

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | F FU160HAX |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513203015 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|---|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [V / Hz] | |
| 4 Application type | Low-Medium Back Pressure (Light Commercial) | | |
| 4.1 Evaporating temperature range | -35°C to 0°C | (-31°F to 32°F) | |
| 5 Motor type | CSIR | | |
| 6 Starting torque | LST/HST - Low/High starting torque | | |
| 7 Expansion device | Capillary tube or Expansion valve | | |
| 8 Compressor cooling | Operating voltage range | | |
| | | 50 Hz | 60 Hz |
| 8.1 LBP (32°C Ambient temperature) | - | - | - |
| 8.2 LBP (43°C Ambient temperature) | - | - | - |
| 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 | 1/2 | [hp] |
| 2 Displacement | 12.92 | [cm ³] (0.788 cu.in) |
| 2.1 Bore [mm] | 28.000 | |
| 2.2 Stroke [mm] | 21.000 | |
| 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) | 10.82 | [kg] (23.85 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 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213516005 | |
| 3 Start capacitor | 88-108(250) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | MSP39AMK-5590 | |
| 6 Start winding resistance | 20.37 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.50 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 17.70 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 1.93 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 2.00 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 1275 | 321 | 374 | 262 | 2.12 | 7.24 | 4.86 | 1.22 | 1.42 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|---------------------------------------|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Fan | | (Condensing temperature 35°C (+95°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) | 773 | 195 | 227 | 184 | 1.98 | 4.38 | 4.16 | 1.05 | 1.22 |
| -30 | (-22) | 985 | 248 | 289 | 208 | 2.02 | 5.58 | 4.76 | 1.20 | 1.39 |
| -25 | (-13) | 1242 | 313 | 364 | 233 | 2.06 | 7.05 | 5.39 | 1.36 | 1.58 |
| -20 | (- 4) | 1564 | 394 | 458 | 260 | 2.12 | 8.90 | 6.07 | 1.53 | 1.78 |
| -15 | (+ 5) | 1971 | 497 | 578 | 290 | 2.20 | 11.25 | 6.82 | 1.72 | 2.00 |
| -10 | (+14) | 2482 | 626 | 727 | 323 | 2.29 | 14.22 | 7.67 | 1.93 | 2.25 |
| -5 | (+23) | 3117 | 786 | 913 | 360 | 2.41 | 17.94 | 8.62 | 2.17 | 2.53 |
| 0 | (+32) | 3895 | 982 | 1141 | 402 | 2.55 | 22.52 | 9.70 | 2.44 | 2.84 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Fan | | (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) | 707 | 178 | 207 | 189 | 2.00 | 4.00 | 3.76 | 0.95 | 1.10 |
| -30 | (-22) | 972 | 245 | 285 | 217 | 2.04 | 5.51 | 4.46 | 1.12 | 1.31 |
| -25 | (-13) | 1276 | 321 | 374 | 246 | 2.09 | 7.24 | 5.17 | 1.30 | 1.51 |
| -20 | (- 4) | 1637 | 412 | 480 | 276 | 2.16 | 9.32 | 5.91 | 1.49 | 1.73 |
| -15 | (+ 5) | 2075 | 523 | 608 | 309 | 2.25 | 11.85 | 6.69 | 1.69 | 1.96 |
| -10 | (+14) | 2611 | 658 | 765 | 345 | 2.35 | 14.96 | 7.54 | 1.90 | 2.21 |
| -5 | (+23) | 3263 | 822 | 956 | 384 | 2.48 | 18.78 | 8.47 | 2.13 | 2.48 |
| 0 | (+32) | 4051 | 1021 | 1187 | 428 | 2.64 | 23.42 | 9.50 | 2.39 | 2.78 |

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|-------------------------------|-------|----------------------------|-----------------|------|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Fan | | (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) | 637 | 161 | 187 | 189 | 1.99 | 3.61 | 3.38 | 0.85 | 0.99 |
| -30 | (-22) | 908 | 229 | 266 | 223 | 2.05 | 5.15 | 4.05 | 1.02 | 1.19 |
| -25 | (-13) | 1210 | 305 | 354 | 257 | 2.12 | 6.87 | 4.70 | 1.18 | 1.38 |
| -20 | (- 4) | 1562 | 394 | 458 | 293 | 2.20 | 8.89 | 5.35 | 1.35 | 1.57 |
| -15 | (+ 5) | 1984 | 500 | 581 | 330 | 2.31 | 11.32 | 6.02 | 1.52 | 1.76 |
| -10 | (+14) | 2496 | 629 | 731 | 371 | 2.43 | 14.30 | 6.73 | 1.70 | 1.97 |
| -5 | (+23) | 3117 | 786 | 913 | 415 | 2.59 | 17.94 | 7.49 | 1.89 | 2.20 |
| 0 | (+32) | 3867 | 975 | 1133 | 464 | 2.77 | 22.36 | 8.34 | 2.10 | 2.44 |

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