



Air-to-water heat pumps • aroTHERM Split

Technical information

Built for the future, installed in a heartbeat



reddot award 2018
winner



DESIGN
AWARD
2019



Vaillant Comfort for your home



Air-to-water heat pumps

Use renewable energy economically



The heating technology that safeguards the future

At Vaillant, we are continuously advancing the development of heat pump technology. We constantly strive to make the most efficient and quiet heat pumps on the market, thoroughly testing them in our own testing centres for durability and performance. For example, we have cold chambers where we can test for performance in extreme conditions. Vaillant also manufactures only in Europe, so we can guarantee you and your customers receive the high quality expected from a Vaillant appliance.

There are now over 10,000,000 heat pumps installed across Europe (with more than one million installed in 2017* alone) and Vaillant is proud to be a leading designer and manufacturer of this technology.

Vaillant offers a great choice when it comes to selecting the heat pump technology for any requirements. We are now adding to our portfolio of monoblock air-to-water heat pumps with the introduction of our aroTHERM with refrigerant split technology. This new aroTHERM Split has technical improvements for improved efficiency and impressively quiet operation.

* European Heat Pump Summit 2017

The aroTHERM Split benefits at a glance

- **Manufactured in Europe**
In house design, development, testing and production guarantees Vaillant quality
- **Easy installation**
Designed with improved transport and handling so it can be installed and commissioned in one day
- **Sound Safe System**
Exceptionally quiet operation allows for flexible siting options
- **A+++ ErP rating**
Highly efficient for lower running costs and higher RHI payments
- **Modulating performance**
Automatically adjusts power to maintain comfort and optimise efficiency



- **Standard footprint**
All outputs have the same footprint for simplified specification and installation
- **Flexible energy solution**
Can link with other appliances such as PV to reduce running costs even further
- **App based proprietary control**
With installation wizard for easy set-up and weather compensation as standard, all controlled via a mobile device
- **Pre-charged 15 metre pipe**
Simplifies and reduces installation time

Ideal for all buildings

Vaillant's aroTHERM heat pumps have been designed to provide ultimate heating and hot water comfort for all types of buildings and heating systems. The range of outputs available means there is an aroTHERM heat pump that can provide a solution to suit most UK homes. aroTHERM heat pumps work equally well when installed in new builds with underfloor heating or when retrofitted to existing heating systems with radiators.

A complete heat pump system consisting of a Vaillant VRC 700 control (wired or wireless options available) and a correctly sized uniSTOR heat pump cylinder will provide a very high quality system for superbly comfortable heating and hot water.

A heat pump can also be used to expand an existing system to create a hybrid system.



Hydraulic station, VRC 700 system controller, aroTHERM Split heat pump, uniSTOR hot water cylinder

Subsidies available

Under the UK Government's domestic Renewable Heat Incentive (RHI) scheme, you could receive quarterly cash payments over seven years if you install or have already installed an eligible renewable heating technology. For more information on this scheme, visit <https://tinyurl.com/y2etpbe2>

We have a case study on our website that details the process of applying for this subsidy: <https://tinyurl.com/y3ypeptw>

Perfectly preconfigured: the aroTHERM Split

The aroTHERM Split has been designed for quick and flexible installation.

A range of features support fast installation. For example, it is delivered pre-filled with refrigerant (enough to support an installation 15 metres away from the building).



- Innovative transportation system for quick mounting
- The same size and connections for all capacity ranges
- Casing can be removed completely for quick access
- Refrigerant circuit can be set up from the indoor unit
- Insulated compressor for quiet operation
- Extensive range of accessories



The aroTHERM Split hydraulic station comes fully integrated with:

- Heat pump interface
- Diverter valve
- Electric back-up heater
- 12 litre expansion vessel
- High-efficiency system pump
- Additional Schrader valve

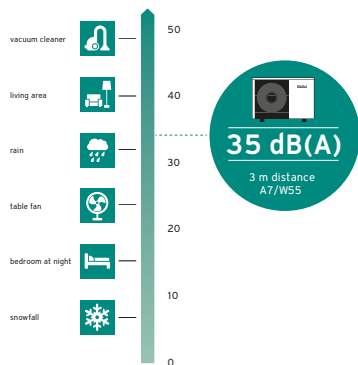
Well-designed down to the last detail

Installation made easy

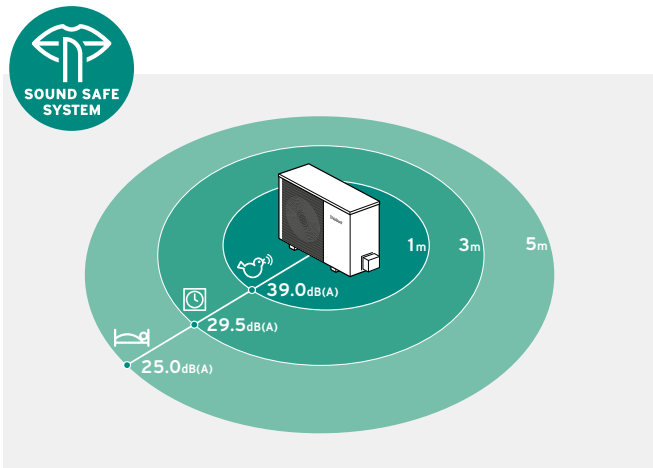
You don't need a large space to install an aroTHERM Split. Depending on the property, it can be installed in the garden or mounted directly onto a wall or roof. We offer the perfect fittings to complement any type of installation.

High performance, low noise

The new aroTHERM Split is extremely quiet. From just three metres away, the acoustic pressure level is less than 30 dB(A). For this reason, the aroTHERM Split can even be installed in densely packed terraced housing communities with no problems. The installation site should be selected to prevent reflection and reinforcement of the sound level - information about preventing disturbing noise can be found in the installation manual.



Comparative sound pressure levels

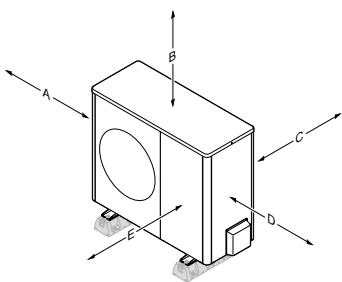


Sound pressure level of aroTHERM Split in silent mode

Smart combination: for systems with a future

Vaillant can provide everything necessary to complete a future proof renewable or hybrid heating and hot water system, including solar thermal panels and a back-up boiler. All of our systems can be integrated into a KNX system, so you can guarantee each of your customers have heating comfort to their own requirements.

Product clearances



Minimum clearance	Measurement
A	100mm
B	1000mm
C	120mm
D	500mm
E	600mm

Intelligently regulated: operating comfort

We always recommend fitting Vaillant proprietary controls with any of our heating systems. For a heat pump system, our VRC 700 is the perfect control, it uses the same eBUS protocol so that each component of the system can communicate for optimum efficiency.

- Complete system integration
- App based control
- Wired and wireless options
- Weather Compensation
- Multiple zone control
- Prolongs the life of the system
- Saves energy
- Lowers running costs

aroTHERM Split air-to-water heat pump as part of a system



aroTHERM Split with hydraulic station, uniSTOR HP cylinder and VRC 700 system controller

Good can also be inexpensive

- Fast, easy installation
- Space-saving set-up
- An economical place to start
- Suitable for increased hot water demand
- Particularly quiet operation
- Entire system controlled by the VRC 700 system controller

Technical data

		aroTHERM Split				
		3.5kW 230V	5kW 230V	7kW 230V	10kW 230V	12kW 230V
Seasonal coefficient of performance (SCOP), average climate, W35		4.88	4.62	4.56	4.70	4.56
Refrigerant information						
Min.–max. distance between exterior and interior unit (pre-filled up to 15 m)	m			3–25		
Max. height difference between outdoor and indoor unit	m			10		
Refrigerant fluid, heat pump				R410a		
Amount of refrigerant fluid	kg	1.50		2.39	3.60	
Global warming potential according to Regulation (EU) No. 517/2014	GWP			2,088		
CO ₂ equivalent	t	3.13		4.99	7.52	
Heat pump (liquid and gas)		1/2" and 1/4"			3/8" and 5/8"	
System information						
A-7/W35 heating output / electrical input / COP	kW	3.60 / 1.13 / 3.20	4.90 / 1.81 / 2.70	6.70 / 2.48 / 2.70	10.20 / 3.64 / 2.80	11.90 / 4.76 / 2.50
A2/W35 heating output / electrical input / COP	kW	2.50 / 0.66 / 3.80	3.40 / 0.89 / 3.80	4.60 / 1.21 / 3.80	8.30 / 2.13 / 3.90	8.30 / 2.24 / 3.70
A7/W35 heating output / electrical input / COP	kW	3.20 / 0.64 / 5.00	4.50 / 0.94 / 4.80	5.80 / 1.23 / 4.70	9.80 / 2.09 / 4.70	10.30 / 2.24 / 4.60
A7/W55 heating output / electrical input / COP	kW	2.80 / 1.08 / 2.60	3.70 / 1.37 / 2.70	5.00 / 1.85 / 2.70	10.40 / 3.71 / 2.80	11.00 / 3.93 / 2.80
Max. operating pressure, of heating system	MPa (bar)			0.3 (3)		
Flow temperature, heating mode	°C			55		
Flow temperature, DHW (with backup heater)	°C			63 (75)		
Dimensions, unpacked (height/width/depth)	mm	765 / 1,100 / 450		965 / 1,100 / 450	1,480 / 1,100 / 450	
Weight, unpacked	kg	82	82	113	169	
Power supply to compressor		230V / 50Hz	230V / 50Hz	230V / 50Hz	230V / 50Hz	230V / 50Hz
Max. rated current, compressor	A	11.5	11.5	15	21.3	21.3
Sound power for A7/W55	dB(A)	53	54	54	60	60
IP code				IP15B		

aroTHERM Split		3.5kW		5kW		7kW		10kW		12kW	
Temperature		Output	SCOP	Output	SCOP	Output	SCOP	Output	SCOP	Output	SCOP
35 °C	-5 °C	3.7kW	4.69	5.3kW	4.39	6.7kW	4.43	10.5kW	4.59	12.5kW	4.40
	-3 °C	3.9kW		5.4kW		7.1kW		10.8kW		13.1kW	
	0 °C	4.0kW		6.0kW		7.6kW		12.7kW		14.7kW	
	2 °C	4.0kW		6.4kW		8.0kW		13.9kW		15.9kW	
40 °C	-5 °C	3.5kW	4.27	5.0kW	4.10	6.5kW	4.13	10.6kW	4.19	12.3kW	4.11
	-3 °C	3.8kW		5.2kW		6.8kW		10.9kW		12.7kW	
	0 °C	4.0kW		5.8kW		7.2kW		12.6kW		14.0kW	
	2 °C	4.0kW		6.0kW		7.5kW		13.6kW		14.5kW	
45 °C	-5 °C	3.5kW	3.85	4.6kW	3.81	6.2kW	3.83	10.8kW	3.78	12.1kW	3.81
	-3 °C	3.7kW		4.8kW		6.5kW		11.0kW		12.3kW	
	0 °C	3.9kW		5.3kW		6.8kW		12.4kW		13.8kW	
	2 °C	4.0kW		5.6kW		7.0kW		13.4kW		14.9kW	
50 °C	-5 °C	3.4kW	3.54	4.4kW	3.44	6.0kW	3.55	10.5kW	3.49	11.9kW	3.56
	-3 °C	3.5kW		4.6kW		6.2kW		10.9kW		12.0kW	
	0 °C	3.6kW		5.0kW		6.3kW		12.0kW		12.5kW	
	2 °C	3.8kW		5.3kW		6.5kW		12.8kW		13.6kW	
55 °C	-5 °C	3.2kW	3.24	4.2kW	3.08	5.6kW	3.28	10.2kW	3.20	10.6kW	3.32
	-3 °C	3.3kW		4.4kW		5.7kW		10.3kW		10.8kW	
	0 °C	3.5kW		4.8kW		5.9kW		11.7kW		12.3kW	
	2 °C	3.7kW		4.9kW		6.0kW		12.6kW		13.3kW	

		Hydraulic station		
		3.5kW and 5kW	7kW	10kW and 12kW
Dimensions, unpacked (height/width/depth)	mm	770 / 440 / 350		
Weight, unpacked	kg	23	24	26
IP code		IP10B		
Electrical data				
Power supply to hydraulic station		230V / 50Hz		
Optional earth leakage circuit breaker for building		RCCB type B		
Max. rated current, backup heater	A	14		
Backup heater power	kW	5.4	5.4	8.7
Heating (flow and return)		G1"		
Hot water circuit (flow and return)		G 3/4"		

Our experience is your guarantee

For over 140 years, Vaillant has been among the technology leaders when it comes to innovative heating solutions, with specific expertise in the area of heat pumps for more than 40 years. Our proprietary solutions – many of which are patented – have made this technology reliable, efficient and suitable for everyday life. More than 200,000 heat pumps installed around the world prove this in use each day. Benefit from our experience:

- Products developed in Germany and manufactured exclusively in the EU
- 100% test for each heat pump on the production line
- Toughest weather conditions simulated at our own test centres, in cold chambers with temperatures down to –25°C
- Vaillant heat pumps are among the quietest on the market
- High level of safety due to use of playground standards
- Quality management as per EN ISO 9001 and EN ISO 14001



Testing teams operate the units in extreme climatic conditions in the cold chamber.



All possible applications are simulated in a series of extensive tests.

Renewable Service and Enquiries
 For technical assistance:
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Training Enquiries
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