

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>F F18,5HAKW</b>     |
| Nominal Voltage/Frequency | <b>115-127 V 60 Hz</b> |
| Engineering Number        | <b>513200479</b>       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |             |
|------------------------------------|-----------------------------------|-----------------------------------|-------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |             |
| 2 Refrigerant                      | R-134a                            |                                   |             |
| 3 Nominal voltage and frequency    | 115-127 / 60                      | [ V / Hz ]                        |             |
| 4 Application type                 | Low-Medium Back Pressure          |                                   |             |
| 4.1 Evaporating temperature range  | -35°C to -5°C                     | (-31°F to 23°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                        | -                                 | 98 to 135 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan                        | -                                 | 98 to 135 V |
| 8.3 HBP (32°C Ambient temperature) | -                                 | -                                 | -           |
| 8.4 HBP (43°C Ambient temperature) | -                                 | -                                 | -           |
| 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      | 1/4+          | [hp]                                       |
| 2 Displacement                | 7.15          | [cm <sup>3</sup> ] (0.436 cu.in)           |
| 2.1 Bore [mm]                 | 22.500        |  |
| 2.2 Stroke [mm]               | 18.000        |  |
| 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)    | 11.43         | [kg] (25.20 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 | 115-127 V 60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Current Relay                      |                                    |
| 2.1 Starting device                          | 213516094/213516132                |                                    |
| 3 Start capacitor                            | 243-292(100)                       | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM762NFBZZ-53                     |                                    |
| 6 Start winding resistance                   | 8.10                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 2.35                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 27.50                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 3.30                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - IRAM - TUV - UKCA - UL        |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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<br>consumption<br>+/- 5% | Current<br>consumption<br>+/- 5% | Gas flow<br>rate<br>+/- 5%                         | EFFICIENCY RATE<br>+/- 7% |  |       |
| [Btu/h]                       | [kcal/h] | [W] | [W]                            | [A]                              | [kg/h]   | [Btu/Wh]                  | [kcal/Wh]                              | [W/W] |
| 830                           | 209      | 243 | 177                            | 2.31                             | 4.72   | 4.70                      | 1.18                                   | 1.38  |

### E - PERFORMANCE - CURVES

|                               |                            |                    |     |                                |                                  |  |                           |           |       |  |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|--|
| TEST CONDITIONS:<br>@115V60Hz |                            | ASHRAE32<br>Static |     |                                |                                  | (Condensing temperature 45°C (+113°F)) |                           |           |       |  |
| Evaporating<br>temperature    | Cooling capacity<br>+/- 5% |                    |     | Power<br>consumption<br>+/- 5% | Current<br>consumption<br>+/- 5% | Gas flow<br>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)                     | 450                        | 113                | 132 | 118                            | 2.00                             | 2.55                                   | 3.79                      | 0.96      | 1.11  |  |
| -30 (-22)                     | 615                        | 155                | 180 | 141                            | 2.11                             | 3.49                                   | 4.39                      | 1.11      | 1.29  |  |
| -25 (-13)                     | 834                        | 210                | 245 | 164                            | 2.24                             | 4.74                                   | 5.09                      | 1.28      | 1.49  |  |
| -20 (- 4)                     | 1106                       | 279                | 324 | 189                            | 2.40                             | 6.29                                   | 5.87                      | 1.48      | 1.72  |  |
| -15 (+ 5)                     | 1426                       | 359                | 418 | 214                            | 2.57                             | 8.14                                   | 6.68                      | 1.68      | 1.96  |  |
| -10 (+14)                     | 1792                       | 452                | 525 | 240                            | 2.76                             | 10.27                                  | 7.49                      | 1.89      | 2.19  |  |
| -5 (+23)                      | 2201                       | 555                | 645 | 266                            | 2.95                             | 12.66                                  | 8.26                      | 2.08      | 2.42  |  |

|                               |                            |                    |     |                                |                                  |  |                           |           |       |  |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|--|
| TEST CONDITIONS:<br>@115V60Hz |                            | ASHRAE32<br>Static |     |                                |                                  | (Condensing temperature 55°C (+131°F)) |                           |           |       |  |
| Evaporating<br>temperature    | Cooling capacity<br>+/- 5% |                    |     | Power<br>consumption<br>+/- 5% | Current<br>consumption<br>+/- 5% | Gas flow<br>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)                     | 357                        | 90                 | 105 | 115                            | 1.98                             | 2.02                                   | 3.13                      | 0.79      | 0.92  |  |
| -30 (-22)                     | 517                        | 130                | 152 | 140                            | 2.10                             | 2.93                                   | 3.71                      | 0.94      | 1.09  |  |
| -25 (-13)                     | 731                        | 184                | 214 | 167                            | 2.25                             | 4.15                                   | 4.38                      | 1.10      | 1.28  |  |
| -20 (- 4)                     | 997                        | 251                | 292 | 196                            | 2.43                             | 5.68                                   | 5.09                      | 1.28      | 1.49  |  |
| -15 (+ 5)                     | 1312                       | 331                | 384 | 226                            | 2.64                             | 7.49                                   | 5.81                      | 1.46      | 1.70  |  |
| -10 (+14)                     | 1672                       | 421                | 490 | 257                            | 2.87                             | 9.58                                   | 6.50                      | 1.64      | 1.91  |  |
| -5 (+23)                      | 2075                       | 523                | 608 | 291                            | 3.12                             | 11.94                                  | 7.13                      | 1.80      | 2.09  |  |

|                               |                            |                    |     |                                |                                  |  |                           |           |       |  |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|--|
| TEST CONDITIONS:<br>@115V60Hz |                            | ASHRAE32<br>Static |     |                                |                                  | (Condensing temperature 65°C (+149°F)) |                           |           |       |  |
| Evaporating<br>temperature    | Cooling capacity<br>+/- 5% |                    |     | Power<br>consumption<br>+/- 5% | Current<br>consumption<br>+/- 5% | Gas flow<br>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)                     | 262                        | 66                 | 77  | 108                            | 1.96                             | 1.48                                   | 2.44                      | 0.61      | 0.71  |  |
| -30 (-22)                     | 413                        | 104                | 121 | 135                            | 2.08                             | 2.34                                   | 3.06                      | 0.77      | 0.90  |  |
| -25 (-13)                     | 618                        | 156                | 181 | 165                            | 2.25                             | 3.51                                   | 3.73                      | 0.94      | 1.09  |  |
| -20 (- 4)                     | 875                        | 220                | 256 | 197                            | 2.46                             | 4.98                                   | 4.42                      | 1.11      | 1.30  |  |
| -15 (+ 5)                     | 1180                       | 297                | 346 | 232                            | 2.70                             | 6.74                                   | 5.09                      | 1.28      | 1.49  |  |
| -10 (+14)                     | 1531                       | 386                | 449 | 269                            | 2.98                             | 8.77                                   | 5.71                      | 1.44      | 1.67  |  |
| -5 (+23)                      | 1924                       | 485                | 564 | 309                            | 3.28                             | 11.07                                  | 6.23                      | 1.57      | 1.83  |  |

### F - EXTERNAL CHARACTERISTICS

|                         |                               |      |                          |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate            | Universal EG/F/AMEM version 2 |      |                          |
| 2 Tray holder           | No                            |      |                          |
| 3 Connectors            |                               |      |                          |
| 3.1 SUCTION             | 6.5 +0.12/-0.08               | [mm] | (0.256" +0.005"/-0.003") |
| 3.1.1 Material          | Copper                        |      |                          |
| 3.1.2 Shape             | Straight                      |      |                          |
| 3.2 DISCHARGE           | 6.5 +0.12/-0.08               | [mm] | (0.256" +0.005"/-0.003") |
| 3.2.1 Material          | Copper                        |      |                          |
| 3.2.2 Shape             | Straight                      |      |                          |
| 3.3 PROCESS             | 6.5 +0.12/-0.08               | [mm] | (0.256" +0.005"/-0.003") |
| 3.3.1 Material          | Copper                        |      |                          |
| 3.3.2 Shape             | Straight                      |      |                          |
| 3.4 Oil cooler (Copper) | 4.9 +0.02/-0.05               | [mm] | (0.193" +0.001"/-0.002") |
| 3.5 Connector sealing   | Rubber Plugs                  |      |                          |