

COMPRESSOR DEFINITION

| | |
|---------------------------|---------------------------|
| Designation | F FU80AKW |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513200521 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | Blend | | |
| 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 | 14.5 | [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 | 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 | ALQUILB / ISO32 | |
| 4 Weight (with oil charge) | 11.5 | [kg] (25.35 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] | |
| 750 | 189 | 220 | 158 | 1.34 | 5.49 | 4.74 | 1.19 | 1.39 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|---|---------------------------|--|-------|--|
| 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] | |
| 750 | 189 | 220 | 158 | 1.34 | 5.49 | 4.74 | 1.19 | 1.39 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|---|---------------------------|--|-------|--|
| 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] | |
| 910 | 229 | 267 | 184 | 1.26 | 6.66 | 4.95 | 1.25 | 1.45 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|---|---------------------------|--|-------|--|
| TEST CONDITIONS: @220V60Hz | | | 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] | |
| 910 | 229 | 267 | 184 | 1.26 | 6.66 | 4.95 | 1.25 | 1.45 | |

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] |
| -35 | (-31) | 468 | 118 | 137 | 128 | 1.30 | 3.41 | 3.66 | 0.92 | 1.07 |
| -30 | (-22) | 585 | 147 | 171 | 137 | 1.31 | 4.27 | 4.28 | 1.08 | 1.25 |
| -25 | (-13) | 733 | 185 | 215 | 148 | 1.33 | 5.36 | 4.95 | 1.25 | 1.45 |
| -20 | (- 4) | 919 | 232 | 269 | 161 | 1.36 | 6.74 | 5.70 | 1.44 | 1.67 |
| -15 | (+ 5) | 1150 | 290 | 337 | 175 | 1.39 | 8.46 | 6.56 | 1.65 | 1.92 |
| -10 | (+14) | 1435 | 362 | 420 | 190 | 1.43 | 10.58 | 7.55 | 1.90 | 2.21 |
| -5 | (+23) | 1780 | 448 | 521 | 204 | 1.48 | 13.17 | 8.70 | 2.19 | 2.55 |

E - PERFORMANCE - CURVES

| 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] |
| -35 | (-31) | 418 | 105 | 123 | 123 | 1.28 | 3.05 | 3.40 | 0.86 | 0.99 |
| -30 | (-22) | 540 | 136 | 158 | 137 | 1.31 | 3.95 | 3.94 | 0.99 | 1.15 |
| -25 | (-13) | 690 | 174 | 202 | 153 | 1.34 | 5.05 | 4.51 | 1.14 | 1.32 |
| -20 | (- 4) | 875 | 221 | 256 | 170 | 1.39 | 6.41 | 5.13 | 1.29 | 1.50 |
| -15 | (+ 5) | 1103 | 278 | 323 | 189 | 1.43 | 8.11 | 5.83 | 1.47 | 1.71 |
| -10 | (+14) | 1380 | 348 | 404 | 208 | 1.49 | 10.18 | 6.64 | 1.67 | 1.95 |
| -5 | (+23) | 1716 | 432 | 503 | 227 | 1.55 | 12.70 | 7.58 | 1.91 | 2.22 |

| 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) | 367 | 92 | 108 | 122 | 1.27 | 2.67 | 3.01 | 0.76 | 0.88 |
| -30 | (-22) | 492 | 124 | 144 | 139 | 1.31 | 3.59 | 3.53 | 0.89 | 1.04 |
| -25 | (-13) | 642 | 162 | 188 | 158 | 1.36 | 4.69 | 4.06 | 1.02 | 1.19 |
| -20 | (- 4) | 824 | 208 | 241 | 179 | 1.41 | 6.04 | 4.61 | 1.16 | 1.35 |
| -15 | (+ 5) | 1046 | 264 | 306 | 201 | 1.47 | 7.69 | 5.22 | 1.32 | 1.53 |
| -10 | (+14) | 1315 | 331 | 385 | 223 | 1.54 | 9.70 | 5.90 | 1.49 | 1.73 |
| -5 | (+23) | 1640 | 413 | 480 | 245 | 1.61 | 12.14 | 6.68 | 1.68 | 1.96 |

| 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) | 537 | 135 | 157 | 133 | 1.12 | 3.92 | 4.05 | 1.02 | 1.19 |
| -30 | (-22) | 701 | 177 | 205 | 151 | 1.17 | 5.12 | 4.63 | 1.17 | 1.36 |
| -25 | (-13) | 898 | 226 | 263 | 170 | 1.22 | 6.57 | 5.28 | 1.33 | 1.55 |
| -20 | (- 4) | 1132 | 285 | 332 | 189 | 1.28 | 8.30 | 5.99 | 1.51 | 1.75 |
| -15 | (+ 5) | 1408 | 355 | 413 | 208 | 1.35 | 10.35 | 6.77 | 1.71 | 1.98 |
| -10 | (+14) | 1731 | 436 | 507 | 227 | 1.42 | 12.76 | 7.63 | 1.92 | 2.24 |
| -5 | (+23) | 2106 | 531 | 617 | 246 | 1.49 | 15.58 | 8.56 | 2.16 | 2.51 |

E - PERFORMANCE - CURVES

| 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] | [W/W] |
| -35 | (-31) | 482 | 122 | 141 | 133 | 1.11 | 3.51 | 3.64 | 0.92 | 1.07 |
| -30 | (-22) | 640 | 161 | 187 | 154 | 1.17 | 4.67 | 4.15 | 1.05 | 1.22 |
| -25 | (-13) | 831 | 209 | 244 | 176 | 1.24 | 6.08 | 4.71 | 1.19 | 1.38 |
| -20 | (- 4) | 1061 | 267 | 311 | 199 | 1.32 | 7.78 | 5.33 | 1.34 | 1.56 |
| -15 | (+ 5) | 1335 | 336 | 391 | 222 | 1.40 | 9.81 | 6.00 | 1.51 | 1.76 |
| -10 | (+14) | 1657 | 418 | 486 | 246 | 1.49 | 12.22 | 6.73 | 1.70 | 1.97 |
| -5 | (+23) | 2031 | 512 | 595 | 271 | 1.59 | 15.03 | 7.52 | 1.89 | 2.20 |

| 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) | 434 | 109 | 127 | 130 | 1.10 | 3.17 | 3.33 | 0.84 | 0.98 |
| -30 | (-22) | 582 | 147 | 171 | 154 | 1.17 | 4.25 | 3.78 | 0.95 | 1.11 |
| -25 | (-13) | 765 | 193 | 224 | 180 | 1.25 | 5.60 | 4.26 | 1.07 | 1.25 |
| -20 | (- 4) | 988 | 249 | 290 | 207 | 1.34 | 7.24 | 4.78 | 1.20 | 1.40 |
| -15 | (+ 5) | 1256 | 316 | 368 | 235 | 1.44 | 9.23 | 5.34 | 1.35 | 1.56 |
| -10 | (+14) | 1573 | 396 | 461 | 264 | 1.56 | 11.60 | 5.95 | 1.50 | 1.74 |
| -5 | (+23) | 1944 | 490 | 570 | 294 | 1.68 | 14.39 | 6.60 | 1.66 | 1.93 |

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 | | |
| 3.1.2 Shape | Straight | | |
| 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 | Straight | | |
| 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 | Straight | | |
| 3.4 Oil cooler (Copper) | 6.5 +0.09/-0.09 | [mm] | (0.256" +0.004"/-0.004") |
| 3.5 Connector sealing | Rubber Plugs | | |