



Freezer to Cooler Conversion

Prepared by Carl Roberts, 1995, RevB

For freezer-to-cooler conversion, the following items must be considered:

Expansion Valve

Expansion valve replacement is advisable (especially since they don't cost much). Select a replacement valve based on desired evaporator temperature, refrigerant and BTU/HR requirement as shown in the table below. The existing valve may be adequate but a different charge (power head) must be installed. Consult your valve dealer for more information. The orifice at the distributor should **not** require replacement.

Compressor Size

Use the approximate BTU/HR values from the corresponding cooler specifications (as shown below). Then your compressor dealer can provide an appropriately sized condensing unit (or rack) based on required BTU/HR and refrigerant type. Notably, these BTU/HR values include a generous factor-of-safety for fast pull-down, food safety, and to account for variations in lighting, doors, heaters and insulation quality.

<u>FREEZER</u>		<u>COOLER</u>	<u>REQUIRED BTU/HR</u>
RI-2-DFR (2 door)	becomes a	RI-2-DCR requiring	2700 BTU/HR @ 20°F Evap. Temp.
RI-3-DFR (3 door)	becomes a	RI-3-DCR requiring	4300 BTU/HR @ 20°F Evap. Temp.
RI-4-DFR (4 door)	becomes a	RI-4-DCR requiring	5900 BTU/HR @ 20°F Evap. Temp.
RI-5-DFR (5 door)	becomes a	RI-5-DCR requiring	7500 BTU/HR @ 20°F Evap. Temp.
RI-2-DFR-KT (30" door)	becomes a	RI-2-DCR-GIA req.	4200 BTU/HR @ 20°F Evap. Temp.
RI-3-DFR-KT (30" door)	becomes a	RI-3-DCR-GIA req.	6100 BTU/HR @ 20°F Evap. Temp.
RI-4-DFR-KT (30" door)	becomes a	RI-4-DCR-GIA req.	7900 BTU/HR @ 20°F Evap. Temp.
RI-5-DFR-KT (30" door)	becomes a	RI-5-DCR-GIA req.	9800 BTU/HR @ 20°F Evap. Temp.

(freezer model #'s ending in "-KTB" may be treated as ending in "-KT")

Lighting

If equipped with T-10 lighting, converting 1500mA lamps and ballasts to 800mA lamps and ballasts will reduce case heating and energy requirements. To reduce the initial freezer-to-cooler conversion cost, you

may postpone lighting conversion until the ballasts fail. If equipped with T-8 lighting, the lighting system needs no conversion.

Anti-condensate Heaters

Door heaters **or** mullion heaters (but not both) can be disconnected entirely. The remaining heaters (including the perimeter heater) may be cycled to save energy.

Defrost System

Abandon the defrost clock and heater by pulling all the defrost pins. Setting the LP control (or t-stat) to cut in at 40°F (jumpering the fans, lights and anti-condensate heaters as needed to run constantly) provides an off-cycle defrost. Abandon all Klixons.