

# MCG Series 24K-72K Modular Chillers

## The Standard In Chilled Water Marine Air Conditioning



Marine Air's MCG chilled water series is available in capacities ranging from 24,000 (2 ton) to 180,000 (15 ton) BTU/hr. Featuring a compact base design, MCG modules can be staged to provide a larger system, which is easily retrofitted and serviced in the field. Up to six 15-ton stages can be configured for a system total of 1,080,000 BTU/hr, or 90 tons.

Each refrigerant circuit is hermetically sealed and factory pre-charged with R-410A refrigerant. This environmentally safe refrigerant has exceptional thermodynamic properties and maximizes system efficiency.

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.

MCG chillers are monitored and protected by Marine Air's exclusive Digital Diagnostic Controller (DDC), which can be installed remotely. For staged systems, the Chilled Water Master Controller (CWMC) provides central control over each DDC on each module in the system. Up to six modules are supported. The CWMC coordinates all cooling and heating functions, evenly distributes compressor run times, and operates the seawater and circulated water pumps.

MCGs are available in single phase or three phase, 50Hz or 60Hz, and all standard voltages (208, 230, 380, 460 VAC).

### Key Benefits

- Compact footprint for installation flexibility
- Aluminum construction is corrosion resistant and lightweight
- Up to six modules can be multiplexed for larger capacities
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Bi-flow expansion valves balance the system between heat and cool modes
- Compact stainless-steel brazed plate heat exchangers for maximum efficiency
- Spiral-fluted cupronickel condenser coil provides maximum heat transfer and corrosion resistance
- Digital Diagnostic Controller (DDC) monitors and protects the system
- Engineered to maximize the performance of R-410A, an environmentally safe refrigerant
- Charged, tested, and leak checked at the factory
- Meets or exceeds all applicable standards and regulation
- Charge Guard protection provides sealed access ports, ensuring environmental protection and chiller module integrity

# Specifications for MCG Series 24K-72K Modular Chillers

Model <sup>(1)</sup>	MCGV24	MCGV36	MCGV48	MCGV60	MCGV72
Capacity (BTU/h)	24000	36000	48000	60000	72000
Voltage (V)	230	230	240	230	230
Cycle (Hz/Phase Ph)	60/1	60/3	60/3	60/3	60/3
Full Load Amps (FLA) Cool (A)	6.4	9.6	12.3	17.8	20.1
Full Load Amps (FLA) Heat (A)	9.5	11.9	7.3	4.6	3.6
Locked Rotor Amps (LRA) (A)	58.3	97	58	45	28
Max. Circuit Breaker (A)	45	29	20	18	10
Min. Circuit Ampacity (A)	25	28	17	13	10
Refrigerant Type	R410A	R410A	R410A	R410A	R410A
Height-Without Elec. Box (in/mm) <sup>(2)</sup>	17.22/438	23.57/599	23.57/599	23.44/596	23.44/596
Height-With Elec. Box (in/mm) <sup>(2)</sup>	21.74/553	23.57/599	23.57/599	26.08/663	26.08/663
Width-Drain Pan (in/mm)	12/305	12/305	12/305	12/305	12/305
Max. Width (in/mm) <sup>(2)(3)</sup>	12/305	12.5/318	12.5/318	13.25/337	13.25/337
Depth-Drain Pan (in/mm) <sup>(2)(3)</sup>	24/610	24/610	24/610	24/610	24/610
Max. Depth (in/mm) <sup>(2)</sup>	24.97/635	30.78/782	30.78/782	30.7/780	30.07/764
Seawater Inlet Connection (in/mm)	3/16	1/26	1/26	1/26	1/26
Chilled Water Connection	1	1	1	1	1
Height-Electrical Box (in/mm) <sup>(3)</sup>	11/280	11/280	11/280	11/280	11/280
Width-Electrical Box (in/mm)	9.8/249	9.8/249	9.8/249	9.8/249	9.8/249
Depth-Electrical Box (in/mm)	3.7/94	3.7/94	3.7/94	3.7/94	3.7/94

<sup>1</sup> For information about net weight and shipping weight please contact a Dometic Marine sales representative at 954-973-2477.

<sup>2</sup> All dimensions ± 0.30 in. (8 mm).

<sup>3</sup> The electrical box (DDC) for single chiller modules can be mounted remotely.

## Dimensions for Multi-Stage Systems

No. of Stages	Height-Base (in/mm)	Width-Base (in/mm)	Depth-Base (in/mm)	Height-CWMC <sup>(1)</sup> (in/mm)	Width-CWMC <sup>(1)</sup> (in/mm)	Depth-CWMC <sup>(1)</sup> (in/mm)
MCG24 to MCG72 Modules						
2	1.50/38	41.5/1054	31.0/787	24.0/610	22.0/559	7.75/199
3	1.50/38	41.5/1054	31.0/787	24.0/610	22.0/559	7.75/199
4	1.50/38	55.5/1410	31.0/787	24.0/610	30.0/762	7.75/199
5	1.50/38	69.5/1765	31.0/787	24.0/610	35.0/889	7.75/199

<sup>1</sup> Indicates dimensions of Chilled Water Master Controller for Marine Air multi-stage chillers. Please refer to L-2133 for additional information.

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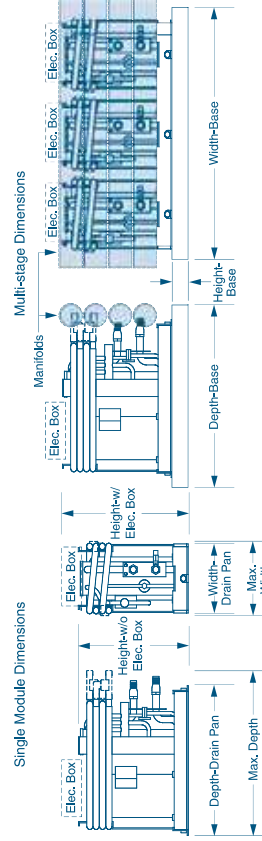
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Specifications and availability subject to change without notice.

## Dimensions



Dealer



# MCG Series 90K-180K Modular Chillers

## The Standard In Chilled Water Marine Air Conditioning



Marine Air's MCG chilled water series is available in capacities ranging from 24,000 (2 ton) to 180,000 (15 ton) BTU/hr. Featuring a compact base design, MCG modules can be staged to provide a larger system, which is easily retrofitted and serviced in the field. Up to six 15-ton stages can be configured for a system total of 1,080,000 BTU/hr, or 90 tons.

Each refrigerant circuit is hermetically sealed and factory pre-charged with R-410A refrigerant. This environmentally safe refrigerant has exceptional thermodynamic properties and maximizes system efficiency.

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.

MCG chillers are monitored and protected by Marine Air's exclusive Digital Diagnostic Controller (DDC), which can be installed remotely. For staged systems, the Chilled Water Master Controller (CWMC) provides central control over each DDC on each module in the system. Up to six modules are supported. The CWMC coordinates all cooling and heating functions, evenly distributes compressor run times, and operates the seawater and circulated water pumps.

MCGs are available in single phase or three phase, 50Hz or 60Hz, and all standard voltages (208, 230, 380, 460 VAC).

### Key Benefits

- Compact footprint for installation flexibility
- Aluminum construction is corrosion resistant and lightweight
- Up to six modules can be multiplexed for larger capacities
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Bi-flow expansion valves balance the system between heat and cool modes
- Compact stainless-steel brazed plate heat exchangers for maximum efficiency
- Spiral-fluted cupronickel condenser coil provides maximum heat transfer and corrosion resistance
- Digital Diagnostic Controller (DDC) monitors and protects the system
- Engineered to maximize the performance of R-410A, an environmentally safe refrigerant
- Charged, tested, and leak checked at the factory
- Meets or exceeds all applicable standards and regulation
- Charge Guard protection provides sealed access ports, ensuring environmental protection and chiller module integrity

### Specifications for MCG Series 90K-180K Modular Chillers

Model <sup>(1)</sup>	MCGV90			MCGV120		MCGV150			MCGV180		
Capacity (BTU/h)	90000			120000		150000			180000		
Voltage (V)	230	380	460	230	380	230	380	460	230	380	460
Cycle (Hz)/Phase (Ph)	60/3	50/3	60/3	60/3	50/3	60/3	50/3	60/3	60/3	50/3	60/3
Full Load Amps (FLA) Cool (A)	22.3	14.7	9.2	25.3	15.4	30.6	19.9	15.1	38.3	24.1	20.2
Full Load Amps (FLA) Heat (A)	31.5	14.9	13.4	31.3	19.2	38.9	24.5	19.3	50	29.9	25
Locked Rotor Amps (LRA) (A)	235	110		267	147	304	197	147	351	239	197
Max. Circuit Breaker (A)	100	56	42	103	60	144	86	67	168	55	86
Min. Circuit Ampacity (A)	57	32	24	58	38	80	49	38	94	55	49
Refrigerant Type	R410A			R410A		R410A			R410A		
Height-Without Elec. Box (in/mm) <sup>(2)</sup>	27.66/703			33.61/854		46.24/1175			49.5/1258		
Height-With Elec. Box (in/mm) <sup>(2)</sup>	31.07/790			37.71/958		N/A			N/A		
Width-Drain Pan (in/mm)	16/407			16/407		18.63/474			18.63/474		
Max. Width (in/mm) <sup>(2)</sup>	17.37/442			17.4/442		19.5/496			19.5/496		
Depth-Drain Pan (in/mm) <sup>(2)</sup>	24/610			24/610		26.75/680			26.75/680		
Max. Depth (in/mm) <sup>(2)</sup>	30.84/784			30.84/784		31.88/810			31.88/810		
Seawater Inlet Connection (in/mm)	1½ /39			1½ /39		2 /51			2 /51		
Chilled Water Connection Size (in)	1½			1½		2			2		
Height-Electrical Box (in/mm) <sup>(2)</sup>	13.3/338			13.3/338		N/A			N/A		13.3/338
Width-Electrical Box (in/mm)	12/305			12/305		N/A			N/A		12/305
Depth-Electrical Box (in/mm)	4.3/110			4.3/110		N/A			N/A		4.3/110

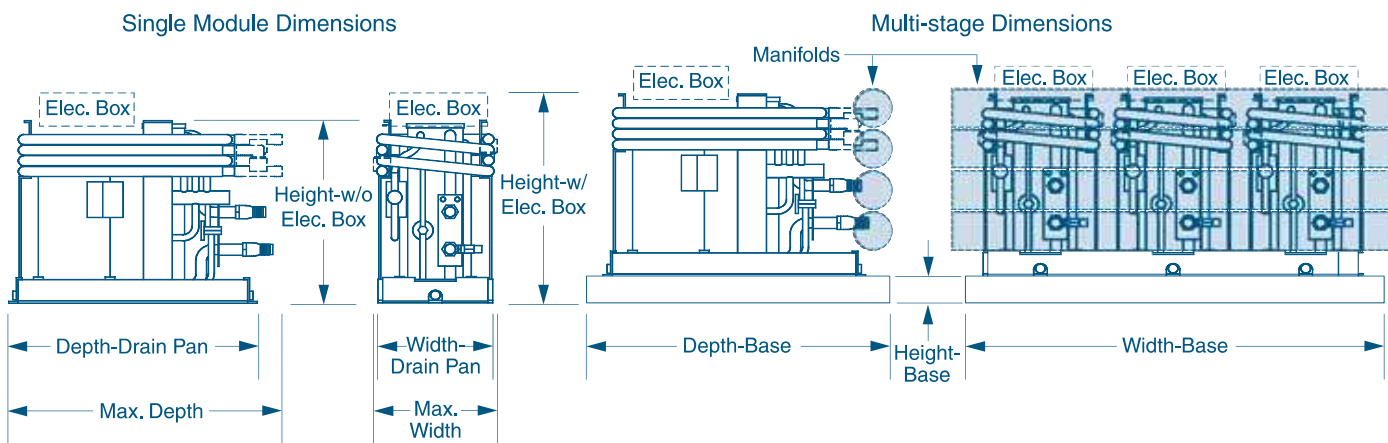
<sup>1</sup> For information about net weight and shipping weight please contact a Dometic Marine sales representative at 954-973-2477.  
<sup>2</sup> All dimensions ± 0.30 in. (8 mm).

### Dimensions for Multi-Stage Systems

No. of Stages	Height-Base (in/mm)	Width-Base (in/mm)	Depth-Base (in/mm)	Height-CWMC <sup>(1)</sup> (in/mm)	Width-CWMC <sup>(1)</sup> (in/mm)	Depth-CWMC <sup>(1)</sup> (in/mm)
<b>MCG90 to MCG120 Modules</b>						
2	3.0/76	36.0/914	35.5/902	24.0/610	22.0/559	7.75/199
3	3.0/76	53.5/1359	35.5/902	24.0/610	22.0/559	7.75/199
4	3.0/76	72.5/1816	35.5/902	24.0/610	30.0/762	7.75/199
5	3.0/76	88.5/2248	35.5/902	24.0/610	35.0/889	7.75/199
<b>MCG150 to MCG180 Modules</b>						
2	3.0/76	39.25/997	38.75/984	24.0/610	22.0/559	7.75/199
3	3.0/76	59.88/1521	38.75/984	24.0/610	22.0/559	7.75/199
4	3.0/76	80.5/2045	38.75/984	24.0/610	30.0/762	7.75/199
5	4.0/102	101.13/3569	38.75/984	24.0/610	35.0/889	7.75/199

<sup>1</sup> Indicates dimensions of Chilled Water Master Controller for Marine Air multi-stage chillers. Please refer to L-2133 for additional information.

### Dimensions



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