

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>F FU70AKW</b>       |
| Nominal Voltage/Frequency | <b>115-127 V 60 Hz</b> |
| Engineering Number        | <b>513200518</b>       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |             |
|------------------------------------|-----------------------------------|-----------------------------------|-------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |             |
| 2 Refrigerant                      | Blend                             |                                   |             |
| 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 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan                        | -                                 | 98 to 140 V |
| 8.3 HBP (32°C Ambient temperature) | -                                 | -                                 | -           |
| 8.4 HBP (43°C Ambient temperature) | -                                 | -                                 | -           |
| 9 Maximum condensing temperature   |                                   |                                   |             |
| 9.1 Operating                      | 14.5                              | [kgf/cm <sup>2</sup> ] (206 psig) | / °C - °F   |
| 9.2 Peak                           | 18.2                              | [kgf/cm <sup>2</sup> ] (259 psig) | / °C - °F   |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |             |

### B - MECHANICAL DATA

|                               |                 |  |
|-------------------------------|-----------------|--|
| 1 Commercial designation      | 1/4             | [hp]                                       |
| 2 Displacement                | 6.36            | [cm <sup>3</sup> ] (0.388 cu.in)           |
| 2.1 Bore [mm]                 | 22.500          |  |
| 2.2 Stroke [mm]               | 16.000          |  |
| 3 Lubricant charge            | 280             | [ml] (9.47 fl.oz.)                         |
| 3.1 Lubricants approved       |                 |  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO32 |  |
| 4 Weight (with oil charge)    | 11.47           | [kg] (25.29 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                          | 213516272/213516583                |                                    |
| 3 Start capacitor                            | 189-227(180)                       | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM762MFBZZ-53                     |                                    |
| 6 Start winding resistance                   | 7.10                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 2.80                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 26.70                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 3.00                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | TUV                                |                                    |

### 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] |  |
| 840                           | 212      | 246 | 170                            | 2.12                             | 6.15   | 4.95                      | 1.25                                   | 1.45  |  |

|                               |          |     |                                |                                  |  |                           |  |       |  |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| 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<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] |  |
| 840                           | 212      | 246 | 170                            | 2.12                             | 6.15   | 4.95                      | 1.25                                   | 1.45  |  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                 |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<br>Fan |                                | (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)                     | 512                        | 129      | 150             | 123                            | 1.81                                   | 3.73                       | 4.18                      | 1.05      | 1.22  |
| -30 (-22)                     | 646                        | 163      | 189             | 138                            | 1.90                                   | 4.71                       | 4.70                      | 1.18      | 1.38  |
| -25 (-13)                     | 828                        | 209      | 243             | 155                            | 2.00                                   | 6.05                       | 5.36                      | 1.35      | 1.57  |
| -20 (- 4)                     | 1055                       | 266      | 309             | 173                            | 2.12                                   | 7.74                       | 6.11                      | 1.54      | 1.79  |
| -15 (+ 5)                     | 1326                       | 334      | 388             | 191                            | 2.25                                   | 9.74                       | 6.95                      | 1.75      | 2.04  |
| -10 (+14)                     | 1635                       | 412      | 479             | 209                            | 2.38                                   | 12.06                      | 7.84                      | 1.97      | 2.30  |
| -5 (+23)                      | 1982                       | 499      | 581             | 226                            | 2.52                                   | 14.66                      | 8.75                      | 2.21      | 2.56  |

|                               |                            |          |                 |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<br>Fan |                                | (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)                     | 459                        | 116      | 135             | 124                            | 1.81                                   | 3.35                       | 3.71                      | 0.94      | 1.09  |
| -30 (-22)                     | 589                        | 148      | 173             | 141                            | 1.91                                   | 4.30                       | 4.19                      | 1.06      | 1.23  |
| -25 (-13)                     | 766                        | 193      | 224             | 160                            | 2.04                                   | 5.60                       | 4.77                      | 1.20      | 1.40  |
| -20 (- 4)                     | 987                        | 249      | 289             | 181                            | 2.18                                   | 7.23                       | 5.43                      | 1.37      | 1.59  |
| -15 (+ 5)                     | 1249                       | 315      | 366             | 203                            | 2.34                                   | 9.18                       | 6.14                      | 1.55      | 1.80  |
| -10 (+14)                     | 1549                       | 390      | 454             | 226                            | 2.51                                   | 11.43                      | 6.87                      | 1.73      | 2.01  |
| -5 (+23)                      | 1885                       | 475      | 552             | 248                            | 2.69                                   | 13.95                      | 7.60                      | 1.92      | 2.23  |

### E - PERFORMANCE - CURVES

| 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] | [W/W] |
| -35                           | (-31) | 409                        | 103      | 120 | 123                                     | 1.80                          | 2.98                    | 3.32                      | 0.84      | 0.97  |
| -30                           | (-22) | 534                        | 135      | 156 | 142                                     | 1.92                          | 3.90                    | 3.78                      | 0.95      | 1.11  |
| -25                           | (-13) | 705                        | 178      | 207 | 164                                     | 2.06                          | 5.16                    | 4.31                      | 1.09      | 1.26  |
| -20                           | (- 4) | 919                        | 232      | 269 | 188                                     | 2.23                          | 6.74                    | 4.88                      | 1.23      | 1.43  |
| -15                           | (+ 5) | 1173                       | 295      | 344 | 214                                     | 2.42                          | 8.62                    | 5.49                      | 1.38      | 1.61  |
| -10                           | (+14) | 1463                       | 369      | 429 | 241                                     | 2.63                          | 10.79                   | 6.09                      | 1.53      | 1.78  |
| -5                            | (+23) | 1788                       | 451      | 524 | 268                                     | 2.85                          | 13.24                   | 6.66                      | 1.68      | 1.95  |

### F - EXTERNAL CHARACTERISTICS

|                         |                               |      |                          |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate            | Universal EG/F/AMEM version 2 |      |                          |
| 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                        |      |                          |
| 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) | 6.5 +0.09/-0.09               | [mm] | (0.256" +0.004"/-0.004") |
| 3.5 Connector sealing   | Rubber Plugs                  |      |                          |