

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | F FV7,5HAK |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513200514 |

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 | 187 to 255 V | 187 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 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 | 1/5+ | [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) | 11.38 | [kg] (25.09 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(220) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM319KFBYY-53 | |
| 6 Start winding resistance | 43.10 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 10.35 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 12.80/11.90 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 1.70/1.50 | [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 - 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 | 136 | 1.13 | 3.69 | 4.78 | 1.20 | 1.40 |

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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 | 153 | 1.03 | 4.35 | 5.00 | 1.26 | 1.47 |

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) | 342 | 86 | 100 | 91 | 1.03 | 1.94 | 3.77 | 0.95 | 1.11 |
| -30 | (-22) | 491 | 124 | 144 | 107 | 1.07 | 2.78 | 4.57 | 1.15 | 1.34 |
| -25 | (-13) | 664 | 167 | 194 | 125 | 1.11 | 3.77 | 5.30 | 1.34 | 1.55 |
| -20 | (- 4) | 868 | 219 | 254 | 144 | 1.15 | 4.94 | 6.04 | 1.52 | 1.77 |
| -15 | (+ 5) | 1110 | 280 | 325 | 162 | 1.19 | 6.34 | 6.87 | 1.73 | 2.01 |
| -10 | (+14) | 1397 | 352 | 409 | 178 | 1.23 | 8.00 | 7.87 | 1.98 | 2.30 |
| -5 | (+23) | 1735 | 437 | 508 | 190 | 1.27 | 9.98 | 9.11 | 2.30 | 2.67 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 292 | 74 | 86 | 86 | 1.02 | 1.65 | 3.38 | 0.85 | 0.99 |
| -30 | (-22) | 430 | 108 | 126 | 103 | 1.06 | 2.43 | 4.15 | 1.05 | 1.22 |
| -25 | (-13) | 592 | 149 | 173 | 123 | 1.10 | 3.36 | 4.81 | 1.21 | 1.41 |
| -20 | (- 4) | 787 | 198 | 230 | 146 | 1.15 | 4.48 | 5.41 | 1.36 | 1.59 |
| -15 | (+ 5) | 1020 | 257 | 299 | 169 | 1.20 | 5.82 | 6.06 | 1.53 | 1.77 |
| -10 | (+14) | 1299 | 327 | 381 | 191 | 1.26 | 7.44 | 6.81 | 1.72 | 2.00 |
| -5 | (+23) | 1631 | 411 | 478 | 210 | 1.32 | 9.38 | 7.76 | 1.96 | 2.27 |

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 | 52 | 60 | 80 | 1.02 | 1.16 | 2.58 | 0.65 | 0.76 |
| -30 | (-22) | 342 | 86 | 100 | 98 | 1.05 | 1.94 | 3.49 | 0.88 | 1.02 |
| -25 | (-13) | 506 | 128 | 148 | 120 | 1.10 | 2.87 | 4.21 | 1.06 | 1.23 |
| -20 | (- 4) | 703 | 177 | 206 | 145 | 1.15 | 4.00 | 4.84 | 1.22 | 1.42 |
| -15 | (+ 5) | 940 | 237 | 275 | 172 | 1.22 | 5.37 | 5.45 | 1.37 | 1.60 |
| -10 | (+14) | 1223 | 308 | 359 | 200 | 1.29 | 7.01 | 6.11 | 1.54 | 1.79 |
| -5 | (+23) | 1560 | 393 | 457 | 226 | 1.38 | 8.97 | 6.92 | 1.74 | 2.03 |

| 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) | 386 | 97 | 113 | 97 | 0.86 | 2.18 | 3.96 | 1.00 | 1.16 |
| -30 | (-22) | 559 | 141 | 164 | 118 | 0.93 | 3.17 | 4.70 | 1.19 | 1.38 |
| -25 | (-13) | 769 | 194 | 225 | 142 | 1.00 | 4.37 | 5.43 | 1.37 | 1.59 |
| -20 | (- 4) | 1024 | 258 | 300 | 166 | 1.08 | 5.83 | 6.18 | 1.56 | 1.81 |
| -15 | (+ 5) | 1334 | 336 | 391 | 191 | 1.16 | 7.61 | 7.00 | 1.76 | 2.05 |
| -10 | (+14) | 1706 | 430 | 500 | 215 | 1.25 | 9.78 | 7.93 | 2.00 | 2.32 |
| -5 | (+23) | 2150 | 542 | 630 | 239 | 1.35 | 12.37 | 9.01 | 2.27 | 2.64 |

| 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) | 328 | 83 | 96 | 95 | 0.86 | 1.86 | 3.50 | 0.88 | 1.03 |
| -30 | (-22) | 489 | 123 | 143 | 116 | 0.93 | 2.77 | 4.23 | 1.07 | 1.24 |
| -25 | (-13) | 687 | 173 | 201 | 140 | 1.00 | 3.90 | 4.90 | 1.24 | 1.44 |
| -20 | (- 4) | 929 | 234 | 272 | 167 | 1.09 | 5.29 | 5.56 | 1.40 | 1.63 |
| -15 | (+ 5) | 1226 | 309 | 359 | 196 | 1.19 | 7.00 | 6.24 | 1.57 | 1.83 |
| -10 | (+14) | 1587 | 400 | 465 | 227 | 1.30 | 9.09 | 6.98 | 1.76 | 2.05 |
| -5 | (+23) | 2019 | 509 | 592 | 258 | 1.43 | 11.61 | 7.83 | 1.97 | 2.29 |

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) | 250 | 63 | 73 | 88 | 0.85 | 1.42 | 2.83 | 0.71 | 0.83 |
| -30 | (-22) | 395 | 100 | 116 | 109 | 0.91 | 2.24 | 3.61 | 0.91 | 1.06 |
| -25 | (-13) | 577 | 145 | 169 | 135 | 0.98 | 3.28 | 4.28 | 1.08 | 1.25 |
| -20 | (- 4) | 804 | 203 | 236 | 165 | 1.08 | 4.58 | 4.89 | 1.23 | 1.43 |
| -15 | (+ 5) | 1086 | 274 | 318 | 198 | 1.19 | 6.20 | 5.48 | 1.38 | 1.61 |
| -10 | (+14) | 1431 | 361 | 419 | 235 | 1.33 | 8.20 | 6.09 | 1.53 | 1.78 |
| -5 | (+23) | 1848 | 466 | 541 | 273 | 1.49 | 10.63 | 6.76 | 1.70 | 1.98 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | Yes | | |
| 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 | Straight | | |
| 3.2 DISCHARGE | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-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) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |