

# TECHNICAL PRODUCT SUBMITTAL

## AMICUS LAHP-412LTS AIR SOURCE HEAT PUMP

<b>Heating Data <sup>1</sup></b>		
Heating Capacity (EN14511)	kW	37.3
Total Power input (EN14511)	kW	8.8
COP (EN14511)	W/W	4.23
Nominal flow rate	m <sup>3</sup> /h	6.485
Pressure drop across the heat pump	kPa	32.5
Design air flow rate	m <sup>3</sup> /h	15760
<b>EcoDesign data <sup>2</sup></b>		
Energy Label Rating Low temperature		A++
SCOP Low Temperature		3.85
Seasonal Efficiency Low temperature	%	150.9
<b>Cooling Data (RV units only) <sup>3</sup></b>		
Cooling Capacity (EN14511)	kW	30.5
Total Power input (EN14511)	kW	11
EER (EN14511)	W/W	2.77
Nominal flow rate	m <sup>3</sup> /h	5.2
Pressure drop across the heat pump	kPa	23.2
Design air flow rate	m <sup>3</sup> /h	16547
<b>General</b>		
Refrigerant type		R410A
Compressor Type		Scroll
Number of Compressors		2
Number of Circuits		1
Capacity steps		2
Minimum capacity step	%	50
<b>Electrical Data</b>		
Power supply	V/Ph/Hz	400/3+N/50
Maximum input power	kW	17
Maximum input current standard unit	A	28
Peak input current standard unit	A	81
Peak input current unit with soft start option fitted	A	55
Fuse rating (delayed)	A	50
Optional Hydraulic kit input power	kW	0.55
Optional Hydraulic kit maximum input current	A	1.58
<b>Fans</b>		
Fan type (standard unit)		Axial
Number of fans (standard unit)		2
Air flow rate for design	m <sup>3</sup> /h	19084
Sound power level <sup>2</sup>	dB(A)	74
Sound pressure level <sup>3</sup>	dB(A)	42

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LAHP-412LTS			Heating OUT						
Water Delivery Temperature			35C	40C	45C	50C	55C	59C	Max outlet
<b>performance data</b>	<b>-10</b>	Heat Output (KW)	19.8	19.3	N/A	N/A	N/A	N/A	40°C
		Efficiency COP	2.1	1.8	N/A	N/A	N/A	N/A	
	<b>-7</b>	Heat Output (KW)	21.3	20.7	N/A	N/A	N/A	N/A	40°C
		Efficiency COP	2.2	2.0	N/A	N/A	N/A	N/A	
	<b>-5</b>	Heat Output (KW)	22.7	22.1	21.6	N/A	N/A	N/A	45°C
		Efficiency COP	2.4	2.1	1.9	N/A	N/A	N/A	
	<b>-4</b>	Heat Output (KW)	23.9	23.2	22.8	N/A	N/A	N/A	45°C
		Efficiency COP	2.5	2.2	2.0	N/A	N/A	N/A	
	<b>-3</b>	Heat Output (KW)	25.0	24.4	24	N/A	N/A	N/A	45°C
		Efficiency COP	2.7	2.35	2.07	N/A	N/A	N/A	
	<b>-2</b>	Heat Output (KW)	26.3	25.6	25.2	25.0	N/A	N/A	50°C
		Efficiency COP	2.8	2.5	2.2	2.0	N/A	N/A	
	<b>0</b>	Heat Output (KW)	28.7	28.2	27.7	27.6	N/A	N/A	50°C
		Efficiency COP	3.1	2.7	2.4	2.2	N/A	N/A	
	<b>5</b>	Heat Output (KW)	35.4	34.5	33.9	33.4	33.1	N/A	55°C
		Efficiency COP	3.9	3.5	3.1	2.7	2.4	N/A	
	<b>10</b>	Heat Output (KW)	39.9	38.8	37.8	37.1	36.7	36.5	59°C
		Efficiency COP	4.6	4.1	3.6	3.1	2.8	2.52	
<b>15</b>	Heat Output (KW)	44.7	43.3	42.2	41.3	40.6	40.2	59°C	
	Efficiency COP	5.3	4.7	4.1	3.6	3.1	2.83		
<b>20</b>	Heat Output (KW)	50.1	48.3	46.9	45.7	44.8	44.4	59°C	
	Efficiency COP	6.1	5.3	4.6	4.0	3.5	3.15		

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(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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