



Commercial Catalog


13th Edition

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Our catalog offers a sampling of the Commercial items we have available.

For a special application, including arsenic treatment, please contact the factory.

Fill in a copy, email or FAX it to us and we will quote equipment. If your water quality is unknown, then fill-in everything you can and send it to us, along with a raw water sample (at least 8 oz).

 <p>CSI WATER TREATMENT SYSTEMS 710 Orange St., Ashland, OH 44805</p>		Phone (888)-363-9434 (419)-281-6829 FAX (419)-281-2375 www.csiwater.com		COMMERCIAL PROJECT DATA FORM	Job Name: _____ _____ _____ Date: _____
		Raw Water		GPM _____ PSI _____ Pipe Size _____ Hardness - gpg _____ pH _____ Iron - ppm _____ Manganese - ppm _____ Tannin - ppm _____ Sodium Salts - ppm _____ TDS - ppm _____ Turbidity - NTU _____ Color - units _____ Suspended Matter _____ Iron Bacteria _____ Odor _____ Sulfur - ppm _____ Other _____	
Distributor	Company				
	Address				
	City,State				
	Contact				
	Phone/FAX				
	E-mail				
Dealer/Contractor	Company				
	Address				
	City,State				
	Contact				
	Phone/FAX				
	E-mail				
Engineer	Company				
	Address				
	City,State				
	Contact				
	Phone/FAX				
	E-mail				
Health Dept./EPA	Name				
	Address				
	City,State				
	Contact				
	Phone/FAX				
	E-mail				
Sales Rep.	Company				
	Contact				
	Phone/FAX				
	E-mail				
Pump Type supplying raw water (if applicable):					
<input type="checkbox"/> Traditional Submersible Pump (3450 RPM motor) <input type="checkbox"/> Variable-Speed Submersible Pump <input type="checkbox"/> Jet or Centrifugal Pump					
Comments: _____ _____ _____ _____ _____ _____		Does water have "rotten egg" odor at job site? <input type="checkbox"/> N <input type="checkbox"/> Y -If so, then perform Sulfur test at job site, & write-in results above.		TREATED WATER REQUIREMENTS: GPM <input type="text"/> PSI <input type="text"/> Gal/Day <input type="text"/> Treat for: _____	
		WATER SYSTEM LAYOUT: <input type="checkbox"/> Well/Pump - Pressure Tank - TREATMENT - Service <input type="checkbox"/> Well/Pump - TREATMENT - Atmos Tank - Boost Pump - Pressure Tank - Service <input type="checkbox"/> From City/Community System - TREATMENT - Service <input type="checkbox"/> Well/Pump - TREATMENT - Pressure (or Elevated) Tank - Service If above is checked, will there be any check valves between TREATMENT location & Pressure (or Elevated) Tank? <input type="checkbox"/> Yes <input type="checkbox"/> No			

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 byproducts, 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

Commercial HydroxR™ Treatment System

HydroxR SYSTEM MODEL NUMBERS				Service GPM			Pipe Size NPT	Filter Tank		Cu. Ft. Media - Total		
For applications with 3450-RPM well pumps (see Note 1). For HydroxR System DOWNSTREAM from pressure tank		For applications with variable-speed well pumps Treat iron, manganese, sulfur (HydroxR downstream from press. tank, or "pump & dump" into atmos. tank) - see Note 2.		Contin.	Comm. Intermit. / Residen. Normal	Residen. Intermit.		Service	Drain Line		Tank Size	Tank Qty
For HydroxR System DOWNSTREAM from pressure tank	For HydroxR System "pump & dump" into atmospheric tank	Treat iron, manganese, sulfur (HydroxR downstream from press. tank, or "pump & dump" into atmos. tank) - see Note 2.	Treat sulfur ONLY (HydroxR downstream from pressure tank)				Backwash GPM			Not for atmos. tank		
CUTP25-102-WS	CUTP25-102-WSC	CUTP25-102VS-WSC	CUTP25-102VS-WS	10	16	20	10	1"	1"	13" x 54"	2	5
CUTP30-102-WS	CUTP30-102-WSC	CUTP30-102VS-WSC	CUTP30-102VS-WS	11	18	22	11	1"	1"	14" x 65"	2	6
CUTP40-102-WS	CUTP40-102-WSC	CUTP40-102VS-WSC	CUTP40-102VS-WS	14	22	26	15	1"	1"	16" x 65"	2	8
CUTP25-103-WS	CUTP25-103-WSC	CUTP25-103VS-WSC	CUTP25-103VS-WS	15	24	30	10	1"	1"	13" x 54"	3	7.5
CUTP30-103-WS	CUTP30-103-WSC	CUTP30-103VS-WSC	CUTP30-103VS-WS	17	27	33	11	1"	1"	14" x 65"	3	9
CUTP50-102-WS	CUTP50-102-WSC	CUTP50-102VS-WSC	CUTP50-102VS-WS	18	26	30	20	1"	1"	18" x 65"	2	10
CUTP25-104-WS	CUTP25-104-WSC	CUTP25-104VS-WSC	CUTP25-104VS-WS	20	32	-	10	1"	1"	13" x 54"	4	10
CUTP40-103-WS	CUTP40-103-WSC	CUTP40-103VS-WSC	CUTP40-103VS-WS	21	33	-	15	1"	1"	16" x 65"	3	12
CUTP30-104-WS	CUTP30-104-WSC	CUTP30-104VS-WSC	CUTP30-104VS-WS	22	36	40	11	1"	1"	14" x 65"	4	12
CUTP50-103-WS	CUTP50-103-WSC	CUTP50-103VS-WSC	CUTP50-103VS-WS	27	39	-	20	1"	1"	18" x 65"	3	15
CUTP40-104-WS	CUTP40-104-WSC	CUTP40-104VS-WSC	CUTP40-104VS-WS	28	40	-	15	1"	1"	16" x 65"	4	16
CUTP50-104-WS	CUTP50-104-WSC	CUTP50-104VS-WSC	CUTP50-104VS-WS	36	-	-	20	1"	1"	18" x 65"	4	20
CUTP70-123-WS	CUTP70-123-WSC	CUTP70-123VS-WSC	CUTP70-123VS-WS	36	-	-	25	1-1/4"	1"	21" x 62"	3	21
CUTP50-105-WS	CUTP50-105-WSC	CUTP50-105VS-WSC	CUTP50-105VS-WS	45	-	-	20	1"	1"	18" x 65"	5	25
CUTP100-123-WS	CUTP100-123-WSC	CUTP100-123VS-WSC	CUTP100-123VS-WS	45	-	-	32	1-1/4"	1-1/4"	24" x 72"	3	30
CUTP70-124-WS	CUTP70-124-WSC	CUTP70-124VS-WSC	CUTP70-124VS-WS	48	-	-	25	1-1/4"	1"	21" x 62"	4	28
CUTP50-106-WS	CUTP50-106-WSC	CUTP50-106VS-WSC	CUTP50-106VS-WS	54	-	-	20	1"	1"	18" x 65"	6	30
CUTP100-124-WS	CUTP100-124-WSC	CUTP100-124VS-WSC	CUTP100-124VS-WS	60	-	-	32	1-1/4"	1-1/4"	24" x 72"	4	40
CUTP140-153-WS	CUTP140-153-WSC	CUTP140-153VS-WSC	CUTP140-153VS-WS	75	-	-	50	1-1/2"	1-1/2"	30" x 72"	3	42
CUTP140-154-WS	CUTP140-154-WSC	CUTP140-154VS-WSC	CUTP140-154VS-WS	100	-	-	50	1-1/2"	1-1/2"	30" x 72"	4	56
CUTP180-203-WS	CUTP180-203-WSC	CUTP180-203VS-WSC	CUTP180-203VS-WS	105	-	-	75	2"	1-1/2"	36" x 72"	3	54
CUTP140-155-WS	CUTP140-155-WSC	CUTP140-155VS-WSC	CUTP140-155VS-WS	125	-	-	50	1-1/2"	1-1/2"	30" x 72"	5	70
CUTP180-204-WS	CUTP180-204-WSC	CUTP180-204VS-WSC	CUTP180-204VS-WS	140	-	-	75	2"	1-1/2"	36" x 72"	4	72
CUTP240-203-WSH	CUTP240-203-WSHC	CUTP240-203VS-WSHC	CUTP240-203VS-WSH	150	-	-	100	2"	3"	42" x 72"	3	72
CUTP180-205-WS	CUTP180-205-WSC	CUTP180-205VS-WSC	CUTP180-205VS-WS	175	-	-	75	2"	1-1/2"	36" x 72"	5	90
CUTP240-204-WSH	CUTP240-204-WSHC	CUTP240-204VS-WSHC	CUTP240-204VS-WSH	200	-	-	100	2"	3"	42" x 72"	4	96

Note 1 - For 3450-RPM well pump models at rated GPM, the inlet PSI at the HydroxR™ Tank must be at least 50% higher than max PSI desired at service. If supply pump cannot achieve this pressure, then use "Variable Speed" models.

Note 2 - See individual drawings containing (PRESS) or (ATMOS) in file name, for specific configuration & piping details.

Manganese Removal

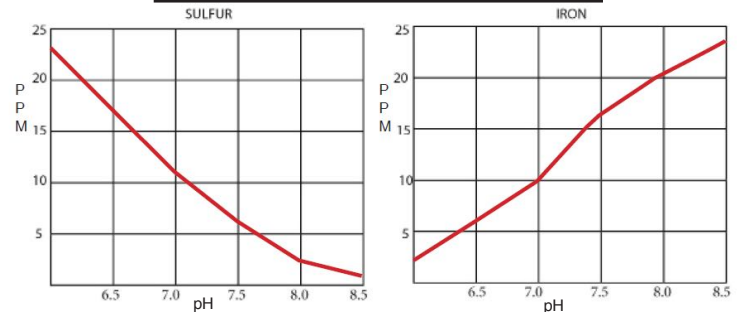
HydroxR™ capability to remove Manganese from water is critically dependent on the Iron and pH levels as show below:

If the Iron to Manganese ratio is:	Then the pH must be at least:
10:1	7.0
5:1	7.8
1:1	8.3
0:1	8.5

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

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

Iron and Sulfur Removal



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



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 a into an existing process, we have the proper systems options available 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

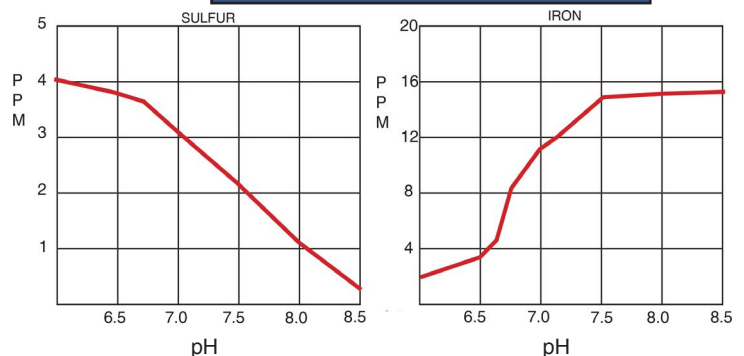
STANDARD FEATURES

- 🔹 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



REACTR SYSTEM MODEL NUMBERS				Service GPM			Backwash GPM	Pipe Size NPT		Filter Tank		Cu.Ft. Media for Total System
Standard Pressure Systems (Filter tanks ALWAYS under pressure). for 3450-rpm submersible pumps		For installations AHEAD of atmos. tanks. (Clean/Blend BackWash - see Note 1) for 3450-rpm submersible pumps		Comm. Contin. Flow Rate	Comm. Intermit. / Residen. Normal	Residen. Intermit. Not for atmos. tank		Service	Drain Line Flow Control	Tank Size	Tank Qty	
for Var-Speed Pumps or low inlet pressure			for Var-Speed Pumps or low inlet pressure									
CRF40-101-WS	CRF40-101VS-WS	-	-	7	11	13	20	1"	1"	16" x 65"	1	4
CRF50-101-WS	CRF50-101VS-WS	-	-	9	14	18	25	1"	1"	18" x 65"	1	5
CRF25-102-WS	CRF25-102VS-WS	CRF25-102-WSC	CRF25-102VS-WSC	10	16	20	13	1"	3/4"	13" x 54"	2	5
CRF30-102-WS	CRF30-102VS-WS	CRF30-102-WSC	CRF30-102VS-WSC	11	18	22	15	1"	3/4"	14" x 65"	2	6
CRF70-121-WS	CRF70-121VS-WS	-	-	12	19	24	32	1-1/4"	1-1/4"	21" x 62"	1	7
CRF40-102-WS	CRF40-102VS-WS	CRF40-102-WSC	CRF40-102VS-WSC	14	22	26	20	1"	1"	16" x 65"	2	8
CRF25-103-WS	CRF25-103VS-WS	CRF25-103-WSC	CRF25-103VS-WSC	15	24	30	13	1"	3/4"	13" x 54"	3	7.5
CRF30-103-WS	CRF30-103VS-WS	CRF30-103-WSC	CRF30-103VS-WSC	17	27	33	15	1"	3/4"	14" x 65"	3	9
CRF50-102-WS	CRF50-102VS-WS	CRF50-102-WSC	CRF50-102VS-WSC	18	26	30	25	1"	1"	18" x 65"	2	10
CRF25-104-WS	CRF25-104VS-WS	CRF25-104-WSC	CRF25-104VS-WSC	20	32	33	13	1"	3/4"	13" x 54"	4	10
CRF40-103-WS	CRF40-103VS-WS	CRF40-103-WSC	CRF40-103VS-WSC	21	33	-	20	1"	1"	16" x 65"	3	12
CRF30-104-WS	CRF30-104VS-WS	CRF30-104-WSC	CRF30-104VS-WSC	22	33	-	15	1"	3/4"	14" x 65"	4	12
CRF70-122-WS	CRF70-122VS-WS	CRF70-122-WSC	CRF70-122VS-WSC	24	32	33	32	1-1/4"	1-1/4"	21" x 62"	2	14
CRF50-103-WS	CRF50-103VS-WS	CRF50-103-WSC	CRF50-103VS-WSC	27	39	45	25	1"	1"	18" x 65"	3	15
CRF40-104-WS	CRF40-104VS-WS	CRF40-104-WSC	CRF40-104VS-WSC	28	44	52	20	1"	1"	16" x 65"	4	16
CRF100-152-WS-P	CRF100-152VS-WS-P	CRF100-152-WSC-P	CRF100-152VS-WSC-P	30	40	46	42	1-1/2"	1"	24" x 72"	2	20
CRF50-104-WS	CRF50-104VS-WS	CRF50-104-WSC	CRF50-104VS-WSC	36	52	-	25	1"	1"	18" x 65"	4	20
CRF70-123-WS	CRF70-123VS-WS	CRF70-123-WSC	CRF70-123VS-WSC	36	48	-	32	1-1/4"	1-1/4"	21" x 62"	3	21
CRF100-153-WS-P	CRF100-153VS-WS-P	CRF100-153-WSC-P	CRF100-153VS-WSC-P	45	-	-	42	1-1/2"	1"	24" x 72"	3	30
CRF70-124-WS	CRF70-124VS-WS	CRF70-124-WSC	CRF70-124VS-WSC	48	-	-	32	1-1/4"	1-1/4"	21" x 62"	4	28
CRF140-202-WS	CRF140-202VS-WS	CRF140-202-WSC	CRF140-202VS-WSC	50	-	-	65	2"	1-1/2"	30" x 72"	2	28
CRF100-154-WS-P	CRF100-154VS-WS-P	CRF100-154-WSC-P	CRF100-154VS-WSC-P	60	-	-	42	1-1/2"	1"	24" x 72"	4	40
CRF70-125-WS	CRF70-125VS-WS	CRF70-125-WSC	CRF70-125VS-WSC	60	-	-	32	1-1/4"	1-1/4"	21" x 62"	5	35
CRF180-202-WSH	CRF180-202VS-WSH	CRF180-202-WSHC	CRF180-202VS-WSHC	70	-	-	95	2"	3"	36" x 72"	2	36
CRF70-126-WS	CRF70-126VS-WS	CRF70-126-WSC	CRF70-126VS-WSC	72	-	-	32	1-1/4"	1-1/4"	21" x 62"	6	42
CRF140-203-WS	CRF140-203VS-WS	CRF140-203-WSC	CRF140-203VS-WSC	75	-	-	65	2"	1-1/2"	30" x 72"	3	42
CRF70-127-WS	CRF70-127VS-WS	CRF70-127-WSC	CRF70-127VS-WSC	84	-	-	32	1-1/4"	1-1/4"	21" x 62"	7	49
CRF70-128-WS	CRF70-128VS-WS	CRF70-128-WSC	CRF70-128VS-WSC	96	-	-	32	1-1/4"	1-1/4"	21" x 62"	8	56
CRF140-204-WS	CRF140-204VS-WS	CRF140-204-WSC	CRF140-204VS-WSC	100	-	-	65	2"	1-1/2"	30" x 72"	4	56
CRF240-202-WSH	CRF240-202VS-WSH	CRF240-202-WSHC	CRF240-202VS-WSHC	100	-	-	125	2"	3"	42" x 72"	2	48
CRF180-203-WSH	CRF180-203VS-WSH	CRF180-203-WSHC	CRF180-203VS-WSHC	105	-	-	95	2"	3"	36" x 72"	3	54
CRF140-205-WS	CRF140-205VS-WS	CRF140-205-WSC	CRF140-205VS-WSC	125	-	-	65	2"	1-1/2"	30" x 72"	5	70
CRF180-204-WSH	CRF180-204VS-WSH	CRF180-204-WSHC	CRF180-204VS-WSHC	140	-	-	95	2"	3"	36" x 72"	4	72
CRF240-203-WSH	CRF240-203VS-WSH	CRF240-203-WSHC	CRF240-203VS-WSHC	150	-	-	125	2"	3"	42" x 72"	3	72
CRF180-205-WSH	CRF180-205VS-WSH	CRF180-205-WSHC	CRF180-205VS-WSHC	175	-	-	95	2"	3"	36" x 72"	5	90
CRF240-204-WSH	CRF240-204VS-WSH	CRF240-204-WSHC	CRF240-204VS-WSHC	200	-	-	125	2"	3"	42" x 72"	4	96

Note 1 - WSC & WSHC models backwash with clean and/or raw (blended) water.

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



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 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 No.	GPM FLOW RATES				PIPE SIZE		GRAINS EXCH CAP @ LBS SALT	RESIN TANK CU.FT. RESIN		BRINE TANK SALT CAPACITY		OVERALL HEIGHT					
	SERVICE		PEAK 25 PSI Loss	BACK WASH	NPT			DIA X HT	DIA X HT	LBS							
	15 PSI Loss	8 PSI Loss			SERVICE	DRAIN	MAXIMUM MINIMUM										
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	74"					
CTS60-12WS	27	20	35	4.2	1-1/4"	3/4"						74"					
CTS60-15WS-P	34	25	45	4.2	1-1/2"	1"						77"					
CTS60-20WS	42	31	53	4.2	2"	3/4"						75"					
CMS60-10WS	18	13	25	4.2	1"	3/4"						74"					
CMS60-12WS	26	19	35	4.2	1-1/4"	3/4"						74"					
CMS60-15WS-P	34	25	44	4.2	1-1/2"	1"						77"					
CMS60-20WS	41	30	52	4.2	1-1/2"	3/4"						75"					
CTS75-10WS	17	13	24	3.2	1"	3/4"	75,000 GR @ 37.5# 50,000 GR @ 15#	13" x 54"	2.5	18" x 40"	300	62"					
CTS75-12WS	25	18	33	3.2	1-1/4"	3/4"						62"					
CMS75-10WS	16	12	23	3.2	1"	3/4"						62"					
CMS75-12WS	24	18	32	3.2	1-1/4"	3/4"						62"					
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	74"					
CTS90-12WS	25	18	34	4.2	1-1/4"	3/4"						74"					
CTS90-15WS-P	34	26	45	4.2	1-1/2"	1"						77"					
CTS90-20WS	39	28	50	4.2	2"	3/4"						75"					
CMS90-10WS	17	12	24	4.2	1"	3/4"						74"					
CMS90-12WS	24	18	33	4.2	1-1/4"	3/4"						74"					
CMS90-15WS-P	32	24	43	4.2	1-1/2"	1"						77"					
CMS90-20WS	39	28	50	4.2	2"	3/4"						75"					
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	74"					
CTS120-12WS	26	19	35	5.3	1-1/4"	3/4"						74"					
CTS120-15WS-P	38	28	50	5.3	1-1/2"	1"						77"					
CTS120-20WS	47	34	60	5.3	2"	3/4"						75"					
CMS120-10WS	18	13	25	5.3	1"	3/4"						74"					
CMS120-12WS	25	18	34	5.3	1-1/4"	3/4"						74"					
CMS120-15WS-P	36	27	48	5.3	1-1/2"	1"						77"					
CMS120-20WS	46	34	59	5.3	2"	3/4"						75"					
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-P	41	30	54	7.5	1-1/2"	1"						79"					
CTS150-20WS	53	39	69	7.5	2"	3/4"						77"					
CMS150-12WS	27	20	35	7.5	1-1/4"	3/4"						76"					
CMS150-15WS-P	39	29	51	7.5	1-1/2"	1"						79"					
CMS150-20WS	52	38	68	7.5	2"	3/4"						77"					
CTS210-15WS-P	46	34	60	10	1-1/2"	1"						210,000 GR @ 105 # 140,000 GR @ 42 #	21" x 62"	7	24" x 50"	700	79"
CTS210-20WS	66	48	85	10	2"	1"											77"
CMS210-15WS-P	43	31	56	10	1-1/2"	1"	79"										
CMS210-20WS	65	47	83	10	2"	1"	77"										
CTS300-15WS-P	48	35	63	13	1-1/2"	1"	300,000 GR @ 150 # 200,000 GR @ 60 #	24" x 72"	10	30" x 50"	1000	85"					
CTS300-20WS	73	53	94	13	2"	1"						83"					
CMS300-15WS-P	45	33	59	13	1-1/2"	1"						85"					
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	88"					
CTS450-30WS	144	105	186	20	3"	1-1/2"						93"					
CMS450-20WS	81	59	105	20	2"	1"						88"					
CMS450-30WS	138	101	179	20	3"	1-1/2"						93"					
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	99"					
CTS600-30WS	172	126	222	30	3"	1-1/2"						105"					
CMS600-20WS	89	65	114	30	2"	1-1/2"						99"					
CMS600-30WS	163	119	210	30	3"	1-1/2"						105"					
CTS900-30WS	187	137	242	40	3"	2"	900,000 GR @ 450 #	42" x 72"	30	50" x 60"	4100	105"					
CMS900-30WS	175	128	227	40	3"	2"	600,000 GR @ 180 #					105"					
CTS1200-30WS	194	142	251	50	3"	2"	1,200,000 GR @ 600 #	48" x 72"	40	50" x 60"	4100	104"					
CMS1200-30WS	181	132	234	50	3"	2"	800,000 GR @ 240 #					104"					



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

Commercial Alternating Twin Softeners

Model No. See below for optional Single Brine Tank on WS & WS-P models	GPM FLOW RATES*				PIPE SIZE NPT - See Note1		GRAINS EXCH CAP @ LBS. SALT (PER RESIN TANK) MAXIMUM MINIMUM	RESIN TANKS DIA X HT	CU.FT. RESIN (Per TANK)	BRINE TANK(S)		QTY - std models	OVERALL HT.
	SERVICE		PEAK	Regeneration	SERVICE	DRAIN				DIA X HT	LBS. Salt per Tank		
	15 PSI Loss	8 PSI Loss	25 PSI Loss										
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	74"
CAT60-10WS	18	13	25	4.2	1"	3/4"						2	74"
CAT60-12WS	26	19	35	4.2	1-1/4"	3/4"						2	74"
CAT60-15WS-P	34	25	44	4.2	1-1/2"	1"						2	77"
CAT60-20WS	41	30	52	4.2	2"	3/4"						2	75"
CAT75-10WST	18	13	24	3.2	1"	3/4"	75,000 GR @ 37.5# 50,000 GR @ 15 #	13" x 54"	2.5	18" x 40"	300	1	62"
CAT75-10WS	16	12	23	3.2	1"	3/4"						2	62"
CAT75-12WS	24	18	32	3.2	1-1/4"	3/4"						2	62"
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	74"
CAT90-10WS	17	12	24	4.2	1"	3/4"						2	74"
CAT90-12WS	24	18	33	4.2	1-1/4"	3/4"						2	74"
CAT90-15WS-P	32	24	43	4.2	1-1/2"	1"						2	77"
CAT90-20WS	39	28	50	4.2	2"	3/4"						2	75"
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	74"
CAT120-10WS	18	13	25	5.3	1"	3/4"						2	74"
CAT120-12WS	25	18	34	5.3	1-1/4"	3/4"						2	74"
CAT120-15WS-P	36	27	48	5.3	1-1/2"	1"						2	77"
CAT120-20WS	46	34	59	5.3	2"	3/4"						2	75"
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-P	39	29	51	7.5	1-1/2"	1"						2	79"
CAT150-20WS	52	38	68	7.5	2"	3/4"						2	77"
CAT210-15WS-P	43	31	56	10	1-1/2"	1"	210,000 GR @ 105 # 140,000 GR @ 42 #	21" x 62"	7	24" x 50"	700	2	79"
CAT210-20WS	65	47	83	10	2"	1"						2	77"
CAT300-15WS-P	45	33	59	13	1-1/2"	1"	300,000 GR @ 150 # 200,000 GR @ 60 #	24" x 72"	10	30" x 50"	1000	2	85"
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	88"
CAT450-30WS	138	101	179	20	3"	1-1/2"						2	93"
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	99"
CAT600-30WS	163	119	210	30	3"	1-1/2"						2	105"
CAT900-30WS	175	128	227	40	3"	2"	900,000 GR @ 450 # 600,000 GR @ 180 #	42" x 72"	30	50" x 60"	4100	2	105"
CAT1200-30WS	181	132	234	50	3"	2"	1,200,000 GR @ 600 # 800,000 GR @ 240 #	48" x 72"	40	50" x 60"	4100	2	104"

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

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.

For Optional SINGLE Brine Tank on WS & WS-P Models:		
add to model #	Size	Example:
-BA	18"x40"	CAT60-10WS-BA
-BB	24"x50"	CAT120-20WS-BB
-BC	30"x50"	CAT300-20WS-BC
-BD	42"x60"	CAT600-20WS-BD
-BE	50"x60"	CAT900-30WS-BE



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.

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

- 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	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



Progressive Flow Water Softener

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!																
\$ = Best flow per price.	Model No. see Note 2	GPM FLOW RATES - Note 1				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 HT.
		SERVICE		PEAK	Regen.	Service	Drain	MAXIMUM	MINIMUM	Dia X HT	QTY	Dia X HT	QTY			
		15 PSI Loss	8 PSI Loss	25 PSI Loss												
\$	CMS45-103WSP	26	20	36	2.2	1"	3/4"	45,000 GR @ 22.5#	30,000 GR @ 9#	10" x 54"	1.5	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	74"
\$	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	74"
\$	CMS45-123WSP	38	28	56	2.2	1-1/4"	3/4"	45,000 GR @ 22.5#	30,000 GR @ 9#	10" x 54"	1.5	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"
\$	CMS75-123WSP	48	36	64	3.2	1-1/4"	3/4"	75,000 GR @ 37.5#	50,000 GR @ 15#	13" x 54"	2.5	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	74"
\$	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	74"
\$	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	74"
\$	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	74"
\$	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-P	64	48	86	4.2	1-1/2"	1"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3	3	18" x 40"	300	3	77"
\$	CMS60-153WSP-P	68	50	88	4.2	1-1/2"	1"	60,000 GR @ 30#	40,000 GR @ 12#	14" x 65"	2	3	18" x 40"	300	3	77"
\$	CMS75-124WSP	72	54	96	3.2	1-1/4"	3/4"	75,000 GR @ 37.5#	50,000 GR @ 15#	13" x 54"	2.5	4	18" x 40"	300	4	74"
\$	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	74"
\$	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	74"
\$	CMS120-153WSP-P	72	54	96	5.3	1-1/2"	1"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	3	24" x 50"	700	3	77"
\$	CMS150-153WSP-P	78	58	102	7.5	1-1/2"	1"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5	3	24" x 50"	700	3	79"
\$	CMS75-125WSP	96	72	128	3.2	1-1/4"	3/4"	75,000 GR @ 37.5#	50,000 GR @ 15#	13" x 54"	2.5	5	18" x 40"	300	5	62"
\$	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	74"
\$	CMS210-153WSP-P	86	62	112	10	1-1/2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7	3	24" x 50"	700	3	79"
\$	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	74"
\$	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	77"
\$	CMS75-126WSP	120	90	160	3.2	1-1/4"	3/4"	75,000 GR @ 37.5#	50,000 GR @ 15#	13" x 54"	2.5	6	18" x 40"	300	6	62"
\$	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	74"
\$	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	74"
\$	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	77"
\$	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-P	128	96	172	4.2	1-1/2"	1"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3	5	18" x 40"	300	5	77"
\$	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"	1,000	3	83"
\$	CMS210-154WSP-P	129	93	168	10	1-1/2"	1"	210,000 GR @ 105#	140,000 GR @ 42#	21" x 62"	7	4	24" x 50"	700	4	79"
\$	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	86"
\$	CMS120-155WSP-P	144	108	192	5.3	1-1/2"	1"	120,000 GR @ 60#	80,000 GR @ 24#	16" x 65"	4	5	24" x 50"	700	5	77"
\$	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	77"
\$	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	88"
\$	CMS90-156WSP-P	160	120	215	4.2	1-1/2"	1"	90,000 GR @ 45#	60,000 GR @ 18#	14" x 65"	3	6	18" x 40"	300	6	77"
\$	CMS150-155WSP-P	156	116	204	7.5	1-1/2"	1"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5	5	24" x 50"	700	5	79"
\$	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"	1,000	3	87"
\$	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	99"
\$	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"	2,900	3	99"
\$	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	77"
\$	CMS150-156WSP-P	195	145	255	7.5	1-1/2"	1"	150,000 GR @ 75#	100,000 GR @ 30#	18" x 65"	5	6	24" x 50"	700	6	79"
\$	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	77"
\$	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"	1,000	3	93"
\$	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	77"
\$	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	105"
\$	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	105"
\$	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	104"
\$	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	88"
\$	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"	1,000	4	93"
\$	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	99"
\$	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"	2,900	4	105"
\$	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	105"
\$	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	104"

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 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.

Tank warranty void if subject to vacuum. Low flow channeling – less than .5 gpm/cu. ft. media – may cause untreated water bleed. 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

Commercial Water Filter

BIRM For up to 5 ppm iron. pH must be 7.0 to 9.0. Must be 0 sulfur & chlorine. Requires dissolved oxygen.	GPM			Activated Carbon For Chlorine, VOC, Taste, Odor, & Color. For Turbidity/sediment down to 20-40 micron.	GPM			Filter-AG For Turbidity/sediment down to 20-40 micron.	GPM			Filter-AG Plus For Turbidity/sediment down to 5 micron or less.	GPM		
	Backwash	Serv - Cont.	Serv - Peak		Backwash	VOC Treat.	De-Chlorin.		Backwash	Serv - Cont.	Serv - Peak		Backwash	Serv - Cont.	Serv - Peak
CWF30B-10WS	10	5.5	7.5	CWF30C-10WS	10	5.5	11	CWF30F-10WS	10	5.5	9	CWF30FP-10WS	11	11	16
CWF30B-12WS	10	5.5	7.5	CWF30C-12WS	10	5.5	11	CWF30F-12WS	10	5.5	9	CWF30FP-12WS	11	11	16
CWF40B-10WS	15	7	14	CWF40C-10WS	11	7	14	CWF40F-10WS	11	7	11	CWF40FP-10WS	15	14	17
CWF40B-12WS	15	7	14	CWF40C-12WS	11	7	14	CWF40F-12WS	11	7	11	CWF40FP-12WS	15	14	21
CWF40B-15WS-P	15	7	14	CWF40C-15WS-P	11	7	14	CWF40F-15WS-P	11	7	11	CWF40FP-15WS-P	15	14	21
CWF50B-10WS	20	9	18	CWF50C-10WS	15	9	18	CWF50F-10WS	15	9	15	CWF50FP-10WS	20	18	18
CWF50B-12WS	20	9	18	CWF50C-12WS	15	9	18	CWF50F-12WS	15	9	15	CWF50FP-12WS	20	18	23
CWF50B-15WS-P	20	9	18	CWF50C-15WS-P	15	9	18	CWF50F-15WS-P	15	9	15	CWF50FP-15WS-P	20	18	27
CWF70B-10WS	25	12	18	CWF70C-10WS	20	12	18	CWF70F-10WS	20	12	18	CWF70FP-12WS	25	19	24
CWF70B-12WS	25	12	23	CWF70C-12WS	20	12	23	CWF70F-12WS	20	12	20	CWF70FP-15WS-P	25	24	36
CWF70B-15WS-P	25	12	24	CWF70C-15WS-P	20	12	24	CWF70F-15WS-P	20	12	20	CWF100FP-12WS	32	20	24
CWF100B-12WS	30	16	24	CWF100C-12WS	25	16	24	CWF100F-12WS	25	16	24	CWF100FP-15WS-P	32	31	47
CWF100B-15WS-P	30	16	31	CWF100C-15WS-P	25	16	31	CWF100F-15WS-P	25	16	25	CWF100FP-20WS	32	31	47
CWF100B-20WS	30	16	31	CWF100C-20WS	25	16	31	CWF100F-20WS	25	16	25	CWF140FP-15WS	50	42	58
CWF140B-15WS	50	25	47	CWF140C-15WS-P	40	25	47	CWF140F-15WS-P	40	25	39	CWF140FP-20WS	50	49	74
CWF140B-20WS	50	25	50	CWF140C-20WS	40	25	50	CWF140F-20WS	40	25	39	CWF180FP-20WS	75	68	93
CWF180B-20WS	70	35	70	CWF180C-20WS	60	35	70	CWF180F-20WS	60	35	56	CWF180FP-20WSH	75	71	98
CWF240B-20WSH	100	48	87	CWF240C-20WSH	80	48	87	CWF240F-20WSH	80	48	77	CWF180FP-30WS	75	71	106
CWF240B-30WS	100	48	96	CWF240C-30WS	80	48	96					CWF240FP-20WSH	100	77	106
												CWF240FP-30WS	100	96	144








Neutralizer For Acid water down to 5.8 pH. For Turbidity/sediment down to 20-40 micron.	GPM			NEU-COR For Acid water down to 5.0 pH. For Turbidity/sediment down to 20-40 micron.	GPM		
	Backwash	Serv - Cont.	Serv - Peak		Backwash	Serv - Cont.	Serv - Peak
CWF30N-10WS	10	5.5	9	CWF30NC-10WS	10	5.5	9
CWF30N-12WS	10	5.5	9	CWF30NC-12WS	10	5.5	9
CWF40N-10WS	15	7	11	CWF40NC-10WS	15	7	11
CWF40N-12WS	15	7	11	CWF40NC-12WS	15	7	11
CWF40N-15WS-P	15	7	11	CWF40NC-15WS-P	15	7	11
CWF50N-10WS	20	9	15	CWF50NC-10WS	20	9	15
CWF50N-12WS	20	9	15	CWF50NC-12WS	20	9	15
CWF50N-15WS-P	20	9	15	CWF50NC-15WS-P	20	9	15
CWF70N-10WS	25	12	18	CWF70NC-10WS	25	12	18
CWF70N-12WS	25	12	20	CWF70NC-12WS	25	12	20
CWF70N-15WS-P	25	12	20	CWF70NC-15WS-P	25	12	20
CWF100N-12WS	30	16	24	CWF100NC-12WS	30	16	24
CWF100N-15WS-P	30	16	25	CWF100NC-15WS-P	30	16	25
CWF100N-20WS	30	16	25	CWF100NC-20WS	30	16	25
CWF140N-15WS	50	25	39	CWF140NC-15WS	50	25	39
CWF140N-20WS	50	25	39	CWF140NC-20WS	50	25	39
CWF180N-20WS	70	35	56	CWF180NC-20WS	70	35	56
CWF240N-20WSH	100	48	77	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. Media	O/A Ht.
CWF30_-10WS	1" NPT	14" X 65"	3	75"
CWF30_-12WS	1-1/4" NPT			75"
CWF40_-10WS	1" NPT	16" x 65"	4	75"
CWF40_-12WS	1-1/4" NPT			75"
CWF40_-15WS-P	1-1/2" NPT			77"
CWF50_-10WS	1" NPT	18" x 65"	5	77"
CWF50_-12WS	1-1/4" NPT			77"
CWF50_-15WS-P	1-1/2" NPT			79"
CWF70_-10WS	1" NPT	21" X 62"	7	77"
CWF70_-12WS	1-1/4" NPT			77"
CWF70_-15WS-P	1-1/2" NPT			79"
CWF70_-20WS	2" NPT			77"
CWF100_-12WS	1-1/4" NPT	24" X 72"	10	83"
CWF100_-15WS-P	1-1/2" NPT			85"
CWF100_-20WS	2" NPT			88"
CWF140_-15WS	1-1/2" NPT	30" X 72"	14	91"
CWF140_-15WS-P	1-1/2" NPT			88"
CWF140_-20WS	2" NPT			91"
CWF180_-20WS	2" NPT	36" X 72"	18	103"
CWF180_-20WSH	2" NPT			99"
CWF240_-20WSH	2" NPT	42" X 72"	24	100"
CWF240_-30WS	3" NPT			104"





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 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.

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. media – may untreated water bleed.
 Influent Chlorine 1 ppm max.

Water Temperature Range 35° – 110°F
 Ambient Air Temperature Range 35° – 120°F
 Operating Pressure Range 20 – 125 psi
 Influent Chlorine 1 ppm max.
 Iron/Manganese < 1 ppm







Carbon UPFLOW*		Neutralizer UPFLOW		NEU-COR UPFLOW	
Chlorine, Taste, Odor.	Cont. GPM	Acid water down to 5.8 pH.	Cont. GPM	Acid water down to 5.0 pH.	Cont. GPM
CU30C-10	10	CU30N-10	8.5	CU30NC-10	8.5
CU40C-10	11	CU40N-10	11	CU40NC-10	11
CU50C-10	15	CU50N-10	15	CU50NC-10	15
CU70C-10	16	CU70N-10	16	CU70NC-10	16
CU70C-20	20	CU70N-20	20	CU70NC-20	20
CU100C-10	16	CU100N-10	16	CU100NC-10	16
CU100C-20	25	CU100N-20	25	CU100NC-20	25
CU140C-20	40	CU140N-20	39	CU140NC-20	39
CU180C-20	60	CU180N-20	56	CU180NC-20	56

*Do not use for RO pre-treatment.

Service Pipe Sizes, Tank Sizes, Cu.ft. , O/A Ht.				
Series	Service Size	Tank dia x nom. Ht.	Cu.ft.	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"NPT			86"
CU100_-10	1" NPT	24" X 72"	10	80"
CU100_-20	2" NPT			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 40"H
-  2" in/out (up to 150 gpm)
-  NSF Standard 61 Listed
-  150psi working pressure

Cartridge Tanks

General Specifications	CTF8-HF
Color	Black
Inlet / Outlet (in.)	2" SOC-F
Maximum Flow Rate (gpm)	100 / 150
Dimensions (in.)	8" D x 40" H O/A

Activated Carbon Filter for Taste/Order Removal & Sediment

General Specifications	CT-ACP (Red-High Flow Only)
Micron Rating	5
Treatment Description	Chlorine / Sediment
Max Flow Rate / psi drop	150 / 12
Typical Life 2PPM Chlorine	> 140K Gallons
















Filters for Sediment Removal

General Specifications	CT-P1A (Red-High Flow Only)	CT-P5 (Red-High Flow Only)	CT-P20 (Red-High Flow Only)
Micron Rating	Absolute 1	5	20
Treatment Description	Sediment / Cyst	Sediment	Sediment
Max Flow Rate / psi drop	100 / 9	125 / 9	135 / 8


"LC" Series Light Commercial up to 348 gpd



STANDARD FEATURES

-  NSF Certified Membrane
-  FRP Membrane Housing
-  Aquatec Booster Pump
-  Inlet Solenoid Valve
-  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)	183	238	348
*GPD (60°F, 1000 TDS water)	134	173	254
*GPD (45°F, 1000 TDS water)	88	114	149
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

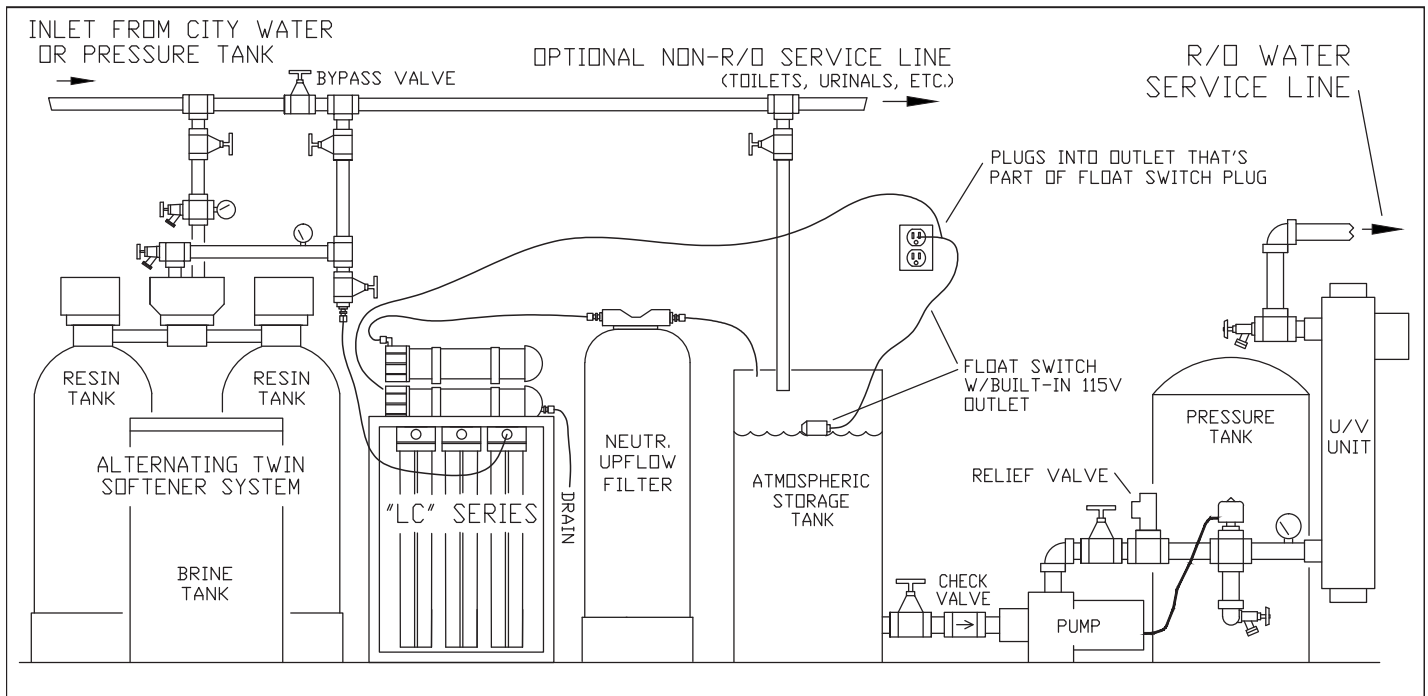
*At 8 hours per day maximum continuous operation, followed by 1-hour downtime (therefore, 22 hours per day maximum possible accumulated run-time).

"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 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	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.

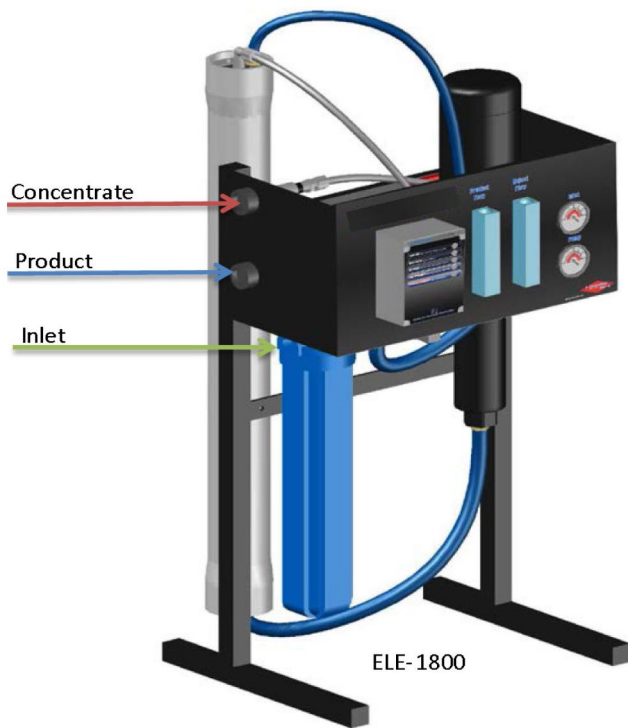
Below drawing shows typical pre-treatment*, re-pressurization* & post-treatment*. It also shows optional use with atmospheric holding tank*, which requires float switch* with built-in 115 outlet. *not included



A1003-1



“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
- Hi TDS alarm settings
- 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
- Auto-Flush
- Removes 95% - 98% of TDS.

Model Number	For 1,000 TDS					Pump HP	Membrane			Pre-Treat Filter Element (qty-1) PN	Connections			Dimensions			Shipping Wt. (lbs).
	GPD Production	Recovery	GPM Flow Rates				size	PN	Qty		Inlet NPT-F	Permeate (Product / Good) - Outlet NPT-M	Concentrate (Waste) - Outlet NPT-M	Width	Depth	Height	
			Feed Supply Inlet	Permeate (Product / Good)	Concentrate (Waste)												
ELE-800	800	60%	0.93	0.55	0.38	1/2	2.5" x 40"	30-0116-XX	1	MB520	1"	1/2"	1/2"	25"	22"	52.5"	125
ELE-1600	1,600	60%	1.9	1.1	0.76	1/2											2
ELE-1800	1,800	60%	2.1	1.3	0.9	1/2	4" x 40"	30-0115-XX	1	1"	1/2"	1/2"	25"	22"	52.5"	130	
ELE-2400	2,400	60%	2.8	1.7	1.1	1										1	135
ELE-4800	4,800	60%	5.6	3.3	2.3	1										2	145

Optional Controller Upgrade 40-0029-XX	Includes: <ul style="list-style-type: none"> • Digital display of product TDS • System Status Alarms • Feed Water Temperature • Runtime Hour meter
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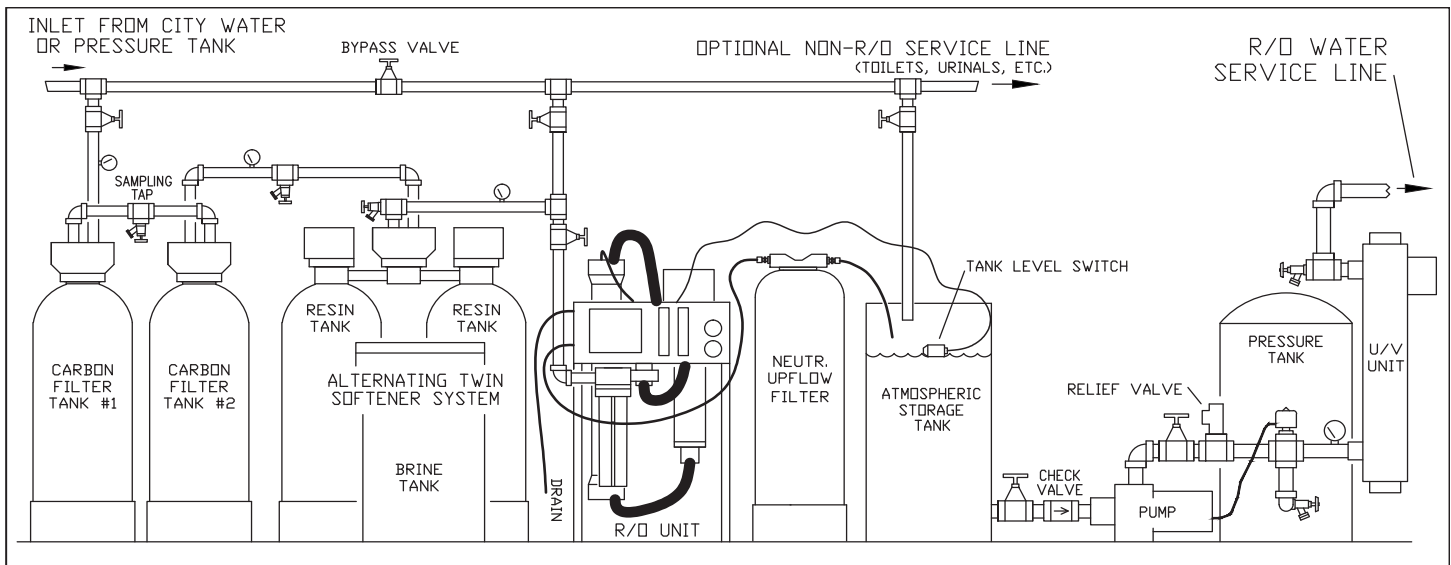
“ELE” Operating Information

The Water Entering this RO Unit Must Be:	
Hardness	Less than 1 gpg
Free Chlorine / Chloramine	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 (95 ° ambient)
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*, re-pressurization* & 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



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
- 🔹 Removes 95% - 98% of TDS.

Model Number	For 1,000 TDS					Pump HP	Membrane			Pre-Treat Filter Element (qty-1) PN	Connections			Dimensions			Shipping Wt. (lbs).							
	GPD Production	Recovery	Feed Supply Inlet	Permeate (Product / Good)	Concentrate (Waste)		size	Qty	PN		Inlet NPT-F	Permeate (Product / Good) - Outlet NPT-M	Concentrate (Waste) - Outlet NPT-M	Width	Depth	Height								
DWM-1800	1,800	60%	2.1	1.3	0.9	1/2	4" x 40"	30-0115-XX	MB520	3/4"	1/2"	1/2"	21.5"	13.5"	48"	150								
DWM-2400	2,400	60%	2.8	1.7	1.1	1										150								
DWM-4800	4,800	70%	4.9	3.4	1.5	1										160								
DFS-1800	1,800	60%	2.1	1.3	0.9	1/2			1	MB520	3/4"	1/2"	1/2"	25"	26"	68"	160							
DFS-2400	2,400	60%	2.8	1.7	1.1	1			160															
DFS-4800	4,800	70%	4.9	3.4	1.5	1			180															
DFS-7200	7,200	75%	6.8	5.1	1.7	2			3								MB520	3/4"	1"	1/2"	25"	26"	68"	210
DFS-9600	9,600	75%	9.0	6.8	2.2	2			4								MB510J	1"	1"	1/2"	25"	32"	72"	230
DFS-12000	12,000	75%	11.1	8.3	2.8	2.5			5								MB510J	1"	1"	1"	25"	32"	72"	255
DFS-14400	14,400	75%	13.3	10	3.3	2.5	6	MB510J	1"	1"	1"	25"	32"	72"	275									
DFS-18000	18,000	75%	16.7	12.5	4.2	3	8	MB520J	1"	1"	1"	36"	32"	72"	375									



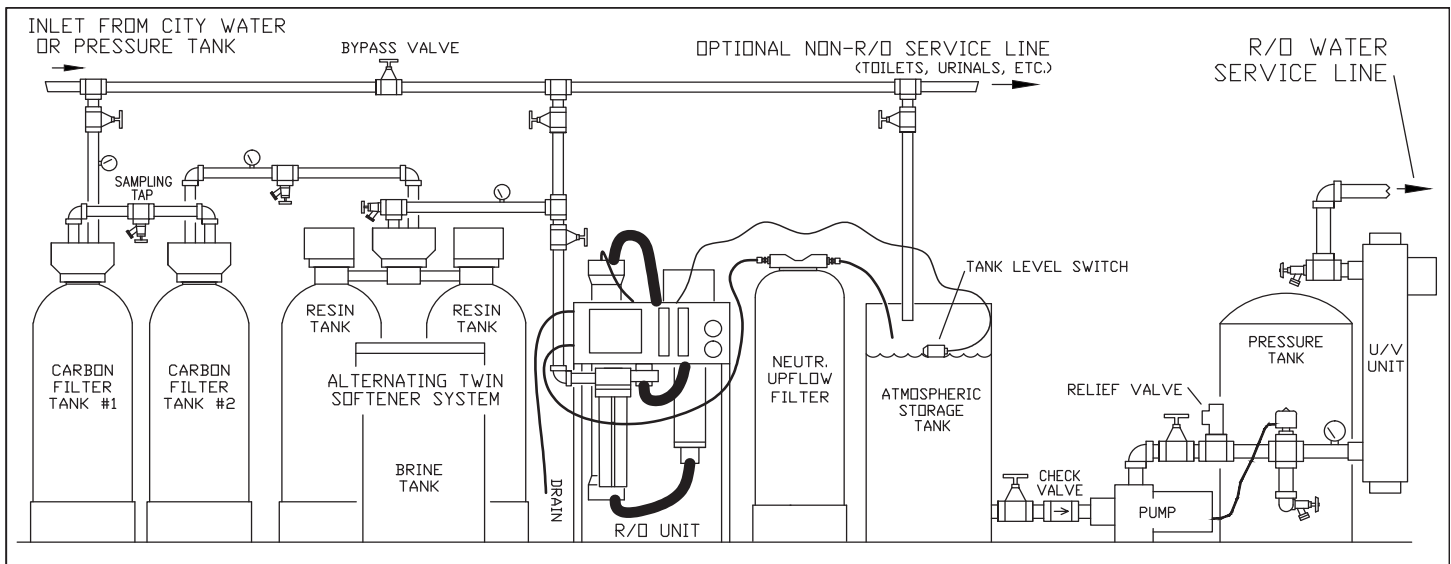
“DFS” & “DWM” Operating Information

The Water Entering this RO Unit Must Be:	
Hardness	Less than 1 gpg
Free Chlorine / Chloramine	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 (95 ° ambient)
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*, re-pressurization* & 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



A1005



Control Valve Common Parts



FLECK Valve	Piston Ass'y		Upper	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. 2750 & 2850: White End Plug, BLACK rear ext. block. 2850s, 2900, 2900s, 3150, 3900: BLACK End Plug. All: Circa 1998 & newer.		Main (Lower on dual-piston units)	Upper	Puller Tool	Stuffer Tool
2500 - 3/4" 2510 - 3/4" 2750 - 1"	60090-HF Standard 4.40" o/a. 60091-HF Hot Water	60101-01 Pist. Ass'y 4.89" o/a 60101-00 Note-2 FILT Conv. Kit 60101-02 Note-2 SOFT 1600 Conv. Kit	-	20251X232 (60121) Standard 60122 Hot Water	-	20251X239 (13061)	20251X238 (11098)
2850 - 1.5" -has 1" NPT-M drain.	60105 (1.375"OD x 4.67" o/a)	60114-01 Pist. Ass'y 5.18" o/a 60114-00 Note-2 FILT Conv. Kit 60114-02 Note-2 SOFT 1600 Conv. Kit 60114-03 Note-2 SOFT 1700 Conv. Kit	-	60129-30 Plast/559PE -Chlorine/Chloramine 60129 Metal/EPDM -Hot Water	-	17623	16516
2850s - 1.5" -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" 2-piece body. 2005 & older.	61550 replaces 60103	61555 replaces 60104. 60104-01 Hot water.	60090-HF (0.98"OD x 4.40" o/a).	60128 -Standard 60128-01 -Hot Water	20251X232 (60121)	20251X239 Upper (13061)	20251X238 Upper (11098)
2900s - 2" -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)
3150 - 2"	60106-00	60113-01	-	60131	-	12682 Lower	12683 Lower
3900 - 3"	60107-00	60107-10	60106-00	60132-10	60131	20251X239 Upper (13061)	20251X238 Upper (11098)
9000 - 1"	-	20908X213 (60401)	20908X212 (60400)	20908X211 (60421)	20561X253 (60125)	12682 Lower	12683 Lower
9500 - 1.5"	-	60109	60108	60133-30	60134-30	12682 Upper See Note-1	12683 Upper See Note-1
All	LT-150 Silicone Grease 150-gram tube					20251X239 (13061)	12763
						17623	16516

Note-1 Tools not req'd for Lower.

Note-2 To convert existing HWBP unit into NHWBP.

CLACK Valve	Control Valve				MAV / NHWBP					
	Piston Ass'y		Seal Stack	Drive Cap Ass'y	Service Tool (to remove Drive/piston)	Puller Tool (Seal Stack)	Piston	Seal Stack MAV NHWBP	Drive Cap Ass'y ¹	
WS1 & T	V3011	V3174 *	V3005-02	V3004	V3193-02 Spanner Wrench	V3022	V3506-01	V3074	V3074	V3042
	V3005-10 Kit (incl's grease)									
WS1.25, 1.5, 1.5-P	V3407	V3174 *	V3430-01	V3004	use 5/32" hex Allen	V3022-15	V3506-01	V3074	V3074	V3042
	V3430-10 Kit (incl's grease)									
WS2	V3725	V3726 **	V3729	V3728	use 5/32" hex Allen	NA	V3634-01	V3077	V3887	V3043
WS2H	V3204-01	V3238-01	V3065	V3066	use 7/32" hex Allen	NA	V3695-01	V3084	V3888	V3085
WS3	V3666-01	**	V3092	V3093						

*Required for Softener Valves ONLY.

**Required for FILTER & Softener Valves.

¹Replace if leaking on drive side.





V3006 In-line 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

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.



