

RCH-V

HEAT PUMP RANGE WITH BOILER BACK-UP

*Airwell*

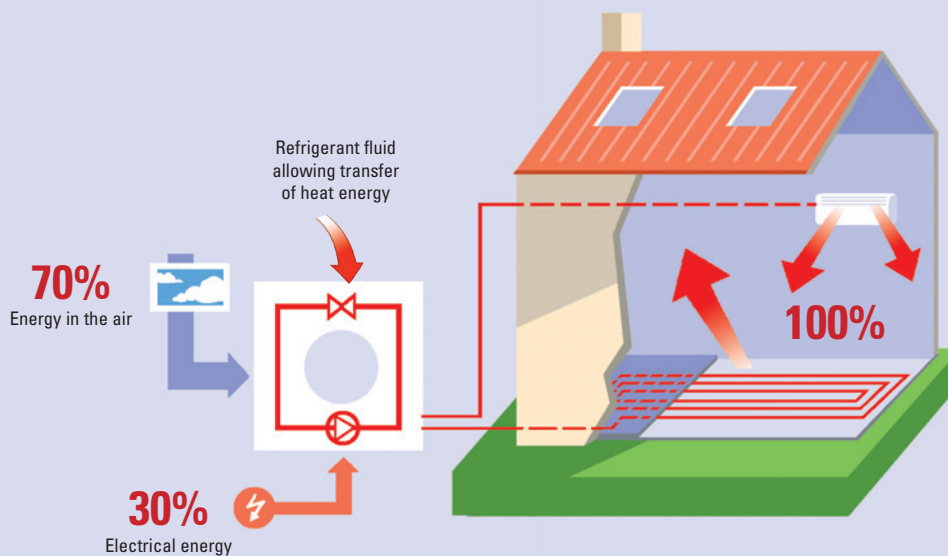


## RCH-V AIR-WATER HEAT PUMP WITH

Air accumulates heat energy throughout the year as a result of solar radiation, water and wind. Therefore, this natural element represents an inexhaustible, clean and – most importantly – a free source of energy, which can now be exploited thanks to thermodynamic heating, also known as aérothermic heating.

The Airwell RCH-V range of air-to-water heat pumps with boiler back-up enables this natural form of heat energy to be transferred into the residential environment: energy saving, comfort and respect for the environment are the primary advantages of this technology.

**Airwell thermodynamic heating is a blend of:**  
**70 % free energy**  
**+30 % electrical energy**  
**which provides uninterrupted**  
**100 % coverage of your heating needs.**



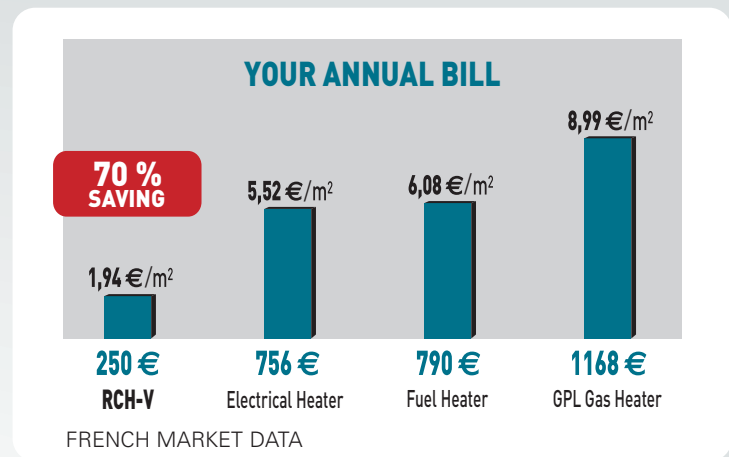
Designed to be connected to existing heating installations, RCH-V heat pumps warm your home throughout the winter and can generate significant savings in your energy bills.



# BOILER BACK-UP

## ENERGY SAVING

The only part of the heat pump which consumes energy is the compressor, powered by electricity. For 1 kWh of electricity consumed, Airwell heat pumps generate 3 kWh of free heat throughout the winter, down to outdoor temperatures of -15°C.



## THE RCH-V AT A GLANCE

- Energy bills cut by 2/3.
- 14 kW heating capacity.
- Operates down to outdoor temperature of -15°C.
- 3 models, 4 configurations, 7 factory options, 7 accessories.
- 80 % lower CO<sub>2</sub> emissions per year.
- All-in-1 machine.
- Quick Return on investment (less than 5 years).
- 100 % comfort, identical to boiler heating system.
- No drilling or excavation work in living spaces.
- Heat pump covers 90 % of annual heating needs.



## RESPECT OF THE ENVIRONMENT

### Up to 80 % less CO<sub>2</sub> emissions per year

RCH-V heat pumps operate by means of a closed circuit, which means zero smoke emissions and a cleaner environment. Moreover, beside of being harmless for the ozone layer and confined in a watertight circuit integrated into the central unit, the use of eco-friendly R-407C refrigerant fluid ensures energy consumption to be three times lower as compared to conventional heating systems. Finally, only water is used to heat interior living spaces.

## RCH-V AIR-WATER HEAT PUMP WITH

### AN ALL-IN-1 SOLUTION! NO ADD-ON MODULES REQUIRED

This Monobloc Packaged Solution includes all the required components to guarantee an efficient installation:

- High-efficiency Scroll compressor
- Soft starter device as standard on model 10 and 12 (optional for model 8)
- Water circulation pump
- Water flow pressure switch
- Electronic regulation system (external calibrated adjustment in heating mode)
- Coaxial heat exchanger
- Anti-vibration pads

Available in the following configurations:

- Single or three-phase power supply
- Underfloor heating or radiator versions

### ACCESSORIES (TO BE INSTALLED ON-SITE)

- Water flexible connection kit (1 m) which prevents the risk of vibrations being transmitted through the network
- Shut off valve kit
- Hydraulic connection kit supplied with or without 3-way zone valve
- Room thermostat (strongly recommended)
- Regulation kit with ambient thermostat
- Regulation kit with wireless thermostat
- Main power supply terminal block
- 30-litre buffer tank
- Water filter

### FACTORY OPTIONS (FITTED PRIOR TO DELIVERY)

- Main power supply terminal block
- 5-litre expansion tank (for installations without tank as standard)
- High-pressure water pump, 35 kPa available pressure (if standard circulator not used)
- Reinforced acoustic insulation
- Condenser protection grille
- Softstarter device as standard (only model 8 single phase)
- Phase controller for three-phase models
- Water filter



### REGULATION KIT

The regulation kit simplifies electrical connection work and ensures economical operation.

- Two types of regulation kit are available:
- Regulation kit with ambient thermostat
  - Regulation kit with wireless thermostat



### ROOM THERMOSTAT

The RCH-V room thermostat allows to pilot the operating mode and regulate the ambient temperature. It can be used to program various functions such as: energy saving, comfort, time and date, programming and others.

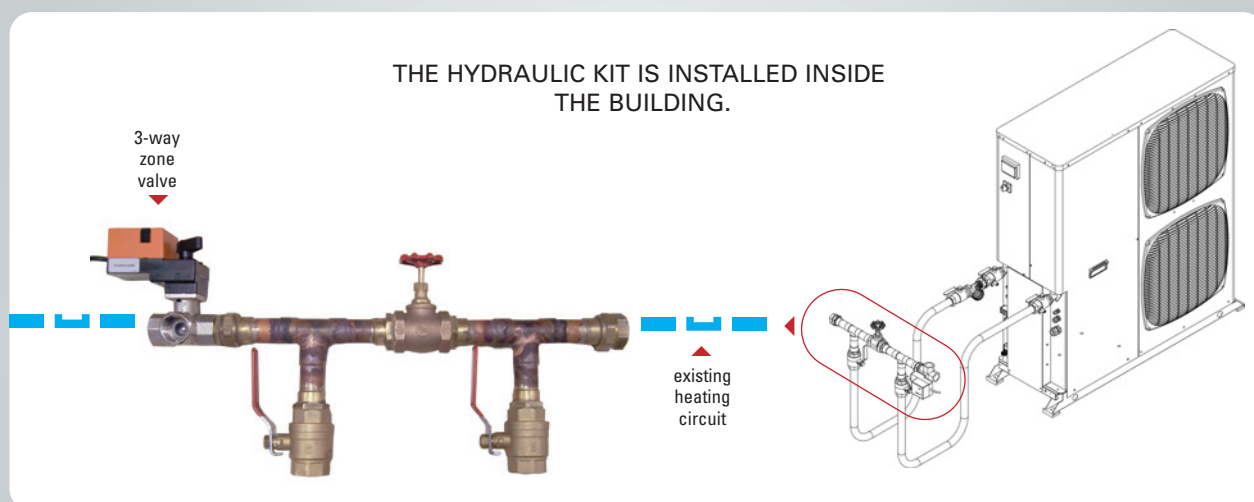
# BOILER BACK-UP

## STRENGTHS OF THE RANGE

### EASY INSTALLATION: HYDRAULIC KIT

The hydraulic kit enables the installer to prepare the hydraulic connections before delivering the machine.

The water circuit does not remain "open" too long during installation and, using the valve set, it can be returned straight away to its original state. The 3-way zone valve supplied in this kit isolates the boiler when the heat pump is functioning as the sole heat source, which means that no heat is lost through the boiler. Furthermore, heat pump functionality is not affected when the boiler settings are adjusted.



### OPTIMISED MANAGEMENT: REGULATION KIT

The regulation kit simplifies electrical connection work and ensures economical operation:

- Priority is given to the heat pump thanks to the adjustable outside thermostat, which only enables the boiler to start when the outside temperature is very low. When the heat pump is operating in mono-mode (as the only heat source), the boiler is drained to prevent the risk of heat loss or erratic behaviour.
- Preventing from too high ambient temperature (room thermostat limiter).
- Dual-mode heat pump/boiler operation for low outdoor temperature. When the return water temperature exceeds 48 °C, the heat pump is disabled without activation of the emergency shutdown, thereby maximising the heat pump operation time.
- Emergency function: when the emergency button is pressed, the boiler becomes the sole heating source, as it was before installing the heat pump.



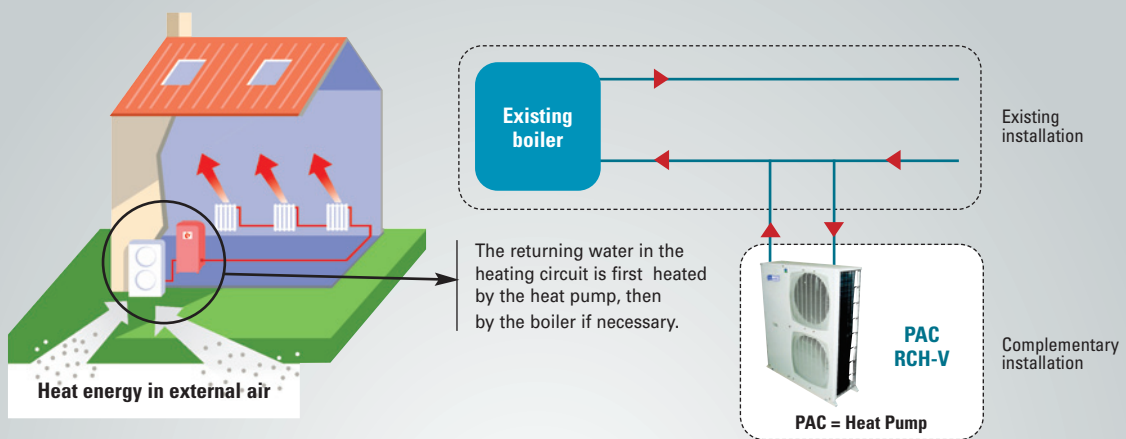
### COAXIAL HEAT EXCHANGER

The heat exchanger combines high performance with safe operation. It is resistant to clogging caused by dirt in the existing installation circuit and, in extreme conditions, can frost up without damaging the exchanger.

## RCH-V AIR-WATER HEAT PUMP WITH

### PRINCIPLE

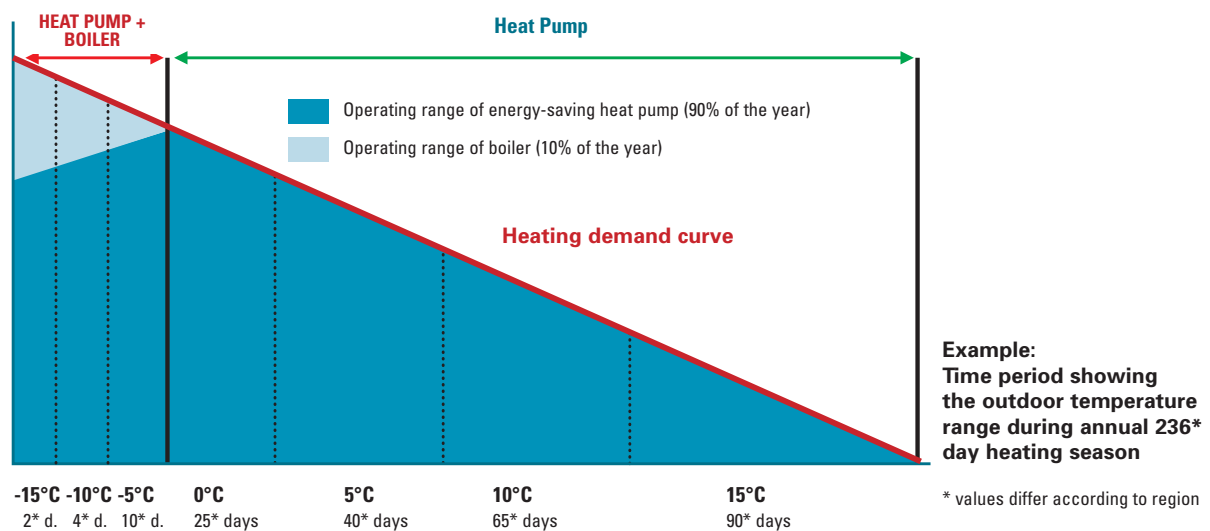
The RCH-V range of heat pumps is intended to function as part of a bivalent system, which means that the machines are integrated into an existing heating installation (gas or fuel oil boiler) sole heat source, which means that no heat is lost through the boiler. Furthermore, heat pump functionality is not affected when the boiler settings are adjusted.



### BENEFITS

By using the heat pump as the main heat source, you can make significant savings on your energy bill while benefiting from the increased yield of the system (for 1 kWh of electricity expended, the heat pump generates 3 kWh of heat). The boiler is only used as a back-up when the weather is very cold (during few days in the year), which leads to huge decrease in fuel oil or gas consumption and therefore lower energy bills.

### Heating needs



For 90 % of the heating season, the heat pump is able to fully meet the heating requirements and generates energy savings. For the remaining 10 %, the existing boiler provides the supplementary heating needed to ensure comfort in your residence. The system therefore enables you to cut your energy bill by up to 2/3, depending on the region.

# BOILER BACK-UP

## A COMPREHENSIVE, HIGH-PERFORMANCE RANGE

The RCH-V range of heat pumps includes three single-phase models with heating capacities of 8.2 to 15 kW. The outlet water temperature ranges from 25 to 55°C. The coefficient of performance (COP) of the RCH-V heat pump range varies from 3.5 to 3.7 and is certified under Eurovent test conditions.

### SAFETY AND ABSOLUTE COMFORT

The RCH-V range of heat pumps is specifically designed for residential applications. The units can be integrated into an existing heating system preventing drilling or excavation work without modifying the surrounding interior environment. The RCH-V heat pump range is also equipped with a coaxial heat exchanger which protects the installation from frost build-up. Finally, the regulation kit, which is supplied as an accessory, enables the user to control the boiler and heat pump when they are operating in dual mode. The kit is also equipped with an emergency function which, when activated, restores the system to boiler mode in order to prevent interruption of the heating supply.

### PRODUCT BENEFITS

#### Simple, ready-to-operate installation:

- Integrated with existing radiator circuit
- Monobloc 'all-in-one' units
- Single-phase range
- Electronic regulation with external calibrated adjustment
- Regulation kit (boiler + heat pump dual control)
- Hydraulic connection kit

#### Performance:

- 8.2-15 kW heating capacity
- COP >3
- Operation down to - 15 °C outdoor temp.
- Outlet water temperature range: 25-55°C

#### Discretion:

- Quiet operation
- Sophisticated, accommodating design

#### Reliability:

- Anti-corrosion treatment
- Integrated filtration systems
- Defrosting system
- Coaxial heat exchanger



### A TAILOR-MADE UNIT, WITH EASY INSTALLATION

Since the heating system configuration of every household is different, the RCH heat pump range is manufactured to suit your requirements. You can therefore opt for a singlephase or three-phase model, a soft starter device, or even a protection grille for the outside unit.

# HEAT PUMP RANGE

RCH-V HEAT PUMP WITH BOILER BACK-UP

		RCH 08-V	RCH 10-V	RCH 12-V	
<b>Heating floor application</b>					
<b>Heating</b>	Capacity <sup>(1)</sup>	kW	8,6	12,1	15,4
	Power input*	kW	2,32	3,21	3,98
	COP		3,7	3,8	3,9
	Capacity at - 7°C	kW	5,4	8,0	10,2
	Power input at - 7°C	kW	2,02	2,94	3,65
	Water flow	m <sup>3</sup> /h	1,44	2,08	2,64
	Outdoor temperature operating limits	°C	-15°/20°	-15°/20°	-15°/20°
	Outlet water temperature	°C	25°/55°	25°/55°	25°/55°
<b>Fan coil units application</b>					
<b>Heating</b>	Capacity <sup>(2)</sup>	kW	8,2	11,9	15,0
	Power input*	kW	2,77	4,02	4,83
	COP		3,0	3,0	3,1
	Capacity at - 7°C	kW	5,3	7,5	9,5
	Power input at - 7°C	kW	2,65	3,75	4,5
	Outdoor temperature operating limits	°C	-5°/20°	-5°/20°	-5°/20°
	Outlet water temperature	°C	25°/55°	25°/55°	25°/55°
<b>Outdoor unit</b>	Sound pressure level at 4 m	dB(A)	44	44	44
	Sound power level	Lw(dB)	66	67	67
	Airflow	m <sup>3</sup> /h	5700	5700	5700
	Number of fan		2	2	2
	Exchanger type		Coaxial	Coaxial	Coaxial
	Water circuit Inlet	Inches	1"	1"	1"
	Water circuit Outlet	Inches	1"	1"	1"
	Compressor type		Scroll	Scroll	Scroll
	Number of compressor		1	1	1
	Dimensions (WxDxH)	mm	1237x400x1310	1237x400x1310	1237x400x1310
	Weight	kg	150	153	158
<b>Power supply 2-230V-50Hz</b>	Power cable section**	mm <sup>2</sup>	3x2,5	3x4	3x6
	Fuse rating am	A	20	25	32
<b>Power supply 3-400V-50Hz</b>	Power cable section**	mm <sup>2</sup>	5x2,5	5x2,5	5x2,5
	Fuse rating am	A	12	16	16

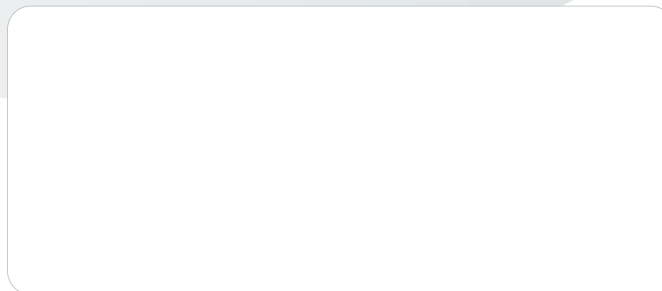
<sup>(1)</sup> Outdoor Temperature = 7 °C, water temperature = 30/35 °C. - <sup>(2)</sup> Outdoor Temperature = 7 °C, water temperature = 40/45 °C. \* Raw value (without circulator).

\*\* These values are given as an indication, they must be adjusted according to the existing standards: they depend on the installation and choice of the electrical conductors.

Specifications subject to change without notice. Pictures non contractual.

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