

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | F F11,5AK       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513200185       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |           |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | Blend                             |                                   |           |
| 3 Nominal voltage and frequency            | 220-240 / 50                      | [ V / Hz ]                        |           |
| 4 Application type                         | Low Back Pressure                 |                                   |           |
| 4.1 Evaporating temperature range          | -35°C to -10°C                    | (-31°F to 14°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                            | 198 to 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 198 to 255 V                      | -         |
| 8.3 HBP (32°C Ambient temperature)         | -                                 | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature)         | -                                 | -                                 | -         |
| 9 Maximum condensing pressures/temperature |                                   |                                   |           |
| 9.1 Operating (gauge)                      | 14.5                              | [kgf/cm <sup>2</sup> ] (206 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 18.2                              | [kgf/cm <sup>2</sup> ] (259 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                 |  |
|-------------------------------|-----------------|--|
| 1 Commercial designation      | 1/3             | [hp]                                       |
| 2 Displacement                | 11.14           | [cm <sup>3</sup> ] (0.680 cu.in)           |
| 2.1 Bore [mm]                 | 26.000          |  |
| 2.2 Stroke [mm]               | 21.000          |  |
| 3 Lubricant charge            | 350             | [ml] (11.84 fl.oz.)                        |
| 3.1 Lubricants approved       |                 |  |
| 3.2 Lubricants type/viscosity | MINERAL / ISO32 |  |
| 4 Weight (with oil charge)    | 10.45           | [kg] (23.04 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 | 220-240 V 50 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Current Relay                      |                                    |
| 2.1 Starting device                          | 213516035/213516043                |                                    |
| 3 Start capacitor                            | 108-130(220)                       | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | MRA58112-5590                      |                                    |
| 6 Start winding resistance                   | 26.60                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 8.46                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 16.00                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 1.90                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | IRAM - UCIEE - UL                  |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | 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] |
| 975                           | 246      | 286 | 258                            | 1.67                             | 7.14   | 3.78                      | 0.95                                   | 1.11  |

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | 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<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] |
| 975                           | 246      | 286 | 258                            | 1.67                             | 7.14   | 3.78                      | 0.95                                   | 1.11  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 601                        | 151      | 176                | 188                            | 1.24                                   | 4.38                       | 3.19                      | 0.80      | 0.93  |
| -30 (-22)                     | 765                        | 193      | 224                | 217                            | 1.46                                   | 5.58                       | 3.52                      | 0.89      | 1.03  |
| -25 (-13)                     | 963                        | 243      | 282                | 247                            | 1.62                                   | 7.04                       | 3.89                      | 0.98      | 1.14  |
| -20 (- 4)                     | 1200                       | 303      | 352                | 280                            | 1.76                                   | 8.80                       | 4.29                      | 1.08      | 1.26  |
| -15 (+ 5)                     | 1482                       | 374      | 434                | 315                            | 1.90                                   | 10.90                      | 4.71                      | 1.19      | 1.38  |
| -10 (+14)                     | 1814                       | 457      | 531                | 353                            | 2.08                                   | 13.37                      | 5.14                      | 1.29      | 1.51  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 550                        | 139      | 161                | 188                            | 1.24                                   | 4.01                       | 2.92                      | 0.74      | 0.86  |
| -30 (-22)                     | 707                        | 178      | 207                | 217                            | 1.46                                   | 5.16                       | 3.26                      | 0.82      | 0.95  |
| -25 (-13)                     | 898                        | 226      | 263                | 247                            | 1.62                                   | 6.56                       | 3.63                      | 0.91      | 1.06  |
| -20 (- 4)                     | 1127                       | 284      | 330                | 280                            | 1.76                                   | 8.26                       | 4.03                      | 1.01      | 1.18  |
| -15 (+ 5)                     | 1401                       | 353      | 411                | 315                            | 1.90                                   | 10.30                      | 4.45                      | 1.12      | 1.30  |
| -10 (+14)                     | 1724                       | 434      | 505                | 353                            | 2.08                                   | 12.71                      | 4.88                      | 1.23      | 1.43  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       | 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) | 499                        | 126      | 146 | 188                                     | 1.24                          | 3.64                    | 2.65                      | 0.67      | 0.78  |
| -30                           | (-22) | 649                        | 163      | 190 | 217                                     | 1.46                          | 4.74                    | 2.99                      | 0.75      | 0.88  |
| -25                           | (-13) | 832                        | 210      | 244 | 247                                     | 1.62                          | 6.08                    | 3.36                      | 0.85      | 0.98  |
| -20                           | (- 4) | 1053                       | 265      | 309 | 280                                     | 1.76                          | 7.72                    | 3.76                      | 0.95      | 1.10  |
| -15                           | (+ 5) | 1319                       | 332      | 386 | 315                                     | 1.90                          | 9.69                    | 4.18                      | 1.05      | 1.23  |
| -10                           | (+14) | 1633                       | 411      | 478 | 353                                     | 2.08                          | 12.04                   | 4.62                      | 1.17      | 1.36  |

### F - EXTERNAL CHARACTERISTICS

|                         |                     |      |                          |
|-------------------------|---------------------|------|--------------------------|
| 1 Base plate            | Universal EG/F      |      |                          |
| 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 plated steel |      |                          |
| 3.1.2 Shape             | Slanted             |      |                          |
| 3.2 DISCHARGE           | 5 +0.18/-0.06       | [mm] | (0.197" +0.007"/-0.002") |
| 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        |      |                          |