PECI Grocery Model

#### Refrigeration Base Case Description

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| **Item** | **Multiple Compressor Racks** | **Stand alone Compressors** |
| Refrigerant | R507 | R404A |
| System Type | Parallel (rack) systems | Condensing Units |
| Compressor Type and Suction Groups | LT Semi-Hermetic:  Rack A: 4dl3-150e (15 HP)  3ds3-100e (10 HP)  3ds3-100e (10 HP)  3db3-0750 (7.5 HP)  MT Semi-Hermetic:  Rack A: 3ds-150e (15 HP)  3db3-100e (10 HP)  2da3-075e (7.5 HP)  Rack B: 3ds-150e (15 HP)  3ds-150e (15 HP)  3db3-100e (10 HP)  2da3-075e (7.5 HP)  2da3-075e (7.5 HP) | LT Semi-Hermetic:  Stand alone B: 2DA3F23KE ( 6 HP- CZ 1,  3, 4, 5, 6, 7, 8, 16)  3DB3F33KE (7.5 HP- CZ 2,  9, 10, 11, 12, 13, 14, 15)  Stand alone C: 3DB3F33KE (7.5 HP- CZ 1,  2, 3, 4, 5,6, 7, 8, 9, 16)  3DFDF40KE (9 HP- CZ 10,  11, 12, 13, 14, 15)  MT Scroll:  Stand alone C: ZB66KCE ( 9 HP- CZ 1, 2,  3, 4, 5,6, 7, 8, 9, 16)  ZF33K4E (10 HP- CZ 10,  11, 12, 13, 14, 15)  Stand alone D: ZB66KCE (9 HP- CZ 1, 2,  3, 4, 5,6, 7, 8, 9, 16)  ZF33K4E (10 HP- CZ 10,  11, 12, 13, 14, 15)  Stand alone E: ZB66KCE ( 9 HP- CZ 1, 2,  3, 4, 5,6, 7, 8, 9, 16)  ZF33K4E (10 HP- CZ 10,  11, 12, 13, 14, 15)  Stand alone F: ZB66KCE (9 HP- CZ 1, 2,  3, 4, 5,6, 7, 8, 9, 16)  ZF33K4E (10 HP- CZ 10,  11, 12, 13, 14, 15) |
| Pressure Drop between SET and SST | 3°F | 3°F |
| Means of compressor control | Fixed setpoint electronic sequencing control with on/off cycling | Fixed setpoint electronic sequencing control with on/off cycling |
| Subcooling | None | None |
| Condenser Type | LT air-cooled remote condenser  (CZ 1,2,3,4,5,6,7,8,9,10,11,12,13,16)  MT air-cooled remote condenser  (CZ 1,2,3,4,5,6,7,8,9,10,11,12,13,16)  MT/LT combined evaporative-cooled remote condenser (CZ 14,15) | Air-cooled remote condensing unit (all CZ) |
| Condenser Selection Design TD | 12°F TD for LT air-cooled condensers  17°F TD for MT air-cooled condensers  27°F TD for evaporative-cooled condensers | Condenser packaged with compressor- condensing unit sized by design suction and outside air temperature. |
| Condenser Fans: Motor Power | Air-cooled LT:  3 -1 HP fans (CZ 1, 2, 3, 4, 5, 6, 7, 8, 9, 16)  4-1 HP fans (CZ 10, 11, 12, 13)  Air-cooled MT:  8- 1 Hp fans  Evap-cooled:  1- 7.5 HP fan, 2-spd | LT: 1 fan @ 510 Watts  MT: 1 fan @ 1020 Watts |
| Means of Condenser Control | Fixed setpoint strategy  Air cooled: fan cycling (based on pressure)  Evap-cooled: two-speed fan control | Air cooled: single fan on/off (based on compressor ON/OFF) |
| Condensing Temperature Setpoint | 72°F SCT  68°F backflood control (adjustable valve) | N/A  93°F backflood control (fixed valve) |
| Heat Recovery (domestic hot water heating) | None | None |
| Display Cases |  |  |
| Night curtains/covers | Base case #1) None  Base case #2) Deployed on dairy/bev 3 and 4 cases only | same |
| Display Cases and walk-ins served by LT System | LT Suction Group A:  1) Frozen Food Reach-in Multideck  Case Length: 190 ft (76 doors)  Evaporator Temperature: -18°F  Discharge Temperature: -10°F  Coil Capacity: 1511 Btu/hr-door  Fan Power: 50 W/door  Canopy Light Watts: 76 W/door  Defrost Type: Electric  Defrost Freq x Duration: 1/day x 49 mins.  ASH = 214 W/door, humidity control  2) LT walk-in #2 (Frozen food)  Evaporator temperature: -13°F  Discharge Temperature: -9°F  Fan air flow: 6648 CFM  Fan power: 0.169 W/CFM  Coil Capacity: 35,000 BTU/hr | LT Suction Group B:  1) Ice Cream Island/coffin Open Narrow  Case Length: 48 ft  Evaporator Temperature: -20°F  Discharge Temperature: -12°F  Coil Capacity: 550 Btu/hr-ft  Fan Power: 36 Watts/ft  No. Lights: 0  Defrost Type: Electric  Defrost Freq x Duration: 1/day x 49 mins  ASH = 24 W/ft, humidity control  LT Suction Group C:  1) LT walk-in #1 (Ice Cream)  Evaporator temperature: -20°F  Discharge Temperature: -16°F  Fan air flow: 6648 CFM  Fan power: 0.169 W/CFM  Coil Capacity: 35,000 BTU/hr |
| Display Case served by MT System  \* cases with measure applied to them: doors on open cases. | MT Suction Group A:  1) Produce Island/coffin double  Case Length: 88 ft  Evaporator Temperature: +31°F  Discharge Temperature: +41°F  Coil Capacity: 415 Btu/hr-ft  Fan Power: 36 Watts/ft  No. Canopy Lights: 0  Defrost Type: Off Cycle  Defrost Freq x Duration: 1/day x 49 mins.  2) Produce open single deck  Case Length: 24 ft  Evaporator Temperature: +31°F  Discharge Temperature: +41°F  Coil Capacity: 451 Btu/hr-ft  Fan Power: 10 Watts/ft  Canopy Light Power: 3 W/ft  Defrost Type: Off Cycle  Defrost Freq x Duration: 1/day x 49 mins.  3) MT walk-in #2 (meat/fish)  Evaporator temperature: +29°F  Discharge Temperature: +33°F  Fan air flow: 2560 CFM  Fan power: 0.169 W/CFM  Coil Capacity: 33,700 BTU/hr  4) MT walk-in #3 (prep)  Evaporator temperature: +40°F  Discharge Temperature: +50°F  Fan air flow: 2560 CFM  Fan power: 0.165W/CFM  Coil Capacity: 33,700 BTU/hr  5) MT walk-in #4 (Beverage)  Evaporator temperature: +31°F  Discharge Temperature: +35°F  Fan air flow: 2560 CFM  Fan power: 0.169 W/CFM  Coil Capacity: 33,700 BTU/hr  6) MT walk-in #5 (Dairy)  Evaporator temperature: +31°F  Discharge Temperature: +35°F  Fan air flow: 3844 CFM  Fan power: 0.169 W/CFM  Coil Capacity: 50,600 BTU/hr  7) MT walk-in #7 (Produce)  Evaporator temperature: +31°F  Discharge Temperature: +35°F  Fan air flow: 2332 CFM  Fan power: 0.169 W/CFM  Coil Capacity: 33,700 BTU/hr  MT Suction Group B:  1) Deli open multi- deck  Case Length: 144 ft  Evaporator Temperature: +21°F  Discharge Temperature: +31°F  Coil Capacity: 1545 Btu/hr-ft  Fan Power: 38 Watts/ft  Shelf Light Power: 0.5 W/ft  Defrost Type: Off Cycle  Defrost Freq x Duration: 4/day x 49 mins.  2) Deli open single deck  Case Length: 24 ft  Evaporator Temperature: +21°F  Discharge Temperature: +31°F  Coil Capacity: 1545 Btu/hr-ft  Fan Power: 10 Watts/ft  Shelf Light Power: 0.83 W/ft  Defrost Type: Off Cycle  Defrost Freq x Duration: 4/day x 49 mins.  3) cake closed rear entry multideck  Case Length: 24 ft  Evaporator Temperature: +20°F  Discharge Temperature: +30°F  Coil Capacity: 710 Btu/hr-ft  Fan Power: 68 Watts/ft  Canopy Light Power: 10 W/ft  Defrost Type: Off Cycle  Defrost Freq x Duration: 2/day x 49 mins.  4) meat island/coffin open double  Case Length: 48 ft  Evaporator Temperature: +20°F  Discharge Temperature: +30°F  Coil Capacity: 415 Btu/hr-ft  Fan Power: 36 Watts/ft  Light Power: 0  Defrost Type: Off Cycle  Defrost Freq x Duration: 2/day x 49 mins.  5) meat curved glass rear entry  Case Length: 60 ft  Evaporator Temperature: +20°F  Discharge Temperature: +30°F  Coil Capacity: 711 Btu/hr-ft  Fan Power: 18 Watts/ft  Canopy Light Power: 10 W/ft  Defrost Type: Off Cycle  Defrost Freq x Duration: 1/day x 49 mins.  6) Dairy/Bev open multi- deck\*  Case Length: 80 ft  Evaporator Temperature: +24°F  Discharge Temperature: +32°F  Coil Capacity: 1600 Btu/hr-ft  Fan Power: 10 Watts/ft  Canopy Light Power: 16 W/ft  Defrost Type: Off Cycle  Defrost Freq x Duration: 4/day x 49 mins.  Infiltration rate: 1331 BTU/hr-ft  Conduction rate: 208 BTU/hr-ft | MT Suction Group C:  1) MT walk-in #1 (Meat)  Evaporator temperature: +26°F  Discharge Temperature: +30°F  Fan air flow: 2560 CFM  Fan power: 0.169 W/CFM  Coil Capacity: 33,700 BTU/hr  2) MT walk-in #6 (Deli)  Evaporator temperature: +26°F  Discharge Temperature: +30°F  Fan air flow: 2560 CFM  Fan power: 0.169 W/CFM  Coil Capacity: 33,700 BTU/hr  MT Suction Group D:  1) Dairy/Bev open multi- deck  Case Length: 40 ft  Evaporator Temperature: +20°F  Discharge Temperature: +30°F  Coil Capacity: 1675 Btu/hr-ft  Fan Power: 38 Watts/ft  Canopy Light Power: 18 W/ft  Defrost Type: Off Cycle  Defrost Freq x Duration: 4/day x 49 mins.  MT Suction Group E:  1) Dairy/Bev open multi- deck  Case Length: 40 ft  Evaporator Temperature: +20°F  Discharge Temperature: +30°F  Coil Capacity: 1675 Btu/hr-ft  Fan Power: 38 Watts/ft  Canopy Light Power: 18 W/ft  Defrost Type: Off Cycle  Defrost Freq x Duration: 4/day x 49 mins.  MT Suction Group F:  1) Dairy/Bev open multi- deck\*  Case Length: 40 ft  Evaporator Temperature: +24°F  Discharge Temperature: +32°F  Coil Capacity: 1600 Btu/hr-ft  Fan Power: 10 Watts/ft  Canopy Light Power: 16 W/ft  Defrost Type: Off Cycle  Defrost Freq x Duration: 4/day x 49 mins.  Infiltration rate: 1331 BTU/hr-ft  Conduction rate: 208 BTU/hr-ft |