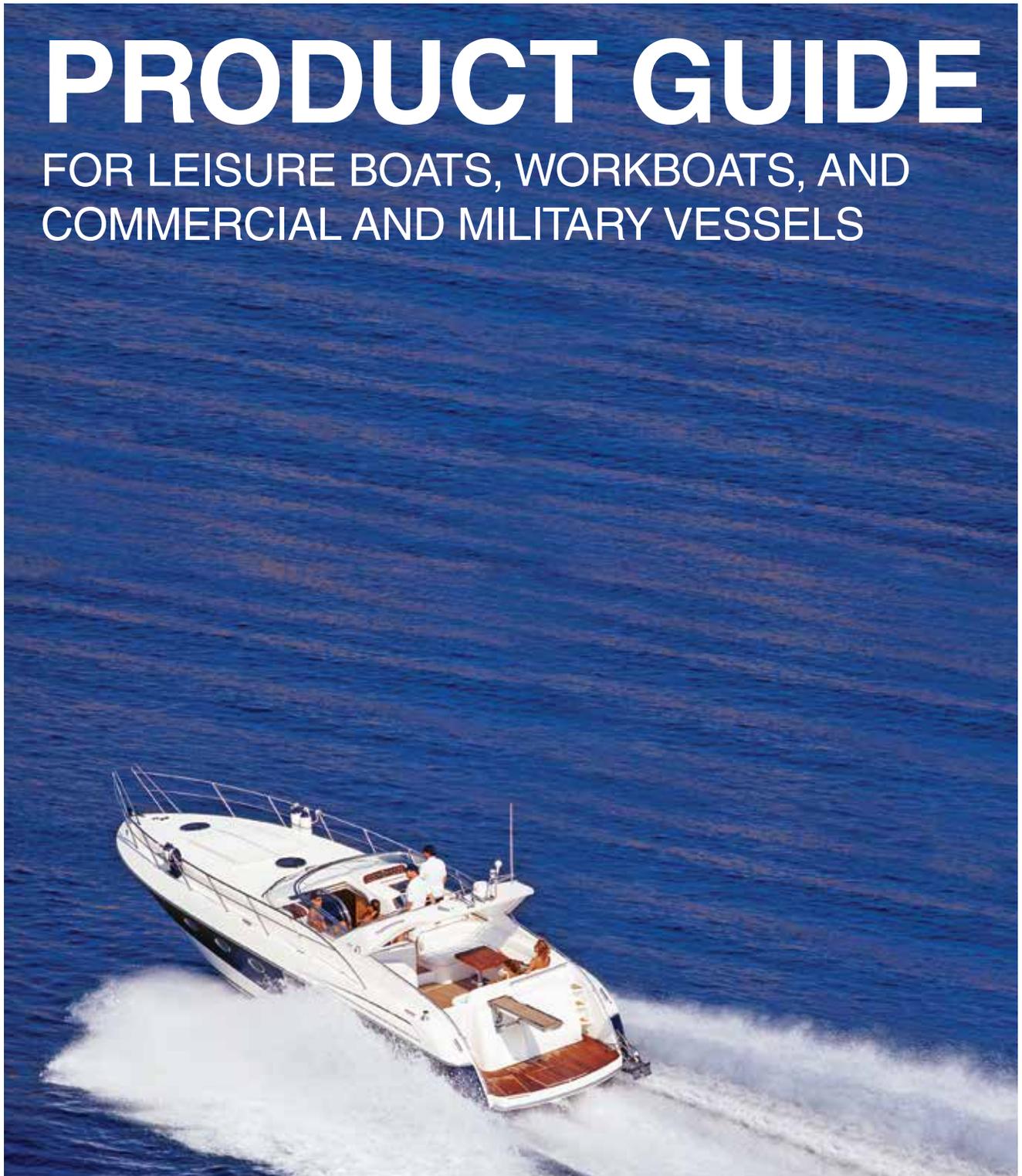


INSPIRED BY COMFORT

 **Dometic Cruisair®**

# PRODUCT GUIDE

FOR LEISURE BOATS, WORKBOATS, AND  
COMMERCIAL AND MILITARY VESSELS



Includes Specification Sheets for:

**Direct Expansion and Tempered Water Air Conditioning, Controls, and Accessories, Eskimo Ice Systems, Spot Zero Water Purification, and Dometic Livos Ship-Wide Ventilation Systems**

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## Understanding Air Conditioning

The basic principle of any air conditioner is the transfer of heat from one element to another. In a seawater-cooled air conditioner, heat is transferred from the cabin air to the refrigerant gas to the seawater. In heating mode, the refrigerant flow is reversed and heat is transferred from the seawater to the refrigerant gas to the cabin air.

In addition to lowering the air temperature, moisture (humidity) is also removed. Drier air feels more comfortable, helps keep the boat dry, and reduces mold growth and other moisture-related problems.

## The Effects of Seawater Temperature

The efficiency of the system is dependent on both the seawater and cabin temperatures. In cooling, the air conditioner works best when the seawater temperature is below 90°F (32°C). At higher water temperatures the unit will operate, but at reduced capacity. As the water temperature rises, so does the refrigerant gas pressure. A high-pressure safety switch will shut the unit down if the water temperature gets too hot, or there is a loss of cooling water flow.

In heat mode, the opposite is true. As the seawater temperature gets colder, there is less heat available and heating performance drops. Full heating capacity is available in water temperatures as low as 55°F (13°C), but drops to about 50% capacity in 40°F (4.4°C) water. Below this, the refrigerant pressure can be so low that the unit will not produce heat, (or may shut down on low-pressure fault, if this option is installed).

## The Three Types of Marine A/C Systems

### Self-Contained DX Systems (see Figure 1)

- All major components are mounted on a single chassis installed in the living area — usually under a bunk or settee or in a locker.
- A single unit can cool one cabin or it can be ducted to two or more cabins to save space and cost.
- Best choice for boats under 40 ft. (12 m) due to lower cost of units and available installation space.

### Split-Gas DX Systems (see Figure 2)

- Major components are split between two units that are installed in different locations and connected by insulated, copper refrigerant tubing.
- Condensing unit (compressor, seawater condenser, and electrical components) mounts in engine room or other mechanical space.
- Evaporator unit installs in living area(s). Two evaporators can connect to one condensing unit to cool multiple cabins or a single large area.
- Evaporators require less space in the living area and are quieter because they do not have a compressor.
- Ideal for boats up to 80 ft. (24 m). Maximum length of refrigerant tubing between the condenser and air handlers is 50 ft. (15 m) and system must be charged with refrigerant by a certified technician.

### Chilled Water Systems (see Figure 3)

- Chiller unit in the engine room cools (or heats) fresh water that is pumped through an insulated piping loop to air handlers located in the living spaces that cool (or heat) the air.
- Chillers offer flexible load management and a reduced peak electrical load.
- Best for boats over 80 ft. (24 m). There is no limitation on the number of air handlers in a system, or on the distance from the chiller to the air handlers.

Figure 1: Self-Contained Air Conditioning

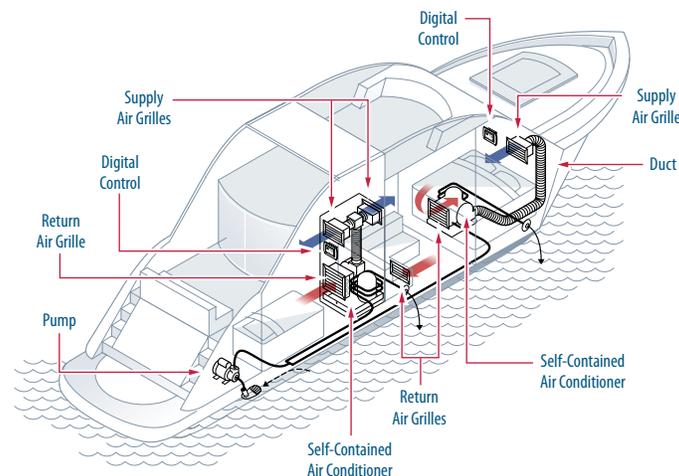


Figure 2: Split-Gas Air Conditioning

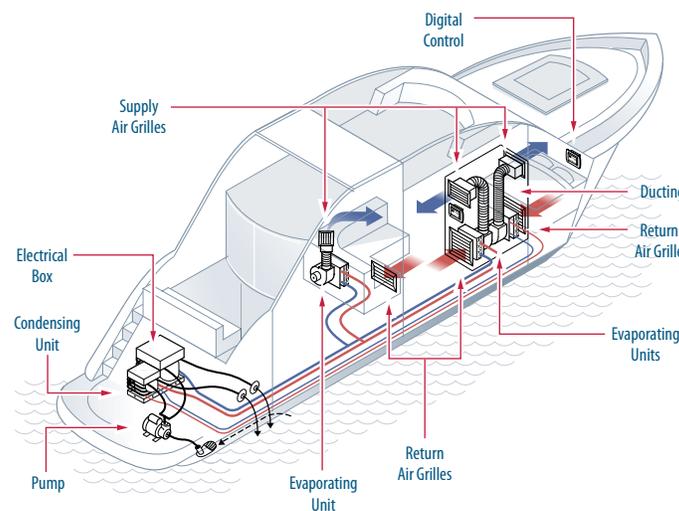
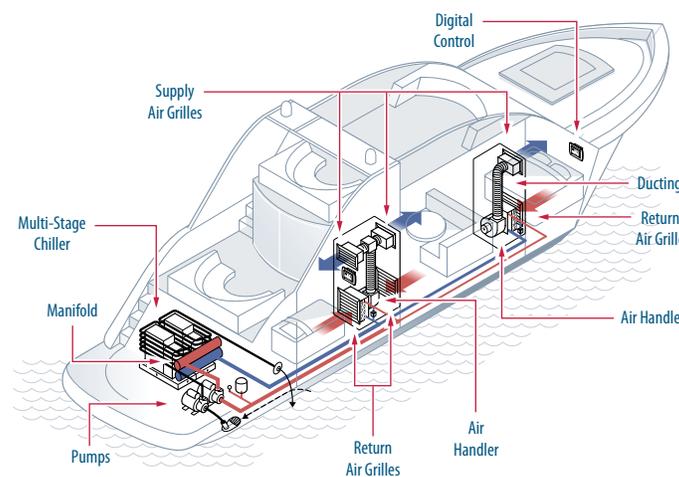


Figure 3: Chilled Water Air Conditioning



## Factors That Determine the Type of Air Conditioning System You Need

1. Size and layout of the boat for calculating required system capacity.
2. Access for routing tubes/wires/hoses.
3. Location of furnishings.
4. Storage space to sacrifice.
5. Cost.

## How to Size Your A/C System

**Step 1:** Find the required capacity by dividing the vessel into three main load areas:

- **Below Deck:** Cabins where the hull slopes inward toward the keel with minimal port lights and hatches.
- **Mid Deck:** Areas on main deck with small or shaded windows.
- **Above Deck:** Areas with large glass surfaces and direct sunlight.

Multiply the length and width of each cabin to be treated to determine the area in square feet or square meters. It is assumed the boat has an average headroom of about 6.5 ft. (2 m) with an average amount of furniture. If one end of the cabin is narrower than the other, take your measurement in the middle.

Using Table 1, multiply the area of each cabin by the appropriate load factor to find the required air conditioner capacity. For example, if your boat is in a temperate climate and you are measuring in square feet, you would multiply your total below-deck area by 60, your mid-deck area by 90, and your above-deck area by 120. (A temperate climate generally has 95°F (35°C) air and 85°F (35°C) water with moderate humidity; a tropical climate averages 105°F (41°C) air and 95°F (35°C) water with high humidity.)

**Table 1: Load Factors (BTU/hr per ft<sup>2</sup>)**

Climate	Below-Deck Load Factors	Mid-Deck Load Factors	Above-Deck Load Factors
Temperate	60	90	120
Tropical	80	120	150

**Step 2:** Taking into account the boat's size and layout, determine the number of self-contained systems or air handlers needed.

Find out which cabins or areas will benefit best from a dedicated thermostat control, and which cabins can be served by ducting or a secondary air handler (where the only temperature control is an adjustable grille or fan-speed control).

**Step 3:** Taking into account the boat's size and layout, determine the location of each self-contained system or air handler.

In addition to leaving enough room for plumbing and ducting, there must also be sufficient space in each installation location for servicing and/or removal of the unit.

A self-contained unit or air handler must have an open return-air path. However, the return-air grille does not need to be directly in front of the unit. In fact, the system will be less noisy if there is an indirect path for the return air to follow. **Never install the unit in the bilge or engine room or where vapors from these areas could reach the unit.**

A self-contained unit or air handler must be located so the discharge ducting can be routed to a high point in the cabin. Rotate the blower to create the most direct path for routing the discharge duct. Poor airflow may result from a ducting run of over 15 ft. (4.5 m) or a ducting run with many bends. Plan for the shortest possible ducting run while limiting the number of bends.

**Step 4:** Seawater Components. Use one pump of adequate capacity for all air conditioning systems on board. The basic rule is 180 gallons (681.4 liters) per hour (3 GPM/11.4 LPM) of water per ton of air conditioning (one ton = 12,000 BTU/hr). If more than one system shares a common pump, you will also need a pump relay and manifold.

The BTU/hr capacity in Table 2 shows recommended seawater flow rates and minimum inlet (through-hull) sizes.

**Table 2: Pump Sizing Chart by BTU/hr Capacity**

System Capacity (BTU/hr)	Seawater Flow Rate <sup>(3)</sup> (GPH/LPH)	Through-Hull Inlet Size (in/mm)
5,000 - 12,000	180/681	0.50/13
16,000 - 24,000	360/1363	0.75/19
30,000 - 48,000	720/2726	1.00/25

<sup>(3)</sup> Allow for a reduction in capacity of 17% if using a 60Hz pump at 50Hz.

**Step 5:** Determine the proper duct diameter (Ø) and grille sizes for your air conditioning system. Use Table 3 to find the correct sizes, which are based on the system's BTU/hr capacity.

**Table 3: Duct and Grille Sizing Chart by BTU/hr Capacity**

Air Handler (BTU/hr)	Duct Ø (in/mm)	Return-Air Grille (ft <sup>2</sup> /cm <sup>2</sup> )	Supply-Air Grille (ft <sup>2</sup> /cm <sup>2</sup> )
4,000	4/102	64/413	32/206
6,000	4/102	64/413	32/206
9,000	6/152	98/632	49/316
10,000	6/152	100/645	60/387
12,000	6/152	130/839	70/452
16,000	7/178	160/1,032	80/516
18,000	7/178	200/1,290	100/645
24,000	9/229	240/1,548	140/903
30,000	10/254	350/2,258	170/1,097
36,000	10/254	360/2,323	196/1,265

## Other A/C System Components

A complete air conditioning system requires controls, a seawater cooling system, an air-distribution system and electrical connections.

### Controls

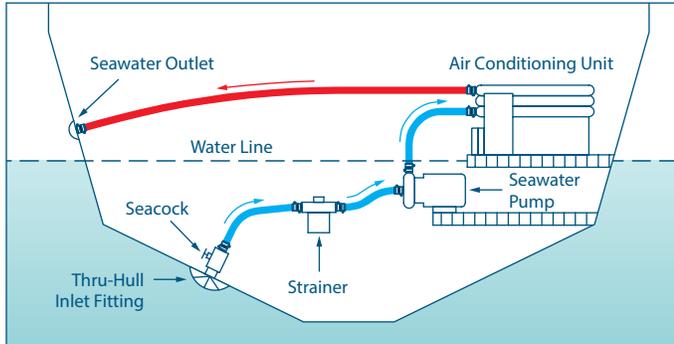
There are two types of controls: digital and electro-mechanical switch.

- **Digital:** These keypad/displays are part of a microprocessor system with many advanced functions, including automatic fan-speed control, fault display, and a dehumidification program. Decorative bezels can be added to complement the vessel's interior decor.
- **Mechanical:** These manual switches with two or three rotary knobs control the mode of operation, thermostat, and variable fan speed. Reverse-cycle models have automatic changeover between heating and cooling.

**Seawater Cooling System**

The seawater cooling system brings seawater into and through the system then discharges it overboard. It consists of an inlet through-hull fitting, seacock (water valve), strainer, pump, and overboard discharge fitting, all connected by hose or piping (see Figure 4).

**Figure 4: Correct Plumbing of a Seawater-Cooling System**



If multiple air conditioning units are served by a single seawater pump, then a pump relay and water manifold are required. A centrifugal seawater pump is recommended for efficient, quiet operation and long life. Centrifugal pumps are not self-priming and must be mounted below the water-line (install a self-priming pump for shallow-draft boats).

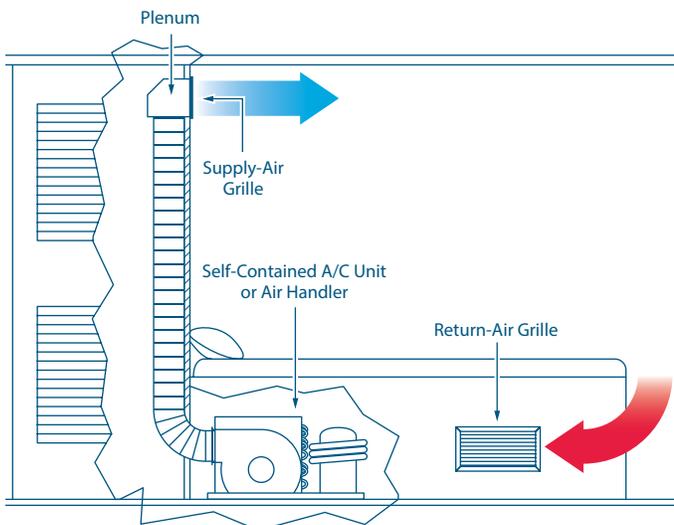
It is important that the seawater plumbing be self-draining, meaning that if the boat is lifted, all water in the piping will drain out. An air conditioning system plumbed this way will have no air locks which could disrupt the flow of seawater.

**Air-Distribution System**

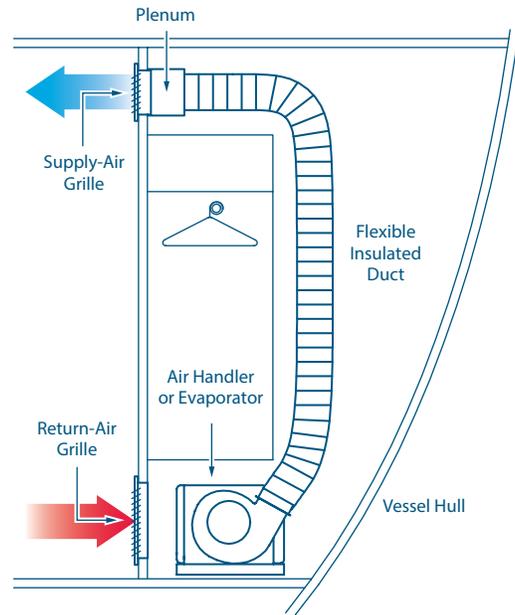
In cooling mode, warm cabin air is drawn into the self-contained unit or air handler through a return-air grille. It is then cooled and blown through flexible insulated duct and back into the cabin through a supply-air grille installed high in the cabin. The supply-air grille should be installed away from the return-air grille to ensure good circulation.

Plenums, or transition boxes, can be installed in the duct to split the air flow into multiple ducts to serve one or more cabins.

**Figure 5: Installation of a Self-Contained System Under a Bunk**



**Figure 6: Installation of An Air Handler In a Closet**



**Electrical Connections**

Marine Air air conditioning systems are available for use with common power supplies throughout the world. In the United States and most of North and South America, the systems are 115 or 230VAC, 60Hz, single phase. In Europe and most of Asia, systems are typically 230VAC, 50Hz, single phase.

Running and starting loads of an A/C system are often the largest electrical loads on a boat. It is important that the power supply system is large enough to handle these loads, and is installed properly. Always follow local codes or ABYC codes for proper wiring guidelines. Contact a Marine Air dealer if you have any special power requirements.

The voltage rating of an air conditioner is a nominal rating. The actual voltage in a given location may be higher or lower by as much as 10% and the system will run fine. Table 4 below shows nominal compressor ratings and the acceptable range of available power.

**Table 4: Compressor Electrical Specs**

Nominal Rating	Acceptable Range
230V/60Hz/1-ph.	208-240V/60Hz/1-ph.
220V/50Hz/1-ph.	220-240V/50Hz/1-ph.
230V/60Hz/3-ph.	208-230V/60Hz/3-ph. and 190-220V/50Hz/3-ph.
220V/50Hz/3-ph.	200-220V/50Hz/3-ph.
460V/60Hz/3-ph.	440-480V/60Hz/3-ph. and 380-420V/50Hz/3-ph.
380V/50Hz/3-ph.	380-420V/50Hz/3-ph.

**Using a Generator**

If running your boat's electrical systems on a generator, make sure the generator can handle the large starting inrush current of the air conditioning compressor. Use of a Dometic SmartStart™ Soft Starter is highly recommended to smooth out the compressor startup power demand and ease strain on the generator.

Take the product specification sheets to your generator supplier and ask for their help.



# Stowaway Turbo Series Boat Air Conditioning

## Powerful, Quiet & Compact With No Drain Pan Worries



The Stowaway Turbo series completely revolutionized self-contained boat air conditioning (cooling and heating) with patented innovations in marine air conditioning system design, winning the IBEX Innovation Award in 2007.

The rust-free molded composite drain pan has three drains for the rapid removal of condensate water. The drain pan has a small footprint for installation flexibility.

A vibration-isolation mounting system results in significantly quieter, virtually vibration-free performance. The enclosed blower motor eliminates overhang for reduced depth.

The Turbo series was specifically engineered to harness and maximize the impressive performance of R-410A, a proven and environmentally safe refrigerant gas.

The optional Turbo sound cover provides up to 50% further noise reduction. This compact, easy-to-install sound cover completely encases the compressor to provide a 3- to 5-dB reduction in noise. Available for all Turbo models, the sound cover installs in minutes. Mounting hardware is included.



Optional sound cover further reduces compressor noise by up to 50%.

### Key Benefits

- Up to 27% more energy efficient
- Up to 21% increased capacity
- Compact design uses less space
- Rust-free composite drain pan
- Up to 85% less standing water in the drain pan
- Vibration-isolation mounts reduce noise and vibration
- Engineered to maximize the performance of R-410A, an environmentally safe refrigerant
- Designed from the inside out with multiple patented innovations
- Optional sound cover further reduces compressor noise by up to 50%.

### Product Testimonial

"There is very little noise coming from the compressor, and vibrations are practically non-existent. I highly recommend this unit."

— Bob Silverman, boat owner

**Cruisair**<sup>®</sup>

by Dometic GROUP

## Specifications for Stowaway Turbo Series Boat Air Conditioning

Model <sup>(1)</sup>	5T06			5T08			5TQ10			5TQ12			5TQ16		
Capacity (BTU/h) <sup>(2)</sup>	6000			8000			10000			12000			16000		
Voltage (V)	115	230	240	115	230	240	115	230	240	115	230	240	115	230	240
Cycle (Hz) <sup>(3)</sup> / Phase (Ph)	60/1	60/1	50/1	60/1	50/1	50/1	60/1	50/1	50/1	60/1	50/1	50/1	60/1	50/1	50/1
Full Load Amps (FLA) Cool (A)	4.6	2.2	2.7	5.5	3.1	3.2	6.7	3.3	3.2	8.7	4	3.3	10.4	5.1	4.5
Full Load Amps (FLA) Heat (A)	5.9	2.8	3.7	7.1	4	4.1	8.8	3.9	4.3	10.9	5.1	4.3	13.6	6.6	5.9
Full Load Amps (FLA) Blower (A)	0.8	0.36		1.31	0.7	0.83	1.14	0.61	0.48	1.14	0.61	0.48	1.61	0.78	0.56
Locked Rotor Amps (LRA) (A)	36	17.7		36	17.7		42	22	21	58	28	21	62	34	22
Max. Circuit Breaker (A) (LRA) (A)	15	10		20	10		25	15	10	30	15	10	40	20	15
Min. Circuit Ampacity (A)	12	7	6	13	7		16	10	8	20	11	8	25	12	11
Refrigerant Type	410A			410A			410A			410A			410A		
Min. Height (in/mm) <sup>(4)</sup>	10.8/275			10.8/275			12.2/310			12.2/310			12.9/328		
Max. Height (in/mm) <sup>(4)</sup>	11.1/282			11.1/282			13.3/331			13.4/341			12.5/312		
Height w/Opt. Sound Cover (in/mm) <sup>(4)</sup>	13.4/341			13.4/341			14/356			14/356			14/356		
Width (in/mm) <sup>(4)</sup>	17.6/448			17.6/448			20.4/519			21.4/544			21.3/542		
Max. Depth (in/mm) <sup>(4)</sup>	10.7/272			10.7/272			12.4/315			13.3/338			12.4/315		
Min. Supply Duct Size (in/mm)	4/102			5/127			6/153			6/153			7/178		
Min. Supply Air Grille Size (sq in./sq cm)	32/207			48/310			60/388			70/452			80/517		
Min. Return Air Grille Size (sq in./sq cm)	64/413			80/517			100/646			130/839			160/1033		
Seawater Inlet Connection (in/mm)	5/16			5/16			5/16			5/16			5/16		
Net Weight (lbs/kg) <sup>(5)</sup>	42.5/19.3	33/14.1		45.5/20.7	35/15.9	48/21.8	41/18.6	45/20.5	49/22.3	52.25/23.8	52/23.6	59.5/26.1	0/24.1	58.25/26.5	
Gross Weight (lbs/kg) <sup>(5)</sup>	50.75/23.1	41/18.6		53.75/24.4	43/19.6	56.75/25.8	49/22.3	53/24.1	60/27.3	61.25/27.8	61/27.7	68.25/30.1	70.25/27.7	67.5/30.7	
Height-Electrical Box (in/mm)	8.8/224			8.8/224			8.8/224			8.8/224			8.8/224		
Width-Electrical Box (in/mm)	6.5/166			6.5/166			6.5/166			6.5/166			6.5/166		
Depth-Electrical Box (in/mm)	2.7/69			2.7/69			2.7/69			2.7/69			2.7/69		

1 Add a 'C' for 230V/60Hz units or 'K' for 220-240V/50Hz units. For example: 5T06C=115V/60Hz; 5T08C=230V/60Hz; 5TQ06C=220-240V/50Hz.

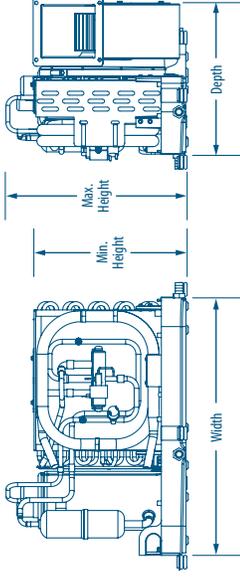
2 BTU and electrical data are based on a 45°F/7.2°C evaporator and 100°F/37.8°C condenser in cool mode, and a 45°F/7.2°C evaporator and 130°F/54.4°C condenser in heat mode.

3 60Hz units must not operate at 50Hz and 50Hz units must not operate at 60Hz unless data plate states otherwise.

4 All dimensions ± 0.30 in. (8 mm).

5 All weights ± 10%.

## Dimensions



Dealer



Specifications and availability subject to change without notice.

### DOMETIC MARINE DIVISION

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8:00 AM to 5:00 PM Eastern Time: 800-542-2477  
After hours and weekends: 888-440-4494

### INTERNATIONAL SALES & SERVICES

Europe & the Middle East: Call +44(0)870-330-6101  
For all other areas visit our website to find your nearest distributor.

L-2502D Rev. 20130222

# Cuddy dc Boat Air Conditioning Kit

## Easy & Affordable DC-Powered Air Conditioner

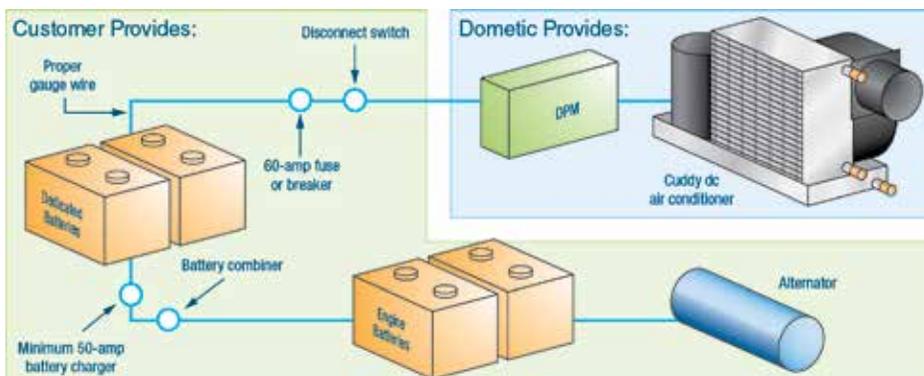


The Cuddy dc kit includes a 3,500 BTU/hr self-contained air conditioner, pump, electro-mechanical control, and dedicated power module (DPM)

The Cuddy dc is a compact 3,500 BTU/hr cool-only air conditioner designed to work with 12V power systems. Energized by a dedicated bank of batteries and a dedicated power module (DPM), the Cuddy dc makes your small cabin a refuge from the heat and sun. Compact—about the size of a typical battery box—this low-profile unit easily fits beneath a V-berth or in a storage area below deck. The Cuddy dc uses R-134A, a globally accepted, environmentally safe refrigerant.

The customer's dedicated 12V DC battery bank powers the system via the DPM, which is included with the Cuddy dc kit. Two ABYC-approved wires (sized properly for your unique installation) run from the dedicated battery bank to the DPM. Easy-to-use polarized plugs connect the DPM to the seawater pump and the Cuddy dc unit. Optional cables are available for longer runs if your setup requires more than the standard 4.5 ft. (1.37 m) cable included with the kit.

To operate the system, the Cuddy dc uses a simple two-knob mechanical control. Since it draws no power itself, the mechanical control maximizes runtime and efficiency. The Cuddy dc system (compressor, blower, and pump) draws about 29 amps of DC power under normal operating conditions. Supplemental DC power comes to you via engine power (if available) or via shore power through a battery charger.



The customer must provide the right type of batteries and battery charger. Use only deep-cycle AGM or gel-cell batteries. Do not use wet-cell batteries. The battery charger must be rated for the type of battery you use. The Cuddy dc requires a dedicated battery bank. To maximize runtime, we recommend using at least two batteries in the bank. The more cells, the longer the runtime. All batteries used must be of the same type - all AGM or all gel-cel - and the same age.

### Key Benefits

- Designed for small cabins
- Operates via simple 12V DC connection
- 3,500 BTU/hr cool-only system
- Compact - about the size of a battery box
- High-velocity blower with split capacitor for greater airflow
- Stainless-steel chassis
- Simple two-knob mechanical control maximizes efficiency and runtime
- Minimal DC draw - about 29 DC amps total
- No genset needed
- Air distribution kits available

**Cruisair**<sup>®</sup>

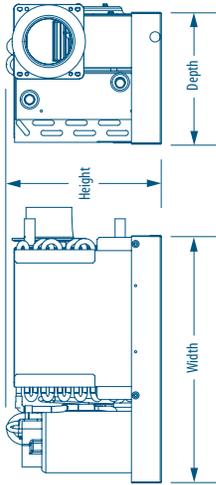
by Dometic GROUP

### Specifications for Cuddy dc Boat Air Conditioning Kit

Model	Cuddy Cool CD3.5HW	Dedicated Power Module (DPM)	MCP 2-Knob Control	PML150 Seawater Pump
Capacity (BTU/h)	3500	N/A	N/A	N/A
Amps @ 12V DC (A) <sup>1</sup>	29	N/A	N/A	N/A
Refrigerant Type	134A	N/A	N/A	N/A
Height (in/mm)	9.25/235	5.13/131	5.5/140	2.75/70
Width (in/mm)	15/381	10/254	3.25/83	3.5/89
Depth (in/mm)	8/204	2.67/68	2.75/70	4.75/121
Net Weight (lbs/kg)	29/13.2	3/1.4	2/0.1	TBD

<sup>1</sup> Approximate value shown and includes amp draw for the compressor, blower, and seawater pump. Actual load is dependent upon humidity, seawater temperature, battery condition, voltage, and the integrity of the electrical connections.

### Dimensions



### Accessories for Cuddy dc Kits

- 10 ft. (3 m) DPM to Cuddy extension cable
- 20 ft. (6 m) DPM to Cuddy extension cable
- 10 ft. (3 m) pump to Cuddy extension cable
- Air distribution kit in black (includes 3 in. (76 mm) supply air grille, 8x8 in. (203x203 mm) return air grille, and 10 ft. (3 m) of flexible insulated duct)
- Air distribution kit in white (includes 3 in. (76 mm) supply air grille, 8x8 in. (203x203 mm) return air grille, and 10 ft. (3 m) of flexible insulated duct)

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L-2425D Rev. 20140117



Specifications and availability subject to change without notice.

# The Breeze Low-Profile Boat Air Conditioner

## Designed for Unique & Height-Restrictive Installations



The Breeze low-profile self-contained boat air conditioner is designed for unique applications. Thanks to the innovative horizontal compressor and dual high-velocity tangential blowers, it can be installed in height-restrictive spaces, making it ideal for flybridge, cockpit, engine room, or exterior deck installations.

The Breeze delivers 16,000 BTU/hr of cooling and heating in a package that stands just eight inches (203 mm) high. The dual blowers can be ducted to different areas or to confined areas such as flybridge dashboards and consoles.

The Breeze features an oversized four-row evaporator coil for excellent heat removal under low fan-speed conditions. A highly efficient blower reduces power consumption, and the blower flows to two outlets.

The Breeze is available as a low-profile evaporator only (EDLE units) to work with Cruisair R-410A remote condensers.



Thanks to the unique horizontal compressor, these low-profile units stand only 8 in. (203 mm) high.

### Key Benefits

- Stands only 8 in. (203 mm) high
- Unique horizontal compressor
- 16,000 BTU/hr cooling and heating
- High-efficiency, ductable dual tangential blowers
- Ideal for flybridge, cockpit, and on-deck installations
- Engineered to maximize the performance of R-410A, an environmentally safe refrigerant
- 304-grade stainless-steel drain pan for long service life
- Stainless-steel condensate drains for excellent water removal
- Electrical box can be remotely mounted up to 5 ft. (1.52 m)
- Special corrosion-resistant coating on blower and housing
- Oversize four-row evaporator coil for excellent heat removal under low-fan speed conditions
- Available as low-profile evaporator only (EDLE units) to work with Cruisair remote condensers

**Cruisair**<sup>®</sup>  
by Dometic GROUP

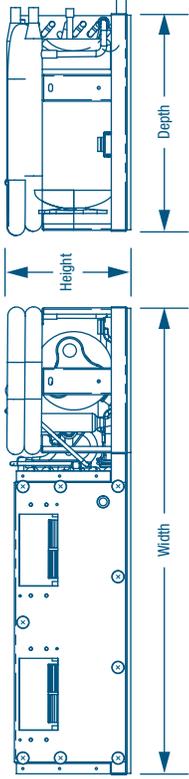
# Specifications for The Breeze Low-Profile Boat Air Conditioner

Model	SQL16	EDLE16
Capacity (BTU/h) <sup>(1)</sup>	16000	16000
Voltage (V)	115	230
Cycle (Hz) / Phase (Ph)	60/1	115 / 60/1
Full Load Amps (FLA) Cool (A)	12.8	4.7
Full Load Amps (FLA) Heat (A)	15.5	6.2
Full Load Amps (FLA) Blower (A)	2	0.86
Locked Rotor Amps (LRA) (A)	63	29
Max. Circuit Breaker (A)	40	20
Min. Circuit Ampacity (A)	24	14
Refrigerant Type	410A	N/A
Height (in/mm)	8/204	7.4/188
Width (in/mm)	30.25/769	22.25/566
Depth (in/mm)	14/356	11/280
Min. Supply Duct Size (in/mm)	7/178	7/178
Min. Supply Air Grille Size (sq in/sq cm)	80/517	80/517
Min. Return Air Grille Size (sq in/sq cm)	160/1033	160/1033
Seawater Inlet Connection (in/mm)	3/8 7/16	N/A
Net Weight (lbs/kg)	65/29.5	71/32.3
Gross Weight (lbs/kg)	74/33.6	80/36.3

<sup>1</sup> BTU and electrical data are based on a 45°F/7.2°C evaporator and 100°F/37.8°C condenser in cool mode, and a 45°F/7.2°C evaporator and 130°F/54.4°C condenser in heat mode.

<sup>2</sup> 60Hz units must not operate at 50Hz and 50Hz units must not operate at 60Hz unless data plate states otherwise.

# Dimensions



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L-2619 Rev. 20130628

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# Stowaway Compact Series Boat Air Conditioning

## High-Capacity Air Conditioning In a Compact Package



The 27,000 BTU/hr Compact unit with painted galvanized metal chassis

The Stowaway Compact series of self-contained marine air conditioners offers 18,000 and 27,000, and 30,000 BTU/hr of reverse-cycle cooling and heating.

These high-capacity units were engineered to harness and maximize the impressive performance of environmentally safe R-410A refrigerant. Used in the HVAC industry for more than 10 years, R-410A is proven and reliable, complies with all EPA standards, and is accepted worldwide.

All models offer direct expansion operation in a compact, low-profile unit, with a seawater-cooled condenser and choice of controls. Stowaway Compact units are designed for installation under a settee or berth, in a locker or cabinet, or other convenient location.

Stowaway Compact systems feature high-velocity (HV) blowers. All blowers are insulated to prevent secondary condensation, and are fully rotatable for flexibility during installation. A painted galvanized metal chassis is standard on 18K and 27K models; a stainless-steel chassis upgrade is available for enhanced durability.

The SQUF30 features dual evaporator coils and a single compressor on a compact stainless-steel chassis. The dual high-velocity (HV) blowers can be ducted to two or more interior spaces.



The dual-blower 30,000 BTU/hr unit with stainless-steel chassis.

### Key Benefits

- Compact design reduces unit size by up to 25% of the original Vector Rotary's size
- High-velocity (HV) fully-insulated blowers are rotatable
- Blowers are rotatable and fully insulated
- Patented design increases cooling capacity and dehumidification
- Engineered to maximize the performance of R-410A, an environmentally safe refrigerant
- Unique compressor and reversing valve mounting reduces vibration
- Electrical box is installed within unit footprint on 18K and 27K models; remotely mounted for 30K models
- High-efficiency rotary and scroll compressors are quiet and more reliable
- Condenser coil's cupronickel-encased copper condenser coil provides maximum heat transfer and high resistance to corrosion
- Evaporator coil employs an enhanced fin design and rifled copper tubing to provide maximum capacity
- 27K and 30K models available in 3-phase power on a special order basis

**Cruisair**<sup>®</sup>

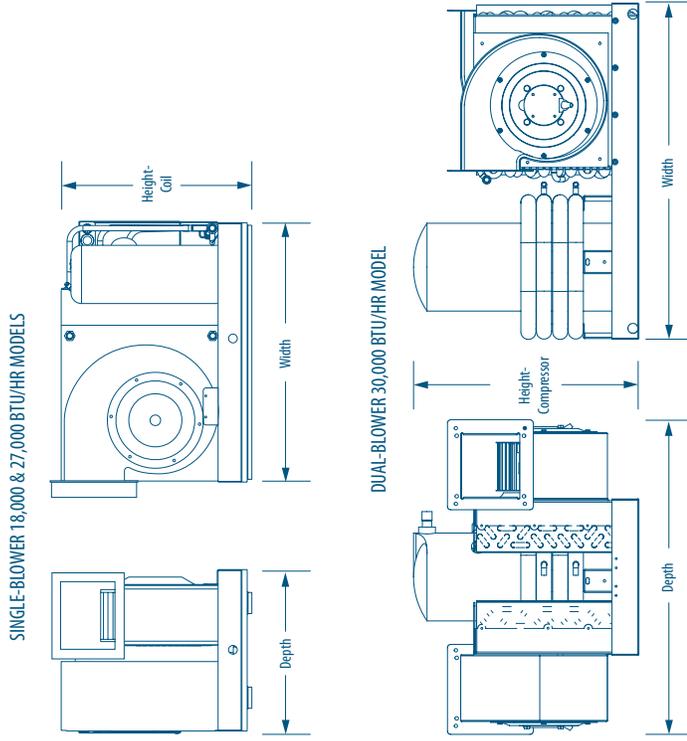
by Dometic GROUP

Specifications for Stowaway Compact Series Boat Air Conditioning

Model <sup>(1)</sup>	SQUF18	SQUF27	SQUF30
Capacity (BTU/h) <sup>(2)</sup>	18000	27000	30000
Voltage (V)	115	230	230
Cycle (Hz) <sup>(3)</sup> / Phase (Ph)	60/1	60/1	50/1
Full Load Amps (FLA) Cool (A)	11.1	5.75	7.6
Full Load Amps (FLA) Heat (A)	15.1	8.3	11.1
Full Load Amps (FLA) Blower (A)	1.93	1.15	1.76
Locked Rotor Amps (LRA) (A)	66	32	53
Max. Circuit Breaker (A)	45	20	40
Min. Circuit Ampacity (A)	27	13	26
Refrigerant Type	410A	410A	410A
Height-Coil (in/mm)	14/356	18/458	N/A
Height-Compressor (in/mm)	15.5/394	19.25/489	17/432
Width (in/mm)	12/305	15.25/388	25/635
Depth (in/mm)	21/534	24.75/629	26.5/674
Min. Supply Duct Size (in/mm)	7/178	8/204	5/127
Min. Supply Air Grille Size (sq in/sq cm)	100/646	140/904	150/968
Min. Return Air Grille Size (sq in/sq cm)	200/1291	240/1549	250/1613
Seawater Inlet Connection (in/mm)	5/16	5/16	5/16

<sup>1</sup> SQUF models indicate Q-Logic control. For SMAXII control use SQUF. For electro-mechanical controls use SHUF.  
<sup>2</sup> BTU and electrical data are based on a 45°F/7.2°C evaporator and 100°F/37.8°C condenser in cool mode, and a 45°F/7.2°C evaporator and 130°F/54.4°C condenser in heat mode.  
<sup>3</sup> 60Hz units must not operate at 50Hz and 50Hz units must not operate at 60Hz unless data plates states otherwise.

Dimensions



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L-2663 Rev. 20130607

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Dealer



# Emerald Series (6K-16K) Condensers

## Innovative Chassis Conquers Installation Challenges



After listening to boat builders, global service teams and boat owners, Dometic engineers designed the innovative Emerald Condenser series to harness and maximize the impressive performance of R-410A refrigerant while meeting all international clean air standards.

The increase in BTU capacity is due primarily to the improved refrigerant metering design. The bi-flow thermal expansion valve for cooling provides up to a 14% increase in system capacity, which, when combined with a separate metering system for heating, attains an increase of up to 10% in heating performance. The amperage reduction of up to 27% is due to the more efficient design of the rotary compressor and properly sized refrigerant components.

The compact design of the Emerald series incorporates built-in vibration-isolating mounts, two large drain connections and numerous mounting options for installation to a smooth deck, stringer or existing rack. The incorporated lifting handles and smooth bottom allows for easy lifting and quick placement of the unit. The molded composite no-rust drain pan is shaped to provide positive drainage even when the boat heaves and rolls. The amount of standing water in the drain pan is reduced by up to 85%, which is 8x times less than a typical drain pan.

Emerald condensers can be installed quickly and easily. The drain, seawater and refrigerant connections are conveniently located to conquer installation challenges thus reducing installation time by up to fifteen minutes. The electrical box can be easily removed and located up to 5 ft. (1.5 m) away, further reducing the size of the unit while making the system more accessible. The reversing valve, pressure switches and service ports are centrally located, high on the unit for access from any side.



The reversing valve, pressure switches, and service ports are centrally located for easy maintenance access from any side.



Vibration-isolating compressor mounting system reduces noise and vibration.

### Key Benefits

- Up to 17.5% increase in BTU capacity
- Up to 41% amperage reduction
- Up to 32% reduced start-up amps
- Up to 16% smaller
- Up to 25% lighter
- Up to 85% reduction in standing water in the drain pan
- Up to 15 minutes faster to install
- Square chassis for easy installation in tight spaces
- Three mounting options adapt to installation environments
- Rust-free composite drain pan
- Reconfigurable chassis allows optimal drain connections
- Compressor vibration-isolation mounts minimize noise and vibration
- Built-in refrigerant line filter drier reduces installation time and protects the compressor from moisture and contaminants
- Reversing valve, pressure switches, and service ports centrally located for easy maintenance access from any side
- Engineered to maximize the performance of R-410A, an environmentally safe refrigerant

**Cruisair**<sup>®</sup>

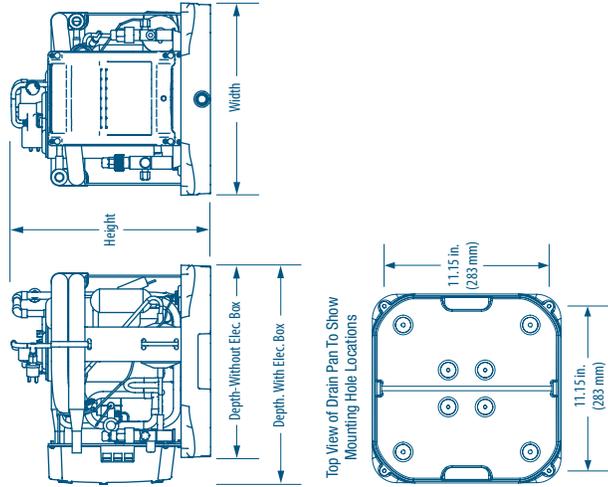
by Dometic GROUP

### Specifications for Emerald Series (6K-16K) Condensers

Model <sup>(1)</sup>	E*6	E*8	E*10	E*12	E*16
Capacity (BTU/h) <sup>(2)</sup>	6000	8000	10000	12000	16000
Voltage (V)	115	230	240	230	240
Cycle (Hz) <sup>(3)</sup> / Phase (Ph)	60/1	60/1	50/1	50/1	60/1
Full Load Amps (FLA) Cool (A)	3.8	1.8	2.4	2.8	3.4
Full Load Amps (FLA) Heat (A)	5.1	2.44	3.3	3.6	4.5
Locked Rotor Amps (LRA) (A)	36	17.5	17.7	21	28
Max. Circuit Breaker (A)	15	10	15	10	15
Min. Circuit Ampacity (A)	11	7	6	8	11
Refrigerant Type	410A	410A	410A	410A	410A
Water Flow (gpm/lpm)	1.5/5.7	2/7.6	2.5/9.5	3/11.4	4/15.2
Max. Height (in/mm) <sup>(4)</sup>	12/305	12/305	13/331	14.1/359	14.1/359
Width (in/mm) <sup>(5)</sup>	13.3/338	13.3/338	13.3/338	13.3/338	13.3/338
Depth-Without Elec. Box (in/mm) <sup>(5)</sup>	13.3/338	13.3/338	13.3/338	13.3/338	13.3/338
Depth-With Elec. Box (in/mm) <sup>(5)</sup>	15.1/384	15.1/384	15.1/384	15.1/384	15.1/384
Seawater Inlet Connection (in/mm)	3/8	3/8	3/8	3/8	3/8
Seawater Connection Type	cupranickle tube				
Refrigerant Line Connection- Discharge (in)	1/4	1/4	1/4	1/4	1/4
Refrigerant Line Connection- Suction (in)	3/8	3/8	3/8	3/8	3/8
Net Weight (lbs/kg) <sup>(4)</sup>	43/19.6	42.05/19.1	45/20.5	44.25/20.1	47/21.4
Gross Weight (lbs/kg) <sup>(4)</sup>	50/22.7	49.5/22.5	50/22.7	50.5/22.1	52/23.6
Height-Electrical Box (in/mm)	8.75/223	8.75/223	8.75/223	8.75/223	8.75/223
Width-Electrical Box (in/mm)	6.5/166	6.5/166	6.5/166	6.5/166	6.5/166
Depth-Electrical Box (in/mm)	2.63/67	2.63/67	2.63/67	2.63/67	2.63/67

<sup>1</sup> Cruiser customers, replace\*\* in the model name with 'C' for Q-logic digital control system, or 'M' for electro-mechanical control. Marine Air customers, replace\*\* in the model name with 'D' for Passport I/O digital control system, or 'M' for electro-mechanical control.  
<sup>2</sup> BTU and electrical data are based on +45°F/7.2°C evaporator and 100°F/37.8°C condenser in cool mode, and a +45°F/7.2°C evaporator and 130°F/54.4°C condenser in heat mode.  
<sup>3</sup> 60Hz units must not operate at 50Hz and 50Hz units must not operate at 60Hz unless data plate says otherwise.  
<sup>4</sup> All weights ± 10%.  
<sup>5</sup> All dimensions ± 10 mm

### Dimensions



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L-2702A Rev. 20120803

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# Emerald Series (24K-72K) Condensers

## Innovative Chassis Conquers Installation Challenges



After listening to boat builders, global service teams and boat owners, Dometic engineers designed the innovative Emerald Condenser series to harness and maximize the impressive performance of R-410A refrigerant while meeting all international clean air standards.

The compact design of the Emerald series incorporates built-in vibration-isolating mounts, two large drain connections and numerous mounting options for installation to a smooth deck, stringer or existing rack. The incorporated lifting handles and smooth bottom allows for easy lifting and quick placement of the unit. The molded composite no-rust drain pan is shaped to provide positive drainage even when the boat heaves and rolls. The amount of standing water in the drain pan is reduced by up to 85%, which is 8x times less than a typical drain pan.

Emerald condensers can be installed quickly and easily. The drain, seawater and refrigerant connections are conveniently located to conquer installation challenges thus reducing installation time by up to fifteen minutes. The electrical box can be easily removed and located up to 5 ft. (1.5 m) away, further reducing the size of the unit while making the system more accessible. The reversing valve, pressure switches and service ports are centrally located, high on the unit for access from any side.



The reversing valve, pressure switches, and service ports are centrally located for easy maintenance access from any side.



Vibration-isolating compressor mounting system reduces noise and vibration.

### Key Benefits

- Up to 85% reduction in standing water in the drain pan
- Up to 15 minutes faster to install
- Square chassis for easy installation in tight spaces
- Three mounting options adapt to installation environments
- Rust-free composite drain pan
- Reconfigurable chassis allows optimal drain connections
- Compressor vibration-isolation mounts minimize noise and vibration
- Built-in refrigerant line filter drier reduces installation time and protects the compressor from moisture and contaminants
- Reversing valve, pressure switches, and service ports centrally located for easy maintenance access from any side
- Engineered to maximize the performance of R-410A, an environmentally safe refrigerant

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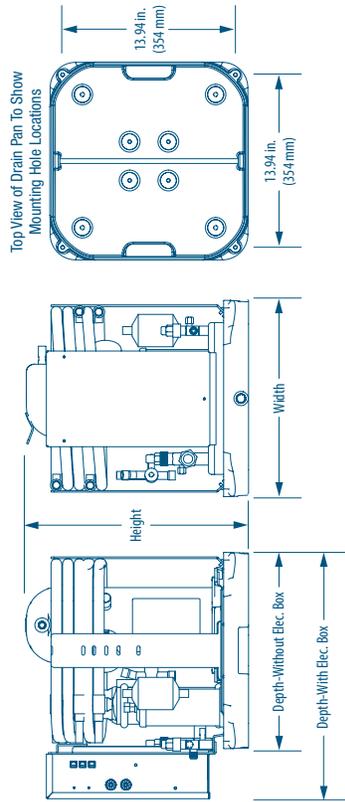
by Dometic GROUP

# Specifications for Emerald Series (24K-72K) Condensers

Model <sup>(1)</sup>	E*24	E*30	E*36	E*48	E*60
Capacity (BTU/h) <sup>(2)</sup>	24000	30000	36000	48000	60000
Voltage (V)	230	230	240	230	230
Cycle (Hz) <sup>(3)</sup> / Phase (Ph)	60/1	60/1	60/3	60/1	60/1
Full Load Amps (FLA) Cool (A)	6.3	6.4	9.1	9.4	11.9
Full Load Amps (FLA) Heat (A)	7.8	8	9.2	9.9	11.5
Locked Rotor Amps (LRA) (A)	43	46	55.4	28	54
Max. Circuit Breaker (A)	30	15	20	15	20
Min. Circuit Ampacity (A)	17	14	10	22	23
Refrigerant Type	410A	410A	410A	410A	410A
Max. Height (in/mm) <sup>(4)</sup>	18/458	18/458	18/458	18.5/470	20/508
Width (in/mm) <sup>(4)</sup>	16/407	16/407	16/407	16/407	16/407
Depth-Without Elec. Box (in/mm) <sup>(4)</sup>	16/407	16/407	16/407	16/407	16/407
Depth-With Elec. Box (in/mm) <sup>(4)</sup>	18.8/478	18.8/478	18.8/478	18.8/478	18.8/478
Seawater Inlet Connection (in/mm)	5/16	5/16	5/16	5/16	5/16
Seawater Connection Type	cupranickle tube				
Refrigerant Line Connection-Discharge (in)	3/8	3/8	3/8	3/8	3/8
Refrigerant Line Connection-Suction (in)	3/4	3/4	3/4	3/4	3/4
Net Weight (lbs/kg) <sup>(5)</sup>	98.5/44.7	104/47.2	87/39.5	100/45.4	102.25/46.4
Gross Weight (lbs/kg) <sup>(5)</sup>	129/58.6	133/60.4	117.55/53.4	132/59.9	133.5/60.6
Height-Electrical Box (in/mm)	13.25/337	13.25/337	13.25/337	13.25/337	13.25/337
Width-Electrical Box (in/mm)	7.75/197	7.75/197	7.75/197	7.75/197	7.75/197
Depth-Electrical Box (in/mm)	3.75/96	3.75/96	3.75/96	3.75/96	3.75/96

<sup>1</sup> Cruiser air customers, replace "" in the model name with 'Q' for Q-Logic digital control system, or 'W' for electro-mechanical control. Marine Air customers, replace "" in the model name with 'D' for Passport I/O digital control system, or 'M' for electro-mechanical control.  
<sup>2</sup> BTU and electrical data are based on +45°F/7.2°C evaporator and 100°F/37.8°C condenser in cool mode, and a +45°F/7.2°C evaporator and 130°F/54.4°C condenser in heat mode.  
<sup>3</sup> 60Hz units must not operate at 50Hz and 50Hz units must not operate at 60Hz unless data plate says otherwise.  
<sup>4</sup> All dimensions ± 0.30 in. (8 mm).  
<sup>5</sup> All weights ± 10%.

## Dimensions



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L-2702B Rev. 20120803



Specifications and availability subject to change without notice.

NEW

# Emerald TurboVap Series Evaporators

## Reduced Size, Noise & Power Draw



The Emerald TurboVap series of split-gas evaporators for boats incorporates revolutionary design features with mechanical engineering that maximizes the effectiveness of R-410A, an environmentally safe refrigerant.

Emerald TurboVaps are easy to install. For ideal positioning, the high-velocity blower can rotate up to 270 degrees with a single adjustment screw. The enclosed motor means no blower-motor overhang for a compact design.

Since evaporators are usually positioned in or near cabins, noise is always a concern. The Emerald TurboVap uses a vibration-isolation mounting system to minimize noise, so the evaporator runs more quietly. The fully insulated, high-velocity blowers are quiet and efficient.

Excellent condensate drainage is achieved with a unique positive-flow, anti-slosh, composite drain pan that is rust-free. Condensate water is rapidly removed at one of two easy-to-plumb drain locations.

The Emerald TurboVap Series was designed to operate as a system with the Emerald Condenser Series. Both of these split-system components were engineered to harness and maximize the superior thermodynamic properties of the environmentally safe R-410A refrigerant.

The Emerald TurboVap is available in six capacities ranging from 4,000 to 16,000 BTU/hr.



The rust-free composite drain pan reduces standing water up to 85%, thanks to "positive-flow" drain channels. These channels also help prevent spilling and sloshing in rough seas.



Optional lineset extensions for discharge and suction are available for all TurboVap models.

### Key Benefits

- Up to 28% reduced amperage
- Up to 85% reduction in standing water in the drain pan
- Up to 14% increase in cooling capacity
- Up to 15% lighter
- Up to 17% reduction in height
- Up to 19% increased air flow CFM
- Rust-free composite drain pan
- Drain pan features anti-slosh, "positive-flow" drain channels for no spills and rapid removal of condensate
- Up to 15 minutes faster to install
- Single adjustment screw for 270° of blower rotation
- High-velocity (HV) fully-insulated blowers are rotatable
- Vibration-isolation mounts reduce noise and vibration
- 115V and 230V models
- Designed to be used with Emerald Series (R-410A) condensers

**Cruisair**®

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### Specifications for Emerald TurboVap Series Evaporators

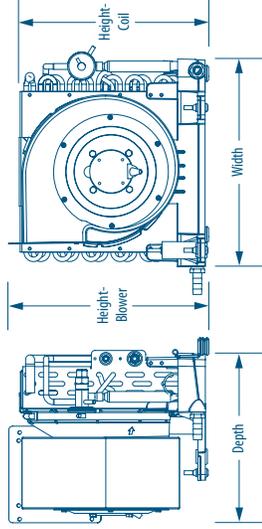
Model <sup>(1)</sup>	TVE4	TVE6	TVE8	TVE10	TVE12	TVE16
Capacity (BTU/h)	4000	6000	8000	10000	12000	16000
Voltage @ 50/60Hz 1-Ph (V)	115	230	115	230	115	230
Full Load Amps (FLA) Cool (A)	0.82	0.41	1.56	0.83	1.14	0.61
Max. Circuit Breaker (A)	5	5	5	5	5	5
Min. Circuit Ampacity (A)	2	2	2	2	2	2
Height-Coil (in/mm) <sup>(2)</sup>	10.8/275	10.8/275	10.8/275	12.6/321	12.6/321	13/331
Height-Blower (in/mm) <sup>(2)</sup>	10.8/275	10.8/275	11.4/290	12.6/321	12.6/321	13.6/346
Width (in/mm) <sup>(2)</sup>	12.3/313	12.3/313	12.3/313	14.3/364	14.3/364	14.3/364
Depth (in/mm) <sup>(2)</sup>	9.5/242	9.5/242	9.4/239	10.4/265	10.4/265	11.6/295
Min. Supply Duct Size (in/mm)	4/102	4/102	5/127	6/153	6/153	7/178
Min. Return Air Grille Size (sq in/sq cm)	32/207	32/207	48/310	60/388	70/452	81/523
Min. Return Air Grille Size (sq in/sq cm)	64/413	64/413	80/517	110/710	130/839	160/1033
Net Weight (lbs/kg) <sup>(3)</sup>	10.5/4.8	11.25/5.2	12.5/5.6	17.5/7.1	17.5/7.1	20.5/9.3
Gross Weight (lbs/kg) <sup>(3)</sup>	18.5/8.4	18/8.2	19/8.7	25.5/11.6	25/11.4	24.75/11.3

<sup>1</sup> Add 115V or 230V to the model number for 115V and 230V units, respectively.

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

<sup>3</sup> All weights ± 10%

### Dimensions



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L-2695B Rev. 20120803

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Dealer



# EBE Series R-410A Evaporators

## The New Standard In Marine High-Performance Evaporators



Compact EBE split evaporators for boats are draw-through, ductable cooling units with reverse-cycle heating. Featuring a rotatable, high-efficiency permanent split capacitor (PSC) blower in which the motor is concealed, EBE series evaporators are available in capacities from 6K to 36K BTU/hr. EHBE units have electric heat.

The EBE Series was designed for installation low in a closet, cabinet, or other enclosed space, with discharge air ducted to one or more grilles high in the cabin. EBE units can be used with a combination of plenums and flexible duct, or built-in ductwork may be used. If you are using built-in ductwork, a flexible transition between the blower and duct should be installed.

Vibration-isolation mounting is built into each EBE unit to reduce noise and vibration. The PSC blower is supported by a sturdy aluminum bracket with isolation grommets to reduce possible vibration. The blower's internal motor housing reduces the overall unit depth for easier installation and promotes quieter operation.

The drain pan and blower housing are covered with insulating foam which reduces noise and secondary condensation.

The "positive flow" drain pan has an anti-slosh, antifungal foam lining. Two 1/2 in. (13 mm) drains are located on the blower side of the drain pan.

### Key Benefits

- Compact ductable cooling or heating units
- High-velocity (HV) fully-insulated blowers are rotatable
- Insulated condensate pan with anti-slosh, anti-fungal foam lining
- Available with electric heat (EHBE models)
- High-efficiency evaporator coil
- Larger blower inlet for increased air flow across the coil
- Blower support bracket with cushioned mounts to reduce noise and vibration
- Increased metal thickness on structural parts for added strength
- Thermal expansion valve for optimal performance over a range of conditions
- Designed to be used with Emerald Series (R-410A) condensers

**Cruisair**<sup>®</sup>

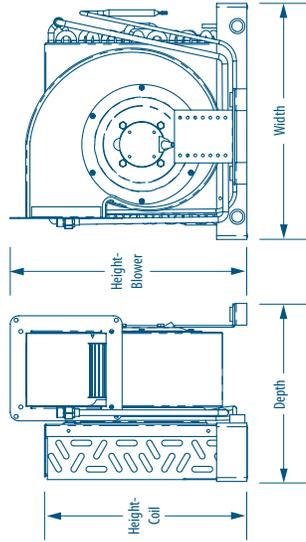
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Specifications for EBE Series R-410A Evaporators

Model <sup>(1)</sup>	EBE18	EBE24	EBE30	EBE36	EBE8	EBHE10	EBHE12	EBHE16	EBHE24
Capacity (BTU/h)	18000	24000	30000	36000	8000	10000	12000	16000	24000
Voltage @ 50/60Hz 1-Ph (V)	230	230	230	230	230	230	230	230	230
Full Load Amps (FLA) Cool (A)	1.15	1.64	1.64	4	0.98	0.66	0.56	0.88	1.64
Full Load Amps (FLA) Heat (A)	N/A	N/A	N/A	N/A	5.4	7.2	9.26	9.58	14.68
Full Load Amps (FLA) Blower (A)	1.15	1.64	4	4	0.98	0.66	0.56	1.15	1.64
Max. Circuit Breaker (A)	5	5	5	5	10	10	10	10	20
Min. Circuit Ampacity (A)	2	3	3	5	6	8	10	10	16
Electric heat (kW/tp)	N/A	N/A	N/A	N/A	1/1.4	1.5/2.1	2/2.7	2/2.7	3/4.1
Heater Amps (A)	N/A	N/A	N/A	N/A	4.35	6.52	8.7	8.7	13.04
Air Flow (cfm/m <sup>3</sup> h)	540/918	800/1360	1000/1700	1200/2039	266/452	333/566	400/680	533/906	800/1360
Height-Coil (in/mm) <sup>(2)</sup>	13.63/347	16.5/420	20.5/521	20.5/521	11.25/286	12.5/318	12.5/318	13.5/343	16.5/420
Height-Blower (in/mm) <sup>(2)</sup>	15.13/385	17/432	22/559	22.25/566	12.5/318	13.5/343	13.5/343	15.5/394	17/432
Width (in/mm) <sup>(2)</sup>	16/407	20/508	20.75/528	20.75/528	13.75/350	14.25/362	14.25/362	16/407	20/508
Depth (in/mm) <sup>(2)</sup>	14/356	14.5/369	15/381	17.75/451	12/305	13.75/350	14.5/369	14.75/375	15/381
Net Weight (lbs/kg) <sup>(3)</sup>	27/12.3	37.65/17.1	36/16.4	41.75/18.1	21/9.6	23/10.5	28/12.8	44.75/20.3	
Gross Weight (lbs/kg) <sup>(3)</sup>	35/15.9	49.5/22.5	42/19.1	56.5/25.7	29/13.2	31/14.1	31.5/14.3	36/16.4	56.25/25.6

<sup>1</sup> EBE indicates evaporator without electric heat; EBHE indicates evaporator with electric heat. Dometic Marine also offers an EBHE6-1KW and EBHE16-3KW. For more information please contact a sales representative at 954-973-2477.  
<sup>2</sup> All dimensions ± 0.30 in. (8 mm).  
<sup>3</sup> All weights ± 10%.

Dimensions



Dealer

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L-2854 Rev. 20120803

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# EBLE Series Low-Profile Evaporators

## Dual-Blower Units for Height Restrictive Spaces



Cruisair's EBLE low profile, dual-blower series of ductable cooling/heating units are available in a wide range of capacities and configurations. Available in capacities from 12K to 36K BTU/hr., EBLE units are designed for installations where there is limited vertical space, such as beneath a seat or bunk, or in overhead spaces.

Standard EBLE units consist of a low-profile evaporator coil mounted on a deep condensate pan, with two high-efficiency permanent split capacitor (PSC) blowers drawing air across the coil. Refrigerant line connections and a metering device are also included. Refrigerant connections are male flare fittings.

The variable-speed blower motor is internal to the blower wheel, which results in less noise and reduced unit depth for easier installation.

The drain pan, blower housing and all transitional metal surfaces are covered with insulating foam to prevent secondary condensation and reduce noise. The drain pan is lined with anti-slosh, antifungal foam, and the blowers can be rotated for discharge in different directions.

EBLEP models are designed for overhead installations, and include an insulated return-air plenum to collect air from a ceiling mounted grille.

EBHLE units have integrated electric heat strips to provide heat when the seawater is too cold for adequate reverse-cycle heating. All Cruisair auxiliary heaters use a two-stage thermal protection system to prevent dangerous overheating in case airflow is lost. The first cutout is an automatic reset switch, and the second stage is a manual reset control. Other safety features include high-temperature insulation on the interior surfaces and high temperature wiring.



Units are available with return-air plenum for overhead applications (EBLEP models).

### Key Benefits

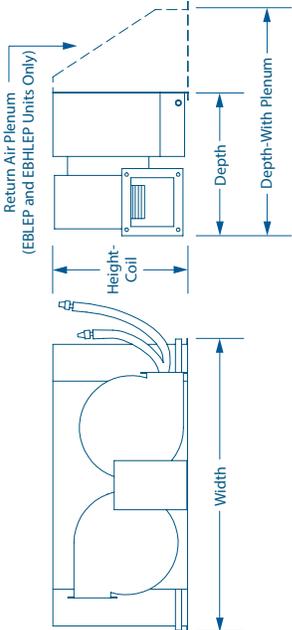
- Low-profile, dual-blower ductable cooling/heating units
- Environmentally safe R-410A refrigerant
- Variable-speed, high-efficiency PSC blowers are rotatable
- Drain pan has anti-slosh, anti-fungal foam lining
- Exposed sheet metal is insulated against secondary condensation
- Available with electric heat (EBHLE models)
- Units are available with return-air plenum for overhead applications (EBLEP models).
- Models with return-air plenum also available with electric heat (EBHLEP models)
- Thermal expansion valve for optimal performance over a range of conditions

Specifications for EBLE Series Low-Profile Evaporators

Model (1)	EBLE12	EBLE16	EBLE16	EBLE16	EBLE16	EBLE16	EBLE24	EBLE24	EBLE24	EBLE24	EBLE24	EBLE30	EBLE30	EBLE30	EBLE36	EBLE36	EBLE36
Capacity (BTU/h)	12000	16000	16000	16000	16000	16000	24000	24000	24000	24000	24000	30000	30000	30000	36000	36000	36000
Voltage @ 50/60Hz 1-Ph (V)	115	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
Full Load Amps (FLA) Blower (A)	1.64	0.74	1.2	1.44	1.44	1.2	2.8	2.8	2.8	2.8	2.8	3.6	3.6	2.3	3.6	3.6	3.6
Max. Circuit Breaker (A)	5	5	5	15	15	25	5	20	5	15	5	5	5	5	5	5	5
Min. Circuit Ampacity (A)	3	2	4	2	11	4	3	16	3	11	3	3	3	3	3	3	3
Electric heat (kW/HP)	N/A	N/A	N/A	2/2.7	2/2.7	2/2.7	N/A	2/2.7	N/A	2/2.7	N/A						
Heater Amps (A)	N/A	N/A	N/A	17.4	8.7	17.4	N/A	8.7	N/A	8.7	N/A						
Height (in/mm) (2)	11.25/286	11.25/286	11.25/286	11.25/286	11.25/286	11.25/286	12.5/318	12.5/318	12.5/318	12.5/318	12.5/318	13/331	13/331	13/331	13/331	13/331	13/331
Width (in/mm)	24/610	24/610	24/610	24/610	24/610	24.25/616	27.5/699	27.5/699	27.5/699	27.5/699	27.5/699	37.5/953	37.5/953	37.5/953	37.5/953	37.5/953	37.5/953
Depth (in/mm)	13.5/343	13.5/343	13.5/343	13.5/343	13.5/343	21/534	14/356	17/432	17/432	17/432	26.5/674	14/356	N/A	N/A	14/356	N/A	N/A
Min. Supply Duct Size (in/mm)	70/452	70/452	70/452	70/452	70/452	7/178	8/204	8/204	8/204	8/204	8/204	9/229	9/229	9/229	10/254	10/254	10/254
Min. Supply Air Grille Size (sq in/sq cm)	130/839	130/839	130/839	130/839	130/839	80/517	140/904	140/904	140/904	140/904	140/904	170/1097	170/1097	170/1097	196/1265	196/1265	196/1265
Min. Return Air Grille Size (sq in/sq cm)	1/4	3/8	3/8	3/8	3/8	1/4	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Refrigerant Line Connection-Discharge (in)	3/8	1/2	1/2	1/2	1/2	1/2	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
Refrigerant Line Connection-Suction (in)	3/8	1/2	1/2	1/2	1/2	1/2	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8

1 EBLE indicates base unit without electric heat or return-air plenum; EBLE indicates unit with electric heat, but without return-air plenum; EBHLEP indicates unit with electric heat and return-air plenum.  
 2 Height values shown are from the mounting surface to the top of the coil with blowers in the horizontal position.

Dimensions



Dealer

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L-0717 Rev. 20130531



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# EBDE Series High-Capacity Evaporators

## Multi-Ton Units for Split-Gas Air Conditioning Systems



EBDE evaporators are draw-through, ductable cooling and heating units with variable speed blower and enclosed in an insulated aluminum housing with integrated condensate drain pan. EBDE units are designed to be installed in a cabinet or other enclosed space with discharge air ducted to grilles high in the cabin.

EBDE models are available in capacities from 30,000 to 72,000 BTU/hr, and can be used with Emerald series reverse-cycle condensing units.

The 30,000 and 36,000 BTU/hr units have one evaporator coil with a single return air inlet. The 48,000 to 72,000 BTU/hr units feature a dual return air inlet design with two evaporator coils. Return air filters are also included.

Vertical or horizontal air discharge is specified when ordering the unit (by the model designation).

The deep condensate drain pan is filled with anti-slosh, anti-fungal foam and has two drain fittings. The drain pan also includes rubber vibration-isolation mounting feet.

EBDE evaporators can be ducted with flexible or built-in ducts to deliver air to one or more cabins. The maximum external static pressure is 0.25 in. water. A hose adapter will be needed to connect the unit to flexible duct. If using built-in ducting, a flexible transition should be installed between the unit and the duct. Return air should not be ducted.

EBDE models can be used with Cruisair microprocessor or mechanical cabin controls.



Vibration-isolation mounts reduce noise and vibration.

### Key Benefits

- Variable-speed blower
- Horizontal or vertical air discharge
- Integrated condensate drain pan with anti-slosh, anti-fungal foam lining
- Internal components are insulated against secondary condensation
- 230V/60Hz models (50Hz available)
- Easy-to-replace air filter
- Capacities from 30,000 to 72,000 BTU/hr
- Works with Emerald series condensers
- Integrated chassis with vibration isolation mounts to reduce noise and vibration

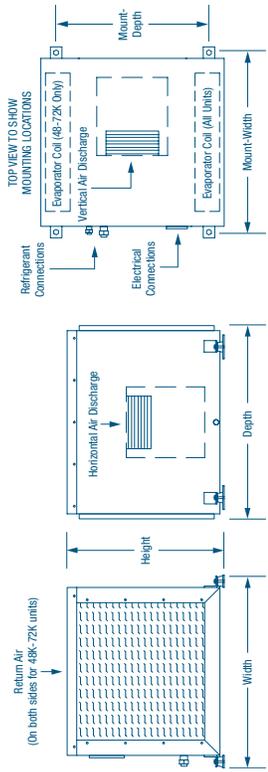
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# Specifications for EBDE Series High-Capacity Evaporators

Model <sup>(1)</sup>	EBDE30	EBDE36	EBDE48	EBDE60	EBDE72
Capacity (BTU/h)	30000	36000	48000	60000	72000
Voltage (V) <sup>(2)</sup>	230	230	230	220	220
Phase (Hz)/Cycle (Ph)	60/1	60/1	60/1	50/1	50/1
Full Load Amps (FLA) Blower (A)	1.64	3.8	4.3	5.8	4
Max. Circuit Breaker (A)	5	5	10	5	5
Min. Circuit Ampacity (A)	3	5	6	8	5
Air Flow (cfm/m <sup>3</sup> h)	800/1360	1200/2039	1600/2719	2000/3399	2400/4078
Height (in/mm) <sup>(3)</sup>	20.5/521	20.5/521	20.5/521	20.5/521	20.5/521
Width (in/mm) <sup>(3)</sup>	24.5/623	24.5/623	24.5/623	24.5/623	24.5/623
Depth (in/mm) <sup>(3)</sup>	19.75/502	19.75/502	25.5/648	25.5/648	25.5/648
Mount-Depth (in)	13.5	13.5	18.56	18.56	18.56
Mount-Width (in)	22.8	22.8	22.8	22.8	22.8
Min. Supply Duct Size (in/mm)	10/254	10/254	12/305	12/305	14/356
Min. Supply Air Grille Size (sq in/sq cm)	150/968	170/1097	230/1484	290/1871	350/2259
Min. Return Air Grille Size (sq in/sq cm)	280/1807	320/2065	440/2839	570/3678	690/4452
Refrigerant Line Connection-Discharge (in)	3/8	3/8	3/8	3/8	3/8
Refrigerant Line Connection-Suction (in)	3/4	3/4	3/4	3/4	3/4

<sup>1</sup> For horizontal air discharge add 'HC' to the end of the model number; for vertical air discharge add 'VC'. For example, EBDE30-HC indicates a 30,000 BTU/hr. unit in the horizontal discharge configuration.  
<sup>2</sup> 50Hz models are available by special order.  
<sup>3</sup> All dimensions ± 0.30 in. (8 mm).

# Dimensions



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L-0980 Rev. 20140117

Dealer



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# R Series (5K-16K) Condensing Units

## Seawater-Cooled Condensers With Reverse-Cycle Heating



R Type remote condensing units are the next generation of seawater-cooled, reverse-cycle heat pumps for cooling and heating in marine applications. Small R Type units are available in capacities from 5,000 to 16,000 BTU/hr.

These condensing units can be installed with up to two Cruisair cooling units, where the total capacity is equal to the condensing unit capacity. In the cooling mode, full performance is available in seawater up to 90°F (32°C). In reverse-cycle heating, they will provide heat in seawater as low as 40°F (4.4°C).

R Type condensers have a number of improvements over the original "F" type condensing units. A one-piece chassis/pan has a smaller footprint, with two 1/2 in. FPT drain connections. New hold-down brackets secure all four corners and allow for easier installation and removal. The one-piece electrical box with 3 ft. (0.9 m) cable can be remotely mounted. (RN models have a secondary box). Additional service ports have been added for ease of charging and servicing. The R type unit is designed as a drop-in for the older F and J type with few modifications.

Type R models are designed for installation in the vessel's engine room or other mechanical space. It is not affected by moisture, normal vibration, or ambient temperatures up to 140°F (60°C). No ventilation is required.

Three different models are available, depending on what type of control is desired. "R" use the SA3 3-knob rotary switch assembly, "RX" is controlled by the SMX II microprocessor, and "RN" uses the SMX Net. SMX models include the respective SMX II or SMX Net power/logic boards. In addition, an SMXir or the new SMXht keypad/ display, a CXP connecting cable, and a TSEP temperature sensor must be purchased separately. If networking RN units, CNP network cables are also needed.

A seawater cooling system, with pump, scoop type through-hull, seacock, strainer, and overboard discharge, is also required.

### Key Benefits

- Service ports on refrigerant lines and base valves
- Compressor vibration-isolation mounts minimize noise and vibration
- Condensate drain pan with front and rear drain stems
- Corner mounting brackets for easier installation
- High-pressure switch (SMX control models also include low-pressure switch)
- Electrical box can be mounted remotely
- Environmentally safe R-417A refrigerant
- Ignition protected
- Additional vibration isolation kit available
- Charged, tested, and leak checked at the factory

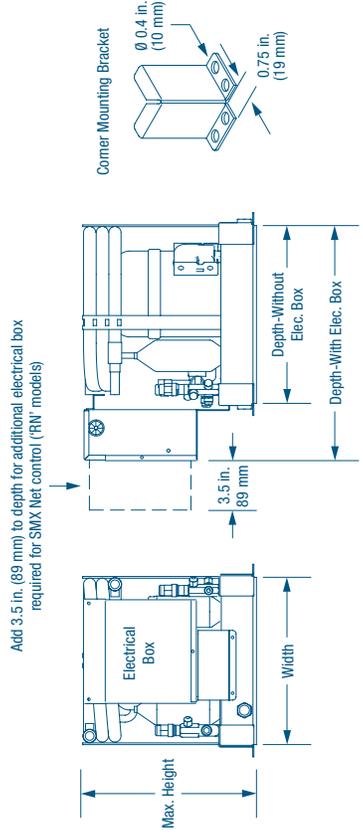
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by Dometic GROUP

### Specifications for R Series (5K-16K) Condensing Units

Model <sup>(1)(2)</sup>	R*5	R*7	R*10		R*12		R*16	
Capacity (BTU/h)	5000	7000	10000		12000		16000	
Voltage (V) <sup>(3)</sup>	115	230	240	230	240	230	240	240
Cycle (Hz)/Phase (Ph)	60/1	60/1	50/1	50/1	50/1	50/1	50/1	50/1
Full Load Amps (FLA) Cool (A) <sup>(4)</sup>	5	7	3.3	3	4.8	4.6	5.9	5.2
Full Load Amps (FLA) Heat (A)	6.2	7.7	4	3.7	5.7	5.6	6.8	5.8
Locked Rotor Amps (LRA) (A)	28	34	20	16	28	26	34	31
Max. Circuit Breaker (A)	28	20	10	15	30	20	10	15
Min. Circuit Ampacity (A)	7	13	7	18	11	21	13	9
Refrigerant Type	R417A	R417A	R417A		R417A		R417A	
Max. Height (in/mm)	12.5/318	12.5/318	12.5/318		12.5/318		12.5/318	
Width (in/mm)	12.2/310	12.2/310	12.2/310		12.2/310		12.2/310	
Depth-With Elec. Box (in/mm)	17.1/435	17.1/435	17.1/435		17.1/435		17.1/435	
Depth-Without Elec. Box (in/mm)	13.6/346	13.6/346	13.6/346		13.6/346		13.6/346	
Seawater Inlet Connection (in/mm)	3/16	3/16	3/16		3/16		3/16	
Refrigerant Line Connection-Discharge (in/mm)	1/4	1/4	1/4		1/4		1/4	
Refrigerant Line Connection-Suction (in/mm)	3/10	3/10	3/10		3/10		3/10	
Height-Electrical Box (in/mm)	11.12/283	11.12/283	11.12/283		11.12/283		11.12/283	
Width-Electrical Box (in/mm) <sup>(5)</sup>	7.56/193	7.56/193	7.56/193		7.56/193		7.56/193	
Depth-Electrical Box (in/mm) <sup>(6)</sup>	4.84/123	4.84/123	4.84/123		4.84/123		4.84/123	

<sup>1</sup> \* is the designator for type of control. For mechanical controls, replace \* with 'M'. For SMX Net replace with 'N', indicate 'X' for SMX II and use 'Q' for Q-Logic.  
<sup>2</sup> For a specific voltage, add the following after the capacity designator: 'C' for 230V/60Hz/1-Phase, 'CK' for 220-240/50Hz/1-Phase, 'D' for 230V/60Hz/3-Phase, 'E' for 460V/60Hz/3-Phase, and 'ECK' for 380V/50Hz/3-Phase. Adding nothing will indicate 115V/60Hz/1-Phase (not available for multi-ton models).  
<sup>3</sup> 115V, 230V, and 480V/60Hz equipment can be operated at 100V, 200V, or 380V, respectively, in a 50Hz environment but at a 17% decrease in capacity. Full-rated capacity can be obtained by specifying 'Cruisair' CK (220V/50Hz) equipment.  
<sup>4</sup> Compressor starting current will vary with voltage but is approximately 3 to 4 times the full-load amps.  
<sup>5</sup> Width shown is for electrical box with Q-Logic control system (RQ models). Width of electrical box with SMX II control (RX models) is 7.53 in. (192 mm), and with SMX Net control (RN models) the width is 7.69 in. (195 mm).  
<sup>6</sup> Depth shown is for electrical box with Q-Logic control system (RQ models). Depth of electrical box with SMX II control (RX models) is 4.72 in. (120 mm), and with SMX Net control (RN models) the depth is 7.81 in. (199 mm).

### Dimensions



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L-2431 Rev. 20130111

Specifications and availability subject to change without notice.

Dealer



# R Series (20K-48K) Condensing Units

## Seawater-Cooled Condensers With Reverse-Cycle Heating



Available in capacities from 20,000 to 48,000 BTU/hr, Type R remote condensing units represent the next generation of seawater-cooled, reverse-cycle heat pumps for cooling and heating in marine applications. Models up to 36,000 BTU/hr use reciprocating compressors, while the 48K units use scroll compressors.

These condensing units can be installed with up to two Cruisair cooling units, where the total cooling unit capacity is equal to the condensing unit capacity. Some applications may allow three cooling units on one condenser; contact the Cruisair Applications department for assistance in design, prior to installation. In the cooling mode, full performance is available in seawater up to 90°F (32°C). In reverse-cycle heating, the unit will provide heat in seawater as low as 40°F (4.4°C).

The high-efficiency compressors deliver full capacity at lower amperages. The newly designed, one-piece electrical box with 3 ft. (0.9 m) cable can be remote mounted simply by removing one screw (RN models have a secondary box). Additional service ports allow ease of charging and servicing. The one-piece chassis/pan has two drain locations, and hold-down brackets secure all four corners, allowing easier installation and removal. The Type R condenser is designed as a drop-in for the older F type, with few modifications.

R type units are designed for installation in the vessel's engine room or other mechanical space. The unit is not affected by moisture, normal vibration, or ambient temperatures up to 140°F (60°C). No ventilation is required.

Three different series of Type R units are available, depending on what type of control is desired. Standard R units utilize the SA3 3-knob rotary switch assembly, RX units are controlled by the SMX II microprocessor, and RN models use SMX Net microprocessors. The SMX units include the respective SMX II or SMX Net power/logic boards. In addition, an SMXir or the new SMXht keypad/display, a CXP connecting cable, and a TSEP temperature sensor must be purchased separately. If networking RN units, CNP network cables are also needed.

### Key Benefits

- Higher efficiency compressors at lower amperages
- Service ports on refrigerant lines and base valves
- Compressor vibration-isolation mounts minimize noise and vibration
- Condensate drain pan with front and rear drain stems
- Environmentally safe R-417A refrigerant
- Condensate drain pan with front and rear drain stems
- Corner mounting brackets for easier installation
- High- and low-pressure switches
- Electrical box can be mounted remotely
- Optional seawater coil manifolds
- Additional vibration isolation kit available
- Charged, tested, and leak checked at the factory

**Cruisair**<sup>®</sup>

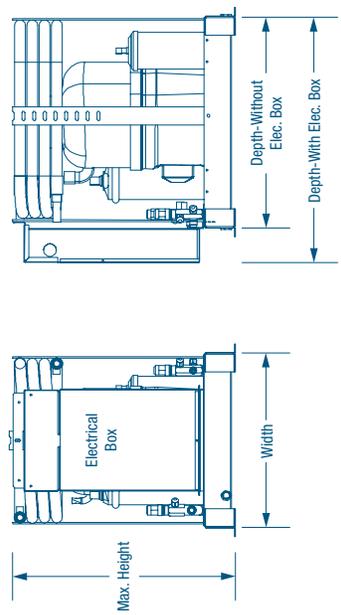
by Dometic GROUP

# Specifications for R Series (20K-48K) Condensing Units

Model <sup>(1)(2)(3)</sup>	R*20	R*24	R*30	R*36	R*48
Capacity (BTU/h)	20000	24000	30000	36000	48000
Voltage (V) <sup>(4)</sup>	230	230	230	230	230
Cycle (Hz)/Phase (Ph)	50/1	50/1	50/1	50/1	50/1
Full Load Amps (FLA) Cool (A) <sup>(5)</sup>	5.3	6.9	8.7	9.2	11.3
Full Load Amps (FLA) Heat (A)	7.4	8.6	11.7	11.7	16.6
Locked Rotor Amps (LRA) (A)	48	55	58	73	104
Max. Circuit Breaker (A)	30	35	40	45	60
Min. Circuit Ampacity (A)	18	19	24	28	39
Refrigerant type	R417A	R417A	R417A	R417A	R417A
Max. Height (in/mm)	16.75/426	16.75/426	16.75/426	16.75/426	16.75/426
Width (in/mm)	15.75/401	15.75/401	15.75/401	15.75/401	15.75/401
Depth-With Elec. Box (in/mm)	20.875/531	20.875/531	20.875/531	20.875/531	20.875/531
Depth-Without Elec. Box (in/mm)	18.75/477	18.75/477	18.75/477	18.75/477	18.75/477
Seawater Inlet Connection (in/mm)	3/8	3/8	3/8	3/8	3/8
Refrigerant Line Connection-Discharge (in/mm)	3/8	3/8	3/8	3/8	3/8
Refrigerant Line Connection-Suction (in/mm)	1/2	1/2	1/2	3/4	3/4
Height-Electrical Box (in/mm) <sup>(6)</sup>	16.54/421	16.54/421	16.54/421	16.54/421	16.54/421
Width-Electrical Box (in/mm) <sup>(4)</sup>	9/229	9/229	9/229	9/229	9/229
Depth-Electrical Box (in/mm) <sup>(7)</sup>	3.67/94	3.67/94	3.67/94	3.67/94	3.67/94

1 \* is the designator for type of control. For mechanical controls, replace \* with 'M'. For SMX Net replace with 'N', indicate 'X' for SMX II and use 'Q' for Q-Logic.  
 2 For a specific voltage, add the following after the capacity designator: 'C' for 230V/60Hz/1-Phase, 'CK' for 220-240/50Hz/1-Phase, 'D' for 230V/60Hz/3-Phase, 'E' for 460V/60Hz/3-Phase, and 'EK' for 380V/50Hz/3-Phase. Adding nothing will indicate 115V/60Hz/1-Phase (not available for multi-ton models).  
 3 For information about voltages not shown in this sheet, please contact Domestic Marine sales at 954-973-2477.  
 4 Some 60Hz equipment can be operated in a 50Hz environment but at a 17% decrease in capacity. Full-rated capacity can be obtained by specifying Cuisair 'CK' (220V/50Hz) equipment.  
 5 Compressor starting current will vary with voltage but is approximately 3 to 4 times the full-load amps.  
 6 Height shown is for electrical box with Q-Logic (RQ models) and SMX II (RX models) control systems. Height with mechanical control (RM models) is 16.20 in. (412 mm); with SMX Net (RN models) the height is 16.58 in. (422 mm).  
 7 Depth shown is for electrical box with Q-Logic control system (RQ models). Depth with SMX II control (RX models) is 3.70 in. (94 mm); with SMX Net control (RN models) the depth is 3.63 in. (93 mm).

## Dimensions



NOTE: Drain fittings extend 1/4 in. (7 mm) from front and back of pan.

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L-2360 Rev. 20130118

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Dealer



NEW

# TurboVap Series Evaporators

## Reduced Size, Noise & Power Draw



The TurboVap Series of direct expansion (DX) split-gas evaporators for boats is based on the revolutionary engineering advancements of the award-winning Turbo self-contained air conditioning system. Featuring a rust-free molded composite drain pan, condensate water is rapidly removed at one of two easy-to-plumb drain locations. The pan also has innovatively designed anti-slosh ridges and "positive flow" channels to ensure condensate does not spill even in the roughest seas.

For improved installation ease and flexibility, the enclosed blower motor eliminates overhang and the blower can be rotated 270° with a single adjustment screw. The unit's unique inlet ring is designed to optimize air flow and ensure that the height of the unit does not increase when the blower rotates. The fully insulated, high-velocity blowers are quiet and efficient.

Experience better noise reduction with the TurboVap Series' built-in cushioning system which minimizes vibration to the deck. Additionally, the innovative mounting clips utilize vibration isolators.

TurboVap units can be paired with condensers that use either R-22 or R-417A refrigerants. See the Emerald Series of TurboVaps and condensers for a complete split system that uses R-410A refrigerant.



The rust-free composite drain pan reduces standing water up to 85%, thanks to "positive-flow" drain channels. These channels also help prevent spilling and sloshing in rough seas.



Optional lineset extensions for discharge and suction are available for all TurboVap models.

### Key Benefits

- Up to 28% reduced amperage
- Up to 85% reduction in standing water in the drain pan
- Up to 14% increase in cooling capacity
- Up to 15% lighter
- Up to 17% reduction in height
- Up to 19% increased air flow CFM
- Rust-free composite drain pan
- Drain pan features anti-slosh, "positive-flow" drain channels for no spills and rapid removal of condensate
- Up to 15 minutes faster to install
- Single adjustment screw for 270° of blower rotation
- High-velocity (HV) fully-insulated blowers are rotatable
- Vibration-isolation mounts reduce noise and vibration
- 115V and 230V models
- Can be used with R-22 or R-417A condensers

**Cruisair**®

by Dometic GROUP

### Specifications for TurboVap Series Evaporators

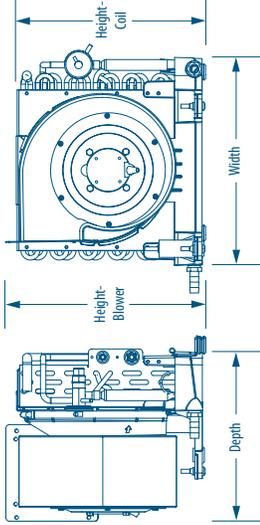
Model <sup>(1)</sup>	TV4	TV6	TV8	TV10	TV12	TV16
Capacity (BTU/h)	4000	6000	8000	10000	12000	16000
Voltage @ 50/60Hz 1-Ph (V)	115	230	115	230	115	230
Full Load Amps (FLA) Cool (A)	0.82	0.41	1.56	0.83	1.14	0.61
Max. Circuit Breaker (A)	5	5	5	5	5	5
Min. Circuit Ampacity (A)	2	2	2	2	2	2
Height-Coil (in/mm) <sup>(2)</sup>	10.8/275	10.8/275	10.8/275	12.6/321	12.6/321	13/331
Height-Blower (in/mm) <sup>(2)</sup>	10.8/275	10.8/275	11.4/290	12.6/321	12.6/321	13.6/346
Width (in/mm) <sup>(2)</sup>	12.3/313	12.3/313	12.3/313	14.3/364	14.3/364	14.3/364
Depth (in/mm) <sup>(2)</sup>	9.5/242	9.5/242	9.4/239	10.4/265	10.4/265	11.6/295
Min. Supply Duct Size (in/mm)	4/102	4/102	5/127	6/153	6/153	7/178
Min. Supply Air Grille Size (sq in/sq cm)	32/207	32/207	48/310	60/388	70/452	81/523
Min. Return Air Grille Size (sq in/sq cm)	64/413	64/413	80/517	110/710	130/839	160/1033
Net Weight (lbs/kg) <sup>(3)</sup>	10.5/4.8	11/4.1	13.9/6.4	14/6.4	17.5/7.1	19.8/8.1
Gross Weight (lbs/kg) <sup>(3)</sup>	18/8.2	19/8.7	20.7/9.5	22/9.1	25.5/11.6	25/11.4

<sup>1</sup> Add 115V or 230V to the model number for 115V and 230V units, respectively.

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

<sup>3</sup> All weights ± 10%

### Dimensions



Dealer

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L-2695A Rev. 20120803

Specifications and availability subject to change without notice.



# RM Series Modulating Condensing Units

## Capable of Cooling Up to Five Zones



The new RM model remote modulating condensing units are the next generation of direct-expansion, cooling only air conditioning units designed to run multiple cooling units (evaporators) with up to five independent zones. Models are available in capacities of 24, 30 and 42,000 BTU/Hr. Total cooling unit capacity should be within 15% of the condensing unit capacity.

The new RM model has a number of improvements. Higher efficiency compressors deliver full capacity even under heavy loads. The newly designed, one-piece electrical box with 3 ft. (0.9 m) cable can be remote mounted simply by removing one screw. Additional service ports have been added for ease of charging and servicing. The one-piece chassis/pan has two new drain locations. New style hold-down brackets secure all four corners and allow for easier installation and removal.

The RM assembly consists of a scroll compressor, cupronickel condenser, and service/base valves, all mounted on a newly designed condensate drain pan. Custom designed components that protect the compressor when operating at full and partial loads include: high and low pressure switches, large capacity receiver and accumulator, hot gas bypass valve, and a thermal expansion de-superheat valve. The bypass valve senses low suction pressure when cooling units are shut off, and allows refrigerant to bypass back into the compressor. The de-superheat valve evaporates refrigerant into the compressor when superheat is too high.

An electrical control and relay box is mounted on the chassis, but can be remote mounted on a 3 ft. (0.9 m) harness for easy access. It includes control triggers, time delay, power relay, and start and run capacitors with a solid state relay for single-phase units, or a contactor for three-phase compressors.

It is designed to be installed in the engine room or other mechanical space, and is not adversely affected by moisture, vibration, or ambient temperatures up to 140°F (60°C). No ventilation is required.

### Key Benefits

- One RM condenser can cool up to five independent zones
- Hot-gas bypass and de-superheat valves
- High-efficiency scroll compressors
- Service ports on refrigerant lines and base valves
- Compressor vibration-isolation mounts minimize noise and vibration
- Condensate drain pan with front and rear drain stems
- Condensate drain pan with front and rear drain stems
- Corner mounting brackets for easier installation
- High- and low-pressure switches
- Electrical box can be mounted remotely
- Optional seawater coil manifolds
- Additional vibration isolation kit available
- Charged, tested, and leak checked at the factory

**Cruisair**<sup>®</sup>

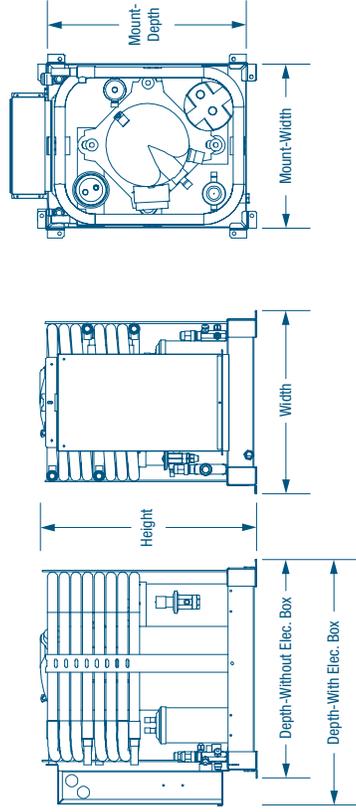
by Dometic GROUP

# Specifications for RM Series Modulating Condensing Units

Model <sup>(1)</sup>	RM24	RM30	RM42
Capacity (BTU/h)	24000	30000	42000
Voltage (V) <sup>(2)</sup>	230	230	230
Cycle (Hz)/Phase (Ph)	60/1	60/3	60/3
Full Load Amps (FLA) Cool (A) <sup>(4)</sup>	8.25	5.2	6.7
Full Load Amps (FLA) Heat (A)	N/A	N/A	N/A
Locked Rotor Amps (LRA) (A)	67	79	58
Max. Circuit Breaker (A)	40	45	25
Min. Circuit Ampacity (A)	24	25	16
Refrigerant Type	R417A	R417A	417A
Height (in/mm) <sup>(5)</sup>	18.5/470	18.5/470	18.5/470
Width (in/mm) <sup>(5)</sup>	15.75/401	15.75/401	15.75/401
Depth-Width Elec. Box (in/mm) <sup>(5)</sup>	20.875/531	20.875/531	20.875/531
Depth-Without Elec. Box (in/mm) <sup>(5)</sup>	18.75/477	18.75/477	18.75/477
Mount-Width (in) <sup>(5)</sup>	14	14	14
Mount-Depth (in) <sup>(5)</sup>	17	17	17
Seawater Inlet Connection (in/mm)	5/16	5/16	5/16
Refrigerant Line Connection-Discharge (in/mm)	3/10	3/10	3/10
Refrigerant Line Connection-Suction (in/mm)	1/2 /13	3/4 /20	3/4 /20
Net Weight (lbs/kg) <sup>(6)</sup>	113/51.3	113.5/51.5	113.75/51.6
Gross Weight (lbs/kg) <sup>(6)</sup>	136/61.7	146/66.3	144.5/65.6
Height-Electrical Box (in/mm)	16.2/412	16.2/412	16.2/412
Width-Electrical Box (in/mm)	9/229	9/229	9/229
Depth-Electrical Box (in/mm)	3.63/93	3.63/93	3.63/93

<sup>1</sup> Add a 'C' for 230V/60Hz/1-Ph, 'CK' for 220-250V/50Hz/1-Ph, or 'DC' for 230V/60Hz/3-Ph. For example, RM240C = 230V/60Hz/3-ph unit.  
<sup>2</sup> Some 60Hz equipment can be operated in a 50Hz environment but at a 17% decrease in capacity. Full-rated capacity can be obtained by specifying Cuisair-CK® (220V/50Hz) equipment.  
<sup>3</sup> For information about voltages not shown in this sheet, please contact Dometic Marine sales at 954-973-2477.  
<sup>4</sup> Compressor starting current will vary with voltage but is approximately 3 to 4 times the full-load amps.  
<sup>5</sup> All dimensions ± 0.30 in. (8 mm).  
<sup>6</sup> All weights ± 10%.

# Dimensions



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L-2366 Rev. 20130222

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Dealer



# EMB/EHMB Series Modulating Evaporators

## High-Efficiency Cooling Units for RM Modulating Condensers



Cruisair modulating DX evaporators are ductable cooling only (EMB) or cooling with electric heating (EHMB) units with built-in refrigerant solenoid valves and high-efficiency blowers. Cruisair modulating air conditioning systems allow up to five independent temperature-controlled zones on one RM type modulating condensing unit (see spec sheet L-2366).

EMB and EHMB units are designed to be installed low in a closet or cabinet, with supply air ducted to grilles high in the cabin. Units are available in capacities from 4,000 to 16,000 BTU/hr. EMB models are cool only while EHMB feature electric heat with high-temperature insulation to meet ABYC requirements.

All metal surfaces over which air passes are covered with insulating foam to reduce secondary condensation and noise. The condensate pan has an anti-slosh, antifungal foam lining and rubber mounting feet for noise and vibration control as well as easy installation.

The high-efficiency blower can be rotated so the air can be discharged in different directions. The permanent split capacitor (PSC) motor is internal to the blower wheel and housing, which results in a quiet unit with excellent performance and speed control, especially when used with a Cruisair SMX series control.

An electrical junction box is included with the unit, and has a 3 ft. (1 m) wire harness so it can be mounted in an accessible location.

EMB and EHMB cooling units can be controlled locally with a mechanical switch assembly, SMX II microprocessor (SMX II power/logic box, control, and cables are sold separately), or the Q-Logic microprocessor system with Qht or Q3 display.

Remote monitoring via the central boat monitoring system or Cruisair's Gateway network is possible with the Q-Logic control system and optional CAN-bus adapter board.

### Key Benefits

- High-efficiency cooling units for use with Cruisair RM modulating condensers
- Integrated refrigerant solenoid valves
- Variable-speed, high-efficiency PSC blowers are rotatable
- Insulated condensate pan with anti-slosh, anti-fungal foam lining
- Vibration isolation mounting system reduces noise and vibration
- Available with electric heat (EHMB models)
- Remote control via ship's network is available - requires Q-Logic control with CAN bus adapter and Gateway Network Interface (sold separately)

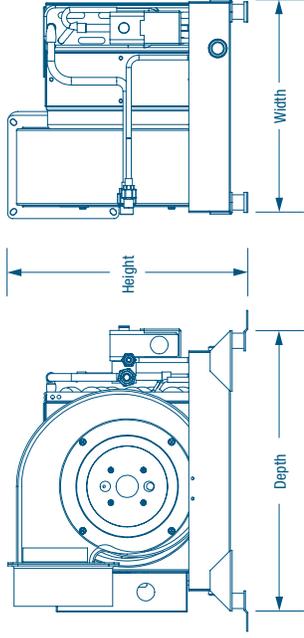
**Cruisair**<sup>®</sup>  
by Dometic GROUP

# Specifications for EMB/EHMB Series Modulating Evaporators

Model <sup>(1)</sup>	EHMB4	EHMB6	EHMB8	EHMB10	EHMB12	EHMB16
Capacity (BTU/h)	4000	6000	8000	10000	12000	16000
Voltage @ 50/60Hz ± Ph (V)	230	230	230	230	230	230
Full Load Amps (FLA) Blower (A)	0.6	0.6	0.6	0.7	0.7	0.9
Max. Circuit Breaker (A)	10	10	10	10	10	15
Min. Circuit Ampacity (A)	6	6	6	8	10	11
Electric heat (kW)	1	1	1	1.5	2	2
Heater Amps (A)	4.35	4.35	4.35	6.57	8.7	8.7
Air Flow (cfm/m3h)	200/340	200/340	200/340	300/510	400/680	530/901
Height (in/mm) <sup>(2)</sup>	10/254	12.25/312	12.25/312	13.25/337	13.25/337	17.13/436
Width (in/mm) <sup>(2)</sup>	10.8/275	11.5/293	11.5/293	13/331	13/331	14.5/369
Depth (in/mm) <sup>(2)</sup>	13.8/351	15.75/401	15.75/401	17/432	17/432	19/483
Min. Supply Duct Size (in/mm)	4/102	5/127	5/127	6/153	6/153	7/178
Min. Supply Air Grille Size (sq in/sq cm)	32/207	35/226	47/304	60/388	70/452	80/517
Min. Return Air Grille Size (sq in/sq cm)	64/413	70/452	89/575	100/646	130/839	160/1033
Refrigerant Line Connection-Discharge (in)	¼	¼	¼	¼	¼	¼
Refrigerant Line Connection-Suction (in)	¾	¾	¾	¾	¾	¾

<sup>1</sup> Specifications shown are for units with electric heat (EHMB models). For technical information about units without heat (EMB models) please contact Dometic Marine sales at 954-973-2477.  
<sup>2</sup> All dimensions ± 0.30 in. (8 mm).

# Dimensions



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L-0954 Rev. 20130111

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Dealer



# CoolBreeze Boat Exterior Cooling Kits

## Keep People On Deck Cool With Jets of Chilled Air



CoolBreeze system components: RSC12 condensing unit, remote electrical box, dual SCE6 evaporating units, and adjustable air nozzles

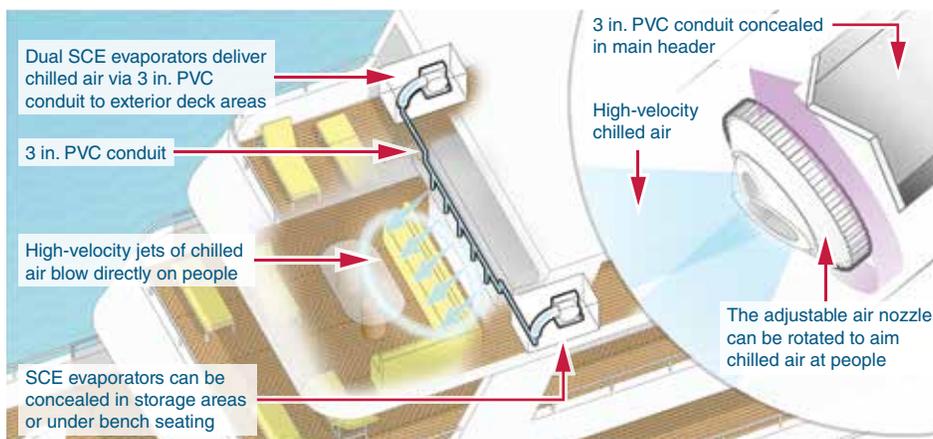
CoolBreeze provides an efficient and compact solution to exterior deck areas which may be too hot to enjoy during warmer weather. CoolBreeze blows high-velocity jets of chilled air directly on people, enhancing their enjoyment of outdoor dining and lounge areas and sport-fishing decks.

To maintain the vessel's aesthetic appeal, CoolBreeze uses 3 in. (76 mm) PVC conduit that is easily hidden, leaving only the one-inch adjustable air nozzles that concentrate the chilled air on people.

A single switch activates the system which will run automatically based on two temperature set points. The first is set to a lower temperature to blow ambient air, and the second is set to a higher temperature to engage the compressor for chilled air. CoolBreeze will run until the ambient temperature drops and will power off in reverse.

The system uses R-417A, an environmentally safe refrigerant approved by the EPA. CoolBreeze can be easily incorporated during boat construction, but can also be retrofitted.

### How CoolBreeze Works



### Key Benefits

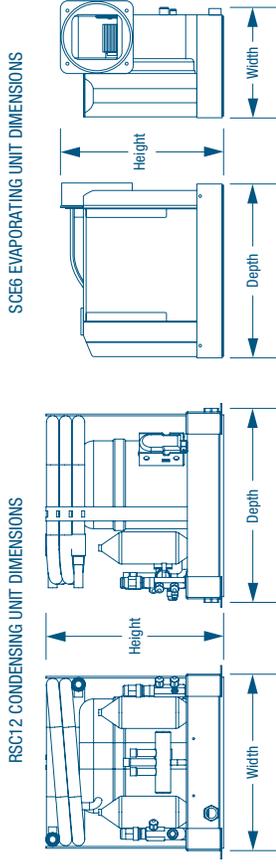
- Allows the use of outdoor areas previously too hot to enjoy during warmer weather
- Highly-efficient system for cooling people on deck exteriors rather than interior spaces
- Operates automatically based on ambient outdoor temperature
- Unobtrusive installation maintains the vessel's aesthetic appeal
- Easily incorporated during boat construction but can also be retrofitted
- SCE evaporators are insulated against secondary condensation
- Environmentally safe R-417A refrigerant
- Insulated condensate pan with anti-slosh, anti-fungal foam lining

**Cruisair**<sup>®</sup>  
by Dometic GROUP

# Specifications for CoolBreeze Boat Exterior Cooling Kits

Model	RSC12 Condenser	SCE6 Evaporator
Capacity (BTU/h)	12000	6000
Voltage @ 50/60Hz ± Ph (V)	230	220
Full Load Amps (FLA) Cool (A)	5.9	5.4
Full Load Amps (FLA) Blower (A)	N/A	1.74
Locked Rotor Amps (LRA) (A)	34	N/A
Max. Circuit Breaker (A)	20	15
Min. Circuit Ampacity (A)	13	11
Min. Air Velocity Per Nozzle (ft/s)	N/A	1772
Max. Air Velocity Per Nozzle (ft/s)	N/A	2186
Height (in/mm)	12.5/318	14/356
Width (in/mm)	12.2/310	15.5/394
Depth (in/mm)	15.1/384	10/254
Min. Return Air Grille Size (sq in /sq cm)	N/A	130/839
Seawater Inlet Connection (in/mm)	5/16	N/A
Refrigerant Line Connection-Discharge (in/mm)	3/4 /17	3/4 /17
Refrigerant Line Connection-Suction (in/mm)	3/8 /10	3/8 /10
Height-Electrical Box (in/mm)	12.88/328	N/A
Width-Electrical Box (in/mm)	9.25/235	N/A
Depth-Electrical Box (in/mm)	3.87/99	N/A

## Dimensions



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Dealer



# TWCV Series Modular Chillers

## Enclosed Modular Chillers with a Compact Footprint



Cruisair's TWC Compact is a high-performance, cost effective tempering unit. The reverse cycle TWC cools and heats, and is available in an expanded product range of 24,000 (2-ton) to 72,000 (6-ton) BTU/hr capacities. The three new models include 48,000 (4-ton), 60,000 (5-ton), and 72,000 (6-ton) BTU/hr units. Units can be multiplexed for even larger capacities as required.

Each unit includes a chilled water (CW) flow switch, refrigerant high- and low-refrigerant pressure switches, and inlet and outlet CW temperature sensors. The TWC does not include a chilled water modulating flow control, which means air handlers with or without flow controls can be used.\* The brazed platecoil evaporator and coaxial cupronickel seawater condenser allow for superior cooling and heating performance.

On 2- to 3-ton units, an electrical box mounted on top of the chiller houses the control board as well as starting components, and can be mounted remotely up to 6 ft. (1.8 m) away. On 4- to 6-ton units, the electric box is normally contained within the enclosure and does not contribute to height. A remote electric box is available upon request for 4- to 6-ton units.

Two control systems are available. The standard control is our proven Digital Diagnostic Control (DDC) that provides simple, single-stage operation. For multiplexed systems, the Tempered Water Logic Control (TWLC) with LCD screen is available. Depending on the configuration, additional cables, switches, sensors, or a display may be required.

All TWC chillers come with R-410A, the preferred environmentally safe refrigerant used in modern, high-efficiency air conditioning systems.

\*On larger boats we always recommend using flow-controlled air handlers to ensure proper water distribution. A balancing flow control (BFC) is not needed when using TWC chillers.



TWC modular chillers have a compact footprint and feature a fully enclosed design.

### Key Benefits

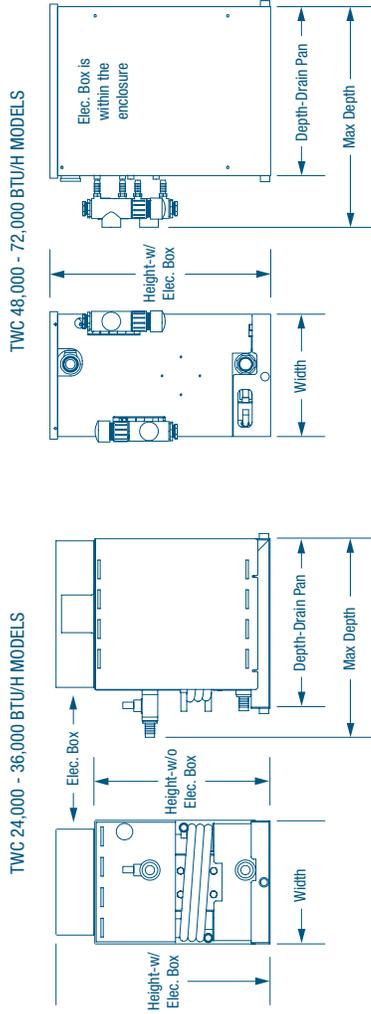
- Compact, enclosed design
- Reverse-cycle heating
- High-efficiency rotary or scroll compressors
- Includes flow switch, high- and low-pressure switches, and inlet and outlet circulated water temperature sensors
- Large heat exchangers for superior performance in booth cooling and heating
- Engineered to maximize the performance of R-410A, an environmentally safe refrigerant
- Electrical box can be mounted remotely (TWCV24 and 36 models)

# Specifications for TWCV Series Modular Chillers

Model <sup>(1)</sup>	TWCV24	TWCV30	TWCV36	TWCV48	TWCV60	TWCV72
Capacity (BTU/h)	24000	30000	36000	48000	60000	72000
Voltage (V) <sup>(2)</sup>	220	230	230	230	230	230
Cycle (Hz)/Phase (Ph)	50/1	60/1	60/1	60/1	60/1	60/1
Full Load Amps (FLA) Cool (A)	9.5	3.5	9.1	10.3	7.2	11.3
Full Load Amps (FLA) Heat (A)	11.8	4.6	13.2	12	9.1	14.8
Locked Rotor Amps (LRA) (A)	63	45	96.7	63	73	105
Min. Circuit Ampacity (A)	45	20	60	45	35	70
Min. Circuit Ampacity (A)	28	13	34	28	21	43
Refrigerant Type	R410A					
Height-Without Elec. Box (in/mm) <sup>(3)</sup>	18.6/473					
Height-With Elec. Box (in/mm) <sup>(3)</sup>	22.6/575					
Max. Width (in/mm) <sup>(3)</sup>	13/331					
Depth-Drain Pan (in/mm) <sup>(3)</sup>	18.8/478					
Max. Depth (in/mm) <sup>(3)</sup>	19.4/493					
Seawater Inlet Connection (in/mm)	5/16					
Chilled Water Connection Size (in)	1					
Chilled Water Connection Type	HB					
	R410A					
	23.4/595					
	23.4/595					
	13.3/338					
	18.8/478					
	23.9/608					
	1 1/4 /32					
	1 1/4					
	PPT					

<sup>1</sup> Add a °C for 230V/50Hz/1-Ph, °C/K for 220-230V/50Hz/1-Ph, DC for 230V/60Hz/3-Ph, EEC for 460V/60Hz/3-Ph, or EC for 380V/50Hz/3-Ph. For example, TWCV24DC = 230V/60Hz/3-ph unit.  
<sup>2</sup> For information about voltages not shown in this sheet, please contact Dometic Marine sales at 954-973-2477.  
<sup>3</sup> All dimensions ± 0.30 in. (8 mm).

## Dimensions



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L-2430 Rev. 20131122



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# MTDV Series Modular Chillers

Engineered for Environmentally Safe R-410A Refrigerant



The Cruisair MTD 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 MTD 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 MTD provides reliable cooling and heating.

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

MTD 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

**Cruisair**<sup>®</sup>

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# MTC Series Modular Chillers

## High-Performance R-407C Tempering Units



The MTC modular chiller series provides installation flexibility, reliability, maximum performance, and accessibility for easy maintenance and repair.

These reverse-cycle modules are available in capacities of 24,000-120,000 BTU/Hr (2 to 10 tons). Up to six modules can be staged to achieve higher capacities.

MTC units have extremely large heat exchangers that make it possible to achieve loop water temperatures of 40° F (4.4° C) in cooling, and 120° F (49° C) in heating. This also allows for reverse-cycle heating effectiveness in seawater temperatures as low as 38° F (3.5° C), eliminating the need for separate fossil fuel or electric water heaters in most applications.

MTCs have two sub-modules, identical in dimensions, which allow a sub-module to be rotated 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.

All units have built-in protection devices, including: high- and low-pressure switches, loop-water flow switch, loop-water strainer, hot-gas bypass valve, and loop-water freeze sensor. A wire harness with polarized plug is included for easy electrical connections.

### Key Benefits

- Modular design for installation flexibility
- Reverse-cycle heating
- Scroll compressors standard
- Dual sub-modules allow more convenient water connections or separation for remote mounting in tight spaces
- 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
- Environmentally safe R-407C refrigerant

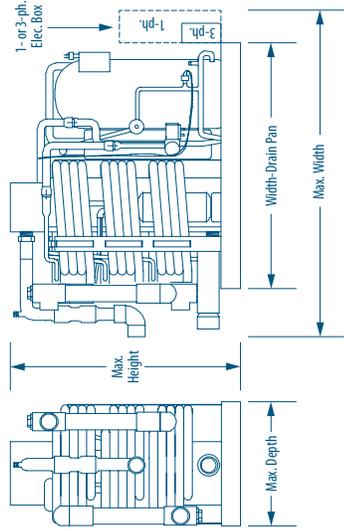
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# Specifications for MTC Series Modular Chillers

Model	MT24	MT30	MT36	MT48	MT60	MT66	MT72	MT96	MT120
Capacity (BTU/h)	24000	30000	36000	48000	60000	66000	72000	96000	120000
Voltage (V)	230	230	230	230	230	380	230	380	380
Cycle (Hz)/Phase (Ph)	60/1	60/1	60/1	60/1	60/1	50/3	60/3	60/3	60/3
Full Load Amps (FLA) Cool (A)	6.8	7.6	5.22	9.1	9.4	10.5	13.3	14.9	9.2
Full Load Amps (FLA) Heat (A)	10.4	10.8	7.1	13.1	14.9	19.05	21.1	12.2	8.4
Locked Rotor Amps (LRA) (A)	68	71	55	87	75	95	137	138	114
Refrigerant Type	R-407C								
Max. Height (in/mm) <sup>(1)</sup>	17/432	17/432	23.5/597	23.5/597	23.5/597	23.5/597	23.5/597	26.8/681	26.8/681
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	25.1/638	33/839	33/839
Max. Width (in/mm) <sup>(1)</sup>	33.7/856	32.3/821	33.7/856	33.5/851	32.1/816	32.1/816	32.1/816	39/991	39/991
Max. Depth (in/mm) <sup>(1)</sup>	12.8/326	12.8/326	12.8/326	12.7/323	12.7/323	12.7/323	12.7/323	16.6/422	16.6/422
Clearance Manifold (in/mm)	5/127	5/127	5/127	5/127	5/127	5/127	5/127	6/153	6/153
Seawater Inlet Connection (in/mm)	3/4/20	3/4/20	1/26	1/26	1/26	1/26	1/26	1/4/32	1/4/32
Chilled Water Connection Size (in)	1	1	1	1	1/4	1/4	1/4	1/2	1/2
Chilled Water Connection Type	PPT								

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

## Dimensions



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L-0596 Rev. 20130125

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# MTS High-Capacity Modular Chillers

## With Marine-Grade Shell-and-Tube Condenser



MTS systems are high-capacity, marine-grade shell-and-tube chiller modules designed for large pleasure yachts and commercial vessels. Optional electric-immersion heating can provide on-board comfort year round.

MTS chillers have a hermetic scroll compressor and a shell-and-tube marine-grade condenser, along with other mechanical and electrical components on a single chassis. Multiple modules can be staged as needed to meet the required load. Up to six modules are supported.

MTS chillers are designed for easy installation in tight spaces. They provide easy front access for repair and maintenance of condenser tubes, heater rods, flow switch, compressor, and replaceable drier cores. Safety measures include high-pressure switch, refrigerant pressure-relief valve, low-pressure switch, flow switch, high-limit switch, and freeze protection.

A filter drier keeps refrigerant oil clean and dry for long compressor life. With 100 percent pump-down capacity, refrigerant circuit repairs can be made without recovering the refrigerant.

The MTS 25-ton (279,000 BTU/hr) chiller is available in 380V and 460V models.

### Key Benefits

- Up to six modules can be multiplexed for larger capacities
- Hermetically-sealed compressor
- Marine-grade cupronickel shell-and-tube condenser
- High-pressure switch and pressure-relief valve for safety
- Dual bottom draining liquid connections for optimal performance in choppy seas
- Filter drier keeps refrigerant oil clean and dry for long compressor life
- 100% pump-down capacity for making circuit repairs without recovering the refrigerant
- Optional variable frequency drives smooth out compressor startup power demand

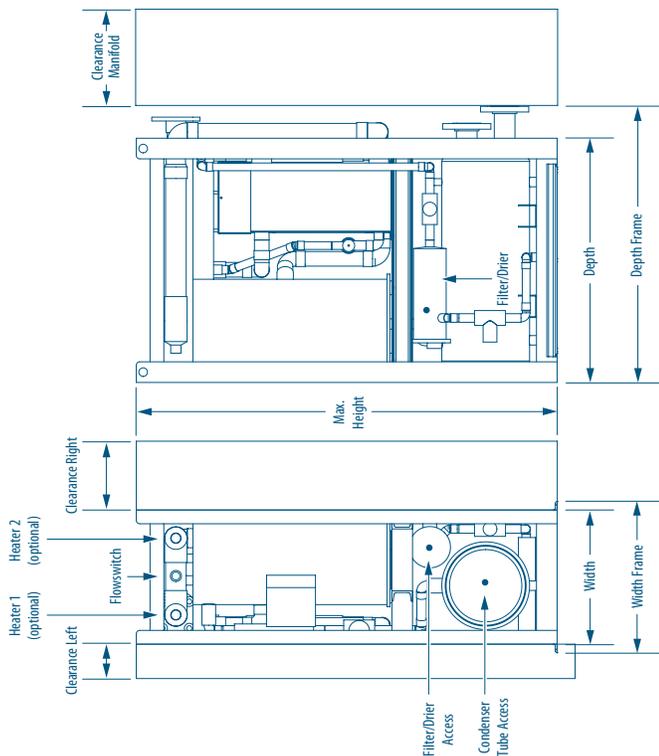
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# Specifications for MTS High-Capacity Modular Chillers

Model	MTS 25-Ton Modular Chiller	
Voltage (V)	460	380
Cycle (Hz)/Phase (Ph)	60/3	50/3
Max. Height (in/mm) <sup>(1)</sup>	61.2/1555	
Max. Width (in/mm) <sup>(1)(2)</sup>	21.75/553	19.5/496
Max. Depth (in/mm) <sup>(1)(3)</sup>	40.2/1022	35.5/902
Width Frame (in/mm) <sup>(1)</sup>	19.5/496	21.8/554
Depth Frame (in/mm) <sup>(1)</sup>	35.5/902	40.2/1022
Clearance Left (in/mm)	5/127	
Clearance Right (in/mm)	10/254	
Clearance Manifold (in/mm)	8/204	

<sup>1</sup> All dimensions ± 0.30 in. (8 mm).  
<sup>2</sup> For staged modules, add a clearance of 5 in. (127 mm) and 10 in. (254 mm), alternately, between modules.  
<sup>3</sup> Allow 8 in. (203 mm) on water connection side for manifolds without isolation valve, and 14 in. (356 mm) for manifolds with isolation valve.

# Dimensions



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L-2638 Rev. 20120824

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# Gold Series (AU-HV) Air Handlers

## Rust-Free, Anti-Slosh Drain Pan With Quick & Easy Installation



Completely redesigned for easier installation and improved performance, Gold Series air handlers, recipient of an Honorable Mention at the 2012 International Boatbuilders Exhibition and Conference (IBEX), incorporate many innovative features, including an optional Breathe Easy™ air purifier.

A rust-free, anti-slosh, positive-flow drain pan quickly removes condensate water and a third drain hole can be employed to further increase drainage. Each drain hole is reinforced and has an external stop to prevent over tightening of the screw-in hose barb.

To better accommodate a variety of installations, each drain hole can accept either a straight or 90-degree hose barb. In addition, the vibration-isolation mounting hardware can be attached at a variety of locations along the perimeter of the drain pan.

Gold Series AU-HV air handlers feature high-velocity (HV) blowers. The rotatable blower ring can be positioned easily by adjusting a single screw, and can even blow directly downward (best achieved with the right-oriented version). Optional DC "WhisperCool" blowers are available.

The blower inlet adapter is made of a high-temperature resin to easily withstand the heat generated by the optional internal electric heating element. Gold Series air handlers provide easy access to the manual heater-overload safety switch, which is accessible without disassembling the unit.

The optional integrated Breathe Easy air purifier is positioned directly in the airstream and uses ultraviolet (UV) light and photocatalytic nano-mesh technology to improve air quality without producing any harmful ozone. The award-winning Breathe Easy eliminates odors and up to 99.9% of VOCs and biological contaminants.



The drain pan features anti-slosh, positive-flow condensate channels, reinforced drain holes, and moveable vibration-isolation mounting clips.



The Gold air handler's HV blower can be easily rotated in the field by loosening the single adjustment screw on the blower collar (standard AU model shown).



The assembly for the optional electric heater (top) and Breathe Easy air purifier (bottom) fits between the coil and blower (standard AU model shown).

### Key Benefits

- Rust-free composite drain pan
- Drain pan features anti-slosh, "positive-flow" drain channels for no spills and rapid removal of condensate
- Vibration-isolation mounts reduce noise and vibration
- Improved insulation
- Single adjustment screw for 270° of blower rotation
- Blower can be rotated to straight down position for overhead applications
- Easy access to heater overload reset button
- Flexible mounting options
- Braided, kink-proof air bleeder hose
- Reinforced drain holes prevent overtightening of hose barbs

### Special Options

- Optional EU package upgrades include improved insulation and wire loom, protective cover for water-tube hairpins, and more (see reverse side for details)
- Optional DC "WhisperCool" blowers are extremely quiet yet powerful enough to overcome high-static-pressure duct
- Optional integrated Breathe Easy™ air purifier stops odors and is up to 99.9% effective in neutralizing contaminants in the air you breathe (not available for 6K BTU models)
- Optional electric heat
- Optional flow control automatically balances circulated water throughout the system
- Optional Breathe Easy™ microparticle air filter
- Left-oriented blower models

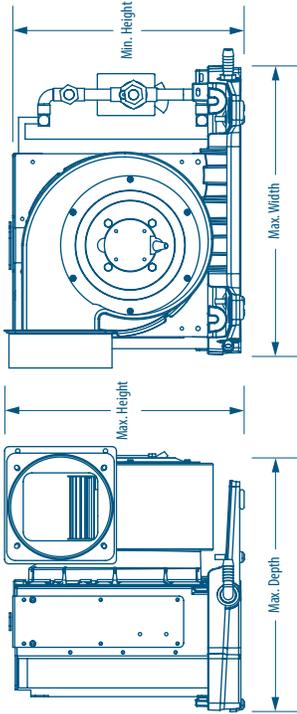
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### Specifications for Gold Series (AU-HV) Air Handlers

Model <sup>(1)</sup>	AUGHV	AU9HV	AU12HV	AU18HV	AU24HV
Nominal Capacity - Cool (BTU/h)	6000	9000	12000	18000	24000
Nominal Capacity - Heat (BTU/h)	TBD	5118	6824	10236	10236
Voltage @ 50/60Hz - Ph (V)	230	115	230	115	230
Full Load Amps (FLA) Cool (A)	0.83	1.56	0.61	1.14	1.61
Full Load Amps (FLA) Heat (A)	5.18	10.26	4.96	9.84	14.65
Optional Electric Heat (KW)	1	1.5	1.5	3	3
Max. Circuit Breaker (A)	10	15	10	20	30
Min. Circuit Ampacity (A)	6	11	8	16	15
Water Flow (gpm/lpm)	TBD	2.3/8.8	3/11.4	4.5/17.1	6/22.8
Air Flow (cfm/m <sup>3</sup> h)	TBD	278/473	338/575	465/791	506/860
External Static Pressure (inH <sub>2</sub> O/Pa)	TBD	0.3/74.7	0.3/74.7	0.3/74.7	0.3/74.7
Min. Height (in/mm)	11.19/285	13.31/339	13.31/339	13.94/355	15.25/388
Max. Height (in/mm) <sup>(2)</sup>	12.13/309	13.31/339	13.38/340	15.38/391	16.75/426
Max. Width (in/mm) <sup>(2)</sup>	14.5/369	16.5/420	16.5/420	20.13/512	22.63/575
Max. Depth (in/mm) <sup>(2)</sup>	12.56/320	1/2	1/2	15/381	15.38/391
Chilled Water Connection Size (in)	1/2	1/2	1/2	1/2	1/2
Min. Supply Duct Size (in/mm)	5/127	6/153	6/153	7/178	8/204
Min. Supply Air Grille Size (sq in/sq cm)	35/226	49/317	70/452	100/646	140/904
Min. Return Air Grille Size (sq in/sq cm)	70/452	98/633	130/839	200/1291	240/1549

<sup>1</sup> Model numbers shown are for 115V units with high-velocity (HV) blowers. Add a 7" for 230V units; add "-FC" for optional flow control; add "-L" or "-R" for valve position (relative to the coil) and angle of the blower; add "\_KW" for amount of optional electric heat in kilowatts (for ex. 1.5KW). See DWG H3050002 for a visual explanation of valve orientation and blower angle.  
<sup>2</sup> All dimensions ± 0.30 in. (8 mm).

### Dimensions



### About the EU Package

The EU Package includes several upgrades for reduced installation time and an improved appearance.

A plastic cover (A) protects the exposed water-tube hairpins. An upgraded wire loom (B) is used for better aesthetics and all electrical connections use quick-plugs (C) so there are no wires to connect. A new durable bleeder assembly with cradle (D) gives easy access and speeds the air bleeding process.

A capacitor, protected under a plastic housing (E), replaces the electrical box. In addition, a slave box can be used to control multiple air handlers from a single cabing control, all with plug-in connections. The plumbing connections (F) are shorter so the installation takes up less space.



### Key Benefits

- Quick-plug electrical connections
- Upgraded wire loom for improved appearance
- Less space needed for plumbing connections
- Easy access to bleeder assembly

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L-3021 Rev. 20140117

Specifications and availability subject to change without notice.

Dealer



# AT-HV Series Air Handlers

## Compact Units With High-Velocity Blowers



The AT-HV series of air handlers for marine HVAC chilled water systems are draw-through (ducted) units with high-velocity (HV) blowers. The AT-HV series replaces Flex-Duct and Draw-Through series air handlers, and has many improvements and options over the older units.

Significant improvements include: sloped "Positive-Flow" drain pan which reduces standing water, larger drain connections, improved coil design for better cooling and dehumidifying performance, coil is offset from drain pan edge to ensure all condensation is caught in the pan, redesigned piping so the bypass valve is clear of dripping condensation, pressure test ports for troubleshooting, and the new 24,000 BTU/hr unit uses a high-efficiency, internal-motor blower for quieter operation. On units with auxiliary (electric) heat, the new heater design allows removal from the top or side for access or servicing.

All Marine Air air handlers use corrosion-resistant materials. They feature "positive-flow" drain pans with anti-slosh foam lining and are fully insulated against secondary condensation. Electric heat is optional.

AT air handlers are available with "WhisperCool" brushless DC blowers (AT-DC series).

### Key Benefits

- Compact design
- High-velocity (HV) fully-insulated blowers are rotatable
- Improved cooling and dehumidification
- Drain pan has anti-slosh, anti-fungal foam lining
- Vibration-isolation mounts reduce noise and vibration.
- Exposed sheet metal is insulated against secondary condensation
- Remote air bleeder on 6 ft. (1.8 m) of flexible tubing with ball valve
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Water-pressure test ports for troubleshooting
- Allowance for connecting variable fan-speed drives
- Rotatable blowers
- Optional flow control automatically balances circulated water throughout the system
- Optional Electric Heat
- Optional Breathe Easy™ microparticle air filter

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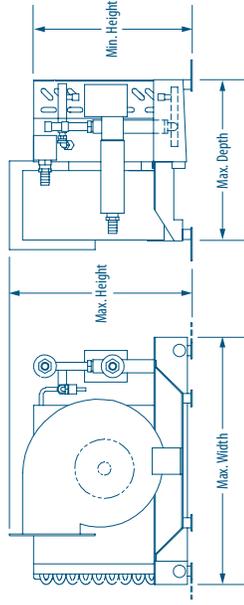
by Dometic GROUP

Specifications for AT-HV Series Air Handlers

Model <sup>(1)</sup>	AT4HV	AT6HV	AT9HV	AT12HV	AT18HV	AT24HV	AT36HV
Nominal Capacity - Cool (BTU/h)	4000	6000	9000	12000	18000	24000	36000
Nominal Capacity - Heat (BTU/h)	TBD	3412	5118	6824	10236	10236	13648
Voltage @ 50/60Hz ± Ph (V)	115 230	115 230	115 230	115 230	115 230	115 230	230
Full Load Amps (FLA) Cool (A)	1.06 0.41	1.6 0.9	1.1 0.6	1.5 0.7	2.3 1.18	2.3 1.15	1.62
Full Load Amps (FLA) Blower (A)	0.8 0.4	1.2 0.6	1.4 0.7	1.4 0.7	2.2 1	2.2 1	1.6
Optional Electric Heat (kW)	N/A	1 1.5	2 3	3 4	5 5	5 5	4
Max. Circuit Breaker (A) <sup>(2)</sup>	2 2	2 2	2 2	2 2	3 3	3 3	3 3
Min. Circuit Ampacity (A)	2 1	2 1	2 1	2 1	3 2	3 2	3 2
Air Flow (gpm/lpm)	1/3.8	1.5/5.7	2.3/8.8	3/11.4	4.5/17.1	6/22.8	9/34.1
Air Flow (cfm/m <sup>3</sup> h)	130/221	229/390	278/473	338/575	465/791	506/860	676/1149
External Static Pressure (inH <sub>2</sub> O/Pa)	0.3/74.7	0.3/74.7	0.3/74.7	0.3/74.7	0.3/74.7	0.3/74.7	0.3/74.7
Min. Height (in/mm) <sup>(2)</sup>	9.75/248	10.25/261	12.13/309	12.05/307	15/381	15.94/405	20/508
Max. Height (in/mm) <sup>(2)</sup>	9.75/248	11.25/286	13.31/339	13.88/353	15/381	15.94/405	20/508
Max. Width (in/mm) <sup>(2)</sup>	15/381	15.25/388	16.88/429	18.75/477	20.38/518	22.63/575	26.63/677
Max. Depth (in/mm) <sup>(2)</sup>	10.25/261	12.38/315	12.13/309	12.5/318	13.5/343	15/381	15.81/402
Drain Connection Size (in)	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Drain Connection Type	FPT						
Chilled Water Connection Size (in)	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Chilled Water Connection Type	FPT						
Min. Supply Duct Size (in/mm)	4/102	5/127	6/153	6/153	7/178	8/204	8/204
Min. Supply Air Grille Size (sq in/sq cm)	32/207	35/226	49/317	70/452	100/646	140/904	196/1265
Min. Return Air Grille Size (sq in/sq cm)	64/413	70/452	98/633	130/839	200/1291	240/1549	360/2323
Height-Electrical Box (in/mm)	8/204	8/204	8/204	8/204	8/204	8/204	8/204
Width-Electrical Box (in/mm)	6.13/156	6.13/156	6.13/156	6.13/156	6.13/156	6.13/156	6.13/156
Depth-Electrical Box (in/mm)	2/51	2/51	2/51	2/51	2/51	2/51	2/51

<sup>1</sup> Model numbers shown are for 115V units with high-velocity (HV) blowers. Add a "Z" for 230V units; add "-FC" for optional flow control; add "-L\_" or "-R\_" for valve position (relative to the coil) and angle of the blower; add "...kW" for amount of optional electric heat in blowoffs (for ex. 1.5kW). See DWG H305000.2 for a visual explanation of valve orientation and blower angle.  
<sup>2</sup> All dimensions ± 0.30 in. (8 mm).

Dimensions



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L-2354 Rev. 20140117

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# AT-DC Series Air Handlers

## Compact Units With DC "WhisperCool" Blowers



The AT-DC series of chilled water air handlers represents the new standard in marine HVAC engineering that you'll barely notice. Thanks to "WhisperCool" technology, the AT-DC series harnesses engineering refinements to eliminate the annoying "motor hum" heard from ordinary air handlers operating at very low fan speeds. Incoming alternating current is converted to drive a brushless DC internal blower motor, resulting in super-quiet and highly-efficient performance across all fan speeds.

Additional design changes in the air handlers eliminate condensate drain problems, reduce dripping condensation and standing water issues. An improved coil enhances cooling and dehumidification performance. The redesigned unit also creates easily accessible water-pressure test points for troubleshooting and maintenance.

All Marine Air air handlers use corrosion-resistant materials. They feature "positive-flow" drain pans with anti-slosh foam lining and are fully insulated against secondary condensation. Electric heat is optional.

### Key Benefits

- DC "WhisperCool" blowers are extremely quiet yet powerful enough to overcome high-static-pressure duct
- Improved cooling and dehumidification
- Drain pan has anti-slosh, anti-fungal foam lining
- Vibration-isolation mounts reduce noise and vibration.
- Exposed components are insulated against secondary condensation
- Remote air bleeder on 6 ft. (1.8 m) of flexible tubing with ball valve
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Rotatable blowers
- Optional flow control automatically balances circulated water throughout the system
- Optional Electric Heat
- Optional Breathe Easy™ microparticle air filter

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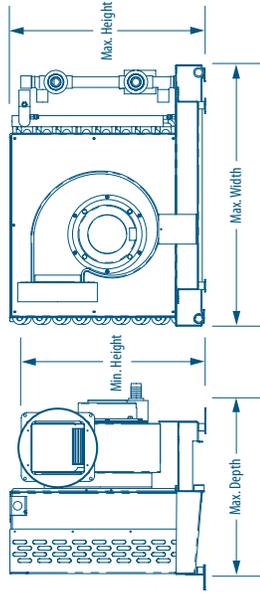
by Dometic GROUP

Specifications for AT-DC Series Air Handlers

Model <sup>(1)</sup>	AT6DC	AT9DC	AT12DC	AT18DC	AT24DC	AT36DC
Nominal Capacity - Cool (BTU/h)	6000	9000	12000	18000	24000	36000
Nominal Capacity - Heat (BTU/h)	3412	3412	5118	5118	10236	10236
Voltage @ 50/60Hz - Ph (V)	230	230	230	230	230	230
Full Load Amps (FLA) Cool (A) <sup>(2)</sup>	1.4	1.4	3.2	3.9	3.9	3.9
Full Load Amps (FLA) Blower (A)	1.4	1.4	3.2	3.9	3.9	3.9
Optional Electric Heat (KW)	1	1	1.5	1.5	3	3
Heater Amps (A)	4.3	4.3	6.5	6.5	13	13
Max. Circuit Breaker (A)	5	5	5	5	5	5
Min. Circuit Ampacity (A)	2	2	4	5	5	5
Water Flow (gpm/lpm)	1.5/5.7	2.25/8.6	3/11.4	4.5/17.1	6/22.8	9/34.1
Air Flow (cfm/m <sup>3</sup> h)	200/340	300/510	400/680	600/1020	700/1190	800/1360
External Static Pressure (inH <sub>2</sub> O/Pa)	2.9/722.1	2.8/697.2	2.6/647.4	2.1/522.9	1.4/348.6	0.5/124.5
Min. Height (in/mm) <sup>(3)</sup>	11.08/282	11.79/300	12.05/307	14.83/377	16.77/425	16.74/426
Max. Height (in/mm) <sup>(3)</sup>	13.63/347	13.73/349	13.94/355	16.94/431	16.7/425	19.74/502
Max. Width (in/mm) <sup>(3)</sup>	14.81/377	16.48/419	18.75/477	20.08/511	22.48/571	26.41/671
Max. Depth (in/mm) <sup>(3)</sup>	14.27/363	14.55/370	14.49/369	14.83/377	16.42/418	17.15/436
Drain Connection Size (in)	1/2	1/2	1/2	1/2	1/2	1/2
Drain Connection Type	FPT	FPT	FPT	FPT	FPT	FPT
Chilled Water Connection Size (in)	1/2	1/2	1/2	1/2	1/2	1/2
Chilled Water Connection Type	FPT	FPT	FPT	FPT	FPT	FPT
Min. Supply Duct Size (in/mm)	5/127	6/153	6/153	7/178	8/204	8/204
Min. Supply Air Grille Size (sq in/sq cm)	35/226	49/317	70/452	100/646	140/904	196/1265
Min. Return Air Grille Size (sq in/sq cm)	70/452	98/633	130/839	200/1291	240/1549	360/2323
Height-Electrical Box (in/mm)	8/204	8/204	8/204	8/204	8/204	8/204
Width-Electrical Box (in/mm)	6.13/156	6.13/156	6.13/156	6.13/156	6.13/156	6.13/156
Depth-Electrical Box (in/mm)	2/51	2/51	2/51	2/51	2/51	2/51

<sup>1</sup> "Z" indicates 230V. Add "-C" for optional flow control; add "-LX" or "-RX" for valve position (relative to the blower side of the coil) and angle of the blower ("R0" is the default); add "#KW" for amount of optional electric heat in kilowatts.  
<sup>2</sup> Blower amps will be reduced at lower speed/cfm or higher static pressure. Amps listed are at free air.  
<sup>3</sup> All dimensions ± 0.30 in. (8 mm).

Dimensions



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L-2426B Rev. 20120824

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# ATL-HV Series Low-Profile Air Handlers

Ideal for Height-Restrictive Installations; High-Velocity Blowers



The ATL-HV series of chilled water air handlers represents an improved design approach to low-profile, draw-through air handlers. These "open top" units allow easier maintenance access and reduced dimensions overall.

The top panel of ATL units can be removed for maintenance access to the blower(s). In this way, the unit can be serviced without disturbing the drain pan. The drain stems face aft (toward the blower side) to minimize footprint. Furthermore, the optional electric heaters are mounted on the blower discharge instead of inside the plenum, thereby eliminating the depth added to the plenum area for 6K-18K units.

The ATL-HV series features dual high-velocity (HV) blowers. Optional "WhisperCool" DC blowers are available. These blowers are ultra quiet yet strong enough to overcome high-static-pressure duct.

Capacities of the ATL-HV series are 6,000, 9,000, 12,000, 18,000, and 24,000 BTU/hr. A 16,000 BTU/hr unit is available (ATL16F) with dual tangential blowers. All ATL blowers are mounted horizontally for an exceptionally low profile, making these units ideal for height-restrictive installations. They can be suspended from above or supported from beneath and suspension hardware is included. Vibration-isolation mounts reduce noise and the transmission of vibrations to the installation platform.

The drain pan has an anti-slosh, anti-fungal foam lining and extends to under the valve motor and plumbing. The water connections are insulated against secondary condensation, and the valve can be mounted on the left (standard) or right (optional).

## Key Benefits

- Suspend from above or support from beneath (hardware included)
- Vibration-isolation mounts reduce noise and vibration
- Bypass valve has removable power head for simple servicing
- Valve body is soldered to unit to prevent leaks
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Remote air bleeder on 6 ft. (1.8 m) of flexible tubing with ball valve
- Optional DC "WhisperCool" blowers are extremely quiet yet powerful enough to overcome high-static-pressure duct
- Valve on left (standard) or on right (optional)
- Automatic flow control helps balance chilled water distribution throughout the boat
- Optional Breathe Easy™ microparticle air filter

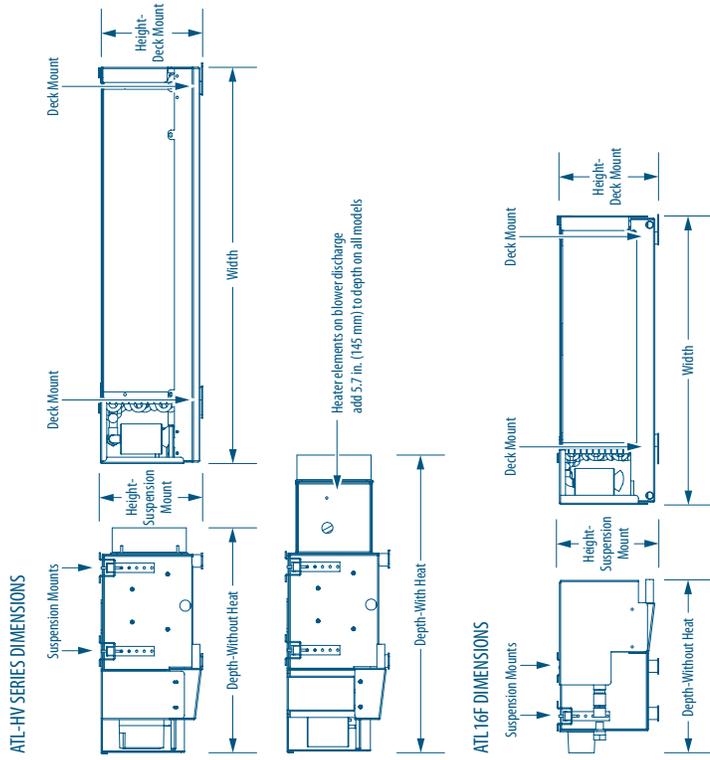
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by Dometic GROUP

Specifications for ATL-HV Series Low-Profile Air Handlers

Model <sup>(1)</sup>	ATL6HV	ATL9HV	ATL12HV	ATL18HV	ATL24HV	ATL16F
Nominal Capacity (BTU/h)	6000	9000	12000	18000	24000	16000
Voltage @ 50/60Hz 1-Ph (V)	230	230	230	230	115	230
Full Load Amps (FLA) Cool (A)	0.9	0.6	3.12	1.8	2.3	1.15
Full Load Amps (FLA) Blower (A)	0.7	0.5	3.2	1.4	3.4	1.3
Optional Electric Heat (kW) <sup>(2)</sup>	1	1	2	2	1.5	N/A
Heater Amps (A)	5	4.8	20.6	10.1	16.4	7.8
Max. Circuit Breaker (A)	5	5	5	5	5	5
Min. Circuit Ampacity (A)	2	1	4	3	3	2
Water Flow (gpm/lpm)	1.5/5.7	2.25/8.6	3/11.4	4.5/17.1	6/22.8	4/15.2
Air Flow (cfm/m <sup>3</sup> h) <sup>(3)</sup>	200/340	275/468	400/680	550/935	730/1241	420/714
External Static Pressure (inH <sub>2</sub> O/Pa)	0.3/74.7	0.3/74.7	0.3/74.7	0.3/74.7	0.3/74.7	0.3/74.7
Height-Deck Mount (in/mm) <sup>(4)</sup>	8/204	8/204	8.1/206	8.1/206	10/254	8.1/206
Height-Suspension Mount (in/mm)	8.1/206	8.1/206	8.1/206	8.1/206	10.1/257	8.1/206
Max. Width (in/mm) <sup>(5)</sup>	19.6/498	19.6/498	31.6/803	31.6/803	42.9/1090	23.4/595
Depth-Without Heat (in/mm)	18/458	19.7/501	17.9/455	25.5/648	22/559	17.6/448
Depth-With Heat (in/mm)	23.7/602	25.4/646	23.6/600	19.8/503	27.7/704	N/A
Drain Connection Size (in)	1/2	1/2	1/2	1/2	1/2	1/2
Drain Connection Type	tube stubs					
Chilled Water Connection Size (in)	1/2	1/2	1/2	1/2	1/2	1/2
Chilled Water Connection Type	FPT	FPT	FPT	FPT	FPT	FPT
Min. Supply Duct Size (in/mm)	6/153	6/153	6/153	6/153	8/204	4/102
Min. Supply Air Grille Size (sq in/sq cm)	35/226	49/317	35/226	49/317	147/949	40/259
Min. Return Air Grille Size (sq in/sq cm)	70/452	98/633	130/839	200/7291	240/1549	144/930
Pan Style	sloped	sloped	sloped	sloped	sloped	sloped

<sup>1</sup> Add '-FC' at end of model name for optional flow control; the default valve position is to the left of the coil (as one faces it), so add 'R' to the model for the valve on the right side; add '#KW' for amount of optional electric heat in kilowatts.  
<sup>2</sup> 1.5kW is recommended for the ATL24 because it has one blower. 2kW is the maximum.  
<sup>3</sup> Air flow data is for units without electric heat. Electric heat reduces air flow by an amount to be determined.  
<sup>4</sup> All dimensions ± 0.30 in. (8 mm).  
<sup>5</sup> ATL12, ATL18, and ATL36 models have dual blowers and therefore two supply duct rings.

Dimensions



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L-2553 Rev. 20121207

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# ATL-DC Series Low-Profile Air Handlers

## Whisper Quiet Units Ideal for Height-Restrictive Spaces



The ATL-DC series of chilled water air handlers represents an improved design approach to low-profile, draw-through air handlers. These "open top" units allow easier maintenance access and reduced dimensions overall.

The top panel of ATL units can be removed for maintenance access to the blower(s). In this way, the unit can be serviced without disturbing the drain pan. The drain stems face aft (toward the blower side) to minimize footprint. Furthermore, the optional electric heaters are mounted on the blower discharge instead of inside the plenum, thereby eliminating the depth added to the plenum area for 6K-18K units.

The ATL-DC series features "WhisperCool" DC blowers that are ultra quiet yet strong enough to overcome high-static-pressure duct.

Capacities of the ATL-DC series range from 6,000 to 36,000 BTU/hr. The blowers are mounted horizontally for an exceptionally low profile, making these units ideal for height-restrictive installations. They can be suspended from above or supported from beneath and suspension hardware is included. Vibration-isolation mounts reduce noise and the transmission of vibrations to the installation platform.

The drain pan has an anti-slosh, anti-fungal foam lining and extends to under the valve motor and plumbing. The water connections are insulated against secondary condensation, and the valve can be mounted on the left (standard) or right (optional).

### Key Benefits

- DC "WhisperCool" blowers are extremely quiet yet powerful enough to overcome high-static-pressure duct
- Improved design for easier servicing, smaller dimensions overall
- Top panel is removable for easier service access
- Dual blowers are mounted horizontally for exceptionally low profile
- Suspend from above or support from beneath (hardware included)
- Enclosed design
- Internal components are insulated against secondary condensation
- Vibration-isolation mounts reduce noise and vibration.
- Bypass valve has removable power head for simple servicing
- Valve body is soldered to unit to prevent leaks
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Remote air bleeder on 6 ft. (1.8 m) of flexible tubing with ball valve
- Valve on left (standard) or on right (optional)
- Optional flow control automatically balances circulated water throughout the system
- Optional Electric Heat
- Optional Breathe Easy™ microparticle air filter

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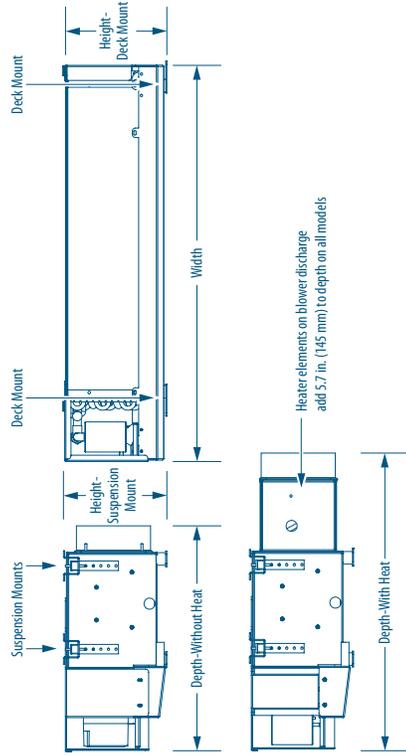
by Dometic GROUP

# Specifications for ATL-DC Series Low-Profile Air Handlers

Model <sup>(1)</sup>	ATL6DC	ATL9DC	ATL12DC	ATL18DC	ATL24DC	ATL36DC
Nominal Capacity (BTU/h)	6000	9000	12000	18000	24000	36000
Voltage @ 50/60Hz 1-Ph (V)	230	230	230	230	230	230
Full Load Amps (FLA) Cool (A)	1.4	1.4	2.8	2.8	3.9	7.8
Full Load Amps (FLA) Blower (A)	1.4	1.4	2.8	2.8	1.5	3
Optional Electric Heat (kW) <sup>(2)</sup>	1	1	2	2	1.5	3
Heater Amps (A)	5.7	5.7	11.5	11.5	8	16
Max. Circuit Breaker (A)	5	5	5	5	5	30
Min. Circuit Ampacity (A)	2	2	4	4	5	23
Water Flow (gpm/lpm) <sup>(3)</sup>	1.5/5.7	2.25/8.6	3/11.4	4.5/17.1	6/22.8	9/34.1
Air Flow (cfm/m <sup>3</sup> h) <sup>(3)</sup>	200/340	275/468	400/680	550/935	670/1139	1000/1700
External Static Pressure (inH <sub>2</sub> O/Pa)	1.75/435.8	0.67/149.4	1.75/435.8	0.67/149.4	0.37/74.7	0.37/74.7
Height-Deck Mount (in/mm) <sup>(4)</sup>	8/204	8/204	8/204	8/204	10/254	10/254
Height-Suspension Mount (in/mm) <sup>(4)</sup>	8.2/209	8.2/209	8.2/209	8.2/209	10.1/257	10.1/257
Max. Width (in/mm) <sup>(4)</sup>	19.6/498	19.6/498	31.5/801	31.5/801	43.8/1113	61.8/1570
Depth-Without Heat (in/mm) <sup>(4)</sup>	19.7/501	19.7/501	17.9/455	17.9/455	20.5/521	20.5/521
Depth-With Heat (in/mm) <sup>(4)</sup>	25.4/646	25.4/646	23.6/600	23.6/600	26.2/666	26.2/666
Drain Connection Size (in)	1/2	1/2	1/2	1/2	1/2	1/2
Drain Connection Type	tube stubs	FPT	tube stubs	tube stubs	tube stubs	tube stubs
Chilled Water Connection Size (in)	1/2	1/2	1/2	1/2	1/2	1/2
Chilled Water Connection Type	FPT	FPT	FPT	FPT	FPT	FPT
Min. Supply Duct Size (in/mm) <sup>(5)</sup>	6/153	6/153	6/153	6/153	8/204	8/204
Min. Supply Air Grille Size (sq in/sq cm)	35/226	49/317	35/226	49/317	147/949	168/1084
Min. Return Air Grille Size (sq in/sq cm)	70/452	98/633	130/839	200/1291	240/1549	360/2323
Pan Style	sloped	sloped	sloped	sloped	sloped	sloped

<sup>1</sup> Add '-FC' at end of model name for optional flow control; the default valve position is to the left of the coil (as one faces it), so add 'R' to the model for the valve on the right side; add '#KW' for amount of optional electric heat in kilowatts.  
<sup>2</sup> 1.5kW is recommended for the ATL24 because it has one blower, 2kW is the maximum.  
<sup>3</sup> Air flow data is for units without electric heat. Electric heat reduces air flow by an amount to be determined.  
<sup>4</sup> All dimensions ± 0.30 in. (8 mm).  
<sup>5</sup> ATL12, ATL18, and ATL36 models have dual blowers and therefore two supply duct rings.

# Dimensions



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L-2548 Rev. 20130920

Specifications and availability subject to change without notice.

# ABL-HV Series Chilled Water Air Handlers

Ideal for Height-Restrictive Installations; High-Velocity Blowers



The ABL-HV series of draw-through air handlers for chilled water systems is ideal for installation in height-restrictive spaces. Insulating foam covers the condensate pan, blower housing, shroud, and coil end cover to reduce noise and secondary condensation. The condensate pan also has an anti-slosh, anti-fungal foam lining. The ABL-HV series is designed to replace the CBLB models.

ABL-HV air handlers are an excellent choice for overhead applications where height is limited. The dual high-velocity (HV) blowers are mounted at a 90 degree angle to the evaporator coil for dramatically reduced depth. The optional cushioned mounts, which minimize vibration and noise, allow the unit to be suspended from above or supported from beneath.

ABL-HV air handlers are constructed with corrosion-resistant materials. They feature "positive-flow" drain pans with anti-slosh foam lining and are fully insulated against secondary condensation. Electric heat is optional.

## Key Benefits

- Dual blowers are mounted at 90-degree angle to the coil for minimum depth
- Suspend from above or support from beneath (suspension hardware sold separately)
- Optional cushioned mounts reduce noise and vibration
- Bypass valve has removable power head for simple servicing
- Valve body is soldered to unit to prevent leaks
- Exposed components are insulated against secondary condensation
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Remote air bleeder on 6 ft. (1.8 m) of flexible tubing with ball valve
- Valve on left (standard) or on right (optional)
- Optional flow control automatically balances circulated water throughout the system
- Optional Electric Heat
- Optional Breathe Easy™ microparticle air filter

**Cruisair**®

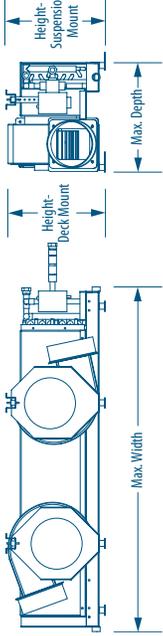
by Dometic GROUP

### Specifications for ABL-HV Series Chilled Water Air Handlers

Model	ABL18HV	ABL24HV
Nominal Capacity (BTU/h)	18000	24000
Voltage @ 50/60Hz 1-Ph (V)	230	230
Full Load Amps (FLA) Cool (A)	1.32	1.4
Optional Electric Heat (KW)	3	3
Max. Circuit Breaker (A)	5	5
Min. Circuit Ampacity (A)	2	2
Water Flow (gpm/lpm)	4.5/17.1	6/22.8
Height-Deck Mount (in/mm) <sup>(1)</sup>	11.9/303	11.9/303
Height-Suspension Mount (in/mm) <sup>(1)</sup>	12.2/310	12.2/310
Max. Width (in/mm) <sup>(1)</sup>	37.3/948	46/1169
Max. Depth (in/mm) <sup>(1)</sup>	TBD	15/381
Drain Connection Size (in)	1/2	1/2
Drain Connection Type	FPT	FPT
Chilled Water Connection Size (in)	1/2	1/2
Chilled Water Connection Type	FPT	FPT
Min. Supply Air Grille Size (sq in/sq cm)	50/323	70/452
Min. Return Air Grille Size (sq in/sq cm)	200/7291	240/1549

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

### Dimensions



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L-2555 Rev. 20120622

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# ABL-DC Series Air Handlers

## Whisper Quiet Units Ideal for Height-Restrictive Spaces



The ABL-DC series of marine draw-through air handlers for chilled water systems is ideal for installation in height-restrictive spaces. Insulating foam covers the condensate pan, blower housing, shroud, and coil end cover to reduce noise and secondary condensation. The condensate pan also has an anti-slosh, anti-fungal foam lining. The ABL-DC series is designed to replace the CBLB models.

ABL air handlers are an excellent choice for overhead applications where height is limited. The dual DC "WhisperCool" blowers are ultra quiet yet overcome high-static-pressure duct. The blowers are mounted at a 90 degree angle to the evaporator coil for dramatically reduced depth. The optional cushioned mounts, which minimize vibration and noise, allow the unit to be suspended from above or supported from beneath.

ABL-DC air handlers are constructed with corrosion-resistant materials. They feature "positive-flow" drain pans with anti-slosh foam lining and are fully insulated against secondary condensation. Electric heat is optional.

### Key Benefits

- DC "WhisperCool" blowers are extremely quiet yet powerful enough to overcome high-static-pressure duct
- Dual blowers are mounted at 90-degree angle to the coil for minimum depth
- Suspend from above or support from beneath (suspension hardware sold separately)
- Optional cushioned mounts reduce noise and vibration
- Bypass valve has removable power head for simple servicing
- Valve body is soldered to unit to prevent leaks
- Exposed components are insulated against secondary condensation
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Remote air bleeder on 6 ft. (1.8 m) of flexible tubing with ball valve
- Valve on left (standard) or on right (optional)
- Optional flow control automatically balances circulated water throughout the system
- Optional Electric Heat
- Optional Breathe Easy™ microparticle air filter

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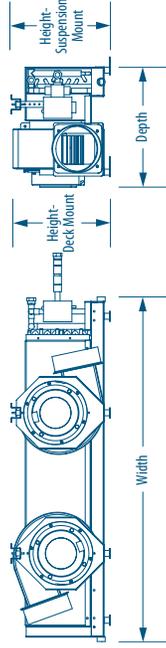
### Specifications for ABL-DC Series Air Handlers

Model <sup>(1)</sup>	ABL18DC	ABL24DC
Nominal Capacity (BTU/h)	18000	24000
Voltage @ 50/60Hz - Ph (V)	230	230
Full Load Amps (FLA) Cool (A)	6.4	6.4
Full Load Amps (FLA) Blower (A)	6.4	6.4
Optional Electric Heat (kW)	3	3
Heater Amps (A)	13	13
Min. Circuit Breaker (A)	10	10
Min. Circuit Ampacity (A)	8	8
Water Flow (gpm/lpm)	4.5/17.1	6/22.8
Air Flow (cfm/m <sup>3</sup> h)	600/1020	800/1360
External Static Pressure (inH <sub>2</sub> O/Pa)	2.7/62.4	2.5/622.5
Height-Deck Mount (in/mm) <sup>(2)</sup>	11.9/303	11.9/303
Height-Suspension Mount (in/mm) <sup>(2)</sup>	12.2/310	12.2/310
Max. Width (in/mm) <sup>(2)</sup>	37.3/948	43.3/1100
Max. Depth (in/mm) <sup>(2)</sup>	15.8/402	15.8/402
Drain Connection Size (in)	1/2	1/2
Drain Connection Type	PPT	PPT
Chilled Water Connection Size (in)	1/2	1/2
Chilled Water Connection Type	PPT	PPT
Min. Supply Air Grille Size (sq in/sq cm)	50/323	70/452
Min. Return Air Grille Size (sq in/sq cm)	200/1291	240/1549

<sup>1</sup> 'Z' indicates 230V. Add '-FC' for optional flow control; add '-L' for valve on the left relative to the blower side of the coil (right side is the default); add '#KW' for amount of optional electric heat in kilowatts.

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

### Dimensions



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L-2561 Rev. 20120824

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Dealer



# ATV-HV Series Slim-Profile Air Handlers

## Designed With Depth Constraints In Mind



ATV-HV chilled water air handlers were designed for applications where very little depth is available. Showcasing a unique vertical layout, these air handlers have the coil low and the blower above.

Featuring a slim profile, ATV-HV air handlers make previously unusable areas suitable for installation. With a depth of only 9.4 in. (240 mm), these units can be hidden in side areas instead of in places above or below, where most air handlers are installed. ATV-HV air handlers have a high-velocity blower with internal motor that keeps overall unit depth to a minimum, resulting in easier installation.

ATV-HV air handlers are available in two configurations: Low-profile (LP) and square (SQ). LP models have a reduced height for installations where height, as well as depth, is restricted. SQ models have a square blower assembly that allows 90° of blower rotation in the field.

ATV-HV air handlers are constructed with corrosion-resistant materials and have drain pans lined with an anti-slosh, anti-fungal foam. Exposed metal surfaces are insulated against secondary condensation. Options include a flow control valve that balances chilled water distribution throughout the system, and electric heat.



The ATV's slim-profile design is ideal for installation in walls and other areas where depth is limited.

### Key Benefits

- Unique vertical design results in dramatically reduced depth
- Fits into walls and other tight spaces
- Exposed components are insulated against secondary condensation
- High-velocity (HV) blower with internal motor to reduce depth
- Low-profile models (ATV\*HV-LP) have a reduced height for tight installation spaces
- Square models (ATV\*HV-SQ) allow 90° of blower rotation in the field
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Drain pan has anti-slosh, anti-fungal foam lining
- Optional flow control automatically balances circulated water throughout the system
- Optional electric heat
- Optional Breathe Easy™ microparticle air filter

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# Specifications for ATV-HV Series Slim-Profile Air Handlers

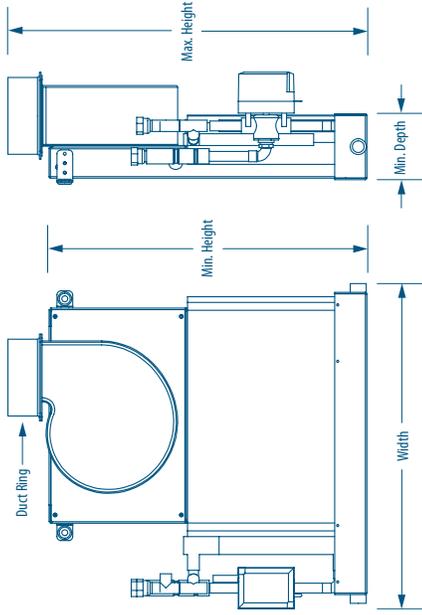
Model <sup>(1)</sup>	ATV18HV-LP	ATV24HV-LP
Nominal Capacity - Cool (BTU/h)	18000	24000
Voltage @ 50/60Hz 1-Ph (V)	115	230
Full Load Amps (FLA) Cool (A)	2.3	1.15
Full Load Amps (FLA) Blower (A)	2.3	1.15
Optional Electric Heat (kW)	3	3
Heater Amps (A)	26.1	13
Max. Circuit Breaker (A)	5	5
Min. Circuit Ampacity (A)	3	2
Water Flow (gpm/lpm)	4.5/17.1	6/22.8
Air Flow (cfm/m <sup>3</sup> h)	485/825	709/1205
External Static Pressure (inH <sub>2</sub> O/Pa)	0.3/74.7	0.3/74.7
Min. Height (in/mm) <sup>(2)(3)</sup>	25.4/646	29.1/740
Max. Height (in/mm) <sup>(2)(3)</sup>	27.8/707	31.3/796
Max. Width (in/mm) <sup>(2)</sup>	21.2/539	23.7/602
Min. Depth (in/mm) <sup>(2)</sup>	6/153	7.7/196
Max. Depth (in/mm)	8.9/227	10.4/265
Drain Connection Size (in)	1/2	1/2
Drain Connection Type	FPT	FPT
Chilled Water Connection Size (in)	1/2	1/2
Chilled Water Connection Type	FPT	FPT
Min. Supply Duct Size (in/mm)	7/178	8/204
Min. Supply Air Grille Size (sq in/sq cm)	100/646	140/904
Min. Return Air Grille Size (sq in/sq cm)	200/1291	240/1549

<sup>1</sup> 1" P<sup>1</sup> indicates low-profile configuration; replace with "50" for square configuration.

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

<sup>3</sup> Heights listed are for "LP" configurations.

# Dimensions



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L-2566 Rev. 20120824

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Dealer



# ATV-DC Series Slim-Profile Air Handlers

## Designed With Depth Constraints In Mind



ATV-DC chilled water air handlers were designed for applications where very little depth is available. Showcasing a unique vertical layout, these air handlers have the coil low and the blower above.

Featuring a slim profile, ATV-DC air handlers make previously unusable areas suitable for installation. With a depth of only 9.4 in. (240 mm), these units can be hidden in side areas instead of in places above or below, where most air handlers are installed. ATV-DC air handlers have DC "WhisperCool" blowers that are ultra quiet yet strong enough to overcome high-static-pressure duct. The internal blower motor keeps overall unit depth to a minimum, resulting in easier installation.

ATV air handlers are available in two configurations: Low-profile (LP) and square (SQ). LP models have a reduced height for installations where height, as well as depth, is restricted. SQ models have a square blower assembly that allows 90° of blower rotation in the field.

ATV air handlers are constructed with corrosion-resistant materials and have drain pans lined with an anti-slosh, anti-fungal foam. Exposed metal surfaces are insulated against secondary condensation. Options include a flow control valve that balances chilled water distribution throughout the system, and electric heat.

### Key Benefits

- DC "WhisperCool" blowers are extremely quiet yet powerful enough to overcome high-static-pressure duct
- Unique vertical design results in dramatically reduced depth
- Fits into walls and other tight spaces
- Low-profile models (ATV\*DC-LP) have a reduced height for tight installation spaces
- Square models (ATV\*DC-SQ) allow 90° of blower rotation in the field
- Exposed components are insulated against secondary condensation
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Optional flow control automatically balances circulated water throughout the system
- Optional electric heat

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### Specifications for ATV-DC Series Slim-Profile Air Handlers

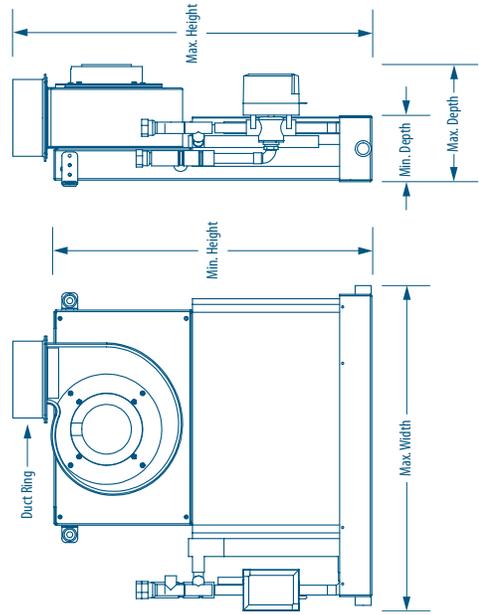
Model <sup>(1)</sup>	ATV60C-LP	ATV90C-LP	ATV120C-LP	ATV180C-LP	ATV240C-LP	ATV360C-LP
Nominal Capacity - Cool (BTU/h)	6000	9000	12000	18000	24000	36000
Voltage @ 50/60Hz 1-Ph (V)	230	230	230	230	230	230
Full Load Amps (FLA) Cool (A) <sup>(2)</sup>	1.4	1.4	3.2	3.9	3.9	3.9
Full Load Amps (FLA) Blower (A)	1.4	1.4	3.2	3.9	3.9	3.9
Optional Electric Heat (kW)	1	1.5	1.5	3	3	3
Heater Amps (A)	4.3	6.5	6.5	13	13	13
Max. Circuit Breaker (A)	10	5	5	5	15	5
Min. Circuit Ampacity (A)	7	2	4	3	13	5
Water Flow (gpm/lpm)	1.5/5.7	2.25/8.6	3/11.4	4.5/17.1	6/22.8	9/34.1
Air Flow (cfm/m <sup>3</sup> h)	290/493	290/493	421/716	548/932	670/1139	670/1139
External Static Pressure (inH <sub>2</sub> O/Pa)	0.3/74.7	0.3/74.7	2.1/522.9	1.4/348.6	0.3/74.7	0.3/74.7
Min. Height (in/mm) <sup>(3)</sup>	20.2/514	20.2/514	20.6/524	25.4/646	27.7/704	31.9/811
Max. Height (in/mm) <sup>(3)</sup>	22.9/582	22.9/582	24.1/613	27.9/709	29.9/760	34.7/882
Max. Width (in/mm) <sup>(3)</sup>	20.3/516	20.3/516	20.3/516	21.1/536	23.7/602	29.4/747
Min. Depth (in/mm) <sup>(3)</sup>	4.1/105	4.1/105	4.2/107	6/153	7.7/196	7.6/194
Max. Depth (in/mm) <sup>(3)</sup>	7.5/191	7.5/191	9.4/239	10.1/257	10.8/275	11.4/290
Drain Connection Size (in)	1/2	1/2	1/2	1/2	1/2	1/2
Chilled Water Connection Size (in)	FPT	FPT	FPT	FPT	FPT	FPT
Drain Connection Type	1/2	1/2	1/2	1/2	1/2	1
Chilled Water Connection Type	FPT	FPT	FPT	FPT	FPT	FPT
Min. Supply Duct Size (in/mm)	5/127	6/153	6/153	7/178	8/204	8/204
Min. Supply Air Grille Size (sq in/sq cm)	35/226	49/317	70/452	100/646	140/904	196/1265
Min. Return Air Grille Size (sq in/sq cm)	70/452	98/633	130/839	200/1291	240/1549	360/2323

<sup>1</sup> 'Z' indicates 230V. Add '-L' for optional flow control; add '-R' for valve on the left relative to the blower side of the coil (right side is the default); add '#kW' for amount of optional electric heat in kilowatts.

<sup>2</sup> Blower amps will be reduced at lower speed/ftm or higher static pressure. Amps listed are at free air.

<sup>3</sup> All dimensions ± 0.30 in. (8 mm).

### Dimensions



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L-2563 Rev. 20130329

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NEW

# ATV "4-Pipe" Series Slim-Profile Air Handlers

## Narrow Depth With Separate Boiler Connections



The ATV is a chilled water air handler designed for applications where very little depth is available. In the "4-pipe" configuration there are two separate sets of valves and heat exchangers for cooling and for heating. Two pipes connect to the chiller system to provide cooling, and two pipes connect to an auxiliary heat source, such as a boiler, to provide heating.

Tall and slim, ATV air handlers make previously unusable areas suitable for blower installation. Showcasing a unique vertical layout, the ATV series has the coil low and the blower above. Because of its minimal depth, it can be hidden in side areas instead of in places above or below, where most air handlers go.

Designed for ducted applications, the ATV series is equipped with high-velocity (HV) blowers with internal motors to reduce depth for more flexibility during installation. They are also available with brushless "WhisperCool" DC blowers that are extremely quiet yet can overcome significant static pressure in the ducting system.

ATV air handlers are constructed of corrosion-resistant materials and are fully insulated against secondary condensation. The drain pan has an anti-slosh, anti-fungal foam lining. An optional flow control is highly recommended to help distribute the flow of chilled water more efficiently.



The ATV's slim-profile design is ideal for installation in walls and other areas where depth is limited.

### Key Benefits

- Unique vertical design results in dramatically reduced depth
- Fits into walls and other tight spaces
- Dedicated circuits for chilled water cooling and heating provided by an auxiliary heat source such as a boiler
- Exposed components are insulated against secondary condensation
- High-velocity (HV) blower with internal motor to reduce depth
- Optional DC "WhisperCool" blowers are extremely quiet yet powerful enough to overcome high-static-pressure duct
- Drain pan has anti-slosh, anti-fungal foam lining
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Optional flow control automatically balances circulated water throughout the system
- Optional Breathe Easy™ microparticle air filter

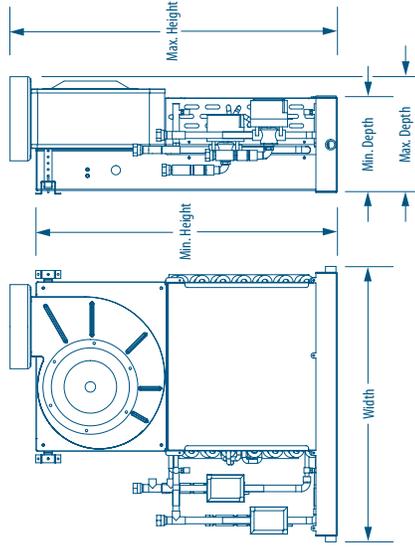
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Specifications for ATV “4-Pipe” Series Slim-Profile Air Handlers

Model	ATV9HV-4P-LP	ATV12HV-4P-LP	ATV18HV-4P-LP	ATV24HV-4P-LP
Nominal Capacity - Cool (BTU/h)	9000	12000	18000	24000
Voltage @ 50/60Hz 1-Ph (V)	115	230	115	230
Full Load Amps (FLA) Cool (A)	1.4	0.61	2.52	3.4
Full Load Amps (FLA) Blower (A)	1.4	0.7	2.2	3.5
Optional Electric Heat (kW)	1	1	1.5	1.5
Heater Amps (A)	8.7	4.3	13	6.5
Max. Circuit Breaker (A)	5	5	5	5
Min. Circuit Ampacity (A)	2	1	3	2
Water Flow (gpm/lpm)	2.25/8.6	3/11.4	4.5/17.1	6/22.8
Air Flow (cfm/m3h)	280/476	400/680	600/1020	650/1105
External Static Pressure (inH2O/Pa)	0.75/186.8	0.75/186.8	0.75/186.8	0.75/186.8
Min. Height (in/mm) (1)	22.3/567	22.3/567	26.2/666	29.4/747
Max. Height (in/mm) (1)	24.3/618	24.3/618	28.2/717	31.4/798
Max. Width (in/mm) (1)	24.1/613	24.1/613	24.9/633	26.3/669
Min. Depth (in/mm) (1)	6.4/163	6.5/166	7.6/194	9.4/239
Max. Depth (in/mm) (1)	7.6/194	8.3/211	8.9/227	11.2/285
Chilled Water Connection Size (in)	1/2	1/2	1/2	1/2
Chilled Water Connection Type	FPT	FPT	FPT	FPT
Min. Supply Duct Size (in/mm)	6/153	6/153	7/178	8/204
Min. Supply Air Grille Size (sq in/sq cm)	49/317	70/452	100/646	140/904
Min. Return Air Grille Size (sq in/sq cm)	98/633	130/839	200/1291	240/1549

1 All dimensions ± 0.30 in. (8 mm).

Dimensions



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L-3016 Rev. 20130215

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Dealer



# AT-HV-MU Series Fresh Air Make-Up Air Handlers

## Keep Air Inside the Vessel From Going Stale



The AT series of fresh-air make-up air handlers (AT-HV-MU) for chilled water systems duct in outside air, cool and dehumidify it, then re-heat it to room temperature and duct it to various interior spaces. Typically, crew cabins and other spaces two or more levels below deck will benefit from the use of these systems.

AT-HV-MU air handlers consist of a water coil, valve, electric heater, and high-velocity (HV) blower mounted on a condensate pan/chassis with cushioned mounts to reduce noise and vibration.

The specially-designed water coil cools and dehumidifies outside air in one pass. The coil, as well as the blower and all exposed sheet metal components, is coated to resist corrosion. A motorized three-way bypass valve controls the flow of circulated water through the coil. The HV blower has a high-efficiency internal motor, and can be rotated as required for installation. Ultra-quiet DC “WhisperCool” blowers are available. An electric heater with redundant over-temperature protection reheats the cooled air to room temperature.

The sloped “positive-flow” condensate pan reduces standing water and is lined with anti-fungal and anti-slosh foam. The blower, condensate pan, and other exposed areas are insulated against secondary condensation. An optional modulating loop-water flow control regulates the water through the unit to ensure proper water distribution to all air handlers.

### Key Benefits

- Compact design
- Corrosion-resistant coating on evaporator coil, blower, and drain pan
- Patented
- Drain pan has anti-slosh, anti-fungal foam lining
- High-velocity (HV) fully-insulated blowers are rotatable
- Integrated three-way bypass valve with easy-change power head
- Electric heat with two-stage electric heat overload
- Heater assembly accessible from the top or side
- Large coil shroud volume for optimal performance
- Brass hose barb loop-water connections
- Electrical box can be remotely mounted up to 6 ft. (1.8 m)
- Remote air bleeder on 6 ft. (1.8 m) of flexible tubing with ball valve
- Built-in flow control balances chilled water distribution

**Cruisair**<sup>®</sup>  
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Specifications for AT-HV-MU Series Fresh Air Make-Up Air Handlers

Model	AT18HVZ-1.5KW-MU	AT24HVZ-2X1KW-MU	AT36HVZ-FC-2X1.5KW-MU
Nominal Capacity (BTU/h)	18000	24000	36000
Voltage @ 50/60Hz L-Ph (V) <sup>(1)</sup>	230	230	230
Full Load Amps (FLA) Cool (A)	0.9	0.7	1.6
Full Load Amps (FLA) Heat (A)	7.5	9.4	14.7
Full Load Amps (FLA) Blower (A) <sup>(2)</sup>	0.9	0.7	1.6
Optional Electric Heat (kW)	1.5	1	1.5
Max. Circuit Breaker (A)	10	10	20
Min. Circuit Ampacity (A)	8	10	16
Water Flow (gpm/lpm)	4.5/17.1	6/22.8	9/34.1
Air Flow (cfm/m <sup>3</sup> h)	174/296	276/469	550/935
External Static Pressure (inH <sub>2</sub> O/Pa)	0.72/179.3	0.36/89.7	0.75/186.8
Max. Height (in/mm) <sup>(3)</sup>	15/381	16.6/422	19.5/496
Max. Width (in/mm) <sup>(3)</sup>	20.3/516	22.6/575	26.6/676
Max. Depth (in/mm) <sup>(3)</sup>	12.3/313	15.3/389	18/458
Drain Connection Size (in)	1/2	1/2	1/2
Drain Connection Type	FPT	FPT	FPT
Chilled Water Connection Size (in)	1/2	1/2	1
Chilled Water Connection Type	FPT	FPT	FPT
Min. Supply Duct Size (in/mm)	5/127	6/153	8/204
Min. Return Air Grille Size (sq in/sq cm)	100/646	140/904	220/1420
Net Weight (lbs/kg) <sup>(4)</sup>	37/16.8	44/19.1	63.7/28.1
Gross Weight (lbs/kg) <sup>(4)</sup>	41/18.6	58/26.4	81.2/36.9

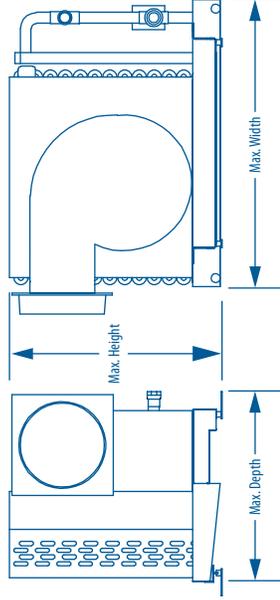
<sup>1</sup> Verify voltage! Units with SCR-based controls are designed for either 208VAC or 230VAC. Add "208" to the end of the model number for 208VAC units.

<sup>2</sup> Electrical and blower data is based on 50Hz performance.

<sup>3</sup> All dimensions ± 0.30 in. (8 mm).

<sup>4</sup> All weights ± 10%.

Dimensions



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L-2403 Rev. 20130607

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NEW

# Smart Touch Chiller Control

## Intuitive High-Resolution Display



### Easy Chiller Management

Managing a multi-stage chiller system has never been easier. The Smart Touch Chiller Control is intuitive to use and provides clear indications of current status, operational trends, animated real-time monitoring of the refrigeration circuit, and more.

The high resolution display can be mounted in the chiller system's electrical box or at a convenient remote location, and is available in three screen sizes: 7 in. (178 mm), 10 in. (254 mm), or 13 in. (331 mm).

### Innovative Features

- Increased analog inputs – Monitor important conditions such as water loop glycol level, and utilize dynamic superheat control for improved performance.
- Condenser protection – Monitor differential pressure to protect from catastrophic failures by adjusting the speed of the seawater pump to maintain constant pressure or adjust to proper pressure and receive an alert about a potential problem.
- Alarm messaging – Receive text or email message in real time if a fault occurs (network required).
- Load banking – Works with your generator to keep it running at a healthy and efficient 70-80% operational load by turning on additional stages as required. Eliminates the need for a separate load bank.
- Photographic confirmation – Future integration with room controls that will allow the user to monitor room A/C performance.
- Data logger – Download Alarm Faults and Historical Trend Data onto a USB for analysis.

The Smart Touch Chiller Control works with any Cruisair or Marine Air chiller and can be retrofitted to replace an existing Dometic Digital Control (DDC) or Tempered Water Logic Control (TWLC).

### Key Benefits

- High-resolution display
- Intuitive touch-screen operation
- Available in three screen sizes
- Networks to ship management controls via Modbus, CAN Bus, Ethernet, or BACnet
- Remote access through smart phone or computer via internet
- Increased analog inputs for detailed system monitoring
- Alarm messaging via text or email
- Load banking feature eliminates the need for a separate load bank
- Tracks operational trends of system for precise preventive maintenance
- For new chiller systems or replace Dometic Marine DDCs and TWLCs



Quickly set chill water temperature setpoint and monitor water temperature.



Monitor the performance of the electronic expansion valve.



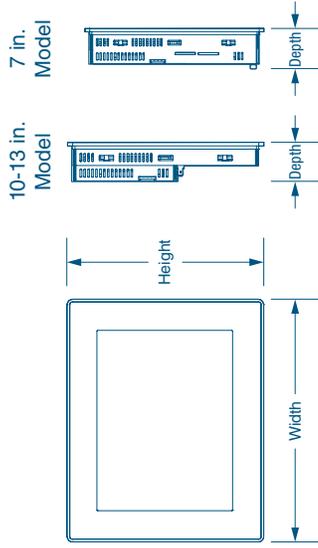
Review historical trend data, and much more.



**Dimensions for Optional Remote Smart Touch Display**

Model	13 in. Display	10 in. Display	7 in. Display
Height (in/mm)	10.5/267	9.13/232	5.79/147
Width (in/mm)	13.27/337	11.30/287	7.36/187
Depth (in/mm)	1.65/42	1.65/42	1.77/45
Cutout Height (in/mm)	10.1/256	8.70/221	5.35/136
Cutout Width (in/mm)	12.83/326	10.87/276	6.93/176

**Dimensions**



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L-3233 Rev. 20140117

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Dealer



# Tempered Water Logic Control

## For Precise Staged Chiller Monitoring & Coordination



The TWLC (Tempered Water Logic Control) is an advanced microprocessor chiller control specifically designed for marine circulated water systems. The TWLC system maximizes system performance, protects the chillers with advanced fault protection monitoring and shut-down routines, and has easy menu-driven operation supplying the user with important system information.

System redundancy and easy field repair were the priorities when the TWLC was developed. Each chiller in a TWLC system has a dedicated power/logic board, and the boards are networked together to form an integrated system (automatically controlling up to 6 chillers). This design means that a single board or network failure will not shut down the entire system. The P/L board has board-mounted LEDs to help with troubleshooting, replaceable EPROM for software upgrades, and plug-in terminal strips and RJ-12 jacks which allow for quick field installation.

Interaction with the system is through the TWLC keypad/display. A simple 4-button keypad is used to change operation mode and to navigate through the menus to view and change system parameters. A backlit LCD display supplies easy to read information about the system, including water temperatures, operation mode, which chillers are running, and other detailed information. Three small LEDs on the keypad clearly indicate Cool or Heat modes, and faults. An alarm buzzer on the keypad can also signal a fault. Additional TWLC keypads can be installed to allow remote system access.

Set up and operation of the TWLC is fully automatic. It senses how many units are connected and programs the temperature staging and unit rotation of the units to pre-programmed parameters. The TWLC board has non-volatile memory so settings and recorded information are not lost even if power is interrupted. The large memory capacity allows the TWLC to record run time of the compressors and pumps, and store the fault history of each unit.

The system monitors all the inputs and will display 12 different faults based on the information received. Each fault has a specific routine that protects the unit while helping to prevent nuisance faults. Some will generate a sustained shutdown, which must be reset from the TWLC keypad.

If a fault is sensed, the fault LED on the TWLC keypad will light (and the buzzer will sound, if activated) and the specific fault will be displayed on the LCD screen. The fault signal output on the P/L boards will also be powered.

Another feature of the TWLC is that it can be connected to an on-board computer or modem to allow full remote access of the system. Custom software emulates the TWLC on the computer screen and navigation through the menus is identical to the TWLC keypad/display. If a land phone line is available, a modem can be connected and the system can be viewed and operated remotely, allowing a knowledgeable service agent to troubleshoot the system anywhere in the world.

### Key Benefits

- Provides central control for chillers with up to six stages
- Optimizes compressor operation
- Displays water temperatures, compressor run times, diagnostic faults, and more
- Interfaces with a PC via serial port for remote control and monitoring (PC sold separately)
- Keypad/display has four-button and four-line LCD
- Circuit breakers for compressors and pumps
- Records and logs faults and run times
- Optional current transducers to monitor compressor and pump amperage
- Optional seawater temperature sensors
- Optional refrigerant pressure transducers
- Optional loop water and seawater pressure transducers
- Control over optional electric immersion heat or fuel-fired boiler
- Optional remote unit shutdown for load shedding
- Optional fault signal output for remote alarm

**Cruisair**<sup>®</sup>

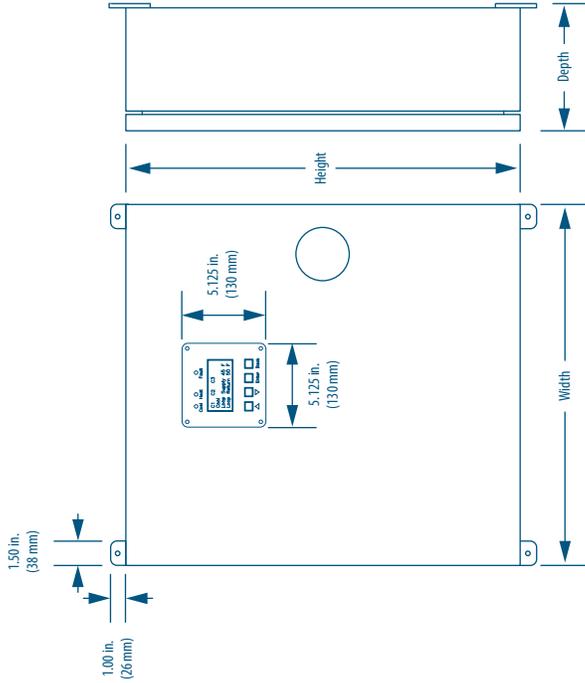
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## Specifications for Multi-Stage Chiller Control Box

No. of Stages <sup>(1)</sup>	Width (in./mm)	Height (in./mm)	Depth (in./mm)
2 to 3	22.0/560	24.0/610	7.75/197
4	30.0/760	24.0/610	7.75/197
5	35.0/890	24.0/610	7.75/197

<sup>1</sup> For six-stage electrical box dimensions, please contact a Dometic sales representative at 954-973-2477.

### Dimensions



## TWLC Options

As each TWLC multi-panel is custom built, there are many options to consider:

- Spare Pump Switch – Selector switches can be added for backup (spare) pumps.
- Multiple Power Inputs – Up to three power blocks can be installed to help divide the chiller and pump loads.
- Auxiliary Water Heater – Breakers and contactors to control an auxiliary water heater
- Fault Output Relay – A set of “dry” contacts can be installed to operate an alarm on the vessel’s monitoring system.
- Longer Wire Harness – Up to 30 ft. (9 m) is available; 10 ft. (3 m) is standard.
- Frame Mounted Panel – For mounting the TWLC on a framed chilled-water system.
- Load Shedding – Terminals to allow a load-shedding system to remotely shut down individual chillers.

In addition to the options above, two TWLC upgrade packages are available:

- Level 1 Upgrade Package – Adds current transducers for the compressors and pumps, seawater out temperature sensors in each chiller, a common seawater inlet temperature sensor, and the computer and modem adapters.
- The Level 2 Upgrade Package – All Level 1 package features, plus high- and low-refrigerant pressure transducers for each chiller, a seawater pressure transducer (to install on the discharge of the seawater pump) and a loop water pressure transducer (to install on the inlet of the loop water pump).

## TWLC Keypad/Display

The easy-to-use keypad/display (shown below) features a backlit LCD and supplies critical system information, including faults.



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# Q-Logic Cabin Control System

## Microprocessor Control System With Choice of Displays



Cruisair's Q-Logic microprocessor control system works with direct expansion evaporators and tempered water air handlers. Q-Logic consists of a power/logic circuit board installed in the electrical box of the evaporator or air handler, and is controlled by a Qht or Q3 keypad/display.

An optional CAN-bus network adapter is available for new Q-Logic systems and as a retrofit for existing installations to provide ship-wide network monitoring and controlling of multiple DX systems or air handlers. The CAN-bus adapter adheres to CAN-bus Standard 2.0B and is fully ISO compliant. It is available in two CAN-bus communication protocols to support connection to several popular helm and cabin touchscreen control systems.

The Qht control/display is European in style and accommodates an assortment of decorative bezels — including a new model sized to fit the popular Vimar Eikon bezel. The Qht display features raised buttons for easy access and control and an attractive blue backlit LCD.

The Q3 display is rectangular with a bezel look and LED display window. Designed as an economical version of the Qht, the Q3 features a sturdy, smooth, black plastic case with attractive white lettering, and raised buttons for easy access. Like the Qht, the Q3 was developed for user-friendly, logical operation. Both displays have three levels of brightness and a programmable sleep mode in which the display dims automatically when not in use.

The Qht and Q3 also operate the auxiliary heat. If the optional water-temperature sensor is installed, Q-Logic provides an automatic change-over function from cooling to heating.

A dehumidification mode operates the system on a timed basis so the boat stays ventilated and dry even when no one is aboard (optional electric heat package recommended).

The Qht and Q3 are compatible only with Q-Logic boards and are not backward compatible with Cruisair SMX II systems.



The Qht keypad/display now accommodates the popular Vimar Eikon bezel.



The Q3 keypad/display features a built-in bezel and simple four-button layout.



The Qht keypad/display is available with a variety of decorative bezels to complement any interior

### Key Benefits

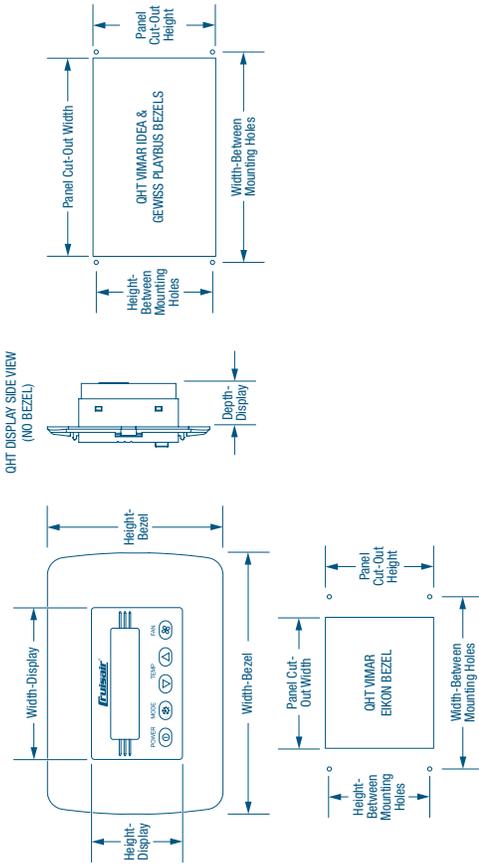
- Easier menu-based programming
- Smarter error/fault codes
- Timed setting for air filter replacement
- Automatic dehumidification
- Optional humidity sensor to monitor and control relative humidity
- Optional electric heat package
- Optional outside temperature sensor
- Easier maintenance with separate off-board compressor triac
- Inside temperature sensor and display cable identical to SMX platform
- Optional CAN bus adapter puts cabin control on the ship-wide network
- Qht supports Vimar Idea, Vimar Eikon, and Gewiss Playbus bezels
- Q3 features a small surface-mount display with simple four-button interface

# Specifications for Q-Logic Cabin Control System

## Dimensions

Model	Q3 Keypad/Display for Tempered Water	Qht Keypad/Display (Vimar Idea or Gewiss Playbus Bezel)	Q3 Keypad/Display for Direct Expansion	Qht Keypad/Display (Vimar Elkon Bezel)
Voltage (V)	115/230	115/230	115/230	115/230
Cycle (Hz)	50/60	50/60	50/60	50/60
Height-Display (in/mm)	2.53/65	2.81/72	2.53/65	2.87/73
Width-Display (in/mm)	3.5/89	4.39/112	3.5/89	4.64/118
Depth-Display (in/mm)	0.75/20	0.75/20	0.75/20	0.77/20
Panel Cut-Out Height (in/mm)	N/A	2.13/55	N/A	1.875/48
Panel Cut-Out Width (in/mm)	N/A	3.44/88	N/A	2.75/70
Cutout Hole Diameter (in)	1	N/A	1	N/A
Height-Between Mounting Holes (in/mm)	N/A	2.2/56	N/A	2.2/56
Width-Between Mounting Holes (in)	2.84	3.78	2.84	3.78
Height-Bezel (in/mm) <sup>1</sup>	N/A	3.27/84	N/A	4.72/120
Width-Bezel (in/mm)	N/A	4.84/123	N/A	3.35/86
A-to Centerline (in/mm)	0.34/9	N/A	0.34/9	N/A
B-to Centerline (in/mm)	1.31/34	N/A	1.31/34	N/A

<sup>1</sup> Bezels sold separately, dimensions may vary depending on style.



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L-2642 Rev. 20130222



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# SMX Cabin Control Systems

## Advanced, Microprocessor-Based Climate Control



Cruisair offers two SMX microprocessor control systems for use with direct expansion (DX) air conditioning systems. SMXII offers all the standard operational and safety features required for most DX systems. SMX Net adds networking capability and other special features that make it unique in the industry. Either system can be retrofitted in the field to replace an electromechanical switch assembly.

The SMXir keypad/display and optional remote is used with both systems.

Both systems feature easy operation. Dehumidification mode can be used to operate the system on a timed basis so that the boat will stay ventilated and dry even when no one is aboard.

Line voltage and refrigerant high and low pressure switches are constantly monitored and if a problem is detected, the system will shut down and display a fault on the display.

Many of the factory settings can be changed to allow the user to fine-tune the system to best match the boat and personal preferences. A nonvolatile memory retains current operation mode and all programmable settings when power is turned off or lost, such as when changing from generator to dock power. The programmable compressor time delay function will prevent multiple units from starting at the same time when power is restored.

SMX Net allows multiple units to be networked together for central control. Each unit in the network has a unique ID number, and any unit can be accessed and controlled from any other control in the network. SMX Net also permits one unit to be "slaved" to another so that only one keypad can be used to control multiple units in a large cabin. Additional SMX Net features include outside temperature display, auxiliary (electric) heat control, two-speed fan control, and an optional SMX Net Convenience Panel, from which the entire network can be easily accessed and controlled with a single keystroke to go into one of four programmed modes.

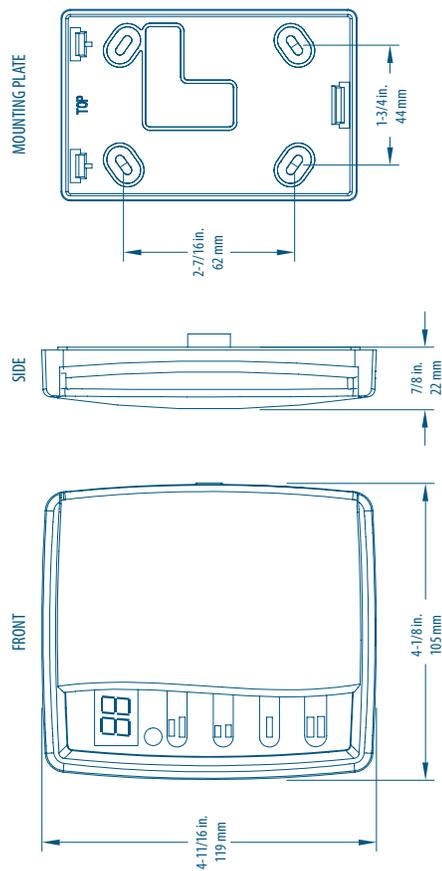


The convenient remote control for SMXII and SMX Net systems is effective up to 25 ft. (7.6 m).

### Key Benefits

- Automatic or manual fan-speed selection
- Automatic dehumidification
- Inside temperature display
- Outside temperature display (SMX Net only)
- Nonvolatile memory retains custom settings in the event of power loss
- Automatic shutdown for low-pressure, high-pressure, and low-voltage faults
- Fault code display
- Brightness control
- Auxiliary heat control (SMX Net only)
- SMX Net only features: Software update capability, remote control, slaving capability, auxiliary heat control
- Optional remote control for SMXir keypad/display
- Optional two-speed fan (SMX Net only)
- Optional convenience panel
- SMX II programmable functions: Fahrenheit/Celsius display, low- and high-speed fan adjustment, compressor time delay, compressor response differential, fan response differential, continuous/intermittent fan, line voltage calibration, temperature sensing calibration, factory memory reset, dehumidification cycle parameters

## Dimensions



## About the SMXir Keypad/Display

The SMXir keypad/display has an attractive, compact housing with easy surface-mount installation. A large, easy-to-read LED shows cabin temperature, set point, programming prompts, and fault code warnings, and small LEDs and backlit text indicate system status. Under a decorative hinged door is the familiar SMX 10-button arrangement with clearly labeled keys for single-keystroke operation. An optional infrared remote control is available that allows system adjustments to be made remotely.

Specifically designed for the marine environment, the SMXir features a plastic housing, sealed membrane keypad, and electronics with anticorrosion coating. Housings are available in black or white, and with either a 3/4 or full coverage door.

The SMXir keypad/display can be used with either SMX II or SMX Net control systems. A complete system consists of a power/logic module (either SMX II or SMX Net), an SMXir keypad/display, CXP connecting cable and a TSEP temperature sensor. Additional components will be needed to network multiple SMX Net units, including: CNP network cables, one TSEP outside temperature sensor, and the optional SMXir Convenience Panel (the convenience panel kit includes a SMXir keypad/display connected to a SMXir Convenience Panel).

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# SMXht Keypad/Display

## Cabin Control for DX & Tempered Water Systems



The SMXht is a digital keypad/display that is used with Cruisair's SMX II-HV power/logic controller board. The SMXht can be used with both DX evaporating units and tempered water air handlers. It can be retrofitted to SMXII-type systems in the field. The SMXht is dual voltage (115 and 230V) and operates at 50 or 60Hz. It functions identically to the Cruisair SMXir keypad/display but is easier to program and operate.

A complete climate control system consists of the SMXht keypad/display, SMX II-HV power/logic board, CXP cable and a TSEP temperature sensor.

The SMXht is available in gray or white and has a sleek, modern European design. Two popular decorative snap-on bezels, Vimar® Idea or Gewiss® Playbus, are available (sold separately). The Gewiss bezel snaps directly onto the display; the Vimar bezel requires the use of two "wings" (included) to snap onto the display. The keypad/display features raised buttons and a blue backlit LCD. The LCD has three levels of brightness or a programmable sleep mode in which the display is darkened automatically. With these new features, programming and operation is simple and easy. Installation is also uncomplicated; see the back of this sheet for a detailed diagram.

Normal operation consists of simply turning the system on by pressing the Power button and adjusting the desired cabin temperature set point. Fan speed can be controlled automatically or manually. Operation modes are cool, heat, auto switchover (automatically switches from cool to heat Mode), and dehumidification. Dehumidification can be used to operate the system on a timed basis so that the boat will stay ventilated and dry even when no one is aboard. Aux (electric) heat mode is available for tempered water systems.

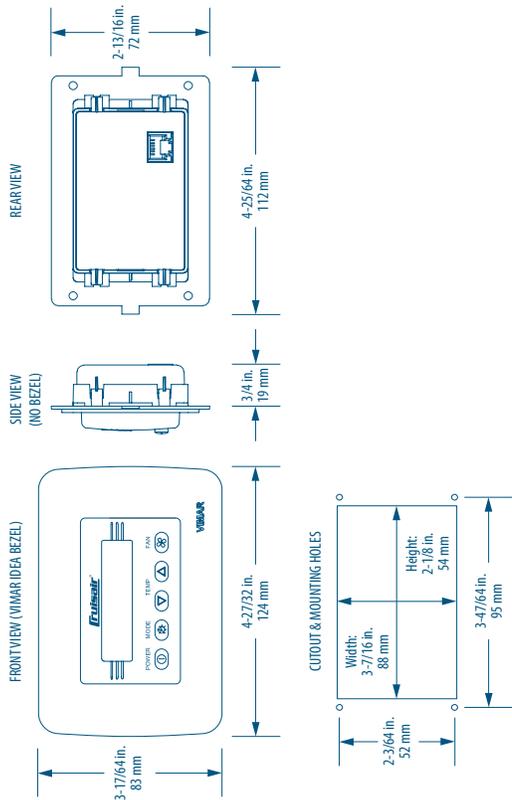
The SMXht will display a fault code in the event of a line voltage or refrigerant low or high pressure problem.

Many of the factory settings can be changed to allow the user to fine-tune the system to best match the boat and personal preferences. A nonvolatile memory retains current operation mode and all programmable settings when power is turned off or lost, such as when changing from generator to dock power. The programmable compressor time delay function will prevent multiple units from starting at the same time when power is restored.

### Key Benefits

- Attractive, modern styling
- Accommodates Vimar Idea and Gewiss Playbus decorative bezels
- Backlight and sleep modes
- Automatic dehumidification
- Supports auxiliary heat for tempered water systems
- Complete system monitoring
- Pressure switch testing
- Low-voltage protection

## Dimensions



## Programmable Functions

- Backlight mode
- Select DX or TW power/logic board
- Fahrenheit/Celsius display
- DX compressor time delay
- Fan response differential
- Low- and high-fan speed
- AC line voltage calibration
- Temperature calibration
- HU dehumidification
- High- to low-speed adjustment
- Software upgrades
- LED segment test

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# SMXIIAB Keypad/Display

## For Use With SMX II Microprocessor Control System



The SMXIIAB keypad/display works with Cruisair's SMX II microprocessor controller system for direct expansion air conditioning. The SMXIIAB features a non-corrosive ABS cover and soft-membrane switches and can be retrofitted in the field to replace any electromechanical switch assembly.

All keys are clearly labeled, making operation simple. The large, easy-to-read digital display shows setpoint or cabin temperature and also is used to give information on operating parameters and fault code warnings. Small LEDs are used to indicate system status. Switchplates, which are available in black, brown, white or beige, must be ordered separately.

For normal operation, it is only necessary to turn the system on and select the desired setpoint. The user can select cooling only, heating only, or automatic changeover between cooling and heating. Fan speed is automatically controlled, or can be manually set.

Factory settings may be changed, with user-programmable commands, permitting the boat owner to fine-tune the system for personal preferences. Programming modes are accessed by pressing special combinations of keys. Nonvolatile memory retains all user-programmed settings, even when the power is off.

The SMX II system constantly monitors line voltage and refrigerant pressures. Whenever out-of-tolerance conditions are sensed, the system will display a visual warning on the SMXIIAB display and shut the system down to prevent damage. Dehumidification mode ensures the boat stays dry – eliminating mold, mildew and odor – even when no one is aboard.

For more information about the SMX II microprocessor system, please refer to specification sheet L-2088.

### Key Benefits

- Works with SMX II microprocessor control system
- More than 20 programmable functions
- Easy plug-in installation
- Automatic monitoring of pressure and voltages
- Clearly labeled buttons
- Non-metallic switchplate with soft membrane switches
- Automatic or manual fan-speed selection
- Automatic dehumidification
- Switchplates available in black, brown, white, or beige

## Accessories for SMXIIAB Keypad/Display

Model	Description
<b>Switchplates</b>	
PXB	Switchplate in black
PXN	Switchplate in brown
PXW	Switchplate in white
PXG	Switchplate in beige
<b>Temperature Sensors <sup>(1)</sup></b>	
TSEP2	2 ft. (0.61 m) length
TSEPS	5 ft. (1.52 m) length
TSEP10	10 ft. (3.05 m) length
TSEP15	15 ft. (4.57 m) length
TSEP20	20 ft. (6.10 m) length
TSEP30	30 ft. (9.14 m) length
TSEP40	40 ft. (12.13 m) length
TSEP60	60 ft. (18.29 m) length
TSEP80	80 ft. (24.38 m) length
<b>Connecting Cables</b>	
CX5	5 ft. (1.52 m) length
CX10	10 ft. (3.05 m) length
CX15	15 ft. (4.57 m) length
CX20	20 ft. (6.10 m) length
CX30	30 ft. (9.14 m) length
CX40	40 ft. (12.19 m) length
CX60	60 ft. (18.29 m) length
CX80	80 ft. (24.38 m) length

<sup>1</sup> Temperature sensors are included on Cruisair Stowaway air conditioning units (SXUF models).

### Programmable Functions:

- AC line voltage calibration
- Temperature calibration
- Compressor restart time delay
- Continuous or intermittent fan operation
- Low and high fan-speed adjustment
- Compressor response differential
- Fahrenheit or Celsius temperature display

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L-0488 Rev. 20130531

Specifications and availability subject to change without notice.

Dealer

# Electromechanical Rotary Switch Controls

## Reliable Control Over Basic Air Conditioner Functions



Electro-mechanical rotary-knob switch assemblies provide conventional control over basic air conditioning functions. Both 115V and 230V switches are available. The standard design is an aluminum plate covered with a modern black plastic overlay with text and graphical representations of the various functions. Many different configurations are available:

Standard three-knob assemblies provide function selection (OFF-FAN-RUN), fan speed control, and a room thermostat with 10 ft. (3 m) capillary tube. For chilled water systems, a special thermostat on the air handler allows automatic changeover between heating and cooling modes.

A two-knob control for chilled water systems features function control (OFF-FAN-RUN) and fan speed control. It is used with a remote thermostat, or in situations where a thermostat is not needed, such as in an engine room or on a makeup air handling unit with a bypass valve.

Single-knob switch assemblies control fan speed (either variable or two-speed) and offer two operational modes: In the ON position, the fan will run continuously; in the AUTO position, the fan will cycle on and off with the compressor.

A four-knob assembly is available for direct expansion systems, allowing control of an auxiliary electric heater. Functions are: system mode (OFF – FAN – RUN), heat mode (Reverse Cycle or Aux. Heat), thermostat, and fan speed.

Switches are also available for use with auxiliary heat modules, but an HRX type heat relay may be needed in certain cases.

### Key Benefits

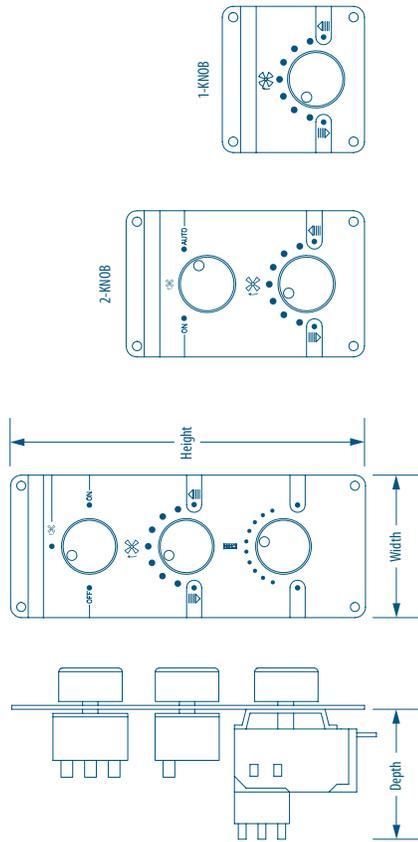
- 115V and 230V models
- For use with variable or two-speed blowers
- Auxiliary heat controls available
- Two wiring connections available: Color-coded terminal strip and six-pin plug
- Black plates with modern graphics
- Vertical and horizontal configurations

# Specifications for Electromechanical Rotary Switch Controls

Model	SA4-BB	SA4-ZB	SA4-ZCB	SA4-ZB	SA4A-ZCB	SA4A-ZB	SA4A-ZCB	SA3-BB10	SA3-BCB10	SA3-ZB10	SA3-ZCB10	SSA3-ZCB	SSA3-ZB	TSE-TZB	TSE-TZCB	SSA	SA5-ZB10
Voltage (V)	115	230	230	115	230	115	230	115	230	115	230	230	115	230	230	230	115
Cycle (Hz)	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Type of Switch	1-knob	1-knob	2-knob	2-knob	2-knob	2-knob	3-knob	3-knob	3-knob	3-knob	3-knob	3-knob	3-knob	3-knob	3-knob	4-knob	4-knob
Fan-Speed Control	2-Speed	Variable	Variable	Variable	Variable	Variable	2-Speed	2-Speed	2-Speed	Variable	Variable	Variable	Variable	Variable	Variable	Variable	Variable
Type of Connection	Term. Strip	Plug	Plug	Term. Strip	Term. Strip	Term. Strip	Term. Strip										
Height-Display (in/mm)	3.75/96	3.75/96	5.13/131	5.13/131	5.13/131	7.25/185	7.25/185	7.25/185	7.25/185	7.25/185	7.25/185	7.25/185	7.25/185	7.25/185	7.25/185	7.82/199	7.82/199
Width-Display (in/mm)	2.88/74	2.88/74	3.13/80	3.13/80	3.13/80	2.88/74	2.88/74	2.88/74	2.88/74	2.88/74	2.88/74	2.88/74	2.88/74	2.88/74	2.88/74	2.88/74	2.88/74
Depth-Display (in/mm)	2.25/58	2.25/58	3.17/80	3.17/80	3.17/80	3.5/89	3.5/89	3.5/89	3.5/89	3.5/89	3.5/89	3.5/89	3.5/89	3.5/89	3.5/89	3.5/89	3.5/89

## Dimensions

3-KNOB MECHANICAL CONTROL



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L-0243 Rev. 20120824

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Dealer

# Accessories for DX Modulating Air Conditioning

## Controls & Refrigerant Distributors



Each cooling unit (or evaporating unit) in a modulating system requires its own control. There are two options: The SMX II microprocessor system or three-knob electromechanical switch assembly.

The SMX II microprocessor control system consists of a PLHMX-HV power/logic module, SMXir keypad/display (one for each evaporating unit), CXP cable, and a TSEP temperature sensor.

The PLHMX-HV power/logic module includes a 3 ft (0.9 m) wire harness that connects to the evaporating unit's junction box. The CXP cable, available in many different lengths, connects the SMXir keypad/display to the PLHMX-HV. The TSEP temperature sensor, also available in different lengths, plugs into the PLHMX-HV. The TSEP's sensor bulb is installed in the return air path.

The SMXir keypad/display has an attractive, compact housing available in black or white. The display includes a mounting plate for easy surface-mount installation. A large, easy-to-read LED shows cabin temperature, set point, programming prompts, and fault code warnings. Small LEDs and backlit text indicate system status. Under a decorative hinged door is the membrane-sealed SMX 10-button keypad with clearly labeled keys for single-keystroke operation. Internal electronics have an anti-corrosion coating. An optional infrared remote control is available. For more information about the SMXir keypad/display, including dimensions, please refer to specification sheet L-2088.

The three-knob electromechanical switch assembly is available in two varieties: The SA1 for cooling only systems, and the MS5 for units with electric heat. Knobs control mode, fan speed, and a thermostat. These controls come with a 10 ft. (3 m) capillary tube, 3 ft. (0.9 m) wire harness, and color-coded terminal strip. For more information, please refer to specification sheet L-0243.



Electromechanical controls with rotary switches are available for Cruisair DX modulating units.

### Key Benefits

- SMX II features: Automatic or manual fan-speed control, inside temperature display, auxiliary heat control, auto dehumidification, nonvolatile memory, fault display, brightness control
- SMX II programmable functions: Fahrenheit/Celsius display, low- and high-speed fan adjustment, compressor time delay, compressor response differential, fan response differential, continuous/intermittent fan, line voltage calibration, temperature sensing calibration, factory memory reset, dehumidification cycle parameters
- Optional remote control for SMXir keypad/display
- 3-knob electromechanical control features: Knobs for mode, fan speed, and thermostat, available with electric heat control (MS5 model)

**Cruisair**<sup>®</sup>  
by Dometic GROUP

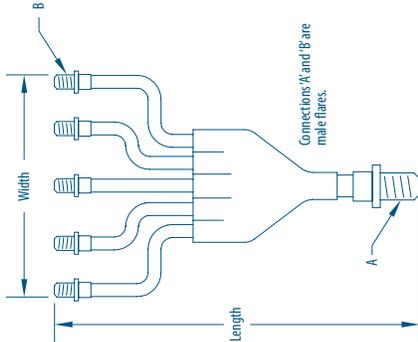
## Refrigerant Distributor Dimensions

<b>Model</b> <sup>(1)</sup>	<b>DD4</b>	<b>SD8-6</b>
Length	7.5/191	9.0/229
Width	4.5/114	7.0/178
A	0.38/10	0.75/19
B	0.25/7	0.50/13

<sup>1</sup> All dimensions correspond to the illustration below.

Cruisair offers five-way distributors to split refrigerant lines from the condensing unit to multiple evaporating units, providing equal refrigerant flow to each. For best results, the distributor should be located so that the tubing running to each evaporating unit is close to equal in length. Depending on the installation, the installer may prefer to use multiple "Tee" fittings instead.

The DD4 discharge distributor has a 3/8 in. male flare inlet connection, and five 1/4 in. male flare outlets. The SD8-6 suction distributor has a 3/4 in. male flare inlet and five 1/2 in. flare outlets. Flare nuts are provided, as are flare sealing caps if less than five units are connected. The flare nuts on the suction distributor are 3/8 in. reducing nuts that will allow 3/8 in. copper tube to be connected to the 1/2 in. flare fittings. If a 1/2 in. tube is to be connected, a standard 1/2 in. flare nut will be required.



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L-0956 Rev. 20130531

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Dealer

# Breathe Easy™ In-Duct Air Purifiers

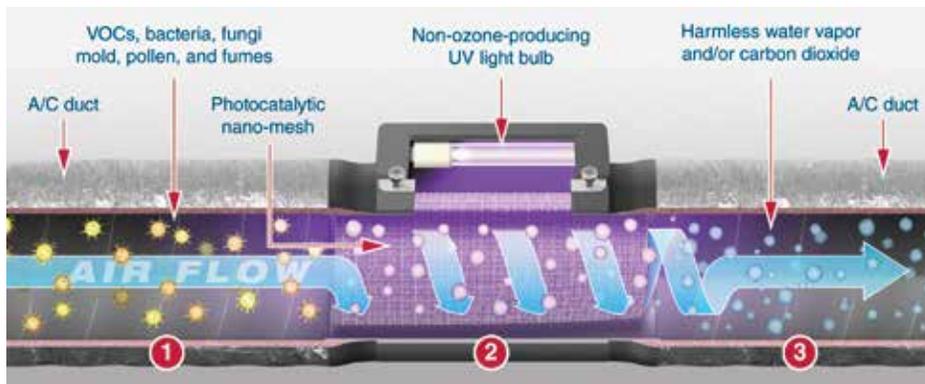
## Stops Odors & Improves Air Quality



Reduce the odors of tobacco smoke, mildew, mustiness, chemical vapors and toilets, and inhale fresher, cleaner, healthier air on-board. The Breathe Easy™ In-Duct Air Purifier uses innovative Photocatalytic Nano-Mesh technology with ultraviolet (UV) light to improve your boat's air quality. The UV bulb inside uses a specific frequency of light that produces no harmful ozone.

The Breathe Easy nano-mesh is a three-dimensional foam structure coated with titanium-dioxide (TiO<sub>2</sub>) and provides 2200% more contact surface area than simple screen structures found in competing air purifiers. This is a significant advantage, as photocatalytic air purification occurs only when airborne contaminants contact the photocatalytic surface.

In addition, the TiO<sub>2</sub> catalyst is restructured at the molecular level to have an increased number of contact surfaces. This formation puts 70% larger molecules on the contact surface and dramatically improves reactivity with contaminants.



### How Breathe Easy Works:

1. Biological contaminants like VOCs, mold spores, bacteria, and viruses pass through the air conditioning duct and into the air purifier system.
2. UV light energy activates the titanium-dioxide catalyst on the surface of the nano-mesh structure. The molecules of pollutants and odors that come in contact with the catalytic nano-mesh structure are reconfigured into non-toxic elements. Vortex action maximizes air contact with the catalytic surface.
3. Significantly cleaner, healthier air exits the photocatalytic air purifier.

### Key Benefits

- Eliminates unpleasant odors
- Uses an intense ultraviolet (UV) light that produces no harmful ozone
- Enhances air quality
- Cleaner air may lessen allergy and asthma symptoms
- Silent operation
- Up to 98% reduction in diesel fumes, acetone, benzene, formaldehyde, and other VOCs
- Up to 99.9% reduction in bacteria, fungi, mold, and pollen
- Photocatalytic nano-mesh structure is safe and powerful
- Photocatalytic nano-mesh structure will not degrade under UV light
- UV bulb is easy to replace
- Sizes for common duct diameters
- Will not significantly decrease air flow velocity

### Product Testimonial

"I live onboard when we travel and always had problems with congestion and sinus drainage, but have not had a problem with that since we put the Breathe Easy on the boat. I'm very pleased with the product."

— Gray Ingram, Sportfishing Tournament Champion, Owner of Big Oh

"The crew had consistent problems with sore throats and coughs. So we've gone to Dometic. We discovered the air...went from being almost heavy and saturated to being a lot lighter. It was easier to breathe...cleaner. It's fantastic."

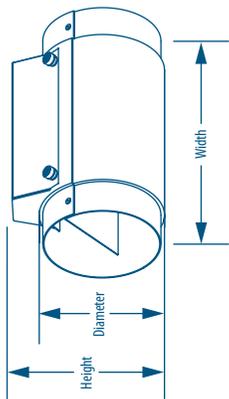
— James Rose-Innes, First Mate, 95 ft. Motor Yacht, Ft. Lauderdale, FL

## Specifications for Breathe Easy™ In-Duct Air Purifiers

Model	4 IN. DIAMETER	5 IN. DIAMETER	6 IN. DIAMETER	7 IN. DIAMETER	8 IN. DIAMETER
Air Conditioner Capacity (BTU/h)	6000	7000 - 8000	10000 - 12000	14000 - 16000	24000
Voltages @ 50/60Hz (V)	115/220/230	115/220/230	115/220/230	115/220/230	115/220/230
Milliamps @ 115VAC/60Hz (mA)	200	200	200	200	200
Milliamps @ 220VAC/50Hz (mA)	350	350	350	350	350
Milliamps @ 230VAC/60Hz (mA)	200	200	200	200	200
Milliamps @ 12VDC (mA)	200	200	200	200	200
UV Bulb Watts (kW)	12	12	12	20	20
Min. Duct Diameter (in/mm)	4.5/115	5.5/140	6.5/166	7.5/191	8.5/216
Height (in/mm) <sup>(1)</sup>	5.25/134	6.5/166	7.5/191	8.5/216	9.5/242
Width (in/mm) <sup>(1)</sup>	10.5/267	10.5/267	10.5/267	13.5/343	13.5/343
Depth (in/mm) <sup>(1)</sup>	4.5/115	5.5/140	6.5/166	7.5/191	8.5/216

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

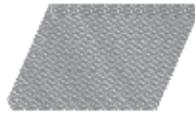
### Dimensions



## Breathe Easy Competitive Advantages

### Photocatalytic Nano-Mesh Technology

- A three-dimensional Photocatalytic nano-mesh structure coated with titanium-dioxide (TiO2) provides greater surface area for maximum destruction of airborne contaminants.
- The nano-mesh structure creates very little static pressure, so there is no significant reduction in air flow velocity. In addition, the nano-mesh structure does not have to be cleaned or replaced.



Dometic's Photocatalytic Nano-Mesh Structure



Competitor's Screen

### UV Lamps

A single ultraviolet (UV) bulb with dual tubes provides greater intensity and service coverage to activate more of the catalyst for high-performance results.

### Safe and Effective Catalyst

TiO2 is found in many common products, such as pigments, processed foods, toothpaste, and cosmetics. It is harmless to people, animals, and the environment.

### Laboratory Test Results

Testing of the Breathe Easy In-Duct Air Purifier performed by Environmental Diagnostics Laboratory showed up to 98% reduction in volatile organic compounds (VOCs) and up to 99.9% reduction in bacteria, fungi, mold, and pollen grains.

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L-2701 Rev. 20131011

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Dealer



Assembled in the USA

# Breathe Easy™ Portable Air Purifier

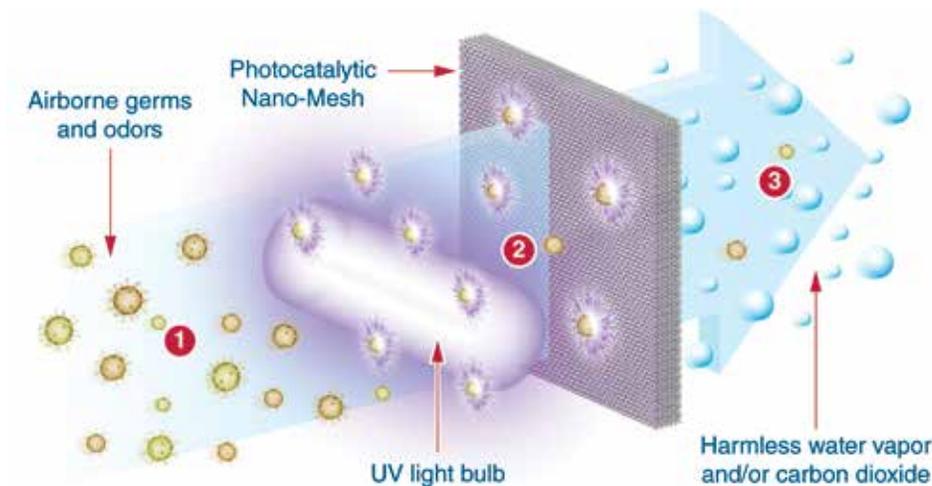
## Stops Odors & Improves Air Quality



Breathe Easy Portable Air Purifier and AC adapter with worldwide plugs and 12V power plug (inset)

Reduce the odors of tobacco smoke, mildew, mustiness, chemical vapors, and toilets, and inhale fresher, cleaner, healthier air virtually anywhere you go. Effective in areas up to 500 sq. ft. (46 sq. m), the Breathe Easy™ Portable Air Purifier uses innovative Photocatalytic Nano-Mesh technology with ultraviolet (UV) light to improve air quality. The UV bulb inside uses a specific frequency of light that produces no harmful ozone. The unit operates quietly and has two fan-speed settings. A worldwide AC adapter with plugs is included, as well as a 12V DC power plug.

The Breathe Easy™ nano-mesh is a three-dimensional foam structure coated with titanium-dioxide (TiO<sub>2</sub>) and provides 2200% more contact surface area than simple screen structures found in competing air purifiers. This is a significant advantage, as photocatalytic air purification occurs only when airborne contaminants contact the photocatalytic surface. In addition, the TiO<sub>2</sub> catalyst is restructured at the molecular level to have an increased number of contact surfaces. This formation puts 70% larger molecules on the contact surface and dramatically improves reactivity with contaminants.



### How Breathe Easy Works:

1. Volatile Organic Compounds (VOCs) and biological contaminants enter the air purifier system.
2. UV light energy activates the titanium-dioxide catalyst on the surface of the nano-mesh structure. The molecules of pollutants and odors that come in contact with the catalytic nano-mesh structure are reconfigured into non-toxic elements.
3. Significantly cleaner, healthier air exits the photocatalytic air purifier.

### Key Benefits

- Eliminates unpleasant odors
- Uses an intense ultraviolet (UV) light that produces no harmful ozone
- Enhances air quality
- Cleaner air may lessen allergy and asthma symptoms
- Quiet operation with two fan speeds
- Up to 96% reduction in diesel fumes, acetone, benzene, formaldehyde, and other VOCs
- Up to 99% reduction in bacteria, fungi, mold, and pollen
- Photocatalytic nano-mesh structure is safe and powerful
- Photocatalytic nano-mesh structure will not degrade under UV light
- UV bulb is easy to replace
- Effective in areas up to 500 sq. ft. (46 sq. m)
- Worldwide AC power adapter with plugs and 12V DC power plug included

### Product Testimonial

"While changing the fuel filter there was a minor diesel spill that permeated the boat. We discovered the Breathe Easy unit and it made all the difference in the world. No more smell and everybody could breathe easy!"

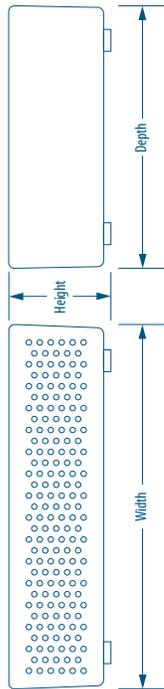
— Nancy Gates-Lee, Boat Owner, Boca Raton, FL

## Specifications for Breathe Easy™ Portable Air Purifier

Model <sup>(1)</sup>	Portable Air Purifier
Part Number (P/N)	4210805
Max. Effective Area (sq ft)	500
Milliamps @ 115VAC/60Hz (mA)	300
Milliamps @ 220VAC/50Hz (mA)	200
Milliamps @ 230VAC/60Hz (mA)	275
Milliamps @ 12VDC (mA)	500
UV Bulb Watts (kW)	5
Height (in/mm)	1.75/45
Width (in/mm)	6.25/159
Depth (in/mm)	4.5/115

<sup>1</sup> Replacement UV bulbs available (P/N 4210804)

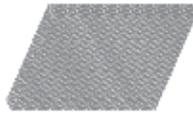
### Dimensions



## Breathe Easy™ Competitive Advantages

### Photocatalytic Nano-Mesh Technology

- A three-dimensional Photocatalytic nano-mesh structure coated with titanium-dioxide (TiO2) provides greater surface area for maximum destruction of airborne contaminants.
- The nano-mesh structure creates very little static pressure, so there is no significant reduction in air flow velocity.
- Nano-mesh structure does not have to be cleaned or replaced.



Dometic's Photocatalytic Nano-Mesh Structure



Competitor's Screen

### Safe and Effective Catalyst

TiO2 is found in many common products, such as pigments, processed foods, toothpaste, and cosmetics. It is harmless to people, animals, and the environment.

### Laboratory Test Results

Testing of the Breathe Easy Portable Air Purifier performed by Environmental Diagnostics Laboratory showed up to 96% reduction in volatile organic compounds (VOCs) and up to 99% reduction in bacteria, fungi, mold, and pollen grains.

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L-2712 Rev. 20131213

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Dealer

Rated Merv 7

# Breathe Easy™ Microparticle Air Filters

## 7X More Effective Than Ordinary A/C Filters



Enjoy cleaner, healthier air quality on your boat with Breathe Easy™ microparticle, anti-allergenic air filters for your air conditioning system. Breathe Easy microparticle air filters are rated Merv 7, making them seven times more effective than ordinary air filters.

Breathe Easy microparticle air filters are efficient and disposable, and are available for most Dometic air conditioning systems. Installation takes only seconds using the existing brackets on either side of the evaporator face. Special pins are included to hold the air filter in place on units which do not have these brackets.

Because Breathe Easy microparticle air filters are highly efficient in removing impurities, they should be changed at frequent intervals to maintain air quality. Dometic recommends changing the filter once every two months when living aboard, once every four months when the air conditioner is used three weekends per month, and once every six months when the air conditioner is used only one or two times per month.

Complete installation and replacement instructions are provided in the air filter packaging.



Breathe Easy microparticle air filters are easy to remove...



...and install.

### Key Benefits

- Rated Merv 7 - 7X more effective at capturing airborne microparticles than ordinary foam and mesh filters
- Capture fumes, odors, dust, lint, and pet dander
- Electrostatically-charged fibers attract and retain microparticles that pass through the filter
- Easy installation for all types and models of Marine Air air conditioning systems
- Custom sizes available

## Technical Specifications for Breathe Easy™ Microparticle Filters

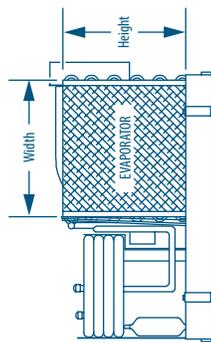
Filter P/N <sup>(1)</sup>	Fits Cruisair A/C Models	Fits Marine Air A/C Models	Fits Dometic A/C Models	Width x Height (in)	Width x Height (mm)
235000600	SXF5, SXF5-1, SHF5, SHF5-1, ZF5, ZF5-1	VCD5K/1, VCP5K, VCM5K, VCM5K/1, CLM5K, CLM5K/1	ECM5, ECD5	7-7/8 x 9	200 x 229
235000600	SXF7, SXF7-1, SHF7, SHF7-1, SHR7-1, SHR7-1, SXR10, SHR10, SXR12, SHR12	VCD7K/1, VCP7K, VCM7K, VCM7K/1, CMCM7K/1, CMCM7K/1	ECM6.5, ECD6.5	9-3/8 x 10	238 x 254
235000600	SXR7, SHR7 (old style 7K), ZF3.5	CD3.5, SVC03.5, CLM3.5	N/A	8-1/8 x 8	206 x 203
235000600	SXF10-1, SHF10-1, ZF10-1	VCD10K/1, VCM10K/1, CLM10K/1, CMCD10K/1, CMCM10K/1	ECM9, ECD9	10-7/8 x 10	276 x 254
235000604	SXF10, SHF10, ZF10, ZF12	VCP10K, VCM10K, CLM10K, CLM12K, CMCP10K, CMCM10K	N/A	11-7/8 x 10	302 x 254
235000605	SXF12-1, SHF12-1, SXF16-1, SHF16-1, ZF12-1, SXR16, SHR16, ZF16-1, STX14, STX16, STQ14, STQ16, STH14, STH16	VCD12K/1, VCM12K/1, CLM12K/1, CMCD12K/1, CMCM12K/1, VCD16K/1, VCM16K/1, CLM16K/1, CMCD16K/1, CMCM16K/1, VTD14, VTD16, VTM14, VTM16	ECM11, ECD11	10-7/8 x 12	276 x 305
235000606	SXF12, SHF12, SXF16, SHF16, SXF18, SHF18, ZF16	VCP12K, VCM12K, VCP16K, VCM16K, VCD18, CLM16K, CMCP16K, CMCM16K	ECM15, ECD15	10-7/8 x 12	302 x 305
235000607	SXF24, SXF24-1, SHF24, SHF24-1 (special order)	VCD24K/1, VCP24K, VCM24K, VCM24K/1 (special order)	N/A	16-3/8 x 16	416 x 406
235000608	SX24, SH24 (special order)	N/A	N/A	15-1/8 x 17	384 x 432
235000638	STX6, STX8, STX6, STX8, STH6, STH8	STD6, STD8, VTM6, VTM8	N/A	8-7/8 x 10-1/4	226 x 261
235000639	STX10, STX12, STQ10, STQ12, STH10, STH12	STD10, STD12, VTM10, VTM12	N/A	10-7/8 x 11-1/2	276 x 293
235000700	N/A	N/A	ECM6	7-7/8 x 9	200 x 229
235000703	N/A	N/A	ECM10, ECD16	10-7/8 x 12	276 x 305

<sup>1</sup> Please pay close attention to A/C models 10, 12, and 16, and whether or not they have the suffix "-1" or "-1\*" in the model number. Additionally, unit filters for all 5-16k models with the suffix "-1" and "-1\*" unit filters are interchangeable with "-2" and "-2\*" units.

## Decide What Size You Need

Locate the data plate on the air conditioning unit to find its model number, then use the table above to match the model number to the correct filter P/N. If the model number is not listed above, measure the unit's evaporator face and find the filter P/N in the table with matching dimensions.

## Dimensions



Dealer



Specifications and availability subject to change without notice.

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L-2698 Rev. 20130621

# SmartStart™ Soft Starter

## Eliminate Boat Air Conditioning Start-Up Spikes



The SmartStart™ is a unique device that smooths out startup power demand of the boat air conditioner's compressor instead of spiking it, reducing amp requirements by up to 65%. The technology uses dynamic feedback control to reduce the inrush of current by starting the compressor motor slowly. No other soft starter in the industry provides better performance.

Once running, an air conditioning compressor has a much lower, steady amp draw, but the initial locked-rotor amps needed to start the system can create high current surges that could adversely affect the operation of an overstrained power source.

In some situations, this gentler method of handling the power surge can mean the difference between keeping the generator you have or investing thousands of dollars in a larger generator.

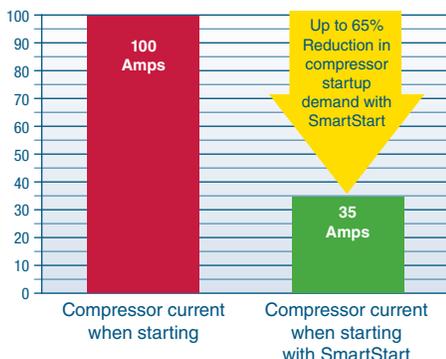
For boats without a generator, the SmartStart™ may allow the option of powering an air conditioning system from an inverter.

When running on dock power, a SmartStart™ may resolve issues where the power source or connection may be weak.

Not only does the SmartStart™ ease strain on the power source, it's also less stressful for the compressor itself since it starts more gently. Additionally, it provides valuable protection by shutting down the compressor if the power source or the connection to the compressor is briefly interrupted, then it reattempts a soft start after a three-minute delay.

All this power comes in a surprisingly small package. At only 5 x 3 x 2 in. (127 x 76 x 51 mm), the SmartStart™ takes up little space and weighs only 15 oz. (0.43 kg.). The SmartStart™ is wired directly into the air-conditioning system's electrical box.

### SmartStart reduces compressor startup power demand by up to 65%.



### Key Benefits

- Reduces strain on the power source
- Reduces brown-out effects at compressor start-up
- May enable an inverter to power the air conditioner
- May eliminate the need to upgrade the generator
- Inexpensive, small, and lightweight

### Product Testimonial

"The generator's control circuit would trip and stop the generator due to the inrush of the Emiko's heat pump. The SmartStart reduced that inrush of current so the generator would continue to run.

We started with an inrush of 77 amps and finished with an inrush of only 20 amps. [The SmartStart] is a great solution to our problem."

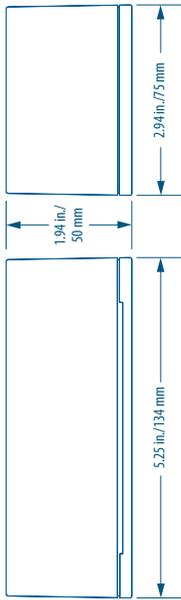
— Mr. John Poole, Poole Refrigeration Service, Alameda, CA, M/V Emiko (37 ft. Nordic Tug)

### Specifications for SmartStart™ Soft Starter

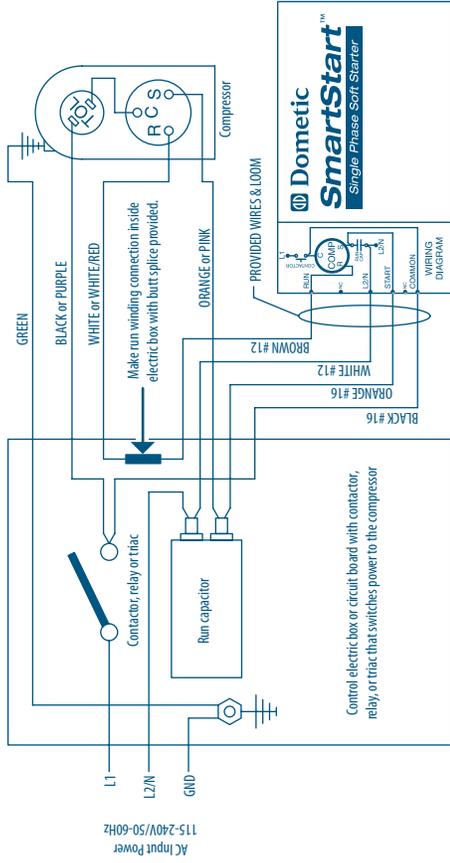
Model (1)	4220040	4220043	4220044
Min. Volts/Cycle	115 V/50 Hz/60 Hz	208 V/240 V/50 Hz/60 Hz	208 V/240 V/50 Hz/60 Hz
Supported Comp. Capacity (BTU/h/kcal/h)	5000/1259.1 - 18000/4535.1	12000/3023.1 - 30000/7559.9	36000/9071.9 - 60000/15119.8

<sup>1</sup> Typical start surge reduction as compared to compressor locked rotor ampereage (LRA) is 65%

### Dimensions



### Wiring Diagram



### Optional SmartStart Mounting Tray

Model #4220045 (pictured below)



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L-2700 Rev. 20120824

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Dealer



NEW

# WhisperFan Controller

## Silences Noisy AC-Driven Blower Motors



The WhisperFan Controller eliminates the noise generated by AC-driven blower motors at low fan speed settings. In addition, it provides overload protection to the blower motor and lets you precisely control the actual fan speed for each fan-speed setting (e.g. High, Medium, Low).

This electrical device uses pulse width modulation to make any AC-driven fan as quiet as a DC-driven fan. Simply install it in line between the electrical box and the blower. By pulsing the voltage hundreds of times faster than is possible with triacs, the smoother motor current results in quieter, extreme low-noise output across all fan speeds.

The WhisperFan Controller also provides more versatile fan-speed control. Want a more noticeable difference between your fan's medium speed and its high speed? The WhisperFan's two-button keypad allows you or an installer to specify the exact speed for all your fan speed settings. Further fine tuning can be done later from your cabin control's keypad (e.g. Cruisair Qht or Marine Air Systems Elite).

The WhisperFan works with all Cruisair and Marine Air cabin controls (Q-Logic, Passport, and SMXII) and with any AC blowers on either chilled water or direct expansion air conditioning systems.

The WhisperFan Controller is an easy and economical solution for an existing blower installation that may be too noisy. It's also great for anyone who wants to make precise adjustments to the fan-speed settings.

The WhisperFan Controller works with blowers up to 3 amps. WhisperFan can only support a single blower, so you must use one per fan.



The WhisperFan Control two-button keypad allows the boat owner or installer to adjust fan speed settings.

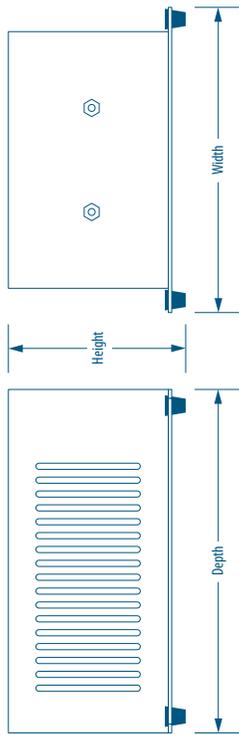
### Key Benefits

- Eliminates blower motor noise associated with low fan speeds
- Makes AC-driven blowers as quiet as DC-driven blowers
- User-programmable fan speeds
- Provides overload protection to blower motor
- Easy and economical solution to noisy fans
- Works with all Cruisair and Marine Air cabin controls
- Compatible with blowers up to three amps
- Supports blowers that are 115VAC/60Hz and 208-240VAC/50 or 60Hz
- Support for 115VAC/60Hz blower motors will be available soon
- CE approved

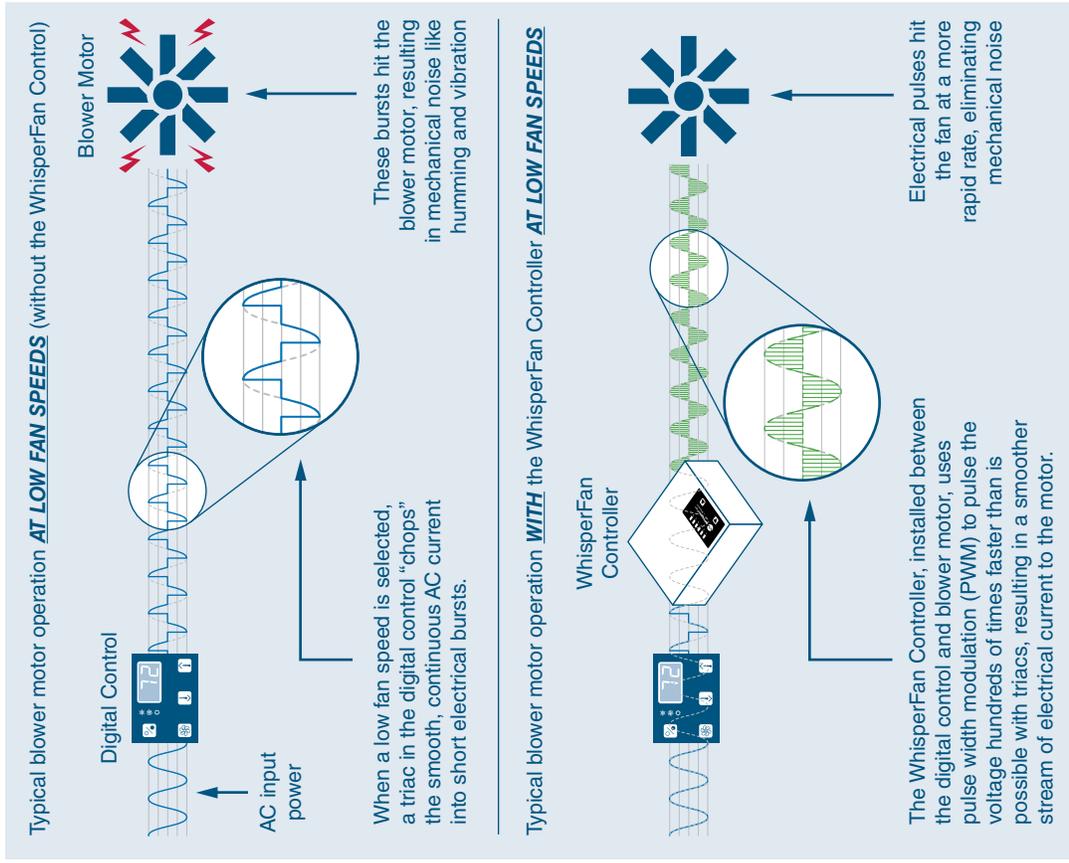
### Specifications for WhisperFan Controller

Model	WhisperFan Control-115V	WhisperFan Control-230V
Height-Display (in/mm)	3.19/82	3.19/82
Width-Display (in/mm)	5.57/140	5.57/140
Depth-Display (in/mm)	6.19/158	6.19/158

### Dimensions



### How the WhisperFan Control Works



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L-3000 Rev. 20130823

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# March Marine Seawater Pumps

## Ultra-Durable Centrifugal Seawater Pumps



Clockwise from left: Air-cooled AC-5CP-MD and liquid-cooled LC-5CP-MD, LC-3CP-MD, and LC-2CP-MD

March Marine centrifugal pumps are an excellent choice for providing seawater circulation for marine air conditioning systems. The proven magnetic drive eliminates the troublesome mechanical shaft seal.

There is no seal wear, power-robbing friction, or leakage through the seal. The impeller and drive magnets are strong, permanent ceramic types, which prevent slippage, ensuring that full motor power is converted into pumping power.

Centrifugal pumps require a flooded inlet and should be mounted below the waterline. "LC" models have liquid-cooled motors and can be run in open air or submerged. "AC" models have air-cooled, open drip-proof motors and must be in a dry environment.

Replacement parts for March pumps are available through Dometic.



Liquid-cooled models  
(clockwise from top): LC-5CP-MD, LC-3CP-MD, and LC-2CP-MD



Air-cooled model AC-5CP-MD

### Key Benefits

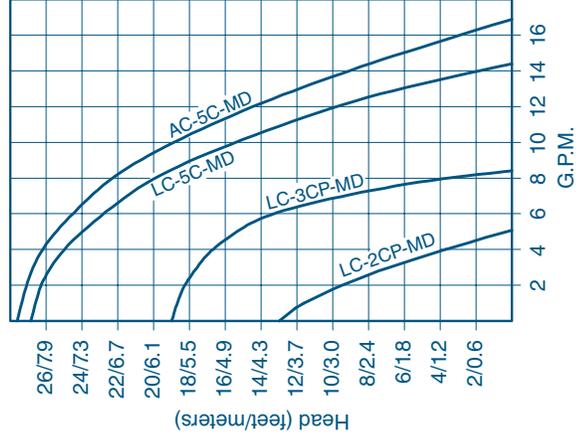
- Magnetic-drive impeller means no seal to wear, leak, or repair
- Efficient motor with low power consumption
- Exclusive marine-grade base
- 115V and 230V models
- Liquid-cooled (submersible) and air-cooled motors available
- All components in contact with water are plastic, ceramic, or stainless steel
- 6 ft. (1.8 m) power cord is standard
- 1-year warranty on parts

### Specifications for March Marine Seawater Pumps

Model	LC-2CP-MD	LC-3CP-MD	LC-5CP-MD	AC-5C-MD
Voltage @ 50/60Hz 1-Ph (V)	115	115	115	115
Amps (A)	1	2	2.2	2.1
Max. Flow (gpm)	5	8.5	14.5	17
Max. Head (ft/m)	13/3.1	19/5.8	27/8.3	27/8.3
Ignition Protection	yes	yes	yes	no
Motor HP (hp)	1/2	3/4	1	1
Motor Type (1)	TE/SUB	TE/SUB	TE/SUB	OD
Inlet Connection (in)	3/4	3/4	1	1
Outlet Connection (in)	1/4	1/2	1/2	1/2
Net Weight (lbs/kg)	5/2.3	9/4.1	15.5/7.1	10/4.6
Wet End Assembly	A-507P	A-508P	A-506LC	A-506

1 TE/SUB motors are totally enclosed liquid-cooled types and can be operated in the open air or submerged; OD motors are open, drip-proof and air-cooled types which must be kept dry.

### Performance Curve



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L-2263 Rev. 20130913

Specifications and availability subject to change without notice.

Dealer



# Heavy-Duty Seawater Pumps

## Centrifugal Pumps for Submersible Or Self-Priming Applications



Cruisair specifies reliable, heavy-duty centrifugal pumps to provide a steady flow of cooling water through the air conditioning system.

The glass reinforced polypropylene head pumps have magnetic drive impellers, and are available with submersible or air cooled motors. Larger pumps have bronze heads with mechanical seals, and air cooled, drip-proof motors. A wide range of pumps and motors are available for use in different power environments.

Centrifugal pumps must be mounted below the water line. Self-priming pumps are also available for above water line applications. A scoop type through-hull and a seawater strainer are recommended for proper operation.

When more than one air conditioning unit is served by a single pump, a separate pump relay is used. To complete the installation, Cruisair can also supply water manifolds, hose, and fittings.

### Key Benefits

- High-capacity centrifugal pumps
- 250 to 10,800 GPH capacities
- 115V and 230V/60Hz, 240V/50Hz, and 220/440V 3-phase models
- Seawater-grade construction with glass-filled polypropylene or bronze pump heads
- Water-cooled (submersible) or air-cooled motors
- High-head pressure models available
- Self-priming pumps available
- Meet or exceed applicable ABYC and US Coast Guard regulations, CE directives, and general Air Conditioning and Refrigeration (ARI) standards

**Cruisair**<sup>®</sup>

by Dometic GROUP

# Specifications for Heavy-Duty Seawater Pumps

Model (1)	Voltage (V)	Cycle (2)	Phase (Ph)	Amps (A)	Water Flow (gpm/lpm)	Feet of Head (ft/m)	Inlet Connection (in)	Outlet Connection (in)	Height (in/mm)	Width (in/mm)	Depth (in/mm)
PML250	115	60 Hz	1	1	3/11.4	7/2.2	3/4	1/4	4.7/120	5.6/143	6.2/158
PML250C	230	50 Hz/60 Hz	1	0.5	3/11.4	7/2.2	3/4	3/4	4.7/120	5.6/143	6.2/158
PML500	115	60 Hz	1	2.5	6/22.8	14/4.3	3/4	1/2	5.6/143	5.6/143	7.4/188
PML500C	230	50 Hz/60 Hz	1	1	6/22.8	14/4.3	3/4	1/2	5.6/143	5.6/143	7.4/188
PML500CK	220	50 Hz	1	1	6/22.8	9.5/2.9	3/4	1/2	5.6/143	5.6/143	7.4/188
PMA500	115	60 Hz	1	2.1	7.5/28.4	14/4.3	3/4	3/4	5/127	4/102	9/229
PMA500C	230	50 Hz/60 Hz	1	1	7.5/28.4	14/4.3	3/4	3/4	5/127	4/102	9/229
PMA500CK	220	50 Hz	1	0.9	5/18.1	11/3.4	3/4	3/4	5/127	4/102	9/229
PMA1000	115	60 Hz	1	2.2	12/45.5	14/4.3	3/4	3/4	6.25/159	4.5/115	9.1/232
PMA1000C	230	50 Hz/60 Hz	1	1.2	12/45.5	14/4.3	3/4	3/4	6.25/159	4.5/115	9.1/232
P1200BXT	115	50 Hz/60 Hz	1	10.4	20/75.8	5/1.6	1	1	6.6/168	6.5/166	13.6/346
P1200BXT-SP	230	50 Hz/60 Hz	1	10.4	20/75.8	5/1.6	1	1	6.6/168	6.5/166	13.6/346
P1500BXT	115	50 Hz/60 Hz	1	10.4	22/83.3	5/1.6	3/4	3/4	6.6/168	6.5/166	13.6/346
P1500BXT-SP	230	50 Hz/60 Hz	1	7	25/94.7	7/2.2	1 1/4	1	8.1/206	6.5/166	13/331
P1800BXT	115	50 Hz/60 Hz	1	3.4	30/113.6	15/4.6	1 1/4	1	8.1/206	6.5/166	15.4/392
P1800BXT-SP	230	50 Hz/60 Hz	3	7	37/140.1	15/4.6	1 1/4	1	8.1/206	6.5/166	13/331
P2200BXT	115	50 Hz/60 Hz	1	7.2	37/140.1	15/4.6	1 1/4	1	8.1/206	6.5/166	13/331
P3000BXT	115	50 Hz/60 Hz	1	10.6	50/189.3	7/2.2	1 1/4	1	6.6/168	6.5/166	14.2/361
P3000BXT-SP	230	50 Hz/60 Hz	1	13.8	50/189.3	30/9.2	1 1/2	1	9.8/249	8.5/216	18.7/475
PH3000BXT	115	50 Hz/60 Hz	1	3.4	50/189.3	20/6.1	1 1/4	1	6.6/168	6.5/166	14.2/361
PH3000BXT-SP	230	50 Hz/60 Hz	3	2.6	50/189.3	20/6.1	1 1/4	1	8.1/206	6.5/166	15.4/392
PH3000BXT-SP	115	50 Hz/60 Hz	1	13.8	50/189.3	30/9.2	1 1/2	1	9.8/249	8.5/216	18.7/475
PH3000BXT-SP	230	50 Hz/60 Hz	1	6	50/189.3	20/6.1	1 1/4	1	9/229	9.75/248	14.5/369
PH3000BXT-SP	230	50 Hz/60 Hz	3	3.4	50/189.3	20/6.1	1 1/4	1 1/2	9.8/249	8.5/216	18.7/475
P3600BXT	115	50 Hz/60 Hz	1	11.2	70/264.1	20/6.1	1 1/2	1 1/2	9.4/239	6.5/166	14.5/369
P3600BXT-SP	230	50 Hz/60 Hz	3	2.8	70/264.1	20/6.1	1 1/2	1 1/2	9.4/239	6.5/166	14.5/369
PH4000BXT	115	50 Hz/60 Hz	1	14.2	70/264.1	30/9.2	1 1/2	1 1/2	9.4/239	6.5/166	15.8/402
PH4000BXT-SP	230	50 Hz/60 Hz	3	3.8	70/264.1	30/9.2	1 1/2	1 1/2	9.4/239	6.5/166	15.8/402
PH4000BXT-SP	230	50 Hz/60 Hz	1	6.4	70/264.1	28/8.6	1 1/2	1 1/2	11.5/293	8.5/216	21.5/547
PH5400BXT-SP	230	50 Hz/60 Hz	3	5	90/340.7	45/13.8	2	2	9.75/248	8.5/216	16/407
P7800BXT	115	50 Hz/60 Hz	1	15	130/492.2	18/5.5	2 1/2	2 1/2	10/254	8.5/216	17.6/448
P7800BXT-SP	230	50 Hz/60 Hz	3	3.4	130/492.2	18/5.5	2 1/2	2 1/2	10/254	8.5/216	17.6/448
P10500BXT	380	50 Hz	3	5.4	175/662.5	20/6.1	2 1/2	2 1/2	10/254	8.5/216	18/458
P10800BXT	115	50 Hz/60 Hz	1	14.2	180/681.4	20/6.1	2 1/2	2 1/2	10/254	8.5/216	18/458
P10800BXT-SP	230	50 Hz/60 Hz	1	5.2	180/681.4	20/6.1	2 1/2	2 1/2	10/254	8.5/216	18/458

1 For information about pumps larger than P711, please call the applications department at 954-973-2477.  
 2 50/60Hz pumps may be operated at 50Hz and reduced voltages but with a 17% reduction in flow and as much as a 30% drop in head; 60Hz only pumps may not be operated at 50Hz.

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L-0242 Rev. 2013/11/22

Specifications and availability subject to change without notice.



# Centrifugal Circulating Water Pumps

## For Use In Tempered Water Air Conditioning Systems



Cruisair specifies reliable, heavy-duty water pumps for use in circulated water air conditioning systems. All pumps are centrifugal, with bronze and stainless components.

Pumps are available with 115/230V single-phase, or 230/460 3-phase, dual voltage motors. Most are rated for 50/60 Hz use, but special 50 Hz only pumps are also available for full performance.

Circulation pumps are sized for the total loop capacity. Cruisair design specification is 3 gpm (11.4 lpm) per 12,000 Btu/hr capacity, rated at 40' (12.2 meters) head. Seawater pumps are selected for the tempering unit capacity, at 250 gph (15.8 lpm) per 12,000 Btu/hr.

Self-priming seawater pumps are available for installations where the pump cannot be mounted below the water line, or if air is able to enter the system such as on a sailboat or high speed craft.

Pump relays are used to control each pump. The circulation pump must run whenever the system is cooling or heating, and the seawater pump is typically cycled with the tempering units.

Single-phase pumps have internal overload protection. An external overload relay should be used with 3-phase pumps.

### Key Benefits

- High-capacity centrifugal pumps
- Seawater-grade construction with glass-filled polypropylene or bronze pump heads
- Single-phase 115/230V or three-phase 230/460V dual voltage
- 50 or 60Hz models
- Rated at 40 ft. (12.2 m) of head
- Meet or exceed applicable ABYC and US Coast Guard regulations, CE directives, and general Air Conditioning and Refrigeration (ARI) standards

**Cruisair**<sup>®</sup>  
by Dometic GROUP

# Specifications for Centrifugal Circulating Water Pumps

Model <sup>(1)</sup>	CP0D80BX	CP0D120BX	CP0D120BXK	CP0D120B3X	CP0D120B3XK	CP0D180BX	CP0D180BXK	CP0D180B3X	CP0D180B3XK	CP0D240BX	CP0D240B3X	CP0D240B3XK	CP0D360B3XK	CP0D500BX	CP0D500BXK	CP0D500B3X	CP0D500B3XK	CP0D500BX/M-306	CP0D600B3X
Capacity (BTU/h) <sup>(2)</sup>	80000	120000	120000	120000	120000	180000	180000	180000	180000	240000	240000	240000	360000	500000	500000	500000	500000	500000	800000
Voltage (V)	115	115	380	380	380	115	380	380	380	115	380	380	230	115	230	115	230	115	230
Cycle 1 (Hz)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Cycle 2 (Hz)	60	60	N/A	N/A	N/A	60	N/A	N/A	N/A	60	N/A	N/A	N/A	60	60	60	60	60	60
Phase (Ph)	1	3	3	3	3	1	3	3	3	1	3	3	3	1	3	1	3	1	3
Amps (A) <sup>(3)</sup>	8	14	14	2.8	5.2	14	14.2	7	14.2	16	16	4	N/A	19.2	7	2 1/2	2 1/2	7	9.6
Chilled Water Inlet Connection (in)	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2	2	2	2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
Chilled Water Discharge Connection (in)	1	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1	1	1	1	1	1	1
Height (in/mm)	6.5/166	9.4/239	9.4/239	9.4/239	9.4/239	9.4/239	9.4/239	9.4/239	9.4/239	8.6/219	8.6/219	8.6/219	8.6/219	10/254	10/254	10/254	10/254	TBD	10/254
Width (in/mm) <sup>(1)</sup>	6.5/166	6.5/166	6.5/166	6.5/166	6.5/166	6.5/166	6.5/166	6.5/166	6.5/166	10/254	10/254	10/254	11/280	11/280	11/280	11/280	11/280	TBD	11/280
Depth (in/mm)	12.8/326	14.5/369	15.6/397	14.5/369	15.6/397	15.8/402	15.6/397	15.6/397	15.6/397	15.9/404	15.9/404	15.9/404	16.1/409	18/458	18/458	18/458	18/458	TBD	18/458

<sup>1</sup> For information about pumps larger than P711, please call the applications department at 954-973-2477.  
<sup>2</sup> Determined using an average of 3 GPM per ton (12,000 BTU/hr) of air conditioning at given GPM and head, and are rated for direct expansion (DX) systems only.  
<sup>3</sup> \*N/A indicates a dual voltage pump. Please contact Dometic Marine sales at 954-973-2477 for specific amperage based on your voltage requirements.

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L-0420 Rev. 20130104

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# Pump Relays for DX Air Conditioning

## For Coordination of a Single Pump Serving Multiple Condensers



Pump relays are used to control cycling of seawater pumps when more than one condensing unit is supported by a single pump. One control trigger is needed for each condensing unit.

The PR8X is a solid-state relay which supports up to eight systems. Control triggers, matched to the system control voltage, are ordered separately and added at the time of installation. Trigger circuits for both 115V and 230V systems may be installed in the same PR8X box. The PR8X is ignition protected.

The PR3X type relay is ordered with two or three pre-installed control triggers which are matched to the system voltage. The PR3X-2 can be upgraded from two to three triggers in the field. Models can be ordered for 115 or 230V control voltage and can control 115V or 230V pumps. The unit is ignition protected.

The PR4D pump relays handle up to four control triggers which are ordered separately and added at the time of installation. The PR4D is used to control 230V 3-phase pumps.

### Key Benefits

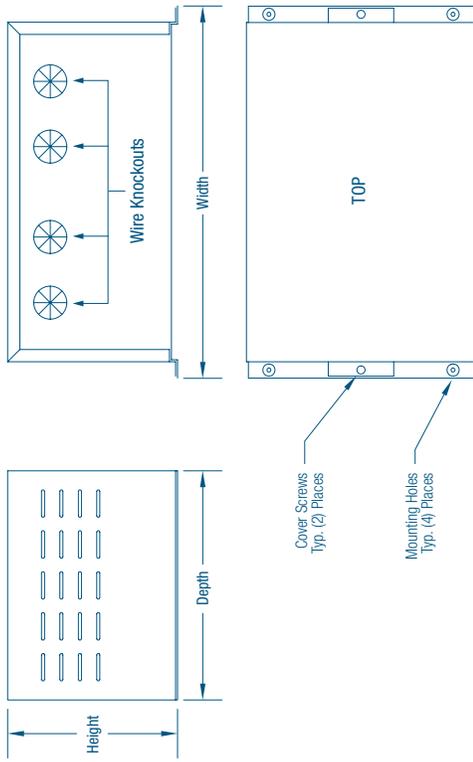
- Ignition protected
- Up to eight control triggers
- 115V and 230V models
- 15A fuse on pump circuit

## Specifications for Pump Relays for DX Air Conditioning

Model	PR3X-2	PR3X-2C	PR3X-3	PR3X-3C	PR3X	PR3X-4	PR3X-4C	PR3X-5C	PR3X-6C	PR3X-7C
Control Voltage (V) <sup>(1)</sup>	115	230	115	230	115	115	230	230	230	230
Phase (Ph)	1	1	1	1	1	1	1	1	1	1
Pump Voltage (V)	115/230	115/230	115/230	115/230	115/230	115/230	115/230	115/230	115/230	115/230
Max. Circuit Breaker (A)	25	25	25	25	25	25	25	25	25	25
Height (in/mm)	2.38/61	2.38/61	2.38/61	2.38/61	5.25/134	5.25/134	5.25/134	5.25/134	5.25/134	5.25/134
Width (in/mm)	7.94/202	7.94/202	7.94/202	7.94/202	10.5/267	10.5/267	10.5/267	10.5/267	10.5/267	10.5/267
Depth (in/mm)	5.5/140	5.5/140	5.5/140	5.5/140	7/178	7/178	7/178	7/178	7/178	7/178
Gross Weight (lbs/kg)	4/1.9	4/1.9	4/1.9	4/1.9	4/1.9	4/1.9	3/1.4	4/1.9	4/1.9	4/1.9

<sup>1</sup> TR115 and TR230 control triggers are ordered separately depending on the application.

## Dimensions



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L-0373 Rev. 20130517

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# Pump Packages for Chilled Water Systems

## Convenient Solutions for Simpler Chiller Installations



Pump packages reduce the installation time of chilled water systems by combining several necessary components in one convenient package. The packages include a chilled-water pump, expansion tank, pump drain pan, dual-scale (psi/kPa) pressure gauge, and fill assembly. The fill assembly includes a hose connection, ball valve, and pressure-reducing valve.

The cushion of air in the expansion tank allows the water to expand and contract with temperature fluctuations. This relieves pressure that might otherwise result in leaks.

The latest design includes a bladder-style expansion tank. Without the bladder, air in the expansion tank would gradually dissolve into the water and be bled off. Eventually, the protective cushion of air would be gone.

The pressure gauge is connected to an inlet pipe on the pump for the most accurate reading of system return water pressure.

### Key Benefits

- Convenient packaging of multiple essential components simplifies installation
- Expansion tank protects against thermal expansion
- Bladder-style expansion tank protects against loss of air cushion
- Dual-scale pressure gauge is convenient for US and international customers
- Pressure gauge connected to inlet pipe gives most accurate reading

**Cruisair**<sup>®</sup>

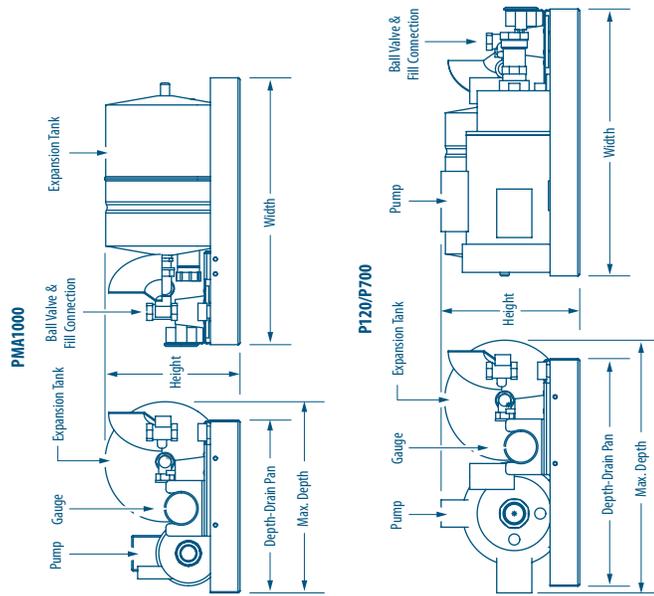
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## Specifications for Pump Packages for Chilled Water Systems

Model <sup>(1)</sup>	PMA1000		P700		P120	
Voltage (V)	115	230	115	230	115	230
Cycle (Hz)/Phase (Ph)	60/1	50/1	60/1	60/1	60/1	230
Total Air Handler Capacity (BTU/h)	16000 - 23000		49000 - 120000		24000 - 48000	
Inlet Connection (in)	1/2" /MPT		1" /FPT		1" /FPT	
Outlet Connection (in)	1" /FPT		1 1/4" /FPT		1 1/4" /FPT	
Height (in/mm) <sup>(2)</sup>	9.2/234		9.5/242		9.2/234	
Width (in/mm)	12.9/328		17.1/435		12.9/328	
Depth-Drain Pan (in/mm)	18/458		18/458		18/458	
Max. Depth (in/mm)	18/458		18/458		18/458	
Net Weight (lbs/kg)	33/14.1		49/22.3		48/21.8	
Gross Weight (lbs/kg)	47/21.4		62/28.2		69.5/31.6	

<sup>1</sup> Pump packages do NOT include a backflow preventer. If the chilled water fill assembly is fed by a potable water supply, then a reduced pressure zone (RPZ) backflow preventer should be installed between the fill assembly and the supply to prevent contamination of the potable water.  
<sup>2</sup> All dimensions ± 0.125 in. (3 mm).

## Dimensions



### Safety Notice:

Pump packages do NOT include backflow preventers. If the chilled water fill assembly is supplied by a potable water supply, then a reduced pressure zone (RPZ) backflow preventer should be installed between the fill assembly and the potable water supply to prevent contamination of the water.

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L-2565 Rev. 20120824

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# Variable Frequency Drives (Standard)

## Smooths Out Chilled Water Compressor Startup Power Demand



A Variable Frequency Drive (VFD) completely eliminates the large starting inrush current of the compressor by ramping up voltage and frequency in a controlled time period. This allows running on limited dockside power, and also protects the generator from overload.

In addition to eliminating inrush, the VFD will also run a 60Hz rated compressor at 60Hz even when input power is 50Hz, which allows full BTU capacity performance (230V only). The drive also protects the compressor by monitoring input voltage and output current, and will shut down if a problem is detected. On 208/230V systems, the VFD can “convert” single-phase input power to 3-phase output; however, the VFD current capacity must be derated (see table on second page).

The VFD unit produces a modified sine wave output for smooth acceleration and running, with precise frequency resolution. It is designed to operate in extreme environments, such as an engine room. However, the enclosure is ventilated, and must be kept dry. Any direct water contact can damage the unit.

Built-in noise filters are standard and the VFD is CE approved. The Schneider Electric Altivar 312 VFDs incorporate a class A EMC filter into their design. This helps prevent high frequency noise from affecting the AC power supply to which the drives are connected. If you have an application or a power system that requires even lower noise emission, then we recommend you purchase the class B EMC filters specifically designed to fit with the entire family of Altivar 312 VFDs. To reduce the harmonic distortion caused by the VFD, we recommend you purchase a line reactor sized appropriately for the particular VFD.

An LED display allows the user to monitor operation and faults. The VFD is pre-programmed from the factory and no further setup is required. Power cables are available through special order.

### How to choose the right size Variable Frequency Drive:

- Chiller compressor must be 3 phase and each compressor requires a dedicated VFD.
- Multiply the chiller's reverse cycle amps by 1.10 (10% safety factor).
- Choose the VFD from the Comp Voltage and Max AMP Rating columns (in the table on the following page) depending on compressor voltage and the phase of the input power supply, respectively.

### Key Benefits

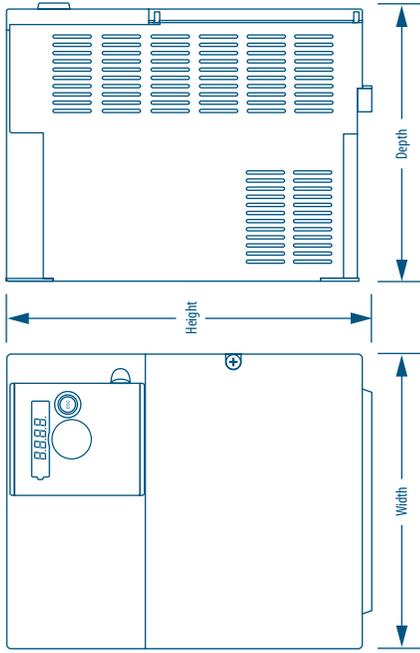
- Eliminates compressor start-up in-rush current
- 208/230V three-phase output with one- or three-phase input
- Full 60Hz capacity even at 50Hz input (230V only)
- Low electronic noise
- CE approved
- 380/460V three-phase models available

### Specifications for Variable Frequency Drives (Standard)

Model <sup>(1)</sup>	VFD S0D17.5A 230V	VFD S0D27.5A 230V	VFD S0D33A 230V	VFD S0D54A 230V	VFD S0D66A 230V	VFD S0D9.5A 460V	VFD S0D14.3A 460V	VFD S0D17A 460V	VFD S0D27.7A 460V	VFD S0D33A 460V
Reference Number	4251104	4251105	4251106	4251110	4251111	4251108	4251112	4251202	4251109	4251201
Compressor Voltage (V)	208/230	208/230	208/230	208/230	208/230	380/460	380/460	380/460	380/460	380/460
Max. Amps @ 3-PH. Input (A)	17.5	27.5	33	54	66	9.5	14.3	17	27.7	33
Max. Amps @ 1-PH. Input (A)	10.1	15.9	19.1	31.2	38.1	N/A	N/A	N/A	N/A	N/A
Height (in/mm)	7.2/183	9.1/232	9.1/232	13/331	13/331	7.2/183	9.1/232	9.1/232	13/331	13/331
Width (in/mm)	5.5/140	7.1/181	7.1/181	9.7/247	9.7/247	5.5/140	7.1/181	7.1/181	9.7/247	9.7/247
Depth (in/mm)	5.9/150	6.7/171	6.7/171	7.5/191	7.5/191	5.9/150	6.7/171	6.7/171	7.5/191	7.5/191

<sup>1</sup> For programmed VFD's, please call your sales representative with the reference number and programming information (output voltage, input phase, and output frequency).

### Dimensions



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L-2413 Rev. 20130920



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# HMDL Series Auxiliary Heat Modules

Providing Additional Ductable Heating In Cold Conditions



Cruisair auxiliary heat modules provide additional heating when the boat is in extremely cold seawater. They also permit specific compartments on the boat to be heated when the circulated water system is in the cooling mode.

The modules are installed on the discharge side of the air handler. Safety features include: fin tube heating elements with relatively low surface temperature, high temperature insulation on interior of unit, and two-stage thermal protection.

Air handling units are available with integral electrical heat (CHBB Type).

## Key Benefits

- Electric resistance heat modules
- Up to 4 kW electric heat
- 115V and 230V operation
- Fin tube heating elements
- Two-stage thermal protection
- High-temperature thermal protection
- Installed in flexible or built-in duct
- Used with ducted air handlers

**Cruisair**<sup>®</sup>

by Dometic GROUP

# Specifications for HMDL Series Auxiliary Heat Modules

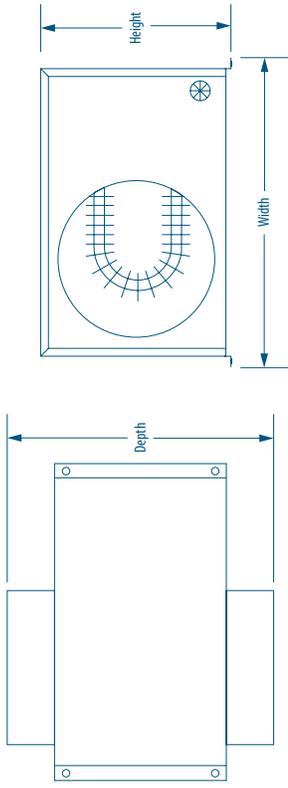
Model <sup>(1)</sup>	HMDL1-5	HMDL1C-5	HMDL1.5-6	HMDL1.5C-6	HMDL1.5-7	HMDL1.5C-7	HMDL2-7	HMDL2C-7	HMDL3C-8	HMDL4DC-9
Voltage (V)	115	230	115	230	115	230	115	230	230	230
Cycle (Hz)/Phase (Ph)	60/1	60/1	60/1	60/1	60/1	60/1	60/1	60/1	60/1	60/3
Heater Amps (A)	8.7	4.4	13	6.5	13	6.5	17.4	8.7	13	10
Max. Circuit Breaker (A)	15	10	25	10	25	10	35	15	25	20
Min. Circuit Ampacity (A)	11	6	17	9	17	9	22	11	17	13
Height (in/mm)	7/178	7/178	7.8/199	7.8/199	7.8/199	7.8/199	7.8/199	7.8/199	9.6/244	9.6/244
Width (in/mm) <sup>(2)</sup>	11.9/303	11.9/303	13.3/338	13.3/338	13.4/341	13.4/341	13.4/341	13.4/341	15.5/394	15.5/394
Depth (in/mm) <sup>(3)</sup>	9.9/252	9.9/252	10.1/257	10.1/257	9.9/252	9.9/252	9.9/252	9.9/252	11.9/303	12/305
Fits Duct Size (in/mm)	5/127	5/127	6/153	6/153	7/178	7/178	7/178	7/178	8/204	9/229
Gross Weight (lbs)	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	14	13

<sup>1</sup> Interpreting HMDL model numbers: 'HM' = Heat Module; 'D' = Ducted; '1' to '4' = kW of electric heat; 'C' = 230V; 'No C' = 115V; 'DC' = 230V 3-phase; '5' to '8' = Duct size in inches.

<sup>2</sup> Height does not include mounting grommets.

<sup>3</sup> All dimensions ± 0.25 in. (6 mm).

# Dimensions



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# Air Distribution Components

## Grilles, Duct, & Transition Boxes to Complete the A/C System



Supply and return air grilles are available in several wood types, painted aluminum and plastic, and come in a wide range of sizes and configurations

Marine Air and Cruisair offer supply and return air grilles in a wide assortment of dimensions, styles, and materials to complement any yacht's interior. Custom sizes, materials, and colors are available.

The louvres of supply air grilles are secured by nylon bushings for easy and dependable positioning. Return air grilles have fixed louvres. Wood return air grilles have a lint screen which can be removed for cleaning.

Round plastic supply air grilles are offered in several colors and are available with and without shut-off dampers.

Marine Air and Cruisair also offer additional air distribution components, such as duct and transition boxes, to complete the boat air conditioning system. There are two types of duct available: round/wire with woven fabric and round/wire and mylar fabric shell with 1.0 in. (25 mm) thick insulation. A full range of diameters and lengths are available, and all duct attaches easily to duct rings, grilles, and transition boxes.

Transition boxes come in two styles: Fully-insulated aluminum construction and vacuum-formed ABS plastic. Aluminum boxes come in standard and custom sizes and are ideal for applications where space is limited. ABS boxes are off the shell and feature insulated mounting pads and a unique stepped-ring design for flexibility.



Flexible duct is available in a wide range of diameters and lengths.



Vacuum-formed ABS transition boxes have insulated mounting pads and a stepped duct ring design.



Aluminum transition boxes are available in standard and custom sizes and configurations.

### Key Benefits

- Supply and return air grilles available in aluminum, plastic, and wood construction in a wide range of sizes and configurations
- Grilles are available in custom finishes, colors, and sizes
- Wood return air grilles have pop-out louvres and easy-to-clean filters
- Wood return air grilles have pop-out louvres and easy-to-clean filters
- Wood supply air grilles have double-deflection, moveable louvres available in anodized bronze or aluminum finish
- Aluminum return air grilles have durable fixed-vane louvres and are available with or without filters
- Aluminum supply air grilles have adjustable louvres to direct air flow
- Durable polyurethane paint finishes available with aluminum grilles
- Transition boxes available in aluminum or vacuum-formed ABS plastic construction and do not restrict airflow
- Aluminum t-boxes are full insulated and ideal for applications where space is limited; standard and custom sizes
- ABS t-boxes have insulated mounting pads and a unique stepped ring design for flexibility

**Cruisair**<sup>®</sup>

by Dometic GROUP

## Grille Sizing by Air Handler BTU/hr Capacity

Capacity (BTU/hr)	Return Air Grille Size (sq. in./sq. cm)	Supply Air Grille Size (sq. in./sq. cm)	Duct Ring Diameter (in./mm)
4000	64/413	32/206.5	4/102
6000	70/451.6	35/225.8	5/127
9000	98/632.3	49/316	6/152
10000	100/645.2	60/387	6/152
12000	130/838.8	70/451.6	6/152
18000	200/1290.4	100/645.2	7/178
24000	240/1548.5	140/903.3	8/203
36000	360/2322.7	196/1264.6	8/203

## Return and Supply Air Grilles

### Wood Grilles

- Cut-out dimensions are equal to the grille's nominal height and width.
- Outside frame dimensions are 0.9375 in. ( $\pm$  0.0625) (24 mm ( $\pm$  2 mm)) larger than nominal grille size.
- Grille depth, as measured from back of frame: Primary supply air grilles (VH models) are 1.375 in. (35 mm), secondary closeable supply air grilles (VML models) are 1.875 in. (48 mm), and return air grilles (RA models) are 0.875 in. (22 mm).
- Frame (flange) dimensions are 0.563 (14 mm) on all sides.

### Aluminum Grilles

- Cut-out dimensions for supply air grilles (TH and TV models) and return air grilles without filter (TRA) are 0.375 in. (10 mm) smaller than nominal grille size. Cut-out dimensions for return air grilles with filter (TRAF models) are 0.125 in. (3 mm) smaller.
- Outside frame dimensions for all aluminum grilles are 0.875 in. (22 mm) larger than nominal grille size.
- Grille depth, as measured from back of frame: Supply air grilles are 0.875 in. (22 mm) and return air grilles are 1.0 in. (25 mm).
- Frame (flange) dimensions are 0.625 in. (16 mm) on all sides.

### Plastic Grilles (Circular)

- Cut-out dimensions are 2.0 in. (51 mm) for 2SA models (2 in. duct), 3.0 in. (76 mm) for 3SA models (3 in. duct), and 4.0 in. (102 mm) for 4SA models (4 in. duct).
- Grille depth, as measured from back of frame: 2SA models are 1.31 in. (33 mm), 3SA models are 2.16 in. (55 mm), and 4SA models are 2.38 in. (60 mm).
- Frame (flange) diameter is 2.75 in. (70 mm) for 2SA models, 3.875 in. (98 mm) for 3SA models, and 5.50 in. (140 mm) for 4SA models. A special adapter is available to use with the 4SA for 3.0 in. (76 mm) duct.

## Transitions

### Vacuum-Formed Transitions

- Opening dimensions are 0.375 in. (10 mm) larger than the transition size.
- Flange-to-flange dimensions are 1.5 in. (38 mm) larger than the transition size.
- Depth, as measured from back of flange: 4.0 in. (102 mm) for 4x models, 4.5 (114 mm) or 5.75 in. (146 mm) for 5x and 6x models with round or obround duct rings, respectively.
- Flange dimensions are 0.5625 (143 mm) on all sides.

### Square Vacuum-Formed Transitions

- Available in 5.25 in. (134 mm) and 6.25 in. (159 mm) square.
- Opening dimensions are 0.5 in. (13 mm) larger than the transition size.
- Flange-to-flange dimensions are 1.75 in. (44 mm) larger than the transition size.
- Depth is 0.125 in. (3 mm) more than the transition size.
- Flange dimensions are 0.625 in. (16 mm) on all sides.

### Vacuum-Formed Transition Boxes

- Height, with mounting flange, for 10,000, 12,000, and 16,000 t-boxes is 7.875 in. (200 mm); 7,000 t-box is 6.875 in. (175 mm).
- The 10,000, 12,000, and 16,000 t-boxes accommodate 6 in. (153 mm), 5 in. (127 mm), and 4 in. (102 mm) duct rings on one side and 5 in., 4 in., and 3 in. (76 mm) duct rings on the other side.
- The 7,000 t-box accommodates 5 in. (127 mm) and 4 in. (102 mm) duct rings on one side and 4 in. and 3 in. (76 mm) duct rings on the other side.

### Aluminum Transitions

- Opening dimensions are 0.25 in. (7 mm) larger than the transition size.
- Flange-to-flange dimensions are 1.75 in. (44 mm) larger than the transition size.
- Depth of aluminum transitions is 0.25 in. (7 mm) more than the diameter of the largest round ring, as measured from the back of the flange.
- Flange dimensions are 0.75 in. (19 mm) on all sides.

### Obround (OB) Ring Dimensions

- 3 in. ABS (76 mm) OB = 3.875 x 1.625 in. (95 x 42 mm), 2 in. (51 mm) depth
- 4 in. ABS (102 mm) OB = 5.125 x 2.25 in. (130 x 58 mm), 2 in. (51 mm) depth
- 5 in. ABS (127 mm) OB = 6.5 x 2.625 in. (165 x 67 mm), 2 in. (51 mm) depth
- 6 in. ABS (153 mm) OB = 7.438 x 3.375 in. (189 x 86 mm), 2 in. (51 mm) depth
- 7 in. ABS (178 mm) OB = 9.0 x 3.625 in. (223 x 92 mm), 2 in. (51 mm) depth
- 8 in. aluminum (204 mm) OB = 9.25 x 5.0 in. (235 x 127 mm), 2 in. (51 mm) depth

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L-0239 Rev. 20140117

Specifications and availability subject to change without notice.

Dealer



# Dometic EnviroComfort Retrofit Kits (R-410A)

## Climate Control At the Touch Of a Button



Enjoy ideal temperatures on your boat year-round with EnviroComfort (ECD) self-contained air conditioning kits, now available with R-410A refrigerant, an environmentally safe gas.

ECD R-410A kits are available in 6,000, 10,000, and 16,000 BTUs of cooling and heating so you can size the system to suit your boat for ultimate comfort in a range of climates.

All units have high-velocity blowers with internal motors for a more compact installation footprint. The blower can be rotated to a horizontal or vertical position for greater installation flexibility. Units are built on an easy-to-plumb stainless-steel drain pan, and the pre-installed return-air filter is removable for cleaning.

ECD units are operated by a compact digital control/display (included) that features a bright green LED and large buttons. For added installation convenience, the plastic electrical box can be mounted remotely.

ECD kits are ideal for replacing an existing air conditioning system or for a new air conditioning installation. The Retrofit Kit includes the ECD self-contained air conditioning unit and digital control with bezel and is intended to replace an older self-contained air conditioner of comparable capacity. The ECD6K will replace a 5,000 to 7,000 BTU/hr unit; the ECD10K will replace an 8,000 to 11,000 BTU/hr unit; and the ECD16K will replace a 12,000 to 16,000 BTU/hr unit.

The Installation Kit includes all air distribution and plumbing components that, when combined with the Retrofit Kit, comprises an entirely new air conditioning system installation that is suited for treating one interior space. If air conditioning a second interior space is desired, add the Dual Duct Kit which includes a "Y" duct ring connector, 12.5 ft. (3.8 m) of flexible insulated duct, and a circular supply air grille.



The ECD Installation Kit includes all air distribution and plumbing components that, when combined with the ECD Retrofit Kit, comprise a complete air conditioning system installation.



The optional Dual Duct Kit will air condition an additional interior space.

### Key Benefits

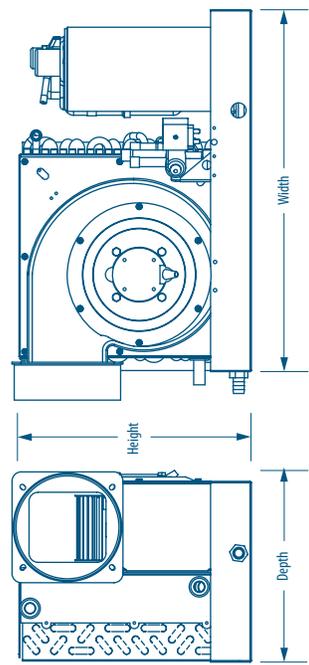
- High velocity, rotatable blower for horizontal or vertical installation
- Environmentally safe R-410A refrigerant
- Compact Dometic digital display/control
- Plastic remote electrical box for convenience in mounting
- Stainless-steel drain pan
- Pre-installed return-air filter, easily removable and cleanable
- Small, compact, space-saving design
- Retrofit Kit includes digital control and replaces an existing self-contained air conditioning unit
- Optional Dual Duct Kit for air conditioning an additional interior space
- Available in 6,000, 10,000, and 16,000 BTU/hr capacities

### Specifications for Dometic EnviroComfort Retrofit Kits (R-410A)

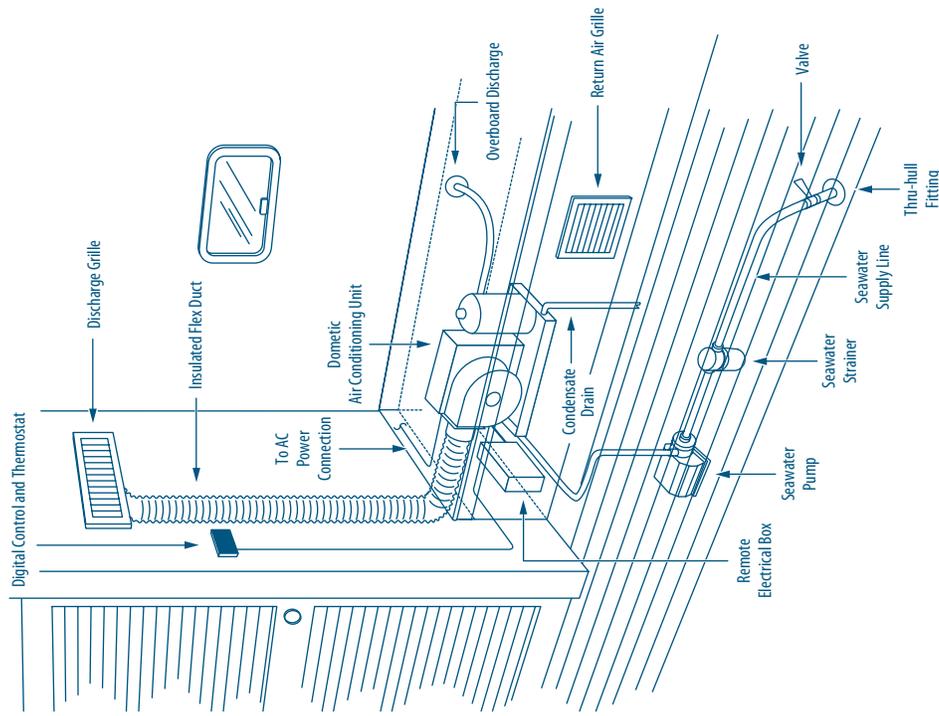
Model	EC06K-410A	EC10K-410A	EC16K-410A
Part Number (P/N)	207500306	207500310	207500316
Capacity (BTU/h) <sup>(1)</sup>	6000	10000	16000
Voltage (V)	115	115	115
Cycle (Hz)/Phase (Ph)	60/1	60/1	60/1
Full Load Amps (FLA) Cool (A)	4.6	7	10.5
Full Load Amps (FLA) Heat (A)	5.9	9.1	13.7
Locked Rotor Amps (LRA) (A)	36	42	62
Max. Circuit Breaker (A)	15	25	40
Min. Circuit Ampacity (A)	12	16	25
Refrigerant Type	410A	410A	410A
Height (in/mm) <sup>(1)</sup>	11.25/286	13.25/337	13.5/343
Width (in/mm)	16/407	20/508	20/508
Depth (in/mm) <sup>(2)</sup>	9/229	9.63/245	11.25/286
Min. Supply Duct Size (in/mm) <sup>(1)</sup>	4/102	6/153	6/153
Seawater Inlet Connection (in/mm)	5/16	5/16	5/16
Net Weight (lbs/kg) <sup>(1)</sup>	38/17.3	57/25.9	64/29.1
Height-Electrical Box (in/mm)	8.75/223	8.75/223	8.75/223
Width-Electrical Box (in/mm)	6.5/166	6.5/166	6.5/166
Depth-Electrical Box (in/mm)	2.7/71	2.7/71	2.7/71

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

### Dimensions



### Installation



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L-3003 Rev. 20140117

Specifications and availability subject to change without notice.

Dealer



# DuraSea Rooftop Air-Cooled Air Conditioner

## Drop-In Cooling Unit That Requires No Plumbing or Ducting



The DuraSea Rooftop is a 15,000 BTU/hr air conditioner\* built to endure harsh marine environments. Ideal for patrol boats, house boats, and other vessels, it is designed to be installed on a flat deck or rooftop and cool the area directly below. It is air cooled and requires no plumbing or ducting.

The air-distribution box (ADB), sold separately, attaches to the underside of the unit. Accessible from the interior cabin, the ADB contains the thermostat, fan controls, return-air vent and two supply-air vents that blow in opposite directions for increased cooling capability. The three-speed blower works in cooling and ventilation-only modes.

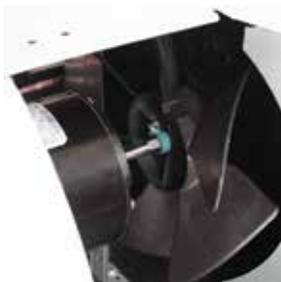
Both the condenser and evaporator coils are coated using the ElectroFin® E-coat process which provides superior resistance to salt-air corrosion and UV damage when compared to spray coating. E-coat employs electrically charged molecules to coat the components for complete and uniform coverage with no material bridging between the fins. The E-coat material was salt-spray tested for 5,000 hours, not 1,000 like competing units. In addition, the condenser and evaporator fans are also corrosion resistant and will not rust. Unlike the competition, we use oversize coils for improved performance and dehumidification.

Rugged and strong, the DuraSea Rooftop weighs only 103 lbs. (46.7 kg). The heavy-duty reinforcement plate ties the evaporator and condenser together to minimize vibration and movement. A vibration-isolating L-bracket on the compressor and fan motor is incorporated for additional stabilization. Rubber clamps and bushings further control noise and vibration. The powder-coated base pan is 15% thicker than other models.

\* The 50Hz model is rated at 12,000 BTU/hr.



Compressor is bracketed at top as well as bottom to minimize vibration and movement while under way.



Weather-tight fan motor and bearings with a stainless-steel shaft.



The air distribution box (sold separately) mounts on the ceiling to provide A/C controls.

### Key Benefits

- Air-cooled unit designed for rooftop or deckmount installation
- No plumbing or ducting required
- Provides 15,000 BTU/hr. of cooling (60Hz model only)
- Rugged and strong, yet lightweight
- High efficiency, low power consumption
- ElectroFin® E-coat process for superior resistance to corrosion and UV damage
- Vibration-free operation
- Compressor stabilization to endure extreme motion
- Three-speed high-performance fan for cooling and ventilation
- Sealed motor and bearings
- Stainless-steel fan-motor shaft
- Oversize coils for better performance and dehumidification
- Environmentally safe R-410A refrigerant
- Air distribution box (sold separately) includes mechanical control and interior panel
- Optional electric heat

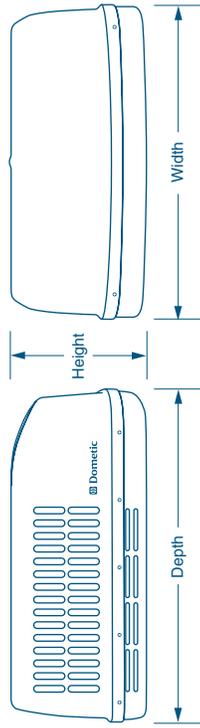
### Technical Specifications for DuraSea Rooftop Air Conditioner

Model	DuraSea Rooftop	
Capacity (BTU/hr)	15000	12000
Voltage/Cycle	115V/60Hz	240V/50Hz
Run Amps	15.3	7.0
Locked Rotor Amps (LRA)	66.0	28.0
Refrigerant Type	R-410A	R-410A
Height (in/mm)	13.1/334	13.1/334
Width (in/mm)	29.8/759	29.8/759
Depth (in/mm)	34.8/886	34.8/886
Net Weight (lbs/kg)	103/46.7	102/46.3

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

<sup>2</sup> All weights ± 10%.

### Dimensions



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L-3010 Rev. 20130118

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Dealer



Exceeds  
6,000 Hr. Salt-  
Spray Test

# DuraSea Series Air-Cooled Condensers

## The Only Marinized Air-Cooled Condenser



Dometic DuraSea air conditioning condensing units are designed for maximum durability in the harshest of nautical applications. These rugged units offer long service life, exceptional performance, energy conservation, and reliability.

The DuraSea's cabinet is constructed of stainless-steel 304, which resists heavy salt-spray and also provides UV protection. Designed for deck or rooftop mounting, the optional risers elevate the unit above the mounting surface to provide excellent water drainage and protect the coil from debris and salt water. To further fortify the unit from severe marine conditions, corrosion-resistant stainless-steel fasteners are used, and all other external components have a protective coating. The control box and compressor are strategically located within the cabinet for easy service access and for extra protection against corrosion.

All DuraSea units employ scroll compressors, the latest in high-efficiency, reliable compressor technology. They reduce noise and vibration, and have a higher tolerance of liquid refrigerant and system contaminants. Scroll compressors also feature low start torque to minimize the starting-current spike that occurs with old-technology compressors. Units are available in 410A refrigerant or 417A refrigerant for retrofit of existing systems.

The new 7.5- and 10-ton sizes offer a compact footprint in an "industrial" styled equipment design that includes forklift slots and lifting eyes.



DCA60 shown with service panel removed and optional risers which protect the unit from debris.

### Key Benefits

- Designed for workboats, platform, and military vessels
- Built to withstand the harsh elements of the commercial marine environment
- Operates with most evaporators
- Hermetically-sealed scroll compressor with internal overload protection
- Permanently lubricated fan motor with Ingress Protection of IP 54 or better
- High-efficiency copper tube and aluminum fin coil with dipped E-coating that exceeds 6,000-hour salt spray test
- Copper tube/copper fin coil upgrade available for the ultimate in corrosion protection
- Brass base valves with sweat connections and service ports
- Vertical fan mount design
- High- and low-pressure controls
- Heavy-duty contactor with lug connections
- Optional risers elevate the unit above the mounting surface to protect the coil from salt water and debris (3-ton to 6-ton models only)
- Optional stainless-steel 316 cabinet construction for maximum corrosion resistance

### Special Options

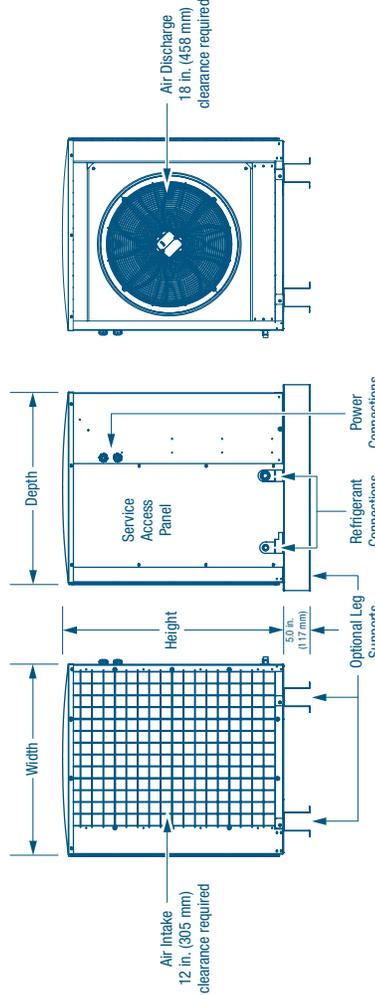
- Nema 4 electric box
- Fan cycling control
- Three-phase monitor
- Crankcase heater

Specifications for DuraSea Series Air-Cooled Condensers

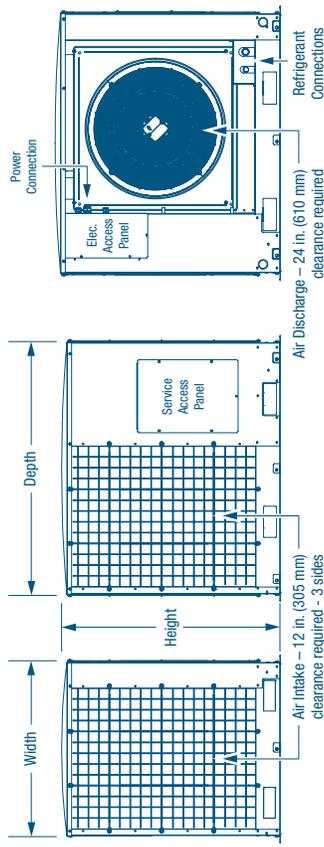
Model	DC436D	DC436E	DC448D	DC448E	DC460D	DC460E	DC472D	DC472E	DC490D	DC490E	DC4120D	DC4120E
Nominal Capacity (BTU/h)	36000	48000	48000	48000	60000	60000	72000	72000	90000	90000	120000	120000
Voltage (V)	230	460	230	460	230	460	230	460	230	460	230	460
Cycle (Hz)/Phase (Ph)	60/3	60/3	50/3	50/3	60/3	60/3	60/3	60/3	60/3	60/3	60/3	60/3
Run Load Amps (RLA) (A)	10.9	5	12.7	6.6	14.8	7.4	17.9	8.9	25.5	13.4	31.3	15.3
Locked Rotor Amps (LRA) (A)	95	45	120	60	123	70	160	87	235	110	267	142
Full Load Amps (FLA) Blower (A)	3.6	2	3.6	2	3.6	2	3.6	2	3.6	2	8.5	4.9
Max. Circuit Breaker (A) (1)	35	12	30	20	30	15	55	40	70	30	75	30
Min. Circuit Ampacity (A) (2)	25	10	24	15	25	14	40	26	50	25	55	26
Min. Volts (V)/Max. Volts (V)	197/253	414/506	197/253	414/506	197/253	414/506	197/253	414/506	197/253	414/506	197/253	414/506
Refrigerant Type	R410A											
Air Flow (cfm)	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	10000	10000
Height (in/mm) (1)	38.5/978	38.5/978	38.5/978	38.5/978	38.5/978	38.5/978	38.5/978	38.5/978	42/1067	42/1067	42/1067	42/1067
Width (in/mm)	33/839	33/839	33/839	33/839	33/839	33/839	33/839	33/839	33/839	33/839	48/1220	48/1220
Depth (in/mm)	1/2/13	1/2/13	1/2/13	1/2/13	1/2/13	1/2/13	1/2/13	1/2/13	7/8/23	7/8/23	7/8/23	7/8/23
Refrigerant Line Connection-Discharge (in/mm) (3)	7/8/23	7/8/23	7/8/23	7/8/23	7/8/23	7/8/23	7/8/23	7/8/23	1 1/8/29	1 1/8/29	1 1/8/29	1 1/8/29
Refrigerant Line Connection-Suction (in/mm) (3)												
Sound Level (dB)	84	84	84	84	84	84	84	84	84	84	87	87
Net Weight (lbs) (4)	290	290	310	310	365	365	375	375	475	475	525	525

1 Must use time-delay fuses or HACR-type circuit breakers of the same size as listed  
 2 Wire size should be determined in accordance with applicable electrical codes; extensive wire runs require larger size wires  
 3 Up to 50 ft. (15.2 m) in equivalent line length.  
 4 Weight for aluminum fin condenser coil with coating

Dimensions



DuraSea 7.5- to 10-Ton Dimensions



DuraSea Model Number Nomenclature

D C A 0 3 6 A 4 6 6 3 C 0 A A

- DuraSea Condensing Unit**  
A = R410A  
B = R417A
- Refrigerant Type**  
A = None  
B = Nema 4x electric box and heatshrunk electric connections  
C = Low ambient fan cycling control  
D = Phase monitor  
E = Valve Fan Side (VFS) standard on 7.5/10-ton models  
F = Variable frequency drive  
G = Crankcase heater  
H = Suction accumulator  
I = Reserved for future use  
J = Reserved for future use  
K = Combination of options B, C, D, G, and H
- Nominal Tonnage**  
036 = 3 Tons  
048 = 4 Tons  
060 = 5 Tons  
072 = 6 Tons  
090 = 7.5 Tons  
120 = 10 Tons
- Control Type**  
A = None (use with 24VAC thermostat)  
Q = Q Control
- Voltage**  
2361 = 230V/60Hz/1-Ph  
2251 = 220V/50Hz/1-Ph  
2363 = 208-230V/60Hz/3-Ph  
4663 = 460V/60Hz/3-Ph  
3853 = 380V/50Hz/3-Ph
- Design Revision**  
A = Initial Rev  
O = Not used
- Coil Options**  
A = Al Fin/Copper Tube  
B = E-Coat Al/Al  
C = Copper Fin/Tube

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L-2544 Rev. 20130222

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Dealer

NEW

# Eskimo Ice EI540D Fishbox Ice System

Produces Up to 540 Pounds (245 kg) of Fishbox Ice Per Day



The Eskimo Ice EI540D system produces up to 540 lbs. (245 kg) of fishbox ice per day, roughly the same output as its larger predecessor. The EI540D ice-making machine comes in a self-contained, cube-shaped package with a 16 x 16 in. (413 x 413 mm) footprint, making it ideal for boats with limited installation space but no less demand for reliable and efficient fishbox ice production.

EI540D units are easy to install. Ice is generated minutes after starting the system, and can be conveyed up to 35 ft. (10.6 m) through an ice-delivery hose to nearly any desired location on board.

The system is operated by the Smart Logic control. The control is integrated into the electrical box which can be mounted remotely for installation flexibility. Smart Logic features a full menu of sensors and status lights monitor gas pressure, auger motor, compressor, water level, ice level, and ice clogs, and will shut off the system if problems are detected.

EI540D units feature ventilated cover panels, which can be easily removed for convenient service access from any side.

The EI540D system installation kit includes one electrical box with Smart Logic keypad/display, water filter, and 35 ft. (10.6 m) of 3/4 in. (20 mm) ID ice delivery hose and insulation. This smaller diameter hose is easier to install and less likely to kink. Units are available in 115V/60Hz, 230V/60Hz, and 220V/50Hz electrical configurations. The EI540D will support an additional remotely-mountable Smart Logic keypad/display, which can be purchased separately.



The easy-to-use Smart Logic digital control monitors all system functions.



Ventilated cover panels can be removed for service access from any side.

## Key Benefits

- Produces up to 540 lbs. (245 kg) of fishbox ice per day
- Thermal expansion valve increases performance for all conditions
- Compact footprint - 16 x 16 in. (413 x 413 mm)
- Available in 50Hz and 60Hz models
- Up to two remotely-mounted Smart Logic digital controls/display panels
- Photo-electric ice-level sensor
- Fresh-water filter included in kit
- Pre-charged system
- Sensors monitor all system functions
- Monitor system and restart from any Smart Logic digital control location
- Improved fresh-water float switch
- Ventilated cover panels can be removed for maintenance access from any side
- CAN-bus compatible
- Smaller 3/4 in. (20 mm) ID ice delivery hose is easier to install, less likely to kink

## Product Testimonial

"It can fill a five-gallon bucket in under an hour. It doesn't get any better. Sushi quality fish all the time."

— Capt. Glenn Morgan, Carpe Momentum

"We recently installed an Eskimo Ice machine on the Big Oh and it provides us with professionally crushed ice to keep our bait and our fish fresh while we're fishing tournaments all over the world. I would not have a boat without an Eskimo Ice maker."

— Capt. Ronnie Fields, In The Bite Magazine's 2010 Captain of the Year



## Specifications for Eskimo Ice EI540D Fishbox Ice System

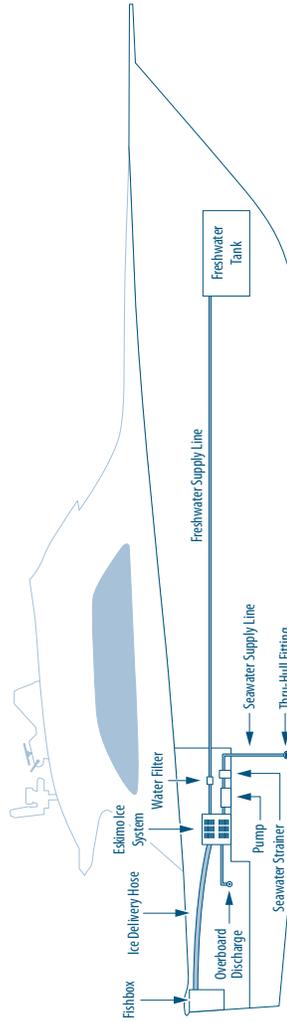
<b>Model</b>	<b>EI540D</b>		
<b>Ice Capacity Per Day (lbs/kg) <sup>(1)</sup></b>	540/244.1		
<b>Ice Capacity Per Hour (lbs/kg) <sup>(1)</sup></b>	22/9.1		
<b>Voltage (V)</b>	115	220	230
<b>Cycle (Hz)/Phase (Ph)</b>	60/1	50/1	60/1
<b>Full Load Amps (FLA) Cool (A)</b>	10.7	5.4	5.3
<b>Locked Rotor Amps (LRA) (A)</b>	58.8	26.3	31
<b>Max. Circuit Breaker (A)</b>	30	15	
<b>Min. Circuit Ampacity (A)</b>	18	10	
<b>Refrigerant Type</b>	404A		
<b>Water Consumption Per Day/24 Hours (gpd/tpd)</b>	64.7/244.1		
<b>Height (in/mm) <sup>(2)</sup></b>	16.25/413		
<b>Width (in/mm) <sup>(2)</sup></b>	16.25/413		
<b>Depth (in/mm) <sup>(2)</sup></b>	16.25/413		
<b>Seawater Inlet Connection (in)</b>	%		
<b>Net Weight (lbs/kg) <sup>(3)</sup></b>	82/37.2		
<b>Gross Weight (lbs/kg) <sup>(3)</sup></b>	127/57.7		

<sup>1</sup> Actual capacity depends upon conditions

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

<sup>3</sup> All weights ± 10%.

## Installation



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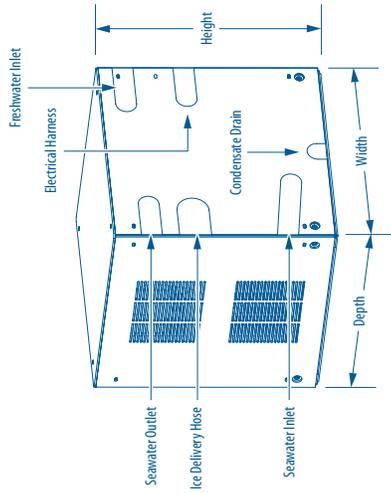
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L-3076 Rev. 20130531

## Dimensions



Dealer



Specifications and availability subject to change without notice.

NEW

# Eskimo Ice EI1000D Fishbox Ice System

## Produces Up to 1,000 Pounds (454 kg) of Fishbox Ice Per Day



The Eskimo Ice EI1000D system produces up to 1000 lbs. (454 kg) of fishbox ice per day. That's nearly 42 lbs. (19 kg) of ice per hour! The EI1000D ice-making machine comes in a self-contained, compact package with a 21.25 x 21.25 in. (540 x 540 mm) footprint and a height of only 23.25 in. (591 mm), making it ideal for boats with limited installation space but a big demand for reliable and efficient fishbox ice production.

EI1000D units are easy to install. Ice is generated minutes after starting the system, and can be conveyed 50 to 70 ft. (15 to 21 m) depending on conditions and angle of run through an ice-delivery hose to nearly any desired location on board.

The system is operated by the Smart Logic control. The control is integrated into the electrical box which can be mounted remotely for installation flexibility. Smart Logic features a full menu of sensors and status lights monitor pressure faults, auger motor, compressor, water level, ice level, and ice clogs, and will shut off the system if problems are detected.

EI1000D units feature ventilated cover panels, which can be easily removed for convenient service access from any side. The unit has a sealed gear box and a totally enclosed fan-cooled (TEFC) motor.

The EI1000D installation kit includes one electrical box with Smart Logic keypad/display, water filter, and 50 ft. (21 m) of 3/4 in. (20 mm) ID ice delivery hose and insulation. This smaller diameter hose is easier to install and less likely to kink.

Units are available in a 230V/60Hz electrical configuration now, with a 220V/50Hz model coming soon. The EI1000D supports an additional remotely-mountable Smart Logic keypad/display, which can be purchased separately.

### Key Benefits

- Produces up to 1,000 lbs. (454 kg) of fishbox ice per day
- Conveys ice 50 ft. (15 m) through insulated delivery hose
- Thermal expansion valve increases performance for all conditions
- Compact footprint - 21.25 x 21.25 in. (540 x 540 mm)
- Available in 230V 60Hz; 220V 50Hz model coming soon
- Up to two remotely-mounted Smart Logic digital controls/display panels
- Photo-electric ice-level sensor
- Fresh-water filter included in kit
- Pre-charged system
- Sensors monitor all system functions
- Monitor system and restart from any Smart Logic digital control location
- Improved fresh-water float switch
- Ventilated cover panels can be removed for maintenance access from any side
- CAN-bus compatible
- Sealed gear box and TEFC motor
- Smaller 3/4 in. (20 mm) ID ice delivery hose is easier to install, less likely to kink



The easy-to-use Smart Logic digital control monitors all system functions.



Ventilated cover panels can be removed for service access from any side.



Special cylindrical ice shape maximizes ice density for greater cooling.

## Specifications for Eskimo Ice EI1000D Fishbox Ice System

<b>Model</b>	<b>EI1000D</b>
Ice Capacity Per Day (lbs/kg) <sup>(1)</sup>	1000/453.6
Ice Capacity Per Hour (lbs/kg) <sup>(1)</sup>	42/19.1
Voltage (V) <sup>(2)</sup>	230
Cycle (Hz)/Phase (PH)	60/1
Full Load Amps (FLA) Cool (A)	10.7
Locked Rotor Amps (LRA) (A)	58.8
Max. Circuit Breaker (A)	30
Min. Circuit Ampacity (A)	18
Refrigerant Type	404A
Water Consumption Per Day/24-Hours (gpd/ptd)	120/454.3
Height (in/mm) <sup>(3)</sup>	23.25/591
Width (in/mm) <sup>(3)</sup>	21.25/540
Depth (in/mm) <sup>(3)</sup>	21.25/540
Net Weight (lbs/kg) <sup>(4)</sup>	211/95.8
Gross Weight (lbs/kg) <sup>(4)</sup>	230/104.4

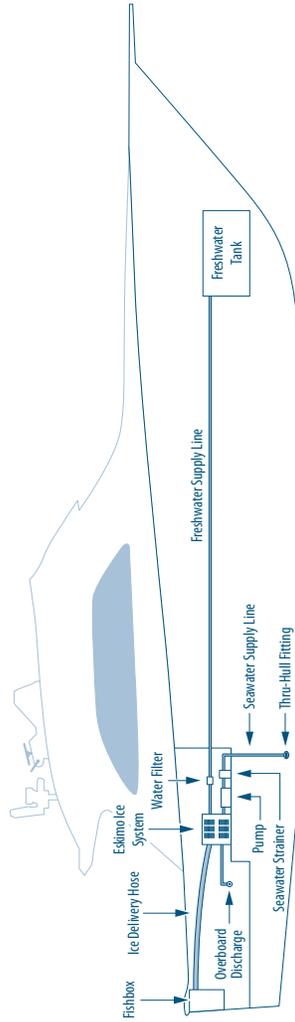
<sup>1</sup> Actual capacity depends upon conditions

<sup>2</sup> 220V/50Hz model coming soon

<sup>3</sup> All dimensions ± 0.30 in. (8 mm).

<sup>4</sup> All weights ± 1.0%

## Installation



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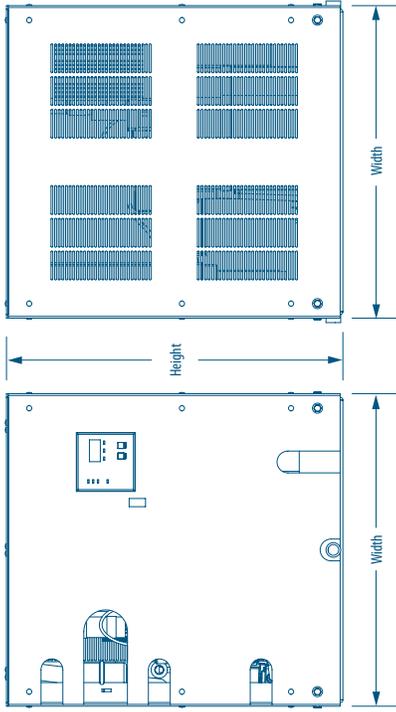
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L-3118 Rev. 20130531

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## Dimensions



Dealer



NEW

# Dometic Eskimo Ice Diverter

## Automatically Fill Two Fish Boxes Hands-Free



The Dometic Eskimo Ice Diverter automatically distributes ice from a single Eskimo Ice system to two separate fishboxes for maximum ice production.

The Eskimo Ice Diverter eliminates shoveling ice between fishboxes. When connected to the ice delivery hose of an Eskimo Ice system, the compact Diverter automatically or manually switches ice output from one box to the other.

### Automatic Mode

- A smart electronic fishbox “Bin full” sensor alerts the Eskimo Ice system when fishbox 1 is ready and automatically activates the Diverter to switch ice output to fishbox 2.
- When fishbox 2 “Bin full” sensor automatically alerts it is ready, the Diverter again automatically switches output back to fishbox 1.
- If fishbox 1 is no longer full, then ice production and distribution continues.
- If both fishboxes are full, ice production stops until either fishbox sensor automatically indicates it is no longer full, then ice production resumes to that box.
- Automatically keeps both fishboxes as full as possible.

### Manual Mode

- Select this mode if you only need to fill a second box occasionally. Manually specify whether you want ice to go into fishbox 1 or fishbox 2.

The Dometic Eskimo Ice Diverter is strong enough to avoid ice jamming. If ice is in the hose when the changeover happens, the diverter chops through it and still makes the switch.



The rear of the Diverter, showing the insulated connection for the ice delivery hose.

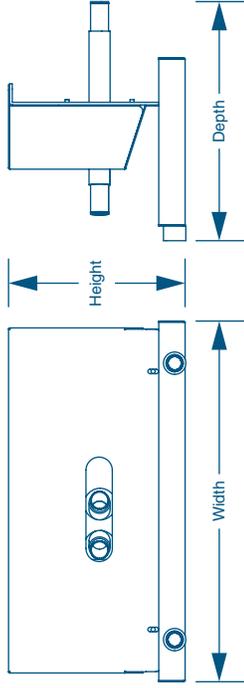
### Key Benefits

- Automatically fill two fish boxes instead of one
- Fishbox sensors automatically monitor the ice level in each box
- Electronic signals trigger the Diverter to automatically switch ice output to either fishbox
- Automatic or manual operation
- Maximize the capability of your Eskimo Ice system
- Eliminate fishbox ice shoveling

### Specifications for Eskimo Ice Diverter

Model	Power Requirements	Height (in/mm)	Width (in/mm)	Depth (in/mm)
Eskimo Ice Diverter	12V DC @ 10 Amps	8.37/213	17.12/435	11.35/289

### Dimensions



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L-3230 Rev. 20130816

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Dealer



NEW

# Dometic Eskimo Ice Pusher

## Fill Your Whole Ice Bin, Not Just One Side



Dometic introduces the first-ever ice pusher to keep ice machines producing ice by automatically pushing the stacked ice away from the “bin-full” sensor located in the fish box.

One big pile of ice does not mean your fish box is full. Usually the end of the fish box located away from the ice-delivery hose remains empty, but the safety sensors that prevent your boat from being flooded with ice are fooled by the large pile at the filling end and tell the ice maker to stop producing.

This important ice-stopping safety feature can be a source of frustration when sport fishermen open their fish box and find it only partially filled with ice and unable to chill what they've just caught. Often a deckhand is assigned to keep pushing the ice pile over, but that task can easily be forgotten when things get hectic onboard.

Working electronically, the ice pusher is activated whenever the Eskimo Ice logic controls receive a bin-full message. It slowly but powerfully extends from the side of the fish box and knocks the top off the mountain of ice. This moves ice to the empty side of the fish box and ice production is not interrupted. A safety feature prevents the pushing operation if the fish box lid is open.

Made of marine-grade stainless steel for durability, the ice pusher has a retractable cover that keeps water and falling ice from interfering with the interior mechanism as the pusher moves forward and back.

The pusher mechanism is totally sealed and can operate in the harshest marine environments, including the saltwater slurries often favored by sport-fishing captains for keeping fish pristine.

### Key Benefits

- Redistributes ice to clear the "bin-full" sensor
- No interruption of ice production
- Produces ice for longer periods of time
- Ensures there is plenty of ice ready when you need it
- Works automatically with Eskimo Ice logic controls
- Frees deckhands to focus on more productive tasks
- Marine-grade stainless-steel parts
- Retractable cover keeps falling ice out of the mechanism
- Completely sealed pusher mechanism



Ice piles up below the output fitting, eventually obstructing the ice level sensor "eye".



The ice pusher extends 6.5 inches (165 mm), moving the ice pile toward the opposite end of the fishbox.



The ice pusher automatically retracts, leaving a gap for uninterrupted ice production.

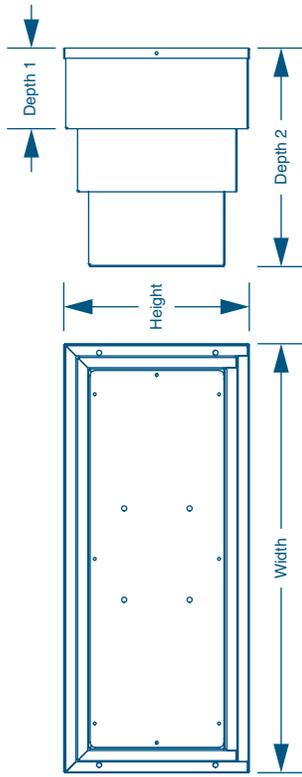
## Specifications for Eskimo Ice Pusher

Model	Power Requirements	Height (in/mm)	Width (in/mm)	Depth 1 (in/mm) <sup>(1)</sup>	Depth 2 (in/mm) <sup>(2)</sup>
Eskimo Ice Pusher	12V DC @ 10 Amps	9.14/233	21.14/537	4.30/110	10.77/274

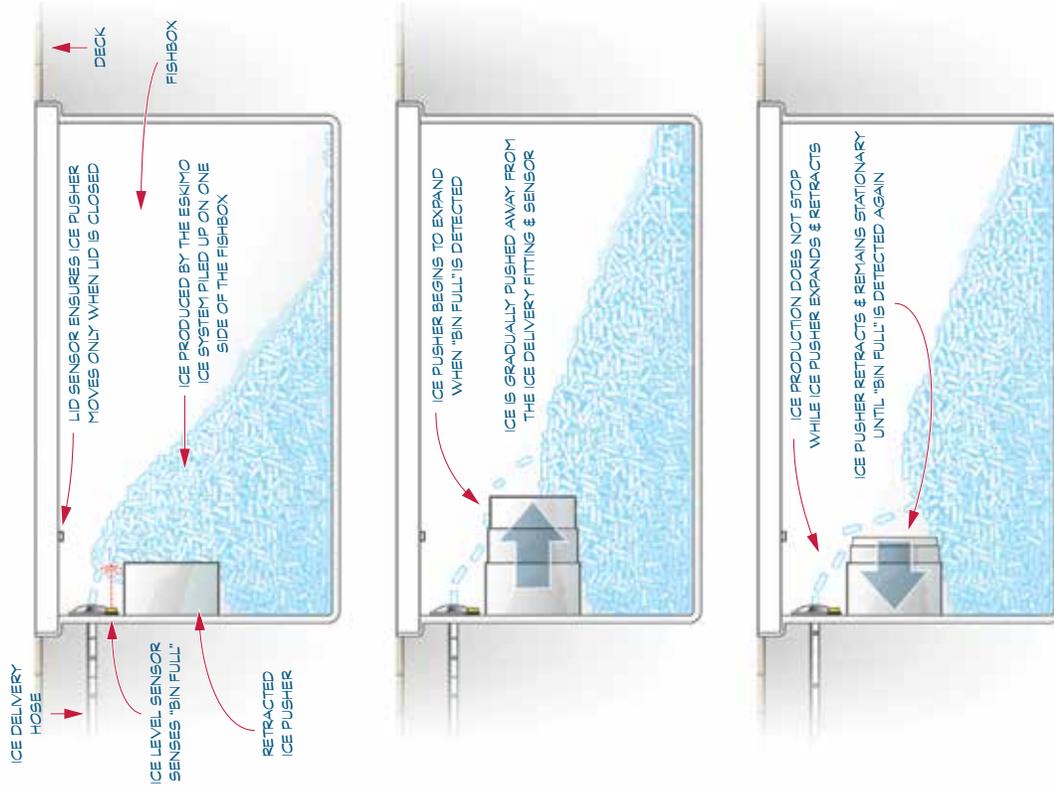
<sup>1</sup> Ice pusher depth when retracted.

<sup>2</sup> Ice pusher depth when fully extended.

## Dimensions



## How the Eskimo Ice Pusher Works



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L-3229 Rev. 20130816

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NEW

# HZB Series Portable Ice Makers

## Make Up to 33 Lbs. of Ice Every 24 Hours



The HZB-12SA, which makes 23 lbs. of ice per day, and the larger capacity HZB-15S, which makes 33 lbs. of ice per day

Dometic's HZB series of portable ice makers makes it possible to have ice where and when you need it.

Efficient HZB ice makers can produce up to 33 lbs. (15 kg) of ice every 24 hours. After turning on the unit, simply add fresh water, select the cube size, and the ice maker does the rest. Ice is ready about 14 minutes after turning on the unit.

HZB units can make different sized ice cubes. Cube size selection is made on the LED control panel, which also features low water and ice full indicators.

The removable basket holds up to 2.5 lbs. (1.1 kg) of ice. The basket is slotted on the bottom to allow water from the melting ice to flow back into the water reservoir for more ice production.

The energy saving clear window in the lid allows ice level checking without raising the lid and losing cold. HZB ice makers include an ice scoop, self-storing drain fitting, and is available in stainless-steel or black finish (HZB-12 only).



Select from three cube sizes on the HZB-15S LED control panel, which also indicates low water and ice full.



Select small or large cube size on the HZB-12S LED control panel, which also indicates empty water and full ice.



The removable ice basket is slotted to allow for water from melted ice to be recycled into more ice. Ice scoop is included.

### Key Benefits

- HZB-15S makes up to 33 lbs. of ice every 24 hours
- HZB-12 makes up to 23 lbs. of ice every 24 hours
- Removable basket holds 2.5 lbs. (HZB-15S) or 1.8 lbs. (HZB-12) of ice
- Makes two (HZB-12) or three (HZB-15S only) cube sizes
- Ice is ready in about 14 minutes
- Ice full and water empty control panel indicators
- Slotted ice basket allows water from melting ice to be recycled into more ice
- Automatic shutoff when water is low
- Automatic shutoff when ice basket is full
- HZB-12 is available with black finish (HZB-12A) or stainless-steel and black finish (HZB-12SA)
- Ice scoop included
- Window in lid allows ice level checking without opening the lid and losing cold
- Convenient recessed carry handles (HZB-15S only)
- Dometic 1-Year Protection Plus warranty

## Specifications for HZB Series Portable Ice Makers

Model	Voltage	Amps	Ice Capacity Per 24 Hrs. (lbs/kg)	Ice Basket Capacity (lbs/kg)	Height (in/mm)	Width (lbs/mm)	Depth (in/mm)	Net Weight (lbs/kg)	Gross Weight (lbs/kg)
HZB-12 <sup>(1)</sup>	120VAC/60Hz	1.2	23/10.4	1.8/0.8	12.9/328	9.5/242	14.1/358	21/9.5	25/11.3
HZB-15S	120VAC/60Hz	2.4	33.0/15	2.5/1.1	17.0/432	15.0/381	17.0/432	32/14.5	42/19.1

<sup>1</sup> Use HZB-12A for black finish or HZB-12SA for black/silver finish.

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L-3209 Rev. 2013.11.22

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Dealer

NEW

# Dometic Spot Zero Water Purifier Systems

## Spot-Free Washing



Dometic Spot Zero control panel with display, pressure gauges, and flow meters

Imagine a gleaming boat and a spot-free wash down with no need to go back and wipe or chamois-dry the vessel's finished surfaces.

The Dometic Spot Zero removes 95-99% of total dissolved solids (TDS) from any dock or on-board water supply. The result is soft, pure water that lets water-sprayed surfaces dry clean without leaving spots that have to be wiped away. Air-drying after a Spot Zero rinse helps preserve the boat's paint and wax finishes since "wiping away" dissolved solids can grind them into finished surfaces, creating minute scratches.

Fill your holding tanks with Dometic Spot Zero water to be used for bathing, cooking, drinking, and making crystal-clear ice on-board. Enjoy spot-free glassware, dishes, and shower surfaces, and eliminate mineral build-up in ice machines for less maintenance.

Dometic Spot Zero is a fresh-water reverse-osmosis system that comes in two models: The stand-alone SZ3000 which is installed on-board and a portable bench-sized dock box that can be stored and used dockside, lifted aboard, or installed on-board. Both models have a capacity of 130 gallons per hour (492 liters per hour).

Dometic Spot Zero uses a multi-step reverse-osmosis process: Filters remove sediment, granulated activated carbon removes chlorine, chloramines and heavy metals, and a semi-permeable membrane allows the passage of water but not ions or larger molecules. In addition to eliminating 95-99% of TDS, Dometic Spot Zero also removes viruses, cysts, bacteria, and radioactive contaminants from any dock water anywhere in the world.



Removes 95-99% of total dissolved solids from any dock water supply.



Dometic Spot Zero can be installed on-board.



Available in a dock box.

### Key Benefits

- Eliminates water spots
- Removes 95-99% of total dissolved solids
- Purifies dockside water
- Removes viruses, cysts, and bacteria
- No need to chamois-dry surfaces
- Stop wasting time drying by hand
- Extends wax and paint life
- Provides pure water for bathing and drinking
- Use dockside or install on-board
- Compact design
- Very low power consumption
- Very low noise and vibration
- 130 GPH (492 LPH) capacity

### Special Options

- Wheels and lifting rings for the dock box

### Product Testimonial

"Less soap is used in the washing machines because the water is so soft. Same in the showers — they don't have to clean so much. The ice in the ice makers is fantastic and the water tastes amazing. Outside with the guys rinsing down, Spot Zero is great. It saves the paint because they don't have to buff off any hard water. On the windows the water beads off. It's definitely a must. It saves so many headaches. I've found it's fantastic."

— Mike Baird, Chief Engineer, 164 ft. Christensen

## Specifications for Dometic Spot Zero System

Model	Amperage	Control Unit H x W x D	Control Unit Weight	Membranes H x W x D	Membranes Weight	Pre War H x W x D	Pre Filter Weight	Dock Box (1) H x W x D (1)	Dock Box Weight
5Z3000	7.5A @ 115V 4.0A @ 230V	16 x 18 x 9 in. (407 x 458 x 229 mm)	50 lbs/22.7 kg	47 x 16.5 x 6 (1,194 x 419 x 153 mm)	96 lbs/43.5 kg	17 x 17 x 10 in. (432 x 432 x 254 mm)	42 lbs/19.1 kg	25 x 54 x 22 in. (635 x 1,372 x 559 mm)	195 lbs/88 kg

<sup>1</sup> For dock box with wheels option add 6 in. (153 mm) to the height.



Dometic Spot Zero control panel, pre filter, and semi-permeable membranes can be installed in an onboard configuration, or...

...in a dock box option (with or without wheels).

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L-3206 Rev. 20140117

Dealer



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NEW

# Dometic Livos Ship-Wide Ventilation Systems

## Fans, Blowers, Mist Eliminators, Dampers & Controls



Fan controls, mist eliminators, smoke and fire dampers, fans, and blowers for ship-wide ventilation systems

Dometic Livos products provide ship-wide ventilation for the commercial and pleasure boat markets. Products and systems include axial fans, centrifugal blowers, smoke and fire dampers, mist-eliminating grilles, and electronic fan controls.

Livos commercial-grade axial fans and centrifugal blowers provide cooling and/or combustion air for marine machinery spaces. Materials are chosen with corrosion resistance and weight in mind. Blades are constructed of high-strength PPG glass-reinforced polyamide, with standard powder coating of the fan housing. Fan motors are high efficiency, direct drive, and reversible. All hardware is either marine-grade aluminum or 316 stainless steel.

Smoke and fire dampers close off the engine space in the event of a fire. The lack of fresh air in conjunction with the release of fire retardant can snuff out a fire and save a boat from possibly burning to the waterline. Dampers come in both marine-grade aluminum and stainless steel.

Mist-eliminating grilles stop corrosive salt mist and water from entering the engine room. Each mist eliminator is custom designed for maximum air flow and minimum restriction for a given machinery package, keeping air flow and dimensional restrictions in mind. There are four mist eliminator drainage options: bottom draining, face draining, horizontal and sump draining.

Pressure- and temperature-monitoring fan controls are available for three-phase fans and blowers, as well as 24 VDC fans. They can be manual variable speed, temperature controlled, pressure controlled, or pressure and temperature controlled. DC controls are temperature based. All controls come standard with fire system shutdowns. Three-phase systems can also have fire damper control. Interface with central monitoring systems is optional.



3-phase axial fans available in 12-48 in. (30.5-61 cm) diameter range, with high-strength PPG glass-reinforced polyamide blades.



Mist eliminators are custom designed to maximize air flow, with four drainage options: Bottom, face, horizontal, or sump.



Smoke and fire dampers are available in marine-grade aluminum or stainless steel with manual, pneumatic (shown), or electronic operation.

### Key Benefits

- Custom solutions for protecting marine machinery spaces
- Pressure- and temperature-monitoring fan controls with fire system shutdown as standard
- Fan controls available for 3-phase and 24V DC fans and blowers
- Optional central monitoring interface available for fan controls
- Smoke and fire dampers are available in marine-grade aluminum or stainless steel
- Dampers can be operated manually, pneumatically, or electronically
- Mist-eliminating grilles (demisters) are custom designed for maximum air flow and minimum restriction
- Demisters have four drainage options: Bottom, face, horizontal, or sump
- Commercial-grade fans and blowers built for optimal corrosion resistance and weight
- Blades are constructed of high-strength PPG glass-reinforced polyamide
- AC fans have powder coated housing
- Fan motors are high efficiency, direct drive, and reversible
- Marine-grade aluminum or 316 stainless-steel hardware

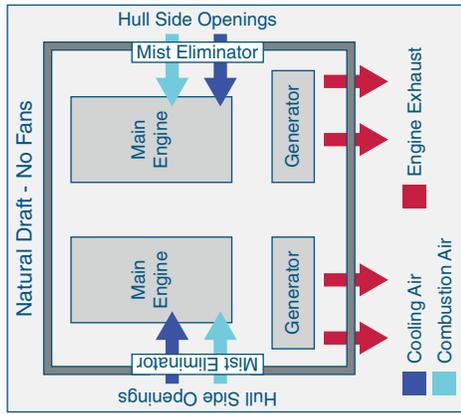
## Types of Engine Ventilation Systems

### Natural Draft – No Fans

A Natural-Draft ventilation system is the most basic. The main engines pull air through the mist eliminators mounted in plenum boxes just inside the hull openings. As the combustion air is exhausted, it removes heat from the space and no fans are used. A Natural-Draft system is typically used on small boats with small engine spaces.

**Advantages:** Simple, inexpensive, lightweight, no electrical load

**Disadvantages:** High temperatures at low RPM; no control of temperature, large openings and mist eliminators are needed as engine size increases to provide an acceptable pressure drop for proper engine operation



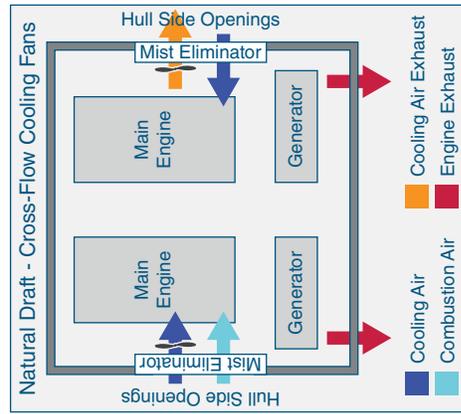
### Natural Draft – Cross-Flow Cooling Fans

Commonly found on sport-fish boats from 30-80 ft. (9-24 m), a cross-flow fan arrangement is used to control the temperature of the space, and the engines pull the necessary combustion air through the mist eliminators. This system typically uses two or four DC fans or small single-phase AC fans.

Four-fan systems typically use the forward fans as intakes and aft fans as exhaust which helps maintain uniform temperatures at the engine intakes. On larger vessels the fans may be 3-phase variable speed with a control that is capable of automatic temperature management.

**Advantages:** Simple, cost effective, lightweight, temperature is controlled during trolling and low RPM

**Disadvantages:** Uncontrolled fans can be noisy, with high DC current draw in some cases



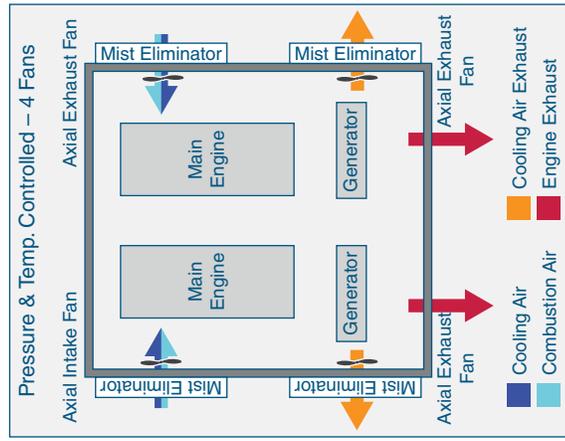
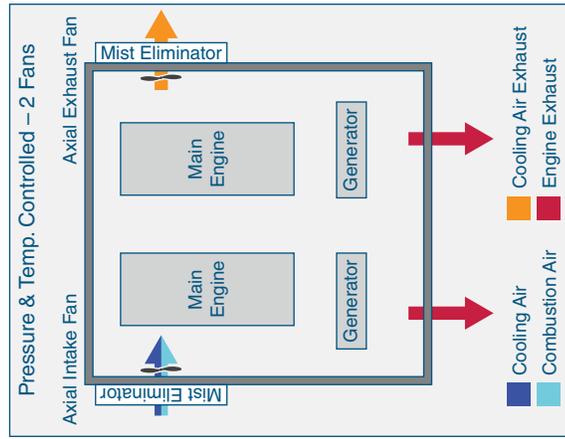
### Pressure and Temperature Controlled

At a certain point a vessel becomes too large for small fans to be effective, and the intake and exhaust openings required for a natural-draft intake start to cause design issues because of open area needed for proper function. When this happens it's time to step up to 3-phase AC fans with variable-speed drives and a fan control.

By using intake and exhaust fans capable of supplying the required combustion and exhaust air, the static pressure created by the mist eliminators and grilles can be overcome. In addition, smaller openings relative to engine size and natural draft configuration can be used. However, an advanced Dometic Livos pressure- and temperature-monitoring fan control must be employed to maintain optimal air pressure in the engine space.

**Advantages:** Precise control of pressure and temperature, reduced opening and moisture eliminators size, lightweight, automatic operation both underway and dockside

**Disadvantages:** Fan sizing becomes critical, significant cost, complexity, large fans present packaging issues, large electrical loads



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