

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>EH S2155U</b>       |
| Nominal Voltage/Frequency | <b>220-240 V 50 Hz</b> |
| Engineering Number        | <b>513307511</b>       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                    |                                   |           |
|------------------------------------|------------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor  |                                   |           |
| 2 Refrigerant                      | R-290                              |                                   |           |
| 3 Nominal voltage and frequency    | 220-240 / 50                       | [ V / Hz ]                        |           |
| 4 Application type                 | Low Back Pressure R290             |                                   |           |
| 4.1 Evaporating temperature range  | -40°C to -10°C                     | (-40°F to 14°F)                   |           |
| 5 Motor type                       | CSIR                               |                                   |           |
| 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) | -                                  | -                                 | -         |
| 8.2 LBP (43°C Ambient temperature) | Fan                                | -                                 | -         |
| 8.3 HBP (32°C Ambient temperature) | -                                  | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature) | -                                  | -                                 | -         |
| 9 Maximum condensing temperature   |                                    |                                   |           |
| 9.1 Operating                      | 18.4                               | [kgf/cm <sup>2</sup> ] (262 psig) | / °C - °F |
| 9.2 Peak                           | 20.6                               | [kgf/cm <sup>2</sup> ] (293 psig) | / °C - °F |
| 10 Maximum winding temperature     | 130                                | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                 |                                  |
|-------------------------------|-----------------|----------------------------------|
| 1 Commercial designation      |                 | [hp]                             |
| 2 Displacement                | 12.21           | [cm <sup>3</sup> ] (0.745 cu.in) |
| 2.1 Bore [mm]                 | 26.000          |                                  |
| 2.2 Stroke [mm]               | 23.000          |                                  |
| 3 Lubricant charge            | 265             | [ml] (8.96 fl.oz.)               |
| 3.1 Lubricants approved       |                 |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO22 |                                  |
| 4 Weight (with oil charge)    | 9.5             | [kg] (20.94 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                       | Current Relay                      |                                    |
| 2.1 Starting device                          | 213515049                          |                                    |
| 3 Start capacitor                            | 88-108(330)                        | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM762NFBZZ-53                     |                                    |
| 6 Start winding resistance                   | 15.67                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 4.30                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 22.00                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | -                                  | [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 - VDE                          |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 2030                          | 512      | 595 | 378                            |                                  | 6.04   | 5.38                      | 1.36                                   | 1.58  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                 |      |                                       |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|---------------------------------------|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<br>Fan |      | (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] |
| -40                           | (-40) | 1017                       | 256             | 298  | 231                                   | 2.05                             | 3.00                       | 4.57                      | 1.15      | 1.34  |
| -35                           | (-31) | 1309                       | 330             | 384  | 273                                   | 2.11                             | 3.87                       | 3.23                      | 0.81      | 0.95  |
| -30                           | (-22) | 1660                       | 418             | 487  | 297                                   | 2.19                             | 4.92                       | 4.87                      | 1.23      | 1.43  |
| -25                           | (-13) | 2077                       | 523             | 609  | 313                                   | 2.28                             | 6.18                       | 7.72                      | 1.95      | 2.26  |
| -20                           | (- 4) | 2565                       | 646             | 752  | 334                                   | 2.37                             | 7.66                       | 10.01                     | 2.52      | 2.93  |
| -15                           | (+ 5) | 3131                       | 789             | 917  | 371                                   | 2.47                             | 9.38                       | 9.95                      | 2.51      | 2.92  |
| -10                           | (+14) | 3780                       | 952             | 1108 | 435                                   | 2.58                             | 11.37                      | 5.80                      | 1.46      | 1.70  |

|                               |       |                            |                 |      |  |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | 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] |
| -40                           | (-40) | 942                        | 237             | 276  | 206                                    | 2.07                             | 2.78                       | 8.88                      | 2.24      | 2.60  |
| -35                           | (-31) | 1229                       | 310             | 360  | 286                                    | 2.15                             | 3.64                       | 2.71                      | 0.68      | 0.79  |
| -30                           | (-22) | 1573                       | 396             | 461  | 334                                    | 2.24                             | 4.66                       | 1.41                      | 0.35      | 0.41  |
| -25                           | (-13) | 1980                       | 499             | 580  | 363                                    | 2.35                             | 5.89                       | 3.19                      | 0.80      | 0.94  |
| -20                           | (- 4) | 2457                       | 619             | 720  | 383                                    | 2.47                             | 7.33                       | 6.30                      | 1.59      | 1.85  |
| -15                           | (+ 5) | 3009                       | 758             | 882  | 406                                    | 2.60                             | 9.01                       | 8.96                      | 2.26      | 2.63  |
| -10                           | (+14) | 3642                       | 918             | 1067 | 446                                    | 2.74                             | 10.96                      | 9.41                      | 2.37      | 2.76  |

|                               |       |                            |                 |      |  |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | 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] |
| -40                           | (-40) | 869                        | 219             | 255  | 75                                     | 2.09                             | 2.56                       | 28.12                     | 7.09      | 8.24  |
| -35                           | (-31) | 1146                       | 289             | 336  | 216                                    | 2.18                             | 3.39                       | 13.70                     | 3.45      | 4.01  |
| -30                           | (-22) | 1479                       | 373             | 433  | 313                                    | 2.29                             | 4.39                       | 6.04                      | 1.52      | 1.77  |
| -25                           | (-13) | 1874                       | 472             | 549  | 378                                    | 2.42                             | 5.57                       | 3.35                      | 0.84      | 0.98  |
| -20                           | (- 4) | 2335                       | 588             | 684  | 422                                    | 2.57                             | 6.97                       | 3.87                      | 0.98      | 1.13  |
| -15                           | (+ 5) | 2870                       | 723             | 841  | 456                                    | 2.73                             | 8.60                       | 5.83                      | 1.47      | 1.71  |
| -10                           | (+14) | 3484                       | 878             | 1021 | 494                                    | 2.90                             | 10.48                      | 7.45                      | 1.88      | 2.18  |

### F - EXTERNAL CHARACTERISTICS

|                         |                              |      |                          |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate            | Universal EUEM               |      |                          |
| 2 Tray holder           | No                           |      |                          |
| 3 Connectors            |                              |      |                          |
| 3.1 SUCTION             | 6.2 +0.05/+0.05              | [mm] | (0.244" +0.002"/+0.002") |
| 3.1.1 Material          | Copper                       |      |                          |
| 3.1.2 Shape             | Slanted 40° up + 45° to Back |      |                          |
| 3.2 DISCHARGE           | 4.9 +0.10/-0.05              | [mm] | (0.193" +0.004"/-0.002") |
| 3.2.1 Material          | Copper                       |      |                          |
| 3.2.2 Shape             | Slanted 0° up + 24° to Back  |      |                          |
| 3.3 PROCESS             | 6.2 +0.05/+0.05              | [mm] | (0.244" +0.002"/+0.002") |
| 3.3.1 Material          | Copper                       |      |                          |
| 3.3.2 Shape             | Slanted 40° up + 45° to Back |      |                          |
| 3.4 Oil cooler (Copper) | No                           | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                 |      |                          |