

Engineering Specification

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Series PWS30, PWS30-2, PWS30-P

Commercial Water Softening Systems

Connection Size: 3"

Flow Rates: Up to 1120 gpm (4239 lpm)

Watts Pure Water Series PWS30, PWS30-2, PWS30-P water softening systems are highly efficient conventional cation exchange type water softeners. These pre-engineered systems are suitable for commercial applications ranging from 300,000 to 1,050,000 grains of hardness removal per tank and flow rates up to 1120 gpm (4239 lpm). Where continuous softened water is required PWS30-2 duplex alternating and PWS30-P 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 Pure Water Series PWS30, PWS30-2, PWS30-P 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 boiler 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 Pure Water Series PWS30, PWS30-2 and PWS30-P water softeners. Watts Pure Water Series PWS30-P 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 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 PWS30



Series PWS30-2



Series PWS30-P

PWS30-P Features

- Easily select duplex, triplex or quadplex systems with flow demand staging
- Model for capacities up to 1,050,000 grains per tank
- Pre-engineered systems with up to 4 tanks in parallel for flow rates up to 1120 GPM
- Arrange up to 8 tanks in parallel for higher flow and capacity custom configurations*
- All systems have no hard water bypass pistons
- Each softening vessel is complete with brine tank and meter
- All systems have stainless steel in-line flow meters

*Must contact your Watts representative for proper equipment selection of system sizes exceeding 4 mineral tanks.

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.

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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 PWS30, PWS30-2, PWS30-P 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 specifications.

Feed Water Guidelines

| | |
|-------------------------|--|
| pH | 6 to 10 |
| Hardness (maximum) | Depends on customer's acceptable hardness leakage level |
| Water Pressure | 25psi to 125psi (171kPa 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. |

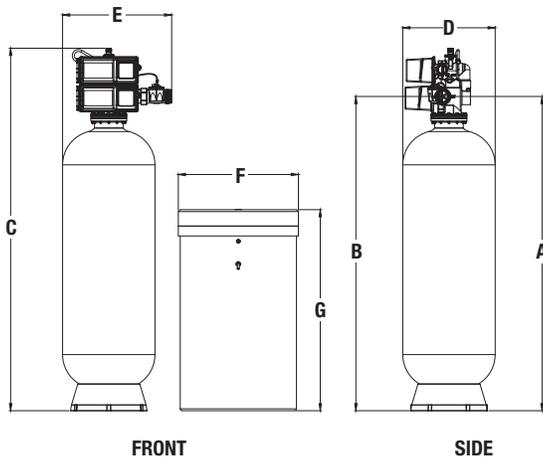
For all other guideline information please contact your Watts representative.

⚠ CAUTION

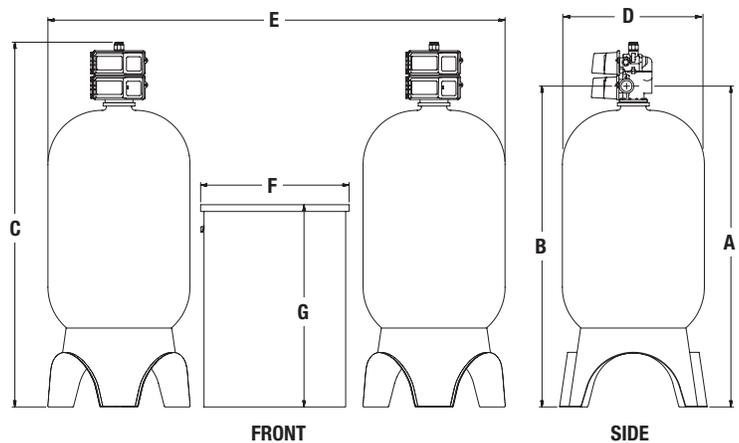
Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

Dimensions - Weights

PWS30 & PWS30-P



PWS30-2



NOTICE

Dimensional data is for a single mineral tank system ONLY. PWS30-P models are composed of multiple PWS30 systems See Space Required in table below.

Series PWS30 & PWS30-P

| MODEL NO. | DIMENSIONS | | | | | | | | | | | | | | WEIGHT lbs. |
|-------------|---------------------------------|------|---------------------------------|------|---------------------------------|------|--------------------------------|------|--------------------------------|------|-----|------|-----|------|----------------|
| | A | | B | | C | | D | | E | | F | | G | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | |
| PWS30151H11 | 79 ⁷ / ₁₆ | 2017 | 79 ⁷ / ₁₆ | 2017 | 95 ¹ / ₄ | 2419 | 24 ¹ / ₂ | 622 | 28 ⁵ / ₈ | 733 | 30 | 762 | 50 | 1270 | 1070 |
| PWS30151I11 | 81 ⁷ / ₁₆ | 2068 | 81 ⁷ / ₁₆ | 2068 | 96 ³ / ₄ | 2457 | 30 ¹ / ₈ | 765 | 31 ³ / ₈ | 797 | 39 | 991 | 48 | 1219 | 1600 |
| PWS30151J11 | 87 ¹ / ₄ | 2216 | 87 ¹ / ₄ | 2216 | 101 | 2565 | 36 ¹ / ₈ | 917 | 36 ¹ / ₈ | 917 | 39 | 991 | 60 | 1524 | 2015 |
| PWS30151K11 | 95 ¹ / ₄ | 2419 | 95 ¹ / ₄ | 2419 | 108 | 2743 | 44 | 1118 | 44 | 1118 | 42 | 1067 | 60 | 1524 | 3245 |
| PWS30151L11 | 99 ⁵ / ₈ | 2530 | 99 ⁵ / ₈ | 2530 | 112 ³ / ₈ | 2854 | 50 ³ / ₈ | 1280 | 50 ³ / ₈ | 1280 | 50 | 1270 | 60 | 1524 | 4295 |

Series PWS30-2

| MODEL NO. | DIMENSIONS | | | | | | | | | | | | | | WEIGHT lbs. |
|-------------|---------------------------------|------|---------------------------------|------|---------------------------------|------|--------------------------------|------|-----|------|-----|------|-----|------|----------------|
| | A | | B | | C | | D | | E | | F | | G | | |
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | |
| PWS30151H21 | 79 ⁷ / ₁₆ | 2017 | 79 ⁷ / ₁₆ | 2017 | 95 ¹ / ₄ | 2419 | 24 ¹ / ₂ | 622 | 85 | 2159 | 30 | 762 | 50 | 1270 | 2070 |
| PWS30151I21 | 81 ⁷ / ₁₆ | 2068 | 81 ⁷ / ₁₆ | 2068 | 96 ³ / ₄ | 2457 | 30 ¹ / ₈ | 765 | 100 | 2540 | 39 | 991 | 48 | 1219 | 3000 |
| PWS30151J21 | 87 ¹ / ₄ | 2216 | 87 ¹ / ₄ | 2216 | 101 | 2565 | 36 ¹ / ₈ | 917 | 111 | 2819 | 39 | 991 | 60 | 1524 | 4015 |
| PWS30151K21 | 95 ¹ / ₄ | 2419 | 95 ¹ / ₄ | 2419 | 108 | 2743 | 44 | 1118 | 126 | 3200 | 42 | 1067 | 60 | 1524 | 6245 |
| PWS30151L21 | 99 ⁵ / ₈ | 2530 | 99 ⁵ / ₈ | 2530 | 112 ³ / ₈ | 2854 | 50 ³ / ₈ | 1280 | 150 | 3810 | 50 | 1270 | 60 | 1524 | 8295 |

NOTICE

Service gpm is for a single mineral tank system ONLY. For PWS30-P Series systems, you will need to multiply the Service gpm by (x2) for Duplex, (x3) for Triplex and (x4) for Quadplex systems.

Specifications

| MODEL NO. | MINERAL TANK | | | BRINE TANK | | SOFTENING CAPACITY | | LBS. SALT PER REGENERATION | | FLOW RATE & PRESSURE | | |
|-------------|--------------|-----------------------|----------|------------|-----------|--------------------|-------|----------------------------|-----|----------------------|----------|---------|
| | TANK SIZE | RESIN Ft ³ | GRAVEL | TANK SIZE | SALT FILL | MAX | MIN | MAX | MIN | SERV GPM | DROP PSI | BKW GPM |
| PWS30151H11 | 24" x 72" | 10 | 200 lbs. | 30" x 50" | 1400 | 300 K | 200 K | 150 | 60 | 120/170 | 15/25 | 15 |
| PWS30151I11 | 30" x 72" | 15 | 400 lbs. | 39" x 48" | 2200 | 450 K | 300 K | 225 | 90 | 158/212 | 15/25 | 25 |
| PWS30151J11 | 36" x 72" | 20 | 500 lbs. | 39" x 60" | 2700 | 600 K | 400 K | 300 | 120 | 185/250 | 15/25 | 35 |
| PWS30151K11 | 42" x 72" | 30 | 700 lbs. | 42" x 60" | 3100 | 900 K | 600 K | 450 | 180 | 200/268 | 15/25 | 45 |
| PWS30151L11 | 48" x 72" | 35 | 900 lbs. | 50" x 60" | 4500 | 1050K | 700 K | 525 | 210 | 213/280 | 15/25 | 60 |

Ordering Information

| MODEL NO. | ORDERING CODE | DESCRIPTION | SPACE REQUIRED DXWXH | WEIGHT LBS. |
|-------------|---------------|--|----------------------|-------------|
| PWS30151H11 | 7100045 | 10 Cubic Foot 3" Simplex Softener with Flow Meter | 39" x 74" x 103" | 1070 |
| PWS30151I11 | 7100046 | 15 Cubic Foot 3" Simplex Softener with Flow Meter | 39" x 77" x 107" | 1600 |
| PWS30151J11 | 7100047 | 20 Cubic Foot 3" Simplex Softener with Flow Meter | 39" x 81" x 109" | 2015 |
| PWS30151K11 | 7100048 | 30 Cubic Foot 3" Simplex Softener with Flow Meter | 42" x 90" x 117" | 3245 |
| PWS30151L11 | 7100049 | 35 Cubic Foot 3" Simplex Softener with Flow Meter | 50" x 104" x 117" | 4295 |
| PWS30151H21 | 7100050 | 10 Cubic Foot 3" Duplex Alternating Softener with Flow Meter | 39" x 100" x 103" | 2070 |
| PWS30151I21 | 7100051 | 15 Cubic Foot 3" Duplex Alternating Softener with Flow Meter | 39" x 117" x 107" | 3000 |
| PWS30151J21 | 7100052 | 20 Cubic Foot 3" Duplex Alternating Softener with Flow Meter | 39" x 129" x 109" | 4015 |
| PWS30151K21 | 7100053 | 30 Cubic Foot 3" Duplex Alternating Softener with Flow Meter | 42" x 144" x 117" | 6245 |
| PWS30151L21 | 7100054 | 35 Cubic Foot 3" Duplex Alternating Softener with Flow Meter | 50" x 164" x 117" | 8295 |

Ordering Information for 3" Duplex Progressive Softeners

| MODEL NO. | ORDERING CODE | DESCRIPTION | SPACE REQUIRED D X W X H | WEIGHT LBS |
|-------------|---------------|---|-----------------------------|---------------|
| PWS30151H22 | 7100651 | 10 Cubic Foot 3" Progressive Duplex Softener with Flow Meters | 59" x 82" x 106" | 2140 |
| PWS30151I22 | 7100652 | 15 Cubic Foot 3" Progressive Duplex Softener with Flow Meters | 74" x 92" x 107" | 3200 |
| PWS30151J22 | 7100653 | 20 Cubic Foot 3" Progressive Duplex Softener with Flow Meters | 80" x 98" x 111" | 4030 |
| PWS30151K22 | 7100654 | 30 Cubic Foot 3" Progressive Duplex Softener with Flow Meters | 90" x 100" x 118" | 6490 |
| PWS30151L22 | 7100655 | 35 Cubic Foot 3" Progressive Duplex Softener with Flow Meters | 106" x 114" x 123" | 8590 |

Ordering Information for 3" Triplex Progressive Softeners

| MODEL NO. | ORDERING CODE | DESCRIPTION | SPACE REQUIRED D X W X H | WEIGHT LBS |
|-------------|---------------|--|-----------------------------|---------------|
| PWS30151H33 | 7100656 | 10 Cubic Foot 3" Progressive Triplex Softener with Flow Meters | 59" x 131" x 106" | 3210 |
| PWS30151I33 | 7100657 | 15 Cubic Foot 3" Progressive Triplex Softener with Flow Meters | 74" x 137" x 107" | 4800 |
| PWS30151J33 | 7100658 | 20 Cubic Foot 3" Progressive Triplex Softener with Flow Meters | 80" x 147" x 111" | 6045 |
| PWS30151K33 | 7100659 | 30 Cubic Foot 3" Progressive Triplex Softener with Flow Meters | 90" x 150" x 118" | 9735 |
| PWS30151L33 | 7100660 | 35 Cubic Foot 3" Progressive Triplex Softener with Flow Meters | 106" x 171" x 123" | 12885 |

Ordering Information for 3" Quadplex Progressive Softeners

| MODEL NO. | ORDERING CODE | DESCRIPTION | SPACE REQUIRED D X W X H | WEIGHT LBS |
|-------------|---------------|---|-----------------------------|---------------|
| PWS30151H44 | 7100757 | 10 Cubic Foot 3" Progressive Quadplex Softener with Flow Meters | 59" x 175" x 106" | 4280 |
| PWS30151I44 | 7100758 | 15 Cubic Foot 3" Progressive Quadplex Softener with Flow Meters | 74" x 180" x 107" | 6400 |
| PWS30151J44 | 7100759 | 20 Cubic Foot 3" Progressive Quadplex Softener with Flow Meters | 80" x 190" x 111" | 8060 |
| PWS30151K44 | 7100760 | 30 Cubic Foot 3" Progressive Quadplex Softener with Flow Meters | 90" x 200" x 118" | 12980 |
| PWS30151L44 | 7100761 | 35 Cubic Foot 3" Progressive Quadplex Softener with Flow Meters | 106" x 228" x 123" | 17180 |

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. 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

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.



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