



SPECIFICATION BROCHURE

# Nuos Plus Wifi

Heat Pump Water Heaters

# NUOS PLUS WI-FI



The NUOS PLUS WI-FI 200D and 250I are floor standing heat pump water heaters.

## CONSTRUCTION DETAILS

The upper block contains the heat pump assembly and the lower part contains the storage tank. On the right side of the product there are the water inlet and outlet connections, and the secondary source coil (250I version). In the front there is the control panel with smart touch buttons for an extremely simple user experience.

## STORAGE TANK

The storage tank, of different capacities according to the models, is internally coated and protected with enamel and externally insulated by a polyurethane layer with low thermal conductivity and great thickness, then covered by galvanized and prepainted steel sheet.

## COIL

The coil of the heat pump is wound on the outside of the tank, avoiding direct contact with domestic water while ensuring maximum heat exchange. A flange connected transversely to the body allows the statite resistance to be inserted without emptying the product and on the same flange is mounted the pro-tech anti-corrosion anode and the NTC probe for measuring safety temperatures.

## THERMODYNAMIC GROUP

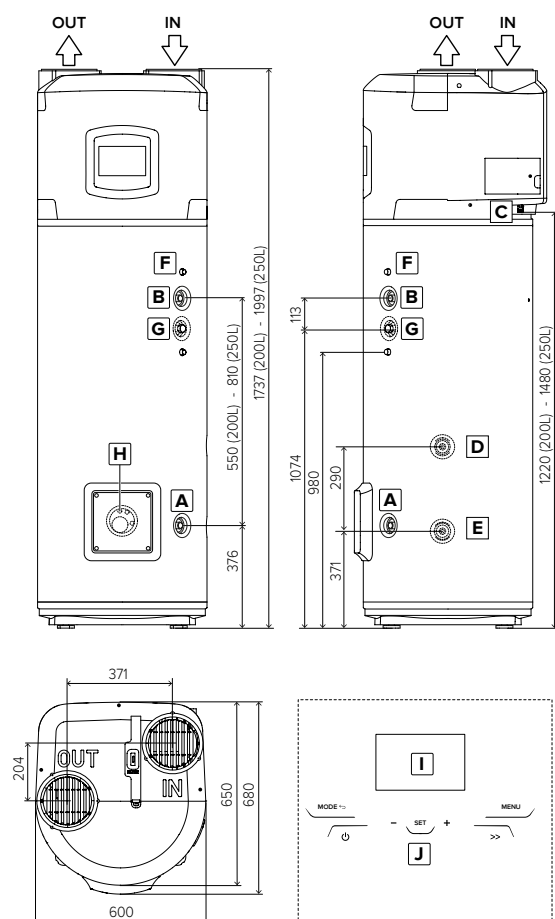
The remaining components of the heat pump circuit are housed above the storage tank, according to a carefully designed arrangement, as well as for optimal functionality, also for the purpose of containing vibration and noise emissions. A special housing made of plastic material, easily accessible and suitably insulated, houses the main elements such as: the rotary hermetic compressor, the expansion valve, the evaporator, the diverter valve (Hot-gas) allowing the defrosting of the heat exchanger and the fan.

## REMOTE MANAGEMENT

The water heater is equipped with Ariston Bus BridgeNet connection, so it can be managed through a remote control Sensys HD and be connected to other products equipped with such a connection mode such as: boilers, heat pumps and solar systems.

The water heater can be managed remotely through:

- / the use of the Aqua Ariston Net application, (thanks to its integrated gateway);
- / the use of Ariston Net application, (only in the presence of a heat generator for heating, compatible with Sensys HD Net).



A Inlet cold water  $\frac{3}{4}$ " pipe

B Outlet hot water  $\frac{3}{4}$ " pipe

C Condensate drainage connection

D Auxiliary circuit  $\frac{3}{4}$ " inlet pipe (250I)

E Auxiliary circuit  $\frac{3}{4}$ " outlet pipe (250I)

F Sheath for upper probe (S3) (250I)

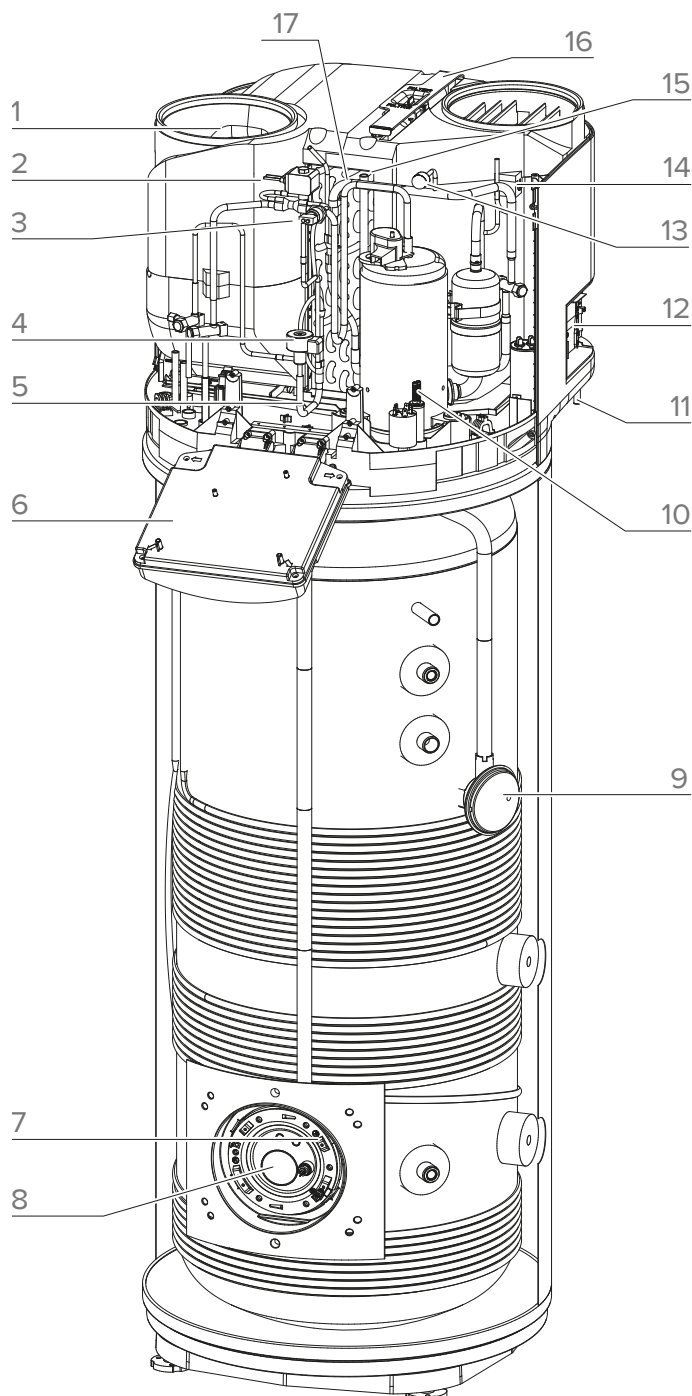
G Recirculation  $\frac{3}{4}$ " pipe (250I)

H Sheath for bottom probe (S2) (250I)

I Display

J Touch buttons

## Main components



- 1 Fan

- 2 Hot-gas valve

- ### 3 Safety pressure switch

- #### 4 Electronic expansion valve

- 5 Evaporator inlet NTC temperature probe

- ## 6 Electronic box

- 7 Bottom NTC temperature probe (heating element)

- 8 Electric heating element

- 9 Top NTC temperature probe (hot water)

- 10 Hermetic rotary compressor

- 11 Condensate drain pipe

- ## 12 Lateral connections

- 13 Low pressure outlet

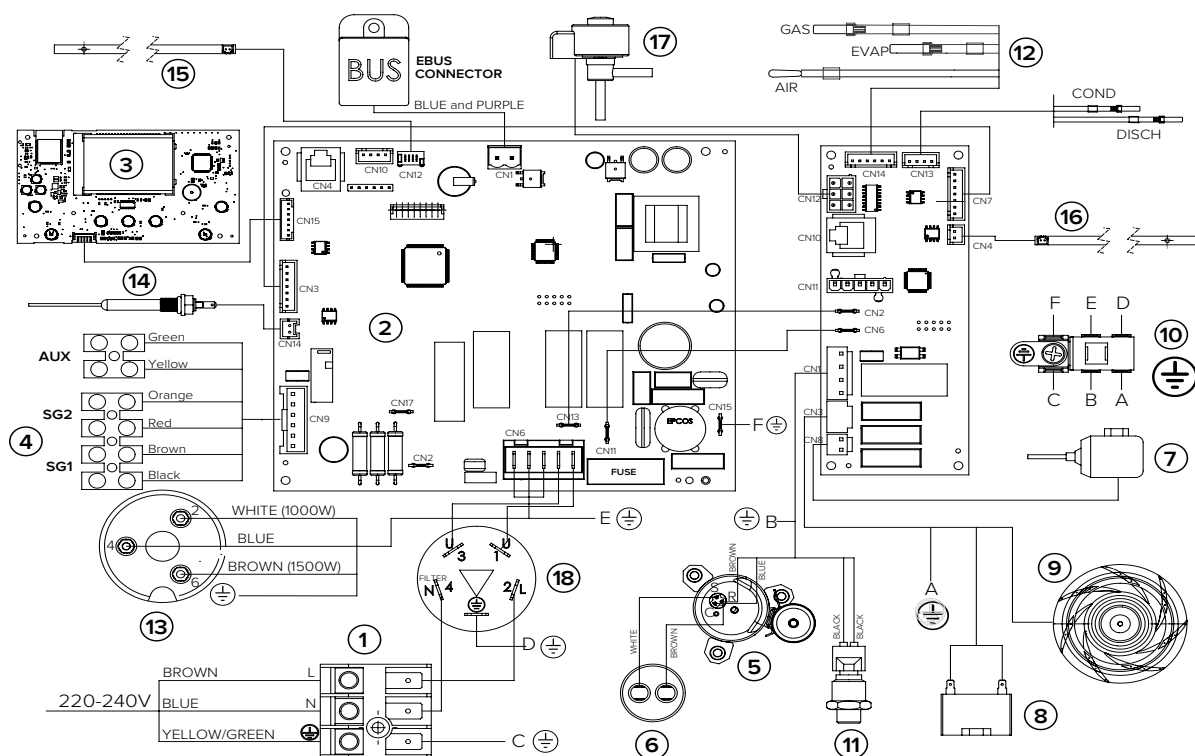
- 14 Air NTC temperature probe

- 15 Compressor suction NTC temperature probe

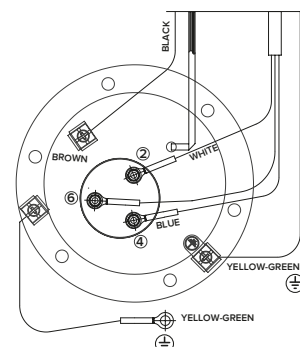
- 16 Evaporator filter

- 17 Evaporator

# Electrical wiring



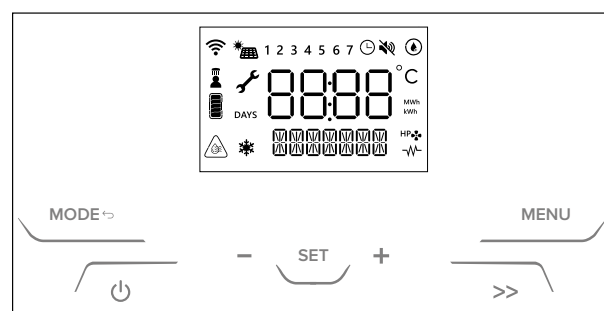
1	Power supply (220-230V 50Hz)	10	Ground pole
2	Mainboard (motherboard)	11	Pressure transducer
3	Interface board (display or HMI)	12	Air/Evaporator/Suction NTC temperature probes
4	Connection board	13	Electric heating element
5	Hermetic rotary compressor	14	Bottom NTC temperature probe (heating element zone)
6	Operation condenser (15µF 450V)	15	Top NTC temperature probe (hot water)
7	Hot gas valve	16	Electronic expansion valve
8	Condenser fan	17	Filter
9	Fan	18	Filtro antidisturbo



## CONTROL PANEL

The user interface has LCD display and 7 touch buttons. There are 2 blue leds: ON (when the product is power supplied) and BOOST (when BOOST has been activated).

	Changeable parameter
	Wi-Fi enabled (only if present)
	Schedule programming enabled
1...7	Day of the week (1 = Sunday)
	Heat pump active
	Heating element integration enabled
	ANTIBACTERIAL function is enabled
	PV or SG enabled (only if present) When the corresponding mode is active, the secondary string indicates it
	SILENT function is enabled
	ANTIFREEZE function is enabled
	Top temperature sensor > T SETPOINT + 6°C
	Hot water shower available
	Estimated Energy Content (based on the set temperature)



# Technical data

NUOS PLUS WI-FI		200D	250I
Rated tank capacity	I	200	245
Insulation thickness	mm		≈50
Type of internal tank protection			Enamelling
Type of corrosion protection			Disposable magnesium anode
Maximum operating pressure	MPa		0,6
Diameter of hydraulic connections	II		G 3/4" M
Diameter of condensate drainage connection	mm		14
Diameter of air exhaust/intake pipes	mm		150 - 160 - 200
Minimum water hardness	°F		12
Minimum conductivity of the water	µS/cm		150
Weight when empty	kg	90	123
Weight when filled with water	kg	290	365
HEAT PUMP			
Average electrical power consumption	W		700
Max. electrical power consumption	W		900
Quantity of refrigerant fluid (R134a)	kg		1,3
Quantity of fluorinated greenhouses gases (R134a)	Tonn. CO2 eq.		1,859
Global warning potential (R134a)	GWP		1430
Max. pressure of refrigerating circuit (low-pressure side)	MPa		1
Max. pressure of refrigerating circuit (high-pressure side)	MPa		2,7
Max. water temperature with heat pump	°C		62
EN 16147 <sup>(A)</sup>			
COP <sup>(A)</sup>		3,10	3,14
Heating time <sup>(A)</sup>	h:min	03:59	5:24
Heating energy consumption <sup>(A)</sup>	kWh	2,478	3,264
Max. amount of hot water in a single intake Vmax <sup>(A)</sup> , delivered at 55°C	I	256	333
Standing losses <sup>(A)</sup>	W	21	23
Tapping <sup>(A)</sup>	L	L	XL
Energy class		A+	A+
812/2013 – 814/2013 <sup>(B)</sup>			
Q elec <sup>(B)</sup>	kWh	3,72	6,04
ηwh <sup>(B)</sup>	%	130,0	129,0
Mixed water at 40°C (V40) <sup>(B)</sup>	I	256	333
Temperature setting <sup>(B)</sup>	°C	55	55
Annual electricity consuption (average climatic condition) <sup>(B)</sup>	kWh/anno	790	1299
Load profile <sup>(B)</sup>		L	XL
Indoor sound power level <sup>(C)</sup>	dB(A)	55	55
HEATING ELEMENT			
Heating element power	W	Check product specification label	
Max. water temperature with heating element	°C	75 (factory set 65°C)	
Max. current consumption	A	11,48	
POWER SUPPLY			
Voltage / max. power consumption	V/W	Check product specification label	
Frequency	Hz	50	
Protection rating		IPX4	
AIR SIDE			
Standard air flow rate (automatic modulating control)	m³/h	650	
Available static pressure	Pa	110	
Minimum volume of room of installation <sup>(D)</sup>	m³	30	
Minimum ceiling height of room of installation <sup>(D)</sup>	m	1,940	2,200
Min. temperature of room of installation	°C	1	
Max. temperature of room of installation	°C	42	
Minimum air temperature (w.b. a 90% u.r.) <sup>(E)</sup>	°C	-10	
Maximum air temperature (w.b. a 90% u.r.) <sup>(E)</sup>	°C	42	
CYLINDER INDIRECT COIL (EN 12897:2016+A1:2020)			
Connections		-	3/4" G
Surface area	m²	-	0,65
Volume coil	m³	-	0,0047
Maximum supply pressure	bar	-	6
Primary flow rate	l/min	-	15
Pressure drop through coil @15l/min	mbar	-	18
Primary heating power input	kW	-	9,76
Heating time from 15°C to 60°C	min	-	58:40
Max water temperature with external integration	°C	-	65

(A) Values obtained with outdoor air temperature of 7°C and relative humidity of 87%, inlet water temperature of 10°C and temperature set at 55°C (as per the provisions in EN 16147).

Ducted product Ø200 mm.

(B) Values obtained with outdoor air temperature of 7°C and relative humidity of 87%, inlet water temperature of 10°C and temperature set at 55°C (as per the provisions of 2014/C 207/03 - transitional methods of measurement and calculation). Ducted product Ø200 mm.

(C) Values obtained from the average of the results as per the provisions in EN 12102-2. Ducted product Ø200 mm.

(D) Value that guarantees the correct operation and easy maintenance with non-ducted products. The correct operation of the product is nevertheless guaranteed up to a minimum height of 2.090 m.

(E) Beyond the heat pump temperature range of operation, heating of the water is ensured by integration (as per provisions of EN 16147).

## Thermodynamic performances

Conditions: inlet water temperature 10°C, set water temperature 55°C.

### NUOS PLUS WI-FI 200D

GREEN mode

Tair [°C]	Heating-up energy consumption [kWh]	COPt	Heating-up time [h:mm]
-10	5,063	1,85	08:44
2	3,443	2,4	05:40
7	2,478	3,10	03:59
14	2,389	3,27	03:40
20	2,610	3,11	03:50
42	2,270	3,35	03:15

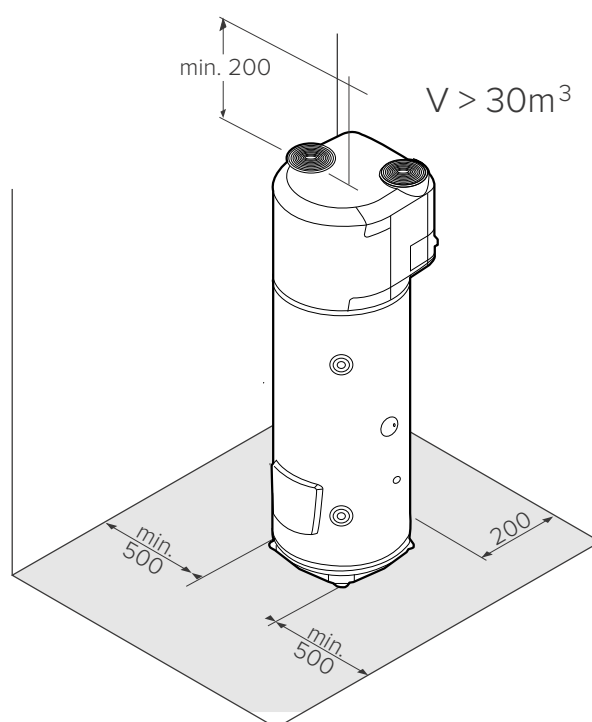
### NUOS PLUS WI-FI 250I

Modalità GREEN

Tair [°C]	Heating-up energy consumption [kWh]	COPt	Heating-up time [h:mm]
-10	6,698	2,03	09:34
2	4,710	2,46	07:39
7	3,512	3,14	05:42
14	3,144	3,52	04:53
20	3,189	3,51	04:36
42	2,703	3,64	03:50

## Installation

- **The appliance can be installed with or without exhaust duct**, as long as the room installation has a volume of no less than 30 m<sup>3</sup> and is adequately ventilated. Avoid installing the appliance in rooms which may favour frost build-up.
- Do not install the product in a room containing an appliance that requires air to function (e.g. an open chamber gas boiler, open-chamber gas water heater, etc.) unless otherwise indicated by local law. The product's safety and performance levels are not guaranteed in the event of outdoor installation.
- The appliance's air exhaust and/or extraction duct (if present) must have access to the outside from the point where the appliance is installed. The connections for the air exhaust and aspiration ducts are located on the upper part of the appliance;
- Ensure that the installation site and the electrical and hydraulic systems to which the appliance must be connected fully comply with the regulations in force;
- The chosen site must have, or must be suitable to house, a single-phase 220-240 V ~ 50 Hz power supply socket;
- The chosen site must be suitable to house a condensate drainage outlet connected to the lateral of the appliance with a suitable siphon;
- The chosen site must ensure that the appropriate safety distances observed;
- Ensure that installation of the ducts allows maintenance operations on the evaporator filter;
- Ensure that the plan allows a perfectly vertical operating position;
- The chosen site must conform to the appliance's IP protection rating (protection against the penetration of liquids) as specified by the regulations in force;
- The appliance must not be exposed to direct sunlight, even when windows are present;
- The appliance must not be exposed to particularly aggressive substances such as acidic vapours, dust or gas filled environments;
- The appliance must not be directly installed on telephone lines that are unprotected against over voltage;
- The appliance must be installed as close as possible to the points of use to limit heat dispersion along the piping;
- The air aspirated by the product must be free of dust, acidic vapours and solvents. Leave adequate space around the appliance in order to ensure easy access and to facilitate maintenance operations. Leave a minimum distance of 500 mm on both sides of the appliance and the minimum height from the ceiling should be approximately 200 mm for operation without air ducts and 230 mm for the operation with air ducts.



# Installation

## Clearences

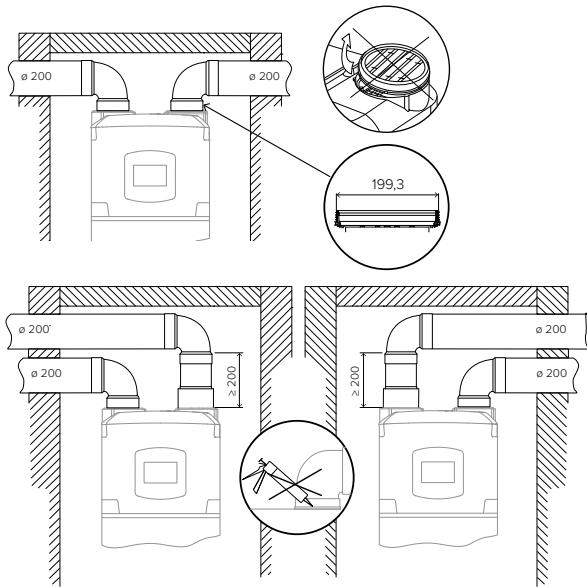
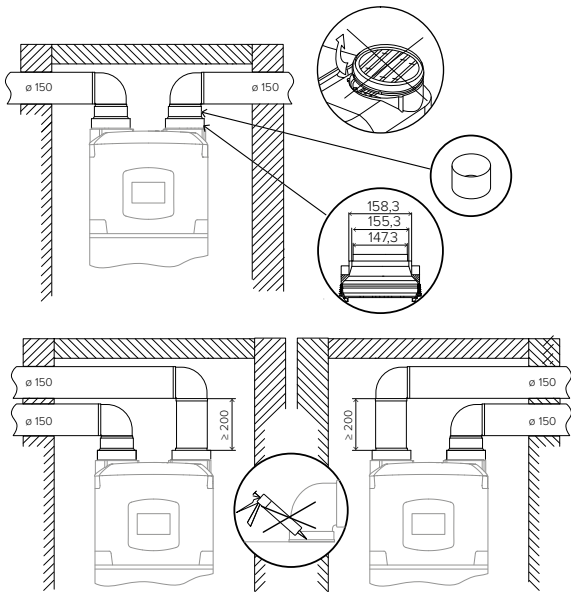
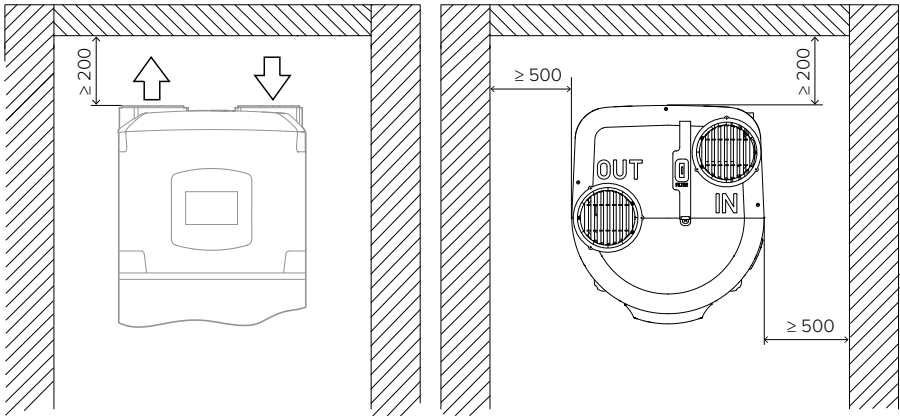







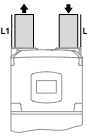
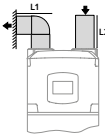
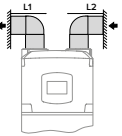
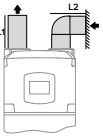
Table with minimum ceiling heights for ducted installation

MODEL	200 D	250 I
Ø 150 mm	≥ 2050 mm	≥ 2310 mm
Ø 160 mm (PEHD)	≥ 2140 mm	≥ 2400 mm
Ø 200 mm	≥ 2060 mm	≥ 2320 mm



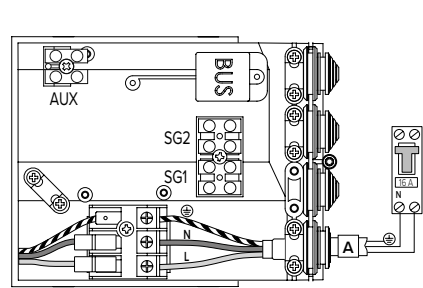
## Dimensioning and maximum length of air pipes

ACCESSORIES								
		Ø150		Ø160		Ø200		Pa MAX: 230
		Pa	m <sub>equivalent</sub>	Pa	m <sub>equivalent</sub>	Pa	m <sub>equivalent</sub>	
1m PVC		9	1,0	-	-	3	1,0	
1m PEHD		-	-	7	1,0	-	-	
Grid		18	2,0	17	2,1	10	3,3	
90° PVC		27	3,0	-	-	9	3,0	
90° PEHD		-	-	26	2,1	-	-	

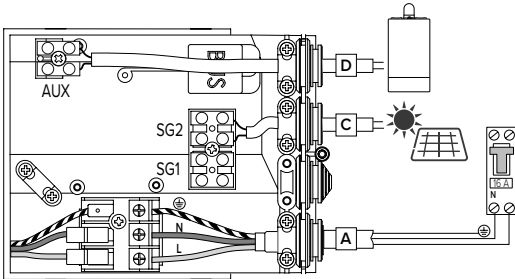
CONFIGURATIONS					
Typology					
Maximum piping length L1 exhaust + L2 intake including grid	Ø 150 (PVC)	22 [m]	19 [m]	16 [m]	19 [m]
	Ø 160 (PEHD)	28 [m]	24 [m]	20 [m]	24 [m]
	Ø 200 (PVC)	70 [m]	67 [m]	64 [m]	67 [m]

ELECTRIC CONNECTIONS

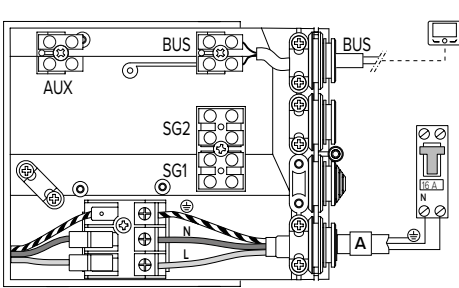
PERMANENT ELECTRICAL CONNECTION (24h/24h)



AUXILIARY CONNECTION



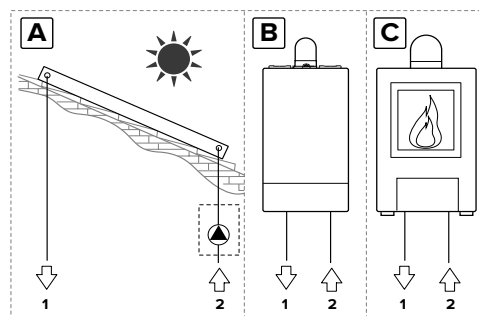
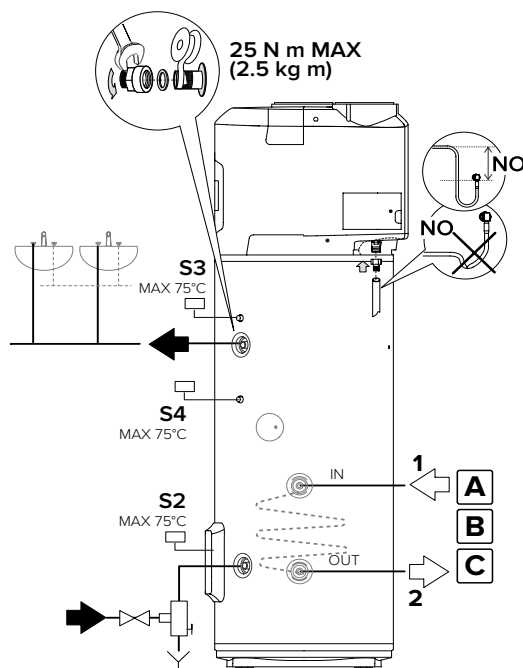
BUS CONNECTION



	CABLE		FUSE
Permanent power supply (cable supplied with the appliance)	3G Ø min. 1,5 mm <sup>2</sup>	H05VV-F	B 16A
Signal AUX/PV/SG (cable not supplied with the appliance)	2G Ø min. 1 mm <sup>2</sup>	H05VV-F	
Signal BUS* (cable not supplied with the appliance)	max 50 m - 2G Ø min. 1 mm <sup>2</sup>		

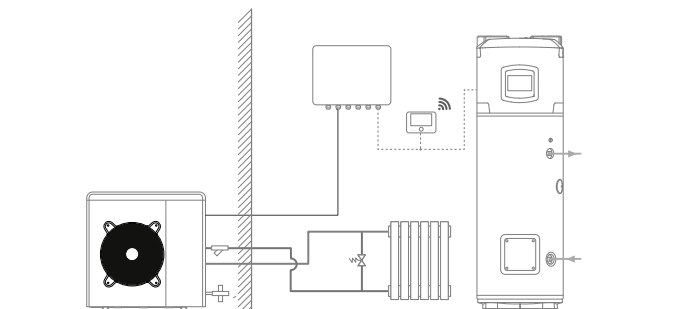
\* IMPORTANT: in the bus connection, to avoid interference problems, use a shielded cable or twisted pair cable.

## INTEGRATION ENERGY SOURCES

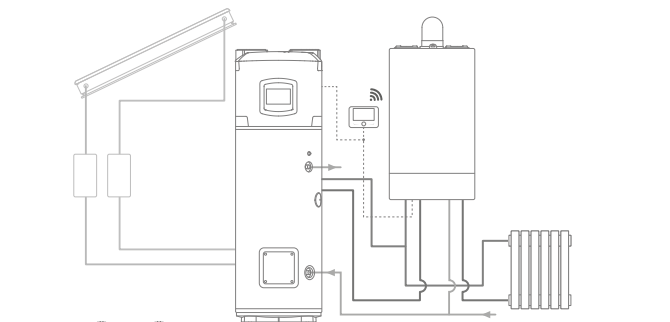


## INSTALLATION TYPES WITH OTHER HEAT GENERATORS

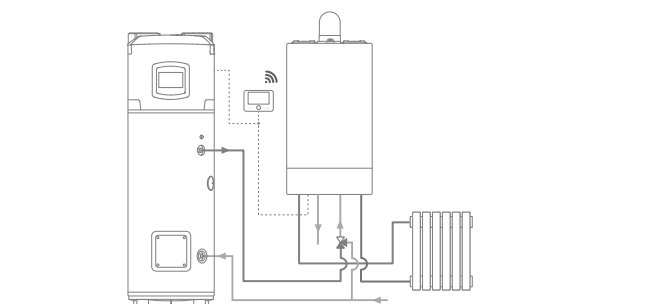
1. Heat pump water heater and separate heat generator (boiler, heat pump or hybrid system). The products have no integration but can be managed via a single remote control.



2. Heat pump water heater with auxiliary generator (boiler and/or solar system) with coil. If the system is installed with a boiler acting as a support generator, in order for the heat pump water heater to call the boiler as opposed to the heating element via the BUS, you must set the P14 parameter to value 3 (consult INSTALLER MENU section). Unless otherwise specified in the auxiliary generator manual, the auxiliary generator does not read the water heater sensors; therefore additional sensors are required depending on the hydraulic circuit diagram.



3. Heat pump water heater in pre-heating of combined heating generator (boiler or combi hybrid). In order to enable the pre-heating management on the domestic hot water service, set the P14 parameter to 2. In this installation, the water heater and the combi generator share the same DHW temperature setting. The water heater temperature can be reduced in pre-set time slots using the T MIN parameter or increased using the PV SET parameter if there is a photovoltaic system. The combi generator does not read the sensors of the water heater. Additional sensors are required, depending on the hydraulic circuit diagram.



## Tender text

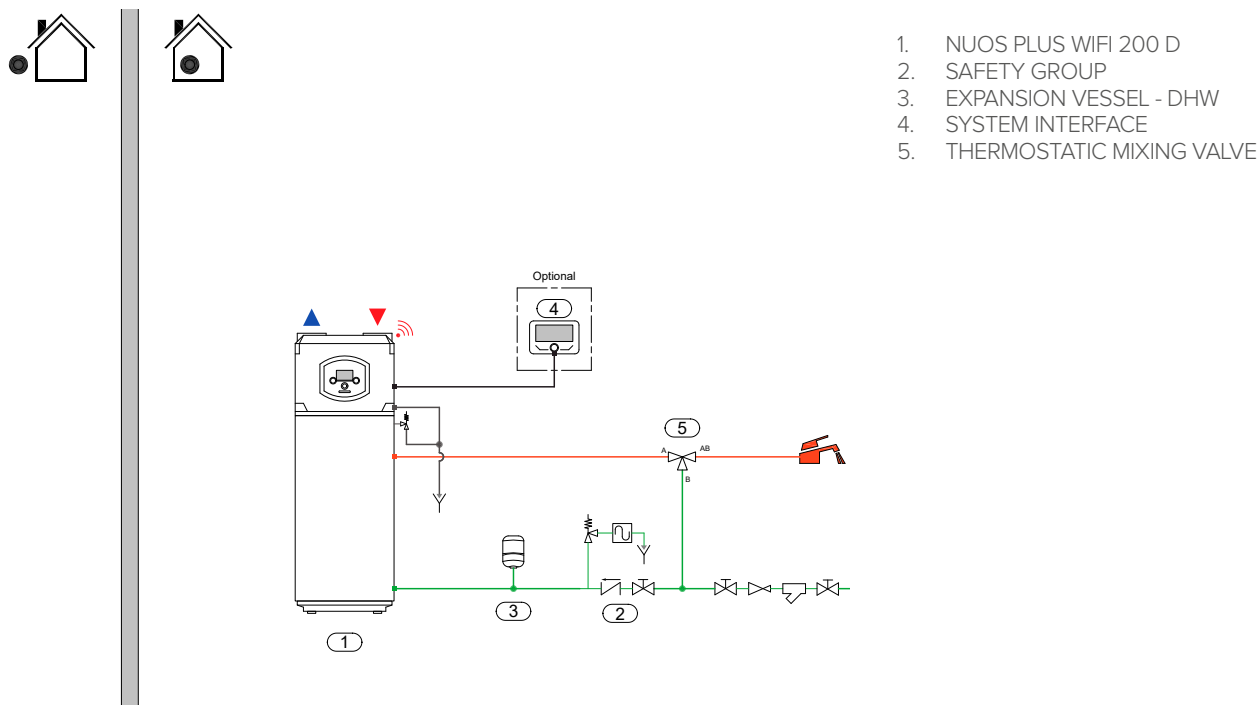
Floor standing air-water heat pump water heaters for the production of domestic hot water. Available in models 200D and 250I with the following features:

- / Energy efficiency class erp: A+, with load profile L (200I), XL (250D)
- / Average thermal output 2135 W (NUOS PLUS WIFI 200I), 2198 W (NUOS PLUS WIFI 250D) \*
- / Average power consumption 700 W \*
- / COP 3,05 (NUOS PLUS WIFI 200I), 3,14 (NUOS PLUS WIFI 250D)\*
- / Ecological refrigerant R 134a
- / GWP 1430
- / CO2 equivalent 1,86 t
- / Rotary airtight compressor and self-adaptive modulating axial fan with standard air flow of 700 m<sup>3</sup>/h, for maximum quiet operation 59 (dB(A))
- / Coil condenser wound on the outside of the shell without any contact with the sanitary water
- / Safety devices for high and low pressure circuit gas
- / Hot-Gas solenoid valve for evaporator defrosting that allows the product to operate up to air temperatures of -10 °C avoiding condensate water freezing ("defrosting" system)
- / Supplementary electrical elements in dual-power steatite selected by motherboard (1 + 1.5 kW) inserted in enamelled well for maintenance and replacement without emptying the product
- / Enamelled boiler with treatment at 850 °C
- / Double anti-corrosion anode in magnesium and pro-tech eddy current that does not require maintenance.
- / 50 mm thick polyurethane foam insulation free of CFC and HCFC
- / External coating in galvanized and pre-painted steel sheet
- / 0.65 m<sup>2</sup> integration coil and dedicated probe well (250I)
- / AUTO operation mode the water heater learns how to reach the desired temperature in a limited number of hours, with a rational use of the heat pump and, only if necessary, the elements.
- / GREEN operating mode exclusively in heat pump, with inlet air temperature between -10 and 42 °C, and maximum achievable domestic water temperature 62 °C
- / BOOST operation mode simultaneously in heat pump and electrical resistance for maximum heating speed and maximum temperature achievable is 75°C. Once the temperature is reached, operation returns to AUTO mode
- / Operating mode BOOST2 simultaneously in heat pump and electrical elements for maximum heating speed and maximum temperature achievable domestic water 75°C. The mode always remains active.
- / PROGRAM: there are two programs available, P1 and P2, which can act both individually and in combination with each other during the day (P1+P2). The appliance will be able to activate the heating phase to reach the chosen temperature at the set time, giving priority to heating by heat pump and, only if necessary, by the electrical elements
- / PHOTOVOLTAIC function : use of the energy supply from photovoltaic with storage heating in a mode of choice between STANDARD, GREEN, HE, BOOST; or through the function SMART GRID
- / ANTILEGIONELLA function for thermal water sanitization
- / VOYAGE function for switching off the machine during periods of absence from home for several days and reactivation before re-entry
- / Piloting of external generator by AUX contact and dedicated probe holder
- / User friendly digital display with central knob and two confirmation buttons for setting and displaying temperature, programming, operation mode and faults
- / 150, 160 and 200 mm multi-diameter air intake and ejection connections with protective grilles as standard
- / Air output splitter integrated in the product upwards
- / Possibility of air inlet and outlet ducting up to a maximum load loss of 110 Pa (see air accessories table)
- / Hydraulic fittings positioned on the right of the body to 45 and 90 would. for condensate drain connections, solar coil (SYS version)
- / Transportable also horizontally resting on the back and equipped with straps for indoor handling
- / Adjustable feet for levelling
- / Provision for integration into system configuration through the communication protocol of Bus Bridgnet
- / Remote management of the heat pump via integrated gateway with Aqua Ariston Net application (standard)
- / Remote management and possible remote assistance of the heat pump through external WiFi light gateway module and Sensys HD system manager, with Ariston Net application (accessories, only in the presence of heat generator for heating, compatible with Ariston Net).

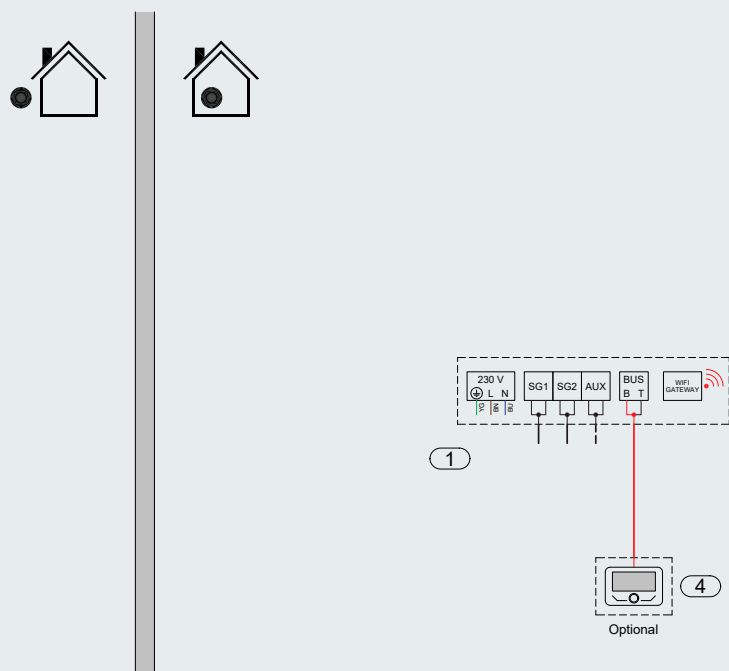
\* Obtained values, with air temperature 7°C and relative humidity 87%, inlet water temperature 10 °C (according to EN 16147).

# Schematics

## NUOS PLUS WIFI 200 D Hydraulic schematic

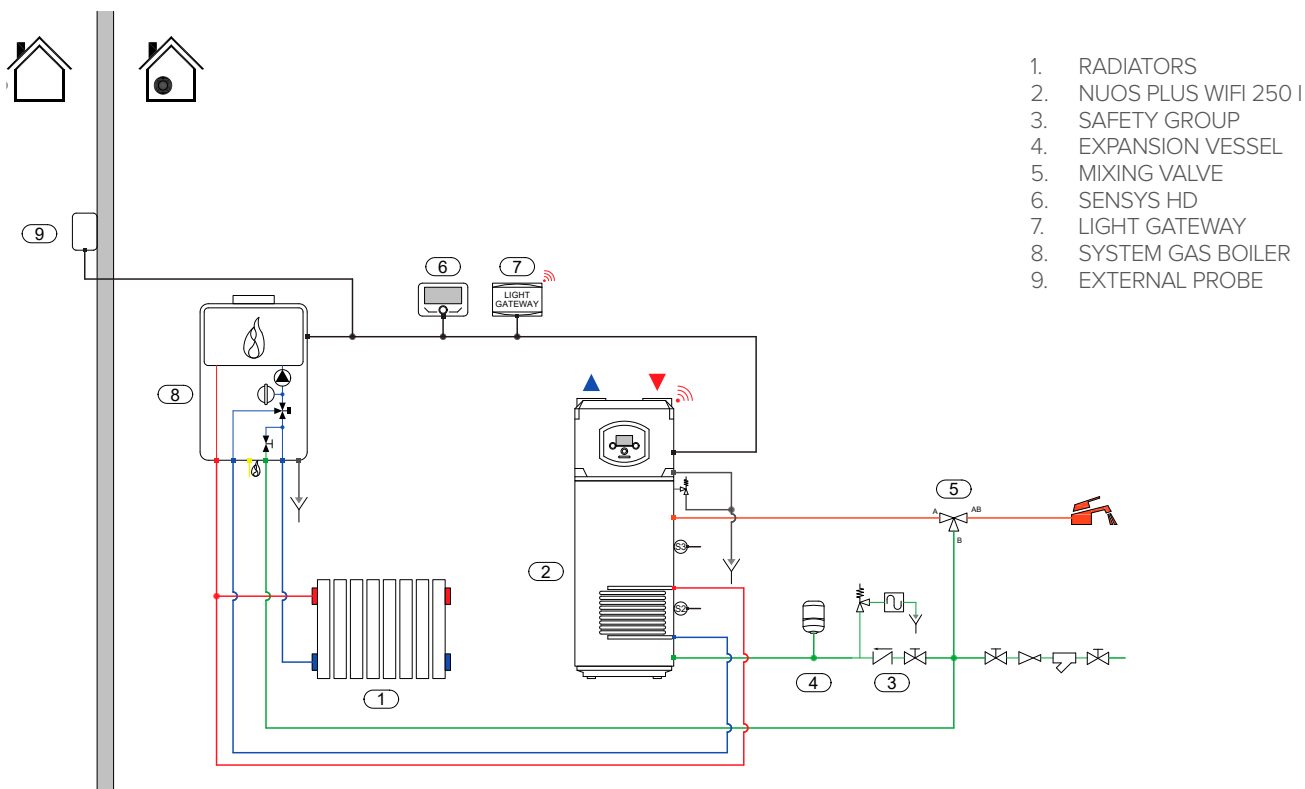


## Electric schematic

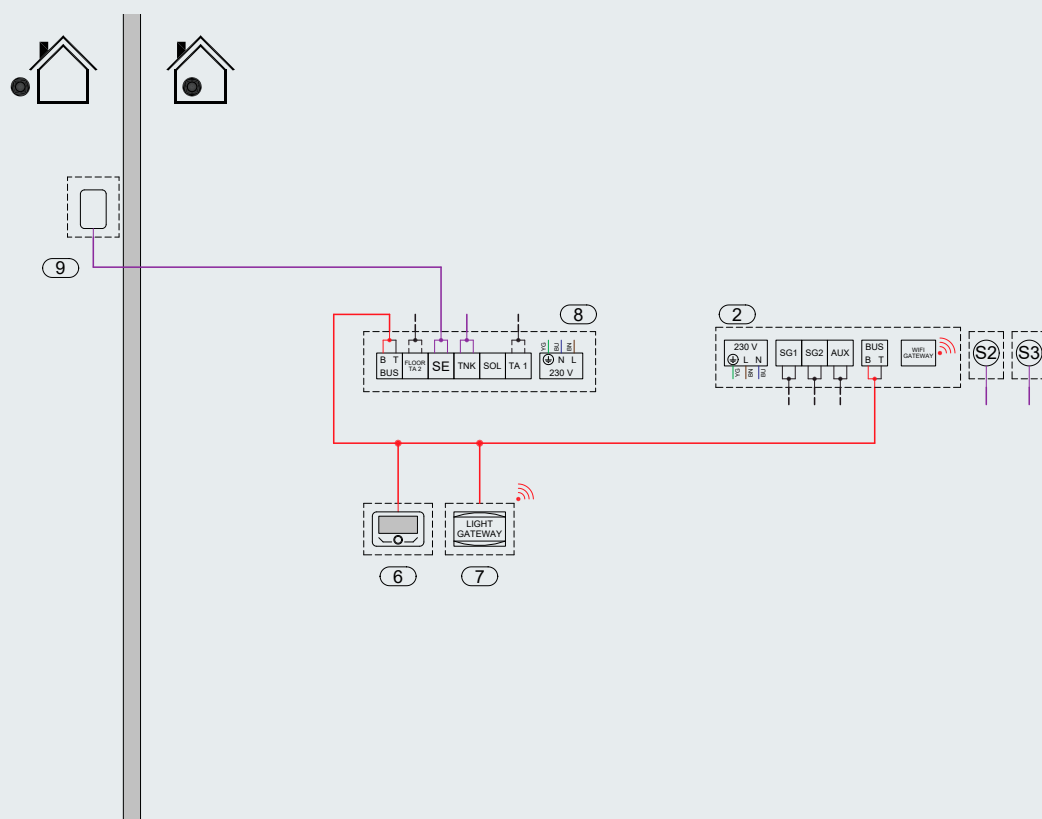


# Schematics

## NUOS PLUS WIFI 250 I with ARISTON SYSTEM BOILER Hydraulic schematic

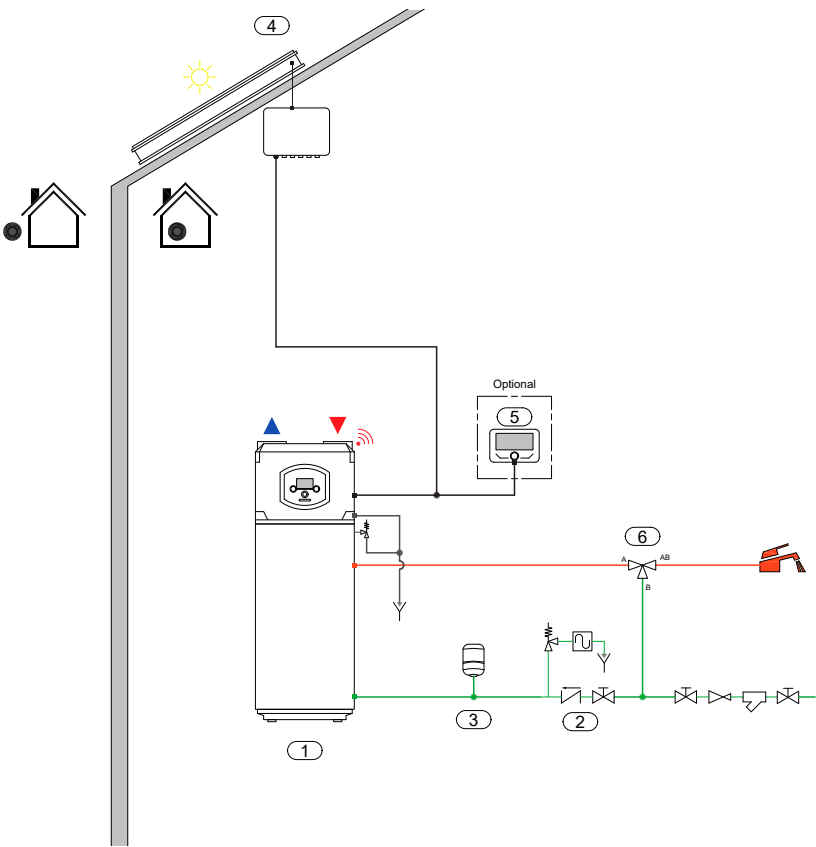


## Electric schematic



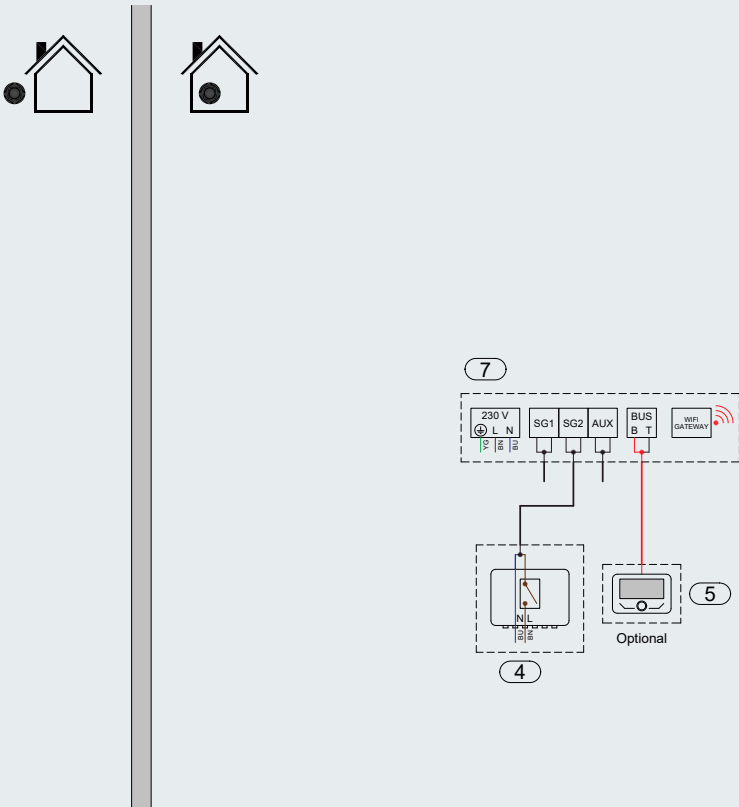
# Schematics

NUOS PLUS WIFI 200 D with Photovoltaic  
Hydraulic schematic



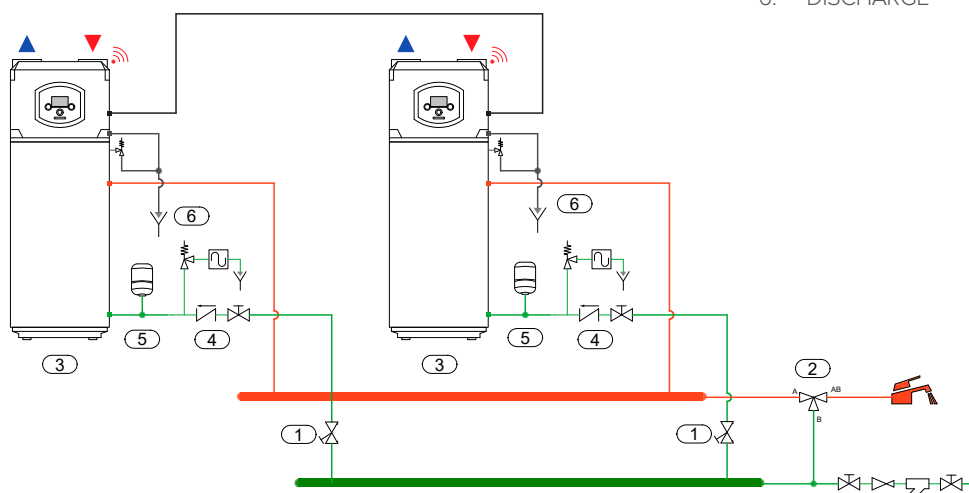
- 1. NUOS PLUS WIFI 200 D
- 2. SAFETY GROUP
- 3. EXPANSION VESSEL - DHW
- 4. PV SYSTEM
- 5. SYSTEM INTERFACE
- 6. THERMOSTATIC MIXING VALVE

Electric schematic



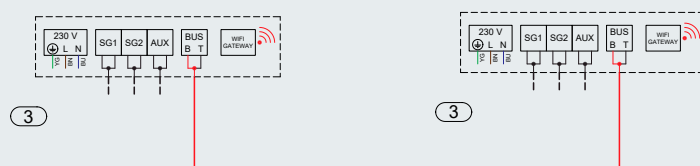
# Schematics

## NUOS PLUS WIFI 250 I with ARISTON SYSTEM BOILER Hydraulic schematic



1. BALANCING VALVE
2. THERMOSTATIC MIXING VALVE
3. NUOS PLUS WIFI 200 D
4. SAFETY GROUP
5. EXPANSION VESSEL - DHW
6. DISCHARGE

## Electric schematic





# Functions

---

## COMFORT

In this mode the water heater reaches set temperature, through the rational use of the heat pump and, only if necessary, of the heating element. The priority is given to user comfort.  
Target Temperature is given by comfort Temp.

Heating is performed with only HP until the TMAX\_HP (P7) and HE1+HE2\* above.  
Max temperature achievable 75 °C (adjustable P4 [65 – 75°C], 70°C by default)

If Program Time (U2) is active:

1. HP only (700 W) if the time to heat up the water is shorter than the time slot
2. HP + HE1 (700 W + 1500 W) if the time to heat up the water is longer than the time slot (up to max temperature of HP). Once the software re-estimate that the time is enough, HE1 is switched off.
3. HE1+HE2 (1500+1000 W) above the max temperature of HP

Pre-heating (priority is given to HP):

1. HP only: if T set < TMAX\_HP and time to pre-heat is enough
2. HP + HE1: if there is not enough time to pre-heat the water in HP only (e.g.: a big withdraw of the water 1 hour before the beginning of time slot)
3. HE1+HE2: if the set Temperature is higher than the TMAX\_HP

Heating element is activated for antibacterial cycle. Antibacterial temperature is the one chosen in parameter P3.

\*Heating Element 1 = 1500 W

\*Heating Element 2 = 1000 W

## PROGRAM

To be able to set PROGRAM mode n.3 parameters must be defined:

1. Parameter U1 PROGRAM: It allows the user to select the kind of domestic hot water comfort desired:
  - PROGRAM ON TIME BASED GREEN, COMFORT, FAST
  - PROGRAM OFF ALWAYS ACTIVE GREEN, COMFORT, FAST, AUTO, HC-HP
2. Parameter U2 PRGTIME: It allows user to select desired time slots
3. Parameter U3 PRG SET: It allows the user to customize the time programming

When PROGRAM 1 is ON, one of the following mode can be used: GREEN, COMFORT or FAST.

You can set 4 different time slots for each day of the week using the parameter PRGTIME U2.

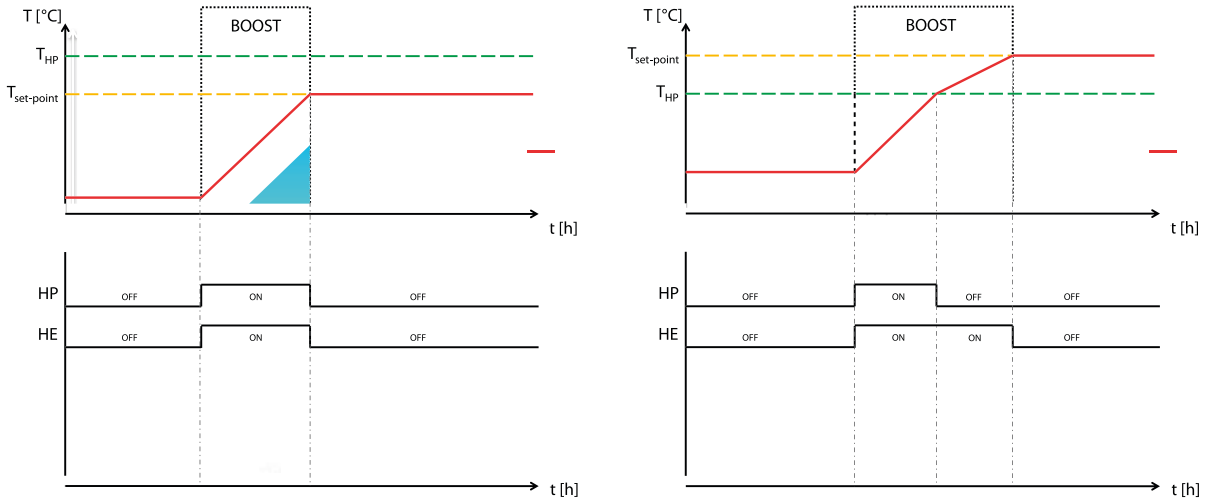
If ALL\_DAYS is selected the same time slots are assigned from Monday to Sunday, elsewhere time slots can be customized singularly for each day of the week selecting the corresponding parameter. If a time slot is not set it remains as not defined.

# Functions

## BOOST AND FAST

**BOOST:** by activating this mode via the button on the HMI, the water heater uses the heat pump and heating element simultaneously to reach the desired temperature in the shortest possible time. Once this temperature is reached, the system returns to the previous operating mode.

**FAST:** permanent boost mode, the water heater uses both heat pump and heating element to reach set temperature. The priority is given to heating time.



## I-MEMORY

This mode is designed to optimize energy consumption and maximize comfort by monitoring the hot water needs of the user and the optimized use of the heat pump and the heating element. The algorithm guarantees each daily need by proposing the average of the profiles detected over the previous 4 weeks. In the first week of acquisition, the set point temperature entered by the user remain constant; from the second week onwards, the algorithm will automatically adjust the set point temperature to ensure daily needs. To reset the I-Memory profile use U9.

## HC-HP MODE

To be activated by installer menu and visible when U1: PROGRAM is "OFF". Mode heating is performed within HC-HP signal detection in order to heat when low tariff energy is available. The target temperature and heating loads depend on the particular HC-HP mode selected. In particular:

- HC-HP, when signal EDF is detected HP and HE can work (priority is given to HP) Antifreeze protection is guaranteed all day long.
- HC-HP\_40, when signal EDF is detected it works as HC-HP, otherwise temperature is maintained at 40 °C (HP only) all day long even outside HC-HP time slot.
- HC-HP24h, when signal EDF is detected it works as HC-HP, otherwise set temperature is achieved with HP only (min/max 40/62°C)

HOLIDAY

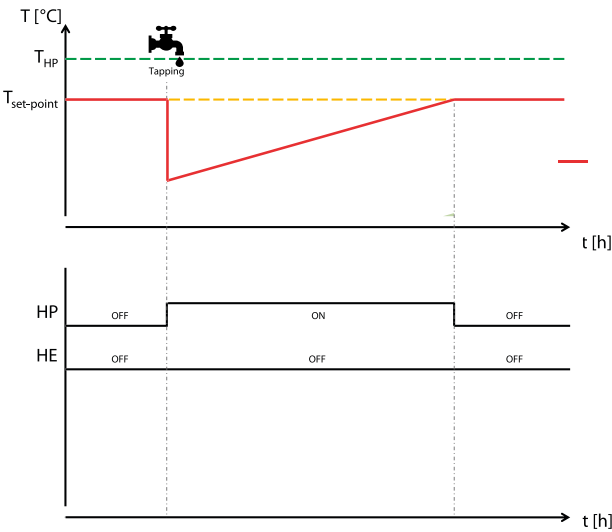
This mode is to be used when a period of absence is scheduled after which the product has to automatically re-start to work according to previous setting. Holiday mode is set by User Menu. In this mode no heating is performed unless the antifreeze protection (if needed) or antibacterial cycle. Holiday mode auto deactivates as holiday days elapse and the mode previously active is re-entered.

GREEN

This mode is available by default and it is the starting working mode set by factory. The GREEN mode use only heat pump and shall be set in order to ensure energy saving; this function is recommended for air temperatures above 0°C during the hours of heating. The maximum water temperature achievable is 62°C. In case of work conditions out to heat pump standard, the integration guarantee the heating. The integration turn on always in the case of:

- Process of anti-legionnaire
- Process of anti-freeze.

PARAMETRS			
Parameter	Description/Functioning	Range	Default value
$T_{set-point}$	The desired temperature for the hot water can be set by turning the knob clockwise or anti-clockwise.	$T_{min} \div T_{HP}$	55 °C
$T_{WHP}$	Installer menu parameter P7 - Adjustment of the maximum temperature obtainable with the heat pump unit.	51 ÷ 62 °C	55 °C
$T_{min}$	Installer menu parameter P5 - Adjustment of the minimum obtainable temperature.	40 ÷ 50 °C	50 °C
$T_{water}$	The temperature of the water in the tank, to visualize press and release the knob; the relative value will appear for 8 seconds then the set temperature will reappear.	-	-



## Additional functions

---

### Parameter P2 - Anti-legionnaire's disease protection function

The water heater has a completely automated anti-legionella function which can be disabled via parameter U5 in the information menu. The sanitization cycle brings the water in the product up to a sanitization temperature of 60°C (adjustable up to 75°C via parameter P3 in the installer menu) if, in the previous from 1-30 days (settable with P32-frequency parameter), the product has not reached and maintained a temperature of 60°C for at least one hour.

The cycle also activates each time the product has been without electrical power for at least 2 hours.

As these temperatures may cause burns, it is recommended that a thermostatic mixer is used. During the anti-legionella cycle, the display will alternate between the message and the temperature. Once the anti-legionella cycle has completed, the temperature will remain at the original setting. To interrupt this function, press the ON/OFF key twice.

### Parameter P7 - DEFROST function

This function is activated by default.

The DEFROST process ensures good performances also in winter or with cold climate conditions, connecting temporarily output of compressor (high temperature and pressure) to input of evaporator (low temperature and pressure) (see picture on the right) in order to heat the evaporator and melt the ice that clogged it.

It will be activated if these conditions occur:

- The Heat Pump is working from 20 minutes (T<sub>water</sub> is reaching T<sub>set-point</sub>);
- T<sub>air</sub> < 15°C;
- T<sub>evap</sub> decreases rapidly.

During the function, the heating element could turn on (i.e. if the Antifreeze function will occur, see following paragraph).

### ANTIFREEZE function

This function is activated by default.

The antifreeze procedure shall perform in order to avoid water freezing into the tank, it occurs when:

- T<sub>water</sub> < 5°C
- The device receives power from mains (regardless of HC-HP, GREEN functioning and device OFF state).

This procedure switches ON the electrical resistance and brings water temperature to 16°C.

### Parameter P18 - RESET function

This function can be enabled via installer menu (P18 Parameter).

The RESET function restores all the factory default settings.

### Parameter P13 - SILENT

This function reduces the sound level (performance can vary from those declared). It can be enabled via the P6 parameter on the installer's menu.

When enabled, the image to the right appears on the display.

### NUMBER OF SHOWERS

The icon shows the estimated number of showers remaining, based on hot water availability. One shower is calculated as: 40 L at 40°C. Press the knob to view the value.

### Parametro P14 - FUNCTIONING MODE

The P14 parameter "SYSMODE" allows to choose how system has to operate:

/ **STANDARD (value 0 – default):**

The product is configured to operate as standard installation.

/ **OUT (value 1):**

The product is configured to operate with a coil auxiliary load controlled by the direct AUX contact. AUX contact is used instead of heating element (except for PV and SG switched ON where the heating element is functioning).

/ **PRHE (value 2):**

The product is configured as a generator in pre-heating to operate as auxiliary load and share the domestic hot water parameters (only on eBus2 system otherwise it will work as standard mode). Refer to the paragraph 10.4.1 and to the 2.C installation where the heat pump water heater is in pre-heating of combined heating generator (boiler or combi hybrid).

/ **SYSTEM (value 3):**

The product is configured to operate with a coil auxiliary load controlled via BUS. Refer to the paragraph 10.4.1 and to the 2.B where the heat pump water heater is with auxiliary generator (boiler and/or solar system) with coil. It is effective only on eBus2 system and in case of Ariston Thermo heat generator as the above 2.B otherwise it will work as standard mode. With this function the Ariston Thermo heat generator is used instead of heating element (except for PV and SG switched ON, where the heating element is functioning).

### Parameter P11 - PHOTOVOLTAIC FUNCTION

This parameter could be useful when it is available a photovoltaic system and optimise use of the electricity produced. After having done the electrical connections as described in above paragraphs and setted the P11 parameter to other than "0". The signal (230V) should be received at least for 5 minutes to enable the photovoltaic function (once the product starts a cycle, it will operate for at least 30 minutes). When the signal "SIG" is detected, the operating mode works as follow.

- OFF (value 0 – default): the operating mode of the previously described procedures is not modified (PV mode disabled);
- PV\_HP (value 1): the PV icon is displayed, when the signal is present. The product will reach the set temperature (the highest between T SET POINT and PV TSET) with only the heat pump (max 62°C);
- PV\_HE (value 2): the PV icon is displayed, so the name of the selected mode alternates with the text PV HE. The product will reach the set temperature (the highest between T SET POINT and PV TSET) operating with only the heat pump up to 62°C and if needed with the heating element (1500 W);
- PV\_HEHP (value 3): the PV icon is displayed, when the signal is present and the name of the selected mode alternates with the text PV HE HP. Settled temperature (the highest between T SET POINT and T W PV) is achieved with the heat pump and the heating element (1000 W) up to 62°C. For higher Temperatures than 62 °C the second heating element (1500 W) is activated. There must be the SIG2 signal for at least 5 minutes to enable the photovoltaic function (once the product starts a cycle, it will operate for at least 30 minutes).

If you have a PV system to be connected or an SG signal available, you can connect a bipolar cable from the inverter or the SG signal cable (alternatively, not both) to the connection box (secure the cable into the dedicated cabling sheath). Connect this cable (C) to the connector called "SIG2" and activate the PV (P11) or SG (P13) function via the installer menu. Only for 250I model, if you have an auxiliary heat generator (e.g. boiler) and you would like to use it instead of the integration carried out by the heating element, you can connect a bipolar cable (D) from the heat generator (if provided) to the product connection box (secure the cable into the dedicated cabling sheath).

Connect the cable to the connector called "AUX" and set the P14 parameter to 1 via the installer menu.

If you connect the 250D version to the boiler/stove, it is advisable to use upper sensor slot S3.

If you connect the 250D versions to the solar control unit (lower heat exchanger), you can use the lower sensor slot on its own (S2) or both sensor slots (S2) and (S3/S4).

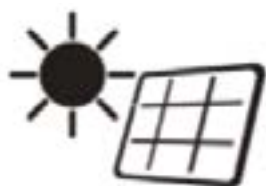
### Parameter P10

PV SET Shows the setpoint temperature to be used during PV function ON.

### Parametro P18 - FUNZIONE SG

If you have an SG signal, you can connect the signal cable as described in the "electrical connections" chapter when the function P13 is enabled the SG icon will be displayed.

Once the SIG2 signal has been received for at least 5 minutes (once the product starts a cycle, it will work for at least 30 minutes), the name of the selected mode alternates with the text SG ON and the current operating mode is automatically changed by thermostating the product at set temperature (the maximum between T SET POINT and PV TSET), operating only with the heat pump (max 62 °C).



ARISTON GROUP

**Ariston U.K. Ltd**  
**Juniper West 3 Fenton Way, Basildon SS15 6SJ - United Kingdom**

Customer service  
0333 240 8777\*