

## Engineering Specification

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# Series CWS-200

## Commercial Water Softening Systems

**Connection Size: 2"****Flow Rates: Up to 119 gpm (450 lpm)**

Watts Series CWS-200 and CWSTA-200 water softening systems are highly efficient cation exchange type water softeners. These pre-engineered systems are suitable for commercial applications ranging from 60,000 to 600,000 grains of hardness removal and flow rates up to 119 gallons per minute. Regeneration is meter demand initiated. Where continuous softened water is required CWSTA-200 duplex alternating systems can be specified for uninterrupted service. Regeneration is meter demand initiated. All cycles of regeneration are fully automatic and do not require manual actuation.

Watts Series CWS-200 and CWSTA-200 water softeners are designed for point of use or point of entry applications where the benefits of softened water are required. These systems exchange scale forming calcium and magnesium ions with non-scale forming sodium ions to create soft water for a variety of applications.

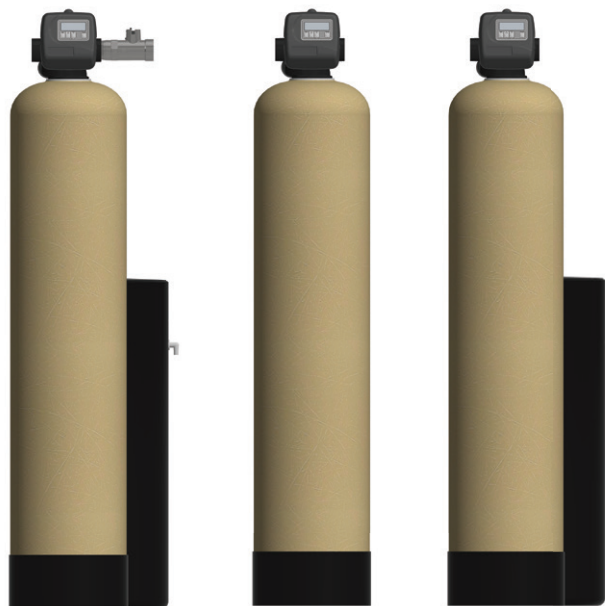
Steam boilers make up water, water heater pretreatment, reverse osmosis pretreatment, cooling tower make up water, sterilizer make up water, washing, and process water are all common applications for the Watts Series CWS-200 and CWSTA-200 water softeners. Watts Series CWS-200 are ideal for commercial and industrial applications where high flow and high capacities are required to accommodate wide variances in flow rates.

Softened water provides a wide variety of benefits from not introducing scale into pipes, valves, water heating equipment, heat exchangers, and cooling towers to reducing mineral build up in areas that see excessive splashing such as food preparation counters and sink areas. Softened water also conserves soaps and cleaning agents by eliminating the formation of soap curd, so your cleaners can work on cleaning not reacting with the hardness in your water.

### Features

Durable brass bodied control valve for years of service

- Fully automatic metered demand control valve certified to NSF/ANSI standards
- Sophisticated digital electronic controls that store operating history that can be accessed by the user
- Fully adjustable regeneration cycles
- High-capacity resin certified to NSF/ANSI standards
- Highly corrosion resistant fiberglass tanks certified to NSF/ANSI standards
- Durable polypropylene lower distribution system



Series CWS-200

Series CWSTA-200

### CWS-200 Features

- Model for capacities up to 600,000 grains per tank
- Each softening vessel comes complete with brine tank and meter
- All systems have stainless steel in-line flow meters

#### ⚠ WARNING

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

#### NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



Standards

- Control Valve- Certified to NSF/ANSI Std. 61 and 372
- Ion Exchange Resin- Certified to NSF/ANSI Std. 61 and 372
- Mineral Tank- Certified to NSF/ANSI Std. 44 or 61

Specification

A Watts Series [CWS-200], [CWSTA-200], Model # [ ] water softening system shall be installed on the building's main water line just after it enters the building. The installation point shall be after any backflow prevention or pressure regulating valves. Other installation options are to install a system just before the water heater or other types of equipment needing the protection of softened water. In installations where dedicated cold water make up to a water heater is the installation point, a backflow preventer and a thermal expansion tank must be installed as well. The system shall be installed with a bypass valve to allow for the shut down and removal of the unit without interrupting the water supply to the building.

The water softener shall be a down flow regenerated, metered demand, sodium cycle cation exchange type system with all components necessary for proper operation.

Electrical requirements are 120-volt 60 hertz. A local drain is required to accept drain water from the system. The feed water pressure must not fall below 25psi or exceed 125psi. Water temperature must not fall below 34°F or exceed 110°F (1°C - 43°C).The system shall provide softened water measuring less than one grain per gallon of hardness as Calcium Carbonate when operated within the manufacturer's operational guidelines.

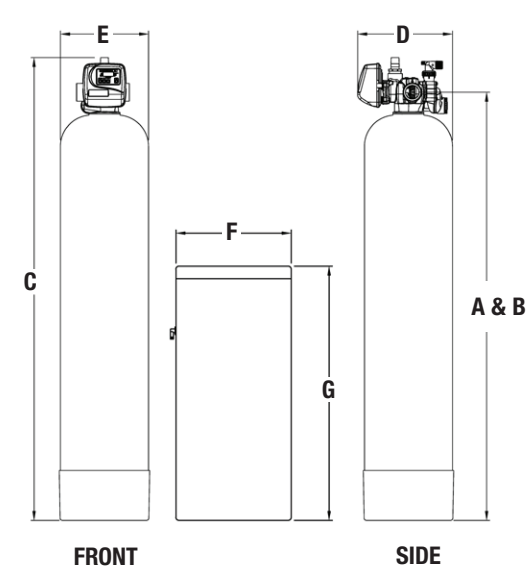
Feed Water Guidelines

pH	6 to 10
Hardness (maximum)	Depends on customer's acceptable hardness leakage level.
Water Pressure	25psi to 125psi (171 kPa to 8.5 bar)
Temperature	34 - 110°F (1 - 43°C)
Free Chlorine (maximum)	1mg/L
Iron (maximum)	1mg/L
Oil and H2S	None Allowed
Turbidity	Less than 5.0 NTU
Total Dissolved Solids	Must be below 750mg/l for the softener to produce less than 1 grain per gallon soft water.

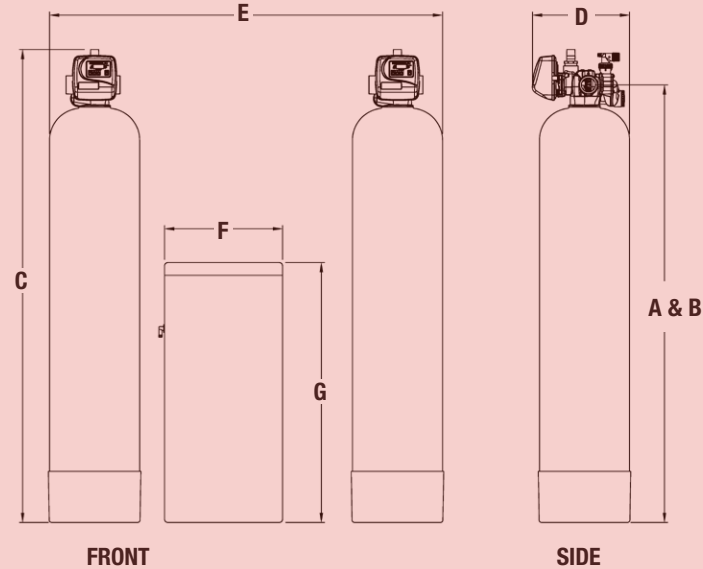
For all other guideline information please contact your Watts representative.

Dimensions - Weights

CWS-200



CWSTA-200



## Series CWS-200

MODEL NO.	DIMENSIONS														WEIGHTS	
	A		B		C		D		E		F		G		lb	kg
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
M4543W	68½	1740	68½	1740	74¼	1886	15	381	17¾	451	18	457	40	1016	265	120
M4547W	68½	1740	68½	1740	74¼	1886	16	406	18½	470	18	457	40	1016	350	159
M4548W	68½	1740	68½	1740	74¼	1886	18	457	20½	521	24	607	41	1041	400	181
M4552W	65½	1664	65½	1664	73	1854	21	533	21¼	540	24	607	41	1041	600	272
M4558W	75½	1918	75½	1918	83	2108	24	610	24¼	616	30	762	50	1270	710	322
M4559W	75½	1918	75½	1918	83	2108	30	762	30¼	768	39	991	48	1219	1160	526
M4560W	75½	1918	75½	1918	83	2108	36	914	36¼	921	39	991	48	1219	1560	707

## Series CWSTA-200

MODEL NO.	DIMENSIONS												WEIGHTS			
	A		B		C		D		E		F		G		lb	kg
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
M4543WTA	68½	1740	68½	1740	74¼	1886	15	381	52	1320	18	457	40	1016	530	240
M4547WTA	68½	1740	68½	1740	74¼	1886	16	406	60	1524	18	457	40	1016	700	318
M4548WTA	68½	1740	68½	1740	74¼	1886	18	457	60	1524	24	607	41	1041	800	362
M4552WTA	65½	1664	65½	1664	73	1854	21	533	70	1778	24	607	41	1041	1200	544
M4558WTA	75½	1918	75½	1918	83	2108	24	610	75	1905	30	762	50	1270	1420	644
M4559WTA	75½	1918	75½	1918	83	2108	30	762	87	2210	39	991	48	1219	2320	1052
M4560WTA	75½	1918	75½	1918	83	2108	36	914	93	2362	39	991	48	1219	2840	1414

## Specifications

MODEL NO.	MINERAL TANK			BRINE TANK		SOFTENING CAPACITY		LBS. SALT PER REGENERATION		FLOW RATE & PRESSURE		
	TANK SIZE	RESIN FT <sup>3</sup>	GRAVEL	TANK SIZE	SALT FILL	MAX	MIN	MAX	MIN	SERV GPM	DROP PSI	BKW GPM
M4543W	14" x 65"	3	60 lbs.	18" x 40"	400	90 K	60 K	45	18	39/50	15/25	5
M4547W	16" x 65"	4	80 lbs.	18" x 40"	400	120 K	80 K	60	24	47/60	15/25	7
M4548W	18" x 65"	5	100 lbs.	24" x 41"	600	150 K	100 K	75	30	53/69	15/25	10
M4552W	21" x 62"	7	100 lbs.	24" x 50"	600	210 K	140 K	105	42	66/85	15/25	13
M4558W	24" x 72"	10	200 lbs.	30" x 50"	1200	300 K	200 K	150	60	73/94	15/25	15
M4559W	30" x 72"	15	400 lbs.	39" x 48"	2200	450 K	300 K	225	90	84/109	15/25	25
M4560W	36" x 72"	20	500 lbs.	39" x 48"	2200	600 K	400 K	300	120	93/119	15/25	35

### NOTICE

Capacities are based on resin manufacturer's data and are dependent upon influent water TDS, temperature, bed depth, and flow rates. Feed water must be free of oil and color. Pipe size, tank size, and space requirements are in inches. Capacities and flow rates expressed above are per tank. Flow rates listed at 25psi drops are for intermittent peak flow rates and are not to be used as continuous flows.

### NOTICE

Flow rates listed above are based on pressure drop only. Selecting a system based on pressure drop alone does not guarantee that the system will provide adequately softened water. System selection should be based on resin quantity, capacity required, feed water analysis, and application requirements.

## Ordering Information for 2" Simplex (CWS-200) and Duplex Alternating (CWSTA-200) Softeners

MODEL NO.	ORDERING CODES	DESCRIPTION	SPACE REQUIRED D X W X H	WEIGHT LBS
M4543W	68105563	3 Cubic Foot 2" Simplex Softener with Flow Meter	24" x 44" x 87"	120
M4547W	68105564	4 Cubic Foot 2" Simplex Softener with Flow Meter	24" x 44" x 87"	160
M4548W	68105565	5 Cubic Foot 2" Simplex Softener with Flow Meter	24" x 48" x 89"	180
M4552W	68105567	7 Cubic Foot 2" Simplex Softener with Flow Meter	24" x 52" x 89"	270
M4558W	68105569	10 Cubic Foot 2" Simplex Softener with Flow Meter	30" x 60" x 96"	320
M4559W	68105571	15 Cubic Foot 2" Simplex Softener with Flow Meter	39" x 75" x 106"	530
M4560W	68105573	20 Cubic Foot 2" Simplex Softener with Flow Meter	39" x 81" x 107"	710
M4543WTA	68109904	3 Cubic Foot 2" Duplex Alternating Softener with Flow Meter	24" x 64" x 87"	240
M4547WTA	68109905	4 Cubic Foot 2" Duplex Alternating Softener with Flow Meter	24" x 64" x 87"	320
M4548WTA	68109906	5 Cubic Foot 2" Duplex Alternating Softener with Flow Meter	24" x 68" x 89"	360
M4552WTA	68109907	7 Cubic Foot 2" Duplex Alternating Softener with Flow Meter	24" x 72" x 89"	510
M4558WTA	68109908	10 Cubic Foot 2" Duplex Alternating Softener with Flow Meter	24" x 80" x 96"	640
M4559WTA	68109909	15 Cubic Foot 2" Duplex Alternating Softener with Flow Meter	39" x 85" x 106"	1060
M4560WTA	68109910	20 Cubic Foot 2" Duplex Alternating Softener with Flow Meter	39" x 101" x 107"	1420



**USA:** T: (800) 659-8400 • Watts.com  
**Canada:** T: (888) 208-8927 • Watts.ca  
**Latin America:** T: (52) 55-4122-0138 • Watts.com