



HALCO PRODUCTS COMPANY

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HALCO
PRODUCT
INFORMATION

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REFRIGERATED RECIRCULATORS

LARGE CAPACITY 5-25 TON

All Halco™ Recirculating Chillers feature convenient “One Touch” temperature control adjustment with bright LED readouts easily read from across the room. You can check temperature, flow, pressure, and many other parameters at ease.

Halco™ Chillers are designed to handle process temperatures from 0° C to 30°C (32° to 86° F). (Optional low/high temp) designs are available upon request.

Microprocessor allows user adjustable high & low temperature limits to be setup as well as featuring audible and visual alarms such as fluid temperature, fluid pressure, flow rate, and other user configurable parameters.

Chillers are available in a wide selection of unit configurations, capacities, pump types, and compressor sizes for your custom configuration.



APPLICATIONS

- Programmable Controllers
- Lasers
- Hospital Cooling
- Welding Cooling
- Mold Cooling
- Plastics
- Injection/ Extrusion
- Die Casting
- Machine Tools
- Process Cooling
- Research Lab Cooling
- Military Cooling
- Special Applications
- OEM Requirements
- Metal Cutting
- Printing
- Reaction Vessels
- Central Cooling Systems

Standard Features

- Reliable and industry-proven heavy duty Scroll compressor
- (Dual compressors on 18HP and larger units)
- Compressor protection through high and low refrigerant pressure cutouts
- Additional compressor protection through a high-pressure refrigerant relief valve
- Reduced noise and energy savings by utilizing load-dependant fan cycling
- Process protection provided by over-temp/under-temp alarms
- Convenient remote ON/OFF for control from a distance
- Heavy-duty, four wheel swivel locking casters provide easy maneuverability
- Corrosion-resistant, highly reliable stainless steel centrifugal pump (many pump options available)
- Protection from dust and fluids with a NEMA 12 style electrical enclosure
- Convenience and safety by means of a door-mounted power disconnect switch actuator
- Quick and easy installation with single-point power and ground wiring connections
- Digital LED Flow rate readout
- Full flow bypass valve
- Compressor hour meter
- Process temperature: 32° to 86°F (0°C to 30°C)
- Ambient temperature: 60° to 95°F (16°C to 35°C)
- Temperature stability: $\pm 2.0^\circ\text{F}$ ($\pm 1.11^\circ\text{C}$)
- High-efficiency vertical air exhaust (air cooled units only)
- Accurate microprocessor control with a dual digital LED readout for temperature and pressure/flow
- User settable alarms for process temperature, pressure, flow rate and ambient temperature
- Control and data logging through RS232 interface

Optional Features

- Tank sight glass or level indicator
- Internal recirculating pump (varying flow applications)
- Remote temperature control probe
- Remote control panel
- Stainless steel reservoir
- High and low water pressure cutouts
- Rail or foot mounting
- Higher-output Centrifugal and Turbine pumps
- Ambient temperatures to 104°F
- Other process temperatures 5° to 185°F
- Process shutoff valves
- Soft start fan motor
- RS485 interface
- DI compatible process piping
- Heaters
- Outdoor remote condenser
- Alternative controllers
- 380V 3ph 50 Hz
- 200V 3ph 50Hz
- Alternate heat transfer fluids
- Tank low level indicator/alarm
- Audible and Visual Alarms
- Power phase monitor
- External water filter (side stream)
- High pressure fans/blowers
- Auto water makeup valve

Other options available, consult factory

- Variable speed fan
- Less reservoir tank
- Less reservoir tank and pump

Specifications to change without notice

SPECIFICATIONS



AIR COOLED HALCO MID & LARGE SIZED CHILLERS

MODEL		PCA500	PCA750	PCA1000	PCA1300	PCA1500	PCA1800	PCA2000	DCA2500
Compressor	Nominal HP	5	7.5	10	13	15	18 (2@9)	20 (2@10)	25 (12+13)
	Tons	4.66	6.36	9.51	11.75	14.47	16.11	18.24	22.8
Cooling Capacity (1)	Watts	16,384	22,361	33,436	41,312	50,876	56,642	64,131	80,235
	BTU/hr.	55,920	76,320	114,120	141,000	173,640	193,320	218,880	273,600
Nominal Evaporator Flow (2)	USGPM	11.7	15.7	23.8	29.2	35.7	40.1	46.2	58.3
Pressure	PSIG	35	33	42	39	35	46	55	65
Pump Horse Power	H.P.	1	1	2	2	2	3	5	7.5
Fans	H.P.	1	1	2 @ 1	2 @ 1	2 @ 2	2 @ 1.5	2 @ 2	2 @ 2
Condensor Discharge Air Flow	CFM	3,500	5,300	6000	9975	11000	9000	10500	13,500
Process Conections (To & From)	Inches	1-1/2	1-1/2	1 1/2	2	2	2	2	2
Reservoir Tank Capacity	US Gallons	16	16	40	40	40	100	100	100
Dimensions (d x w x h)	Inches	54x34x72	54x34x72	84x34x72	84X34X72	84X34X72	97X44X91	97X44X91	97X44X91
Shipping Weight	Pounds	990	1,050	1505	1510	1625	2275	2575	3,075
Ambient Temperature	°F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60°F-95°F
	°C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	16°C-35°C
Temperature Range	°F	32°F-86°F	32°F-86°F	32°F-86°F	32°F-86°F	32°F-86°F	32°F-86°F	32°F-86°F	32°F-86°F
	°C	0°C-30°C	0°C-30°C	0°C-30°C	0°C-30°C	0°C-30°C	0°C-30°C	0°C-30°C	0°C-30°C
Temperature Stability	°F	±2.0°F	±2.0°F	±2.0°F	±2.0°F	±2.0°F	±2.0°F	±2.0°F	±2.0°F
	°C	±1.11°C	±1.11°C	±1.11°C	±1.11°C	±1.11°C	±1.11°C	±1.11°C	±1.11°C
Nominal Rated Amps	460V/3/60	14.1	18.3	26.4	32	3.6	45	48.3	60
	208-230V/3/60	27.6	36.9	N/A	N/A	N/A	N/A	N/A	N/A
	208-230V/1/60	27.6	36.9	N/A	N/A	N/A	N/A	N/A	N/A
	230V/3/60	N/A	N/A	57.8	63	73.4	93	99.9	N/A

1. Capacity based on 95°F (35°C) entering air, and 120°F. (49°C) condensing temperature. Leaving water 50°F. Allowance made for heat gain from pump.

2. Chiller flow rate based on 2.4 USGPM/ton (0.54m³/hr/ton).

3. Pumps; Stainless Steel Centrifugal.

4 Process flow less than 1.92 gpm per ton or greater than 3.6 gpm per ton may require a recirculation pump.

How to choose a chiller

Choosing the right size recirculating chiller adds to the economies of its use. The optimum size needed is based on the amount of heat your applications is generating, plus additional power to maintain temperature under varying loads.

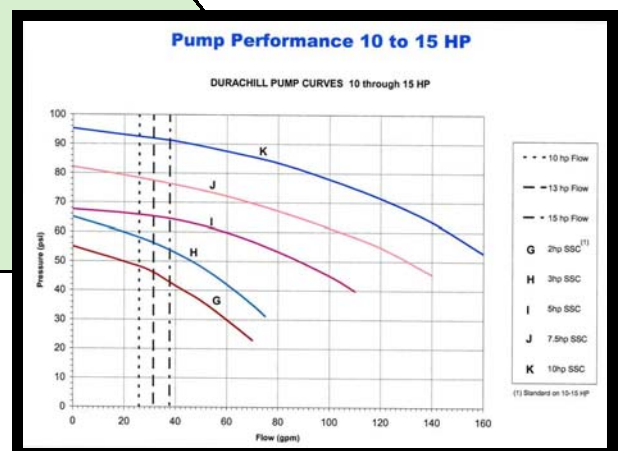
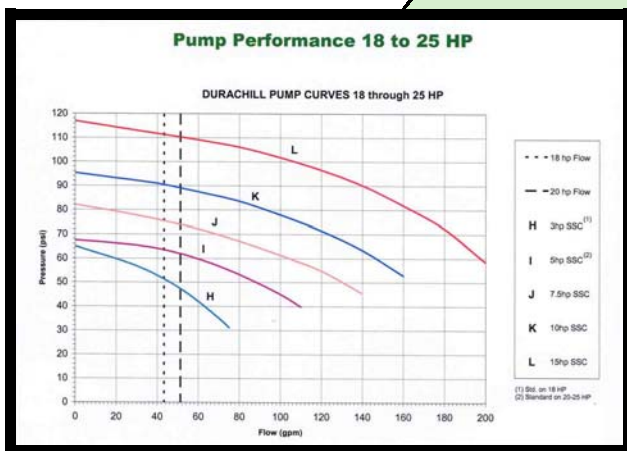
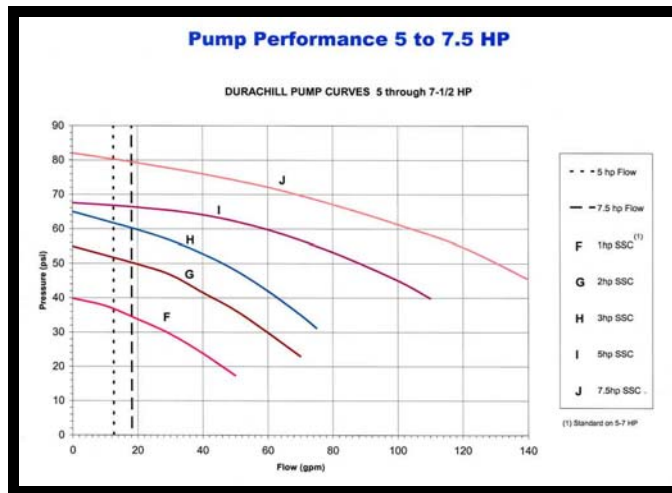
Normally the manufacturer of the device you are cooling will supply heat removal information. If information isn't available, here's how to calculate the heat load of your system:

$$\text{Watts} = [\Delta T^\circ \times (K)] / S$$

- ΔT = the difference (Δ) between incoming and outgoing tap water temperature (T) of your instrument. Measure carefully using the same thermometer for both locations. You may measure in celsius & fahrenheit.
- S= The number of seconds to fill a one liter container
- K= Conversion constant for density & specific heat of water
- Measured in:

$$\text{Celsius: Watts} = [\Delta T^\circ\text{C} \times (4,186)] / \text{Seconds}$$

$$\text{Fahrenheit: Watts} = [\Delta T^\circ\text{F} \times (2,326)] / \text{Seconds}$$



*Contact Factory for Specific Details

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In line with our policy of continual product improvement, HALCO reserves the right to incorporate and use equipment and material to conform with the latest design of its products, and in keeping with the specifications of this equipment. Specifications subject to change without notice.