

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | EM I50UER |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513307353 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-290 | | |
| 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) | Fan | 198 to 255 V | 198 to 255 V |
| 8.2 LBP (43°C Ambient temperature) | Fan | 198 to 255 V | 198 to 255 V |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing temperature | | | |
| 9.1 Operating | 18.4 | [kgf/cm ²] (262 psig) | / °C - °F |
| 9.2 Peak | 20.6 | [kgf/cm ²] (293 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|-----------------|----------------------------------|
| 1 Commercial designation | 1/6 | [hp] |
| 2 Displacement | 3.00 | [cm ³] (0.183 cu.in) |
| 2.1 Bore [mm] | 19.000 | |
| 2.2 Stroke [mm] | 10.600 | |
| 3 Lubricant charge | 160 | [ml] (5.41 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO32 | |
| 4 Weight (with oil charge) | 8.09 | [kg] (17.84 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

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 | 213514164/213515241 | |
| 3 Start capacitor | 88-108(110) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM718KFBYY-53 | |
| 6 Start winding resistance | 43.61 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 20.95 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 9.20/8.70 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 0.86/0.78 | [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 - IMTRO - TUV - UKCA - VDE | |

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] |
| 434 | 109 | 127 | 99 | 0.70 | 1.29 | 4.38 | 1.10 | 1.28 |

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) | 289 | 73 | 85 | 72 | 0.62 | 0.86 | 4.04 | 1.02 | 1.18 |
| -30 | (-22) | 376 | 95 | 110 | 78 | 0.64 | 1.11 | 4.84 | 1.22 | 1.42 |
| -25 | (-13) | 472 | 119 | 138 | 84 | 0.65 | 1.40 | 5.63 | 1.42 | 1.65 |
| -20 | (- 4) | 578 | 146 | 169 | 90 | 0.67 | 1.73 | 6.44 | 1.62 | 1.89 |
| -15 | (+ 5) | 696 | 175 | 204 | 95 | 0.69 | 2.09 | 7.28 | 1.84 | 2.13 |
| -10 | (+14) | 827 | 208 | 242 | 101 | 0.71 | 2.49 | 8.17 | 2.06 | 2.39 |
| -5 | (+23) | 971 | 245 | 285 | 107 | 0.74 | 2.94 | 9.11 | 2.30 | 2.67 |

| 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) | 262 | 66 | 77 | 75 | 0.63 | 0.78 | 3.50 | 0.88 | 1.03 |
| -30 | (-22) | 346 | 87 | 102 | 83 | 0.65 | 1.03 | 4.19 | 1.05 | 1.23 |
| -25 | (-13) | 438 | 110 | 128 | 91 | 0.67 | 1.30 | 4.85 | 1.22 | 1.42 |
| -20 | (- 4) | 538 | 136 | 158 | 98 | 0.69 | 1.61 | 5.50 | 1.39 | 1.61 |
| -15 | (+ 5) | 648 | 163 | 190 | 105 | 0.71 | 1.94 | 6.17 | 1.55 | 1.81 |
| -10 | (+14) | 768 | 194 | 225 | 112 | 0.73 | 2.31 | 6.86 | 1.73 | 2.01 |
| -5 | (+23) | 900 | 227 | 264 | 118 | 0.75 | 2.72 | 7.60 | 1.91 | 2.23 |

| 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) | 226 | 57 | 66 | 76 | 0.63 | 0.67 | 2.98 | 0.75 | 0.87 |
| -30 | (-22) | 312 | 79 | 91 | 86 | 0.66 | 0.93 | 3.62 | 0.91 | 1.06 |
| -25 | (-13) | 404 | 102 | 118 | 96 | 0.69 | 1.20 | 4.21 | 1.06 | 1.23 |
| -20 | (- 4) | 502 | 127 | 147 | 105 | 0.71 | 1.50 | 4.78 | 1.21 | 1.40 |
| -15 | (+ 5) | 608 | 153 | 178 | 114 | 0.74 | 1.82 | 5.34 | 1.35 | 1.57 |
| -10 | (+14) | 722 | 182 | 212 | 122 | 0.76 | 2.17 | 5.91 | 1.49 | 1.73 |
| -5 | (+23) | 846 | 213 | 248 | 130 | 0.78 | 2.56 | 6.50 | 1.64 | 1.90 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Fan | | | (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) | 179 | 45 | 52 | 75 | 0.63 | 0.53 | 2.41 | 0.61 | 0.71 | |
| -30 (-22) | 272 | 69 | 80 | 88 | 0.67 | 0.81 | 3.06 | 0.77 | 0.90 | |
| -25 (-13) | 369 | 93 | 108 | 100 | 0.71 | 1.10 | 3.65 | 0.92 | 1.07 | |
| -20 (- 4) | 470 | 118 | 138 | 112 | 0.74 | 1.40 | 4.21 | 1.06 | 1.23 | |
| -15 (+ 5) | 577 | 145 | 169 | 122 | 0.78 | 1.73 | 4.73 | 1.19 | 1.39 | |
| -10 (+14) | 690 | 174 | 202 | 132 | 0.81 | 2.07 | 5.24 | 1.32 | 1.53 | |
| -5 (+23) | 810 | 204 | 237 | 141 | 0.84 | 2.45 | 5.75 | 1.45 | 1.68 | |

| TEST CONDITIONS: @220V60Hz | | 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) | 336 | 85 | 98 | 80 | 0.45 | 0.79 | 4.20 | 1.06 | 1.23 | |
| -30 (-22) | 447 | 113 | 131 | 90 | 0.50 | 1.30 | 4.95 | 1.25 | 1.45 | |
| -25 (-13) | 579 | 146 | 170 | 100 | 0.56 | 2.03 | 5.77 | 1.45 | 1.69 | |
| -20 (- 4) | 733 | 185 | 215 | 110 | 0.62 | 2.61 | 6.67 | 1.68 | 1.96 | |
| -15 (+ 5) | 907 | 229 | 266 | 119 | 0.67 | 2.69 | 7.67 | 1.93 | 2.25 | |
| -10 (+14) | 1100 | 277 | 322 | 126 | 0.71 | 1.91 | 8.78 | 2.21 | 2.57 | |
| -5 (+23) | 1312 | 331 | 384 | 130 | 0.74 | - 0.08 | 10.01 | 2.52 | 2.93 | |

| TEST CONDITIONS: @220V60Hz | | 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) | 297 | 75 | 87 | 81 | 0.46 | 0.92 | 3.68 | 0.93 | 1.08 | |
| -30 (-22) | 400 | 101 | 117 | 92 | 0.51 | 1.11 | 4.34 | 1.09 | 1.27 | |
| -25 (-13) | 528 | 133 | 155 | 104 | 0.58 | 1.65 | 5.02 | 1.27 | 1.47 | |
| -20 (- 4) | 679 | 171 | 199 | 117 | 0.66 | 2.17 | 5.76 | 1.45 | 1.69 | |
| -15 (+ 5) | 854 | 215 | 250 | 130 | 0.73 | 2.33 | 6.55 | 1.65 | 1.92 | |
| -10 (+14) | 1051 | 265 | 308 | 142 | 0.80 | 1.76 | 7.42 | 1.87 | 2.17 | |
| -5 (+23) | 1270 | 320 | 372 | 152 | 0.85 | 0.10 | 8.38 | 2.11 | 2.45 | |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V60Hz | | 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) | 257 | 65 | 75 | 82 | 0.46 | 0.98 | 3.17 | 0.80 | 0.93 |
| -30 | (-22) | 350 | 88 | 103 | 93 | 0.52 | 0.87 | 3.79 | 0.96 | 1.11 |
| -25 | (-13) | 470 | 118 | 138 | 107 | 0.60 | 1.24 | 4.41 | 1.11 | 1.29 |
| -20 | (- 4) | 617 | 155 | 181 | 122 | 0.69 | 1.72 | 5.03 | 1.27 | 1.47 |
| -15 | (+ 5) | 790 | 199 | 231 | 138 | 0.78 | 1.98 | 5.68 | 1.43 | 1.66 |
| -10 | (+14) | 988 | 249 | 290 | 155 | 0.87 | 1.64 | 6.36 | 1.60 | 1.86 |
| -5 | (+23) | 1211 | 305 | 355 | 171 | 0.96 | 0.34 | 7.09 | 1.79 | 2.08 |

| TEST CONDITIONS: @220V60Hz | | ASHRAE32 Fan | | | (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) | 208 | 52 | 61 | 80 | 0.45 | - 0.06 | 2.58 | 0.65 | 0.76 |
| -30 | (-22) | 288 | 72 | 84 | 91 | 0.51 | - 0.44 | 3.21 | 0.81 | 0.94 |
| -25 | (-13) | 398 | 100 | 117 | 106 | 0.60 | - 0.22 | 3.81 | 0.96 | 1.12 |
| -20 | (- 4) | 537 | 135 | 157 | 123 | 0.70 | 0.26 | 4.38 | 1.10 | 1.28 |
| -15 | (+ 5) | 706 | 178 | 207 | 143 | 0.81 | 0.63 | 4.93 | 1.24 | 1.44 |
| -10 | (+14) | 903 | 228 | 265 | 164 | 0.93 | 0.55 | 5.49 | 1.38 | 1.61 |
| -5 | (+23) | 1127 | 284 | 330 | 186 | 1.05 | - 0.36 | 6.05 | 1.53 | 1.77 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | No | | |
| 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 | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.2.1 Material | Copper | | |
| 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 | | |
| 3.3.2 Shape | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |