

### COMPRESSOR DEFINITION

|                           |             |
|---------------------------|-------------|
| Designation               | F F7,5HBK   |
| Nominal Voltage/Frequency | 115 V 60 Hz |
| Engineering Number        | 513209290   |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |              |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                      | R-134a                            |                                   |              |
| 3 Nominal voltage and frequency    | 115 / 60                          | [ V / Hz ]                        |              |
| 4 Application type                 | Low-Medium-High Back Pressure     |                                   |              |
| 4.1 Evaporating temperature range  | -35°C to 15°C                     | (-31°F to 59°F)                   |              |
| 5 Motor type                       | RSIR-CSIR                         |                                   |              |
| 6 Starting torque                  | LST - Low Starting Torque         |                                   |              |
| 7 Expansion device                 | Capillary tube                    |                                   |              |
| 8 Compressor cooling               | Operating voltage range           |                                   |              |
|                                    |                                   | 50 Hz                             | 60 Hz        |
| 8.1 LBP (32°C Ambient temperature) | Static/Fan                        | -                                 | 103 to 135 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan                        | -                                 | 103 to 135 V |
| 8.3 HBP (32°C Ambient temperature) | Fan                               | -                                 | 103 to 135 V |
| 8.4 HBP (43°C Ambient temperature) | Fan                               | -                                 | 103 to 135 V |
| 9 Maximum condensing temperature   |                                   |                                   |              |
| 9.1 Operating                      | 14.2                              | [kgf/cm <sup>2</sup> ] (202 psig) | / °C - °F    |
| 9.2 Peak                           | 15.9                              | [kgf/cm <sup>2</sup> ] (226 psig) | / °C - °F    |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |              |

### B - MECHANICAL DATA

|                               |               |  |
|-------------------------------|---------------|--|
| 1 Commercial designation      | 1/5+          | [hp]                                       |
| 2 Displacement                | 6.92          | [cm <sup>3</sup> ] (0.422 cu.in)           |
| 2.1 Bore [mm]                 | 21.000        |  |
| 2.2 Stroke [mm]               | 20.000        |  |
| 3 Lubricant charge            | 280           | [ml] (9.47 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 |  |
| 4 Weight (with oil charge)    | 10.74         | [kg] (23.68 lb.)                           |
| 5 Nitrogen charge             | 0.2 to 0.3    | [kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig) |

### C - ELETRICAL DATA

|  |                                |                                    |
|--|--------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115 V 60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Current Relay                  |                                    |
| 2.1 Starting device                          | 213516094/213516132            |                                    |
| 3 Start capacitor                            | 270-324(115)                   | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                              | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 5TM771NFBZZ-53                 |                                    |
| 6 Start winding resistance                   | 11.51                          | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 2.20                           | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 25.00                          | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | -                              | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | 4.00                           | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | UL                             |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |   |                           |                                      |       |  |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--------------------------------------|-------|--|
| TEST CONDITIONS:<br>@115V60Hz |          |     | ASHRAEHBP32<br>Static       |                               | Evaporating temperature<br>(Condensing temperature) |                           | 7.2°C (44.96°F)<br>54.4°C (129.92°F) |       |  |
| Cooling capacity<br>+/- 5%    |          |     | Power consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                             | EFFICIENCY RATE<br>+/- 7% |                                      |       |  |
| [Btu/h]                       | [kcal/h] | [W] | [W]                         | [A]                           | [kg/h]  | [Btu/Wh]                  | [kcal/Wh]                            | [W/W] |  |
| 2760                          | 696      | 809 | 352                         | 3.64                          |   | 7.84                      | 1.98                                 | 2.30  |  |

|                               |          |     |                             |                               |   |                           |                                      |       |  |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--------------------------------------|-------|--|
| TEST CONDITIONS:<br>@115V60Hz |          |     | ASHRAEHBP32<br>Fan          |                               | Evaporating temperature<br>(Condensing temperature) |                           | 7.2°C (44.96°F)<br>54.4°C (129.92°F) |       |  |
| Cooling capacity<br>+/- 5%    |          |     | Power consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                             | EFFICIENCY RATE<br>+/- 7% |                                      |       |  |
| [Btu/h]                       | [kcal/h] | [W] | [W]                         | [A]                           | [kg/h]  | [Btu/Wh]                  | [kcal/Wh]                            | [W/W] |  |
| 2760                          | 696      | 809 | 352                         | 3.64                          |   | 7.84                      | 1.98                                 | 2.30  |  |

|                               |          |     |                             |                               |   |                           |  |       |  |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|--|
| TEST CONDITIONS:<br>@115V60Hz |          |     | ASHRAELBP32<br>Static       |                               | Evaporating temperature<br>(Condensing temperature) |                           | -23.3°C (-9.94°F)<br>54.4°C (129.92°F) |       |  |
| Cooling capacity<br>+/- 5%    |          |     | Power consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                             | EFFICIENCY RATE<br>+/- 7% |  |       |  |
| [Btu/h]                       | [kcal/h] | [W] | [W]                         | [A]                           | [kg/h]  | [Btu/Wh]                  | [kcal/Wh]                              | [W/W] |  |
| 630                           | 159      | 185 | 168                         | 2.30                          | 3.58  | 3.75                      | 0.95                                   | 1.10  |  |

|                               |          |     |                             |                               |   |                           |  |       |  |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|--|
| TEST CONDITIONS:<br>@115V60Hz |          |     | ASHRAELBP32<br>Fan          |                               | Evaporating temperature<br>(Condensing temperature) |                           | -23.3°C (-9.94°F)<br>54.4°C (129.92°F) |       |  |
| Cooling capacity<br>+/- 5%    |          |     | Power consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                             | EFFICIENCY RATE<br>+/- 7% |  |       |  |
| [Btu/h]                       | [kcal/h] | [W] | [W]                         | [A]                           | [kg/h]  | [Btu/Wh]                  | [kcal/Wh]                              | [W/W] |  |
| 630                           | 159      | 185 | 168                         | 2.30                          | 3.58  | 3.75                      | 0.95                                   | 1.10  |  |

### E - PERFORMANCE - CURVES

|                               |                            |                    |         |                             |                               |  |                           |        |          |           |
|-------------------------------|----------------------------|--------------------|---------|-----------------------------|-------------------------------|--|---------------------------|--------|----------|-----------|
| TEST CONDITIONS:<br>@115V60Hz |                            | ASHRAE32<br>Static |         |                             |                               | (Condensing temperature 45°C (+113°F)) |                           |        |          |           |
| Evaporating temperature       | Cooling capacity<br>+/- 5% |                    |         | Power consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                | EFFICIENCY RATE<br>+/- 7% |        |          |           |
|                               | °C                         | (°F)               | [Btu/h] | [kcal/h]                    | [W]                           | [W]                                    | [A]                       | [kg/h] | [Btu/Wh] | [kcal/Wh] |
| -35                           | (-31)                      | 323                | 81      | 95                          | 113                           | 1.97                                   | 1.83                      | 2.80   | 0.71     | 0.82      |
| -30                           | (-22)                      | 446                | 112     | 131                         | 134                           | 2.08                                   | 2.54                      | 3.32   | 0.84     | 0.97      |
| -25                           | (-13)                      | 606                | 153     | 178                         | 157                           | 2.21                                   | 3.45                      | 3.88   | 0.98     | 1.14      |
| -20                           | (- 4)                      | 809                | 204     | 237                         | 181                           | 2.36                                   | 4.60                      | 4.51   | 1.14     | 1.32      |
| -15                           | (+ 5)                      | 1061               | 267     | 311                         | 206                           | 2.52                                   | 6.05                      | 5.20   | 1.31     | 1.52      |
| -10                           | (+14)                      | 1371               | 345     | 402                         | 232                           | 2.68                                   | 7.84                      | 5.97   | 1.50     | 1.75      |
| -5                            | (+23)                      | 1743               | 439     | 511                         | 257                           | 2.86                                   | 10.02                     | 6.83   | 1.72     | 2.00      |
| 0                             | (+32)                      | 2186               | 551     | 641                         | 282                           | 3.04                                   | 12.64                     | 7.79   | 1.96     | 2.28      |
| +5                            | (+41)                      | 2706               | 682     | 793                         | 306                           | 3.23                                   | 15.75                     | 8.86   | 2.23     | 2.60      |
| +10                           | (+50)                      | 3309               | 834     | 969                         | 329                           | 3.41                                   | 19.40                     | 10.04  | 2.53     | 2.94      |
| +15                           | (+59)                      | 4002               | 1008    | 1173                        | 350                           | 3.60                                   | 23.63                     | 11.36  | 2.86     | 3.33      |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@115V60Hz |       | ASHRAE32<br>Static         |          |      | (Condensing temperature 55°C (+131°F)) |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature       |       | Cooling capacity<br>+/- 5% |          |      | Power consumption<br>+/- 5%            | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                    | [kcal/h] | [W]  | [W]                                    | [A]                           | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 260                        | 66       | 76   | 112                                    | 2.01                          | 1.47                    | 2.29                      | 0.58      | 0.67  |
| -30                           | (-22) | 393                        | 99       | 115  | 134                                    | 2.11                          | 2.24                    | 2.86                      | 0.72      | 0.84  |
| -25                           | (-13) | 556                        | 140      | 163  | 159                                    | 2.24                          | 3.17                    | 3.43                      | 0.86      | 1.01  |
| -20                           | (- 4) | 754                        | 190      | 221  | 185                                    | 2.40                          | 4.30                    | 4.02                      | 1.01      | 1.18  |
| -15                           | (+ 5) | 996                        | 251      | 292  | 214                                    | 2.57                          | 5.68                    | 4.63                      | 1.17      | 1.36  |
| -10                           | (+14) | 1287                       | 324      | 377  | 243                                    | 2.77                          | 7.36                    | 5.28                      | 1.33      | 1.55  |
| -5                            | (+23) | 1635                       | 412      | 479  | 274                                    | 3.00                          | 9.40                    | 5.96                      | 1.50      | 1.75  |
| 0                             | (+32) | 2047                       | 516      | 600  | 305                                    | 3.23                          | 11.83                   | 6.71                      | 1.69      | 1.97  |
| +5                            | (+41) | 2528                       | 637      | 741  | 337                                    | 3.49                          | 14.71                   | 7.52                      | 1.89      | 2.20  |
| +10                           | (+50) | 3085                       | 777      | 904  | 369                                    | 3.76                          | 18.08                   | 8.40                      | 2.12      | 2.46  |
| +15                           | (+59) | 3726                       | 939      | 1092 | 400                                    | 4.04                          | 21.99                   | 9.37                      | 2.36      | 2.75  |

| TEST CONDITIONS:<br>@115V60Hz |       | ASHRAE32<br>Static         |          |      | (Condensing temperature 65°C (+149°F)) |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature       |       | Cooling capacity<br>+/- 5% |          |      | Power consumption<br>+/- 5%            | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                    | [kcal/h] | [W]  | [W]                                    | [A]                           | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 136                        | 34       | 40   | 101                                    | 1.94                          | 0.76                    | 1.59                      | 0.40      | 0.47  |
| -30                           | (-22) | 282                        | 71       | 83   | 125                                    | 2.04                          | 1.61                    | 2.26                      | 0.57      | 0.66  |
| -25                           | (-13) | 451                        | 114      | 132  | 152                                    | 2.18                          | 2.58                    | 2.88                      | 0.73      | 0.85  |
| -20                           | (- 4) | 650                        | 164      | 190  | 182                                    | 2.35                          | 3.71                    | 3.48                      | 0.88      | 1.02  |
| -15                           | (+ 5) | 884                        | 223      | 259  | 214                                    | 2.57                          | 5.05                    | 4.05                      | 1.02      | 1.19  |
| -10                           | (+14) | 1161                       | 293      | 340  | 250                                    | 2.81                          | 6.64                    | 4.62                      | 1.16      | 1.35  |
| -5                            | (+23) | 1488                       | 375      | 436  | 287                                    | 3.09                          | 8.55                    | 5.18                      | 1.31      | 1.52  |
| 0                             | (+32) | 1872                       | 472      | 548  | 326                                    | 3.40                          | 10.82                   | 5.75                      | 1.45      | 1.69  |
| +5                            | (+41) | 2318                       | 584      | 679  | 366                                    | 3.74                          | 13.48                   | 6.35                      | 1.60      | 1.86  |
| +10                           | (+50) | 2834                       | 714      | 830  | 407                                    | 4.10                          | 16.61                   | 6.97                      | 1.76      | 2.04  |
| +15                           | (+59) | 3426                       | 863      | 1004 | 449                                    | 4.49                          | 20.23                   | 7.63                      | 1.92      | 2.24  |

### F - EXTERNAL CHARACTERISTICS

|                         |                     |      |                          |
|-------------------------|---------------------|------|--------------------------|
| 1 Base plate            | Universal           |      |                          |
| 2 Tray holder           | No                  |      |                          |
| 3 Connectors            |                     |      |                          |
| 3.1 SUCTION             | 8.2 +0.12/-0.08     | [mm] | (0.323" +0.005"/-0.003") |
| 3.1.1 Material          | Copper plated steel |      |                          |
| 3.1.2 Shape             | Slanted             |      |                          |
| 3.2 DISCHARGE           | 6.5 +0.12/-0.08     | [mm] | (0.256" +0.005"/-0.003") |
| 3.2.1 Material          | Copper plated steel |      |                          |
| 3.2.2 Shape             | Slanted             |      |                          |
| 3.3 PROCESS             | 6.5 +0.12/-0.08     | [mm] | (0.256" +0.005"/-0.003") |
| 3.3.1 Material          | Copper plated steel |      |                          |
| 3.3.2 Shape             | Slanted             |      |                          |
| 3.4 Oil cooler (Copper) | No                  | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs        |      |                          |