

### COMPRESSOR DEFINITION

|                           |                                   |
|---------------------------|-----------------------------------|
| Designation               | J 9232P                           |
| Nominal Voltage/Frequency | 380-420 V 50 Hz / 440-480 V 60 Hz |
| Engineering Number        | 167HM01                           |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |  |                                   |           |
|--|--|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor                  |                                   |           |
| 2 Refrigerant                              | R-22   |                                   |           |
| 3 Nominal voltage and frequency            | 380-420 / 50                                       | [ V / Hz ]                        |           |
| 4 Application type                         | Medium-High Back pressure (Commercial Compressors) |                                   |           |
| 4.1 Evaporating temperature range          | -20°C to 10°C                                      | (-4°F to 50°F)                    |           |
| 5 Motor type                               | 3PHASE   |                                   |           |
| 6 Starting torque                          | HST - 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)         | -  | -                                 | -         |
| 8.3 HBP (32°C Ambient temperature)         | -  | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature)         | -  | -                                 | -         |
| 9 Maximum condensing pressures/temperature |  |                                   |           |
| 9.1 Operating (gauge)                      | 21.7   | [kgf/cm <sup>2</sup> ] (309 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 24.2   | [kgf/cm <sup>2</sup> ] (344 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130  | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                 |  |
|-------------------------------|-----------------|--|
| 1 Commercial designation      | 1 1/4           | [hp]                                       |
| 2 Displacement                | 26.11           | [cm <sup>3</sup> ] (1.593 cu.in)           |
| 2.1 Bore [mm]                 | 41.770          |  |
| 2.2 Stroke [mm]               | 19.066          |  |
| 3 Lubricant charge            | 890             | [ml] (30.10 fl.oz.)                        |
| 3.1 Lubricants approved       |                 |  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO46 |  |
| 4 Weight (with oil charge)    | 20.35           | [kg] (44.86 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 | 380-420 V 50 Hz / 440-480 V 60 Hz 3 ~ (Three phase) |                                    |
| 2 Starting device type                       | 3PHASE  |                                    |
| 2.1 Starting device                          |   |                                    |
| 3 Start capacitor                            | -   | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -   | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 31HM129-36  |                                    |
| 6 Start winding resistance                   | 7.55  | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 7.55  | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 13.00   | [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)      | 2.85  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             |   |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |      |                             |                               |  |                           |                                      |       |
|-------------------------------|----------|------|-----------------------------|-------------------------------|--|---------------------------|--------------------------------------|-------|
| TEST CONDITIONS:<br>@380V50Hz |          |      | 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 consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                            | EFFICIENCY RATE<br>+/- 7% |                                      |       |
| [Btu/h]                       | [kcal/h] | [W]  | [W]                         | [A]                           | [kg/h]   | [Btu/Wh]                  | [kcal/Wh]                            | [W/W] |
| 12353                         | 3113     | 3620 | 1371                        | 2.84                          | 76.29  | 9.01                      | 2.27                                 | 2.64  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                 |      |                                       |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@380V50Hz |       |                            | 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) | 4362                       | 1099            | 1278 | 766                                   | 1.78                          | 22.82                   | 5.69                      | 1.43      | 1.67  |
| -15                           | (+ 5) | 5841                       | 1472            | 1712 | 836                                   | 1.90                          | 30.68                   | 6.99                      | 1.76      | 2.05  |
| -10                           | (+14) | 7643                       | 1926            | 2239 | 900                                   | 2.01                          | 40.30                   | 8.49                      | 2.14      | 2.49  |
| -5                            | (+23) | 9766                       | 2461            | 2862 | 959                                   | 2.10                          | 51.73                   | 10.19                     | 2.57      | 2.98  |
| 0                             | (+32) | 12213                      | 3078            | 3579 | 1013                                  | 2.19                          | 65.06                   | 12.07                     | 3.04      | 3.54  |
| +5                            | (+41) | 14982                      | 3775            | 4390 | 1062                                  | 2.27                          | 80.35                   | 14.12                     | 3.56      | 4.14  |
| +10                           | (+50) | 18073                      | 4555            | 5296 | 1105                                  | 2.34                          | 97.66                   | 16.34                     | 4.12      | 4.79  |

|                               |       |                            |                 |      |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@380V50Hz |       |                            | 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) | 3962                       | 998             | 1161 | 761                                    | 1.80                          | 22.14                   | 5.22                      | 1.32      | 1.53  |
| -15                           | (+ 5) | 5208                       | 1312            | 1526 | 864                                    | 1.96                          | 29.22                   | 6.03                      | 1.52      | 1.77  |
| -10                           | (+14) | 6754                       | 1702            | 1979 | 959                                    | 2.11                          | 38.04                   | 7.03                      | 1.77      | 2.06  |
| -5                            | (+23) | 8601                       | 2167            | 2520 | 1045                                   | 2.26                          | 48.69                   | 8.21                      | 2.07      | 2.41  |
| 0                             | (+32) | 10748                      | 2708            | 3149 | 1124                                   | 2.39                          | 61.22                   | 9.55                      | 2.41      | 2.80  |
| +5                            | (+41) | 13196                      | 3325            | 3867 | 1195                                   | 2.51                          | 75.70                   | 11.05                     | 2.79      | 3.24  |
| +10                           | (+50) | 15944                      | 4018            | 4672 | 1257                                   | 2.62                          | 92.20                   | 12.70                     | 3.20      | 3.72  |

|                               |       |                            |                 |      |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@380V50Hz |       |                            | 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) | 3548                       | 894             | 1040 | 756                                    | 1.82                          | 21.32                   | 4.67                      | 1.18      | 1.37  |
| -15                           | (+ 5) | 4548                       | 1146            | 1333 | 893                                    | 2.03                          | 27.45                   | 5.11                      | 1.29      | 1.50  |
| -10                           | (+14) | 5827                       | 1468            | 1707 | 1019                                   | 2.23                          | 35.33                   | 5.73                      | 1.44      | 1.68  |
| -5                            | (+23) | 7384                       | 1861            | 2164 | 1135                                   | 2.42                          | 45.01                   | 6.51                      | 1.64      | 1.91  |
| 0                             | (+32) | 9220                       | 2323            | 2702 | 1240                                   | 2.60                          | 56.57                   | 7.43                      | 1.87      | 2.18  |
| +5                            | (+41) | 11335                      | 2856            | 3321 | 1333                                   | 2.77                          | 70.09                   | 8.50                      | 2.14      | 2.49  |
| +10                           | (+50) | 13728                      | 3459            | 4023 | 1416                                   | 2.92                          | 85.62                   | 9.69                      | 2.44      | 2.84  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@380V60Hz |                            | 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]  |
| -20                           | (- 4)                      | 5104            | 1286    | 1495                        | 920                                    | 1.82                    | 26.70                     | 5.54  | 1.40 | 1.62 |
| -15                           | (+ 5)                      | 6834            | 1722    | 2002                        | 996                                    | 1.94                    | 35.90                     | 6.86  | 1.73 | 2.01 |
| -10                           | (+14)                      | 8942            | 2253    | 2620                        | 1067                                   | 2.05                    | 47.15                     | 8.38  | 2.11 | 2.46 |
| -5                            | (+23)                      | 11427           | 2880    | 3348                        | 1132                                   | 2.15                    | 60.53                     | 10.10 | 2.54 | 2.96 |
| 0                             | (+32)                      | 14289           | 3601    | 4187                        | 1192                                   | 2.24                    | 76.12                     | 12.00 | 3.02 | 3.52 |
| +5                            | (+41)                      | 17529           | 4417    | 5136                        | 1246                                   | 2.31                    | 94.01                     | 14.08 | 3.55 | 4.12 |
| +10                           | (+50)                      | 21146           | 5329    | 6196                        | 1295                                   | 2.38                    | 114.26                    | 16.31 | 4.11 | 4.78 |

| TEST CONDITIONS:<br>@380V60Hz |                            | 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]  |
| -20                           | (- 4)                      | 4635            | 1168    | 1358                        | 923                                     | 1.84                    | 25.90                     | 5.04  | 1.27 | 1.48 |
| -15                           | (+ 5)                      | 6093            | 1535    | 1785                        | 1035                                    | 2.00                    | 34.18                     | 5.89  | 1.48 | 1.73 |
| -10                           | (+14)                      | 7902            | 1991    | 2315                        | 1139                                    | 2.16                    | 44.51                     | 6.92  | 1.74 | 2.03 |
| -5                            | (+23)                      | 10062           | 2536    | 2949                        | 1235                                    | 2.30                    | 56.96                     | 8.13  | 2.05 | 2.38 |
| 0                             | (+32)                      | 12575           | 3169    | 3685                        | 1322                                    | 2.44                    | 71.62                     | 9.50  | 2.39 | 2.78 |
| +5                            | (+41)                      | 15439           | 3891    | 4524                        | 1401                                    | 2.56                    | 88.57                     | 11.02 | 2.78 | 3.23 |
| +10                           | (+50)                      | 18654           | 4701    | 5466                        | 1472                                    | 2.68                    | 107.87                    | 12.69 | 3.20 | 3.72 |

| TEST CONDITIONS:<br>@380V60Hz |                            | 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]  |
| -20                           | (- 4)                      | 4150            | 1046    | 1216                        | 926                                     | 1.86                    | 24.94                     | 4.46 | 1.12 | 1.31 |
| -15                           | (+ 5)                      | 5321            | 1341    | 1559                        | 1076                                    | 2.07                    | 32.12                     | 4.96 | 1.25 | 1.45 |
| -10                           | (+14)                      | 6817            | 1718    | 1998                        | 1215                                    | 2.27                    | 41.33                     | 5.62 | 1.42 | 1.65 |
| -5                            | (+23)                      | 8640            | 2177    | 2532                        | 1342                                    | 2.47                    | 52.66                     | 6.44 | 1.62 | 1.89 |
| 0                             | (+32)                      | 10788           | 2719    | 3161                        | 1458                                    | 2.65                    | 66.20                     | 7.40 | 1.86 | 2.17 |
| +5                            | (+41)                      | 13262           | 3342    | 3886                        | 1563                                    | 2.82                    | 82.00                     | 8.49 | 2.14 | 2.49 |
| +10                           | (+50)                      | 16062           | 4048    | 4706                        | 1656                                    | 2.98                    | 100.17                    | 9.69 | 2.44 | 2.84 |

### F - EXTERNAL CHARACTERISTICS

|                         |                   |      |                          |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate            | American Standard |      |                          |
| 2 Tray holder           | No                |      |                          |
| 3 Connectors            |                   |      |                          |
| 3.1 SUCTION             | 12.77 +0.08/+0.00 | [mm] | (0.503" +0.003"/+0.000") |
| 3.1.1 Material          | Copper            |      |                          |
| 3.1.2 Shape             | Vertical          |      |                          |
| 3.2 DISCHARGE           | 8 +0.07/+0.00     | [mm] | (0.315" +0.003"/+0.000") |
| 3.2.1 Material          | Copper            |      |                          |
| 3.2.2 Shape             | Slanted J         |      |                          |
| 3.3 PROCESS             | 9.6 +0.07/+0.00   | [mm] | (0.378" +0.003"/+0.000") |
| 3.3.1 Material          | Copper            |      |                          |
| 3.3.2 Shape             | Vertical          |      |                          |
| 3.4 Oil cooler (Copper) | No                | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs      |      |                          |