

# TECHNICAL PRODUCT SUBMITTAL

## AMICUS LAHP-452HT AIR SOURCE HEAT PUMP

EFFICIENCY DATA -Part L2		
Heating Capacity (EN14511) external air+7C 30/35 flow	kW	41.1
Total Power input (EN14511) external air+7C 30/35 flow	kW	9.5
COP (EN14511) external air+7C 30/35 flow	W/W	4.35
EFFICIENCY DATA -ErP and Energy Label		
Energy Label Rating Low temperature		A++
SCOP Low Temperature		3.84
Seasonal Efficiency Low temperature	%	150.5
Energy Label Rating High temperature		A+
SCOP High Temperature		3.11
Seasonal Efficiency High temperature	%	121.4
GENERAL		
Refrigerant type		R410A
Compressor Type		E.V.I. Scroll
Number of Compressors		2
Number of Circuits		1
Capacity steps		2
Minimum capacity step	%	50
ELECTRICAL DATA		
Power supply	V/Ph/Hz	415/3+N/50
Maximum input power	kW	26
Maximum input current standard unit	A (per phase)	40
Peak input current standard unit	A (per phase)	108
Peak input current unit with soft start option fitted	A (per phase)	72
Fuse rating (delayed)	A	100
Optional Hydraulic kit input power	kW	0.9
Optional Hydraulic kit maximum input current	A	2.37
FANS		
Fan type (standard unit)		Axial
Number of fans (standard unit)		2
Air flow rate for design	m <sup>3</sup> /h	15120
Sound power level <sup>2</sup>	dB(A)	73
Sound pressure level <sup>3</sup>	dB(A)	41
WATER		
Flow/Return connections	inch	1½
Nominal flow rate	L/sec	2.58
Pressure drop across the heat exchanger	kPa	17.7
Minimum water content in the user circuit	litre	400
BREEAM DATA		
Total refrigerant charge	kg	10.9
Operational life	Years	20
Global warming potential		2088

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LAHP-452HT			Heating OUT							Max Outlet
Water Delivery Temperature		35C	40C	45C	50C	55C	60C	65C		
performance data	-10	Heat Output (KW)	23.7	23.7	23.8	24.0	24.2	N/A	N/A	55°C
		Efficiency COP	2.5	2.3	2.1	1.9	1.8	N/A	N/A	
	-9	Heat Output (KW)	24.4	24.4	24.5	24.6	24.8	25.2	N/A	60°C
		Efficiency COP	2.6	2.4	2.2	2.0	1.8	1.6	N/A	
	-8	Heat Output (KW)	25.0	25.0	25.1	25.2	25.4	25.7	N/A	60°C
		Efficiency COP	2.7	2.4	2.2	2.0	1.8	1.7	N/A	
	-7	Heat Output (KW)	25.6	25.6	25.6	25.8	26.0	26.3	N/A	60°C
		Efficiency COP	2.7	2.5	2.3	2.1	1.9	1.7	N/A	
	-6	Heat Output (KW)	26.2	26.2	26.2	26.4	26.5	26.8	N/A	60°C
		Efficiency COP	2.8	2.5	2.3	2.1	1.9	1.7	N/A	
	-5	Heat Output (KW)	26.8	26.9	26.9	26.9	27.4	27.4	N/A	60°C
		Efficiency COP	2.8	2.6	2.3	2.1	1.9	1.8	N/A	
	-4	Heat Output (KW)	27.4	27.4	27.5	27.6	27.7	28.0	28.6	65°C
		Efficiency COP	2.9	2.6	2.4	2.2	2.0	1.8	1.6	
	-3	Heat Output (KW)	28.3	28.4	28.5	28.6	28.7	29.0	29.7	65°C
		Efficiency COP	3.0	2.7	2.5	2.2	2.0	1.8	1.7	
	-2	Heat Output (KW)	29.5	29.6	29.8	29.9	30.1	31.1	31.2	65°C
		Efficiency COP	3.1	2.9	2.6	2.3	2.1	2.0	1.8	
	0	Heat Output (KW)	32.1	32.2	32.4	32.7	32.9	33.3	34.1	65°C
		Efficiency COP	3.4	3.1	2.8	2.5	2.3	2.1	1.9	
5	Heat Output (KW)	38.8	38.9	39.1	39.6	40.1	40.8	41.6	65°C	
	Efficiency COP	4.1	3.7	3.3	3.0	2.8	2.5	2.3		
10	Heat Output (KW)	43.4	43.6	43.9	44.3	44.8	45.3	46.0	65°C	
	Efficiency COP	4.6	4.2	3.8	3.4	3.1	2.8	2.3		
15	Heat Output (KW)	47.4	47.5	47.7	48.0	48.5	49.0	49.6	65°C	
	Efficiency COP	5.1	4.6	4.1	3.7	3.3	3.0	2.7		
20	Heat Output (KW)	51.0	51.0	51.1	51.4	51.8	52.3	52.8	65°C	
	Efficiency COP	5.5	5.0	4.4	4.0	3.6	3.2	2.9		
25	Heat Output (KW)	53.8	53.8	53.8	54.0	54.3	54.7	55.2	65°C	
	Efficiency COP	5.9	5.3	4.7	4.2	3.7	3.4	3.0		

Optional Hydraulic kit Pump details		
Model	LAHP-452HT	
Nominal Input power	kW	0.9
Nominal Input current	A	2.37
Nominal water flow rate	l/h	7088
Total head available at the pump	kPa	190
Available head for system pipework	kPa	138
Power supply	V/ph/Hz	400/3/50

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)