

# TECHNICAL PRODUCT SUBMITTAL

## AMICUS LAHP-292LTS AIR SOURCE HEAT PUMP

| Heating Data <sup>1</sup>                             |                   |            |
|-------------------------------------------------------|-------------------|------------|
| Heating Capacity (EN14511)                            | kW                | 29.6       |
| Total Power input (EN14511)                           | kW                | 7.1        |
| COP (EN14511)                                         | W/W               | 4.16       |
| Nominal flow rate                                     | m <sup>3</sup> /h | 5.168      |
| Pressure drop across the heat pump                    | kPa               | 38         |
| Design air flow rate                                  | m <sup>3</sup> /h | 8676       |
| EcoDesign data <sup>2</sup>                           |                   |            |
| Energy Label Rating Low temperature                   |                   | A++        |
| SCOP Low Temperature                                  |                   | 3.86       |
| Seasonal Efficiency Low temperature                   | %                 | 151.4      |
| Cooling Data (RV units only) <sup>3</sup>             |                   |            |
| Cooling Capacity (EN14511)                            | kW                | 25.4       |
| Total Power input (EN14511)                           | kW                | 8.45       |
| EER (EN14511)                                         | W/W               | 3.01       |
| Nominal flow rate                                     | m <sup>3</sup> /h | 4.3        |
| Pressure drop across the heat pump                    | kPa               | 27.5       |
| Design air flow rate                                  | m <sup>3</sup> /h | 8770       |
| General                                               |                   |            |
| Refrigerant type                                      |                   | R410A      |
| Compressor Type                                       |                   | Scroll     |
| Number of Compressors                                 |                   | 2          |
| Number of Circuits                                    |                   | 1          |
| Capacity steps                                        |                   | 2          |
| Minimum capacity step                                 | %                 | 50         |
| Electrical Data                                       |                   |            |
| Power supply                                          | V/Ph/Hz           | 400/3+N/50 |
| Maximum input power                                   | kW                | 13         |
| Maximum input current standard unit                   | A                 | 24         |
| Peak input current standard unit                      | A                 | 69         |
| Peak input current unit with soft start option fitted | A                 | 46         |
| Fuse rating (delayed)                                 | A                 | 40         |
| Optional Hydraulic kit input power                    | kW                | 0.5        |
| Optional Hydraulic kit maximum input current          | A                 | 1.65       |
| Fans                                                  |                   |            |
| Fan type (standard unit)                              |                   | Axial      |
| Number of fans (standard unit)                        |                   | 2          |
| Air flow rate for design                              | m <sup>3</sup> /h | 9727       |
| Sound power level <sup>2</sup>                        | dB(A)             | 74         |
| Sound pressure level <sup>3</sup>                     | dB(A)             | 42         |

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| LAHP-292LTS                |     |                  | Heating OUT |      |      |      |      |      |            |
|----------------------------|-----|------------------|-------------|------|------|------|------|------|------------|
| Water Delivery Temperature |     |                  | 35C         | 40C  | 45C  | 50C  | 55C  | 59C  | Max outlet |
| performance data           | -10 | Heat Output (KW) | 16.1        | 15.8 | N/A  | N/A  | N/A  | N/A  | 40°C       |
|                            |     | Efficiency COP   | 2.2         | 2.0  | N/A  | N/A  | N/A  | N/A  |            |
|                            | -7  | Heat Output (KW) | 17.4        | 16.9 | N/A  | N/A  | N/A  | N/A  | 40°C       |
|                            |     | Efficiency COP   | 2.4         | 2.1  | N/A  | N/A  | N/A  | N/A  |            |
|                            | -5  | Heat Output (KW) | 18.2        | 17.7 | N/A  | N/A  | N/A  | N/A  | 40°C       |
|                            |     | Efficiency COP   | 2.5         | 2.2  | N/A  | N/A  | N/A  | N/A  |            |
|                            | -4  | Heat Output (KW) | 18.7        | 18.1 | 17.7 | N/A  | N/A  | N/A  | 45°C       |
|                            |     | Efficiency COP   | 2.6         | 2.2  | 2.0  | N/A  | N/A  | N/A  |            |
|                            | -3  | Heat Output (KW) | 19.2        | 18.9 | 18.6 | N/A  | N/A  | N/A  | 45°C       |
|                            |     | Efficiency COP   | 2.7         | 2.35 | 2.09 | N/A  | N/A  | N/A  |            |
|                            | -2  | Heat Output (KW) | 20.2        | 19.8 | 19.6 | N/A  | N/A  | N/A  | 45°C       |
|                            |     | Efficiency COP   | 2.8         | 2.5  | 2.2  | N/A  | N/A  | N/A  |            |
|                            | 0   | Heat Output (KW) | 22.2        | 21.7 | 21.5 | 21.4 | N/A  | N/A  | 50°C       |
|                            |     | Efficiency COP   | 3.1         | 2.7  | 2.4  | 2.2  | N/A  | N/A  |            |
|                            | 5   | Heat Output (KW) | 27.3        | 26.9 | 26.5 | 26.5 | 26.6 | N/A  | 55°C       |
|                            |     | Efficiency COP   | 3.8         | 3.4  | 3.0  | 2.7  | 2.5  | N/A  |            |
|                            | 10  | Heat Output (KW) | 31.8        | 30.9 | 30.3 | 29.9 | 29.7 | 29.5 | 59°C       |
|                            |     | Efficiency COP   | 4.5         | 4.0  | 3.5  | 3.1  | 2.8  | 2.54 |            |
|                            | 15  | Heat Output (KW) | 35.5        | 34.6 | 33.8 | 33.2 | 32.8 | 32.5 | 59°C       |
|                            |     | Efficiency COP   | 5.1         | 4.5  | 4.0  | 3.5  | 3.1  | 2.83 |            |
|                            | 20  | Heat Output (KW) | 39.9        | 38.6 | 37.6 | 36.9 | 36.2 | 35.8 | 59°C       |
|                            |     | Efficiency COP   | 5.8         | 5.1  | 4.4  | 3.9  | 3.5  | 3.11 |            |

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](http://www.lochinvar.ltd.uk)

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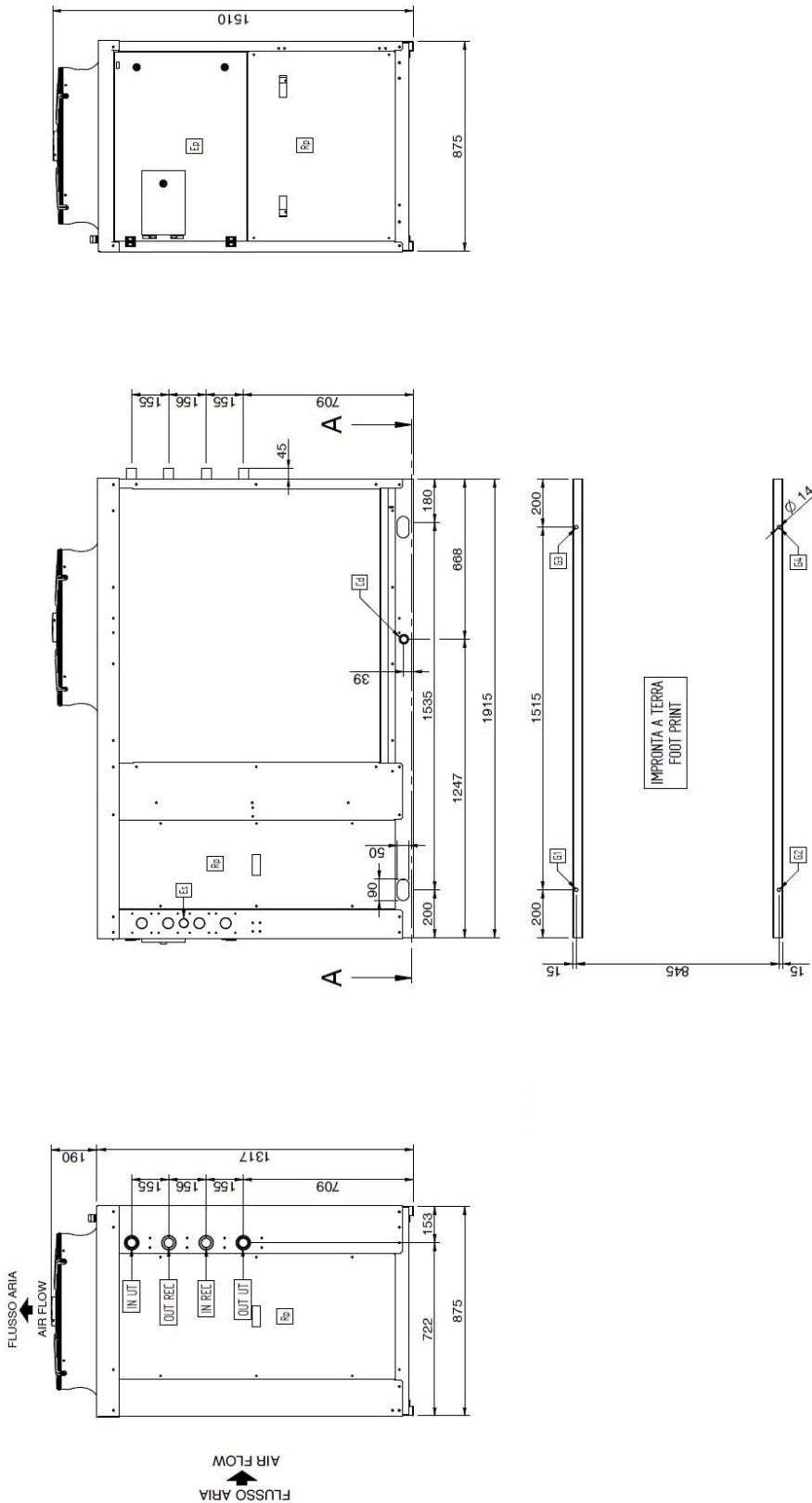
| Model | Octave band (Hz) |      |      |      |      |      |      |      | Lw    |       | Lp    |
|-------|------------------|------|------|------|------|------|------|------|-------|-------|-------|
|       | 63               | 125  | 250  | 500  | 1K   | 2K   | 4K   | 8K   |       |       |       |
|       | dB               | dB   | dB   | dB   | dB   | dB   | dB   | dB   | Db    | dB(A) | dB(A) |
| 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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## AMICUS LAHP-292LTS AIR SOURCE HEAT PUMP



|         | 242 ... 292<br>SAE LS                                 | 242 ... 292<br>HAE LS |
|---------|-------------------------------------------------------|-----------------------|
| Rp      | PANNELLO ASPORTABILE - REMOVABLE PANEL                |                       |
| Ep      | QUADRO ELETTRICO - ELECTRICAL PANEL                   |                       |
| Es      | INGRESSO ALIMENTAZIONE ELETTRICA - POWER SUPPLY INLET |                       |
| Cd      | SCARICO CONDENZA - CONDENSATE DRAIN                   | Ø 1" GAS F            |
| IN UT   | INGRESSO ACQUA UTENTE - USER WATER INLET              | Ø 1" 1/4 GAS M        |
| OUT UT  | USCITA ACQUA UTENTE - USER WATER OUTLET               | Ø 1" 1/4 GAS M        |
| IN REC  | INGRESSO ACQUA RECUPERO - RECOVERY WATER INLET        | Ø 1" 1/4 GAS M        |
| OUT REC | USCITA ACQUA RECUPERO - RECOVERY WATER OUTLET         | Ø 1" 1/4 GAS M        |