

COMPRESSOR DEFINITION

| | |
|---------------------------|------------------------|
| Designation | F F8,5BK |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513200182 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | Blend | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [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 255 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 198 to 255 V | - |
| 8.3 HBP (32°C Ambient temperature) | Fan | 198 to 255 V | - |
| 8.4 HBP (43°C Ambient temperature) | Fan | 198 to 255 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 | 350 | [ml] (11.84 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | MINERAL / 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 | 220-240 V 50 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213516159/213516353 | |
| 3 Start capacitor | 108-130(180) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM739LFBYY-53 | |
| 6 Start winding resistance | 36.00 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 10.32 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 12.00 | [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) | 1.70 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | IRAM | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--------------------------------------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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] |
| 2567 | 647 | 752 | 352 | 1.94 | 19.22 | 7.29 | 1.84 | 2.14 |

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|
| TEST CONDITIONS: @220V50Hz | | | 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] |
| 715 | 180 | 210 | 185 | 1.16 | 5.23 | 3.86 | 0.97 | 1.13 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 436 | 110 | 128 | 126 | 0.97 | 3.18 | 3.45 | 0.87 | 1.01 |
| -30 (-22) | 546 | 137 | 160 | 151 | 1.03 | 3.99 | 3.65 | 0.92 | 1.07 |
| -25 (-13) | 693 | 175 | 203 | 177 | 1.11 | 5.07 | 3.95 | 0.99 | 1.16 |
| -20 (- 4) | 880 | 222 | 258 | 204 | 1.20 | 6.45 | 4.34 | 1.09 | 1.27 |
| -15 (+ 5) | 1109 | 279 | 325 | 230 | 1.31 | 8.15 | 4.81 | 1.21 | 1.41 |
| -10 (+14) | 1381 | 348 | 405 | 257 | 1.42 | 10.17 | 5.36 | 1.35 | 1.57 |
| -5 (+23) | 1697 | 428 | 497 | 284 | 1.55 | 12.55 | 5.96 | 1.50 | 1.74 |
| 0 (+32) | 2059 | 519 | 603 | 312 | 1.69 | 15.30 | 6.60 | 1.66 | 1.93 |
| +5 (+41) | 2469 | 622 | 724 | 340 | 1.85 | 18.45 | 7.27 | 1.83 | 2.13 |
| +10 (+50) | 2929 | 738 | 858 | 368 | 2.02 | 22.01 | 7.97 | 2.01 | 2.33 |
| +15 (+59) | 3440 | 867 | 1008 | 397 | 2.21 | 26.01 | 8.67 | 2.18 | 2.54 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 413 | 104 | 121 | 126 | 0.97 | 3.01 | 3.23 | 0.81 | 0.95 |
| -30 (-22) | 516 | 130 | 151 | 151 | 1.03 | 3.77 | 3.43 | 0.86 | 1.00 |
| -25 (-13) | 656 | 165 | 192 | 177 | 1.11 | 4.80 | 3.73 | 0.94 | 1.09 |
| -20 (- 4) | 835 | 210 | 245 | 204 | 1.20 | 6.12 | 4.11 | 1.04 | 1.21 |
| -15 (+ 5) | 1054 | 266 | 309 | 230 | 1.31 | 7.75 | 4.58 | 1.15 | 1.34 |
| -10 (+14) | 1316 | 332 | 386 | 257 | 1.42 | 9.69 | 5.11 | 1.29 | 1.50 |
| -5 (+23) | 1621 | 408 | 475 | 284 | 1.55 | 11.99 | 5.70 | 1.44 | 1.67 |
| 0 (+32) | 1972 | 497 | 578 | 312 | 1.69 | 14.65 | 6.33 | 1.59 | 1.85 |
| +5 (+41) | 2369 | 597 | 694 | 340 | 1.85 | 17.70 | 6.98 | 1.76 | 2.05 |
| +10 (+50) | 2815 | 709 | 825 | 368 | 2.02 | 21.16 | 7.66 | 1.93 | 2.25 |
| +15 (+59) | 3311 | 834 | 970 | 397 | 2.21 | 25.04 | 8.34 | 2.10 | 2.45 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | 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) | 359 | 91 | 105 | 126 | 0.97 | 2.62 | 2.87 | 0.72 | 0.84 |
| -30 | (-22) | 460 | 116 | 135 | 151 | 1.03 | 3.36 | 3.08 | 0.78 | 0.90 |
| -25 | (-13) | 596 | 150 | 175 | 177 | 1.11 | 4.37 | 3.39 | 0.85 | 0.99 |
| -20 | (- 4) | 770 | 194 | 226 | 204 | 1.20 | 5.65 | 3.79 | 0.95 | 1.11 |
| -15 | (+ 5) | 984 | 248 | 288 | 230 | 1.31 | 7.23 | 4.26 | 1.07 | 1.25 |
| -10 | (+14) | 1240 | 312 | 363 | 257 | 1.42 | 9.14 | 4.80 | 1.21 | 1.41 |
| -5 | (+23) | 1538 | 387 | 451 | 284 | 1.55 | 11.38 | 5.39 | 1.36 | 1.58 |
| 0 | (+32) | 1880 | 474 | 551 | 312 | 1.69 | 13.98 | 6.02 | 1.52 | 1.76 |
| +5 | (+41) | 2268 | 572 | 665 | 340 | 1.85 | 16.95 | 6.68 | 1.68 | 1.96 |
| +10 | (+50) | 2705 | 682 | 793 | 368 | 2.02 | 20.33 | 7.36 | 1.85 | 2.16 |
| +15 | (+59) | 3190 | 804 | 935 | 397 | 2.21 | 24.13 | 8.04 | 2.03 | 2.36 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|---------------------|------|--------------------------|
| 1 Base plate | Universal EG/F | | |
| 2 Tray holder | Yes | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.1.1 Material | Copper plated steel | | |
| 3.1.2 Shape | Slanted | | |
| 3.2 DISCHARGE | 5 +0.18/-0.06 | [mm] | (0.197" +0.007"/-0.002") |
| 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) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |