




INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

BNE 1 - BNE 2



APPLICABILITY :  664Y5000 - Rev C - N2 Condens, Installation, Operation and Maintenance Instructions
 664Y5900 - Rev D - BNE2 Condens, Installation, Operation and Maintenance Instructions
 664Y6000 - Rev D - BNE1 - BNE2, Installation, Operation and Maintenance Instructions



- (EN)** Make sure that the appliance is connected to the earth.
- (FR)** Veiller à ce que l'appareil soit raccordé à la terre.
- (NL)** Zorg ervoor dat het toestel is geaard.
- (ES)** Asegúrese de que el aparato esté conectado a tierra.
- (IT)** Assicurarsi che l'apparecchio sia elettricamente collegato alla messa a terra dell'impianto.
- (DE)** Stellen Sie sicher, dass das Gerät geerdet ist.
- (PL)** Upewnij się, że urządzenie jest uziemione.
- (RU)** Убедитесь, что прибор заземлен.

GENERAL RECOMMENDATIONS	4
USER'S GUIDE	5
Instructions for the end-user	5
Periodic checks.....	5
APPLIANCE DESCRIPTION.....	6
TECHNICAL CHARACTERISTICS.....	8
Electrical Characteristics.....	8
Dimensions.....	10
Combustion Characteristics	12
Hydraulic Characteristics.....	12
DHW Performance.....	12
Maximum Operating Conditions.....	12
Chimney Connection Characteristics	13
INSTALLATION	14
Package Contents.....	14
Tools required for the installation.....	14
How to move the boiler	15
Safety instructions for the installation.....	16
Recommendations for the prevention of corrosion and scaling.....	18
Boiler Preparation	20
Electrical Connections.....	21
Flue connection.....	22
DHW connection.....	23
Heating Circuit Connection	24
Oil Connection.....	25

STARTING UP	26
Safety instructions for starting up.....	26
Tools required for starting up	26
Checks before starting up	26
Filling the system.....	27
Starting up the Boiler	28
Combustion adjustment	28
 MAINTENANCE.....	 29
Safety instructions for the boiler maintenance.....	29
Periodic boiler maintenance tasks	30
Cleaning the burner and the heating body.....	31
Draining the boiler	32
Restart after maintenance.....	33
In case of problem... ..	33
 DECLARATION OF CONFORMITY - EC.....	 34

NOTE

This manual contains important information with respect to the installation, the starting up and the maintenance of the boiler.

This manual must be provided to the user, who will read it carefully and keep it in a safe place.

We accept no liability should any damage result from the failure to comply with the instructions contained in this technical manual.



Essential recommendations for safety

- It is prohibited to carry out any modifications to the appliance without the manufacturer's prior and written agreement.
- The product must be installed by a qualified engineer, in accordance with applicable local standards and regulations.
- The installation must comply with the instructions contained in this manual and with the standards and regulations applicable to installations.
- Failure to comply with the instructions in this manual could result in personal injury or a risk of environmental pollution.
- The manufacturer declines all liability for any damage caused as a result of incorrect installation or in the event of the use of appliances or accessories that are not specified by the manufacturer.



Essential recommendations for the correct operation of the appliance

- In order to ensure that the appliance operates correctly, it is essential to have it serviced by a certified installer or maintenance contractor every year.
- In case of anomaly, please call your service engineer.
- Faulty parts may only be replaced by genuine factory parts.

INSTRUCTIONS FOR THE END-USER



Essential recommendations for safety

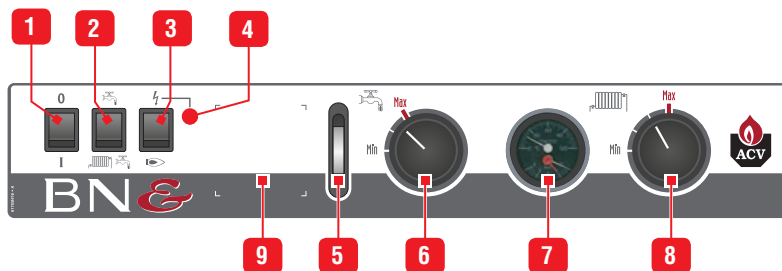
- Do not store any flammable or corrosive products, paint, solvents, salts, chloride products and other detergent products near the appliance.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, only if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children unless they are aged from 8 years and above and supervised.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, unless used under the supervision of a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

PERIODIC CHECKS



Essential recommendations for the correct operation of the appliance

- Check regularly that the system water pressure is at least 1 bar when cold.
- If it is required to top up the system to maintain the minimum recommended water pressure, only add small amounts of water at a time. If a large amount of cold water is added in a hot boiler, the boiler can be damaged definitively.
- If the boiler safety cutout system is frequently activated, contact your installer.
- If the system needs to be refilled repeatedly with water, please contact your installer.
- Regularly check that there is no water on the floor in front of the boiler. If there is, please call your installer.



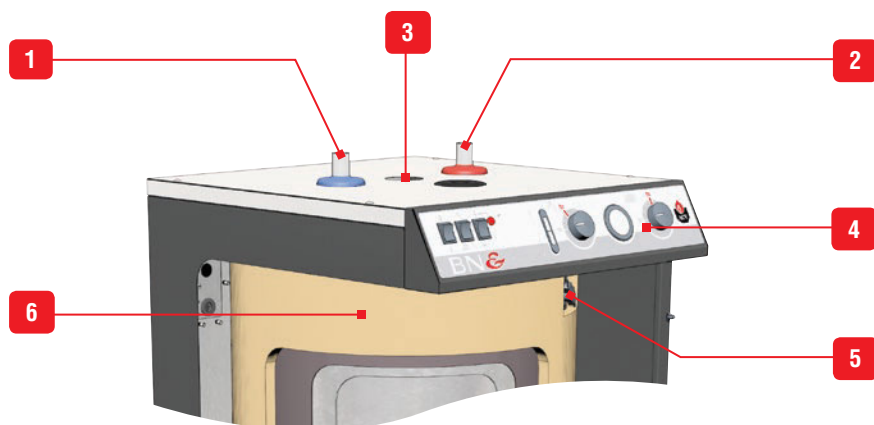
Key

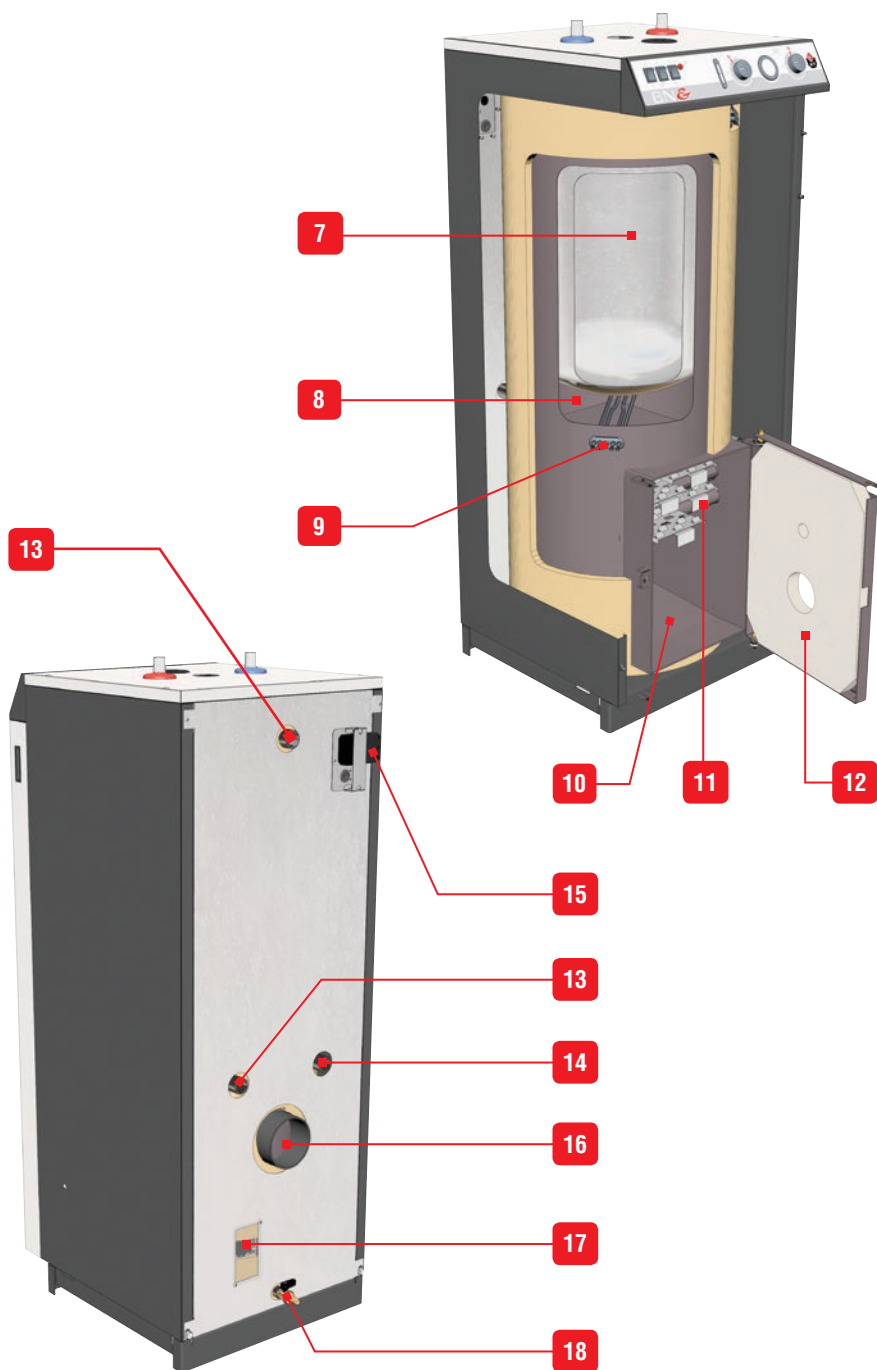
1. **ON/OFF master switch of the boiler** - To turn the boiler on and off.
2. **Summer-winter switch** - To activate or deactivate the heating pump.
3. **Energy source selector switch** - To activate or deactivate the heating pump and the burner, and turn on or off a 2.4 kW heating element to meet the need in domestic hot water.
4. **Heating element indicator** - The built-in indicator lights when the heating element is activated.
5. **DHW Thermometer** - Shows the temperature of the domestic hot water.
6. **Domestic hot water temperature adjustment thermostat** - In DHW mode, the domestic hot water temperature can be set from 60 to 80°C.
7. **Temperature and pressure gauge** - Indicates the boiler temperature and the primary circuit pressure.
8. **Heating temperature adjustment thermostat** - Allows to set the boiler between 60 and 90°C. It is recommended to set this thermostat 10°C above the set point of the domestic hot water adjustment thermostat.
9. **Pre-cut area for timer (option)** - The timer allows to enable/disable the domestic hot water production according to time (24 h sequence). By pushing the white tabs located around the dial, the timer can be set (1 tab = 15 min.) for a specific operation period.

The BNE boiler is a heat generator for central heating, with a built-in domestic hot water preparation tank. The DHW preparation tank can operate independently from the boiler thanks to a built-in heating element (2,4 kW).

Detail of components

1. Cold water inlet
2. Domestic hot water outlet
3. Manual air bleed valve
4. Control panel
5. Safety thermostat
6. Hard expanded polyurethane foam insulation
7. Stainless steel "Tank in Tank" hot water production tank
8. Heating circuit
9. 2.4 kW electric heating element
10. Combustion chamber
11. Turbulators (6 pieces)
12. Burner chamber plate with insulation block
13. Heating circuit outlet
14. Heating circuit inlet
15. Electrical plug of the boiler
16. A chimney connection
17. Minimum thermostat 45°
18. Drain valve





ELECTRICAL CHARACTERISTICS

Main electrical characteristics		BNE 1 / BNE 2
Rated voltage	V~	230
Rated frequency	Hz	50
Rated current with electrical heating element	A	10,5
Electrical consumption with electrical heating element	W	2405
IP Class		IP30

Wiring diagram

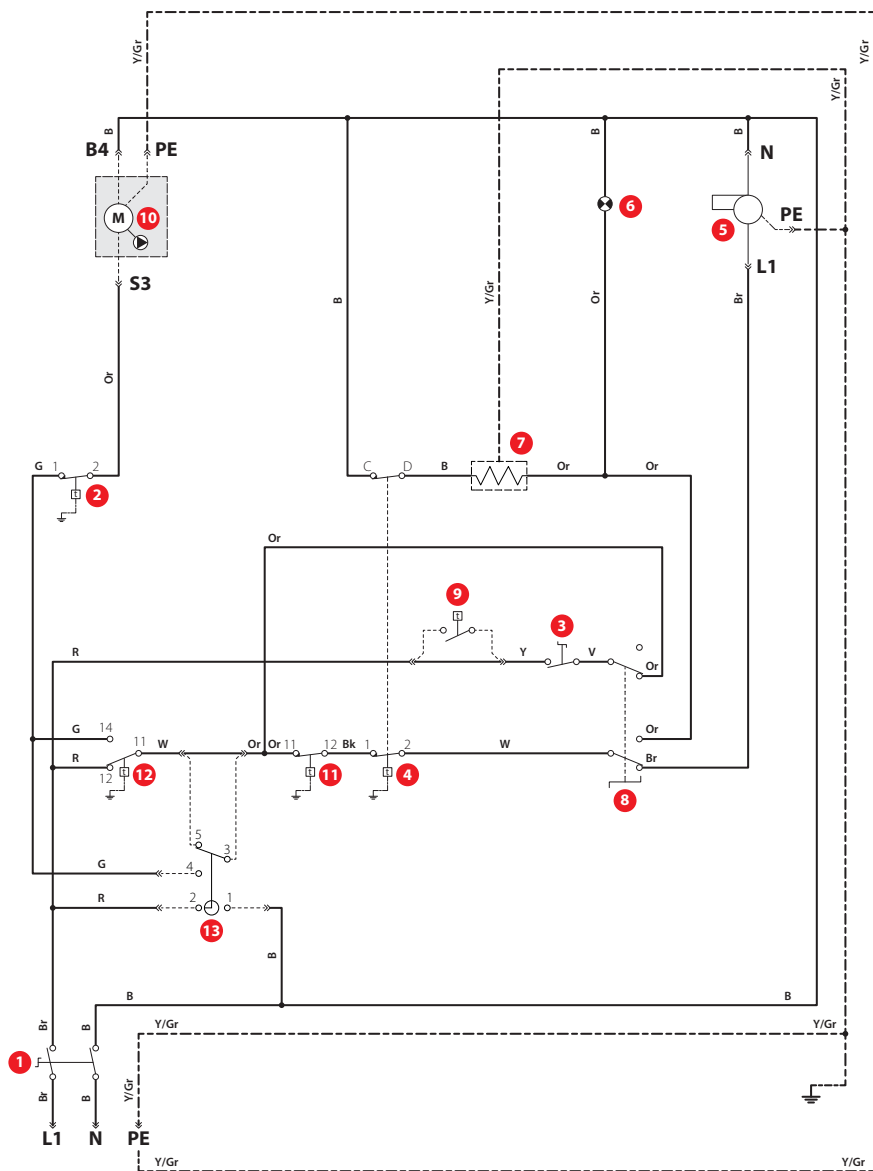
1. ON/OFF master switch	
2. Minimum thermostat 45°	
3. Summer/winter switch	
4. Safety thermostat	B : Blue
5. Oil burner	Bk : Black
6. Heating element indicator	Br : Brown
7. 2.4 kW electric heating element	G : Grey
8. Energy source selector switch	Or : Orange
9. Room thermostat (option)	R : Red
10. Heating pump of the system (optional)	V : Violet
11. Heating temp. adjustment thermostat	W : White
12. DHW temp. adjustment thermostat	Y : Yellow
13. Daily timer (optional)	Y/Gr : Yellow/Green

The heating element is composed of two 2.4 kW resistances.

One of the resistances is connected through a cable and used as the main heating element, while the second one is a back-up that is used in case the main one fails.

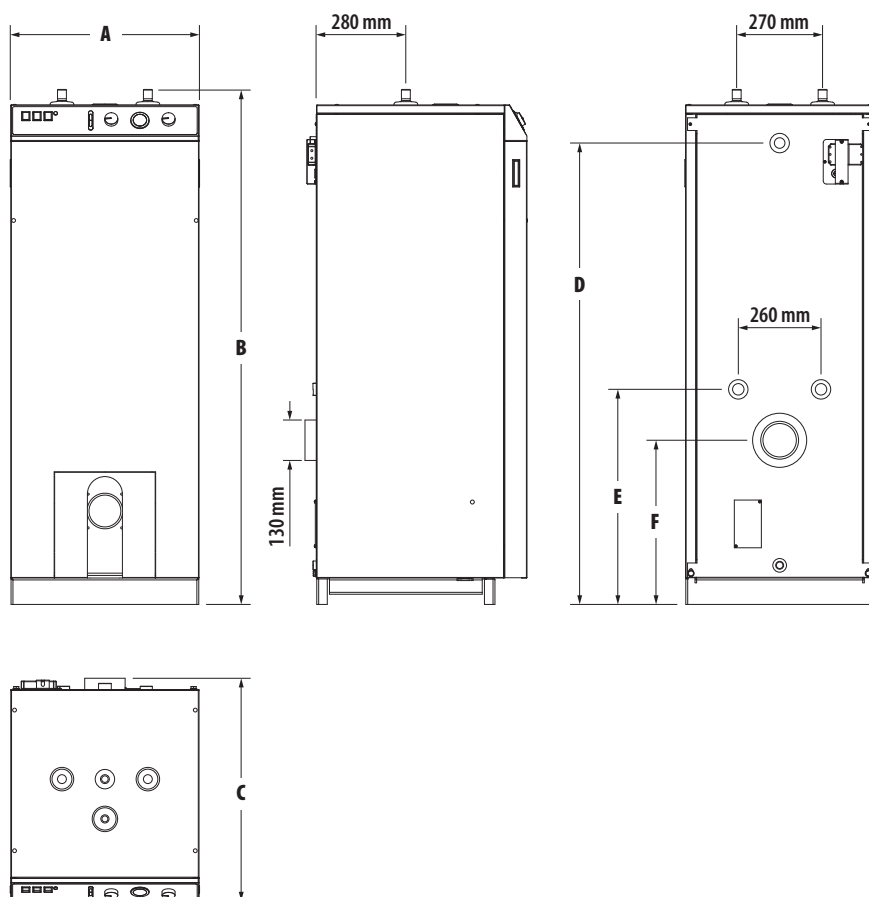


Never connect both resistances simultaneously or the internal cables of the boiler will be damaged.

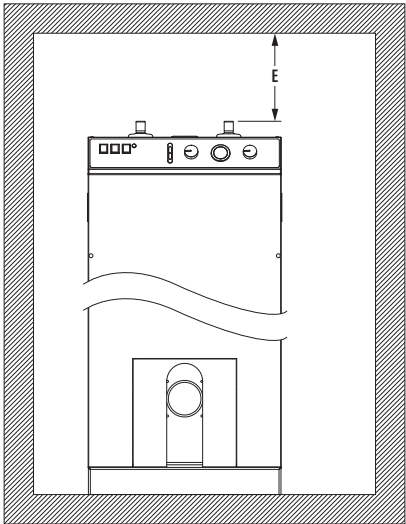
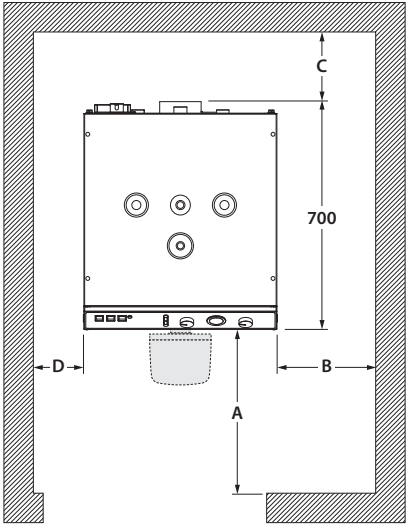


DIMENSIONS

Boiler Dimensions		BNE 1	BNE 2
A = Width	mm	590	590
B = Height	mm	1560	1620
C = Depth	mm	700	700
D	mm	1390	1450
E	mm	613	676
F	mm	463	516
Volume of the combustion chamber		dm ³	
		65	75
Combustion chamber	Height	mm	425
	Width	mm	330
	Depth	mm	465
Drained weight		Kg	
		204	222



Boiler Clearance	BNE 1 / BNE 2	
	Recommended	Minimum
A (mm)	800	650
B (mm)	1000	900
C (mm)	600	400
D (mm)	150	100
E (mm)	400	300



COMBUSTION CHARACTERISTICS

Main Characteristics			BNE 1	BNE 2
Fuel type			Oil	Oil
Max. input (PCI)		kW	28	41
Output at 100%	(80/60°C)	kW	25	36
Output power min	(80/60°C)	kW	20	27
Max operating temperature		°C	90	90

HYDRAULIC CHARACTERISTICS

Main hydraulic characteristics		BNE 1	BNE 2
Water content of the boiler	L	184	186
Primary circuit capacity	L	64	66
Heating inlet/outlet connection (F)	Ø	1"	1"
DHW inlet/outlet connection (M)	Ø	3/4"	3/4"
Max. service pressure of DHW circuit	bar	7	7
Max. service pressure of heating circuit	bar	3	3
Primary circuit water pressure drop ($\Delta T = 20$ K)	mbar	20	25

DHW PERFORMANCE

Operating conditions at 80°C		BNE 1	BNE 2
Peak flow at 40 °C [$\Delta T = 30$ K]	L/10'	311	311
Peak flow at 40 °C [$\Delta T = 30$ K]	L/60'	908	1060
Constant flow at 40 °C [$\Delta T = 30$ K]	L/h	716	899

MAXIMUM OPERATING CONDITIONS

Maximum Service Pressure [DHW tank full of water]

- Primary circuit : 3 bar
- DHW circuit : 8,6 bar
- Recommended safety valve (central heating) : 3 bar
- Recommended safety valve (DHW) : 7 bar

Mains supply pressure

- Max 6 bar, without a pressure reducing valve being required (to avoid discharge of the safety pressure valve)

Maximum Operating Conditions

- Maximum temperature (central heating) : 90°C
- Maximum temperature (DHW) : from 60°C to 80°C

Water Quality

See "Recommendations for the Prevention of Corrosion and Scaling".

Oil quality

- Low sulfur oil (50 ppm)
- Standard oil (2000 ppm)
- Bio-oil 0 at 7% methyl esters of fatty acids

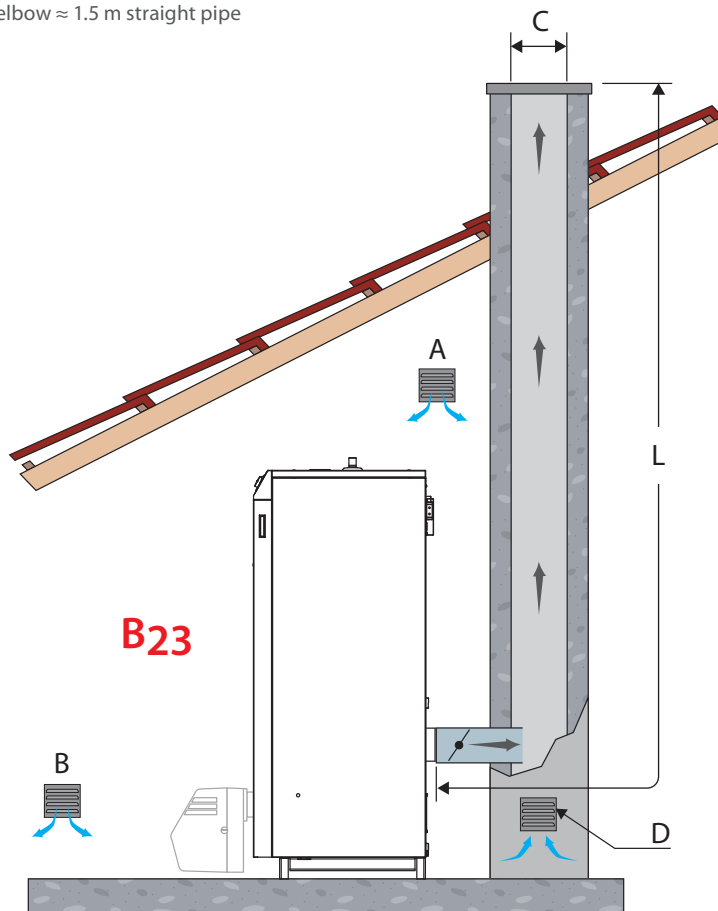
CHIMNEY CONNECTION CHARACTERISTICS

Chimney characteristics		BNE 1 / BNE 2
Connection type		B23
A = Top ventilation	cm ²	150
B = Bottom ventilation	cm ²	150
C = min. Ø of flue pipe	mm	130
L = maximum length of flue pipe (Ø 130 mm)	m	15
Max. temp of flue gases	°C	180

Chimney connection diagram

1 x 45° elbow ≈ 1 m straight pipe

1 x 90° elbow ≈ 1.5 m straight pipe



PACKAGE CONTENTS

The appliance is delivered assembled, tested and packaged separately.

Package :

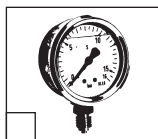
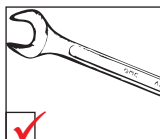
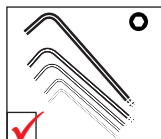
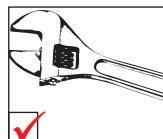
- One BNE boiler.
- Installation, Operation and Maintenance Instructions
- A drain valve



General remarks

- The manufacturer reserves the right to change the technical characteristics and features of its products without prior notice.
- The availability of certain models as well as their accessories may vary according to markets.

TOOLS REQUIRED FOR THE INSTALLATION



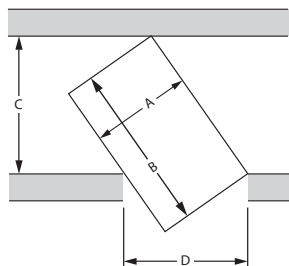
HOW TO MOVE THE BOILER

Using a hand truck



Use a means of transport adapted to the boiler weight.

Minimum width of the door and the hall necessary to pass the boiler



A = maximum boiler width

B = maximum boiler length

C = Door width

D = Hall width

Door height = std

Hall width:
$$C = \frac{A}{D} \times B$$

Example of calculation to determine the minimum hall width, with a door width: D = 800 mm

$$C = \frac{540}{800} \times 1000 = \text{Hall width} \geq 675 \text{ mm}$$

Door width:
$$D = \frac{A}{C} \times B$$

Example of calculation to determine the minimum door width, with a hall width: D = 900 mm

$$D = \frac{540}{900} \times 1000 = \text{Hall width} \geq 600 \text{ mm}$$

SAFETY INSTRUCTIONS FOR THE INSTALLATION



General remarks

- The connections (electrical, flue pipe, hydraulic) must be carried out in accordance with current standards and regulations in force.
- If the water drawing off point is far from the tank, installing an auxiliary DHW loop can allow to get hot water more quickly at all times.



Essential recommendations for the correct operation of the appliance

- The boiler must be installed in a dry and protected area.
- Install the appliance to ensure easy access at all times.
- To avoid any risk of corrosion, connect the stainless steel DHW production tank directly to the earth.
- Make sure to install a pressure reducing valve set at 4.5 bar if the mains supply pressure is in excess of 6 bar.
- The DHW circuit must be fitted with an approved safety group, comprised of a 7 bar safety valve, a check valve and a shut-off valve.
- If works need to be performed (in the boiler room or close to the air vents), make sure to turn off the boiler to prevent dust from entering and accumulating in the boiler heating system.



Essential recommendations for safety

- Install the boiler on a base made of non-combustible materials.
- Make sure that all air vents are unobstructed at all times.
- A condensation outlet connected to the sewer must be fitted close to the boiler to prevent the condensation products from the flue pipe from running into the boiler.
- The horizontal flue pipes must be installed with a slight slope of 5 cm per meter, so that the acid condensation water flows to a condensate recovery container and does not damage the heating body.
- Do not store any corrosive products, paint, solvents, salts, chloride products and other detergent products near the appliance.
- The flue pipe diameter must not be smaller than that of the boiler flue gas outlet connection.

- Hot water can cause scalding!
- In the event of small amounts of hot water repeatedly being drawn off, a stratification effect can develop in the tank. The upper hot water layer may then reach very high temperatures.
- ACV recommends using a pre-set thermostatic mixing valve in order to provide hot water at a maximum of 60°C.
- Water heated to wash clothes, dishes and for other uses can cause serious burns.
- In order to avoid exposure to extremely hot water that can cause serious burns, never leave children, old people, disabled or handicapped people in the bath or shower alone.
- Never allow young children to turn on the hot water or fill their own bath.
- The temperature of the domestic hot water can be adjusted up to 90 °C in the boiler. However, the temperature of the domestic hot water at the drawing off point must comply with local regulations. (E.g. in Belgium, the maximum DHW water temperature at a drawing off point must be 75°C for boilers < 70 kW).
- The risk of developing bacteria exists, including "Legionella pneumophila", if a minimum temperature of 60°C is not maintained in both the DHW tank and the hot water distribution network.



Essential recommendations for the electrical safety

- Only an approved installer is authorized to carry out the electrical connections.
- Install a 2-way switch and a fuse or circuit breaker of the recommended rating outside the appliance, so as to be able to shut power down when servicing the appliance or before performing any operation on it.
- Isolate the external electrical supply of the appliance before performing any operation on the electrical circuit.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless supervised or unless they have been given instruction concerning the use of the appliance by a person responsible for their safety.

RECOMMENDATIONS FOR THE PREVENTION OF CORROSION AND SCALING IN HEATING SYSTEMS

How oxygen and carbonates can affect the heating system

Oxygen and dissolved gasses in the water of the primary circuit contribute to the oxidation and the corrosion of the system components that are made of ordinary steel (radiators, ...). The resulting sludge is then deposited in the boiler exchanger.

The combination of carbonates and carbon dioxide in the water results in the formation of scale on the hot surfaces of the installation, including those of the boiler exchanger.

These deposits in the heat exchanger reduce the water flow rate and thermally insulate the exchange surfaces, which is likely to damage them.

Sources of oxygen and carbonates in the heating circuit

The primary circuit is a closed circuit; the water it contains is therefore isolated from the mains water. When maintaining the system or filling up the circuit, water renewal results in the addition of oxygen and carbonates in the primary circuit. The larger the water volume in the system, the larger the addition.

Hydraulic components without an oxygen barrier (PE pipes and connections) admit oxygen into the system.

Prevention Principles

1. Clean the existing system before installing a new boiler

- Before the system is filled, it must be cleaned in accordance with standard EN14336. Chemical cleaning agents can be used.
- If the circuit is in bad condition, or the cleaning operation was not efficient, or the volume of water in the installation is substantial (e.g. cascade system), it is recommended to separate the boiler from the heating circuit using a plate-to-plate exchanger or equivalent. In that case, it is recommended to install a hydrocyclone or magnetic filter on the installation side.

2. Limit the fill frequency

- Limit fill operations. In order to check the quantity of water that has been added into the system, a water meter can be installed on the filling line of the primary circuit.
- Automatic filling systems are not recommended.
- If your installation requires frequent water refilling, make sure your system is free of water leaks.
- Inhibitors may be used in accordance with standard EN 14868.

3. Limit the presence of oxygen and sludge in the water

- A deaerator (on the boiler flow line) combined with a dirt separator (upstream of the boiler) must be installed according to the manufacturer's instructions.
- ACV recommends using additives that keep the oxygen in solution in the water, such as Fernox (www.fernox.com) and Sentinel (www.sentinel-solutions.net) products.
- The additives must be used in accordance with the instructions issued by the manufacturer of the water treatment product.

4. Limit the carbonate concentration in the water

- The fill water must be softened if its hardness is higher than 20° fH (11,2° dH).
- Check regularly the water hardness and enter the values in the service log.
- Water hardness table :

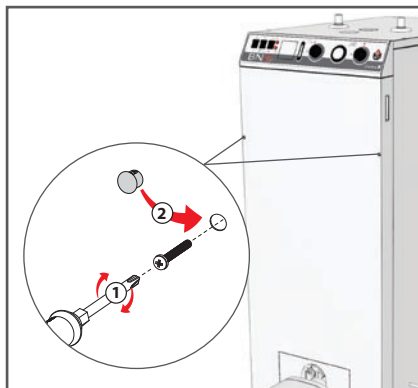
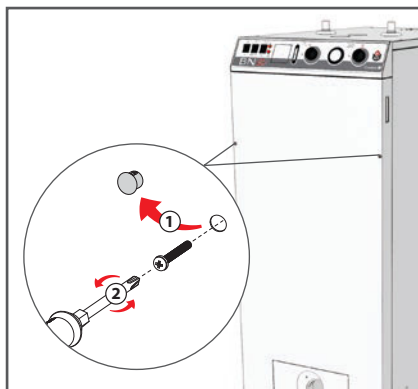
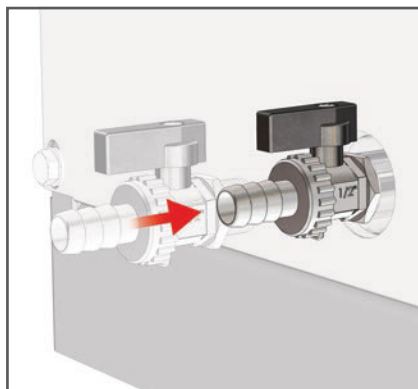
Water hardness	°fH	°dH	mmolCa(HCO ₃) ₂ / l
Very soft	0 - 7	0 - 3.9	0 - 0.7
Soft	7 - 15	3.9 - 8.4	0.7 - 1.5
Fairly hard	15 - 25	8.4 - 14	1.5 - 2.5
Hard	25 - 42	14 - 23.5	2.5 - 4.2
Very hard	> 42	> 23.5	> 4.2

5. Control the water parameters

- In addition to the oxygen and the water hardness, other parameters of the water must be checked.
- Treat the water if the measured values are outside the range.

Acidity	6,6 < pH < 8,5
Conductivity	< 400 µS/cm (at 25°C)
Chlorides	< 125 mg/l
Iron	< 0,5 mg/l
Copper	< 0,1 mg/l

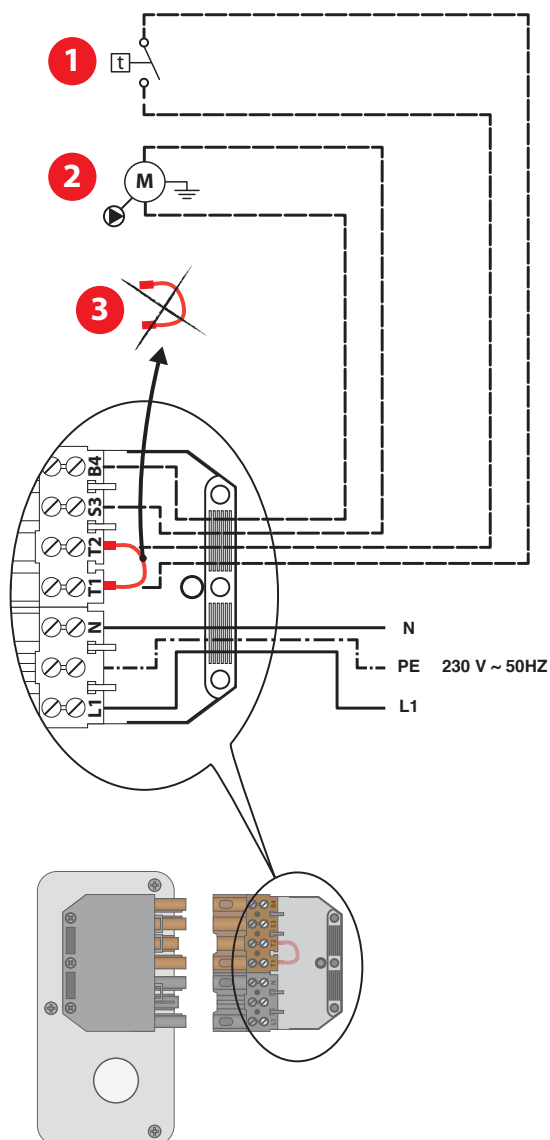
BOILER PREPARATION



ELECTRICAL CONNECTIONS

Description

1. Room thermostat
2. Heating pump of the system
3. Bridge (to be removed before connecting the room thermostat)



FLUE CONNECTION

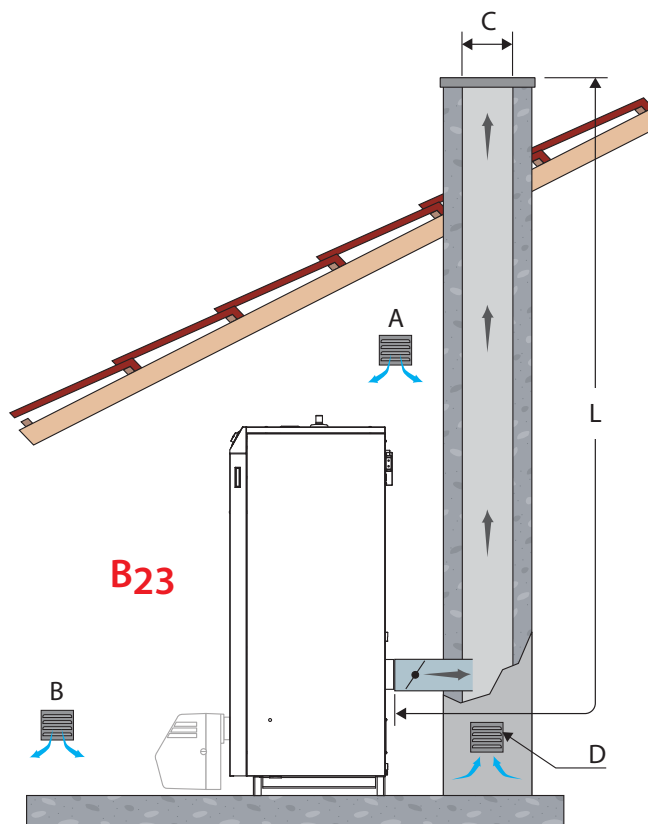
Operation related to the ambient air

(Type B23 Installation)

To ventilate the boiler room, it is required to install- in accordance with combustion regulations - a fresh air inlet of at least 150 cm² or to provide a connection with other rooms to ensure a fresh air supply.

To get optimum sound comfort, it is recommended to:

- install the boiler on a solid base (eg. concrete support) instead of a hollow base (eg. concrete blocks), which could create a resonance volume.
- uncouple the boiler from the system hydraulic circuit by installing a hose connection on the inlet and outlet circuits and make sure that the hose connections are not taut or twisted.
- increase the gas exhaust duct diameter if required (min 80 mm diameter).
- uncouple the gas exhaust circuit from the flue pipe wall, adding soft insulation between the pipe and the wall, so that the vibrations from the operating boiler are not transferred to the building walls.



DHW CONNECTION



General remark

- The circuit illustrations are basic principle diagrams only.



Essential recommendation for safety

- The hot water output may reach temperatures in excess of 60°C, which can cause scalding! It is therefore necessary to install a thermostatic mixing valve after the appliance.



Essential recommendations for the correct operation of the appliance

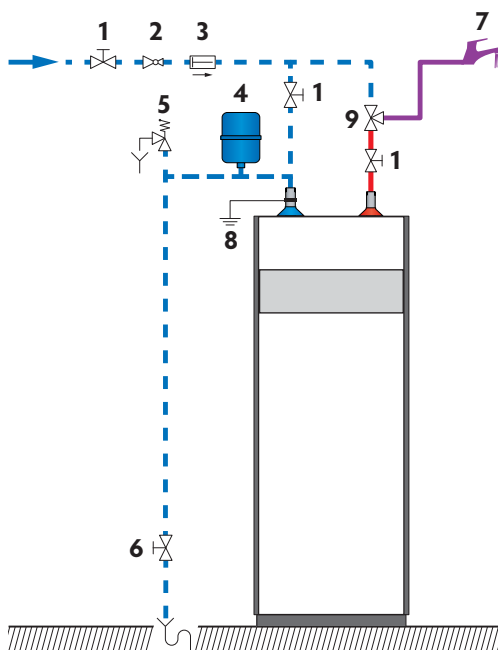
- Flush the system before connecting the domestic hot water circuit. Refer to the installation instructions.
- Make sure to install a pressure reducing valve set at 4.5 bar if the mains supply pressure is in excess of 6 bar.
- The installation must be fitted with an approved safety group, comprised of a 7 bar safety valve, a check valve and a shut-off valve.

Typical installation

Description

1. Isolating valve
2. Pressure reducing valve
3. Check valve
4. DHW expansion vessel
5. Safety valve
6. Drain valve
7. Draw-off tap
8. Grounding
9. Thermostatic mixing valve

--- Cold water
 --- Hot water



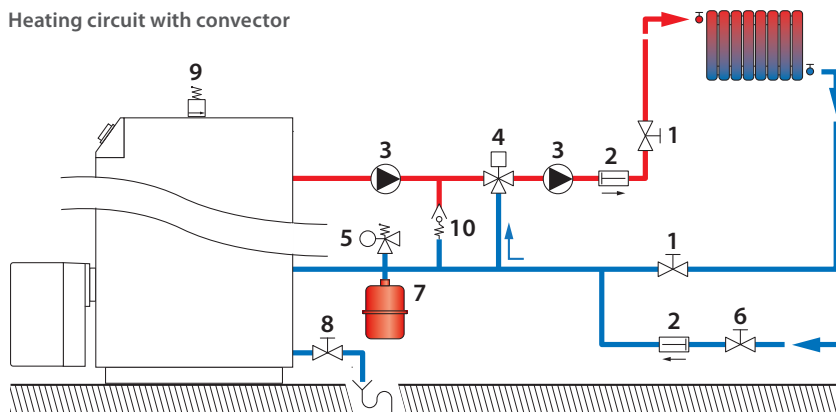
HEATING CIRCUIT CONNECTION

1. Heating circuit isolating valve
2. Check valve
3. Heating pump of the system
4. Mixing valve
5. Safety group
6. Primary circuit filling valve
7. Heating circuit expansion vessel
8. Drain valve
9. Automatic air bleed valve
10. Bypass
11. Safety thermostat for floor heating circuit

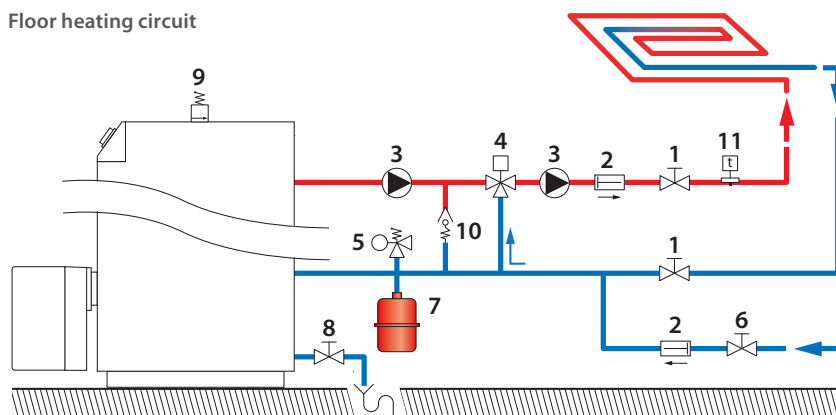


Do not install thermostatic valves on the radiators located in rooms fitted with a room thermostat.

Heating circuit with convactor



Floor heating circuit



OIL CONNECTION



General remark

- The oil connection must comply with all applicable standards.



Essential recommendation for safety

- Refer to the technical characteristics and safety instructions of the burner technical manual. Failure to comply with the instructions could result in damage to the material, personal injury or death.



Essential recommendations for the correct operation of the appliance

- Bleed the oil duct and check thoroughly if all the boiler tubes, both internal and external, are tight.
- Control the oil supply connection and tightness.

SAFETY INSTRUCTIONS FOR STARTING UP



General remark

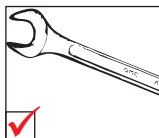
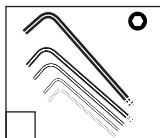
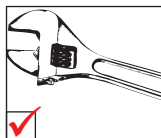
- In normal operation, the burner starts automatically as soon as the boiler temperature drops below the preset temperature.



Essential recommendations for safety

- The components inside the control panel may only be accessed by an approved installer.
- Set the water temperature in accordance with usage and local plumbing codes.

TOOLS REQUIRED FOR STARTING UP



CHECKS BEFORE STARTING UP



Essential recommendation for safety

- Check the tightness of the flue pipe connections.



Essential recommendation for the correct operation of the appliance

- Control the tightness of the hydraulic circuit connections.

FILLING THE SYSTEM

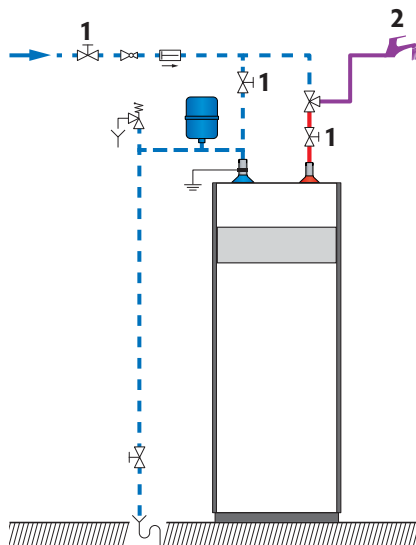


First put the DHW tank under pressure before pressurizing the heating (primary) circuit.

Filling the domestic hot water circuit

1. Open the isolating valves (1) and the draw-off tap (2).
2. Once the water flow rate has stabilized and the air is totally evacuated from the system, close the draw-off tap (2).
3. Check all the connections for leaks.

— Cold water
— Hot water



Preliminary filling of the heating circuit

- Fill the primary circuit with mains water until you reach an approximate pressure of 1,5 bar in the system.
- Bleed the whole system.

STARTING UP THE BOILER

Set-up conditions

- All connections made
- External power supply enabled
- Oil supply open
- DHW and heating circuits full of water

Procedure

1. Put the ON/OFF master switch to ON
2. Rotate the boiler control thermostat clockwise to generate a heat demand.
3. Possibly increase the set temperature of the room thermostat, if installed.
4. Check with your hand (motor vibrations) that the heating pump of the system is not blocked and unblock it if required.

Follow-on tasks

- Adjust the combustion, see paragraph below.

COMBUSTION ADJUSTMENT

Set-up conditions

- Operating boiler

Procedure

1. Refer to the starting up instructions detailed in the technical manual of your burner
2. Adjust CO₂ in a range of 13 to 14 % by setting the oil pressure as well as the shutter as described in the Starting up paragraph of the boiler (see the burner manual).
3. Check the flue temperature and CO.

Follow-on tasks

- Bleed the heating circuit again to restore a 1.5 bar pressure.
- Repeat the sequence until complete evacuation of the air contained in the circuit.

SAFETY INSTRUCTIONS FOR THE BOILER MAINTENANCE



Essential recommendation for the electrical safety

- Isolate the external power supply of the appliance before performing any operation, unless it is required to take measurements or perform system setup.



Essential recommendations for safety

- Water flowing out of the drain valve may be extremely hot and could cause severe scalding.
- Check the tightness of the flue pipe connections.




Essential recommendations for the correct operation of the appliance

- It is recommended to have the boiler and the burner serviced at least once a year or every 1,500 hours. More frequent servicing may be required depending on boiler use. Please consult your installer for advice.
- The boiler and burner maintenance will be carried out by a qualified engineer, and the defective parts may only be replaced by genuine factory parts.
- Control the tightness of the hydraulic circuit connections.
- Make sure to replace the gaskets of the removed items before reinstalling them.

PERIODIC BOILER MAINTENANCE TASKS

Tasks	Frequency		
	Periodic inspection	1 year	2 years
	End-user	Professional	
1. Make sure that the system water pressure is at least 1 bar when cold. Top up the system if necessary, adding small quantities of water at a time. In case of repeated fills, call your installer.	X	X	
2. Check that there is no water on the floor in front of the boiler. Call your installer if there is.	X	X	
3. Check the presence of a flame through the flame sight glass. If there is no flame, see the burner manual.	X	X	
4. Check that the heating pump system is running by placing a hand on it.		X	
5. Check the correct operation of all thermostats and safety devices: boiler thermostat, safety thermostat, safety valves, etc.		X	
6. Check that the the oil connections are tight and there is no leak, that the hoses are not kinked and that there is not entrance of air in the circuit.		X	
7. Check that all hydraulic and electrical connections are correctly fastened and tight.		X	
8. Check the flue gas exhaust: correct fastening, correct installation, no leaks or clogging.		X	
9. Check the combustion parameters (CO and CO2), see "Combustion adjustment", page 28		X	
10. Clean the burnera and the heating body, see "Cleaning the burner and the heating body", page "Cleaning the burner and the heating body", page 31 and the burner manual.			X

-  It is recommended to stop the boiler and have it serviced during good weather conditions.

CLEANING THE BURNER AND THE HEATING BODY

Set-up conditions

- Boiler shut-down
- External power supply isolated
- Oil supply closed

Procedure

1. Open the front panel.
2. Release the burner flange and place the burner in the maintenance position to clean it (see the burner manual).
3. Remove the burner
4. Open the heating body door.
5. Using a brush, clean the soot that may be present in the heating body and on the turbulators.
6. Check the correct position of the braid.

Follow-on tasks

- Close the door and tighten with sufficient torque to ensure it is sealed against combustion products.
- Reinstall the burner flange and the burner.
- Close the front panel.

DRAINING THE BOILER



Before draining the DHW tank, drain the heating (primary) circuit or bring its pressure to 0 bar.

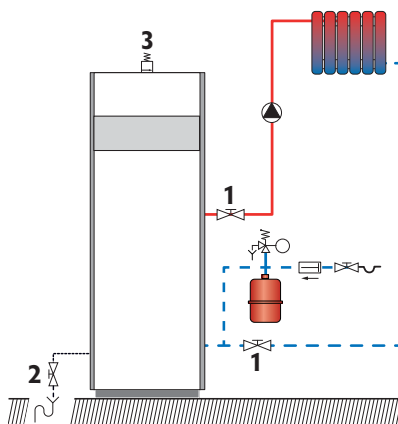
Water flowing out of the drain valve may be extremely hot and could cause severe scalding. Keep people away from the hot water discharge.

Set-up conditions

- Boiler switched off using the ON/OFF master switch
- External power supply isolated
- Fuel/gas supply closed

Heating circuit draining procedure

1. Close the isolating valves (1).
2. Connect the drain valve (2) to the sewer with a hose.
3. Open the drain valve (2) to empty the heating circuit of the boiler.
4. Open the circuit air bleed valve (3) to accelerate the draining process.
5. Close the drain valve (2) and the air bleed valve (3) once the heating circuit of the boiler is empty.

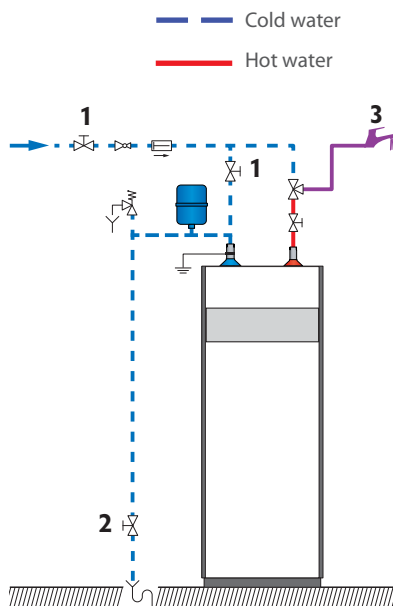


DHW circuit draining procedure



Before draining the DHW tank, make sure that the heating (primary) circuit pressure is null.

1. Open fully a draw-off tap (3) for about 60 minutes to make sure that the DHW tank has cooled down.
2. Close the isolating valves (1).
3. Connect the drain valve (2) to the sewer with a hose.
4. Open the drain valve (2) and drain the DHW tank water to the sewer.
5. Open the draw-off tap (3) to accelerate the draining process. If it is located lower than the tank connection, open a draw-off tap located higher in the system.
6. Close the drain valve (2) and the draw-off tap (3) once the DHW tank of the boiler is empty.



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DECLARATION OF CONFORMITY - CE

Name and address of manufacturer: **ACV International SA / NV**
Kerkplein, 39
B-1601 Ruisbroek

Description of product type: **Low temperature boilers fired with liquid fuels**

Models: **BNE 1 - BNE 2**

CE #: **0461BP0881**

We declare hereby that the appliance specified above is conform to the type model described in the CE certificate of conformity to the following directives:

Directives	Description	date
92/42/CEE	Efficiency Requirements Directive	20.03.2008
2006/95/CE	Voltage Limits Directive	12.12.2006
2004/108/CE	Electromagnetic Compatibility Directive	15.12.2004

We declare under our sole responsibility that the product **BNE** complies with the following standards and directives:

EN 303-1	EN 55014-1	EN 61000-3-2
EN 60335-2-102	EN 55014-2	EN 61000-3-3

Ruisbroek, 12/06/2013

Date

Director R & D
 Marco Croon



MARKINGS



LABELS