



1. Product Name

Superior® Water Conditioning Systems

- Superior Water Conditioner®
- Environmentalist® System
- Environmentalist/Zero Bleed® System

2. Manufacturer

Superior Manufacturing Division

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3. Product Description

The Superior Water Conditioner® is a patented water treatment system that controls the formation of scale and corrosion without hazardous and costly chemicals. Using permanent magnets with alternating and reversing polarity field orientation along the length of the bar, the Superior Water Conditioner prevents the formation of lime scale deposits in pipes and water-using equipment, reducing downtime and yielding substantial energy and maintenance savings.

Without treatment, hard water minerals build up on the heat transfer surfaces of equipment, acting as an insulator, increasing energy consumption and maintenance costs and leading to premature equipment failure. This buildup is commonly referred to as lime scale.

The Superior Water Conditioner does not remove or add anything to the water, so purity is maintained. Instead, it physically alters the molecular structure of minerals in the water so that they do not attract to one another and form a hard calcite crystal when exposed to delta T, delta P, turbulence, evaporation or other physical changes, as they typically do in untreated water. Minerals will precipitate out of solution into a state of suspension known as aragonite; a softer, amorphous mud-like slurry, which will settle at low points in the system, where it is easily removed by manual or automatic blow-down. In circulating systems, these suspended solids can



Superior Water Conditioners® (SF Models)

also be removed with centrifugal separators and sock filters.

BASIC USE

The Superior Water Conditioner technology is advantageous for over 400 applications in residential, commercial and industrial markets. It is a valid alternative for applications where conventional water treatment chemicals must be minimized or eliminated, including:

- Ice makers
- Coffee and cappuccino machines
- Hot and cold water dispensers
- Steam cookers
- Dishwashers
- Water heaters
- Humidifiers
- Open loop geothermal systems
- Boilers for HVAC use or industrial hot water or steam process
- Cooling towers for HVAC use or industrial process cooling
- Evaporative condensers
- Heat exchangers

COMPOSITION & MATERIALS

Superior Water Conditioners are inline units with a flow-through design. Minerals move in a perpendicular motion, past a cobalt alloy core, where they are subjected to a series of strategi-

cally placed, multiple reversing north and south poles that create several permanent magnetic fields. These cores are made up of either a single bar or a factory-assembled bundle of bars, with the multiple reversing poles oriented along the length.

TYPES

I & H Models

- 1/4" (6.4 mm) compression connections
- For small residential appliances requiring flow rates to 6 gph (23 lph)
- Uses include refrigerator-mounted ice makers, furnace-mounted humidifiers and other small appliances

R & RX Models

- 1/2" - 2" (12.7 - 51 mm) FNPT connections
- For residential and light commercial applications requiring flow rates of 2 - 30 gpm (8 - 114 lpm)
- Uses include water heater pretreatment or posttreatment and mainlines for whole house or office building treatment

DU Models

- Available to OEM accounts only; contact Superior for information
- 3/4" - 4" (19 - 102 mm) FPVC glue socket connections

- For internal application on the riser tube of residential and commercial water softeners and tank type filters
- Reduces surface tension in water, which offers a better backwash for ion-exchange resin and filter media beds, keeping them loose to allow for better saturation and increasing efficiency
- Also controls mineral scale deposition in the plumbing system, water heater and other equipment

GH Models

- Standard garden hose connections for outside water spigots or garden hoses
- Reduces surface tension and increases the wetting effect when watering lawns and gardens; reduces spotting when washing vehicles, house siding and windows

GT Models

- 1/2" - 1" (12.7 - 25.4 mm) FNPT connections
- For residential and small commercial geo-thermal system applications requiring flow rates of 1 - 15 gpm (4 - 57 lpm)

R& AI Models

- 1/2" - 1" (12.7 - 25.4 mm) FNPT and 1 1/2" - 24" (38 - 610 mm) flanged connections
- For irrigation systems requiring flow rates of 3 - 3000 gpm (11 - 11,356 lpm); additional flow rates are available upon request
- Uses include residential and commercial property irrigation systems, golf courses, parks, sod farms and private or commercial produce farms with irrigation systems. Can reduce water and fertilizer usage 30% - 50% and wetting agents by as much as 100%

C Models

- 1/4" - 1/2" (6.4 - 12.7 mm) compression connections
- For applications requiring flow rates lower than 1 gph (4 lpm) to 2 gpm (8 lpm)
- Uses include small humidifiers, ice makers, R.O. system pretreatment, coffee and cappuccino machines and small tabletop steamers

RT Models

- 1/2" - 1" (12.7 - 25.4 mm) FNPT connections
- For commercial and industrial applications requiring flow rates of 2 - 15 gpm (8 - 57 lpm)
- Uses include steam kettles, dishwashers, ice makers, small boilers and make-up water treatment for small cooling towers

SF Models

- 1 1/4" - 24" (32 - 610 mm) flanged connections

- For commercial and industrial applications requiring flow rates of 15 - 4000 gpm (57 - 15,142 lpm); additional rates are available
- Uses include whole building supply water, large dishwashers and ice machines, boilers, heat exchangers, large water heaters and make-up water treatment for cooling towers

ACV Models

- 2" - 4" (51 - 102 mm) Victaulic groove or plain end connections for cooling tower and evaporative condenser circulating water applications requiring flow rates of 30 - 300 gpm (114 - 1136 lpm)
- 5" - 24" (127 - 610 mm) flanged connections for cooling towers and evaporative condenser circulating water applications requiring flow rates of 300 - 8000 gpm (1136 - 30,283 lpm); additional rates are available
- Applications include small and large cooling tower and evaporative circulating water systems

Environmentalist® System

- The Environmentalist is an optional system that can provide up to 70% reduction of daily bleed-off or blow-down requirements in cooling towers and evaporative condensers
- Available for capacities to 50,000 tons; larger sizes are available by request
- The Environmentalist pulls water from a cooling tower or evaporative condenser sump and removes suspended solids via a centrifugal separator and periodically purges them to waste. Minimal water is lost with this system

Environmentalist/Zero-Bleed® System

- The Environmentalist/Zero-Bleed is an optional system that totally eliminates the need for daily bleed-off or blow-down requirements in cooling towers and evaporative condensers
- It is a 2-part system, which has a primary and secondary function. The primary part of the system performs the same task as the Environmentalist system, as previously explained. However, instead of discharging any water to waste, it is purged to the secondary part of the system for additional processing
- The secondary part of the system continuously circulates this water from a reservoir tank through a sock filter to remove the concentrated suspended solids
- The cleaner water is then passed through another Superior Water Conditioner so that the treatment effect is maintained before returning to the reservoir tank



Environmentalist® System

- When the primary part of the system purges the suspended solids-laden water to the secondary part, the water level in the reservoir tank rises and spills over into an overflow well, that has a sump pump in it
- When the level of water rises in the overflow well, the sump pump sends the clean, super treated water back to the cooling tower or evaporative condenser sump, conserving 100% of the water that is typically required to be bled down the drain with conventional chemical water treatment methods
- Because calcium, magnesium and other minerals in the water actually precipitate out of solution with Superior's magnetic treatment and are easily removed with the Environmentalist/Zero-Bleed system, cycles of concentration are easily maintained for extended periods of time
- Chlorides and certain other impurities in the water are fairly stable and do not precipitate out of solution. As a result, it will be necessary to dump all water within the entire evaporative side of the cooling system and replenish it with fresh water approximately every 6 months

SIZES

Superior Water Conditioners are sized according to the maximum flow of water passing through the unit. See Tables 1 - 4 for sizes applying to specific models.

Superior Manufacturing Division



Environmentalist/Zero-Bleed® System

BENEFITS

- Suspends insoluble compounds and prevents them from forming scale in pipes and on equipment surfaces
- Maintains scale-free surfaces to optimize heat transfer coefficients, reducing down-time and increasing equipment efficiency
- Increases energy efficiency by eliminating the buildup of particles that insulate rather than transfer heat
- Keeps minerals in a soft, amorphous form, lining equipment surfaces with a thin film to prevent free oxygen, acidic water and other corrosive properties from attacking metal surfaces
- Reduces water consumption and discharge costs by allowing higher cycles of concentration with the system, thus lowering make-up water and blow-down volumes
- Uses no chemicals, so discharged water is pollution-free, environmentally safe and available for authorized reuse

LIMITATIONS

Standard models of Superior Water Conditioners can operate effectively in temperatures to 475 degrees F (246 degrees C) and boiler operating steam pressure to 185 psi.

Silica content should not exceed 10% of the calcium content in the water; if the silica content is greater than 10% of the calcium content, softening the water is recommended. In applications where iron is present, filtration is also recommended.

Avoid installations near high voltage 3-phase power lines or equipment, which can interfere by imposing a second magnetic field on the water and reduce equipment effectiveness. For 208/220/240 V, do not install within 36" (0.9 m) and proportionally increase distance for higher voltages. Where avoidance of high voltage, 3-phase power lines or equipment is not possible, shielding equipment is recommended to keep stray eddy currents from interfering with the magnetic fields produced by the Superior Water Conditioner unit.

If the pipeline is used as an electrical ground, stray electrical current in the pipe can have the same effect as installation near high voltage power lines. Check the pipeline for use as an electrical ground. Remove the Superior Water Conditioner from the line prior to electrical welding on the plumbing system where the conditioner is installed.

4. Technical Data

APPLICABLE STANDARDS

American Petroleum Institute (API) - API 960 Evaluation of the Principles of Magnetic Water Treatment

American Society for Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) - ASHRAE Transactions 2003, Volume 109, Research Project 1155.

PHYSICAL/TECHNICAL PROPERTIES

See Tables 1 - 4.

APPROVALS

Superior Water Conditioners were found to be effective for nonchemical scale control in a research project by the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

ENVIRONMENTAL CONSIDERATIONS

Superior's nonchemical, permanent magnetic water treatment technology meets or exceeds government regulations, helps prevent pollution and offers sustainability.

Superior Manufacturing Division has been awarded a certificate of membership to the U.S. Green Building Council (USGBC); the Superior Water Conditioner reduces heating and cooling loads, conserves water and reduces pollution and waste. It is a GreenSpec-listed product and can contribute to LEED® credits.

5. Installation

Verify that site conditions are acceptable for installation. Do not proceed with installation until unacceptable conditions are corrected.

METHODS

Installation procedures depend upon the model and system to be installed. Contact Superior Manufacturing for information.

BUILDING CODES

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

6. Availability & Cost

AVAILABILITY

Products are available from certified distributors. Contact Superior Manufacturing for information on local availability.

COST

Installed cost information may be obtained from the manufacturer.

TABLE 1 PHYSICAL & TECHNICAL PROPERTIES - RESIDENTIAL MODELS I, H, R, RX, GH, GT & RI

Model	Application	Max. Flow	Connection Size, inch (mm)	Diameter, inch (mm)	Length, inch (mm)	Weight, lb (kg)
I	Residential ice maker	3 gph (11 lph)	1/4" (6.4) compression	1 1/4" (32)	5" (127)	1 (0.45)
H	Residential furnace mounted humidifier	6 gph (23 lph)	1/4" (6.4) compression	1 1/4" (32)	5 1/2" (140)	1.1 (0.49)
R	Residential water heater	6 gpm (23 lpm)	3/4" (19) FNPT	1 3/4" (44)	9" (229)	3 (1.3)
RX-Special	Main line 3/4" or 1" (19 or 25.4 mm) service	12 gpm (45 lpm)	3/4" (19) or 1" (25.4) FNPT	2 1/4" (57)	13" (330)	7 (3.2)
R-150	Main line 1 1/4" or 1 1/2" (32 or 38 mm) service	18 gpm (68 lpm)	1 1/4" (32) or 1 1/2" (38) FNPT	2 3/4" (70)	16" (406)	12 (5.4)
R-200	Main line 2" (51 mm) service	25 gpm (95 lpm)	2" (51) FNPT	3 1/4" (83)	16 1/2" (419)	14 (6.3)
GH	Lawn/garden, car washing	4 gpm (15 lpm)	F x M garden hose	1 1/2" (38)	9" (229)	3 (1.3)
GT-1	Open loop geothermal systems (1 - 2 ton)	4 gpm (15 lpm)	1/2" (13) FNPT	1 1/2" (38)	12 1/2" (318)	4 (1.8)
GT-2	Open loop geothermal systems (3 - 4 ton)	8 gpm (30 lpm)	3/4" (19) FNPT	1 3/4" (44)	13" (330)	5 (2.3)
GT-3	Open loop geothermal systems (5 - 8 ton)	16 gpm (57 lpm)	1" (25.4) FNPT	2 1/4" (57)	13 1/2" (343)	7 (3.2)
RI 0.50T3	Irrigation systems	3 gpm (11 lpm)	1/2" (13) FNPT	1 1/2" (38)	12 1/2" (318)	4 (1.8)
RI 0.75T7	"	7 gpm (26 lpm)	3/4" (19) FNPT	1 3/4" (44)	13" (330)	5 (2.3)
RI 1.00T12	"	12 gpm (45 lpm)	1" (25.4) FNPT	2 1/4" (57)	13 1/2" (343)	7 (3.2)

TABLE 2 PHYSICAL & TECHNICAL PROPERTIES - COMMERCIAL & INDUSTRIAL MODELS C, RT, SF, ACV & AI

Model	Application	Max. Flow	Connection Size, inch (mm)	Diameter, inch (mm)	Length, inch (mm)	Weight, lb (kg)
C-1	Point of use	1 gph (4 lph)	1/4" (6.35) compression	1" (25.4)	4 7/8" (124)	0.75 (0.34)
C-5	"	3 gph (11 lph)	1/4" (6.35) compression	1 1/4" (32)	4 7/8" (124)	1 (0.45)
C-10	"	6 gph (23 lph)	1/4" (6.35) compression	1 1/4" (32)	5 3/8" (137)	1.1 (0.49)
C-25	"	18 gph (57 lph)	1/4" (6.35) compression	1 1/4" (32)	7 5/8" (194)	1.5 (0.68)
C-50	"	30 gph (114 lph)	1/4" (6.35) compression	1 1/4" (32)	8 5/8" (219)	1.7 (0.77)
C-75	"	45 gph (170 lph)	3/8" (9.5) compression	1 1/4" (32)	9 5/8" (244)	2 (0.91)
C-100	"	1 gpm (4 lpm)	3/8" (9.5) compression	1 1/4" (32)	11 5/8" (295)	2.2 (1)
C-200	"	2 gpm (8 lpm)	1/2" (13) compression	1 1/4" (32)	11 7/8" (302)	2.5 (1.1)
RT-500-SS	Point of use or main line	4 gpm (15 lpm)	1/2" (13) NPT	1 1/2" (38)	12 5/8" (327)	4 (1.8)
RT-750-SS	"	8 gpm (30 lpm)	3/4" (19) NPT	1 3/4" (44)	13" (330)	5 (2.3)
RT-1000-SS	"	15 gpm (57 lpm)	1" (25.4) NPT	2 1/4" (57)	13 1/2" (343)	7 (3.2)
SF-1250-AC	Point of use or main line	30 gpm (114 lpm)	1 1/4" (32) flange	6" (152)	19 3/8" (492)	27 (12)
SF-1500-AC	"	50 gpm (189 lpm)	1 1/2" (38) flange	7 1/2" (191)	23 3/4" (603)	51 (23)
SF-2000-AC	"	75 gpm (284 lpm)	2" (51) flange	8 1/2" (216)	28" (711)	68 (31)
SF-2500-AC	"	110 gpm (416 lpm)	2 1/2" (64) flange	9" (229)	31" (787)	82 (37)
SF-3000-AC	"	175 gpm (662 lpm)	3" (76) flange	10" (254)	35 5/8" (905)	117 (53)
SF-4000-AC	"	250 gpm (946 lpm)	4" (102) flange	11" (279)	39 3/4" (1010)	170 (77)
SF-5000-AC	"	350 gpm (1325 lpm)	5" (127) flange	13 1/2" (343)	37 5/8" (956)	308 (140)
SF-6000-AC	"	500 gpm (1893 lpm)	6" (152) flange	16" (406)	40" (1016)	485 (220)
SF-8000-AC	"	700 gpm (2650 lpm)	8" (203) flange	19" (483)	42" (1067)	703 (320)
SF-10000-AC	"	850 gpm (3218 lpm)	10" (254) flange	21" (533)	52" (1321)	868 (394)
SF-12000-AC	"	1100 gpm (4164 lpm)	12" (305) flange	23 1/2" (597)	54" (1372)	1190 (540)
SF-14000-AC	"	1400 gpm (5300 lpm)	14" (356) flange	25" (635)	56" (1422)	1478 (671)
SF-16000-AC	"	1800 gpm (6814 lpm)	16" (406) flange	27 1/2" (699)	66" (1676)	1830 (831)
SF-18000-AC	"	2600 gpm (9842 lpm)	18" (457) flange	32" (813)	66" (1676)	2600 (1180)
SF-20000-AC	"	3100 gpm (11,735 lpm)	20" (508) flange	34 1/4" (870)	74" (1880)	2953 (1341)
SF-24000-AC	"	4000 gpm (15,142 lpm)	24" (610) flange	38 3/4" (984)	74" (1880)	4050 (1839)
ACV-2-G	Evaporative cooling system circ. loop	80 gpm (303 lpm)	2" (51) plain or grooved	5 3/4" (146)	14 1/4" (362)	24 (11)
ACV-2.5-G	"	120 gpm (454 lpm)	2 1/2" (64) plain or grooved	6" (152)	16 1/4" (413)	29 (13)
ACV-3-G	"	180 gpm (681 lpm)	3" (76) plain or grooved	7" (178)	18" (457)	44 (20)
ACV-4-G	"	300 gpm (1136 lpm)	4" (102) plain or grooved	8 1/2" (216)	22 1/8" (562)	72 (33)
ACV-5-AC	"	500 gpm (1893 lpm)	5" (127) flange	13 1/2" (343)	37 5/8" (956)	268 (122)
ACV-6-AC	"	650 gpm (2461 lpm)	6" (152) flange	16" (406)	40" (1016)	409 (186)
ACV-8-AC	"	900 gpm (3407 lpm)	8" (203) flange	19" (483)	42" (1067)	598 (271)
ACV-10-AC	"	1200 gpm (4542 lpm)	10" (254) flange	21" (533)	52" (1321)	744 (338)
ACV-12-AC	"	2000 gpm (7571 lpm)	12" (305) flange	23 1/2" (597)	54" (1372)	1021 (464)
ACV-14-AC	"	3000 gpm (11,356 lpm)	14" (356) flange	25" (635)	56" (1422)	1246 (566)
ACV-16-AC	"	3800 gpm (14,385 lpm)	16" (406) flange	27 1/2" (699)	66" (1676)	1581 (718)
ACV-18-AC	"	5000 gpm (18,927 lpm)	18" (457) flange	32" (813)	66" (1676)	2163 (982)
ACV-20-AC	"	6400 gpm (24,227 lpm)	20" (508) flange	34 1/4" (870)	74" (1880)	2497 (1134)
ACV-24-AC	"	8000 gpm (30,283 lpm)	24" (610) flange	38 3/4" (984)	74" (1880)	3303 (1500)
AI 1.5 - AF25	Irrigation systems	25 gpm (95 lpm)	1 1/2" (38) flange	7 1/2" (191)	23 3/4" (603)	51 (23)
AI 2 - AF50	"	50 gpm (189 lpm)	2" (51) flange	8 1/2" (216)	28" (711 mm)	68 (31 kg)
AI 3 - AF80	"	80 gpm (303 lpm)	3" (76) flange	10" (254)	35 5/8" (905)	117 (53)
AI 4 - AF105	"	105 gpm (397 lpm)	4" (102) flange	11" (279)	39 3/4" (1010)	170 (77)
AI 5 - AF180	"	180 gpm (681 lpm)	5" (127) flange	13 1/2" (343)	37 5/8" (956)	308 (140)
AI 6 - AF250	"	250 gpm (946 lpm)	6" (152) flange	16" (406)	40" (1016)	485 (220)
AI 8 - AF375	"	375 gpm (1420 lpm)	8" (203) flange	19" (483)	42" (1067)	703 (320)
AI 10 - AF480	"	480 gpm (1817 lpm)	10" (254) flange	21" (533)	52" (1321)	868 (394)
AI 12 - AF715	"	715 gpm (2707 lpm)	12" (305) flange	23 1/2" (597)	54" (1372)	1190 (540)
AI 14 - AF1000	"	1000 gpm (3785 lpm)	14" (356) flange	25" (635)	56 (1422)	1478 (671)
AI 20 - AF2000	"	2000 gpm (7571 lpm)	20" (508) flange	34 1/4" (870)	74" (1880)	2953 (1341)
AI 24 - AF3000	"	3000 gpm (11,356 lpm)	24" (610) flange	38 3/4" (984)	74" (1880)	4050 (1839)

TABLE 3 PHYSICAL/TECHNICAL PROPERTIES - ENVIRONMENTALIST® SYSTEM FOR REDUCTION OF BLEED REQUIREMENTS IN EVAPORATIVE COOLING SYSTEMS

Model Number	Tower Capacity	Circulating Flow Rate	Supply/Return Connections	Skid Depth	Skid Width	Skid Height	Weight	Circ. Pump Motor	Voltage	Phase	Amps
CT-50-APD	1 - 50 tons	12 gpm (45 lpm)	1 1/2" FNPT (38 mm)	30" (762 mm)	36" (914 mm)	60" (1524 mm)	100 lb (45 kg)	0.5 HP	110	Single	9.8
CT-100-APD	51 - 100 tons	25 gpm (95 lpm)	2" FNPT (51 mm)	36" (914 mm)	48" (1219 mm)	66" (1676 mm)	560 lb (254 kg)	0.5 HP	110	Single	9.8
CT-200-APD	101 - 200 tons	45 gpm (170 lpm)	2" FNPT (51 mm)	36" (914 mm)	48" (1219 mm)	66" (1676 mm)	710 lb (322 kg)	0.5 HP	110/220	Single	9.8/4.9
CT-400-APD	201 - 400 tons	65 gpm (246 lpm)	2" FNPT (51 mm)	38" (965 mm)	48" (1219 mm)	76" (1930 mm)	760 lb (345 kg)	0.75 HP	110/220	Single	13.8/6.9
CT-800-APD	401 - 800 tons	100 gpm (379 lpm)	2 1/2" FNPT (64 mm)	38" (965 mm)	48" (1219 mm)	76" (1930 mm)	805 lb (365 kg)	1.0 HP	110/220	Single	16/8
CT-1200-APD	801 - 1200 tons	160 gpm (606 lpm)	3" FNPT (76 mm)	42" (1067 mm)	60" (1524 mm)	80" (2032 mm)	920 lb (417 kg)	1.5 HP	220	Single/3	10/5.2
CT-2000-APD	1201 - 2000 tons	230 gpm (871 lpm)	4" FNPT (102 mm)	42" (1067 mm)	60" (1524 mm)	84" (2134 mm)	1050 lb (476 kg)	2.0 HP	220	Single/3	12/6.8

TABLE 4 PHYSICAL/TECHNICAL PROPERTIES - ENVIRONMENTALIST/ZERO-BLEED® SYSTEM FOR ELIMINATION OF BLEED REQUIREMENTS IN EVAPORATIVE COOLING SYSTEMS

Model Number	Tower Capacity	Circulating Flow Rate	Supply/Return Connections	Skid Depth	Skid Width	Skid Height	Weight	Primary Circ Pump Motor	Secondary Circ Pump Motor	Sump Pump Motor ¹	Voltage	Phase	Amps
CT-100-ZB	1 - 100 tons	25 gpm (95 lpm)	2" FNPT (51 mm)	36" (914 mm)	84" (2134 mm)	60" (1524 mm)	840 lb (381 kg)	0.5 HP	0.5 HP	0.25 HP	110	Single	24.5
CT-200-ZB	101 - 200 tons	45 gpm (170 lpm)	2" FNPT (51 mm)	36" (914 mm)	84" (2134 mm)	68" (1727 mm)	915 lb (415 kg)	0.5 HP	0.5 HP	0.25 HP	110/220	Single	24.5/12.3
CT-400-ZB	201 - 400 tons	65 gpm (246 lpm)	2" FNPT (51 mm)	38" (965 mm)	90" (2286 mm)	72" (1828 mm)	1115 lb (506 kg)	0.75 HP	0.75 HP	0.33 HP	110/220	Single	33/17.5
CT-800-ZB	401 - 800 tons	100 gpm (379 lpm)	2 1/2" FNPT (64 mm)	38" (965 mm)	90" (2286 mm)	76" (1930 mm)	1210 lb (548 kg)	1.0 HP	1.0 HP	.33 HP	110/220	Single	37.4/18.7
CT-1200-ZB	801 - 1200 tons	160 gpm (606 lpm)	3" FNPT (76 mm)	42" (1067 mm)	108" (2743 mm)	80" (2032 mm)	1420 lb (644 kg)	1.5 HP	1.5 HP	0.5 HP	220/440	Single/3	24.9/12.8
CT-2000-ZB	1201 - 2000 tons	230 gpm (871 lpm)	4" FNPT (102 mm)	42" (1067 mm)	108" (2743 mm)	84" (2134 mm)	1550 lb (703 kg)	2.0 HP	2.0 HP	0.5 HP	220/440	Single/3	29.9/15.3

¹Sump pumps are 110 volts, single phase.

7. Warranty

Complete warranty terms and conditions are available from the manufacturer. For details, consult Superior Manufacturing.

8. Maintenance

Circulating systems treated by a Superior Water Conditioner must be regularly purged of solids that result from the gradual dissolution of the old scale and the newly added precipitated solids from the feed water. In systems where sludge cannot be removed through blow-down, a high pressure hose can be used to flush excessive solids. Occasional removal of the Superior Water Conditioner unit for inspection and cleaning may be necessary in systems with existing corrosion buildup. This process should be performed once or twice a year and should require minimal time.

9. Technical Services

Technical assistance, including more detailed information, product literature, test results, project lists, assistance in preparing project specifications and arrangements for application supervision, is available by contacting Superior Manufacturing.

10. Filing Systems

- MANU-SPEC®
- Additional product information is available from the manufacturer upon request.

