

Condensing Units

DIRECT EXPANSION



FX24C3-P Condensing Unit Shown

Features

Type F 20,000 - 60,000 Btu/hr Condensing Units

- Reverse-cycle, seawater-cooled condensing units
- Models available in voltages of 208V – 460V, 1 & 3 Phase, 50 and 60 Hz
- Rubber isolation mounts
- Condensate drain pan
- High and low pressure switches
- Reciprocating or scroll compressors
- Can serve up to 3 matched capacity cooling units
- Three different control options:
 - F series for use with 3-knob rotary switch assembly.
 - FX series includes an SMX II power/logic board.
 - FN series includes an SMX Net power/logic module.

Type F Models

Type F remote condensing units are seawater-cooled, reverse-cycle heat pumps for cooling and heating in marine applications. Large F type units are available in capacities from 20,000 to 72,000 Btu/hr.

A Cruisair condensing unit can be installed with up to three Cruisair cooling units, where the total cooling unit capacity is equal to (or slightly higher than) the condensing unit capacity. Copper tubing is used to transport refrigerant between the condensing unit and the cooling unit(s).

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 condensing unit assembly includes a compressor, cupronickel seawater condenser, reversing valve, refrigerant receiver and accumulator, and other electrical and mechanical components on a single chassis that is mounted in a drain pan with rubber isolation mounts. Models up to 48,000 Btu/hr use reciprocating compressors, while 60,000 and 72,000 Btu/hr units use scroll compressors.

F type units are designed for installation in the vessel's engine room or other mechanical space, along with the seawater pump and associated plumbing. 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 F type units are available, depending on what type of control is desired. Standard F units are for 3-knob rotary switch assemblies (an SA3 type switch must be purchased separately). FX units are for the SMX II microprocessor system, and FN models are for the SMX Net microprocessor system. The SMX units include the respective SMX II or SMX Net power/logic board. In addition, an SMXir keypad/display, a CXP connecting cable, and a TSEP temperature sensor must be purchased separately. If networking FN units, CNP network cables are also needed.

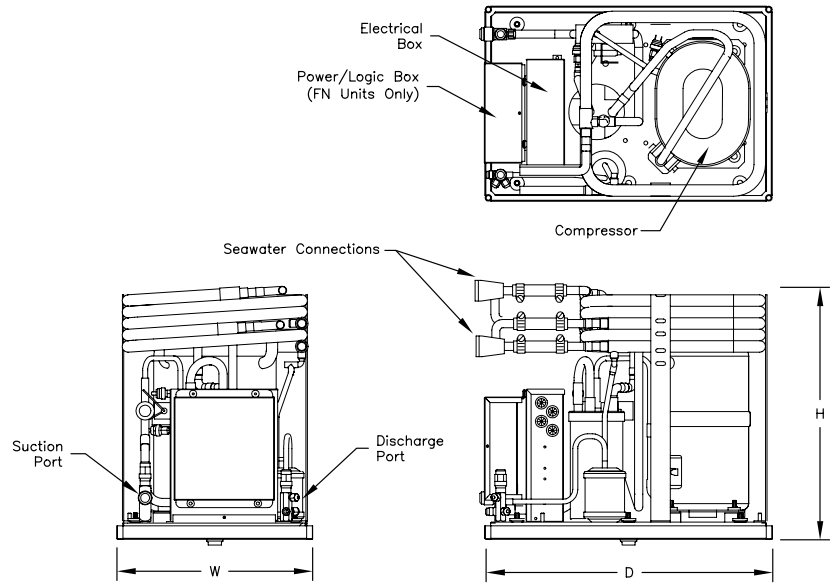
The large F type condensing units are available for a variety of power systems. Single-phase units are available in 230V 50/60Hz, and 240V 50Hz only. Models with three-phase compressors are available with 208/230V 50/60Hz, 380/460V 50/60 Hz, and 380-400V 50 Hz only. Note that the 380-460V units will require a single-phase control circuit power feed (115V or 230V).

Every type F unit is fully tested and pre-charged at the factory with R22 refrigerant. Installation and final charging of the system must be performed by a certified technician.

Cruisair[®]
Chill Out In Style

SPECIFYING GUIDE FOR ACCESSORIES

Btu/hr	REFRIGERANT LINE SIZES		SEAWATER PUMP gpm/lpm
	DISCHARGE	SUCTION	
20,000	3/8"	1/2"	6.7/25
24,000	3/8"	1/2"	8.0/30
30,000	3/8"	3/4"	10.0/38
36,000	3/8"	3/4"	12.0/45
48,000	3/8"	3/4"	16.0/61
60,000	3/8"	3/4"	20.0/76
72,000	3/8"	3/4"	24.0/91



TECHNICAL SPECIFICATIONS

Model	Capacity (Btu/hr)	Power			Full Load Amps	Dimensions (in/mm)			Weight (lb/kg)
		Voltage	Freq.	Phase		H	W	D	
F, FX, FN20C3	20,000	230V	50/60	1	7	18/458	15.0/381	22.0/559	94/42.6
F, FX, FN24C3	24,000	230V	50/60	1	8.6	18/458	15.0/381	22.0/559	110/49.9
F, FX, FN24CK3		220-240V	50	1	9.4				110/49.9
F, FX, FN24DC		208-230V	50/60	3	8.2				115/52.2
F, FX, FN24E3		380/460V	50/60	3	3.1				115/52.2
F, FX, FN24ECK		380-400V	50	3	3.6				115/52.2
F, FX, FN30C3	30,000	230V	50/60	1	9.6	19.8/502	15.0/381	22.0/559	120/54.4
F, FX, FN30CK		220-240V	50	1	10.7				130/59.0
F, FX, FN30DC		208-230V	50/60	3	7.8				125/56.7
F, FX, FN30E3		380/460V	50/60	3	3.9				125/56.7
F, FX, FN30ECK		380-400V	50	3	4.6				125/56.7
F, FX, FN36C3	36,000	230VAC	50/60	1	12.5	19.8/502	15.0/381	22.0/559	135/61.2
F, FX, FN36CK3		220-240V	50	1	13.5				135/61.2
F, FX, FN36DC		208-230V	50/60	3	8.8				135/61.2
F, FX, FN36E		380/460V	50/60	3	4.6				135/61.2
F, FX, FN36ECK		380-400V	50	3	5.0				135/61.2
F, FX, FN48RC	48,000	230V	50/60	1	19.7	19.8/502	15.0/381	22.0/559	152/68.9
F, FX, FN48RCK3		220-240V	50	1	23.8				152/68.9
F, FX, FN48DC		208-230V	50/60	3	12				160/72.6
F, FX, FN48E		380/460V	50/60	3	6.5				162/73.5
F, FX, FN48ECK		380-400V	50	3	6.5				162/73.5
F, FX, FN60C2	60,000	230V	50/60	1	25	22.0/559	12.5/317	25.0/635	135/61.4
F, FX, FN60DC		208-230V	50/60	3	13.0				135/61.4
F, FX, FN60ECK		380-400V	50	3	15.4				140/63.6
F, FX, FN72ECK	72,000	380-400V	50	3	9.2	22.0/559	12.5/317	25.0/635	195/88.6

*115V, 230V, and 440V 60 Hz equipment can be operated at 100V, 200V, or 380V respectively, in a 50 Hz environment. In such a 50 Hz environment, performance will decrease by 17%. Full rated capacity can be obtained by specifying Cruisair "CK" equipment.

NOTE: Compressor starting current will vary with voltage and is approximately 3-4 times the full-load amps.

INTERPRETING MODEL NUMBERS

