

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>F G85HAK</b>        |
| Nominal Voltage/Frequency | <b>220-240 V 50 Hz</b> |
| Engineering Number        | <b>513200335</b>       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                    |                                   |           |
|------------------------------------|------------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor  |                                   |           |
| 2 Refrigerant                      | R-134a                             |                                   |           |
| 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                               |                                   |           |
| 6 Starting torque                  | LST/HST - Low/High starting torque |                                   |           |
| 7 Expansion device                 | Capillary tube or Expansion valve  |                                   |           |
| 8 Compressor cooling               |                                    | Operating voltage range           |           |
|                                    |                                    | 50 Hz                             | 60 Hz     |
| 8.1 LBP (32°C Ambient temperature) | Static/Fan                         | 198 to 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan                         | 198 to 255 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                | 9.04          | [cm <sup>3</sup> ] (0.552 cu.in)           |
| 2.1 Bore [mm]                 | 24.000        |  |
| 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)    | 10.89         | [kg] (24.01 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                       | PTC                                |                                    |
| 2.1 Starting device                          | 8EA17C1/8EA5B1/QPS2-A22MG1         |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM276RFBYY-53                     |                                    |
| 6 Start winding resistance                   | 19.45                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 9.30                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 9.00                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 1.65                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CCC - CE - IRAM - UKCA             |                                    |

### 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] |  |
| 775                           | 195      | 227 | 189                            | 1.20                             | 4.40   | 4.10                      | 1.03                                   | 1.20  |  |

|                               |          |     |                                |                                  |  |                           |  |       |  |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| 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] |  |
| 775                           | 195      | 227 | 189                            | 1.20                             | 4.40   | 4.10                      | 1.03                                   | 1.20  |  |

### 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) | 419                        | 106                | 123 | 130                                    | 1.02                             | 2.37                       | 3.21                      | 0.81      | 0.94  |
| -30                           | (-22) | 573                        | 144                | 168 | 151                                    | 1.08                             | 3.25                       | 3.80                      | 0.96      | 1.11  |
| -25                           | (-13) | 757                        | 191                | 222 | 173                                    | 1.15                             | 4.30                       | 4.39                      | 1.11      | 1.29  |
| -20                           | (- 4) | 979                        | 247                | 287 | 196                                    | 1.23                             | 5.57                       | 5.00                      | 1.26      | 1.47  |
| -15                           | (+ 5) | 1248                       | 314                | 366 | 221                                    | 1.32                             | 7.12                       | 5.65                      | 1.42      | 1.66  |
| -10                           | (+14) | 1572                       | 396                | 461 | 247                                    | 1.42                             | 9.01                       | 6.36                      | 1.60      | 1.86  |

|                               |       |                            |                    |     |  |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 359                        | 90                 | 105 | 131                                    | 1.03                             | 2.03                       | 2.76                      | 0.70      | 0.81  |
| -30                           | (-22) | 514                        | 129                | 151 | 154                                    | 1.09                             | 2.91                       | 3.34                      | 0.84      | 0.98  |
| -25                           | (-13) | 696                        | 175                | 204 | 179                                    | 1.17                             | 3.95                       | 3.89                      | 0.98      | 1.14  |
| -20                           | (- 4) | 915                        | 231                | 268 | 206                                    | 1.27                             | 5.21                       | 4.43                      | 1.12      | 1.30  |
| -15                           | (+ 5) | 1178                       | 297                | 345 | 236                                    | 1.39                             | 6.73                       | 4.99                      | 1.26      | 1.46  |
| -10                           | (+14) | 1495                       | 377                | 438 | 268                                    | 1.51                             | 8.57                       | 5.57                      | 1.40      | 1.63  |

### 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) | 291                        | 73       | 85  | 117                                     | 0.99                          | 1.65                    | 2.48                      | 0.62      | 0.73  |
| -30                           | (-22) | 441                        | 111      | 129 | 144                                     | 1.06                          | 2.50                    | 3.04                      | 0.77      | 0.89  |
| -25                           | (-13) | 615                        | 155      | 180 | 173                                     | 1.15                          | 3.49                    | 3.54                      | 0.89      | 1.04  |
| -20                           | (- 4) | 824                        | 208      | 242 | 206                                     | 1.26                          | 4.69                    | 4.00                      | 1.01      | 1.17  |
| -15                           | (+ 5) | 1076                       | 271      | 315 | 242                                     | 1.40                          | 6.14                    | 4.45                      | 1.12      | 1.30  |
| -10                           | (+14) | 1378                       | 347      | 404 | 282                                     | 1.56                          | 7.90                    | 4.90                      | 1.23      | 1.43  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                       |      |                          |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate            | European Standard 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           | 4.94 +0.08/-0.08                      | [mm] | (0.194" +0.003"/-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) | No                                    | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                          |      |                          |