

Engineering Specification

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Series CLS-100 & CLS-125

Locksmith™ Residential Water Softening Systems

Connection Size: 1 & 1.25"

Flow Rates: Up to 25 gpm (94 lpm)

Watts Locksmith™ CLS 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, CLSTA-100 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™ CLS Series 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 heater pretreatment, reverse osmosis pretreatment, cooling tower make up water, sterilizer make up water, washing, and residential homes are all common applications for the Watts CLS Series water softeners. Watts CLS Series are ideal for residential applications for the flow rates and capacities necessary for appliances in the home.

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.



Series CLS-100 & CLS-125



CLSTA-100

⚠ 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.

Features

- 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
- Locksmith™ Controller offering Improved functionality of a basic softener

CLS-100 & CLS-125 Features

- Model for capacities up to 120,000 grains per tank
- Each softening vessel comes complete with brine tank and meter
- All systems have no hard water bypass valve
- Modbus Capable

Specification

A Watts Locksmith™ Series CLS-100, CLSTA-100, CLS-125 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-bolt 60 hertz. A local drain is required to accept drain water from the system. The feed water pressure must not fall below 25 psi or exceed 125 psi. 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.

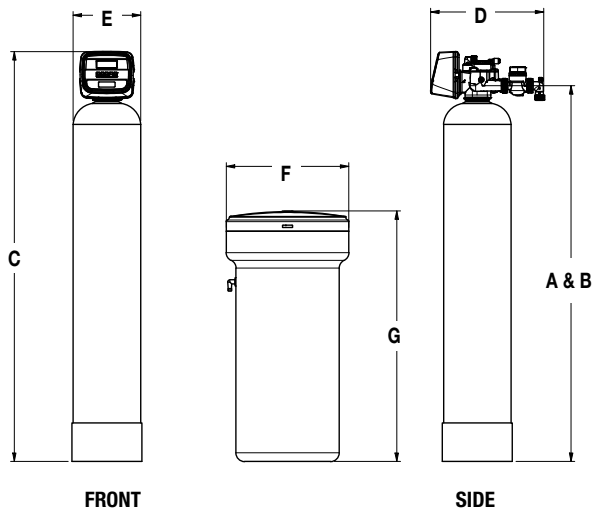
Feed Water Guidelines

pH	6 to 10
Hardness (maximum)	Depends on customers acceptable hardness leakage level.
Water Pressure	25 psi to 125 psi (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 Solid	Must be below 750 mg/l for the softener to produce less than 1 grain per gallon soft water.

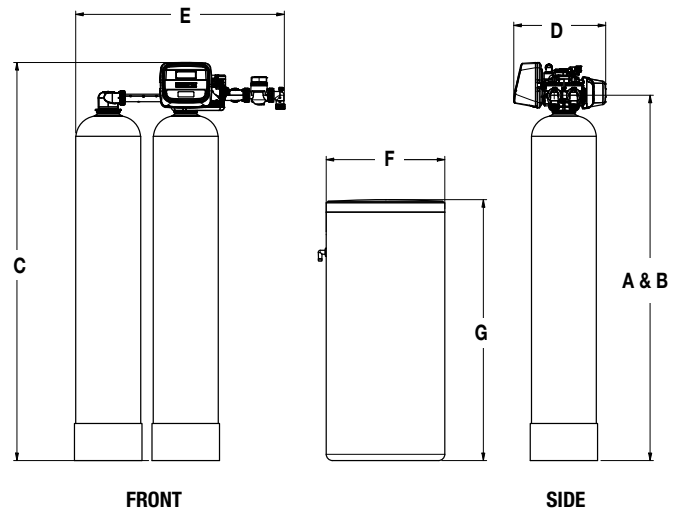
For all other guideline information please contact your Watts representative.

Dimensions

CLS-100 & CLS-125



CLSTA-100



Dimensions & Weights

Series CLS-100

Call customer service if you need assistance with technical details.

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		
M3011-L10SM	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
M3013-L10SM	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
M3015-L10SM	55	1397	55	1397	60	1524	16 3/4	425	12 1/2	318	18 1/2	470	37 1/2	953	190	86
M3017-L10SM	67	1702	67	1702	72 1/4	1835	16 3/4	425	13 1/2	343	18 1/2	470	37 1/2	953	230	104

Series CLSTA-100

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		
M2058-L10T	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
M2059-L10T	57	1448	57	1448	62	1575	13 3/4	349	32 1/2	826	18 1/2	470	40 3/4	1035	290	132
M2060-L10T	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
M2063-L10T	56 1/4	1429	56 1/4	1429	61 1/4	1556	13 3/4	349	40 1/4	1022	18 1/2	470	40 3/4	1035	460	209
M2066-L10T	68 1/4	1734	68 1/4	1734	73 1/4	1861	14 1/2	368	43	1092	18 1/2	470	40 3/4	1035	500	227
M2069-L10T	68 3/4	1746	68 3/4	1746	73 3/4	1873	16 3/4	425	46	1168	18 1/2	470	40 3/4	1035	650	295
M2070-L10T	71	1803	71	1803	76	1930	19 1/4	489	49 1/4	1251	25 1/2	648	44	1118	890	404
M2072-L10T	70 1/4	1784	70 1/4	1784	75 1/4	1911	22 1/4	565	53 3/4	1365	25 1/2	648	52 1/2	1334	1160	526

Series CLS-125

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		
M4032B-L125	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
M4036B-L125	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
M4040B-L125	55	1397	55	1397	60	1524	16 3/4	425	12 1/2	318	18 1/2	470	40 3/4	1035	196	89
M4042B-L125	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
M4046B-L125	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)	
CLS-100 Systems											
M3011-L10SM	68112309	30,000	1	9x48	1	18x36	350	9-12	15-25	2.2	110
M3013-L10SM	68112310	45,000	1	10x54	1.5	18x36	350	12-16	15-25	2.7	130
M3015-L10SM	68112311	60,000	1	12x52	2	18x36	350	15-20	15-25	2.7	190
M3017-L10SM	68112312	90,000	1	13x65	3	18x36	350	18-23	15-25	4.2	240
CLSTA-100 Systems											
M2058-L10T	68112333	30,000	1	9x48	1	18x40	400	13-19	15-25	2.2	230
M2059-L10T	68112334	45,000	1	10x54	1.5	18x40	400	14-21	15-25	2.7	290
M2060-L10T	68112335	60,000	1	12x52	2	18x40	400	15-21	15-25	2.7	420
M2063-L10T	68112336	75,000	1	13x54	2.5	18x40	400	15-21	15-25	4.2	460
M2066-L10T	68112337	90,000	1	14x65	3	18x40	400	17-22	15-25	5.3	500
M2069-L10T	68112338	120,000	1	16x65	4	18x40	400	17-24	15-25	7.5	650
M2070-L10T	68112339	150,000	1	18x65	5	24x41	600	18-25	15-25	9	890
M2072-L10T	68112340	210,000	1	21x62	7	24x50	800	20-27	15-25	11	1160
CLS-125 Systems											
M4032B-L125	68112341	30,000	1.25 / 1.5	9x48	1	18x40	400	9-15	15-25	2.2	116
M4036B-L125	68112342	45,000	1.25 / 1.5	10x54	1.5	18x40	400	10-15	15-25	2.7	136
M4040B-L125	68112343	60,000	1.25 / 1.5	12x52	2	18x40	400	15-20	15-25	4.2	196
M4042B-L125	68112344	90,000	1.25 / 1.5	14x65	3	18x40	400	18-23	15-25	5.3	240
M4046B-L125	68112345	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 quantity, 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 (CLS-100) Softeners

MODEL NO.	ORDERING CODES	DESCRIPTION	SPACE REQUIRED D X W X H	SHIPPING WEIGHT LBS
M3011-L10SM	68112309	1 Cubic Foot 1" Simplex Softener with Flow Meter	19" X 34" X 56"	110
M3013-L10SM	68112310	1.5 Cubic Foot 1" Simplex Softener with Flow Meter	19" X 35" X 62"	130
M3015-L10SM	68112311	2 Cubic Foot 1" Simplex Softener with Flow Meter	19" X 37" X 60"	190
M3017-L10SM	68112312	3 Cubic Foot 1" Simplex Softener with Flow Meter	19" X 38" X 72"	230

Ordering Information for 1" Twin Alternating (CLSTA-100) Softeners

MODEL NO.	ORDERING CODES	DESCRIPTION	SPACE REQUIRED D X W X H	SHIPPING WEIGHT LBS
M2058-L10T	68112333	1 Cubic Foot 1" Twin Alternating Softener with Flow Meter	19" X 57" X 56"	230
M2059-L10T	68112334	1.5 Cubic Foot 1" Twin Alternating Softener with Flow Meter	19" X 57" X 62"	290
M2060-L10T	68112335	2 Cubic Foot 1" Twin Alternating Softener with Flow Meter	19" X 62" X 61"	420
M2063-L10T	68112336	2.5 Cubic Foot 1" Twin Alternating Softener with Flow Meter	19" X 65" X 61"	460
M2066-L10T	68112337	3 Cubic Foot 1" Twin Alternating Softener with Flow Meter	19" X 68" X 73"	500
M2069-L10T	68112338	4 Cubic Foot 1" Twin Alternating Softener with Flow Meter	19" X 71" X 74"	650
M2070-L10T	68112339	5 Cubic Foot 1" Twin Alternating Softener with Flow Meter	26" X 81" X 76"	890
M2072-L10T	68112340	7 Cubic Foot 1" Twin Alternating Softener with Flow Meter	26" X 85" X 75"	1160

Ordering Information for 1.25" Simplex (CLS-125) Softeners

MODEL NO.	ORDERING CODES	DESCRIPTION	SPACE REQUIRED D X W X H	SHIPPING WEIGHT LBS
M4032B-L125	68112341	1 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 34" X 56"	116
M4036B-L125	68112342	1.5 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 35" X 62"	136
M4040B-L125	68112343	2 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 37" X 60"	196
M4042B-L125	68112344	3 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 39" X 73"	240
M4046B-L125	68112345	4 Cubic Foot 1 1/4" Simplex Softener with Flow Meter	19" X 41" X 74"	320



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