Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

Series PWSRL, PWSRLTA & PWSL

Locksmith™ Residential Water Softening Systems

Connection Size: 1 & 1.25"
Flow Rates: Up to 25 gpm (94 lpm)

WATTS® pure water



PWSRL & PWSL



PWSRLTA

Watts Pure Water Locksmith™ PWSRL, PWSRLTA & PWSL Series water softening systems are highly efficient cation exchange type water softeners. These pre-engineered systems are suitable for residential applications ranging from 30,000 to 120,000 to grains of hardness removal and flow rates up to 25 gpm (94 lpm). Where continuous softened water is required, PWSRLTA twin alternating can be specified for uninterrupted service. Regeneration is meter demand initiated. All cycles of regeneration are fully automatic and do not require manual actuation.

The Locksmith™ controller is a Watts exclusive, highly functional control board that operates 1" & 1.25" simplex, and twin alternating softeners with the ability to operate external devices for highly configurable systems to suit the needs of a wide variety of application requirements.

Watts Locksmith™ PWSRL, PWSRLTA & PWSL Series water softeners are designed for residential and light commercial use 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 heater pretreatment, reverse osmosis pretreatment, cooling tower make up water, sterilizer make up water, washing, and residential homes are all common applications for the PWSRL, PWSRLTA & PWSL Series water softeners. Series PWSRL, PWSRLTA & PWSL are ideal for light commercial applications such as Steam boilers make up water heater pretreatment, reverse osmosis pretreatment, sterilizer make up water and washing.

Softened water provides a wide variety of benefits from not introducing scale to internal plumbing systems, valves, water heating equipment and heat exchangers 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.

⚠ 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.

WATTS®

Features and Benefits

- Locksmith™ Controller offering Improved functionality of a basic softener
- Fully automatic metered demand control valve
- Sophisticated digital electronic controls that store operating history that can be accessed by the user
- Fully adjustable regeneration cycles
- High-capacity A4000 Resin is certified by WQA to NSF/ANSI/CAN 61 and to NSF/ANSI/CAN 372 for lead free compliance.
- Highly corrosion resistant fiberglass tanks
- Durable polypropylene lower distribution system

PWSRL, PWSRTAL & PWSL Features

- Complete Whole House water treatment system
- State-of-the-art computer programming to increase efficiency, save salt and water.
- Model for capacities up to 120,000 grains per tank
- Full flow bypass valve included

Operating Parameters

pH .....6 to 10

Hardness (maximum) .....Depends on customer's acceptable hardness leakage level

Water Pressure* .....25psi to 125psi

.....(171 kPa to 8.6 bar)

Temperature .....40 - 110°F (4 - 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

Operating Ambient Temperature .....34° to 120°F (1° to 52°C)

Maximum Humidity 75%

Power Supply Input Voltage.....100-120 VAC

Power Supply Input Frequency .....50/60 Hz

Power Supply Output Voltage.....15 VDC

Power Supply Output Current.....500 mA (per control valve)

Maximum Altitude .....6562 feet above sea level

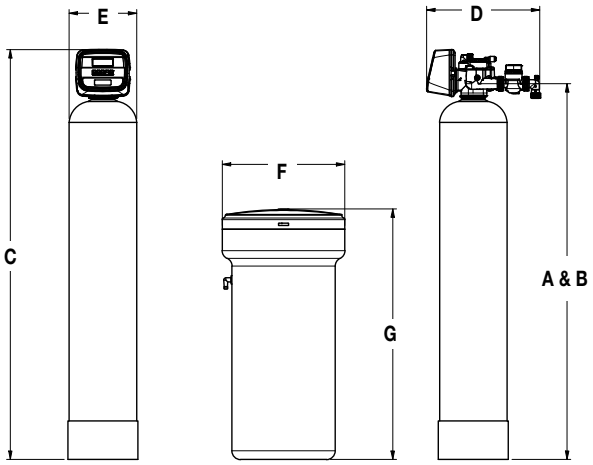
Water known to have heavy loads of dirt and debris may require pre-filtration prior to the water softening system.

For all other guideline information please contact your Watts representative.

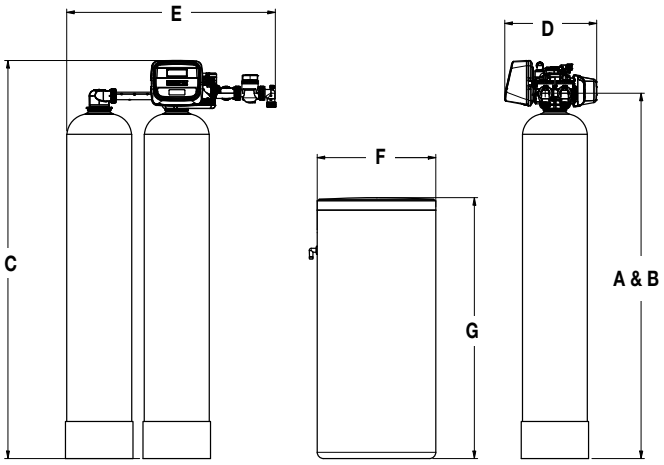
*It is established that when daytime water pressure exceeds 80psi (5.5 bar), the maximum pressure rating of 125psi (8.6bar) can be exceeded. A pressure regulator is required on this system or warranty is voided.

Dimensions

PWSRL & PWSL



PWSRLTA



Dimensions & Weights

Series PWSRL

Call customer service if you need assistance with technical details.

MODEL NO.	DIMENSIONS														WEIGHTS	
	A		B		C		D		E		F		G			
	in.	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*
PWSRL130	50 1/2	1283	50 1/2	1283	55 1/2	1410	16 3/4	425	9 1/2	241	18 1/2	470	37 1/2	953	110	50
PWSRL145	56 1/2	1435	56 1/2	1435	61 1/2	1562	16 3/4	425	10 1/2	267	18 1/2	470	37 1/2	953	130	59
PWSRL160	55	1397	55	1397	60	1524	16 3/4	425	12 1/2	318	18 1/2	470	37 1/2	953	190	86
PWSRL190	67	1702	67	1702	72 1/4	1835	16 3/4	425	14 1/2	368	18 1/2	470	40 1/2	1016	265	120

Series PWSRLTA

MODEL NO.	DIMENSIONS														WEIGHTS	
	A		B		C		D		E		F		G			
	in.	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*
PWSRLTA130	50 3/4	1289	50 3/4	1289	56	1422	13 3/4	349	32	813	18 1/2	470	40 3/4	1035	230	104
PWSRLTA145	57	1448	57	1448	62	1575	13 3/4	349	32 1/2	826	18 1/2	470	40 3/4	1035	290	132
PWSRLTA160	55 1/2	1410	55 1/2	1410	60 1/2	1537	13 3/4	349	37 1/2	953	18 1/2	470	40 3/4	1035	420	191

Series PWSL

MODEL NO.	DIMENSIONS														WEIGHTS	
	A		B		C		D		E		F		G			
	in.	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*
PWS1251L1A11	50 1/2	1283	50 1/2	1283	55 1/2	1410	16 3/4	425	9 1/2	241	18 1/2	470	40 3/4	1035	116	53
PWS1251L1B11	56 1/4	1429	56 1/4	1429	61 1/2	1562	16 3/4	425	10 1/2	267	18 1/2	470	40 3/4	1035	136	62
PWS1251L1C11	55	1397	55	1397	60	1524	16 3/4	425	12 1/2	318	18 1/2	470	40 3/4	1035	196	89
PWS1251L1D11	67 3/4	1721	67 3/4	1721	72 3/4	1848	17	432	14 1/2	368	18 1/2	470	40 3/4	1035	240	109
PWS1251L1E11	68 1/4	1734	68 1/4	1734	73 1/2	1867	18	457	16 3/4	425	18 1/2	470	40 3/4	1035	320	145

Specifications

MODEL NO.	ORDERING CODE	CAPACITY (MAX.)	PIPE SIZE (IN.)	MINERAL TANK		BRINE TANK		FLOW RATE & PRESSURE			SHIP WT. (LBS.)
				TANK SIZE	RESIN FT3	TANK SIZE	SALT FILL (LBS.)	SERVICE (GPM)	DROP (PSI)	BKW (GPM)	
PWSRL Systems											
PWSRL130	7101314	30,000	1	9x48	1	18x36	350	9-12	15-25	2.2	110
PWSRL145	7101315	45,000	1	10x54	1.5	18x36	350	12-16	15-25	2.7	130
PWSRL160	7101316	60,000	1	12x52	2	18x36	350	15-20	15-25	2.7	190
PWSRL190	7101317	90,000	1	13x65	3	18x36	350	18-23	15-25	4.2	265
PWSRLTA Systems											
PWSRLTA130	7101330	30,000	1	9x48	1	18x40	400	13-19	15-25	2.2	230
PWSRLTA145	7101331	45,000	1	10x54	1.5	18x40	400	14-21	15-25	2.7	290
PWSRLTA160	7101332	60,000	1	12x52	2	18x40	400	15-21	15-25	2.7	420
PWSL Systems											
PWS1251L1A11	7101333	30,000	1.25 / 1.5	9x48	1	18x40	400	9-15	15-25	2.2	116
PWS1251L1B11	7101334	45,000	1.25 / 1.5	10x54	1.5	18x40	400	10-15	15-25	2.7	136
PWS1251L1C11	7101335	60,000	1.25 / 1.5	12x52	2	18x40	400	15-20	15-25	4.2	196
PWS1251L1D11	7101336	90,000	1.25 / 1.5	14x65	3	18x40	400	18-23	15-25	5.3	240
PWS1251L1E11	7101337	120,000	1.25 / 1.5	16x65	4	18x40	400	19-25	15-25	7.5	320

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 volume, capacity required, feed water analysis, and application requirements.

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 25 psi drops are for intermittent peak flow rates and are not to be used as continuous flows.

Ordering Information for 1" Simplex (PWSRL) Softeners

MODEL NO.	ORDERING CODES	DESCRIPTION	SPACE REQUIRED D X W X H	SHIPPING WEIGHT LBS
PWSRL130	7101314	1 Cubic Foot 1" Simplex Softener with Flow Meter	19" X 34" X 56"	110
PWSRL145	7101315	1.5 Cubic Foot 1" Simplex Softener with Flow Meter	19" X 35" X 62"	130
PWSRL160	7101316	2 Cubic Foot 1" Simplex Softener with Flow Meter	19" X 37" X 60"	190
PWSRL190	7101317	3 Cubic Foot 1" Simplex Softener with Flow Meter	19" X 38" X 72"	265

Ordering Information for 1" Twin Alternating (PWSRLTA) Softeners

MODEL NO.	ORDERING CODES	DESCRIPTION	SPACE REQUIRED D X W X H	SHIPPING WEIGHT LBS
PWSRLTA130	7101330	1 Cubic Foot 1" Twin Alternating Softener with Flow Meter	19" X 57" X 56"	230
PWSRLTA145	7101331	1.5 Cubic Foot 1" Twin Alternating Softener with Flow Meter	19" X 57" X 62"	290
PWSRLTA160	7101332	2 Cubic Foot 1" Twin Alternating Softener with Flow Meter	19" X 62" X 61"	420

Ordering Information for 1.25" Simplex (PWSL) Softeners

MODEL NO.	ORDERING CODES	DESCRIPTION	SPACE REQUIRED D X W X H	SHIPPING WEIGHT LBS
PWS1251L1A11	7101333	1 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 34" X 56"	116
PWS1251L1B11	7101334	1.5 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 35" X 62"	136
PWS1251L1C11	7101335	2 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 37" X 60"	196
PWS1251L1D11	7101336	3 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 39" X 73"	240
PWS1251L1E11	7101337	4 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 41" X 74"	320

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