

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | FM FT413U |
| Nominal Voltage/Frequency | 230 V 60-150 Hz |
| Engineering Number | 513805003 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|--------------------------------------------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-290 | | |
| 3 Nominal voltage and frequency | 230 / 60-150 | [V / Hz] | |
| 4 Application type | Low-Medium Back Pressure (Light Commercial - Curves until T.Evap - | | |
| 4.1 Evaporating temperature range | -40°C to 0°C | (-40°F to 32°F) | |
| 5 Motor type | BPM | | |
| 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 | 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 | [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 | 430 | [ml] (14.54 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO22 | |
| 4 Weight (with oil charge) | 10.87 | [kg] (23.96 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELECTRICAL DATA

| | | |
|----------------------------------------------|-----------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 230 V 60-150 Hz 3 ~ (Three phase) | |
| 2 Starting device type | Inverter | |
| 2.1 Starting device | CF10C01 M 0.1 X | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | CF10C01 M 0.1 XX A Y | |
| 6 Start winding resistance | 4.30 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 4.30 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 6.50/6.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 2.00 | [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 - UKCA - VDE | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-----------------------------------------|----------|-----|----------------------------|----------------------------|-----------------------------------------------------|--------------------------------|------------------------------------------------|-------|
| TEST CONDITIONS: @220V1800RPM | | | ASHRAELBP32 Fan | | Evaporating temperature (Condensing temperature) | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 1376 | 347 | 403 | 229 | 1.10 | 4.10 | 6.02 | 1.52 | 1.76 |

| | | | | | | | | |
|-----------------------------------------|----------|-----|----------------------------|----------------------------|-----------------------------------------------------|--------------------------------|------------------------------------------------|-------|
| TEST CONDITIONS: @220V2400RPM | | | ASHRAELBP32 Fan | | Evaporating temperature (Condensing temperature) | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 1812 | 457 | 531 | 298 | 1.45 | 5.39 | 6.08 | 1.53 | 1.78 |

| | | | | | | | | |
|-----------------------------------------|----------|-----|----------------------------|----------------------------|-----------------------------------------------------|--------------------------------|------------------------------------------------|-------|
| TEST CONDITIONS: @220V3000RPM | | | ASHRAELBP32 Fan | | Evaporating temperature (Condensing temperature) | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 2328 | 587 | 682 | 379 | 1.76 | 6.93 | 6.15 | 1.55 | 1.80 |

| | | | | | | | | |
|-----------------------------------------|----------|-----|----------------------------|----------------------------|-----------------------------------------------------|--------------------------------|------------------------------------------------|-------|
| TEST CONDITIONS: @220V3600RPM | | | ASHRAELBP32 Fan | | Evaporating temperature (Condensing temperature) | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 2652 | 668 | 777 | 441 | 2.08 | 7.89 | 6.01 | 1.51 | 1.76 |

| | | | | | | | | |
|-----------------------------------------|----------|-----|----------------------------|----------------------------|-----------------------------------------------------|--------------------------------|------------------------------------------------|-------|
| TEST CONDITIONS: @220V4500RPM | | | ASHRAELBP32 Fan | | Evaporating temperature (Condensing temperature) | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 3407 | 859 | 998 | 574 | 2.64 | 10.14 | 5.94 | 1.50 | 1.74 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V1800RPM | | ASHRAE32 Fan | | | (Condensing temperature 35°C (+95°F)) | | | | | |
|----------------------------------|---------------------------------|-----------------|---------|----------------------------|----------------------------------------|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | | |
| | °C | (°F) | [Btu/h] | | | | [kcal/h] | [W] | [Btu/Wh] | [kcal/Wh] |
| -40 | (-40) | 623 | 157 | 183 | 113 | 0.70 | 1.84 | 5.56 | 1.40 | 1.63 |
| -35 | (-31) | 861 | 217 | 252 | 139 | 0.79 | 2.55 | 6.12 | 1.54 | 1.79 |
| -30 | (-22) | 1119 | 282 | 328 | 163 | 0.88 | 3.32 | 6.82 | 1.72 | 2.00 |
| -25 | (-13) | 1408 | 355 | 413 | 183 | 0.97 | 4.19 | 7.67 | 1.93 | 2.25 |
| -20 | (- 4) | 1739 | 438 | 510 | 202 | 1.05 | 5.19 | 8.70 | 2.19 | 2.55 |
| -15 | (+ 5) | 2123 | 535 | 622 | 217 | 1.13 | 6.36 | 9.91 | 2.50 | 2.90 |
| -10 | (+14) | 2570 | 648 | 753 | 230 | 1.19 | 7.73 | 11.33 | 2.85 | 3.32 |
| -5 | (+23) | 3091 | 779 | 906 | 240 | 1.24 | 9.35 | 12.96 | 3.27 | 3.80 |
| 0 | (+32) | 3697 | 932 | 1083 | 247 | 1.27 | 11.24 | 14.83 | 3.74 | 4.35 |

| TEST CONDITIONS: @220V1800RPM | | ASHRAE32 Fan | | | (Condensing temperature 45°C (+113°F)) | | | | | |
|----------------------------------|---------------------------------|-----------------|---------|----------------------------|-----------------------------------------|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | | |
| | °C | (°F) | [Btu/h] | | | | [kcal/h] | [W] | [Btu/Wh] | [kcal/Wh] |
| -40 | (-40) | 608 | 153 | 178 | 124 | 0.73 | 1.79 | 4.96 | 1.25 | 1.45 |
| -35 | (-31) | 820 | 207 | 240 | 151 | 0.82 | 2.43 | 5.41 | 1.36 | 1.59 |
| -30 | (-22) | 1061 | 267 | 311 | 176 | 0.93 | 3.15 | 5.96 | 1.50 | 1.75 |
| -25 | (-13) | 1342 | 338 | 393 | 201 | 1.04 | 3.99 | 6.61 | 1.67 | 1.94 |
| -20 | (- 4) | 1672 | 421 | 490 | 225 | 1.15 | 4.99 | 7.39 | 1.86 | 2.17 |
| -15 | (+ 5) | 2063 | 520 | 605 | 247 | 1.26 | 6.18 | 8.30 | 2.09 | 2.43 |
| -10 | (+14) | 2526 | 637 | 740 | 269 | 1.37 | 7.60 | 9.38 | 2.36 | 2.75 |
| -5 | (+23) | 3071 | 774 | 900 | 290 | 1.47 | 9.29 | 10.62 | 2.68 | 3.11 |
| 0 | (+32) | 3709 | 935 | 1087 | 310 | 1.55 | 11.28 | 12.04 | 3.04 | 3.53 |

| TEST CONDITIONS: @220V1800RPM | | ASHRAE32 Fan | | | (Condensing temperature 55°C (+131°F)) | | | | | |
|----------------------------------|---------------------------------|-----------------|---------|----------------------------|-----------------------------------------|--------------------------|--------------------------------|------|----------|-----------|
| Evaporating temperature | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | | |
| | °C | (°F) | [Btu/h] | | | | [kcal/h] | [W] | [Btu/Wh] | [kcal/Wh] |
| -40 | (-40) | 557 | 140 | 163 | 129 | 0.74 | 1.64 | 4.35 | 1.10 | 1.28 |
| -35 | (-31) | 751 | 189 | 220 | 158 | 0.85 | 2.22 | 4.79 | 1.21 | 1.40 |
| -30 | (-22) | 981 | 247 | 287 | 187 | 0.97 | 2.91 | 5.26 | 1.33 | 1.54 |
| -25 | (-13) | 1258 | 317 | 369 | 217 | 1.11 | 3.74 | 5.79 | 1.46 | 1.70 |
| -20 | (- 4) | 1594 | 402 | 467 | 247 | 1.26 | 4.75 | 6.40 | 1.61 | 1.88 |
| -15 | (+ 5) | 1998 | 503 | 585 | 279 | 1.41 | 5.98 | 7.10 | 1.79 | 2.08 |
| -10 | (+14) | 2482 | 626 | 727 | 311 | 1.57 | 7.47 | 7.91 | 1.99 | 2.32 |
| -5 | (+23) | 3057 | 770 | 896 | 344 | 1.72 | 9.24 | 8.84 | 2.23 | 2.59 |
| 0 | (+32) | 3733 | 941 | 1094 | 379 | 1.87 | 11.35 | 9.91 | 2.50 | 2.90 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V1800RPM | | ASHRAE32 Fan | | | (Condensing temperature 65°C (+149°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 472 | 119 | 138 | 128 | 0.73 | 1.39 | 3.61 | 0.91 | 1.06 |
| -35 | (-31) | 652 | 164 | 191 | 160 | 0.86 | 1.93 | 4.10 | 1.03 | 1.20 |
| -30 | (-22) | 877 | 221 | 257 | 194 | 1.01 | 2.60 | 4.59 | 1.16 | 1.34 |
| -25 | (-13) | 1157 | 292 | 339 | 231 | 1.18 | 3.44 | 5.08 | 1.28 | 1.49 |
| -20 | (- 4) | 1503 | 379 | 441 | 271 | 1.37 | 4.48 | 5.61 | 1.41 | 1.64 |
| -15 | (+ 5) | 1927 | 486 | 565 | 313 | 1.57 | 5.77 | 6.17 | 1.56 | 1.81 |
| -10 | (+14) | 2439 | 615 | 715 | 357 | 1.78 | 7.34 | 6.80 | 1.71 | 1.99 |
| -5 | (+23) | 3049 | 768 | 893 | 405 | 1.99 | 9.22 | 7.50 | 1.89 | 2.20 |
| 0 | (+32) | 3769 | 950 | 1104 | 455 | 2.21 | 11.45 | 8.29 | 2.09 | 2.43 |

| TEST CONDITIONS: @220V3000RPM | | ASHRAE32 Fan | | | (Condensing temperature 35°C (+95°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|---------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1092 | 275 | 320 | 209 | 1.11 | 3.22 | 5.22 | 1.32 | 1.53 |
| -35 | (-31) | 1435 | 362 | 420 | 245 | 1.25 | 4.25 | 5.85 | 1.47 | 1.72 |
| -30 | (-22) | 1841 | 464 | 540 | 281 | 1.40 | 5.46 | 6.55 | 1.65 | 1.92 |
| -25 | (-13) | 2318 | 584 | 679 | 316 | 1.56 | 6.89 | 7.33 | 1.85 | 2.15 |
| -20 | (- 4) | 2873 | 724 | 842 | 350 | 1.71 | 8.57 | 8.21 | 2.07 | 2.41 |
| -15 | (+ 5) | 3512 | 885 | 1029 | 383 | 1.86 | 10.52 | 9.20 | 2.32 | 2.70 |
| -10 | (+14) | 4243 | 1069 | 1243 | 412 | 1.99 | 12.77 | 10.32 | 2.60 | 3.02 |
| -5 | (+23) | 5073 | 1278 | 1486 | 439 | 2.11 | 15.34 | 11.59 | 2.92 | 3.40 |
| 0 | (+32) | 6009 | 1514 | 1761 | 460 | 2.19 | 18.27 | 13.02 | 3.28 | 3.81 |

| TEST CONDITIONS: @220V3000RPM | | ASHRAE32 Fan | | | (Condensing temperature 45°C (+113°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1042 | 263 | 305 | 219 | 1.14 | 3.08 | 4.77 | 1.20 | 1.40 |
| -35 | (-31) | 1379 | 348 | 404 | 259 | 1.30 | 4.08 | 5.33 | 1.34 | 1.56 |
| -30 | (-22) | 1779 | 448 | 521 | 300 | 1.47 | 5.28 | 5.92 | 1.49 | 1.73 |
| -25 | (-13) | 2249 | 567 | 659 | 342 | 1.66 | 6.69 | 6.55 | 1.65 | 1.92 |
| -20 | (- 4) | 2795 | 704 | 819 | 384 | 1.85 | 8.34 | 7.26 | 1.83 | 2.13 |
| -15 | (+ 5) | 3426 | 863 | 1004 | 425 | 2.03 | 10.26 | 8.05 | 2.03 | 2.36 |
| -10 | (+14) | 4148 | 1045 | 1215 | 463 | 2.21 | 12.48 | 8.94 | 2.25 | 2.62 |
| -5 | (+23) | 4968 | 1252 | 1456 | 500 | 2.37 | 15.02 | 9.95 | 2.51 | 2.91 |
| 0 | (+32) | 5894 | 1485 | 1727 | 533 | 2.50 | 17.92 | 11.08 | 2.79 | 3.25 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V3000RPM | | ASHRAE32 Fan | | | (Condensing temperature 55°C (+131°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 936 | 236 | 274 | 218 | 1.14 | 2.76 | 4.30 | 1.08 | 1.26 |
| -35 | (-31) | 1271 | 320 | 372 | 264 | 1.32 | 3.76 | 4.82 | 1.22 | 1.41 |
| -30 | (-22) | 1668 | 420 | 489 | 312 | 1.52 | 4.95 | 5.35 | 1.35 | 1.57 |
| -25 | (-13) | 2134 | 538 | 625 | 362 | 1.74 | 6.34 | 5.90 | 1.49 | 1.73 |
| -20 | (- 4) | 2676 | 674 | 784 | 412 | 1.97 | 7.98 | 6.48 | 1.63 | 1.90 |
| -15 | (+ 5) | 3302 | 832 | 968 | 462 | 2.19 | 9.89 | 7.12 | 1.80 | 2.09 |
| -10 | (+14) | 4018 | 1013 | 1177 | 512 | 2.41 | 12.09 | 7.83 | 1.97 | 2.30 |
| -5 | (+23) | 4832 | 1218 | 1416 | 559 | 2.62 | 14.61 | 8.63 | 2.17 | 2.53 |
| 0 | (+32) | 5750 | 1449 | 1685 | 605 | 2.81 | 17.48 | 9.52 | 2.40 | 2.79 |

| TEST CONDITIONS: @220V3000RPM | | ASHRAE32 Fan | | | (Condensing temperature 65°C (+149°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 775 | 195 | 227 | 208 | 1.11 | 2.29 | 3.71 | 0.94 | 1.09 |
| -35 | (-31) | 1111 | 280 | 326 | 261 | 1.32 | 3.29 | 4.26 | 1.07 | 1.25 |
| -30 | (-22) | 1508 | 380 | 442 | 317 | 1.55 | 4.47 | 4.77 | 1.20 | 1.40 |
| -25 | (-13) | 1974 | 497 | 578 | 375 | 1.81 | 5.87 | 5.28 | 1.33 | 1.55 |
| -20 | (- 4) | 2515 | 634 | 737 | 435 | 2.07 | 7.50 | 5.80 | 1.46 | 1.70 |
| -15 | (+ 5) | 3139 | 791 | 920 | 496 | 2.34 | 9.40 | 6.33 | 1.60 | 1.86 |
| -10 | (+14) | 3853 | 971 | 1129 | 557 | 2.61 | 11.59 | 6.91 | 1.74 | 2.02 |
| -5 | (+23) | 4663 | 1175 | 1366 | 617 | 2.87 | 14.10 | 7.54 | 1.90 | 2.21 |
| 0 | (+32) | 5578 | 1406 | 1634 | 676 | 3.12 | 16.95 | 8.25 | 2.08 | 2.42 |

| TEST CONDITIONS: @220V3600RPM | | ASHRAE32 Fan | | | (Condensing temperature 35°C (+95°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|---------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1230 | 310 | 360 | 256 | 1.35 | 3.63 | 4.83 | 1.22 | 1.42 |
| -35 | (-31) | 1649 | 416 | 483 | 292 | 1.45 | 4.88 | 5.61 | 1.41 | 1.64 |
| -30 | (-22) | 2146 | 541 | 629 | 336 | 1.63 | 6.36 | 6.34 | 1.60 | 1.86 |
| -25 | (-13) | 2732 | 688 | 801 | 386 | 1.86 | 8.12 | 7.07 | 1.78 | 2.07 |
| -20 | (- 4) | 3418 | 861 | 1002 | 436 | 2.09 | 10.20 | 7.86 | 1.98 | 2.30 |
| -15 | (+ 5) | 4216 | 1062 | 1235 | 484 | 2.31 | 12.63 | 8.76 | 2.21 | 2.57 |
| -10 | (+14) | 5136 | 1294 | 1505 | 526 | 2.49 | 15.46 | 9.84 | 2.48 | 2.88 |
| -5 | (+23) | 6190 | 1560 | 1814 | 558 | 2.58 | 18.72 | 11.14 | 2.81 | 3.26 |
| 0 | (+32) | 7388 | 1862 | 2165 | 577 | 2.57 | 22.46 | 12.72 | 3.21 | 3.73 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V3600RPM | | ASHRAE32 Fan | | | (Condensing temperature 45°C (+113°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1167 | 294 | 342 | 266 | 1.43 | 3.45 | 4.41 | 1.11 | 1.29 |
| -35 | (-31) | 1562 | 394 | 458 | 303 | 1.52 | 4.62 | 5.13 | 1.29 | 1.50 |
| -30 | (-22) | 2033 | 512 | 596 | 351 | 1.70 | 6.03 | 5.76 | 1.45 | 1.69 |
| -25 | (-13) | 2592 | 653 | 759 | 405 | 1.93 | 7.71 | 6.37 | 1.61 | 1.87 |
| -20 | (- 4) | 3250 | 819 | 952 | 462 | 2.19 | 9.70 | 7.01 | 1.77 | 2.05 |
| -15 | (+ 5) | 4018 | 1013 | 1177 | 519 | 2.44 | 12.04 | 7.73 | 1.95 | 2.26 |
| -10 | (+14) | 4908 | 1237 | 1438 | 571 | 2.65 | 14.77 | 8.59 | 2.16 | 2.52 |
| -5 | (+23) | 5930 | 1494 | 1738 | 616 | 2.80 | 17.93 | 9.64 | 2.43 | 2.83 |
| 0 | (+32) | 7096 | 1788 | 2079 | 649 | 2.85 | 21.57 | 10.95 | 2.76 | 3.21 |

| TEST CONDITIONS: @220V3600RPM | | ASHRAE32 Fan | | | (Condensing temperature 55°C (+131°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1093 | 275 | 320 | 277 | 1.47 | 3.23 | 3.97 | 1.00 | 1.16 |
| -35 | (-31) | 1460 | 368 | 428 | 313 | 1.56 | 4.32 | 4.67 | 1.18 | 1.37 |
| -30 | (-22) | 1903 | 479 | 558 | 363 | 1.75 | 5.64 | 5.26 | 1.32 | 1.54 |
| -25 | (-13) | 2432 | 613 | 713 | 421 | 2.00 | 7.23 | 5.78 | 1.46 | 1.69 |
| -20 | (- 4) | 3060 | 771 | 897 | 484 | 2.28 | 9.13 | 6.31 | 1.59 | 1.85 |
| -15 | (+ 5) | 3796 | 957 | 1112 | 549 | 2.57 | 11.37 | 6.88 | 1.73 | 2.02 |
| -10 | (+14) | 4653 | 1172 | 1363 | 611 | 2.83 | 14.00 | 7.57 | 1.91 | 2.22 |
| -5 | (+23) | 5641 | 1421 | 1653 | 668 | 3.04 | 17.06 | 8.42 | 2.12 | 2.47 |
| 0 | (+32) | 6771 | 1706 | 1984 | 716 | 3.16 | 20.58 | 9.49 | 2.39 | 2.78 |

| TEST CONDITIONS: @220V3600RPM | | ASHRAE32 Fan | | | (Condensing temperature 65°C (+149°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1007 | 254 | 295 | 286 | 1.47 | 2.97 | 3.47 | 0.87 | 1.02 |
| -35 | (-31) | 1344 | 339 | 394 | 323 | 1.57 | 3.98 | 4.19 | 1.06 | 1.23 |
| -30 | (-22) | 1756 | 443 | 515 | 373 | 1.77 | 5.21 | 4.76 | 1.20 | 1.39 |
| -25 | (-13) | 2254 | 568 | 660 | 435 | 2.04 | 6.70 | 5.24 | 1.32 | 1.54 |
| -20 | (- 4) | 2848 | 718 | 834 | 503 | 2.36 | 8.49 | 5.69 | 1.43 | 1.67 |
| -15 | (+ 5) | 3550 | 895 | 1040 | 575 | 2.70 | 10.63 | 6.17 | 1.55 | 1.81 |
| -10 | (+14) | 4371 | 1101 | 1281 | 647 | 3.02 | 13.15 | 6.72 | 1.69 | 1.97 |
| -5 | (+23) | 5322 | 1341 | 1560 | 716 | 3.30 | 16.09 | 7.40 | 1.87 | 2.17 |
| 0 | (+32) | 6415 | 1617 | 1880 | 777 | 3.49 | 19.49 | 8.28 | 2.09 | 2.43 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V4500RPM | | ASHRAE32 Fan | | | (Condensing temperature 35°C (+95°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|---------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1667 | 420 | 488 | 333 | 1.67 | 4.93 | 4.97 | 1.25 | 1.46 |
| -35 | (-31) | 2076 | 523 | 608 | 383 | 1.88 | 6.14 | 5.48 | 1.38 | 1.60 |
| -30 | (-22) | 2606 | 657 | 764 | 433 | 2.09 | 7.72 | 6.07 | 1.53 | 1.78 |
| -25 | (-13) | 3259 | 821 | 955 | 484 | 2.32 | 9.69 | 6.74 | 1.70 | 1.98 |
| -20 | (- 4) | 4038 | 1018 | 1183 | 536 | 2.55 | 12.05 | 7.49 | 1.89 | 2.20 |
| -15 | (+ 5) | 4944 | 1246 | 1449 | 590 | 2.77 | 14.82 | 8.31 | 2.10 | 2.44 |
| -10 | (+14) | 5980 | 1507 | 1752 | 645 | 2.98 | 18.00 | 9.20 | 2.32 | 2.70 |
| -5 | (+23) | 7148 | 1801 | 2095 | 703 | 3.17 | 21.62 | 10.15 | 2.56 | 2.97 |
| 0 | (+32) | 8450 | 2129 | 2476 | 762 | 3.34 | 25.69 | 11.15 | 2.81 | 3.27 |

| TEST CONDITIONS: @220V4500RPM | | ASHRAE32 Fan | | | (Condensing temperature 45°C (+113°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1552 | 391 | 455 | 334 | 1.65 | 4.58 | 4.62 | 1.16 | 1.35 |
| -35 | (-31) | 2016 | 508 | 591 | 399 | 1.92 | 5.96 | 5.09 | 1.28 | 1.49 |
| -30 | (-22) | 2575 | 649 | 755 | 461 | 2.19 | 7.63 | 5.63 | 1.42 | 1.65 |
| -25 | (-13) | 3232 | 814 | 947 | 521 | 2.46 | 9.61 | 6.23 | 1.57 | 1.83 |
| -20 | (- 4) | 3988 | 1005 | 1168 | 579 | 2.72 | 11.90 | 6.90 | 1.74 | 2.02 |
| -15 | (+ 5) | 4845 | 1221 | 1420 | 635 | 2.97 | 14.51 | 7.63 | 1.92 | 2.24 |
| -10 | (+14) | 5807 | 1463 | 1701 | 690 | 3.19 | 17.47 | 8.41 | 2.12 | 2.46 |
| -5 | (+23) | 6874 | 1732 | 2014 | 743 | 3.39 | 20.79 | 9.23 | 2.33 | 2.70 |
| 0 | (+32) | 8049 | 2028 | 2359 | 796 | 3.55 | 24.47 | 10.09 | 2.54 | 2.96 |

| TEST CONDITIONS: @220V4500RPM | | ASHRAE32 Fan | | | (Condensing temperature 55°C (+131°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1346 | 339 | 394 | 318 | 1.62 | 3.97 | 4.21 | 1.06 | 1.23 |
| -35 | (-31) | 1877 | 473 | 550 | 403 | 1.95 | 5.55 | 4.64 | 1.17 | 1.36 |
| -30 | (-22) | 2477 | 624 | 726 | 482 | 2.28 | 7.34 | 5.13 | 1.29 | 1.50 |
| -25 | (-13) | 3148 | 793 | 922 | 556 | 2.60 | 9.36 | 5.67 | 1.43 | 1.66 |
| -20 | (- 4) | 3893 | 981 | 1141 | 624 | 2.90 | 11.61 | 6.26 | 1.58 | 1.83 |
| -15 | (+ 5) | 4713 | 1188 | 1381 | 687 | 3.18 | 14.11 | 6.89 | 1.74 | 2.02 |
| -10 | (+14) | 5611 | 1414 | 1644 | 746 | 3.43 | 16.88 | 7.56 | 1.90 | 2.22 |
| -5 | (+23) | 6590 | 1661 | 1931 | 800 | 3.64 | 19.92 | 8.26 | 2.08 | 2.42 |
| 0 | (+32) | 7650 | 1928 | 2242 | 850 | 3.81 | 23.25 | 8.98 | 2.26 | 2.63 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V4500RPM | | ASHRAE32 Fan | | | (Condensing temperature 65°C (+149°F)) | | | | | |
|----------------------------------|-------|---------------------------------|----------|------|-----------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 1050 | 265 | 308 | 285 | 1.56 | 3.10 | 3.77 | 0.95 | 1.10 |
| -35 | (-31) | 1659 | 418 | 486 | 394 | 1.97 | 4.91 | 4.17 | 1.05 | 1.22 |
| -30 | (-22) | 2311 | 582 | 677 | 495 | 2.36 | 6.86 | 4.60 | 1.16 | 1.35 |
| -25 | (-13) | 3009 | 758 | 882 | 586 | 2.74 | 8.95 | 5.08 | 1.28 | 1.49 |
| -20 | (- 4) | 3754 | 946 | 1100 | 669 | 3.09 | 11.20 | 5.59 | 1.41 | 1.64 |
| -15 | (+ 5) | 4549 | 1146 | 1333 | 744 | 3.41 | 13.62 | 6.13 | 1.54 | 1.80 |
| -10 | (+14) | 5396 | 1360 | 1581 | 811 | 3.69 | 16.23 | 6.69 | 1.69 | 1.96 |
| -5 | (+23) | 6296 | 1587 | 1845 | 870 | 3.92 | 19.03 | 7.26 | 1.83 | 2.13 |
| 0 | (+32) | 7253 | 1828 | 2125 | 923 | 4.10 | 22.04 | 7.84 | 1.98 | 2.30 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate | Japanese Standard | | |
| 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 | | |