

## Engineering Specification

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

Contractor \_\_\_\_\_

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

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

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

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# Series PWS10

## Commercial Water Softening Systems

**Connection Size: 1"**

**Flow Rates: Up to 25 gpm (94 lpm)**

Watts Pure Water Series PWS10 water softening systems are highly efficient conventional cation exchange type water softeners. They are suitable for commercial applications ranging from 30,000 to 120,000 grains of hardness removal and flow rates up to 25 gallons per minute (94 lpm). Regeneration is meter demand initiated. All cycles of regeneration are fully automatic and do not require manual actuation.

Watts Pure Water Series PWS10 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. Commercial kitchens, water heater pretreatment, reverse osmosis pretreatment, sterilizer make up water, washing, and process water are all common applications for the Watts Pure Water Series PWS10 water softeners.

Softened water provides a wide variety of benefits such as preventing lime scale formation in 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
- Dry contact lock out switch for remote interface is standard
- High capacity resin certified to NSF/ANSI standards
- Highly corrosion resistant fiberglass tanks certified to NSF/ANSI standards
- Durable polypropylene lower distribution system

**WATTS®**  
pure water



Series PWS10

### 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

### Specifications

A Watts Pure Water Series PWS10 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° - 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 specifications.

## Feed Water Guidelines

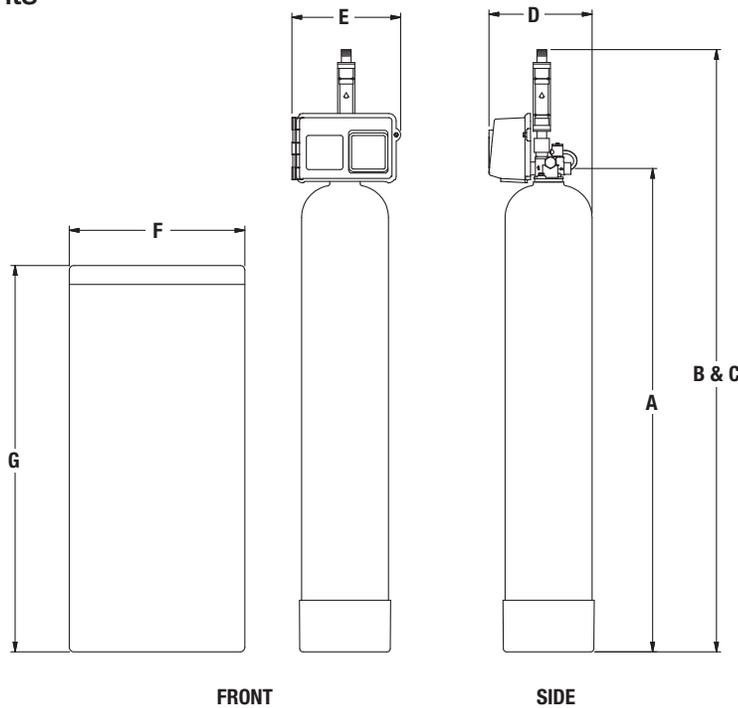
pH	6 to 10
Hardness (maximum)	Depends on customer's acceptable hardness leakage level.
Water Pressure	25psi to 125psi (171 kPa to 8.5 bar)
Temperature	34 - 110°F (1 - 43°C)
Free Chlorine (maximum)	1mg/L
Iron (maximum)	1mg/L
Oil and H2S	None Allowed
Turbidity	Less than 5.0 NTU
Total Dissolved Solids	Must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

## ⚠ WARNING

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

## Dimensions - Weights



MODEL NO.	DIMENSIONS														WEIGHTS	
	A		B		C		D		E		F		G		lbs.	kg
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
PWS10111A11	50 <sup>1</sup> / <sub>8</sub>	1273	64	1625	64	1625	11 <sup>1</sup> / <sub>2</sub>	292	12 <sup>3</sup> / <sub>4</sub>	324	18	457	40	1016	116	53
PWS10111B11	56 <sup>1</sup> / <sub>4</sub>	1429	70 <sup>1</sup> / <sub>8</sub>	1781	70 <sup>1</sup> / <sub>8</sub>	1781	12	305	12 <sup>3</sup> / <sub>4</sub>	324	18	457	40	1016	136	62
PWS10111C11	54 <sup>5</sup> / <sub>8</sub>	1387	68 <sup>7</sup> / <sub>16</sub>	1738	68 <sup>7</sup> / <sub>16</sub>	1738	13	330	12 <sup>3</sup> / <sub>4</sub>	324	18	457	40	1016	196	89
PWS10111D11	67 <sup>3</sup> / <sub>8</sub>	1711	81 <sup>1</sup> / <sub>4</sub>	2064	81 <sup>1</sup> / <sub>4</sub>	2064	14 <sup>1</sup> / <sub>8</sub>	359	14 <sup>1</sup> / <sub>8</sub>	359	18	457	40	1016	240	109
PWS10111E11	66 <sup>3</sup> / <sub>4</sub>	1695	80 <sup>1</sup> / <sub>2</sub>	2045	80 <sup>1</sup> / <sub>2</sub>	2045	16 <sup>1</sup> / <sub>8</sub>	409	16 <sup>1</sup> / <sub>8</sub>	409	18	457	40	1016	320	145

## 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
PWS10111A11	9" x 48"	1.0	10 lbs.	18" x 40"	400	30 K	20 K	15	6	9/15	15/25	2.0
PWS10111B11	10" x 54"	1.5	10 lbs.	18" x 40"	400	45 K	30 K	22.5	9	10/15	15/25	2.4
PWS10111C11	12" x 52"	2.0	30 lbs.	18" x 40"	400	60 K	40 K	30	12	15/20	15/25	3.5
PWS10111D11	14" x 65"	3.0	60 lbs.	18" x 40"	400	90 K	60 K	45	18	18/23	15/25	5.0
PWS10111E11	16" x 65"	4.0	80 lbs.	18" x 40"	400	120 K	80 K	60	24	19/25	15/25	7.0

## Ordering Information

MODEL NO.	ORDERING CODE	DESCRIPTION	PIPE SIZE	SPACE REQUIRED D X W X H	WEIGHT	
					LBS.	KGS
PWS10111A11	7100020	1 Cubic Foot Simplex Softener with Flow Meter	1"	18" x 32" x 64"	116	53
PWS10111B11	7100021	1.5 Cubic Foot Simplex Softener with Flow Meter	1"	18" x 33" x 71"	136	62
PWS10111C11	7100022	2 Cubic Foot Simplex Softener with Flow Meter	1"	18" x 35" x 69"	196	89
PWS10111D11	7100023	3 Cubic Foot Simplex Softener with Flow Meter	1"	18" x 40" x 82"	240	109
PWS10111E11	7100024	4 Cubic Foot Simplex Softener with Flow Meter	1"	18" x 40" x 81"	320	145

**Notes:** 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. Flow rates listed at 25 psi drops are for intermittent peak flow rates and are not to be used as continuous flows.

### 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.

