

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | F F10BKW |
| Nominal Voltage/Frequency | 115 V 60 Hz |
| Engineering Number | 513200237 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | Blend | | |
| 3 Nominal voltage and frequency | 115 / 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 | - | 103 to 135 V |
| 8.2 LBP (43°C Ambient temperature) | Static | - | 103 to 135 V |
| 8.3 HBP (32°C Ambient temperature) | Fan | - | 103 to 135 V |
| 8.4 HBP (43°C Ambient temperature) | Fan | - | 103 to 135 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 | 9.04 | [cm ³] (0.552 cu.in) |
| 2.1 Bore [mm] | 24.000 | |
| 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) | 10.8 | [kg] (23.81 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 | 115 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213516248/213516264 | |
| 3 Start capacitor | 460-552(115) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | MRT28AHN-5590 | |
| 6 Start winding resistance | 6.65 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 1.72 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 34.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 5.30 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - UKCA - UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--------------------------------------|-------|--|
| TEST CONDITIONS: @115V60Hz | | | ASHRAEHBP32 Static | | 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] | |
| 3240 | 816 | 949 | 481 | 5.01 | 24.26 | 6.74 | 1.70 | 1.97 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--------------------------------------|-------|--|
| TEST CONDITIONS: @115V60Hz | | | 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] | |
| 3240 | 816 | 949 | 481 | 5.01 | 24.26 | 6.74 | 1.70 | 1.97 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|--|
| TEST CONDITIONS: @115V60Hz | | | 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] | |
| 915 | 231 | 268 | 256 | 3.25 | 6.70 | 3.57 | 0.90 | 1.05 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|--|
| TEST CONDITIONS: @115V60Hz | | | ASHRAELBP32 Fan | | 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] | |
| 915 | 231 | 268 | 256 | 3.25 | 6.70 | 3.57 | 0.90 | 1.05 | |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|----------------------------|-----------------|---------|-----------------------------|-------------------------------|-------------------------|--|--------|----------|-----------|
| TEST CONDITIONS: @115V60Hz | | 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] |
| -35 | (-31) | 549 | 138 | 161 | 192 | 2.88 | 4.00 | 2.86 | 0.72 | 0.84 |
| -30 | (-22) | 724 | 182 | 212 | 219 | 3.02 | 5.30 | 3.29 | 0.83 | 0.96 |
| -25 | (-13) | 928 | 234 | 272 | 247 | 3.19 | 6.79 | 3.74 | 0.94 | 1.10 |
| -20 | (- 4) | 1167 | 294 | 342 | 277 | 3.39 | 8.55 | 4.22 | 1.06 | 1.24 |
| -15 | (+ 5) | 1448 | 365 | 424 | 308 | 3.62 | 10.64 | 4.71 | 1.19 | 1.38 |
| -10 | (+14) | 1780 | 448 | 521 | 342 | 3.87 | 13.11 | 5.21 | 1.31 | 1.53 |
| -5 | (+23) | 2168 | 546 | 635 | 378 | 4.16 | 16.03 | 5.74 | 1.45 | 1.68 |
| 0 | (+32) | 2620 | 660 | 768 | 417 | 4.48 | 19.47 | 6.27 | 1.58 | 1.84 |
| +5 | (+41) | 3143 | 792 | 921 | 460 | 4.84 | 23.49 | 6.83 | 1.72 | 2.00 |
| +10 | (+50) | 3745 | 944 | 1097 | 506 | 5.22 | 28.14 | 7.40 | 1.86 | 2.17 |
| +15 | (+59) | 4431 | 1117 | 1298 | 556 | 5.64 | 33.50 | 7.98 | 2.01 | 2.34 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @115V60Hz | | 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) | 472 | 119 | 138 | 192 | 2.88 | 3.43 | 2.50 | 0.63 | 0.73 |
| -30 | (-22) | 640 | 161 | 187 | 219 | 3.02 | 4.68 | 2.93 | 0.74 | 0.86 |
| -25 | (-13) | 835 | 210 | 245 | 247 | 3.19 | 6.12 | 3.38 | 0.85 | 0.99 |
| -20 | (- 4) | 1065 | 268 | 312 | 277 | 3.39 | 7.81 | 3.85 | 0.97 | 1.13 |
| -15 | (+ 5) | 1337 | 337 | 392 | 308 | 3.62 | 9.82 | 4.34 | 1.09 | 1.27 |
| -10 | (+14) | 1657 | 418 | 486 | 342 | 3.87 | 12.21 | 4.85 | 1.22 | 1.42 |
| -5 | (+23) | 2034 | 513 | 596 | 378 | 4.16 | 15.04 | 5.37 | 1.35 | 1.57 |
| 0 | (+32) | 2473 | 623 | 725 | 417 | 4.48 | 18.39 | 5.91 | 1.49 | 1.73 |
| +5 | (+41) | 2983 | 752 | 874 | 460 | 4.84 | 22.29 | 6.47 | 1.63 | 1.90 |
| +10 | (+50) | 3570 | 900 | 1046 | 506 | 5.22 | 26.84 | 7.04 | 1.77 | 2.06 |
| +15 | (+59) | 4241 | 1069 | 1243 | 556 | 5.64 | 32.07 | 7.63 | 1.92 | 2.24 |

| TEST CONDITIONS: @115V60Hz | | 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) | 432 | 109 | 127 | 192 | 2.88 | 3.15 | 2.23 | 0.56 | 0.65 |
| -30 | (-22) | 582 | 147 | 170 | 219 | 3.02 | 4.26 | 2.63 | 0.66 | 0.77 |
| -25 | (-13) | 758 | 191 | 222 | 247 | 3.19 | 5.56 | 3.06 | 0.77 | 0.90 |
| -20 | (- 4) | 968 | 244 | 284 | 277 | 3.39 | 7.10 | 3.51 | 0.88 | 1.03 |
| -15 | (+ 5) | 1219 | 307 | 357 | 308 | 3.62 | 8.95 | 3.97 | 1.00 | 1.16 |
| -10 | (+14) | 1518 | 382 | 445 | 342 | 3.87 | 11.18 | 4.46 | 1.12 | 1.31 |
| -5 | (+23) | 1871 | 472 | 548 | 378 | 4.16 | 13.84 | 4.97 | 1.25 | 1.46 |
| 0 | (+32) | 2287 | 576 | 670 | 417 | 4.48 | 17.00 | 5.49 | 1.38 | 1.61 |
| +5 | (+41) | 2773 | 699 | 812 | 460 | 4.84 | 20.72 | 6.03 | 1.52 | 1.77 |
| +10 | (+50) | 3334 | 840 | 977 | 506 | 5.22 | 25.07 | 6.58 | 1.66 | 1.93 |
| +15 | (+59) | 3980 | 1003 | 1166 | 556 | 5.64 | 30.10 | 7.15 | 1.80 | 2.10 |

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 | | |