

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

|                           |                 |
|---------------------------|-----------------|
| Designation               | NE K6170Z       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 267DA51         |

**A - APPLICATION / LIMIT WORKING CONDITIONS**

|                                            |                                             |                         |           |
|--------------------------------------------|---------------------------------------------|-------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor           |                         |           |
| 2 Refrigerant                              | R-134a                                      |                         |           |
| 3 Nominal voltage and frequency            | 220-240 / 50                                | [ V / Hz ]              |           |
| 4 Application type                         | High Back Pressure (Commercial Compressors) |                         |           |
| 4.1 Evaporating temperature range          | -15°C to 10°C                               | (5°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)                      | 16.2                                        | [kgf/cm²] (230 psig)    | / °C - °F |
| 9.2 Peak (gauge)                           | 20.6                                        | [kgf/cm²] (293 psig)    | / °C - °F |
| 10 Maximum winding temperature             | 130                                         | [ °C ]                  |           |

**B - MECHANICAL DATA**

|                               |               |                                            |
|-------------------------------|---------------|--------------------------------------------|
| 1 Commercial designation      | 1/4+          | [hp]                                       |
| 2 Displacement                | 8.39          | [cm <sup>3</sup> ] (0.512 cu.in)           |
| 2.1 Bore [mm]                 | 24.282        |                                            |
| 2.2 Stroke [mm]               | 18.120        |                                            |
| 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                          | MTRPH-0026-59                      |                                    |
| 3 Start capacitor                            | 43-53(330)                         | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [μF(VAC minimum)]                  |
| 5 Motor protection                           | T0186/G6                           |                                    |
| 6 Start winding resistance                   | 28.90                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 6.80                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | -                                  | [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: 05SEP2006

267DA51



## 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] |
| 2857                          | 720      | 837 | 347                            | 2.10                             | 18.52                                              | 8.23                      | 2.07                                  | 2.41  |

### 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] |
| -15                           | (+ 5) | 1444                       | 364      | 423  | 200                                    | 1.62                          | 7.81                    | 7.23                      | 1.82      | 2.12  |
| -10                           | (+14) | 1797                       | 453      | 527  | 218                                    | 1.67                          | 9.75                    | 8.25                      | 2.08      | 2.42  |
| -5                            | (+23) | 2236                       | 564      | 655  | 235                                    | 1.72                          | 12.18                   | 9.52                      | 2.40      | 2.79  |
| 0                             | (+32) | 2761                       | 696      | 809  | 251                                    | 1.77                          | 15.11                   | 11.02                     | 2.78      | 3.23  |
| +5                            | (+41) | 3372                       | 850      | 988  | 265                                    | 1.81                          | 18.55                   | 12.73                     | 3.21      | 3.73  |
| +10                           | (+50) | 4068                       | 1025     | 1192 | 278                                    | 1.86                          | 22.53                   | 14.64                     | 3.69      | 4.29  |

| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE46<br>Fan  |          |      | (Condensing temperature 45°C (+113°F) ) |                     |               |                 |           |       |
|-------------------------------|-------|------------------|----------|------|-----------------------------------------|---------------------|---------------|-----------------|-----------|-------|
| Evaporating temperature       |       | Cooling capacity |          |      | Power consumption                       | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                               |       | +/- 5%           |          |      | +/- 5%                                  | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                            | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                     | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -15                           | (+ 5) | 1252             | 316      | 367  | 211                                     | 1.63                | 7.31          | 5.94            | 1.50      | 1.74  |
| -10                           | (+14) | 1572             | 396      | 461  | 235                                     | 1.71                | 9.22          | 6.69            | 1.69      | 1.96  |
| -5                            | (+23) | 1967             | 496      | 576  | 257                                     | 1.78                | 11.58         | 7.64            | 1.92      | 2.24  |
| 0                             | (+32) | 2437             | 614      | 714  | 278                                     | 1.86                | 14.42         | 8.75            | 2.21      | 2.56  |
| +5                            | (+41) | 2983             | 752      | 874  | 298                                     | 1.93                | 17.75         | 10.02           | 2.52      | 2.94  |
| +10                           | (+50) | 3603             | 908      | 1056 | 316                                     | 2.00                | 21.59         | 11.42           | 2.88      | 3.35  |

| 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] |
| -15                           | (+ 5) | 1074                       | 271      | 315 | 220                                     | 1.69                          | 6.85                    | 4.87                      | 1.23      | 1.43  |
| -10                           | (+14) | 1364                       | 344      | 400 | 251                                     | 1.78                          | 8.72                    | 5.43                      | 1.37      | 1.59  |
| -5                            | (+23) | 1718                       | 433      | 504 | 280                                     | 1.87                          | 11.04                   | 6.13                      | 1.54      | 1.80  |
| 0                             | (+32) | 2138                       | 539      | 626 | 308                                     | 1.96                          | 13.80                   | 6.93                      | 1.75      | 2.03  |
| +5                            | (+41) | 2621                       | 661      | 768 | 335                                     | 2.06                          | 17.04                   | 7.82                      | 1.97      | 2.29  |
| +10                           | (+50) | 3169                       | 799      | 929 | 361                                     | 2.16                          | 20.76                   | 8.79                      | 2.21      | 2.58  |

**embraco****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      |      |                          |