TESY



AquaThermica Pro R290

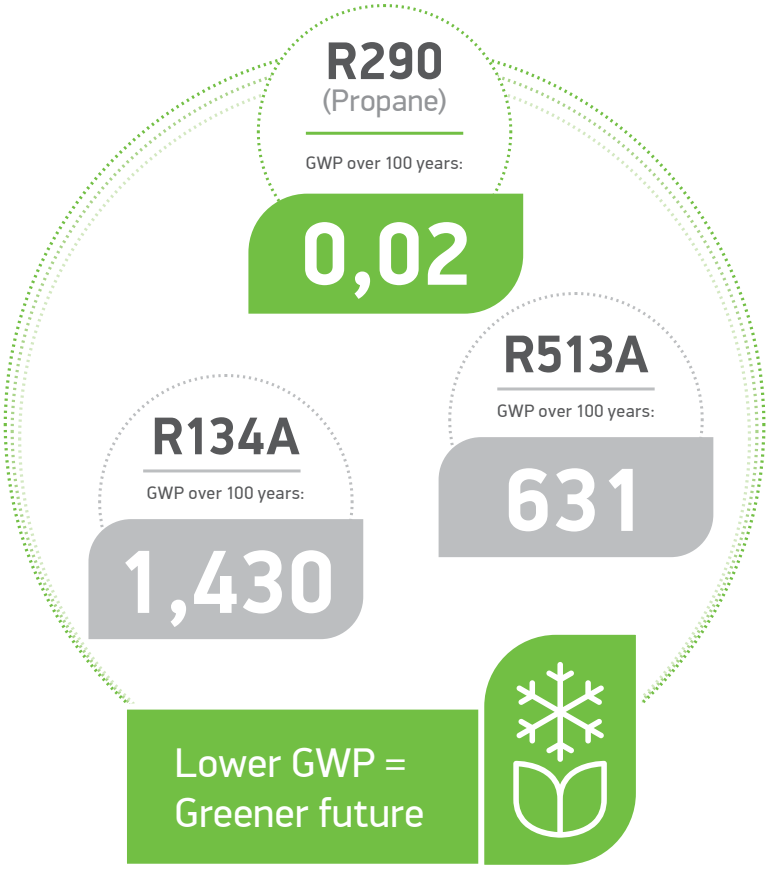
AIR-TO-WATER HEAT PUMP FOR DOMESTIC HOT WATER

MAIN CHARACRERISTICS

NEW R290 REFRIGERANT

R290 has a zero ODP value

This means that there is no **negative impact** on the ozone layer, and an extremely low GWP value, which indicates a minimal impact on the global-warming effect. This makes propane an environmentally friendly refrigerant, at the same time maintaining good working parameters in heat pump units.



R290 GWP

The Global Warming Potential (GWP) is a measure of how much heat a greenhouse gas traps in the atmosphere over a specific time period, relative to carbon dioxide (CO_2). Carbon dioxide is used as the reference with a GWP of 1. The higher the GWP, the more potent the greenhouse gas is in contributing to global warming over time.



AquaThermica Pro range: 200 and 260 liters with and without heat exchanger.



High Coefficient of Performance *



65°C Domestic hot water with the heat pump unit only



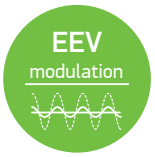
Floor standing installation



Highest energy efficiency class



Up to a 75% lower power consumption compared to an electric water



Electronic Expansion Valve for precisely balanced refrigerant cycle



Checking the magnesium anode without draining the water

*COP=coefficient of performance according to : EN 16147:2017 - A14/W55, for the 260l model without heat exchanger

WHAT IS INSIDE THE AquaThermica Pro

Air Outlet (160 mm)

Control Panel
Built-in control panel with self diagnostics

Enamelled water tank with Dry Check MG anode
Prevents against corrosion and increases lifespan

E-Heater 1.5 kW
For boosting DHW production



Air Inlet (160 mm)

Heat Pump unit
Finned evaporator, rotary compressor, fan motor, main PCB and more

Microchannel condenser

Additional heat exchanger
For connectivity with solar panel or boiler

50 mm polyurethane insulation

Efficiency Meets Innovation

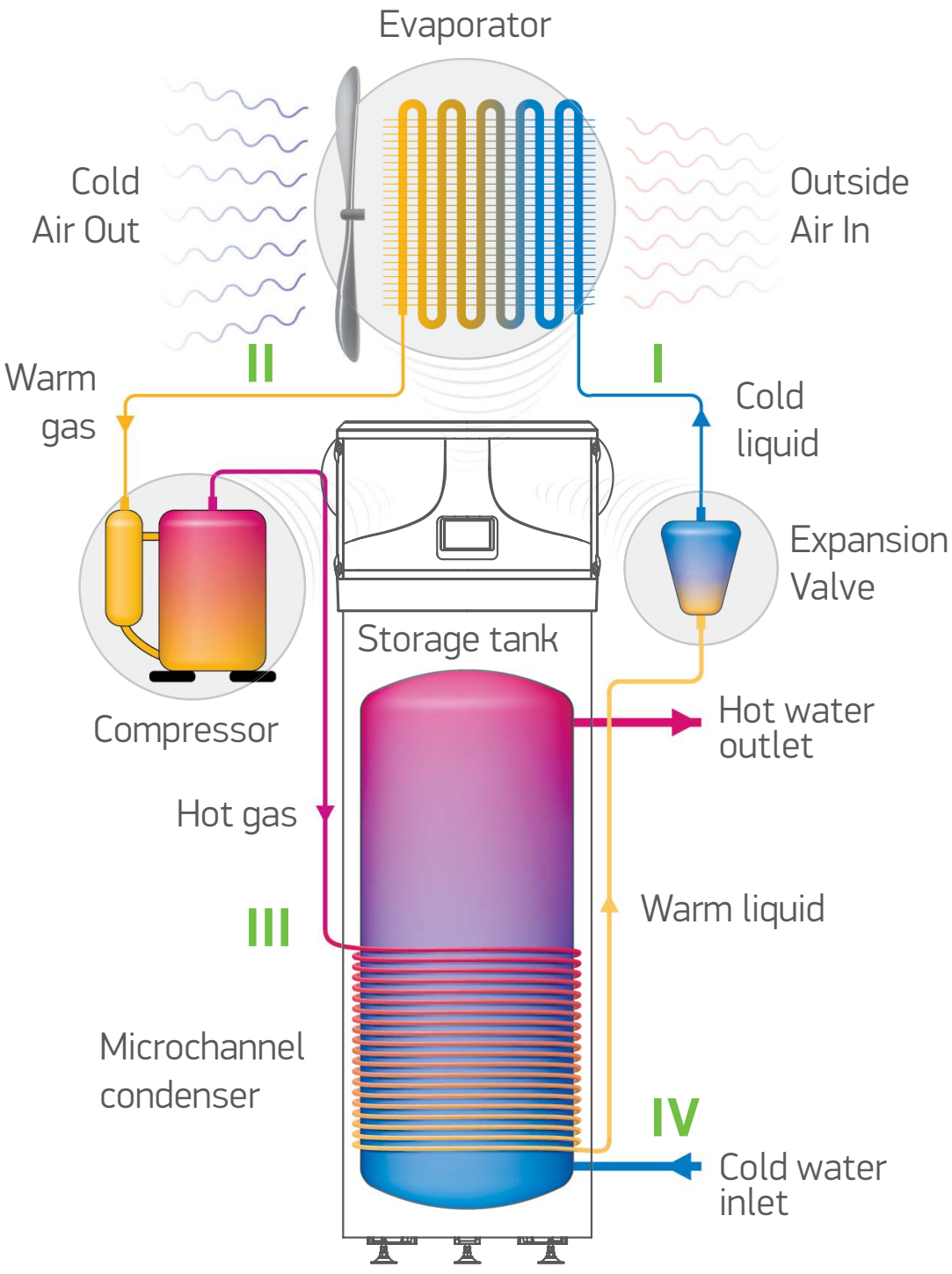
Optimized Performance

- Microchannel condenser for improved heat exchange
- Hot gas active defrost system for year-round operation
- Dual T-sensor system for precise control and better efficiency

Smarter Maintenance

- DRY CHECK MG anode can be inspected without draining, with high sensitivity multiset
- Modular component layout for easier servicing

OPERATING PRINCIPLE OF AquaThermica Pro



Working principle

I The evaporator extracts heat energy from the air by forcing the refrigerant to transform into a gas.

II The compressor compresses the gas, which raises its temperature.

III The condenser exchanges the heat energy from the gas to the water tank, and the refrigerant returns to a liquid state.

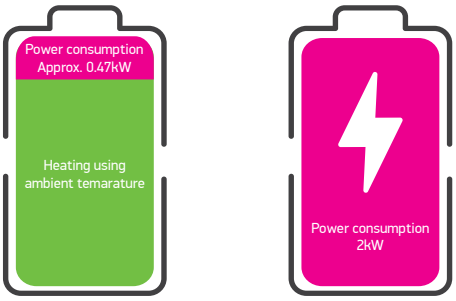
IV The expansion valve lowers the pressure of the refrigerant, which triggers evaporation, and the cycle begins all over again.

WHY TO CHOOSE

High Performance and Energy Efficiency

Achieves COP of 3.5 at 7°C and 3.8 at 14°C, outperforming most competitors.

Electricity saving with up to 75%, making it up to 4x more efficient vs an electric water heater.



Aquathermica Pro

Electric storage
Water heater



Best in class technical and Functional Features

Easy & Convenient Installation:

Space-Saving Design: Flexible lateral air-ducts at 90°C allow for easy installation in rooms with a height of just 2 meters.

Flexible Integration:

Compatible with PV contact, Solar Thermal Panels, and Hybrid systems (boilers), providing flexibility in energy sourcing.

Versatile Duct Configuration:

Elbows can be added for ceiling installations, not just lateral walls.

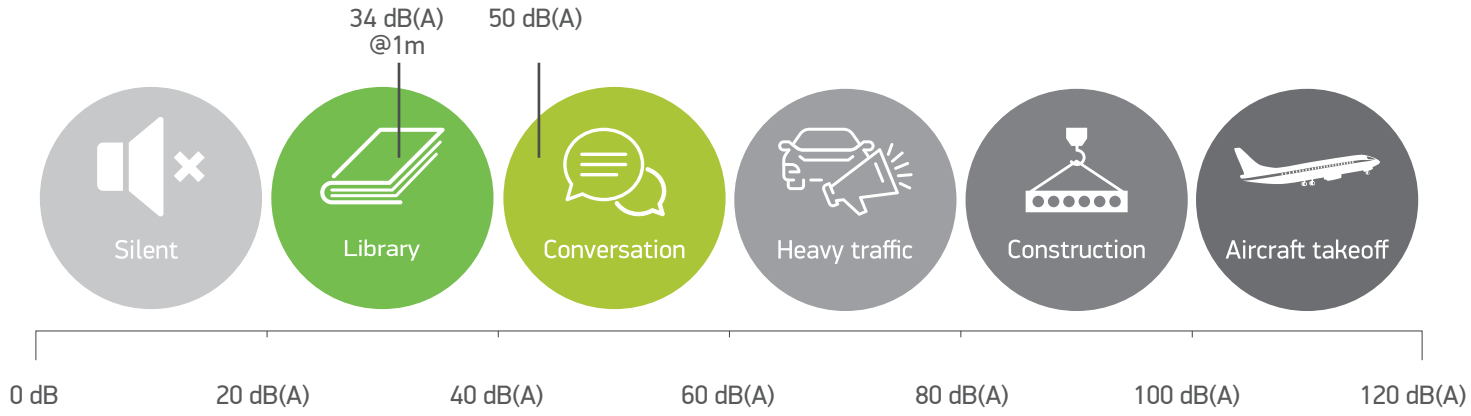
Compatible with the most commonly used 3 type air duct systems – PVC, EPP and EPE



DESIGNED FOR YOUR COMFORT AND SAFETY

Quiet comfort

AquaThermica Pro noise level is only 50 dBa which ensures minimal disruption, allowing for peaceful living environments, especially in noise-sensitive spaces. Sound pressure level at 1m => 34 dB(A), so quiet you forget it is on.

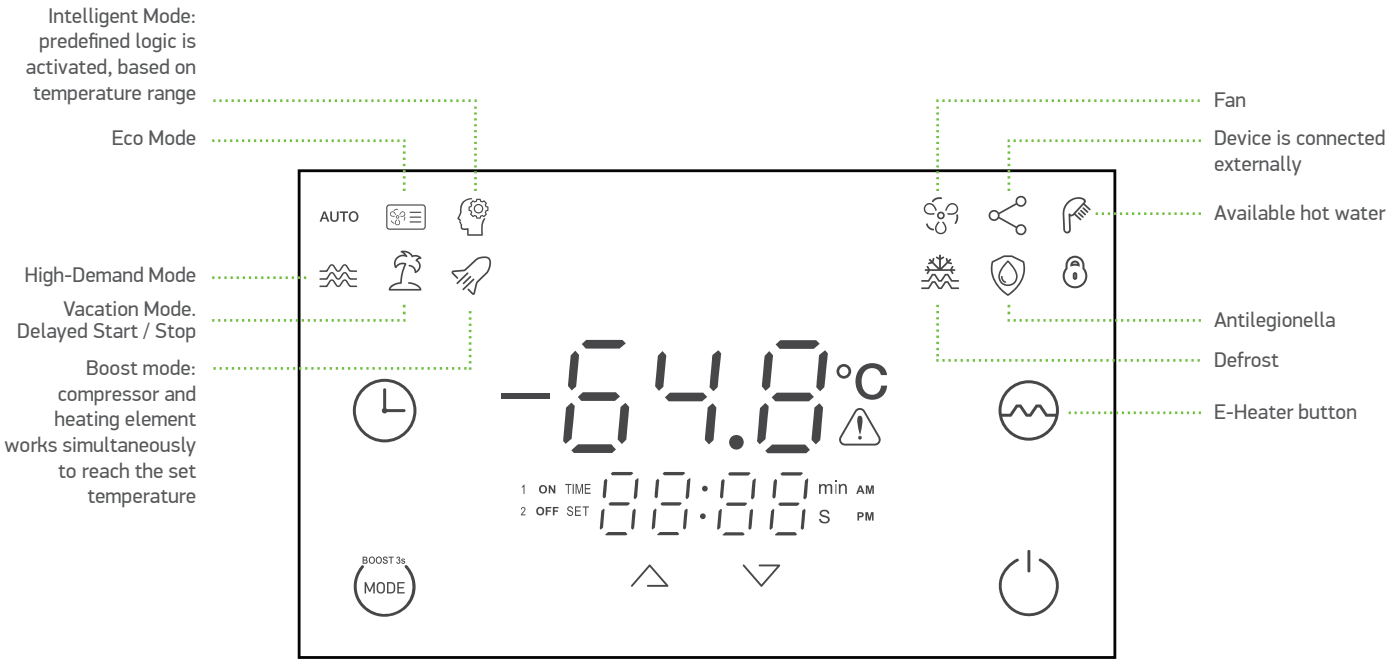


Ultimate hygiene for your safety and comfort

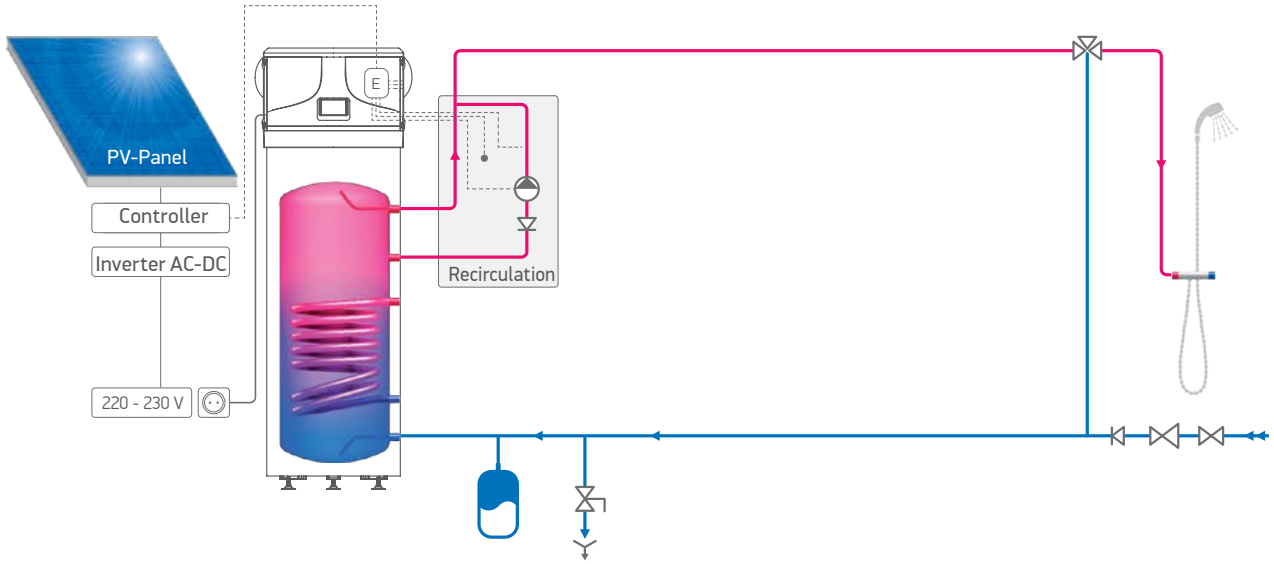
Automatic Anti-legionella setting neutralizes germs by heating the water up to 65 ºC on weekly or monthly basis

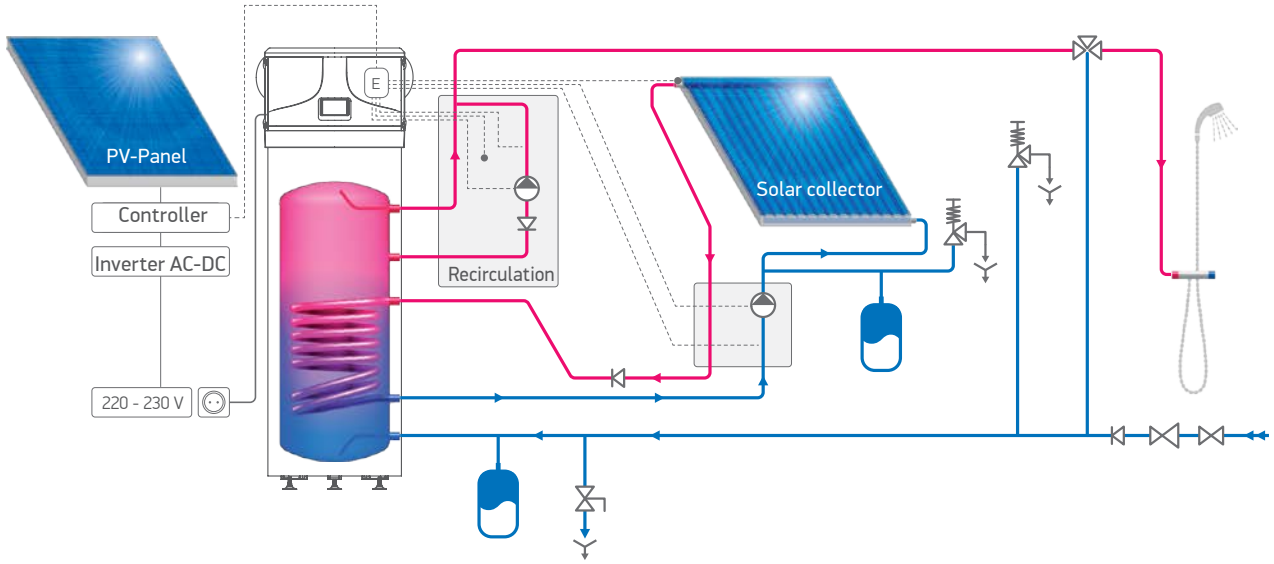
User-Friendly Interface:

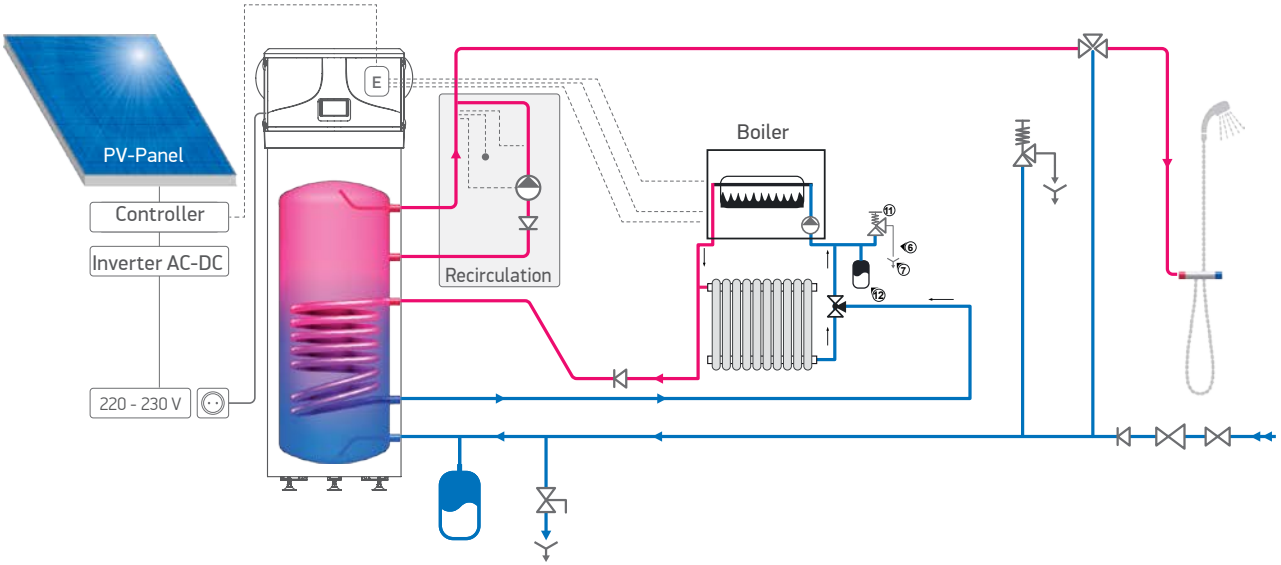
- Built-in control panel with self-diagnostics
- Intuitive settings for effortless daily use



CONNECTIVITY





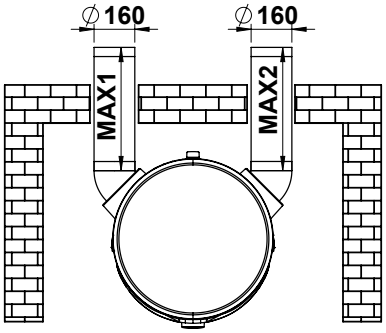


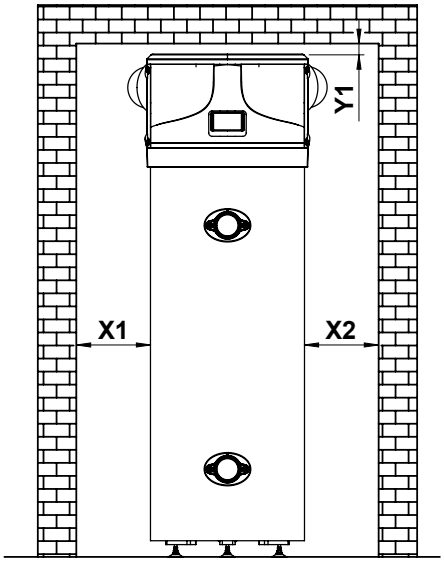
Remark for installation with solar: The sensor for water temperature must be mounted close to the solar panel.

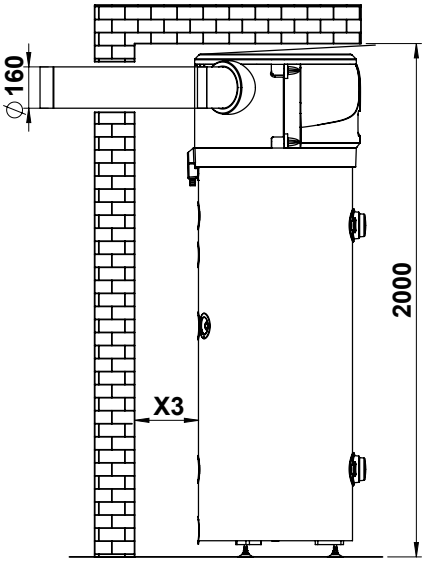
AIR-DUCT INSTALLATION SCHEMES

Ducted installation

- Room >10 m3
- MAX 1 + 2 < 10 m

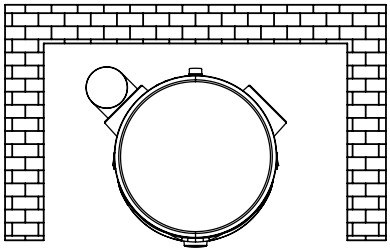


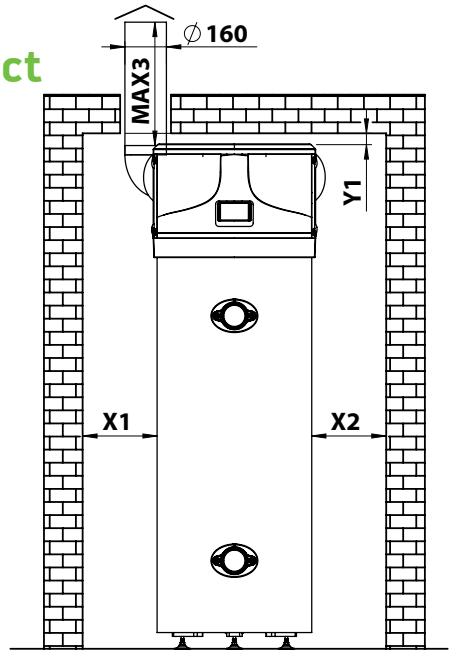


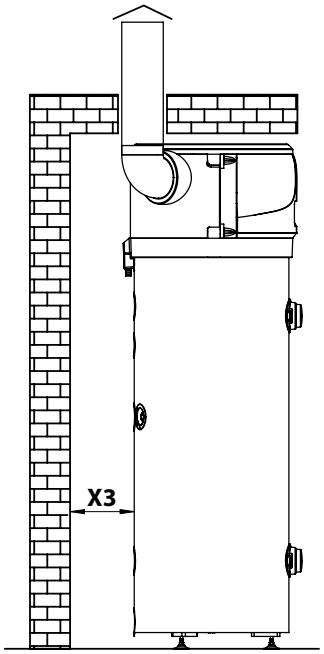


Installation with 1 air duct

- Room >10 m3
- Air Flow >360 m3/h
- External air source is needed / ventilation, window/
- MAX 3 < 10 m

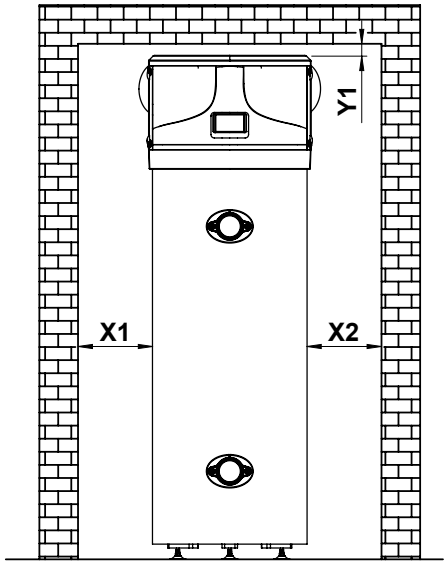


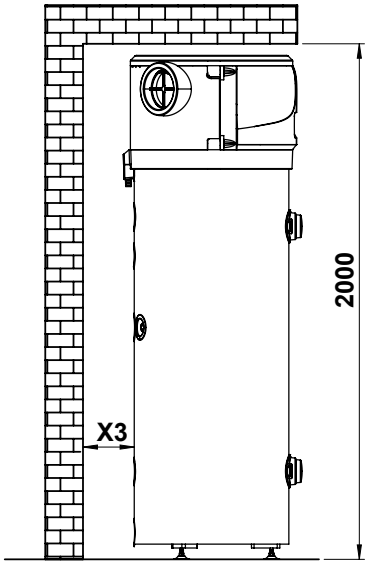




Installation with no air ducts

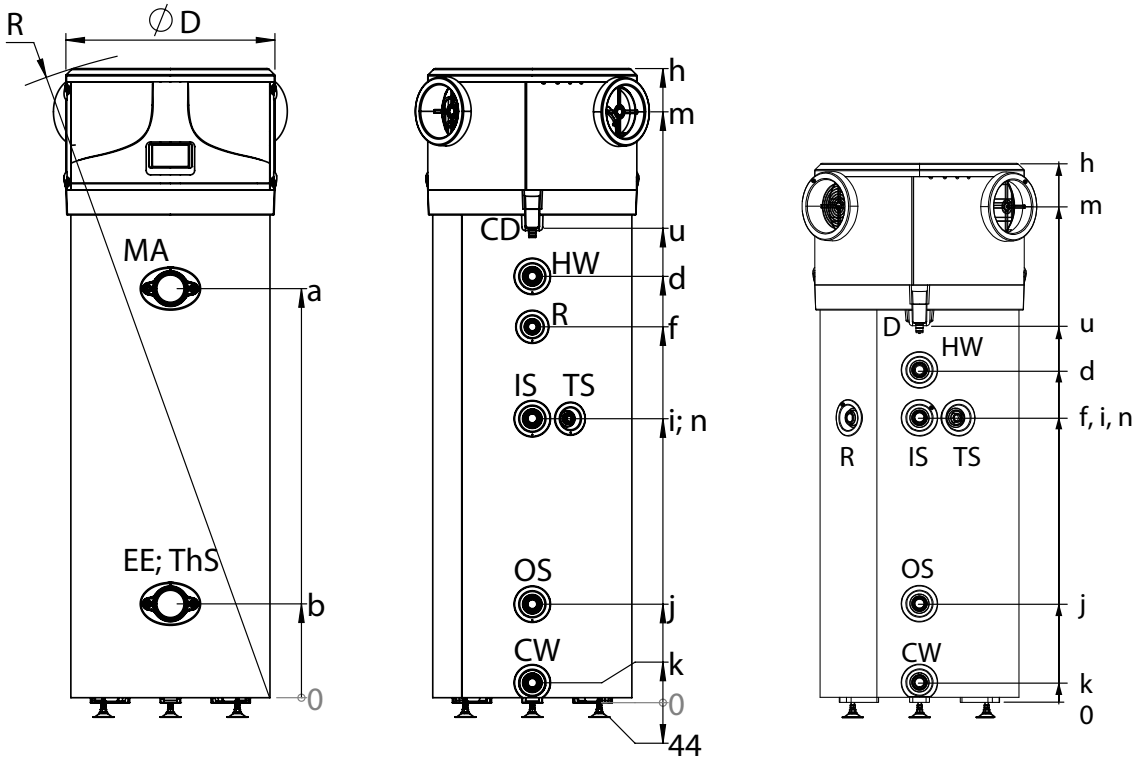
- At least 1 elbow
- Air Flow >360 m3/h
- Minimum of 15 m3
- Recommendation >50 m3

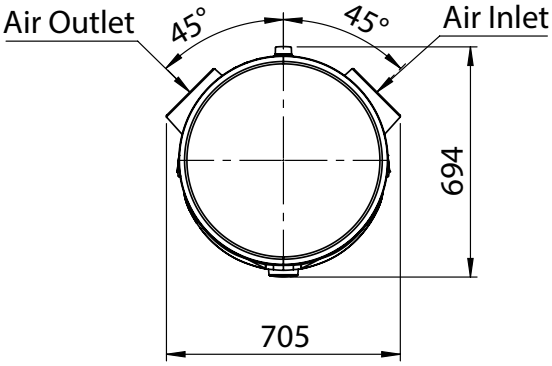




sizes: X1 350 mm; X2 350 mm; X3 200 mm; Y1 50mm

DIMENSIONS AND TECHNICAL DATA





MODELS		HPWH 4.11 FS 260 S	HPWH 4.11 FS 260	HPWH 4.11 FS 200 S	HPWH 4.11 FS 200
Art.nomer		306267	306179	306268	306209
CW	cold water inlet	G 1"	G 1"	G 1"	G 1"
HW	hot water outlet	G 1"	G 1"	G 1"	G 1"
IS	solar flow	G 1"	G 1"	G 1"	G 1"
OS	solar return	G 1"	G 1"	G 1"	G 1"
TS	thermosensor	G 1½"	G 1½"	G 1½"	G 1½"
R	recirculation	G ¾"	G ¾"	G ¾"	G ¾"
EE	opening for electrical element	G 1½"	G 1½"	G 1½"	G 1½"
MA	magnesium anode	G 1¼"	G 1¼"	G 1¼"	G 1¼"
CD	condense drainage	G ¾"	G ¾"	G ¾"	G ¾"
ThS	thermal cutoff	-	-	-	-

Dimensions ±5 mm		260 S	260	200 S	200
h	mm	1911	1911	1621	1621
a	mm	1248	1248	898	898
b	mm	298	298	298	298
d	mm	1285	1285	1000	1000
f	mm	1133	1133	857	857
i	mm	856*	-	857*	-
j	mm	298	298	298	298
k	mm	60	60	60	60
M	mm	1789	1789	1491	1491
n	mm	856*	-	857*	-
u	mm	1430	1430	1140	1140
R	mm	1988	1988	1712	1712
ØD	mm	630	630	630	630
ØDF-AirDuct	mm	160	160	160	160

Model			HPWH 4.11 FS 260 S	HPWH 4.11 FS 260	HPWH 4.11 FS 200 S	HPWH 4.11 FS 200
Art.Number		No	306267	306179	306268	306209
Description		**Unit**				
Performance data acc. EN16147:2017						
Load profile			XL	XL	L	L
COP (coefficient of performance);						
	(EN 16147:2017 - A14/W55)		3.8	3.8	3.6	3.6
	(EN 16147:2017 - A7/W55)		3.5	3.5	3.4	3.4
Maximum volume of mixed water at 40°C		l	348	359	266.6	278.3
Compressor / Compressor protection			Rotary / Thermal circuit breaker with automatic reset			
Electric heating element power		kW	1.5			
Operating range		C	- 7 + 43			
Fan			Centrifugal			
	Available external pressure of heat pump	Pa	88			
	Air duct outlet diameter	mm	160			
	Nominal air capacity	m^3/h	360			
Motor protection			Internal thermal circuit breaker with automatic reset			
Condenser			Aluminium; wrapped externally, not in contact with water			
Refrigerant			R290			
Refrigerant charge		g	150			
Global warming potential of the refrigerant			0.02			
CO2 equivalent (CO2e)		t	0			
Defrosting			Active with “2-way valve”			
Sound emission data; EN12102:2013						
	Sound power Lw(A) indoor	dB(A)	50			
	Sound preassure level @1m	dB(A)	34			
Automatic anti-Legionella cycle			Yes			
Water storage tank						
Water storage capacity		l	251	260	194	202
Solar heat exchanger surface		m2	1,05	n.a.	1,05	n.a.
Solar heat exchanger content		l	6,4	n.a.	6,4	n.a.
Corrosion protection			Mg anode Ø33x400 mm			
Thermal insulation			50 mm rigid PU			
Maximum working pressure – storage tank		Bar	8			
Transport weight		kg	127.3	112.8	110.8	96.3

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