminator Clear 1" Atlas Filtri 12 GPM	
FSS-2212CXX	20" Scaliminator Clear 1½" Atlas Filtri 15 GPM	
	Pressure Gauge kit for Scaliminator	

Original Pentek 3G **Scaliminator** systems have a commercial grade **BLUE** housing with an integrated molded bracket and a liquid filled pressure gauge. Our systems utilize ≈1 lb. of NSF Listed Slowly Dissolving Polyphosphate and a 5" or 15" high capacity sediment filter! Flow is left to right.

Scaliminator Pentek 3G

Item #	Description	List Price
FSS-2212CXX	10" Scaliminator Clear 1" Pentek 3G 8 GPM	
FSS-2212CXX	20" Scaliminator Clear 1" Pentek 3G 10 GPM	



Scaliminator Cartridges

Item #	Description	List Price
FSS-2212CXX	10" Scaliminator 10" Cartridge	
FSS-2212CXX	20" Scaliminator 20" Cartridge	



Original **Scaliminator** cartridges are compatible with most scale reduction systems. Replace approximately every 6-12 months