



Commercial Catalog

11th Edition

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HydroxR™ Treatment Systems



With "WS" Series Control Valves


















Our HydroxR™ Treatment System combines aggressive aeration technology with oxidation power of hydrogen peroxide for treatment of virtually unlimited levels of iron, manganese and sulfur gas. At the same time bacteriological form of constituents are controlled without the creation of chemical by-products, contact tanks or the ongoing maintenance of rebedding carbon filters. The included chemical feed pump package is equipped with a Degas head for self-priming operation. Our motor-driven piston control valve is the most reliable even under severe water conditions and resists common adversaries such as dirt, iron and turbidity. Designed for use in commercial, industrial or domestic water applications.








As we remain committed to innovation, Chandler Systems provides the design and engineering support to ensure the most effective treatment solution for each installation. For a stand-alone installation or a new construction project, replace and integrate new equipment into existing process, we have the proper system options available to meet your needs.

TYPICAL USES: Large Scale Irrigation, Public Water Systems, Dairy Operations, Industrial Pre-Treatment, Hotels / Motels, Apartments / Condos, Nursing Home Facilities, Food / Beverage Manufacturer, Livestock Operations, Schools, Hospitals

STANDARD FEATURES

-  Combines Aggressive Pressurized Aeration with the Oxidation Power of Hydrogen Peroxide.
-  Treats extreme levels of Iron, Manganese & Sulfur.
-  Disinfection Properties to Treat Iron, Manganese & Sulfur Bacteria
-  Catalog Systems to 200 gpm
-  Aeration Manifold Assembly Machined from Solid PVC Barstock
-  Maximum Operating Pressure - 125 psi / 110 ° F
-  Clack™ Control Valves
-  Ports on Aeration Manifold, for optional chemical injection.
-  Automatic Self-Regulating Air Volume Control
-  Filter-Ag Plus® Filter Media
-  No Raw Water Bypass
-  Chemical Feed Pump and Solution Tank
-  Electronic Control Valves
-  Includes 5 Gallons of Hydrogen Peroxide
-  Available in four different configurations

OPTIONS

-  2750, 2850 or 3150 top-mount valves
-  Alternate Aeration Tank(s) sizes
-  Side-mount control valves
-  Bypass - Connects direct to each standard 1" & 1-1/4" Clack™ control valve and simplifies installation
-  Custom-designed systems
-  Alternate filter media
-  Steel and ASME rated pressure vessels

Product Specifications



Commercial HydroxR™ Treatment System

HydroxR SYSTEM MODEL NUMBERS				Service GPM			Backwash GPM	Pipe Size		Filter Tank		Cu. Ft. Media for Total System
Standard Pressure Systems (Filter tanks ALWAYS under pressure)		For installations AHEAD of atmos. tanks. (Clean/Blend BackWash - see note 1)		Continuous Flow Rate	Comm. Inter-mit / Resi-dential Normal	Resi-den. Inter-mit.		Service	Drain Line	Tank Size	Tank Qty	
for 3450 - rpm submersible pumps	for Var-Speed Pumps or low inlet pressure	for 3450 - rpm submersible pumps	for Var-Speed Pumps or low inlet pressure									
CUTP25-102-WS	CUTP25-102VS-WS	CUTP25-102-WSC	CUTP25-102VS-WSC	10	16	20	13.5	1"	1"	13" x 54"	2	5
CUTP30-102-WS	CUTP30-102VS-WS	CUTP30-102-WSC	CUTP30-102VS-WSC	11	18	22	15	1"	1"	14" x 65"	2	6
CUTP40-102-WS	CUTP40-102VS-WS	CUTP40-102-WSC	CUTP40-102VS-WSC	14	22	26	20	1"	1"	16" x 65"	2	8
CUTP25-103-WS	CUTP25-103VS-WS	CUTP25-103-WSC	CUTP25-103VS-WSC	15	24	30	13.5	1"	1"	13" x 54"	3	7.5
CUTP30-103-WS	CUTP30-103VS-WS	CUTP30-103-WSC	CUTP30-103VS-WSC	17	27	33	15	1"	1"	14" x 65"	3	9
CUTP50-102-WS	CUTP50-102VS-WS	CUTP50-102-WSC	CUTP50-102VS-WSC	18	26	30	25	1"	1"	18" x 65"	2	10
CUTP25-104-WS	CUTP25-104VS-WS	CUTP25-104-WSC	CUTP25-104VS-WSC	20	32	40	13.5	1"	1"	13" x 54"	4	10
CUTP40-103-WS	CUTP40-103VS-WS	CUTP40-103-WSC	CUTP40-103VS-WSC	21	33	39	20	1"	1"	16" x 65"	3	12
CUTP30-104-WS	CUTP30-104VS-WS	CUTP30-104-WSC	CUTP30-104VS-WSC	22	36	44	15	1"	1"	14" x 65"	4	12
CUTP50-103-WS	CUTP50-103VS-WS	CUTP50-103-WSC	CUTP50-103VS-WSC	27	39	45	25	1"	1"	18" x 65"	3	15
CUTP40-104-WS	CUTP40-104VS-WS	CUTP40-104-WSC	CUTP40-104VS-WSC	28	44	52	20	1"	1"	16" x 65"	4	16
CUTP50-104-WS	CUTP50-104VS-WS	CUTP50-104-WSC	CUTP50-104VS-WSC	36	-	-	25	1"	1"	18" x 65"	4	20
CUTP70-153-WS	CUTP70-153VS-WS	CUTP70-153-WSC	CUTP70-153VS-WSC	36	-	-	35	1-1/2"	1-1/4"	21" x 62"	3	21
CUTP100-153-WS	CUTP100-153VS-WS	CUTP100-153-WSC	CUTP100-153VS-WSC	45	-	-	45	1-1/2"	1-1/4"	24" x 72"	3	30
CUTP70-154-WS	CUTP70-154VS-WS	CUTP70-154-WSC	CUTP70-154VS-WSC	48	-	-	35	1-1/2"	1-1/4"	21" x 62"	4	28
CUTP100-154-WS	CUTP100-154VS-WS	CUTP100-154-WSC	CUTP100-154VS-WSC	60	-	-	45	1-1/2"	1-1/4"	24" x 72"	4	40
CUTP140-203-WS	CUTP140-203VS-WS	CUTP140-203-WSC	CUTP140-203VS-WSC	75	-	-	70	2"	1-1/2"	30" x 72"	3	42
CUTP140-204-WS	CUTP140-204VS-WS	CUTP140-204-WSC	CUTP140-204VS-WSC	100	-	-	70	2"	1-1/2"	30" x 72"	4	56
CUTP180-203-WSH	CUTP180-203VS-WSH	CUTP180-203-WSHC	CUTP180-203VS-WSHC	105	-	-	105	2"	3"	36" x 72"	3	54
CUTP140-205-WS	CUTP140-205VS-WS	CUTP140-205-WSC	CUTP140-205VS-WSC	125	-	-	70	2"	1-1/2"	30" x 72"	5	70
CUTP180-204-WSH	CUTP180-204VS-WSH	CUTP180-204-WSHC	CUTP180-204VS-WSHC	140	-	-	105	2"	3"	36" x 72"	4	72
CUTP240-303-WS	CUTP240-303VS-WS	CUTP240-303-WSC	CUTP240-303VS-WSC	150	-	-	140	3"	3"	42" x 72"	3	72
CUTP180-205-WSH	CUTP180-205VS-WSH	CUTP180-205-WSHC	CUTP180-205VS-WSHC	175	-	-	105	2"	3"	36" x 72"	5	90
CUTP240-304-WS	CUTP240-304VS-WS	CUTP240-304-WSC	CUTP240-304VS-WSC	200	-	-	140	3"	3"	42" x 72"	4	96

Note 1 - WSC 1" thru 2" models backwash with clean and/or raw (blended) water; WSC 3" Models backwash with clean water only.

Manganese Removal

HydroxR™ capability to remove Manganese from water is critically dependent on the Iron and pH levels as show below:

If the Iron to Manganese ratio is: Then the pH must be at least:

5:1	7.0
1:1	7.8
0:1	8.3

For "Pressure System" models at rated GPM, the inlet PSI at the HydroxR™ Tank must have at least a 50% higher than max PSI at service. If supply pump cannot achieve this pressure, then use "Variable Speed Systems.

If need, pH can be increased by injecting soda ash or caustic into the HydroxR™ Tank Manifold

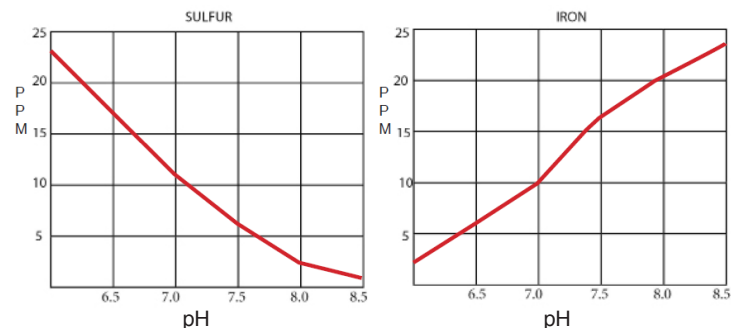
Water Temperature Range
Ambient Air Temperature Range
Operating Pressure Range
Electronic Requirements

35° - 110° F
35° - 110° F
25 - 125 psi
110 v / 60Hz

Operating Information

For use with Potable Water Only
Do not use microbiologically unsafe or unknown quality water
Installation must comply with state & local electrical / plumbing codes
Tank warranty void if subject to vacuum

Iron and Sulfur Removal



CSI WATER TREATMENT SYSTEMS
710 ORANGE STREET
ASHLAND, OH 44805

888-363-6829
WWW.CSIWATER.COM

ReactR™ Treatment Systems



With "WS" Series Control Valves



Smart-Blend is the media used on the proportioned mix of three proven filter medias that provide a spectrum of filtering capabilities for a wide range of water problems

Our REACTR™ Treatment System incorporates aeration technology that efficiently mixes ambient air with water under pressure to convert iron, manganese and hydrogen sulfide gas to filterable particles. The REACTR™ eliminates the associated stains, taste and odor while also eliminating sediment problems and neutralizing low pH on influent water. Only the highest quality controls and materials are used. Our motor-driven piston is the most reliable under severe water conditions and resists common adversaries such as dirt, iron and turbidity. Designed for use in commercial, industrial or domestic water applications.

As we remain COMMITTED TO INNOVATION, CSI provides the design and engineering support to ensure the most effective treatment solution for each installation. For a stand-alone installation or a new construction project, replace or integrate new equipment into an existing process, we have the proper systems options available to meet your needs.

Water Temperature Range	35 ° - 110 ° F
Ambient Air Temperature Range	35 ° - 110 ° F
Operating Pressure Range	25 - 125 psi
Electronic Requirements	110 v / 60Hz

OPERATING INFORMATION

For use on Potable Water Only
Do not use on microbiologically unsafe or unknown water
Installation must comply with state & local plumbing /electrical code
Tank Warranty void if subject to vacuum

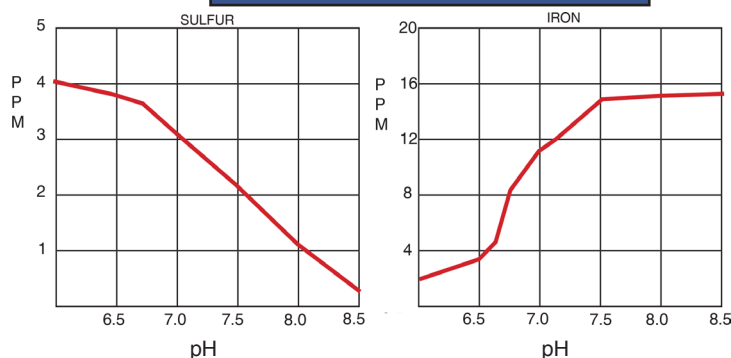
STANDARD FEATURES

- Catalog systems to 200 gpm
- Aeration via Ambient Air - NO CHEMICALS
- Maximum Operating Pressure-125 psi /110 °F
- Clack™ Control Valves
- Aeration Manifold Assembly Machined from Solid PVC Barstock
- Automatic Self-Regulating Air Volume Control
- Smart -Blend Filter Media
- No Raw Water Bypass - While one tank is Backwashing, the Other Tank(s) is (are) Still in Service (for multi-tank systems only)
- Available in four different configurations
- Ports on Aeration Manifold for optional chemical injection

OPTIONS

- OXYCLEAN™ Auto Cleansing Systems - recommended for 5 ppm or higher iron and manganese
- Bypass - Connects directly to each 1" & 1-1/4" Clack control valve and simplifies installation
- 2750, 2850 or 3150 top-mount valves
- Alternate Aeration Tank(s) sizes
- Side-mount control valves
- Custom-designed system
- Alternate filter media
- Steel and ASME rated pressure vessels

Iron and Sulfur Removal



Product Specifications



Commercial ReactR™ Treatment System

ReactR SYSTEM MODEL NUMBERS				Service GPM			Backwash GPM	Pipe Size		Filter Tank		Cu. Ft. Media for Total System
Standard Pressure Systems (Filter tanks ALWAYS under pressure)		For installations AHEAD of atmos. tanks. (Clean/Blend BackWash - see note 1)		Continuous Flow Rate	Comm. Inter-mit / Resi-dential Normal	Resi-den. Inter-mit.		Service	Drain Line	Tank Size	Tank Qty	
for 3450 - rpm submersible pumps	for Var-Speed Pumps or low inlet pressure	for 3450 - rpm submersible pumps	for Var-Speed Pumps or low inlet pressure		Not for "WSC"							
CRF40-101-WS	CRF40-101VS-WS	-	-	7	11	13	13	1"	1"	16" x 65"	1	4
CRF50-101-WS	CRF50-101VS-WS	-	-	9	14	18	17	1"	1"	18" x 65"	1	5
CRF25-102-WS	CRF25-102VS-WS	CRF25-102-WSC	CRF25-102VS-WSC	10	16	20	7.5	1"	3/4"	13" x 54"	2	5
CRF30-102-WS	CRF30-102VS-WS	CRF30-102-WSC	CRF30-102VS-WSC	11	18	22	10	1"	3/4"	14" x 65"	2	6
CRF70-101-WS	CRF70-101VS-WS	-	-	12	19	24	25	1"	1"	21" x 62"	1	7
CRF40-102-WS	CRF40-102VS-WS	CRF40-102-WSC	CRF40-102VS-WSC	14	22	26	13	1"	1"	16" x 65"	2	8
CRF100-121-WS	CRF100-121VS-WS	-	-	15	24	30	30	1-1/4"	1-1/4"	24" x 72"	1	10
CRF25-103-WS	CRF25-103VS-WS	CRF25-103-WSC	CRF25-103VS-WSC	15	24	30	7.5	1"	3/4"	13" x 54"	3	7.5
CRF30-103-WS	CRF30-103VS-WS	CRF30-103-WSC	CRF30-103VS-WSC	17	27	33	10	1"	3/4"	14" x 65"	3	9
CRF50-102-WS	CRF50-102VS-WS	CRF50-102-WSC	CRF50-102VS-WSC	18	26	30	17	1"	1"	18" x 65"	2	10
CRF25-104-WS	CRF25-104VS-WS	CRF25-104-WSC	CRF25-104VS-WSC	20	32	40	7.5	1"	3/4"	13" x 54"	4	10
CRF40-103-WS	CRF40-103VS-WS	CRF40-103-WSC	CRF40-103VS-WSC	21	33	39	13	1"	1"	16" x 65"	3	12
CRF30-104-WS	CRF30-104VS-WS	CRF30-104-WSC	CRF30-104VS-WSC	22	36	40	10	1"	3/4"	14" x 65"	4	12
CRF70-102-WS	CRF70-102VS-WS	CRF70-102-WSC	CRF70-102VS-WSC	24	32	38	25	1"	1"	21" x 62"	2	14
CRF50-103-WS	CRF50-103VS-WS	CRF50-103-WSC	CRF50-103VS-WSC	27	39	45	17	1"	1"	18" x 65"	3	15
CRF40-104-WS	CRF40-104VS-WS	CRF40-104-WSC	CRF40-104VS-WSC	28	44	52	13	1"	1"	16" x 65"	4	16
CRF100-122-WS	CRF100-122VS-WS	CRF100-122-WSC	CRF100-122VS-WSC	30	40	46	30	1-1/4"	1-1/4"	24" x 72"	2	20
CRF50-104-WS	CRF50-104VS-WS	CRF50-104-WSC	CRF50-104VS-WSC	36	-	-	17	1"	1"	18" x 65"	4	20
CRF70-103-WS	CRF70-103VS-WS	CRF70-103-WSC	CRF70-103VS-WSC	36	-	-	25	1"	1"	21" x 62"	3	21
CRF100-123-WS	CRF100-123VS-WS	CRF100-123-WSC	CRF100-123VS-WSC	45	-	-	30	1-1/4"	1-1/4"	24" x 72"	3	30
CRF70-104-WS	CRF70-104VS-WS	CRF70-104-WSC	CRF70-104VS-WSC	48	-	-	25	1"	1"	21" x 62"	4	28
CRF140-152-WS	CRF140-152VS-WS	CRF140-152-WSC	CRF140-152VS-WSC	50	-	-	50	1-1/2"	1-1/4"	30" x 72"	2	28
CRF100-124-WS	CRF100-124VS-WS	CRF100-124-WSC	CRF100-124VS-WSC	60	-	-	30	1-1/4"	1-1/4"	24" x 72"	4	40
CRF180-202-WS	CRF180-202VS-WS	CRF180-202-WSC	CRF180-202VS-WSC	70	-	-	70	2"	1-1/2"	36" x 72"	2	36
CRF140-153-WS	CRF140-153VS-WS	CRF140-153-WSC	CRF140-153VS-WSC	75	-	-	50	1-1/2"	1-1/4"	30" x 72"	3	42
CRF140-154-WS	CRF140-154VS-WS	CRF140-154-WSC	CRF140-154VS-WSC	100	-	-	50	1-1/2"	1-1/4"	30" x 72"	4	56
CRF240-202-WSH	CRF240-202VS-WSH	CRF240-202-WSHC	CRF240-202VS-WSHC	100	-	-	95	2"	2"	42" x 72"	2	48
CRF180-203-WS	CRF180-203VS-WS	CRF180-203-WSC	CRF180-203VS-WSC	105	-	-	70	2"	1-1/2"	36" x 72"	3	54
CRF140-155-WS	CRF140-155VS-WS	CRF140-155-WSC	CRF140-155VS-WSC	125	-	-	50	1-1/2"	1-1/4"	30" x 72"	5	70
CRF180-204-WS	CRF180-204VS-WS	CRF180-204-WSC	CRF180-204VS-WSC	140	-	-	70	2"	1-1/2"	36" x 72"	4	72
CRF240-203-WSH	CRF240-203VS-WSH	CRF240-203-WSHC	CRF240-203VS-WSHC	150	-	-	95	2"	2"	42" x 72"	3	72
CRF180-205-WS	CRF180-205VS-WS	CRF180-205-WSC	CRF180-205VS-WSC	175	-	-	70	2"	1-1/2"	36" x 72"	5	90
CRF240-204-WSH	CRF240-204VS-WSH	CRF240-204-WSHC	CRF240-204VS-WSHC	200	-	-	95	2"	2"	42" x 72"	4	96

Note 1 - WSC 1" thru 2" models backwash with clean and/or raw (blended) water; WSC 3" Models backwash with clean water only.

Manganese Removal

ReactR™ capability to remove Manganese from water is critically dependent on the Iron and pH levels as shown below:

If Iron to Manganese ratio is:

Then the pH must be at least:

10:1	6:5
5:1	7:8
1:1	8:3
0:1	8:5



Additional equipment is required for water containing organic and/or bacteria versions



For "Pressure System" models, at rated GPM, the inlet PSI at the ReactR tank must be at least 50% higher than max PSI at service. If supply pump cannot achieve this pressure, then use "Variable Speed Systems"



If needed pH can be increased by injecting soda ash or caustic into the ReactR Tank Manifold



Periodic replenishing of the Neutralizer in the filter tanks will be required for water less than 7.0 pH (normally 6-12 months, depending on influent pH)



CSI WATER TREATMENT SYSTEMS
710 ORANGE STREET
ASHLAND, OH 44805

888-363-6829
WWW.CSIWATER.COM

Single - Tank Water Softener



With "WS" Series Control Valves



Automatically reduce hardness (calcium/magnesium) and dissolved iron/manganese along with their unpleasant side-effects. Only the highest quality resin, controls and materials are used in CSI Commercial Water Softeners. Our motor-driven piston control valve is the most reliable under even severe water conditions and resists common adversaries such as hardness and iron. Meanwhile, our hub and lateral style or Vortech™ distribution systems within the corrosion resistant tanks maximize flow while reducing pressure loss through the units. Designed for use in commercial, industrial or domestic water applications.

As we remain **Committed to Innovation**, CSI provides the design and engineering support to ensure the most effective treatment solution for each installation. For a stand-alone installation or a new construction project, replace or integrate new equipment into an existing process, we have the proper system options available to meet your needs.

STANDARD FEATURES

- High Flow Control Valves thru 3" – Flow Rates 200+ gpm
- Up to 1.2 Million Grain Tank Capacity per Tank
- Maximum Operating Pressure – 125 psi/110° F
- Clack™ Control Valves
- Time Clock or Electronic Meter Regeneration
- Premium Cation Resin – 30K grains/cu.ft.
- Hard Water Bypass
- Brine Tank – HDPE material, Salt Grid Plate or Gravel Underbed, Safety Brine Valve (30" & smaller diameter), Air Check and Overflow

OPTIONS

- Clean Water Backwash
- No Hard Water Bypass
- 2750, 2850, 2900, or 3900 Top-mount Control Valves
- Electro-Mechanical Control Valve
- Steel and ASME rated Pressure Vessels
- Mechanical Flow Meter
- Side-mount Control Valves
- High Capacity Resin

OPERATING INFORMATION

For use on Potable Water Only Water

Do not use on microbiologically unsafe or unknown quality water

Installation must comply with state and local plumbing/electrical codes 120v/12vac (10WS-20WS), 20vac (20WSH-30WS) CUL/UL listed transformer included with electronic meter systems

Tank warranty void if subject to vacuum Low flow channeling – less than 1 gpm/cu. ft. resin –

may cause hardness leakage

Influent Chlorine 1 ppm max.

Water Temperature Range

Ambient Air Temperature Range

Operating Pressure Range

Electronic Requirements

Influent Turbidity

Iron/Manganese

35° – 110°F

35° – 120°F

20 – 125 psi

110v/60Hz

5 NTU

< 5 ppm

Product Specifications



Commercial Single Tank Water Softener

MODEL NUMBER	GPM FLOW RATES				PIPE SIZE NPT		GRAINS EXCH CAP @LBS SALT	RESIN TANK CU.FT. RESIN (Per Tank)		BRINE TANK SALT CAPACITY		OVERALL HEIGHT	
	SERVICE		PEAK	BACK- WASH	SERVICE	DRAIN		MAXIMUM MINIMUM	DIA X HT		DIA X HT		LBS
	15 PSI Loss	8 PSI Loss	25 PSI Loss										
CTS60-10WS	19	14	26	4.2	1"	3/4"	60,000 GR @ 30 # 40,000 GR @ 12 #	14" x 65"	2	18" x 40"	300	73"	
CTS60-12WS	27	20	35	4.2	1-1/4"	3/4"						73"	
CTS60-15WS	37	27	48	4.2	1-1/2"	3/4"						73"	
CMS60-10WS	18	13	25	4.2	1"	3/4"						73"	
CMS60-12WS	26	19	35	4.2	1-1/4"	3/4"						73"	
CMS60-15WS	36	26	47	4.2	1-1/2"	3/4"						73"	
CTS90-10WS	18	13	25	4.2	1"	3/4"	90,000 GR @ 45 # 60,000 GR @ 18 #	14" x 65"	3	18" x 40"	300	73"	
CTS90-12WS	25	18	34	4.2	1-1/4"	3/4"						73"	
CTS90-15WS	35	26	46	4.2	1-1/2"	3/4"						73"	
CMS90-10WS	17	12	24	4.2	1"	3/4"						73"	
CMS90-12WS	24	18	33	4.2	1-1/4"	3/4"						73"	
CMS90-15WS	34	25	45	4.2	1-1/2"	3/4"						73"	
CTS120-10WS	19	14	26	5.3	1"	3/4"	120,000 GR @ 60 # 80,000 GR @ 24 #	16" x 65"	4	24" x 50"	700	73"	
CTS120-12WS	26	19	35	5.3	1-1/4"	3/4"						73"	
CTS120-15WS	40	29	52	5.3	1-1/2"	3/4"						73"	
CTS120-20WS	47	34	60	5.3	2"	3/4"						74"	
CMS120-10WS	18	13	25	5.3	1"	3/4"						73"	
CMS120-12WS	25	18	34	5.3	1-1/4"	3/4"						73"	
CMS120-15WS	39	28	51	5.3	1-1/2"	3/4"						73"	
CMS120-20WS	46	34	59	5.3	2"	3/4"						74"	
CTS150-12WS	28	20	37	7.5	1-1/4"	3/4"	150,000 GR @ 75 # 100,000 GR @ 30 #	18" x 65"	5	24" x 50"	700	76"	
CTS150-15WS	44	32	57	7.5	1-1/2"	3/4"						75"	
CTS150-20WS	53	39	69	7.5	2"	3/4"						76"	
CMS150-12WS	27	20	35	7.5	1-1/4"	3/4"						76"	
CMS150-15WS	43	31	55	7.5	1-1/2"	3/4"						75"	
CMS150-20WS	52	38	68	7.5	2"	3/4"						76"	
CTS210-15WS	50	37	64	10	1-1/2"	1"	210,000 GR @ 105 # 140,000 GR @ 42 #	21" x 62"	7	24" x 50"	700	75"	
CTS210-20WS	66	48	85	10	2"	1"						76"	
CMS210-15WS	48	35	62	10	1-1/2"	1"						75"	
CMS210-20WS	65	47	83	10	2"	1"						76"	
CTS300-15WS	53	39	68	13	1-1/2"	1"	300,000 GR @ 150 # 200,000 GR @ 60 #	24" x 72"	10	30" x 50"	1000	82"	
CTS300-20WS	73	53	94	13	2"	1"						83"	
CMS300-15WS	51	37	65	13	1-1/2"	1"						82"	
CMS300-20WS	71	52	91	13	2"	1"						83"	
CTS450-20WS	84	61	109	20	2"	1"	450,000 GR @ 225 # 300,000 GR @ 90 #	30" x 72"	15	30" x 50"	1000	86"	
CTS450-30WS	144	105	186	20	3"	1-1/2"						89"	
CMS450-20WS	81	59	105	20	2"	1"						86"	
CMS450-30WS	138	101	179	20	3"	1-1/2"						89"	
CTS600-20WS	93	68	119	30	2"	1-1/2"	600,000 GR @ 300 # 400,000 GR @ 120 #	36" x 72"	20	42" x 60"	2900	98"	
CTS600-30WS	172	126	222	30	3"	1-1/2"						101"	
CMS600-20WS	89	65	114	30	2"	1-1/2"						98"	
CMS600-30WS	163	119	210	30	3"	1-1/2"						101"	
CTS900-30WS	187	137	242	40	3"	2"	900,000 GR @ 450 # 600,000 GR @ 180 #	42" x 72"	30	50" x 60"	4100	102"	
CMS900-30WS	175	128	227	40	3"	2"						102"	
CTS1200-30WS	194	142	251	50	3"	2"	1,200,000 GR @ 600 # 800,000 GR @ 240 #	48" x 72"	40	50" x 60"	4100	101"	
CMS1200-30WS	181	132	234	50	3"	2"						101"	



Alternating Twin Water Softener



With "WS" & "WST" Series Control Valves



STANDARD FEATURES

- High Flow Control Valves thru 3" – Service Flow Rates up to 181 gpm
- Up to 1.2 Million Grain Tank Capacity per Tank
- Maximum Operating Pressure – 125 psi/110° F
- Clack™ Control Valves
- Electronic Meter Regeneration
- Duplex – Alternating Tank Operation; One Tank is Always in Service
- Premium Cation Resin – 30K grains/cu.ft.
- No Hard Water Bypass
- Brine Tank – HDPE material, Salt Grid Plate or Gravel Undebed, Safety Brine Valve (30" & smaller diameter), Air Check and Overflow

Automatically reduce hardness (calcium/magnesium) and dissolved iron/ manganese along with their unpleasant side-effects. Only the highest quality resin, controls and materials are used in CSI Commercial Water Softeners. Our motor-driven piston control valve is the most reliable under even severe water conditions and resists common adversaries such as hardness and iron. Meanwhile, our hub and lateral style or Vortech™ distribution system within the corrosion resistant tanks maximize flow while reducing pressure loss through the units. Designed for use in commercial, industrial or domestic water applications.

As we remain **Committed to Innovation**, CSI provides the design and engineering support to ensure the most effective treatment solution for each installation. For a stand-alone installation or a new construction project, replace or integrate new equipment into an existing process, we have the proper system options available to meet your needs.

OPTIONS

- Clean Water Backwash (N/A on "WST")
- Electro-Mechanical Control Valve
- Steel and ASME Rated Pressure Vessels
- Side-mount Control Valves
- High Capacity Resin
- 2900, 3900, 9000, or 9500 Top-mount Control Valves

For use on Potable Water Only Water

Do not use on microbiologically unsafe or unknown quality water

Installation must comply with state and local plumbing/electrical codes 120v/12vac (10WS-20WS), 20vac (20WSH-30WS) CUL/UL listed transformer included with electronic meter systems. Tank warranty void if subject to vacuum. Low flow channeling – less than 1 gpm/cu. ft. resin – may cause hardness leakage
Influent Chlorine 1 ppm max.

Water Temperature Range
Ambient Air Temperature Range
Operating Pressure Range
Electronic Requirements
Influent Turbidity
Iron/Manganese

35° – 110°F
35° – 120°F
20 – 125 psi
110v/60Hz
5 NTU
< 5 ppm

Product Specifications



Commercial Alternating Twin Demand Softeners

MODEL NUMBER	GPM FLOW RATES				PIPE SIZE NPT		GRAINS EXCH CAP @LBS SALT		RESIN TANK CU.FT. RESIN (Per Tank)		BRINE TANK SALT CAPACITY		QTY	OVERALL HEIGHT
	SERVICE		PEAK	BACK- WASH										
	15 PSI Loss	8 PSI Loss	25 PSI Loss		SERVICE	DRAIN	MAXIMUM MINIMUM	DIA X HT			DIA X HT	LBS		
CAT60-10WST **	20	15	27	4.2	1"	3/4"	60,000 GR @ 30 # 40,000 GR @ 12 #	14" x 65"	2		18" x 40"	300	1	73"
CAT60-10WS **	18	13	25	4.2	1"	3/4"							2	73"
CAT60-12WS **	26	19	35	4.2	1-1/4"	3/4"							2	73"
CAT60-15WS **	36	26	47	4.2	1-1/2"	3/4"							2	73"
CAT90-10WST	19	14	26	4.2	1"	3/4"	90,000 GR @ 45 # 60,000 GR @ 18 #	14" x 65"	3		18" x 40"	300	1	73"
CAT90-10WS	17	12	24	4.2	1"	3/4"							2	73"
CAT90-12WS	24	18	33	4.2	1-1/4"	3/4"							2	73"
CAT90-15WS	34	25	45	4.2	1-1/2"	3/4"							2	73"
CAT120-10WST	20	15	27	5.3	1"	3/4"	120,000 GR @ 60 # 80,000 GR @ 24 #	16" x 65"	4		24" x 50"	700	1	73"
CAT120-10WS	18	13	25	5.3	1"	3/4"							2	73"
CAT120-12WS	25	18	34	5.3	1-1/4"	3/4"							2	73"
CAT120-15WS	39	28	51	5.3	1-1/2"	3/4"							2	73"
CAT120-20WS	46	34	59	5.3	2"	3/4"							2	74"
CAT150-10WST	21	15	28	7.5	1-1/2"	3/4"	150,000 GR @ 75 # 100,000 GR @ 30 #	18" x 65"	5		24" x 50"	700	1	76"
CAT150-12WS	27	20	35	7.5	1-1/2"	3/4"							2	76"
CAT150-15WS	43	31	55	7.5	1-1/2"	3/4"							2	75"
CAT150-20WS	52	38	68	7.5	2"	3/4"							2	76"
CAT210-15WS	48	35	62	10	1-1/2"	1"	210,000 GR @ 105 # 140,000 GR @ 42 #	21" x 62"	7		24" x 50"	700	2	75"
CAT210-20WS	65	47	83	10	2"	1"							2	76"
CAT300-15WS	51	37	65	13	1-1/2"	1"	300,000 GR @ 150 # 200,000 GR @ 60 #	24" x 72"	10		30" x 50"	1000	2	82"
CAT300-20WS	71	52	91	13	2"	1"							2	83"
CAT450-20WS	81	59	105	20	2"	1"	450,000 GR @ 225 # 300,000 GR @ 90 #	30" x 72"	15		30" x 50"	1000	2	86"
CAT450-30WS	138	101	179	20	3"	1-1/2"							2	89"
CAT600-20WS	89	65	114	30	2"	1-1/2"	600,000 GR @ 300 # 400,000 GR @ 120 #	36" x 72"	20		42" x 60"	2900	2	98"
CAT600-30WS	163	119	210	30	3"	1-1/2"							2	101"
CAT900-30WS	175	128	227	40	3"	2"	900,000 GR @ 450 # 600,000 GR @ 180 #	42" x 72"	30	2	50" x 60"	4100	2	102"
CAT1200-30WS	181	132	234	50	3"	2"	1,200,000 GR @ 600 # 800,000 GR @ 240 #	48" x 72"	40	2	50" x 60"	4100	2	101"

*Flow rates shown are possible at all times (one tank is always on-line, & one off-line either regenerating or on standby)

**For lighter-duty applications (Less than 10 gpg hard, & less than 1 ppm iron + manganese)

Note1 - For 1" & 1-1/4" Control Valves, standard fittings are NPT-M. Various fittings that quick-connect to control valves are available (PVC solvent-weld, brass sweat, SharkBite®, & John Guest®). Please contact factory.

"WS" series have (2) control valves (one on each resin tank), while "WST" series have single control valve, second tank head, & interconnect piping.



CSI WATER TREATMENT SYSTEMS
710 ORANGE STREET
ASHLAND, OH 44805

888-363-6829
WWW.CSIWATER.COM

Triplex or Quadplex Water Softener



With "WS" Series Control Valves



STANDARD FEATURES

- High Flow Control Valves thru 2" – Service Flow Rates over 250 gpm
- Up to 1.2 Million Grain Tank Capacity per Tank
- Maximum Operating Pressure – 125 psi/110° F
- Clack™ Control Valves
- Electronic Meter Regeneration - Immediate; Only One at a Time, Allowing Treated Water 24 x7
- Metered Interlocked with all Tanks in Parallel Service
- Premium Cation Resin – 30K grains/cu.ft.
- No Hard Water Bypass
- Brine Tank – HDPE material, Salt Grid Plate or Gravel
- Underbed, Safety Brine Valve (30" & smaller diameter), Air Check and Overflow

OPTIONS

- Steel and ASME Rated Pressure Vessels
- Side-mount Control Valves
- High Capacity Resin
- 2900, 3900 Control Valves

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For use on Potable Water Only Water

Do not use on microbiologically unsafe or unknown quality water

Installation must comply with state and local plumbing/electrical codes 120v/12vac (10WS-20WS), 20vac (20WSH-30WS) CUL/UL listed transformer included with electronic meter systems

Tank warranty void if subject to vacuum. Low flow channeling – less than 1 gpm/cu. ft. resin – may cause hardness leakage

Influent Chlorine 1 ppm max.

Water Temperature Range
Ambient Air Temperature Range
Operating Pressure Range
Electronic Requirements
Influent Turbidity
Influent Chlorine
Iron/Manganese

35° – 110°F
35° – 120°F
20 – 125 psi
110v/60Hz
5 NTU
1 ppm max.
< 5 ppm

Product Specifications



Triplex or Quadplex Water Softeners

MODEL NUMBER	GPM FLOW RATES				PIPE SIZE NPT		GRAINS EXCH CAP @ LBS SALT (PER RESIN TANK)		RESIN TANK CU.FT. Resin (Per Tank)			BRINE TANK Salt Capacity LBS Per Tank			OVERALL HEIGHT
	SERVICE		PEAK	BACK- WASH											
	15 PSI Loss	8 PSI Loss	25 PSI Loss		SERVICE	DRAIN	MAXIMUM	MINIMUM	Dia X HT		QTY	Dia X HT		QTY	
CMS90-103WSLN	34	24	48	4.2	1"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3	3	18" x 40"	300	3	73"
CMS60-103WSLN	36	26	50	4.2	1"	3/4"	60,000 GR @ 30#	40,000 GR @ 12#	14" x 65"	2	3	18" x 40"	300	3	73"
CMS120-103WSLN	36	26	50	5.3	1"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	3	24" x 50"	700	3	73"
CMS90-123WSLN	48	36	66	4.2	1-1/4"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3	3	18" x 40"	300	3	73"
CMS120-123WSLN	50	36	68	5.3	1-1/4"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	3	24" x 50"	700	3	73"
CMS90-104WSLN	51	36	72	4.2	1"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3	4	18" x 40"	300	4	73"
CMS60-123WSLN	52	38	70	4.2	1-1/4"	3/4"	60,000 GR @ 30#	40,000 GR @ 12#	14" x 65"	2	3	18" x 40"	300	3	73"
CMS120-104WSLN	54	39	75	5.3	1"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	4	24" x 50"	700	4	73"
CMS150-123WSLN	54	40	70	7.5	1-1/4"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5	3	24" x 50"	700	3	76"
CMS90-153WSLN	68	50	90	4.2	1-1/2"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3	3	18" x 40"	300	3	73"
CMS60-153WSLN	72	52	94	4.2	1-1/2"	3/4"	60,000 GR @ 30#	40,000 GR @ 12#	14" x 65"	2	3	18" x 40"	300	3	73"
CMS90-124WSLN	72	54	99	4.2	1-1/4"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3	4	18" x 40"	300	4	73"
CMS120-124WSLN	75	54	102	5.3	1-1/4"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	4	24" x 50"	700	4	73"
CMS120-153WSLN	78	56	102	5.3	1-1/2"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	3	24" x 50"	700	3	73"
CMS150-124WSLN	81	60	105	7.5	1-1/4"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5	4	24" x 50"	700	4	76"
CMS150-153WSLN	86	62	110	7.5	1-1/2"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5	3	24" x 50"	700	3	75"
CMS120-203WSLN	92	68	118	5.3	2"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	3	24" x 50"	700	3	74"
CMS210-153WSLN	96	70	124	10	1-1/2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7	3	24" x 50"	700	3	75"
CMS90-154WSLN	102	75	135	4.2	1-1/2"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3	4	18" x 40"	300	4	73"
CMS300-153WSLN	102	74	130	13	1-1/2"	1"	300,000 GR @ 150#	200,000 GR @ 60#	24" x 72"	10	3	30" x 50"	1000	3	82"
CMS150-203WSLN	104	76	136	7.5	2"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5	3	24" x 50"	700	3	76"
CMS120-154WSLN	117	84	153	5.3	1-1/2"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	4	24" x 50"	700	4	73"
CMS150-154WSLN	129	93	165	7.5	1-1/2"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5	4	24" x 50"	700	4	75"
CMS210-203WSLN	130	94	166	10	2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7	3	24" x 50"	700	3	76"
CMS120-204WSLN	138	102	177	5.3	2"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	4	24" x 50"	700	4	74"
CMS300-203WSLN	142	104	182	13	2"	1"	300,000 GR @ 150#	200,000 GR @ 60#	24" x 72"	10	3	30" x 50"	1000	3	83"
CMS210-154WSLN	144	105	186	10	1-1/2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7	4	24" x 50"	700	4	75"
CMS300-154WSLN	153	111	195	13	1-1/2"	1"	300,000 GR @ 150#	200,000 GR @ 60#	24" x 72"	10	4	30" x 50"	1000	4	82"
CMS150-204WSLN	156	114	204	7.5	2"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5	4	24" x 50"	700	4	76"
CMS450-203WSLN	162	118	210	20	2"	1"	450,000 GR @ 225#	300,000 GR @ 90#	30" x 72"	15	3	30" x 50"	1000	3	86"
CMS600-203WSLN	178	130	228	30	2"	1-1/2"	600,000 GR @ 300#	400,000 GR @ 120#	36" x 72"	20	3	42" x 60"	2900	3	98"
CMS210-204WSLN	195	141	249	10	2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7	4	24" x 50"	700	4	76"
CMS300-204WSLN	213	156	273	13	2"	1"	300,000 GR @ 150#	200,000 GR @ 60#	24" x 72"	10	4	30" x 50"	1000	4	83"
CMS450-204WSLN	243	177	315	20	2"	1"	450,000 GR @ 225#	300,000 GR @ 90#	30" x 72"	15	4	30" x 50"	1000	4	86"
CMS600-204WSLN	267	195	342	30	2"	1-1/2"	600,000 GR @ 300#	400,000 GR @ 120#	36" x 72"	20	4	42" x 60"	2900	4	98"

* Flow rates shown are min. possible at all times (they're assuming one tank is off-line for regeneration)



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With "WS" Series Control Valves



STANDARD FEATURES

- High Flow Control Valves thru 3" – Service Flow Rates over 500 gpm
- Up to 1.2 Million Grain Tank Capacity per Tank
- Maximum Operating Pressure – 125 psi/110° F
- Clack™ Control Valves
- Electronic Meter Regeneration - Immediate; Only One at a Time, Allowing Treated Water 24 x7
- Progressive Flow
- Premium Cation Resin – 30K grains/cu.ft.
- No Hard Water Bypass
- Brine Tank – HDPE material, Salt Grid Plate or Gravel Underbed, Safety Brine Valve (30" & smaller diameter), Air Check and Overflow

Automatically reduce hardness (calcium/magnesium) and dissolved iron / manganese along with their unpleasant side-effects. Only the highest quality resin, controls and materials are used in CSI Commercial Water Softeners. Our motor-driven piston control valve is the most reliable under even severe water conditions and resists common adversaries such as hardness and iron. Meanwhile, our hub and lateral style or Vortech™ distribution system within the corrosion resistant tanks maximize flow while reducing pressure loss through the units. Designed for use in commercial, industrial or domestic water applications.

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OPTIONS

- Steel and ASME Rated Pressure Vessels
- Side-mount Control Valves
- High Capacity Resin
- 2900, 3900 Control Valves

For use on Potable Water Only Water

Do not use on microbiologically unsafe or unknown quality water

Installation must comply with state and local plumbing/electrical codes 120v/12vac (10WS-20WS), 20vac (20WSH-30WS) CUL/UL listed transformer included with electronic meter systems

Tank warranty void if subject to vacuum. Low flow channeling – less than 1 gpm/cu. ft. resin – may cause hardness leakage

Influent Chlorine 1 ppm max.

Water Temperature Range
Ambient Air Temperature Range
Operating Pressure Range
Electronic Requirements
Influent Turbidity
Influent Chlorine
Iron/Manganese

35° – 110°F
35° – 120°F
20 – 125 psi
110v/60Hz
5 NTU
1 ppm max.
< 5 ppm

Progressive Flow Softener Systems.

\$ = Best flow per price.	Can operate with all tanks in service together (unless one is regenerating). During periods of low flow, tank(s) automatically drop-out, which prevents channeling. When demand increases, tank(s) IMMEDIATELY are automatically placed back into service. Immediate regeneration - Interlock allows only one tank to regenerate at a time. Each tank can regenerate multiple times per day!														
	Model No. see Note 2	GPM FLOW RATES - Note 1				PIPE SIZE NPT		GRAINS EXCH CAP @ LBS SALT (PER RESIN TANK)		RESIN TANK		BRINE TANK			OVERALL HT.
		SERVICE		PEAK	Back Wash					CU.FT. Resin (Per Tank)		Salt Capacity LBS Per Tank			
		15 PSI Loss	8 PSI Loss	25 PSI Loss		Service	Drain	MAXIMUM	MINIMUM	Dia X HT	QTY	Dia X HT	QTY		
\$	CMS45-103WSP	26	20	36	2.2	1"	3/4"	45,000 GR @ 22.5#	30,000 GR @ 9#	10" x 54"	2 3	18" x 40"	300 3	62	
	CMS30-103WSP	30	22	42	2.2	1"	3/4"	30,000 GR @ 15#	20,000 GR @ 6#	10" x 54"	1 3	18" x 40"	300 3	62	
	CMS90-103WSP	34	24	48	4.2	1"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3 3	18" x 40"	300 3	73"	
	CMS60-103WSP	36	26	50	4.2	1"	3/4"	60,000 GR @ 30#	40,000 GR @ 12#	14" x 65"	2 3	18" x 40"	300 3	73"	
\$	CMS45-123WSP	38	28	56	2.2	1-1/4"	3/4"	45,000 GR @ 22.5#	30,000 GR @ 9#	10" x 54"	2 3	18" x 40"	300 3	62	
	CMS30-123WSP	44	32	62	2.2	1-1/4"	3/4"	30,000 GR @ 15#	20,000 GR @ 6#	10" x 54"	1 3	18" x 40"	300 3	62	
	CMS90-123WSP	48	36	66	4.2	1-1/4"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3 3	18" x 40"	300 3	73"	
	CMS120-123WSP	50	36	68	5.3	1-1/4"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4 3	24" x 50"	700 3	73"	
\$	CMS90-104WSP	51	36	72	4.2	1"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3 4	18" x 40"	300 4	73"	
	CMS60-123WSP	52	38	70	4.2	1-1/4"	3/4"	60,000 GR @ 30#	40,000 GR @ 12#	14" x 65"	2 3	18" x 40"	300 3	73"	
	CMS150-123WSP	54	40	70	7.5	1-1/4"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5 3	24" x 50"	700 3	76"	
	CMS90-153WSP	68	50	90	4.2	1-1/2"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3 3	18" x 40"	300 3	73"	
\$	CMS60-153WSP	72	52	94	4.2	1-1/2"	3/4"	60,000 GR @ 30#	40,000 GR @ 12#	14" x 65"	2 3	18" x 40"	300 3	73"	
	CMS90-124WSP	72	54	99	4.2	1-1/4"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3 4	18" x 40"	300 4	73"	
	CMS120-124WSP	75	54	102	5.3	1-1/4"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4 4	24" x 50"	700 4	73"	
	CMS120-153WSP	78	56	102	5.3	1-1/2"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4 3	24" x 50"	700 3	73"	
\$	CMS150-153WSP	86	62	110	7.5	1-1/2"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5 3	24" x 50"	700 3	75"	
	CMS90-125WSP	96	72	132	4.2	1-1/4"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3 5	18" x 40"	300 5	73"	
	CMS210-153WSP	96	70	124	10	1-1/2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7 3	24" x 50"	700 3	75"	
	CMS120-125WSP	100	72	136	5.3	1-1/4"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4 5	24" x 50"	700 5	73"	
\$	CMS150-203WSP	104	76	136	7.5	2"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5 3	24" x 50"	700 3	76"	
	CMS90-126WSP	120	90	165	4.2	1-1/4"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3 6	18" x 40"	300 6	73"	
	CMS120-126WSP	125	90	170	5.3	1-1/4"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4 6	24" x 50"	700 6	73"	
	CMS210-203WSP	130	94	166	10	2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7 3	24" x 50"	700 3	76"	
\$	CMS150-126WSP	135	100	175	7.5	1-1/4"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5 6	24" x 50"	700 6	76"	
	CMS90-155WSP	136	100	180	4.2	1-1/2"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3 5	18" x 40"	300 5	73"	
	CMS300-203WSP	142	104	182	13.0	2"	1"	300,000 GR @ 150#	200,000 GR @ 60#	24" x 72"	10 3	30" x 50"	1000 3	83"	
	CMS210-154WSP	144	105	186	10	1-1/2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7 4	24" x 50"	700 4	75"	
\$	CMS300-203QWSH	150	110	194	12	2"	1"	300,000 GR @ 150#	200,000 GR @ 60#	24" x 72"	10 3	30" x 50"	1,000 3	87"	
	CMS120-155WSP	156	112	204	5.3	1-1/2"	3/4"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4 5	24" x 50"	700 5	73"	
	CMS150-204WSP	156	114	204	7.5	2"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5 4	24" x 50"	700 4	76"	
	CMS450-203WSP	162	118	210	20	2"	1"	450,000 GR @ 225#	300,000 GR @ 90#	30" x 72"	15 3	30" x 50"	1,000 3	86"	
\$	CMS90-156WSP	170	125	225	4.2	1-1/2"	3/4"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3 6	18" x 40"	300 6	73"	
	CMS150-155WSP	172	124	220	7.5	1-1/2"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5 5	24" x 50"	700 5	75"	
	CMS450-203QWSH	176	128	226	20.0	2"	1"	450,000 GR @ 225#	300,000 GR @ 90#	30" x 72"	15 3	30" x 50"	1000 3	88"	
	CMS600-203WSP	178	130	228	30	2"	1-1/2"	600,000 GR @ 300#	400,000 GR @ 120#	36" x 72"	20 3	42" x 60"	2,900 3	98"	
\$	CMS600-203QWSH	194	142	252	30.0	2"	1-1/2"	600,000 GR @ 300#	400,000 GR @ 120#	36" x 72"	20 3	42" x 60"	2900 3	100"	
	CMS210-204WSP	195	141	249	10	2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7 4	24" x 50"	700 4	76"	
	CMS150-156WSP	215	155	275	7.5	1-1/2"	3/4"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5 6	24" x 50"	700 6	75"	
	CMS210-205WSP	260	188	332	10	2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7 5	24" x 50"	700 5	76"	
\$	CMS450-303QWS	276	202	358	20.0	3"	1-1/2"	450,000 GR @ 225#	300,000 GR @ 90#	30" x 72"	15 3	30" x 50"	1000 3	89"	
	CMS210-206WSP	325	235	415	10	2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7 6	24" x 50"	700 6	76"	
	CMS600-303QWS	326	238	420	30	3"	1-1/2"	600,000 GR @ 300#	400,000 GR @ 120#	36" x 72"	20 3	42" x 60"	2,900 3	101"	
	CMS900-303QWS	350	256	454	40	3"	2"	900,000 GR @ 450#	600,000 GR @ 180#	42" x 72"	30 3	50" x 60"	4,100 3	102"	
\$	CMS300-206WSP	355	260	455	13	2"	1"	300,000 GR @ 150#	200,000 GR @ 60#	24" x 72"	10 6	30" x 50"	1,000 6	83"	
	CMS1200-303QWS	362	264	468	50	3"	2"	1,200,000 GR @ 600#	800,000 GR @ 240#	48" x 72"	40 3	50" x 60"	4,100 3	101"	
	CMS450-206WSP	405	295	525	20	2"	1"	450,000 GR @ 225#	300,000 GR @ 90#	30" x 72"	15 6	30" x 50"	1,000 6	86"	
	CMS450-304QWS	414	303	537	20.0	3"	1-1/2"	450,000 GR @ 225#	300,000 GR @ 90#	30" x 72"	15 4	30" x 50"	1000 4	89"	
\$	CMS600-206WSP	445	325	570	30	2"	1-1/2"	600,000 GR @ 300#	400,000 GR @ 120#	36" x 72"	20 6	42" x 60"	2,900 6	98"	
	CMS600-304QWS	489	357	630	30.0	3"	1-1/2"	600,000 GR @ 300#	400,000 GR @ 120#	36" x 72"	20 4	42" x 60"	2900 4	101"	
	CMS900-304QWS	525	384	681	40	3"	2"	900,000 GR @ 450#	600,000 GR @ 180#	42" x 72"	30 4	50" x 60"	4,100 4	102"	
	CMS1200-304QWS	543	396	702	50	3"	2"	1,200,000 GR @ 600#	800,000 GR @ 240#	48" x 72"	40 4	50" x 60"	4,100 4	101"	

Note 1 - Flow rates shown are conservative minimum possible at all times (they're assuming one tank is off-line regenerating).

Note 2 - The most-common models are listed; please contact factory if your job requires a tank & control valve combination other than above.

With "WS" Series Control Valves



STANDARD FEATURES

- High Flow Control Valves thru 3" – 140 gpm/tank
- Up to 24 cu.ft. Media per Tank
- Maximum Operating Pressure – 125 psi/110° F
- Clack™ Control Valves
- Raw Water Backwashing – Raw Water Bypass
- Premium Grade and NSF Approved Media
- Electronic Control Valves
- Media included on all units - Optional Less Media

Automatic backwashing water filters are the answer for solving common water quality problems. Only the highest quality, proven media and controls are used in a CSI Automatic Water Filter; for removal of taste, odor, color, sediment, low pH and iron. Our motor-driven piston control valve is the most reliable under even severe water conditions and resists common adversaries such as dirt, iron and turbidity. Meanwhile, our Vortech™ or hub and lateral style distribution system within the corrosion-resistant tanks maximize flow while reducing pressure loss through the units. Designed for use in commercial, industrial or domestic water applications.

As we remain **Committed to Innovation**, CSI provides the design and engineering support to ensure the most effective treatment solution for each installation. For a stand-alone installation or a new construction project, replace or integrate new equipment into an existing process, we have the proper system options available to meet your needs.

OPTIONS

- Clean Water Backwash
- No Raw Water Bypass
- 2750, 2850, or 3150 Top-mount Control Valves
- Steel and ASME rated Pressure Vessels
- Special Media for Custom Applications
- Side-mount Control Valves

Always consider BACKWASH req'd; multiple units may be needed.
For use on Potable Water Only Water
Do not use on microbiologically unsafe or unknown quality water
Installation must comply with state and local plumbing/electrical codes 120v/12vac (10WS-20WS), 20vac (20WSH-30WS) CUL/UL listed transformer included with electronic meter systems
Tank warranty void if subject to vacuum Low flow channeling – less than .5 gpm/cu. ft. resin – may cause hardness leakage Influent Chlorine 1 ppm max.

Water Temperature Range	35° – 110°F
Ambient Air Temperature Range	35° – 120°F
Operating Pressure Range	20 – 125 psi
Electronic Requirements	110v/60Hz
Influent Turbidity	5 NTU
Influent Chlorine	1 ppm max.
Iron/Manganese	< 5 ppm

Product Specifications



Commercial Water Filter

BIRM Auto	GPM		
	Backwash	Serv - Cont.	Serv - Peak
For up to 5 ppm iron pH must be 6.8 to 9.0 Must be 0 sulfur & chlorine. See Note at bottom			
CWF30B-10WS	10	5.5	7.5
CWF30B-12WS	10	5.5	7.5
CWF40B-10WS	15	7	14
CWF40B-12WS	15	7	14
CWF40B-15WS	15	7	14
CWF50B-10WS	20	9	18
CWF50B-12WS	20	9	18
CWF50B-15WS	20	9	18
CWF70B-10WS	25	12	18
CWF70B-12WS	25	12	23
CWF70B-15WS	25	12	24
CWF100B-12WS	30	16	24
CWF100B-15WS	30	16	31
CWF100B-20WS	30	16	31
CWF140B-15WS	50	25	47
CWF140B-20WS	50	25	50
CWF180B-20WS	70	35	70
CWF240B-20WSH	100	48	87
CWF240B-30WS	100	48	96

CARBON Auto	GPM		
	Backwash	VOC Treat.	De-Chlor.
For Chlorine, VOC, Taste, Odor, Color. For Turbidity, dirt, sediment, etc.			
CWF30C-10WS	10	5.5	11
CWF30C-12WS	10	5.5	11
CWF40C-10WS	11	7	14
CWF40C-12WS	11	7	14
CWF40C-15WS	11	7	14
CWF50C-10WS	15	9	18
CWF50C-12WS	15	9	18
CWF50C-15WS	15	9	18
CWF70C-10WS	20	12	18
CWF70C-12WS	20	12	23
CWF70C-15WS	20	12	24
CWF100C-12WS	25	16	24
CWF100C-15WS	25	16	31
CWF100C-20WS	25	16	31
CWF140C-15WS	40	25	47
CWF140C-20WS	40	25	50
CWF180C-20WS	60	35	70
CWF240C-20WSH	80	48	87
CWF240C-30WS	80	48	96

FILTER - AG Auto	GPM		
	Backwash	Serv - Cont.	Serv - Peak
For Turbidity, dirt, sediment, etc. Filters solids down to 20-40 micron.			
CWF30F-10WS	10	5.5	9
CWF30F-12WS	10	5.5	9
CWF40F-10WS	11	7	11
CWF40F-12WS	11	7	11
CWF40F-15WS	11	7	11
CWF50F-10WS	15	9	15
CWF50F-12WS	15	9	15
CWF50F-15WS	15	9	15
CWF70F-10WS	20	12	18
CWF70F-12WS	20	12	20
CWF70F-15WS	20	12	20
CWF100F-12WS	25	16	24
CWF100F-15WS	25	16	25
CWF100F-20WS	25	16	25
CWF140F-15WS	40	25	39
CWF140F-20WS	40	25	39
CWF180F-20WS	60	35	56
CWF240F-20WSH	80	48	77

FILTER-AG Plus	GPM		
	Backwash	Serv - Cont.	Serv - Peak
For Turbidity, dirt, sediment, etc. Filters solids down to 5 micron or less.			
CWF30FP-10WS	17	11	16
CWF30FP-12WS	17	11	16
CWF40FP-10WS	20	14	17
CWF40FP-12WS	20	14	21
CWF40FP-15WS	20	14	21
CWF50FP-10WS	25	18	18
CWF50FP-12WS	25	18	23
CWF50FP-15WS	25	18	27
CWF70FP-15WS	35	24	36
CWF70FP-20WS	35	24	36
CWF100FP-15WS	45	31	43
CWF100FP-20WS	45	31	47
CWF140FP-20WS	70	49	69
CWF180FP-30WS	105	71	80
CWF240FP-30WS	140	96	144

Neutralizer	GPM		
	Backwash	Serv - Cont.	Serv - Peak
For Acid water (down to 5.8 pH*) For Turbidity, dirt, sediment, etc.			
CWF30N-10WS	10	5.5	9
CWF30N-12WS	10	5.5	9
CWF40N-10WS	15	7	11
CWF40N-12WS	15	7	11
CWF40N-15WS	15	7	11
CWF50N-10WS	20	9	15
CWF50N-12WS	20	9	15
CWF50N-15WS	20	9	15
CWF70N-10WS	25	12	18
CWF70N-12WS	25	12	20
CWF70N-15WS	25	12	20
CWF100N-12WS	30	16	24
CWF100N-15WS	30	16	25
CWF100N-20WS	30	16	25
CWF140N-15WS	50	25	39
CWF140N-20WS	50	25	39
CWF180N-20WS	70	35	56
CWF240N-20WSH	100	48	77








NEU-COR Auto	GPM		
	Backwash	Serv - Cont.	Serv - Peak
For Acid water (down to 5.0 pH*) For Turbidity, dirt, sediment, etc.			
CWF30NC-10WS	10	5.5	9
CWF30NC-12WS	10	5.5	9
CWF40NC-10WS	15	7	11
CWF40NC-12WS	15	7	11
CWF40NC-15WS	15	7	11
CWF50NC-10WS	20	9	15
CWF50NC-12WS	20	9	15
CWF50NC-15WS	20	9	15
CWF70NC-10WS	25	12	18
CWF70NC-12WS	25	12	20
CWF70NC-15WS	25	12	20
CWF100NC-12WS	30	16	24
CWF100NC-15WS	30	16	25
CWF100NC-20WS	30	16	25
CWF140NC-15WS	50	25	39
CWF140NC-20WS	50	25	39
CWF180NC-20WS	70	35	56
CWF240NC-20WSH	100	48	77

Service Pipe Sizes, Tank Sizes, Cu.ft. , O/A Ht.				
Series	Service Size	Tank dia x nom. Ht.	Cu. Ft.	O/A Ht.
CWF30_-10WS	1" NPT	14" X 65"	3	73"
CWF30_-12WS	1.25" NPT			73"
CWF40_-10WS	1" NPT	16" x 65"	4	73"
CWF40_-12WS	1.25" NPT			73"
CWF40_-15WS	1.5" NPT			73"
CWF50_-10WS	1" NPT	18" x 65"	5	76"
CWF50_-12WS	1.25" NPT			76"
CWF50_-15WS	1.5" NPT			75"
CWF70_-10WS	1" NPT	21" X 62"	7	75"
CWF70_-12WS	1.25" NPT			75"
CWF70_-15WS	1.5" NPT			75"
CWF70_-20WS	2" NPT			76"
CWF100_-12WS	1.25" NPT	24" X 72"	10	83"
CWF100_-15WS	1.5" NPT			82"
CWF100_-20WS	2" NPT			83"
CWF140_-15WS	1.5" NPT	30" X 72"	14	85"
CWF140_-20WS	2" NPT			86"
CWF180_-20WS	2" NPT	36" X 72"	18	98"
CWF180_-20WSH	2" NPT			100"
CWF240_-20WSH	2" NPT	42" X 72"	24	101"
CWF240_-30WS	3" NPT			102"





STANDARD FEATURES

-  **High Flow thru 2" – 60 gpm/tank**
-  **Up to 18 cu.ft. Media per Tank**
-  **Maximum Operating Pressure – 125 psi/110° F**
-  **Premium Grade and NSF Approved Media**
-  **For pH adjustment or taste / odor**
-  **No backwash waste water**
-  **Media included on all units - Optional Less Media**

Upflow water filters are the answer for solving common water quality problems. Only the highest quality, proven media and materials are used in a CSI Upflow Water Filter; for removal of taste, odor, color, or low pH. Meanwhile, our Vortech™ or hub and lateral style distribution system within the corrosion-resistant tanks maximize flow while reducing pressure loss through the units. Designed for use in commercial, industrial or domestic water applications.

As we remain **Committed to Innovation**, CSI provides the design and engineering support to ensure the most effective treatment solution for each installation. For a stand-alone installation or a new construction project, replace or integrate new equipment into an existing process, we have the proper system options available to meet your needs.

Always consider BACKWASH req'd; multiple units may be needed.
For use on Potable Water Only Water
Do not use on microbiologically unsafe or unknown quality water
Installation must comply with state and local plumbing/electrical codes
Tank warranty void if subject to vacuum Low flow channeling – less than .5 gpm/cu. ft. resin – may cause hardness leakage
Influent Chlorine 1 ppm max.

Water Temperature Range	35° – 110°F
Ambient Air Temperature Range	35° – 120°F
Operating Pressure Range	20 – 125 psi
Electronic Requirements	110v/60Hz
Influent Turbidity	5 NTU
Influent Chlorine	1 ppm max.
Iron/Manganese	< 5 ppm

Carbon UPFLOW*	
Chlorine, Taste, Odor	Cont. GPM
CU30C-10	10
CU40C-10	11
CU50C-10	15
CU70C-10	16
CU70C-20	20
CU100C-10	16
CU100C-20	25
CU140C-20	40
CU180C-20	60
*Not for RO pre-treatment.	







Neutralizer UPFLOW	
Acid water (to 5.8 pH*)	Cont. GPM
CU30N-10	8.5
CU40N-10	11
CU50N-10	15
CU70N-10	16
CU70N-20	20
CU100N-10	16
CU100N-20	25
CU140N-20	39
CU180N-20	56
*Not for RO pre-treatment.	

NEU-COR UPFLOW	
Acid water (to 5.0 pH*)	Cont. GPM
CU30NC-10	8.5
CU40NC-10	11
CU50NC-10	15
CU70NC-10	16
CU70NC-20	20
CU100NC-10	16
CU100NC-20	25
CU140NC-20	39
CU180NC-20	56
*Not for RO pre-treatment.	

Service Pipe Sizes, Tank Sizes, Cu.ft. , O/A Ht.				
Series	Service Size	Tank dia x nom. Ht.	Cu. Ft. Media	O/A Ht.
CU30_-10	1" NPT	14" X 65"	3	69"
CU40_-10	1" NPT	16" x 65"	4	69"
CU50_-10	1" NPT	18" x 65"	5	72"
CU70_-10	1" NPT	21" X 62"	7	72"
CU70_-20	2" Socket	21" X 62"	7	86"
CU100_-10	1" NPT	24" X 72"	10	80"
CU100_-20	2" Socket	24" X 72"	10	90"
CU140_-20	2" NPT	30" X 72"	14	90"
CU180_-20	2" NPT	36" X 72"	18	91"



STANDARD FEATURES

-  Simple Filter changes without tools
-  No backwash wastewater
-  Compact - 8"D x 42"H
-  Commercial size available - 2" in/out (up to 135 gpm)
-  NSF Standard 61 Listed
-  150psi working pressure

Cartridge Tanks

General Specifications	CTF8	CTF8-HF
Color	Black	Black
Inlet / Outlet (in.)	1.25" SOC-F	2" SOC-F
Maximum Flow Rate (gpm)	60	135
Cartridge Dimensions (in.)	8" D x 42" H	8" D x 42" H

Carbon Block Filters for Taste/Order Removal & Sediment

General Specifications	CT-20-CB (Blue)	CT-03-CB	CT-ACP (Red-High Flow Only)
Micron Rating	20	3	5
Treatment Description	Chlorine / Sediment	Chlorine / Sediment	Chlorine / Sediment
Max Flow Rate / psi drop	60 / 15	55 / 20	150 / 4















Filters for Sediment Removal

General Specifications	CT-105 (Orange)	CT-2005 SWMB (Yellow)	CT-2010 SWMB (Orange)	CT-P1A (Red-High Flow Only)	CT-P5 (Red-High Flow Only)	CT-P20 (Red-High Flow Only)
Micron Rating	10 x 5	20 x 5	20 x 10	Absolute 1	5	20
Treatment Description	Sediment	Sediment	Sediment	Sed / Cyst	Sediment	Sediment
Max Flow Rate / psi drop	60 / 20	60 / 20	50 / 3	100 / 15	125 / 10	135 / 7


"LC" Series Light Commercial 200 to 380 gpd



STANDARD FEATURES

-  NSF Certified Membrane
-  FRP Membrane Housing
-  Aquatec Booster Pump
-  20" Sediment Pre-Filter 5-micron
-  20" Carbon Block Pre-Filter
-  20" GAC Post-Filter
-  SS Operating Pressure Gauge
-  SS Powder Coated Frame
-  Removes 92-98% of TDS (Total Dissolved Solids)
-  Set-up for use with Pressure Tank (tank not included)
-  Can also be used with Atmospheric Tank
-  Includes Long Reach Chrome Faucet
-  Includes 115V powercord
-  Easy to Install and Maintain

OPTIONS

-  Pressure Tanks (-gal's):
RO-14, RO-20, RO-32, RO-119

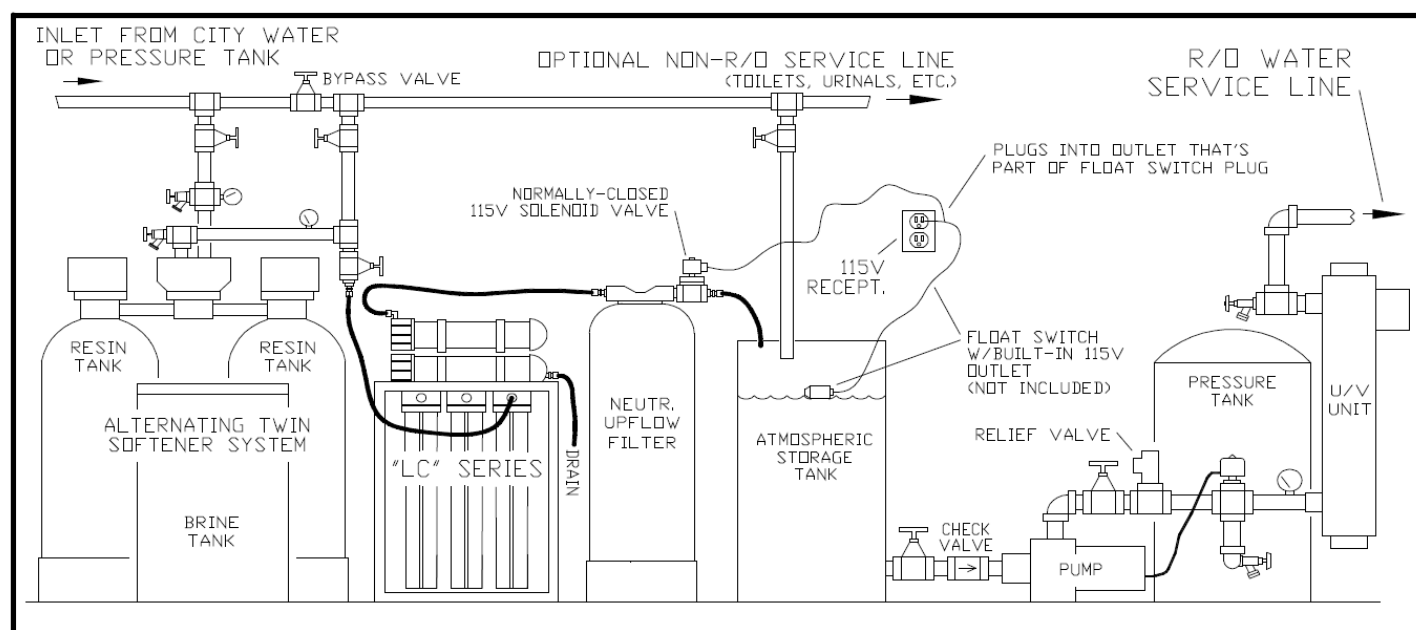
Model Numbers	LC-200P	LC-300P	LC-380PP
Membrane PN (qty)	W-1812-100 (2)	W-1812-100 (3)	W-1812-100 (3)
Membrane Size	1.8" x 11.75"		
Sediment Pre-Filter PN	MB520 (1 used per unit)		
Carbon Block Pre-Filter PN	CB20 (1 used per unit)		
Carbon Post-Filter PN	FI-GAC020HP (1 used per unit)		
GPD (77°F, 1000 TDS water)	200	260	380
GPD (60°F, 1000 TDS water)	146	189	277
GPD (45°F, 1000 TDS water)	96	124	163
Recovery Rate	38%	44%	44%
Operating PSI	10-125	10-125	10-125
Volts AC	115	115	115
Amps	2	2	up to 5
W x H x D	21 x 32 x 10	21 x 36 x 10	21 x 36 x 10

"LC" Series Operating Information

The water entering this RO unit must be:	
Hardness	Less than 1 gpg
Free Chlorine	Permissible - Carbon Block Pre-Filter must be periodically replaced
TDS	Less than 2,000 ppm
Turbidity SDI (Silt Density Index)	Less than 5 ppm
pH	3-11
Iron	Less than 0.01 ppm
Silica	Less than 16 ppm
Hydrogen Sulfide	0 ppm
Manganese	Less than 0.01 ppm
Tannins	Less than 1 ppm
Temperature	40°F - 80°F
Feed Pressure	10 psi minimum
Duty Cycle	8 hours max continuous operation

The water exiting this unit will have a lower pH, and will attack any metal piping or metal fixtures. For these applications, we recommend post-treatment with an Up-Flow Neutralizer filter.

Below drawing shows typical pre-treatment & post-treatment. It also shows optional use with atmospheric holding tank, which requires float switch with built-in 115 outlet & normally-closed solenoid valve (not included).



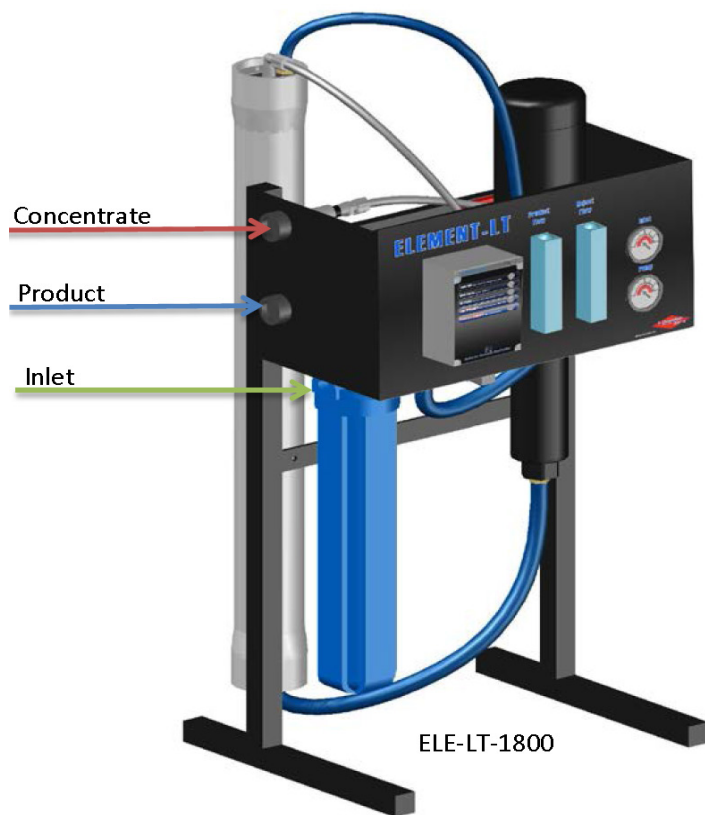
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Reverse Osmosis Systems



“ELE-LT” & “ELE” Series Commercial RO 800 - 4,800 GPD



STANDARD FEATURES

-  Free Standing Powder-coated frame
-  Automatic low pressure safety shut-off & System Re-Start
-  5-micron Sediment Pre-Filter with Pressure Relief
-  Multi-stage high-pressure Pump
-  LED Digital display - RO System Status & Faults
-  Fiberglass Membrane Housings
-  High Flow, Low Energy Membranes
-  Panel mounted PSI Gauges (2) & Flow Meters (2)
-  Panel Mounted Concentrate Valve
-  Includes RO Production Float Assembly
-  Available in 115 VAC or 230 VAC
-  Pre-treat lockout

“ELE” Series (non “LT” models) include all above PLUS:
Auto Membrane Flush and TDS digital display

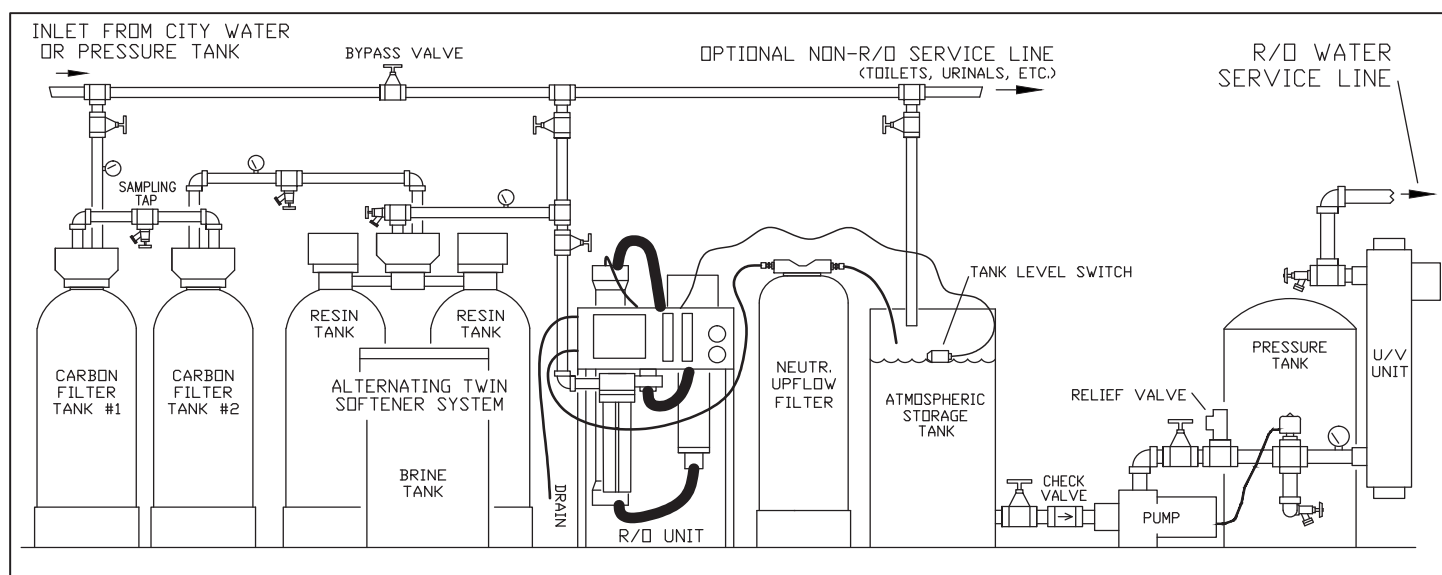
Model Numbers	GPD Production	Recovery	Feed Supply Flow GPM	Permeate Flow (Product) - GPM	Concentrate Flow (Waste) - GPM	Pump HP	Membrane Qty	Membrane Size	Inlet NPT-F	Permeate (Good) Outlet NPT-M	Concentrate (waste) Outlet NPT-M	Width	Depth	Height	Shipping Wt. (lbs)
ELE-LT-800	800	60%	0.93	0.55	0.38	1/2	1	2.5" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	125
ELE-LT-1600	1600	60%	1.9	1.1	0.76	1/2	2	2.5" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	130
ELE-LT-1800	1800	60%	2.1	1.3	0.9	1/2	1	4" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	130
ELE-LT-2400	2400	60%	2.8	1.7	1.1	1/2	1	4" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	135
ELE-LT-4800	4800	60%	5.6	3.3	2.3	3/4	2	4" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	145
ELE-800	800	60%	0.93	0.55	0.38	1/2	1	2.5" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	125
ELE-1600	1600	60%	1.9	1.1	0.76	1/2	2	2.5" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	130
ELE-1800	1800	60%	2.1	1.3	0.9	1/2	1	4" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	130
ELE-2400	2400	60%	2.8	1.7	1.1	1/2	1	4" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	135
ELE-4800	4800	60%	5.6	3.3	2.3	3/4	2	4" X 40"	1"	1/2"	1/2"	25"	22"	52.5"	145

“ELE-LT” & “ELE” Operating Information

The Water Entering this RO Unit Must Be:	
Hardness	Less than 1 gpg
Free Chlorine	0 ppm
TDS	Less than 2000 ppm (higher possible - contact factory)
Turbidity SDI (Silt Density Index)	Less than 5 ppm
pH	3-11
Iron	Less than 0.01 ppm
Silica	Less than 1 ppm
Hydrogen Sulfide	0 ppm
Manganese	Less than 0.01 ppm
Tannins	Less than 1 ppm
Temperature	40°F - 80°F
Feed Pressure	10 psi minimum
Duty Cycle	Continuous operation

The water exiting this unit will have a lower pH, and will attack any metal piping or metal fixtures. For these applications, we recommend post-treatment with Up-Flow Neutralizer filters.

Below drawing shows typical pre-treatment & post-treatment. Also shown is typical connection to atmospheric holding tank.



A1005



Reverse Osmosis Systems



“DFS” & “DWM” Series Commercial RO 1,800 - 18,000 GPD



STANDARD FEATURES

- Wall-Mount (DWM) Powder-coated frame
- Free Standing (DFS) Powder-coated frame
- Automatic low pressure safety shut-off & re-start
- Sediment Pre-Filter with Pressure Relief
- Multi-stage high-pressure pump
- LED Digital display - TDS, Temperature, System Status & Runtime
- Fiberglass Membrane Housings
- High Flow, Low Energy Membranes (4" X 40")
- Panel mounted PSI Gauges (3) & Flow Meters (2)
- Panel Mounted Concentrate Valve
- Includes RO Production Float Assembly
- 230 VAC 1-Phase
- Pre-treat lockout
- Auto Membrane Flush to increase efficiency and life span

MODEL NUMBER	GPD Production	Recovery	Feed Supply Flow GPM / LPM	Permeate Flow (Product) - GPM / LPM	Concentrate Flow (Waste) - GPM / LPM	Pump HP	Membrane Qty	Inlet NPT-F	Permeate (Good) Outlet NPT-M	Concentrate (Waste) Outlet PT-M	Width	Depth	Height	Shipping Wt. (lbs)
DWM-1800	1,800	60%	2.1 / 7.9	1.3 / 4.7	0.9 / 3.2	1/2	1	3/4"	1/2"	1/2"	21.5"	13.5"	48"	150
DWM-2400	2,400	60%	2.8 / 10.7	1.7 / 6.4	1.1 / 4.2	3/4	1	3/4"	1/2"	1/2"	21.5"	13.5"	48"	150
DWM-4800	4,800	70%	4.9 / 18.4	3.4 / 12.9	1.5 / 5.7	3/4	2	3/4"	1/2"	1/2"	21.5"	13.5"	48"	160
DWM-7200	7,200	75%	6.8 / 25.7	5.1 / 19.3	1.7 / 6.4	1-1/2	3	3/4"	1"	1/2"	21.5"	13.5"	48"	161
DFS-1800	1,800	60%	2.1 / 7.9	1.3 / 4.7	0.9 / 3.2	1/2	1	3/4"	1/2"	1/2"	25"	26"	68"	160
DFS-2400	2,400	60%	2.8 / 10.7	1.7 / 6.4	1.1 / 4.2	3/4	1	3/4"	1/2"	1/2"	25"	26"	68"	160
DFS-4800	4,800	70%	4.9 / 18.4	3.4 / 12.9	1.5 / 5.7	3/4	2	3/4"	1/2"	1/2"	25"	26"	68"	180
DFS-7200	7,200	75%	6.8 / 25.7	5.1 / 19.3	1.7 / 6.4	1-1/2	3	3/4"	1"	1/2"	25"	26"	68"	210
DFS-9600	9,600	75%	9.0 / 34.1	6.8 / 25.7	2.2 / 8.3	1-1/2	4	1"	1"	1/2"	25"	32"	72"	230
DFS-12000	12,000	75%	11.1 / 42.1	8.3 / 31.4	2.8 / 10.6	2	5	1"	1"	1"	25"	32"	72"	255
DFS-14400	14,400	75%	13.3 / 50.0	10 / 37.8	3.3 / 12.5	2-1/2	6	1"	1"	1"	25"	32"	72"	275
DFS-18000	18,000	75%	16.7 / 63.2	12.5 / 47.3	4.2 / 15.9	3	8	1"	1"	1"	36"	32"	75"	375

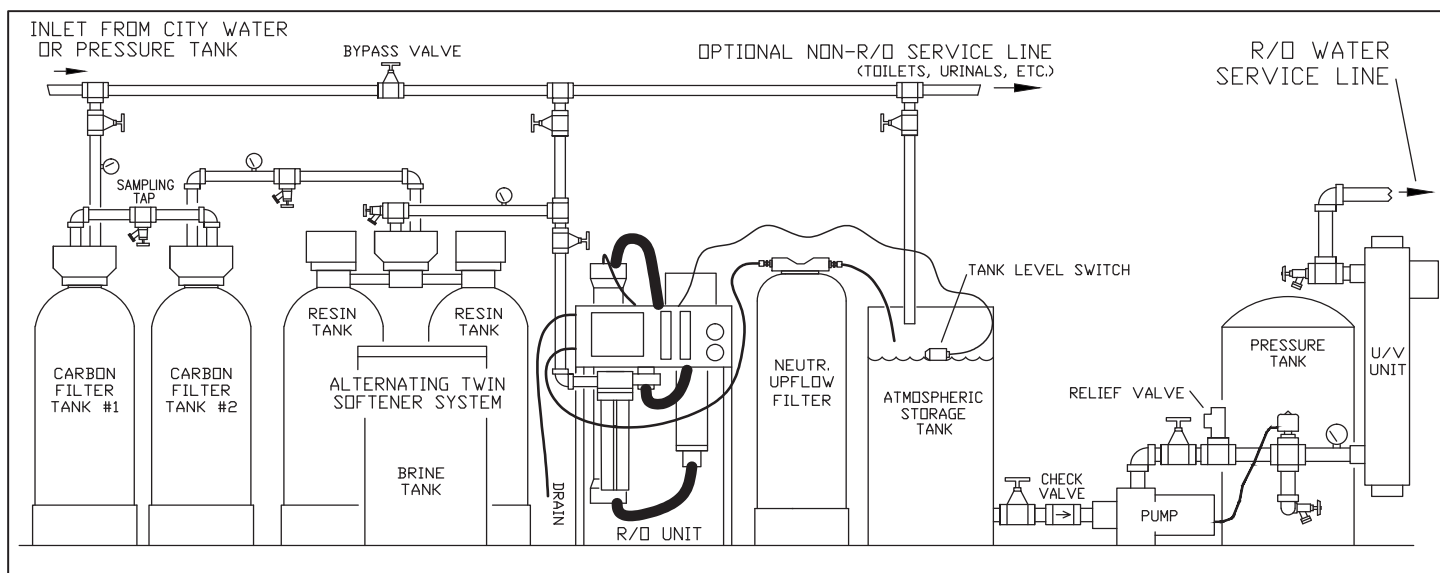


“DFS” & “DWM” Operating Information

The Water Entering this RO Unit Must Be:	
Hardness	Less than 1 gpg
Free Chlorine	0 ppm
TDS	Less than 2000 ppm (higher possible - contact factory)
Turbidity SDI (Silt Density Index)	Less than 5 ppm
pH	3-11
Iron	Less than 0.01 ppm
Silica	Less than 1 ppm
Hydrogen Sulfide	0 ppm
Manganese	Less than 0.01 ppm
Tannins	Less than 1 ppm
Temperature	40°F - 80°F
Feed Pressure	10 psi minimum
Duty Cycle	Continuous operation

The water exiting this unit will have a lower pH, and will attack any metal piping or metal fixtures. For these applications, we recommend post-treatment with Up-Flow Neutralizer filters.

Below drawing shows typical pre-treatment & post-treatment. Also shown is typical connection to atmospheric holding tank.



A1005

Control Valve Common Parts



Valve	Piston Ass'y			Seal & Spacer Kit		Service Tools	
	Main (Lower on dual-piston units) HWBP & old SVO units. Hard Water ByPass White plastic End Plug	NHWBP NO Hard Water ByPass. Black End Plug (all EXCEPT 2750). 2750: White End Plug, BLACK rear ext. block. All: Circa 1998 & newer.	Upper	Main (Lower on dual-piston units)	Upper	Puller Tool	Stuffer Tool
2750, 2500	60090-HF Standard 4.40" o/a. 60091-HF Hot Water	60101-01 Pist. Ass'y 4.89" o/a	-	20251X232 (60121) Standard 60122 Hot Water	-	20251X239 (13061)	20251X238 (11098)
		60101-00 Note-2 FILT Conv. Kit					
		60101-02 Note-2 SOFT 1600 Conv. Kit					
2850 -has 1" NPT-M drain.	60105 (1.375"OD x 4.67" o/a)	60114-01 Pist. Ass'y 5.18" o/a	-	60129-30 Plast/559PE -Chlorine/Chloramine 60129 Metal/EPDM -Hot Water	-	17623	16516
		60114-00 Note-2 FILT Conv. Kit					
		60114-02 Note-2 SOFT 1600 Conv. Kit					
		60114-03 Note-2 SOFT 1700 Conv. Kit					
2850s -has 1-1/4" NPT-F drain. 2005 & newer	61630-00 (1.56"OD x 5.70" o/a)	61631-00 (1.56"OD x 5.70" o/a)	-	61632	-	42228	42227
2900 2-piece body. 2005 & older.	61550 replaces 60103	61555 replaces 60104.	60090-HF (0.98"OD x 4.40" o/a).	60128 -Standard 60128-01 -Hot Water	20251X232 (60121)	20251X239 Upper (13061)	20251X238 Upper (11098)
		60104-01 Hot water.				12682 Lower	12683 Lower
2900s 1-piece body. 2005 & newer	61550	61555	61540 (0.98"OD x 4.95" o/a).	60128 -Standard 60128-01 -Hot Water	61530	20251X239 Upper (13061)	20251X238 Upper (11098)
						12682 Lower	12683 Lower
3150	60106-00	60113-01	-	60131	-	12682	12683
3900	60107- 00	60107- 10	60106-00	60132-10	60131	12682 Upper See Note-1	12683 Upper See Note-1
9000	-	20908X213 (60401)	20908X212 (60400)	20908X211 (60421)	20561X253 (60125)	20251X239 (13061)	12763
9500	-	60109	60108	60133-30	60134-30	17623	16516
All	Silicone Grease 2 oz tube - pn 16174			Note-1 Tools not req'd for Lower. Note-2 To convert existing HWBP unit into NHWBP.			

Valve	Control Valve			MAV / NHWBP			Service Tools
	Piston Ass'y		Seal Stack (main)	Piston	Seal Stack		
	Main	Brine			MAV	NHWBP	
WS1 & T	V3011	V3174	V3005-02	V3506-01	V3074	V3074	V3193-02 Spanner Wrench
WS1.25	V3407		V3430-01				
WS1.5							
WS2	V3725	V3726	V3729	V3634-01	V3077	V3887	
WS2H	V3204-01	V3238-01	V3065				
WS3	V3666-01		V3092				





V3006 Inline Bypass Assembly

Features

- This bypass can be installed on any 1" or 1-1/4" "WS" or "WST" series commercial models.
- One required per control valve

Operating Pressure Range
Water Temperature Range

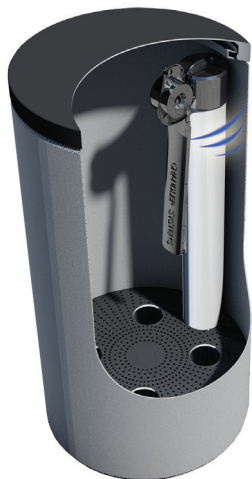
20 – 125 psi
40° – 110°F

REVERE Wireless Low Salt Alarm

Features

- Notifies you almost anywhere in your home when it's time to add salt
- Installs in minutes onto any 3.5" & 4" Brine Well
- Proprietary paddle design provides the most accurate salt level indication on the market
- Revere Paddle Extender Available
- Patent Pending

Part #R-2014-EXT
Ideal for brine tanks 40"high



Patent Pending



Includes:

Receiver w (2) AA
Batteries
Transmitter w Power Supply

**Part #R-2014-EXT2 - with 2-7"
extensions - ideal for up to 50"+**

WATER TREATMENT EQUIPMENT

This warranty cannot be transferred - it is extended only to the original purchaser or first user of the product. By accepting and keeping this product, you agree to all of the warranty terms and limitations of liability described below.

Important Warning: Read carefully the CSI Water Treatment Systems Equipment Installation, Operating and Maintenance Instructions Manual to avoid serious personal injury and property HAZARDS and to ensure safe and proper care of this product.

Model Numbers Covered:
Water Softeners, Media Filters and Upflow Filters

***FOR AS LONG AS YOU OWN AND LIVE IN YOUR SINGLE FAMILY HOME**, this warranty covers your water treatment equipment, if you are the first user of this CSI Water Treatment Systems equipment and purchased it for single family home use - subject to all of the conditions, limitations and exclusions listed below. Purchasers who buy the CSI Water Treatment Systems equipment for other purposes, and other component parts are subject to more limited warranties and you should read all of the terms included in this form to make sure you understand your warranty.

What is covered by this warranty?

CSI Water Treatment Systems warrants that at the time of manufacture, the water treatment equipment shall be free from defects in material and workmanship as follows:

Product	Warranty
Residential Mineral Tank	10 Years
Commercial Mineral Tank	5 Years
Proprietary Control Valves	7 Years
Other Softener / Filter Control Valves	5 Years
Brine Tank (30" or Smaller)	5 Years
Brine Tank (39" or Larger)	1 Year
Residential Reverse Osmosis System	5 Years
Commercial Reverse Osmosis System -Pumps & membranes are pro-rated per month	1 Year from Ship Date
Other Accessories and Parts	1 Year
Brine Tank Components	1 Year
REVERE Wireless Low Salt Alarm	90 Days

* This warranty does not include media and/or cartridge filter elements.

Additional Terms & Conditions

What CSI Water Treatment Systems will do if you have a covered warranty claim CSI will at its option either make repairs to correct any defect in material or workmanship or supply and ship either new or used replacement parts or products. CSI will not accept any claims for labor or other costs.

Additional Exclusions and Limitations

This warranty is non-transferable and does not cover any failure or problem unless it was caused solely by a defect in material or workmanship. In addition, this warranty shall not apply:

- If the water treatment equipment is not correctly installed, operated, repaired and maintained as described in the Installation, Operating &

Maintenance Instructions Manual provided with the product.

- Defects caused as a direct result of the incoming water quality
- If the tank is not the size indicated for the supply line size of the installation, as described in the manual.
- To any failure or malfunction resulting from abuse (including freezing), improper or negligent; handling, shipping (by anyone)
- If the unit has not always been operated within the factory calibrated temperature limits, and at a water pressure not exceeding 125 psi other than CSI), storage, use, operation, accident; or alteration, lightning, flooding or other environmental conditions;
- To any failure or malfunction resulting from failure to keep the unit full of potable water, free to circulate at all times; and with the tank free of damaging water sediment or scale deposits;
- This warranty does not cover labor costs, shipping charges, service charges, delivery expenses, property damage, administrative fees or any costs incurred by the purchaser in removing or reinstalling the water treatment equipment.
- The warranty does not cover any claims submitted to CSI more than 30 days after expiration of the applicable warranty, and does not apply unless prompt notice of any claim is given to an authorized CSI Dealer or to CSI or a designated contractor is provided access to the installation and to the water treatment equipment.

THESE WARRANTIES ARE GIVEN IN LIEU OF ALL OTHER EXPRESS WARRANTIES. NO CSI REPRESENTATIVE OR ANY OTHER PARTY IS AUTHORIZED TO MAKE ANY WARRANTY OTHER THAN THOSE EXPRESSLY CONTAINED IN THIS WARRANTY AGREEMENT.

Additional Warranty Limitations

ANY IMPLIED WARRANTIES THE PURCHASER MAY HAVE, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE APPLICABLE TIME PERIODS SPECIFIED ABOVE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

Limitations of Remedies

The remedies contained in this warranty are the purchaser's exclusive remedies. In no circumstances will CSI or the seller of the product be liable for more than, and purchaser-user's remedies shall not exceed, the price paid for the product. In no case shall CSI or seller be liable for any special, incidental, contingent or consequential damages. Special, incidental, contingent and consequential damages for which CSI is not liable include, but are not limited to, inconvenience, loss or damage to property, consequential mold damage, loss of profits, loss of savings or revenue, loss of use of the products or any associated equipment, facilities, buildings or services, downtime, and the claims of third parties including customers. Some states do not allow the exclusion or the limitation of incidental or consequential damages, so the above limitations or exclusion may not apply to you.

What to do if you have a problem covered by this warranty

Any warranty coverage must be authorized by CSI. Contact the person from whom you purchased the product, who must receive authorization from a CSI Dealer.

If your product is new and not used and you wish to return it, contact your CSI Dealer.





