

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | <b>F F10BXW</b>    |
| Nominal Voltage/Frequency | <b>115 V 60 Hz</b> |
| Engineering Number        | <b>513200238</b>   |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |              |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                      | Blend                             |                                   |              |
| 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                       | 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                            | -                                 | 103 to 135 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | -                                 | 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 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                | 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 | ALQUILB / ISO32 |  |
| 4 Weight (with oil charge)    | 10.7            | [kg] (23.59 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                          | 213516175                      |                                    |
| 3 Start capacitor                            | 270-324(150)                   | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                              | [µF(VAC minimum)]                  |
| 5 Motor protection                           | MRT16AHK-5590                  |                                    |
| 6 Start winding resistance                   | 4.86                           | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 1.59                           | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 32.00                          | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 5.50                           | [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 - UKCA - 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] |  |
| 3200                          | 806      | 938 | 480                         | 5.30                          | 23.96   | 6.67                      | 1.68                                 | 1.95  |  |

|                               |          |     |                             |                               |   |                           |                                      |       |  |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--------------------------------------|-------|--|
| 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] |  |
| 3200                          | 806      | 938 | 480                         | 5.30                          | 23.96   | 6.67                      | 1.68                                 | 1.95  |  |

|                               |          |     |                             |                               |   |                           |  |       |  |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|--|
| 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] |  |
| 915                           | 231      | 268 | 265                         | 3.75                          | 6.70  | 3.45                      | 0.87                                   | 1.01  |  |

|                               |          |     |                             |                               |   |                           |  |       |  |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|--|
| 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] |  |
| 915                           | 231      | 268 | 265                         | 3.75                          | 6.70  | 3.45                      | 0.87                                   | 1.01  |  |

### 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)                      | 553             | 139     | 162                         | 191                           | 3.43                    | 4.03                                   | 2.89   | 0.73     | 0.85      |
| -30                           | (-22)                      | 729             | 184     | 214                         | 222                           | 3.55                    | 5.33                                   | 3.27   | 0.82     | 0.96      |
| -25                           | (-13)                      | 931             | 235     | 273                         | 252                           | 3.69                    | 6.82                                   | 3.68   | 0.93     | 1.08      |
| -20                           | (- 4)                      | 1167            | 294     | 342                         | 284                           | 3.86                    | 8.56                                   | 4.11   | 1.04     | 1.20      |
| -15                           | (+ 5)                      | 1443            | 364     | 423                         | 316                           | 4.05                    | 10.60                                  | 4.57   | 1.15     | 1.34      |
| -10                           | (+14)                      | 1767            | 445     | 518                         | 350                           | 4.28                    | 13.02                                  | 5.06   | 1.27     | 1.48      |
| -5                            | (+23)                      | 2146            | 541     | 629                         | 385                           | 4.53                    | 15.87                                  | 5.58   | 1.41     | 1.63      |
| 0                             | (+32)                      | 2586            | 652     | 758                         | 422                           | 4.82                    | 19.22                                  | 6.13   | 1.54     | 1.80      |
| +5                            | (+41)                      | 3094            | 780     | 907                         | 461                           | 5.14                    | 23.12                                  | 6.71   | 1.69     | 1.97      |
| +10                           | (+50)                      | 3677            | 927     | 1078                        | 502                           | 5.49                    | 27.64                                  | 7.32   | 1.85     | 2.15      |
| +15                           | (+59)                      | 4343            | 1094    | 1273                        | 545                           | 5.88                    | 32.83                                  | 7.97   | 2.01     | 2.34      |

### 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] | [W/W] |
| -35                           | (-31) | 465                        | 117      | 136  | 191                                     | 3.43                          | 3.39                    | 2.48                      | 0.62      | 0.73  |
| -30                           | (-22) | 635                        | 160      | 186  | 222                                     | 3.55                          | 4.65                    | 2.87                      | 0.72      | 0.84  |
| -25                           | (-13) | 831                        | 209      | 244  | 252                                     | 3.69                          | 6.09                    | 3.28                      | 0.83      | 0.96  |
| -20                           | (- 4) | 1060                       | 267      | 311  | 284                                     | 3.86                          | 7.77                    | 3.72                      | 0.94      | 1.09  |
| -15                           | (+ 5) | 1328                       | 335      | 389  | 316                                     | 4.05                          | 9.76                    | 4.19                      | 1.06      | 1.23  |
| -10                           | (+14) | 1644                       | 414      | 482  | 350                                     | 4.28                          | 12.11                   | 4.69                      | 1.18      | 1.37  |
| -5                            | (+23) | 2012                       | 507      | 590  | 385                                     | 4.53                          | 14.89                   | 5.22                      | 1.31      | 1.53  |
| 0                             | (+32) | 2442                       | 615      | 715  | 422                                     | 4.82                          | 18.15                   | 5.78                      | 1.46      | 1.69  |
| +5                            | (+41) | 2938                       | 740      | 861  | 461                                     | 5.14                          | 21.96                   | 6.37                      | 1.60      | 1.87  |
| +10                           | (+50) | 3510                       | 884      | 1028 | 502                                     | 5.49                          | 26.38                   | 6.99                      | 1.76      | 2.05  |
| +15                           | (+59) | 4162                       | 1049     | 1220 | 545                                     | 5.88                          | 31.47                   | 7.64                      | 1.93      | 2.24  |

| 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) | 435                        | 110      | 127  | 191                                     | 3.43                          | 3.17                    | 2.25                      | 0.57      | 0.66  |
| -30                           | (-22) | 585                        | 148      | 172  | 222                                     | 3.55                          | 4.29                    | 2.61                      | 0.66      | 0.77  |
| -25                           | (-13) | 761                        | 192      | 223  | 252                                     | 3.69                          | 5.58                    | 3.00                      | 0.76      | 0.88  |
| -20                           | (- 4) | 969                        | 244      | 284  | 284                                     | 3.86                          | 7.11                    | 3.42                      | 0.86      | 1.00  |
| -15                           | (+ 5) | 1216                       | 306      | 356  | 316                                     | 4.05                          | 8.93                    | 3.86                      | 0.97      | 1.13  |
| -10                           | (+14) | 1508                       | 380      | 442  | 350                                     | 4.28                          | 11.11                   | 4.33                      | 1.09      | 1.27  |
| -5                            | (+23) | 1853                       | 467      | 543  | 385                                     | 4.53                          | 13.71                   | 4.83                      | 1.22      | 1.42  |
| 0                             | (+32) | 2258                       | 569      | 662  | 422                                     | 4.82                          | 16.78                   | 5.36                      | 1.35      | 1.57  |
| +5                            | (+41) | 2730                       | 688      | 800  | 461                                     | 5.14                          | 20.40                   | 5.93                      | 1.49      | 1.74  |
| +10                           | (+50) | 3275                       | 825      | 960  | 502                                     | 5.49                          | 24.62                   | 6.52                      | 1.64      | 1.91  |
| +15                           | (+59) | 3900                       | 983      | 1143 | 545                                     | 5.88                          | 29.50                   | 7.15                      | 1.80      | 2.09  |

### 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 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                  |      |                          |