

# TECHNICAL PRODUCT SUBMITTAL

## AMICUS LAHP-1002HTXL LOW NOISE AIR SOURCE HEAT PUMP

| Data  | Unit              | Model                |
|---|-------------------|----------------------|
|   |                   | <b>LAHP-1002HTXL</b> |
| <b>Heating Data</b>                                   |                   |                      |
| Heating Capacity (EN14511) <sup>1</sup>               | kW                | 87.5                 |
| Total Power input (EN14511) <sup>1</sup>              | kW                | 20.1                 |
| COP (EN14511) <sup>1</sup>                            | W/W               | 4.35                 |
| Nominal flow rate                                     | m <sup>3</sup> /h | 15.18                |
| Pressure drop across the heat pump                    | kPa               | 48.6                 |
| Design air flow rate                                  | m <sup>3</sup> /h | 28922                |
| <b>EcoDesign data <sup>2</sup></b>                    |                   |                      |
| Energy Label Rating Low temperature                   |                   | A++                  |
| SCOP Low Temperature                                  |                   | 3.91                 |
| Seasonal Efficiency Low temperature                   | %                 | 153                  |
| Energy Label Rating High temperature                  |                   | A++                  |
| SCOP High Temperature                                 |                   | 3.21                 |
| Seasonal Efficiency High temperature                  | %                 | 126                  |
| <b>Cooling Data (RV units only)</b>                   |                   |                      |
| Cooling Capacity (EN14511) <sup>3</sup>               | kW                | 77.6                 |
| Total Power input (EN14511) <sup>3</sup>              | kW                | 26.5                 |
| EER (EN14511) <sup>3</sup>                            | W/W               | 2.93                 |
| Nominal flow rate                                     | m <sup>3</sup> /h | 13.26                |
| Pressure drop across the heat pump                    | kPa               | 33.5                 |
| Design air flow rate                                  | m <sup>3</sup> /h | 31461                |
| <b>General data</b>                                   |                   |                      |
| Refrigerant   |                   | R410A                |
| Compressor Type                                       |                   | E.V.I. Scroll        |
| Number of Compressors                                 |                   | 2                    |
| Number of Circuits                                    |                   | 1                    |
| Capacity steps  |                   | 2                    |
| Minimum capacity step                                 | %                 | 50                   |
| Sound power level                                     | dB(A)             | 75                   |
| Sound pressure level (10m)                            | dB(A)             | 43                   |
| Minimum water content in the user circuit             | litre             | 890                  |
| <b>Electrical Data</b>                                |                   |                      |
| Power supply  | V/Ph/Hz           | 400/3+N/50           |
| Maximum input power                                   | kW                | 41.3                 |
| Maximum input current standard unit                   | A                 | 72.9                 |
| Peak input current standard unit                      | A                 | 214                  |
| Peak input current unit with soft start option fitted | A                 | 143                  |
| Fuse rating (delayed)                                 | A                 | 160                  |
| <b>Fans</b>   |                   |                      |
| Type  |                   | Axial AC             |
| Number of fans (standard unit)                        | n <sup>o</sup>    | 2                    |

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| LAHP-1002HTXL              |                  | Heating OUT      |       |       |       |       |       |       | Max Outlet |      |
|----------------------------|------------------|------------------|-------|-------|-------|-------|-------|-------|------------|------|
| Water Delivery Temperature |                  | 35C              | 40C   | 45C   | 50C   | 55C   | 60C   | 63C   |            |      |
| Source air temperature     | -10              | Heat Output (KW) | 51.0  | 51.1  | 51.4  | 52.1  | 51.1  | 50.5  | 50.4       | 63°C |
|                            |                  | Efficiency COP   | 2.6   | 2.4   | 2.2   | 2.0   | 1.8   | 1.6   | 1.5        |      |
|                            | -8               | Heat Output (KW) | 53.8  | 54.0  | 53.8  | 54.1  | 53.9  | 53.5  | 53.1       | 63°C |
|                            |                  | Efficiency COP   | 2.7   | 2.5   | 2.3   | 2.1   | 1.9   | 1.7   | 1.6        |      |
|                            | -6               | Heat Output (KW) | 56.1  | 56.5  | 56.5  | 56.5  | 56.3  | 56.0  | 55.9       | 63°C |
|                            |                  | Efficiency COP   | 2.8   | 2.6   | 2.4   | 2.1   | 1.9   | 1.8   | 1.7        |      |
|                            | -4               | Heat Output (KW) | 58.8  | 58.8  | 59.2  | 59.1  | 59.1  | 59.5  | 59.2       | 63°C |
|                            |                  | Efficiency COP   | 3.0   | 2.7   | 2.5   | 2.2   | 2.0   | 1.9   | 1.7        |      |
|                            | -2               | Heat Output (KW) | 63.7  | 64.0  | 64.2  | 64.8  | 65.0  | 65.1  | 66.0       | 63°C |
|                            |                  | Efficiency COP   | 3.2   | 2.9   | 2.7   | 2.4   | 2.2   | 2.0   | 1.9        |      |
|                            | 0                | Heat Output (KW) | 68.9  | 69.4  | 69.9  | 70.7  | 71.2  | 71.6  | 72.2       | 63°C |
|                            |                  | Efficiency COP   | 3.4   | 3.1   | 2.9   | 2.6   | 2.4   | 2.2   | 2.1        |      |
|                            | 2                | Heat Output (KW) | 74.3  | 74.9  | 75.5  | 76.3  | 77.2  | 77.7  | 78.5       | 63°C |
|                            |                  | Efficiency COP   | 3.7   | 3.4   | 3.1   | 2.8   | 2.6   | 2.4   | 2.3        |      |
|                            | 4                | Heat Output (KW) | 80.4  | 80.5  | 81.3  | 82.2  | 83.2  | 84.4  | 85.2       | 63°C |
|                            |                  | Efficiency COP   | 4.0   | 3.6   | 3.3   | 3.0   | 2.8   | 2.6   | 2.4        |      |
|                            | 6                | Heat Output (KW) | 85.6  | 86.2  | 86.7  | 87.8  | 89.0  | 90.2  | 90.9       | 63°C |
|                            |                  | Efficiency COP   | 4.2   | 3.9   | 3.5   | 3.2   | 3.0   | 2.7   | 2.6        |      |
|                            | 7                | Heat Output (KW) | 87.6  | 88.0  | 88.7  | 89.7  | 90.8  | 91.7  | 92.4       | 63°C |
|                            |                  | Efficiency COP   | 4.4   | 4.0   | 3.6   | 3.3   | 3.0   | 2.8   | 2.6        |      |
| 8                          | Heat Output (KW) | 89.2             | 89.6  | 90.2  | 91.2  | 92.3  | 93.4  | 93.9  | 63°C       |      |
|                            | Efficiency COP   | 4.4              | 4.0   | 3.7   | 3.4   | 3.1   | 2.8   | 2.7   |            |      |
| 10                         | Heat Output (KW) | 92.8             | 92.8  | 93.3  | 94.2  | 95.3  | 96.4  | 97.1  | 63°C       |      |
|                            | Efficiency COP   | 4.6              | 4.2   | 3.8   | 3.5   | 3.2   | 2.9   | 2.8   |            |      |
| 15                         | Heat Output (KW) | 102.0            | 102.0 | 102.0 | 103.0 | 103.0 | 104.0 | 105.0 | 63°C       |      |
|                            | Efficiency COP   | 5.1              | 4.6   | 4.2   | 3.8   | 3.4   | 3.1   | 3.0   |            |      |
| 20                         | Heat Output (KW) | 110.0            | 109.0 | 109.0 | 110.0 | 110.0 | 111.0 | 111.0 | 63°C       |      |
|                            | Efficiency COP   | 5.5              | 5.0   | 4.5   | 4.1   | 3.7   | 3.4   | 3.2   |            |      |
| 25                         | Heat Output (KW) | 117.0            | 116.0 | 116.0 | 116.0 | 117.0 | 118.0 | 119.0 | 63°C       |      |
|                            | Efficiency COP   | 5.9              | 5.3   | 4.8   | 4.3   | 3.9   | 3.6   | 3.4   |            |      |

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 bands (hz) |      |      |      |      |      |      |      | lw   |    | lp |
|----------|-------------------|------|------|------|------|------|------|------|------|----|----|
|          | 63                | 125  | 250  | 500  | 1k   | 2k   | 4k   | 8k   | db   | db | db |
|          | db                | db   | db   | db   | db   | db   | db   | db   |      |    |    |
| 252HTXL  | 83.1              | 74.3 | 68.2 | 66.7 | 65.6 | 60.2 | 56.8 | 47.7 | 83.9 | 70 | 42 |
| 302HTXL  | 83.1              | 74.3 | 68.2 | 66.7 | 65.6 | 60.2 | 56.8 | 47.7 | 83.9 | 70 | 42 |
| 432HTXL  | 85.1              | 76.3 | 70.2 | 68.7 | 67.6 | 62.2 | 58.8 | 49.7 | 85.9 | 72 | 44 |
| 492HTXL  | 85.1              | 76.3 | 70.2 | 68.7 | 67.6 | 62.2 | 58.8 | 49.7 | 85.9 | 72 | 44 |
| 602HTXL  | 87.1              | 78.3 | 72.2 | 70.7 | 69.6 | 64.2 | 60.8 | 51.7 | 87.9 | 74 | 46 |
| 752HTXL  | 87.1              | 78.3 | 72.2 | 70.7 | 69.6 | 64.2 | 60.8 | 51.7 | 87.9 | 74 | 46 |
| 852HTXL  | 87.1              | 78.3 | 72.2 | 70.7 | 69.6 | 64.2 | 60.8 | 51.7 | 87.9 | 74 | 46 |
| 1002HTXL | 88.1              | 79.3 | 73.2 | 71.7 | 70.6 | 65.2 | 61.8 | 52.7 | 88.9 | 75 | 43 |
| 1202HTXL | 88.1              | 79.3 | 73.2 | 71.7 | 70.6 | 65.2 | 61.8 | 52.7 | 88.9 | 75 | 43 |
| 1454HTXL | 92.1              | 83.3 | 77.2 | 75.7 | 74.6 | 69.2 | 65.8 | 56.7 | 92.9 | 79 | 47 |
| 1654HTXL | 92.1              | 83.3 | 77.2 | 75.7 | 74.6 | 69.2 | 65.8 | 56.7 | 92.9 | 79 | 47 |
| 1854HTXL | 93.1              | 84.3 | 78.2 | 76.7 | 75.6 | 70.2 | 66.8 | 57.7 | 93.9 | 80 | 48 |
| 2154HTXL | 93.1              | 84.3 | 78.2 | 76.7 | 75.6 | 70.2 | 66.8 | 57.7 | 93.9 | 80 | 48 |

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