

TECHNICAL PRODUCT SUBMITTAL

AMICUS LAHP-4504LTS AIR SOURCE HEAT PUMP

| | | |
|---|-------------------|------------|
| Heating Data ¹ | | |
| Heating Capacity (EN14511) | kW | 407 |
| Total Power input (EN14511) | kW | 104.1 |
| COP (EN14511) | W/W | 3.91 |
| Nominal flow rate | m ³ /h | 69.63 |
| Pressure drop across the heat pump | kPa | 60.4 |
| Design air flow rate | m ³ /h | 151853 |
| EcoDesign data ² | | |
| Energy Label Rating Low temperature | | A++ |
| SCOP Low Temperature | | 3.87 |
| Seasonal Efficiency Low temperature | % | 151.9 |
| Cooling Data (RV units only) ³ | | |
| Cooling Capacity (EN14511) | kW | 366 |
| Total Power input (EN14511) | kW | 135 |
| EER (EN14511) | W/W | 2.71 |
| Nominal flow rate | m ³ /h | 62.73 |
| Pressure drop across the heat pump | kPa | 52.4 |
| Design air flow rate | m ³ /h | 149393 |
| General | | |
| Refrigerant type | | R410A |
| Compressor Type | | Scroll |
| Number of Compressors | | 4 |
| Number of Circuits | | 2 |
| Capacity steps | | 4 |
| Minimum capacity step | % | 25 |
| Electrical Data | | |
| Power supply | V/Ph/Hz | 400/3+N/50 |
| Maximum input power | kW | 178 |
| Maximum input current standard unit | A (per phase) | 321 |
| Peak input current standard unit | A (per phase) | 646 |
| Peak input current unit with soft start option fitted | A (per phase) | 483 |
| Fuse rating (delayed) | A | 400 |
| Optional Hydraulic kit input power | kW | 5.5 |
| Optional Hydraulic kit maximum input current | A | 10.4 |
| Fans | | |
| Fan type (standard unit) | | Axial |
| Number of fans (standard unit) | | 8 |
| Air flow rate for design | m ³ /h | 157442 |
| Sound power level ² | dB(A) | 92 |
| Sound pressure level ³ | dB(A) | 60 |

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| LAHP-4504LTS | | | Heating OUT | | | | | | Max outlet |
|----------------------------|------------------|------------------|-------------|-----|-----|-----|-----|-----|------------|
| Water Delivery Temperature | | | 35C | 40C | 45C | 50C | 55C | 59C | |
| performance data | -10 | Heat Output (KW) | 213 | 209 | 206 | N/A | N/A | N/A | 45 |
| | | Efficiency COP | 2.1 | 1.9 | 1.7 | N/A | N/A | N/A | |
| | -7 | Heat Output (KW) | 232 | 228 | 223 | N/A | N/A | N/A | 45 |
| | | Efficiency COP | 2.3 | 2.0 | 1.8 | N/A | N/A | N/A | |
| | -5 | Heat Output (KW) | 245 | 239 | 234 | 232 | N/A | N/A | 48 |
| | | Efficiency COP | 2.4 | 2.1 | 1.9 | 1.8 | N/A | N/A | |
| | -4 | Heat Output (KW) | 257 | 250 | 245 | 240 | N/A | N/A | 50 |
| | | Efficiency COP | 2.5 | 2.3 | 2.0 | 1.8 | N/A | N/A | |
| | -3 | Heat Output (KW) | 263 | 256 | 250 | 245 | N/A | N/A | 50 |
| | | Efficiency COP | 2.6 | 2.3 | 2 | 1.8 | N/A | N/A | |
| | -2 | Heat Output (KW) | 266 | 260 | 256 | 253 | 252 | N/A | 53 |
| | | Efficiency COP | 2.6 | 2.3 | 2.0 | 1.9 | 1.8 | N/A | |
| | 0 | Heat Output (KW) | 293 | 289 | 283 | 280 | 278 | N/A | 55 |
| | | Efficiency COP | 2.8 | 2.6 | 2.3 | 2.0 | 1.9 | N/A | |
| | 5 | Heat Output (KW) | 364 | 360 | 356 | 351 | 349 | 348 | 57 |
| | | Efficiency COP | 3.5 | 3.2 | 2.9 | 2.6 | 2.4 | 2.3 | |
| | 10 | Heat Output (KW) | 437 | 429 | 421 | 412 | 405 | 398 | 59 |
| | | Efficiency COP | 4.4 | 4.0 | 3.6 | 3.2 | 2.6 | 2.6 | |
| | 15 | Heat Output (KW) | 486 | 475 | 465 | 455 | 445 | 437 | 59 |
| | | Efficiency COP | 5.0 | 4.5 | 4.0 | 3.6 | 3.2 | 2.9 | |
| 20 | Heat Output (KW) | 535 | 522 | 509 | 496 | 484 | 476 | 59 | |
| | Efficiency COP | 5.6 | 5.0 | 4.4 | 3.9 | 3.5 | 3.2 | | |

Amicus air to water heat pumps must be installed and maintained in line with the Installation Commissioning and Maintenance Instructions which are available on the Literature & Downloads section of www.lochinvar.ltd.uk

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| Model | Octave band (Hz) | | | | | | | | Lw | | Lp |
|-------|------------------|------|------|------|------|------|------|------|-------|-------|-------|
| | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K | Db | dB(A) | dB(A) |
| | dB | dB | dB | dB | dB | dB | dB | dB | | | |
| 242 | 86.1 | 77.3 | 71.2 | 69.7 | 68.6 | 63.2 | 59.8 | 50.7 | 86.9 | 78 | 46 |
| 292 | 87.1 | 78.3 | 72.2 | 70.7 | 69.6 | 64.2 | 60.8 | 51.7 | 87.9 | 79 | 47 |
| 412 | 87.1 | 78.3 | 72.2 | 70.7 | 69.6 | 64.2 | 60.8 | 51.7 | 87.9 | 74 | 42 |
| 432 | 88.1 | 79.3 | 73.2 | 71.7 | 70.6 | 65.2 | 61.8 | 52.7 | 88.9 | 80 | 48 |
| 492 | 89.1 | 80.3 | 74.2 | 72.7 | 71.6 | 66.2 | 62.8 | 53.7 | 89.9 | 79 | 47 |
| 602 | 89.1 | 80.3 | 74.2 | 72.7 | 71.6 | 66.2 | 62.8 | 53.7 | 89.9 | 80 | 48 |
| 702 | 90.1 | 81.3 | 75.2 | 73.7 | 72.6 | 67.2 | 63.8 | 54.7 | 90.9 | 81 | 49 |
| 802 | 91.1 | 82.3 | 76.2 | 74.7 | 73.6 | 68.2 | 64.8 | 55.7 | 91.9 | 82 | 50 |
| 902 | 95.1 | 86.3 | 80.2 | 78.7 | 77.6 | 72.2 | 68.8 | 59.7 | 95.9 | 86 | 54 |
| 1002 | 96.1 | 87.3 | 81.2 | 79.7 | 78.6 | 73.2 | 69.8 | 60.7 | 96.9 | 87 | 55 |
| 1202 | 98.1 | 89.3 | 83.2 | 81.7 | 80.6 | 75.2 | 71.8 | 62.7 | 98.9 | 88 | 56 |
| 1402 | 99.1 | 90.3 | 84.2 | 82.7 | 81.6 | 76.2 | 72.8 | 63.7 | 99.9 | 89 | 58 |
| 1602 | 100.1 | 91.3 | 85.2 | 83.7 | 82.6 | 77.2 | 73.8 | 64.7 | 100.9 | 89 | 57 |
| 1802 | 100.1 | 91.3 | 85.2 | 83.7 | 82.6 | 77.2 | 73.8 | 64.7 | 100.9 | 90 | 58 |
| 2002 | 100.1 | 91.3 | 85.2 | 83.7 | 82.6 | 77.2 | 73.8 | 64.7 | 100.9 | 90 | 58 |
| 2302 | 102.1 | 93.3 | 87.2 | 85.7 | 84.6 | 79.2 | 75.8 | 66.7 | 102.9 | 92 | 60 |
| 2502 | 104.1 | 95.3 | 89.2 | 87.7 | 85.6 | 81.2 | 77.8 | 68.7 | 104.9 | 93 | 61 |
| 2504 | 101.1 | 92.3 | 86.2 | 84.7 | 83.6 | 78.2 | 74.8 | 65.7 | 101.9 | 91 | 59 |
| 3004 | 102.1 | 93.3 | 87.2 | 85.7 | 84.6 | 79.2 | 75.8 | 66.7 | 102.9 | 92 | 60 |
| 3204 | 103.1 | 94.3 | 88.2 | 86.7 | 85.6 | 80.2 | 76.8 | 67.7 | 103.9 | 92 | 60 |
| 3504 | 103.1 | 94.3 | 88.2 | 86.7 | 85.6 | 80.2 | 76.8 | 67.7 | 103.9 | 93 | 61 |
| 4004 | 103.1 | 94.3 | 88.2 | 86.7 | 85.6 | 80.2 | 76.8 | 67.7 | 103.9 | 94 | 64 |
| 4504 | 105.1 | 96.3 | 90.2 | 88.7 | 87.6 | 82.2 | 78.8 | 69.7 | 105.9 | 96 | 64 |
| 5004 | 105.1 | 96.3 | 90.2 | 88.7 | 87.6 | 82.2 | 78.8 | 69.7 | 105.9 | 94 | 62 |

Lw: sound power level according to ISO 3744

Lp: sound pressure level at 10mtrs from unit in free field conditions, direction factor Q=2 according to ISO 3744

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