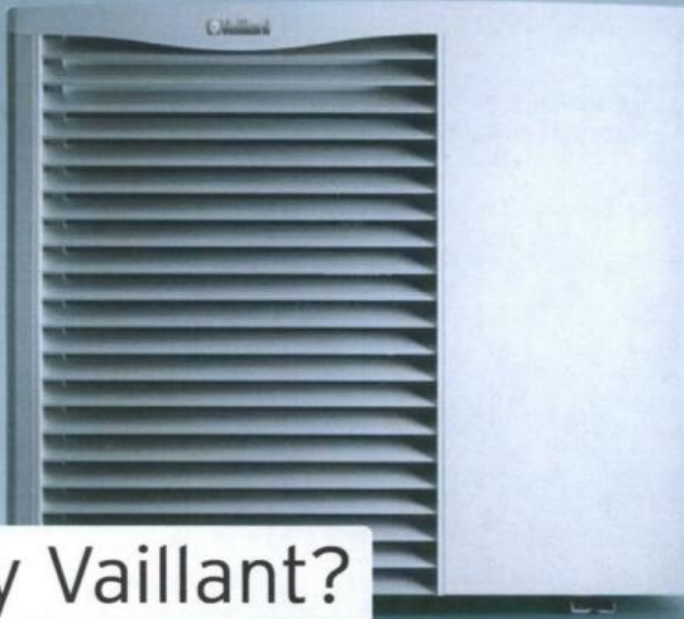


15/00438/HOUSE

RYEDALE DM  Vaillant

14 APR 2015

DEVELOPMENT
MANAGEMENT



Why Vaillant?

Because saving energy can be so easy.

*aroTHERM - air-to-water heat pump
15KW - SEE PAGE 9

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Vaillant - always thinking ahead

Vaillant has been setting the standard in the heating market since 1874 by consistently developing products that revolutionise the industry.



Today, our innovative solutions are still setting the standard in the heating marketplace. We have produced a comprehensive range of renewable technologies designed to utilise sustainable sources of energy.

Our products are at the very forefront of technology and deliver on the Vaillant promise to "think ahead", safeguarding our planet for future generations whilst delivering energy efficient products that can reduce the cost of providing heating and hot water to the home.

Every product developed by Vaillant is routinely subjected to rigorous materials analysis, robustness testing, lifetime testing and acoustics analysis.



This meticulousness and unremitting commitment to quality is evident at every stage in the product development process and applies to every appliance and every spare part that we sell.

Furthermore, we are committed to finding new and ever more imaginative ways to provide service excellence before, during and long after the installation of Vaillant appliances. We strongly believe that the most advanced heating solutions on the market demand the most forward-thinking service solutions - that is why we pride ourselves on our unrivalled service support.



Why choose an air-to-water heat pump?



Air-to-water heat pumps are becoming an increasingly popular choice for those looking to install renewable products in the home. The main advantage of air-to-water heat pumps is that they can help safeguard against the fluctuations in oil and LPG prices that leave homeowners vulnerable to the ever-rising costs of heating the home.

The pumps can be integrated into UK heating systems with ease, causing minimal disruption to the homeowner. They also eliminate the need for on-site fuel storage and can be used as part of an efficient all-electric heating solution.

Furthermore, air-to-water heat pumps offer excellent payback periods compared to alternatives like standard electric, LPG or oil, especially as all Vaillant heat pumps are MCS accredited and may therefore be eligible for government funding. They can also dramatically increase carbon savings and therefore offer a more sustainable heating solution than oil and LPG sources.

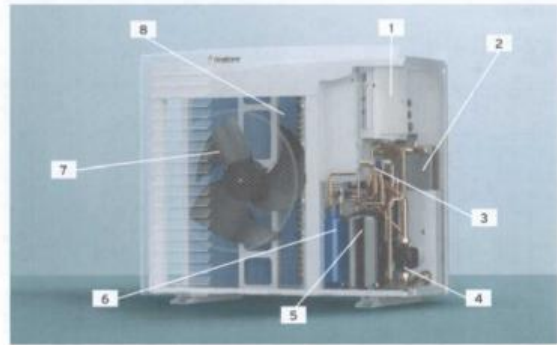
As the experts within the heating industry, we can help you to develop bespoke heating systems that meet the requirements of even the most complex installations. With our extensive range of products and system accessories, you'd be hard pressed to find another manufacturer that can match our offering of flexible system solutions.

Introducing aroTHERM



aroTHERM is Vaillant's second generation air-to-water heat pump range. Developed in line with the exacting standards and precision engineering you would expect when you choose Vaillant. What's more, with a Quiet Mark award you can be assured knowing the aroTHERM air to water heat pump is one of the most understated miracles of engineering we've ever produced.

aroTHERM heat pump key components



aroTHERM heat pump

Along with the introduction of our heat pumps, we are also introducing a range of heat pump system modules and also a hybrid system, both of which will ensure that Vaillant continues to offer one of the most comprehensive renewable heating systems in the UK market.

Key features and benefits:

- **Four models**
aroTHERM 5kW, 8kW, 11kW and 15kW
- **Compact size for easy siting**
Possible to fit under a standard window
- **High efficiency ErP A-rated pump**
Up to 35% more energy efficient than a standard CH pump
- **Quiet operation**
Sound power as low as 60dBA (BkW) with permitted planning available as low as 3 metres
- **Blue fin coated evaporator with anti-hydro coating**
Gives improved performance and extra protection against corrosion, making it suitable for coastal installation
- **VRC 470 weather compensating control as standard**
With easy-to-use features that make your system as efficient as possible

Key:

1. Electronic box
2. Condenser
3. 4 way valve
4. CH pump
5. Compressor
6. Gas buffer (refrigerant heat exchanger)
7. Fan
8. Evaporator



When installed by a Partner Installer

- **Set-up wizard for first installation**
With simple steps to help speed up commissioning
- **7 years parts and labour guarantee**
- **Solid case design with in-built anti-vandalism measure**
No requirement for extra vandalism cages
- **Wider fin spacing and tray heater**
Improve defrosting efficiency

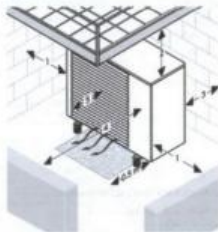
aroTHERM heat pump connections and dimensions

Connections:



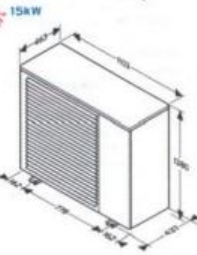
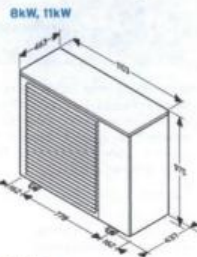
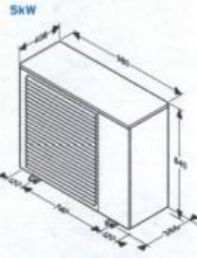
- Key:**
1. Condensate drain pipe
 2. Adaptor
 3. Cable tie
 4. Elbow
 5. Seal

Clearances:



Clearance	For heating mode
1	> 250mm
2	> 1000mm
3	> 1200mm
4	> 600mm
5	> 300mm

Dimensions:



aroTHERM heat pump technical specifications

aroTHERM	5kW	8kW	11kW	15kW
Article number	002096231	002075476	002075479	002096232
Heat pump type	Monoblock air/water heat pump	Monoblock air/water heat pump	Monoblock air/water heat pump	Monoblock air/water heat pump
Flow/return heating connections, boiler side	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Product dimensions, width	mm 970	1003	1003	1003
Product dimensions, height	mm 834	975	975	1375
Product dimensions, depth	mm 408	463	463	463
Net weight	kg 90	106	126	105
Hydraulic lines material	Copper	Copper	Copper	Copper
Hydraulic connections material	Brass	Brass	Brass	Brass
Hydraulic seals material	EPDM	EPDM	EPDM	EPDM
Plate heat exchanger material	AISI 304 stainless steel	AISI 304 stainless steel	AISI 304 stainless steel	AISI 304 stainless steel
Pump casing material	Painted cast iron	Painted cast iron	Painted cast iron	Painted cast iron
Pollution rating	2	2	2	2
Electric connection	VHz 230/50	230/50	230/50	230/50
Fuse type	T4A	T4A	T4A	T4A
Inverter controller fuse	A/V HRC 20/50	HRC 20/50	HRC 32/50	HRC 32/50
Level of protection	IP 25	IP 25	IP 25	IP 25
Maximum start-up current	A 16	16	20	25
Maximum current consumption	A 16	16	20	25
Pump power consumption	W 15 - 70	15 - 70	15 - 70	4 - 87
Fan power consumption	W 15 - 42	15 - 42	15 - 76	15 - 76 <i>Note 2 x</i>
Electrical classification	I	I	I	I
Overvoltage category	II	II	II	II
Fan rotational speed	rpm 550	550	700	600
Sound power level for ATW35 according to EN 12102 and EN ISO 9614-1	dB(A) 58	60	65	65
Sound power level for ATW45 according to EN 12102 and EN ISO 9614-1	dB(A) 59	60	65	65
Sound power level for ATW55 according to EN 12102 and EN ISO 9614-1	dB(A) 61	61	66	66
Maximum DHW flow temperature	°C 60	63	63	63
Minimum air temperature (heating and cylinder charging)	°C -15	-20	-20	-20
Maximum air temperature (heating)	°C 28	28	28	28
Maximum air temperature (cylinder charging)	°C 46	46	46	46
Max. air flow	m³/h 2,000	2,700	3,400	5,500

Heating circuit				
Minimum operating pressure	MPa (bar)	0.1 (1.0)	0.1 (1.0)	0.1 (1.0)
Maximum operating pressure	MPa (bar)	0.3 (3.0)	0.3 (3.0)	0.3 (3.0)
Heating circuit water contents in the heat pump	l	1.1	1.6	2.1
Minimum heating circuit water contents	l	17	21	35
Min. volume flow rate	l/h	380	380	540
Nominal volume flow rate, max. volume flow rate	l	860	1,400	1,900
Hydraulic pressure difference	mbar	640	450	300

Heat exchanger module



The wall-mounted heat exchanger module separates the heat pump circuit from the heating system circuit. As the heat pump is fitted outside the property, it is subjected to changing weather conditions and as such, requires the fluid flowing through the heat pump to have frost protection to ensure that it does not freeze and damage the heat pump.

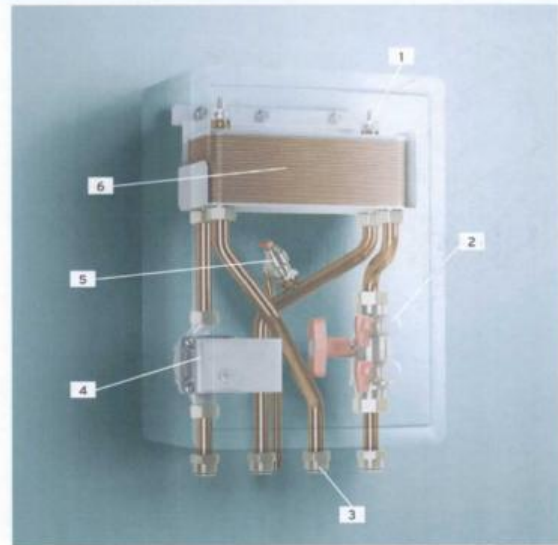
Filling the entire system with heat pump glycol is expensive and, if a radiator circuit is being used, there is a risk of compromising the entire system if a radiator is removed or drained and refilled with water. The heat exchanger module removes the need to fill the entire heating circuit with glycol; it also removes the need to buy fill and flush points for the heat pump circuit, as these are included.

The 40 plates within the module ensure that the energy is transferred from the heat pump circuit to the heating circuit as efficiently as possible. Air bleed vents/valves within the module also help prevent air getting trapped within the system.

Key features and benefits:

- Designed to separate the heat pump glycol circuit from the heating circuit
Only a small proportion of the system is required to be filled with glycol
- Wall-mounted, compact and lightweight
H500mm x D250mm x W360mm; for easy and flexible siting
- ErP A-rated modulating circulation pump
35% more energy efficient than a standard pump, making the heating circuit ready to comply with future legislation
- Fill and flush points for the heat pump glycol circuit
Quick and easy to install with no extra cost

Heat exchanger module key components

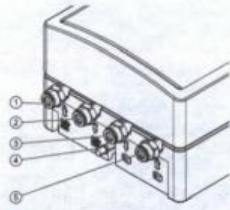
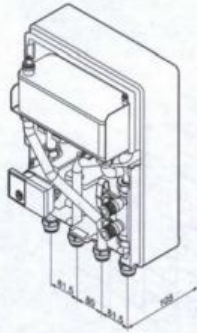


Key:

1. Air bleed vent
2. Fill and flush points
3. 1" connections
4. HE CH pump
5. PRV central heating side
6. 40 plate-to-plate heat exchanger

Heat exchanger connections and dimensions

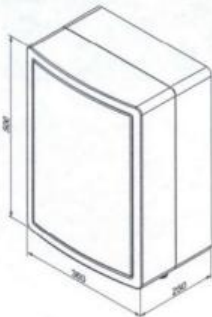
Connections:



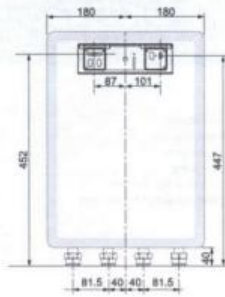
Key:

1. Installation heating circuit inlet 1"
2. Installation heating circuit outlet 1"
3. Glycol water circuit outlet to heat pump 1"
4. Safety valve drain
5. Glycol water circuit inlet from heat pump 1"

Dimensions:



Clearances:



Heat exchanger technical specifications

Heat exchanger	VWZ MWT 150
Article number	002043800
Net weight	kg 12
Maximum admissible water pressure	bar 3,0
	Mpa 0,3
Minimum admissible water pressure	bar 0,5
	Mpa 0,05
Electrical	
Voltage/frequency	V/Hz 230/50
Maximum electrical consumption (pump)	W 45
Index of electrical protection	IP X4

Inline 6kW back-up heater



This back-up heater is an inline immersion heater developed to give the system an extra boost when required to ensure comfort levels are maintained in severe weather conditions such as extended cold snaps.

The back-up heater comes with a temperature sensor and sensor pocket to ensure that it only comes on when required and to limit its usage time as much as possible.

Key features and benefits:

- Provides a back-up boost to the heating system
Ensures comfort levels are maintained during extreme weather conditions
- Wall-mounted, compact and lightweight
H500mm x D250mm x W280mm; easy and flexible installation
- Flexible outputs
Comes with 25mm (1") connections and can be wired to give 2kW, 4kW, 6kW or staged output

Inline 6kW back-up heater key components

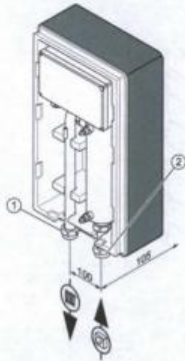


Key:

1. Air bleed vent
2. Heating element
3. 1" connection
4. Electronics box

Inline 6kW back-up heater connections and dimensions

Connections:



- Key:**
 1. Installation output 1"
 2. Heat pump input 1"

Dimensions:



Clearances:



Inline 6kW back-up heater technical specifications

	6kW	
CE number (PN)		
Net weight	kg	4
Central heating maximum hydraulic pressure (PSH max)	bar	3.0
	Mpa	0.3
Central heating minimum hydraulic pressure (PSH min)	bar	0.5
	Mpa	0.05
Electrical		
Voltage/frequency	V/Hz	230/50 400/50
Maximum absorbed power (P max)	W	6 6
	A	30 10
Index of electrical protection	IP 20	
Cable size	-	3 G4 5 G1.5

Wall-mounted 40 litre buffer tank



The wall-mounted 40 litre buffer tank module gives added system flexibility to the aroTHERM range as it can act as both a hydraulic nil point in the system and a low loss header, ensuring system flow through the heat pump and the system.

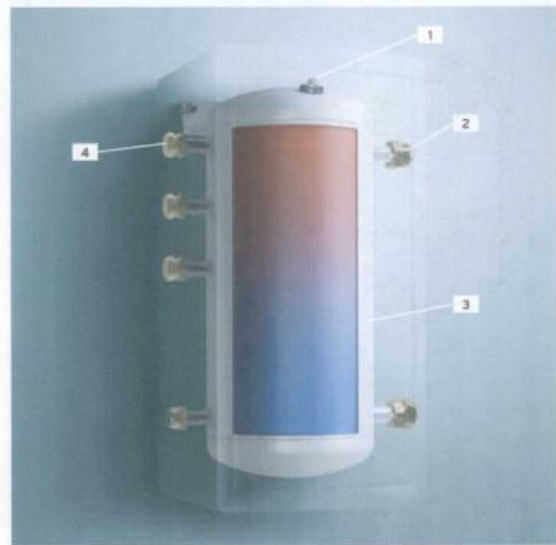
Should the system have multiple zones and/or require an additional pump to support the complete heating system, the buffer tank provides an excellent solution and is easy to site and install. The tank comes complete with an NTC sensor and pocket at the top of the tank as well as an air bleed valve/vent to help remove air from the system.

The four inlets can be used to link two heating sources and heat pumps into one heating set-up to create a hybrid system. In these cases, the buffer tank acts as a mixing module in which the heat pump acts as the primary heat source with the boiler acting as a boost or taking over once the boiler becomes less cost effective and/or efficient than the heat pump.

Key features and benefits:

- **Helps maintain heat pump and back-up appliance differentials**
Resulting in better efficiency and performance
- **4 inlets**
Allows more system volume to be added to meet the requirements of the heat pump or to link two heat sources together in one heating circuit for a hybrid system
- **Multiple Tappings**
Flexible system design
- **Thermally layered**
Increased performance
- **Wall-mounted and compact**
1720mm x D350mm x W350mm; for flexible siting

Wall-mounted 40 litre buffer tank key components



Key:

1. Air bleed vent
2. 1/4" connection
3. 40l buffer tank
4. 1" connection

Buffer tank

Heat pump cylinders



Designed with smooth coil technology, Vaillant Heat Pump Cylinders provide a highly efficient system for your customers by producing a higher transfer of heat, better flow rates and a more effective surface area.

Heat Pump Cylinders (HPC) are a range of three highly efficient cylinders from 200, 250 and 300 litre volumes. Designed to work with our full range of aroTHERM air to water heat pumps and domestic range of geoTHERM ground source heat pumps up to 14kW. These cylinders have been designed to produce larger amounts of heat transfer from the lower flow temperatures of a heat pump. This is typically 55°C but Vaillant's superior performance can give flow temperatures as high as 63°C, ensuring the hot water tank is heated quickly and efficiently.

What's more, to reinforce our commitment, our cylinders are covered by a 25 years guarantee for the shell and a 2 year parts and labour guarantee for all other components.

Key features and benefits:

- **Three sizes available within the range**
Suitable for a wide range of typical domestic hot water requirements
- **Complete with unvented kit**
Comes with product, meaning simpler order process and always meets G3 regulations
- **Coil sizes optimised for use with Vaillant heat pump ranges**
Designed to match modulating outputs of all Vaillant air to water heat pumps and ground source heat pumps up to 14kW
- **Extensive testing (beyond standard requirements)**
Vaillant are committed to always leading the way with quality products
- **Front connections**
Meaning easy installation
- **Optimised sensor pocket design**
Provides simple and effective clamping of Vaillant VRD sensor for reliable and accurate information



The range

Available in three sizes

Description	Article number
200 litre heat pump cylinder - Supplied with unvented kit	HPC200
250 litre heat pump cylinder - Supplied with unvented kit	HPC250
300 litre heat pump cylinder - Supplied with unvented kit	HPC300

Technical specification

Heat pump cylinder	200 litre	250 litre	300 litre
Article number	HPC200	HPC250	HPC300
Height (mm)	150	1400	1600
Diameter (mm)	580	580	580
Mass (kg)	empty 90 full 240	95 301	61 341
Heat up from cold at boiler flow temperature	mins 21	23	27
Heat loss	kWh/24hr 1.7	2.0	2.2
Usable volume of water when blended to 40 degrees (point of use)	dep=litres 50=250 55=281	50=216 55=256	50=365 55=411
Actual volume hot water	litre 179	209	237
Coil resistance at 1400 l/hr	mbar 197	256	256
Coil resistance at 1900 l/hr	mbar 332	431	431
Coil rating	kW 26.9	29.7	27.1
Expansion vessel capacity	litre 18	25	25
Maximum working pressure	bar 3.5	3.5	3.5
Flow	BSPF 1/2" mm 22	1/2" 22	1/2" 22
Return	BSPF 1/2" mm 22	1/2" 22	1/2" 22
Hot water outlet	BSPF 1/2" mm 22	1/2" 22	1/2" 22
Sensor pockets	BSPF 1/2" mm 15	1/2" 15	1/2" 15

Performance data

15kW Air source heat pump							
Outside temperature	Output @ 55°C	Heat up 10-55°C (min)			10% re-heat (min)		
		Cylinder size			200l	250l	300l
Air - 5°C	9.9kW	99	68	80	41	48	56
Air - 3°C	10.3kW	57	65	77	40	46	54
Air 0°C	11.2kW	53	60	71	37	42	50
Air 3°C	11.8kW	50	57	67	35	40	47
Air 7°C	13.6kW	43	49	58	30	34	41

11kW Air source heat pump							
Outside temperature	Output @ 55°C	Heat up 10-55°C (min)			10% re-heat (min)		
		Cylinder size			200l	250l	300l
Air - 5°C	5.6kW	105	120	141	74	84	99
Air - 3°C	6.0kW	92	112	132	64	76	92
Air 0°C	6.7kW	88	100	118	62	70	83
Air 3°C	1.0kW	84	96	113	59	67	79
Air 7°C	9.8kW	60	68	80	42	48	56

8kW Air source heat pump							
Outside temperature	Output @ 55°C	Heat up 10-55°C (min)			10% re-heat (min)		
		Cylinder size			200l	250l	300l
Air - 5°C	4.4kW	133	152	179	93	106	125
Air - 3°C	4.7kW	125	142	167	88	99	117
Air 0°C	5.37kW	110	125	147	77	88	103
Air 3°C	5.7kW	103	117	136	72	82	97
Air 7°C	7.9kW	82	93	110	57	65	77

5kW Air source heat pump							
Outside temperature	Output @ 55°C	Heat up 10-55°C (min)			10% re-heat (min)		
		Cylinder size			200l	250l	300l
Air - 5°C	4.36kW	135	154	181	95	108	127
Air - 3°C	4.5kW	131	149	176	92	104	123
Air 0°C	5.0kW	118	134	158	83	94	111
Air 3°C	5.0kW	118	134	158	83	94	111
Air 7°C	5.0kW	118	134	158	83	94	111

System design considerations

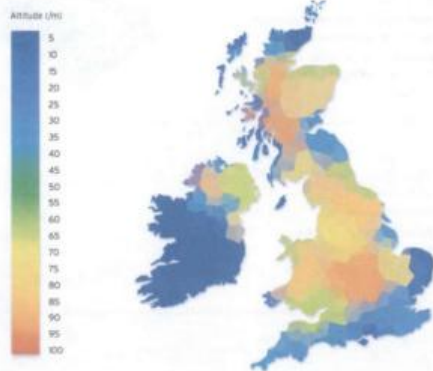
When designing a heating system that utilises a heat pump, there are a number of design considerations that need to be considered.

Heat loss

MCS recommend using the MIS 3005 installation standard for designing a heat pump system. Systems should be specified at peak winter requirements, depending on location, to ensure year round comfort as detailed in the table below.

Location	Altitude (ft)	Hourly dry bulb temperature (°C) equal to or exceeded for 99% of the hours in a year
Belfast	68	-1.2
Birmingham	96	-3.4
Cardiff	67	-1.6
Edinburgh	35	-3.4
Glasgow	5	-3.9
London	25	-1.8
Manchester	15	-2.2
Plymouth	27	-0.2

A room-by-room heating requirement test/check will then need to be carried out at the set outside temperature in order to understand the heating needs of the total property.



System design considerations

Co-efficiency of performance

As the outside air temperature drops, the amount of energy the heat pump can extract decreases, meaning the heating output will decrease to ensure end-user comfort at peak heating times.

Outdoor temp		MJ/kWhm					
		SAH	BWR	TRR	SkH		
Flow 35°C	-5°C	kW	5.00	7.32	8.23	19.45	
		CoP	2.82	2.83	2.66	2.75	
	-1°C	kW	5.00	7.70	8.42	12.90	
		CoP	3.01	2.91	2.75	3.00	
	0°C	kW	5.00	7.81	9.25	13.20	
		CoP	3.25	3.12	2.97	3.20	
	2°C	kW	5.00	8.27	9.81	14.00	
		CoP	3.40	3.38	3.20	3.30	
	7°C	kW	5.00	8.41	11.20	14.60	
		CoP	4.42	4.75	4.25	4.46	
	Flow 45°C	-5°C	kW	5.00	5.84	7.17	11.00
			CoP	2.10	2.31	2.16	2.43
-1°C		kW	5.00	5.98	7.30	11.50	
		CoP	2.38	2.40	2.29	2.60	
0°C		kW	5.00	6.58	7.88	12.40	
		CoP	2.56	2.57	2.35	2.80	
2°C		kW	5.00	7.20	8.38	13.10	
		CoP	2.66	2.70	2.47	2.90	
7°C		kW	5.00	8.35	11.2	14.90	
		CoP	3.18	3.77	3.45	3.30	
Analysing over 50°C flow constant gas flow							
Flow 55°C		-5°C	kW	4.36	4.41	5.01	9.90
	CoP		1.61	1.89	1.64	2.22	
	-1°C	kW	4.50	4.72	6.00	10.30	
		CoP	1.85	1.97	1.72	2.23	
	0°C	kW	5.00	5.37	6.70	11.20	
		CoP	2.00	2.45	1.90	2.40	
	2°C	kW	5.00	5.74	7.00	11.80	
		CoP	2.21	2.55	2.01	2.55	
	7°C	kW	5.00	7.19	9.83	13.40	
		CoP	2.55	2.97	2.86	2.65	

Planning permission

As air-to-water heat pumps are installed on the outside of the property and produce a certain level of sound (the pumps use a fan to move air which will generate noise), it must be determined if a single heat pump installation meets permitted development rules. The Vaillant MCS O20 tool can help determine sound pressure levels from our full range of air-to-water heat pumps.

If the sound pressure level is 42dBA or above, planning permission is likely to be required. However, it is worth noting that planning permission for each county within the UK varies and that Scotland has its own rules regarding air-to-water heat pumps, which you will need to refer to.



System zoning

Using Table A determine the estimated heat loss from the property, taking into consideration the year of build. The value in the table will determine the approximate amount of kW's required from the heat pump and will indicate which airHEM is required - see table B.

Heat loss calculation table

Year		Heat loss in kW - Table (A)																		
		70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
No house upgrade																				
1970-1995		100W/m ²																		
1996-2005		80W/m ²																		
2006-2010		50W/m ²																		
2011		40W/m ²																		
House upgrade for double glazing and loft insulation																				
1970-1995		50W/m ²																		
1996-2005		35W/m ²																		
2006-2010		25W/m ²																		
2011		20W/m ²																		
House upgrade for double glazing, loft insulation and cavity wall insulation																				
1970-1995		40W/m ²																		
1996-2005		30W/m ²																		
2006-2010		20W/m ²																		
2011		15W/m ²																		

Table (B)

Based on 40°C flow temperature and 3°C outside air temperature	
D - SWH	equivalent
4-SWH - SWH	equivalent
5-SWH - SWH	equivalent
7SW - 7.5SW	equivalent
11W and above	equivalent

Auxiliary heater required for peak heating requirements (3°C and below)

Accessories and spares

750mm flexi hose:

Article number 0020165288

- Pre-insulated with 20mm weatherproof high-grade insulation to improve system efficiency and cut installation time
- Right angled fixing to the heat pump to minimise rear clearance
- 28mm copper compression fitting for a fast and easy installation
- 'Kink-free' bending designed to minimise the possibility of 'kinking' in the hose
- 750mm length to suit nearly all site requirements



Raised rubber feet:

Article number 0020175140

- Available in two sizes: 400mm in length or 600mm in length for 8kW and above - meeting all site requirements
- Raised rubber mounting that offers excellent vibration absorption to minimise noise
- Extra clearance at the base, which improves access to the condensation pipe and drainage
- Improves air flow



Discharge vessel:

Article number 0020145563

- Small wall-mounted vessel
- Collects heating system glycol if the PRV opens
- Ensures glycol does not discharge into the drainage system



aroTHERM hybrid systems



At Vaillant, we believe that everyone should be able to utilise renewable heating technologies, not only to protect the planet but also to benefit from savings in running costs.

Therefore, we have developed the aroTHERM hybrid system for those properties that have heat loss outside the scope of a single heat pump and/or have a relatively new heating system which can be costly to run.

Using the unique Vaillant trivAI® hybrid management system, the VRC470 control calculates the most efficient generator (the aroTHERM or gas, oil or LPG boiler) at that point in time.

Key features and benefits:

- **Unique trivAI® intelligent control system**
Three possible energy tariffs can be entered - gives maximum cost savings
- **Total system solution**
Available in an easy to order pack
- **Excellent green credentials**
Provides significant carbon and energy bill savings

- **Compatible with all boiler systems**
Gas, oil and LPG
- **Reduced maintenance costs**
Glycol only needed in the outdoor circuit to the heat pump
- **Easy to install and commission**
Uses the Vaillant setup wizard

System components:

- 5kW, 8kW, 11kW or 15kW aroTHERM heat pump
- VRC470 weather compensating control
- VWZ MWT 150 - heat exchanger module
- aroTHERM 40ltrs buffer de-coupler module
- VR32 - controls address board for use with Vaillant boilers

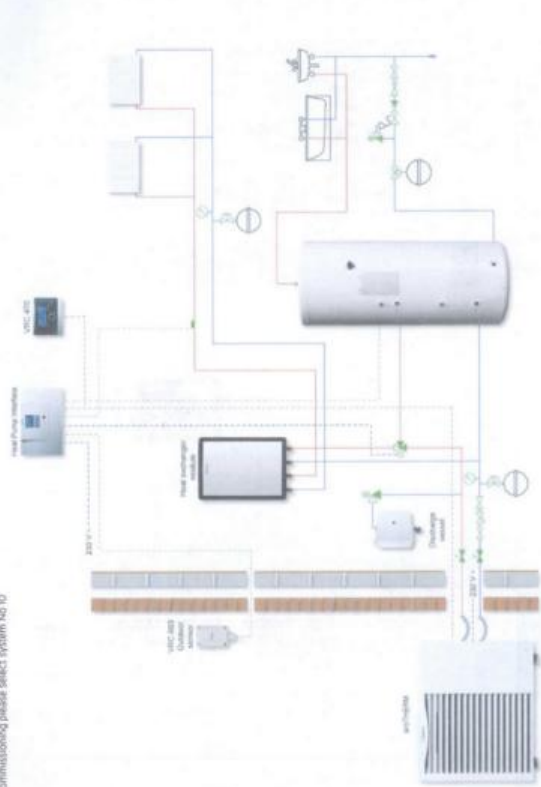
Description	Article number
aroTHERM 5kW hybrid for Vaillant boiler aroTHERM 5kW + heat pump interface + VRC470 + heat exchanger module + buffer module + VR10 + VR32/3	002096233
aroTHERM 8kW hybrid for Vaillant boiler aroTHERM 8kW + heat pump interface + VRC470 + heat exchanger module + buffer module + VR10 + VR32/3	002078072
aroTHERM 11kW hybrid for Vaillant boiler aroTHERM 11kW + heat pump interface + VRC470 + heat exchanger module + buffer module + VR10 + VR32/3	002078073
aroTHERM 15kW hybrid for Vaillant boiler aroTHERM 15kW + heat pump interface + VRC470 + heat exchanger module + buffer module + VR10 + VR32/3	002096234

Description	Article number
aroTHERM 5kW hybrid system aroTHERM 5kW + heat pump interface + VRC470 + heat exchanger module + buffer module + VR10	002096235
aroTHERM 8kW hybrid system aroTHERM 8kW + heat pump interface + VRC470 + heat exchanger module + buffer module + VR10	002078074
aroTHERM 11kW hybrid system aroTHERM 11kW + heat pump interface + VRC470 + heat exchanger module + buffer module + VR10	002078075
aroTHERM 15kW hybrid system aroTHERM 15kW + heat pump interface + VRC470 + heat exchanger module + buffer module + VR10	002096236

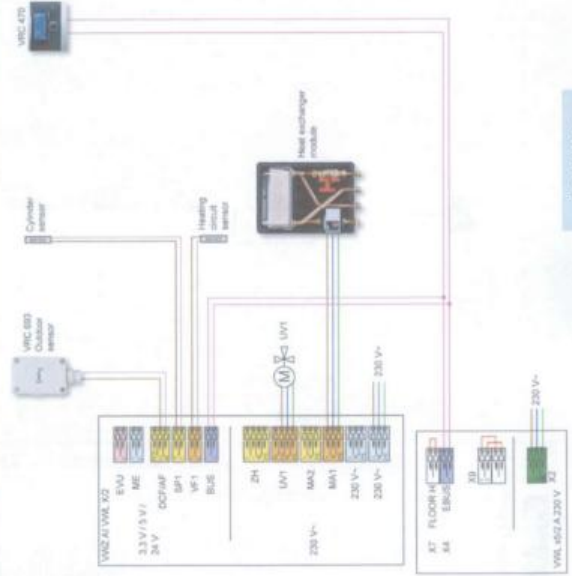
For further information about Vaillants hybrid systems, please refer to our Hybrid brochure for more detail

HEX Single-Zone - schematic

On first commissioning please select system No 10

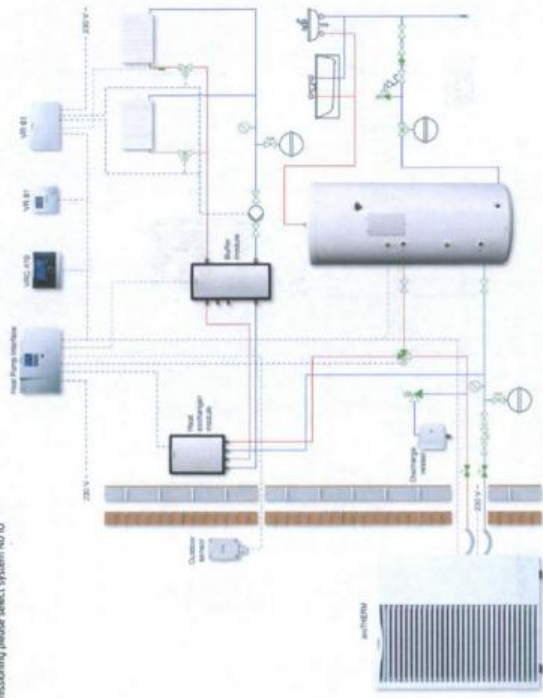


HEX Single-Zone - wiring diagram

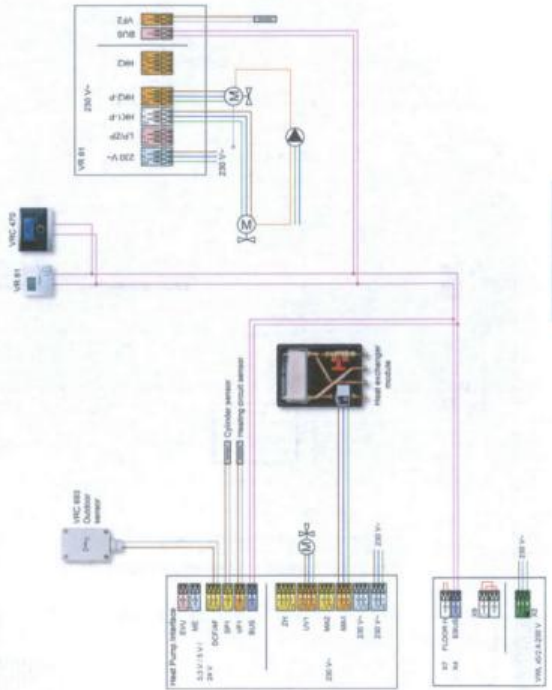


HEX buffer, two zone - schematic

On first commissioning please select system No 10

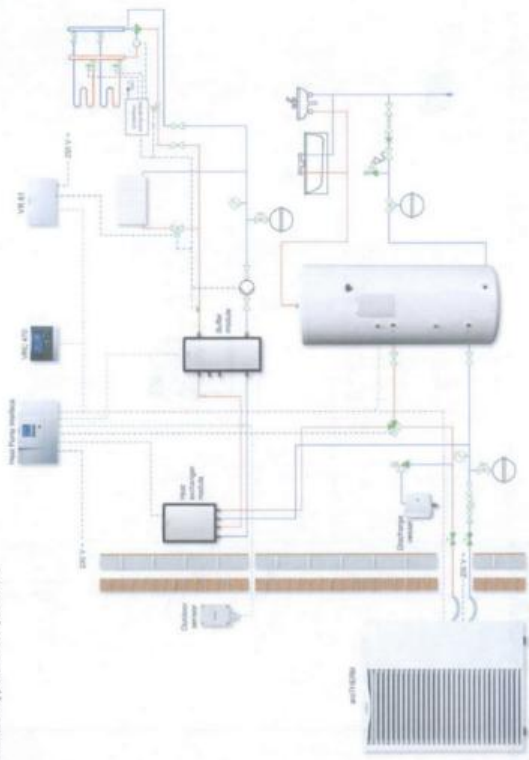


HEX buffer, two zone - wiring diagram

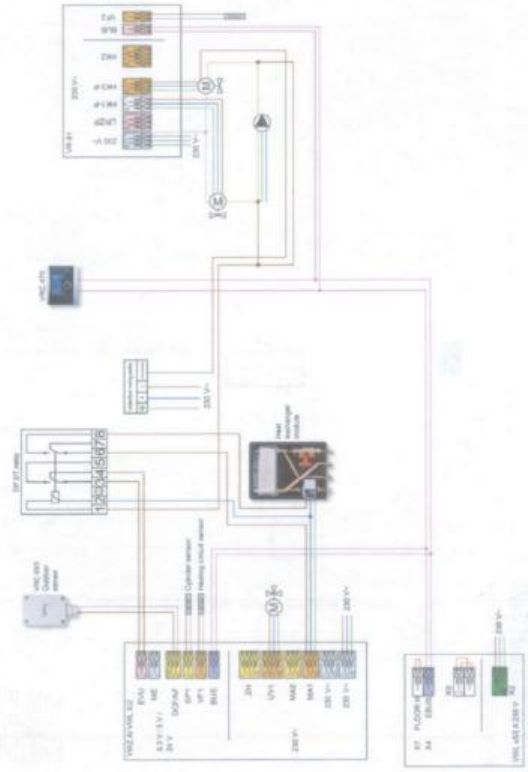


HFC buffer and UF zone - schematic

On first commissioning please select system No 10

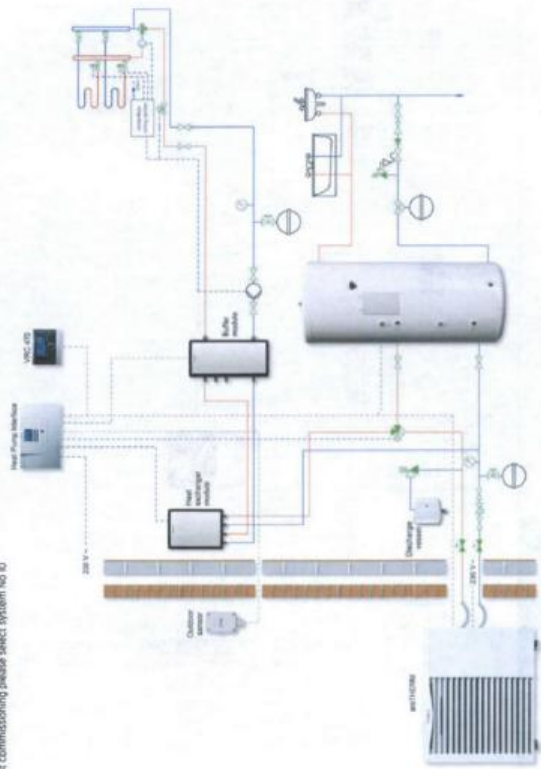


HFC buffer and UF zone - wiring diagram

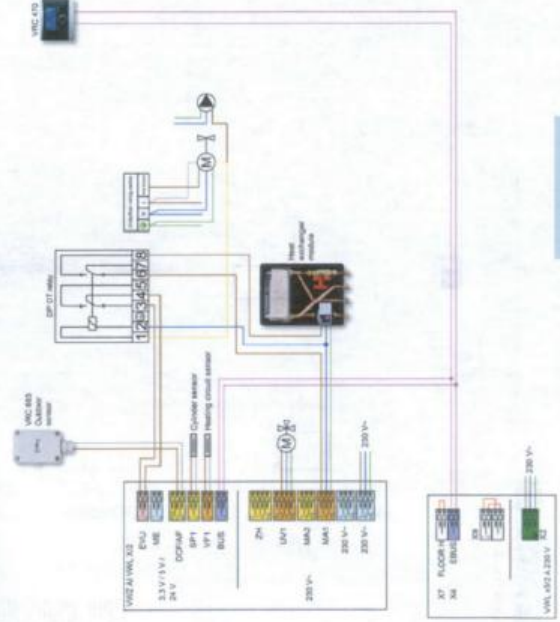


HEX outdoor with UP zone - schematic

On first commissioning please select system No 10

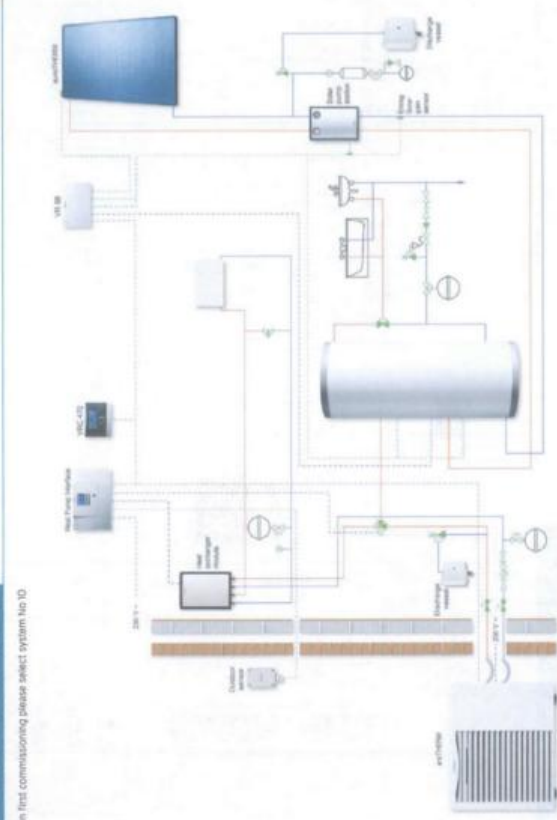


HEX outdoor with UP zone - wiring diagram

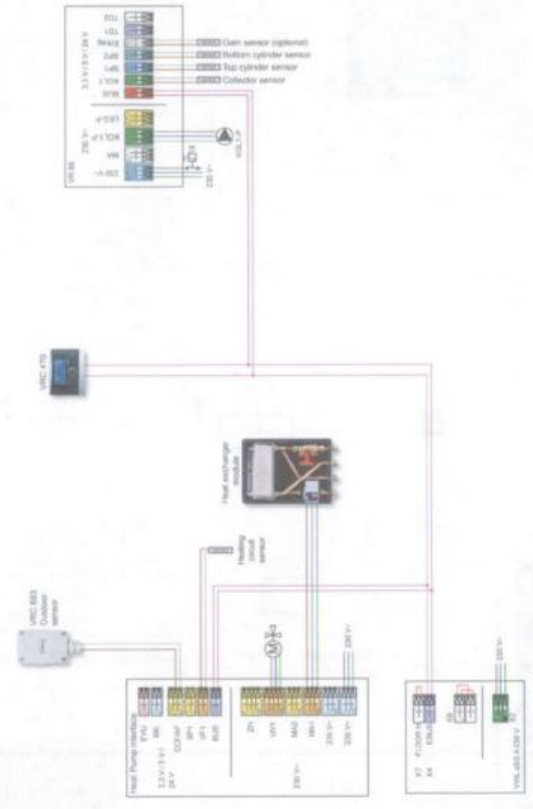


Solar-HEX with single zone - schematic

On first commissioning please select system No 10

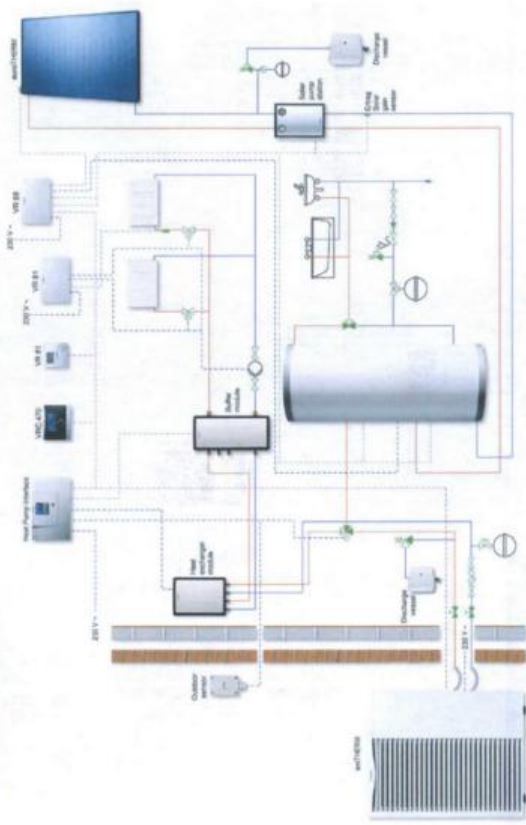


Solar-HEX with single zone - wiring diagram

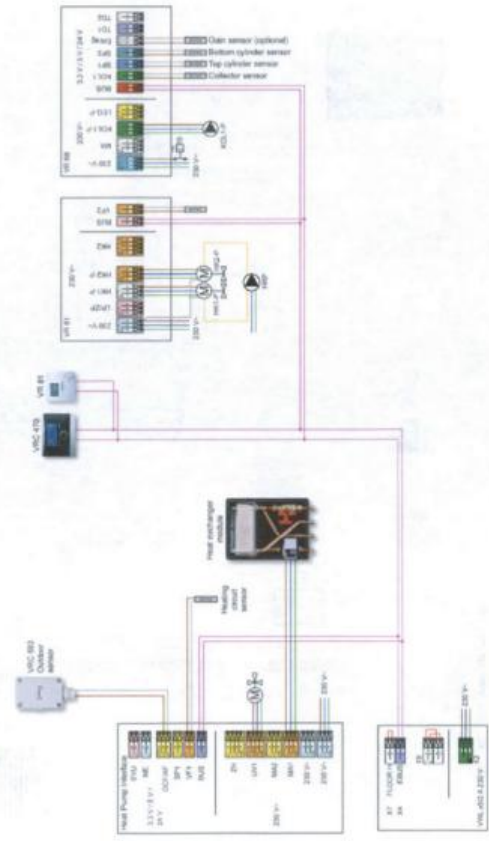


Solar-HEX buffer and two zone - schematic

On first commissioning please select system No 10



Solar-HEX buffer and two zone - wiring diagram



Training - setting the standard



As the industry's leading training provider, Vaillant offer comprehensive training courses designed to give you the skills, knowledge and understanding to help take your business forward.

Each year we train thousands of professionals and we're continually developing and improving our training programmes and facilities to provide a service that matches your requirements. Each one of Vaillant's training courses is based on practical and hands-on experience and backed up by qualified, expert tuition to help you improve your skills and in turn increase your profit. We can even tailor courses to suit your company's individual training needs.

Our training is provided at Vaillant's own Centres of Excellence, situated throughout the country to ensure, wherever you are, there's a centre within easy reach. These spacious, state of the art facilities offer a comfortable and superbly equipped training environment that also gives you a unique opportunity to find out more about Vaillant's full range of services and any upcoming product developments.

For more information on our courses or to visit one of our Centres of Excellence:-
Call 0845 601 8885
email training@vaillant.co.uk
or visit www.vaillant.co.uk/trade/training

Vaillant Advance

Your opportunity to go further with Vaillant.

Become a Vaillant Advance Partner.



When you sign up to Vaillant Advance, you're not just joining a loyalty programme, you're linking up with the UK's number one heating and renewables manufacturer. A business that's set the standard in the heating market for more than 139 years.

What benefits can I expect?
As a Vaillant Advance Partner, you not only get to provide your customers with industry-leading product solutions, you also get to enjoy great business benefits as well as earn Advance Points to redeem against a huge online catalogue of rewards.

	Points
anTHEM	4000

- If you install boilers you will get extended guarantees:
7 years on ecoTEC plus and ecoTEC exclusive,
5 years on ecoTEC pro
 - **FREE** product training at our market-leading nationwide Centres of Excellence
 - **Up to 25% discount** on selected accredited training courses (BPEC, F-Gas, etc.)
 - **FREE** homeowner advertising on Vaillant's websites
 - **Quick and easy** claiming process for both guarantee and Advance Points registration
 - **Reduced paperwork** and administration
- How can I join the programme?**
You can apply online at: www.vaillant-advance.co.uk
or by calling 01908 214 884



The Vaillant service standard



Our dedicated team of specialist engineers is currently the most qualified team supporting any manufacturer in the UK. Backed by an expertly trained call centre, they're available to assist you whenever you're installing renewable products. We also have an in-house systems design team, who are on hand to answer any queries you may have during design stage.

System design

Good designs are incredibly important if you are going to get the highest level of efficiency and payback from a renewable system. Our award-winning expert design service is completely tailored to suit your individual site requirements. Using the latest state of the art CAD technology, we provide high quality designs supported by full indemnity cover. Our expert system technologies team will also provide planning and on-site support for even the most unique and challenging of renewable projects.

Straightforward delivery

We will deliver your renewable system anywhere you want, be it directly to the site or to the local trade counter where you placed your order. To make sure that the site is ready to accept the delivery, we will call when we are one hour away from the delivery destination and will arrive with all the correct lifting equipment to ensure that the product is safely transferred to site - it couldn't be easier!

Assisted commissioning*

Service engineers will visit the installation and guide you through the first system commissioning, helping with the final stages and the handover of the installation as needed.

Spares

We have a network of dedicated spare part distributors in over 680 outlets across the UK. Each stockist has been approved by us and commits to hold the majority of Vaillant spares requirements at any one time; otherwise the products are only a phone call away.

Full local support

Our nationwide sales team provides installers and specifiers with expert support from beginning to end.

* A charge may apply for this service.

You will find the relevant article numbers referenced throughout this brochure. However for ease of ordering, all aroTHERM system components are summarised below:

Article number	Valliant parts
002019629	aroTHERM SW
0020175478	aroTHERM BW
0020175479	aroTHERM ISW
0020196232	aroTHERM ISW
002045563	Discharge vessel
0020177865	ADtrs buffer tank
002043800	Heat exchanger module (HEX)
002045030	6kW inline back up heater
0020179140	Anti-vibration rubber mounting feet
002045288	Flexi Pipes
HPC200	200 litre heat pump cylinder
HPC250	250 litre Heat pump cylinder
HPC300	300 litre Heat pump cylinder
0020190323	VRB/2
002019853	VRel
002019859	VReB
Article number	aroTHERM hybrid systems*
0020196233	SW aroTHERM hybrid system pack (for a Valliant boiler)
0020178072	BW aroTHERM hybrid system pack (for a Valliant boiler)
0020178073	ISW aroTHERM hybrid system pack (for a Valliant boiler)
0020196234	ISwW aroTHERM hybrid system pack (for a Valliant boiler)
0020196235	SW aroTHERM hybrid system pack
0020178074	BW aroTHERM hybrid system pack
0020178075	ISW aroTHERM hybrid system pack
0020196236	ISwW aroTHERM hybrid system pack

* Valliant hybrid systems do not include a boiler.

Notes

Notes

Notes

General Enquiries

If you are unsure of who you need to speak to or have a general enquiry, our friendly staff will happily point you in the right direction:
Telephone: 0845 602 2922

Installers

For installers wishing to purchase Vaillant products, this is possible either over the counter or as a next day service at most plumbing and heating merchants in the UK.

To find contact details for your nearest Vaillant sales representative:
Telephone: 0845 602 2922

Technical Enquiries

For technical assistance:
Telephone: 0844 693 3133
Email: technical@vaillant.co.uk

Training Enquiries

For information on training courses and centres in your area:
Telephone: 0845 601 8885
Email: training@vaillant.co.uk

Bespoke Design Service

For more information contact your local sales representative.

Renewable Technologies Division

For more information on our dedicated Renewable Technologies Division engineers:
Telephone: 0844 736 0048
Email: renewablesaftersales@groupservice.co.uk

Renewables Service

For renewables products servicing and commissioning:
Telephone: 020 7022 0928

Vaillant Group UK Ltd.
Nottingham Road, Belper, Derbyshire DE56 1JF
Telephone: 0845 602 2922 www.vaillant.co.uk info@vaillant.co.uk

