



YORK Marine chiller units

Type MCSH-P

Features

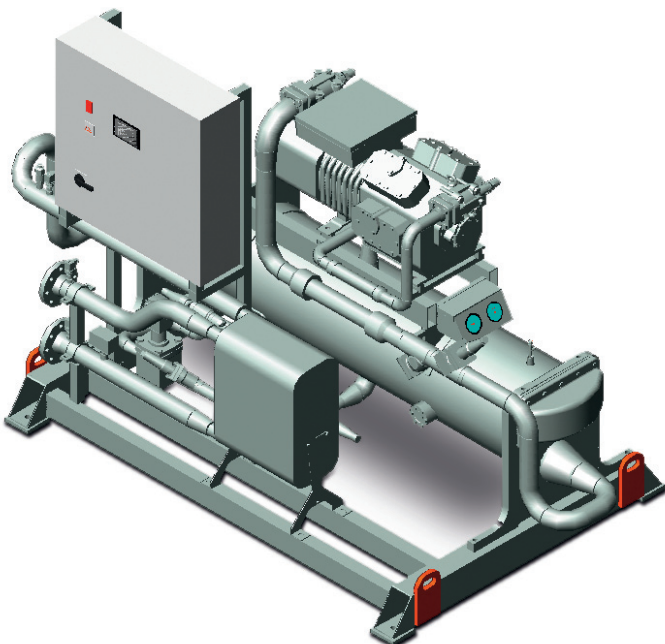
- Marine Chiller Units, designed and manufactured by Johnson Controls Marine for long service in heavy sea conditions
- Condenser with integrated liquid receiver, suction gas heat exchanger and liquid sub-cooler, for minimum space requirements and easy installation
- Designed for various HFC or HCFC refrigerants
- Designed for air conditioning cooling capacities, 50-285 kW

Unit

Compressors are semi hermetic multi cylinder reciprocating type.

They include:

- cylinder unloading capacity regulation
- positive lubrication by integral oil pump
- integral safety valve
- integral suction strainer
- suction and discharge isolating valves
- crankcase heater
- oil level sight glass
- suction filter for start-up & running-in.
- electronic expansion valve
- PT-100 sensors for measurement of chilled water supply and return temperature
- flow switch in chilled water pipe system as safe guard for freezing



Capacity regulation

Capacity regulation may be actuated manually or automatically to provide the following capacity steps:

Unit type for R404a	Capacity Step
MCSH-P / 4H -CRxC271954	50% - 100%
MCSH-P / 6J -CRxC271954	33% - 66% - 100%
MCSH-P / 6H -CRxC271954	33% - 66% - 100%
MCSH-P / 6G -CRxC272366	33% - 66% - 100%
MCSH-P / 6F -CRxC411913	33% - 66% - 100%
MCSH-P / 8GC -CRxC411913	50% - 75% - 100%
MCSH-P / 8FC -CRxC411913	50% - 75% - 100%
MCSH-P / 66G -CRxC501918	33% - 66% - 83% - 100%
MCSH-P / 66F -CRxC501918	33% - 66% - 83% - 100%

Unit type for R134a	Capacity Step
MCSH-P / 6G -CRxC271954	33% - 66% - 100%
MCSH-P / 6F -CRxC271954	33% - 66% - 100%
MCSH-P / 8GC -CRxC271954	50% - 75% - 100%
MCSH-P / 8FC -CRxC411913	50% - 75% - 100%
MCSH-P / 66G -CRxC411913	33% - 66% - 83% - 100%
MCSH-P / 66F -CRxC411913	33% - 66% - 83% - 100%

Condenser, with built-in liquid receiver and heat exchanger

The condenser is a cleanable, shell-and-tube type with built-in receiver, suction gas heat exchanger and liquid sub-cooler. The tubes are CuNi for seawater and Cu for fresh water.

For seawater cooling the shell are steel, tube-plate CuNi / steel compound and the end-covers are red brass.

For freshwater cooling the shell and tube-plates are steel. The end covers are coated cast iron.

The build in suction/liquid heat exchanger ensures safe operation, minimize the risk of liquid hammering, secure sufficient liquid sub-cooling and improve the compressors performance.

Condenser pressure safety relief valve set to open at the design pressure.

Refrigerant filter/drier system

Refrigerant filter/drier system is included and provides:

- liquid refrigerant filter/drier with isolation valves
- liquid line sight glass with moisture indicator
- refrigerant charging valve.

Evaporator

The evaporator is a fully welded and insulated plate heat exchanger. Plate material is AISI 316. Chilled water pipe are insulated as well and lead to the unit frame edge for easy connection.

Gauge panel

Gauge panel with suction, discharge and oil pressure gauges. These glycerin filled gauges are easy to read and provide a long service lifetime.

Control Panel

Control panel mounted on the unit base frame. Including all internal wiring. Including signal for cooling / chilled water pump start

PLC unit control

PLC-based control is standard.

With PLC control the low/high and oil pressure cut-outs switches are replaced by pressure sensors with readings and settings from the PLC control panel.

- Low pressure cut-out, which will stop the compressor at a pre-set minimum suction pressure.
- High pressure cut-out, which will stop the compressor at a pre-set maximum discharge pressure.
- Low oil pressure cut-out, which will stop the compressors at a pre-set minimum differential pressure.

Unit type for R404a	Length mm	Width mm	Height mm	Service area (mm) ***	Weight Kg **	Capacity 50/60HZ	Drawing No.
MCSH-P / 4H -CRxC271954	2538	1610	1850	800 / 1900	980/1019	57/67	661036-0104
MCSH-P / 6J -CRxC271954	2538	1610	1850	800 / 1900	1010/1080	74/88	661036-0105
MCSH-P / 6H -CRxC271954	2538	1610	1850	800 / 1900	1020/1112	85/100	661036-0106
MCSH-P / 6G -CRxC272366	2918	1610	1850	800 / 2300	1065/1222	98/115	661036-0112
MCSH-P / 6F -CRxC411913	2627	1610	1850	800 / 1900	1292/1338	116/136	661036-0113
MCSH-P / 8GC -CRxC411913	2627	1610	1850	800 / 1900	1335/1422	136/164	661036-0114
MCSH-P / 8FC -CRxC411913	2627	1610	1850	800 / 1900	1360/1437	161/194	661036-0115
MCSH-P / 66G -CRxC501918	2804	1610	1850	800 / 1900	1690/1823	196/231	661036-0110
MCSH-P / 66F -CRxC501918	2804	1610	1850	800 / 1900	1690/1823	231/273	661036-0111
Unit type for R134a	Length mm	Width mm	Height mm	Service area (mm) ***	Weight Kg **	Capacity 50/60HZ	Drawing No.
MCSH-P / 6G -CRxC271954	2538	1610	1850	800 / 1900	980	65/76	661036-0104
MCSH-P / 6F -CRxC271954	2538	1610	1850	800 / 1900	1010	76/90	661036-0105
MCSH-P / 8GC -CRxC271954	2538	1610	1850	800 / 1900	1020	91/109	661036-0106
MCSH-P / 8FC -CRxC411913	2627	1610	1850	800 / 1900	1360	106/128	661036-0115
MCSH-P / 66G -CRxC411913	2627	1610	1850	800 / 1900	1525	129/152	661036-0117
MCSH-P / 66F -CRxC411913	2627	1610	1850	800 / 1900	1580	152/180	661036-0118

Capacity for R407C 63-260KW
 ** Approx weight
 *** Service area / withdraw of condenser tube

Capacity based on
 +3°C Evaporating temperature
 + 45°C Condensing temperature
 Chilled water 12°C / 6°C fresh water
 Sea water cooling 32°C
 Fresh water cooling 36°C
 60 Hz

Note:
 Minimum capacity for continuous operation is equal to the lowest capacity step of the compressor in question.



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The above technical information is subject to reservations of errors and updated product changes.