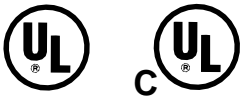




ALL-TEMP INSTALLATION AND MAINTENANCE MANUAL

Publication No. IOM 102.0
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MODELS : AA, AE, AG, AH 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 surfaces. 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. All-Temp units are draw through types, which discharge air directly from the fan into the room. Adequate clearances 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 packaging 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 all 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.

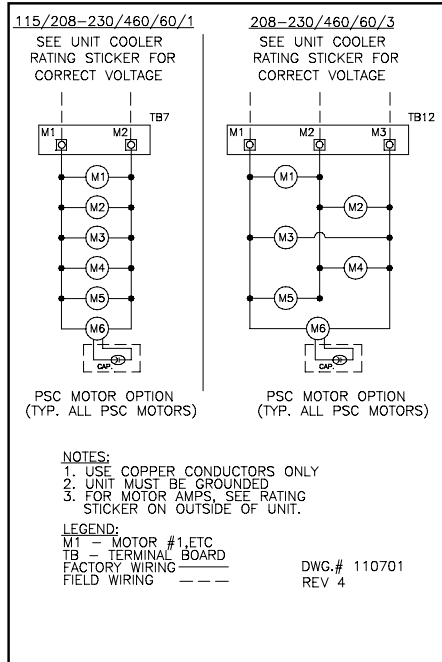
Wiring

All wiring must be done in compliance with local and national codes. Use only Copper conductors. Hot gas and 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.

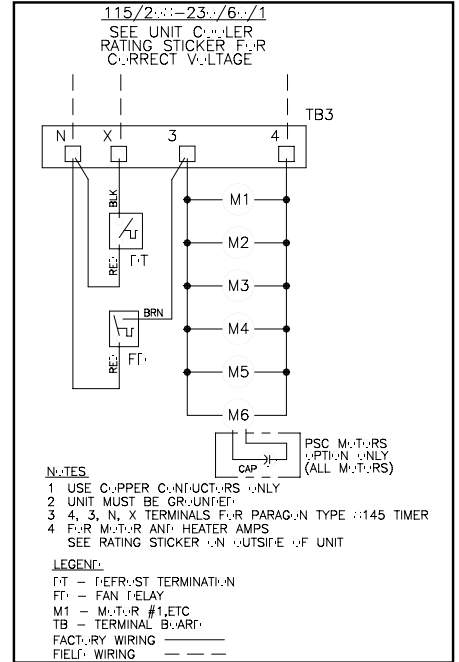
See the unit rating label for electrical requirements. A unit specific wiring diagram is located in the end panel of the evaporator.

Typical wiring diagrams

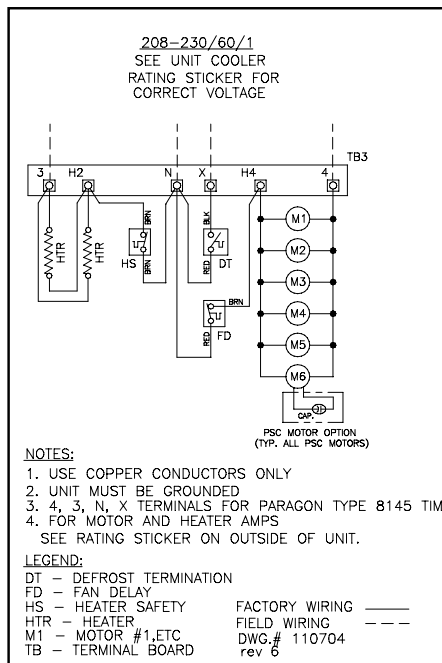
Air Defrost



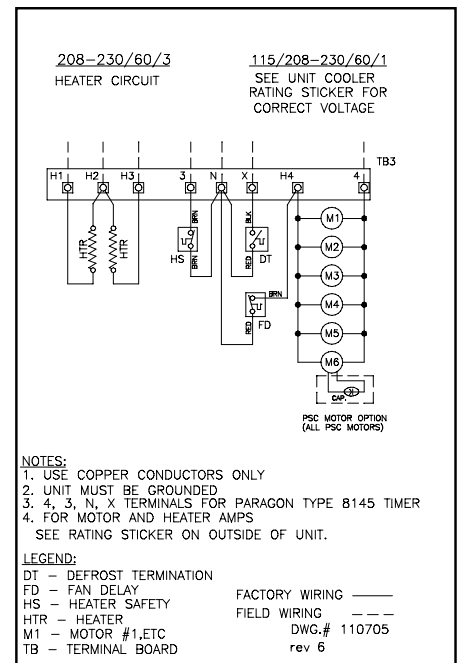
Hot Gas Defrost



Electric Defrost 208-230/1/60

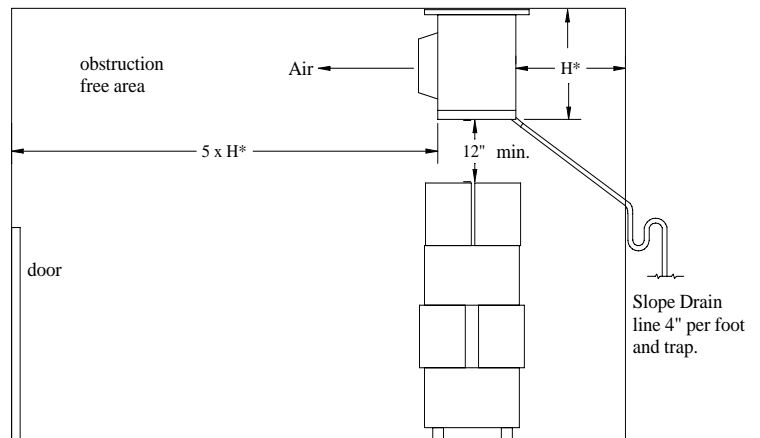
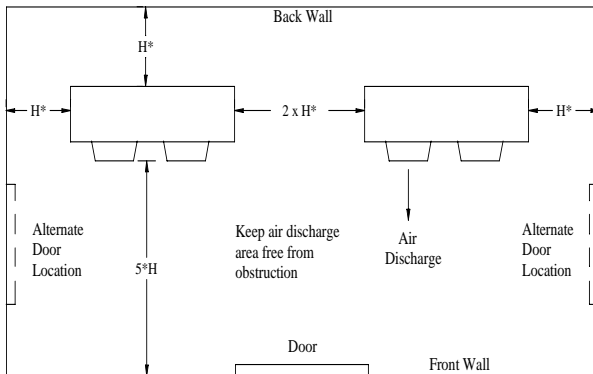


Electric Defrost 208-230/3/60



RECOMMENDED UNIT COOLER LOCATIONS

* Dimension "H" (unit cooler height) equals 15" for all models.



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 settings 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 procedures 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.

REPLACEMENT PARTS - LISTING BY PRODUCT MODEL NUMBER

ALL-TEMP²B - MODELS

MODEL NUMBER	DESCRIPTION	PART NUMBER
ALL "AE" MODELS	DEFROST CONTROL, DEFROST TERMINATION, (TIMER RESET) 2 WIRE	103079010
ALL "AE" MODELS	DEFROST CONTROL, FAN DELAY, 2 WIRE	103079009
1 - 6 FAN AE MODELS	HEATER SAFETY SWITCH, 2 WIRE	103079003
AE14-37B, AE16-36B,	DEFROST HEATER, CORE, 500 WATTS, 26-1/4" LENGTH, 208-230/460 V.	206240006
AE16-41B, AE16-46B	DEFROST HEATER, DRAIN PAN, 500 WATTS, 21" LENGTH, 208-230/460 V.	200172042
AE24-72B, AE24-85B,	DEFROST HEATER, CORE, 1000 WATTS, 44-1/4" LENGTH, 208-230/460 V.	206240008
AE26-92B	DEFROST HEATER, DRAIN PAN, 1000 WATTS, 39" LENGTH, 208-230/460 V.	200172044
AE26-60B, AE26-75B	DEFROST HEATER, CORE, 800 WATTS, 40-1/4" LENGTH, 208-230/460 V.	206240007
	DEFROST HEATER, DRAIN PAN, 800 WATTS, 35" LENGTH, 208-230/460 V.	200172043
AE34-105B, AE36-120B,	DEFROST HEATER, CORE, 1500 WATTS, 62-1/4" LENGTH, 208-230/460 V.	206240009
AE36-140B	DEFROST HEATER, DRAIN PAN, 1500 WATTS, 57" LENGTH, 208-230/460 V.	200172045
AE44-140B, AE46-164B,	DEFROST HEATER, CORE, 2000 WATTS, 80-1/4" LENGTH, 208-230/460 V.	206240010
AE46-185B	DEFROST HEATER, DRAIN PAN, 2000 WATTS, 75" LENGTH, 208-230/460 V.	200172046
AE54-180B, AE56-210B	DEFROST HEATER, CORE, 2500 WATTS, 97-3/4" LENGTH, 208-230 V.	206240011
	DEFROST HEATER, DRAIN PAN, 2500 WATTS, 93" LENGTH, 208-230/460 V.	200172047
AE64-215B, AE66-245B,	DEFROST HEATER, CORE, 3000 WATTS, 115-3/4" LENGTH, 208-230/460 V.	206240012
AE66-280B	DEFROST HEATER, DRAIN PAN, 3000 WATTS, 111" LENGTH, 208-230/460 V.	200172048
1 FAN AA, & AE MODELS	DRAIN PAN, 27" LENGTH	20927501
AA28-76B, -97B, -122B,	DRAIN PAN, 41" LENGTH	20927502
AA26-70B, -87B, AE26-60B,		
AE26-75B, AE24-85B		
AA28-106B, AA28-134B,	DRAIN PAN, 45" LENGTH	20927503
AA26-115B, AE26-92B		
3 FAN AA & AE MODELS	DRAIN PAN, 63" LENGTH	20927601
4 FAN AA & AE MODELS*	DRAIN PAN, 81" LENGTH	20927602
5 FAN AA & AE MODELS*	DRAIN PAN, 99" LENGTH	20927701
6 FAN AA & AE MODELS*	DRAIN PAN, 117" LENGTH	20927702

FOLLOWING HOT GAS DRAIN PANS ARE FOR UNITS PRODUCED AFTER AUGUST 3, 1992.

FOR EARLIER VINTAGE USE THE ABOVE LISTED AA/AE DRAIN PANS.

1 FAN AG, & AH MODELS	DRAIN PAN, 27" LENGTH - AFTER 8/3/92, ELSE USE EQUIV. AA/AE DRAIN PAN	20935800
AG26-60B, AH26-60B,	DRAIN PAN, 41" LENGTH - AFTER 8/3/92, ELSE USE EQUIV. AA/AE DRAIN PAN	20935900
AG26-75B, AH26-75B		
AG26-92B, AH26-92B	DRAIN PAN, 45" LENGTH - AFTER 8/3/92, ELSE USE EQUIV. AA/AE DRAIN PAN	20936000
3 FAN AG, & AH MODELS	DRAIN PAN, 63" LENGTH - AFTER 8/3/92, ELSE USE EQUIV. AA/AE DRAIN PAN	20936100
4 FAN AG, & AH MODELS*	DRAIN PAN, 81" LENGTH - AFTER 8/3/92, ELSE USE EQUIV. AA/AE DRAIN PAN	20936200
5 FAN AG, & AH MODELS*	DRAIN PAN, 99" LENGTH - AFTER 8/3/92, ELSE USE EQUIV. AA/AE DRAIN PAN	20936300
6 FAN AG, & AH MODELS*	DRAIN PAN, 117" LENGTH - AFTER 8/3/92, ELSE USE EQUIV. AA/AE DRAIN PAN	20936400
All ALL-TEMP ² MODELS	FAN BLADE, 12" DIAM., 24° PITCH, CW	10794300
1 - 3 FAN AE MODELS	FAN GUARD, PLASTIC, LOW THROW - NO LONGER AVAILABLE	NLA
ALL MODELS (OPTIONAL)	FAN GUARD, PLASTIC, HIGH THROW, 12"	205925001
ALL MODELS (OPTIONAL)	FAN GUARD, WIRE, EPOXY COATED, 12"	201006003
ALL MODELS	FAN GUARD, PLASTIC, BLACK, 12"	119947000
ALL MODELS	FAN GUARD, WIRE, EPOXY COATED, BLACK, 12"	201006011
ALL MODELS	MOTOR MOUNT	210620000
ALL MODELS (OPTIONAL)	MOTOR, PSC, 1/20 HP, 1550 RPM, 115 V., (3 MFD CAPACITOR NOT INCLUDED)	108178001
	MOTOR, PSC, 1/20 HP, 1550 RPM, 230 V., (2 MFD CAPACITOR NOT INCLUDED)	108178002
	CAPACITOR, 3 MFD, FOR 1/20 115 V. PSC MOTOR	202163010
	CAPACITOR, 2 MFD, FOR 1/20 230 V. PSC MOTOR	202163009
ALL MODELS	MOTOR, SHADED POLE, 1/20 HP, 1550 RPM, 115 V.	102540003
	MOTOR, SHADED POLE, 1/20 HP, 1550 RPM, 208-230 V.	102540004
	MOTOR, SHADED POLE, 1/20 HP, 1550 RPM, 460 V.	102540005

* ALL 4 - 6 FAN MODEL DRAIN PANS SHIP VIA COMMON CARRIER ONLY, NO UPS.