

the **HAMWORTHY**

TYNEHAM HEAT PUMPS



SCAN
ME

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Hamworthy Heating is a British commercial heating manufacturer.

Our energy efficient commercial heating, hot water, and renewable energy products are used in buildings across the UK.

Trusted expertise since 1914.



At Hamworthy Heating, we understand that to decarbonise our commercial heating applications and play our part towards the UK's 2050 net zero target, we need to diversify the products, fuels and applications we offer.

From the strategies and papers presented by the Government we're seeing 3 key routes:

Heat Networks, Hydrogen and Electrification.

We believe that heat pumps are one part of the next generation of products that will efficiently heat a building.

Heat pumps and electrification

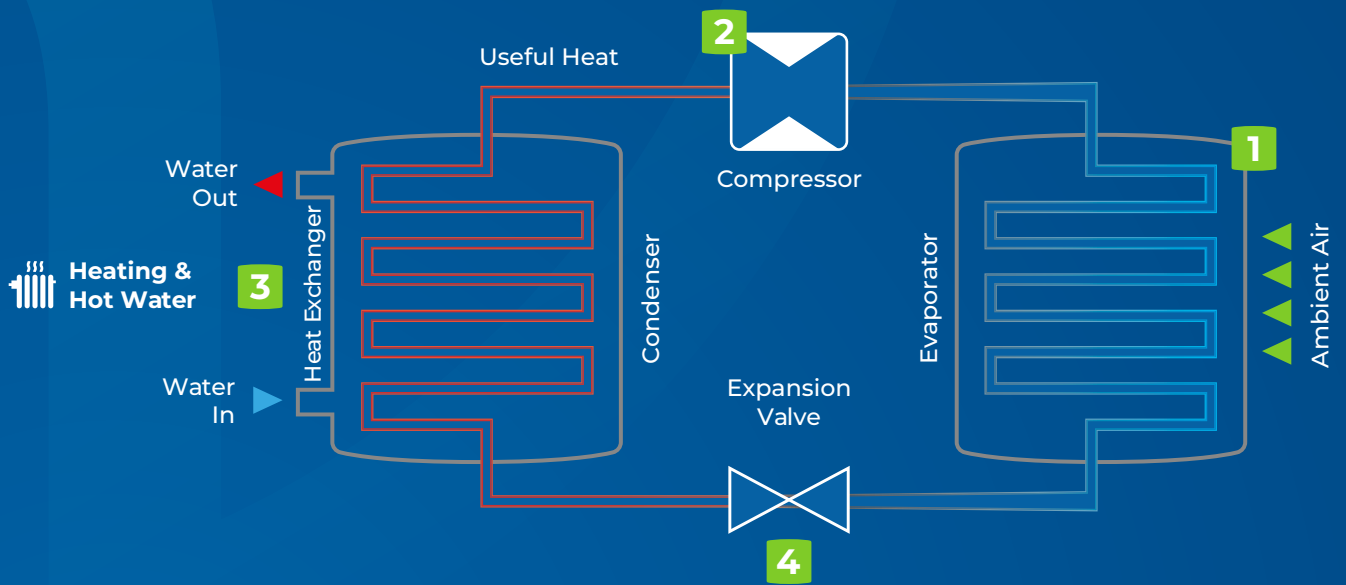
Heat pumps are a highly efficient, eco-friendly way of producing heat for commercial buildings. By taking "free energy" from the air via a refrigerant cycle they generate heat without releasing any carbon emissions.



Electrification

Hydrogen

**Heat
Networks**



01

CAPTURE

The fan passes ambient air over extremely cold liquid refrigerant. The refrigerant captures the heat from the ambient air and becomes a warm vapour.

02

COMPRESS

The warm refrigerant vapour passes through a compressor which produces hot refrigerant and usable heat.

03

EXCHANGE

The heat in the hot refrigerant is then transferred to the heating and hot water cylinder through a heat exchanger.

04

EXPAND

Once the heat has been transferred to the building, the refrigerant passes through an expansion valve which reduces its temperature, making it really cold again and enabling it to capture heat from the ambient air, continuing the cycle.

Join the net zero journey

The desire to achieve net zero targets are based around the UK's environmental commitments, consumer awareness and public opinion.

Building regulations, increasing consumer awareness and future energy policy are key drivers in the uptake of renewable technologies such as heat pumps. UK home owners, social housing associations and local authorities are collectively seeking robust solutions to minimise their carbon emissions and reduce the environmental impact of residential energy use.

We have the knowledge, experience and skills to play our part in ensuring the nation achieves its net zero targets and will continue to provide our expert advice and trusted heating and hot water solutions for your needs and requirements.

Why heat pumps are a good low carbon solution?

Heat pumps reduce the reliance on fossil fuels	<ul style="list-style-type: none">- Heat pumps produce zero local carbon emissions.- Heat pump technology can be up to 400% more efficient than traditional boilers.- Fossil fuel combustion contributes towards carbon emissions and global warming which is not environmentally friendly.
Heat pumps produce renewable heat	<ul style="list-style-type: none">- A heat pump utilises the free energy in the air to heat water.- When heat pumps are partnered with a renewable electricity supplier, heat generation is 100% carbon neutral.
Refrigerant vs. Natural Gas	<ul style="list-style-type: none">- The refrigerant in the heat pump is maintained within the unit and constantly recycled for the lifetime of the appliance.

Understanding refrigerants

The lower the Global Warming Potential (GWP) - the more eco-friendly it is and therefore better for the environment.

Tyneham heat pumps use R32 refrigerant.



Refrigerant Name	Trade Name	Chemical Name	Ozone Depletion Potential	Global Warming Potential	Differences
R744	Carbon Dioxide	CO ₂	0	1	Natural refrigerant
R290	Propane	Propane	0	3	Very low GWP [3], very eco-friendly, highly flammable, higher costs and not yet commonly used.
R32	HFC-32	Difluoromethane	0	675	Lower GWP [675], eco-friendly, mildly flammable, lower cost, most popular refrigerant.
R134a	HFC-134a	1,1,1,2-Tetrafluoroethane	0	1430	Being phased out as of January 2022.
R407c	Klea 66	R32/R125/R134a	0	1774	Still used but will be phased out in 2025 in systems with less than 3kg charge.
R410a	Puron, AZ-20	R-32/R-125 (50/50)	0	2088	Slowly being phased out, higher GWP [2088], worse for environment, non-flammable, higher costs.

The production of refrigerants R134a, R407C, R407F and R410A is being phased out step-by-step. In 2020, the total production of synthetic refrigerants will be reduced by around 40%. In 2030, only 20% of the currently produced synthetic refrigerants may still be marketed.

Product approvals

Heat Pump Keymark Certification includes EN 14825 & EN 42511

Certification for heat pumps.

Demonstrates compliance with product requirements for heat pumps and efficiency requirements as set by Ecodesign.



UKCA & CE Approved



Introducing the Tyneham heat pump range

The Tyneham air source heat pump is one of the smallest commercial heat pumps on the market. With a Co-efficiency of performance (COP) rating up to 4.85 and low global warming potential to provide you with efficient low carbon heating.

The model is an air source heat pump for low carbon heating with inverter compressor and uses R32 refrigerant. The monobloc design means all components are housed in the main unit.

Match your demand with a cascade

Choose from six different models with outputs of between 14-70kW. Individual heat pumps can be cascaded to achieve higher output.

Key features



Suitable for commercial properties

BIM
Objects

BIM objects available to download

5
Yr
Warranty

2 year warranty extended to 5 years if commissioned by Hamworthy

COP

Highly efficient COP rating



Cascade system to achieve higher output

For a hybrid system the Tyneham can be combined with our range of modular gas boilers to enable you to match the heat demand in the most effective way.



Get in touch

Contact your local Hamworthy sales team for more information:
[hamworthy-heating.com/Contact-us](https://www.hamworthy-heating.com/Contact-us)

Tyneham Heat Pump 14 & 18kW



Key benefits:

- > Monobloc air source heat pump
- > Single unit with the refrigeration cycle contained within the outdoor unit
- > Inverter controlled compressor to accurately match the heat demand
- > Low global warming potential due to the use of R32 refrigerant
- > Highly efficient with coefficient of performance (COP) rating up to 4.85
- > Light and compact unit for ease of installation and delivery
- > Suited to larger installations - cascade systems to achieve higher output.
- > 2 year warranty (extended to 5 years if commissioned by Hamworthy)*
- > Gold Fin anti-corrosion coating as standard
- > Back up and long-term support from our team of experienced engineers across the UK
- > Combine with Hamworthy modular boilers for a hybrid heating system

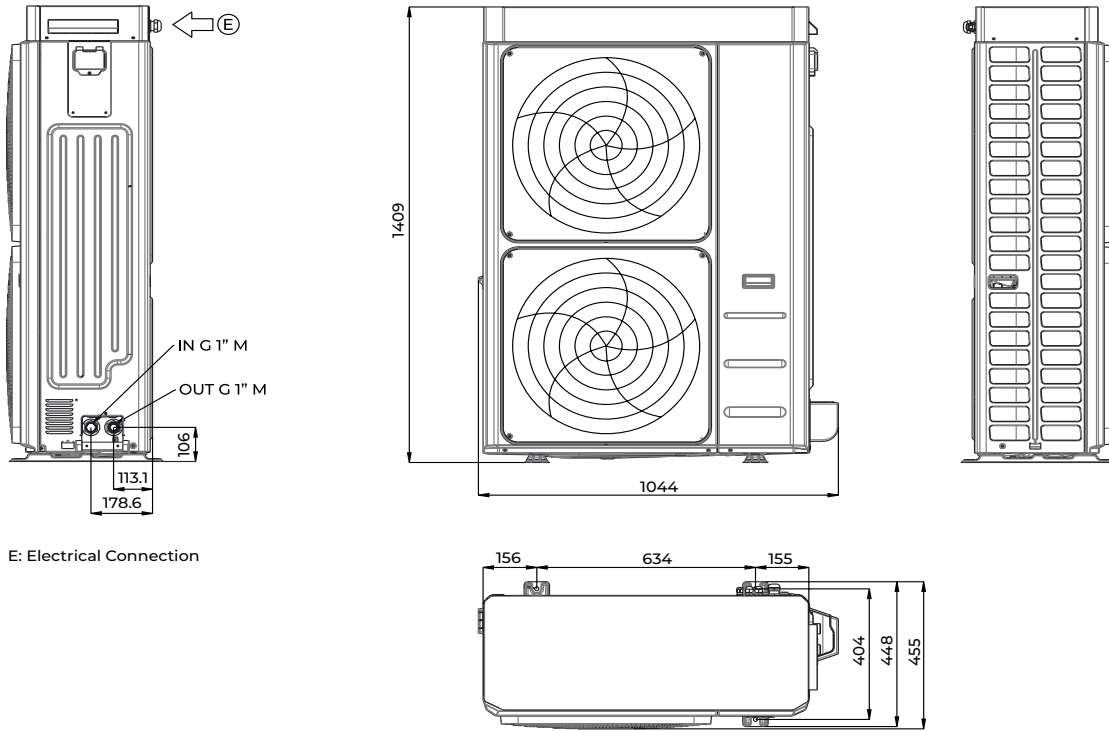
Technical Specification	Unit	14kW 1PH	14kW 3PH	18kW
Heat Pump Space Heating [35°C]	ErP rating	A+++	A+++	A+++
	SCOP	4.48	4.48	4.46
Heat Pump Space Heating [55°C]	ErP rating	A++	A++	A++
	SCOP	3.31	3.31	3.36
Heating (A7/W35)	Capacity (kW)	14.1	14.1	17.9
	Power Input (kW)	2.91	2.91	4.07
	COP***	4.85	4.85	4.4
Air Temperature Range	Min/Max (°C)	(-20 +40)	(-20 +40)	(-20 +40)
Sound Data Outdoor Unit	Power Level dB(A)**	68	68	68
Pipework Connection Sizes	Heating Flow (")	1	1	1
	Heating Return (")	1	1	1
Dimensions Outdoor Unit	Width (mm)	1044	1044	1044
	Depth (mm)	455	455	455
	Height (mm)	1409	1409	1409
Weight	kg	121	136	141
Electrical Data	Electrical Supply (v)	240	415	415
	Phase	Single	Three	Three
	Max Running Current (Amp)	29.2	9.7	12.2
	Fuse Rating (Amp)	32	25	25
Refrigerant Charge	R32 (kg)	3.2	3.2	3.5



* 2 year warranty extended to 5 years if commissioned by Hamworthy Heating. ** 68dB(A) is the rated sound pressure level of the Tyneham 14kW-18kW, the sound levels refer to a fully loaded unit at standard nominal conditions according to EN 12102-1:2013. *** Efficiency coefficient of performance (COP) rated at EN14825 test conditions Water 35°C, Air 7°C. Hamworthy Heating does not, however, guarantee the accuracy or completeness of any information nor does it accept liability for any errors or omissions in the information. Hamworthy Heating reserves the right to make changes and improvements which may necessitate alteration to product specification without prior notice.



Dimensions



E: Electrical Connection

Note: All dimensions in mm unless otherwise stated.

Minimum installation clearances:

Front: 1500

Rear: 400

Left: 400

Right: 500

Top: 500

Bottom: 50

Side clearance of 1000mm when used in cascade

Accessories and options:

	Required	Optional
Control unit (sold separately)*		•
Flexible hoses		•
Anti-vibration rubber feet		•
Anti-corrosion coating for installations close to the sea (special order)		•

*Optional control units are available for cascade and additional heating circuits, and where no BMS is present.

Tyneham Heat Pump 26 & 32kW



Key benefits:

- > Monobloc air source heat pump
- > Single unit with the refrigeration cycle contained within the outdoor unit
- > Inverter controlled compressor to accurately match the heat demand
- > Low global warming potential due to the use of R32 refrigerant
- > Highly efficient with coefficient of performance (COP) rating up to 4.09
- > Light and compact unit for ease of installation and delivery
- > Suited to larger installations - cascade systems to achieve higher output.
- > 2 year warranty (extended to 5 years if commissioned by Hamworthy)*
- > Blue Fin anti-corrosion coating as standard
- > Back up and long-term support from our team of experienced engineers across the UK
- > Combine with Hamworthy modular boilers for a hybrid heating system

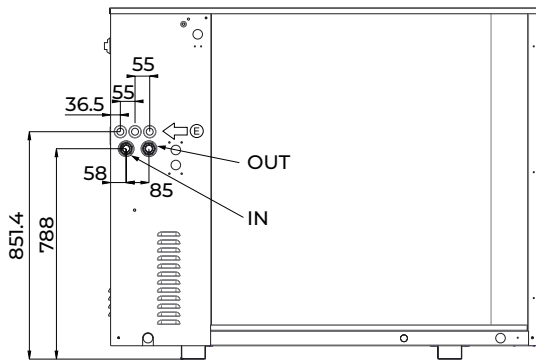
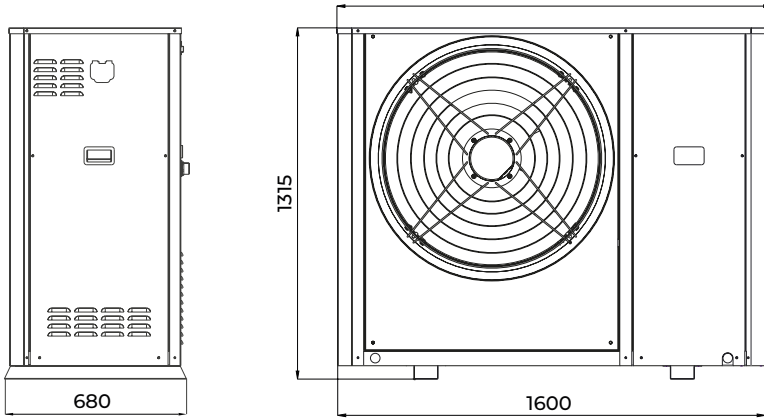
Technical Specification	Unit	26kW	32kW
Heat Pump Space Heating [35°C]	ErP rating	A++	A++
	SCOP	4.55	4.81
Heat Pump Space Heating [55°C]	ErP rating	A+	A+
	SCOP	3.14	3.14
Heating (A7/W35)	Capacity (kW)	26	32.1
	Power Input (kW)	6.44	7.84
	COP***	4.04	4.09
Air Temperature Range	Min/Max (°C)	(-20 +40)	(-20 +40)
Sound Data Outdoor Unit	Power Level dB(A)**	74	76
Pipework Connection Sizes	Heating Flow (")	1	1 1/4
	Heating Return (")	1	1 1/4
Dimensions Outdoor Unit	Width (mm)	1600	1600
	Depth (mm)	680	680
	Height (mm)	1315	1315
Weight	kg	240	255
Electrical Data	Electrical Supply (v)	415	415
	Phase	Three	Three
	Max Running Current (Amp)	23.3	27.1
	Fuse Rating (Amp)	25	32
Refrigerant Charge (kg)	R32 (kg)	4.3	5.1



* 2 year warranty extended to 5 years if commissioned by Hamworthy Heating. ** 74dB(A) is the rated sound pressure level of the Tyneham 26kW, Tyneham 32kW is rated at 76dB(A), the sound levels refer to a fully loaded unit at standard nominal conditions according to EN 12102-1:2013. *** Efficiency coefficient of performance (COP) rated at EN14825 test conditions Water 35°C, Air 7°C. Every effort has been taken to ensure the details are accurate. Hamworthy Heating does not, however, guarantee the accuracy or completeness of any information nor does it accept liability for any errors or omissions in the information. Hamworthy Heating reserves the right to make changes and improvements which may necessitate alteration to product specification without prior notice.



Dimensions



E: Electrical Connection

Note: All dimensions in mm unless otherwise stated.

Minimum installation clearances:

Front: 1500

Rear: 400

Left: 400

Right: 700

Bottom: 50

Side clearance of 700mm when used in cascade

	Required	Optional
Control unit (sold separately)*		•
Flexible hoses		•
Anti-vibration rubber feet		•
Anti-corrosion coating for installations close to the sea (special order)		•

*Optional control units are available for cascade and additional heating circuits, and where no BMS is present.

Tyneham Heat Pump 50 & 70kW

A++
ErP rating

5
Yr
Warranty*

4.11
COP

R32
Refrigerant

as low as
82
dB(A)

Key benefits:

- > Monobloc air source heat pump
- > Single unit with the refrigeration cycle contained within the outdoor unit
- > Inverter controlled compressor to accurately match the heat demand
- > Low global warming potential due to the use of R32 refrigerant
- > Highly efficient with coefficient of performance (COP) rating up to 4.11
- > Suited to larger installations - cascade systems to achieve higher output.
- > 2 year warranty (extended to 5 years if commissioned by Hamworthy)*
- > Blue Fin anti-corrosion coating as standard
- > Back up and long-term support from our team of experienced engineers across the UK
- > Combine with Hamworthy modular boilers for a hybrid heating system

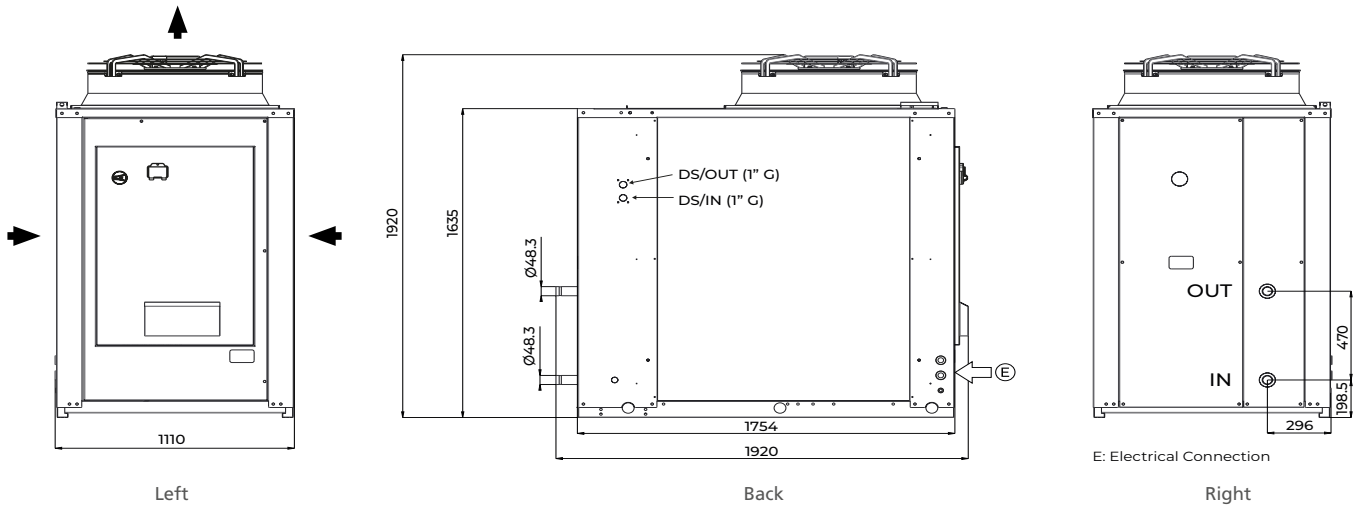
Technical Specification	Unit	50kW	70kW
Heat Pump Space Heating [35°C]	ErP rating	A++	A++
	SCOP	4.16	3.94
Heat Pump Space Heating [55°C]	ErP rating	A+	A+
	SCOP	3.08	3.04
Heating (A7/W35)	Capacity (kW)	50.2	66.8
	Power Input (kW)	12.2	16.3
	COP***	4.11	4.1
Air Temperature Range	Min/Max (°C)	(-20 +40)	(-20 +40)
Sound Data Outdoor Unit	Power Level dB(A)**	82	83
Pipework Connection Sizes	Heating Flow (")	1 1/2	1 1/2
	Heating Return (")	1 1/2	1 1/2
Dimensions Outdoor Unit	Width (mm)	1920	1920
	Depth (mm)	1110	1110
	Height (mm)	1920	1920
Weight	kg	535	595
Electrical Data	Electrical Supply (v)	415	415
	Phase	Three	Three
	Max Running Current (Amp)	54	70
	Fuse Rating (Amp)	63	100
Refrigerant Charge	R32 (kg)	8.5	12



* 2 year warranty extended to 5 years if commissioned by Hamworthy Heating. ** 82dB(A) is the rated sound pressure level of the Tyneham 50kW, Tyneham 70kW is rated at 83dB(A), the sound levels refer to a fully loaded unit at standard nominal conditions in accordance with EN 12102-1:2013. *** Efficiency coefficient of performance (COP) rated at EN14825 test conditions Water 35°C, Air 7°C. Every effort has been taken to ensure the details are accurate. Hamworthy Heating does not, however, guarantee the accuracy or completeness of any information nor does it accept liability for any errors or omissions in the information. Hamworthy Heating reserves the right to make changes and improvements which may necessitate alteration to product specification without prior notice.



Dimensions



Note: All dimensions in mm unless otherwise stated.

Minimum installation clearances:

Front: 1500

Rear: 1500

Left: 1200

Right: 1000

Top: 1500

Bottom: 50

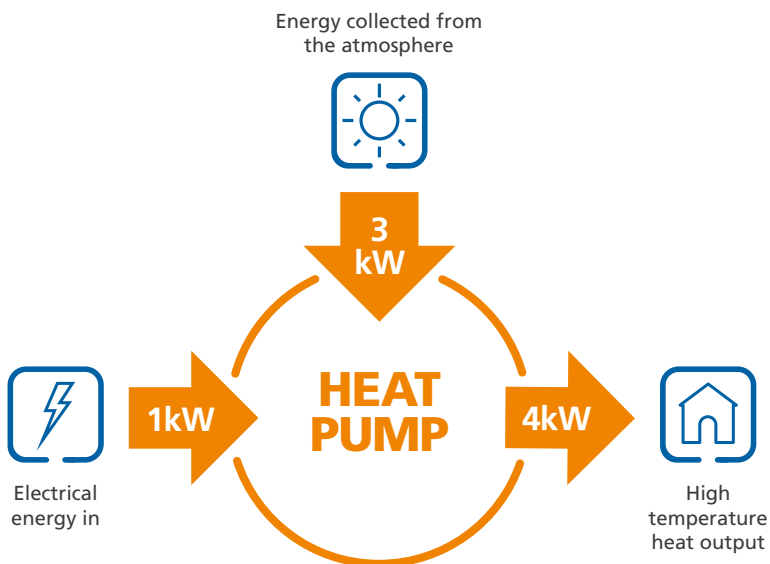
Side clearance of 2200mm when used in cascade

Accessories and options:

	Required	Optional
Control unit (sold separately)*		•
Flexible hoses		•
Anti-vibration rubber feet		•
Anti-corrosion coating for installations close to the sea (special order)		•

*Optional control units are available for cascade and additional heating circuits, and where no BMS is present.

COP and SCOP measures of efficiency

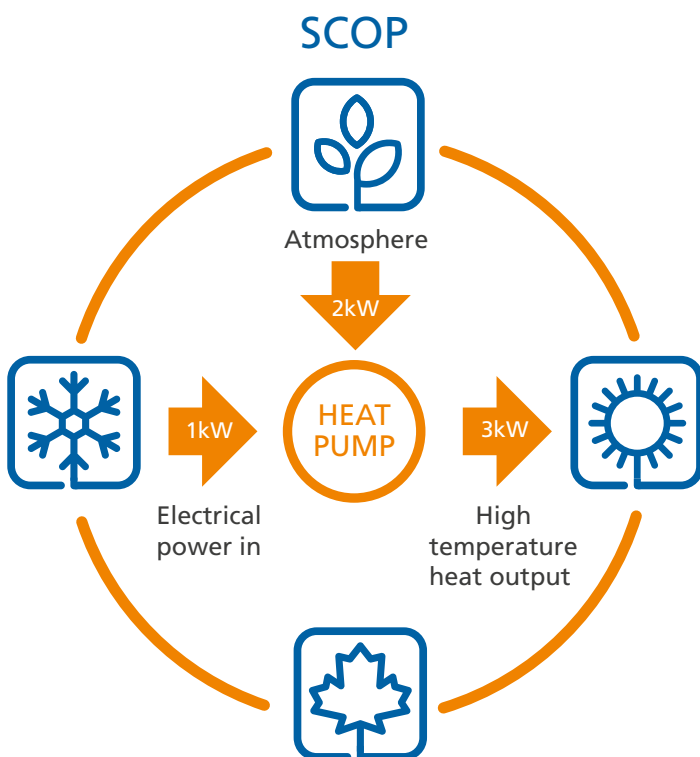


See page 18 for COP graphs

COP - Coefficient of performance

The coefficient of performance (COP) refers to the efficiency of a heat pump and directly relates to the energy the output from a heat pump. It is the ratio of heat produced, relative to each unit of electricity consumed in the heat pump.

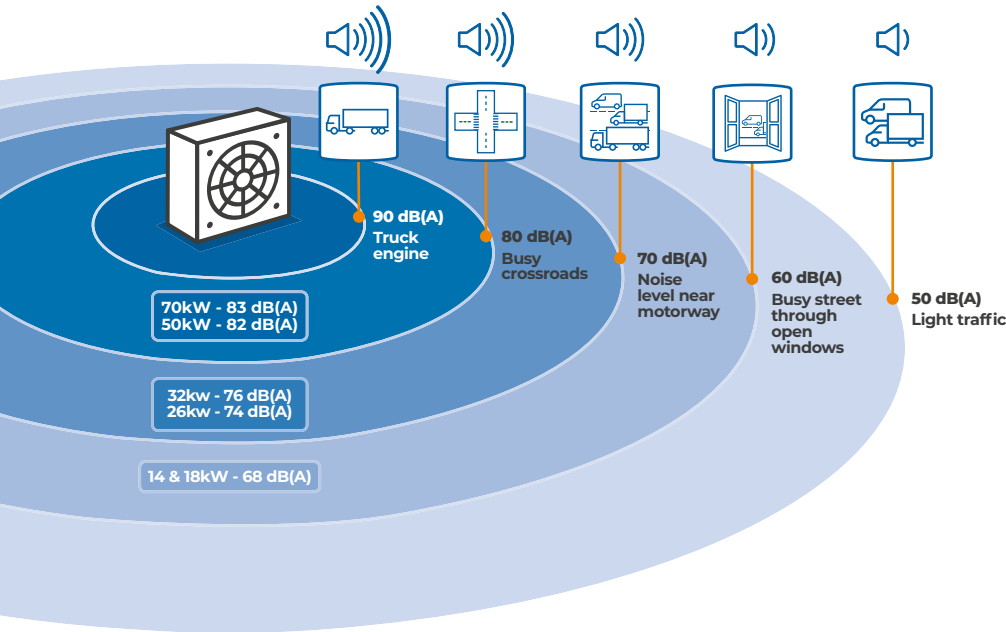
$$\text{COP} = \frac{\text{Heat output}}{\text{Electrical input}}$$



SCOP - Seasonal coefficient of performance

The seasonal coefficient of performance (SCOP) is the average COP carried over the annual heating season (the full year).

Sound power and sound pressure



The levels of noise that a heat pump emits is represented as a sound power and sound pressure level.

Sound power

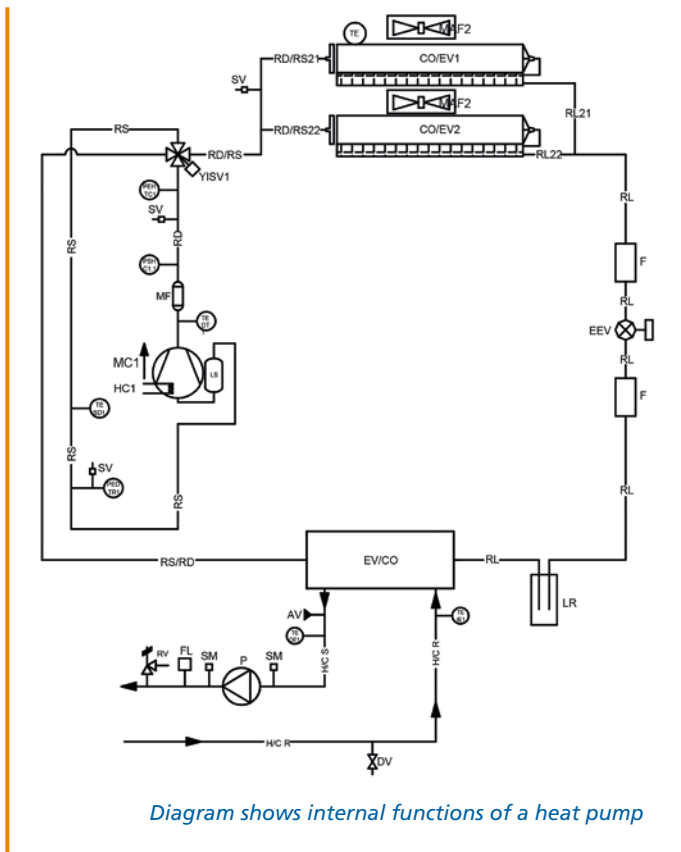
Sound power is a property of the product components under laboratory testing.

The sound power is the sound waves emitted from a source (heat pump is the source in this case), it is measured in decibels (dB). The sound power is the total sound emitted from the source.

Sound pressure

The sound pressure is sometimes referred to as the 'noise level'. This describes the disturbance of sound and what we realistically hear.

Functional diagram

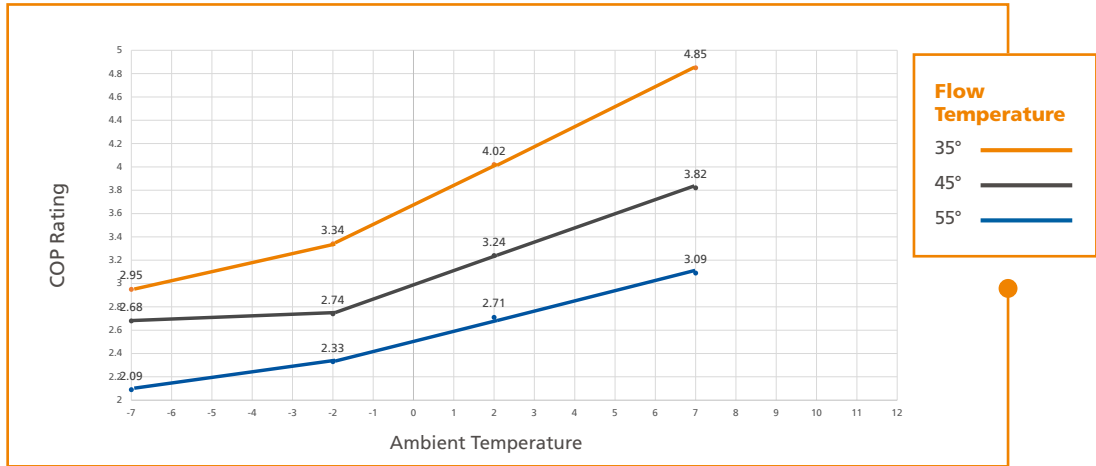


Functional Diagram Key

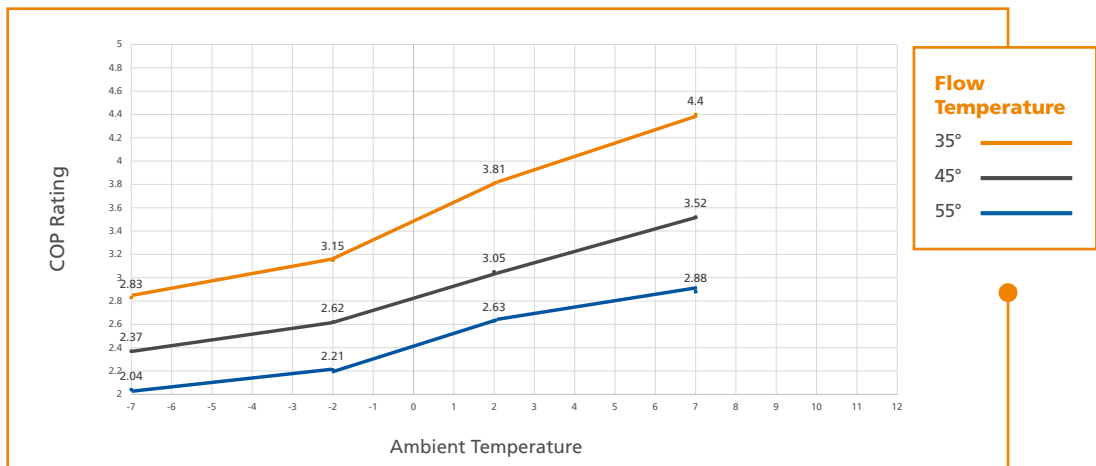
Code	Description	RS/RD	Suction / Discharge line
MC	Compressor	H/CS	Plant water out - supply
CO/EV	Condenser	H/CR	Plant water in - return
EV/CO	Evaporator	PEH TC	High pressure transducer
EEV	Electronic expansion valve in heat pump mode	PED TR	Low pressure transducer
YISV	Inversion valve	TE	Air temperature probe
LR	Liquid receiver	TE SD	Suction temperature probe
F	Filter drier	TE DT	Discharge temperature probe
SV	Service valve	PSH C	High pressure switch - manual reset
HC	Crankcase heater	TE IE	Temperature probe in - plant return
MAF	Axial fan	TE OE	Temperature probe out - plant delivery
MF	Muffler	DV	Drain valve
LS	Suction separator	RV	Safety valve
RS	Suction line	FL	Flow switch
RD	Discharge line	P	Water pump
RL	Liquid line	AV	Air vent valve
RD/RS	Discharge / Suction line	SM	Service sleeve

Tyneham coefficient of performance (COP) graphs

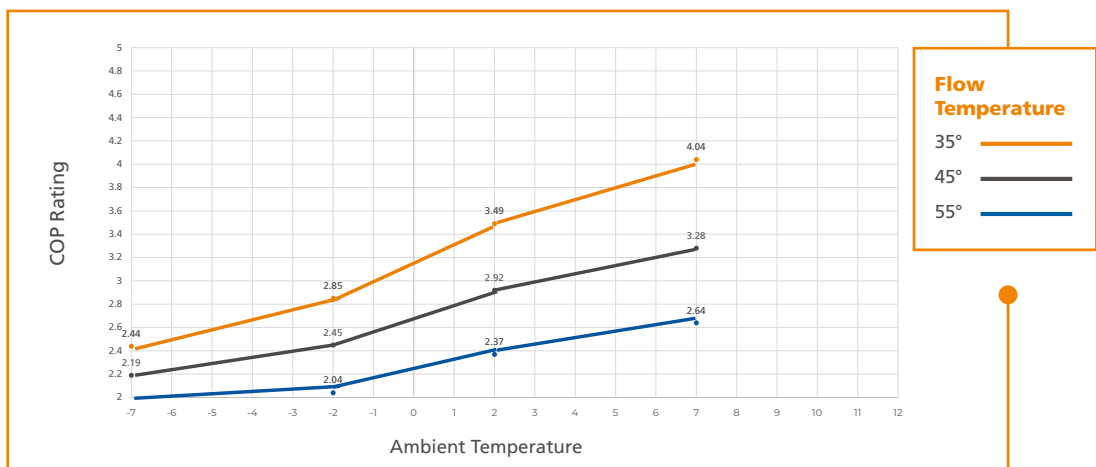
Hamworthy 14kW



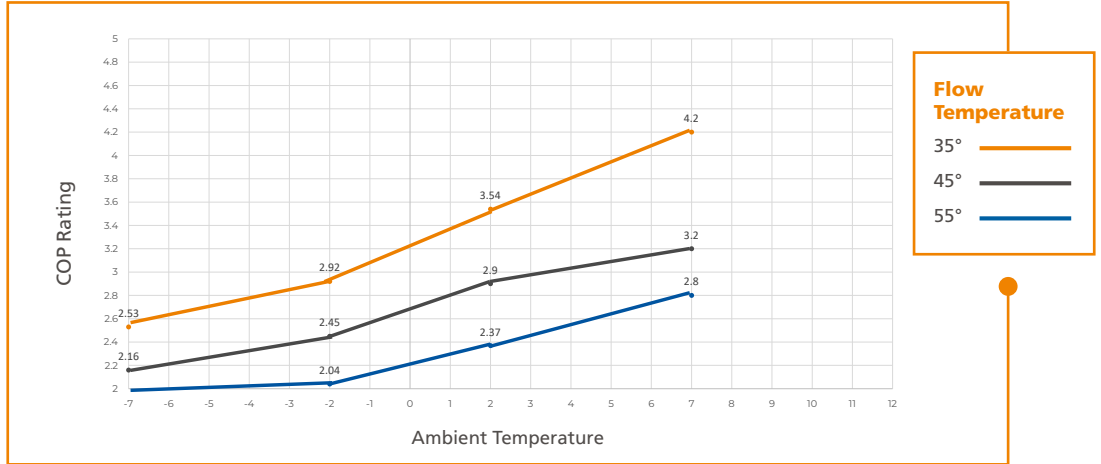
Hamworthy 18kW



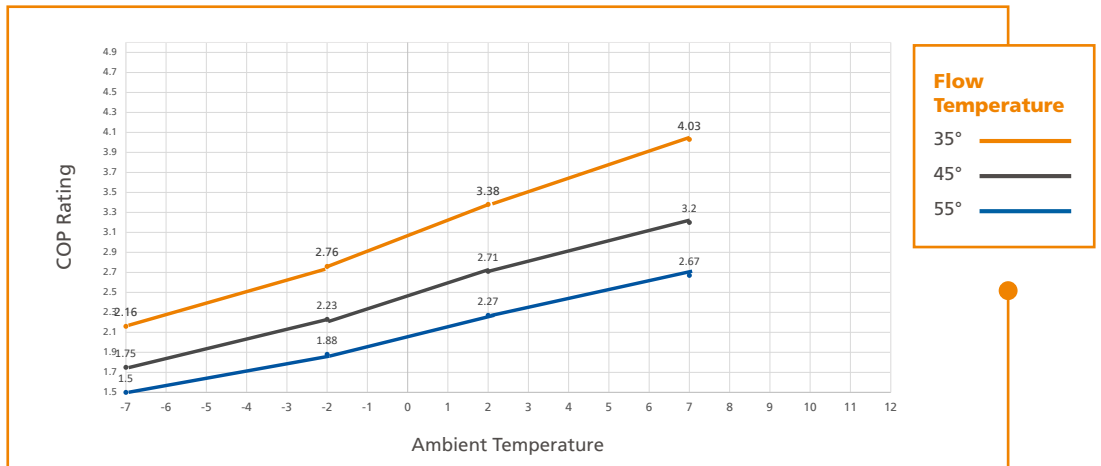
Hamworthy 26kW



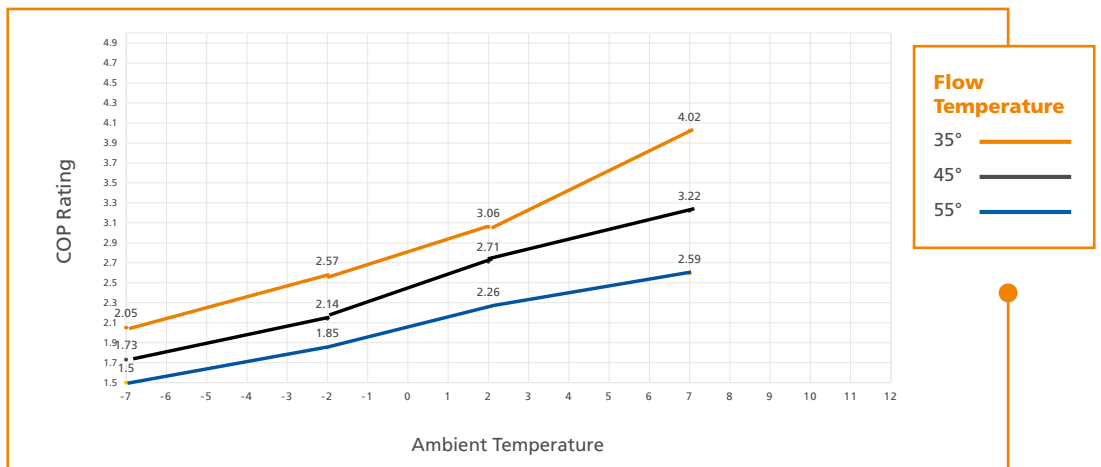
Hamworthy 32kW



Hamworthy 50kW



Hamworthy 70kW



Technical features and performance capabilities

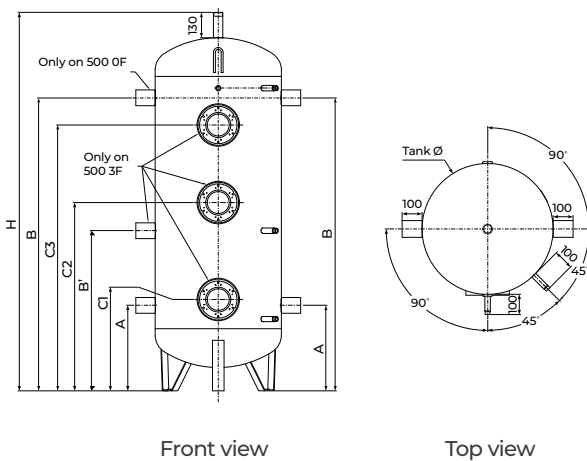
Features	Tank Models			
	500 0F*	500 3F*	900 2F*	15002F*
Useful capacity (L)	517	517	904	1425
Passage width (mm)	680	680	795	1015
Min. room height for installation (mm)		2100	2100	2415
Tilting dimension (mm)(1)	1980	1980	2240	2270
Empty tank weight (kg)	72	72	140	180
Thermal losses(2) Ua (W/K). Flexible M1	1.38	1.657	2.231	2.778

(1) Risers not mounted.

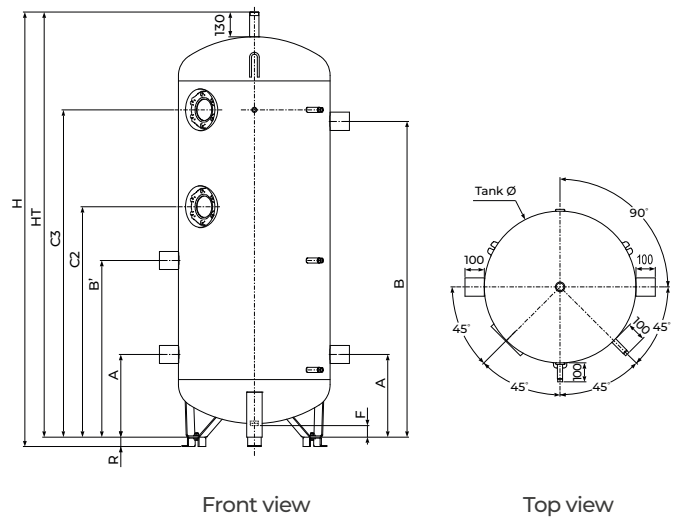
(2) Storage at 65°C - Ambient temperature at 20°C. Values supported per RT2012.

Dimensions

500 L



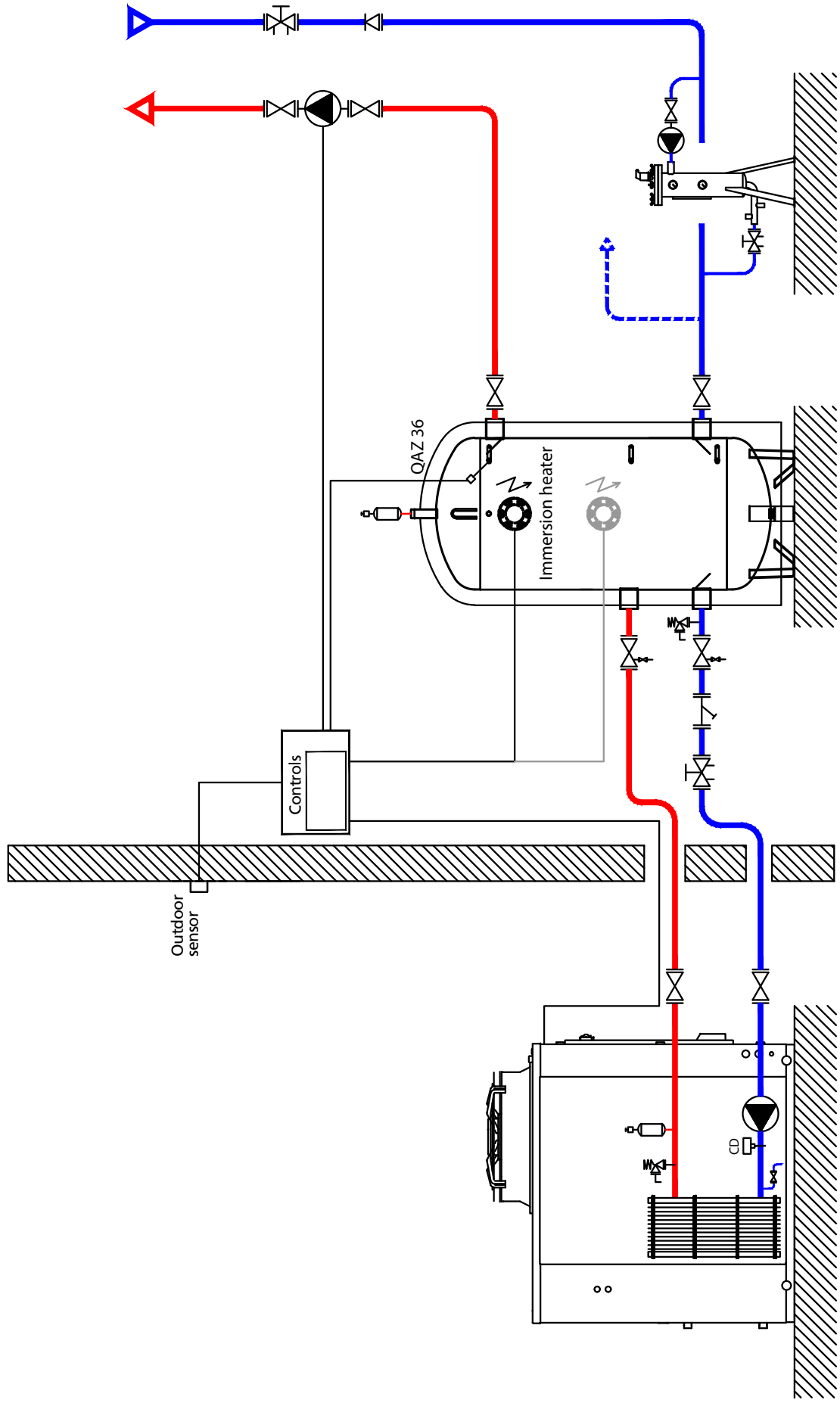
900 - 1500 L



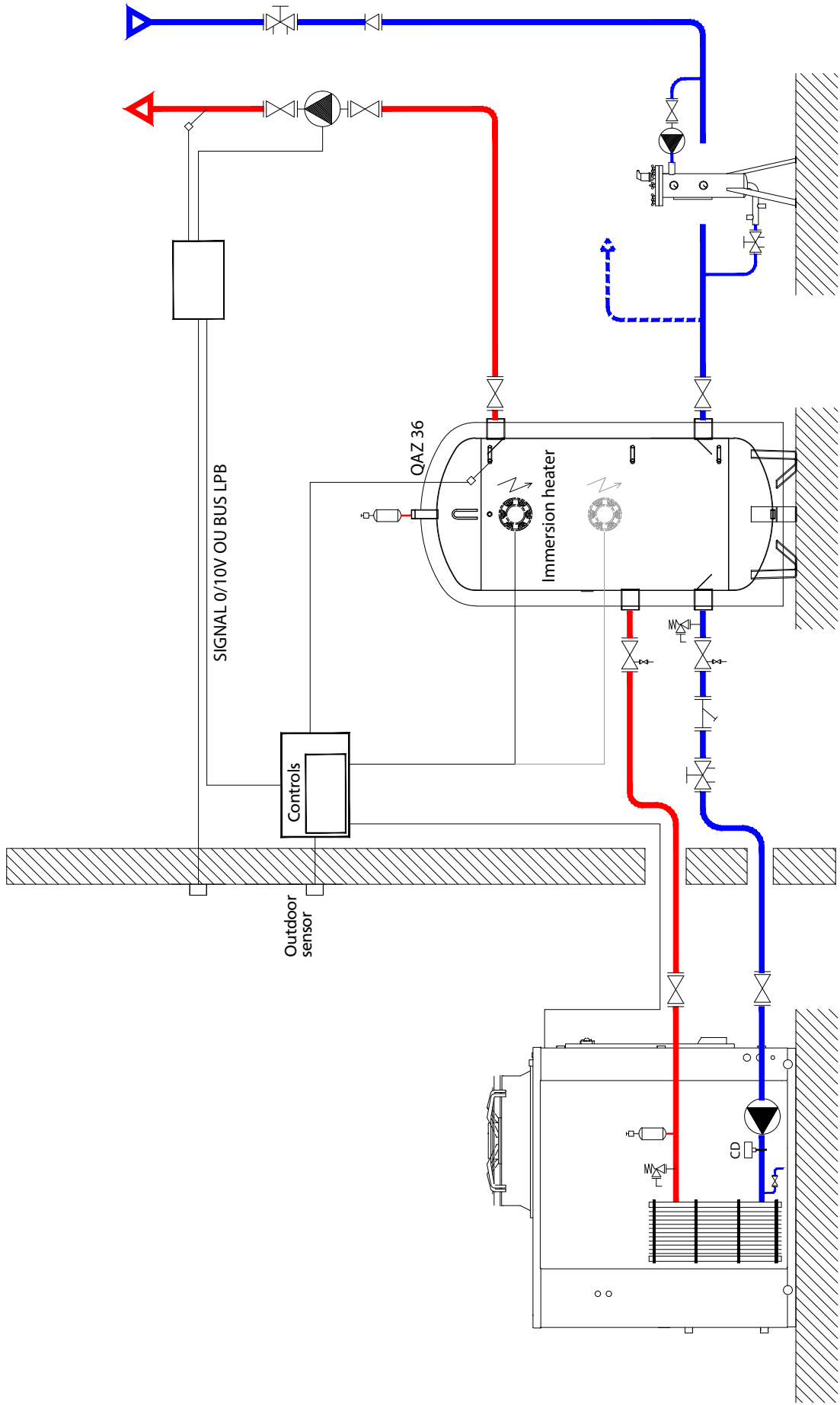
References	Designation	Units	Tank Models			
			500 0F*	500 3F*	900 2F*	1500 2F
Tank Ø	Tank diameter without insulation	mm	650	650	790	1000
HT	Tank overall height (height without riser)	mm	1950	1950	2215	2215
H	Height with risers	mm	1950	1950	2265	2265
A	Lower connection	mm	440	440	430	500
B	Upper connection	mm	1510	1510	1645	1460
B'	Intermediate connection	mm	-	825	920	915
C1	Lower flange height	mm	-	470	-	-
C2	Intermediate flange height	mm	-	970	1200	1077
C3	Upper flange height	mm	-	1370	1705	1630
F	Drainage height	mm	110	110	60	60
R	Riser height	mm	-	-	50	50
1	Temperature probe branch pipe		F15/21 Through type			
2	Thermometer branch pipe		F15/21 Through type			
3	Branch pipe connection		F 66/76		F 80/90	
4	Purge		M 40/49			M 50/60
5	Drain		F 33/42			

* 0F = 0 Flanges
2F = 2 Flanges
3F = 3 Flanges

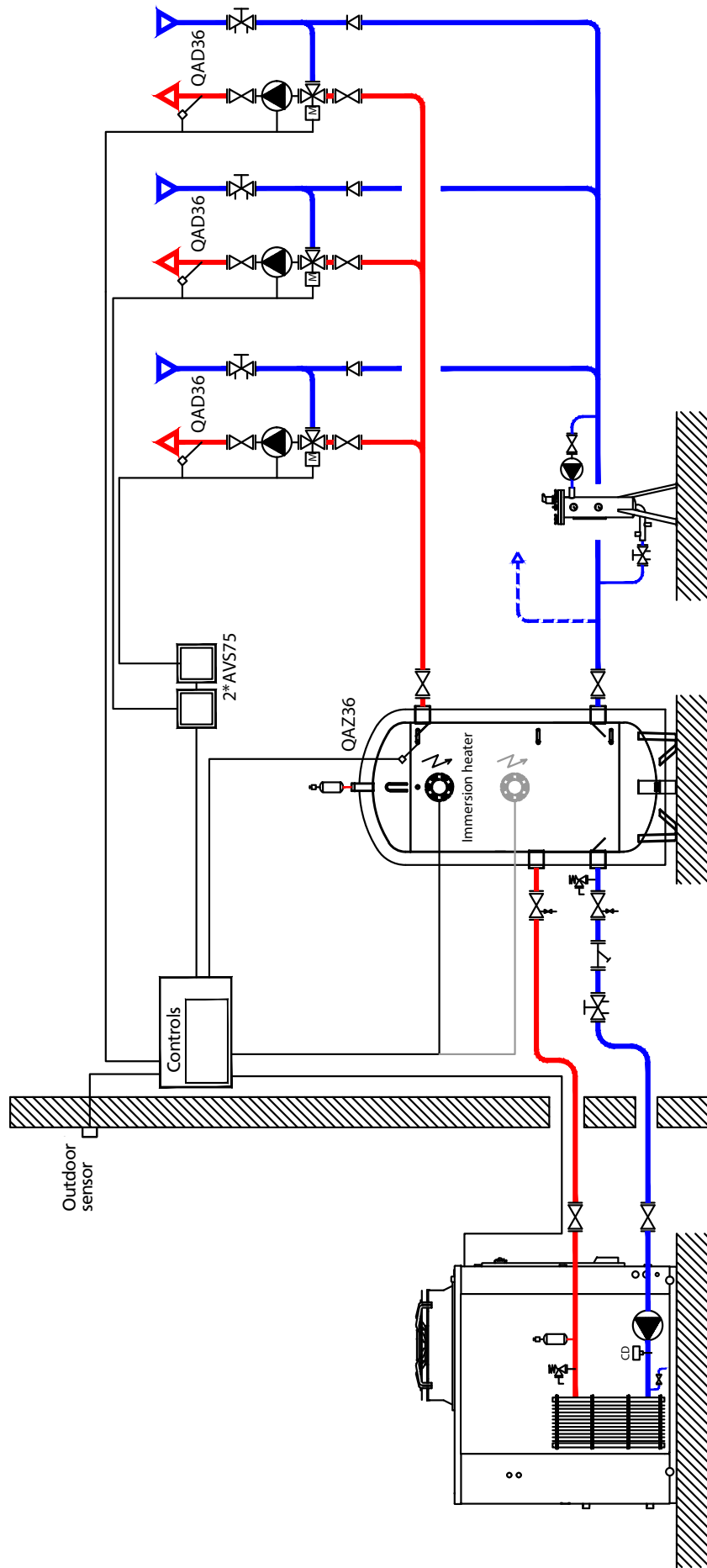
A: Heat pump - one buffer tank & one central heating circuit



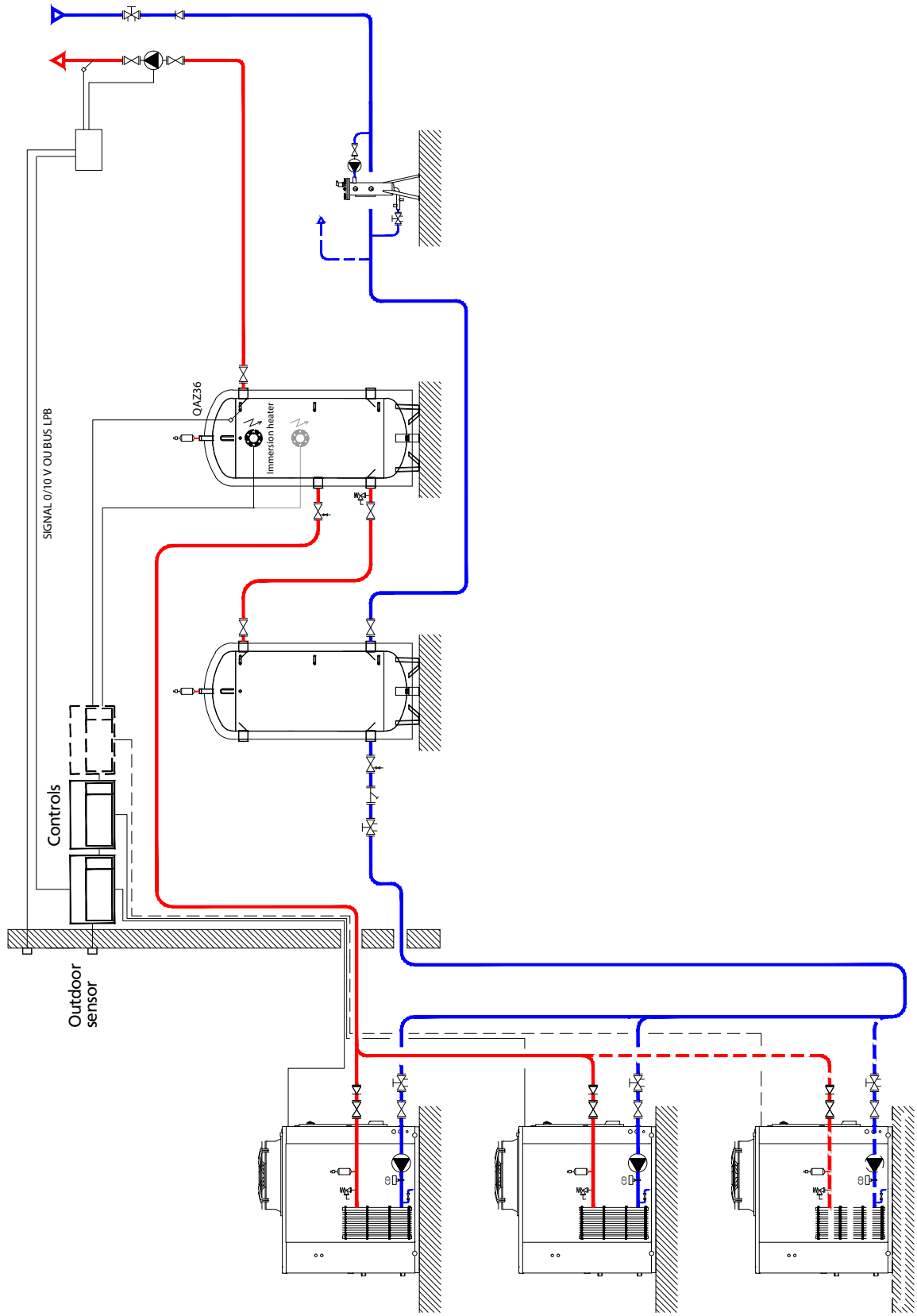
B: Heat pump - one buffer tank & one central heating circuit



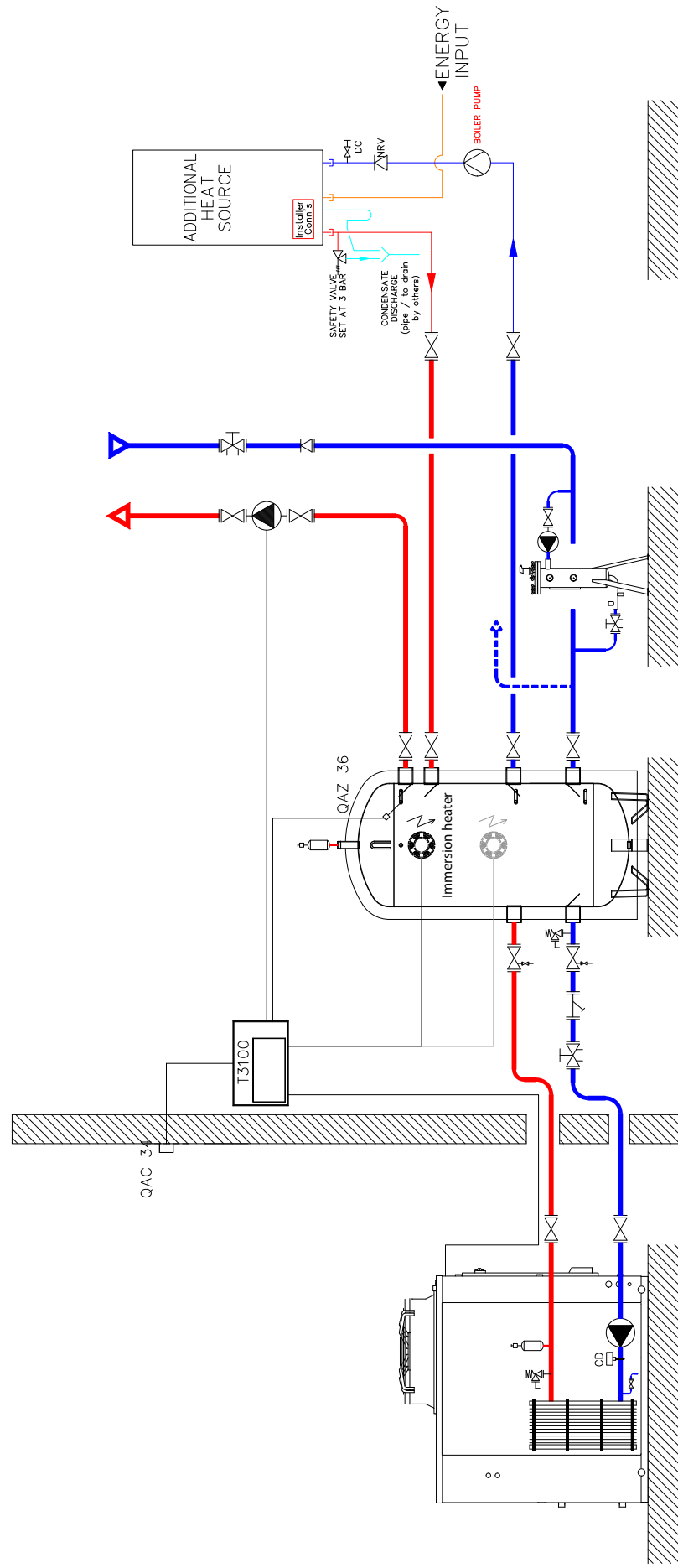
C: Heat pump - one buffer tank & up to 3 central heating circuits with mixer valve & circuit sensor



D: Heat pump - cascade one buffer tank & 1 central heating circuit with mixer valve & circuit sensor



E: Heat Pump - one buffer tank & one central heating circuit with One boiler in Hybrid Set Up



CHOOSE

Tyneham heat pump

Compact monobloc air source heat pump with up to 4.85 COP and R32 refrigerant. Can be cascaded to suit larger installations.



6 MODELS
14 - 70kW OUTPUT

15 MODELS
97 - 762kW
OUTPUT



COMBINE

Wessex ModuMax mk3

Up to 15:1 turndown ratio, 40°C delta T and 90°C output for top up and back up heat demands.

CREATE

Talk to us about creating your
**low carbon hybrid
heating system**

01202 662500

enquiries@hamworthy-heating.com
hamworthy-heating.com



Service and warranty

Commissioning

We strongly recommend that all appliances are commissioned by our service department. As well as ensuring your product is set up correctly for maximum efficiencies you will receive extra benefits on warranty. On completion, you will get a report with details of the initial operating settings.

Service

The Tyneham Heat Pump has been designed with ease of service in mind.

To maintain your heat pumps and ensure they continue to operate at peak efficiency talk to us about a service package that works for you and your needs.

Warranty

The Tyneham Heat Pump comes with a 2 year warranty or extended to 5 year warranty if commissioned by Hamworthy.

Full details of warranty terms and conditions are available on request.



Tyneham 26-32kW



● **Speak to our service team today to find out more about commissioning and service offering or ask us to add it to your project quote.**

Telephone:
01202 662555

Email:
service@hamworthy-heating.com

Website:
**hamworthy-heating.com/
commissioning**

Spares

Essential to any maintenance and service regime is the availability of quality spare parts.

By coming to us, the Original Equipment Manufacturer (OEM), you can be assured of genuine spare parts and may also benefit from technological improvements. We have a long-term commitment to spare parts for our products.

The Hamworthy difference

Delivery

Each heat pump is dispatched fully assembled and factory tested. Tyneham heat pumps are delivered to site secured to a pallet to ensure safe maneuverability.

Standard delivery for all Hamworthy products is free of charge.

Deliveries are closely co-ordinated with the customer, to suit the site construction programme. Products are delivered to ground level and it is the responsibility of the customer to arrange movement of products from here to the required location on site.

To enquire about special delivery services including FORS and time critical deliveries (additional charges apply), please contact our customer services team.

Everyone's got history, we've got heritage

Our roots date back to 1914 when two brothers in Poole set up Hamworthy Engineering. Decades of experience go in to every nut, screw and bolt, and every phone call, text and email.

Since 2008, we've been part of Groupe Atlantic, a company with a similar ethos to us. Groupe Atlantic was founded in 1968 by two engineers and is now one of the market leaders in the European heating and hot water industry. We're part of their growing UK, ROI and North America Divisions.



British engineering excellence

Here in the UK, we design, test, manufacture and source market-leading products. We know our products inside out, back to front and from start to finish. You can trust that we know what we're talking about.



Lifetime support

From design and specification, through to commissioning, training and maintenance, as well as commitment to spares availability. We support businesses through their lifetime of commercial heating and hot water needs.

Aftersales support

Got a question?

Don't hesitate to get in touch. Your local contact is listed on the back cover, or speak to one of the team in head office:

Sales team: 01202 662552

Service team: 01202 662555

Spares team: 01202 662525

Technical support: 01202 662505

You can speak to us online via our web chat service or visit our technical library to download full product information including CAD files, BIM objects and data tables.

hamworthy-heating.com

sales@hamworthy-heating.com

Request a free site survey

Our free site survey brings our heat pump experts directly to you.

hamworthy-heating.com

sales@hamworthy-heating.com

01202 662500

Product training

Get hands-on training about Tyneham heat pumps

Training can be provided onsite, online or at one of our training centres.

Delivered by Groupe Atlantic engineers with years of product knowledge and industry experience, the training session will provide hands-on product training and guide you through the servicing of products to ensure they are operating at their maximum efficiencies.

We recommend you encourage your customer to attend too so they are confident understanding fault codes and associated control operation.

We're also accredited with CIBSE to deliver approved Continuing Professional Development (CPD) courses.



To enquire about hands-on training or a CPD module with us, please contact your local area sales manager or email **sales@hamworthy-heating.com**

**British engineering excellence from Hamworthy Heating;
the commercial heating and hot water specialists.**



**SUPPORT BRITISH
MANUFACTURING**



Hamworthy Heating Limited

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New Fields Business Park,
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Email: sales@hamworthy-heating.com
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Hamworthy Heating Accreditations

ISO 9001 Quality Management System
ISO 14001 Environmental Management System
ISO 45001 Health & Safety Management System

Every effort has been taken to ensure the details in this guide are accurate. Hamworthy Heating does not, however, guarantee the accuracy or completeness of any information nor does it accept liability for any errors or omissions in the information.

Hamworthy Heating reserves the right to make changes and improvements which may necessitate alteration to product specification without prior notice.