

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | F F8,5BKW |
| Nominal Voltage/Frequency | 220 V 60 Hz |
| Engineering Number | 513206542 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--------------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | Blend | | |
| 3 Nominal voltage and frequency | 220 / 60 | [V / Hz] | |
| 4 Application type | Low-Medium-High Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to 15°C | (-31°F to 59°F) | |
| 5 Motor type | RSIR/CSIR | | |
| 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 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static | - | 198 to 242 V |
| 8.3 HBP (32°C Ambient temperature) | Fan | - | 198 to 242 V |
| 8.4 HBP (43°C Ambient temperature) | Fan | - | 198 to 242 V |
| 9 Maximum condensing pressures/temperature | | | |
| 9.1 Operating (gauge) | 14.5 | [kgf/cm ²] (206 psig) | / °C - °F |
| 9.2 Peak (gauge) | 18.2 | [kgf/cm ²] (259 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|-----------------|--------------------------------------------|
| 1 Commercial designation | 1/4 | [hp] |
| 2 Displacement | 7.95 | [cm ³] (0.485 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 20.000 | |
| 3 Lubricant charge | 370 | [ml] (12.51 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO32 | |
| 4 Weight (with oil charge) | 10.6 | [kg] (23.37 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELETRICAL DATA

| | | |
|----------------------------------------------|--------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213510800/213510843 | |
| 3 Start capacitor | 88-108(150) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | MRA58130-6 | |
| 6 Start winding resistance | 39.00 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 6.90 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|-----------------------------------------------------|---------------------------|--------------------------------------|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAEHBP32 Fan | | Evaporating temperature (Condensing temperature) | | 7.2°C (44.96°F) 54.4°C (129.92°F) | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 3080 | 776 | 903 | 458 | 2.27 | 23.06 | 6.72 | 1.69 | 1.97 |

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|-----------------------------------------------------|---------------------------|----------------------------------------|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAELBP32 Static | | Evaporating temperature (Condensing temperature) | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 850 | 214 | 249 | 228 | 1.49 | 6.22 | 3.73 | 0.94 | 1.09 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|----------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAE32 Static | | (Condensing temperature 45°C (+113°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 491 | 124 | 144 | 153 | 2.81 | 3.58 | 3.13 | 0.79 | 0.92 |
| -30 (-22) | 632 | 159 | 185 | 180 | 2.85 | 4.62 | 3.47 | 0.88 | 1.02 |
| -25 (-13) | 799 | 201 | 234 | 210 | 2.91 | 5.85 | 3.81 | 0.96 | 1.12 |
| -20 (- 4) | 1001 | 252 | 293 | 242 | 3.01 | 7.34 | 4.17 | 1.05 | 1.22 |
| -15 (+ 5) | 1247 | 314 | 365 | 276 | 3.14 | 9.15 | 4.56 | 1.15 | 1.34 |
| -10 (+14) | 1544 | 389 | 452 | 310 | 3.30 | 11.37 | 5.01 | 1.26 | 1.47 |
| -5 (+23) | 1900 | 479 | 557 | 345 | 3.49 | 14.05 | 5.53 | 1.39 | 1.62 |
| 0 (+32) | 2324 | 586 | 681 | 378 | 3.72 | 17.28 | 6.15 | 1.55 | 1.80 |
| +5 (+41) | 2825 | 712 | 828 | 409 | 3.98 | 21.11 | 6.89 | 1.74 | 2.02 |
| +10 (+50) | 3409 | 859 | 999 | 439 | 4.28 | 25.63 | 7.76 | 1.96 | 2.27 |
| +15 (+59) | 4087 | 1030 | 1198 | 464 | 4.61 | 30.90 | 8.78 | 2.21 | 2.57 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|----------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAE32 Static | | (Condensing temperature 55°C (+131°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 443 | 112 | 130 | 160 | 2.81 | 3.22 | 2.84 | 0.72 | 0.83 |
| -30 (-22) | 597 | 150 | 175 | 185 | 2.85 | 4.37 | 3.24 | 0.82 | 0.95 |
| -25 (-13) | 774 | 195 | 227 | 215 | 2.92 | 5.67 | 3.61 | 0.91 | 1.06 |
| -20 (- 4) | 983 | 248 | 288 | 247 | 3.03 | 7.21 | 3.97 | 1.00 | 1.16 |
| -15 (+ 5) | 1231 | 310 | 361 | 283 | 3.19 | 9.05 | 4.35 | 1.10 | 1.27 |
| -10 (+14) | 1528 | 385 | 448 | 320 | 3.38 | 11.26 | 4.76 | 1.20 | 1.39 |
| -5 (+23) | 1880 | 474 | 551 | 358 | 3.61 | 13.91 | 5.22 | 1.32 | 1.53 |
| 0 (+32) | 2297 | 579 | 673 | 396 | 3.89 | 17.08 | 5.75 | 1.45 | 1.69 |
| +5 (+41) | 2787 | 702 | 817 | 434 | 4.21 | 20.84 | 6.38 | 1.61 | 1.87 |
| +10 (+50) | 3358 | 846 | 984 | 471 | 4.57 | 25.25 | 7.12 | 1.79 | 2.09 |
| +15 (+59) | 4019 | 1013 | 1178 | 506 | 4.97 | 30.38 | 7.99 | 2.01 | 2.34 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V60Hz | | ASHRAE32 Static | | | (Condensing temperature 65°C (+149°F)) | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 417 | 105 | 122 | 159 | 2.81 | 3.03 | 2.57 | 0.65 | 0.75 |
| -30 | (-22) | 554 | 140 | 162 | 186 | 2.85 | 4.06 | 2.94 | 0.74 | 0.86 |
| -25 | (-13) | 711 | 179 | 208 | 218 | 2.94 | 5.21 | 3.26 | 0.82 | 0.96 |
| -20 | (- 4) | 897 | 226 | 263 | 254 | 3.08 | 6.58 | 3.56 | 0.90 | 1.04 |
| -15 | (+ 5) | 1118 | 282 | 328 | 295 | 3.27 | 8.22 | 3.84 | 0.97 | 1.12 |
| -10 | (+14) | 1385 | 349 | 406 | 338 | 3.50 | 10.20 | 4.13 | 1.04 | 1.21 |
| -5 | (+23) | 1704 | 429 | 499 | 384 | 3.79 | 12.60 | 4.45 | 1.12 | 1.30 |
| 0 | (+32) | 2085 | 525 | 611 | 431 | 4.12 | 15.49 | 4.82 | 1.21 | 1.41 |
| +5 | (+41) | 2534 | 639 | 743 | 479 | 4.50 | 18.94 | 5.25 | 1.32 | 1.54 |
| +10 | (+50) | 3062 | 772 | 897 | 527 | 4.94 | 23.02 | 5.78 | 1.46 | 1.69 |
| +15 | (+59) | 3675 | 926 | 1077 | 574 | 5.42 | 27.80 | 6.42 | 1.62 | 1.88 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|---------------------|------|--------------------------|
| 1 Base plate | Universal | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 8.2 +0.12/-0.08 | [mm] | (0.323" +0.005"/-0.003") |
| 3.1.1 Material | Copper plated steel | | |
| 3.1.2 Shape | Slanted | | |
| 3.2 DISCHARGE | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.2.1 Material | Copper plated steel | | |
| 3.2.2 Shape | Slanted | | |
| 3.3 PROCESS | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.3.1 Material | Copper plated steel | | |
| 3.3.2 Shape | Slanted | | |
| 3.4 Oil cooler (Copper) | 6.5 +0.09/-0.09 | [mm] | (0.256" +0.004"/-0.004") |
| 3.5 Connector sealing | Rubber Plugs | | |