MARINE AIR SYSTEMS®

chilled water mcw chiller series

Product Description

Modular chilled water (MCW) units are available in capacities ranging from 24,000 to 180,000 BTU/H. MCW's are available in single phase or three phase, 50Hz or 60Hz, and all standard voltages (208, 230, 380, 460 VAC). Modules can be staged together to provide a larger system, which is easily retrofitted and serviced in the field. A maximum of six 15 ton stages could be configured for a total of 1,080,000 BTU's or 90 tons. Each refrigerant circuit is hermetically sealed and factory pre-charged with R-22 (407C is optional). Each condensing unit is monitored and protected with freeze controls, high limit switches, high and low aquastats, and timers. These condensing units can be installed in any convenient location and are unaffected by vibration, moisture or ambient temperatures up to 140°F/60°C.

Features

Innovative Modular Design

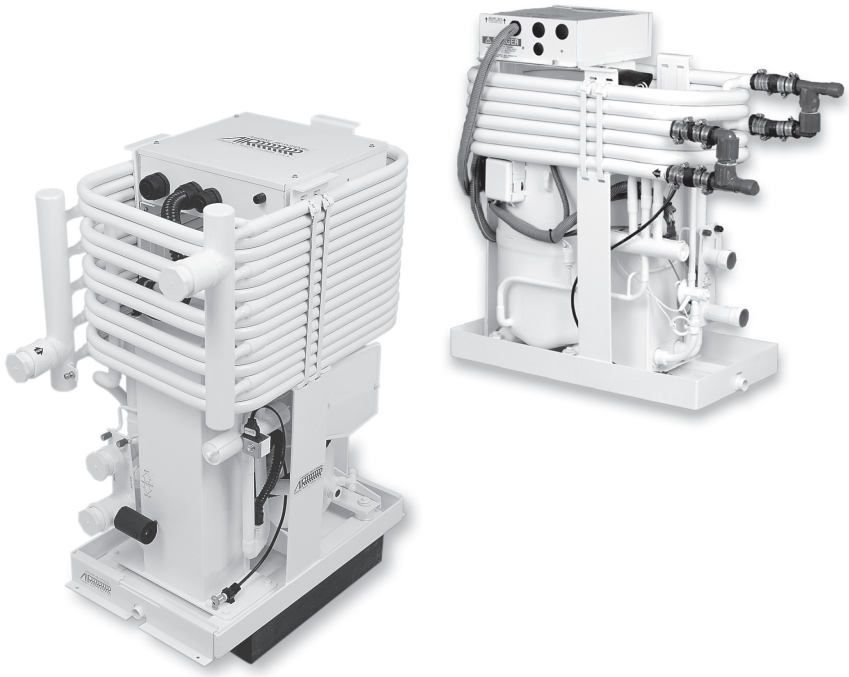
- Compact base design and footprint allows flexibility in space usage and layouts.
- Lightweight aluminum construction provides corrosion resistant durability and enhances ease of installation.
- Individual modules can be multiplexed to provide precise capacity requirements for any application.
- Factory assembled vertical and horizontal multiplexed configurations are available with frames, manifolds and controls.
- Remote-mountable electrical box allows easy access for adjustments or service.

High Efficiency Components

- Matched components provide full rated capacity and assure maximum performance.
- Bi-flow expansion valves balance systems between heat and cool modes.
- Compact stainless steel brazed plate heat exchangers are designed for maximum efficiency using minimum space.
- Condenser coil is constructed 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, pressure switches, timers, freeze controls and high limit switches. All programmed to read out on an LED panel for immediate diagnosis.
- Standard models operate at 60Hz and 50Hz. Models are available to operate at voltage, frequency, and phase combinations to suit customer needs.
- Frames are welded with marine grade aluminum alloy, primed, then finished with a corrosion resistant epoxy.

Quality Assurance

- Each unit is pre-charged, load tested and calibrated at the factory.
- Charge Guard- protection provides sealed access ports, ensuring environmental protection and system 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.



chiller

S E R I E S

Specifications

Model Capacity	MCW24-*RC	MCW36-*RC	MCW48-*RC	MCW60-*RC	MCW72-*RC	MCW90-*RC	MCW120-*RC	MCW150-*RC	MCW180-*RC
Cool BTU/H	24,000	36,000	48,000	60,000	72,000	90,000	120,000	150,000	180,000
Cool Kcal/H	6,048	9,072	12,096	15,120	18,144	22,680	30,240	37,800	45,360
Reverse Cycle BTU/H	26,400	39,600	52,800	66,000	79,200	99,000	132,000	165,000	198,000
Reverse Cycle Kcal/H	6,653	9,979	13,305	16,632	19,958	24,948	33,264	41,580	49,896
Est. Net Weight (lbs/*kg*)(1)	107/*49*	107/*49*	154/*70*	176/*80*	180/*82*	310/*141*	390/*177*	*480*/*218*	600/*272*
Est. Ship Weight (lbs/kg)(1)	194/*88*	194/*88*	241/*109*	*263*/*119*	267/*121*	410/*186*	500/*227*	600/*272*	*715*/*329*

* S= Scroll (available in 2-15 ton), R= Reciprocating (available in 2-5 ton, 5 ton at 60Hz only).

(1) Weights shown are for modules using scroll compressors rated at 60Hz, see MCW spec sheet for additional information.

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Installation Guidelines for the MCW Chiller Series

When choosing the proper model ***MCW Chiller*** 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 ordering.

The location of the ***MCW Chiller*** condensing unit should be dry and accessible for service. 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. If a Marine Air Systems frame base is supplied and the chillers are already mounted, secure by drilling through the frame base at convenient locations. Do not stack units directly on top of each other. Each condensing unit must be independently supported.

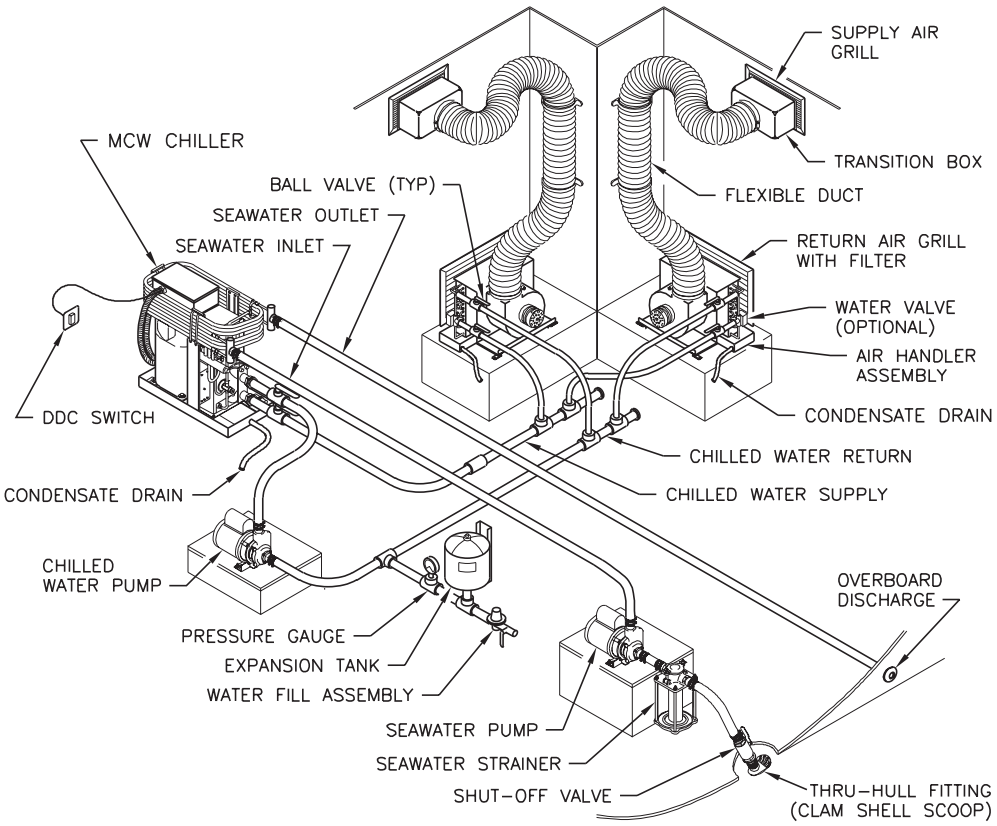
Reinforced marine grade hose is to be used for the seawater circuit. The hose is to be routed upwards from the thru-hull intake to the condensing unit to prevent air locks in the centrifugal seawater pump. Circulation connections between the condensing unit and chilled water lines are to be made with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

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

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 using the lug provided on each unit's chassis. Electrical boxes are pre-wired for power and control circuits. Electrical boxes can be remote mounted in a convenient location with the standard five foot harness. Field wiring is required between remote switch and unit electrical box.

All chilled water condensing units use closed-refrigerant circuits, pre-charged with R-22. 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 circuit.

Never install your air handler in bilge or engine room areas. Insure that the selected location is sealed from direct access to bilge and/or engine room vapors. Do not terminate condensate drain lines within four (4) 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 handlers return air and contaminate living areas.



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