

### COMPRESSOR DEFINITION

|                           |                |
|---------------------------|----------------|
| Designation               | EM YE70CLP     |
| Nominal Voltage/Frequency | 220 V 50-60 Hz |
| Engineering Number        | 513306562      |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |              |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                      | R-600a                            |                                   |              |
| 3 Nominal voltage and frequency    | 220 / 50-60                       | [ 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 - 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                            | 187 to 242 V                      | 187 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 187 to 242 V                      | 187 to 242 V |
| 8.3 HBP (32°C Ambient temperature) | -                                 | -                                 | -            |
| 8.4 HBP (43°C Ambient temperature) | -                                 | -                                 | -            |
| 9 Maximum condensing temperature   |                                   |                                   |              |
| 9.1 Operating                      | 6.9                               | [kgf/cm <sup>2</sup> ] (98 psig)  | / °C - °F    |
| 9.2 Peak                           | 7.8                               | [kgf/cm <sup>2</sup> ] (111 psig) | / °C - °F    |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |              |

### B - MECHANICAL DATA

|                               |                |                                  |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation      | 1/5            | [hp]                             |
| 2 Displacement                | 10.61          | [cm <sup>3</sup> ] (0.647 cu.in) |
| 2.1 Bore [mm]                 | 26.000         |                                  |
| 2.2 Stroke [mm]               | 20.000         |                                  |
| 3 Lubricant charge            | 180            | [ml] (6.09 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 7.43           | [kg] (16.38 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL DATA

|  |                                   |                                    |
|--|-----------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220 V 50-60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | PTC                               |                                    |
| 2.1 Starting device                          | 8EA17C1/QPS2-A22MG1               |                                    |
| 3 Start capacitor                            | -                                 | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                 | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM283NFBYY-53                    |                                    |
| 6 Start winding resistance                   | 14.88                             | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 11.88                             | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50/60 Hz)     | 8.20/7.76                         | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz)  | 1.43/1.40                         | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz)   | 1.86/1.65                         | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - IMTRO - TUV - 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] |
| 621                           | 156      | 182 | 137                            | 1.26                             | 1.95   | 4.52                      | 1.14                                   | 1.32  |

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V60Hz |          |     | 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] |
| 676                           | 170      | 198 | 133                            | 1.06                             | 2.12   | 5.09                      | 1.28                                   | 1.49  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                                |                                       |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|---------------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | ASHRAE32<br>Static |                                | (Condensing temperature 35°C (+95°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)                     | 384                        | 97       | 112                | 105                            | 1.25                                  | 1.20                       | 3.66                      | 0.92      | 1.07  |
| -30 (-22)                     | 420                        | 106      | 123                | 102                            | 1.16                                  | 1.31                       | 4.02                      | 1.01      | 1.18  |
| -25 (-13)                     | 665                        | 167      | 195                | 125                            | 1.26                                  | 2.08                       | 5.31                      | 1.34      | 1.56  |
| -20 (- 4)                     | 932                        | 235      | 273                | 150                            | 1.37                                  | 2.93                       | 6.55                      | 1.65      | 1.92  |
| -15 (+ 5)                     | 1035                       | 261      | 303                | 154                            | 1.31                                  | 3.26                       | 6.74                      | 1.70      | 1.98  |
| -10 (+14)                     | 788                        | 198      | 231                | 111                            | 0.91                                  | 2.48                       | 4.90                      | 1.24      | 1.44  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 349                        | 88       | 102                | 106                            | 1.25                                   | 1.09                       | 3.29                      | 0.83      | 0.96  |
| -30 (-22)                     | 378                        | 95       | 111                | 107                            | 1.17                                   | 1.18                       | 3.47                      | 0.88      | 1.02  |
| -25 (-13)                     | 620                        | 156      | 182                | 133                            | 1.27                                   | 1.95                       | 4.68                      | 1.18      | 1.37  |
| -20 (- 4)                     | 890                        | 224      | 261                | 159                            | 1.38                                   | 2.80                       | 5.93                      | 1.49      | 1.74  |
| -15 (+ 5)                     | 1001                       | 252      | 293                | 161                            | 1.32                                   | 3.15                       | 6.22                      | 1.57      | 1.82  |
| -10 (+14)                     | 766                        | 193      | 224                | 116                            | 0.92                                   | 2.41                       | 4.57                      | 1.15      | 1.34  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |                            | ASHRAE32<br>Static |         |                             | (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]  |
| -35                           | (-31)                      | 324                | 82      | 95                          | 106                                    | 1.26                    | 1.01                      | 3.07 | 0.77 | 0.90 |
| -30                           | (-22)                      | 344                | 87      | 101                         | 111                                    | 1.18                    | 1.08                      | 3.06 | 0.77 | 0.90 |
| -25                           | (-13)                      | 583                | 147     | 171                         | 140                                    | 1.29                    | 1.83                      | 4.16 | 1.05 | 1.22 |
| -20                           | (- 4)                      | 854                | 215     | 250                         | 167                                    | 1.40                    | 2.69                      | 5.39 | 1.36 | 1.58 |
| -15                           | (+ 5)                      | 971                | 245     | 285                         | 169                                    | 1.34                    | 3.06                      | 5.76 | 1.45 | 1.69 |
| -10                           | (+14)                      | 748                | 189     | 219                         | 122                                    | 0.93                    | 2.36                      | 4.28 | 1.08 | 1.25 |

| TEST CONDITIONS:<br>@220V60Hz |                            | ASHRAE32<br>Static |         |                             | (Condensing temperature 35°C (+95°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]  |
| -35                           | (-31)                      | 457                | 115     | 134                         | 102                                   | 0.96                    | 1.43                      | 4.49 | 1.13 | 1.32 |
| -30                           | (-22)                      | 480                | 121     | 141                         | 99                                    | 0.90                    | 1.50                      | 4.68 | 1.18 | 1.37 |
| -25                           | (-13)                      | 753                | 190     | 221                         | 127                                   | 1.02                    | 2.36                      | 5.86 | 1.48 | 1.72 |
| -20                           | (- 4)                      | 1059               | 267     | 310                         | 159                                   | 1.16                    | 3.33                      | 7.02 | 1.77 | 2.06 |
| -15                           | (+ 5)                      | 1180               | 297     | 346                         | 166                                   | 1.14                    | 3.71                      | 7.12 | 1.79 | 2.09 |
| -10                           | (+14)                      | 900                | 227     | 264                         | 122                                   | 0.81                    | 2.83                      | 5.13 | 1.29 | 1.50 |

| TEST CONDITIONS:<br>@220V60Hz |                            | ASHRAE32<br>Static |         |                             | (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]  |
| -35                           | (-31)                      | 440                | 111     | 129                         | 106                                    | 0.97                    | 1.38                      | 4.12 | 1.04 | 1.21 |
| -30                           | (-22)                      | 445                | 112     | 131                         | 106                                    | 0.92                    | 1.39                      | 4.14 | 1.04 | 1.21 |
| -25                           | (-13)                      | 709                | 179     | 208                         | 135                                    | 1.05                    | 2.22                      | 5.25 | 1.32 | 1.54 |
| -20                           | (- 4)                      | 1013               | 255     | 297                         | 167                                    | 1.18                    | 3.19                      | 6.42 | 1.62 | 1.88 |
| -15                           | (+ 5)                      | 1142               | 288     | 335                         | 173                                    | 1.16                    | 3.59                      | 6.63 | 1.67 | 1.94 |
| -10                           | (+14)                      | 877                | 221     | 257                         | 126                                    | 0.82                    | 2.76                      | 4.83 | 1.22 | 1.42 |

| TEST CONDITIONS:<br>@220V60Hz |                            | ASHRAE32<br>Static |         |                             | (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]  |
| -35                           | (-31)                      | 396                | 100     | 116                         | 107                                    | 0.98                    | 1.24                      | 3.69 | 0.93 | 1.08 |
| -30                           | (-22)                      | 388                | 98      | 114                         | 110                                    | 0.93                    | 1.21                      | 3.56 | 0.90 | 1.04 |
| -25                           | (-13)                      | 646                | 163     | 189                         | 141                                    | 1.06                    | 2.03                      | 4.60 | 1.16 | 1.35 |
| -20                           | (- 4)                      | 953                | 240     | 279                         | 173                                    | 1.20                    | 3.00                      | 5.78 | 1.46 | 1.69 |
| -15                           | (+ 5)                      | 1091               | 275     | 320                         | 179                                    | 1.18                    | 3.44                      | 6.09 | 1.54 | 1.79 |
| -10                           | (+14)                      | 845                | 213     | 248                         | 130                                    | 0.83                    | 2.66                      | 4.50 | 1.13 | 1.32 |

### F - EXTERNAL CHARACTERISTICS

|                         |                              |      |                          |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate            | New Base Plate EUEM          |      |                          |
| 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             | Slanted 42° up + 45° to Back |      |                          |
| 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             | Slanted 30° up + 24° to Back |      |                          |
| 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             | Slanted 45° up + 45° to Back |      |                          |
| 3.4 Oil cooler (Copper) | No                           | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                 |      |                          |