

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | <b>F F7,5HBKW</b>  |
| Nominal Voltage/Frequency | <b>115 V 60 Hz</b> |
| Engineering Number        | <b>513206895</b>   |

### 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 pressures/temperature |                                   |                                   |              |
| 9.1 Operating (gauge)                      | 16.2                              | [kgf/cm <sup>2</sup> ] (230 psig) | / °C - °F    |
| 9.2 Peak (gauge)                           | 20.6                              | [kgf/cm <sup>2</sup> ] (293 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            | 370           | [ml] (12.51 fl.oz.)                        |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 |  |
| 4 Weight (with oil charge)    | 10.5          | [kg] (23.15 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>Fan |         |                             |                               |                         | (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>Fan |         |                             | (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] |
| -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>Fan |         |                             | (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] |
| -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) | 6.5 +0.09/-0.09     | [mm] | (0.256" +0.004"/-0.004") |
| 3.5 Connector sealing   | Rubber Plugs        |      |                          |