

**Auer**

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MORE COMFORT, LESS ENERGY.



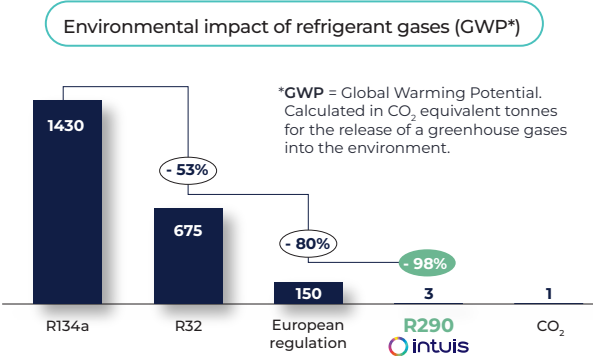
OUR HRC<sup>70</sup>  
HEAT PUMPS

# OUR HRC<sup>70</sup> HEAT PUMPS AND CONTROL UNITS

Since being launched in 2009, the HRC<sup>70</sup> range has pioneered the use of propane (R290), a gas with a drastically reduced greenhouse effect.

With proven technology, this is a reliable, robust solution for all high-temperature sites requiring power.

It is equipped with 2 high-efficiency compressors for power modulation.



Technology		
Maximum water outlet temperature (excluding back-up)		
Refrigerant		
Maximum heat pump capacity		
Type of back-up/Power		
Configuration	Heating	1 circuit
		2 circuits
	DHW	Integrated
		Remote <sup>(1)</sup>
Energy class up to		35 °C/55 °C
Seasonal performance coefficient up to		35 °C/55 °C
Seasonal energy efficiency/ETAS (η <sub>s</sub> ) up to		35 °C/55 °C
Description Application	New	Individual
		Community
	Renovation	Individual
		Community
Heaters		Underfloor/Ceiling <sup>(6)</sup>
		Radiators

## HRC<sup>70</sup> Range



PREMIUM+ control unit

PREMIUM+ 2S/170L control unit

Z1 MONOPAC control unit

Z1 CASCADE control unit

Individual unit with stepped power

70 °C

R290

Single-phase: 17 kW  
Three-phase: 17/20/25 kW

Single-phase: 17 kW  
Three-phase: 17/20/25 kW

Three-phase: 32/40 kW

Three-phase: 40/50/64/75/96 kW

Electric 6kW stepped  
single-phase/three-phase  
or boiler (not included)

Electric 6kW stepped  
single-phase/three-phase  
or boiler (not included)

Electric 6 kW stepped single-  
phase/three-phase (optional)  
and/or boiler not included

Electric 6 kW stepped single-  
phase/three-phase (optional)  
and/or boiler not included

✓

✓

✓

✓

Can be integrated

Optional

Optional

Optional<sup>(1)</sup>

-

-

-

-

✓

170 L as standard

✓

✓

A<sup>++</sup>/A<sup>++</sup> <sup>(2)</sup>

A<sup>++</sup>/A<sup>++</sup> <sup>(2)</sup>

A<sup>++</sup>/A<sup>++</sup> <sup>(3)</sup>

A<sup>++</sup>/A<sup>++</sup> <sup>(3)</sup>

4,18<sup>(4)</sup> / 3,3<sup>(4)</sup>

4,18<sup>(4)</sup> / 3,3<sup>(4)</sup>

3,85<sup>(4)</sup> / 3,09<sup>(4)</sup>

3,85<sup>(5)</sup> / 3,09<sup>(5)</sup>

165% / 125%<sup>(2)</sup>

165% / 125%<sup>(2)</sup>

153% / 127%<sup>(3)</sup>

164% / 129%<sup>(4)</sup>

✓

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(1) See catalogue (2) With HRC<sup>70</sup> 17 tri (3) With HRC<sup>70</sup> 40 V tri (4) With HRC<sup>70</sup> 20 tri (5) With HRC<sup>70</sup> 32 tri (6) With recommended accessories.



# ABOUT OUR HRC<sup>70</sup> HEAT PUMPS

High-temperature 70 °C,  
single-unit air/water  
heat pumps, adaptable  
to up to 3 power levels.



## Advantages for business customers



### Design

- The single-unit design makes installation easy.
- Single-phase and three-phase heat pumps, depending on the model.
- All components are quickly accessible.



### Performance

- High Compression Ratio for 2 or 3 power levels<sup>(1)</sup>.
- An innovative combination of 2 high-performance compressors to always match supply to demand.
- Vast power range from 17 to 40 kW and cascade installation up to 96 kW.
- High temperatures up to 70 °C thanks to R290 refrigerant, providing heating in all configurations and anti-legionella cycles without back-up for DHW production.



### Comfort & reliability

- Solid construction with anti-rust and UV-protected steel panel structure, fully stainless steel heat exchanger, anti-corrosion-treated evaporator.



### Savings

- Operates with or without back-up (gas, electricity, etc.) depending on the system configuration.

## Benefits for your customers



### Design

- Designed, developed, and manufactured in France; French expertise and factories located within France.
- Our heat pumps meet all heating and domestic hot water needs.



### Use

- HRC<sup>70</sup> heat pumps are suitable for individual and community housing, the service sector, and industrial use.
- They adapt to all emitters, can be installed to replace an old boiler, and do not require the replacement of existing high-temperature radiators.



### Performance

- Our heat pumps run on thermodynamic power down to a -20 °C outside air temperature.



### Comfort & reliability

- Heat pumps are fitted on vibration pads, and the compressor compartment is soundproofed to avoid noise pollution.
- Remotely controllable solution with the Tydom app for personalised room management.



### Environment

- The non-fluorinated R290 refrigerant drastically reduces the impact on the greenhouse effect and complies with F-GAS regulations.



### Savings

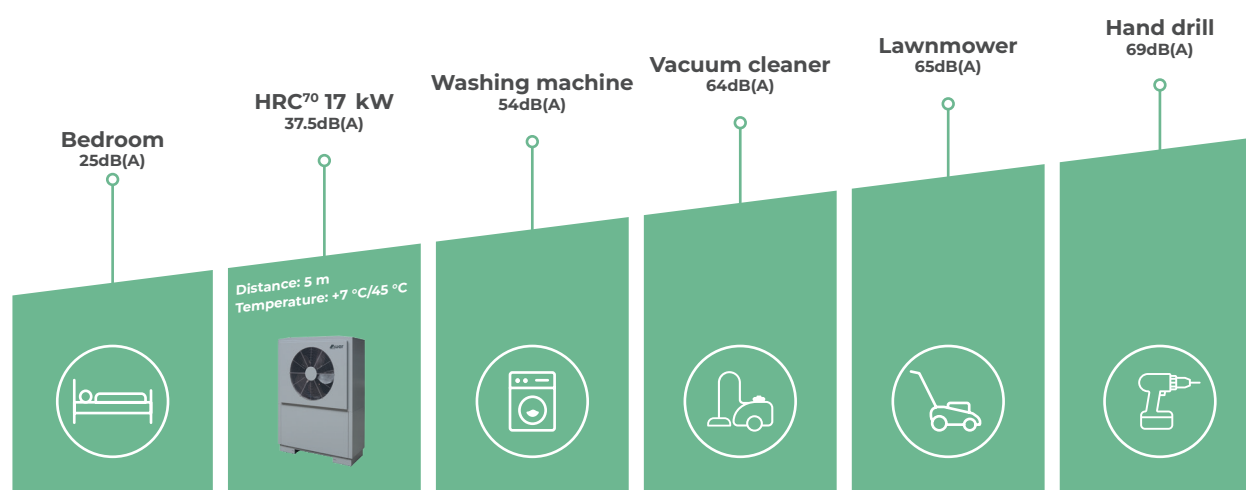
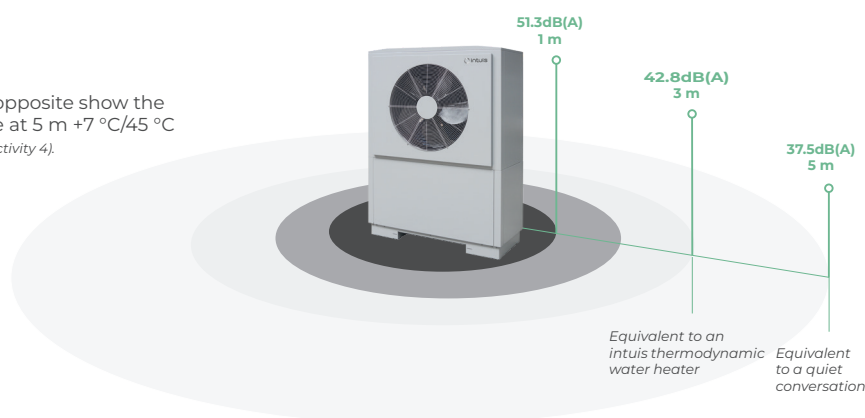
- The high COP means more energy savings.

<sup>(1)</sup> Two power levels for 20 kW models.

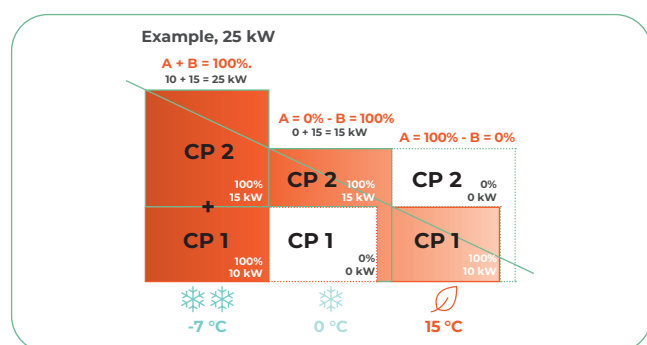


## Noise output of 17 kW for the outdoor unit

The diagrams opposite show the sound pressure at 5 m +7 °C/45 °C  
Measurements (directivity 4).



## Operation of the heat pump compressors depending on external conditions



— Heating needs  
■ Power generated by the 100% Thermodynamic heat pump

Mid-season, the HRC<sup>70</sup> adjusts its power and temperature to the optimum level.

In the middle of winter, the HRC<sup>70</sup> delivers full power at a high temperature to ensure comfort.

in extreme cold weather

at the onset of cold weather

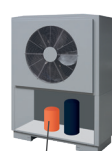
mid-season



CP 1 + CP 2 = 25 kW  
The 2 compressors operate at maximum heating power



CP 2 = 15 kW  
The large compressor takes over to increase heating power



CP 1 = 10 kW  
Only the small compressor is running








### HRC<sup>70</sup> diagram

- 1 Large-diameter, low-speed fan with aerodynamic blades and ultra low energy consumption motor
- 2 Easy-access electrical connection box; reliable and simple to use
- 3 Four adjustable shock-absorbing feet
- 4 2 scroll compressors

# UNDERSTANDING THE DIFFERENT CONTROL UNITS

## HRC<sup>70</sup> control unit and heat pump compatibility

				HRC <sup>70</sup> 17 kW / 20 kW / 25 kW	HRC <sup>70</sup> 32 kW and 40 kW	HRC <sup>70</sup> 40 kW / 50 kW / 64 kW / 75 kW / 96 kW
Control units	Features	Advantages				
Premium+	 <p><b>Standard equipment:</b> 1-circuit heating and boiler connection <b>Optional kit:</b> 1-circuit or 2-circuit heating and remote DHW.</p>	<p><b>Intended use:</b> Home renovation projects. Connection to existing boiler for back-up. Stepped 6kW back-up, compliant with norms. Optional kit for 2<sup>nd</sup> circuit.</p>	<p>17 kW single-phase Etas*: A++/A++/151%/125% 17kW three-phase Etas*: A++/A++/165%/125% 20 kW three-phase Etas*: A++/A++/164%/129% 25 kW three-phase Etas*: A++/A++/150%/119%</p>	✓	X	X
Premium+ 2s/170 L	 <p><b>Standard equipment:</b> 1-circuit heating and boiler connection Remote DHW circuit included with 170 L tank.</p>	<p><b>Intended use:</b> Home renovation projects. Connection to existing boiler for back-up. Stepped 6kW back-up, compliant with norms.</p>	<p>17 kW single-phase Etas*: A++/A++/151%/125% 17kW three-phase Etas*: A++/A++/165%/125% 20 kW three-phase Etas*: A++/A++/164%/129% 25 kW three-phase Etas*: A++/A++/150%/119%</p>	✓	X	X
Z1 Monopac	 <p><b>Standard equipment:</b> One heating or DHW circuit and <b>up to 3 additional circuits</b> at the same temperature or 1 circuit at a different temperature (depending on system configuration).</p>	<p><b>Multi-functional management:</b> heating circuits, DHW pre-heaters, and boiler back-up.</p>	<p>32 kW Etas*: A++/A+/151%/121% 40 kW Etas*: A++/A++/153%/127%</p>	✓	X	X
Z1 Cascade	 <p><b>Covers:</b> <b>Up to 4 circuits</b> at the same temperature or 2 circuits at different temperatures.</p>	<p><b>Multi-functional management:</b> heating circuits, DHW pre-heaters, and boiler back-up.</p>	<p>40 kW Etas*: A++/A++/164%/129% 50 kW and 75 kW Etas*: A++/A+/150%/119% 64 kW and 96 kW Etas*: 35/55 °C A++/A+/151%/121%</p>	✓	X	X

\* Etas calculated at 35 °C/55 °C.

# REMINDER OF THE STEPS TO FOLLOW DURING WORKS

You've studied the feasibility of the project, identified the right equipment, and created a system plan using the DimoPAC tool. Here are the next steps...



## 1 - Apply for financial assistance<sup>(1)</sup>

Accompany your customers through the process and advise them on the relevant financial assistance available for their project.



## 2 - Proceed with installation

Don't forget that the quality of the hydraulic system is paramount. De-sludging and treatment are effective solutions that protect the system and improve its performance. Other basic rules need to be followed, such as the correct positioning of filters, inclusion of a sludge trap, a tapping point, a correctly sized expansion tank, air valves at high points, etc. Bleeding the circuit is a key stage in installation, but long-term maintenance is essential.



Watch a video showing an example of a renovation project.



## 3 - Start up

You can now start up the equipment and proceed to **Setup**. This extension is guaranteed by the conformity approved by our departments and by compliance with the maintenance protocol for our products. All documents must be returned to the intuis technical department (sav-thermo@intuis.fr). As part of the maintenance and care process, the manuals and maintenance guides will help you to operate in the best possible conditions to ensure optimum user comfort.

<sup>(1)</sup> For mainland France only.



# HRC<sup>70</sup> PREMIUM+

Ideal for renovations  
with many hydraulic  
connection options.



## Advantages for business customers



### Design

- The kit includes the heat pump, control unit, hydraulic link with filters, and 2 hoses (1.50 m).
- Hybridisation with boiler possible.



### Performance

- COP up to 4.6<sup>(1)</sup>.
- Wide power range from 17 to 25 kW.
- High temperatures up to 70 °C thanks to R290 refrigerant, providing heating in all configurations and anti-legionella cycles.



### Comfort & reliability

- Solid construction with anti-corrosion and UV-protected steel panel structure, fully stainless steel heat exchanger, anti-corrosion-treated evaporator.
- Integrated stepped single- or three-phase 6kW electric back-up (2, 4, and 6kW).



### Savings

- Operates with or without back-up (gas, electricity, etc.) depending on the system configuration.

## Benefits for your customers



### Design

- Designed, developed, and manufactured in France; French expertise and factories located within France.
- The Premium+ control unit covers all heating and remote DHW requirements



### Usage

- The ideal solution for large homes, old houses, renovation projects, as well as commercial and industrial uses.
- Can be used to replace or accompany an old boiler and does not require the replacement of existing high-temperature radiators.



### Performance

- Our heat pumps run on thermodynamic power down to a -20 °C outside air temperature.



### Comfort & reliability

- Remotely controllable solution with the Tydom app for personalised room management.
- Quiet running thanks to a carefully engineered design.
- Independent circuits allow for an extended service life.



### Environment

- The non-fluorinated R290 refrigerant drastically reduces the impact on the greenhouse effect and complies with F-GAS regulations..

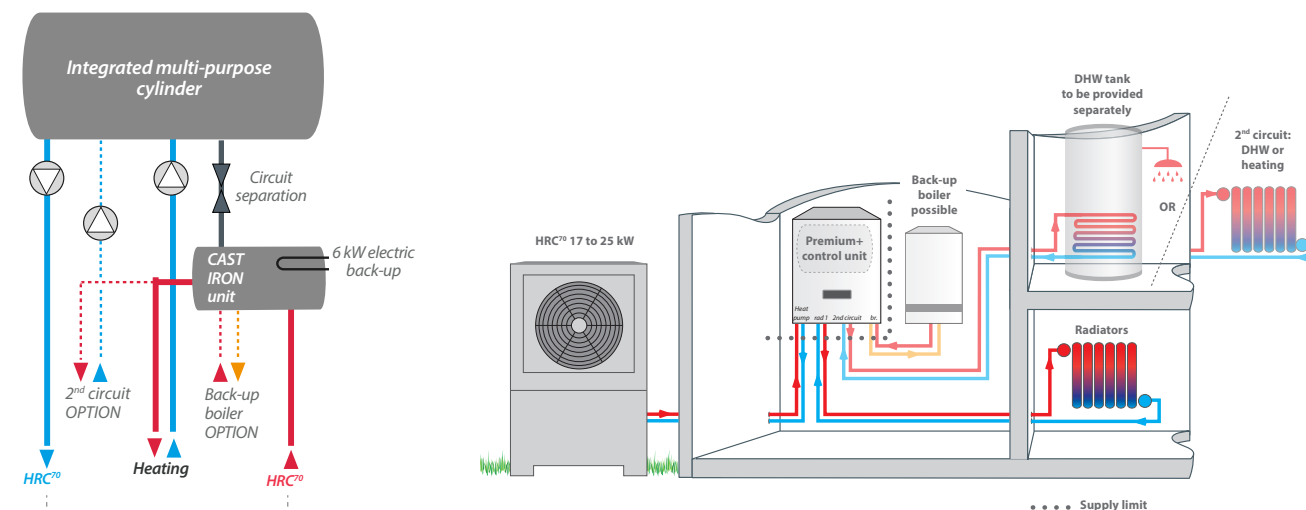


### Savings

- The high COP means more energy savings.

(1) Depending on the model

## Schematic diagram <sup>(1)</sup>: HRC<sup>70</sup> - premium+



(1) Refer to instructions for connection layout.



### Diagram of PREMIUM+ control unit

- 1 Heating circulator
- 2 38 L insulated multi-function tank
- 3 Safety valve
- 4 Pressure sensor
- 5 Cast iron hydraulic distribution unit
- 6 Air release valve
- 7 Heat pump circulator
- 8 Stepped 6 kW electric back-up

## HRC<sup>70</sup> - Domestic installations from 17 to 25 kW

Product name	Energy class & ETAS 35 °C/55 °C	Heating capacity Maximum at -7 °C/65 °C	Item
<b>HRC<sup>70</sup>/PREMIUM</b>			
HRC <sup>70</sup> 17 kW/3 single-phase Premium+*	A**/A** 151%/125%	12 kW	151431
HRC <sup>70</sup> 17 kW/3 three-phase Premium+*	A**/A** 165%/125%	12 kW	151436
HRC <sup>70</sup> 20 kW/3 three-phase Premium+*	A**/A** 164%/129%	14.5 kW	151446
HRC <sup>70</sup> 25 kW/3 three-phase Premium+*	A**/A** 150%/119%	17.5 kW	151451

\* The control unit is equipped for hydraulic connection to a boiler. The unit ensures the thermostatic control of the boiler by means of a wired connection (not included).

NB: sets come with an exterior sensor as standard. This allows an extra 1.5% on the ETAS value.

# HRC<sup>70</sup> - PREMIUM+ 2S/170 L

Dual function turnkey solution,  
remote heating and DHW for  
greater adaptability.



## Advantages for business customers



### Design

- The kit includes the heat pump, control unit, hydraulic link with filters, and 2 hoses (1.50 m).
- The integrated dual-circulator control unit is adaptable and simple to install.
- Hybrid solution with boiler.



### Performance

- Performance rating up to 4.6<sup>(1)</sup>.
- Wide power range from 17 to 25 kW.
- High temperatures up to 70 °C thanks to R290 refrigerant, providing heating in all configurations and anti-legionella cycles.



### Comfort & reliability

- Solid construction with anti-rust and UV-protected steel panel structure, fully stainless steel heat exchanger, anti-corrosion-treated evaporator.
- Integrated stepped single- or three-phase 6kW electric back-up (2, 4, and 6kW).



### Savings

- Operates with or without back-up (gas, electricity, etc.) depending on the system configuration.

## Benefits for your customers



### Design

- Designed, developed, and manufactured in France; French expertise and factories located within France.
- The Premium+ 2S/170 L control unit covers all heating and remote DHW requirements.



### Usage

- Ideal for new-build projects with low-temperature heating (underfloor or ceiling, low-temperature radiators) or high-temperature radiators for renovations.
- Can be used to replace or accompany an old boiler and does not require the replacement of existing high-temperature radiators.



### Performance

- Our heat pumps run on thermodynamic power down to a -20 °C outside air temperature.



### Comfort & reliability

- Remotely controllable solution with the Tydom app for personalised room management.
- Quiet running thanks to a carefully engineered design.
- Independent circuits allow for an extended service life.



### Environment

- The non-fluorinated R290 refrigerant drastically reduces the impact on the greenhouse effect and complies with F-GAS regulations..



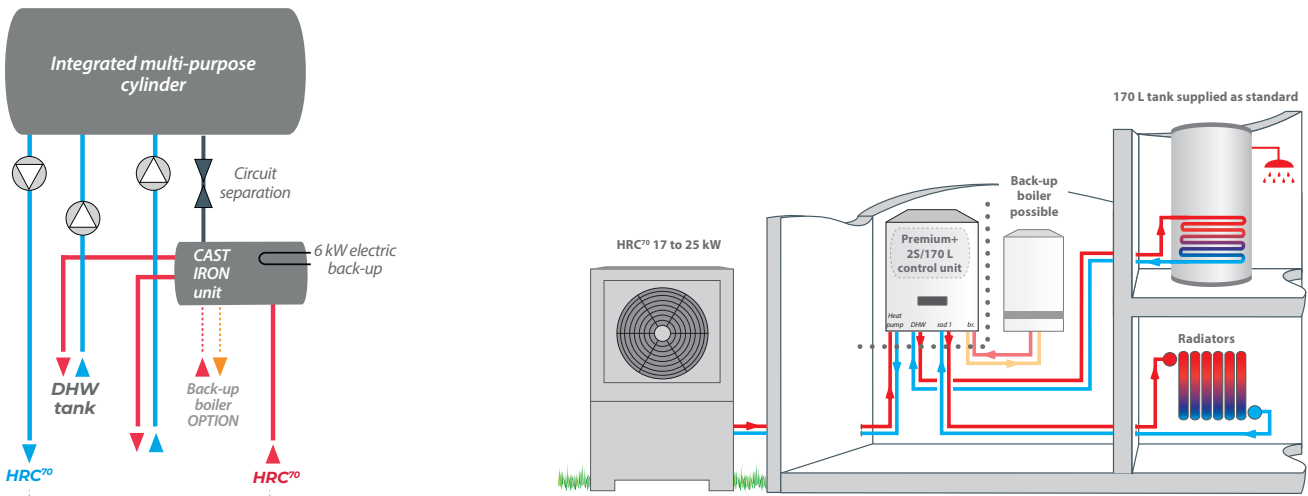
### Savings

- The high COP means more energy savings.

(1) Depending on the model



Schematic diagram <sup>(1)</sup>: HRC<sup>70</sup> - premium+ 2S/170 L



(1) Refer to instructions for connection layout.

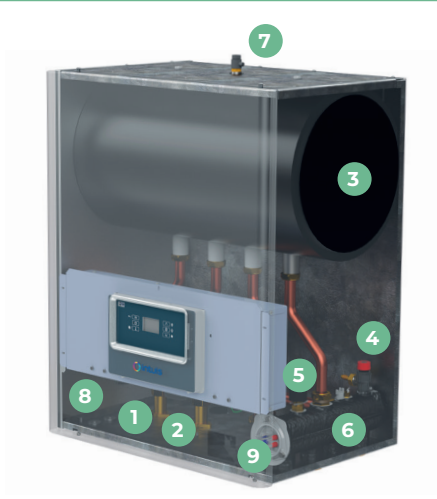


Diagram of PREMIUM+ control unit

- 1 Heating circulator
- 2 DHW circulator
- 3 38 L insulated multi-function tank
- 4 Safety valve
- 5 Pressure sensor
- 6 Cast iron hydraulic distribution unit
- 7 Air release valve
- 8 Heat pump circulator
- 9 Stepped 6 kW electric back-up

HRC<sup>70</sup> - domestic installations from 17 to 25 kW

Product name	Energy class & ETAS 35 °C/55 °C	Heating capacity Maximum at -7 °C/65 °C	Item
<b>HRC<sup>70</sup> - PREMIUM+ 2S/170 L</b>			
HRC <sup>70</sup> 17 kW /3 single-phase PREMIUM+ 2S/170 L	A <sup>++</sup> /A <sup>+</sup> 151%/125%	12 kW	151412
HRC <sup>70</sup> 17 kW /3 three-phase PREMIUM+ 2S/170 L	A <sup>++</sup> /A <sup>+</sup> 165%/125%	12 kW	151413
HRC <sup>70</sup> 20 kW/3 three-phase PREMIUM+ 2S/170 L	A <sup>++</sup> /A <sup>+</sup> 164%/129%	14.5 kW	151419
HRC <sup>70</sup> 25 kW/3 three-phase PREMIUM+ 2S/170 L	A <sup>++</sup> /A <sup>+</sup> 150%/119%	17.5 kW	151458

NB: Sets come with an exterior sensor as standard. This allows an extra 1.5% on the ETAS value.

# HRC<sup>70</sup> ZI MONOPAC

Multi-function, multi-hydraulic connection: one unit for all uses requiring intermediate power.



## Advantages for business customers



### Design

- A wide range of hydraulic connection options to manage several circuits (heating, DHW tank, and boiler back-up). Pre-wiring is integrated and electrical connection is straightforward.
- Hybridisation with boiler possible.



### Performance

- Performance rating up to 4.6<sup>(1)</sup>.
- Power range from 32 to 40kW.
- High temperatures up to 70 °C thanks to R290 refrigerant, providing heating in all configurations and anti-legionella cycles.



### Comfort & reliability

- Solid construction with anti-rust and UV-protected steel panel structure, fully stainless steel heat exchanger, anti-corrosion-treated evaporator.
- The 6kW stepped (2, 4, 6 kW) single or three-phase electric booster is available as an option.
- Hydraulic separation of the heat pump and heating circuits.
- 78 L multi-functional decoupling tank for a wide range of installation configurations.



### Savings

- Operates with or without back-up (gas, electricity, etc.) depending on the system configuration.

## Benefits for your customers



### Design

- Designed, developed, and manufactured in France; French expertise and factories located within France.
- A solution for all remote heating and hot water requirements.



### Usage

- Ideal for new-build projects with low-temperature heating (underfloor or ceiling, low-temperature radiators) or high-temperature radiators for renovations.
- Can be used to replace or accompany an old boiler and does not require the replacement of existing high-temperature radiators.



### Performance

- Our heat pumps run on thermodynamic power down to a -20 °C outside air temperature.



### Comfort & reliability

- Remotely controllable solution with the Tydom app for personalised room management.
- Quiet heat pump thanks to a carefully engineered design.
- Independent circuits allow for an extended service life.



### Environment

- The non-fluorinated R290 refrigerant drastically reduces the impact on the greenhouse effect and complies with F-GAS regulations..

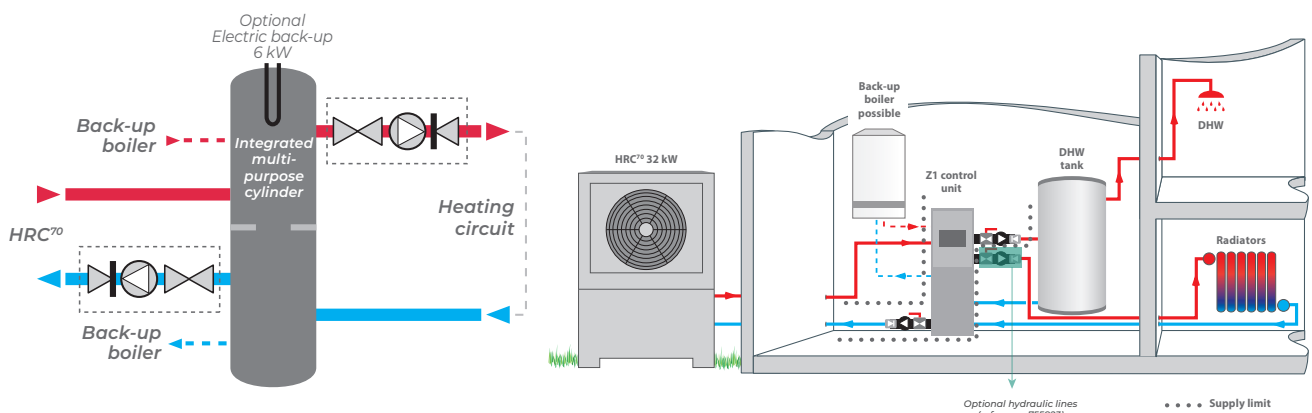


### Savings

- The high performance coefficient allows a reduction in meter subscription costs.

(1) Depending on the model

Schematic diagram <sup>(1)</sup>: HRC<sup>70</sup> Z1 control unit



(1) Refer to instructions for connection layout.

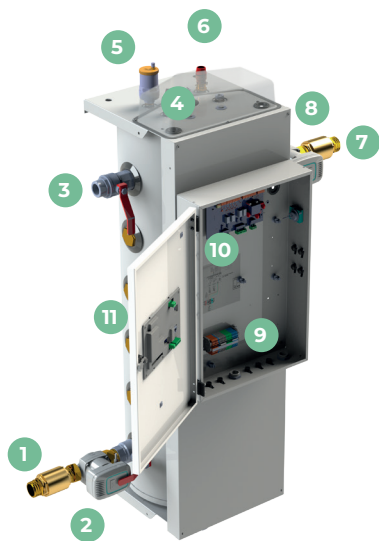


Diagram of a Z1 control unit

- 1 Check valve
- 2 Heat pump circulator
- 3 Isolation valve
- 4 Pressure sensor
- 5 Automatic air release valve
- 6 Safety valve
- 7 Check valve
- 8 Distribution circulator
- 9 Connecting terminal block
- 10 Circuit management board
- 11 78 L multi-purpose cylinder

HRC<sup>70</sup> - domestic installations from 32 to 40 kW

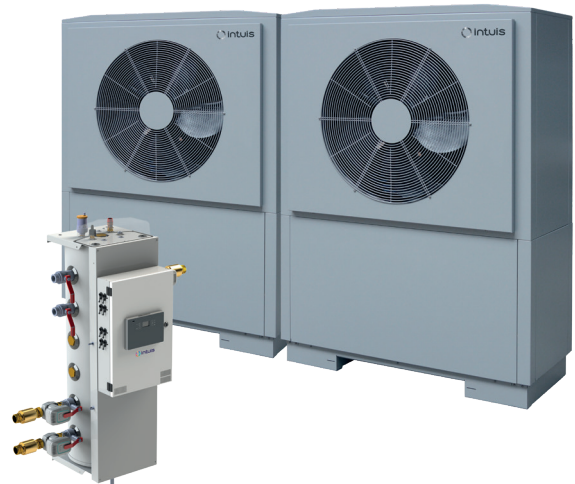
Product name	Energy class & ETAS 35 °C/55 °C	Heating capacity Maximum at -7 °C/65 °C	Item
HRC <sup>70</sup> /Z1 Control unit			
HRC <sup>70</sup> 32 kW three-phase Z1	A <sup>++</sup> /A <sup>+</sup> 151%/121%	20.5 kW	151461
HRC <sup>70</sup> 40kW three-phase Z1	A <sup>++</sup> /A <sup>++</sup> 153%/127%	27.5 kW	151471

NB: Sets come with an exterior sensor as standard. This allows an extra 1.5% on the ETAS value.



# HRC<sup>70</sup> Z1 CASCADE

Multi-function, multi-hydraulic connection: one unit for all uses requiring intermediate power.



## Advantages for business customers



### Design

- A wide range of hydraulic connection options to manage several circuits (heating, DHW tank, and boiler back-up). Pre-wiring is integrated and electrical connection is straightforward.
- Hybrid solution with boiler.



### Performance

- Performance rating up to 4.6<sup>(1)</sup>.
- Power range from 40 to 96 kW (2x20 kW, 2x25 kW, 2x32 kW, 3x25 kW, 3x32 kW).
- High temperatures up to 70 °C thanks to R290 refrigerant, providing heating in all configurations and anti-legionella cycles.



### Comfort & reliability

- Solid construction with anti-rust and UV-protected steel panel structure, fully stainless steel heat exchanger, anti-corrosion-treated evaporator.
- The 6kW stepped (2, 4, 6 kW) single or three-phase electric booster is available as an option.
- Hydraulic separation of the heat pump and heating circuits.
- 78 L multi-functional decoupling tank for a wide range of installation configurations.



### Savings

- Operates with or without back-up (gas, electricity, etc.) depending on the system configuration.

## Benefits for your customers



### Design

- Designed, developed, and manufactured in France; French expertise and factories located within France.
- A solution for all heating and domestic hot water needs.



### Usage

- Ideal for new-build projects with low-temperature heating (underfloor or ceiling, low-temperature radiators) or high-temperature radiators for renovations.
- Can be used to replace or accompany an old boiler and does not require the replacement of existing high-temperature radiators.



### Performance

- Our heat pumps run on thermodynamic power down to a -20 °C outside air temperature.



### Comfort & reliability

- Remotely controllable solution with the Tydom app for personalised room management.
- Quiet running thanks to a carefully engineered design.
- Independent circuits allow for an extended service life.



### Environment

- The non-fluorinated R290 refrigerant drastically reduces the impact on the greenhouse effect and complies with F-GAS regulations..



### Savings

- The high performance coefficient allows a reduction in meter subscription costs.

Schematic diagram CASCADE <sup>(1)</sup>: HRC<sup>70</sup> Z1 control unit

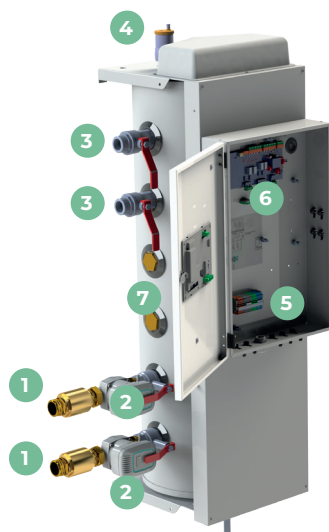
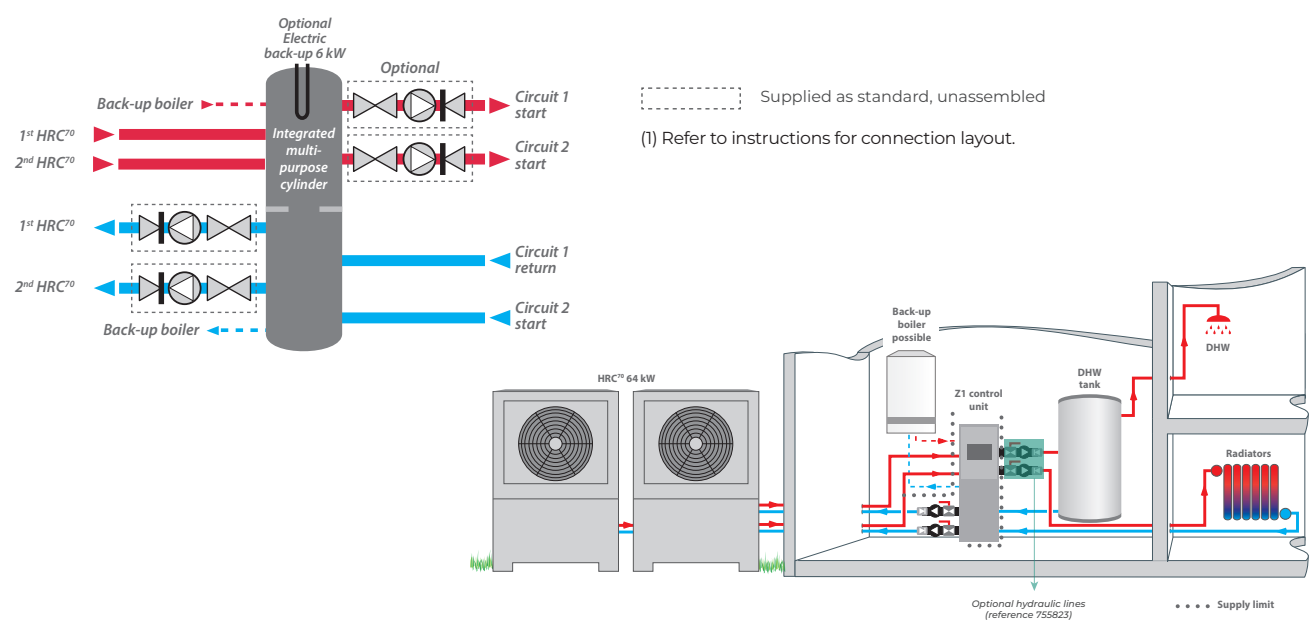


Diagram of the Z1 Cascade control unit

- 1 Check valve
- 2 Heat pump circulator
- 3 Isolation valve
- 4 Pressure sensor
- 5 Connecting terminal block
- 6 Circuit management board
- 7 78 L multi-purpose cylinder

HRC<sup>70</sup> cascade installation from 40 to 96 kW

Product name	Energy class & ETAS 35 °C/55 °C	Heating capacity Maximum at -7 °C/65 °C	Item
HRC <sup>70</sup> 40 to 96 kW - Z1 CONTROL UNIT			
HRC <sup>70</sup> 40 kW three-phase Z1 Cascade	A <sup>++</sup> /A <sup>++</sup> 164%/129%	29 kW	151448
HRC <sup>70</sup> 50 kW three-phase Z1 Cascade	A <sup>++</sup> /A <sup>+</sup> 150%/119%	35 kW	151453
HRC <sup>70</sup> 64 kW three-phase Z1 Cascade	A <sup>++</sup> /A <sup>+</sup> 151%/121%	41 kW	151462
HRC <sup>70</sup> 75 kW three-phase Z1 Cascade	A <sup>++</sup> /A <sup>+</sup> 150%/119%	52.5 kW	151456
HRC <sup>70</sup> 96 kW three-phase Z1 Cascade	A <sup>++</sup> /A <sup>+</sup> 151%/121%	61.5 kW	151463

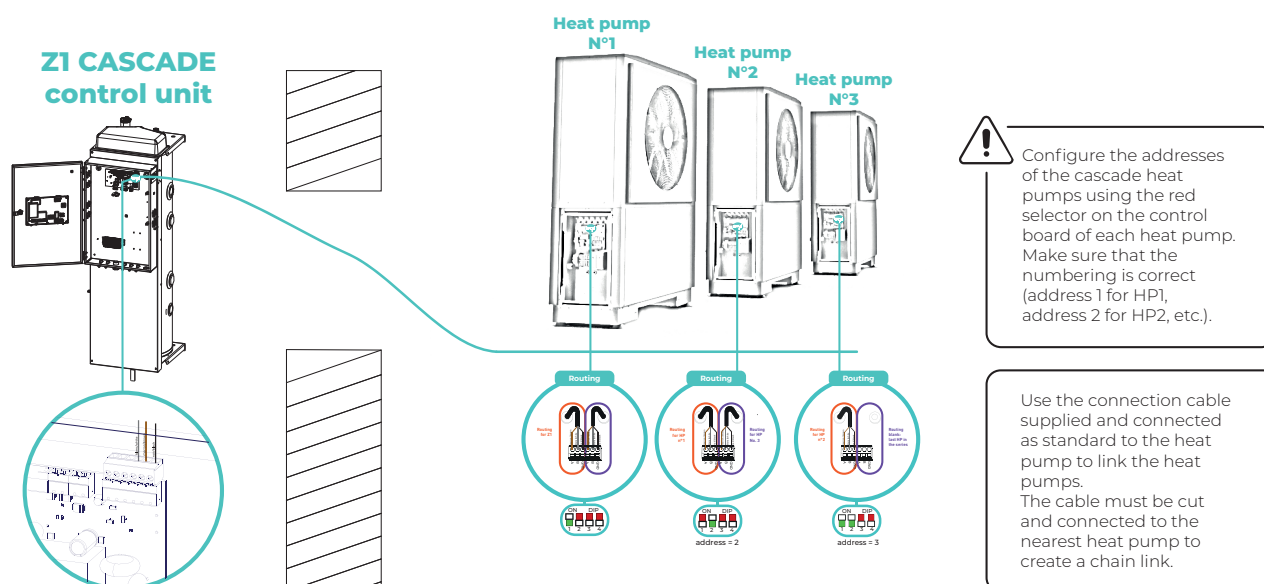
NB: sets come with an exterior sensor as standard. This allows an extra 1.5% on the ETAS value.

# BEST PRACTICES FOR A CASCADE SETUP

What are the factors to consider when installing a quality cascade system?

## 1. Configure the equipment

For the control unit to communicate with the heat pumps, it needs to be able to identify them.



## 2. Respect the rules regarding hydraulics

### Safety and compliance: Protect your system

- Install a drain-connected NF backflow shut-off (in accordance with Standard NF EN 14367) to ensure compliance with current safety standards.

**Don't forget:** For 40 kW HRC<sup>70</sup> heat pumps, you don't need connection lines as they have their own circulator.

### Maintenance and durability

To maintain the quality of the water in the heating circuit, prevent the formation of sludge and corrosion, and regulate the pressure, it is important to follow the steps below:

- Install automatic bleeders at every high point in the system and manual bleeders on every radiator.
- Check the quality of the water in the circuit and, if necessary, treat it.
- Install a large enough expansion chamber.

### Performance optimisation

- Install a settling tank at a low point on the heating circuit return.
- Bleed, flush, and de-sludge the circuit before commissioning.

### Thermal insulation and energy savings

- Insulate pipework and fittings in accordance with local regulation. This helps to reduce heat loss and improve the energy efficiency of the system.
- Consider frost protection for winter periods when the system may be off.
- Don't forget to install a corrosion inhibitor.

### Temperature control

Install thermostatic valves in the rooms where the room thermostats are located for precise temperature control.



## Good to know



### For the installation of a DHW circuit:

- Install a safety unit on the cold water inlet to the hot water tank to ensure the safety of the hot water.
- Install thermostatic mixing valves to avoid the risk of scalding.
- Connect the pressure relief valve to ensure the correct pressure level in the system.
- Fit the filter supplied to the inlet of each heat pump and clean it several times before starting up.

## 3. Follow electrical guidelines

- 1. Tighten the lugs:** To ensure a secure connection.
- 2. Check the current draw:** To make sure it is within specification.
- 3. Check the number and cross-section of power supply conductors.**
- 4. Check the calibration of the circuit breakers:** To protect the electrical circuit and appliances against overloads and short circuits.
- 5. Connect the cascaded heat pumps using the connection cable provided.**

## 4. Commissioning

- 1. Make sure the system is watertight,** all connections are tight and secured, and valves are properly opened.
- 2. Commission the pilot** by configuring the setup according to the specifications, determining the number of heat pumps and circuits required.
- 3. Bleed the circuit** to remove any unwanted air or fluid and ensure efficient operation.
- 4. Configure the control unit** taking into account the system's specific functions and requirements (desired temperature, operating times, etc.).

## 5. Servicing and maintenance

Carry out maintenance in accordance with the instructions in order to uphold your warranty.

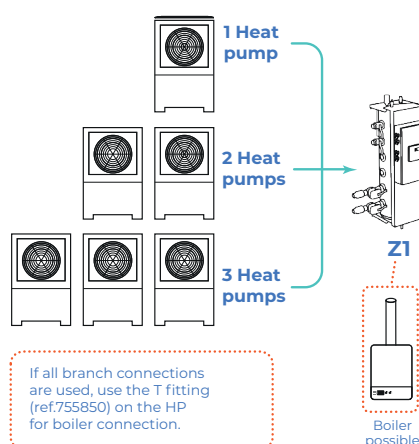
## How it works



### Possible combinations of the Z1 Cascade driver

#### HRC - Z1 Cascade

Z1 presentation



Good to know

Additional combinations possible by adding manifolds.



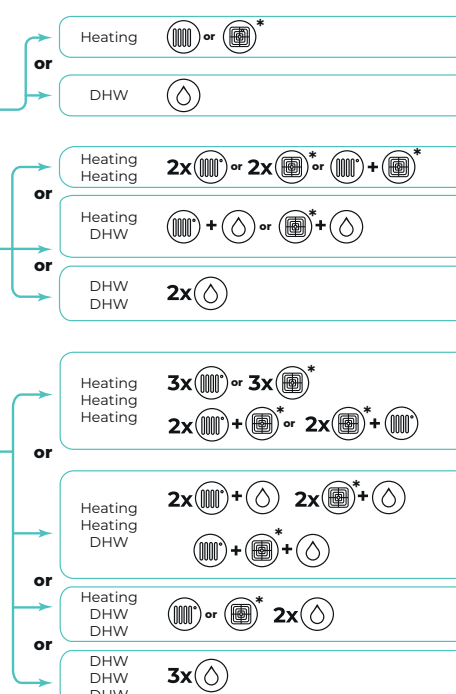
Radiator or fan coil in heating mode



Underfloor or ceiling heating



DHW



\*For specific accessories, please ask your intuis representative.

# HEAT PUMP AND CONTROL UNIT ACCESSORIES

## EXTERNAL UNIT



**Ref. 753102**  
2 core armoured cable, 20 m



**Ref. 754208**  
40 m DN30 coil hose



**Ref. 751004**  
External defrosting cable for HRC<sup>70</sup>.



**Ref. 754103**  
2 core armoured cable, 50 m

## INTERIOR UNIT



**Ref. 710014**  
KD 10 - Shut-off kit

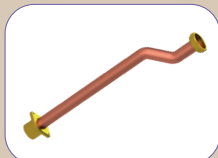


**Ref. 710111**  
65 °C manual reset underfloor heating temperature limiter

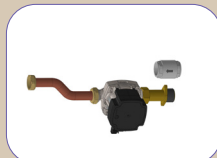


**Ref. 710018**  
1" F/F check valve

## ADDITIONAL CIRCUITS



**Ref. 754211**  
2nd Premium+ circuit kit by Thorix 1C



**Ref. 753105**  
2nd circuit identical temperature kit for Premium+



**Ref. 755823**  
Auto 25-125-130 hydraulic line



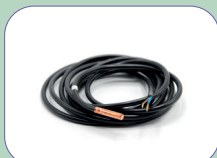
**Ref. 411002**  
Thorix evolution 1C - 1 mixed circuit + exterior sensor (integrated underfloor flow safety aquastat)

**Ref. 411003**  
Thorix EVOLUTION 1C - 1 direct circuit + mixed circuit + exterior sensor (integrated underfloor flow safety aquastat)

## CIRCUIT CONTROL



**Ref. 751009**  
Room sensor with display



**Ref. 710029**  
DHW/pool/ cascade sensor



**Ref. 710158**  
3-way valve flow sensor for Z1



**Ref. 770001**  
TH NCR/2 radio: non-chrono-proportional wireless room thermostat



**Ref. 752202**  
Sanitary Aquastat

## CONNECTIVITY



**Ref. 730078**  
Modbus kit Heat pump



**Ref. 770002**  
Thermo-Net Gateway

## HYDRAULIC CIRCUITS



**Ref. 710124**  
3/4" filter valve



**Ref. 710125**  
1" filter valve



**Ref. 710132**  
1 1/4" filter valve

## Heat pump accessories

Product name	HRC	Item
External defrosting cable for HRC <sup>70</sup> .	✓	751004
2 core armoured cable, 20 m long, heat pump/control unit (replaces 10 m cable supplied as standard)	✓	753102
2 core armoured cable, 50 m long, heat pump/control unit (replaces 10 m cable supplied as standard)	✓	754103
40 m DN30 coil hose	✓	754208
4 DN30 fittings	✓	754210

## Control unit accessories

Product name	PREMIUM+ PREMIUM+ 2S	Z1 CONTROL UNIT	Item
Room sensor with display additional 2% on ETAS	✓	Circuit 1 only	751009
TH RNC/2 radio: non-chrono-proportional wireless room thermostat* extra 2% on ETAS (see page 22)	✓	✓	770001
DHW/pool/cascade sensor	✓	✓	710029
Sanitary Aquastat	-	✓	752202
Domestic hot water tanks	✓	✓	(See price list)
65 °C manual reset underfloor heating temperature limiter with beam	✓	✓	710111
Modbus kit - Thermodynamic water heater/Heat pump	✓	✓	730078
2 <sup>nd</sup> circuit identical temperature kit for Premium+ (included in Premium+ 2S)	✓	-	753105
"1" F/F check valve(required for domestic boiler back-up only)	✓	-	710118
Thorix EVOLUTION - 1C - 1 mixed circuit + exterior sensor - 2 <sup>nd</sup> circuit at a lower temperature	✓	-	411002
Thorix EVOLUTION - 2C - 1 direct circuit + 1 mixed circuit + exterior sensor - 2 <sup>nd</sup> circuit at a lower temperature	✓	✓	411003
KD 10 - Shut-off kit	✓	-	710014
Auto 25-125-130 hydro line	-	✓	755823
3-way valve flow sensor for Z1	-	✓	710158
Electric back-up 6 kW (230/400 V)	-	✓	754105

\* Compatible with all non-chrono-proportional connectable thermostats on the market.

## Hydraulic accessories

Product name	Item
3/4" filter valve	710124
1" filter valve	710125
1 1/4" filter valve	710132

# HEAT PUMP AND CONTROL UNIT FEATURES

## Heat pump features 17 to 25 kW



Heat pump		HRC <sup>70</sup> 17/m	HRC <sup>70</sup> 17/t	HRC <sup>70</sup> 20/t	HRC <sup>70</sup> 25/t
Energy class 35 °C/55 °C		A++/A++	A++/A++	A++/A++	A++/A++
SCOP 35 °C/55 °C		3,85/3,2	4,2/3,19	4,18/3,3	3,83/3,04
Seasonal energy efficiency 35 °C/55 °C - ETAS (η <sub>s</sub> )	%	151%/125%	165%/125%	164%/129%	150%/119%
Maximum heat output at -7 °C/35 °C	kW	14	14	15,5	18,5
Maximum heat output at -7 °C/65 °C	kW	12	12	14,5	17,5
Nominal heat output at +7 °C/35 °C (EN14511)	kW	7,8	7,9	10,9	10,9
Performance coefficient at +7 °C/35 °C (EN14511)	-	4,4	4,9	4,6	4,6
Nominal sound pressure level (5 m, directionality 4)	dB(A)	37,3	37,3	39,2	38,8
Power level (ERP +7 °C/55 °C)	dB(A)	66	66	67	72
Outside air range	°C	-20 to +40	-20 to +40	-20 to +40	-20 to +40
Power supply	V	230	400	400	400
Protective circuit breaker	A	40 single-phase	16 four-pole	16 four-pole	20 four-pole
Circuit breaker curve	-	D	D	D	D
Maximum electrical power	kVA	7,5	7,5	9,5	11,5
Power regulation mode	-	2-compressor stepped constant output			
Power stages	-	3	3	2	3
Soft starter	-	yes	no	no	yes
Minimum cross-section of power cable	mm <sup>2</sup>	3G 10 mm <sup>2</sup>	5G 4 mm <sup>2</sup>	5G 4 mm <sup>2</sup>	5G 6 mm <sup>2</sup>
Dimensions (H x W x D)	mm	1713 x 1035 x 561	1713 x 1035 x 561	1713 x 1035 x 561	1713 x 1035 x 561
Empty weight	kg	219	214	226	228
Nominal flow rate	L/h	2000	2000	2450	3000
Refrigerant	kg	R290/0,9	R290/0,9	R290/0,9	R290/0,9
Hydraulic connection	mm	26/34 male	26/34 male	26/34 male	26/34 male

## 32 and 40 kW heat pump features



Heat pump		HRC <sup>70</sup> 32/t	HRC <sup>70</sup> 40 V/t
Energy class 35 °C/55 °C		A++/A+	A++/A++
SCOP 35 °C/55 °C		3,85/3,09	3,9/3,25
Seasonal energy efficiency 35 °C/55 °C - ETAS (η <sub>s</sub> )	%	151%/121%	153%/127%
Maximum heat output at -7 °C/35 °C	kW	23	30
Maximum heat output at -7 °C/65 °C	kW	21	27,5
Nominal heat output at +7 °C/35 °C (EN14511)	kW	13,54	20,25
Performance coefficient at +7 °C/35 °C (EN14511)	-	4,57	4,64
Nominal sound pressure level (5 m, directionality 4)	dB(A)	41,8	38,4
Power level (ERP +7 °C/55 °C)	dB(A)	70	60,5
Outside air range	°C	-20 to +40	-20 to +40
Power supply	V	400	400
Protective circuit breaker	A	32 four-pole	32 four-pole
Circuit breaker curve	-	D	D
Maximum electrical power	kVA	14,5	17,5*
Power regulation mode	-	Two-compressor stepped constant output	
Power stages	-	3	2
Soft starter	-	yes	yes
Minimum cross-section of power cable	mm <sup>2</sup>	5G 6 mm <sup>2</sup>	5G 6 mm <sup>2</sup>
Dimensions (H x W x D)	mm	1713 x 1235 x 561	1580 x 1200 x 1630
Empty weight	kg	270	425
Nominal flow rate	L/h	3750	4700
Refrigerant	kg	R290/1,4	R290/3,2
Hydraulic connection	mm	33/42 male	40/49 male

\*Without ducted heat pump.

## Cascade heat pump features



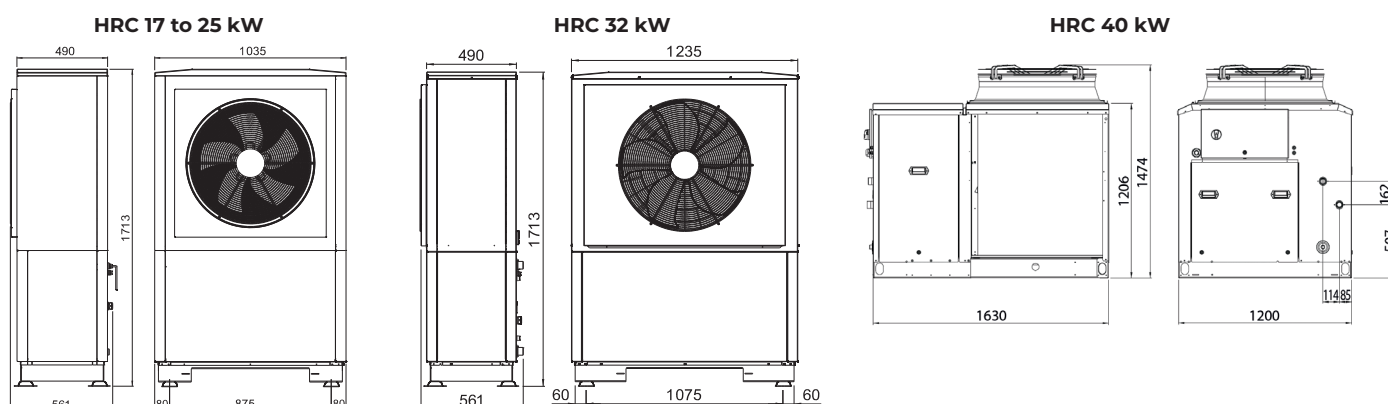
Heat pump		HRC <sup>70</sup> 40 kW (2x20)	HRC <sup>70</sup> 50 kW (2x25)	HRC <sup>70</sup> 64 kW (2x32)	HRC <sup>70</sup> 75 kW (3x25)	HRC <sup>70</sup> 96 kW (3x32)
Energy class 35 °C/55 °C		A++/A++	A++/A+	A++/A+	A++/A+	A++/A+
SCOP 35 °C/55 °C		4,18/3,3	3,83/3,04	3,85/3,09	3,83/3,04	3,85/3,09
Seasonal energy efficiency 35 °C/55 °C - ETAS (ηs)	%	164% / 129%	150% / 119%	151% / 121%	150% / 119%	151% / 121%
Maximum heat output at -7 °C/35 °C	kW	31	37	46	55,5	69
Maximum heat output at -7 °C/65 °C	kW	29	35	42	52,5	63
Nominal heat output at +7 °C/35 °C (EN14511)	kW	10,9	10,9	13,54	10,9	13,54
Performance coefficient at +7 °C/35 °C (EN14511)		4,6	4,6	4,57	4,6	4,57
Nominal sound pressure level (5 m, directionality 4)	dB(A)	42,2	41,8	44,8	43,3	46,3
Power level (ERP +7 °C/55 °C)	dB(A)	70	75	73	76,5	74,5
Outside air range	°C	-20 to +40	-20 to +40	-20 to +40	-20 to +40	-20 to +40
Power supply	V	400	400	400	400	400
Protective circuit breaker	A	16 three-phase / D	20 three-phase / D	32 three-phase / D	20 three-phase / D	32 three-phase / D
Maximum electrical power	kVA	19	23	29	34,5	35
Power regulation mode		2-compressor stepped constant output				
Power stages		4	6	6	9	9
Soft starter		No	Yes	Yes	Yes	Yes
Minimum cross-section of power cable	mm <sup>2</sup>	5G 4 mm <sup>2</sup>	5G 6 mm <sup>2</sup>	5G 6 mm <sup>2</sup>	5G 6 mm <sup>2</sup>	5G 6 mm <sup>2</sup>
Dimensions (H x W x D)	mm	1713 x 1035 x 561	1713 x 1035 x 561	1713 x 1235 x 561	1713 x 1035 x 561	1713 x 1235 x 561
Empty weight	kg	226	228	270	228	270
Nominal flow rate	l/h	2450	3000	3750	3000	3750
Refrigerant	kg	R290 / 0,9	R290 / 0,9	R290 / 1,4	R290 / 0,9	R290 / 1,4
Hydraulic connection	mm	26/34 male	26/34 male	33/42 male	26/34 male	33/42 male

## Control unit features



Control unit		PREMIUM+ and PREMIUM+ 2S/170 L	Z1
Minimum cross-section of power cable	mm <sup>2</sup>	5G 2.5 (three-phase)/3G 6 (single-phase)	3G 2.5 (single-phase)
Power protection circuit breaker	A	16 (four-pole)/32 (single-phase)	10 (single-phase)
Circuit breaker curve	-	C	C
Power supply	V	400 V (three-phase) as standard, adaptable 230 (single-phase)	230 (single-phase)
Multi-purpose cylinder	L	38 (integrated in the control unit)	78
Unit dimensions (H x W x D)/Unit empty weight	mm/kg	789 x 590 x 420 / 47	1512 x 410 x 536 / 49
Hydraulic connections	mm	26/34 male	40/49 male
Boiler connection	-	✓	✓
Electric back-up (standard)	kW	0/2/4/6 kW (single-phase or three-phase)	0/2/4/6 kW (single-phase or three-phase)
Circuit separation	-	✓	✓

## Heat pump dimensions





# SMART PRODUCTS/THERMOSTATS DETACHED HOUSE

## Radio-controlled room temperature

### TH RNC: Non-chrono-proportional thermostat:

- Regulates the temperature of a heated area, remotely in the room.
- Radio communication with a receiver, wireless installation.
- Programmable hourly and weekly temperature settings.

### Thermo-Net Gateway:

- Communication gateway for remote temperature control via a Wi-Fi router.
- Manage your smart home equipment with your smartphone, tablet, or by voice control.
- X3D and ZigBee 3.0 communication protocol for multiple compatibility.
- Download the free Tydom app.
- Also allows you to manage other applications in the home (lights, locks, smart plugs, etc.).

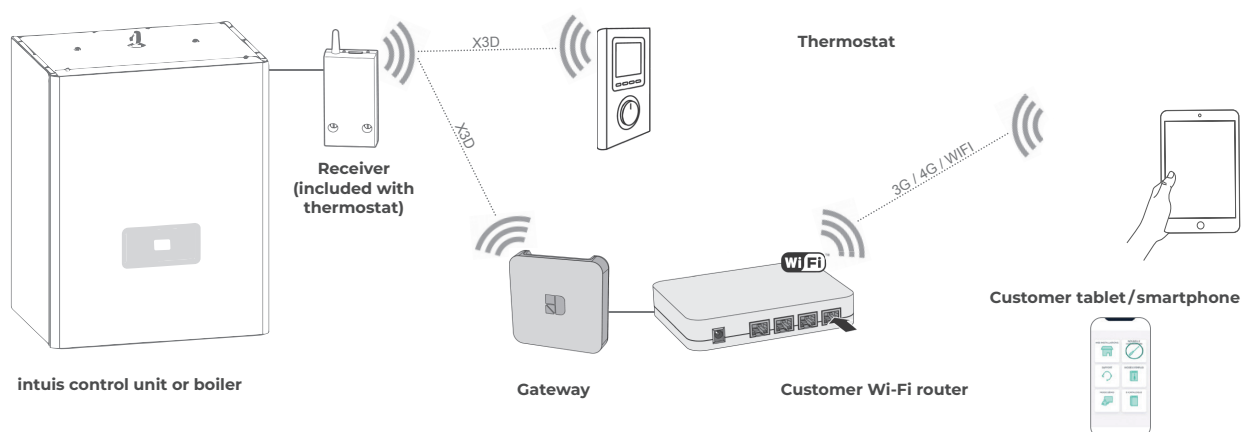


**Ref. 770001**  
Thermostat (comes with receiver)



**Ref. 770002**  
Gateway

## Schematic diagram



## Thermostat accessories

Product name	Ref.
TH RNC/2 radio - Wireless non-chrono-proportional room thermostat & receiver (1 per circuit)	770001
Thermo-Net - Communication gateway (only compatible with item number 770001)	770002

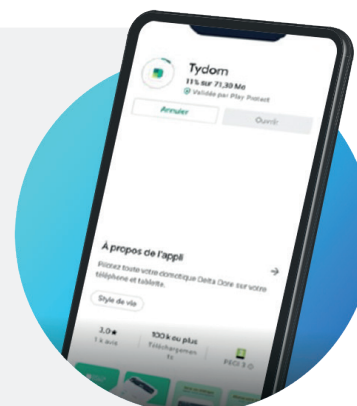
## download the Tydom app for free

Available on Google Play  
and the App Store



## System setup:

- Professional installation
- End-user activation



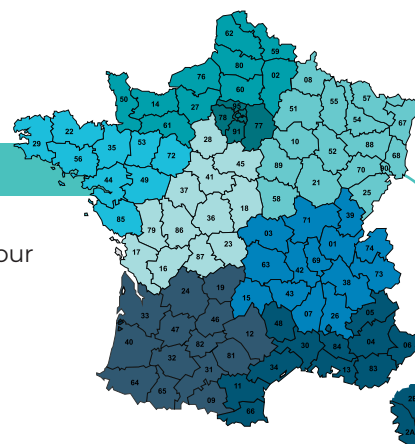
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