



## PRODUCT DATA & INSTALLATION

Bulletin K30-KLPD-PDI-4  
Part # 1109283



**PRODUCT SUPPORT**  
web: [www.k-rp.com/klp](http://www.k-rp.com/klp)  
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scan:



# KLP **New Generation "D"** Low Profile Evaporator

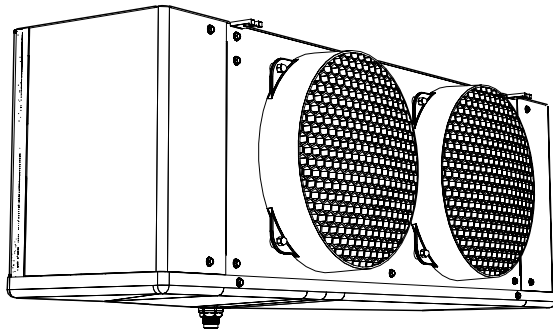
**Air, Electric, & Hot Gas Defrost**

Electrical Power:

115/1/60, 208-230/1/60, 208-230/3/60



**INCLUDES MODELS FOR DOE & NRCAN  
AWEF-COMPLIANT APPLICATIONS**



**SMARTSPEED™**  
FAN MOTOR TECHNOLOGY  
**STANDARD ON ALL MODELS**

**ESP+**  
see page 15 for details

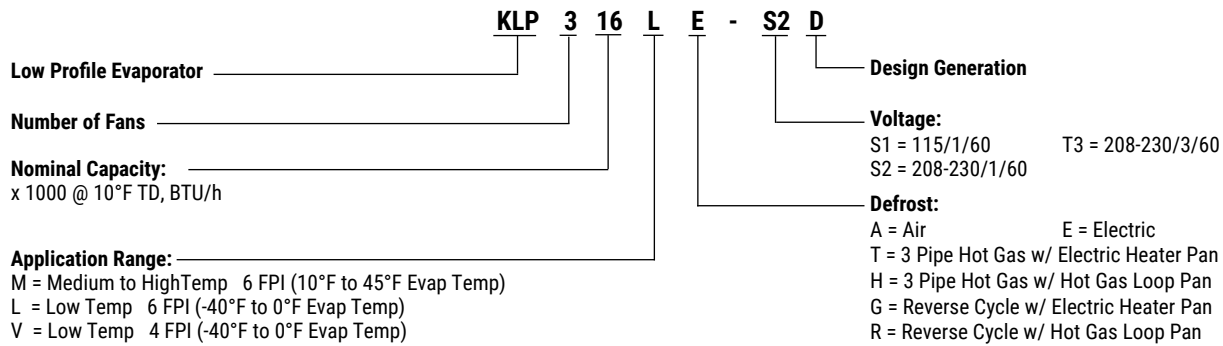


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## NOMENCLATURE

## KLP - LOW PROFILE EVAPORATORS



## STANDARD FEATURES

- EC motors with patented SmartSpeed® Technology.
- Compatible with Low GWP Refrigerants
- High efficiency and high strength fan guard
- Front access
- Internally enhanced tubing
- Convenient mounting brackets
- Ample electrical and header compartments
- Liquid line solenoid valve wire harness factory installed
- Schrader valve on suction header
- Positive slope, hinged drain pan
- Central drain connections (approximate)
- Universal drain fitting
- Large 3/4" ID (3/4" MPT) drain hole
- Factory installed distributor nozzle

## AVAILABLE OPTIONS

- ESP+ Intuitive Evaporator Control Technology.  
See page 15
- Hot gas loop pan with hot gas defrost models
- Factory installed expansion valve, solenoid valve and room thermostat
- Wire fan guard
- Corrosion protection: alternate fin materials and coatings
- Additional options available, please contact factory

**R407A R407C R448A R449A****Medium Temperature - 6 FPI Models**

| Model<br>KLP | Qty.<br>Fans | Evaporator Temperature<br>Selection Capacity BTU/h |                |                 | Air Flow |      | Refrig. Charge<br>R407A ** |     |
|--------------|--------------|----------------------------------------------------|----------------|-----------------|----------|------|----------------------------|-----|
|              |              | 20/25°F<br>(-4/-7°C)                               | 15°F<br>(-9°C) | 10°F<br>(-12°C) | CFM      | L/S  | LB.                        | KG  |
| 104M         | 1            | 4310                                               | 4270           | 4220            | 750      | 350  | 0.7                        | 0.3 |
| 106M         |              | 5910                                               | 5850           | 5790            | 705      | 330  | 1.1                        | 0.5 |
| 107M         |              | 7000                                               | 6930           | 6860            | 680      | 320  | 1.5                        | 0.7 |
| 209M         | 2            | 8700                                               | 8610           | 8530            | 1500     | 710  | 1.3                        | 0.6 |
| 211M         |              | 11400                                              | 11300          | 11170           | 1410     | 670  | 1.4                        | 0.6 |
| 214M         |              | 13700                                              | 13600          | 13430           | 1360     | 640  | 2.0                        | 0.9 |
| 317M         | 3            | 16900                                              | 16700          | 16560           | 2115     | 1000 | 3.0                        | 1.4 |
| 320M         |              | 20300                                              | 20100          | 19890           | 2040     | 960  | 4.0                        | 1.8 |
| 422M         | 4            | 22400                                              | 22200          | 21950           | 2820     | 1330 | 3.3                        | 1.5 |
| 427M         |              | 27000                                              | 26700          | 26460           | 2720     | 1280 | 3.9                        | 1.8 |
| 534M         | 5            | 33700                                              | 33400          | 33030           | 3400     | 1600 | 6.5                        | 2.9 |
| 640M         | 6            | 40400                                              | 40000          | 39590           | 4080     | 1930 | 7.8                        | 3.5 |

- Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula:

Capacity = Rated capacity ÷ 10 x TD.

\*\* For R448A/R449A, use conversion factor 0.96

**R404A R507****Medium Temperature - 6 FPI Models**

| Model<br>KLP | Qty.<br>Fans | Evaporator Temperature<br>Selection Capacity BTU/h |                |                 | Air Flow |      | Refrig. Charge<br>R404A R507 |     |
|--------------|--------------|----------------------------------------------------|----------------|-----------------|----------|------|------------------------------|-----|
|              |              | 20/25°F<br>(-4/-7°C)                               | 15°F<br>(-9°C) | 10°F<br>(-12°C) | CFM      | L/S  | LB.                          | KG  |
| 104M         | 1            | 4200                                               | 4160           | 4120            | 750      | 350  | 0.6                          | 0.3 |
| 106M         |              | 5770                                               | 5710           | 5650            | 705      | 330  | 1.0                          | 0.5 |
| 107M         |              | 6830                                               | 6760           | 6690            | 680      | 320  | 1.4                          | 0.6 |
| 209M         | 2            | 8500                                               | 8420           | 8330            | 1500     | 710  | 1.2                          | 0.5 |
| 211M         |              | 11100                                              | 10990          | 10880           | 1410     | 670  | 1.3                          | 0.6 |
| 214M         |              | 13300                                              | 13200          | 13030           | 1360     | 640  | 1.8                          | 0.8 |
| 317M         | 3            | 16600                                              | 16400          | 16270           | 2115     | 1000 | 2.8                          | 1.3 |
| 320M         |              | 19800                                              | 19600          | 19400           | 2040     | 960  | 3.7                          | 1.7 |
| 422M         | 4            | 21800                                              | 21600          | 21360           | 2820     | 1330 | 3.0                          | 1.4 |
| 427M         |              | 26400                                              | 26100          | 25870           | 2720     | 1280 | 3.6                          | 1.6 |
| 534M         | 5            | 32900                                              | 32600          | 32240           | 3400     | 1600 | 6.0                          | 2.7 |
| 640M         | 6            | 39400                                              | 39000          | 38610           | 4080     | 1930 | 7.2                          | 3.3 |

The above capacities were rated based on nominal 10°F TD

Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula:

Capacity = Rated capacity ÷ 10 x TD.

**R407A R448A R449A****Low Temperature - 6 FPI Models**

| Model<br>KLP | Qty.<br>Fans | Evaporator Temperature<br>Selection Capacity BTU/h |                  |                  |                  |                  | Air Flow |      | Refrig. Charge<br><b>R407A</b> ** |     |
|--------------|--------------|----------------------------------------------------|------------------|------------------|------------------|------------------|----------|------|-----------------------------------|-----|
|              |              | 0°F<br>(-18°C)                                     | -10°F<br>(-23°C) | -20°F<br>(-29°C) | -30°F<br>(-34°C) | -40°F<br>(-40°C) | CFM      | L/S  | LB.                               | KG  |
| 104L         | 1            | 4310                                               | 4190             | 4070             | 3740             | 3460             | 750      | 350  | 0.7                               | 0.3 |
| 105L         |              | 5190                                               | 5050             | 4900             | 4510             | 4170             | 705      | 330  | 1.1                               | 0.5 |
| 106L         |              | 6710                                               | 6520             | 6330             | 5820             | 5380             | 680      | 320  | 1.5                               | 0.7 |
| 207L         | 2            | 7590                                               | 7370             | 7160             | 6590             | 6090             | 1500     | 710  | 1.3                               | 0.6 |
| 209L         |              | 9950                                               | 9670             | 9390             | 8640             | 7980             | 1410     | 670  | 1.4                               | 0.6 |
| 211L         |              | 11980                                              | 11600            | 11300            | 10400            | 9610             | 1360     | 640  | 2.0                               | 0.9 |
| 314L         | 3            | 14730                                              | 14300            | 13900            | 12800            | 11800            | 2115     | 1000 | 3.0                               | 1.4 |
| 316L         |              | 17170                                              | 16700            | 16200            | 14900            | 13800            | 2040     | 960  | 4.0                               | 1.8 |
| 418L         | 4            | 19500                                              | 19000            | 18400            | 16900            | 15600            | 2820     | 1330 | 3.3                               | 1.5 |
| 421L         |              | 22470                                              | 21800            | 21200            | 19500            | 18000            | 2720     | 1280 | 3.9                               | 1.8 |
| 526L         | 5            | 27670                                              | 26900            | 26100            | 24000            | 22200            | 3400     | 1600 | 6.5                               | 2.9 |
| 631L         | 6            | 32970                                              | 32000            | 31100            | 28600            | 26400            | 4080     | 1930 | 7.8                               | 3.5 |

- Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula:  
Capacity = Rated capacity ÷ 10 x TD.

\*\* For R448A/R449A, use conversion factor 0.96

**R404A R507****Low Temperature - 6 FPI Models**

| Model<br>KLP | Qty.<br>Fans | Evaporator Temperature<br>Selection Capacity BTU/h |                  |                  |                  |                  | Air Flow |      | Refrig. Charge<br><b>R404A R507</b> |     |
|--------------|--------------|----------------------------------------------------|------------------|------------------|------------------|------------------|----------|------|-------------------------------------|-----|
|              |              | 0°F<br>(-18°C)                                     | -10°F<br>(-23°C) | -20°F<br>(-29°C) | -30°F<br>(-34°C) | -40°F<br>(-40°C) | CFM      | L/S  | LB.                                 | KG  |
| 104L         | 1            | 4210                                               | 4090             | 3970             | 3650             | 3370             | 750      | 350  | 0.6                                 | 0.3 |
| 105L         |              | 5070                                               | 4920             | 4780             | 4400             | 4060             | 705      | 330  | 1.0                                 | 0.5 |
| 106L         |              | 6540                                               | 6360             | 6170             | 5680             | 5240             | 680      | 320  | 1.4                                 | 0.6 |
| 207L         | 2            | 7400                                               | 7190             | 6980             | 6420             | 5930             | 1500     | 710  | 1.2                                 | 0.5 |
| 209L         |              | 9710                                               | 9430             | 9160             | 8430             | 7790             | 1410     | 670  | 1.3                                 | 0.6 |
| 211L         |              | 11660                                              | 11330            | 11000            | 10120            | 9350             | 1360     | 640  | 1.8                                 | 0.8 |
| 314L         | 3            | 14420                                              | 14000            | 13600            | 12500            | 11560            | 2115     | 1000 | 2.8                                 | 1.3 |
| 316L         |              | 16750                                              | 16300            | 15800            | 14500            | 13430            | 2040     | 960  | 3.7                                 | 1.7 |
| 418L         | 4            | 18970                                              | 18400            | 17900            | 16500            | 15220            | 2820     | 1330 | 3.0                                 | 1.4 |
| 421L         |              | 21840                                              | 21200            | 20600            | 19000            | 17510            | 2720     | 1280 | 3.6                                 | 1.6 |
| 526L         | 5            | 27140                                              | 26400            | 25600            | 23600            | 21760            | 3400     | 1600 | 6.0                                 | 2.7 |
| 631L         | 6            | 32220                                              | 31300            | 30400            | 28000            | 25840            | 4080     | 1930 | 7.2                                 | 3.3 |

The above capacities were rated based on nominal 10°F TD

Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula:

Capacity = Rated capacity ÷ 10 x TD.

**R407A R448A R449A****Low Temperature - 4 FPI Models**

| Model<br>KLP | Qty.<br>Fans | Evaporator Temperature<br>Selection Capacity BTU/h |                  |                  |                  |                  | Air Flow |      | Refrig. Charge<br>R407A ** |     |
|--------------|--------------|----------------------------------------------------|------------------|------------------|------------------|------------------|----------|------|----------------------------|-----|
|              |              | 0°F<br>(-18°C)                                     | -10°F<br>(-23°C) | -20°F<br>(-29°C) | -30°F<br>(-34°C) | -40°F<br>(-40°C) | CFM      | L/S  | LB.                        | KG  |
| 103V         | 1            | 3880                                               | 3770             | 3660             | 3370             | 3110             | 750      | 350  | 0.7                        | 0.3 |
| 104V         |              | 4610                                               | 4480             | 4350             | 4000             | 3700             | 705      | 330  | 1.1                        | 0.5 |
| 106V         |              | 5880                                               | 5720             | 5550             | 5110             | 4720             | 680      | 320  | 1.5                        | 0.7 |
| 207V         | 2            | 7070                                               | 6870             | 6670             | 6140             | 5670             | 1500     | 710  | 1.3                        | 0.6 |
| 208V         |              | 8590                                               | 8340             | 8100             | 7450             | 6890             | 1410     | 670  | 1.4                        | 0.6 |
| 211V         |              | 11200                                              | 10900            | 10600            | 9750             | 9010             | 1360     | 640  | 2.0                        | 0.9 |
| 313V         | 3            | 13400                                              | 13000            | 12600            | 11600            | 10700            | 2115     | 1000 | 3.0                        | 1.4 |
| 316V         |              | 16500                                              | 16100            | 15600            | 14400            | 13300            | 2040     | 960  | 4.0                        | 1.8 |
| 418V         | 4            | 18800                                              | 18200            | 17700            | 16300            | 15000            | 2820     | 1330 | 3.3                        | 1.5 |
| 421V         |              | 22300                                              | 21600            | 21000            | 19300            | 17900            | 2720     | 1280 | 3.9                        | 1.8 |
| 524V         | 5            | 25300                                              | 24600            | 23900            | 22000            | 20300            | 3400     | 1600 | 6.5                        | 2.9 |
| 627V         | 6            | 28400                                              | 27600            | 26800            | 24700            | 22800            | 4080     | 1930 | 7.8                        | 3.5 |

- Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula:

Capacity = Rated capacity ÷ 10 x TD.

\*\* For R448A/R449A, use conversion factor 0.96

**R404A R507****Low Temperature - 4 FPI Models**

| Model<br>KLP | Qty.<br>Fans | Evaporator Temperature<br>Selection Capacity BTU/h |                  |                  |                  |                  | Air Flow |      | Refrig. Charge<br>R404A R507 |     |
|--------------|--------------|----------------------------------------------------|------------------|------------------|------------------|------------------|----------|------|------------------------------|-----|
|              |              | 0°F<br>(-18°C)                                     | -10°F<br>(-23°C) | -20°F<br>(-29°C) | -30°F<br>(-34°C) | -40°F<br>(-40°C) | CFM      | L/S  | LB.                          | KG  |
| 103V         | 1            | 3640                                               | 3530             | 3430             | 3160             | 2920             | 750      | 350  | 0.6                          | 0.3 |
| 104V         |              | 4300                                               | 4180             | 4060             | 3740             | 3450             | 705      | 330  | 1.0                          | 0.5 |
| 106V         |              | 5500                                               | 5350             | 5190             | 4770             | 4410             | 680      | 320  | 1.4                          | 0.6 |
| 207V         | 2            | 6600                                               | 6420             | 6230             | 5730             | 5300             | 1500     | 710  | 1.2                          | 0.5 |
| 208V         |              | 8020                                               | 7800             | 7570             | 6960             | 6430             | 1410     | 670  | 1.3                          | 0.6 |
| 211V         |              | 10460                                              | 10170            | 9870             | 9080             | 8390             | 1360     | 640  | 1.8                          | 0.8 |
| 313V         | 3            | 12400                                              | 12100            | 11700            | 10760            | 9950             | 2115     | 1000 | 2.8                          | 1.3 |
| 316V         |              | 15370                                              | 14900            | 14500            | 13300            | 12330            | 2040     | 960  | 3.7                          | 1.7 |
| 418V         | 4            | 17600                                              | 17100            | 16600            | 15300            | 14110            | 2820     | 1330 | 3.0                          | 1.4 |
| 421V         |              | 20880                                              | 20300            | 19700            | 18100            | 16750            | 2720     | 1280 | 3.6                          | 1.6 |
| 524V         | 5            | 23640                                              | 23000            | 22300            | 20500            | 18960            | 3400     | 1600 | 6.0                          | 2.7 |
| 627V         | 6            | 26610                                              | 25900            | 25100            | 23100            | 21340            | 4080     | 1930 | 7.2                          | 3.3 |

The above capacities were rated based on nominal 10°F TD

Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula:

Capacity = Rated capacity ÷ 10 x TD.

## 115/1/60: Air Defrost &amp; Hot Gas Defrost with Hot Gas Loop Pan Models

| Model<br>KLP | FPI | FAN MOTORS |                                            |              |       |            |                     |
|--------------|-----|------------|--------------------------------------------|--------------|-------|------------|---------------------|
|              |     | Qty.       | Standard SMARTSPEED <sup>®</sup> EC Motors |              |       |            |                     |
|              |     |            | HP                                         | FLA<br>Total | Watts | MCA<br>(A) | Max. Fuse<br>(AMPS) |
| 104MA-S1D *  | 6   | 1          | 1/15                                       | 1.0          | 60    | 1.3        | 15                  |
| 106MA-S1D *  |     | 1          | 1/15                                       | 1.0          | 60    | 1.3        | 15                  |
| 107MA-S1D *  |     | 1          | 1/15                                       | 1.0          | 60    | 1.3        | 15                  |
| 209M#-S1D    |     | 2          | 1/15                                       | 2.0          | 120   | 2.3        | 15                  |
| 211M#-S1D    |     | 2          | 1/15                                       | 2.0          | 120   | 2.3        | 15                  |
| 214M#-S1D    |     | 2          | 1/15                                       | 2.0          | 120   | 2.3        | 15                  |
| 317M#-S1D    |     | 3          | 1/15                                       | 3.0          | 180   | 3.3        | 15                  |
| 320M#-S1D    |     | 3          | 1/15                                       | 3.0          | 180   | 3.3        | 15                  |
| 422M#-S1D    |     | 4          | 1/15                                       | 4.0          | 240   | 4.3        | 15                  |
| 427M#-S1D    |     | 4          | 1/15                                       | 4.0          | 240   | 4.3        | 15                  |
| 534M#-S1D    |     | 5          | 1/15                                       | 5.0          | 300   | 5.3        | 15                  |
| 640M#-S1D    |     | 6          | 1/15                                       | 6.0          | 360   | 6.3        | 15                  |
| 104Lt-S1D    | 6   | 1          | 1/15                                       | 1.0          | 60    | 1.3        | 15                  |
| 105Lt-S1D    |     | 1          | 1/15                                       | 1.0          | 60    | 1.3        | 15                  |
| 106Lt-S1D    |     | 1          | 1/15                                       | 1.0          | 60    | 1.3        | 15                  |
| 207Lt-S1D    |     | 2          | 1/15                                       | 2.0          | 120   | 2.3        | 15                  |
| 209Lt-S1D    |     | 2          | 1/15                                       | 2.0          | 120   | 2.3        | 15                  |
| 211Lt-S1D    |     | 2          | 1/15                                       | 2.0          | 120   | 2.3        | 15                  |
| 314Lt-S1D    |     | 3          | 1/15                                       | 3.0          | 180   | 3.3        | 15                  |
| 316Lt-S1D    |     | 3          | 1/15                                       | 3.0          | 180   | 3.3        | 15                  |
| 418Lt-S1D    |     | 4          | 1/15                                       | 4.0          | 240   | 4.3        | 15                  |
| 421Lt-S1D    |     | 4          | 1/15                                       | 4.0          | 240   | 4.3        | 15                  |
| 526Lt-S1D    |     | 5          | 1/15                                       | 5.0          | 300   | 5.3        | 15                  |
| 631Lt-S1D    |     | 6          | 1/15                                       | 6.0          | 360   | 6.3        | 15                  |
| 103V†-S1D    | 4   | 1          | 1/15                                       | 1.0          | 60    | 1.3        | 15                  |
| 104V†-S1D    |     | 1          | 1/15                                       | 1.0          | 60    | 1.3        | 15                  |
| 106V†-S1D    |     | 1          | 1/15                                       | 1.0          | 60    | 1.3        | 15                  |
| 207V†-S1D    |     | 2          | 1/15                                       | 2.0          | 120   | 2.3        | 15                  |
| 208V†-S1D    |     | 2          | 1/15                                       | 2.0          | 120   | 2.3        | 15                  |
| 211V†-S1D    |     | 2          | 1/15                                       | 2.0          | 120   | 2.3        | 15                  |
| 313V†-S1D    |     | 3          | 1/15                                       | 3.0          | 180   | 3.3        | 15                  |
| 316V†-S1D    |     | 3          | 1/15                                       | 3.0          | 180   | 3.3        | 15                  |
| 418V†-S1D    |     | 4          | 1/15                                       | 4.0          | 240   | 4.3        | 15                  |
| 421V†-S1D    |     | 4          | 1/15                                       | 4.0          | 240   | 4.3        | 15                  |
| 524V†-S1D    |     | 5          | 1/15                                       | 5.0          | 300   | 5.3        | 15                  |
| 627V†-S1D    |     | 6          | 1/15                                       | 6.0          | 360   | 6.3        | 15                  |

# = A, H or R. Refer to nomenclature for details.

\* = H or R Available on 2 to 6 fan models only.

† = H or R Refer to nomenclature for details.

## 208-230/1/60: Air Defrost &amp; Hot Gas Defrost with Hot Gas Loop Pan Models

| Model<br>KLP | FPI | FAN MOTORS |                                            |              |       |            |                     |
|--------------|-----|------------|--------------------------------------------|--------------|-------|------------|---------------------|
|              |     | Qty.       | Standard SMARTSPEED <sup>™</sup> EC Motors |              |       |            |                     |
|              |     |            | HP                                         | FLA<br>Total | Watts | MCA<br>(A) | Max. Fuse<br>(AMPS) |
| 104MA-S2D *  | 6   | 1          | 1/15                                       | 0.6          | 60    | 0.8        | 15                  |
| 106MA-S2D *  |     | 1          | 1/15                                       | 0.6          | 60    | 0.8        | 15                  |
| 107MA-S2D *  |     | 1          | 1/15                                       | 0.6          | 60    | 0.8        | 15                  |
| 209M#-S2D    |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  |
| 211M#-S2D    |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  |
| 214M#-S2D    |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  |
| 317M#-S2D    |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  |
| 320M#-S2D    |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  |
| 422M#-S2D    |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  |
| 427M#-S2D    |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  |
| 534M#-S2D    |     | 5          | 1/15                                       | 3.0          | 300   | 3.2        | 15                  |
| 640M#-S2D    |     | 6          | 1/15                                       | 3.6          | 360   | 3.8        | 15                  |
| 104L†-S2D    | 6   | 1          | 1/15                                       | 0.6          | 60    | 0.8        | 15                  |
| 105L†-S2D    |     | 1          | 1/15                                       | 0.6          | 60    | 0.8        | 15                  |
| 106L†-S2D    |     | 1          | 1/15                                       | 0.6          | 60    | 0.8        | 15                  |
| 207L†-S2D    |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  |
| 209L†-S2D    |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  |
| 211L†-S2D    |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  |
| 314L†-S2D    |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  |
| 316L†-S2D    |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  |
| 418L†-S2D    |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  |
| 421L†-S2D    |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  |
| 526L†-S2D    |     | 5          | 1/15                                       | 3.0          | 300   | 3.2        | 15                  |
| 631L†-S2D    |     | 6          | 1/15                                       | 3.6          | 360   | 3.8        | 15                  |
| 103V†-S2D    | 4   | 1          | 1/15                                       | 0.6          | 60    | 0.8        | 15                  |
| 104V†-S2D    |     | 1          | 1/15                                       | 0.6          | 60    | 0.8        | 15                  |
| 106V†-S2D    |     | 1          | 1/15                                       | 0.6          | 60    | 0.8        | 15                  |
| 207V†-S2D    |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  |
| 208V†-S2D    |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  |
| 211V†-S2D    |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  |
| 313V†-S2D    |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  |
| 316V†-S2D    |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  |
| 418V†-S2D    |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  |
| 421V†-S2D    |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  |
| 524V†-S2D    |     | 5          | 1/15                                       | 3.0          | 300   | 3.2        | 15                  |
| 627V†-S2D    |     | 6          | 1/15                                       | 3.6          | 360   | 3.8        | 15                  |

# = A, H or R. Refer to nomenclature for details.

\* = H or R Available on 2 to 6 fan models only.

† = H or R Refer to nomenclature for details.

## 208-230/1/60 &amp; 208-230/3/60: Electric Defrost Models

| Model<br><br>KLP | FPI | FAN MOTORS |                               |              |       |            |                     | DEFROST HEATERS |               |            |                        |               |            |                        |
|------------------|-----|------------|-------------------------------|--------------|-------|------------|---------------------|-----------------|---------------|------------|------------------------|---------------|------------|------------------------|
|                  |     | Qty.       | Standard SMARTSPEED EC Motors |              |       |            |                     | Total<br>WATTS  | 208-230/1/60  |            |                        | 208-230/3/60  |            |                        |
|                  |     |            | HP                            | FLA<br>Total | Watts | MCA<br>(A) | Max. Fuse<br>(AMPS) |                 | Total<br>AMPS | MCA<br>(A) | Max.<br>Fuse<br>(AMPS) | Total<br>AMPS | MCA<br>(A) | Max.<br>Fuse<br>(AMPS) |
| 104ME-*          | 6   | 1          | 1/15                          | 0.6          | 60    | 0.8        | 15                  | 1060            | 4.6           | 5.8        | 15                     | 3.0           | 3.8        | 15                     |
| 106ME-*          |     | 1          | 1/15                          | 0.6          | 60    | 0.8        | 15                  | 1060            | 4.6           | 5.8        | 15                     | 3.0           | 3.8        | 15                     |
| 107ME-*          |     | 1          | 1/15                          | 0.6          | 60    | 0.8        | 15                  | 1060            | 4.6           | 5.8        | 15                     | 3.0           | 3.8        | 15                     |
| 209ME-*          |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 1890            | 8.2           | 10.3       | 15                     | 5.3           | 6.7        | 15                     |
| 211ME-*          |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 1890            | 8.2           | 10.3       | 15                     | 5.3           | 6.7        | 15                     |
| 214ME-*          |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 1890            | 8.2           | 10.3       | 15                     | 5.3           | 6.7        | 15                     |
| 317ME-*          |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 2730            | 11.9          | 14.8       | 15                     | 7.7           | 10.0       | 15                     |
| 320ME-*          |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 2730            | 11.9          | 14.8       | 15                     | 7.7           | 10.0       | 15                     |
| 422ME-*          |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 3560            | 15.5          | 19.3       | 20                     | 10.0          | 12.0       | 15                     |
| 427ME-*          |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 3560            | 15.5          | 19.3       | 20                     | 10.0          | 12.0       | 15                     |
| 534ME-*          |     | 5          | 1/15                          | 3.0          | 300   | 3.2        | 15                  | 4400            | 19.1          | 23.9       | 25                     | 12.0          | 15.0       | 20                     |
| 640ME-*          |     | 6          | 1/15                          | 3.6          | 360   | 3.8        | 15                  | 5230            | 22.7          | 28.4       | 30                     | 15.0          | 18.0       | 20                     |
| 104LE-*          | 6   | 1          | 1/15                          | 0.6          | 60    | 0.8        | 15                  | 1060            | 4.6           | 5.8        | 15                     | 3.0           | 3.8        | 15                     |
| 105LE-*          |     | 1          | 1/15                          | 0.6          | 60    | 0.8        | 15                  | 1060            | 4.6           | 5.8        | 15                     | 3.0           | 3.8        | 15                     |
| 106LE-*          |     | 1          | 1/15                          | 0.6          | 60    | 0.8        | 15                  | 1060            | 4.6           | 5.8        | 15                     | 3.0           | 3.8        | 15                     |
| 207LE-*          |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 1890            | 8.2           | 10.3       | 15                     | 5.3           | 6.7        | 15                     |
| 209LE-*          |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 1890            | 8.2           | 10.3       | 15                     | 5.3           | 6.7        | 15                     |
| 211LE-*          |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 1890            | 8.2           | 10.3       | 15                     | 5.3           | 6.7        | 15                     |
| 314LE-*          |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 2730            | 11.9          | 14.8       | 15                     | 7.7           | 10.0       | 15                     |
| 316LE-*          |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 2730            | 11.9          | 14.8       | 15                     | 7.7           | 10.0       | 15                     |
| 418LE-*          |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 3560            | 15.5          | 19.3       | 20                     | 10.0          | 12.0       | 15                     |
| 421LE-*          |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 3560            | 15.5          | 19.3       | 20                     | 10.0          | 12.0       | 15                     |
| 526LE-*          |     | 5          | 1/15                          | 3.0          | 300   | 3.2        | 15                  | 4400            | 19.1          | 23.9       | 25                     | 12.0          | 15.0       | 20                     |
| 631LE-*          |     | 6          | 1/15                          | 3.6          | 360   | 3.8        | 15                  | 5230            | 22.7          | 28.4       | 30                     | 15.0          | 18.0       | 20                     |
| 103VE-*          | 4   | 1          | 1/15                          | 0.6          | 60    | 0.8        | 15                  | 1060            | 4.6           | 5.8        | 15                     | 3.0           | 3.8        | 15                     |
| 104VE-*          |     | 1          | 1/15                          | 0.6          | 60    | 0.8        | 15                  | 1060            | 4.6           | 5.8        | 15                     | 3.0           | 3.8        | 15                     |
| 106VE-*          |     | 1          | 1/15                          | 0.6          | 60    | 0.8        | 15                  | 1060            | 4.6           | 5.8        | 15                     | 3.0           | 3.8        | 15                     |
| 207VE-*          |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 1890            | 8.2           | 10.3       | 15                     | 5.3           | 6.7        | 15                     |
| 208VE-*          |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 1890            | 8.2           | 10.3       | 15                     | 5.3           | 6.7        | 15                     |
| 211VE-*          |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 1890            | 8.2           | 10.3       | 15                     | 5.3           | 6.7        | 15                     |
| 313VE-*          |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 2730            | 11.9          | 14.8       | 15                     | 7.7           | 10.0       | 15                     |
| 316VE-*          |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 2730            | 11.9          | 14.8       | 15                     | 7.7           | 10.0       | 15                     |
| 418VE-*          |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 3560            | 15.5          | 19.3       | 20                     | 10.0          | 12.0       | 15                     |
| 421VE-*          |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 3560            | 15.5          | 19.3       | 20                     | 10.0          | 12.0       | 15                     |
| 524VE-*          |     | 5          | 1/15                          | 3.0          | 300   | 3.2        | 15                  | 4400            | 19.1          | 23.9       | 25                     | 12.0          | 15.0       | 20                     |
| 627VE-*          |     | 6          | 1/15                          | 3.6          | 360   | 3.8        | 15                  | 5230            | 22.7          | 28.4       | 30                     | 15.0          | 18.0       | 20                     |

\* = S2 or T3. Refer to nomenclature for details.

## 115/1/60: Hot Gas Defrost with Drain Pan Heater Models

| Model<br>KLP | FPI | FAN MOTORS |                               |              |       |            |                     | DRAIN PAN HEATERS |               |            |                        |
|--------------|-----|------------|-------------------------------|--------------|-------|------------|---------------------|-------------------|---------------|------------|------------------------|
|              |     | Qty.       | Standard SMARTSPEED EC Motors |              |       |            |                     | Total<br>WATTS    | Total<br>AMPS | MCA<br>(A) | Max.<br>Fuse<br>(AMPS) |
|              |     |            | HP                            | FLA<br>Total | Watts | MCA<br>(A) | Max. Fuse<br>(AMPS) |                   |               |            |                        |
| 209M#-S1D    | 6   | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 410               | 3.6           | 4.5        | 15                     |
| 211M#-S1D    |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 410               | 3.6           | 4.5        | 15                     |
| 214M#-S1D    |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 410               | 3.6           | 4.5        | 15                     |
| 317M#-S1D    |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 560               | 4.9           | 6.1        | 15                     |
| 320M#-S1D    |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 560               | 4.9           | 6.1        | 15                     |
| 422M#-S1D    |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 720               | 6.3           | 7.8        | 15                     |
| 427M#-S1D    |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 720               | 6.3           | 7.8        | 15                     |
| 534M#-S1D    |     | 5          | 1/15                          | 3.0          | 300   | 3.2        | 15                  | 880               | 7.7           | 9.6        | 15                     |
| 640M#-S1D    |     | 6          | 1/15                          | 3.6          | 360   | 3.8        | 15                  | 1030              | 9.0           | 11.2       | 15                     |
| 207L#-S1D    | 6   | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 410               | 3.6           | 4.5        | 15                     |
| 209L#-S1D    |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 410               | 3.6           | 4.5        | 15                     |
| 211L#-S1D    |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 410               | 3.6           | 4.5        | 15                     |
| 314L#-S1D    |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 560               | 4.9           | 6.1        | 15                     |
| 316L#-S1D    |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 560               | 4.9           | 6.1        | 15                     |
| 418L#-S1D    |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 720               | 6.3           | 7.8        | 15                     |
| 421L#-S1D    |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 720               | 6.3           | 7.8        | 15                     |
| 526L#-S1D    |     | 5          | 1/15                          | 3.0          | 300   | 3.2        | 15                  | 880               | 7.7           | 9.6        | 15                     |
| 631L#-S1D    |     | 6          | 1/15                          | 3.6          | 360   | 3.8        | 15                  | 1030              | 9.0           | 11.2       | 15                     |
| 207V#-S1D    | 4   | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 410               | 3.6           | 4.5        | 15                     |
| 208V#-S1D    |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 410               | 3.6           | 4.5        | 15                     |
| 211V#-S1D    |     | 2          | 1/15                          | 1.2          | 120   | 1.4        | 15                  | 410               | 3.6           | 4.5        | 15                     |
| 313V#-S1D    |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 560               | 4.9           | 6.1        | 15                     |
| 316V#-S1D    |     | 3          | 1/15                          | 1.8          | 180   | 2.0        | 15                  | 560               | 4.9           | 6.1        | 15                     |
| 418V#-S1D    |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 720               | 6.3           | 7.8        | 15                     |
| 421V#-S1D    |     | 4          | 1/15                          | 2.4          | 240   | 2.6        | 15                  | 720               | 6.3           | 7.8        | 15                     |
| 524V#-S1D    |     | 5          | 1/15                          | 3.0          | 300   | 3.2        | 15                  | 880               | 7.7           | 9.6        | 15                     |
| 627V#-S1D    |     | 6          | 1/15                          | 3.6          | 360   | 3.8        | 15                  | 1030              | 9.0           | 11.2       | 15                     |

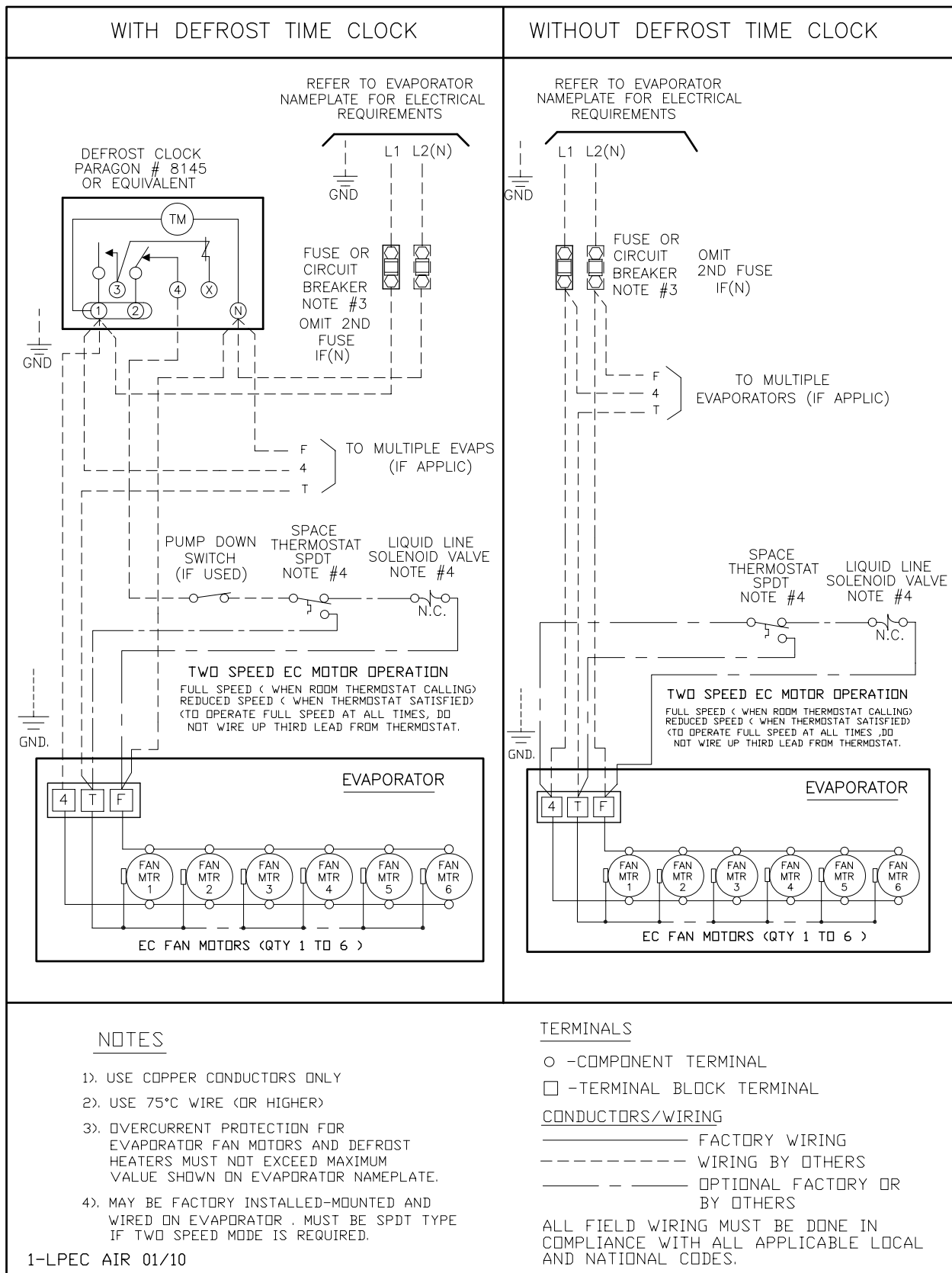
# = T or G. Refer to nomenclature for details.

## 208-230/1/60: Hot Gas Defrost with Drain Pan Heater Models

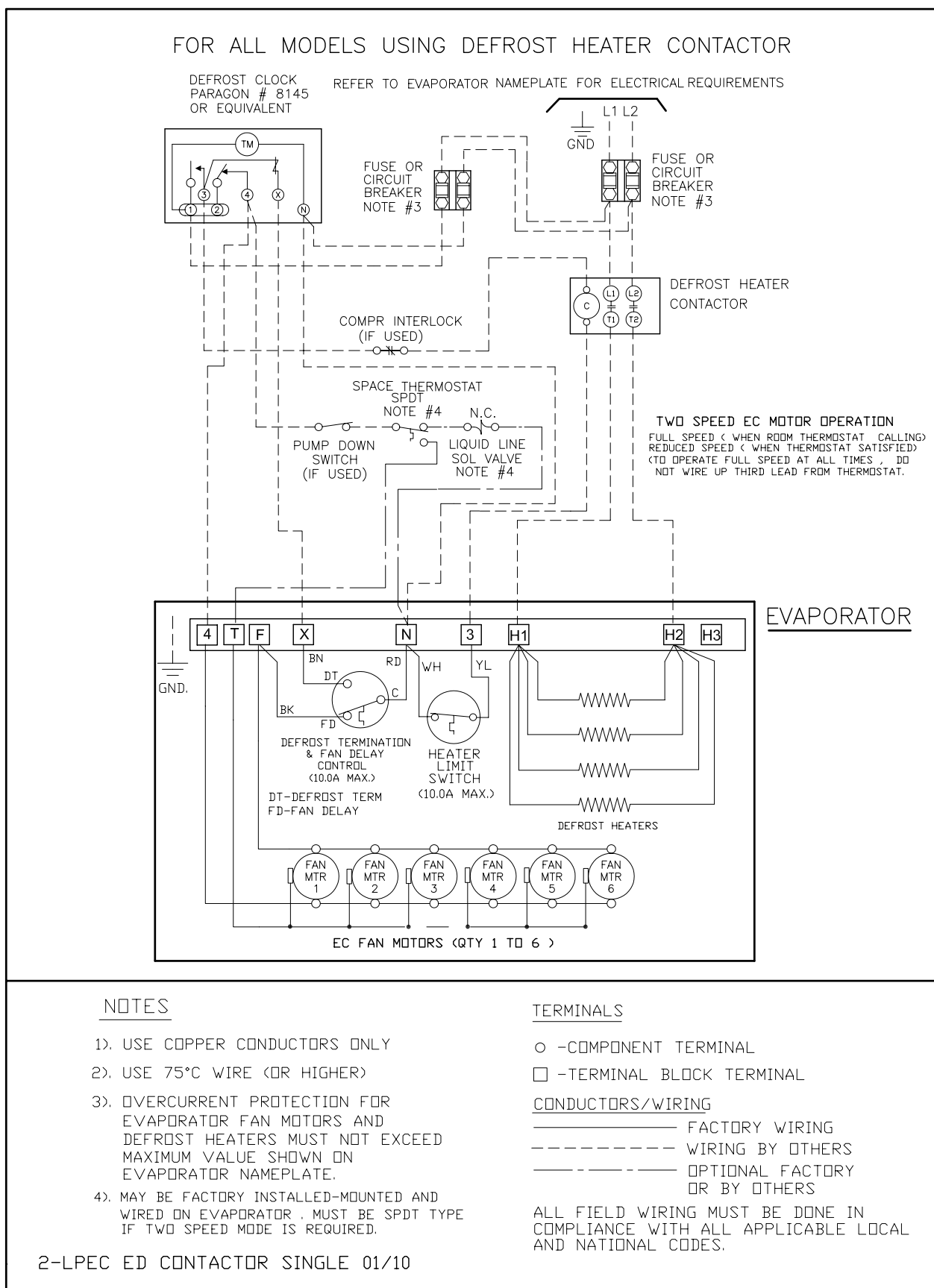
| Model<br>KLP           | FPI | FAN MOTORS |                                            |              |       |            |                     | DRAIN PAN HEATERS |               |            |                        |
|------------------------|-----|------------|--------------------------------------------|--------------|-------|------------|---------------------|-------------------|---------------|------------|------------------------|
|                        |     | Qty.       | Standard SMARTSPEED <sup>®</sup> EC Motors |              |       |            |                     | Total<br>WATTS    | Total<br>AMPS | MCA<br>(A) | Max.<br>Fuse<br>(AMPS) |
|                        |     |            | HP                                         | FLA<br>Total | Watts | MCA<br>(A) | Max. Fuse<br>(AMPS) |                   |               |            |                        |
| 209M <sup>^</sup> -S2D | 6   | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  | 410               | 1.8           | 2.2        | 15                     |
| 211M <sup>^</sup> -S2D |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  | 410               | 1.8           | 2.2        | 15                     |
| 214M <sup>^</sup> -S2D |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  | 410               | 1.8           | 2.2        | 15                     |
| 317M <sup>^</sup> -S2D |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  | 560               | 2.4           | 3.0        | 15                     |
| 320M <sup>^</sup> -S2D |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  | 560               | 2.4           | 3.0        | 15                     |
| 422M <sup>^</sup> -S2D |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  | 720               | 3.1           | 3.9        | 15                     |
| 427M <sup>^</sup> -S2D |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  | 720               | 3.1           | 3.9        | 15                     |
| 534M <sup>^</sup> -S2D |     | 5          | 1/15                                       | 3.0          | 300   | 3.2        | 15                  | 880               | 3.8           | 4.8        | 15                     |
| 640M <sup>^</sup> -S2D |     | 6          | 1/15                                       | 3.6          | 360   | 3.8        | 15                  | 1030              | 4.0           | 5.0        | 15                     |
| 207L <sup>^</sup> -S2D | 6   | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  | 410               | 1.8           | 2.2        | 15                     |
| 209L <sup>^</sup> -S2D |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  | 410               | 1.8           | 2.2        | 15                     |
| 211L <sup>^</sup> -S2D |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  | 410               | 1.8           | 2.2        | 15                     |
| 314L <sup>^</sup> -S2D |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  | 560               | 2.4           | 3.0        | 15                     |
| 316L <sup>^</sup> -S2D |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  | 560               | 2.4           | 3.0        | 15                     |
| 418L <sup>^</sup> -S2D |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  | 720               | 3.1           | 3.9        | 15                     |
| 421L <sup>^</sup> -S2D |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  | 720               | 3.1           | 3.9        | 15                     |
| 526L <sup>^</sup> -S2D |     | 5          | 1/15                                       | 3.0          | 300   | 3.2        | 15                  | 880               | 3.8           | 4.8        | 15                     |
| 631L <sup>^</sup> -S2D |     | 6          | 1/15                                       | 3.6          | 360   | 3.8        | 15                  | 1030              | 4.0           | 5.0        | 15                     |
| 207V <sup>^</sup> -S2D | 4   | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  | 410               | 1.8           | 2.2        | 15                     |
| 208V <sup>^</sup> -S2D |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  | 410               | 1.8           | 2.2        | 15                     |
| 211V <sup>^</sup> -S2D |     | 2          | 1/15                                       | 1.2          | 120   | 1.4        | 15                  | 410               | 1.8           | 2.2        | 15                     |
| 313V <sup>^</sup> -S2D |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  | 560               | 2.4           | 3.0        | 15                     |
| 316V <sup>^</sup> -S2D |     | 3          | 1/15                                       | 1.8          | 180   | 2.0        | 15                  | 560               | 2.4           | 3.0        | 15                     |
| 418V <sup>^</sup> -S2D |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  | 720               | 3.1           | 3.9        | 15                     |
| 421V <sup>^</sup> -S2D |     | 4          | 1/15                                       | 2.4          | 240   | 2.6        | 15                  | 720               | 3.1           | 3.9        | 15                     |
| 524V <sup>^</sup> -S2D |     | 5          | 1/15                                       | 3.0          | 300   | 3.2        | 15                  | 880               | 3.8           | 4.8        | 15                     |
| 627V <sup>^</sup> -S2D |     | 6          | 1/15                                       | 3.6          | 360   | 3.8        | 15                  | 1030              | 4.0           | 5.0        | 15                     |

# = T or G. Refer to nomenclature for details.

## 115/1/60, 208-230/1/60: Air Defrost Models

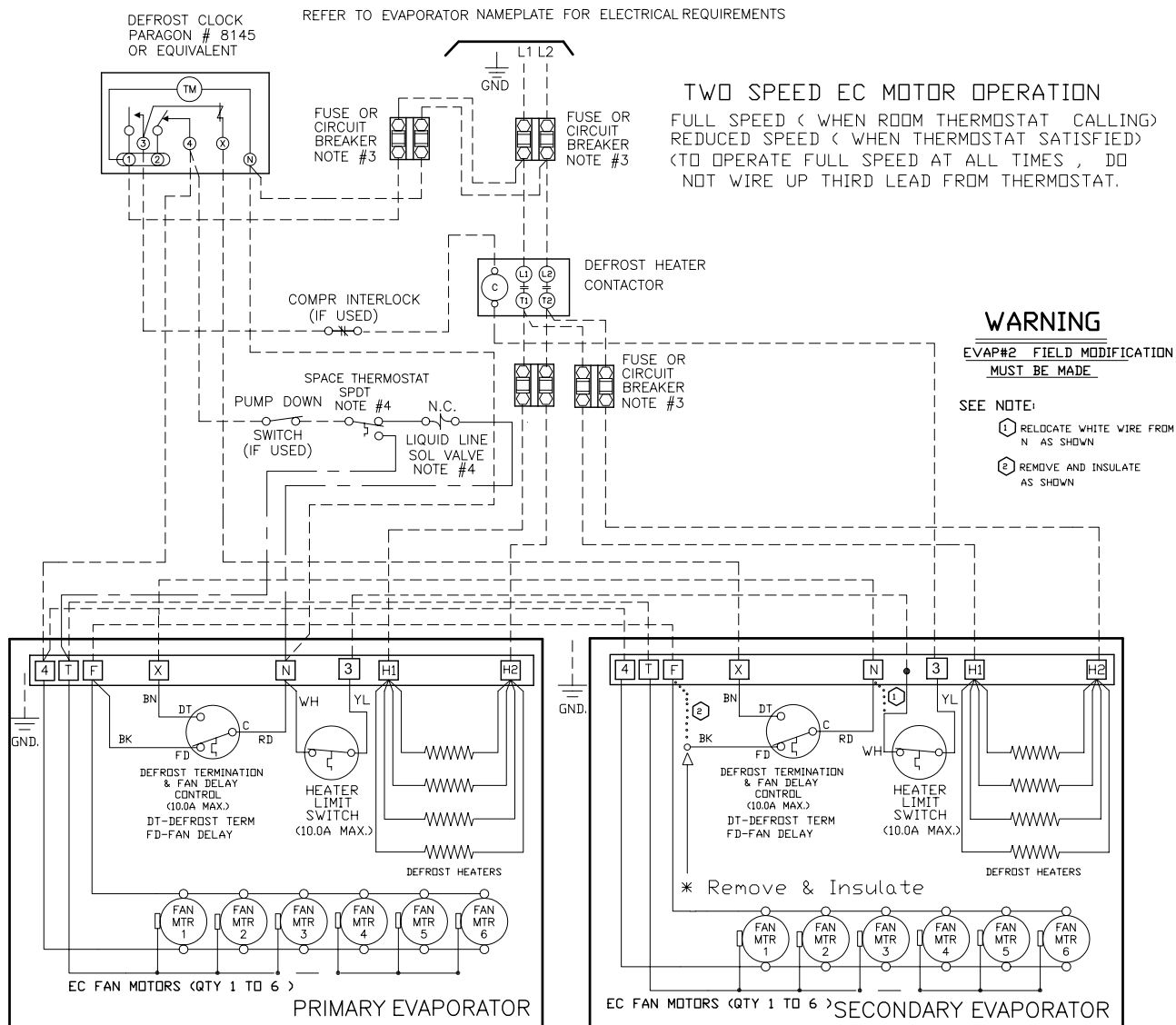


## 208-230/1/60: Electric Defrost Models



## 208-230/1/60: Electric Defrost Models with Multiple Evaporators

FOR ALL MODELS USING DEFROST HEATER CONTACTOR



\* Fan delay not used on second evap / use fan contactor if total fan amps exceeds 10A

NOTES

- 1). USE COPPER CONDUCTORS ONLY
- 2). USE 75°C WIRE (OR HIGHER)
- 3). OVERCURRENT PROTECTION FOR EVAPORATOR FAN MOTORS AND DEFROST HEATERS MUST NOT EXCEED MAXIMUM VALUE SHOWN ON EVAPORATOR NAMEPLATE.
- 4). MAY BE FACTORY INSTALLED-MOUNTED AND WIRED ON EVAPORATOR. MUST BE SPDT TYPE IF TWO SPEED MODE IS REQUIRED.

3-LPEC ED CONTACTOR MULTI 01/10

TERMINALS

- -COMPONENT TERMINAL
- -TERMINAL BLOCK TERMINAL

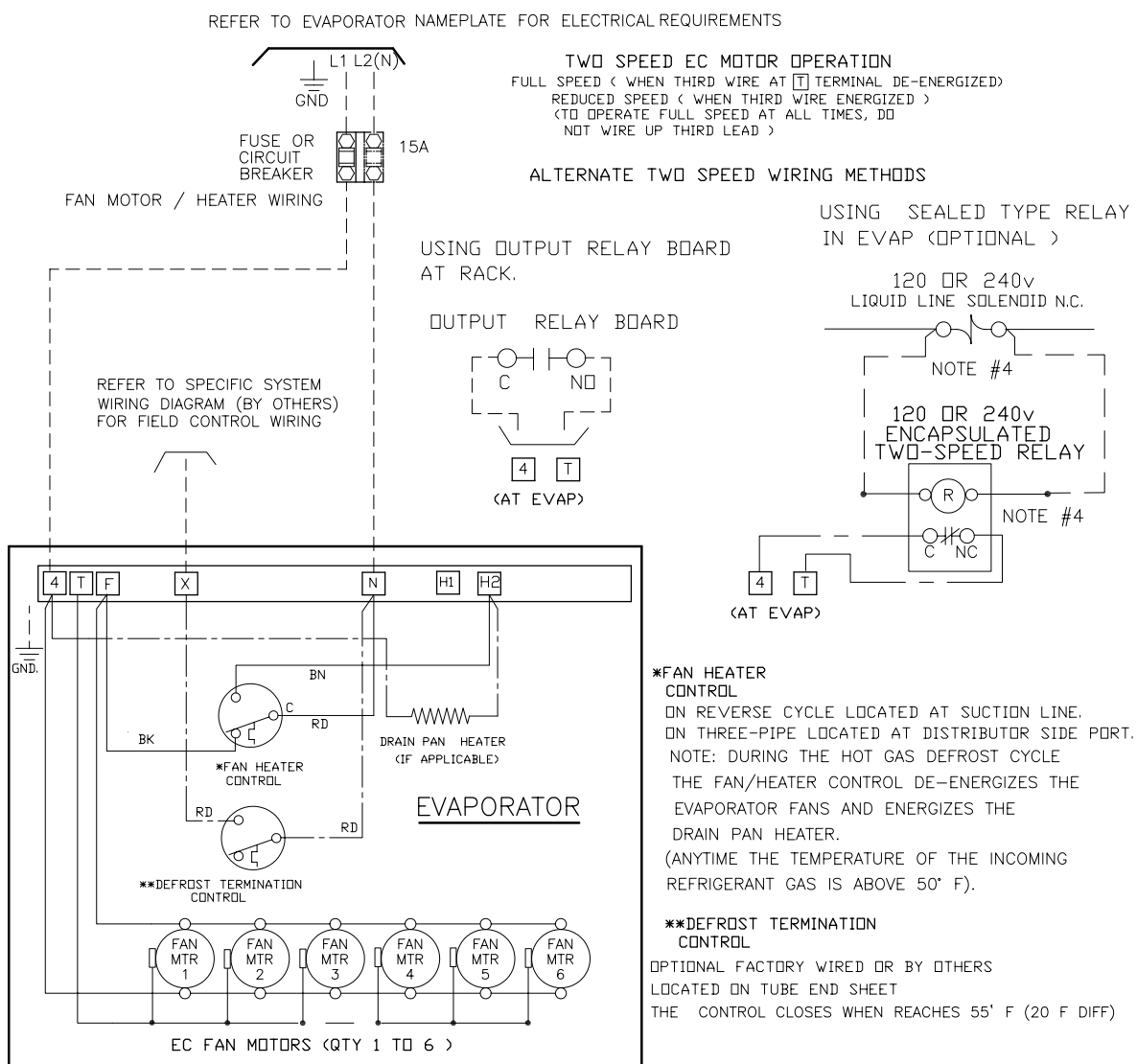
CONDUCTORS/WIRING

- FACTORY WIRING
- WIRING BY OTHERS
- - ——— OPTIONAL FACTORY OR BY OTHERS

ALL FIELD WIRING MUST BE DONE IN COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.

## 115/1/60, 208-230/1/60: Hot Gas Defrost Models

### USING MAXIMUM 15A HEATER OVERCURRENT PROTECTION



### NOTES

- 1). USE COPPER CONDUCTORS ONLY
- 2). USE 75°C WIRE (OR HIGHER)
- 3). OVERCURRENT PROTECTION FOR EVAPORATOR FAN MOTORS AND DEFROST HEATERS MUST NOT EXCEED MAXIMUM VALUE SHOWN ON EVAPORATOR NAMEPLATE.
- 4). MAY BE FACTORY INSTALLED-MOUNTED AND WIRED ON EVAPORATOR .

4-LPEC HG 01/10

### TERMINALS

- -COMPONENT TERMINAL
- -TERMINAL BLOCK TERMINAL

### CONDUCTORS/WIRING

- FACTORY WIRING
- WIRING BY OTHERS
- OPTIONAL FACTORY OR BY OTHERS

ALL FIELD WIRING MUST BE DONE IN COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.

## ESP+ INTUITIVE EVAPORATOR CONTROL TECHNOLOGY

### What is ESP+?

KeepRite Refrigeration's ESP+ intuitive evaporator control technology is designed to replace traditional electro-mechanical refrigeration controls typically used on medium and low temperature applications. By combining award winning adaptive technology along with an electronic expansion valve, KeepRite Refrigeration continues to be The Right Choice For The Refrigeration Professional.

Installing an evaporator utilizing the ESP+ intuitive evaporator control technology is simple. Two pipes, two wires and you're done. No interconnecting control wiring between the evaporator and the condensing unit is required.

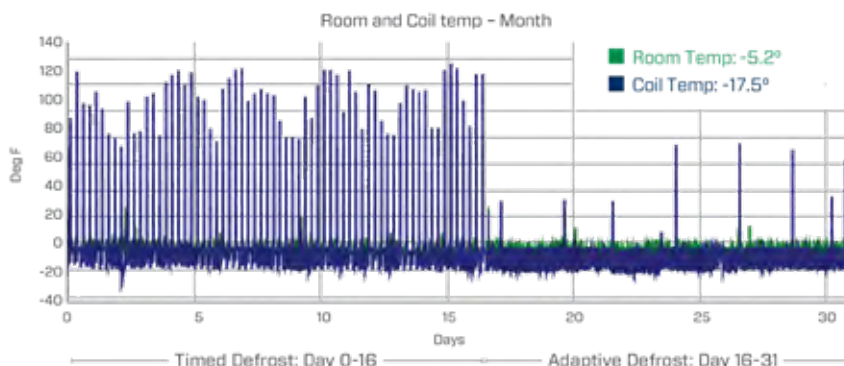
- Quick simple installation
- Improved evaporator performance by minimizing excessive frost on the evaporator
  - Eliminates ice build up on surfaces and product
  - Energy savings through evaporator fan management
- Energy savings with reduction in the number of defrost cycles
  - Defrost heater management
- Improved system diagnostics and service through advanced alarm notification text/email
  - Remote monitoring & system control
  - User friendly interface
- Precise temperature control for prolonged product shelf life
- Improved product integrity with less potential for spoilage
- Downloadable data provides system history for prior 30 days
- Remotely view and change system parameters and alarm settings
  - Manually control system
  - Easily troubleshoot issues

### ESP+ controls:

- Box Temperature    - Superheat    - Liquid Line Solenoid
- Defrost Initiation    - Defrost Termination    - Fan Motors
- Defrost Heater (Electric Defrost Models)

*Plus - User can access operating data directly from the system interface*

## 15-20% System Energy Savings over a Properly Commissioned System!



### 86% Fewer Defrost Cycles\*

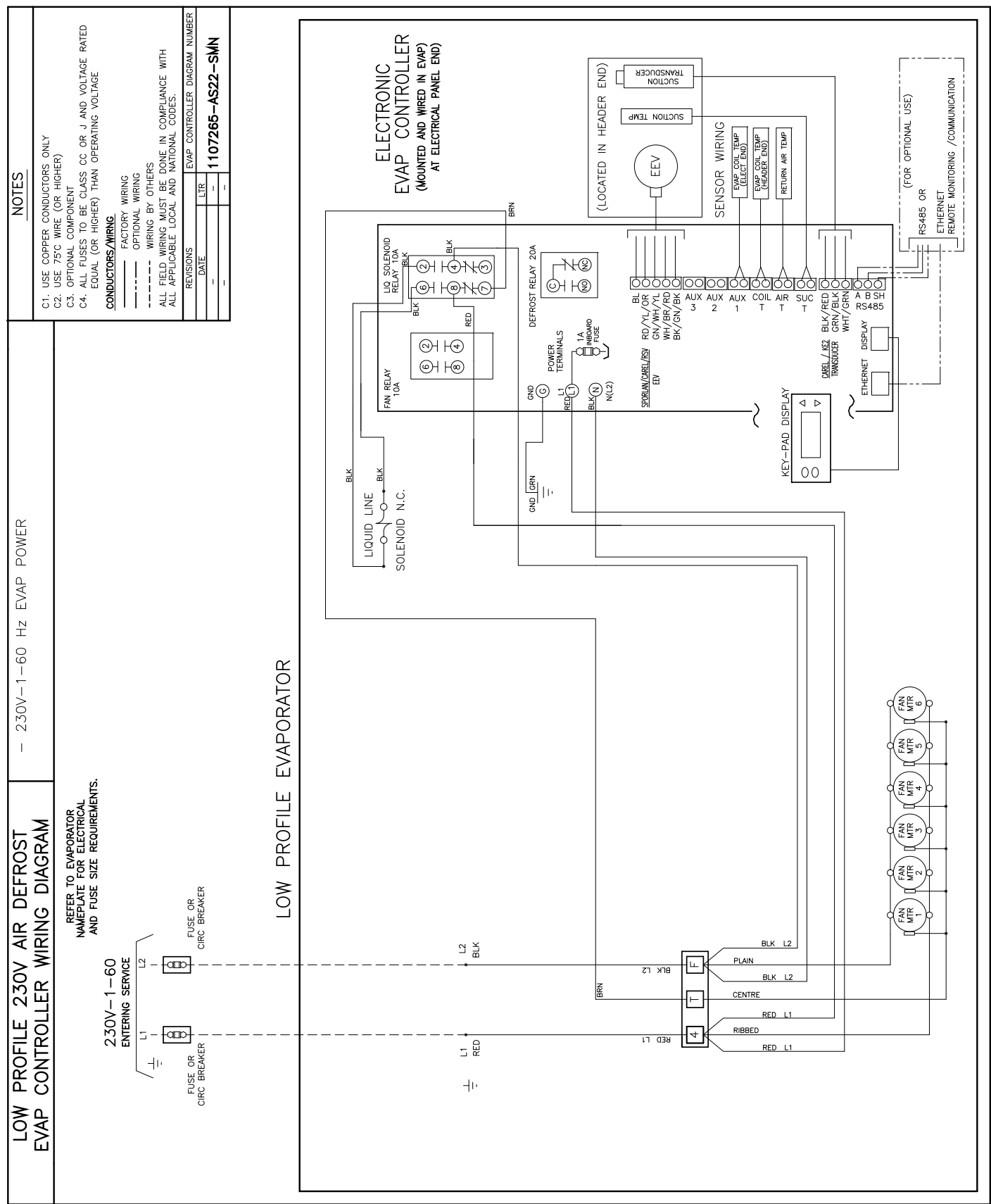
- Enhanced system performance
- Energy Savings
- Improved product integrity

\* Data may vary depending on application

**Visit [www.k-rp.com/esp](http://www.k-rp.com/esp) for details**

[illegible]

208-230/1/60: Air Defrost Models with ESP



208-230/1/60: 1-3 Fan Electric Defrost Models with ESP Max.12A

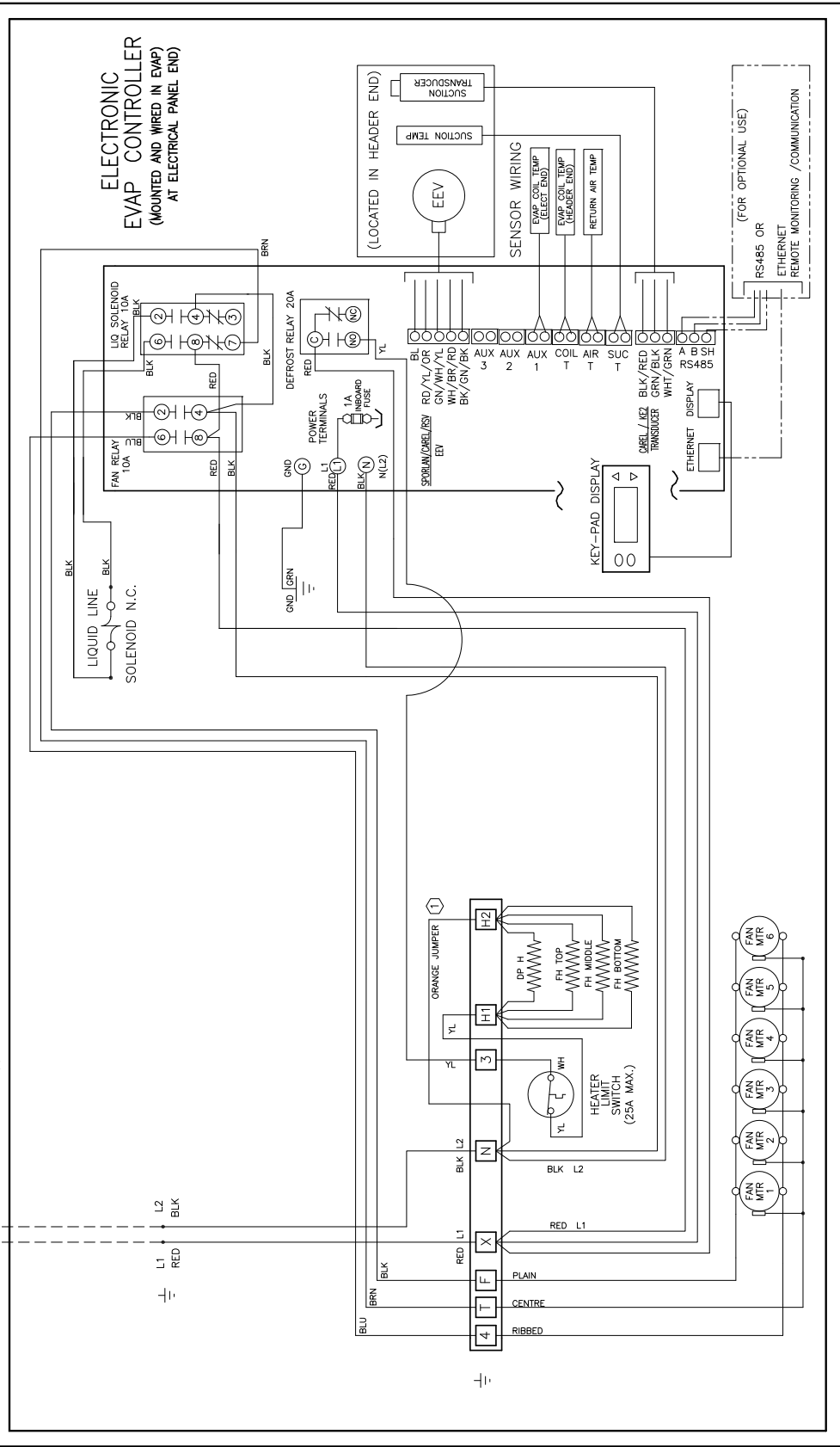
LOW PROFILE MAX 12A HEATER  
EVAP CONTROLLER WIRING DIAGRAM

230V-1-60  
ENTERING SERVICE  
REFER TO EVAPORATOR  
NAMEPLATE FOR ELECTRICAL  
AND FUSE SIZE REQUIREMENTS.



① ORANGE JUMPER WIRED FROM H2 TO N (ON TERMINAL BOARD)

LOW PROFILE EVAPORATOR



NOTES

- C1. USE COPPER CONDUCTORS ONLY
- C2. USE 75°C WIRE (OR HIGHER)
- C3. OPTIONAL COMPONENT
- C4. ALL FUSES TO BE CLASS CC OR J AND VOLTAGE RATED EQUAL (OR HIGHER) THAN OPERATING VOLTAGE

CONDUCTORS/WIRING

- FACTORY WIRING
  - OPTIONAL WIRING
  - WIRING BY OTHERS
- ALL FIELD WIRING MUST BE DONE IN COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.

| REVISIONS |     | EVAP CONTROLLER DIAGRAM NUMBER |     |
|-----------|-----|--------------------------------|-----|
| DATE      | LTR |                                |     |
| ---       | --- | ---                            | --- |
|           |     | 1107265-ES22-SM1H              |     |

## LOW PROFILE 16A TO 20A HEATER EVAP CONTROLLER WIRING DIAGRAM

— 230V-1-60 Hz EVAP POWER  
— LESS FAN AND DEFROST HEATER CONTACTORS

NOTES

C1. USE COPPER CONDUCTORS ONLY  
C2. USE 75°C WIRE (OR HIGHER)  
C3. OPTIONAL COMPONENT  
C4. ALL FUSES TO BE CLASS CC OR  
EQUAL (OR HIGHER) THAN OPERATING

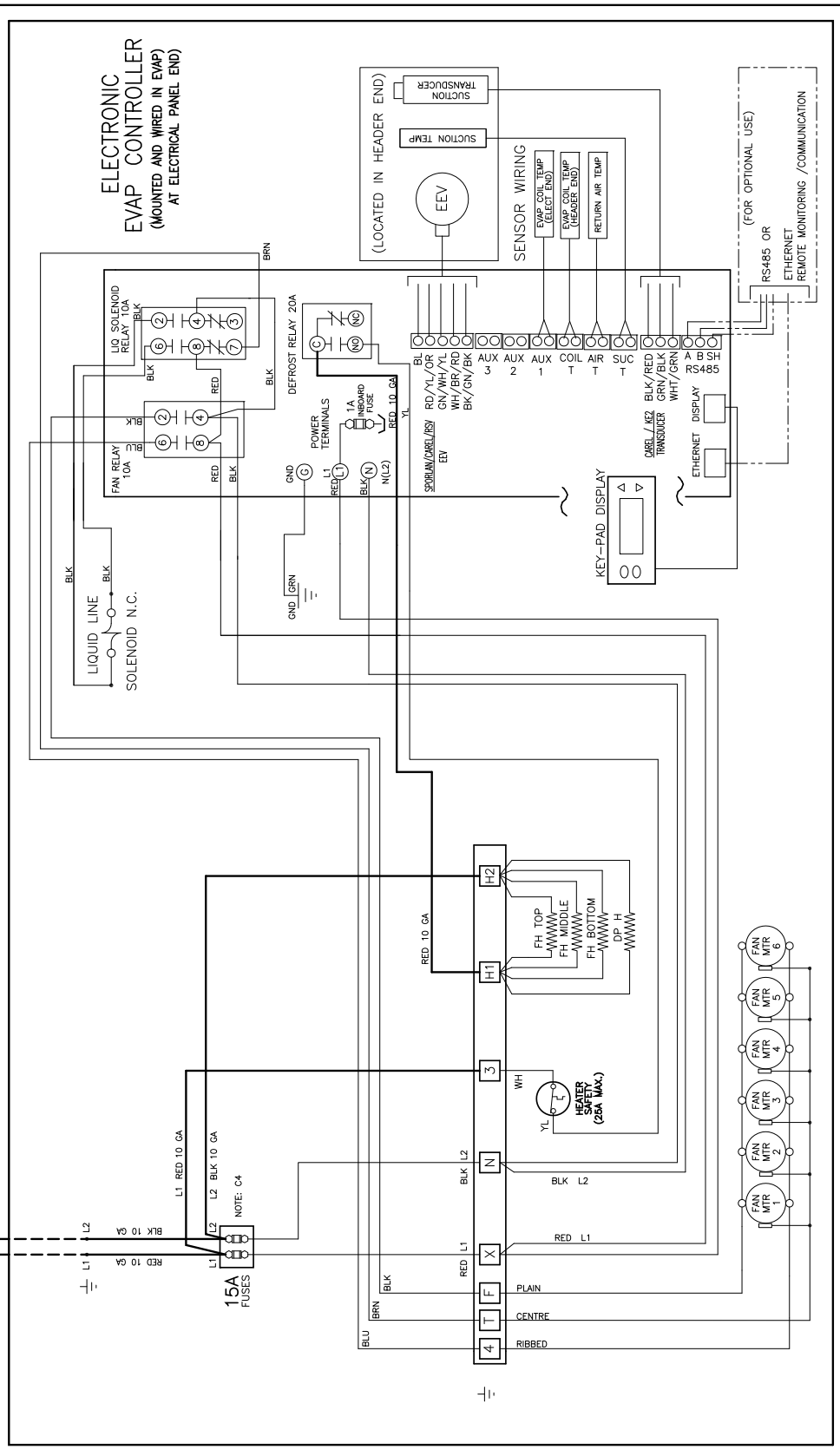
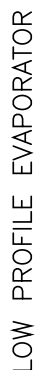
## CONDUCTORS/WIRING

\_\_\_\_\_ FACTORY WIRING  
 \_\_\_\_\_ OPTIONAL WIRING  
 ----- WIRING BY OTHERS

ALL FIELD WIRING MUST BE DONE IN COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.

|          |     |                                |  |
|----------|-----|--------------------------------|--|
| REVIEWS  |     | EVAP CONTROLLER DIAGRAM NUMBER |  |
| DATE     | LTR | 1107265-ES22-SM2F              |  |
| MAR 2019 | A   |                                |  |
| -        | -   |                                |  |

L



### LOW PROFILE 24A HEATER EVAP CONTROLLER WIRING DIAGRAM

230V-1-60  
ENTERING SERVICE

FUSES OR CIRCU BREAKER  
30A FOR 24A HEATERS

REFER TO EVAPORATOR  
NAMEPLATE FOR ELECTRICAL  
AND FUSE SIZE REQUIREMENTS.

### LOW PROFILE EVAPORATOR

**NOTES**

C1. USE COPPER CONDUCTORS ONLY  
C2. USE 75°C WIRE (OR HIGHER)  
C3. OPTIONAL COMPONENT  
C4. ALL FUSES TO BE CLASS CC OR J AND VOLTAGE RATED EQUAL (OR HIGHER) THAN OPERATING VOLTAGE

**CONDUCTORS/WIRING**

FACTORY WIRING  
OPTIONAL WIRING  
WIRING BY OTHERS  
ALL FIELD WIRING MUST BE DONE IN COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.

| REVISIONS | DATE     | EVAP CONTROLLER DIAGRAM NUMBER |
|-----------|----------|--------------------------------|
| LTR       | MAR 2019 | 1107265-ES22-SM2R              |

## Annual Walk-In Energy Factor Ratings - Medium Temperature

If a numerical value is listed in the table below, the following statement applies to that corresponding model: " This refrigeration system is designed and certified for use in walk-in cooler applications."

| Model<br>KLP | <b>R404A</b><br><b>R507</b> | <b>R407A</b><br><b>R407C</b> | <b>R448A</b><br><b>R449A</b> |
|--------------|-----------------------------|------------------------------|------------------------------|
| 104M         | 9.00                        | 9.00                         | 9.00                         |
| 106M         | 9.00                        | 9.00                         | 9.00                         |
| 107M         | 9.00                        | 9.00                         | 9.00                         |
| 209M         | 9.00                        | 9.00                         | 9.00                         |
| 211M         | 9.00                        | 9.00                         | 9.00                         |
| 214M         | 9.00                        | 9.00                         | 9.00                         |
| 317M         | 9.00                        | 9.00                         | 9.00                         |
| 320M         | 9.00                        | 9.00                         | 9.00                         |
| 422M         | 9.00                        | 9.00                         | 9.00                         |
| 427M         | 9.00                        | 9.00                         | 9.00                         |
| 534M         | 9.00                        | 9.00                         | 9.00                         |
| 640M         | 9.00                        | 9.00                         | 9.00                         |

## Annual Walk-In Energy Factor Ratings - Low Temperature

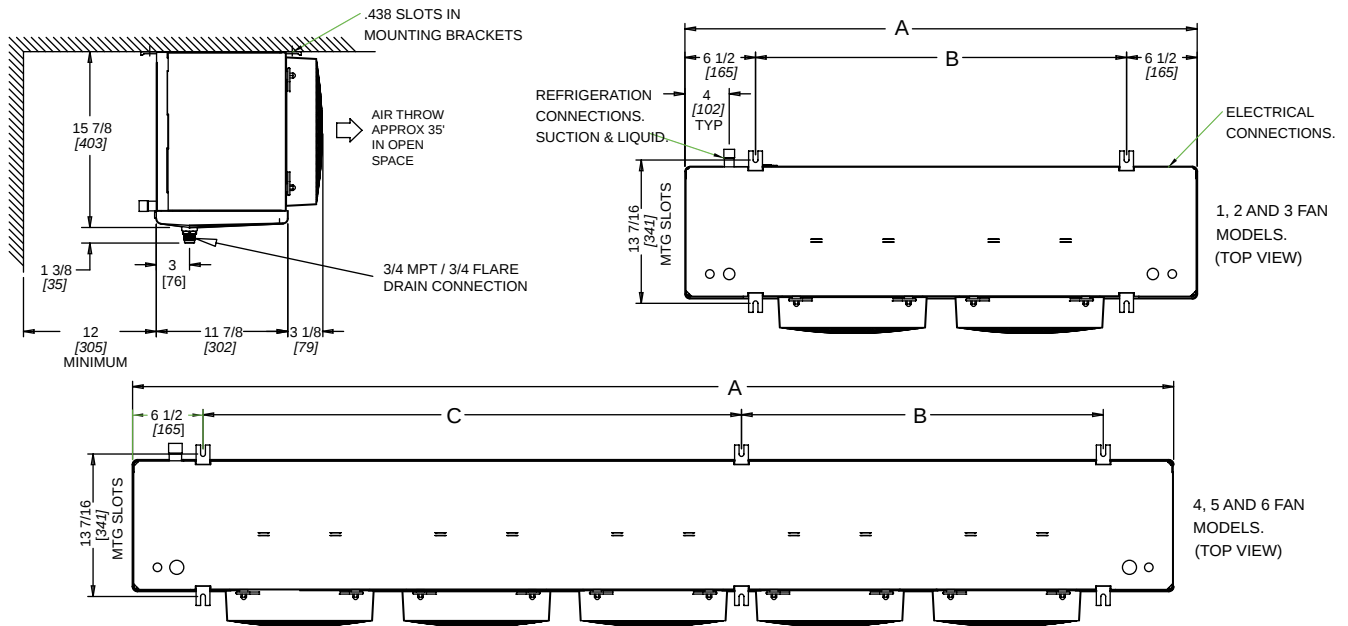
If a numerical value is listed in the table below, the following statement applies to that corresponding model: " This refrigeration system is designed and certified for use in walk-in freezer applications."

| Model<br>KLP | <b>R404A</b><br><b>R507</b> | <b>R407A</b> | <b>R448A</b><br><b>R449A</b> |
|--------------|-----------------------------|--------------|------------------------------|
| 104L         | 3.96                        | 3.96         | 3.96                         |
| 105L         | 3.97                        | 3.97         | 3.97                         |
| 106L         | 3.99                        | 3.99         | 3.99                         |
| 207L         | 3.99                        | 3.99         | 3.99                         |
| 209L         | 4.02                        | 4.02         | 4.02                         |
| 211L         | 4.04                        | 4.04         | 4.04                         |
| 314L         | 4.07                        | 4.07         | 4.07                         |
| 316L         | 4.10                        | 4.10         | 4.10                         |
| 418L         | 4.13                        | 4.13         | 4.13                         |
| 421L         | 4.15                        | 4.15         | 4.15                         |
| 526L         | 4.15                        | 4.15         | 4.15                         |
| 631L         | 4.15                        | 4.15         | 4.15                         |

| Model<br>KLP | <b>R404A</b><br><b>R507</b> | <b>R407A</b> | <b>R448A</b><br><b>R449A</b> |
|--------------|-----------------------------|--------------|------------------------------|
| 103V         | 3.95                        | 3.95         | 3.95                         |
| 104V         | 3.96                        | 3.96         | 3.96                         |
| 106V         | 3.98                        | 3.98         | 3.98                         |
| 207V         | 3.99                        | 3.99         | 3.99                         |
| 208V         | 4.01                        | 4.01         | 4.01                         |
| 211V         | 4.04                        | 4.04         | 4.04                         |
| 313V         | 4.06                        | 4.06         | 4.06                         |
| 316V         | 4.10                        | 4.10         | 4.10                         |
| 418V         | 4.13                        | 4.13         | 4.13                         |
| 421V         | 4.15                        | 4.15         | 4.15                         |
| 524V         | 4.15                        | 4.15         | 4.15                         |
| 627V         | 4.15                        | 4.15         | 4.15                         |

# DIMENSIONAL DATA / SPECIFICATIONS

# KLP - LOW PROFILE EVAPORATORS



| MODEL<br>KLP | NO. OF<br>FANS | A       |      | B      |      | C      |      | SUCTION<br>CONNECTION (ID)<br>SWEAT | DISTRIBUTOR<br>INLET<br>SIZE | HOT GAS DIS-<br>TRIBUTOR SIDE<br>PORT | DRAIN PAN LOOP |
|--------------|----------------|---------|------|--------|------|--------|------|-------------------------------------|------------------------------|---------------------------------------|----------------|
|              |                | IN      | mm   | IN     | mm   | IN     | mm   |                                     |                              |                                       |                |
| 104M^        | 1              | 30 1/4  | 768  | 17 1/4 | 438  | N/A    | N/A  | 5/8                                 | 1/2                          | 1/2                                   | N/A            |
| 106M^        |                | 30 1/4  | 768  | 17 1/4 | 438  | N/A    | N/A  | 5/8                                 | 1/2                          | 1/2                                   | N/A            |
| 107M^        |                | 30 1/4  | 768  | 17 1/4 | 438  | N/A    | N/A  | 5/8                                 | 1/2                          | 1/2                                   | N/A            |
| 209M#        | 2              | 46 1/4  | 1175 | 33 1/4 | 845  | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 5/8            |
| 211M#        |                | 46 1/4  | 1175 | 33 1/4 | 845  | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 5/8            |
| 214M#        |                | 46 1/4  | 1175 | 33 1/4 | 845  | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 5/8            |
| 317M#        | 3              | 62 1/4  | 1581 | 49 1/4 | 1251 | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 7/8            |
| 320M#        |                | 62 1/4  | 1581 | 49 1/4 | 1251 | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 7/8            |
| 422M#        | 4              | 78 1/4  | 1988 | 32 5/8 | 829  | 32 5/8 | 829  | 1 1/8                               | 1/2                          | 1/2                                   | 7/8            |
| 427M#        |                | 78 1/4  | 1988 | 32 5/8 | 829  | 32 5/8 | 829  | 1 1/8                               | 1/2                          | 1/2                                   | 7/8            |
| 534M#        | 5              | 94 1/4  | 2394 | 32 5/8 | 829  | 48 5/8 | 1235 | 1 3/8                               | 1/2                          | 1/2                                   | 1 1/8          |
| 640M#        | 6              | 110 1/4 | 2800 | 48 5/8 | 1235 | 48 5/8 | 1235 | 1 3/8                               | 7/8                          | 5/8                                   | 1 1/8          |
| 104L^        | 1              | 30 1/4  | 768  | 17 1/4 | 438  | N/A    | N/A  | 5/8                                 | 1/2                          | 1/2                                   | N/A            |
| 105L^        |                | 30 1/4  | 768  | 17 1/4 | 438  | N/A    | N/A  | 5/8                                 | 1/2                          | 1/2                                   | N/A            |
| 106L^        |                | 30 1/4  | 768  | 17 1/4 | 438  | N/A    | N/A  | 5/8                                 | 1/2                          | 1/2                                   | N/A            |
| 207L#        | 2              | 46 1/4  | 1175 | 33 1/4 | 845  | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 5/8            |
| 209L#        |                | 46 1/4  | 1175 | 33 1/4 | 845  | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 5/8            |
| 211L#        |                | 46 1/4  | 1175 | 33 1/4 | 845  | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 5/8            |
| 314L#        | 3              | 62 1/4  | 1581 | 49 1/4 | 1251 | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 7/8            |
| 316L#        |                | 62 1/4  | 1581 | 49 1/4 | 1251 | N/A    | N/A  | 1 1/8                               | 1/2                          | 1/2                                   | 7/8            |
| 418L#        | 4              | 78 1/4  | 1988 | 32 5/8 | 829  | 32 5/8 | 829  | 1 1/8                               | 1/2                          | 1/2                                   | 7/8            |
| 421L#        |                | 78 1/4  | 1988 | 32 5/8 | 829  | 32 5/8 | 829  | 1 1/8                               | 7/8                          | 5/8                                   | 7/8            |
| 526L#        | 5              | 94 1/4  | 2394 | 32 5/8 | 829  | 48 5/8 | 1235 | 1 3/8                               | 7/8                          | 5/8                                   | 1 1/8          |
| 631L#        | 6              | 110 1/4 | 2800 | 48 5/8 | 1235 | 48 5/8 | 1235 | 1 3/8                               | 7/8                          | 5/8                                   | 1 1/8          |
| 103V^        | 1              | 30 1/4  | 768  | 17 1/4 | 438  | N/A    | N/A  | 5/8                                 | 1/2                          | 1/2                                   | N/A            |
| 104V^        |                | 30 1/4  | 768  | 17 1/4 | 438  | N/A    | N/A  | 5/8                                 | 1/2                          | 1/2                                   | N/A            |
| 106V^        |                | 30 1/4  | 768  | 17 1/4 | 438  | N/A    | N/A  | 5/8                                 | 1/2                          | 1/2                                   | N/A            |
| 207V#        | 2              | 46 1/4  | 1175 | 33 1/4 | 845  | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 5/8            |
| 208V#        |                | 46 1/4  | 1175 | 33 1/4 | 845  | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 5/8            |
| 211V#        |                | 46 1/4  | 1175 | 33 1/4 | 845  | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 5/8            |
| 313V#        | 3              | 62 1/4  | 1581 | 49 1/4 | 1251 | N/A    | N/A  | 7/8                                 | 1/2                          | 1/2                                   | 7/8            |
| 316V#        |                | 62 1/4  | 1581 | 49 1/4 | 1251 | N/A    | N/A  | 1 1/8                               | 1/2                          | 1/2                                   | 7/8            |
| 418V#        | 4              | 78 1/4  | 1988 | 32 5/8 | 829  | 32 5/8 | 829  | 1 1/8                               | 1/2                          | 1/2                                   | 7/8            |
| 421V#        |                | 78 1/4  | 1988 | 32 5/8 | 829  | 32 5/8 | 829  | 1 1/8                               | 7/8                          | 5/8                                   | 7/8            |
| 524V#        | 5              | 94 1/4  | 2394 | 32 5/8 | 829  | 48 5/8 | 1235 | 1 3/8                               | 7/8                          | 5/8                                   | 1 1/8          |
| 627V#        | 6              | 110 1/4 | 2800 | 48 5/8 | 1235 | 48 5/8 | 1235 | 1 3/8                               | 7/8                          | 5/8                                   | 1 1/8          |

# = A, E, T, H, G, or R. ^ = A or E. T, H, G or R available in 2 to 6 fan models only Refer to Nomenclature for details

## Air Defrost and Hot Gas Defrost with Drain Pan Heater Models

| MODEL NUMBER KLP |       |       |       |       |       |       | SHIPPING WEIGHT |      |
|------------------|-------|-------|-------|-------|-------|-------|-----------------|------|
|                  |       |       |       |       |       |       | LB.             | (kg) |
| 104MA            | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 45              | (20) |
| 106MA            |       |       |       |       |       |       | 47              | (21) |
| 107MA            |       |       |       |       |       |       | 49              | (22) |
| 209MA            | 209MT | 209MG | 207LG | 207LT | 207VG | 207VT | 70              | (32) |
| 211MA            | 211MT | 211MG | 209LG | 209LT | 208VG | 208VT | 74              | (33) |
| 214MA            | 214MT | 214MG | 211LG | 211LT | 211VG | 211VT | 78              | (35) |
| 317MA            | 317MT | 317MG | 314LG | 314LT | 313VG | 313VT | 101             | (46) |
| 320MA            | 320MT | 320MG | 316LG | 316LT | 316VG | 316VT | 107             | (48) |
| 422MA            | 422MT | 422MG | 418LG | 418LT | 418VG | 418VT | 117             | (53) |
| 427MA            | 427MT | 427MG | 421LG | 421LT | 421VG | 421VT | 135             | (61) |
| 534MA            | 534MT | 534MG | 526LG | 526LT | 524VG | 524VT | 163             | (74) |
| 640MA            | 640MT | 640MG | 631LG | 631LT | 627VG | 627VT | 192             | (87) |

## Electric Defrost Models

| MODEL NUMBER KLP |       |       | SHIPPING WEIGHT |      |
|------------------|-------|-------|-----------------|------|
|                  |       |       | LB.             | (kg) |
| 104ME            | 104LE | 103VE | 49              | (22) |
| 106ME            | 105LE | 104VE | 51              | (23) |
| 107ME            | 106LE | 106VE | 53              | (24) |
| 209ME            | 207LE | 207VE | 76              | (35) |
| 211ME            | 209LE | 208VE | 80              | (36) |
| 214ME            | 211LE | 211VE | 84              | (38) |
| 317ME            | 314LE | 313VE | 109             | (49) |
| 320ME            | 316LE | 316VE | 115             | (52) |
| 422ME            | 418LE | 418VE | 127             | (58) |
| 427ME            | 421LE | 421VE | 145             | (66) |
| 534ME            | 526LE | 524VE | 176             | (80) |
| 640ME            | 631LE | 627VE | 207             | (94) |

## Hot Gas Defrost with Drain Pan Loop Models

| MODEL NUMBER KLP |       |       |       |       |       | SHIPPING WEIGHT |       |
|------------------|-------|-------|-------|-------|-------|-----------------|-------|
|                  |       |       |       |       |       | LB.             | (kg)  |
| 209MH            | 209MR | 207LH | 207LR | 207VH | 207VR | 87              | (39)  |
| 211MH            | 211MR | 209LH | 209LR | 208VH | 208VR | 91              | (41)  |
| 214MH            | 214MR | 211LH | 211LR | 211VH | 211VR | 95              | (43)  |
| 317MH            | 317MR | 314LH | 314LR | 313VH | 313VR | 124             | (56)  |
| 320MH            | 320MR | 316LH | 316LR | 316VH | 316VR | 130             | (59)  |
| 422MH            | 422MR | 418LH | 418LR | 418VH | 418VR | 145             | (66)  |
| 427MH            | 427MR | 421LH | 421LR | 421VH | 421VR | 163             | (74)  |
| 534MH            | 534MR | 526LH | 526LR | 524VH | 524VR | 198             | (90)  |
| 640MH            | 640MR | 631LH | 631LR | 627VH | 627VR | 233             | (106) |

# RECOMMENDED THERMAL EXPANSION VALVE SELECTIONS KLP - LOW PROFILE EVAPORATORS

## Medium Temperature Models

| Model<br>KLP | R404A R507 |                 | R407A R407C R448A R449A |                 |
|--------------|------------|-----------------|-------------------------|-----------------|
|              | SPORLAN    | SOLENOID VALVES | SPORLAN                 | SOLENOID VALVES |
| 104MA-S1D    | EBQSE-AA-C | 3               | EBQVE-AAA-C             | 3               |
| 106MA-S1D    | EBQSE-A-C  | 3               | EBQVE-AA-C              | 3               |
| 107MA-S1D    | EBQSE-A-C  | 3               | EBQVE-AA-C              | 3               |
| 209MA-S1D    | EBQSE-A-C  | 3               | EBQVE-A-C               | 3               |
| 211MA-S1D    | EBQSE-B-C  | 3               | EBQVE-A-C               | 3               |
| 214MA-S1D    | EBQSE-B-C  | 5               | EBQVE-A-C               | 3               |
| 317MA-S1D    | EBQSE-B-C  | 5               | EBQVE-A-C               | 3               |
| 320MA-S1D    | EBQSE-B-C  | 5               | EBQVE-B-C               | 5               |
| 422MA-S1D    | EBQSE-C-C  | 6               | EBQVE-B-C               | 5               |
| 427MA-S1D    | EBQSE-C-C  | 6               | EBQVE-B-C               | 5               |
| 534MA-S1D    | EBQSE-6-C  | 6               | EBQVE-C-C               | 6               |
| 640MA-S1D    | EBQSE-6-C  | 6               | EBQVE-C-C               | 6               |

Above selections based on: 1) 100°F ( 38°C ) vapor free liquid entering expansion valve,  
2) 110°F ( 43°C ) condensing temperature, 3) 9-12°F ( 4.4-6.7°C ) evaporator TD

## Low Temperature 6FPI Models

| Model<br>KLP | R404A R507  |                 | R407A R448A R449A |                 |
|--------------|-------------|-----------------|-------------------|-----------------|
|              | SPORLAN     | SOLENOID VALVES | SPORLAN           | SOLENOID VALVES |
| 104LE-S2D    | EBQSE-AA-ZP | 3               | EBQVE-AA-ZP       | 3               |
| 105LE-S2D    | EBQSE-A-ZP  | 3               | EBQVE-AA-ZP       | 3               |
| 106LE-S2D    | EBQSE-A-ZP  | 3               | EBQVE-AA-ZP       | 3               |
| 207LE-S2D    | EBQSE-A-ZP  | 3               | EBQVE-A-ZP        | 3               |
| 209LE-S2D    | EBQSE-A-ZP  | 3               | EBQVE-A-ZP        | 3               |
| 211LE-S2D    | EBQSE-B-ZP  | 3               | EBQVE-A-ZP        | 3               |
| 314LE-S2D    | EBQSE-B-ZP  | 5               | EBQVE-B-ZP        | 3               |
| 316LE-S2D    | EBQSE-C-ZP  | 5               | EBQVE-B-ZP        | 5               |
| 418LE-S2D    | EBQSE-C-ZP  | 5               | EBQVE-B-ZP        | 5               |
| 421LE-S2D    | EBQSE-C-ZP  | 6               | EBQVE-C-ZP        | 5               |
| 526LE-S2D    | EBQSE-6-ZP  | 6               | EBQVE-C-ZP        | 5               |
| 631LE-S2D    | EBQSE-6-ZP  | 6               | EBQVE-C-ZP        | 6               |

Above selections based on: 1) 100°F ( 38°C ) vapor free liquid entering expansion valve,  
2) 110°F ( 43°C ) condensing temperature, 3) 9-12°F ( 4.4-6.7°C ) evaporator TD

## Low Temperature 4FPI Models

| Model<br>KLP | R404A R507  |                 | R407A R448A R449A |                 |
|--------------|-------------|-----------------|-------------------|-----------------|
|              | SPORLAN     | SOLENOID VALVES | SPORLAN           | SOLENOID VALVES |
| 103VE-S2D    | EBQSE-AA-ZP | 3               | EBQVE-AA-ZP       | 3               |
| 104VE-S2D    | EBQSE-AA-ZP | 3               | EBQVE-AA-ZP       | 3               |
| 106VE-S2D    | EBQSE-A-ZP  | 3               | EBQVE-AA-ZP       | 3               |
| 207VE-S2D    | EBQSE-A-ZP  | 3               | EBQVE-A-ZP        | 3               |
| 208VE-S2D    | EBQSE-A-ZP  | 3               | EBQVE-A-ZP        | 3               |
| 211VE-S2D    | EBQSE-A-ZP  | 3               | EBQVE-A-ZP        | 3               |
| 313VE-S2D    | EBQSE-B-ZP  | 5               | EBQVE-B-ZP        | 3               |
| 316VE-S2D    | EBQSE-B-ZP  | 5               | EBQVE-B-ZP        | 3               |
| 418VE-S2D    | EBQSE-C-ZP  | 5               | EBQVE-B-ZP        | 3               |
| 421VE-S2D    | EBQSE-C-ZP  | 6               | EBQVE-B-ZP        | 5               |
| 524VE-S2D    | EBQSE-6-ZP  | 6               | EBQVE-C-ZP        | 5               |
| 627VE-S2D    | EBQSE-6-ZP  | 6               | EBQVE-C-ZP        | 5               |

Above selections based on: 1) 100°F ( 38°C ) vapor free liquid entering expansion valve,  
2) 110°F ( 43°C ) condensing temperature, 3) 9-12°F ( 4.4-6.7°C ) evaporator TD

# FACTORY INSTALLED EXPANSION VALVE SELECTIONS KLP - LOW PROFILE EVAPORATORS

## Models with ESP

### Medium Temperature Air Or Electric Defrost All Refrigerants

| MODEL<br>KLP | FACTORY<br>INSTALLED<br>NOZZLE | FACTORY<br>INSTALLED<br>EXPANSION<br>VALVE | FACTORY<br>INSTALLED<br>LIQUID LINE<br>SOLENOID VALVE |
|--------------|--------------------------------|--------------------------------------------|-------------------------------------------------------|
| 104M***      | N/A                            | E2V9                                       | E3                                                    |
| 106M***      | L1/2                           | E2V11                                      | E3                                                    |
| 107M***      | L1/2                           | E2V14                                      | E3                                                    |
| 209M***      | L3/4                           | E2V14                                      | E3                                                    |
| 211M***      | L1                             | E2V14                                      | E3                                                    |
| 214M***      | L1                             | E2V18                                      | E3                                                    |
| 317M***      | L1-1/2                         | E2V18                                      | E5                                                    |
| 320M***      | L1-1/2                         | E2V24                                      | E5                                                    |
| 422M***      | L2                             | E2V24                                      | E5                                                    |
| 427M***      | L2                             | E2V24                                      | E5                                                    |
| 534M***      | L2-1/2                         | E2V35                                      | E6                                                    |
| 640M***      | G3                             | E2V35                                      | E6                                                    |

\*\*\* Insert Air or Electric Defrost type. See nomenclature for details.  
ESP+ not available on Hot Gas Defrost models

### Low Temperature Electric Defrost 6 FPI All Refrigerants

| MODEL<br>KLP | FACTORY<br>INSTALLED<br>NOZZLE | FACTORY<br>INSTALLED<br>EXPANSION<br>VALVE | FACTORY<br>INSTALLED<br>LIQUID LINE<br>SOLENOID VALVE |
|--------------|--------------------------------|--------------------------------------------|-------------------------------------------------------|
| 104LE        | L1/2                           | E2V9                                       | E3                                                    |
| 105LE        | L3/4                           | E2V9                                       | E3                                                    |
| 106LE        | L1                             | E2V11                                      | E3                                                    |
| 207LE        | L1                             | E2V11                                      | E3                                                    |
| 209LE        | L1-1/2                         | E2V11                                      | E3                                                    |
| 211LE        | L2                             | E2V14                                      | E3                                                    |
| 314LE        | L2                             | E2V14                                      | E5                                                    |
| 316LE        | L3                             | E2V18                                      | E5                                                    |
| 418LE        | L3                             | E2V18                                      | E5                                                    |
| 421LE        | G4                             | E2V24                                      | E5                                                    |
| 526LE        | G4                             | E2V24                                      | E6                                                    |
| 631LE        | G5                             | E2V24                                      | E6                                                    |

### Low Temperature Electric Defrost 4 FPI All Refrigerants

| MODEL<br>KLP | FACTORY<br>INSTALLED<br>NOZZLE | FACTORY<br>INSTALLED<br>E2V EXPANSION<br>VALVE | FACTORY<br>INSTALLED<br>LIQUID LINE<br>SOLENOID VALVE |
|--------------|--------------------------------|------------------------------------------------|-------------------------------------------------------|
| 103VE        | L1/2                           | E2V9                                           | E3                                                    |
| 104VE        | L3/4                           | E2V9                                           | E3                                                    |
| 106VE        | L1                             | E2V9                                           | E3                                                    |
| 207VE        | L1                             | E2V11                                          | E3                                                    |
| 208VE        | L1-1/2                         | E2V11                                          | E3                                                    |
| 211VE        | L2                             | E2V11                                          | E3                                                    |
| 313VE        | L2                             | E2V14                                          | E3                                                    |
| 316VE        | L2-1/2                         | E2V14                                          | E5                                                    |
| 418VE        | J2-1/2                         | E2V18                                          | E5                                                    |
| 421VE        | G3                             | E2V18                                          | E5                                                    |
| 524VE        | G4                             | E2V24                                          | E5                                                    |
| 627VE        | G5                             | E2V24                                          | E6                                                    |

## Medium Temperature, 6 FPI

| TEMP                    | FPI | # of Fans | Model<br>KLP | Voltage      | 1 X EVAPORATOR |                 | 2 X EVAPORATOR |                 |
|-------------------------|-----|-----------|--------------|--------------|----------------|-----------------|----------------|-----------------|
|                         |     |           |              |              | Defrost<br>Kit | Fuse<br>Package | Defrost<br>Kit | Fuse<br>Package |
| ME - MEDIUM TEMPERATURE | 6   | 1         | 104ME-S2D    | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                         |     |           | 104ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     |           | 106ME-S2D    | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                         |     |           | 106ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     |           | 107ME-S2D    | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                         |     |           | 107ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     | 2         | 209ME-S2D    | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                         |     |           | 209ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     |           | 211ME-S2D    | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                         |     |           | 211ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     |           | 214ME-S2D    | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                         |     |           | 214ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     | 3         | 317ME-S2D    | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                         |     |           | 317ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     |           | 320ME-S2D    | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                         |     |           | 320ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     |           | 422ME-S2D    | 208-230/1/60 | DFK-02         | FP-006          | DFK-06         | FP-015          |
|                         |     |           | 422ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     | 4         | 427ME-S2D    | 208-230/1/60 | DFK-02         | FP-006          | DFK-06         | FP-015          |
|                         |     |           | 427ME-T3D    | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                         |     |           | 534ME-S2D    | 208-230/1/60 | DFK-02         | FP-007          | DFK-06         | FP-010          |
|                         |     |           | 534ME-T3D    | 208-230/3/60 | DFK-03         | FP-014          | DFK-07         | FP-019          |
|                         |     |           | 640ME-S2D    | 208-230/1/60 | DFK-02         | FP-020          | DFK-09         | FP-021          |
|                         |     |           | 640ME-T3D    | 208-230/3/60 | DFK-03         | FP-014          | DFK-07         | FP-019          |

## Low Temperature, 6 FPI

| TEMP                 | FPI | # of Fans | Model<br>KLP | Voltage      | 1 X EVAPORATOR |                 | 2 X EVAPORATOR |                 |
|----------------------|-----|-----------|--------------|--------------|----------------|-----------------|----------------|-----------------|
|                      |     |           |              |              | Defrost<br>Kit | Fuse<br>Package | Defrost<br>Kit | Fuse<br>Package |
| LE - LOW TEMPERATURE | 6   | 1         | KLP104LE-S2D | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                      |     |           | KLP104LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     |           | KLP105LE-S2D | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                      |     |           | KLP105LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     |           | KLP106LE-S2D | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                      |     |           | KLP106LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     | 2         | KLP207LE-S2D | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                      |     |           | KLP207LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     |           | KLP209LE-S2D | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                      |     |           | KLP209LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     |           | KLP211LE-S2D | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                      |     |           | KLP211LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     | 3         | KLP314LE-S2D | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                      |     |           | KLP314LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     |           | KLP316LE-S2D | 208-230/1/60 | DFK-02         | FP-004          | DFK-06         | FP-008          |
|                      |     |           | KLP316LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     |           | KLP418LE-S2D | 208-230/1/60 | DFK-02         | FP-006          | DFK-06         | FP-015          |
|                      |     |           | KLP418LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     | 4         | KLP421LE-S2D | 208-230/1/60 | DFK-02         | FP-006          | DFK-06         | FP-015          |
|                      |     |           | KLP421LE-T3D | 208-230/3/60 | DFK-03         | FP-013          | DFK-07         | FP-018          |
|                      |     |           | KLP526LE-S2D | 208-230/1/60 | DFK-02         | FP-007          | DFK-06         | FP-010          |
|                      |     |           | KLP526LE-T3D | 208-230/3/60 | DFK-03         | FP-014          | DFK-07         | FP-019          |
|                      |     |           | KLP631LE-S2D | 208-230/1/60 | DFK-02         | FP-020          | DFK-09         | FP-021          |
|                      |     |           | KLP631LE-T3D | 208-230/3/60 | DFK-03         | FP-014          | DFK-07         | FP-019          |

## Low Temperature, 4 FPI

| TEMP                 | FPI | # of Fans | Model KLP | Voltage      | 1 X EVAPORATOR |              | 2 X EVAPORATOR |              |
|----------------------|-----|-----------|-----------|--------------|----------------|--------------|----------------|--------------|
|                      |     |           |           |              | Defrost Kit    | Fuse Package | Defrost Kit    | Fuse Package |
| VE - LOW TEMPERATURE | 4   | 1         | 103VE-S2D | 208-230/1/60 | DFK-02         | FP-004       | DFK-06         | FP-008       |
|                      |     |           | 103VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     |           | 104VE-S2D | 208-230/1/60 | DFK-02         | FP-004       | DFK-06         | FP-008       |
|                      |     |           | 104VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     |           | 106VE-S2D | 208-230/1/60 | DFK-02         | FP-004       | DFK-06         | FP-008       |
|                      |     |           | 106VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     | 2         | 207VE-S2D | 208-230/1/60 | DFK-02         | FP-004       | DFK-06         | FP-008       |
|                      |     |           | 207VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     |           | 208VE-S2D | 208-230/1/60 | DFK-02         | FP-004       | DFK-06         | FP-008       |
|                      |     |           | 208VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     |           | 211VE-S2D | 208-230/1/60 | DFK-02         | FP-004       | DFK-06         | FP-008       |
|                      |     |           | 211VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     | 3         | 313VE-S2D | 208-230/1/60 | DFK-02         | FP-004       | DFK-06         | FP-008       |
|                      |     |           | 313VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     |           | 316VE-S2D | 208-230/1/60 | DFK-02         | FP-004       | DFK-06         | FP-008       |
|                      |     |           | 316VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     | 4         | 418VE-S2D | 208-230/1/60 | DFK-02         | FP-006       | DFK-06         | FP-015       |
|                      |     |           | 418VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     |           | 421VE-S2D | 208-230/1/60 | DFK-02         | FP-006       | DFK-06         | FP-015       |
|                      |     |           | 421VE-T3D | 208-230/3/60 | DFK-03         | FP-013       | DFK-07         | FP-018       |
|                      |     | 5         | 524VE-S2D | 208-230/1/60 | DFK-02         | FP-007       | DFK-06         | FP-010       |
|                      |     |           | 524VE-T3D | 208-230/3/60 | DFK-03         | FP-014       | DFK-07         | FP-019       |
|                      |     | 6         | 627VE-S2D | 208-230/1/60 | DFK-02         | FP-020       | DFK-09         | FP-021       |
|                      |     |           | 627VE-T3D | 208-230/3/60 | DFK-03         | FP-014       | DFK-07         | FP-019       |

**For info on matched  
KeepRite condensing units,  
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**Defrost Kit &  
Fuse Package  
Online Selection Tool:  
[www.k-rp.com/dfk](http://www.k-rp.com/dfk)**

## Defrost Kits

| Number of Evaps. | Kit Part Number | Description                                                                                       |
|------------------|-----------------|---------------------------------------------------------------------------------------------------|
| 1                | <b>DFK-01</b>   | Time Clock, HtrCont - 1x 40A (3P), FB 1x 30A (1P)                                                 |
| 1                | <b>DFK-02</b>   | Time Clock, HtrCont - 1x 40A (3P), FB 1x 30A (2P)                                                 |
| 1                | <b>DFK-03</b>   | Time Clock, HtrCont - 1x 40A (3P), FB 1x 30A (3P)                                                 |
| 1                | <b>DFK-04</b>   | Time Clock, HtrCont - 1x 40A (3P), FB 1x 60A (2P)                                                 |
| 2                | <b>DFK-05</b>   | Time Clock, HtrCont - 1x 40A (3P), FB 2x 30A (1P)                                                 |
| 2                | <b>DFK-06</b>   | Time Clock, HtrCont - 1x 40A (3P), FB 2x 30A (2P)                                                 |
| 2                | <b>DFK-07</b>   | Time Clock, HtrCont - 1x 40A (3P), FB 2x 30A (3P)                                                 |
| 2                | <b>DFK-08</b>   | Time Clock, HtrCont - 1x 50A (3P), FB 2x 60A (2P)                                                 |
| 2                | <b>DFK-09</b>   | Time Clock, HtrCont - 1x 50A (3P), FB 2x 30A (2P)                                                 |
| 1                | <b>DFK-10</b>   | Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P)                          |
| 1                | <b>DFK-11</b>   | Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P)                          |
| 2                | <b>DFK-12</b>   | Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 4x 30A (2P)                          |
| 2                | <b>DFK-13</b>   | Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 4x 30A (3P)                          |
| 1                | <b>DFK-14</b>   | Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 1x 30A (3P)          |
| 1                | <b>DFK-15</b>   | Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 1x 60A (2P)          |
| 1                | <b>DFK-16</b>   | Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 1x 60A (3P)          |
| 1                | <b>DFK-17</b>   | Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (3P), FB 1x 60A (3P)          |
| 2                | <b>DFK-18</b>   | Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 30A (3P)          |
| 2                | <b>DFK-19</b>   | Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 4x 30A (2P)                          |
| 2                | <b>DFK-20</b>   | Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 4x 30A (3P)                          |
| 1                | <b>DFK-21</b>   | Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 1x 60A (2P)          |
| 1                | <b>DFK-22</b>   | Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 1x 30A (3P), FB 1x 60A (3P)          |
| 2                | <b>DFK-23</b>   | Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 30A (3P)          |
| 2                | <b>DFK-24</b>   | Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P), FB 2x 60A (3P)          |
| 1                | <b>DFK-25</b>   | Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 2x 60A (2P)          |
| 1                | <b>DFK-26</b>   | Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (3P), FB 2x 60A (3P)          |
| 2                | <b>DFK-27</b>   | Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 60A (2P)          |
| 2                | <b>DFK-28</b>   | Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 60A (3P)          |
| 2                | <b>DFK-29</b>   | Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P), FB 2x 60A (3P)          |
| 2                | <b>DFK-30</b>   | Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 50A (3P), FB 2x 30A (2P), FB 2x 60A (3P)          |
| 1                | <b>DFK-31</b>   | Time Clock, HtrCont - 2x 50A (3P), FanCont - 1x 40A (3P), FB 1x 30A (3P), FB 2x 60A (3P)          |
| 2                | <b>DFK-32</b>   | Time Clock, HtrCont - 2x 50A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 60A (2P)          |
| 2                | <b>DFK-33</b>   | Time Clock, HtrCont - 2x 50A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P), FB 2x 60A (3P)          |
| 2                | <b>DFK-34</b>   | Time Clock, HtrCont - 4x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 4x 60A (2P)          |
| 2                | <b>DFK-35</b>   | Time Clock, HtrCont - 4x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P), FB 4x 60A (3P)          |
| 2                | <b>DFK-36</b>   | Time Clock, HtrCont - 4x 40A (3P), FanCont - 1x 50A (3P), FB 2x 30A (2P), FB 4x 60A (2P)          |
| 2                | <b>DFK-37</b>   | Time Clock, HtrCont - 4x 40A (3P), FanCont - 1x 50A (3P), FB 2x 30A (3P), FB 4x 60A (3P)          |
| 2                | <b>DFK-38</b>   | Time Clock, HtrCont - 4x 50A (3P), FanCont - 1x 50A (3P), FB 2x 30A (3P), FB 4x 60A (3P)          |
| 1                | <b>DFK-39</b>   | Time Clock, HtrCont1 - 1x 40A (3P), HtrCont2 - 2x 50A (3P), FanCont - 1x 40A (3P), FB 4x 60A (3P) |

NOTE: HtrCont = Heater Contactor, FanCont = Fan Contactor, FB = Fuse Block, (1P), (2P), (3P) = Number of Poles

## Fuse Packages

| Package Part Number | Description                |
|---------------------|----------------------------|
| FP-001              | FUSES (1) 15AMP            |
| FP-002              | FUSES (1) 20AMP            |
| FP-003              | FUSES (1) 25AMP            |
| FP-004              | FUSES (2) 15AMP            |
| FP-006              | FUSES (2) 20AMP            |
| FP-007              | FUSES (2) 25AMP            |
| FP-008              | FUSES (4) 15AMP            |
| FP-010              | FUSES (4) 25AMP            |
| FP-012              | FUSES (2) 35AMP            |
| FP-013              | FUSES (3) 15AMP            |
| FP-014              | FUSES (3) 20AMP            |
| FP-015              | FUSES (4) 20AMP            |
| FP-016              | FUSES (4) 20AMP (6) 45AMP  |
| FP-017              | FUSES (4) 35AMP            |
| FP-018              | FUSES (6) 15AMP            |
| FP-019              | FUSES (6) 20AMP            |
| FP-020              | FUSES (2) 30AMP            |
| FP-021              | FUSES (4) 30AMP            |
| FP-022              | FUSES (8) 15AMP            |
| FP-023              | FUSES (2) 25AMP (3) 50AMP  |
| FP-024              | FUSES (2) 20AMP (3) 45AMP  |
| FP-025              | FUSES (6) 20AMP (6) 60AMP  |
| FP-026              | FUSES (6) 15AMP (12) 40AMP |
| FP-027              | FUSES (6) 15AMP (6) 40AMP  |
| FP-028              | FUSES (6) 20AMP (12) 40AMP |
| FP-029              | FUSES (6) 15AMP (6) 50AMP  |
| FP-030              | FUSES (6) 15AMP (6) 45AMP  |
| FP-031              | FUSES (6) 15AMP (6) 35AMP  |
| FP-032              | FUSES (6) 15AMP (6) 30AMP  |
| FP-033              | FUSES (6) 25AMP (12) 50AMP |
| FP-034              | FUSES (6) 20AMP (12) 35AMP |
| FP-035              | FUSES (4) 25AMP (6) 50AMP  |
| FP-036              | FUSES (6) 25AMP (12) 60AMP |
| FP-037              | FUSES (6) 20AMP (12) 60AMP |
| FP-038              | FUSES (6) 20AMP (12) 50AMP |
| FP-039              | FUSES (6) 20AMP (12) 45AMP |
| FP-040              | FUSES (6) 15AMP (12) 45AMP |
| FP-041              | FUSES (5) 15AMP            |
| FP-042              | FUSES (10) 15AMP           |
| FP-043              | FUSES (3) 25AMP (6) 60AMP  |
| FP-044              | FUSES (3) 20AMP (6) 60AMP  |
| FP-045              | FUSES (3) 20AMP (6) 50AMP  |
| FP-046              | FUSES (3) 25AMP (6) 45AMP  |
| FP-047              | FUSES (3) 15AMP (6) 45AMP  |
| FP-048              | FUSES (4) 15AMP (4) 45AMP  |
| FP-049              | FUSES (4) 15AMP (4) 40AMP  |
| FP-050              | FUSES (3) 15AMP (3) 60AMP  |
| FP-051              | FUSES (4) 20AMP (6) 50AMP  |
| FP-052              | FUSES (4) 15AMP (6) 45AMP  |
| FP-053              | FUSES (4) 15AMP (6) 30AMP  |

| Package Part Number | Description                         |
|---------------------|-------------------------------------|
| FP-054              | FUSES (3) 15AMP (6) 35AMP           |
| FP-055              | FUSES (2) 15AMP (2) 45AMP           |
| FP-056              | FUSES (2) 15AMP (2) 40AMP           |
| FP-057              | FUSES (2) 20AMP (3) 50AMP           |
| FP-058              | FUSES (2) 15AMP (3) 45AMP           |
| FP-059              | FUSES (2) 15AMP (3) 30AMP           |
| FP-060              | FUSES (2) 15AMP (2) 35AMP           |
| FP-061              | FUSES (2) 15AMP (2) 50AMP           |
| FP-062              | FUSES (2) 15AMP (2) 60AMP           |
| FP-063              | FUSES (2) 15AMP (3) 25AMP           |
| FP-064              | FUSES (2) 15AMP (3) 35AMP           |
| FP-065              | FUSES (2) 15AMP (3) 40AMP           |
| FP-066              | FUSES (2) 15AMP (3) 20AMP           |
| FP-067              | FUSES (4) 15AMP (4) 35AMP           |
| FP-068              | FUSES (4) 15AMP (4) 50AMP           |
| FP-069              | FUSES (4) 15AMP (4) 60AMP           |
| FP-070              | FUSES (4) 15AMP (6) 25AMP           |
| FP-071              | FUSES (4) 15AMP (6) 35AMP           |
| FP-072              | FUSES (4) 15AMP (6) 40AMP           |
| FP-073              | FUSES (4) 15AMP (6) 20AMP           |
| FP-074              | FUSES (3) 20AMP (3) 60AMP           |
| FP-075              | FUSES (3) 20AMP (6) 35AMP           |
| FP-076              | FUSES (3) 25AMP (6) 50AMP           |
| FP-077              | FUSES (3) 35AMP (9) 45AMP           |
| FP-078              | FUSES (3) 15AMP (3) 35AMP           |
| FP-079              | FUSES (3) 15AMP (3) 45AMP           |
| FP-080              | FUSES (3) 15AMP (3) 50AMP           |
| FP-081              | FUSES (3) 20AMP (6) 40AMP           |
| FP-082              | FUSES (3) 15AMP (3) 40AMP           |
| FP-083              | FUSES (3) 15AMP (6) 40AMP           |
| FP-084              | FUSES (6) 15AMP (6) 60AMP           |
| FP-085              | FUSES (6) 15AMP (12) 35AMP          |
| FP-086              | FUSES (3) 35AMP (3) 45AMP (6) 60AMP |
| FP-087              | FUSES (4) 20AMP (4) 40AMP (4) 50AMP |
| FP-088              | FUSES (4) 15AMP (4) 35AMP (4) 40AMP |
| FP-089              | FUSES (2) 20AMP (2) 40AMP (2) 50AMP |
| FP-090              | FUSES (2) 15AMP (2) 35AMP (2) 40AMP |
| FP-091              | FUSES (2) 20AMP (2) 35AMP (2) 40AMP |
| FP-092              | FUSES (2) 25AMP (2) 40AMP (2) 50AMP |
| FP-093              | FUSES (4) 20AMP (4) 35AMP (4) 40AMP |
| FP-094              | FUSES (6) 15AMP (6) 25AMP           |
| FP-095              | FUSES (3) 15AMP (3) 25AMP           |
| FP-096              | FUSES (3) 15AMP (3) 30AMP           |
| FP-097              | FUSES (4) 15AMP (4) 30AMP           |
| FP-098              | FUSES (4) 15AMP (4) 25AMP           |
| FP-099              | FUSES (4) 15AMP (4) 20AMP           |
| FP-100              | FUSES (2) 15AMP (2) 20AMP           |
| FP-101              | FUSES (2) 15AMP (2) 25AMP           |
| FP-102              | FUSES (2) 15AMP (2) 30AMP           |
| FP-103              | FUSES (4) 25AMP (4) 40AMP (4) 50AMP |

NOTE: FUSES 30AMP and Below - Class CC Type, FUSES 35AMP and Above - Class J Type

## INSTALLATION

The installation and start-up of evaporators should only be performed by qualified refrigeration mechanics. This equipment should be installed in accordance with all applicable codes, ordinances and local by-laws.

## INSPECTION

Inspect all equipment before unpacking for visible signs of damage or loss. Check shipping list against material received to ensure shipment is complete.

**IMPORTANT:** Remember, you, the consignee, must make any claim necessary against the transportation company. Shipping damage or missing parts, when discovered at the outset, will prevent later unnecessary and costly delays.

**If damage or loss during transport is evident, make claim to carrier, as this will be their responsibility, not the manufacturer's.**

Should carton be damaged, but damage to equipment is not obvious, a claim should be filed for "concealed damage" with the carrier.

**IMPORTANT:** The electrical characteristics of the unit should be checked at this time to make sure they correspond to those ordered and to electrical power available at the job site.

Save all shipping papers, tags and instruction sheets for reference by installer and owner.

## APPLICATION

LP evaporators are designed for walker-in cooler and freezer applications used with wide range of refrigerants. For room temperatures above 35°F (2 °C) AND evaporating temperatures above 26°F (-3 °C), positive defrosting means (with electric or hot gas) may not be required, otherwise, electric defrost or hot gas defrost models should be used. Electric defrost models come with defrost termination and fan delay as standard to control the defrost cycle termination and fan delay, while defrost initiation means (e.g. defrost timer) is not included.

The coil must not be exposed to any abnormal atmospheric or acidic environments. This may result in corrosion to the cabinet and possible coil failure (leaks). (Consult manufacturer for optional baked on phenolic protective coatings).

## LOCATION

The unit location in the room should be selected to ensure uniform air distribution throughout the entire space to be refrigerated. Be sure that the product does not obstruct the free circulation of air. Allow a minimum of 24" clearance at each end. Do not locate evaporators over doors. Consideration should be given to the coil location in order to minimize the piping run length to the condensing unit and floor drain.

## EXPANSION VALVE (TXV) SELECTION

All units require the use of an **externally equalized** expansion valve. (A 1/4" (6 mm) O.D. equalizer line has been provided on the coil) TX valves should **not** be selected strictly by their nominal ton rating. (This rating is based at a specific pressure differential and entering liquid temperature). Since applications will differ it is suggested the following selection procedure be followed.

1. Determine actual evaporator capacity.

The nominal rating is based at 10°F T.D. (5.6°C) (Entering Air Temp. minus Evap. Temp.) Note that a higher/lower operating T.D. will increase / decrease this capacity rating by their direct ratio within a range of 8 to 12°F (4.4 to 8.3°C) T.D.

2. Determine the pressure drop across the valve by subtracting the evaporating pressure and distributor pressure drop from the high side liquid pressure.

The distributor pressure drop is typically in the range of 20 to 35 psig (1.4 to 2.4 bar) depending on the type of refrigerant and operating conditions.

3. Estimate entering liquid temperature. Temperatures lower than 100°F (38 °C) increase valve capacity ratings. Refer to valve manufacturer's specs for details.

4. Select valve from the valve manufacturer selection charts for the appropriate refrigerant, evaporating temp and pressure drop.

For best performance, the outlet of the expansion valve should be installed directly to the distributor body. If this is not possible, a straight tube up to 12 inches may be used for the connection.

Locate the expansion valve bulb on a horizontal length of suction line preferably 3 to 6 inches from the suction header. Locate the bulb at 4 or 8 clock position and insulate with a waterproof type of insulation. Clamp the bulb to ensure 100% contact of the bulb with the suction line.

Ensure appropriate nozzle has been installed in the distributor before installing valve. After following the manufacturer's installation instructions and after the room has reached the desired temperature the valve superheat should be checked. This will confirm that the evaporator is operating properly and performing to maximum efficiency. The superheat should be around 6 (3.3 °C) to 8°F (4.4 °C) for a 10 to 12°F T.D. (5.6 to 6.7 °C). Too high or low a super heat will result in unsatisfactory system performance and possible compressor problems.

## NOZZLE INSTALLATION

For common applications (Medium temp. R404A/R22/ R407A/ R448A, 8 to 12°F (4.4 to 6.7°C) T.D.; low temp. R404A/R407A/ R448A, 8 to 12°F (4.4 to 6.7°C) T.D.) the nozzle for all models has been factory installed. For other applications, refer to nozzle manufacturer's selection guide. To replace a nozzle, the nozzle retainer clip (in distributor) must be removed before inserting nozzle. Re-install clip ensuring nozzle is properly in place. A small nozzle can be drilled larger using the drill size listed in table on page 35. Ensure the hole must be accurately centered and smooth. A lathe is preferred for the drilling.

## MOUNTING

Refer to dimensional drawing for recommended mounting arrangements. Ensure adequate clearance is provided behind the coil as well as each end. The evaporators may be mounted flush with ceiling with bolts, or hanging down with rod hangers. When using rod hangers, allow adequate space between the top of the unit and the ceiling for cleaning to comply with NSF Standard 7.

**Ensure that the ceiling is level since the drain pan has been sloped for drainage during the defrost cycle.**

## DRAIN LINE

The drain line should be run from the drain connection, sloping at least 1" (25 mm) per foot and should have the size at least as large as the drain connection. A trap in a warm area outside the room must be provided to allow proper draining through the tubing. Connection should be made to proper drainage facilities that comply with local regulations.

To prevent freeze-up when the temperature of the refrigerated space is 35°F (2 °C) or lower, the drain line should be heated along its run inside the cold room. The heated drain line should be insulated. It is recommended that the heater be energized at all times. A heat input of 20 watts per foot in a 28°F (-2°C) room and 30 watts per foot for -20°F (-29°C) rooms, is satisfactory. Drain line heaters are not required for constant room temperature above 35°F (2°C).

Always trap evaporator drain line individually to prevent vapor migration.

**Ensure that the drain line has sufficient slope for proper drainage (prevention of ice build up/blockage in pan).**

## PIPING

Refrigeration grade piping must be used for all field refrigeration piping. Refrigerant line sizes are important and **may not** be the same size as the coil connections. Consult ASHRAE handbook or other similar reference book for proper line sizing. Refrigerant piping and control system should be designed to prevent possible liquid slugging (from oil or refrigerant) of the compressors on start-up after the defrost cycle. Also, it should prevent oil logging and minimize refrigerant pressure drop.

For hot gas models, refer to pages 45 - 46 for recommended piping.

## WIRING

Wire system in accordance with governing standards and local codes. Refer to data and wiring diagrams on throughout this publication for typical wiring arrangement. Electrical wiring is to be sized in accordance with minimum circuit ampacity rating (MCA). Size fuses used must not exceed the Maximum Fuse Size ratings.

For ease of identifying the proper wiring terminal, unit wiring is color coded and terminal block connections are identified.

When **fan delay thermostats** (combination fan delay and defrost termination) are installed, on start-up, the fans do not operate until the coil temperature is reduced to approximately 25°F (-4°C). It is normal for the fans to cycle a few times until the room temperature is brought down. At higher evaporating temperatures this control may not close and therefore should either be by-passed temporarily or replaced with an adjustable type. (set for a higher temperature cut-in point).

## MAINTENANCE

The unit should be periodically inspected for any dirt or ice build-up on the fin surface and cleaned if necessary with a soft whisk or brush. Also ensure coils inner (and outer) drain pans do not have any ice build-up from improper defrost operation. When replacing heater elements first remove heater retainer brackets and heater clips.

## SYSTEM CHECK

### Before Start-Up:

1. All wiring should be in accordance with local codes.
2. Refrigerant lines should be properly sized.
3. All systems preferably include a liquid line solenoid valve at immediately up stream of the expansion valve.
4. Thorough evacuation and dehydration has been performed.
5. The suction, discharge, and receiver service valves must be open.
6. The system preferably include a liquid line filter drier moisture indicator and suction filter.
7. Pour enough water into the drain pan to allow a good check on drainage and seal the trap.

### After Start-Up:

1. Check the oil level to be sure the oil charge is correct.
2. On initial start up the fans do not start until coil temperature is pulled down to approximately 25°F (-4 °C) on the coil. Also, it is normal for the fan to cycle a few times until the room temperature is pulled down.
3. If necessary, temporarily by-pass fan delay control (to run fans until room temp is lowered).
4. Be sure that the expansion valve is properly set to provide the correct amount of superheat.
5. After the box temperature is close to reaching the desired temperature, the evaporator superheat must be checked and adjustment made if necessary.

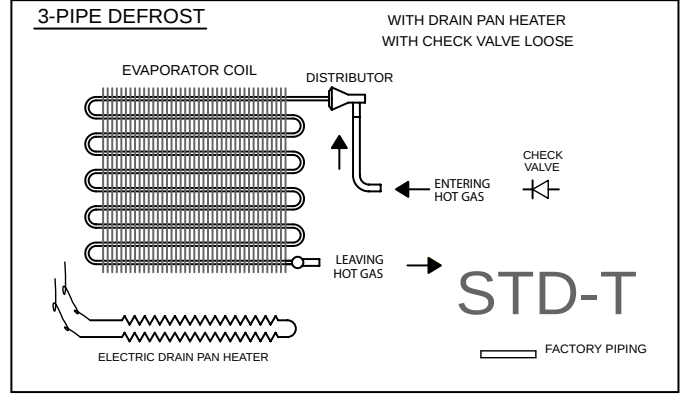
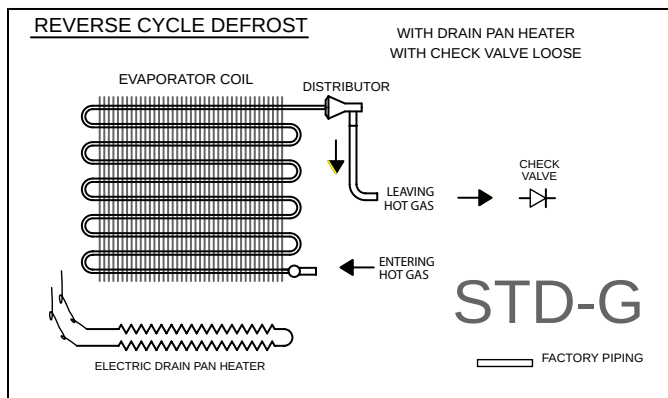
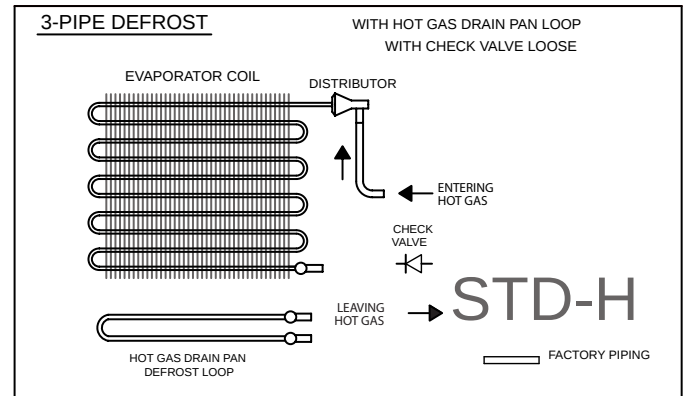
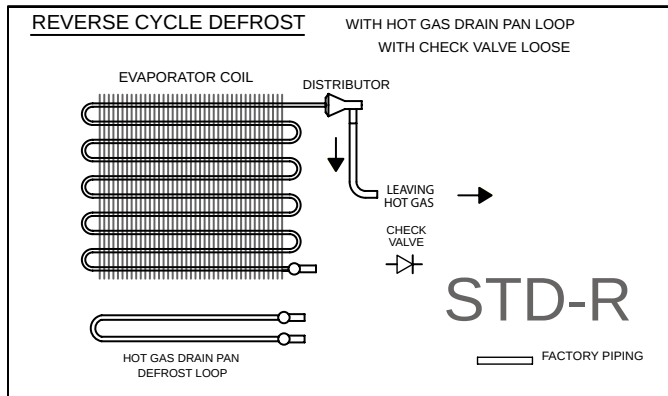
In general, evaporators running with a TD of 10°F (5.6 °C) should have a superheat reading of 6° to 8°F (3.3 °C to 4.4 °C). For evaporators with another T.D., the general rule is that the superheat should be around 60 to 80% of T.D.

6. Heavy moisture loads are usually encountered when starting the system for the first time. This may cause a rapid build-up of frost on the evaporator. During the initial pull down, we suggest that the frost build-up be watched and defrosted manually as required.
7. Observe that the system goes through at least one complete DEFROST CYCLE.



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## Standard Configurations - Refer to Nomenclature for details

Standard Offering: All Models

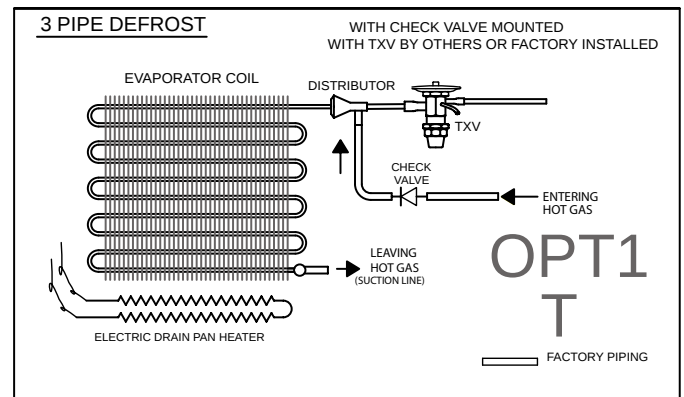
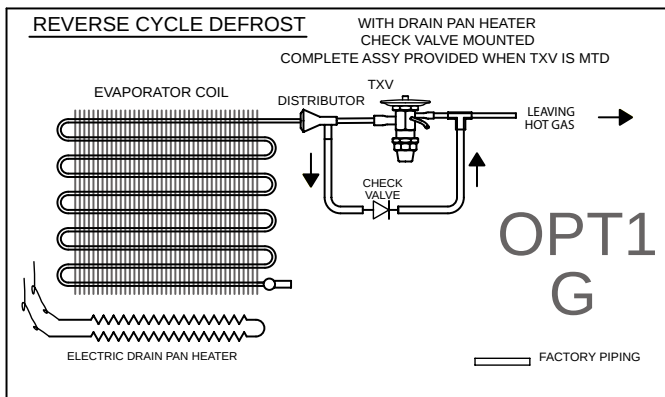
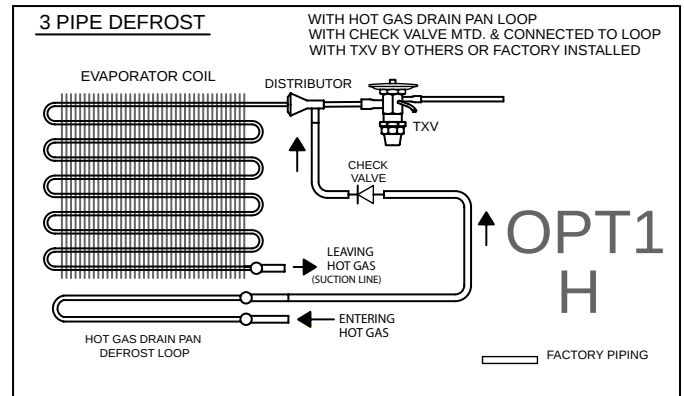
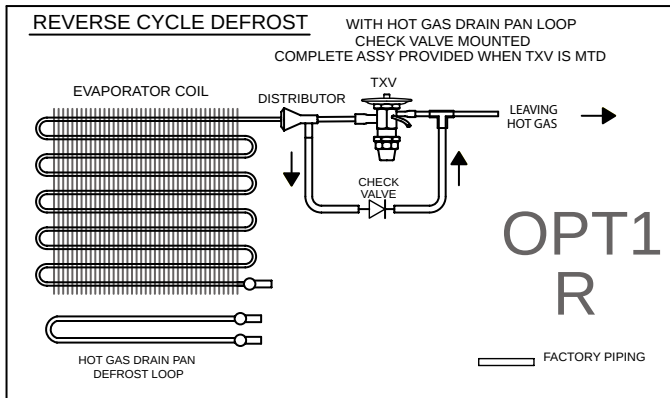
Check Valve is included with the coil shipped loose as it is a must have component for system operation.

## Check Valve &amp; TXV - See next page (OPT 1)

When a TXV is ordered with a HG defrost coil: Its only option will be **Factory Installed**. The bypass check valve will be **factory installed** as well as part of the same option.

- **Reverse Cycle Pan Heater (G Models)** when ordered with TXV & Check Valve:
  - o TXV, Check Valve and bypass Tee are factory installed
- **Reverse Cycle Pan Loop (R Models)** when ordered with TXV & Check Valve:
  - o TXV, Check Valve and bypass Tee are factory installed
- **3-Pipe Pan Heater (T Models)** when ordered with TXV & Check Valve:
  - o TXV and Check Valve are factory installed
- **3-Pipe Pan Loop (H Models)** when ordered with TXV & Check Valve:
  - o TXV and Check Valve are factory installed

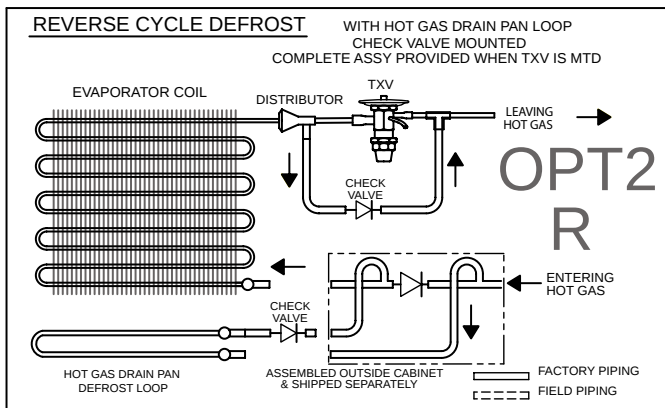
## Optional Configurations - Refer to Nomenclature for details



## Drain pan Loop Kit - See below (OPT 2)

Drain pan loop kit is an assembly that is fully assembled and shipped loose for field installation outside the cabinet. Two check valves are included, depending on the model size, one or both are factory installed.

- **Reverse Cycle Pan Loop (R Models)** when ordered with TXV & Check Valve:
  - o Suction line piping shipped as a pre-piped assembly for field installation



## Solenoid Valve

Solenoid valves are available as a shipped loose item due to limited space inside the cabinet

|                   |                    |
|-------------------|--------------------|
| System            |                    |
| Model Number      | Date of Start-Up   |
| Serial Number     | Service Contractor |
| Refrigerant       | Phone              |
| Electrical Supply | E-mail             |

|                                                                                                          |                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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|  <p>TROUBLESHOOTING</p> | <p>email: <a href="mailto:troubleshooting@k-rp.com">troubleshooting@k-rp.com</a><br/> call: 1-844-893-3222 x529</p>                                                              |
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|  <p>SHIPPING</p>      | <p>email: <a href="mailto:shipping@k-rp.com">shipping@k-rp.com</a><br/> call: 1-844-893-3222 x503</p>                                                                            |

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