

# TECHNICAL PRODUCT SUBMITTAL

## AMICUS LAHP-1454HT AIR SOURCE HEAT PUMP

| EFFICIENCY DATA -Part L2                               |                   |               |
|--|-------------------|---------------|
| Heating Capacity (EN14511) external air+7C 30/35 flow  | kW                | 147.6         |
| Total Power input (EN14511) external air+7C 30/35 flow | kW                | 32.3          |
| COP (EN14511) external air+7C 30/35 flow               | W/W               | 4.6           |
| EFFICIENCY DATA -ErP and Energy Label                  |                   |               |
| Energy Label Rating Low temperature                    |                   | A++           |
| SCOP Low Temperature                                   |                   | 4.1           |
| Seasonal Efficiency Low temperature                    | %                 | 161           |
| Energy Label Rating High temperature                   |                   | A++           |
| SCOP High Temperature                                  |                   | 3.28          |
| Seasonal Efficiency High temperature                   | %                 | 128           |
| GENERAL  |                   |               |
| Refrigerant type                                       |                   | R410A         |
| Compressor Type  |                   | E.V.I. Scroll |
| Number of Compressors                                  |                   | 4             |
| Number of Circuits                                     |                   | 2             |
| Capacity steps   |                   | 4             |
| Minimum capacity step                                  | %                 | 25            |
| ELECTRICAL DATA  |                   |               |
| Power supply   | V/Ph/Hz           | 415/3+N/50    |
| Maximum input power                                    | kW                | 70            |
| Maximum input current standard unit                    | A (per phase)     | 117           |
| Peak input current standard unit                       | A (per phase)     | 231           |
| Peak input current unit with soft start option fitted  | A (per phase)     | 175           |
| Fuse rating (delayed)                                  | A                 | 200           |
| Optional Hydraulic kit input power                     | kW                | 2.45          |
| Optional Hydraulic kit maximum input current           | A                 | 4.53          |
| FANS   |                   |               |
| Fan type (standard unit)                               |                   | Axial         |
| Number of fans (standard unit)                         |                   | 4             |
| Air flow rate for design                               | m <sup>3</sup> /h | 20751         |
| Sound power level <sup>2</sup>                         | dB(A)             | 79            |
| Sound pressure level <sup>3</sup>                      | dB(A)             | 47            |
| WATER  |                   |               |
| Flow/Return connections                                | inch              | 3             |
| Nominal flow rate                                      | L/sec             | 9.10          |
| Pressure drop across the heat exchanger                | kPa               | 38            |
| Minimum water content in the user circuit              | litre             | 750           |
| BREEAM DATA  |                   |               |
| Total refrigerant charge                               | kg                | 49.3          |
| Operational life                                       | Years             | 20            |
| Global warming potential                               |                   | 2088          |

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| LAHP-1454HT                |                  | Heating OUT      |       |       |       |       |       | Max Outlet |      |
|----------------------------|------------------|------------------|-------|-------|-------|-------|-------|------------|------|
| Water Delivery Temperature |                  | 35C              | 40C   | 45C   | 50C   | 55C   | 60C   |            |      |
| performance data           | -10              | Heat Output (KW) | 87.4  | 87.5  | 86.9  | 85.9  | 84.4  | N/A        | 55°c |
|                            |                  | Efficiency COP   | 2.6   | 2.3   | 2.0   | 1.8   | 1.6   | N/A        |      |
|                            | -9               | Heat Output (KW) | 89.8  | 89.6  | 89.3  | 88.4  | 87.4  | 85.3       | 60°c |
|                            |                  | Efficiency COP   | 2.6   | 2.4   | 2.1   | 1.9   | 1.7   | 1.4        |      |
|                            | -8               | Heat Output (KW) | 92.0  | 91.8  | 91.6  | 90.8  | 89.9  | 88.4       | 60°c |
|                            |                  | Efficiency COP   | 2.7   | 2.4   | 2.2   | 1.9   | 1.7   | 1.5        |      |
|                            | -7               | Heat Output (KW) | 93.9  | 93.8  | 93.8  | 93.5  | 92.8  | 91.6       | 60°c |
|                            |                  | Efficiency COP   | 2.8   | 2.5   | 2.2   | 1.9   | 1.7   | 1.5        |      |
|                            | -6               | Heat Output (KW) | 96.1  | 96.2  | 96.1  | 96.0  | 95.3  | 94.6       | 60°c |
|                            |                  | Efficiency COP   | 2.8   | 2.5   | 2.3   | 2.0   | 1.8   | 1.6        |      |
|                            | -5               | Heat Output (KW) | 98.1  | 98.5  | 98.3  | 98.9  | 98.8  | 99.6       | 60°c |
|                            |                  | Efficiency COP   | 2.9   | 2.6   | 2.3   | 2.1   | 1.8   | 1.7        |      |
|                            | -4               | Heat Output (KW) | 102.0 | 103.0 | 103.0 | 104.0 | 104.0 | 105.0      | 60°c |
|                            |                  | Efficiency COP   | 3.0   | 2.7   | 2.4   | 2.2   | 1.9   | 1.7        |      |
|                            | -3               | Heat Output (KW) | 106.0 | 107.0 | 108.0 | 108.0 | 109.0 | 110.0      | 60°c |
|                            |                  | Efficiency COP   | 3.1   | 2.8   | 2.5   | 2.3   | 2.0   | 1.8        |      |
|                            | -2               | Heat Output (KW) | 111.0 | 112.0 | 113.0 | 113.0 | 115.0 | 116.0      | 60°c |
|                            |                  | Efficiency COP   | 3.3   | 3.0   | 2.7   | 2.4   | 2.1   | 1.9        |      |
|                            | 0                | Heat Output (KW) | 120.0 | 121.0 | 122.0 | 123.0 | 125.0 | 127.0      | 60°c |
|                            |                  | Efficiency COP   | 3.5   | 3.2   | 2.9   | 2.6   | 2.3   | 2.1        |      |
| 5                          | Heat Output (KW) | 143.0            | 144.0 | 146.0 | 148.0 | 150.0 | 152.0 | 60°c       |      |
|                            | Efficiency COP   | 4.4              | 3.9   | 3.5   | 3.1   | 2.8   | 2.5   |            |      |
| 10                         | Heat Output (KW) | 157.0            | 158.0 | 159.0 | 161.0 | 163.0 | 167.0 | 60°c       |      |
|                            | Efficiency COP   | 5.0              | 4.4   | 3.9   | 3.5   | 3.1   | 2.8   |            |      |
| 15                         | Heat Output (KW) | 171.0            | 171.0 | 172.0 | 174.0 | 176.0 | 178.0 | 60°c       |      |
|                            | Efficiency COP   | 5.5              | 4.9   | 4.3   | 3.9   | 3.4   | 3.0   |            |      |
| 20                         | Heat Output (KW) | 184.0            | 183.0 | 183.0 | 185.0 | 186.0 | 189.0 | 60°c       |      |
|                            | Efficiency COP   | 6.0              | 5.3   | 4.6   | 4.1   | 3.6   | 3.2   |            |      |
| 25                         | Heat Output (KW) | 200.0            | 199.0 | 199.0 | 200.0 | 202.0 | 204.0 | 60°c       |      |
|                            | Efficiency COP   | 6.5              | 5.7   | 5.1   | 4.5   | 3.9   | 3.5   |            |      |

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)