

MASTERING TEMPERATURE

HEAT PUMPS



 Renson®

 Renson®



CONTENTS









Overview	3
Why opt for a heat pump?	6
Benefits Renson Heat pump	8
Digitisation	10
Why Renson?	14
The range	17
Heat pump	18
Heat pump boiler	20
Hot water tank	22
Automation	24
Suitable for any project	26
Individual homes	26
Newbuild	28
Renovation	30
Apartments	32
New build	34
Renovation	36
Renson One	38



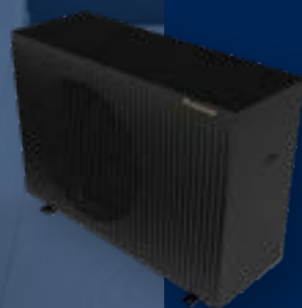
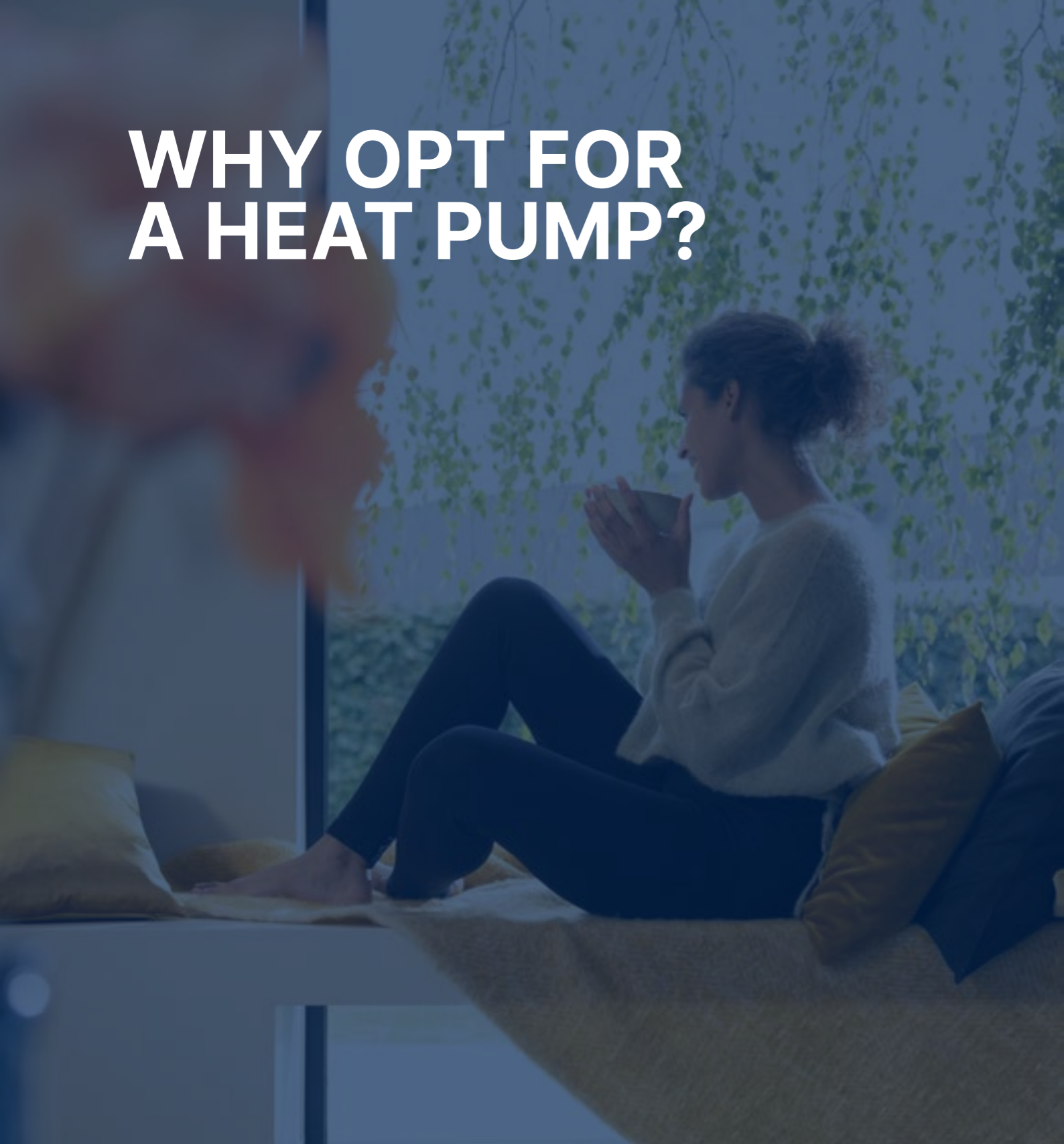
// *Our passion lies in creating innovative products and complete solutions that turn every home into a healthy and comfortable place to live. Our commitment to 'creating healthy spaces' is the foundation for everything we do.*

Paul Renson //

OVERVIEW

	Aeran®			Cygna®	Taura®	Automation
Application	Outdoor units			Hot water units		Controls
	 8 Kw	 15 Kw	 22 Kw			 Thermostat  HVAC module  Brain module
Home	✓	✓	✓	✓	✓	✓
Apartment	✓	✓	✓	✓	-	✓
New build	✓	✓	✓	✓	✓	✓
Renovation	✓	✓	✓	✓	✓	✓
	Page 18	Page 18	Page 18	Page 20	Page 22	Page 24

WHY OPT FOR A HEAT PUMP?



! For people and nature

A heat pump is an environmentally friendly way of providing a building with heating, cooling and hot water. The device transfers heat or coolness from the air, soil or groundwater from outside the building to heat or cool it inside at the lowest possible energy cost. This makes a heat pump the most future-oriented solution for energy-efficient and comfortable living and working conditions. **More information:** www.renson.net

1

Highest efficiency

By using advanced inverter technology, the Renson heat pump meets the most stringent conditions for energy efficiency. The heat pumps have a high Ecodesign label rating for both high and low temperatures.

2

Simple set-up

The devices and intermediate infrastructure are particularly simple and compact. The system, with a limited number of parts, can be quickly installed. This reduces not only the purchase price, but also the cost of maintaining the system as a whole. Moreover, the entire installation and adjustments are supported by the Renson One platform for professionals.

3

Stylish design

Like all Renson products, the heat pumps are designed with an eye for detail. The entire product range has a sleek look and feel that seamlessly blends into any surroundings. The high-quality matte black lacquer finishing creates a timeless design.

4

Renson One connection

Renson heat pumps and accessories are connected to the Renson One platform. This integrated solution allows all Renson products to communicate with each other for improved comfort and lower energy consumption. All connected Renson devices can be easily monitored and controlled using the corresponding app.

BENEFITS RENSON HEAT PUMP



State-of-the-art technology

The full range of Renson heat pumps is equipped with the latest, best and most sustainable technology. The heat pumps feature an inverter-controlled compressor and propeller. The heat pumps' highly reliable operation and wide temperature range mean that no electrical resistance is required. Plus, the heat pump is connected to the Renson One platform, providing smart control. This prevents both hardware and software standby consumption. In addition, all Renson heat pumps use an environmentally friendly refrigerant (R290). Its extremely limited impact on the greenhouse effect and high efficiency make R290 an obvious choice as a refrigerant.



Renson One connection

All Renson heat pumps can be connected via the Renson One platform. A user-friendly interface allows you to set the desired temperature, adjust operating modes, measure consumption and errors and so much more. The installer can also read data remotely to solve problems or prevent them. This total solution offers the best comfort and makes life easier for both the end customer and the installer.



R290 refrigerant

The Renson heat pump uses R290 (propane) refrigerant. This is a natural and environmentally friendly refrigerant with a very low GWP (global warming potential) or carbon dioxide emission equivalent. Its extremely limited impact on the greenhouse effect and high efficiency make R290 an obvious choice as a refrigerant. The advantageous properties of propane result in a wide temperature range. Even at very low outdoor temperatures, it can produce domestic hot water up to 60°C.



Near-silent operation

One of the special features of the Renson heat pump is its near-silent operation. This is made possible by a combination of different technologies and a series of rigorous tests. Shocks and noise are minimised by a chassis with acoustic damping. Moreover, the inside of the casing is lined with a sound-absorbing material. In addition to hardware modifications, specially developed software reduces operating noise. Silent mode can be activated in the selection menu on the app or the main control unit. This mode reduces the speed of the fan motor and compressor, minimising noise.



Ecolabel A+++

By using advanced technology, the Renson heat pump meets the most stringent conditions. The heat pump has an A+++ Ecodesign label rating for both low and high temperatures. This not only makes it an environmentally responsible choice, but also a smart economic one. The high efficiency is due to the modulating DC inverter compressor, dynamically balanced DC inverter fan motor and the refrigerant's high operating range. This leads to much lower energy consumption and costs.

DIGITISATION



GET TO KNOW OUR DIGITAL SOLUTIONS

The Renson installer app guides me step by step during the setup process, which saves me time.



RENSON INSTALLER PORTAL

Your digital right hand at the office

My-Lio, the Renson Installer Portal, ensures you can manage all your installations, from configuration and reporting to follow-up. **Less paperwork = more time saved.**

SMART LIVING

Going further with Building Automation

Renson uses an open and intelligent system to create the ideal atmosphere in a home. With Renson Smart Living, you have access to a digital platform that allows ventilation, sun protection, heating and other technologies to be interconnected and smartly controlled. This integrated Building Automation intelligence ensures a comfortable and healthy indoor life in the most energy-efficient way. It is a unique system that is not only convenient today but also one that evolves smartly and is open-to-connect, allowing future solutions to connect as well.

RENSON INSTALLER APP

Installation and commissioning

Starting up and adjusting settings has never been quicker or easier. On site, the Renson Installer App guides you through the **commissioning** process **step by step**.

RENSON ONE APP

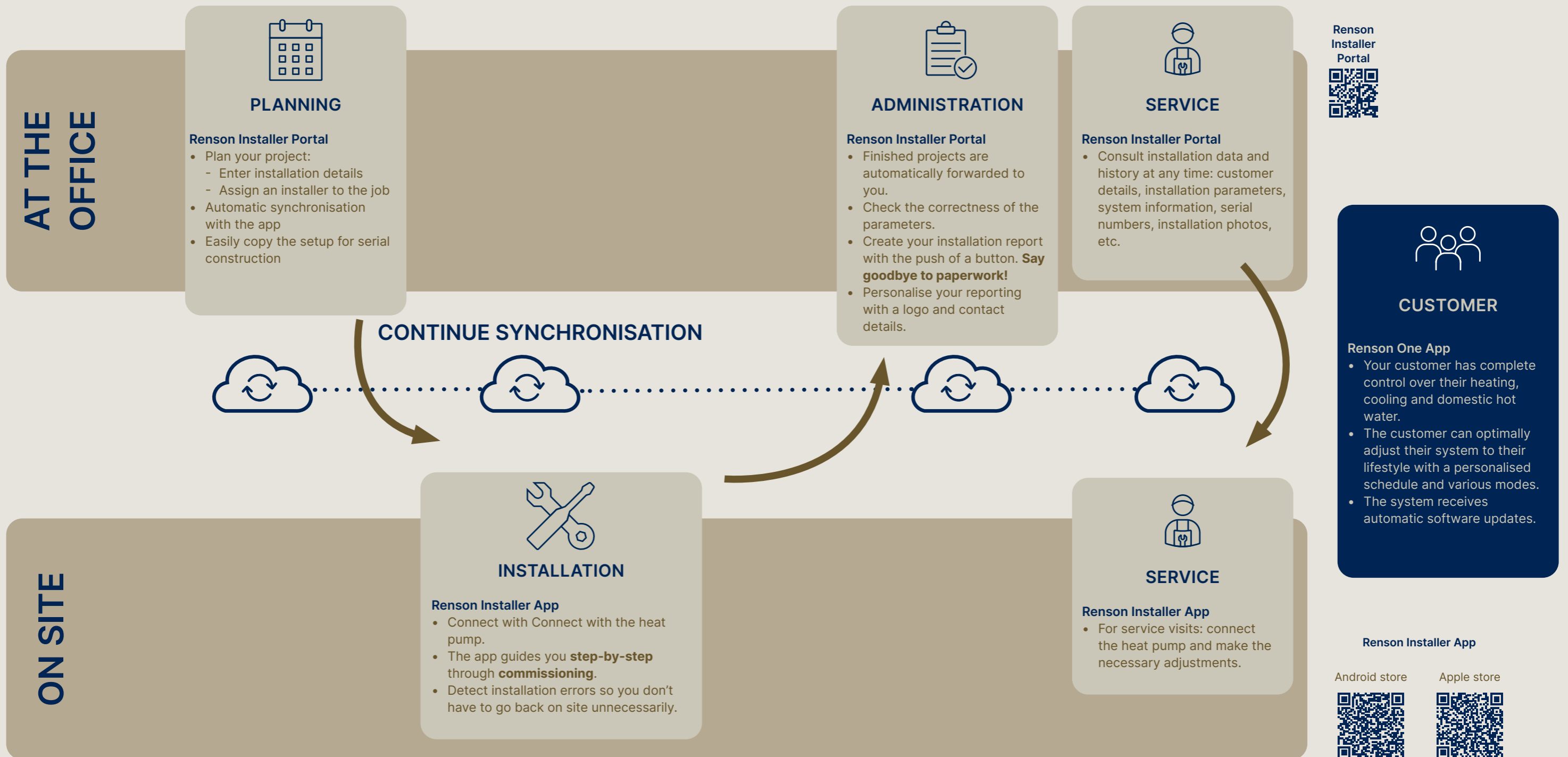
Your connection to your customer

Your customers also benefit from our digital solutions. The Renson One app provides insights into air quality and confidence in the system's proper functioning. Residents can use it to easily and remotely operate the entire system, giving them complete control over their home's comfort.

DIGITISATION

Simplify your workflow, save time and work more efficiently: before, during and after installation. Discover our digital tools and save up to 50% of your time!

A standardised, smooth workflow. That saves you a lot of time.



WHY RENSON®?

At Renson, we believe high-quality products and innovative solutions contribute to an energy-efficient, comfortable and healthy life. There is a reason why our baseline is "Creating healthy spaces". And in doing so, we depart from several basic principles.



MINIMALIST DESIGN

We aim high when it comes to design. Renson solutions discreetly fit into any project. Detailed finishing and seamless integration help achieve exactly that.



THE POWER OF INNOVATION

Our hunger for innovation is what drives progress. We achieve impressive results together by developing and applying innovative technologies.



ENDLESS CUSTOMISATION OPTIONS

For your home or workspace, rustic or contemporary. Configuring a solution tailored to each customer and building is quick and easy.



SUSTAINABLE ENTREPRENEURSHIP

We cannot build a healthy living environment without tending to a healthy world. From our choice of materials to our production and logistics; we are building a sustainable business.



ULTIMATE EASE OF USE AND MAINTENANCE

Our advanced engineering is geared towards ease of use and minimum maintenance. From configuration and ordering to quick and trouble-free installation. With our digital platform, RIO, as its beating heart.

OVERVIEW PRODUCTS

Outdoor units

Heat pump Arean®	18
Arean® 8 KW	18
Arean® 15 KW	18
Arean® 22 KW	18

Hot water units

Heat pump boiler	20
Cygna®	20
Hot water tank	22
Taura®	22

Automation

Thermostat	24
Mobile app	24
HVAC module	25
Brain module	25

Individual home

Newbuild	28
Renovation	30

Appartments

Newbuild	34
Renovation	36



HEAT PUMP

Arean®

The Renson Arean air to water heat pump is a monoblock system that can provide heating, cooling and domestic hot water. There are three versions with different capacities: 8 kW, 15 kW and 22 kW.

The R290 heat pump received the A+++ Ecodesign label. With its near-silent operation and integration with the Renson One platform, this heat pump is the perfect choice for a sustainable home of the future. The three different capacities mean there is a suitable heat pump for every home.



Technical properties	
Versions	8kW - 15kW - 22kW
Technology	Monoblock with inverter technology
Refrigerant	Natural refrigerant R290
Possibilities	Heating, cooling, hot water
Application	New buildings and renovations
Wireless updates	✓
Silent mode	✓
Compatible with Renson One	✓

Type	Arean 8/1F	Arean 15/1F	Arean 15/3F	Arean 22/3F
Outdoor unit	Monoblock	Monoblock	Monoblock	Monoblock
Input/output	Air/water	Air/water	Air/water	Air/water
Capacity	8	15	15	22
Ecodesign				
Energy label starting water temp. 35°C	A+++	A+++	A+++	A+++
SCOP	5.0	4.9	4.92	4.91
Energy label starting water temp. 55°C	A++	A++	A++	A++
SCOP	3.71	3.78	3.78	3.7
Max. Heating capacity outside -7°C, starting water temp. 35°C				
Heating capacity	5.8 kW	10.8 kW	10.7 kW	16.13 kW
Power consumption	2.31 kW	4.06 kW	4.06 kW	5.25 kW
COP	2.51	2.66	2.64	3.07
Max. Heating capacity outside 7°C, starting water temp. 35°C				
Heating capacity	7.8 kW	14 kW	14.95 kW	22 kW
Power consumption	1.91 kW	3.85 kW	3.83 kW	5.32 kW
COP	4.08	3.64	3.88	4.13
Electrical connection				
Phase	1 phase	1 phase	3 phase	3 phase
Supply voltage	220 - 240V	220 - 240V	380~415V	380~415V
Frequency	50 Hz	50 Hz	50 Hz	50 Hz
General characteristics				
Dimensions HxWxD	80×117×41 cm	93×129×46 cm	93×129×46 cm	133×125×50 cm
Weight	80 kg	160 kg	160 kg	202 kg
Sound pressure (1m)	43 dB(A)	41 dB(A)	42 dB(A)	47 dB(A)
Working range				
Min. - max. starting temp. heating	15°C - 75°C	15°C - 75°C	15°C - 75°C	15°C - 75°C
Min. - max. starting temp. cooling	5°C - 28°C	5°C - 28°C	5°C - 28°C	5°C - 28°C



HEAT PUMP BOILER

Cygna®

The Renson Cygna heat pump boiler is a water to water heat pump that uses a low-temperature heat grid to sustainably supply domestic hot water. This decentralised solution for domestic hot water is ideal for apartments and neighbourhoods equipped with a district heating network. Collective heat pumps or district heating provide central heating, which serves as a source for the production of domestic hot water. The heat pump boiler takes residual heat from the central heating circuit and boosts it to 60°C. The domestic hot water generated as a result is stored in a built-in 200-litre tank. This is more than sufficient for an average family.



Technical properties	
Contents	200 litres of hot water
Refrigerant	Natural refrigerant R290
Legionella protection	✓
Water temperature	Up to 60°C
Silent mode	✓
Compatible with Renson One	✓

Type	Cygna 200
Input output	Water / Water
Volume	200L
Ecodesign	
Energy label	A +
Sound power (Lwa)	48dB(A)
Electrical connection	
Phase	1 Ph
Supply voltage	230 V
Frequency	50 Hz
Power of electric resistance	1500W
General characteristics	
Height	156 cm
Diameter	64 cm
Weight	98 kg
Maximum heat capacity	1650W



HOT WATER TANK

Taura®

The Renson Taura hot water tank was specially developed to be combined with the Renson air to water heat pump. Besides a sleek look, the tank was designed with the aim of durability and efficiency. The tank has a capacity of 250 litres of domestic hot water with a temperature of up to 65°C. This is more than enough to meet an average family's hot water demands. Using the latest technology and advanced materials, the water in the tank heats up very quickly and the temperature is maintained for a long time.



Technical properties	
Contents	250 litres of hot water
Tank type	Duplex tank, maintenance-free
Water temperature	Up to 60°C
Application	New buildings and renovations
Compatible with Renson One	✓

Type	Taura 250
Volume	250L
Ecodesign	
Energy label	B
General characteristics	
Height	149 cm
Diameter	60 cm
Weight	56 kg
Tank material	Duplex



AUTOMATION

Renson has a software and hardware platform to control the heat pump, heat pump boiler, tank and hydraulic components. In addition to providing smart control of these products, the platform also offers a total solution by connecting and bundling other smart home devices, such as lighting and ventilation, on a single platform. It means you can control everything from a single location. Moreover, you obtain better insight into your consumption and can take measures yourself to live more energy-efficiently, both on an individual and collective level. The result? Greater comfort, security and sustainability without soaring energy bills.

Renson Software

A user-friendly online platform and mobile app enable users to control and monitor all their devices to create an optimal indoor climate.



Thermostat



Mobile app

Functions	Thermostat	Mobile app
Room temperature adjustment	✓	✓
Domestic hot water temperature adjustment	-	✓
Heating/cooling activation	✓	✓
Renson One components control	Temperature control	✓
Different modes	Auto (schedule), Away, Manual	

Renson hardware

There are two control modules required to provide smart control of the heat pumps: the Renson 'Brain' and the 'HVAC' module. These modules allow the heat pump and other products to be connected to the Renson One platform.



HVAC module

The Renson HVAC module is a DIN-rail module specifically designed to control and read hydraulic components. Connected components include pumps, a three-way valve, motorised valves and various temperature and pressure sensors. The HVAC module is connected to the Brain.

Functions

- Efficient pump control
- Valve control
- Dual zone temperature control
- Fail-safe management

Brain module

The Renson 'Brain' module is the brain of each installation and serves as the basis for any Smart Living installation thanks to its numerous connections. This module is installed on a DIN rail in the electric cabinet. The 'Brain' module intelligently controls the heat pump installation's various components. It not only takes care of mutual, internal communication but also provides a link to the Cloud.

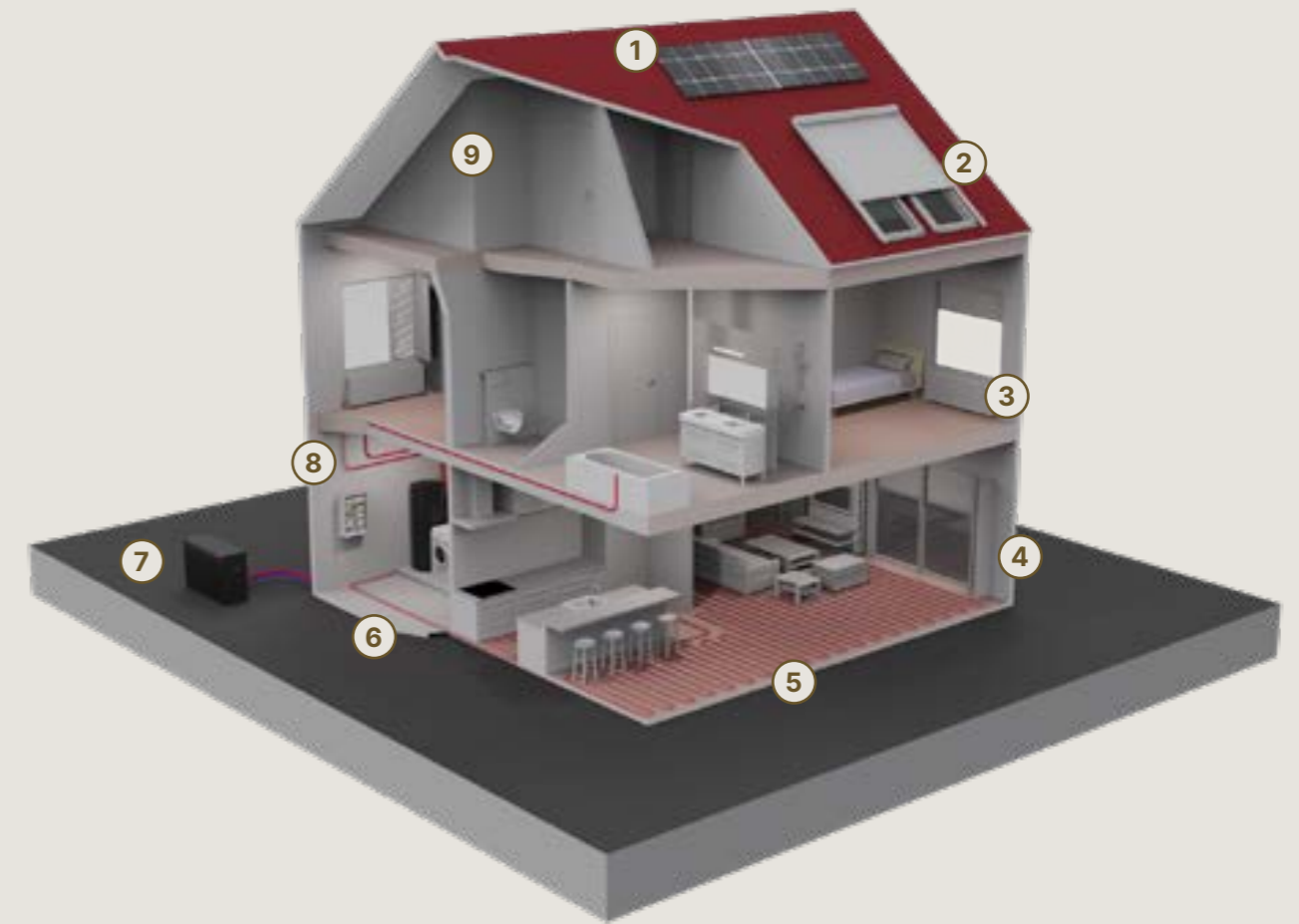
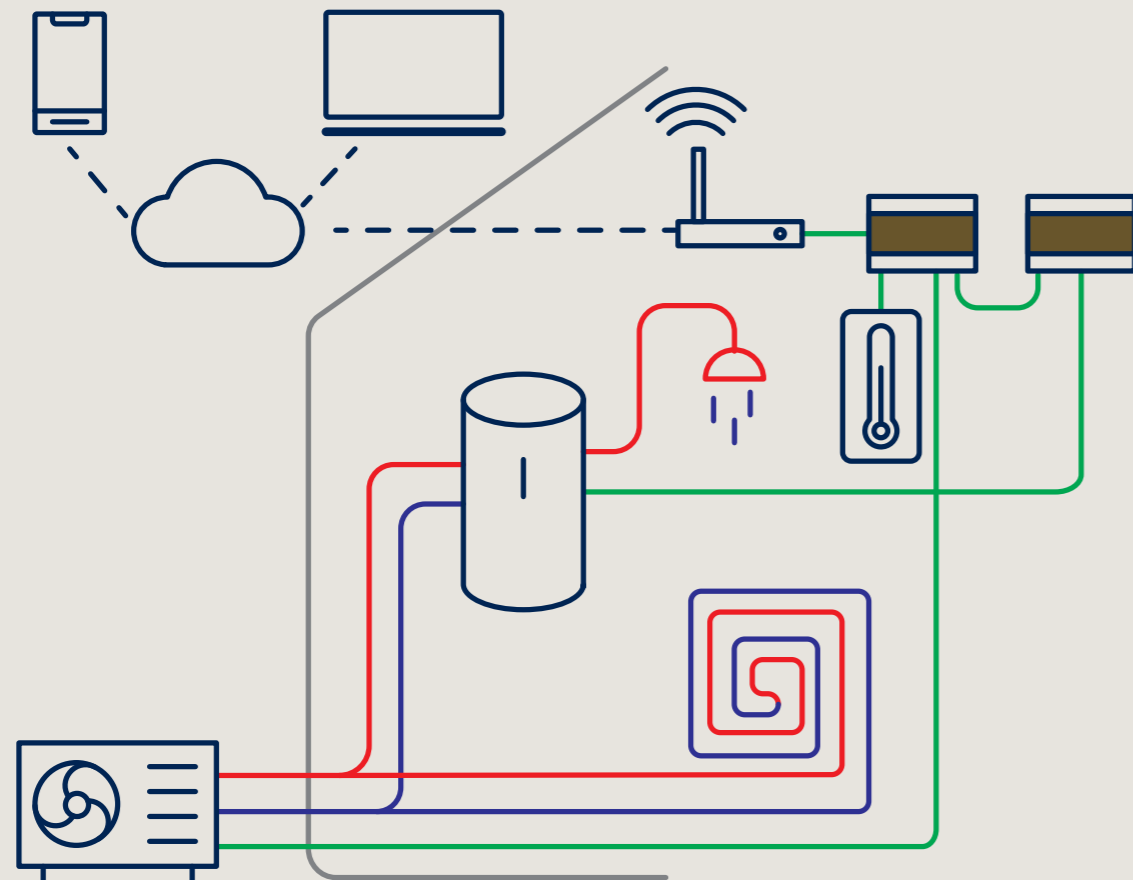
Functions

- Heat pump control
- Heat pump boiler control
- HVAC module control
- Multi-zone heating
- Predictive control
- Connection to Renson One

INDIVIDUAL HOMES

Renson heat pumps offer a sustainable solution for any type of home. The heat pump's high efficiency makes it suitable for both new construction projects and renovations. The only condition is the availability of a low/medium temperature heating system. If a gas boiler is already installed, the heat pump can easily be connected to form a hybrid system.

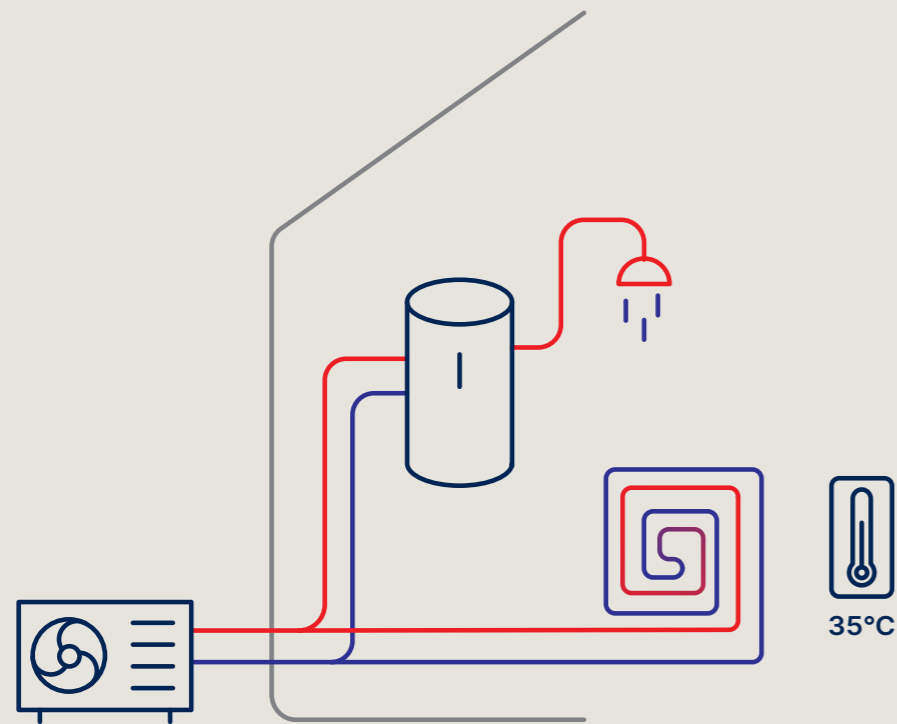
The set-up is extremely simple. The air to water heat pump can be placed next to the home or on the roof. It provides sustainable heating, cooling and domestic hot water. Heat is extracted from the outside air and heated by the heat pump. Heat is transferred to the water in the home's heating circuit. The heat pump can control up to two different water temperature zones. This makes it possible to combine underfloor heating with convectors. The heat pump is capable of producing domestic hot water up to 60° to 65°C without using electrical resistance. The hot water is stored in a 250-litre tank. The entire installation is easily to control using a thermostat or the app. The 'Brain' and 'HVAC' modules provide smart control of all system components and a connection to the Cloud.



- | | |
|-------------------------------|--------------------------|
| 1. Solar panels | 6. Renson hot water tank |
| 2. Renson sun protection | 7. Renson heat pump |
| 3. Ventilators | 8. Renson smart living |
| 4. Renson night cooling | 9. Renson ventilation |
| 5. Underfloor heating-cooling | |

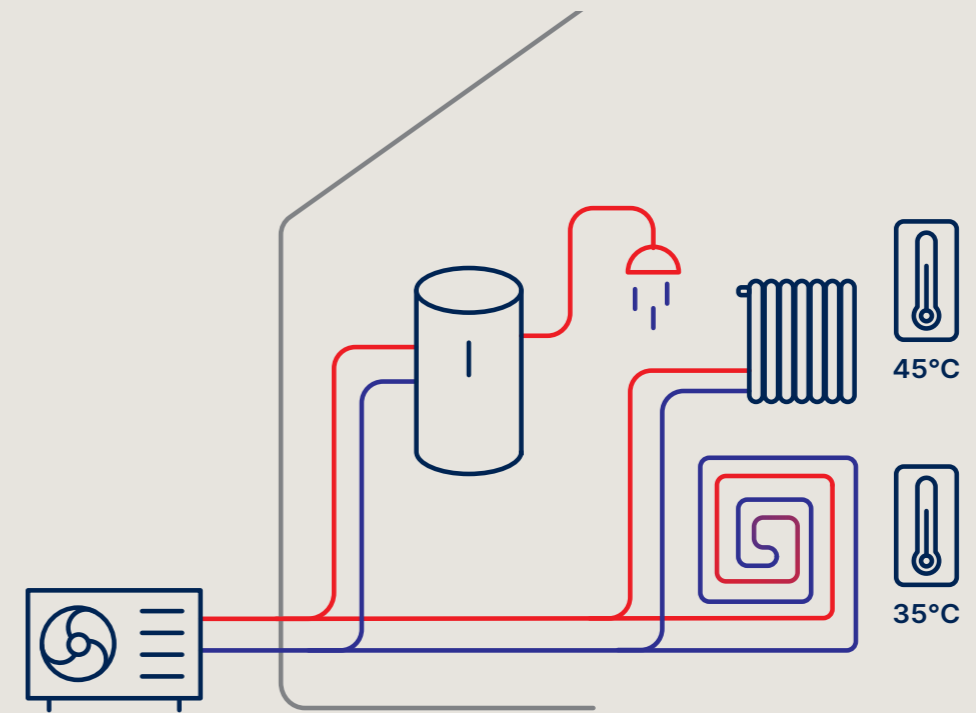
NEWBUILD HOME

Newly built houses are very well insulated and equipped with low-temperature heating. Two conditions that make them ideally suited to a heat pump. The heat pump can be placed next to the home or on the roof. The hot water produced is transferred to the heating and the hot water tank. A 250-litre buffer tank provides enough hot water for all domestic applications. The home can be heated with underfloor heating and/or convectors.



Single zone installation

The simplest and most common configuration is the single zone installation. The house has one type of heating system, such as underfloor heating or convectors. However, if required, the temperature of different rooms can still be controlled separately. Switching from heating to cooling applies to the entire zone.

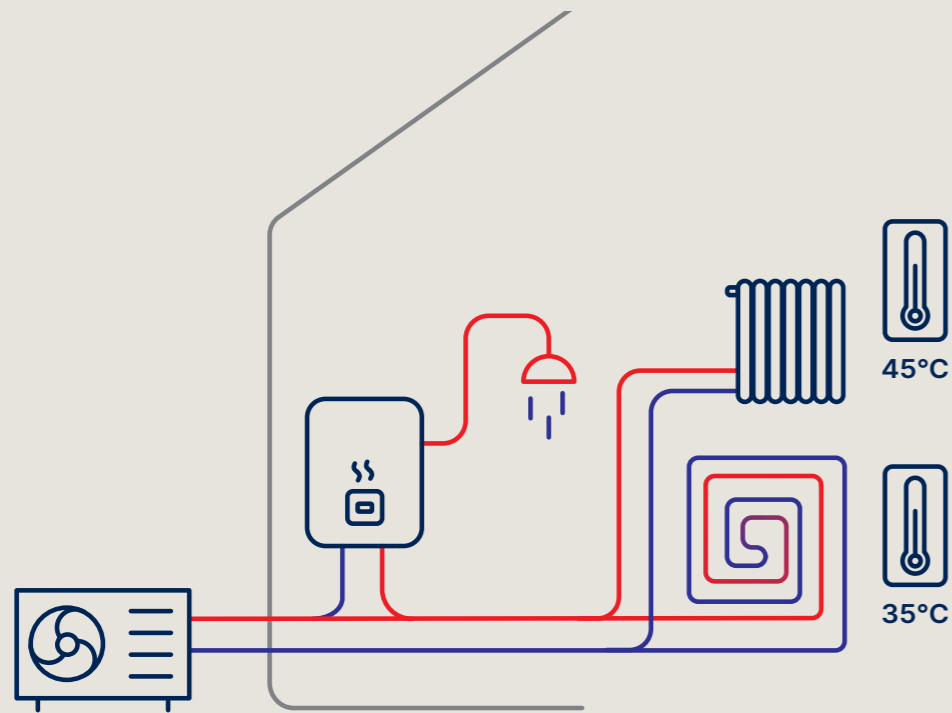


Dual zone installation

If a house is equipped with two types of heating systems, e.g. with underfloor heating on the ground floor and convectors on the upper floor, it has a dual zone installation. This involves a more complex set-up because of the different supply temperatures, but it can offer greater comfort in terms of cooling during hot periods.

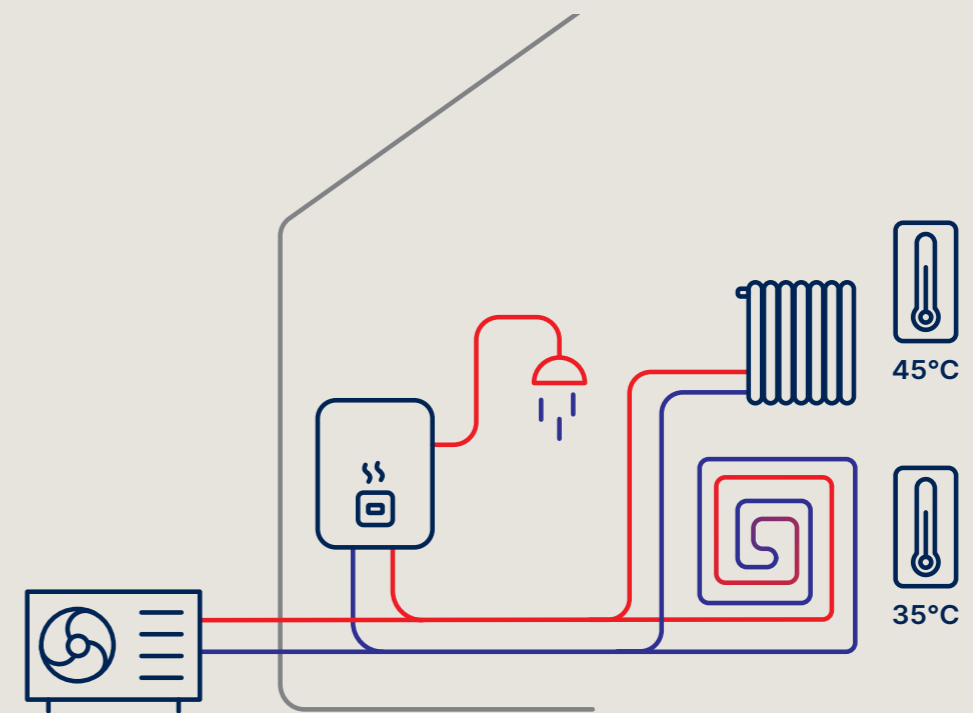
RENOVATION HOME

The heat pump also offers a solution for renovations and existing homes. In this case, opting for a heat pump is, more than ever, both an ecologically and economically smart decision. However, this is subject to the condition that a low/medium temperature heating system is already in place and the insulation must meet certain requirements. In this scenario the heat pump can support an existing gas boiler or completely replace it. With a complete replacement, the examples of new buildings apply.



Series installation

In this configuration, the heat pump and gas boiler are installed as a series. The heat pump always preheats the circuit. If the capacity of the heat pump is insufficient, the gas boiler steps in. The smart control regulates the way the heat pump and gas boiler work together. This set-up is more efficient than the parallel set-up due to the heat pump's continuous operation.



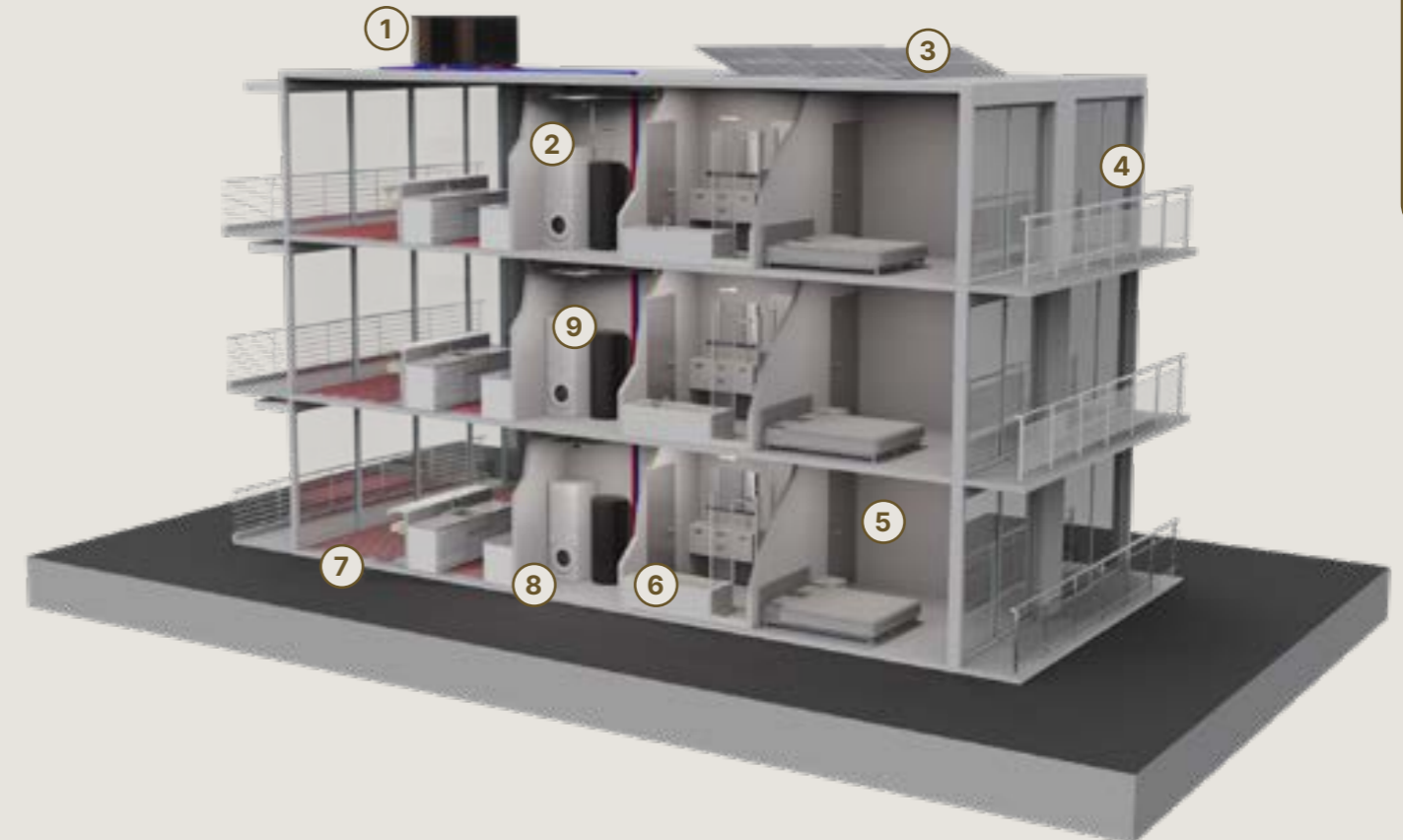
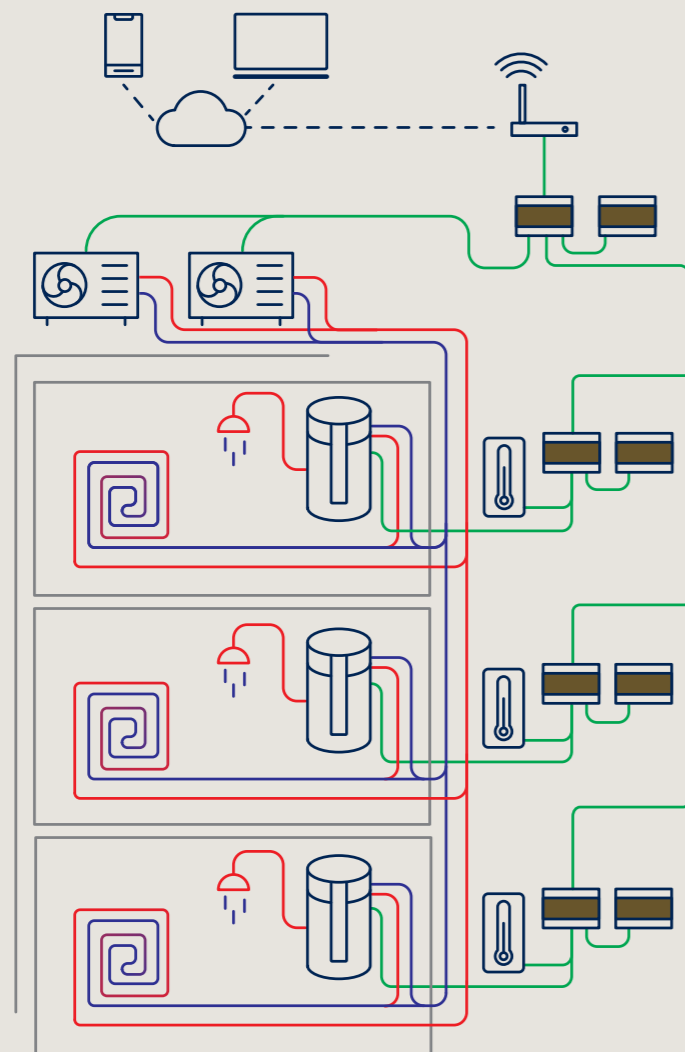
Parallel installation

In this configuration the heat pump is connected in parallel to the existing gas boiler. Either the heat pump or the gas boiler operates at any given time. The smart control calculates when the heat pump or gas boiler kicks in based on efficiency and price. The gas boiler will only provide all the heating during cold periods, resulting in direct cost savings.

APARTMENTS

The sustainability of both new and existing apartment blocks can be easily increased thanks to Renson heat pumps. New buildings or those subject to major renovations can be completely disconnected from the gas grid. With limited renovations, heat pumps can also support a gas boiler that is already installed.

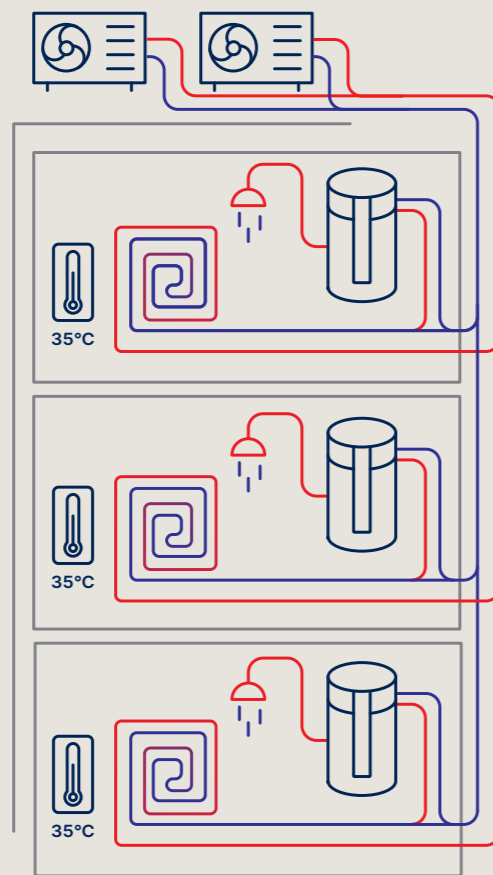
A number of air to water heat pumps are set up in a mini-collective system on the roof of or next to the building. This means there is always capacity, even if one of the heat pumps were to fail. In the collective configuration, the heat pumps provide heating and cooling via a circuit. Water from the circuit is used to heat the apartments during winter and cool them during summer. There is a heat pump boiler in each apartment. It draws heat from the central circuit to produce domestic hot water. The 'Brain' and 'HVAC' modules provide smart control of all system components and a connection to the Cloud.



- | | |
|--------------------------|-------------------------------|
| 1. Renson heat pump | 6. Domestic hot water |
| 2. Renson ventilation | 7. Underfloor heating-cooling |
| 3. Solar panels | 8. Renson Smart Living |
| 4. Renson sun protection | 9. Renson Heat pump boiler |
| 5. Fan coil units | |

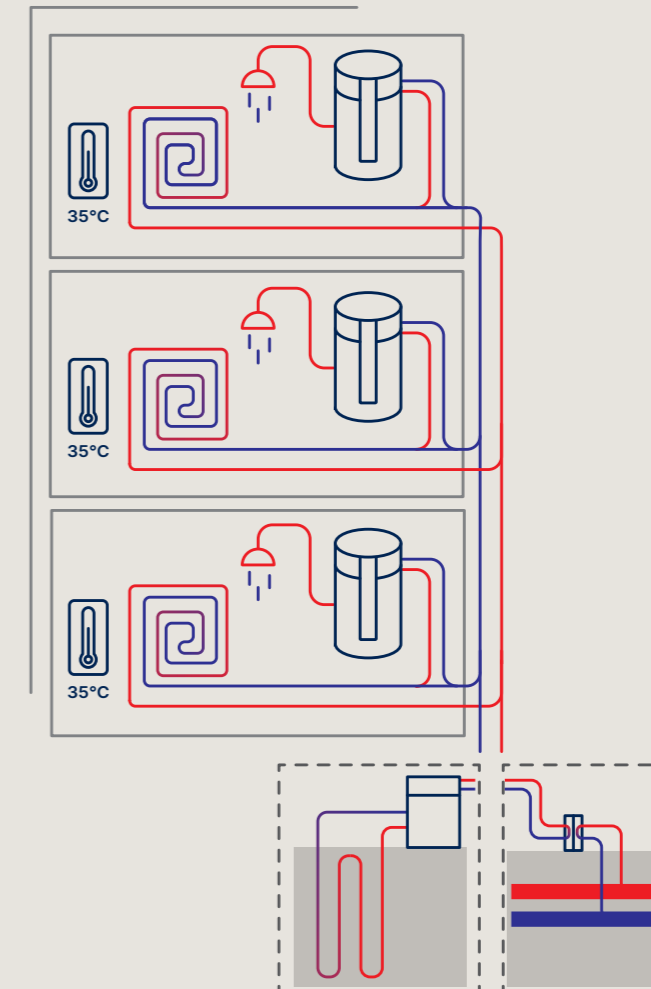
NEWBUILD APARTMENT

Collective new buildings are subject to very strict insulation and energy consumption requirements. In this case, a heat pump is extremely effective. The collective heat pumps provide hot water for room heating. domestic hot water is produced by a heat pump boiler in each apartment. It uses residual heat from the room heating and buffers the hot water in a tank. The 200-litre buffer tank provides enough hot water for all domestic applications.



Air as a heat source

The heat source chosen for the fully integrated Renson solution is air. A number of collective air to water heat pumps extract heat from the air. The heat is transferred to water in a central circuit. The circuit supplies hot water to the individual hot water circuits. On the return of each individual circuit is a water to water heat pump boiler that provides domestic hot water. The hot water is stored in a 200-litre buffer tank.

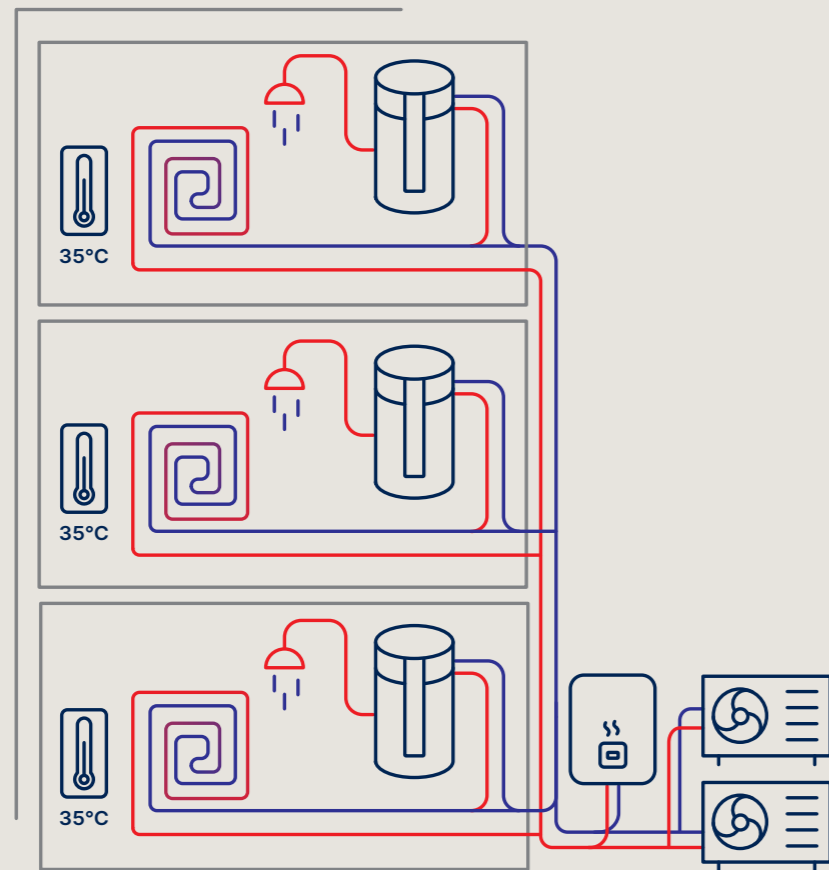


External source as a heat source

Besides air, other sources, such as a ground source heat pump or district heating, can also be connected. As with the air to water solution, the central circuit supplies heat to the individual room heating and the heat pump boiler heats the water for individual domestic hot water per apartment.

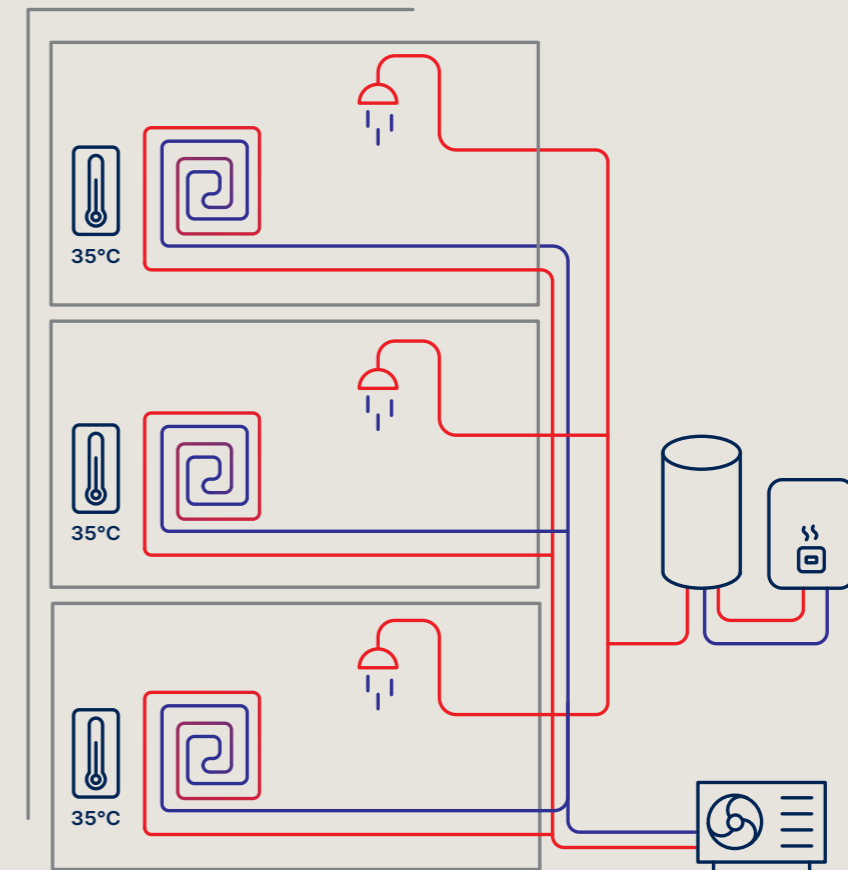
RENOVATION APARTMENT

The heat pump also offers a solution for renovation projects and existing apartment blocks. In this case, opting for a heat pump is, more than ever, both an ecologically and economically smart decision. However, a number of conditions apply in terms of heating systems and insulation. In this scenario the heat pump can support an existing collective gas boiler or completely replace it. With a complete replacement, the examples of new buildings apply.



Parallel hybrid system

In a parallel system, the heat pump is connected to the existing boiler. The smart control calculates when the heat pump or gas boiler kicks in based on efficiency and price. The gas boiler will only step in during very cold periods, resulting in direct cost savings.



Independent control

If a collective domestic hot water tank is already in place, the water for heating and sanitation can be disconnected. In this independent configuration, domestic hot water is produced by a gas boiler. The heat pump controls the room temperature for all individual circuits.

RENSON ONE

By combining HVAC and electrical engineering in a single, streamlined concept, Renson One offers a complete living comfort ecosystem for your construction project. We translate complex technical challenges into effective, practical solutions that add value for the end user. Thanks to meticulous R&D and a selection of high-quality materials and technology, your buyer gets to enjoy the best possible living comfort without a care in the world.

The combination of a heat pump, ventilation system, and building automation provide a solid foundation for each residential unit. It's easy to add extra functionalities such as screens, videophones, access control, or a parcel mailbox. That's because expanding and configuring the ecosystem is child's play, even at a later stage.



VENTILATION

Demand-driven ventilation is the key to a healthy and pleasant indoor climate, without having to worry about it as a resident. The ventilation systems constantly measure the current air quality and automatically adjust their airflow rate as required. What's more, you can check the Renson One app at any time to see the current air quality, as well as what your systems are doing.



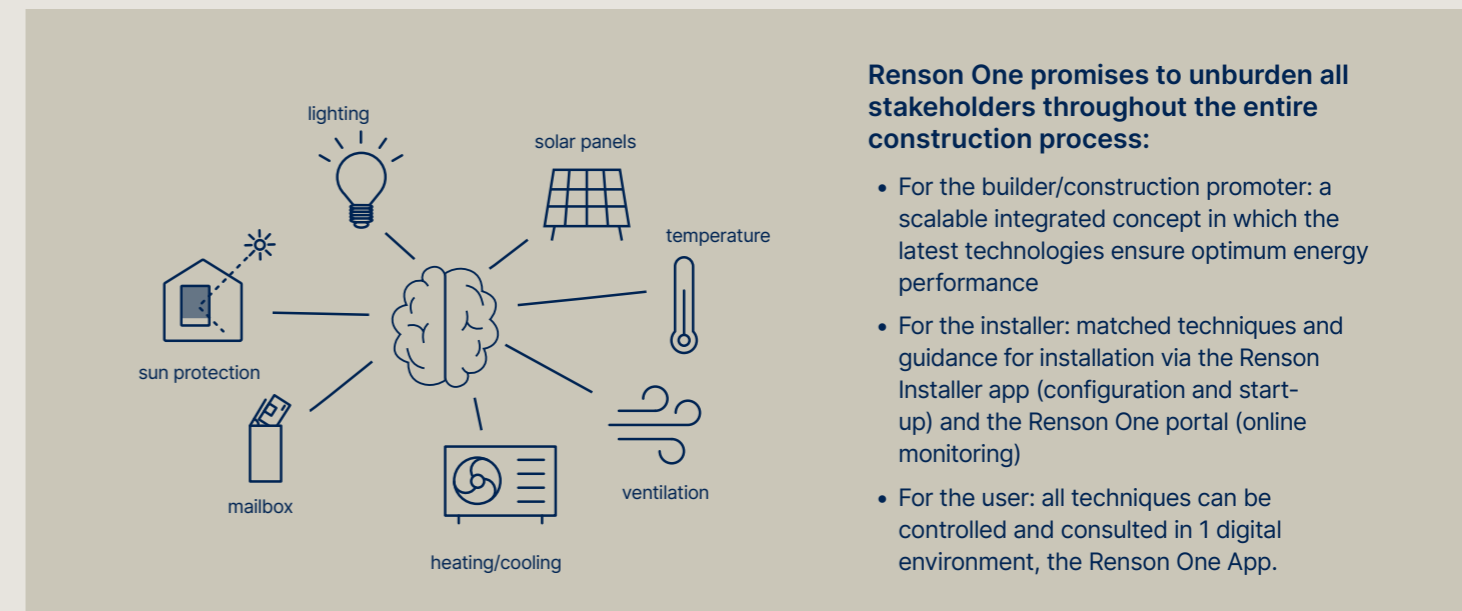
SMART LIVING

The real secret of comfortable and energy-efficient living? Making sure all your sustainable tech works together as a team. Renson's 'Smart living' building management system connects your ventilation, heat pump, and much more. The end result is automated control and a real-time overview of all technologies used to deliver healthy living comfort. All this data is conveniently combined in a single app allowing you to control almost everything in the home and analyse the real-time data.



HEATING/COOLING

Heating (and cooling) is a major energy consumer. A heat pump lets you extract energy from the air to bring your indoor spaces to the right temperature all year round. It's an environmentally friendly, efficient, and pleasant alternative to fossil fuel appliances.





* L 0 0 0 0 5 3 9 *

All photos shown are for illustration purposes only and merely serve as an example of a practical situation. The actual product may vary due to adjustments to the product. Renson® reserves the right to make technical modifications to the products shown. The latest brochures can be downloaded from renson.net.