

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | F F112BKW |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513208880 |

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) | Fan | 198 to 255 V | - |
| 8.2 LBP (43°C Ambient temperature) | Fan | 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 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 | 1/3+ | [hp] |
| 2 Displacement | 11.14 | [cm ³] (0.680 cu.in) |
| 2.1 Bore [mm] | 26.000 | |
| 2.2 Stroke [mm] | 21.000 | |
| 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) | 11.25 | [kg] (24.80 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 | 213516035/213516043 | |
| 3 Start capacitor | 88-108(220) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | MRP40APN-5590 | |
| 6 Start winding resistance | 29.90 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.70 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 20.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 2.50 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 3.00 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - IRAM - UKCA | |

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] |
| 4000 | 1008 | 1172 | 524 | 2.90 | 29.95 | 7.63 | 1.92 | 2.24 |

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @220V50Hz | | | 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] |
| 1150 | 290 | 337 | 275 | 2.10 | 8.42 | 4.18 | 1.05 | 1.22 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 850 | 214 | 249 | 202 | 1.55 | 6.19 | 4.22 | 1.06 | 1.24 |
| -30 (-22) | 964 | 243 | 283 | 229 | 1.71 | 7.05 | 4.28 | 1.08 | 1.26 |
| -25 (-13) | 1173 | 296 | 344 | 257 | 1.88 | 8.59 | 4.60 | 1.16 | 1.35 |
| -20 (- 4) | 1467 | 370 | 430 | 285 | 2.05 | 10.76 | 5.12 | 1.29 | 1.50 |
| -15 (+ 5) | 1841 | 464 | 539 | 315 | 2.23 | 13.53 | 5.79 | 1.46 | 1.70 |
| -10 (+14) | 2286 | 576 | 670 | 346 | 2.40 | 16.85 | 6.55 | 1.65 | 1.92 |
| -5 (+23) | 2795 | 704 | 819 | 380 | 2.57 | 20.67 | 7.34 | 1.85 | 2.15 |
| 0 (+32) | 3361 | 847 | 985 | 416 | 2.74 | 24.97 | 8.11 | 2.04 | 2.38 |
| +5 (+41) | 3976 | 1002 | 1165 | 456 | 2.90 | 29.70 | 8.80 | 2.22 | 2.58 |
| +10 (+50) | 4633 | 1168 | 1358 | 499 | 3.06 | 34.81 | 9.35 | 2.36 | 2.74 |
| +15 (+59) | 5326 | 1342 | 1561 | 546 | 3.20 | 40.27 | 9.72 | 2.45 | 2.85 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 805 | 203 | 236 | 205 | 1.52 | 5.87 | 3.86 | 0.97 | 1.13 |
| -30 (-22) | 882 | 222 | 258 | 235 | 1.71 | 6.45 | 3.81 | 0.96 | 1.12 |
| -25 (-13) | 1059 | 267 | 310 | 265 | 1.90 | 7.76 | 4.04 | 1.02 | 1.18 |
| -20 (- 4) | 1331 | 335 | 390 | 296 | 2.10 | 9.76 | 4.49 | 1.13 | 1.32 |
| -15 (+ 5) | 1690 | 426 | 495 | 327 | 2.29 | 12.41 | 5.12 | 1.29 | 1.50 |
| -10 (+14) | 2127 | 536 | 623 | 360 | 2.48 | 15.68 | 5.86 | 1.48 | 1.72 |
| -5 (+23) | 2637 | 664 | 773 | 395 | 2.66 | 19.51 | 6.66 | 1.68 | 1.95 |
| 0 (+32) | 3211 | 809 | 941 | 432 | 2.84 | 23.86 | 7.47 | 1.88 | 2.19 |
| +5 (+41) | 3842 | 968 | 1126 | 472 | 3.00 | 28.70 | 8.22 | 2.07 | 2.41 |
| +10 (+50) | 4523 | 1140 | 1325 | 515 | 3.16 | 33.99 | 8.86 | 2.23 | 2.60 |
| +15 (+59) | 5247 | 1322 | 1537 | 561 | 3.29 | 39.67 | 9.33 | 2.35 | 2.73 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | 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) | 691 | 174 | 202 | 205 | 1.48 | 5.03 | 3.37 | 0.85 | 0.99 |
| -30 | (-22) | 735 | 185 | 215 | 238 | 1.71 | 5.37 | 3.22 | 0.81 | 0.94 |
| -25 | (-13) | 888 | 224 | 260 | 270 | 1.94 | 6.51 | 3.38 | 0.85 | 0.99 |
| -20 | (- 4) | 1144 | 288 | 335 | 303 | 2.16 | 8.38 | 3.79 | 0.95 | 1.11 |
| -15 | (+ 5) | 1493 | 376 | 437 | 336 | 2.38 | 10.97 | 4.40 | 1.11 | 1.29 |
| -10 | (+14) | 1929 | 486 | 565 | 371 | 2.59 | 14.22 | 5.14 | 1.30 | 1.51 |
| -5 | (+23) | 2445 | 616 | 717 | 406 | 2.79 | 18.10 | 5.97 | 1.50 | 1.75 |
| 0 | (+32) | 3034 | 764 | 889 | 444 | 2.98 | 22.55 | 6.83 | 1.72 | 2.00 |
| +5 | (+41) | 3687 | 929 | 1080 | 484 | 3.15 | 27.56 | 7.66 | 1.93 | 2.24 |
| +10 | (+50) | 4398 | 1108 | 1289 | 527 | 3.31 | 33.06 | 8.40 | 2.12 | 2.46 |
| +15 | (+59) | 5159 | 1300 | 1512 | 573 | 3.46 | 39.02 | 9.00 | 2.27 | 2.64 |

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 | | |