

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | F FI7,5HAK |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513200644 |

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 / ISO22 | |
| 4 Weight (with oil charge) | 10.76 | [kg] (23.72 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 | 213516159/213516353 | |
| 3 Start capacitor | 64-77(180) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM743KDBYY-53 | |
| 6 Start winding resistance | 41.10 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 9.50 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 14.50/14.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 1.80/1.60 | [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 | CCC - CE - IRAM - TUV - UKCA - VDE | |

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] | |
| 650 | 164 | 190 | 149 | 1.30 | 3.69 | 4.35 | 1.10 | 1.27 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| 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] | |
| 765 | 193 | 224 | 166 | 1.18 | 4.35 | 4.62 | 1.16 | 1.35 | |

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) | 306 | 77 | 90 | 105 | 1.21 | 1.73 | 2.90 | 0.73 | 0.85 |
| -30 | (-22) | 478 | 120 | 140 | 125 | 1.26 | 2.71 | 3.79 | 0.95 | 1.11 |
| -25 | (-13) | 661 | 167 | 194 | 143 | 1.30 | 3.75 | 4.64 | 1.17 | 1.36 |
| -20 | (- 4) | 867 | 218 | 254 | 159 | 1.34 | 4.93 | 5.48 | 1.38 | 1.61 |
| -15 | (+ 5) | 1106 | 279 | 324 | 174 | 1.38 | 6.32 | 6.35 | 1.60 | 1.86 |
| -10 | (+14) | 1391 | 351 | 408 | 191 | 1.42 | 7.97 | 7.28 | 1.83 | 2.13 |
| -5 | (+23) | 1732 | 436 | 507 | 208 | 1.47 | 9.96 | 8.30 | 2.09 | 2.43 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 264 | 67 | 77 | 105 | 1.22 | 1.49 | 2.51 | 0.63 | 0.74 |
| -30 | (-22) | 424 | 107 | 124 | 126 | 1.27 | 2.40 | 3.35 | 0.84 | 0.98 |
| -25 | (-13) | 596 | 150 | 175 | 145 | 1.31 | 3.38 | 4.12 | 1.04 | 1.21 |
| -20 | (- 4) | 792 | 200 | 232 | 163 | 1.35 | 4.51 | 4.86 | 1.23 | 1.42 |
| -15 | (+ 5) | 1023 | 258 | 300 | 183 | 1.40 | 5.84 | 5.60 | 1.41 | 1.64 |
| -10 | (+14) | 1300 | 328 | 381 | 203 | 1.45 | 7.45 | 6.38 | 1.61 | 1.87 |
| -5 | (+23) | 1635 | 412 | 479 | 226 | 1.52 | 9.40 | 7.22 | 1.82 | 2.12 |

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) | 204 | 51 | 60 | 99 | 1.22 | 1.16 | 2.08 | 0.52 | 0.61 |
| -30 | (-22) | 357 | 90 | 105 | 121 | 1.26 | 2.02 | 2.91 | 0.73 | 0.85 |
| -25 | (-13) | 523 | 132 | 153 | 143 | 1.30 | 2.97 | 3.65 | 0.92 | 1.07 |
| -20 | (- 4) | 715 | 180 | 209 | 165 | 1.35 | 4.07 | 4.34 | 1.09 | 1.27 |
| -15 | (+ 5) | 942 | 237 | 276 | 188 | 1.41 | 5.38 | 5.00 | 1.26 | 1.46 |
| -10 | (+14) | 1218 | 307 | 357 | 214 | 1.48 | 6.98 | 5.67 | 1.43 | 1.66 |
| -5 | (+23) | 1551 | 391 | 455 | 244 | 1.58 | 8.92 | 6.37 | 1.61 | 1.87 |

| 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) | 377 | 95 | 111 | 115 | 1.03 | 2.13 | 3.26 | 0.82 | 0.96 |
| -30 | (-22) | 553 | 139 | 162 | 136 | 1.09 | 3.13 | 4.04 | 1.02 | 1.19 |
| -25 | (-13) | 768 | 193 | 225 | 159 | 1.16 | 4.36 | 4.83 | 1.22 | 1.42 |
| -20 | (- 4) | 1025 | 258 | 300 | 182 | 1.24 | 5.83 | 5.64 | 1.42 | 1.65 |
| -15 | (+ 5) | 1328 | 335 | 389 | 205 | 1.32 | 7.58 | 6.50 | 1.64 | 1.90 |
| -10 | (+14) | 1681 | 423 | 492 | 227 | 1.40 | 9.63 | 7.41 | 1.87 | 2.17 |
| -5 | (+23) | 2086 | 526 | 611 | 248 | 1.49 | 12.00 | 8.40 | 2.12 | 2.46 |

| 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) | 322 | 81 | 94 | 113 | 1.04 | 1.82 | 2.88 | 0.73 | 0.84 |
| -30 | (-22) | 483 | 122 | 142 | 134 | 1.10 | 2.74 | 3.61 | 0.91 | 1.06 |
| -25 | (-13) | 686 | 173 | 201 | 159 | 1.17 | 3.89 | 4.30 | 1.08 | 1.26 |
| -20 | (- 4) | 932 | 235 | 273 | 186 | 1.25 | 5.30 | 5.00 | 1.26 | 1.46 |
| -15 | (+ 5) | 1226 | 309 | 359 | 214 | 1.35 | 7.00 | 5.70 | 1.44 | 1.67 |
| -10 | (+14) | 1572 | 396 | 461 | 244 | 1.46 | 9.01 | 6.43 | 1.62 | 1.88 |
| -5 | (+23) | 1972 | 497 | 578 | 274 | 1.58 | 11.34 | 7.21 | 1.82 | 2.11 |

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) | 269 | 68 | 79 | 111 | 1.04 | 1.52 | 2.41 | 0.61 | 0.70 |
| -30 | (-22) | 410 | 103 | 120 | 132 | 1.09 | 2.32 | 3.12 | 0.79 | 0.92 |
| -25 | (-13) | 594 | 150 | 174 | 157 | 1.17 | 3.37 | 3.79 | 0.95 | 1.11 |
| -20 | (- 4) | 824 | 208 | 241 | 187 | 1.26 | 4.69 | 4.41 | 1.11 | 1.29 |
| -15 | (+ 5) | 1103 | 278 | 323 | 220 | 1.37 | 6.29 | 5.02 | 1.26 | 1.47 |
| -10 | (+14) | 1435 | 362 | 420 | 255 | 1.50 | 8.22 | 5.62 | 1.42 | 1.65 |
| -5 | (+23) | 1824 | 460 | 534 | 293 | 1.65 | 10.49 | 6.23 | 1.57 | 1.83 |

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) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |