

# 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 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

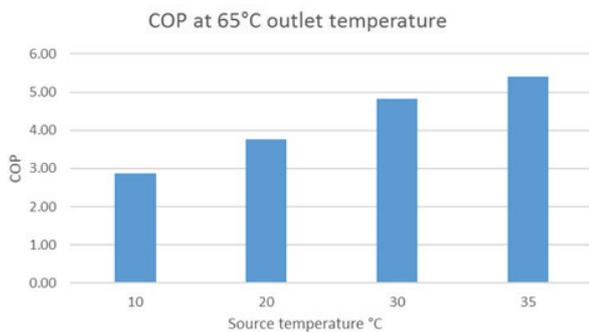
Subject to operational conditions and system design, the heating capacity of Amicus Boost heat pumps ranges from 30 to 496kW.

## 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.

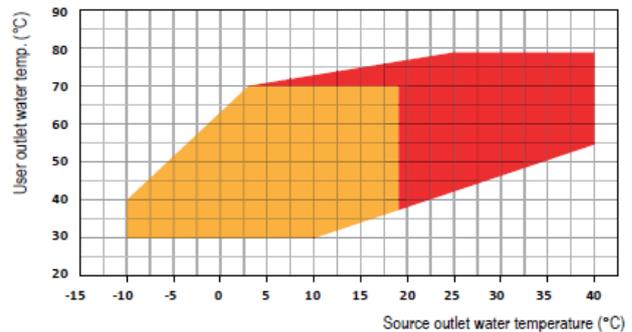
## COP (Coefficient of Performance)

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.

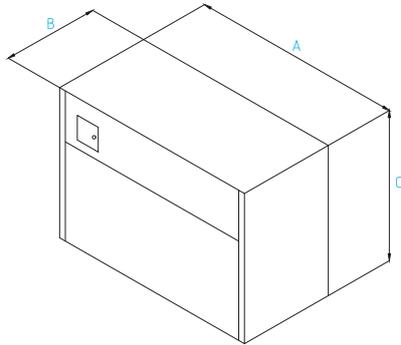


## Ambient Loops

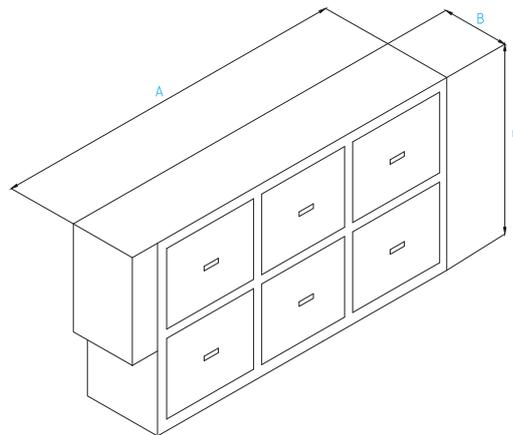
Amicus Boost heat pumps have an acceptance temperature range of 10 to 35°C, so Heat Sharing Networks (Ambient Loops) can be an effective water source the Boost Heat Pump can utilise.

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	1150	1150	1150	1150	1150	1150	1150	1150	2170	2170	2170
B	Depth	mm	800	800	800	800	800	800	800	800	800	800	800
C	Height	mm	1600	1600	1600	1600	1600	1600	1600	1600	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

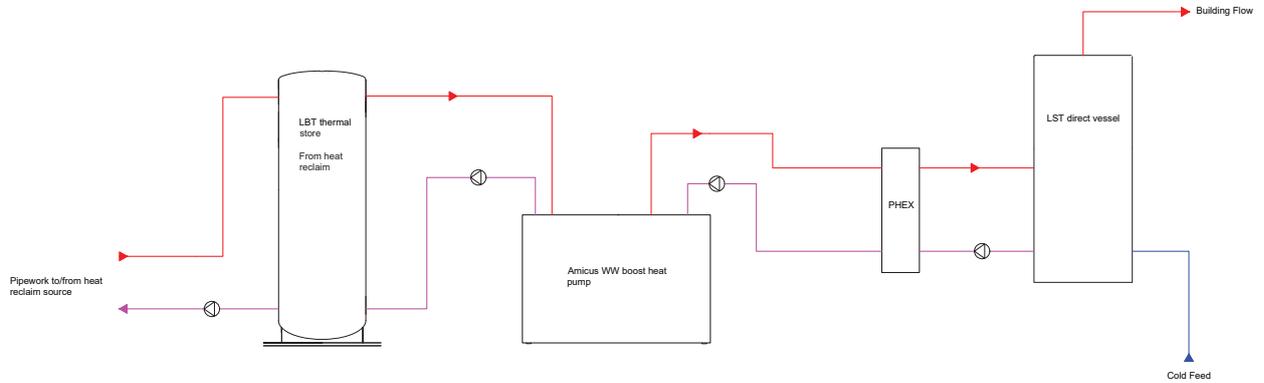
- Anti-vibration mountings
- Soft start
- Remote control

## Hybrid heating / hot water systems

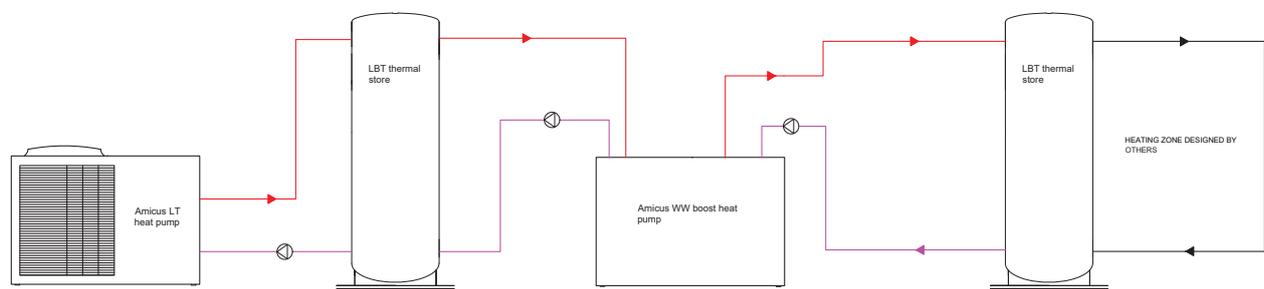
Amicus Boost heat pumps can combine with other products to provide low carbon, highly efficient heating and hot water systems. They are particularly suitable for installation with:

- 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

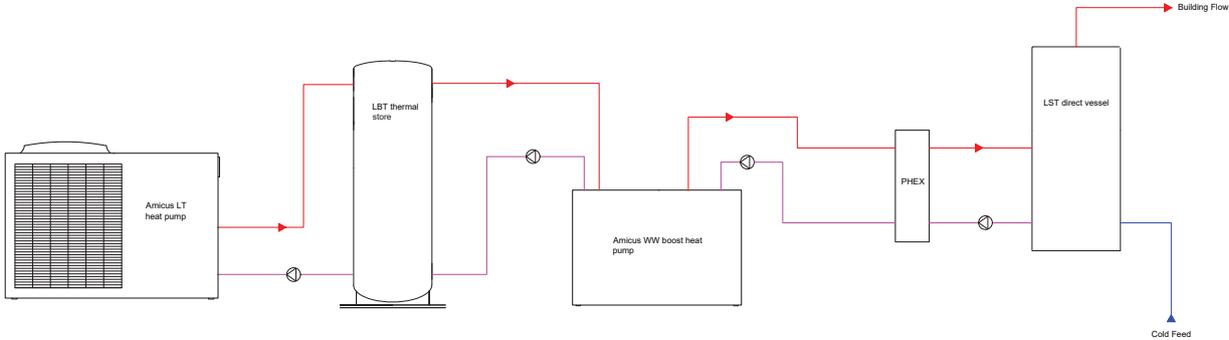


Amicus Boost heat pump with heat recovery/reclaim to provide hot water

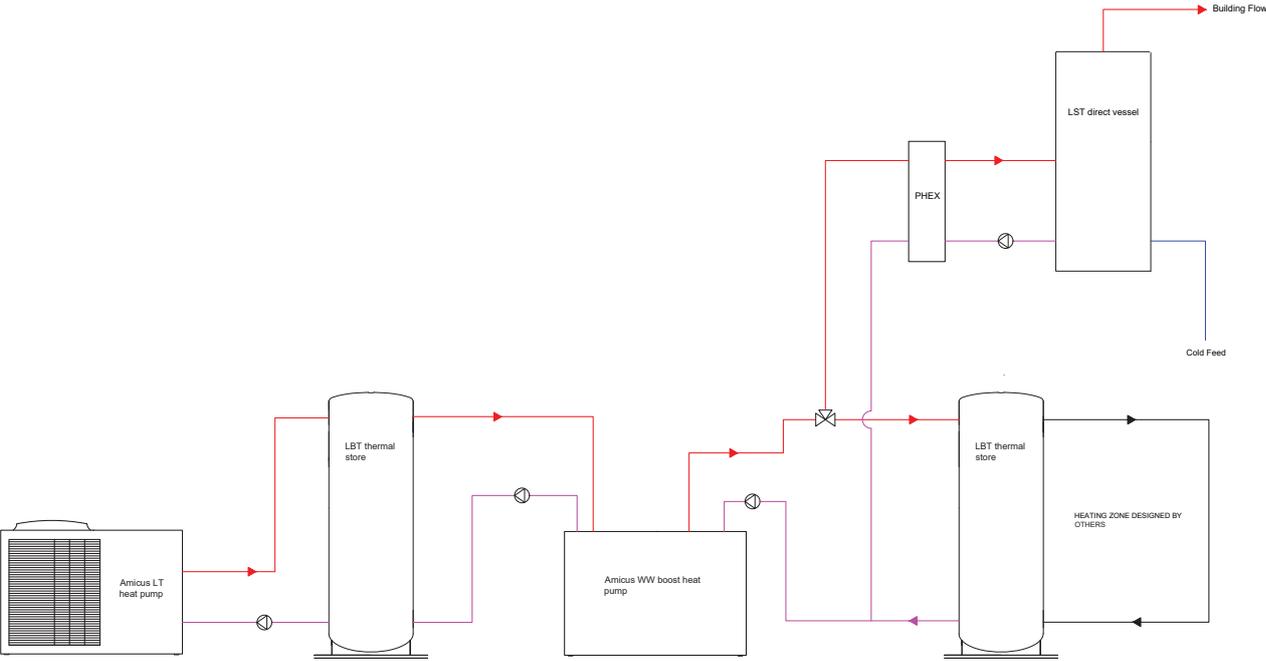


Amicus Boost with Amicus LT providing heating only

# 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
<b>Efficiency data - Part L2</b>						
Heating capacity (EN14511) <sup>1</sup>	kW	38.8	46.0	58.4	70.3	88.4
Total power input (EN14511) <sup>1</sup>	kW	8.20	9.40	11.80	14.80	18.80
COP (EN14511) <sup>1</sup>	W/W	4.73	4.85	4.93	4.76	4.70
Heating capacity (EN14511) <sup>2</sup>	kW	62.17	72.35	105.30	122.00	161.40
Total power input (EN14511) <sup>2</sup>	kW	12.90	14.05	21.54	26.21	34.13
COP (EN14511) <sup>2</sup>	W/W	4.819	5.149	4.889	4.655	4.730
<b>Efficiency data - ErP and energy label</b>						
EcoDesign energy label rating	LT/HT	A++/A++	A++/A++	A++/A++	A++/A++	A++/A++
Seasonal efficiency low temperature <sup>3</sup>	%	185.9	192.1	198.2	191.8	195.3
Seasonal efficiency high temperature <sup>3</sup>	%	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
<b>General data</b>						
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 <sup>4</sup>	dB(A)	65	65	70	73	74
Sound pressure level <sup>5</sup>	dB(A)	49	49	54	57	58
Weight	Kg	660	680	700	730	740

Model		LAHP1202WW	LAHP1402WW	LAHP1804WW	LAHP2304WW	LAHP2604WW
<b>Efficiency Data - Part L2</b>						
Heating capacity (EN14511) <sup>1</sup>	kW	109.9	136.5	176.9	219.5	273.2
Total power input (EN14511) <sup>1</sup>	kW	23.1	27.9	37.2	45.7	55.3
COP (EN14511) <sup>1</sup>	W/W	4.75	4.88	4.75	4.80	4.94
Heating capacity (EN14511) <sup>2</sup>	kW	200.3	248.0	322.7	401.0	496.1
Total power input (EN14511) <sup>2</sup>	kW	41.61	51.24	67.89	82.97	102.20
COP (EN14511) <sup>2</sup>	W/W	4.810	4.840	4.753	4.834	4.854
<b>Efficiency data - ErP and energy label</b>						
EcoDesign energy label Rating	LT/HT	A++/A++	A++/A++	A++/A++	A++/A++	A++/A++
Seasonal efficiency low temperature <sup>3</sup>	%	198.9	206.3	203.4	207.0	214.4
Seasonal efficiency high temperature <sup>3</sup>	%	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
<b>General data</b>						
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 <sup>4</sup>	dB(A)	76	78	88	89	91
Sound pressure level <sup>5</sup>	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

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