

COMPRESSOR DEFINITION

| | |
|---------------------------|---------------------------|
| Designation | F FU80HAK |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513200898 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220-240 / 50-60 | [V / Hz] | |
| 4 Application type | Low-Medium Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -5°C | (-31°F to 23°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/Fan | 187 to 255 V | 187 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan | 187 to 255 V | 187 to 242 V |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing temperature | | | |
| 9.1 Operating | 14.2 | [kgf/cm ²] (202 psig) | / °C - °F |
| 9.2 Peak | 15.9 | [kgf/cm ²] (226 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|--|
| 1 Commercial designation | 1/4+ | [hp] |
| 2 Displacement | 6.76 | [cm ³] (0.413 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 17.000 | |
| 3 Lubricant charge | 280 | [ml] (9.47 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 11.42 | [kg] (25.18 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 50-60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213516078/213516086 | |
| 3 Start capacitor | 108-130(220) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM743KDBYY-53 | |
| 6 Start winding resistance | 30.10 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 8.52 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 15.20/14.40 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 1.90/1.66 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - IRAM - TUV - UKCA | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| 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] | |
| 680 | 171 | 199 | 142 | 1.30 | 3.86 | 4.80 | 1.21 | 1.41 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| 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] | |
| 680 | 171 | 199 | 142 | 1.30 | 3.86 | 4.80 | 1.21 | 1.41 | |

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) | 374 | 94 | 110 | 102 | 1.26 | 2.12 | 3.67 | 0.92 | 1.07 |
| -30 | (-22) | 526 | 133 | 154 | 117 | 1.28 | 2.98 | 4.46 | 1.12 | 1.31 |
| -25 | (-13) | 689 | 174 | 202 | 132 | 1.30 | 3.91 | 5.22 | 1.31 | 1.53 |
| -20 | (- 4) | 879 | 221 | 258 | 147 | 1.33 | 5.00 | 5.99 | 1.51 | 1.76 |
| -15 | (+ 5) | 1113 | 280 | 326 | 162 | 1.37 | 6.35 | 6.86 | 1.73 | 2.01 |
| -10 | (+14) | 1408 | 355 | 413 | 178 | 1.41 | 8.07 | 7.88 | 1.99 | 2.31 |
| -5 | (+23) | 1780 | 448 | 521 | 195 | 1.45 | 10.24 | 9.13 | 2.30 | 2.68 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 303 | 76 | 89 | 99 | 1.26 | 1.72 | 3.07 | 0.77 | 0.90 |
| -30 | (-22) | 455 | 115 | 133 | 118 | 1.28 | 2.58 | 3.84 | 0.97 | 1.12 |
| -25 | (-13) | 616 | 155 | 181 | 136 | 1.32 | 3.50 | 4.53 | 1.14 | 1.33 |
| -20 | (- 4) | 805 | 203 | 236 | 155 | 1.36 | 4.58 | 5.21 | 1.31 | 1.53 |
| -15 | (+ 5) | 1037 | 261 | 304 | 174 | 1.41 | 5.92 | 5.95 | 1.50 | 1.74 |
| -10 | (+14) | 1329 | 335 | 389 | 194 | 1.46 | 7.61 | 6.82 | 1.72 | 2.00 |
| -5 | (+23) | 1697 | 428 | 497 | 216 | 1.52 | 9.76 | 7.88 | 1.99 | 2.31 |

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] |
| -35 | (-31) | 245 | 62 | 72 | 95 | 1.25 | 1.39 | 2.58 | 0.65 | 0.76 |
| -30 | (-22) | 396 | 100 | 116 | 116 | 1.28 | 2.24 | 3.37 | 0.85 | 0.99 |
| -25 | (-13) | 557 | 140 | 163 | 137 | 1.32 | 3.16 | 4.05 | 1.02 | 1.19 |
| -20 | (- 4) | 743 | 187 | 218 | 159 | 1.37 | 4.23 | 4.69 | 1.18 | 1.37 |
| -15 | (+ 5) | 973 | 245 | 285 | 182 | 1.43 | 5.55 | 5.36 | 1.35 | 1.57 |
| -10 | (+14) | 1262 | 318 | 370 | 206 | 1.49 | 7.23 | 6.12 | 1.54 | 1.79 |
| -5 | (+23) | 1628 | 410 | 477 | 231 | 1.56 | 9.36 | 7.04 | 1.77 | 2.06 |

| 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] |
| -35 | (-31) | 426 | 107 | 125 | 112 | 1.06 | 2.41 | 3.82 | 0.96 | 1.12 |
| -30 | (-22) | 594 | 150 | 174 | 130 | 1.08 | 3.37 | 4.58 | 1.15 | 1.34 |
| -25 | (-13) | 807 | 203 | 237 | 149 | 1.13 | 4.58 | 5.41 | 1.36 | 1.58 |
| -20 | (- 4) | 1068 | 269 | 313 | 170 | 1.19 | 6.08 | 6.30 | 1.59 | 1.85 |
| -15 | (+ 5) | 1376 | 347 | 403 | 191 | 1.26 | 7.86 | 7.24 | 1.83 | 2.12 |
| -10 | (+14) | 1733 | 437 | 508 | 211 | 1.35 | 9.93 | 8.22 | 2.07 | 2.41 |
| -5 | (+23) | 2140 | 539 | 627 | 231 | 1.44 | 12.31 | 9.23 | 2.32 | 2.70 |

| 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] |
| -35 | (-31) | 377 | 95 | 111 | 107 | 1.05 | 2.14 | 3.53 | 0.89 | 1.03 |
| -30 | (-22) | 530 | 134 | 155 | 127 | 1.09 | 3.01 | 4.17 | 1.05 | 1.22 |
| -25 | (-13) | 732 | 184 | 215 | 150 | 1.15 | 4.16 | 4.86 | 1.23 | 1.42 |
| -20 | (- 4) | 984 | 248 | 288 | 175 | 1.22 | 5.60 | 5.60 | 1.41 | 1.64 |
| -15 | (+ 5) | 1287 | 324 | 377 | 201 | 1.31 | 7.34 | 6.38 | 1.61 | 1.87 |
| -10 | (+14) | 1641 | 414 | 481 | 229 | 1.42 | 9.40 | 7.19 | 1.81 | 2.11 |
| -5 | (+23) | 2049 | 516 | 600 | 257 | 1.54 | 11.79 | 8.00 | 2.02 | 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) | 333 | 84 | 97 | 106 | 1.03 | 1.88 | 3.15 | 0.79 | 0.92 |
| -30 | (-22) | 469 | 118 | 137 | 127 | 1.08 | 2.66 | 3.71 | 0.94 | 1.09 |
| -25 | (-13) | 657 | 166 | 193 | 153 | 1.15 | 3.73 | 4.32 | 1.09 | 1.27 |
| -20 | (- 4) | 899 | 226 | 263 | 181 | 1.24 | 5.11 | 4.96 | 1.25 | 1.45 |
| -15 | (+ 5) | 1194 | 301 | 350 | 212 | 1.36 | 6.82 | 5.63 | 1.42 | 1.65 |
| -10 | (+14) | 1545 | 389 | 453 | 245 | 1.48 | 8.85 | 6.31 | 1.59 | 1.85 |
| -5 | (+23) | 1952 | 492 | 572 | 279 | 1.63 | 11.23 | 6.99 | 1.76 | 2.05 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.1.1 Material | Copper | | |
| 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 | | |
| 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 | | |
| 3.3.2 Shape | Slanted | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |