INTER-FLO INSTALLATION MAINTENANCE MANUAL

IOM 102.1
OCTOBER, 2003

MODELS: IFA, IFE, IFG, IFH
AIR, ELECTRIC AND HOT GAS DEFROST

Inspection

When the equipment is received, check the quantity of cartons and crates against the bill of lading. Inspect all containers for visible damage. Report any damage or shortages to the freight company immediately. It is the customers responsibility to file all freight claims to the carrier.

Installation

Installation and maintenance are to be performed by qualified personnel who are familiar with local codes and regulations. Installers should have previous experience with this type of equipment. **CAUTION:** Avoid contact with sharp edges and coil surface. They are potential hazards.

Determine the best location for the unit in the walk-in cooler or freezer. (See system IOM 550) Place the unit as far as possible from any door openings. This will help to prevent warm, moist air from being drawn into the unit, reducing the potential for icing problems. Inter-Flo units are draw-through types, which discharge air directly from the fan into the room. Adequate clearance should be maintained to allow for proper air flow through the unit and to allow for regular maintenance and service. Allow a minimum of 24” of clearance on all sides of the unit.

Remove all packing materials before the unit is raised into position. Be certain that the unit is not sitting on the drain fitting or refrigerant connections. The unit should be supported on 3/8” minimum thickness stainless steel support rods or fasteners at the hanging slots. The unit must be positioned flush with the ceiling and all gaps properly caulked.

The drain line should be pitched a minimum of 4” per foot to allow proper drainage and should exit the room as quickly as possible. Do not locate bends, elbows or drain traps within the refrigerated space. Do not reduce the drain line size. All drain lines must be trapped outside of the enclosure where the temperature is never below 35 degrees. Drain lines should run to an open drain and should never be connected directly to a sewage or waste line. Drain lines may be heated and insulated to prevent freezing.

Wiring

All wiring must be done in compliance with local and national codes. Use only Copper conductors. Electric defrost units are supplied with a temperature sensing defrost termination switch which will end the defrost at a preset coil temperature. A high limit control is provided to prevent overheating if there is a component failure. A fan delay control is installed to allow the coil temperature to drop below the freezing point of the water condensate on the fins before starting the fans.

See the unit rating label for electrical requirements. The wiring diagram is located in the end panel of the unit cooler. Page 3 shown some examples of typical Inter-Flo wiring diagrams.

Expansion valve

Expansion valves should be selected and installed in accordance with the valve manufacturers recommendations. Units that require externally equalized expansion valves must have the equalizer line connected. The expansion valve bulb must be clamped securely at the 4 o'clock or 8 o'clock position on a horizontal run of the suction line. Proper location and full contact of the bulb is extremely important to the performance of the system.

New expansion valves usually need to be adjusted. Superheat setting should be checked after the system has run long enough to reach a balanced state. Low temperature systems will usually operate more efficiently with a superheat setting ranging from 6 to 8 degrees at design room temperature, medium temp rooms from 8 to 12 degrees.

To obtain evaporator superheat:

1. Measure the suction line temperature at the expansion valve bulb with an accurate electronic thermometer.
2. Obtain a suction pressure reading at the schrader fitting at the evaporator suction connection.
3. Convert the pressure reading to temperature by using a temperature/pressure conversion chart.
4. Subtract the converted temperature from the measured temperature. The resulting difference represents the evaporator superheat.

(For close coupled systems, it may be necessary to increase the evaporator superheat to insure the minimum acceptable superheat at the compressor.)

The maximum recommended evaporator TD for medium temperature rooms is 15 degrees. 12 - 13 degrees is the maximum recommended TD for low temperature systems.

Evacuation

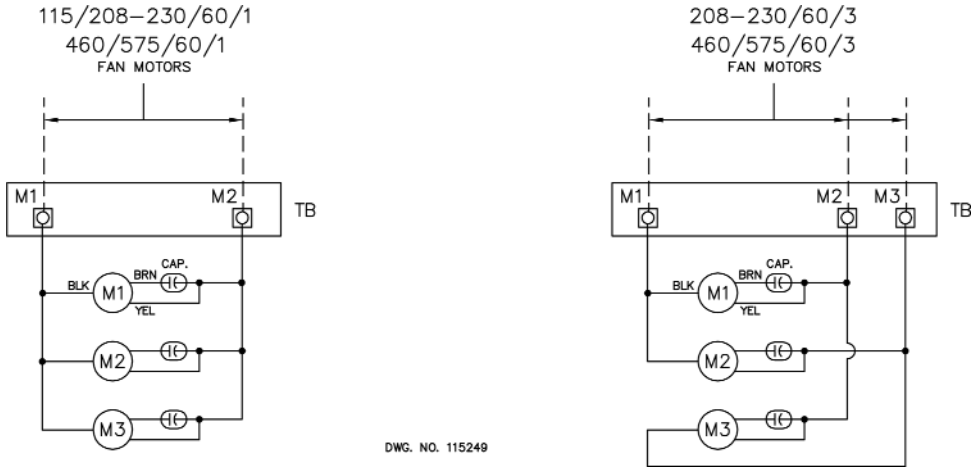
Proper installation recommended must include a deep evacuation of the system (See system IOM 550). A clean/dry system is essential when charging refrigerant.

General Maintenance

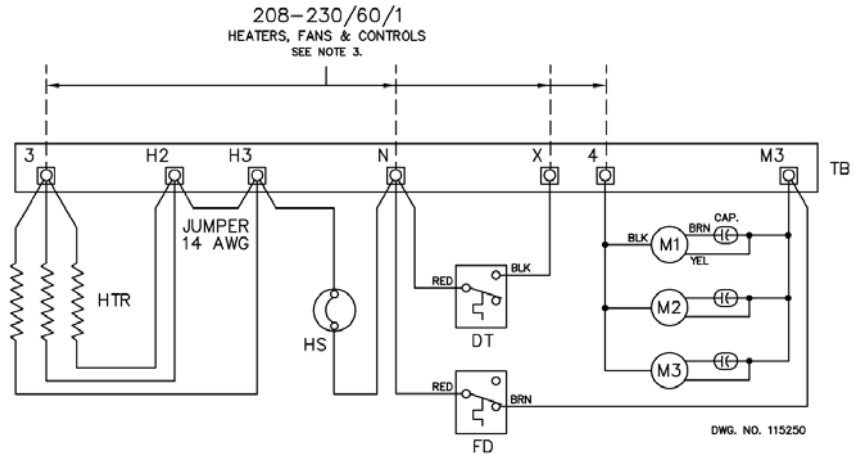
Disconnect all electrical power to the unit before inspecting or cleaning. Unit coolers should be checked periodically and cleaned of all dirt or grease accumulation. Fan blades and guards may require more frequent cleaning. Do not use ammonia or other cleaning agents that are corrosive to Copper or Aluminum. The drain pan should be lowered and thoroughly cleaned to prevent any drain restriction. The fan motors are life lubricated and do not require periodic oiling.

Typical Wiring Diagrams:

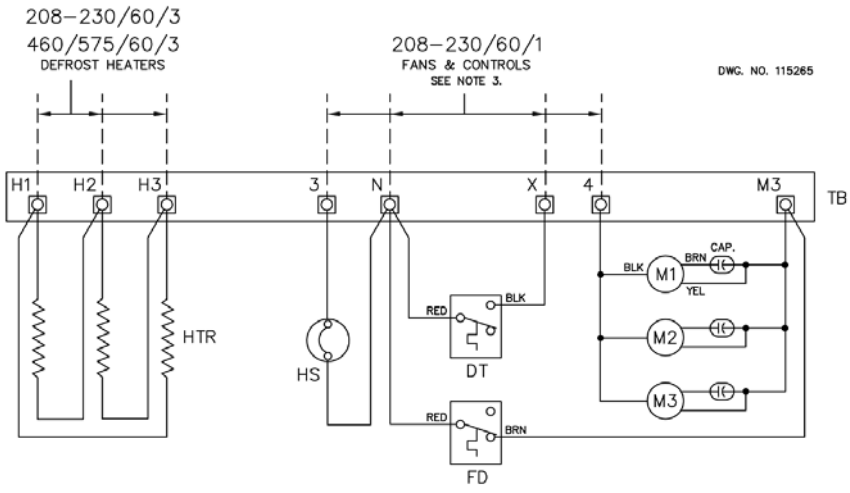
AIR DEFROST UNITS



ELECTRIC DEFROST UNITS 1 PHASE MOTORS & HEATERS



ELECTRIC DEFROST UNITS 1 PHASE MOTORS 3 PHASE HEATERS



Notes:

1. Use Copper conductors ONLY!
2. Unit must be grounded
3. Timer terminals are for Paragon 8145-20
4. For motor and heater amps see the rating sticker located outside of the unit.

Legend:

TB - Terminal Board
M1 - Fan Motor #1
DT - Defrost Termination Control
FD - Fan Delay Control
HS - Heater Safety Control
HTR- Defrost Heater Element
CAP- Fan Capacitor

Field Wiring _ _ _ _ _ _ _ _ _
Factory Wiring _____

Replacement Parts

To order replacement parts, contact your local wholesaler. Always provide the evaporator model number, serial number, unit voltage and complete description of the part.

INTER-FLO — MODELS IFA, IFE, IFG, IFH

MODEL NUMBER	DESCRIPTION	PART NUMBER
IFA24-126,-169, IFA34-224,-287, IFA26-145,-191,	FAN BLADE, 14" 32° PIFCH, CW	214100000
IFA36-240,-305, IFA28-151,-210, IFA38-260,-320	FAN GUARD, 14" WIRE, EPOXY COATED	213626002
IFE24-105,-140,-175, IFE26-130,-150, IFE36-185	FAN GUARD, AIR STRAIGHTENER, 14"	113447000
IFA24-340,-395, IFA34-465,-585, IFA26-370,-415, IFA36-490,-620, IFA28-410,-450, IFA38-540,-690	FAN BLADE, 20" 25° PIFCH, CW	213456000
IFE24-230,-325, IFE34-390,-510, IFE26-270,	FAN GUARD, WIRE, EPOXY COATED, 20"	213484000
IFE26-320, IFE36-385, IFE36-460, IFE36-520	FAN GUARD, AIR STRAIGHTENER, 20"	106923000
IFA24-126,-169, IFA26-145,-191, IFA28-151,-210, IFE24-105,-140, IFE26-130,-150	DRAIN PAN, 55" LENGTH*	11523801
IFA34-224,287, IFA36-240,-305, IFA38-260,-320, IFE34-175, IFE36-185	DRAIN PAN, 76" LENGTH*	11523901
IFA24-340,-395, IFA26-370, IFA28-410,-450, IFE24-230,-325, IFE26-270,-320	DRAIN PAN, 76" LENGTH*	11524001
IFA34-465,-585, IFA38-540,-690, IFA36-415,-490 IFA36-620, IFE34-390,-510, IFE36-385,-460,-520	DRAIN PAN, 106" LENGTH*	11524101
ALL IFE MODELS	DEFROST TERMINATION CONTROL	103079010
ALL IFE MODELS	FAN DELAY CONTROL	103079009
ALL IFE MODELS	HEATER SAFETY CONTROL	103079003
IFE24-105, IFE24-140, IFE26-130, IFE26-150	DEFROST HEATERS, 240V, 1693 WATTS 50" LENGTH, 3 REQ.	206240022
	DEFROST HEATERS,460V, 1555 WATTS, 50" LENGTH, 3 REQ.	206240021
	DEFROST HEATERS,575V, 1555 WATTS, 50" LENGTH, 3 REQ.	206240030
IFE34-175, IFE24-230, IFE24-325 IFE36-185, IFE26-270, IFE26-320	DEFROST HEATERS, 240V, 2458 WATTS, 70" LENGTH, 3 REQ.	206240004
	DEFROST HEATERS, 460V, 2258 WATTS, 70" LENGTH, 3 REQ.	206240020
	DEFROST HEATERS, 575V, 2258 WATTS, 70" LENGTH, 3 REQ.	206240029
IFE34-390, IFE34-510, IFE36-385, IFE36-460, IFE36-520	DEFROST HEATERS, 240V, 3538 WATTS, 100" LENGTH, 3 REQ.	206240005
	DEFROST HEATERS, 460V, 3249 WATTS, 100" LENGTH, 3 REQ.	206240019
	DEFROST HEATERS, 575V, 3249 WATTS, 100" LENGTH, 3 REQ.	206240028
IFA24-126,-169, IFA34-224,-287, IFA26-145,-191,	MOTOR, PSC, 115V, 1/8 HP, 1075 RPM (4 MFD CAP. NOT INCLUDED)	115248001
IFA36-240,-305, IFA28-151,-210, IFA38-260,-320	CAPACIFOR, 4MFD, FOR 1/8 HP (115 V, 230V, 460V.) PSC MOTOR	202163012
IFA24-340,-395, IFA34-465,-585, IFA26-370,-415,	MOTOR, PSC, 115V, 1/3 HP, 1075 RPM (5 MFD CAP. NOT INCLUDED)	205051005
IFA36-490,-620, IFA28-410,-450, IFA38-540,-690	CAPACIFOR, 5MFD, FOR 1/3 HP (115V) PSC MOTOR	202163007
IFA24-126,-169, IFA34-224,-287, IFA26-145,-191, IFA36-240,-305, IFA28-151,-210, IFA38-260,-320	MOTOR, PSC, 230V, 1/8 HP, 1075 RPM (4 MFD CAP. NOT INCLUDED)	115248002
IFE24-105, IFE24-140, IFE34-175 IFE26-130, IFE26-150, IFE36-185	CAPACIFOR, 4MFD, FOR 1/8 HP (115 V, 230V, 460V.) PSC MOTOR	202163012
IFA24-340,-395, IFA34-465,-585, IFA26-370,-415, IFA36-415,-490,-620, IFA28-410,-450, IFA38-540,	MOTOR, PSC, 230V, 1/3 HP, 1075 RPM (7.5 MFD CAP. NOT INCLUDED)	205051004
IFA38-690, IFE24-230,-325, IFE34-390,-510 IFE26-270, IFE26-320,IFE36-385, -460, -520	CAPACIFOR, 7.5 MFD, FOR 1/3 HP (230V,460V) PSC MOTOR	202163008
IFA24-126,-169, IFA34-224,-287, IFA26-145,-191,	MOTOR, PSC, 460V, 1/8 HP, 1075 RPM (4 MFD CAP. NOT INCLUDED)	115248003
IFA36-240,-305, IFA28-151,-210, IFA38-260,-320	MOTOR, PSC, 575V, 1/8 HP, 1075 RPM (4 MFD CAP. NOT INCLUDED)	115951000
IFE24-105, IFE24-140, IFE34-175 IFE26-130, IFE26-150, IFE36-185	CAPACIFOR, 4MFD, FOR 1/8 HP (115 V, 230V, 460V.) PSC MOTOR	202163012
IFA24-340,-395, IFA34-465,-585, IFA26-370,-415,	MOTOR, PSC, 460V, 1/3 HP, 1075 RPM (7.5 MFD CAP. NOT INCLUDED)	205051006
IFA36-415,-490,-620, IFA28-410,-450, IFA38-540,	MOTOR, PSC, 575V, 1/3 HP, 1075 RPM (7.5 MFD CAP. NOT INCLUDED)	115950000
IFA38-690, IFE24-230,-325, IFE34-390,-510 IFE26-270, IFE26-320,IFE36-385, -460, -520	CAPACIFOR, 7.5 MFD, FOR 1/3 HP (230V,460V) PSC MOTOR	202163008
MODELS WIFH 14" FANS	MOTOR MOUNT 14"	21483700
MODELS WIFH 20" FANS	MOTOR MOUNT 20"	21022500