

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | EG AS80HLR |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513701117 |

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 Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -10°C | (-31°F to 14°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 255 V | 198 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan | 198 to 255 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 | 14.2 | [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 | 6.36 | [cm ³] (0.388 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 16.000 | |
| 3 Lubricant charge | 230 | [ml] (7.78 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 9.92 | [kg] (21.87 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 | 213516256/213516493 | |
| 3 Start capacitor | 88-108(180) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM743KFBYY-53 | |
| 6 Start winding resistance | 38.20 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 10.90 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 14.30/13.50 | [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) | 2.00/1.80 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | IRAM - TUV - 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] |
| 665 | 168 | 195 | 128 | 1.07 | 3.78 | 5.20 | 1.31 | 1.52 |

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 820 | 207 | 240 | 149 | 0.99 | 4.66 | 5.50 | 1.39 | 1.61 |

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) | 324 | 82 | 95 | 84 | 0.70 | 1.83 | 3.85 | 0.97 | 1.13 |
| -30 (-22) | 488 | 123 | 143 | 103 | 0.86 | 2.77 | 4.71 | 1.19 | 1.38 |
| -25 (-13) | 667 | 168 | 195 | 122 | 1.01 | 3.79 | 5.49 | 1.38 | 1.61 |
| -20 (- 4) | 871 | 219 | 255 | 140 | 1.16 | 4.95 | 6.26 | 1.58 | 1.83 |
| -15 (+ 5) | 1107 | 279 | 324 | 157 | 1.30 | 6.32 | 7.06 | 1.78 | 2.07 |
| -10 (+14) | 1386 | 349 | 406 | 174 | 1.44 | 7.94 | 7.97 | 2.01 | 2.33 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 262 | 66 | 77 | 75 | 0.63 | 1.48 | 3.48 | 0.88 | 1.02 |
| -30 (-22) | 419 | 106 | 123 | 97 | 0.82 | 2.38 | 4.26 | 1.07 | 1.25 |
| -25 (-13) | 595 | 150 | 174 | 120 | 1.00 | 3.38 | 4.94 | 1.25 | 1.45 |
| -20 (- 4) | 800 | 202 | 235 | 143 | 1.20 | 4.56 | 5.58 | 1.41 | 1.64 |
| -15 (+ 5) | 1043 | 263 | 306 | 167 | 1.39 | 5.95 | 6.24 | 1.57 | 1.83 |
| -10 (+14) | 1332 | 336 | 390 | 190 | 1.58 | 7.63 | 6.99 | 1.76 | 2.05 |

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] |
| -35 | (-31) | 201 | 51 | 59 | 69 | 0.58 | 1.14 | 2.94 | 0.74 | 0.86 |
| -30 | (-22) | 345 | 87 | 101 | 93 | 0.78 | 1.96 | 3.71 | 0.93 | 1.09 |
| -25 | (-13) | 513 | 129 | 150 | 118 | 0.99 | 2.91 | 4.36 | 1.10 | 1.28 |
| -20 | (- 4) | 714 | 180 | 209 | 145 | 1.21 | 4.06 | 4.95 | 1.25 | 1.45 |
| -15 | (+ 5) | 957 | 241 | 280 | 173 | 1.43 | 5.46 | 5.54 | 1.40 | 1.62 |
| -10 | (+14) | 1250 | 315 | 366 | 201 | 1.66 | 7.16 | 6.18 | 1.56 | 1.81 |

| 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] |
| -35 | (-31) | 401 | 101 | 117 | 98 | 0.65 | 2.27 | 4.08 | 1.03 | 1.20 |
| -30 | (-22) | 602 | 152 | 176 | 120 | 0.79 | 3.41 | 4.98 | 1.26 | 1.46 |
| -25 | (-13) | 823 | 207 | 241 | 142 | 0.93 | 4.67 | 5.81 | 1.46 | 1.70 |
| -20 | (- 4) | 1074 | 271 | 315 | 163 | 1.06 | 6.11 | 6.62 | 1.67 | 1.94 |
| -15 | (+ 5) | 1366 | 344 | 400 | 183 | 1.20 | 7.80 | 7.47 | 1.88 | 2.19 |
| -10 | (+14) | 1710 | 431 | 501 | 203 | 1.33 | 9.80 | 8.43 | 2.12 | 2.47 |

| 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] |
| -35 | (-31) | 324 | 82 | 95 | 88 | 0.59 | 1.83 | 3.69 | 0.93 | 1.08 |
| -30 | (-22) | 517 | 130 | 151 | 113 | 0.76 | 2.93 | 4.51 | 1.14 | 1.32 |
| -25 | (-13) | 734 | 185 | 215 | 140 | 0.93 | 4.17 | 5.23 | 1.32 | 1.53 |
| -20 | (- 4) | 988 | 249 | 289 | 167 | 1.11 | 5.62 | 5.91 | 1.49 | 1.73 |
| -15 | (+ 5) | 1287 | 324 | 377 | 194 | 1.28 | 7.35 | 6.61 | 1.67 | 1.94 |
| -10 | (+14) | 1644 | 414 | 482 | 222 | 1.46 | 9.42 | 7.39 | 1.86 | 2.17 |

| 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] |
| -35 | (-31) | 248 | 63 | 73 | 81 | 0.54 | 1.41 | 3.10 | 0.78 | 0.91 |
| -30 | (-22) | 426 | 107 | 125 | 108 | 0.72 | 2.41 | 3.92 | 0.99 | 1.15 |
| -25 | (-13) | 633 | 159 | 185 | 138 | 0.92 | 3.59 | 4.61 | 1.16 | 1.35 |
| -20 | (- 4) | 881 | 222 | 258 | 169 | 1.11 | 5.01 | 5.24 | 1.32 | 1.53 |
| -15 | (+ 5) | 1181 | 298 | 346 | 201 | 1.32 | 6.74 | 5.86 | 1.48 | 1.72 |
| -10 | (+14) | 1542 | 389 | 452 | 235 | 1.53 | 8.84 | 6.55 | 1.65 | 1.92 |

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 | 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 | | |