

SMC SERIES ADVANCED TECHNOLOGY FOR ENHANCED PERFORMANCE

SMC Series water-cooled portable chillers from Sterling provide 2 to 40 ton cooling capacities with very compact footprints. These chillers feature a unique enclosure design that simplifies service and maintenance and conserves valuable production floor space. Incorporate these chillers into your planned or existing production layout easily and effectively.

All SMC Series portable chillers have an operating leaving water temperature range of 35°F to 65°F (2°C to 18 °C). For applications outside this range, consult factory. See pages 41-42 for flow and pressure considerations and pump curves.



Features

- Non-ferrous piping
- External fill/drain/sight glass
- Valved Process water connections
- Low Process water: pressure switch 2-3.5 hp, flow switch 5-40 hp
- Swivel casters: 2.5" (2-3.5 hp), 4" (5-15 hp), 5" w/lock (optional on 5-15 hp, standard on 20-40 hp)
- Single pump models only: Pressure-actuated Process water bypass valve for system protection
- To Process 2.5" dual scale liquid-filled pressure gauge
- Fully insulated refrigeration and process piping
- High and low refrigerant pressure cut-outs
- High-discharge temperature cut-out (2-10 hp models)
- High pressure spring-actuated relief valve
- Filter dryer, sight glass, balanced-port thermal expansion valve, multiple refrigeration access ports
- Hot gas bypass capacity control
- Hot gas bypass and liquid line shutoff valves (5 to 40 hp)
- Scroll compressors (2-40 hp)
- R-22 refrigerant
- 1 year warranty on compressor and labor
- 2 year parts warranty, 3 year limited warranty on controller

Options

- Automatic water makeup valve¹
- Process water sidestream 50µ filter w/ flowmeter¹
- General fault indicator, 85 dB @ 2 ft with audible alarm buzzer and silence button or 100 dB @ 10 ft audible alarm horn/108,000 peak candle-power, 80 flash/min visual alarm strobe and silence button. Alarm conditions include high and low water temperature, low water flow, and high and low refrigerant pressure¹
- Compressor hour meter¹
- RS232 or RS485 communications
- Recirculation pump (not available on 2 and 3.5 hp)
- High pressure fans; provides additional 0.3" WG static pressure on fan discharge (5-15 hp only), required where exiting air is exhausted through ductwork
- Crankcase pressure regulating (CPR) valve to prevent compressor motor overloading, required for process water leaving temperature of 66°F to 75°F
- 304 SS reservoir tank (not available on 2 and 3.5 hp)
- Mounting rails (standard with SMCR remote air cooled) and/or mounting feet (not available on 2 and 3.5 hp)
- UL-Labeled electrical subpanel
- 380/3/50 or 575/3/60 operating voltage ²
- Variable-speed fans (low ambient), provides sound attenuation in ambient temperatures below 95°F ² (5-15 hp only)
- NEMA-12 control access window ²

1 Field-retrofit option
2 Additional lead time



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SPECIFICATIONS



Model	Compressor HP	Compressor type	Evaporator type	Condenser type ¹	Reservoir, gallons	Nominal pump	Condenser water		
							Tower water ² flow, gpm	City water ³ flow, gpm	Water conn., in. NPT
SMCW 2	2	Hermetic scroll, with compressor staging on 20-30 hp tandems	SS copper-brazed plate	Tube-in tube	6 (polyethylene)	1 hp, 304 SS	6.2	4.2	1.0
SMCW 3.5	3.5				6 (polyethylene)	1 hp, 304 SS	10.5	7.2	1.0
SMCW 5	5				20 (polyethylene)	1 hp, 304 SS	15.7	7.9	1.0
SMCW 7.5	7.5				20 (polyethylene)	1 hp, 304 SS	21.3	10.7	1.0
SMCW 10	10			Cleanable shell and tube	40 (polyethylene)	2 hp, 304 SS	32.2	16.1	1.5
SMCW 15	15				40 (polyethylene)	2 hp, 304 SS	47.6	23.8	2.0
SMCW 20	2 @ 10				80 (polyethylene)	5 hp, 304 SS	61.7	31.5	2.0
SMCW 25	2 @ 13				80 (polyethylene)	5 hp, 304 SS	75.9	38.6	2.0
SMCW 30	2 @ 15				80 (polyethylene)	5 hp, 304 SS	93.9	47.6	2.5
SMCW 40	40	Hermetic scroll, with compressor staging on 20-30 hp tandems	shell & tube		80 (304 SS)	7.5 hp, 304 SS	123.0	61.5	3

NOTE: Nominal operating parameters for SMC air-cooled chillers are 50°F leaving water temperature at 2.4 gpm per ton, with 85°F tower water. For 50 Hz applications, multiply capacity by 0.83. Nominal 60 Hz flow rate must be maintained.

1 With cooling water regulating valves; select between tower or city (5-40 hp models)

2 Based on availability of 85° F (29°C) tower water at 25 psi (172.4 kPa/1.7 bars) minimum

3 Based on availability of 70° F (21°C) city water at 25 psi (172.4 kPa/1.7 bars) minimum

Model	Nominal cooling cap., tons ⁴			Process connections, in. NPT				Water flow, gpm ⁵	FLA 1 pump ⁶		FLA 2 pump ⁶	
	No pump	1 pump	2 pump	1 pump	2 pump	no pump/ no tank	1 pump/ no tank		Rated	Running	Rated	Running
SMCW 2	2.1	1.9	n.a.	1	n.a.	n.a.	n.a.	5.1	12.2	8.3	n.a.	n.a.
SMCW 3.5	3.6	3.4	n.a.	1	n.a.	n.a.	n.a.	8.6	16.4	11.8	n.a.	n.a.
SMCW 5	5.2	5.0	4.9	1.5/2.0	2.0	1.5	1.5/2.0	12.1	12.2	8.3	13.1	9.2
SMCW 7.5	7.1	6.9	6.8	1.5/2.0	2.0	1.5	1.5/2.0	16.6	16.4	11.8	17.3	12.7
SMCW 10	10.7	10.3	10.2	1.5/3.0	2.0/3.0	1.5	1.5/2.0	24.8	22.5	16.7	24.2	18.4
SMCW 15	15.9	15.5	15.3	2.0/3.0	2.5/3.0	2.0	2.0/3.0	37.1	29.7	21.6	31.4	23.3
SMCW 20	21.0	20.0	19.6	2.0/3.0	2.5/3.0	2.0	2.0/3.0	50.4	43.9	34.7	47.0	37.8
SMCW 25	25.7	24.7	24.3	2.0/3.0	2.5/3.0	2.0	2.0/3.0	61.7	55.9	38.2	59.0	41.3
SMCW 30	31.8	30.8	30.4	2.0/3.0	2.5/3.0	2.0	2.0/3.0	76.2	60.1	45.3	63.2	48.4
SMCW 40	41.0	39.5	39.1	2.5/3.0	2.5/3.0	2.5	2.5/3.0	98.4	81.9	63.1	85.0	66.2

4 Based on 50°F (10°C) chilled water supply temperature and 85°F (29°C) tower water. Optional additional process pump hp (kW) reduces chiller capacity by 0.2 tons per hp (0.703 kW r ef. cap. per 0.746 kW pump power)

5 Based on 2.4 gpm per ton (9.1 lpm per 3.517 kW) nominal 1 pump.

6 FLA at 460/3/60. Multiply 460/3/60 amperage by 2.0 for 208-230/3/60 amperage (0.8 for 575/3/60). An optional oversized process pump adds to the total rated or running chiller amperage. To find the new total chiller amperage, subtract the standard process pump amperage from the optional pump amperage (see table on next page) and add it to the rated or running amperage.



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PUMP OPTIONS

Optional Pump	FLA @ 208-230/1/60	FLA @ 460/3/60	Availability
0.75 hp bronze turbine	5.4	1.5	2 and 3.5 hp models
1 hp SS	6.4	1.8	standard on 2-7.5 hp models
1.5 hp SS	7.5	2.3	2 and 3.5 hp models
2 hp SS	9.6	3.1	2-15 hp models (standard on 10-15 hp)
2 hp SS dual stage	n.a.	2.7	5-7.5 hp models
3 hp SS	12.7	4.2	2-15 hp models
3 hp SS dual stage	n.a.	4.5	5-15 hp models
5 hp SS	n.a.	6.2	5-30 hp models (standard on 20-30 hp)
5 hp SS dual stage	n.a.	6.6	5-15 hp models
7.5 hp bronze	n.a.	9.0	5-15 hp models
7.5 hp SS	n.a.	9.8	20-30 hp models (standard on 35-40 hp)
10 hp SS	n.a.	13.2	10-30 hp models
15 hp SS	n.a.	19.0	20-30 hp models

ELECTRICAL CONTROL FEATURES

- Fully accessible NEMA 12 enclosure
- Non-fused disconnect switch with branch fusing
- Single-point power and ground wiring connection
- Off-the-shelf microprocessor-based PID auto-tuning controller with T_o Process and Set Point LED readout
- Low and high process water temperature electronic cut-out switch with LCD display
- Graphic control panel w/status lights

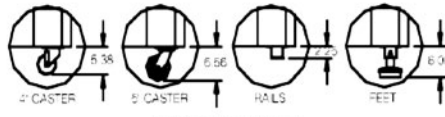
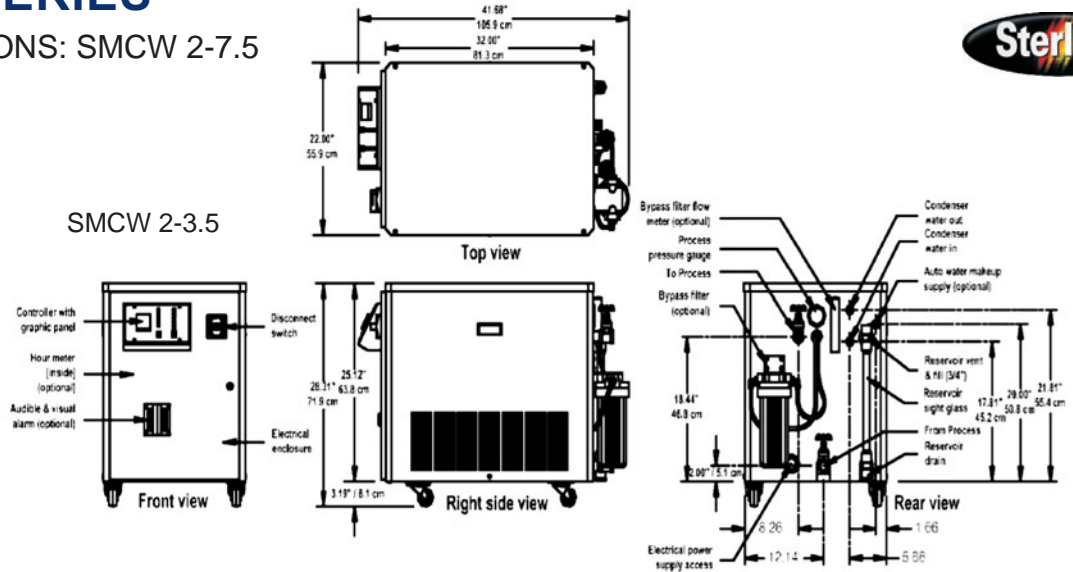


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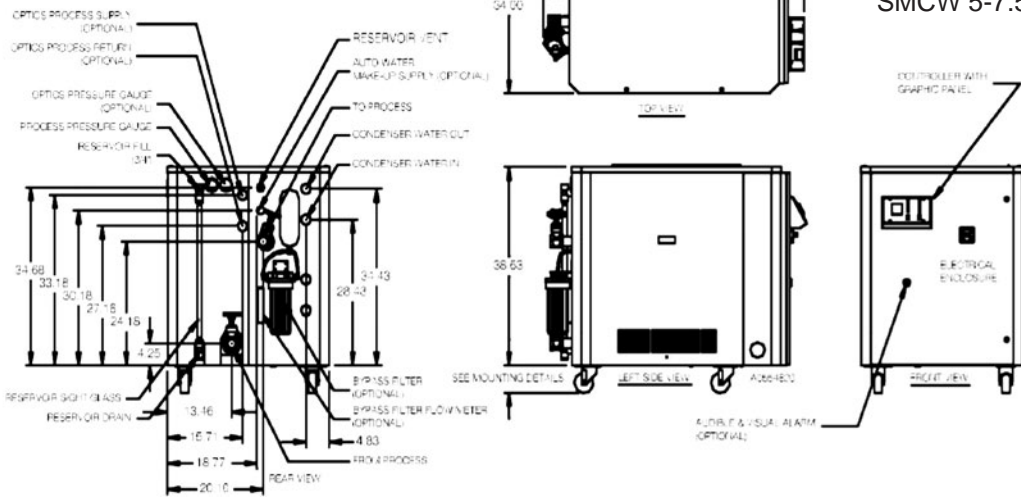
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SMCW 2-3.5



SMCW 5-7.5



WEIGHTS: SMCW 2-7.5

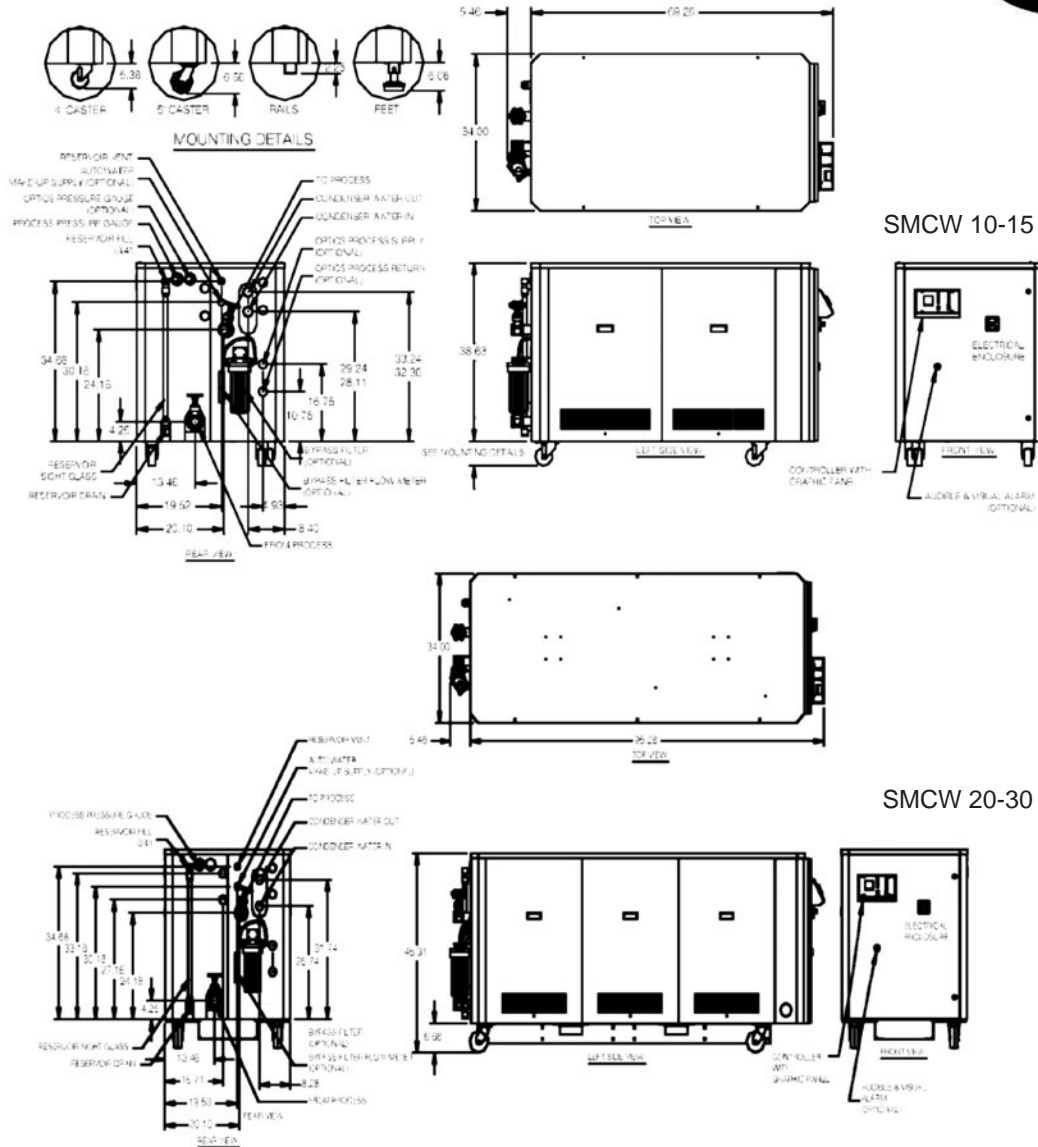
Model	Dry weight, lbs.	Ship. weight, lbs.	Oper. weight, lbs.
SMCW 2	333	363	383
SMCW3.5	362	392	412
SMCW 5	637	787	970
SMCW 7.5	727	877	1060

NOTES: Weights are for standard chiller. Some optional features will increase weight. Operating weight is with a full reservoir tank of water.



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DIMENSIONS: SMCW 10-30



WEIGHTS: SMCW 10-30

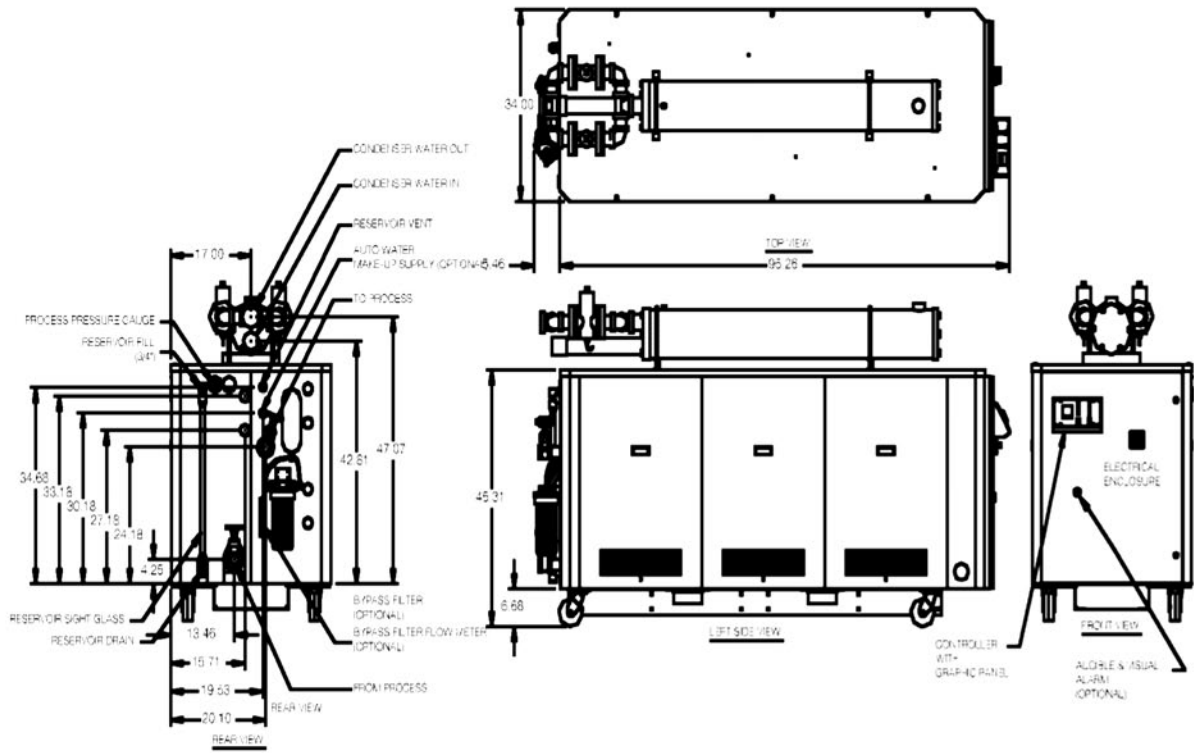
Model	Dry weight, lbs.	Ship. weight, lbs.	Oper. weight, lbs.
SMCW 10	950	1175	1282
SMCW 15	1024	1249	1365
SMCW 20	1495	1745	2161
SMCW 25	1680	1930	2346
SMCW 30	1885	2135	2551

NOTES: Weights are for standard chiller. Some optional features will increase weight. Operating weight is with a full reservoir tank of water.



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DIMENSIONS: SMCW 40



WEIGHTS: SMCW 40

Model	Dry weight, lbs.	Ship. weight, lbs.	Oper. weight, lbs.
SMCW 40	2680	2930	3369

NOTES: Weights are for standard chiller. Some optional features will increase weight. Operating weight is with a full reservoir tank of water.

