

Amicus Boost water source heat pumps



- Heating capacity up to 496kW
- Designed for use with heat recovery/reclaim systems
- Operates at temperatures of up to 78°C
- COP up to 5.14
- SCOP up to 4.47
- Stage compressors
- Integral controls including:
 - BMS fault and remote on/off signal
 - Indirect water heater control with DHW priority



Lochinvar[®]
HIGH EFFICIENCY BOILERS & WATER HEATERS

Lochinvar

Amicus Boost water source heat pumps

Amicus Boost heat pumps are designed for use in hybrid heating and hot water systems; they can be installed in conjunction with Amicus LT air source heat pumps, for which Lochinvar can provide all major components, providing the convenience of a single supplier solution. They can also operate with heat recovery/ reclaim systems.

Both can help to reduce capital cost, when compared to a standalone air source heat pump system, and will provide high levels of operating efficiency all year round.



Outputs up to 496kW

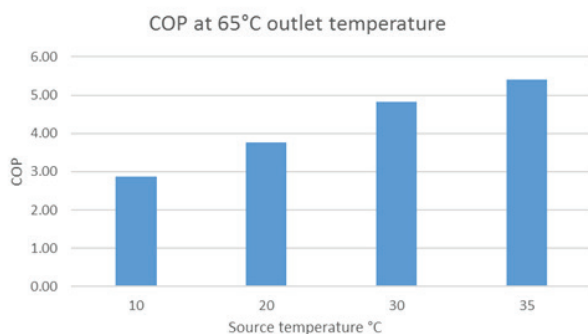
Subject to operational conditions and system design, the heating capacity of Amicus Boost heat pumps ranges from 30 to 496kW.

High operating temperatures

Amicus Boost can provide temperatures of up to 78°C for LTHW making them suitable for new build or retrofit LTHW systems. They can also comfortably provide required temperatures for a wide range of hot water requirements.

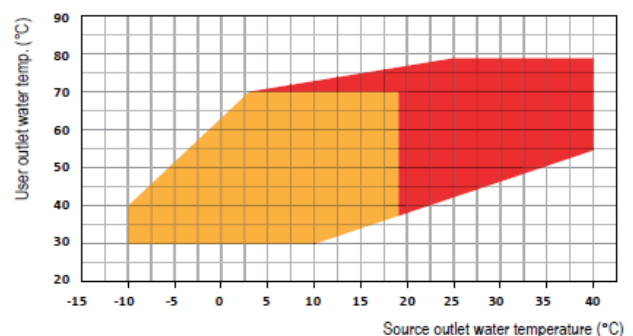
COP (Coefficient of Performance)

The efficiency of a heat pump is often expressed as COP; this is the ratio of heat output available from a single unit of heat input. Amicus Boost have COP of up to 5.14, which could also be described as an efficiency of up to 514%.



Stage compressors

All Amicus Boost models are designed with stage compressors; as temperature approaches setpoint, the heat pump controls will turn off one or more compressors. This feature improves operating efficiency and prevents the heat pump from overshooting the temperature setpoint.

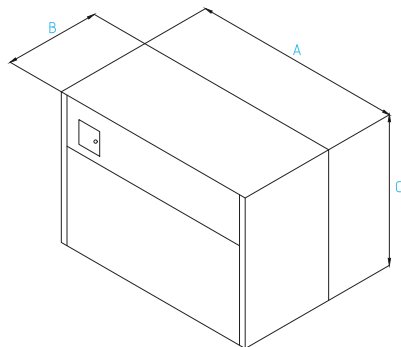


Ambient Loops

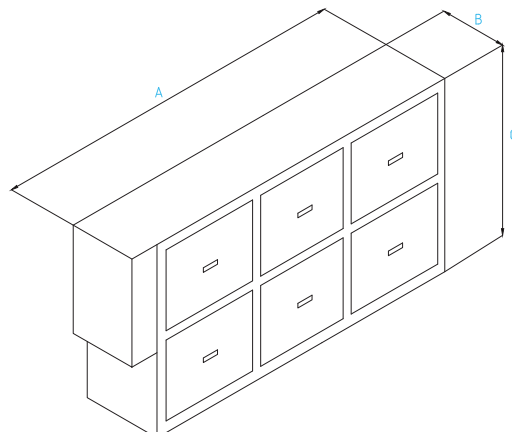
Amicus Boost heat pumps have an acceptance temperature range of 10 to 35°C, so Heat Sharing Networks (Ambient Loops) can be an effective water source the Boost Heat Pump can utilise.

All Amicus Boost units can deliver high temperatures to a Heating or Hot Water system with a localised efficiency in excess of 500%.

Dimensional drawings



Models LAHP302WW to LAHP1402WW



Models LAHP1804WW to LAHP2604WW

Legend	Data	Unit	Model (LAHP WW)									
			LAHP-302WW	LAHP-402WW	LAHP-602WW	LAHP-702WW	LAHP-902WW	LAHP-1202WW	LAHP-1402WW	LAHP-1804WW	LAHP-2304WW	LAHP-2604WW
A	Length	mm	1154	1154	1154	1154	1154	1154	1154	2844	2844	2844
B	Depth	mm	790	790	790	790	790	790	790	794	794	794
C	Height	mm	1631	1631	1631	1631	1631	1631	1631	1900	1900	1900
Weight		Kg	660	680	700	730	740	760	790	1320	1390	1430

Integral controls and factory fitted options

All Amicus Boost models include the following controls as standard:

- BMS on/off signal
- BMS alarm signal
- Heating and DHW control with DHW priority

Ancillary, factory fitted options

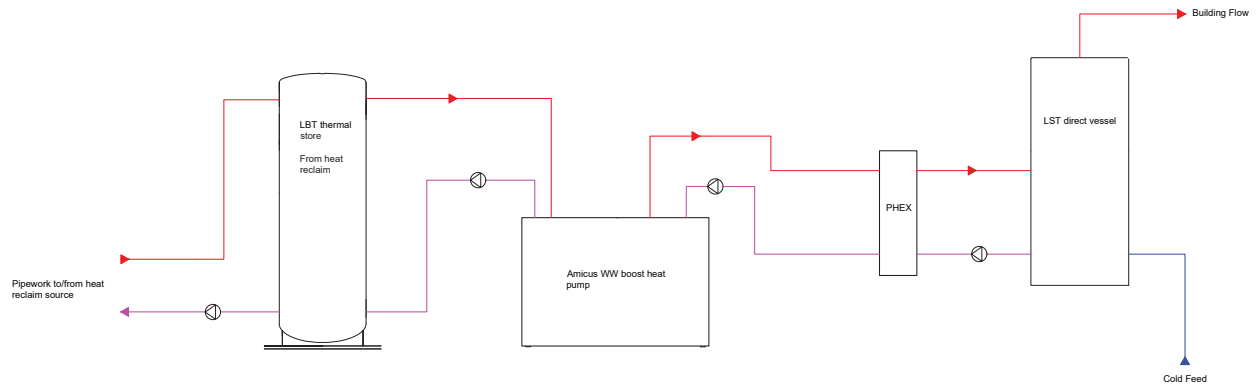
- Anti-vibration mountings
- Soft start
- Remote control

Hybrid heating / hot water systems

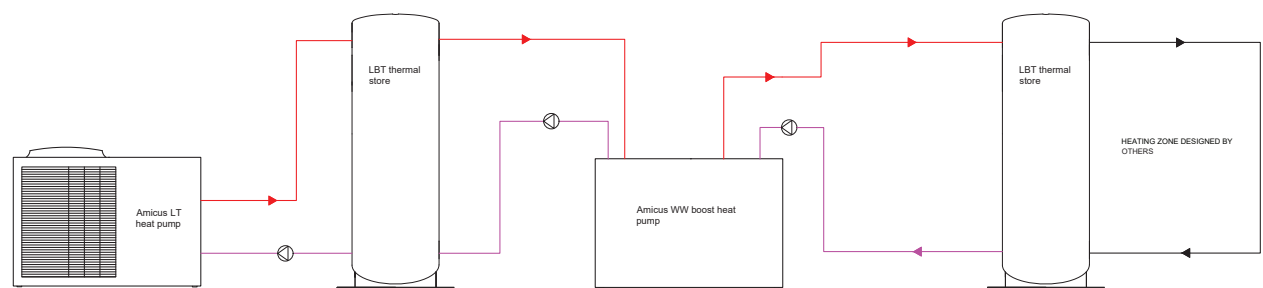
Amicus Boost heat pumps can combine with other products to provide low carbon, highly efficient heating and hot water systems. They are particularly suitable for installation with:

- Amicus LT air source heat pumps
- High efficiency gas-fired boilers
- High efficiency gas-fired water heaters
- Fast recovery electric water heaters
- Waste heat recovery

Typical Schematic Drawings

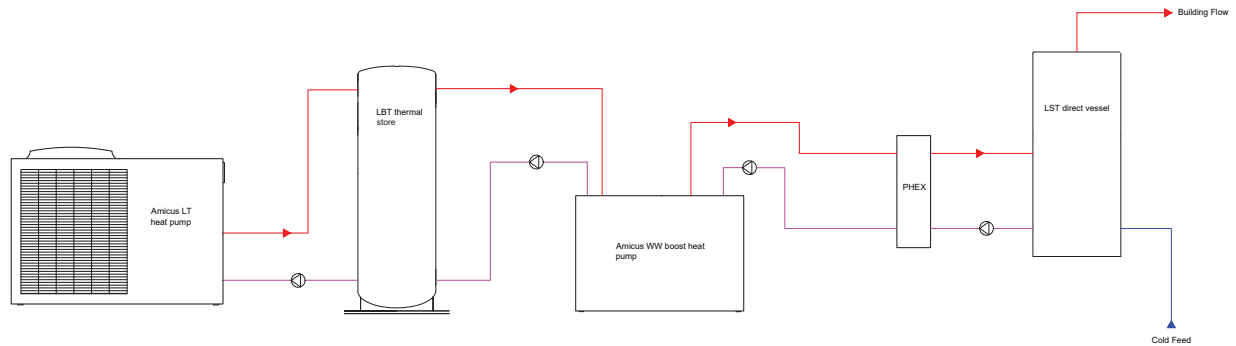


Amicus Boost heat pump with heat recovery/reclaim to provide hot water

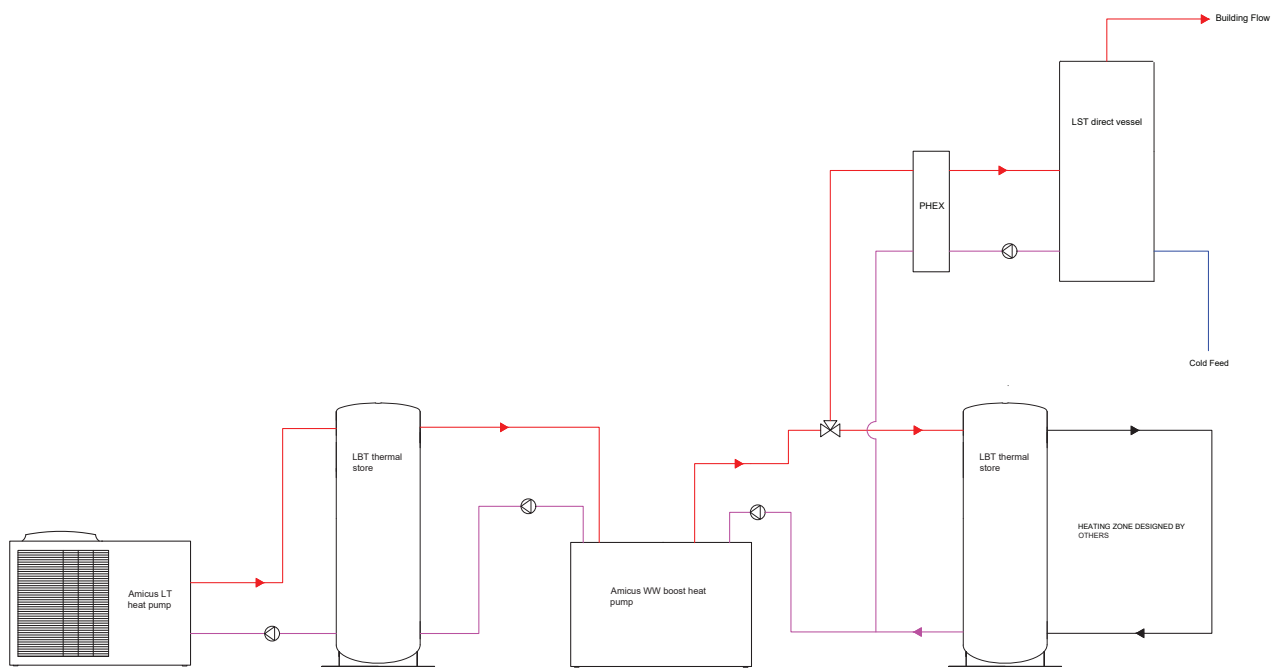


Amicus Boost with Amicus LT providing heating only

Typical schematic drawings



Amicus Boost with Amicus LT providing hot water only



Amicus Boost with Amicus LT providing heating and hot water

Technical specification

Model		LAHP302WW	LAHP402WW	LAHP602WW	LAHP702WW	LAHP902WW
Efficiency data - Part L2						
Heating capacity (EN14511) ¹	kW	38.8	46.0	58.4	70.3	88.4
Total power input (EN14511) ¹	kW	8.20	9.40	11.80	14.80	18.80
COP (EN14511) ¹	W/W	4.73	4.85	4.93	4.76	4.70
Heating capacity (EN14511) ²	kW	62.17	72.35	105.30	122.00	161.40
Total power input (EN14511) ²	kW	12.90	14.05	21.54	26.21	34.13
COP (EN14511) ²	W/W	4.819	5.149	4.889	4.655	4.730
Efficiency data - ErP and energy label						
EcoDesign energy label rating	LT/HT	A++/A++	A++/A++	A++/A++	A++/A++	A++/A++
Seasonal efficiency low temperature ³	%	185.9	192.1	198.2	191.8	195.3
Seasonal efficiency high temperature ³	%	154.8	159.6	163.0	159.0	158.3
SCOP low temperature		4.85	5.00	5.16	5.00	5.08
SCOP high temperature		4.07	4.19	4.28	4.18	4.16
General data						
Refrigerant		R134A	R134A	R134A	R134A	R134A
Power supply	V/Ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
Compressors/circuits	N°	2/1	2/1	2/1	2/1	2/1
Sound power level ⁴	dB(A)	65	65	70	73	74
Sound pressure level ⁵	dB(A)	49	49	54	57	58
Weight	Kg	660	680	700	730	740

Model		LAHP1202WW	LAHP1402WW	LAHP1804WW	LAHP2304WW	LAHP2604WW
Efficiency Data - Part L2						
Heating capacity (EN14511) ¹	kW	109.9	136.5	176.9	219.5	273.2
Total power input (EN14511) ¹	kW	23.1	27.9	37.2	45.7	55.3
COP (EN14511) ¹	W/W	4.75	4.88	4.75	4.80	4.94
Heating capacity (EN14511) ²	kW	200.3	248.0	322.7	401.0	496.1
Total power input (EN14511) ²	kW	41.61	51.24	67.89	82.97	102.20
COP (EN14511) ²	W/W	4.810	4.840	4.753	4.834	4.854
Efficiency data - ErP and energy label						
EcoDesign energy label Rating	LT/HT	A++/A++	A++/A++	A++/A++	A++/A++	A++/A++
Seasonal efficiency low temperature ³	%	198.9	206.3	203.4	207.0	214.4
Seasonal efficiency high temperature ³	%	160.9	165.9	162.8	165.6	170.7
SCOP low temperature		5.17	5.36	5.29	5.38	5.56
SCOP high temperature		4.22	4.35	4.27	4.34	4.47
General data						
Refrigerant		R134A	R134A	R134A	R134A	R134A
Power supply	V/Ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
Compressors/Circuits	N°	2/1	2/1	4/2	4/2	4/2
Sound power level ⁴	dB(A)	76	78	88	89	91
Sound pressure level ⁵	dB(A)	60	62	72	73	75
Weight	Kg	760	790	1320	1390	1430

1) Heating: user water temperature 30/35°C, source water temperature 10/7°C

2) Heating: user water temperature 60/65°C, source water temperature 35/30°C

3) Average conditions, variable- Reg EU 811/2013

4) Sound power level in accordance with ISO 3744

5) Sound pressure level at 1 mt from the unit in free field conditions direction factor Q=2, calculated in accordance with ISO 3744



Lochinvar Ltd reserves the right to change specifications without prior notice