

## FEATURES

### Innovative Modular Design

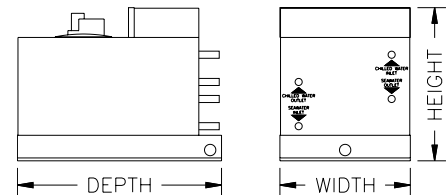
- Compact base design allows flexibility in space, usage and layouts.
- Individual modules can be multiplexed to provide precise capacity requirements for any application.

### High Efficiency Components

- Thermodynamically matched components assure maximum performance.
- Rotary and Scroll compressors provide high efficiency performance with less power consumption and quieter operation. The cylindrical shaped compressor allows for a compact design.
- Fewer moving parts ensure higher reliability.
- Condenser coil is custom fabricated of spiral fluted cupronickel to provide maximum heat transfer and high corrosion resistance.
- Exclusive Digital Diagnostic Controller (DDC) monitors and protects the system through the use of aquastats, high and low pressure switches, timers, freeze controls and high limit switches, all programmed to read out on an LED panel for immediate diagnosis.

### Quality Assurance

- Each unit is evacuated to below 500 microns, pre-charged, hermetically sealed, load tested and electronically calibrated at the factory.
- Charge Guard® protection provides sealed access ports, ensuring environmental protection and chiller module integrity.
- All units meet or exceed applicable ABYC and U.S. Coast Guard regulations, CE Directives and general Air Conditioning and Refrigeration Industry (ARI) standards.



## Advantages of a MAS Chilled Water System

- No refrigeration line sets and mechanical flare fittings which are subject to leaking refrigerant over time.
- Environmentally friendly hermetically sealed modules.
- No EPA certified technician required for startup or field installation.
- Flexible hose is easier to install and insulate compared to refrigerant line sets.
- Provide full cooling capacity to areas which require fast pull downs from hot starts.
- Most applications result in fewer compressors, which increases reliability, reduces weight and conserves power.

## SPECIFICATIONS

Model <sup>(1)</sup>	CHC16RC(Z, Z50)			CHC20RC(Z, Z50)			CHC24SRC(Z, Z50)								
<b>Capacity Cool/RC (BTU/H)</b>	16,000/17,600			20,000/22,000			24,000/26,400								
<b>Electrical Data</b>															
Voltage (VAC)	115	230	220	230	220	220	230	220	230	220	380	230	220	380	
Cycle (Hz)/Phase (Ph)	60/1	60/1	50/1	60/1	50/1	50/1	60/1	50/1	60/3	50/3	50/3	60/1	50/1	50/3	
Refrigerant R-22 or 407C <sup>(2)</sup>	either	R-22	either	R-22	R-22	407C	R-22	R-22	R-22	R-22	R-22	407C	407C	407C	
Full Load Amps (FLA) cool	8.0	3.8	4.3	5.3	6.1	6.3	6.6	7.5	4.7	4.7	2.7	6.5	7.5	3.1	
Full Load Amps (FLA) heat	11.9	5.6	6.2	7.6	8.4	9.1	8.9	10.4	6.0	7.1	3.5	9.6	10.4	4.1	
Locked Rotor Amps (Comp)	67	29	32	45	52	52	54	56	45	56	26	56	56	32	
K.V.A. (Kilo-Volt-Amps)	1.4	1.3	1.4	1.7	1.8	2.0	2.0	2.3	2.4	2.7	2.3	2.2	2.3	2.7	
Max. Circuit Breaker (Amps)	35	20	20	25	30	30	35	40	20	25	10	35	40	15	
Min. Circuit Ampacity (Amps)	22	12	13	17	17	17	20	23	14	15	8	20	25	9	
<b>Refrigerant R-22 (oz/g)</b>	12/340			14/397			16/454			14/397			18/510		
<b>Refrigerant 407C (oz/g)</b>	10/283			-			12/340			-			13/367 18/510		
<b>Weight (lb/kg)</b>															
Net Weight - 60Hz (50Hz)	52/23.6 (58/26.3)			65/29.5 (84/38.1)			84/38.1 (101/45.8)								
Gross Weight - 60Hz (50Hz)	62/28.1 (68/30.8)			75/34.0 (94/42.6)			94/42.6 (111/50.3)								
<b>Dimensions (in/mm)<sup>(3)</sup></b>															
Depth	18.00/457			18.00/457			18.00/457								
Width	11.50/292			11.50/292			13.00/330								
Height	12.75/324			13.50/343			15.75/400								
<b>CHC Pump Packages</b>															
	<b>PMA1000</b>		<b>P120</b>		<b>P700</b>										
Voltage (VAC)	115	230	115	230	115	230									
Amps (60Hz/1ph)	2.1	1.0	4.9	3.5	7.2	3.6									
Net Weight (lbs/kg)	24/10.9		39/17.7		40/18.1										
Gross Weight (lbs/kg)	30/13.6		45/20.4		46/20.9										
<b>Dimensions (DxWxH)</b>															
inches (in)	18.0x13.0x9.0 <sup>(5)</sup>			18.0x13.0x7.5			18.0x13.0x8.0								
millimeters (mm)	457x330x229 <sup>(5)</sup>			457x330x191			457x330x203								

<sup>1)</sup> Model numbers: CHC = Chiller Compact; 16, 20, 24 = BTU/H x 1000; RC = Reverse Cycle; Z = 230/60; Z50 = 220/50; 3 = 3 Phase; S = Scroll compressor (Rotary compressors are used on the 16 & 60Hz 20).

<sup>2)</sup> "Green Gas": CHC16's are available in 115/60/1 & 220/50/1 with the same amps as R-22 units. <sup>3)</sup> Add 1.0"/25mm for mounting brackets. Brackets can be mounted on any side of base pan (depth or width).

<sup>4)</sup> The 50Hz CHC20s have the same dimensions as the CHC24s. <sup>5)</sup> The PMA1000 Pump Package is 9.0"/229mm tall at the water outlet and 7.5"/191mm tall at the pump.

# Installation Guidelines for CHC Chiller Compact

When choosing the proper model CHC Chiller Compact condensing unit, primary consideration should be given to calculated BTU loads and available power supply. Any special requirements (capacity modifications, voltages, cycles, auxiliary heat, etc.) should be determined prior to installation.

The location of the Chiller Compact condensing unit should be dry and accessible for service, typically in engine room, lazarette or machinery compartment. Secure the condensing unit to a level horizontal surface with the supplied brackets. These brackets are designed to hold the weight of the equipment as well as handle any torsional movement. Do not stack units directly on top of each other as each condensing unit must be independently supported. Racking is available to facilitate custom installations.

Use Reinforced marine grade hose for the seawater circuit. The hose is to be routed upwards from the thru-hull intake to the condensing unit to prevent air locks in the centrifugal seawater pump. Circulation connections between the condensing unit and chilled water lines are to be made with properly sized fittings and reinforced marine grade hose. All hose connections are to be double clamped and ball valves should be installed at chilled water inlet/outlet of each CHC unit and each air handler for ease of serviceability of the system. Insulate all hose and fittings airtight upon completion of leak tests to prevent condensation and capacity loss.

The condensing unit chassis has an integral condensation drain pan for removal of any water that may form. Secure a hose to this drain pan spud and route it downward to a proper sump or overboard discharge outlet.

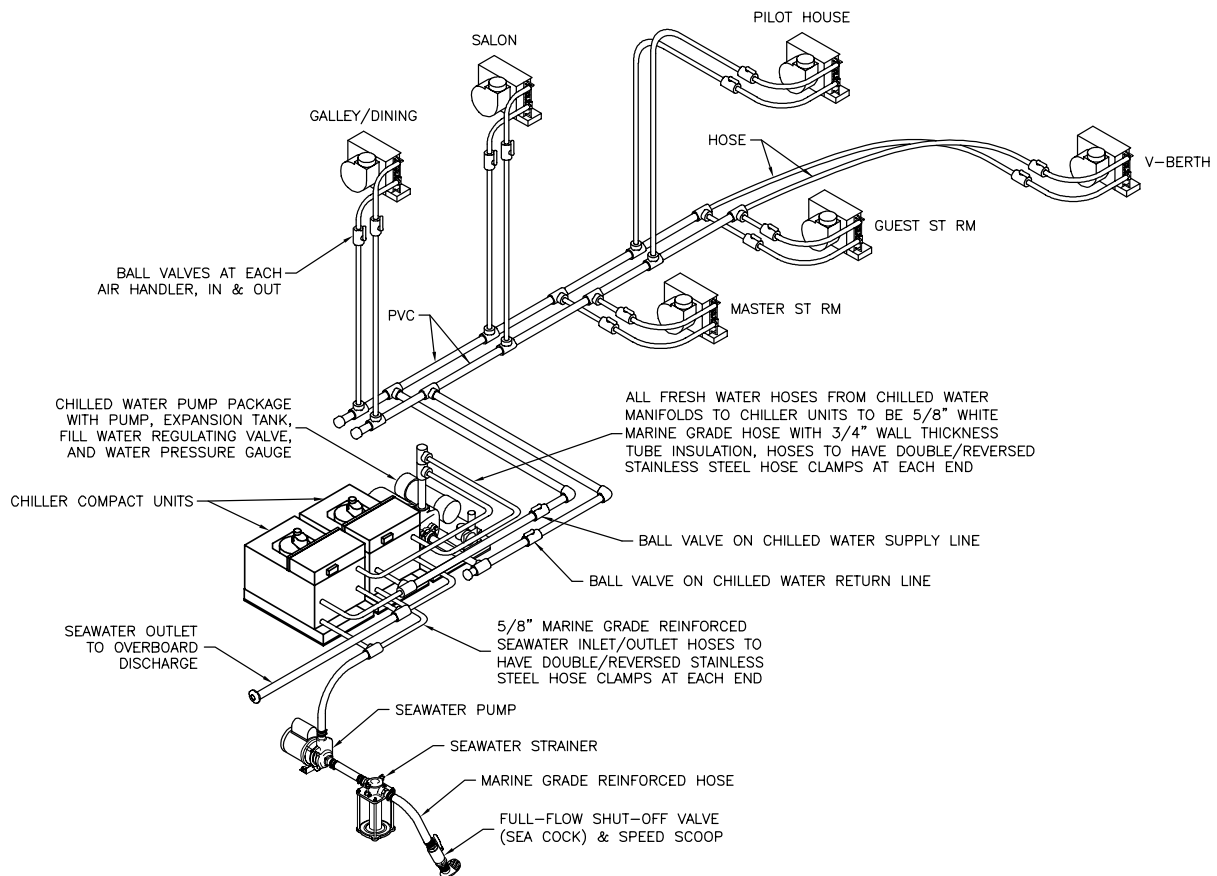
Never install the air handlers in bilge or engine room areas and insure that the selected location is sealed from direct access to bilge and/or engine room vapors. Do not terminate condensate drain lines within three (3) feet of any outlet of engine or generator exhaust systems, nor in a compartment housing an engine or generator, nor in a bilge (vapors can travel up the drain line), unless the drain is connected properly to a sealed condensate or shower sump pump. Failure to comply may allow bilge or engine room vapors to mix with the air handler's return air and contaminate living areas.

All circuit breakers and wire gauge must be sized according to marine design standards. Only stranded tinned copper wire should be used. Route all wiring through the strain-relief connectors provided in the electrical boxes.

All equipment should be properly grounded and bonded. Electrical boxes are pre-wired for power with solid state control circuits. The system control switch can either be mounted on the module or remoted on a panel for more convenient access.

All chilled water condensing units use closed-refrigerant circuits, pre-charged with refrigerant. No additional refrigerant is required during the installation or at initial start-up and operation of the system. Refer to other individual component sheets for specifications and details of air handlers, controls and related parts.

In keeping with regulations set forth by the EPA, only certified technicians should perform service on, or make adjustments to, any refrigerant circuits.



In the interest of product improvement, specifications and design as outlined herein are subject to change without prior notice.

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