

# TECHNICAL PRODUCT SUBMITTAL

## AMICUS LAHP-852HTS STANDARD AIR SOURCE HEAT PUMP

| Data                                                  | Unit              | Model              |
|-------------------------------------------------------|-------------------|--------------------|
|                                                       |                   | <b>LAHP-852HTS</b> |
| <b>Heating Data</b>                                   |                   |                    |
| Heating Capacity (EN14511) <sup>1</sup>               | kW                | 74.9               |
| Total Power input (EN14511) <sup>1</sup>              | kW                | 18.1               |
| COP (EN14511) <sup>1</sup>                            | W/W               | 4.14               |
| Nominal flow rate                                     | m <sup>3</sup> /h | 13.16              |
| Pressure drop across the heat pump                    | kPa               | 51.8               |
| Design air flow rate                                  | m <sup>3</sup> /h | 20324              |
| <b>EcoDesign data <sup>2</sup></b>                    |                   |                    |
| Energy Label Rating Low temperature                   |                   | A+                 |
| SCOP Low Temperature                                  |                   | 3.68               |
| Seasonal Efficiency Low temperature                   | %                 | 144                |
| Energy Label Rating High temperature                  |                   | A+                 |
| SCOP High Temperature                                 |                   | 3.1                |
| Seasonal Efficiency High temperature                  | %                 | 121                |
| <b>Cooling Data</b>                                   |                   |                    |
| Cooling Capacity (EN14511) <sup>3</sup>               | kW                | 74.2               |
| Total Power input (EN14511) <sup>3</sup>              | kW                | 25.3               |
| EER (EN14511) <sup>3</sup>                            | W/W               | 2.93               |
| Nominal flow rate                                     | m <sup>3</sup> /h | 12.67              |
| Pressure drop across the heat pump                    | kPa               | 37.6               |
| Design air flow rate                                  | m <sup>3</sup> /h | 19613              |
| <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)             | 84                 |
| Sound pressure level (10m)                            | dB(A)             | 52                 |
| Minimum water content in the user circuit             | litre             | 750                |
| <b>Electrical Data</b>                                |                   |                    |
| Power supply                                          | V/Ph/Hz           | 400/3+N/50         |
| Maximum input power                                   | kW                | 38.9               |
| Maximum input current standard unit                   | A                 | 71.5               |
| Peak input current standard unit                      | A                 | 213                |
| Peak input current unit with soft start option fitted | A                 | 141                |
| Fuse rating (delayed)                                 | A                 | 125                |
| <b>Fans</b>                                           |                   |                    |
| Type                                                  |                   | Axial EC           |
| Number of fans (standard unit)                        | n°                | 2                  |

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| LAHP-852HTS                |     |                  | Heating OUT |       |       |       |       |       |       | Max<br>Outlet |
|----------------------------|-----|------------------|-------------|-------|-------|-------|-------|-------|-------|---------------|
| Water Delivery Temperature |     |                  | 35C         | 40C   | 45C   | 50C   | 55C   | 60C   | 63C   |               |
| Source air temperature     | -10 | Heat Output (KW) | 43.3        | 43.4  | 43.5  | 43.9  | 44.7  | N/A   | N/A   | 55°C          |
|                            |     | Efficiency COP   | 2.5         | 2.3   | 2.1   | 1.9   | 1.7   | N/A   | N/A   |               |
|                            | -8  | Heat Output (KW) | 45.7        | 45.8  | 45.9  | 46.3  | 47.0  | N/A   | N/A   | 55°C          |
|                            |     | Efficiency COP   | 2.6         | 2.4   | 2.2   | 2.0   | 1.8   | N/A   | N/A   |               |
|                            | -6  | Heat Output (KW) | 48.1        | 48.2  | 48.3  | 48.6  | 49.3  | 50.1  | N/A   | 60°C          |
|                            |     | Efficiency COP   | 2.8         | 2.5   | 2.3   | 2.1   | 1.9   | 1.7   | N/A   |               |
|                            | -4  | Heat Output (KW) | 50.4        | 50.5  | 50.9  | 51.0  | 51.4  | 52.2  | N/A   | 60°C          |
|                            |     | Efficiency COP   | 2.9         | 2.6   | 2.4   | 2.1   | 1.9   | 1.8   | N/A   |               |
|                            | -2  | Heat Output (KW) | 52.9        | 53.0  | 53.1  | 53.2  | 53.7  | 54.4  | 54.9  | 63°C          |
|                            |     | Efficiency COP   | 3.0         | 2.7   | 2.5   | 2.2   | 2.0   | 1.8   | 1.7   |               |
|                            | 0   | Heat Output (KW) | 57.0        | 57.1  | 57.5  | 58.1  | 58.7  | 59.2  | 59.9  | 63°C          |
|                            |     | Efficiency COP   | 3.2         | 2.9   | 2.7   | 2.4   | 2.2   | 2.0   | 1.9   |               |
|                            | 2   | Heat Output (KW) | 61.6        | 61.9  | 62.4  | 62.8  | 63.4  | 64.3  | 65.1  | 63°C          |
|                            |     | Efficiency COP   | 3.4         | 3.1   | 2.8   | 2.6   | 2.3   | 2.1   | 2.0   |               |
|                            | 4   | Heat Output (KW) | 66.6        | 67.3  | 67.7  | 68.3  | 69.2  | 70.2  | 71.2  | 63°C          |
|                            |     | Efficiency COP   | 3.7         | 3.4   | 3.1   | 2.8   | 2.5   | 2.3   | 2.2   |               |
|                            | 6   | Heat Output (KW) | 71.7        | 72.2  | 72.9  | 73.7  | 74.7  | 75.9  | 76.8  | 63°C          |
|                            |     | Efficiency COP   | 3.9         | 3.6   | 3.2   | 3.0   | 2.7   | 2.4   | 2.3   |               |
|                            | 7   | Heat Output (KW) | 74.9        | 75.1  | 75.7  | 76.6  | 77.6  | 78.9  | 79.8  | 63°C          |
|                            |     | Efficiency COP   | 4.1         | 3.7   | 3.4   | 3.0   | 2.8   | 2.5   | 2.4   |               |
|                            | 8   | Heat Output (KW) | 77.6        | 77.9  | 78.6  | 79.5  | 80.6  | 81.9  | 82.8  | 63°C          |
|                            |     | Efficiency COP   | 4.2         | 3.8   | 3.5   | 3.1   | 2.9   | 2.6   | 2.5   |               |
|                            | 10  | Heat Output (KW) | 81.7        | 82.3  | 83.0  | 83.5  | 84.4  | 85.6  | 86.4  | 63°C          |
|                            |     | Efficiency COP   | 4.4         | 4.0   | 3.6   | 3.3   | 3.0   | 2.7   | 2.5   |               |
|                            | 15  | Heat Output (KW) | 91.1        | 91.7  | 92.3  | 92.7  | 93.5  | 94.4  | 95.2  | 63°C          |
|                            |     | Efficiency COP   | 4.9         | 4.4   | 3.9   | 3.5   | 3.2   | 2.9   | 2.7   |               |
|                            | 20  | Heat Output (KW) | 101.0       | 102.0 | 102.0 | 103.0 | 103.0 | 104.0 | 105.0 | 63°C          |
|                            |     | Efficiency COP   | 5.3         | 4.8   | 4.3   | 3.8   | 3.4   | 3.1   | 3.0   |               |
|                            | 25  | Heat Output (KW) | 113.0       | 113.0 | 113.0 | 114.0 | 114.0 | 115.0 | 115.0 | 63°C          |
|                            |     | Efficiency COP   | 6.0         | 5.3   | 4.7   | 4.2   | 3.7   | 3.4   | 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](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 |
| 252HTS  | 91.1              | 82.3 | 76.2 | 74.7 | 73.6 | 68.2 | 64.8 | 55.7 | 91.9  | 82 | 50 |
| 302HTS  | 91.1              | 82.3 | 76.2 | 74.7 | 73.6 | 68.2 | 64.8 | 55.7 | 91.9  | 83 | 51 |
| 432HTS  | 92.1              | 83.3 | 77.2 | 75.7 | 74.6 | 69.2 | 65.8 | 56.7 | 92.9  | 84 | 52 |
| 492HTS  | 93.1              | 84.3 | 79.2 | 76.7 | 75.6 | 70.2 | 66.8 | 57.7 | 93.9  | 84 | 52 |
| 602HTS  | 93.1              | 84.3 | 79.2 | 76.7 | 75.6 | 70.2 | 66.8 | 57.7 | 93.9  | 83 | 51 |
| 752HTS  | 93.1              | 84.3 | 79.2 | 76.7 | 75.6 | 70.2 | 66.8 | 57.7 | 93.9  | 84 | 52 |
| 852HTS  | 93.1              | 84.3 | 79.2 | 76.7 | 75.6 | 70.2 | 66.8 | 57.7 | 93.9  | 84 | 52 |
| 1002HTS | 93.1              | 84.3 | 79.2 | 76.7 | 75.6 | 70.2 | 66.8 | 57.7 | 93.9  | 84 | 52 |
| 1202HTS | 93.1              | 84.3 | 79.2 | 76.7 | 75.6 | 70.2 | 66.8 | 57.7 | 93.9  | 87 | 55 |
| 1454HTS | 100.1             | 91.3 | 85.2 | 83.7 | 82.6 | 77.2 | 73.8 | 64.7 | 100.9 | 88 | 56 |
| 1654HTS | 100.1             | 91.3 | 85.2 | 83.7 | 82.6 | 77.2 | 73.8 | 64.7 | 100.9 | 89 | 57 |
| 1854HTS | 101.1             | 92.3 | 86.2 | 84.7 | 83.6 | 78.2 | 74.8 | 65.7 | 101.9 | 88 | 56 |
| 2154HTS | 102.1             | 93.3 | 87.2 | 85.7 | 84.6 | 79.2 | 75.8 | 66.7 | 102.9 | 89 | 57 |

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