

COMPRESSOR DEFINITION

| | |
|---------------------------|----------------|
| Designation | F FU100AK |
| Nominal Voltage/Frequency | 220 V 50-60 Hz |
| Engineering Number | 513200553 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | Blend | | |
| 3 Nominal voltage and frequency | 220 / 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 | 198 to 242 V | 198 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan | 198 to 242 V | 198 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 | 1/3 | [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) | 10.65 | [kg] (23.48 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 50-60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213516035/213516043 | |
| 3 Start capacitor | 53-64(230) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM757KFBYY-53 | |
| 6 Start winding resistance | 28.15 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 7.15 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 18.00/17.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 2.50/2.20 | [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] | |
| 860 | 217 | 252 | 195 | 1.73 | 6.30 | 4.40 | 1.11 | 1.29 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|--|
| 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] | |
| 860 | 217 | 252 | 195 | 1.73 | 6.30 | 4.40 | 1.11 | 1.29 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|--|
| 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] | |
| 1050 | 265 | 308 | 219 | 1.54 | 7.69 | 4.80 | 1.21 | 1.41 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|---|---------------------------|--|-------|--|
| 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] | |
| 1050 | 265 | 308 | 219 | 1.54 | 7.69 | 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] |
| -35 | (-31) | 517 | 130 | 151 | 145 | 1.61 | 3.77 | 3.57 | 0.90 | 1.05 |
| -30 | (-22) | 677 | 171 | 198 | 161 | 1.66 | 4.94 | 4.21 | 1.06 | 1.23 |
| -25 | (-13) | 870 | 219 | 255 | 178 | 1.69 | 6.36 | 4.89 | 1.23 | 1.43 |
| -20 | (- 4) | 1100 | 277 | 322 | 196 | 1.72 | 8.06 | 5.61 | 1.41 | 1.64 |
| -15 | (+ 5) | 1373 | 346 | 402 | 214 | 1.75 | 10.09 | 6.39 | 1.61 | 1.87 |
| -10 | (+14) | 1693 | 427 | 496 | 233 | 1.79 | 12.48 | 7.25 | 1.83 | 2.12 |
| -5 | (+23) | 2066 | 521 | 605 | 252 | 1.86 | 15.29 | 8.21 | 2.07 | 2.41 |

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] | [W/W] |
| -35 | (-31) | 464 | 117 | 136 | 150 | 1.63 | 3.39 | 3.11 | 0.78 | 0.91 |
| -30 | (-22) | 635 | 160 | 186 | 168 | 1.68 | 4.64 | 3.79 | 0.96 | 1.11 |
| -25 | (-13) | 833 | 210 | 244 | 187 | 1.71 | 6.09 | 4.46 | 1.12 | 1.31 |
| -20 | (- 4) | 1063 | 268 | 311 | 207 | 1.74 | 7.79 | 5.13 | 1.29 | 1.50 |
| -15 | (+ 5) | 1330 | 335 | 390 | 229 | 1.77 | 9.77 | 5.81 | 1.47 | 1.70 |
| -10 | (+14) | 1639 | 413 | 480 | 250 | 1.82 | 12.08 | 6.54 | 1.65 | 1.92 |
| -5 | (+23) | 1995 | 503 | 585 | 273 | 1.90 | 14.76 | 7.31 | 1.84 | 2.14 |

| 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] | [W/W] |
| -35 | (-31) | 398 | 100 | 117 | 152 | 1.65 | 2.90 | 2.61 | 0.66 | 0.77 |
| -30 | (-22) | 584 | 147 | 171 | 173 | 1.70 | 4.27 | 3.36 | 0.85 | 0.98 |
| -25 | (-13) | 791 | 199 | 232 | 195 | 1.73 | 5.79 | 4.04 | 1.02 | 1.18 |
| -20 | (- 4) | 1025 | 258 | 300 | 219 | 1.76 | 7.52 | 4.68 | 1.18 | 1.37 |
| -15 | (+ 5) | 1291 | 325 | 378 | 244 | 1.79 | 9.49 | 5.30 | 1.33 | 1.55 |
| -10 | (+14) | 1593 | 401 | 467 | 270 | 1.85 | 11.75 | 5.90 | 1.49 | 1.73 |
| -5 | (+23) | 1937 | 488 | 568 | 297 | 1.94 | 14.34 | 6.51 | 1.64 | 1.91 |

| 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] | [W/W] |
| -35 | (-31) | 612 | 154 | 179 | 156 | 1.35 | 4.46 | 3.91 | 0.98 | 1.14 |
| -30 | (-22) | 811 | 204 | 237 | 179 | 1.41 | 5.92 | 4.54 | 1.14 | 1.33 |
| -25 | (-13) | 1040 | 262 | 305 | 201 | 1.47 | 7.61 | 5.18 | 1.30 | 1.52 |
| -20 | (- 4) | 1312 | 331 | 384 | 225 | 1.55 | 9.61 | 5.84 | 1.47 | 1.71 |
| -15 | (+ 5) | 1635 | 412 | 479 | 249 | 1.63 | 12.01 | 6.56 | 1.65 | 1.92 |
| -10 | (+14) | 2020 | 509 | 592 | 274 | 1.72 | 14.90 | 7.35 | 1.85 | 2.15 |
| -5 | (+23) | 2478 | 625 | 726 | 300 | 1.82 | 18.34 | 8.25 | 2.08 | 2.42 |

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) | 555 | 140 | 163 | 160 | 1.35 | 4.04 | 3.48 | 0.88 | 1.02 |
| -30 | (-22) | 761 | 192 | 223 | 185 | 1.42 | 5.55 | 4.10 | 1.03 | 1.20 |
| -25 | (-13) | 992 | 250 | 291 | 211 | 1.50 | 7.25 | 4.69 | 1.18 | 1.37 |
| -20 | (- 4) | 1258 | 317 | 369 | 239 | 1.59 | 9.22 | 5.27 | 1.33 | 1.54 |
| -15 | (+ 5) | 1571 | 396 | 460 | 267 | 1.69 | 11.55 | 5.88 | 1.48 | 1.72 |
| -10 | (+14) | 1940 | 489 | 568 | 297 | 1.80 | 14.31 | 6.53 | 1.65 | 1.91 |
| -5 | (+23) | 2376 | 599 | 696 | 328 | 1.92 | 17.58 | 7.26 | 1.83 | 2.13 |

| 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) | 513 | 129 | 150 | 163 | 1.35 | 3.74 | 3.14 | 0.79 | 0.92 |
| -30 | (-22) | 723 | 182 | 212 | 191 | 1.43 | 5.28 | 3.75 | 0.95 | 1.10 |
| -25 | (-13) | 952 | 240 | 279 | 221 | 1.53 | 6.97 | 4.31 | 1.09 | 1.26 |
| -20 | (- 4) | 1211 | 305 | 355 | 252 | 1.63 | 8.88 | 4.82 | 1.22 | 1.41 |
| -15 | (+ 5) | 1511 | 381 | 443 | 284 | 1.75 | 11.11 | 5.33 | 1.34 | 1.56 |
| -10 | (+14) | 1861 | 469 | 545 | 318 | 1.88 | 13.73 | 5.86 | 1.48 | 1.72 |
| -5 | (+23) | 2272 | 573 | 666 | 353 | 2.02 | 16.82 | 6.43 | 1.62 | 1.88 |

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 | Straight | | |
| 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 | Straight | | |
| 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 | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |