







# aroTHERM plus

Air source heat pump



#### Overview

The aroTHERM plus is our flagship air source heat pump range, available in a wide range of heat output sizes for many times types of property with 3.5, 5, 7, 10 and 12kW models available.

This heat pump continues to win awards around the world for its innovative use of the refrigerant R290, which gives it a Global Warming Potential (GWP) of just three. This refrigerant is already used in household appliances all over the world and offers many advantages over refrigerants traditionally used in heat pumps. Coupled with market leading technical features that improve efficiency and deliver higher flow temperatures, the aroTHERM plus is perfect for new and existing heating systems (including hybrid). It's also impressively quiet in operation and has been accreddited by Quiet Mark\*, making it suitable for use even in densley built-up terraced housing estates.

#### Features & benefits



### High performance ASHP range

With a flow temperature of up to 75°C, the aroTHERM plus can deliver more usable hot water with high hot water comfort levels whilst removing the need for direct electric immersion to sterilise the water, protecting from legionella.



## Super quiet operation

From just three metres away, the acoustic pressure level is less than 30 dB(A) for easier planning and sitina.



#### Higher energy-efficiency performance

With a SCOP of up to 5.03, the aroTHERM plus is extremely energy efficient, enabling high energy savings against certain fossil fuels.



## R290 natural refrigerant with Low GWP

Already fulfilling the next NZEB requirements, the aroTHERM plus uses monobloc technology with a hermetically sealed refrigerant circuit.



## Fully adaptable system approach

The aroTHERM plus can also be combined with photovoltaic systems and integrated into smart power grids (SG-ready), so your customers can enjoy the benefits of variable electricity tariffs.



# Quality by design

Suitable for installations less than 150m away from the sea with salt resistant construction C5 class.







Product dimensions (H x W x D) mm  Weight, with packaging kg  Weight, ready for operation kg  Electrical data  Rated voltage V  Fuse type  RCD type**  Inrush current (with inrush current limiter) A  Rated current, maximum A  IP rating  eBUS cable minimum size (communication) mm²  eBUS cable maximum length (communication) m  Fan power consumption W  Fan air flow, maximum m³/h  Hydraulic connection  Heating circuit / building circuit  Water volume in the heat pump I Minimum heating circuit volume for defrost, backup activated/deactivated Minimum operating pressure bar  Maximum operating pressure bar  Maximum flow temperature heating °C  Maximum flow temperature heating °C  Minimum volume flow I/h  Maximum volume flow I/h  Maximum electrical power heating circuit pump  Max. length heating pipework, outside to inside m  Pump remaining feed pressure kPA / mba  Refrigerant circuit  Refrigerant circuit  Refrigerant circuit  Expansion valve type  Oil type  Compressor type  Oil type  Compressor control	14.3	2 4 %/- 15%), 50 Type C, slo .3 .3	965 x 1100 x 450 150 128 Hz, 1~/N/PE w blow, single pol B 15 15 17 15 19 15B 0.75 50	1565 x 110 22 19 400 V (+109 Hz,3~/ le switching 23.3 23.3	23 94 %/-15%), 5			
Weight, with packaging Weight, ready for operation  Electrical data  Rated voltage  Fuse type  RCD type**  Inrush current (with inrush current limiter)  Rated current, maximum  IP rating  BUS cable minimum size (communication)  Fan power consumption  Fan quantity  Fan air flow, maximum  Hydraulic connection  Heating flow / return  Heating circuit / building circuit  Water volume in the heat pump  Inimum heating circuit volume for defrost, backup activated/deactivated  Minimum operating pressure  Maximum operating pressure  Maximum flow temperature heating  Maximum flow temperature heating  Maximum volume flow  Maximum volume flow  Maximum volume flow  Maximum electrical power heating circuit pump  Max. length heating pipework, outside to inside  Pump remaining feed pressure  Refrigerant circuit  Refrigerant circuit  Refrigerant type  Volume of refrigerant circuit in the heat pump  Global Warming Potential (GWP) in accordance with EU No. 517/2014  CO <sub>2</sub> equivalent  Expansion valve type  Oil type  Compressor type  Oil type  Compressor type  Oil type	132 114 230 V (+10% 14.3	2 4 %/- 15%), 50 Type C, slo .3 .3	450 150 128 Hz, 1~/N/PE w blow, single pol B 15 15 15 IP 15B 0.75	22 19 400 V (+109 Hz,3~/ le switching 23.3	23 04 %/-15%), 5 'N/PE*			
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Maximum operating pressure  Minimum flow temperature heating  Maximum flow temperature heating  Maximum flow temperature heating  Minimum volume flow  Minimum volume flow  Maximum volume flow  Maximum electrical power heating circuit  pump  Max. length heating pipework, outside to inside  Pump remaining feed pressure  Refrigerant circuit  Refrigerant type  Volume of refrigerant circuit in the heat pump  Global Warming Potential (GWP) in accordance  with EU No. 517/2014  CO <sub>2</sub> equivalent  Expansion valve type  Oil type  Compressor type  Oil type  Oil type	15 / 4	15 / 40 20 / 55		45 /	45 / 150			
Minimum flow temperature heating  "C  Maximum flow temperature heating  "C  Minimum volume flow  Maximum volume flow  Maximum electrical power heating circuit pump  Max. length heating pipework, outside to inside  Pump remaining feed pressure  Refrigerant circuit  Refrigerant type  Volume of refrigerant circuit in the heat pump  Global Warming Potential (GWP) in accordance with EU No. 517/2014  CO <sub>2</sub> equivalent  Expansion valve type  Oil type  Compressor type  Oil type  Oil type			≥0.5					
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Maximum electrical power heating circuit pump  Max. length heating pipework, outside to inside m  Pump remaining feed pressure kPA / mba  Refrigerant circuit  Refrigerant type  Volume of refrigerant circuit in the heat pump kg  Global Warming Potential (GWP) in accordance with EU No. 517/2014  CO2 equivalent t  Expansion valve type  Oil type bar  Compressor type  Oil type	400	400 540		995				
Max. length heating pipework, outside to inside m Pump remaining feed pressure kPA / mba Refrigerant circuit Refrigerant type Volume of refrigerant circuit in the heat pump kg Global Warming Potential (GWP) in accordance with EU No. 517/2014 CO2 equivalent t Expansion valve type Oil type bar Compressor type Oil type	860	0	1205	2065				
Pump remaining feed pressure  Refrigerant circuit  Refrigerant type  Volume of refrigerant circuit in the heat pump kg  Global Warming Potential (GWP) in accordance with EU No. 517/2014  CO <sub>2</sub> equivalent  Expansion valve type  Oil type  Compressor type  Oil type		2-50		3-87				
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CO <sub>2</sub> equivalent t  Expansion valve type  Oil type bar  Compressor type  Oil type	0.60	0.60 0.90		1.30				
Expansion valve type  Oil type bar  Compressor type  Oil type	0.00	110		0.00	720			
Dil type bar Compressor type Dil type	0.001	0.0018 0.0027 Electronic		0.0039				
Compressor type  Dil type								
Dil type		31.5  Rotary Scroll			roll			
		·						
COMPLESSOF CONTROL		Specific polyalkylene glycol (PAG)						
			Electronic					
Noise emissions, heating mode Sound power, EN 12102, EN 14511								
_WA, A 7/W35			53	5				
_WA, A7/W45	51	53		58				
Sound power, EN 12102, EN 14511 dB(A)	51	4	55	6	0			
Energy efficiency class  Energy efficiency class 35°C and 55°C (A+++ to F	51 54							

<sup>\*400</sup>v models 10 and 12kW only.

<sup>\*\*</sup>All Vaillant heat pumps must be installed with a type B RCD rated to 20kHz or greater and with a minimum trigger point of 150mA above 1kHz.