

# MTDV Series Modular Chillers

Engineered for Environmentally Safe R-410A Refrigerant



The Cruisair MTDV is a modular chiller engineered for optimal use of the new environmentally safe R-410A refrigerant. This tempered-water unit provides installation flexibility, reliability, maximum performance, and easy accessibility for maintenance and repair.

Flexible hose improves alignment for customer connections, and all seawater connections are reinforced with stainless-steel for added strength. Thermal expansion valves optimize performance over a wide range of conditions, while a hot-gas bypass valve maintains heating performance in cold seawater and helps prevent water freezing in the heat exchanger. With heating performance effective in cold seawater temperatures as low as 38°F (3.5°C), the need for separate fossil fuel or electric water heaters is eliminated in most applications.

The MTDV is available in capacities of 24,000 to 120,000 BTU/hr (2 to 10 tons), and you can use multiple modules in any combination to achieve the total desired capacity. Custom frame and water-manifold installation for multiple units are also available. A reverse-cycle unit, the MTDV provides reliable cooling and heating.

Each MTDV unit has two sub-modules. This lets you rotate a sub-module to achieve more convenient water-connection locations or compressor access. The sub-modules can even be separated for remote mounting when space is limited. Sub-module changes can be handled in the field or special ordered from the factory.

The MTDV has many built-in protection devices. A wire harness with polarized plug is included for easy electrical connections.

MTDV units are available with several different compressors to suit a variety of power systems, including: 230V/60Hz/1Ph, 220V/50Hz/1Ph, 230V/60Hz/3Ph, 380V/50hz/3Ph, and 460V/60Hz/3Ph.

Optional Variable Frequency Drives (VFDs) are available, which eliminate start-up power surge and run the unit at full-capacity 60Hz even with 50Hz input. The VFD requires a 3-phase tempering unit, but can operate on 1- or 3-phase input power.

## Key Benefits

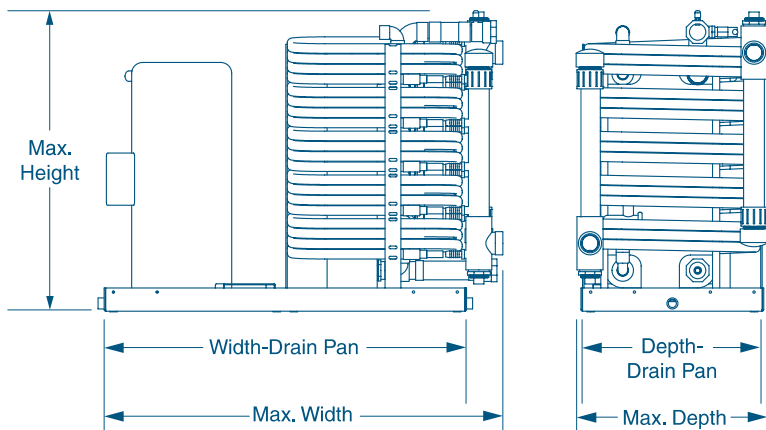
- Engineered to maximize the performance of R-410A, an environmentally safe refrigerant
- Modular design for installation flexibility
- Reverse-cycle heating
- Scroll compressors standard
- Larger drain fittings for faster condensate drainage
- Stainless-steel reinforced seawater connections
- Flexible hose improves connection alignment
- Removable seawater manifolds allow cleaning of condenser tubing
- Integrated loop-water strainer and flow switch
- Oversized heat exchangers for loop temperatures of 40°F (4.4°C) in cooling and 120°F (49°C) in heating
- Thermal expansion valve for optimal performance over a range of conditions
- Hot-gas bypass valve maintains heating performance in cold seawater and helps prevent water freezing in the heat exchanger

### Specifications for MTDV Series Modular Chillers

Model	MTDV24				MTDV30			MTDV36				MTDV48					MTDV60					MTDV72				MTDV96			MTDV120			
Capacity (BTU/h)	24000				30000			36000				48000					60000					72000				96000			120000			
Voltage (V)	230	220	230	460	230	220	230	230	220	230	460	230	220	230	460	380	230	220	230	460	380	230	220	230	460	380	230	380	460	230	380	460
Cycle (Hz)/Phase (Ph)	60/1	50/1	60/3		60/1	50/1	60/3	60/1	50/1	60/3		60/1	50/1	60/3		50/3	60/1	60/3	50/3		60/3	50/3	60/3	60/3	50/3	60/3	60/3	50/3	60/3			
Full Load Amps (FLA) Cool (A)	6.4	9.6	6.9	3.11	8.4	9.9	6.4	12	12.3	8.3	3.9	13.8	14.7	11.3	5.2	5.8	17.8	22.2	11.3	5.9	8.3	20.1	14.2	7.1	10.1	20.3	9.2	14.7	25.3	12.4	15.4	
Full Load Amps (FLA) Heat (A)	9.5	11.9	9	4.06	12.2	13	8.3	15.7	18	10.9	5	20.2	21.4	14	6.6	7.6	23	29.1	14.8	7.4	10.8	29.3	17.9	8.9	13.3	25.5	13.4	14.9	31.3	15.3	19.2	
Locked Rotor Amps (LRA) (A)	58.3	97	95	45	77	97	71	105	115	95	45	150	130	120	60	70	145	130	123	70	87	145	160	87	100	235	110	267	142	147		
Max. Circuit Breaker (A)	45			20	56	60	35	70		50	23	80	90	55	30	33	100		60	33	42	94	80	42	100		40	56	103	50	67	
Min. Circuit Ampacity (A)	25	28	25	13	32	34	20	43	42	27	12	48	50	33	17	19	57		34	19	24	53	45	24	57		24	32	58	29	38	
Refrigerant Type	R410A				R410A			R410A				R410A					R410A					R410A				R410A						
Max. Height (in/mm) <sup>(1)</sup>	17/432				17/432			23.5/597				23.5/597					23.5/597					23.5/597				23.9/608			27.8/707			
Width-Drain Pan (in/mm) <sup>(1)</sup>	25.3/643				25.3/643			25.3/643				25.1/638					25.1/638					25.1/638				33.1/841			33.1/841			
Max. Width (in/mm) <sup>(1)</sup>	25.3/643				28.3/719			28.3/719				28.3/719					28.3/719					28.3/719				36.85/936			36.85/936			
Depth-Drain Pan (in/mm) <sup>(1)</sup>	12.8/326				12.8/326			12.8/326				12.7/323					12.7/323					12.7/323				16.7/425			16.7/425			
Max. Depth (in/mm)	12.8/326				13.4/341			13.4/341				13.4/341					13.4/341					13.4/341				17.7/450			17.7/450			
Seawater Inlet Connection (in/mm)	5/8 /16				3/4 /20			1 /26				1 /26					1 /26					1 /26				1 1/4 /32			1 1/4 /32			
Chilled Water Connection Size (in)	1				1			1				1					1 1/4					1 1/4				1 1/2			1 1/2			
Chilled Water Connection Type	FPT				FPT			FPT				FPT					FPT					FPT				FPT			FPT			

<sup>1</sup> All dimensions ± 0.30 in. (8 mm).

### Dimensions



**DOMETIC MARINE DIVISION**

2000 N. Andrews Ave. Ext. I Pompano Beach, FL 33069 USA | Tel. 954-973-2477 | Fax: 954-979-4414  
 www.Dometic.com/Marine | MarineSales@DometicUSA.com

**24/7 TECH SUPPORT FOR UNITED STATES & CANADA:**

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