

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM 2C55CLT      |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513304505       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-600a                            |                                   |           |
| 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                       | RSCR                              |                                   |           |
| 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 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      |                | [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            | 150            | [ml] (5.07 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | MINERAL / ISO5 |                                  |
| 4 Weight (with oil charge)    | 8.36           | [kg] (18.43 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL DATA

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | TSD                                |                                    |
| 2.1 Starting device                          | M.I.E-START 2021                   |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 5(310)/4(300)                      | [µF(VAC minimum)]                  |
| 5 Motor protection                           | AE64FS                             |                                    |
| 6 Start winding resistance                   | 18.00                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 20.80                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 4.30                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.65                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - UKCA - VDE                    |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | ASHRAE LBP-NOFAN<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] |
| 519                           | 131      | 152 | 84                             | 0.45                             | 1.63   | 6.22                      | 1.57                                   | 1.82  |

### E - PERFORMANCE - CURVES

|                               |                            |                          |     |                                |                                  |  |                           |           |       |  |
|-------------------------------|----------------------------|--------------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|--|
| TEST CONDITIONS:<br>@220V50Hz |                            | ASHRAE32-NOFAN<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)                     | 303                        | 76                       | 89  | 56                             | 0.31                             | 0.95                                   | 5.41                      | 1.36      | 1.59  |  |
| -30 (-22)                     | 416                        | 105                      | 122 | 65                             | 0.36                             | 1.30                                   | 6.41                      | 1.62      | 1.88  |  |
| -25 (-13)                     | 541                        | 136                      | 159 | 74                             | 0.40                             | 1.70                                   | 7.35                      | 1.85      | 2.15  |  |
| -20 (- 4)                     | 687                        | 173                      | 201 | 83                             | 0.44                             | 2.16                                   | 8.30                      | 2.09      | 2.43  |  |
| -15 (+ 5)                     | 862                        | 217                      | 253 | 93                             | 0.48                             | 2.71                                   | 9.32                      | 2.35      | 2.73  |  |
| -10 (+14)                     | 1075                       | 271                      | 315 | 102                            | 0.52                             | 3.39                                   | 10.48                     | 2.64      | 3.07  |  |

|                               |                            |                          |     |                                |                                  |   |                           |           |       |  |
|-------------------------------|----------------------------|--------------------------|-----|--------------------------------|----------------------------------|---|---------------------------|-----------|-------|--|
| TEST CONDITIONS:<br>@220V50Hz |                            | ASHRAE32-NOFAN<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)                     | 278                        | 70                       | 81  | 56                             | 0.32                             | 0.87                                    | 4.95                      | 1.25      | 1.45  |  |
| -30 (-22)                     | 387                        | 98                       | 113 | 66                             | 0.37                             | 1.21                                    | 5.81                      | 1.46      | 1.70  |  |
| -25 (-13)                     | 508                        | 128                      | 149 | 77                             | 0.42                             | 1.59                                    | 6.60                      | 1.66      | 1.93  |  |
| -20 (- 4)                     | 649                        | 164                      | 190 | 88                             | 0.47                             | 2.04                                    | 7.38                      | 1.86      | 2.16  |  |
| -15 (+ 5)                     | 819                        | 206                      | 240 | 100                            | 0.52                             | 2.58                                    | 8.22                      | 2.07      | 2.41  |  |
| -10 (+14)                     | 1027                       | 259                      | 301 | 112                            | 0.57                             | 3.24                                    | 9.18                      | 2.31      | 2.69  |  |

|                               |                            |                          |     |                                |                                  |   |                           |           |       |  |
|-------------------------------|----------------------------|--------------------------|-----|--------------------------------|----------------------------------|---|---------------------------|-----------|-------|--|
| TEST CONDITIONS:<br>@220V50Hz |                            | ASHRAE32-NOFAN<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)                     | 250                        | 63                       | 73  | 56                             | 0.32                             | 0.78                                    | 4.49                      | 1.13      | 1.32  |  |
| -30 (-22)                     | 355                        | 90                       | 104 | 67                             | 0.38                             | 1.11                                    | 5.26                      | 1.33      | 1.54  |  |
| -25 (-13)                     | 472                        | 119                      | 138 | 79                             | 0.43                             | 1.48                                    | 5.95                      | 1.50      | 1.74  |  |
| -20 (- 4)                     | 609                        | 153                      | 178 | 92                             | 0.49                             | 1.91                                    | 6.61                      | 1.67      | 1.94  |  |
| -15 (+ 5)                     | 774                        | 195                      | 227 | 106                            | 0.54                             | 2.44                                    | 7.31                      | 1.84      | 2.14  |  |
| -10 (+14)                     | 977                        | 246                      | 286 | 120                            | 0.61                             | 3.08                                    | 8.12                      | 2.05      | 2.38  |  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE32-NOFAN<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) | 218                        | 55       | 64  | 54                                      | 0.31                          | 0.68                    | 4.04                      | 1.02      | 1.18  |
| -30                           | (-22) | 321                        | 81       | 94  | 67                                      | 0.37                          | 1.01                    | 4.77                      | 1.20      | 1.40  |
| -25                           | (-13) | 434                        | 109      | 127 | 80                                      | 0.43                          | 1.36                    | 5.39                      | 1.36      | 1.58  |
| -20                           | (- 4) | 566                        | 143      | 166 | 95                                      | 0.49                          | 1.78                    | 5.98                      | 1.51      | 1.75  |
| -15                           | (+ 5) | 727                        | 183      | 213 | 110                                     | 0.56                          | 2.29                    | 6.60                      | 1.66      | 1.94  |
| -10                           | (+14) | 925                        | 233      | 271 | 126                                     | 0.63                          | 2.92                    | 7.31                      | 1.84      | 2.14  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                |      |                          |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EUEM         |      |                          |
| 2 Tray holder           | Yes                            |      |                          |
| 3 Connectors            |                                |      |                          |
| 3.1 SUCTION             | 6.1 +0.10/+0.00                | [mm] | (0.240" +0.004"/+0.000") |
| 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 parallel BP+24°to Back |      |                          |
| 3.3 PROCESS             | 6.1 +0.10/+0.00                | [mm] | (0.240" +0.004"/+0.000") |
| 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                   |      |                          |