

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | F F8,5BKW |
| Nominal Voltage/Frequency | 220 V 60 Hz |
| Engineering Number | 513200725 |

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 temperature | | | |
| 9.1 Operating | 14.5 | [kgf/cm ²] (206 psig) | / °C - °F |
| 9.2 Peak | 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 | 280 | [ml] (9.47 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO32 | |
| 4 Weight (with oil charge) | 10.83 | [kg] (23.88 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 | 213516230/213516345 | |
| 3 Start capacitor | 88-108(220) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM757LFBYY-53 | |
| 6 Start winding resistance | 24.40 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 7.10 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 18.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 2.40 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 2.80 | [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 | 417 | 2.40 | 23.06 | 7.39 | 1.86 | 2.17 |

| | | | | | | | | |
|-------------------------------|----------|-----|------------------------------|-------------------------------|--|---------------------------|--|-------|
| 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 | 225 | 1.70 | 6.22 | 3.78 | 0.95 | 1.11 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAE32 Fan | | (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) | 500 | 126 | 146 | 150 | 1.48 | 3.64 | 3.26 | 0.82 | 0.96 |
| -30 (-22) | 645 | 163 | 189 | 183 | 1.58 | 4.72 | 3.53 | 0.89 | 1.03 |
| -25 (-13) | 827 | 208 | 242 | 216 | 1.67 | 6.05 | 3.87 | 0.97 | 1.13 |
| -20 (- 4) | 1049 | 264 | 307 | 247 | 1.77 | 7.68 | 4.27 | 1.08 | 1.25 |
| -15 (+ 5) | 1316 | 332 | 385 | 279 | 1.87 | 9.66 | 4.75 | 1.20 | 1.39 |
| -10 (+14) | 1632 | 411 | 478 | 310 | 1.98 | 12.02 | 5.28 | 1.33 | 1.55 |
| -5 (+23) | 2003 | 505 | 587 | 341 | 2.10 | 14.82 | 5.88 | 1.48 | 1.72 |
| 0 (+32) | 2433 | 613 | 713 | 372 | 2.22 | 18.08 | 6.53 | 1.65 | 1.91 |
| +5 (+41) | 2925 | 737 | 857 | 403 | 2.36 | 21.86 | 7.24 | 1.82 | 2.12 |
| +10 (+50) | 3486 | 879 | 1022 | 435 | 2.51 | 26.20 | 8.00 | 2.02 | 2.34 |
| +15 (+59) | 4119 | 1038 | 1207 | 468 | 2.67 | 31.14 | 8.81 | 2.22 | 2.58 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAE32 Fan | | (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) | 451 | 114 | 132 | 150 | 1.48 | 3.28 | 3.03 | 0.76 | 0.89 |
| -30 (-22) | 595 | 150 | 174 | 183 | 1.58 | 4.35 | 3.29 | 0.83 | 0.97 |
| -25 (-13) | 774 | 195 | 227 | 216 | 1.67 | 5.67 | 3.63 | 0.92 | 1.06 |
| -20 (- 4) | 992 | 250 | 291 | 247 | 1.77 | 7.28 | 4.04 | 1.02 | 1.18 |
| -15 (+ 5) | 1256 | 316 | 368 | 279 | 1.87 | 9.23 | 4.52 | 1.14 | 1.32 |
| -10 (+14) | 1568 | 395 | 459 | 310 | 1.98 | 11.55 | 5.05 | 1.27 | 1.48 |
| -5 (+23) | 1933 | 487 | 567 | 341 | 2.10 | 14.31 | 5.65 | 1.42 | 1.66 |
| 0 (+32) | 2357 | 594 | 691 | 372 | 2.22 | 17.52 | 6.31 | 1.59 | 1.85 |
| +5 (+41) | 2843 | 716 | 833 | 403 | 2.36 | 21.25 | 7.02 | 1.77 | 2.06 |
| +10 (+50) | 3396 | 856 | 995 | 435 | 2.51 | 25.53 | 7.79 | 1.96 | 2.28 |
| +15 (+59) | 4022 | 1013 | 1178 | 468 | 2.67 | 30.41 | 8.60 | 2.17 | 2.52 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V60Hz | | ASHRAE32 Fan | | | (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) | 441 | 111 | 129 | 150 | 1.48 | 3.21 | 2.84 | 0.72 | 0.83 |
| -30 | (-22) | 562 | 142 | 165 | 183 | 1.58 | 4.12 | 3.07 | 0.77 | 0.90 |
| -25 | (-13) | 718 | 181 | 210 | 216 | 1.67 | 5.26 | 3.37 | 0.85 | 0.99 |
| -20 | (- 4) | 913 | 230 | 268 | 247 | 1.77 | 6.70 | 3.74 | 0.94 | 1.09 |
| -15 | (+ 5) | 1152 | 290 | 337 | 279 | 1.87 | 8.46 | 4.17 | 1.05 | 1.22 |
| -10 | (+14) | 1439 | 363 | 422 | 310 | 1.98 | 10.60 | 4.67 | 1.18 | 1.37 |
| -5 | (+23) | 1778 | 448 | 521 | 341 | 2.10 | 13.15 | 5.23 | 1.32 | 1.53 |
| 0 | (+32) | 2175 | 548 | 637 | 372 | 2.22 | 16.17 | 5.85 | 1.47 | 1.71 |
| +5 | (+41) | 2634 | 664 | 772 | 403 | 2.36 | 19.69 | 6.52 | 1.64 | 1.91 |
| +10 | (+50) | 3159 | 796 | 926 | 435 | 2.51 | 23.75 | 7.25 | 1.83 | 2.12 |
| +15 | (+59) | 3755 | 946 | 1100 | 468 | 2.67 | 28.40 | 8.02 | 2.02 | 2.35 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 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 | | |