

## FEATURES

### Unique Compact Modular Design

- Increased plenum chambers for maximum efficiency.
- Easy disassembly for access to components.

### Condensate Drain Pan

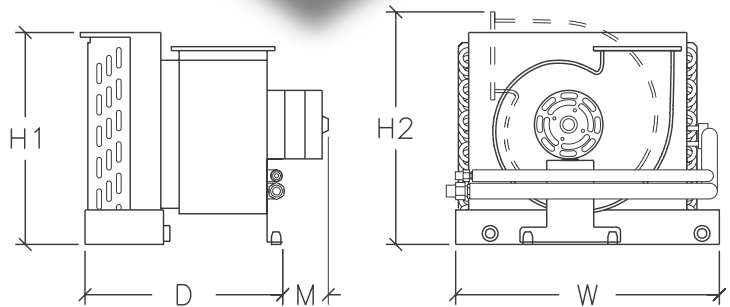
- Insulated to prevent sweating.
- Two 1/2" FPT drain hook-ups.

### Blower/Coil Assemblies

- Quiet, efficient, centrifugal blowers.
- Rotatable between horizontal and vertical configurations.
- Fully insulated housings.
- Thermoplastic mounting rings enable easy installation of ducting or transition boxes.
- Coils with enhanced fins and rifled tubing for maximum efficiency.

### Quality Assurance

- Contaminant-free, nitrogen purged assembly procedures.
- Each unit is pre-charged, test run in all operating modes and leak checked.
- Charge Guard® protection provides sealed access ports, ensuring environmental protection and system integrity.
- All units meet or exceed applicable ABYC and U.S. Coast Guard regulations, CE Directives and general AirConditioning and Refrigeration Industry (ARI) standards.



## SPECIFICATIONS

Model <sup>(1)</sup>	E4FD/1		E6FD/1		E9FD/1		E12FD/1		E16FD/1		E18FDZ/1	E24FDZ/1
<b>Capacity (BTU/H)/(Kcal/H)</b>	4,000/1,008		6,000/1,512		9,000/2,268		12,000/3,024		16,000/4,032		18,000/4,536	24,000/6,048
Voltage (VAC) @ 50-60Hz/1Ph	115	230	115	230	115	230	115	230	115	230	230	230
Full Load Amps (FLA) blower	1.00	0.83	1.90	0.83	3.37	1.55	3.37	1.55	3.30	1.80	1.80	0.80
K.V.A. (Kilo-Volt-Amps)	0.12	0.19	0.22	0.19	0.39	0.36	0.39	0.36	0.38	0.41	0.41	0.18
Max. Circuit Breaker (Amps)	5	5	5	5	5	5	5	5	5	5	5	5
Min. Circuit Ampacity (Amps)	2	2	3	2	5	2	5	2	5	3	3	1
<b>Unit Dimensions (in/mm) <sup>(2)</sup></b>												
Height H1 <sup>(3)</sup>	9.75/248		10.80/274		10.50/267		12.80/325		12.80/325		16.50/419	16.50/419
Height H2 <sup>(4)</sup>	10.70/272		13.00/330		13.00/330		13.75/349		14.00/356		N/A	N/A
Depth	10.10/257		11.40/290		9.80/249		10.40/264		11.90/302		13.70/348	15.60/396
Width	11.40/290		13.20/335		14.50/368		14.50/368		14.50/368		21.25/540	21.25/540
Motor Overhang	2.10/53		2.50/64		2.90/74		2.90/74		3.30/84		3.30/84	4.00/102
Min. Duct Size Dia.	4"		5"		6"		6"		7"		7"	8"
Refrigerant Connections	1/4" x 3/8"		1/4" x 3/8"		1/4" x 3/8"		1/4" x 3/8"		1/4" x 1/2"		3/8" x 5/8"	3/8" x 5/8"
Net Weight (lbs/kg)	12.3/5.6		15.4/7.0		18.5/8.4		20.5/9.3		21.5/9.8		32/14.5	46.0/21.0
Gross Weight (lbs/kg)	20.8/9.5		24.1/11.0		27.0/12.2		29.0/13.2		30.1/13.7		42/19.0	54.0/24.5

(1) Add a "Z" after the "D" in the model number for 230V units.

(2) Add 2"/5.1cm to height dimension to allow for duct ring (not included) when blower is installed in its vertical position.

(3) H1 is measured to top of evaporator or blower discharge, whichever is higher.

(4) Height H2 is with blower rotated in field.

# Installation Guidelines for Direct Expansion Air Handler

When choosing the proper model **Direct Expansion Air Handler** unit, primary consideration should be given to calculated BTU loads and available power supply.

**Direct Expansion Air Handler** units are ductable and designed to be installed in low cabin areas (under berths, lockers, etc.) and ducted to high supply air grilles. These units have rotatable blower-motor assemblies providing flexibility to fit specific space requirements and allowing for proper duct work installations. Transition boxes may be used to supply air to more than one area from a single unit.

Securely fasten the air handler to a solid, level surface using the vibration isolating mounts provided. Rotate and secure the blower, if necessary, to its proper position to provide the most direct routing of the ducting to transitions and supply air grilles. Route all ducting as smooth and straight as possible. Trim off excess ducting before making final connections. Secure the ducting every 48 in /122 cm (minimum) to prevent movement while the vessel is underway.

The return air inlets must be properly sized and located to allow adequate return air flow to the unit. Return air grilles must have removable filters installed if the filter on the unit is moved. If return air grilles are not used, a clip-on type of filter must be attached to the air handler unit. Return air grilles should not be located in such a way as to allow the supply air to blow directly into the opening. This will cause "short cycling" of the unit resulting in poor performance.

The supply air grilles must be sized and located to allow for proper circulation within the cabin area(s). Grilles located close to the ceiling or directed upwards provide for the best air circulation. Undersized grilles, along with crushed or kinked duct work, will result in poor or inadequate performance.

Never install your air conditioner air handler in bilge or engine room areas. Insure that the selected location is sealed from direct access to bilge and/or engine room vapors. Do not terminate condensate drain lines within three (3) feet of any outlet of engine or generator exhaust systems, nor in a compartment housing an engine or generator, nor in a bilge (vapors can

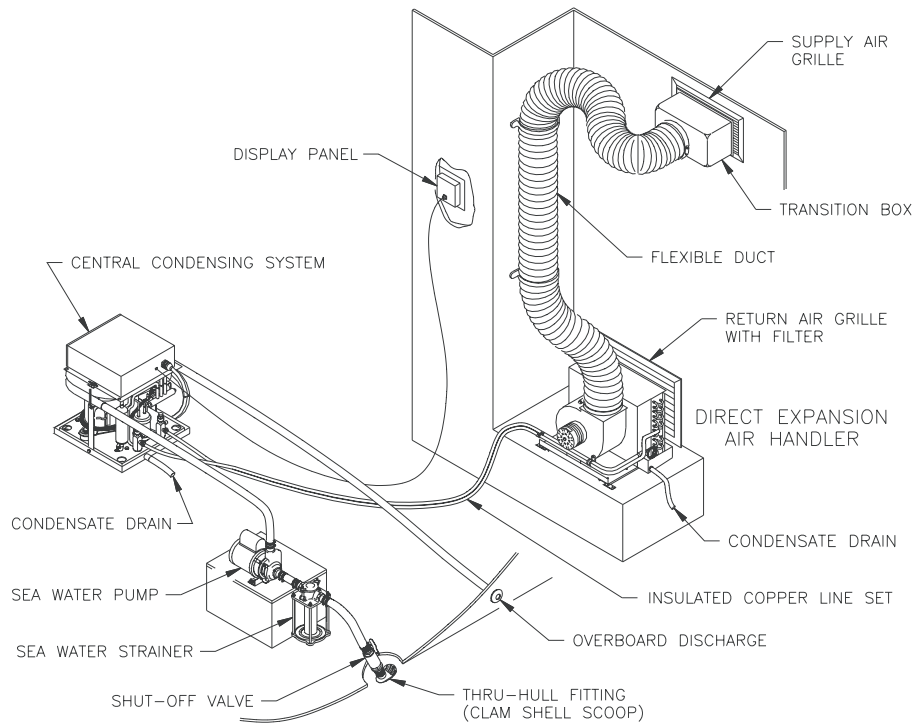
travel up the drain line), unless the drain is connected properly to a sealed condensate or shower sump pump. Failure to comply may allow bilge or engine room vapors to mix with the air conditioners return air and contaminate living areas.

Both condensation drain lines must be connected to the evaporator blower's two drain pan spuds, using reinforced flexible hose (5/8") and clamps. The drains may be teed together, providing there is a minimum drop of 2 in/5.1 cm from the drain pan to the tee fitting. Properly secure the drain lines to prevent movement or shifting during vessel operation. Check the drains upon completion by pouring two quarts of water into the drain pan.

Refrigerant-grade copper tubing should be properly sized for the specific application. Both the suction and liquid lines should be insulated separately with approved closed cell foam jackets (i.e., Rubatex 1/4" wall thickness). The refrigerant line ends should remain capped until the actual connections are made to prevent contamination. Avoid any kinks in the tubing as this will compromise the performance and longevity of the system. Use approved flaring techniques and refrigerant grade components for all connections. Insulate all fittings using cork insulation tape or foam tape (only after system has been leak-checked). Wrap fittings sufficiently to the equal R-value of tube insulation.

The installed line sets and evaporator(s) must be evacuated to remove air from these components and prevent moisture acidity formation. All connections should be properly leak-checked upon releasing the refrigerant charge from the condensing unit into the system. If the system is to be opened for any reason at this point, or for future service, the refrigerant charge must be "pumped down" back into the condensing unit or "recovered" using proper equipment to prevent escape into the atmosphere. In accordance with EPA regulations, only certified technicians should perform service on, or make adjustments to, the refrigerant circuit.

All wiring must be sized according to marine design standards. Only stranded tinned copper wire is to be used. All units must be properly grounded and bonded. Ensure that power supply is turned off before opening electrical box.



In the interest of product improvement, specifications and design as outlined herein are subject to change without prior notice.

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