

**embraco****COMPRESSOR TECHNICAL DATA****COMPRESSOR DEFINITION**

|                           |                 |
|---------------------------|-----------------|
| Designation               | NE K6144GK      |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 957GA50         |

**A - APPLICATION / LIMIT WORKING CONDITIONS**

|                                            |                                               |                         |           |
|--------------------------------------------|-----------------------------------------------|-------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor             |                         |           |
| 2 Refrigerant                              | R-404A                                        |                         |           |
| 3 Nominal voltage and frequency            | 220-240 / 50                                  | [ V / Hz ]              |           |
| 4 Application type                         | Medium Back Pressure (Commercial Compressors) |                         |           |
| 4.1 Evaporating temperature range          | -20°C to 10°C                                 | (-4°F to 50°F)          |           |
| 5 Motor type                               | CSIR                                          |                         |           |
| 6 Starting torque                          | HST - Hight starting torque                   |                         |           |
| 7 Expantion 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)         | -                                             | -                       | -         |
| 8.3 HBP (32°C Ambient temperature)         | -                                             | -                       | -         |
| 8.4 HBP (43°C Ambient temperature)         | -                                             | -                       | -         |
| 9 Maximum condensing pressures/temperature |                                               |                         |           |
| 9.1 Operating (gauge)                      | 25.7                                          | [kgf/cm²] (365 psig)    | / °C - °F |
| 9.2 Peak (gauge)                           | 28.7                                          | [kgf/cm²] (408 psig)    | / °C - °F |
| 10 Maximum winding temperature             | 130                                           | [ °C ]                  |           |

**B - MECHANICAL DATA**

|                               |               |                                            |
|-------------------------------|---------------|--------------------------------------------|
| 1 Commercial designation      | 1/4           | [hp]                                       |
| 2 Displacement                | 4.51          | [cm <sup>3</sup> ] (0.275 cu.in)           |
| 2.1 Bore [mm]                 | 20.873        |                                            |
| 2.2 Stroke [mm]               | 13.200        |                                            |
| 3 Lubricant charge            | 350           | [ml] (11.84 fl.oz.)                        |
| 3.1 Lubricants approved       |               |                                            |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 |                                            |
| 4 Weight (with oil charge)    | 10.4          | [kg] (22.93 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                       | Current Relay                      |                                    |
| 2.1 Starting device                          | MTRP-38                            |                                    |
| 3 Start capacitor                            | 43-53(330)                         | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [μF(VAC minimum)]                  |
| 5 Motor protection                           | T0186/G6                           |                                    |
| 6 Start winding resistance                   | 27.40                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 7.90                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 9.60                               | [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             | IMQ                                |                                    |

UPDATE: 27NOV2009

957GA50



## COMPRESSOR TECHNICAL DATA

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |                                                    |                           |                                       |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|----------------------------------------------------|---------------------------|---------------------------------------|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | ASHRAEHBP46<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<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] |
| 2435                          | 614      | 714 | 313                            | 1.77                             | 20.05                                              | 7.78                      | 1.96                                  | 2.28  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE46<br>Fan            |          |      | (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]                           | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -20                           | (- 4) | 1216                       | 306      | 356  | 178                                    | 1.28                          | 7.72                    | 6.82                      | 1.72      | 2.00  |
| -15                           | (+ 5) | 1465                       | 369      | 429  | 193                                    | 1.32                          | 9.36                    | 7.60                      | 1.91      | 2.23  |
| -10                           | (+14) | 1781                       | 449      | 522  | 206                                    | 1.37                          | 11.44                   | 8.63                      | 2.18      | 2.53  |
| -5                            | (+23) | 2164                       | 545      | 634  | 218                                    | 1.41                          | 14.00                   | 9.92                      | 2.50      | 2.91  |
| 0                             | (+32) | 2615                       | 659      | 766  | 229                                    | 1.45                          | 17.06                   | 11.44                     | 2.88      | 3.35  |
| +5                            | (+41) | 3134                       | 790      | 918  | 238                                    | 1.48                          | 20.67                   | 13.18                     | 3.32      | 3.86  |
| +10                           | (+50) | 3725                       | 939      | 1091 | 246                                    | 1.51                          | 24.86                   | 15.13                     | 3.81      | 4.43  |

| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE46<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] | [W/W] |
| -20                           | (- 4) | 1041                       | 262      | 305 | 190                                     | 1.30                          | 7.29                    | 5.51                      | 1.39      | 1.61  |
| -15                           | (+ 5) | 1252                       | 316      | 367 | 209                                     | 1.37                          | 8.83                    | 6.00                      | 1.51      | 1.76  |
| -10                           | (+14) | 1522                       | 383      | 446 | 227                                     | 1.44                          | 10.80                   | 6.71                      | 1.69      | 1.97  |
| -5                            | (+23) | 1850                       | 466      | 542 | 243                                     | 1.50                          | 13.23                   | 7.60                      | 1.92      | 2.23  |
| 0                             | (+32) | 2238                       | 564      | 656 | 258                                     | 1.55                          | 16.17                   | 8.67                      | 2.19      | 2.54  |
| +5                            | (+41) | 2687                       | 677      | 787 | 271                                     | 1.60                          | 19.64                   | 9.91                      | 2.50      | 2.90  |
| +10                           | (+50) | 3198                       | 806      | 937 | 283                                     | 1.65                          | 23.68                   | 11.30                     | 2.85      | 3.31  |

| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE46<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] |
| -20                           | (- 4) | 848                        | 214      | 248 | 201                                     | 1.32                          | 6.67                    | 4.21                      | 1.06      | 1.23  |
| -15                           | (+ 5) | 1027                       | 259      | 301 | 225                                     | 1.41                          | 8.13                    | 4.58                      | 1.15      | 1.34  |
| -10                           | (+14) | 1256                       | 316      | 368 | 247                                     | 1.50                          | 10.02                   | 5.09                      | 1.28      | 1.49  |
| -5                            | (+23) | 1535                       | 387      | 450 | 268                                     | 1.58                          | 12.36                   | 5.73                      | 1.45      | 1.68  |
| 0                             | (+32) | 1866                       | 470      | 547 | 287                                     | 1.66                          | 15.20                   | 6.50                      | 1.64      | 1.91  |
| +5                            | (+41) | 2250                       | 567      | 659 | 305                                     | 1.73                          | 18.56                   | 7.38                      | 1.86      | 2.16  |
| +10                           | (+50) | 2688                       | 677      | 788 | 322                                     | 1.80                          | 22.49                   | 8.35                      | 2.10      | 2.45  |



## COMPRESSOR TECHNICAL DATA

### F - EXTERNAL CHARACTERISTICS

|                         |                   |      |                          |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate            | European Standard |      |                          |
| 2 Tray holder           | No                |      |                          |
| 3 Connectors            |                   |      |                          |
| 3.1 SUCTION             | 8.1 +0.10/+0.00   | [mm] | (0.319" +0.004"/+0.000") |
| 3.1.1 Material          | Copper            |      |                          |
| 3.1.2 Shape             | Slanted 42°       |      |                          |
| 3.2 DISCHARGE           | 6.1 +0.10/+0.00   | [mm] | (0.240" +0.004"/+0.000") |
| 3.2.1 Material          | Copper            |      |                          |
| 3.2.2 Shape             | Straight          |      |                          |
| 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 42°       |      |                          |
| 3.4 Oil cooler (Copper) | No                | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs      |      |                          |