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Center Mount and Low Velocity Center Mount Unit Coolers

Air and Electric Defrost Models





Shown with optional EcoNet® Enabled Controller and Command Center

Installation and Operations Manual

Center Mount and Low Velocity Center Mount Unit Coolers

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 claims with the freight company.

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.

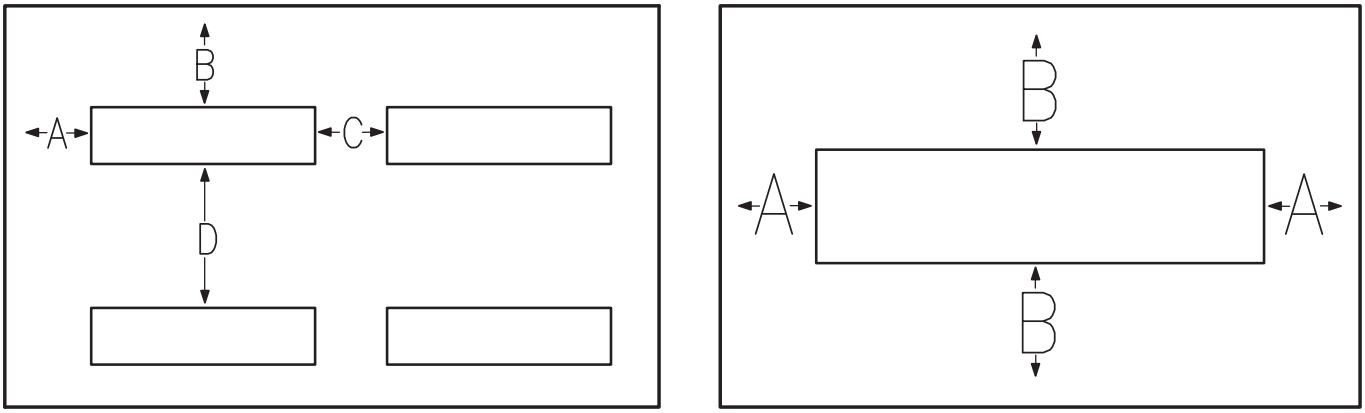
CAUTION: Avoid contact with sharp edges and coil surfaces. They are potential hazards.

Determine the best location for the unit cooler in the space to be refrigerated. Placement of the unit should be centered in the room and away from an open door to keep warm, outside air from being drawn into the unit. Center Mount and Low Velocity Center Mount models are dual discharge units. These dual discharge units, draw air up through the fan blades and discharges out the coils length.

Adequate clearances should be maintained to allow for proper air flow through the unit and to allow for regular maintenance and service (See Figure 1 for recommended location guidelines).

The drain line should be pitched a minimum of 1/4 inches per foot to allow proper drainage and should exit the room as quickly as possible. Do not reduce the drain line size. All drain lines must be trapped outside of the enclosure where the temperature is never below 35°F. Drain lines should run to an open drain and should never be connected directly to a sewage or waste line. Drain lines should be heated and insulated to prevent freezing.

Figure 1



Recommended Maximum/Minimum Dimensions
Center Mount Unit Cooler Installations

A		B		C		D	
MAX. 20'	MIN. 2'	MAX. 20'	MIN. 3'	MAX. 40'	MIN. 3'	MAX. 40'	MIN. 8'

Wiring

For wiring diagrams, see Figures 2, 3 and 4.

Expansion Valve

Expansion valves should be selected and installed in accordance with the valve manufacturers recommendations. All units require externally equalized expansion valves and must have the equalizer line connected. The expansion valve bulb must be insulated and securely clamped 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 and medium temperature systems will usually operate more efficiently with a superheat setting of 6.0°F at design room temperature (always maintain a 20°F compressor superheat).

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 systems is 15°F. The maximum recommended TD for low temperature systems is 13°F.

Evacuation

Proper installation procedures must include a deep evacuation of the system. A clean/dry system is essential when charging refrigerant.

General Maintenance

Disconnect all electrical power to the unit before inspecting or cleaning. Evaporator coils, blades and guards should be checked periodically and cleaned of all dirt or grease accumulation. 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 permanently clear any drain restriction. The fan motors are permanently lubricated and do not require periodic oiling.

Figure 2

Wiring Diagram - Air Defrost

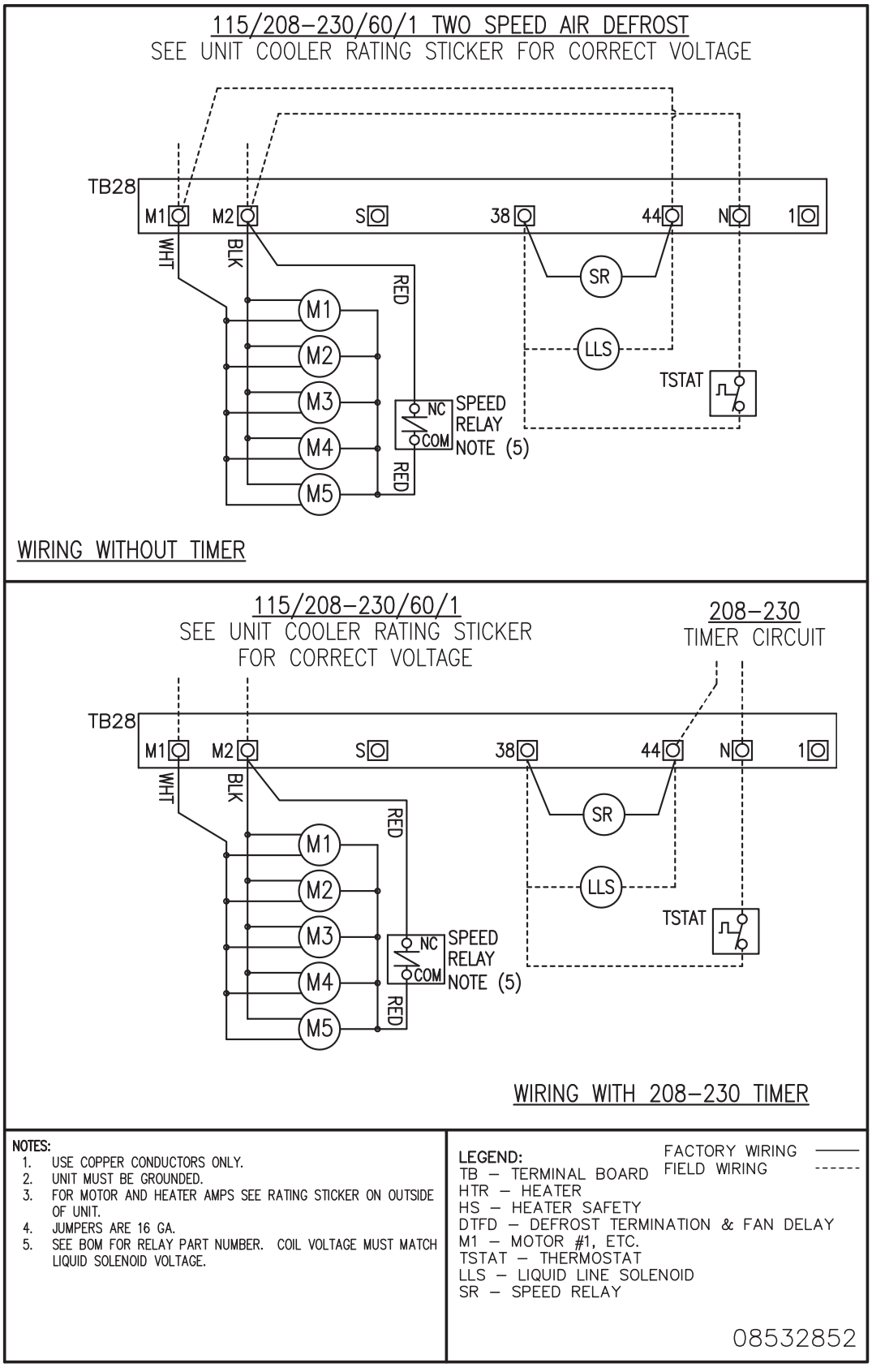
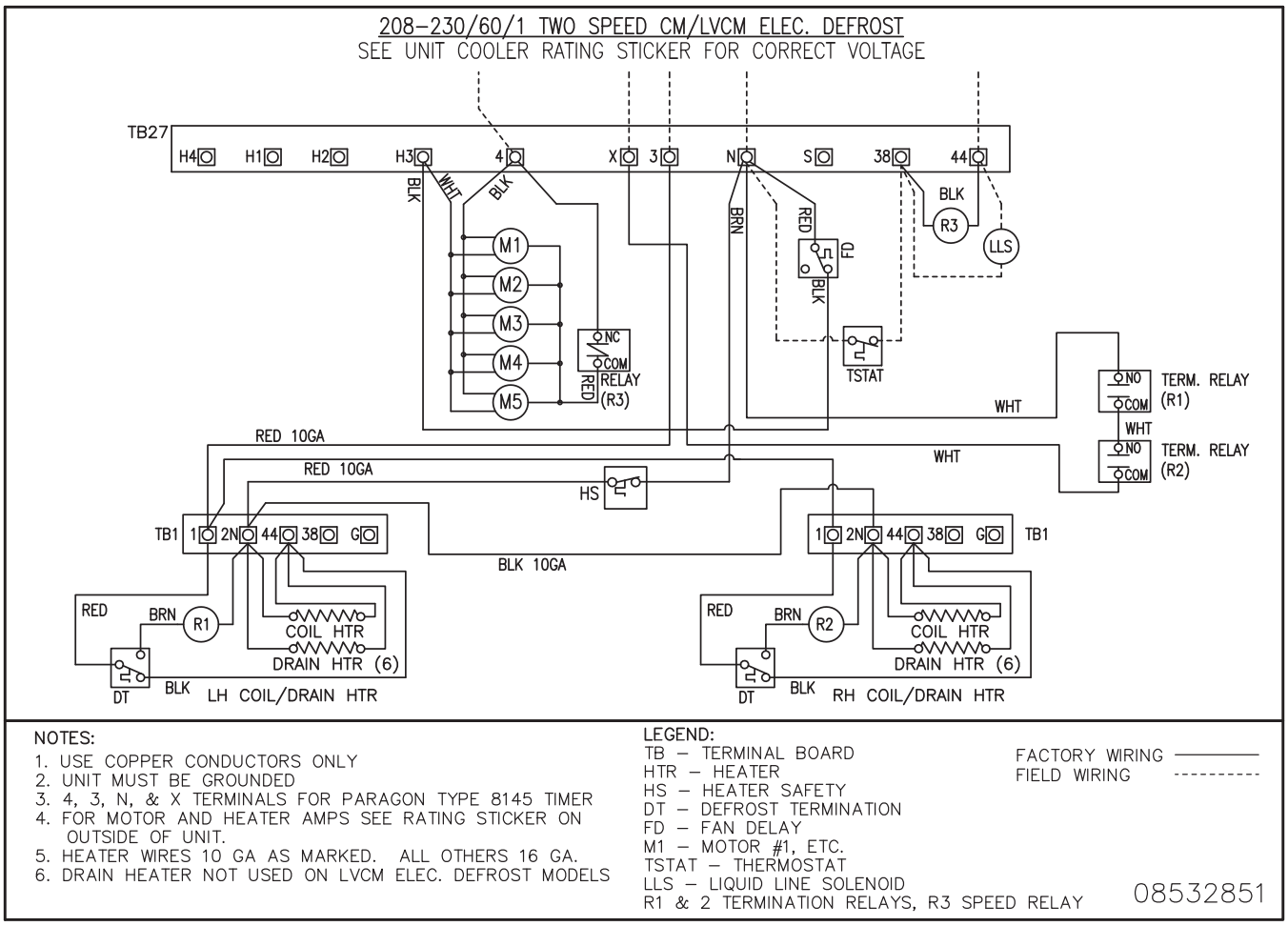


Figure 3

Wiring Diagram - Electric Defrost



NOTES:
1. USE COPPER CONDUCTORS ONLY
2. UNIT MUST BE GROUNDED
3. 4, 3, N, & X TERMINALS FOR PARAGON TYPE 8145 TIMER
4. FOR MOTOR AND HEATER AMPS SEE RATING STICKER ON OUTSIDE OF UNIT.
5. HEATER WIRES 10 GA AS MARKED. ALL OTHERS 16 GA.
6. DRAIN HEATER NOT USED ON LVCM ELEC. DEFROST MODELS

LEGEND:
TB – TERMINAL BOARD
HTR – HEATER
HS – HEATER SAFETY
DT – DEFROST TERMINATION
FD – FAN DELAY
M1 – MOTOR #1, ETC.
TSTAT – THERMOSTAT
LLS – LIQUID LINE SOLENOID
R1 & 2 TERMINATION RELAYS, R3 SPEED RELAY

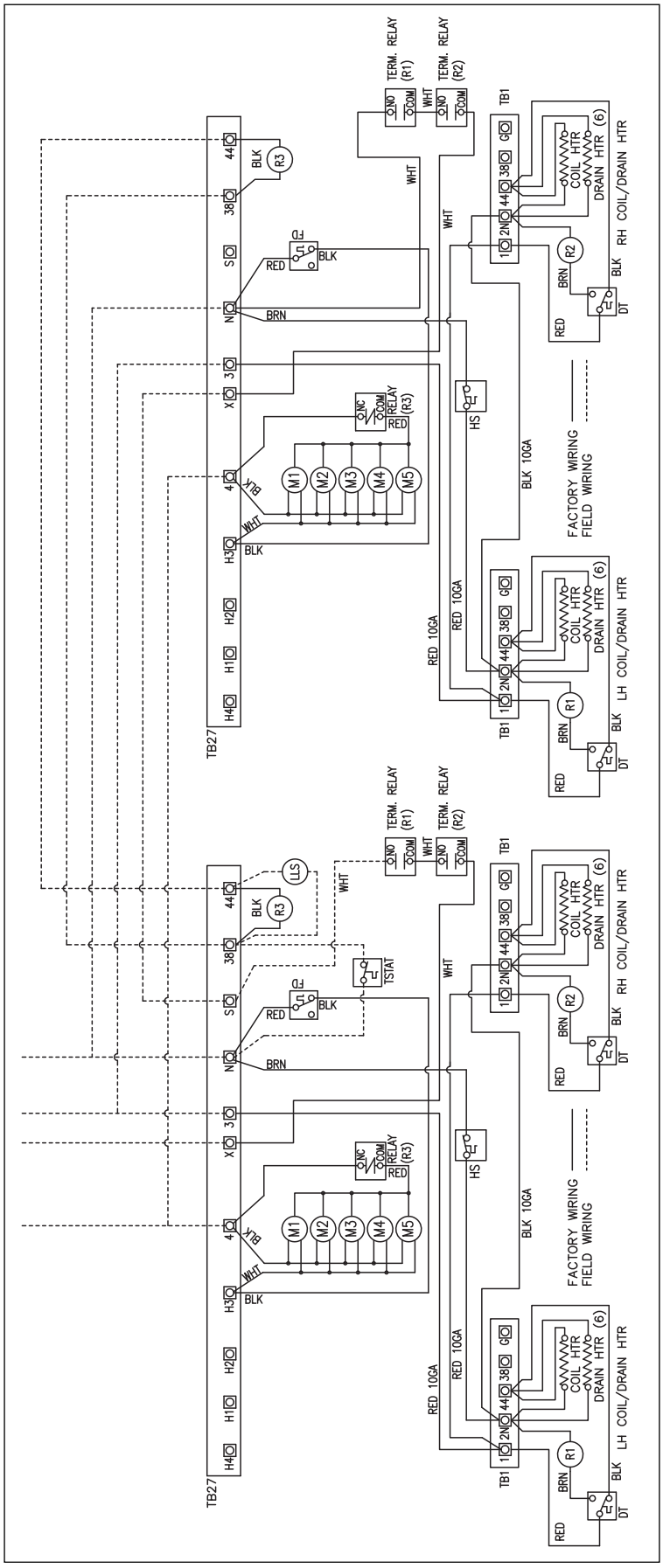
FACTORY WIRING ————
FIELD WIRING ----------

08532851

Center Mount and Low Velocity Center Mount Unit Coolers

Figure 4

Wiring Diagram - Two Unit Coolers Connected to One Condensing Unit



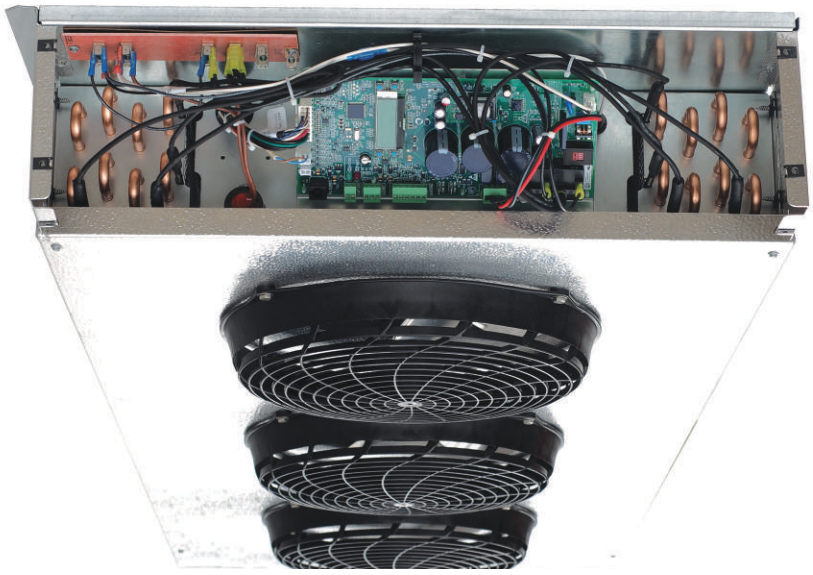
Optional Components - EcoNet® Enabled Unit Coolers

The award-winning EcoNet Enabled Controller and EcoNet Command Center bring easy-to-use smart technology to commercial refrigeration applications.

The optional EcoNet Controller gives customers a higher level of efficiency and more control of their walk-in units for greater energy savings. The EcoNet Controller is shipped from the factory with the controller board already installed and all sensors and relays wired. The controller replaces the TXV, liquid line solenoid valve, room thermostat, time clock, and defrost termination and fan delay. Parameters are pre-selected to match equipment.

The optional EcoNet Command Center allows for EcoNet Enabled Unit Coolers to be programmed, monitored, and troubleshot outside of the space being cooled. The EcoNet Command Center is shipped loose and includes everything in the box to quickly install the device on a wall outside of the walk-in. System set up is easy with the intuitive touchscreen installer settings.

If the Center Mount or Low Velocity Center Mount Unit Cooler has the factory-installed EcoNet Enabled Controller (see photo below), you will need to reference the EcoNet Enabled Unit Coolers Installation and Operations Manual for further assistance.



EcoNet Enabled Controller
(factory-installed)



EcoNet Command Center
(shipped loose)

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Center Mount / Low Velocity Center Mount Replacement Parts

TO INQUIRE OR ORDER REPLACEMENT PARTS

Email: parts@htpg.com

Telephone: 1-855-HTPARTS
(1-855-487-2787)

Fax: (256) 259-7478

1. Provide the complete Model Number and Serial Number of the unit.
2. Provide a detailed description of the part with any model, diameter, HP, or other markings.
3. State the quantity you are ordering.
4. Advise special shipping methods, routes, procedures, or instructions with ship to address.
5. Provide complete and accurate data to insure prompt and accurate delivery.

Part Number	Description
08532114	HTR,1F,230,300W
08532115	HTR,2F,230,600W
08532116	HTR,3F,230,900W
08532117	HTR,4F,230,1200W
08532118	HTR,5F,230,1500W
08532119	HTR,5F TALL,230,2250W
08532326	DPAN HTR,1F,230,75W RH
08532327	DPAN HTR,2F,230,150W RH
08532328	DPAN HTR,3F,230,225W RH
08532329	DPAN HTR,4F,230,300W RH
08532330	DPAN HTR,5F,230,375W RH
08532331	DPAN HTR,5F TALL,230,560W RH
08532212	MOTOR HARNESS,CT,1 FAN,3WIRE
08532213	MOTOR HARNESS,CT,2 FAN,3WIRE
08532214	MOTOR HARNESS,CT,3 FAN,3WIRE
08532215	MOTOR HARNESS,CT,4 FAN,3WIRE
08532216	MOTOR HARNESS,CT,5 FAN,3WIRE
08216211	MOTOR,35W,EC,115/230,2SP,REGAL
08216216	MOTOR,35W,EC,115/230,2SP,NIDEC
08221247	FAN,PROP.,12-20X1/4,CCW,AL,ECM
08321626	FAN GUARD, 12"
08219328	DTFD
103079009	CONTROL,FAN DELAY O45/C35
103079003	HTR SFTY
207757027	TERMINAL BOARD,TB27
207757028	TERMINAL BOARD,TB28
08321625	HEATER CLIP, COIL
08218514	RELAY,SPDT,240V COIL,SEALED
08532306	1 FAN VENTURI, CT, EMB ALUM
08532307	2 FAN VENTURI, CT, EMB ALUM
08532308	3 FAN VENTURI, CT, EMB ALUM
08532309	4 FAN VENTURI, CT, EMB ALUM
08532310	5 FAN VENTURI, CT, EMB ALUM
08532555	DRAIN PAN, COIL, 1 FAN
08532556	DRAIN PAN, COIL, 2 FAN
08532111	DRAIN PAN, COIL, 3 FAN
08532557	DRAIN PAN, COIL, 4 FAN
08532558	DRAIN PAN, COIL, 5 FAN

Due to continuing product development, specifications are subject to change without notice.