

SMC SERIES



1/2 to 1 1/2 hp Air-Cooled Portable Chillers

BIG FEATURES IN A SMALL PACKAGE

If you need a small chiller with big features, Sterling has the unit that stands tall against the competition. The SMC050 through the SMC150 utilize hermetically-sealed, reciprocating compressors with air cooled condensers. The 050 and 100 use HFC-134a for the refrigerant; the 150 uses HCFC-22.

All the sizes can control within $\pm 2^{\circ}\text{F}$ using an off-the-shelf fuzzy logic microprocessor controller. They also have NEMA 1-style electrical enclosures, non-ferrous wetted surfaces and all refrigerant safeties. Space saving unit! In order to save valuable floor space, the SMC050 through the SMC150 have a footprint of 20" wide x 26" deep.



Features

- Hermetic reciprocating compressors
- Tube-in-tube evaporators
- Aluminum fin/copper tube condensers
- Six (6) gallon (22.7 liter) polyethylene tank with external fill/drain sight glass
- Non-ferrous piping
- Regenerative turbine, horizontally mounted pump
- Off-the-shelf microprocessor-based PID controller with autotuning and To Process and Set Point LED readout
- Structural steel frame and panels with 2" (51 mm) swivel casters
- Pressure-actuated Process water bypass valve for system protection
- To Process 2 1/2" (63 mm) diameter, dual scale liquid-filled water pressure gauge
- Fully insulated refrigeration and process piping
- HFC-134a on 1/2 and 1 hp, HCFC-22 on 1/2 hp
- NEMA 1 electrical enclosure
- Efficient, insulated pump and evaporator
- High and low refrigerant pressure cut-outs
- Hot gas bypass capacity control
- Thermal expansion valve
- Refrigerant sight glass
- Filter dryer
- Multiple refrigeration access ports
- 1 year warranty on compressor and labor
- 2 year on parts; 3 year limited warranty on controller

Options

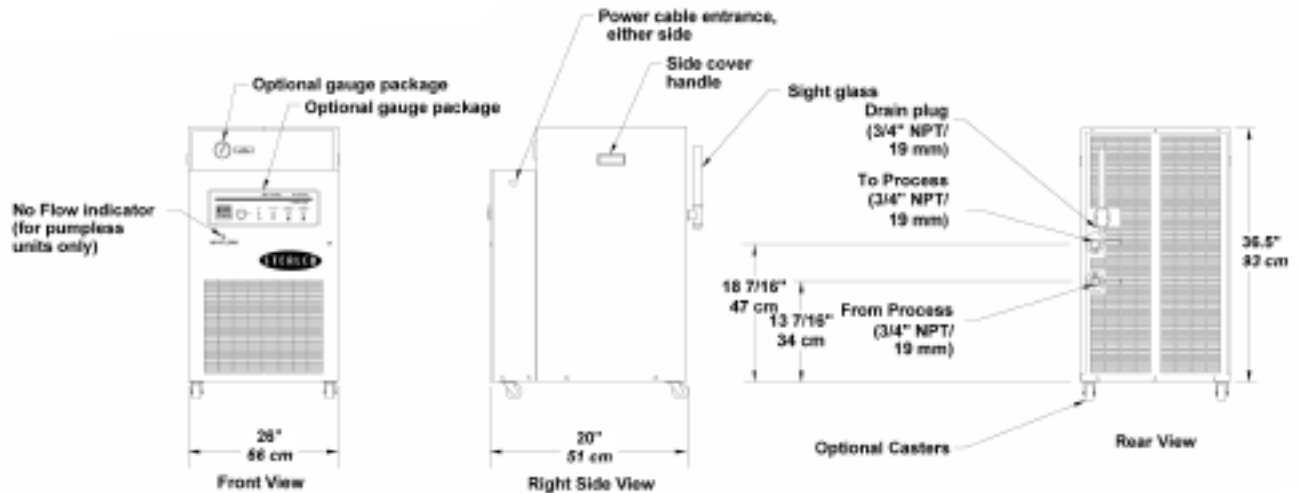
- Graphic display package: pump on, compressor on, low refrigerant pressure, high refrigerant pressure, hot gas bypass
- Crankcase pressure regulating (CPR) valve to prevent compressor motor overloading, required for process water leaving temperature of 66°F to 75°F
- High temperature audible/visual alarm; 85 dB @ 2ft. with audible alarm buzzer; 108,000 peak candlepower, 80 flash/min. visual strobe and silence button
- Powder cord (less plug)
- Process piping brass 20 mesh strainer; shipped loose
- Sight glass guard
- 4-year extended compressor warranty

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SPECIFICATIONS

Model	Comp., HP (kW)	Standard pump	Nominal chilled water, gpm (lpm)	Capacity @ 65°F (18°C) LWT, 75°F (24°C) ambient BTUH (watts)	Capacity @ 50°F (10°C) LWT, 90°F (32°C) ambient BTUH (watts)	Refrigerant	Process connection, in. NPT	FLA: 208-230/1/60	Oper. weight, lbs. (kg)	Ship. weight, lbs. (kg)
SMC-050	0.5 (0.373)	1.5 gpm @ 24 psig (4.5 lpm @ 207 kPa)	1.2 (4.5)	8100 (2374)	4800 (1407)	HFC 134A	0.75	10A	265 (121)	275 (125)
SMC-100	1 (0.746)	2.4 gpm @ 34 psig (9.0 lpm @ 234 kPa)	2.4 (9.0)	14,000 (4103)	9550 (2800)	HFC 134A	0.75	13A	325 (148)	335 (153)
SMC-150	1.5 (1.12)	3.6 gpm @ 24 psig (13.6 lpm @ 07 kPa)	3.6 (13.6)	25,400 (7444)	16,000 (4690)	HCFC-22	0.75	19A	345 (157)	355 (162)



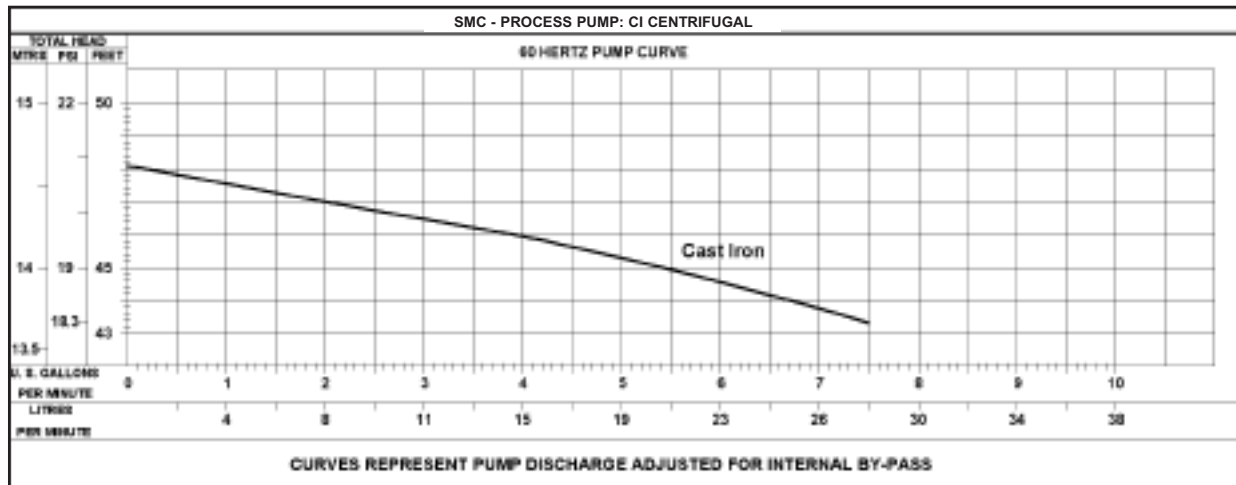
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WATER CIRCUIT PRESSURE DROP TABLE

Model	gpm	lpm	ΔP (psig)	ΔP (kPa)	ΔP (bars)
SMC-050	2.0	7.5	2.5	17.3	0.17
	2.4	9.0	4.0	27.6	0.28
	3.6	13.6	7.5	51.8	0.52
	4.8	18.1	12.5	86.2	0.86
SMC-100	2.0	7.5	2.5	17.3	0.17
	2.4	9.0	2.5	17.3	0.17
	3.6	13.6	3.0	20.7	0.21
	4.8	18.1	5.0	34.5	0.35
SMC-150	2.0	7.5	2.5	17.3	0.17
	2.4	9.0	2.5	17.3	0.17
	3.6	13.6	3.0	20.7	0.21
	4.8	18.1	3.5	24.2	0.24

BRONZE CENTRIFUGAL PUMP CURVE – 1/3 hp (0.249 kW)

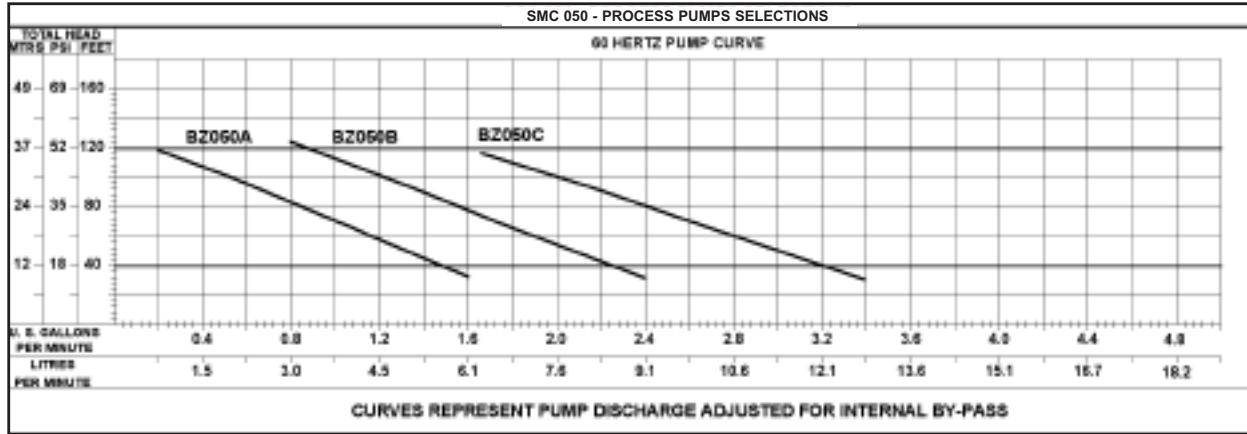


Do not extrapolate pump curves.

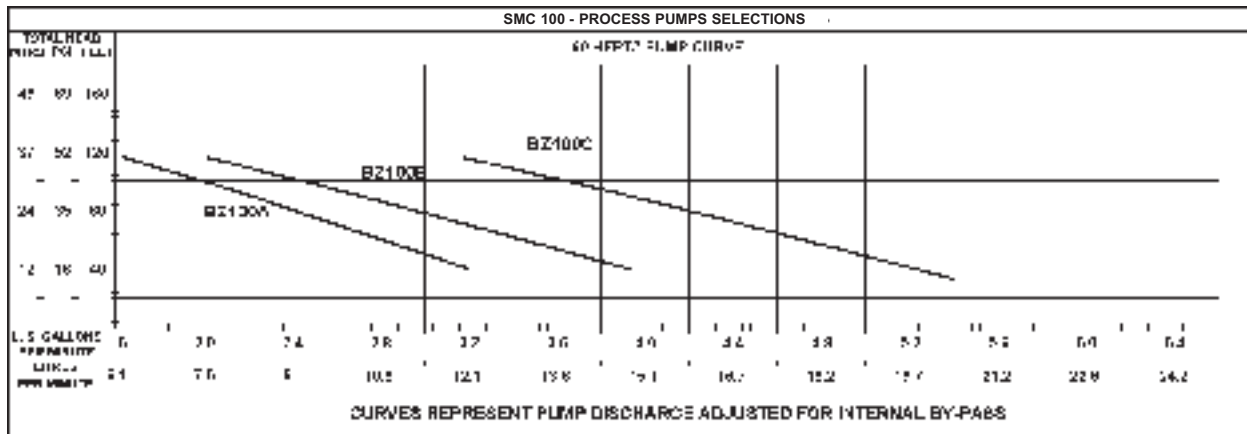
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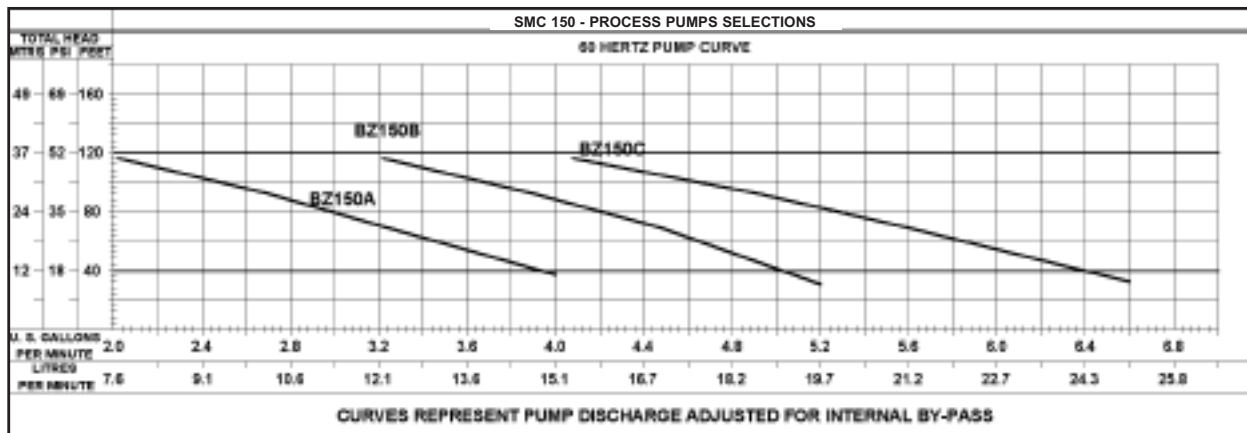
SMC 050 PUMP CURVES



SMC 100 PUMP CURVES



SMC 150 PUMP CURVES



Do not extrapolate pump curves.

