



# Alterra WZSV

Indoor apartment heat station with integrated 180 litre glass lined DHW cylinder



MODELS

7

OUTPUT (kW)

6.0 - 13.5

# Alterra WZSV

The Alterra WZSV from Modutherm is a compact brine/water source indoor heat station intended for use within 5th generation heat networks, where an ambient loop is the source of energy, or for standalone properties where energy is sourced from a series of geothermal probes or ground collectors. The WZSV can provide heating and comfort cooling, and the 180-litre storage cylinder can deliver domestic hot water for the whole family.

The Alterra WZSV provides the perfect solution for achieving high output within limited space constraints whilst being energy efficient. The inverter drive technology adapts output to match the property and its occupants, saving on electricity costs and energy. A low starting current also assists the network operator accordingly.

The attractive and modern appearance means the unit will not look out of place in a kitchen or other living area should a utility cupboard not be available. With internal parts accessible from the front of the appliance, the WZSV can also be installed in tight spaces.



2

2 Year Warranty\*

SG

Smart Grid Ready

PV

Solar PV Ready

## Compact dimensions

Despite the many integrated components, the dimensions of the Alterra WZSV are very frugal, and the unit takes up less than half a square meter of floor space, making the WZSV ideal where space is at a premium, such as within city apartment buildings.

- A+++ energy efficiency - low energy costs
- COP up to 4.87
- Heating, domestic hot water and comfort cooling all in one appliance
- Space-saving dimensions and flexible positioning
- Attractive design
- Completely pre-assembled including 180-litre glass-lined DHW cylinder
- Up to 9kW of electrical elements for back up of heating and DHW
- Ultra-quiet operation
- Weather compensation of heating

## Easy controls

The Alterra WZSV is equipped with an integrated/wall-mounted user interface. The unit is also manageable remotely via a smartphone app.

- 65°C maximum flow temperature
- Integrated/wall-mounted user interface
- Removable heat pump module box for ease of transportation and servicing
- Heating and DHW available even when heat pump module box is removed
- Top connections
- Integration with photovoltaic systems, solar thermal and other technologies is possible
- BMS compatible
- Energy consumption meter
- Optional kit for unvented DHW application



**V-line**  
 This label immediately identifies the  
 inverter-controlled heat pumps

### Models

**H** Heating/DHW

**K** Heating/DHW/Cooling

Note: H models can be retrofitted  
 with comfort cooling components to  
 become K model



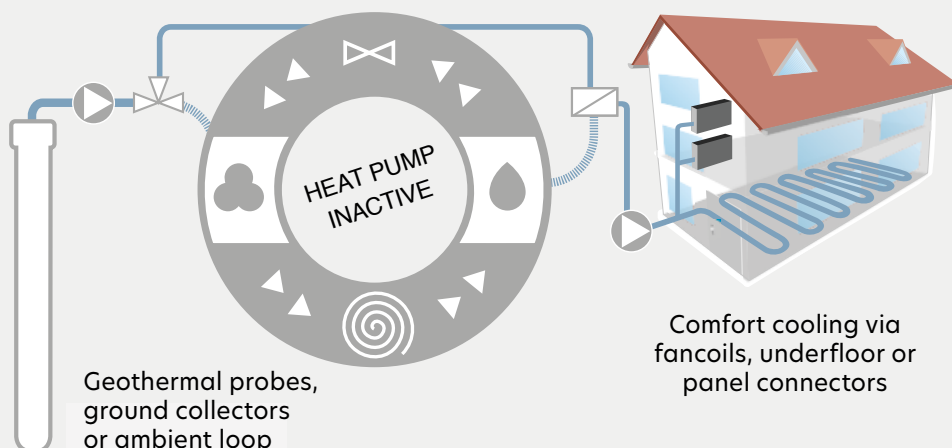
## Comfort Cooling Included

With every model of Alterra WZSV, natural comfort cooling can be provided. Natural comfort cooling is a very cost-effective and environmentally friendly way of providing cooling as the compressor of the WZSV remains switched off during this time, which saves energy and lengthens the serviceable life of the appliance. Low-temperature brine/water, sourced from the ground or ambient loop, is passed through a heat exchanger within the unit and then onto fan coils, underfloor systems or panel convectors that will maintain the temperature within the room at a comfortable level.

When installed as a ground source appliance, natural cooling provided by the unit is especially beneficial, as comfort cooling is provided for virtually no cost.

Comfort cooling can be supplied as standard or available as parts to be retrofitted, depending on the model.

### NATURAL COOLING



# Controllers

## Luxtronic

The Alterra WZSV features Alpha Innotec's Luxtronic 'turn and tip' controller, where desired temperatures and required settings can be stored to allow automatic regulation of the heat pump. The simple and user-friendly interface can be installed on the front of the appliance or mounted on a wall.

Connection to the USB port of the interface allows qualified personnel to apply software updates, log data or see historical fault codes. The integrated RJ45 port allows direct connection of the WZSV to the internet for remote control.

### Did you know?

The Alpha Control app allows the Alterra WZSV to be controlled via a smartphone or tablet. Download it from:

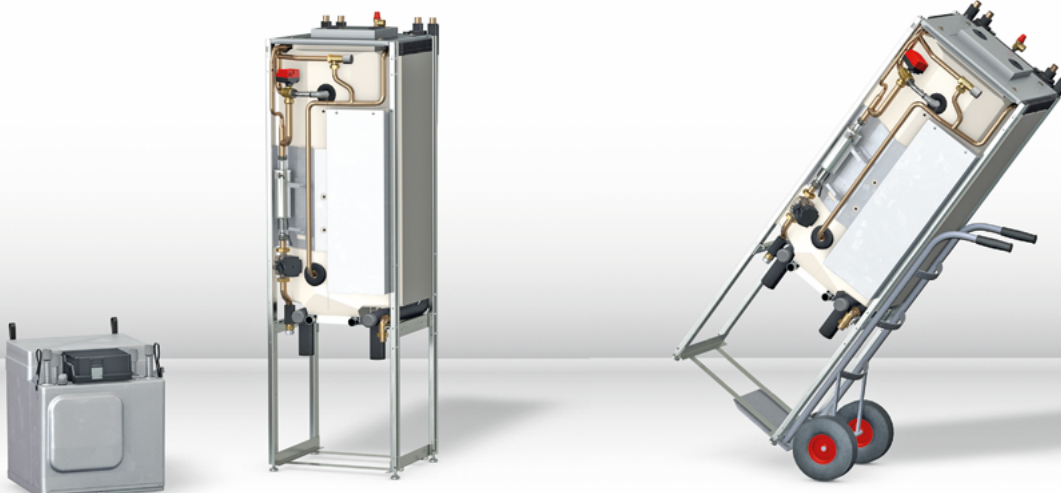


# Easy to Transport & Install

Once the decorative case panels have been removed from the Alterra WZSV, the self-contained refrigeration circuit module box can be quickly and easily extracted to lighten the load for ease of transportation. During the manoeuvre of the appliance, the tower can be laid flat on either side, ensuring that the module box is removed first. Removal of the box will reduce the dry weight of the WZSV by at least a third, making extraction of the box the sensible choice.

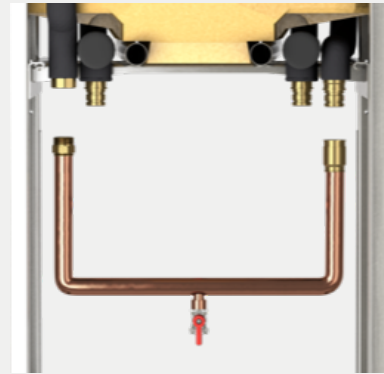
Finally, the tower and module box can be transported separately to the final position by sack truck, flatbed trolley, stair climber or man handling, where the box can be re-instated within the unit.

See the Alterra WZSV operating manual for guidance regarding transportation at: [modutherm.co.uk](http://modutherm.co.uk).

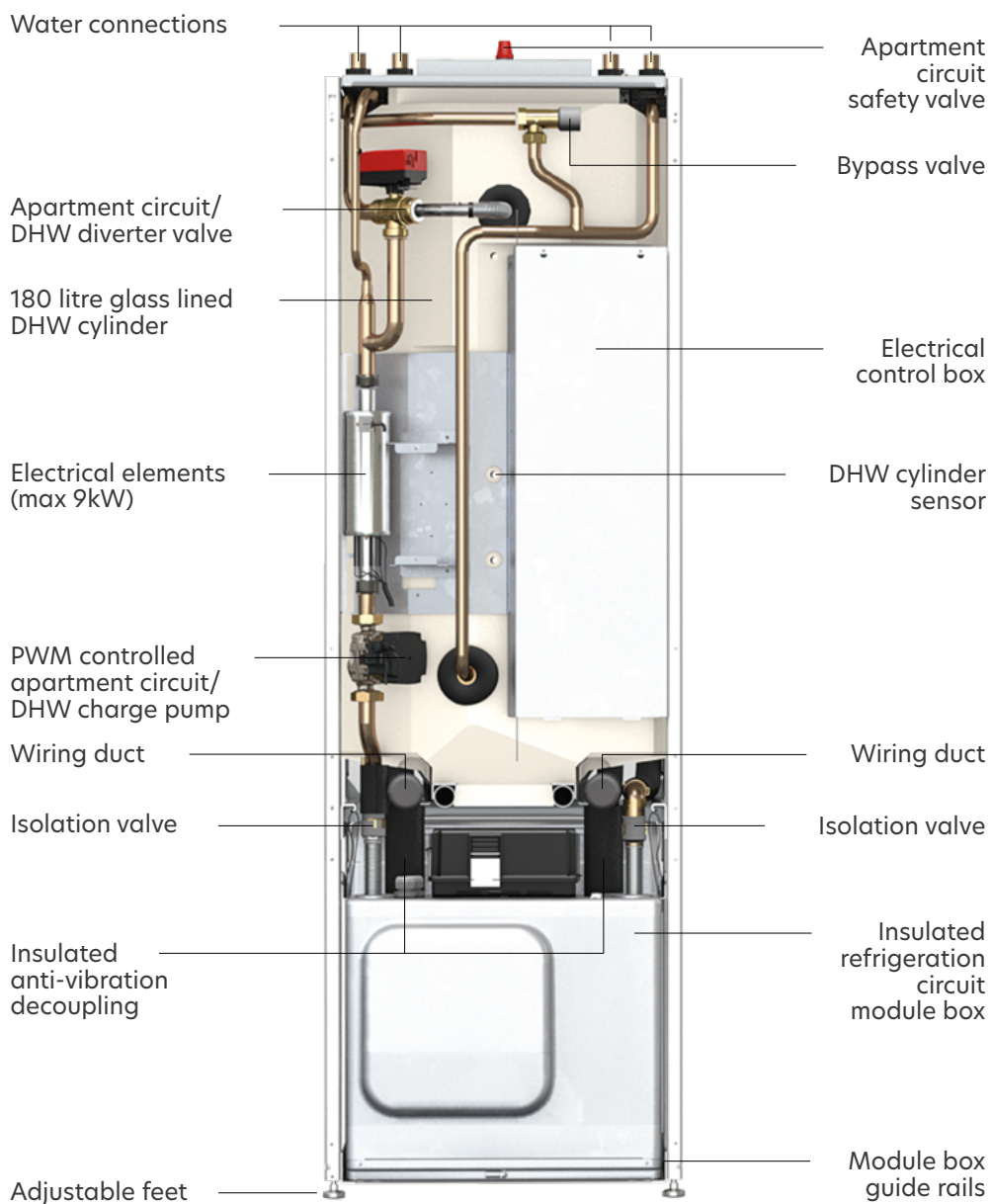


# Bypass Set

If for any reason the refrigeration circuit module box of the Alterra WZSV needs to be removed, such as for a lengthy repair or replacement, a bypass pipework set can be installed across the water connections that are situated above where the module box would normally be housed. This enables domestic hot water (DHW) and heating to be provided to the apartment via the integrated electrical elements (max 9kW) installed within the primary pipework of the WZSV.



# Internal Components



# Performance Data

		62H3M	92H3M	122H3M	42K3M	62K3M	92K3M	122K3M
<b>Performance</b>								
Heating capacity B0/W35* (min/max)	kW	1.25/5.95	1.77/8.65	2.48/13.56	1.02/3.90	1.25/5.95	1.77/8.65	2.48/13.56
COP B0/W35*		4.86	4.76	4.87	4.31	4.86	4.76	4.87
SCOP		4.98	5.05	5.02	4.85	4.98	5.05	5.02
Cooling capacity B10/W18 (max)	kW	-	-	-	4.00	5.90	8.70	11.60
CO <sub>2</sub> equivalent	t CO <sub>2</sub>	2.10	2.20	3.50	2.00	2.10	2.20	3.50
<b>Energy Efficiency</b>								
Heating operation		A+++	A+++	A+++	A+++	A+++	A+++	A+++
Domestic hot water operation		A	A	A	A	A	A	A
<b>Operating limits</b>								
Max source temperature	°C	30	30	30	30	30	30	30
Min source temperature	°C	-5	-5	-5	-5	-5	-5	-5
Max heating circuit flow temp	°C	65	65	65	65	65	65	65
Min heating circuit return temp	°C	20	20	20	20	20	20	20
<b>Noise</b>								
Max source temperature	dB(A)	29/36	29/39	29/38	30/40	29/36	29/39	29/38
Min source temperature	dB(A)	44/51	44/54	44/53	38/48	44/51	44/54	44/53
<b>Heat source</b>								
Flow rate (pipe sizing)	l/h	1450	2000	3200	700	1450	2000	3200
Max residual pump duty @ pipe sizing flow rate	bar	0.50	0.56	0.35	0.72	0.47	0.49	0.16
Max source operating pressure	bar	3	3	3	3	3	3	3
<b>Apartment circuit</b>								
Flow rate (pipe sizing)	l/h	1050	1500	2300	500	1050	1500	2300
Max residual pump duty @ pipe sizing flow rate	bar	0.65	0.46	0.24	0.75	0.63	0.41	0.12
Max source operating pressure	bar	3	3	3	3	3	3	3
<b>DHW</b>								
Net volume	litres	178	178	178	178	178	178	178
Max hot water temp (heat pump mode)	°C	58	58	58	58	58	58	58
Max hot water temp (electrical element)	°C	65	65	65	65	65	65	65
Standing loss @ 65°C (ErP: 2009/125/EC)	W	60	60	60	60	60	60	60
Max pressure	bar	10	10	10	10	10	10	10
Test pressure	bar	13	13	13	13	13	13	13
Magnesium sacrificial anode		✓	✓	✓	✓	✓	✓	✓
<b>General</b>								
Total weight (empty)	kg	240	244	263	238	248	252	271
Tower weight (empty)	kg	160	160	160	160	160	160	160
Heat pump module box weight	kg	80	84	103	79	88	92	111
Refrigerant type		R407C	R407C	R407C	R410A	R407C	R407C	R407C
Refrigerant volume	kg	1.16	1.25	2.00	0.90	1.16	1.25	2.00
Hermetically sealed		✓	✓	✓	✓	✓	✓	✓
Apartment circuit safety valve rating	bar	3	3	3	3	3	3	3
<b>Electrics</b>								
Electrical supply		400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
Electrical supply (alternative)		230-1-50	230-1-50	-	230-1-50	230-1-50	230-1-50	-
Max power consumption	kW	2.6	2.9	5.5	1.5	2.6	2.9	5.5
Starting current	A	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Electrical element		3 x 3kW	3 x 3kW	3 x 3kW	3 x 2kW	3 x 3kW	3 x 3kW	3 x 3kW
Source pump consumption (min/max)	W	5/87	3/140	3/180	3/87	5/87	3/140	3/180
Apartment pump consumption (min/max)	W	2/60	2/60	2/60	2/60	2/60	2/60	2/60

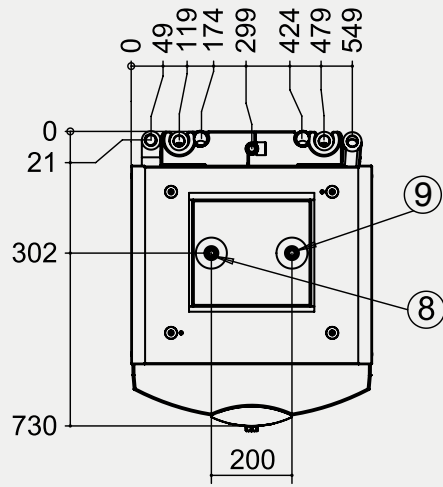
\*Part load condition

# Performance Data

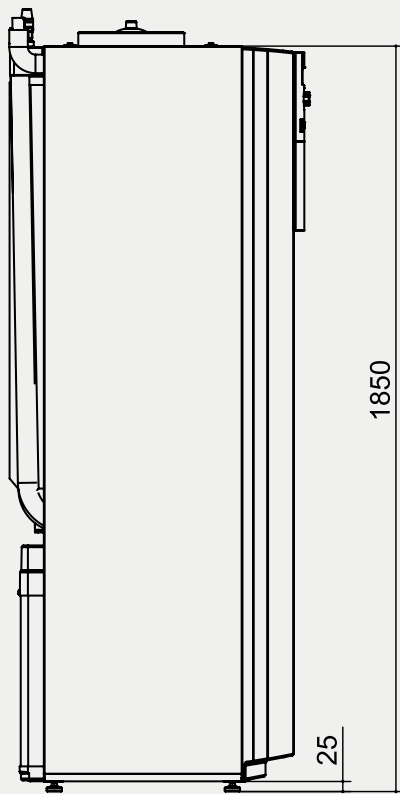
		62H3M	92H3M	122H3M	42K3M	62K3M	92K3M	122K3M
<b>Performance</b>								
Width	mm	598	598	598	598	598	598	598
Depth	mm	730	730	730	730	730	730	730
Height	mm	1850	1850	1850	1850	1850	1850	1850
<b>Heating capacity</b>								
Heating capacity B10/W35 (min/max) COP B10/W35	kW	1.66/7.81 7.52/5.34	2.46/10.92 6.75/4.71	3.13/16.32 6.21/4.79	1.68/4.54 5.63/4.83	1.66/7.81 7.52/5.34	2.46/10.92 6.75/4.71	3.13/16.32 6.21/4.79
Heating capacity B10/W45 (min/max) COP B10/W45	kW	1.40/7.19 4.74/4.20	2.82/10.45 5.00/4.09	3.04/16.62 4.66/4.17	1.47/4.57 3.85/4.00	1.40/7.19 4.74/4.20	2.82/10.45 5.00/4.09	3.04/16.62 4.66/4.17
Heating capacity B10/W55 (min/max) COP B10/W55	kW	1.46/7.14 4.04/3.61	3.00/10.32 3.83/3.59	3.61/16.70 3.42/3.69	1.26/4.48 2.61/3.37	1.46/7.14 4.04/3.61	3.00/10.32 3.83/3.59	3.61/16.70 3.42/3.69
Heating capacity B10/W65 (min/max) COP B10/W65	kW	1.36/6.28 3.09/2.91	2.74/7.58 2.65/3.34	5.22/16.00 2.82/3.06	1.43/3.91 2.14/2.85	1.36/6.28 3.09/2.91	2.74/7.58 2.65/3.34	5.22/16.00 2.82/3.06
Heating capacity B15/W35 (min/max) COP B15/W35	kW	1.90/8.46 9.50/5.74	2.74/12.10 7.83/5.11	3.48/16.99 6.96/5.01	1.87/4.84 6.38/5.05	1.90/8.46 9.50/5.74	2.74/12.10 7.83/5.11	3.48/16.99 6.96/5.01
Heating capacity B15/W45 (min/max) COP B15/W45	kW	1.48/7.69 4.93/4.47	3.18/11.75 5.74/4.38	3.47/17.9 5.32/4.44	1.77/4.90 4.64/4.21	1.48/7.69 4.93/4.47	3.18/11.75 5.74/4.38	3.47/17.91 5.32/4.44
Heating capacity B15/W55 (min/max) COP B15/W55	kW	1.67/7.98 4.51/3.96	3.40/11.40 4.36/3.93	4.15/18.62 4.15/4.00	1.59/4.81 3.29/3.49	1.67/7.98 4.51/3.96	3.40/11.40 4.36/3.93	4.15/18.62 4.15/4.00
Heating capacity B15/W65 (min/max) COP B15/W65	kW	1.55/6.87 3.37/3.21	3.07/8.58 2.92/3.70	5.90/17.80 3.09/3.28	1.47/4.32 2.47/3.02	1.55/6.87 3.37/3.21	3.07/8.58 2.92/3.70	5.90/17.80 3.09/3.28
Heating capacity B20/W35 (min/max) COP B20/W35	kW	2.41/8.47 10.87/5.80	3.07/13.22 9.19/5.44	3.86/17.46 8.18/5.14	2.08/5.27 7.37/5.45	2.41/8.47 10.87/5.80	3.07/13.22 9.19/5.44	3.86/17.46 8.18/5.14
Heating capacity B20/W45 (min/max) COP B20/W45	kW	1.85/7.87 6.29/4.56	3.52/12.93 6.44/4.70	3.92/18.69 5.98/4.61	2.00/5.22 5.35/4.35	1.85/7.87 6.29/4.56	3.52/12.93 6.44/4.70	3.92/18.69 5.98/4.61
Heating capacity B20/W55 (min/max) COP B20/W55	kW	1.87/8.17 4.91/4.05	3.75/12.31 4.78/4.25	4.66/19.96 4.31/4.21	1.82/5.12 3.91/3.60	1.87/8.17 4.91/4.05	3.75/12.31 4.78/4.25	4.66/19.96 4.31/4.21
Heating capacity B20/W65 (min/max) COP B20/W65	kW	1.76/7.41 3.65/3.45	3.41/9.72 3.27/4.07	6.59/18.95 3.40/3.48	1.64/4.72 2.92/3.15	1.76/7.41 3.65/3.45	3.41/9.72 3.27/4.07	6.59/18.95 3.40/3.48
Heating capacity B25/W35 (min/max) COP B25/W35	kW	2.41/8.47 12.05/5.76	3.40/14.30 10.62/5.77	4.30/17.93 9.56/5.24	2.27/5.74 8.56/5.84	2.41/8.47 12.05/5.76	3.40/14.30 10.62/5.77	4.30/17.93 9.56/5.24
Heating capacity B25/W45 (min/max) COP B25/W45	kW	2.26/7.84 7.79/4.56	3.83/13.9 7.09/5.03	4.43/19.23 6.57/4.71	2.18/5.56 6.10/4.50	2.26/7.84 7.79/4.56	3.83/13.98 7.09/5.03	4.43/19.23 6.57/4.71
Heating capacity B25/W55 (min/max) COP B25/W55	kW	2.11/8.20 5.41/4.07	4.05/13.20 5.19/4.57	5.19/20.94 4.68/4.38	2.01/5.45 4.51/3.71	2.11/8.20 5.41/4.07	4.05/13.20 5.19/4.57	5.19/20.94 4.68/4.38
Heating capacity B25/W65 (min/max) COP B25/W65	kW	1.97/7.80 3.94/3.61	3.72/10.83 3.62/4.45	7.28/19.73 3.70/3.65	1.84/5.10 3.40/3.27	1.97/7.80 3.94/3.61	3.72/10.83 3.62/4.45	7.28/19.73 3.70/3.65
<b>DHW capacity</b>								
DHW capacity B10/W65 (min/max) COP B10/W65	kW	1.36/6.28 3.09/2.91	2.74/7.58 2.65/3.34	5.22/16.00 2.82/3.06	2.14/2.85 1.87/4.84	1.36/6.28 3.09/2.91	2.74/7.58 2.65/3.34	5.22/16.00 2.82/3.06
DHW capacity B15/W65 (min/max) COP B15/W65	kW	1.55/6.87 3.37/3.21	3.07/8.58 2.92/3.70	5.90/17.80 3.09/3.28	1.47/4.32 2.47/3.02	1.55/6.87 3.37/3.21	3.07/8.58 2.92/3.70	5.90/17.80 3.09/3.28
DHW capacity B20/W65 (min/max) COP B20/W65	kW	1.76/7.41 3.65/3.45	3.41/9.72 3.27/4.07	6.59/18.95 3.40/3.48	1.64/4.72 2.92/3.15	1.76/7.41 3.65/3.45	3.41/9.72 3.27/4.07	6.59/18.95 3.40/3.48
DHW capacity B25/W65 (min/max) COP B25/W65	kW	1.97/7.80 3.94/3.61	3.72/10.83 3.62/4.45	7.28/19.73 3.70/3.65	1.84/5.10 3.40/3.27	1.97/7.80 3.94/3.61	3.72/10.83 3.62/4.45	7.28/19.73 3.70/3.65
<b>Cooling capacity</b>								
Cooling capacity B10/W18 (max)	kW	-	-	-	4.00	5.90	8.70	11.60
Cooling capacity B15/W18 (max)	kW	-	-	-	1.50	2.20	3.30	4.30

# Dimensions

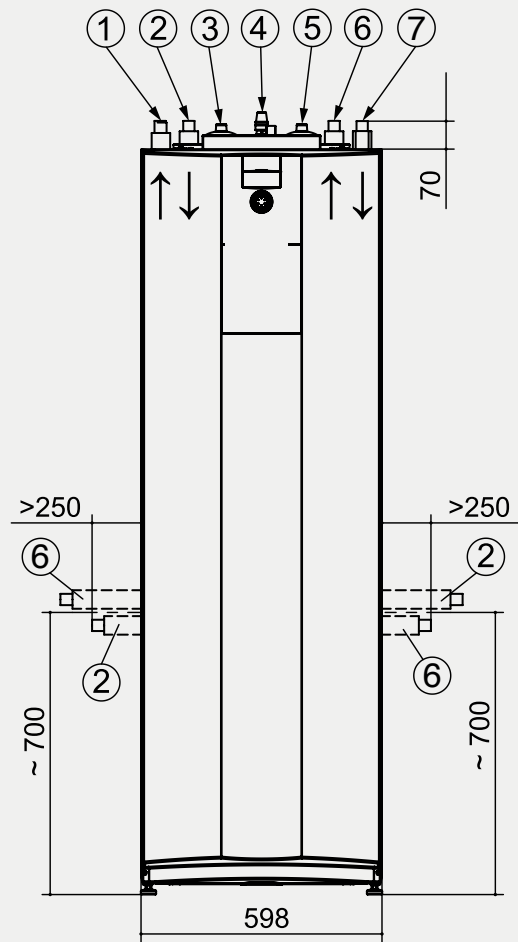
- 1 Apartment Circuit Flow (Ø1" BSP female)
- 2 Source Inlet (Ø1" BSP female)
- 3 Wiring Cable Duct
- 4 Apartment Circuit Safety Valve (Ø½" BSP female)
- 5 Wiring Cable Duct
- 6 Source Outlet (Ø1" BSP female)
- 7 Apartment Circuit Return (Ø1" BSP female)
- 8 DHW Outlet (Ø¾" BSP female)
- 9 Cold Water Inlet (Ø¾" BSP female)



TOP VIEW



SIDE VIEW



FRONT VIEW

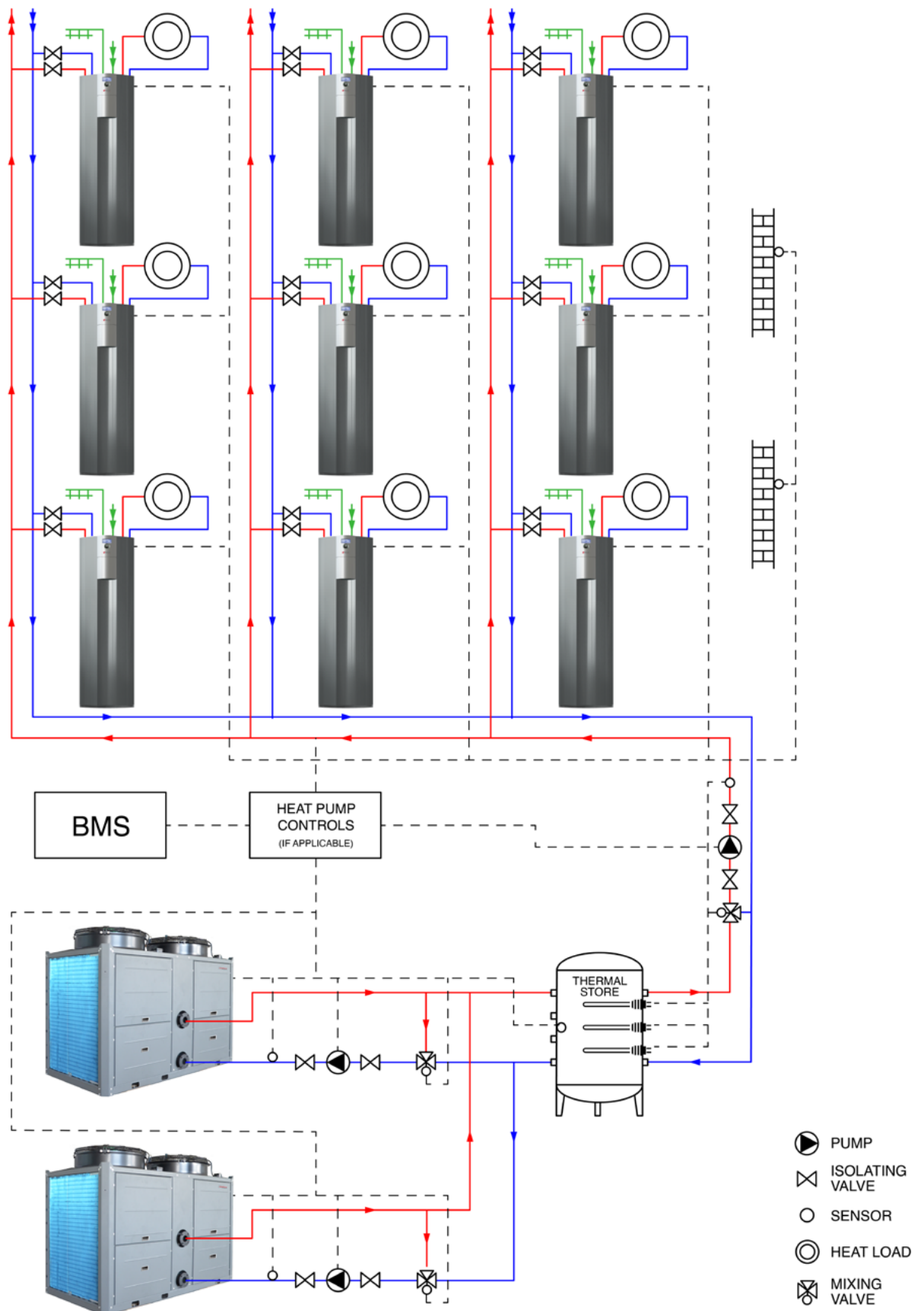
### Clearances (mm)

Front	950
Rear	>1
Sides	180
Top	>1*

\*Increase to 400mm if pipes enter either side

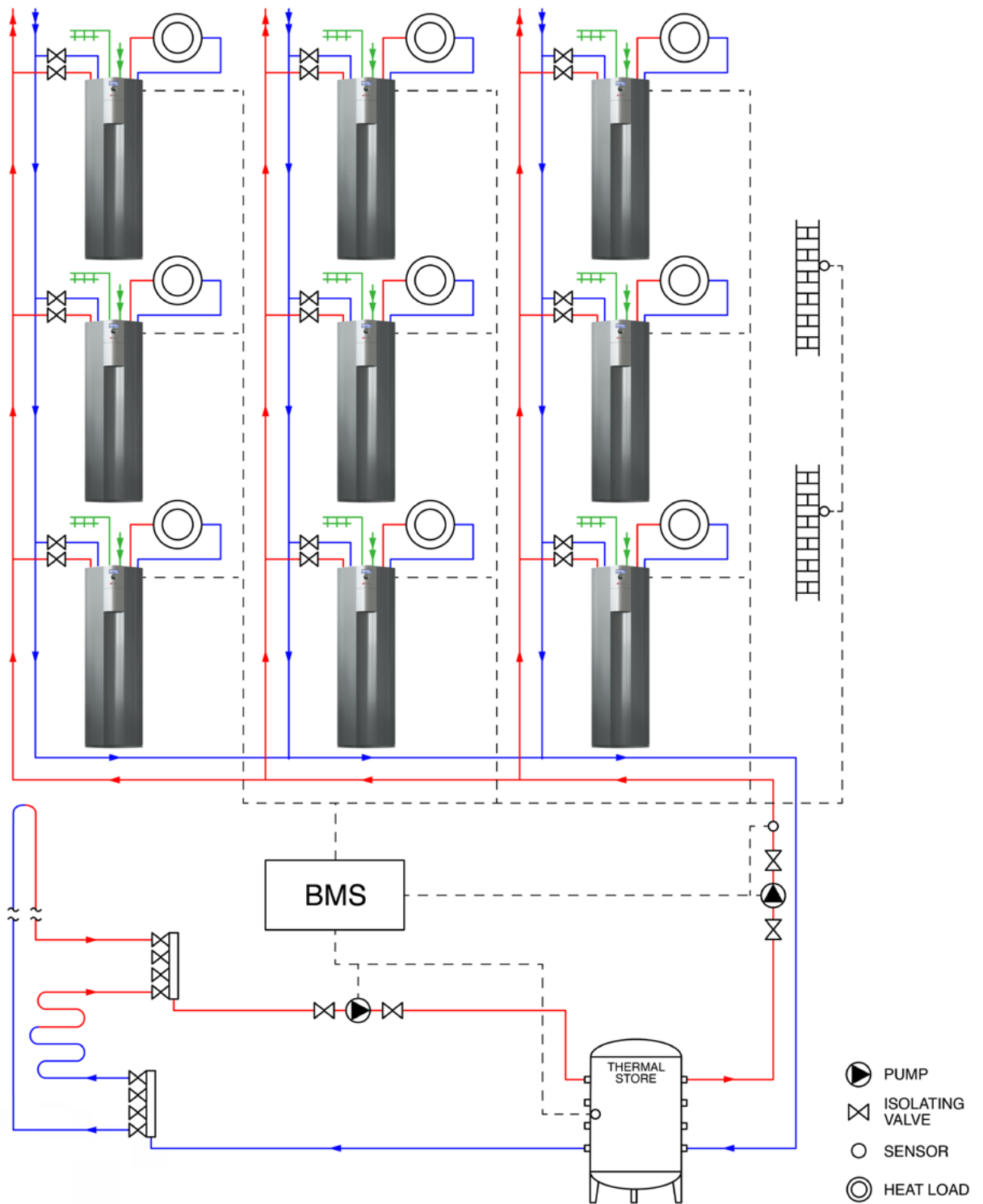
# Schematics

## Ambient loop system with air source heat pumps



# Schematics

## Ground collector system



# Complementary Products



## Commercial air source heat pumps

Modutherm's commercial air source heat pumps include the Hybrox and AW290 series, with heating outputs from 10-100kW and cooling capacities from 8.6-85kW.

With A+++/A++ energy efficiency ratings, these R290 heat pumps are ideal for apartment buildings, hotels, schools, and commercial heat network applications.



## Heat interface units

The MTA Plus heat pump optimised heat interface unit is designed for use within Heat Networks where heat pumps or a traditional gas fired boiler plant provides the source of energy.

This indirect twin plate 'one size fits all' solution ensures low return temperatures at all primary flow temperatures, which is key to obtaining high heat network efficiency and low operational costs.

## Gas boilers

Modutherm's Genesis condensing boiler range includes wall mounted and floor standing models with outputs from 32-1156kW. Featuring stainless steel heat exchangers and modular configurations, these high-efficiency gas boilers deliver reliable commercial heating for schools, hotels, care homes, and apartment buildings.

Available in the Genesis 32 (32kW system and combi), Genesis WM wall hung (41-149kW), Genesis FS floor standing (124-300kW), and Genesis FS Plus (318-1156kW), our condensing boilers provide powerful, efficient heating solutions for commercial properties across the UK.



## Electric boilers

Modutherm's Genesis Eco electric boiler range delivers 99.9% efficiency with outputs from 36-504kW across 13 floor standing models. Featuring modular configurations and zero-carbon operation, these commercial electric boilers provide reliable heating for schools, offices, apartment

buildings, and commercial properties. Ideal for new builds, hybrid heating systems, and applications without gas supply, Genesis Eco electric boilers offer a sustainable, low-maintenance heating solution for commercial heating projects across the UK.

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