

## SMC SERIES ADVANCED TECHNOLOGY FOR ENHANCED PERFORMANCE

SMC Series air-cooled portable chillers from Sterling provide 2 to 30 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 30 hp)
- Scroll compressors (2-30 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 valve<sup>1</sup>
- Process water sidestream 50µ filter w/ flowmeter<sup>1</sup>
- 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 pressure<sup>d</sup>
- Compressor hour meter<sup>f</sup>
- 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 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<sup>2</sup>
- Variable-speed fans (low ambient), provides sound attenuation in ambient temperatures below 95°F (5-15 hp only)
- NEMA-12 control access window<sup>2</sup>

1 Field-retrofit option

2 Additional lead time



## SMC SERIES

### SPECIFICATIONS

Model	Compressor, HP	Compressor type	Evaporator type	Condenser type	Reservoir, gallons	Pumps	Discharge air openings	Discharge air, cfm
SMCA 2	2	Hermetic scroll, with compressor staging on 20-30 hp tandems	SS copper-brazed plate	Aluminum fin/copper tube with washable filters	6 (polyethylene)	1 hp, 304 SS	1 @ 18.5"	1475
SMCA 3.5	3.5				6 (polyethylene)	1 hp, 304 SS	1 @ 18.5"	2350
SMCA 5	5				20 (polyethylene)	1 hp, 304 SS	1 @ 27"	3400
SMCA 7.5	7.5				20 (polyethylene)	1 hp, 304 SS	1 @ 27"	5100
SMCA 10	10				40 (polyethylene)	2 hp, 304 SS	2 @ 27"	5800
SMCA 15	15				40 (polyethylene)	2 hp, 304 SS	2 @ 27"	10000
SMCA 20	2 @ 10				80 (polyethylene)	5 hp, 304 SS	25" x 18.5"	10200
SMCA 25	2 @ 13				80 (polyethylene)	5 hp, 304 SS	25" x 18.5"	13300
SMCA 30	2 @ 15				80 (polyethylene)	5 hp, 304 SS	25" x 18.5"	18150

NOTE: Nominal operating parameters for SMC air-cooled chillers are 50°F leaving water temperature at 2.4 gpm per ton, with 95°F ambient air. For 50 Hz applications, multiply capacity by 0.83. Nominal 60 Hz flow rate must be maintained.

Model	Nominal cooling cap., tons <sup>1</sup>			Process connections, in. NPT				Water flow, gpm <sup>2</sup>	FLA1 pump <sup>3</sup>		FLA2 pump <sup>3</sup>	
	No pump	1 pump	2 pump	1 pump	2 pump	no pump/ no tank	1 pump/ no tank		Rated	Running	Rated	Running
SMCA 2	1.9	1.7	n.a.	1	n.a.	n.a.	n.a.	4.6	8.0	6.9	n.a.	n.a.
SMCA 3.5	3.3	3.1	n.a.	1	n.a.	n.a.	n.a.	7.9	10.9	8.8	n.a.	n.a.
SMCA 5	4.8	4.6	4.5	1.5/2.0	2.0	1.5	1.5/2.0	11.1	14.0	11.0	14.9	11.9
SMCA 7.5	6.6	6.4	6.3	1.5/2.0	2.0	1.5	1.5/2.0	15.2	18.2	14.6	19.1	15.5
SMCA 10	9.9	9.5	9.4	1.5/3.0	2.0/3.0	1.5	1.5/2.0	22.8	26.1	21.8	27.8	23.5
SMCA 15	14.5	14.1	14.0	2.0/3.0	2.5/3.0	2.0	2.0/3.0	33.9	33.3	27.5	35.0	29.2
SMCA 20	19.4	18.4	18.0	2.0/3.0	2.5/3.0	2.0	2.0/3.0	46.5	48.3	42.0	51.4	45.1
SMCA 25	23.9	22.8	22.4	2.0/3.0	2.5/3.0	2.0	2.0/3.0	57.2	62.1	48.3	65.2	51.4
SMCA 30	29.2	28.2	27.8	2.0/3.0	2.5/3.0	2.0	2.0/3.0	70.2	74.1	64.4	77.2	67.5

1 Based on 50°F (10°C) chilled water supply temperature and 95°F (35°C) ambient air. Optional additional process pump hp (kW) reduces chiller capacity by 0.2 tons per hp (0.703 kW ref. cap. per 0.746 kW pump power)

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

3 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 below) and add it to the rated or running amperage.

### 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
10 hp SS	n.a.	13.2	10-30 hp models
15 hp SS	n.a.	19.0	20-30 hp models

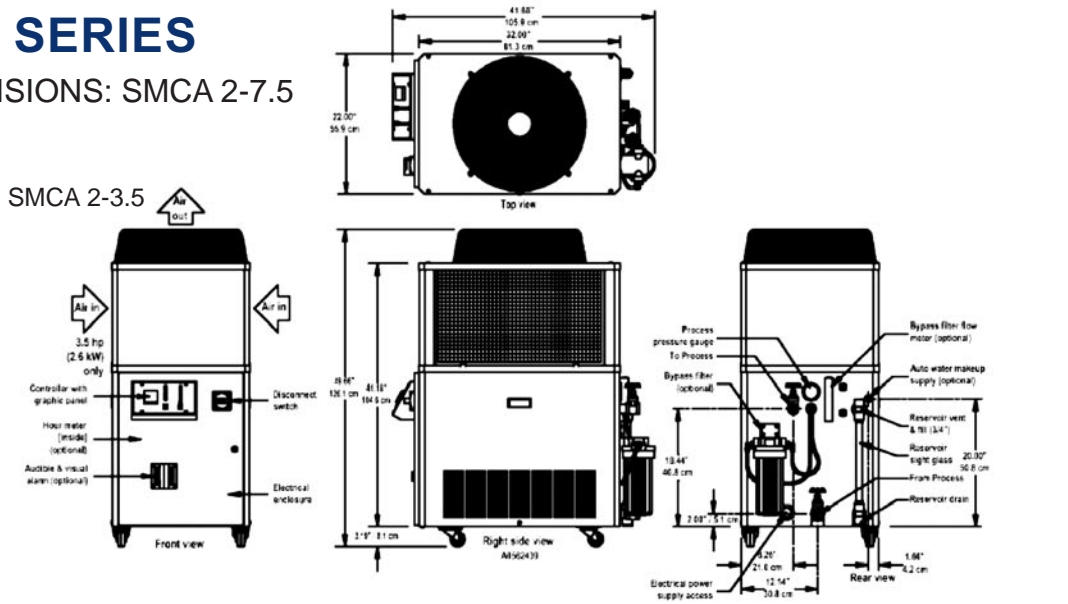
### ELECTRICAL CONTROL FEATURES

- 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 To 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

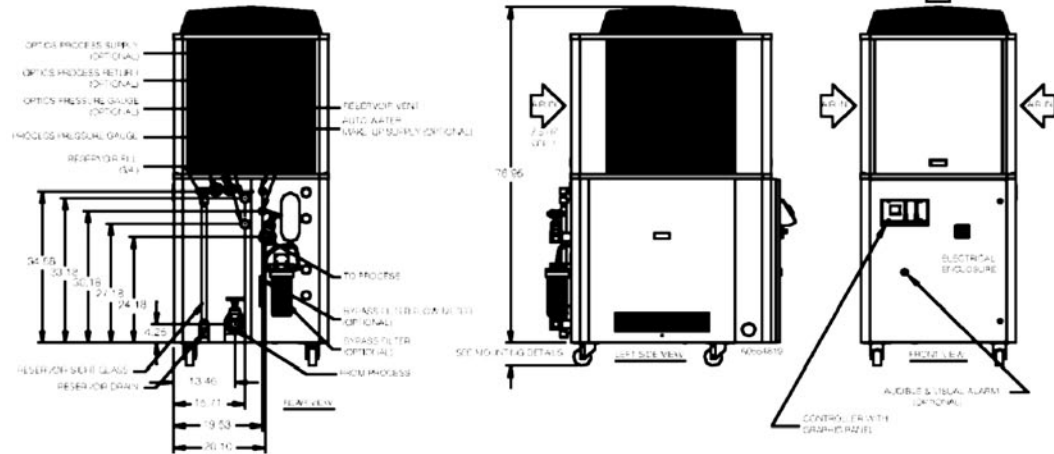
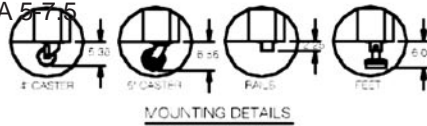


**SMC SERIES**

DIMENSIONS: SMCA 2-7.5



**SMCA 5-7.5**



**WEIGHTS: SMCA 2-7.5**

Model	Dry weight, lbs.	Ship. weight, lbs.	Oper. weight, lbs.
SMCA 2	387	417	437
SMCA 3.5	410	440	460
SMCA 5	872	1047	1205
SMCA 7.5	922	1097	1255

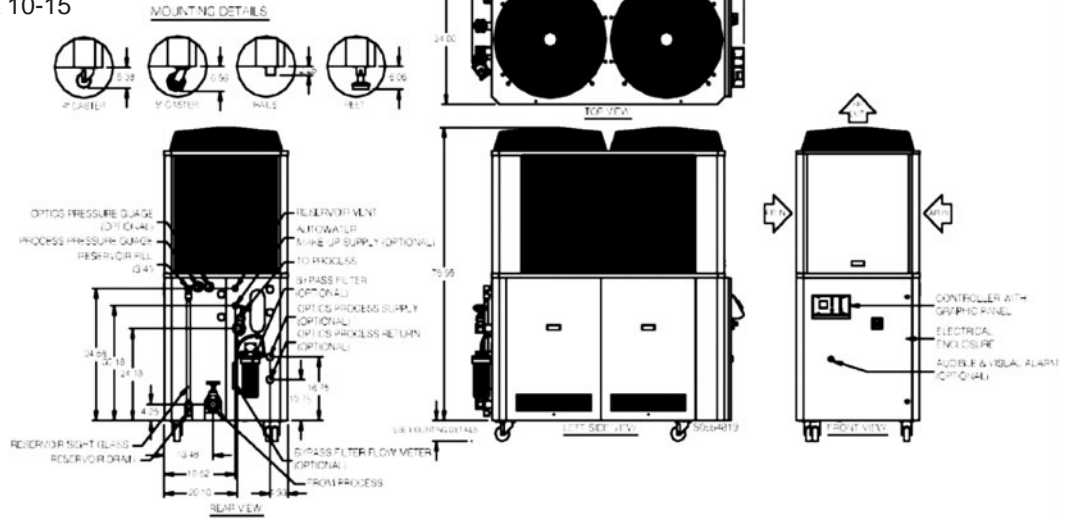
NOTES: Weights are for standard chiller. Some optional features will increase weight. Operating weight is with a full reservoir tank of water.



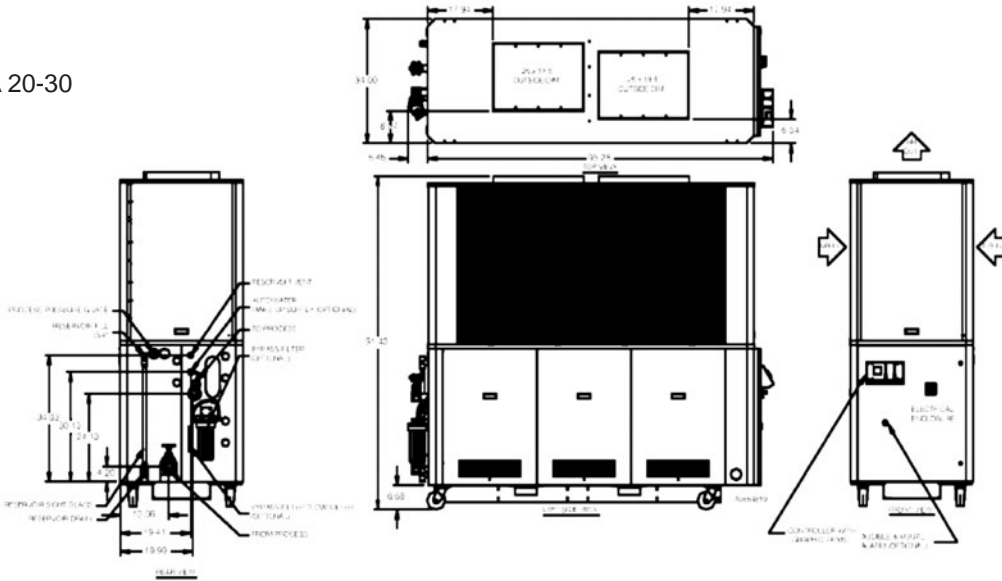
**SMC SERIES**

DIMENSIONS: SMCA 10-30

SMCA 10-15



SMCA 20-30



**WEIGHTS: SMCA 10-30**

Model	Dry weight, lbs.	Ship. weight, lbs.	Oper. weight, lbs.
SMCA 10	1305	1570	1637
SMCA 15	1388	1653	1720
SMCA 20	2305	2605	2971
SMCA 25	2348	2648	3014
SMCA 30	2610	2910	3276

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

