



INTER-TEMP INSTALLATION MAINTENANCE MANUAL

**IOM 102.1
NOVEMBER, 2003**

MODELS: ITA, ITE, ITG, ITH 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 customer's 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-Temp 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-Temp 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.

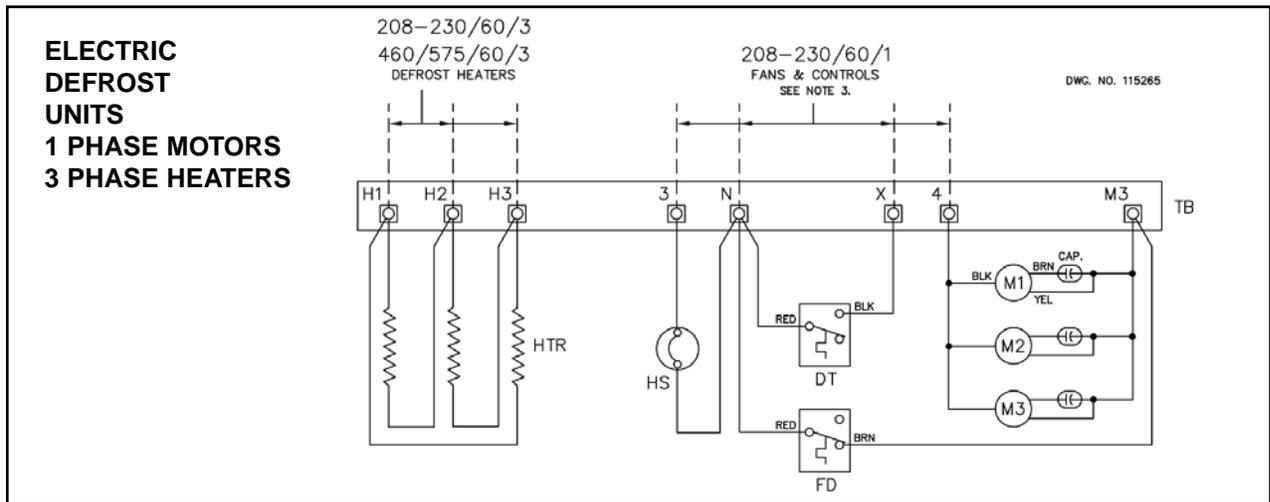
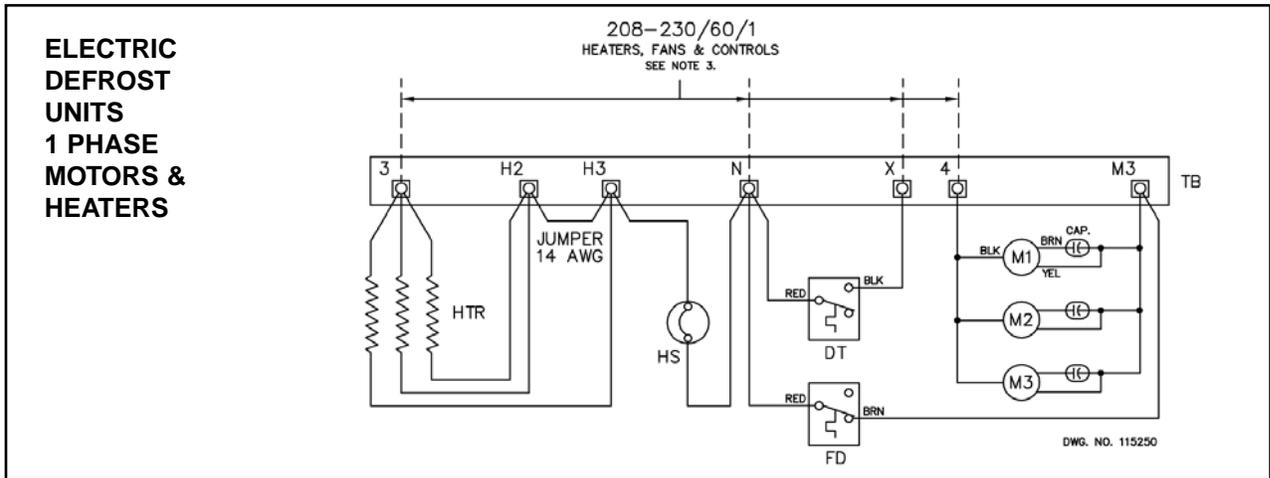
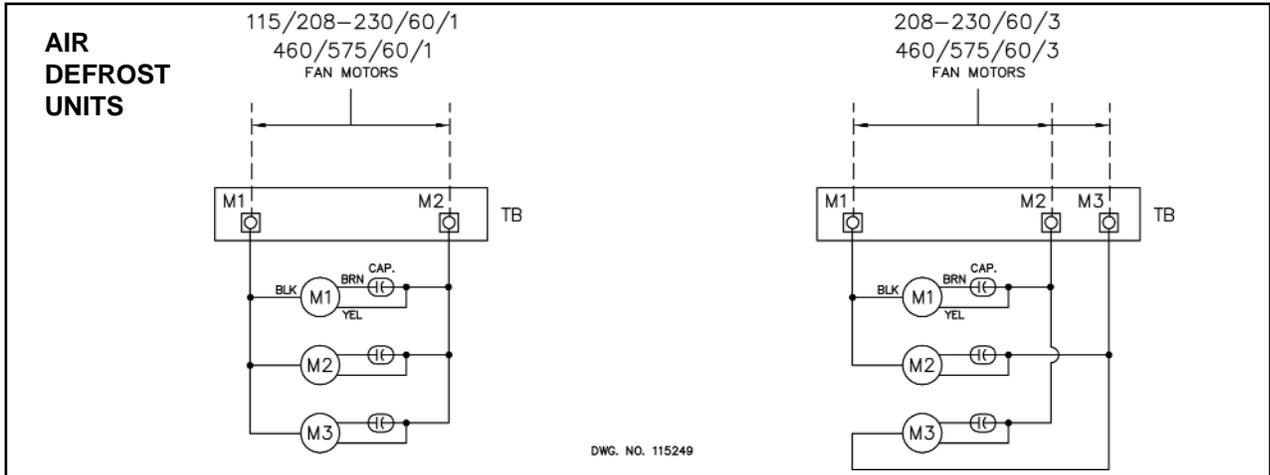
Evacuation

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:



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-TEMP — MODELS ITA, ITE, ITG, ITH

MODEL NUMBER	DESCRIPTION	PART NUMBER
ITA24-126,-169, ITA34-224,-287, ITA26-145,-191,	FAN BLADE, 14" 32° PIFCH, CW	214100000
ITA36-240,-305, ITA28-151,-210, ITA38-260,-320	FAN GUARD, 14" WIRE, EPOXY COATED	213626002
ITE24-105,-140,-175, ITE26-130,-150, ITE36-185	FAN GUARD, AIR STRAIGHTENER, 14"	113447000
ITA24-340,-395, ITA34-465,-585, ITA26-370,-415,	FAN BLADE, 20" 25° PIFCH, CW	213456000
ITA36-490,-620, ITA28-410,-450, ITA38-540,-690		
ITE24-230,-325, ITE34-390,-510, ITE26-270,	FAN GUARD, WIRE, EPOXY COATED, 20"	213484000
ITE26-320, ITE36-385, ITE36-460, ITE36-520	FAN GUARD, AIR STRAIGHTENER, 20"	106923000
ITA24-126,-169, ITA26-145,-191, ITA28-151,-210,	DRAIN PAN, 55" LENGTH*	11523801
ITE24-105,-140, ITE26-130,-150		
ITA34-224,287, ITA36-240,-305,	DRAIN PAN, 76" LENGTH*	11523901
ITA38-260,-320, ITE34-175, ITE36-185		
ITA24-340,-395, ITA26-370, ITA28-410,-450,	DRAIN PAN, 76" LENGTH*	11524001
ITE24-230,-325, ITE26-270,-320		
ITA34-465,-585, ITA38-540,-690, ITA36-415,-490	DRAIN PAN, 106" LENGTH*	11524101
ITA36-620, ITE34-390,-510, ITE36-385,-460,-520		
ALL ITE MODELS	DEFROST TERMINATION CONTROL	103079010
ALL ITE MODELS	FAN DELAY CONTROL	103079009
ALL ITE MODELS	HEATER SAFETY CONTROL	103079003
ITE24-105, ITE24-140,	DEFROST HEATERS, 240V, 1693 WATTS 50" LENGTH, 3 REQ.	206240022
ITE26-130, ITE26-150	DEFROST HEATERS, 460V, 1555 WATTS, 50" LENGTH, 3 REQ.	206240021
	DEFROST HEATERS, 575V, 1555 WATTS, 50" LENGTH, 3 REQ.	206240030
ITE34-175, ITE24-230, ITE24-325	DEFROST HEATERS, 240V, 2458 WATTS, 70" LENGTH, 3 REQ.	206240004
ITE36-185, ITE26-270, ITE26-320	DEFROST HEATERS, 460V, 2258 WATTS, 70" LENGTH, 3 REQ.	206240020
	DEFROST HEATERS, 575V, 2258 WATTS, 70" LENGTH, 3 REQ.	206240029
ITE34-390, ITE34-510,	DEFROST HEATERS, 240V, 3538 WATTS, 100" LENGTH, 3 REQ.	206240005
ITE36-385, ITE36-460, ITE36-520	DEFROST HEATERS, 460V, 3249 WATTS, 100" LENGTH, 3 REQ.	206240019
	DEFROST HEATERS, 575V, 3249 WATTS, 100" LENGTH, 3 REQ.	206240028
ITA24-126,-169, ITA34-224,-287, ITA26-145,-191,	MOTOR, PSC, 115V, 1/8 HP, 1075 RPM (4 MFD CAP. NOT INCLUDED)	115248001
ITA36-240,-305, ITA28-151,-210, ITA38-260,-320	CAPACIFOR, 4MFD, FOR 1/8 HP (115 V, 230V, 460V.) PSC MOTOR	202163012
ITA24-340,-395, ITA34-465,-585, ITA26-370,-415,	MOTOR, PSC, 115V, 1/3 HP, 1075 RPM (5 MFD CAP. NOT INCLUDED)	205051005
ITA36-490,-620, ITA28-410,-450, ITA38-540,-690	CAPACIFOR, 5MFD, FOR 1/3 HP (115V) PSC MOTOR	202163007
ITA24-126,-169, ITA34-224,-287, ITA26-145,-191,	MOTOR, PSC, 230V, 1/8 HP, 1075 RPM (4 MFD CAP. NOT INCLUDED)	115248002
ITA36-240,-305, ITA28-151,-210, ITA38-260,-320		
ITE24-105, ITE24-140, ITE34-175	CAPACIFOR, 4MFD, FOR 1/8 HP (115 V, 230V, 460V.) PSC MOTOR	202163012
ITE26-130, ITE26-150, ITE36-185		
ITA24-340,-395, ITA34-465,-585, ITA26-370,-415,	MOTOR, PSC, 230V, 1/3 HP, 1075 RPM (7.5 MFD CAP. NOT INCLUDED)	205051004
ITA36-415,-490,-620, ITA28-410,-450, ITA38-540,		
ITA38-690, ITE24-230,-325, ITE34-390,-510	CAPACIFOR, 7.5 MFD, FOR 1/3 HP (230V,460V) PSC MOTOR	202163008
ITE26-270, ITE26-320,ITE36-385, -460, -520		
ITA24-126,-169, ITA34-224,-287, ITA26-145,-191,	MOTOR, PSC, 460V, 1/8 HP, 1075 RPM (4 MFD CAP. NOT INCLUDED)	115248003
ITA36-240,-305, ITA28-151,-210, ITA38-260,-320	MOTOR, PSC, 575V, 1/8 HP, 1075 RPM (4 MFD CAP. NOT INCLUDED)	115951000
ITE24-105, ITE24-140, ITE34-175	CAPACIFOR, 4MFD, FOR 1/8 HP (115 V, 230V, 460V.) PSC MOTOR	202163012
ITE26-130, ITE26-150, ITE36-185		
ITA24-340,-395, ITA34-465,-585, ITA26-370,-415,	MOTOR, PSC, 460V, 1/3 HP, 1075 RPM (7.5 MFD CAP. NOT INCLUDED)	205051006
ITA36-415,-490,-620, ITA28-410,-450, ITA38-540,	MOTOR, PSC, 575V, 1/3 HP, 1075 RPM (7.5 MFD CAP. NOT INCLUDED)	115950000
ITA38-690, ITE24-230,-325, ITE34-390,-510	CAPACIFOR, 7.5 MFD, FOR 1/3 HP (230V,460V) PSC MOTOR	202163008
ITE26-270, ITE26-320,ITE36-385, -460, -520		
MODELS WITH 14" FANS	MOTOR MOUNT 14"	21483700
MODELS WITH 20" FANS	MOTOR MOUNT 20"	21022500