

N

Installation, operating and maintenance Instructions

N-Mini / N 1 / N 2 / N 3



excellence in hot water

INTRODUCTION	2	BURNER CHARACTERISTICS	12
Who should read these instructions	2	Description of the burner	12
Symbols	2	Factory settings parameters	13
Applicable standards	2	Burner dimension	13
Important notes	2		
USER GUIDE	3	COMMISSIONING	14
Use of the boiler	3	Filling the hot water and heating circuits	14
Setting the burner to safety mode	3	Using the boiler for the first time	14
DESCRIPTION	4	MAINTENANCE	14
General description	4	Recommendation	14
Operating principle	4	Boiler maintenance	14
Design characteristics	4	Safety equipment maintenance	14
Boiler views and key to parts	4	Draining the boiler	14
TECHNICAL CHARACTERISTICS	5	SPARE PARTS	15
General	5	Casings	15
Operating condition limits	5	Accessories	15
Dimensions	5	Electrical accessories	15
Hot water output data	5		
General characteristics	5		
INSTALLATION	6	SERVICE RECORD	16
Boiler room	6	Details of the installation	16
Chimney connections	6	Service engineer's report	16
Fuel oil supply	6		
Heating connection	7		
Hot water connection	7		
Electrical connections	8		
Control kit	9		
N + NHR INSTALLATION WITH ACV CONTROL	10		

INTRODUCTION

WHO SHOULD READ THESE INSTRUCTIONS

These instructions should be read by:

- the specifying engineer
- the installer
- the user
- the service engineer

SYMBOLS

The following symbols are used in these instructions:



Important instructions for correct operation of the installation.



Essential instructions to ensure the safety of persons and the environment.



Danger of electrocution.



Danger of burning.

APPLICABLE STANDARDS

The products described in this document have been certified at European level (European Directive 92/42/EEC «Efficiency»). They have also been awarded the Belgian "OPTIMAZ" LABEL (fuel oil boiler).



IMPORTANT NOTES

These instructions are an integral part of the equipment to which they relate and must be handed to the user.

The product must be installed and serviced by qualified engineers in accordance with the regulations in force.

ACV 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 ACV.



Failure to follow the instructions describing the test operations and procedures may cause injury to persons or risks of environmental pollution.

N.B.:

ACV reserves the right to change the technical characteristics and specification of its products without notice.

USE OF THE BOILER



To ensure that your system operates correctly, please have it serviced annually by a qualified engineer; servicing should be completed before the start of the heating season.

Starting the burner:
in normal operation the burner starts automatically if the temperature of the boiler is below the set point.



Before carrying out any work on the boiler, isolate it from the electrical supply at the switch on the external control box.
Also place the main switch on the control panel to "OFF".

You should familiarise yourself with the control panel

(fig. 1)



The user must not attempt to gain access to the components inside the control panel.

1. Control thermostat

When the boiler is used for heating only, the boiler temperature may be set at 60 to 90°C. If the boiler is used to generate domestic hot water and heating, the boiler's control thermostat should be set at 80°C to ensure optimum operating conditions.

2. Main switch

Use this switch to turn the boiler on and off.

3. Summer/Winter switch

Use this switch to start and stop the heating pump.

4. Thermostat-pressure gauge

This gauge shows the temperature of the boiler and the pressure in the primary heating circuit. The temperature must not exceed 90°C. If it rises above this point, turn off the boiler and check the settings on the thermostat. If the problem persists, call a technician.
The pressure must not fall below 1 bar. If it does fall below this point, look up the section entitled "Gauge pressure of the heating installation" in this section below.

5. Manual reset high-limit thermostat

If the boiler temperature exceeds 103°C, this safety device will be enabled. The boiler temperature must drop below 60°C to re-start. Unscrew the cover and press the re-start key with a pen or an object with a similar sharp point. Replace the cover. If the fault persists, turn off the boiler and call a technician.

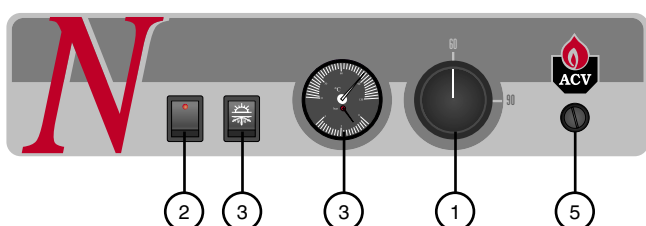


fig. 1 : Control panel



fig. 2 : N-Mini Control panel

Pump operation:

The pump is controlled by a reset high limit thermostat, which is located at the rear of the boiler. This is pre-set at 45°C. When the boiler starts up, it delays the activation of the boiler pump, thereby preventing any risk of corrosion in the combustion chamber.

Gauge pressure of the heating system

Your system must be fitted with a heating safety valve calibrated to 3 bars.

Ensure that the system is always under water pressure. When the system is cold and the air inside it has been vented, the gauge must indicate a pressure between 0.5 and 1.5 bar depending on the height of the building.

To add water: (refer to Fig. 10 on Page 7)

- Open the filling valve (5).
- Close the valve properly after filling.
- Vent the system in order to obtain an accurate reading of the pressure inside the heating circuit.

Safety valves (heating circuit)

If water is found to be escaping from one of the safety valves, stop the boiler and contact your installer for advice.

A monthly test is recommended:

Lift the lever on the drain cock for a few seconds to ensure that the safety valve is working correctly.



If there is a problem after this short test, please contact your installer for advice.



The water escaping from the safety valve can be extremely hot and cause serious burns.

BURNER SHUTDOWN

If the burner is not working:

1. The burner indicator lamp lights up.
2. Press the burner reset button (Fig. 3) on the burner. Turn the boiler off for several seconds at the main switch, then restart the boiler.
3. If the burner still does not work, rearm the manual reset highlimit thermostat on the control panel (Fig. 4).
4. If the anomaly persists, please contact your installer.



fig. 3



fig. 4

DESCRIPTION

GENERAL DESCRIPTION

- Model **N** is a single boiler (*heating*).
- Equipment required: a water connection kit for the heating circuit supply (*optional*).
- The **N-Mini** control panel includes a control thermostat and a thermostat pressure gauge.
- The control panel on **N 1 - 2 - 3** boilers includes a main switch, a Summer/Winter switch, a thermostat pressure gauge, a control thermostat and a manual reset high-limit thermostat.
- The **N** boiler can be connected directly to the chimney using a B23 chimney connector.
- **N-Mini** Model: output of 16.6 kW.
- **N1** Model: Outputs in the range 20 to 25 kW.
- **N2** Model: Outputs in the range 28 to 36 kW.
- **N3** Model: Outputs in the range 36.5 to 51 kW.

OPERATING PRINCIPLE

Simple to control, safety assured

The temperature of the water in both the heating circuit and the hot water circuit is regulated by a single control. This is achieved by means of the control thermostat and the bulb is located beside the boiler outlet. switch.

- A manual reset high-limit thermostat locks the burner if the primary water temperature reaches 103°C.
- A minimum thermostat, fitted at the rear of the boiler, and preset at 45°C, delays the activation of the boiler pump. This prevents any risk of corrosion in the combustion chamber.

Generation of domestic hot water

Boiler **N** can be combined with the **NHR** tank (110 L) superimposed with the boiler or with any other ACV tank.

DESIGN CHARACTERISTICS

Outer body

The outer body which holds the primary water is made from STW 22 heavy gauge steel.

Flue ways

The boiler's flue ways can be accessed from the front and include a set of removable turbulators, in either stainless steel or chrome, which have been specially designed to provide the optimum combustion efficiency.

Combustion chamber

The boiler features a large, water-cooled combustion chamber to guarantee a good flame.

Removable burner chamber plate

The chamber plate is fitted on a hinge (left or right) and made from STW 22 steel. It is protected from the flame by a ceramic fibre padding and a vermiculite brick.

Insulation

The burner body is insulated with rock wool padding (*50mm thick*).

Casing

The boiler is covered with a steel casing that has been stove enamelled at 220°C after scouring and phosphating.

BOILER VIEWS AND KEY TO PARTS

1. Top cover
2. Heating outlet
3. Heating return
4. Chimney connection
5. Heating circuit
6. Combustion chamber
7. Boiler drain cock
8. Fuel oil burner
9. Left-right removable burner chamber plate
10. Exchanger (flue ways)
11. Front panel
12. Control panel

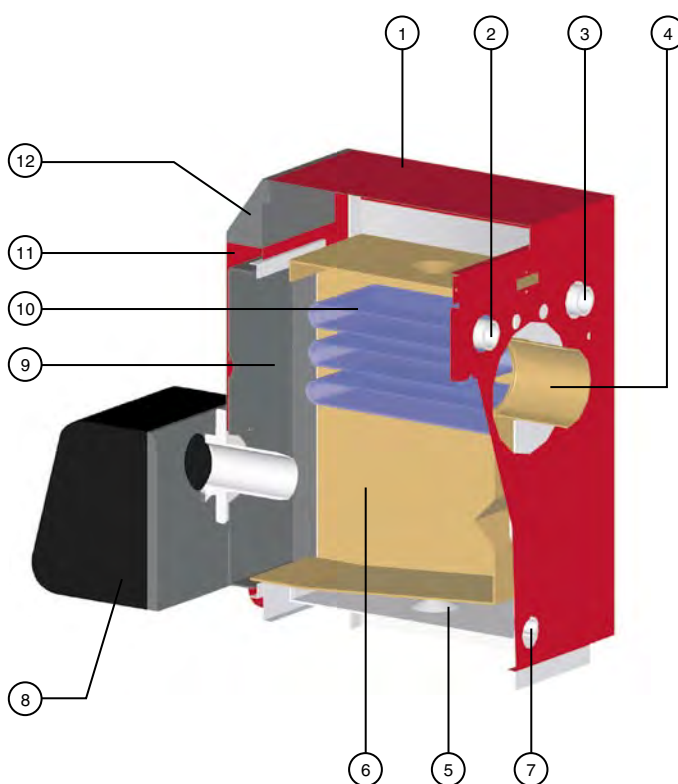


fig. 5

TECHNICAL CHARACTERISTICS

GENERAL

The appliances are supplied fully assembled, tested and packed standing on a timber base with impact protection strips and wrapped in heat-shrunk plastic film. When the appliance arrives, remove the packaging and check that no parts have been damaged in transit. Refer to the dimensions and weights listed below for handling purposes:

OPERATING CONDITION LIMITS

Maximum service pressure (tank filled with water)

- Heating circuit: 3 bar
- Domestic hot water circuit : 10 bar (*)

Test pressure (tank filled with water)

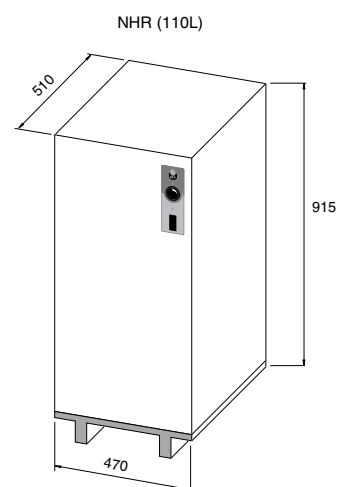
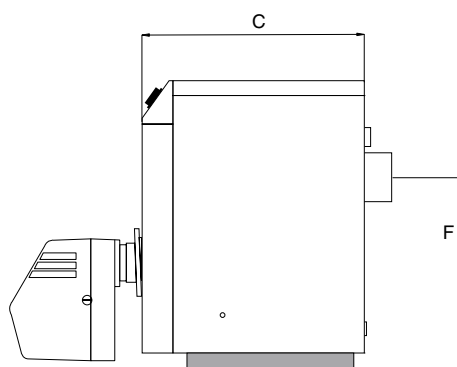
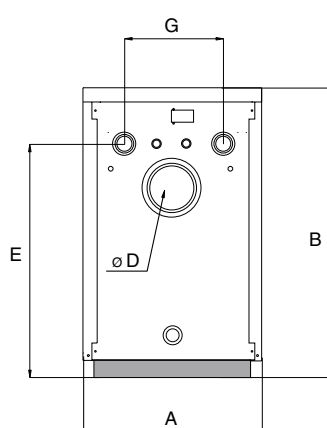
- Heating circuit: 4,5 bar
- Domestic hot water circuit : 13 bar (*)

Operating temperature

- Maximum temperature: 90°C

(*) if the boiler is connected to a domestic hot water production tank.

DIMENSIONS



	A mm	B mm	C mm	D Ø mm	E mm	F mm	G mm	Kg (*)
N-Mini	370	565	495	80	425	357	187	62
N 1	470	700	566	130	550	445	260	108
N 2	470	765	566	130	615	510	260	122
N 3	530	805	656	150	645	550	260	157

(*) The weights shown are the drained weights.

DOMESTIC HOT WATER PERFORMANCE "N + NHR (110 L)"

N 1

N 2

Operating conditions at 85°C

Peak flow at 45°C (ΔT = 35°C)

L/10'

236

236

Peak flow at 60°C (ΔT = 50°C)

L/10'

145

145

GENERAL CHARACTERISTICS

		N-Mini	N 1	N 2	N 3
Input	kW	18.4	22.0 / 28.0	30.4 / 40.0	40.0 / 57.0
Output	kW	16.6	20.0 / 25.0	27.0 / 35.7	36.5 / 51.0
Pressure loss of the flue gas circuit	mbar	0.11	0.15	0.17	0.15
Heating circuit capacity	L	17	31	37	53
Heating connection (female)	Ø	3/4"	1"	1"	1" 1/4

INSTALLATION

BOILER ROOM

Important

- Never obstruct the ventilation.
- Do not store inflammable products in the boiler room.
- Avoid storing corrosive products such as paint, solvents, chlorine, salt, soap or other cleaning products near the boiler.

Accessibility

The boiler room should be big enough to allow easy access to the boiler. Minimum clearances around the boiler (mm):

- to the front	500
- to the rear	150
- to the sides	100
- above	700

Ventilation

The boiler room must have both low- and high-level ventilation (see fig. 6).

For your information, the table below gives the minimum ventilation requirements according to Belgian regulations.

The user must ensure that his boiler room ventilation complies with local regulations.

Ventilation		N-Mini	N 1	N 2	N 3
Fresh air supply min.	m ³ /h	33	50	72	102
High-level ventilation (A)	dm ²	150	150	150	150
Low-level ventilation (B)	dm ²	150	150	150	170

Base

The base on which the boiler will be mounted must be made from noncombustible materials.

CHIMNEY CONNECTIONS



IMPORTANT

The boiler must be installed by a qualified engineer in accordance with the local standards and codes of practice.



The diameter of the chimney must not be less than the diameter of the boiler's chimney reducer.

Chimney connector type: B23 (fig.6)

The chimney must be connected to the boiler by means of a metal pipe rising at an angle from the boiler to the chimney.

A chimney connector is required.

Chimney		N-Mini	N 1	N 2	N 3
E = 5 m Ø min. F	mm	97	130	143	170
E = 10 m Ø min. F	mm	82	130	130	143
E = 15 m Ø min. F	mm	80	130	130	130

- A. High-level ventilation
- B. Low-level ventilation
- C. Draught stabiliser
- D. Flame inspection window
- E. Height of lined chimney
- F. Chimney diameter

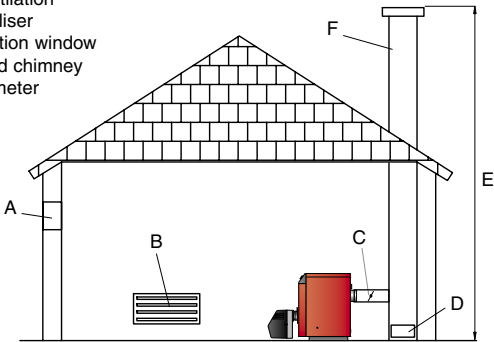


fig. 6 : Boiler ventilation and B23 chimney connector



Important note:

The above table is shown by way of indication only as regulations vary from country to country.



The high output of our boilers means that the flue gases are at a low temperature. The attendant risk of condensation may cause damage to some chimneys. To avoid this risk we strongly advise that you line the chimney. Please contact your installer for any further information.

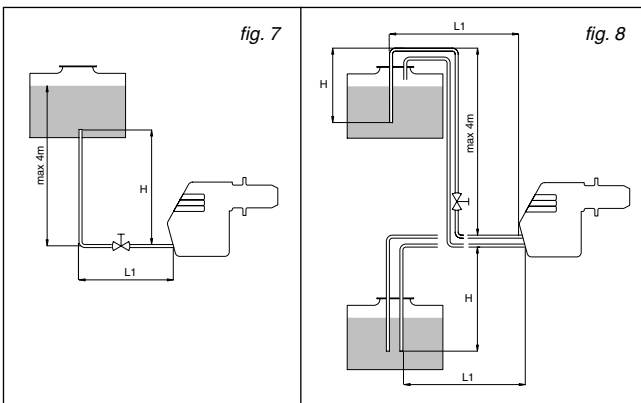
FUEL OIL SUPPLY

Single-pipe installation (fig. 7)

Height H	Ø 8 mm	Ø 10 mm
0,5 m	L = 10 m	L = 20 m
1.0 m	L = 20 m	L = 40 m
1.5 m	L = 40 m	L = 80 m
2.0 m	L = 60 m	L = 100 m

Two-pipe installation (fig. 8)

Height H	Ø 8 mm	Ø 10 mm
0 m	L = 35 m	L = 100 m
0.5 m	L = 30 m	L = 100 m
1.0 m	L = 25 m	L = 100 m
1.5 m	L = 20 m	L = 90 m
2.0 m	L = 15 m	L = 70 m
3.0 m	L = 8 m	L = 30 m
3.5 m	L = 6 m	L = 20 m



CONNECTING THE HEATING SYSTEM

ACV water kit

ACV can supply an optional pre-assembled water kit.

This kit comprises:

- A pump;
- A 3-way manual valve. This valve can be power-operated if required;
- Connection pipes that can be used to connect a second heating circuit;
- Two isolating valves;
- Connectors for the right- or left-hand mounting of the expansion vessel, the safety valve with pressure gauge and the fill valve.

The expansion vessel is not included.

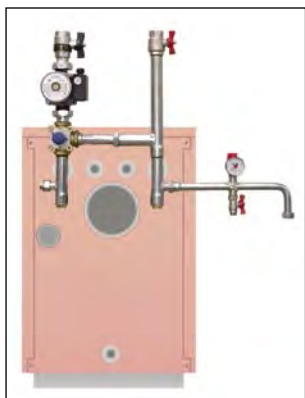


fig. 9 : ACV water kit

Typical single-circuit connection

1. 3-way power-operated mixer valve
2. Safety valve calibrated to 3 bar, with pressure gauge
3. Pump
4. Non-return valve
5. System filling valve
6. Expansion vessel
7. ACV 13.00 controller (see Controller Kit on page 9)
8. Heating system isolating valve
9. Drain cock

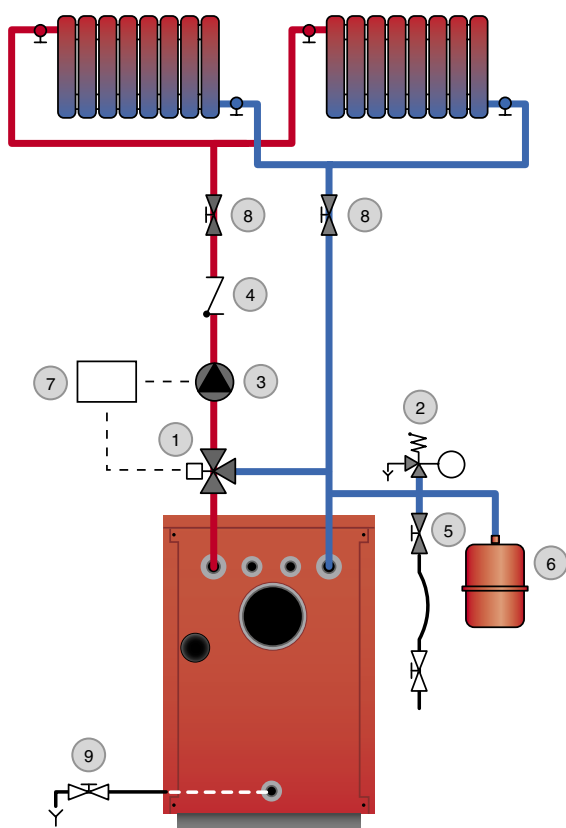


fig. 10 : Heating system connection

Drain

The drain cock and safety valve must be connected to the building drain.

HOT WATER CONNECTION

Pressure reducing valve

If the mains water pressure exceeds 6 bar, a pressure reducing valve calibrated to 4.5 bar must be installed.

Safety group

The safety group of the water tank must be approved by ACV and calibrated to 7 bar; the group's valve discharge must be connected to the drain.

Hot water expansion vessel

Installing a hot water expansion vessel will prevent any risk of excess pressure due to water hammer or pressure fluctuations.

Hot water circulation

If the water tank is a long way from the point of use, installing a closed recirculation circuit can ensure a faster hot water drawoff at any time.

Typical N + NHR domestic hot water connection (110 L) with thermostat valve

1. Safety group
2. Pressure reducing valve
3. Thermostatic mixer
4. Hot water pump
5. Non-return valve
6. Hot water expansion vessel
7. Cold water supply tap
8. Drawoff tap
9. Drain cock
10. Air vent
11. Isolating valve

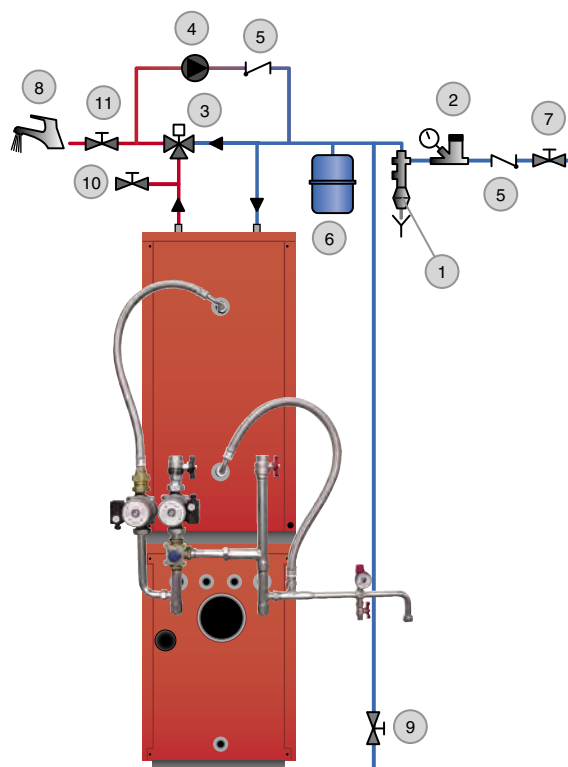


fig. 11 : Hot water system connection



IMPORTANT

As a safety measure, we strongly advise the installation of a thermostatic mixer to prevent any risk of burning to persons.

INSTALLATION

Optional accessories

Safety group	Ø 3/4"
Pressure reducing valve	Ø 3/4"
Thermostatic mixer	Ø 3/4"
Expansion vessel	5 litres

ELECTRICAL CONNECTIONS

Power supply principle

The boiler operates on a single-phase supply of 230 V/50 Hz. You should install a control box with main switch and 6A fuses externally to the boiler to allow the boiler to be isolated from the supply for servicing and repairs.

Statutory compliance

The installation must comply with your local standards and codes of practice.

Safety

The stainless steel if present water tank must be provided with a separate earth.



The boiler must be isolated from the electrical supply before any work is carried out on it.

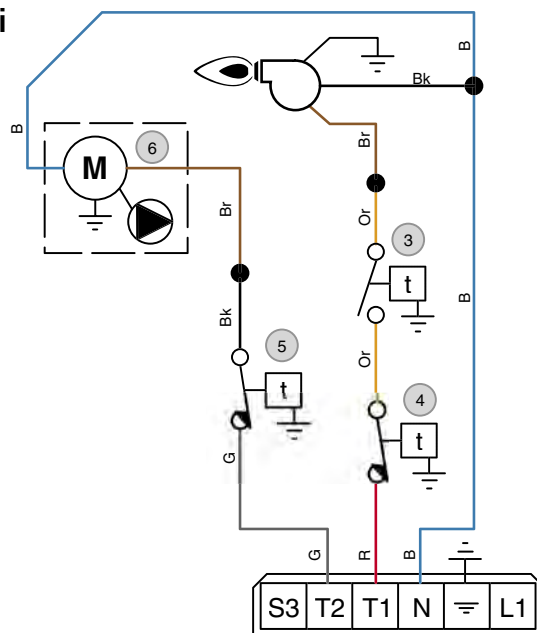
Electrical wiring of N boilers

1. Main switch
2. Summer/Winter switch Thermal reset high-limit thermostat (95°C)
3. Control thermostat (60/90°C)
4. Manual reset high-limit thermostat (103°C max.)
5. Minimum thermostat 45°C (T.O.D)
6. Pump (optional)
7. Room thermostat

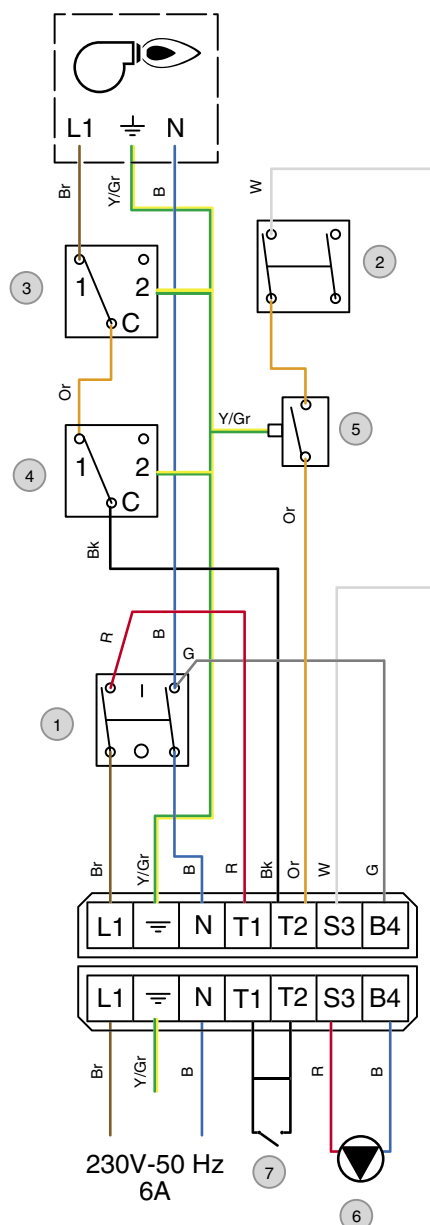
Wiring diagram key

- B. Blue
- Bk. Black
- Br. Brown
- G. Grey
- Or. Orange
- R. Red
- W. White
- Y/Gr. Yellow/Green

N-Mini



N 1 N 2 N 3



CONTROL KITS (OPTIONAL)

ACV 13 electrical controller



- Direct control of the burner (ON/OFF) or modulating control of a power-operated valve.
- Domestic hot water priority.

QAD 22 heating outlet sensor



- For configuration with an air temperature controller.

QAC 32 Outdoor sensor



- For configuration with an air temperature controller.

SSY 319 servomotor



- SSY 319 electromechanical servomotor for 3-way valves.

SQK 349 servomotor



- SQK 349 electromechanical servomotor for 3-way valves.

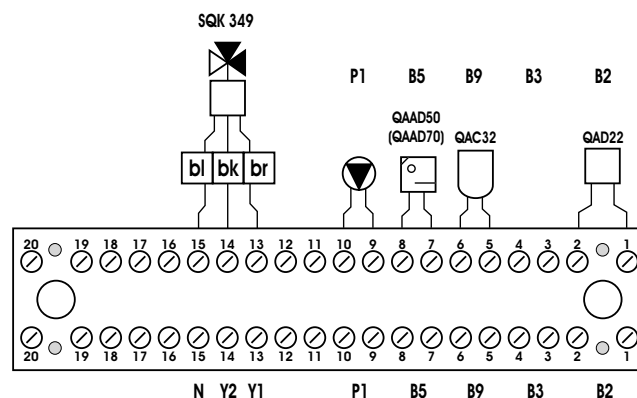
Wall-mounted case



- ACV 13 connecting wiring case.

Electrical wiring diagram of the wall-mounted case

- B2. Temperature sensor
- B9. Outdoor sensor
- B5. Analogue/digital room sensor
- P1. Pump
- Y1/Y2/N. Servomotor (SQK 349 or SSY 319)
- bl. Blue N
- n/z. Black Y2
- br. Brown Y1



Please contact your installer if you require any further information.

Boiler Control BC 01



- This control box is used to connect a single- or dualfuel boiler to a heating system boiler, without hotwater priority.

Boiler Control BC 03



- The Boiler Control BC 03 controls a heating system boiler without domestic hot water priority with a boiler: it controls the burner operation, the heating pump and the boiler - either through the SCE pump or the 3-way SCE valve.
- The Boiler Control BC 03 incorporates a pump anti-lock device that regularly starts up the pump for a few seconds after a long period of non-use.

INSTALLATION

N + NHR INSTALLATION WITH ACV CONTROL

1. Room thermostat
2. Heating pump
3. 3-way power-operated valves
4. Boiler burner
5. NHR 110 L boiler
6. Electrical supply

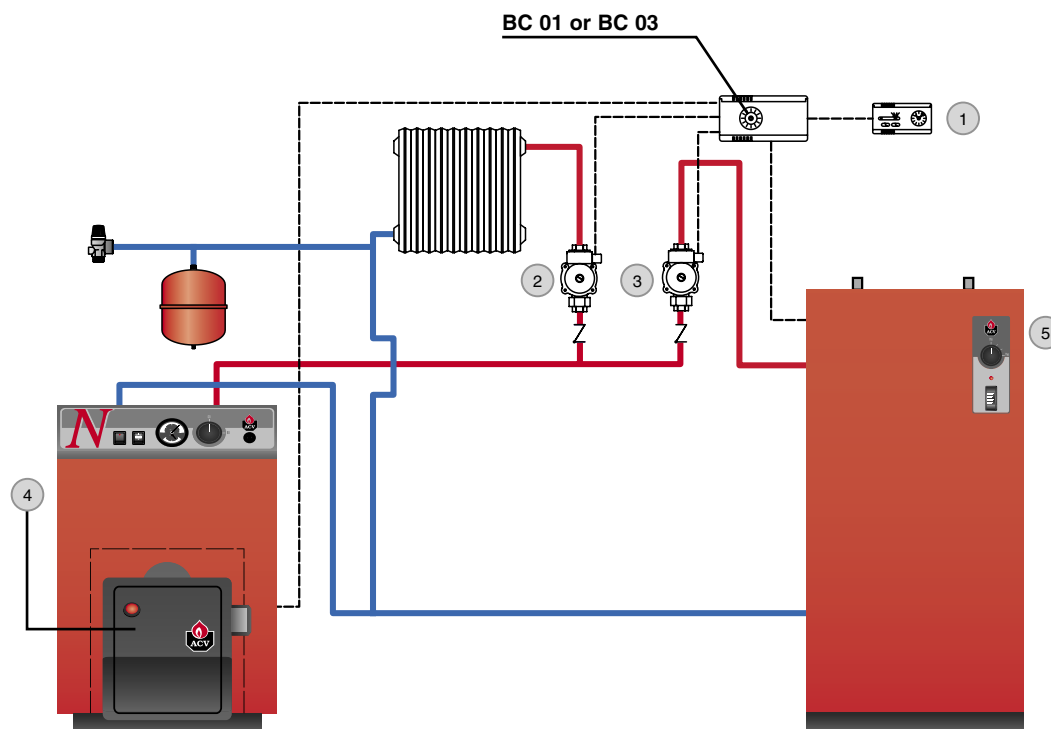


fig. 12 : Installation with two pumps.

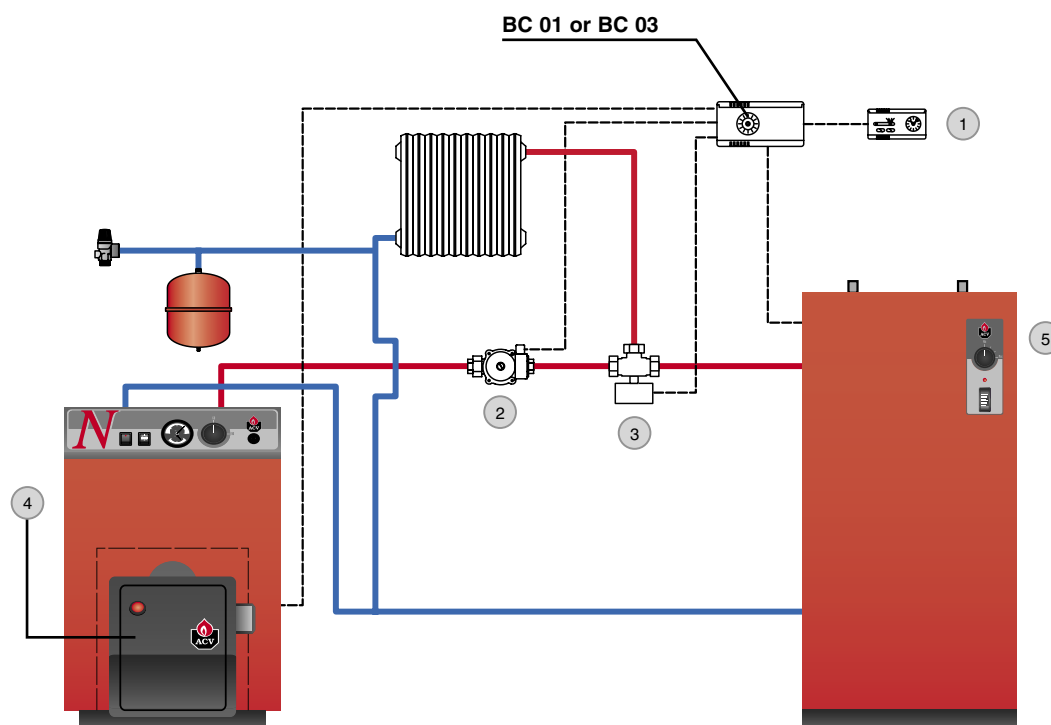
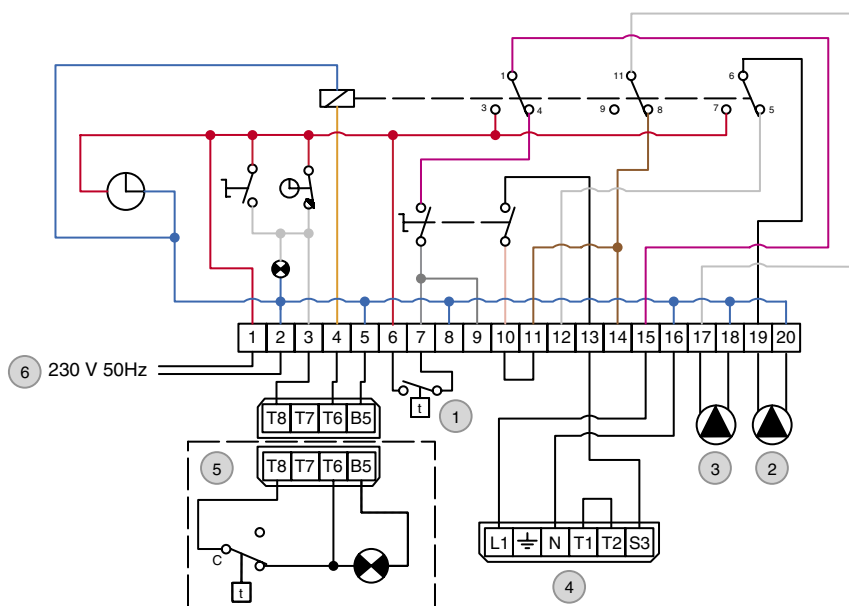
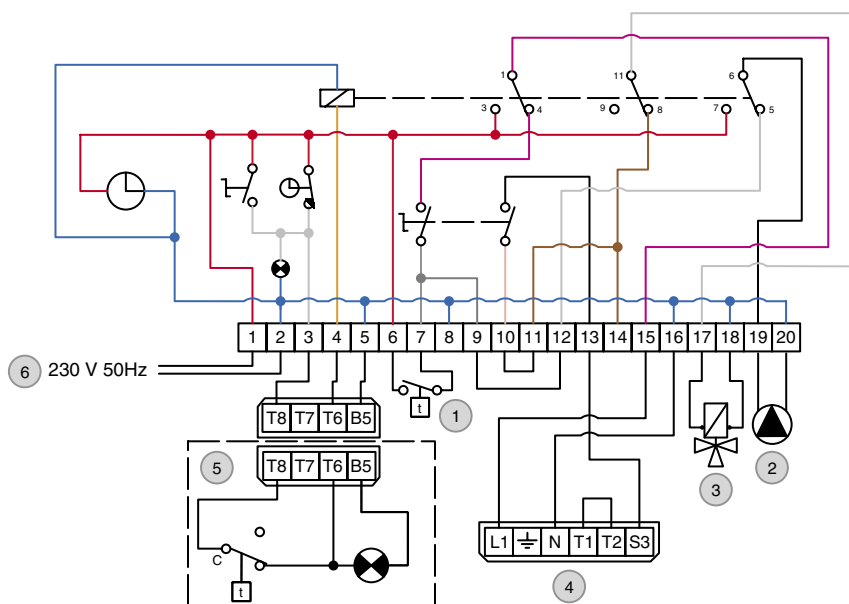


fig. 13 : Installation with 1 pump and one 3-way power-operated valve.

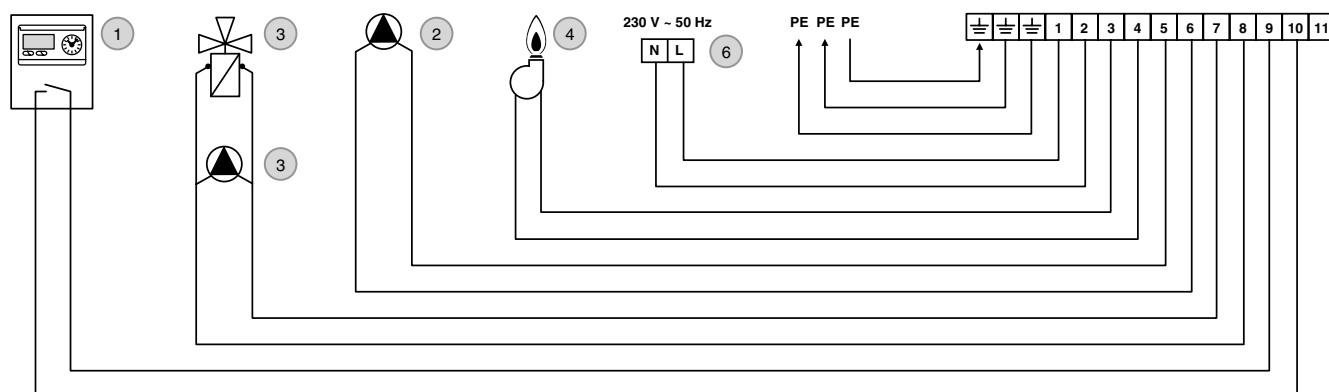
Electrical connection of BC 01 with 2 pump



Electrical connection of BC 01 with one 3-way motorised mixer valve + 1 pump



Connecting the system's electrical components to the BC 03



BURNER CHARACTERISTICS

DESCRIPTION OF THE BURNER

This new generation of fuel oil burners comply with current requirements in terms of performance and the cleanliness of combustion gases.

The burner is fitted with the finest quality components reflecting the latest developments in technology and the fuel-oil is pre-heated.

Components:

- "Landis & Gyr" relay
- "A.E.G." motor
- "Suntec" pump
- "May & Christe" transformer
- "Danfoss" fuel-oil preheater

Advantages

- Simple to install, it is fitted with a safety switch and a new burner suspension system.
- A special key is provided with the burner for any maintenance work needed.
- The burner air pressure adapts to the pressure in the combustion chamber.
- An automatic stop check valve stops the airflow when the boiler is turned off, preventing it from cooling.
- Silent and very reliable operation.
- Adapts to the depth of the boiler with the adjustable nozzle clamp.
- Three air-regulation points to ensure the optimum air/fuel oil mixture.
 - The air is pre-regulated upstream;
 - primary regulation;
 - combustion head regulation.

Throat

Burner socket

Nozzle line adjuster screw

Louver

Pump - nozzle connection pipe

Control relay

Burner reset

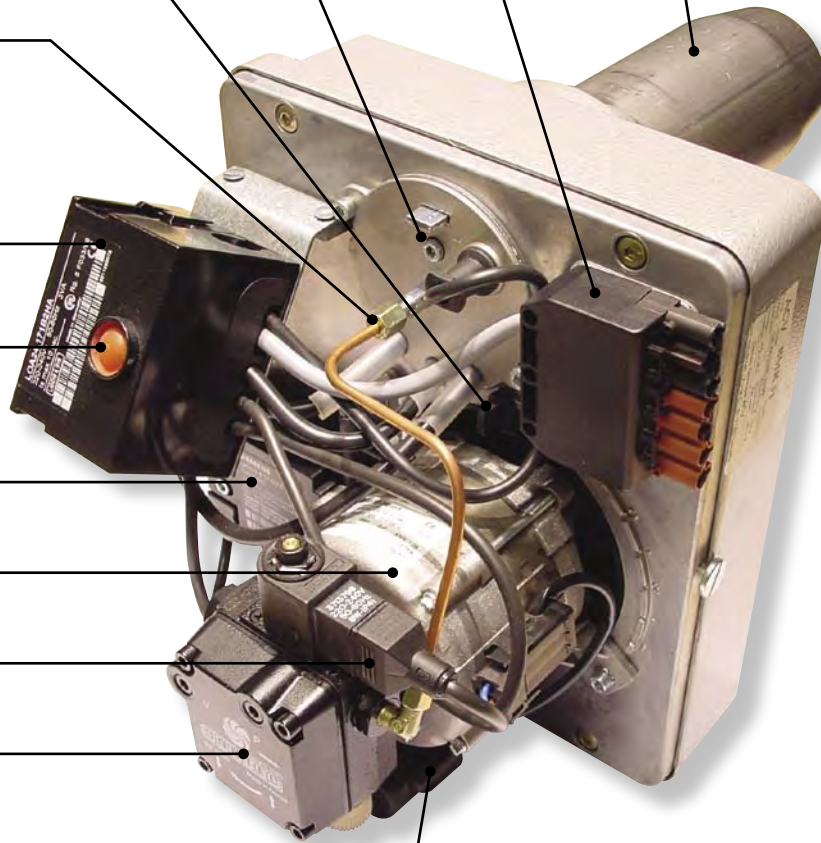
High voltage transformer

Motor

Electrical valve

Fuel oil pump

Motor capacitor



BURNER CHARACTERISTICS

REGULATION PARAMENTER

		BM R 31		BM R 51
		N1	N2	N3
Power	kW	23.0	30.0	49.0
Electrical power	W	150	150	150
Nozzle	gal/h	0.50	0.75	1.25
Nozzle angle		60°	60°	60°
Fuel oil rate of flow	Kg/h	1.94	2.53	4.13
Pump pressure	bar	13.5	10.5	10
Flue gas index		0.6	0.6	0.6
Louver regulation		3	4.5	4
Combustion head regulation		2	1	2
Weight	Kg	12	12	12

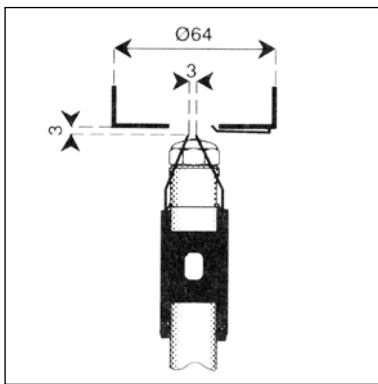


fig. 14 :
Electrode distance



fig. 15 :
Combustion head
adjuster screw



fig. 16 :
Air flow adjuster screw
(fine tuning)

BURNER DIMENSION

	A mm	B mm	C mm	D mm	E mm	F mm	G Ø mm	L Ø mm	LK Ø mm
BM R 31	240	270	215	280	60-130	M 8	80	85	140-165
BM R 51	240	270	215	280	60-130	M 8	80	85	140-165

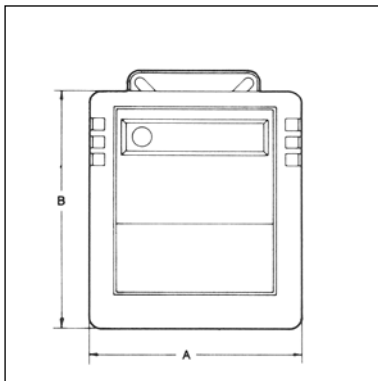


fig. 17

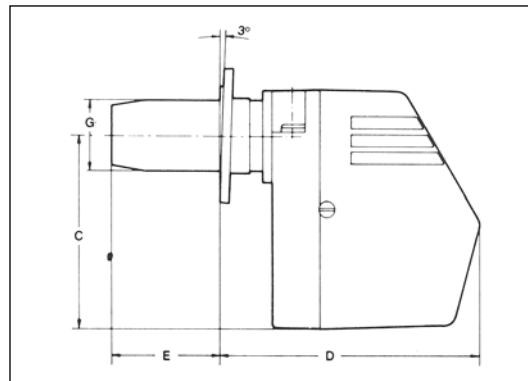


fig. 18

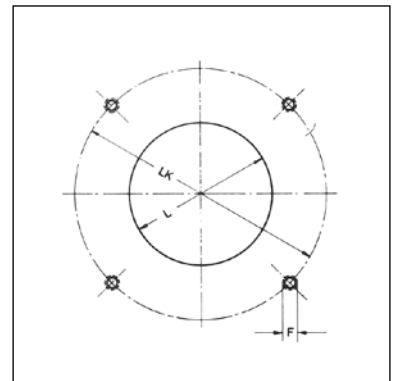


fig. 19

FILLING THE HEATING CIRCUIT



IMPORTANT

If your "N" boiler is connected to an ACV tank, it is essential to fill the domestic water circuit before the heating circuit.

1. Open valves 5 and 8 to fill the heating circuit and make sure the pressure does not exceed 2 bars.

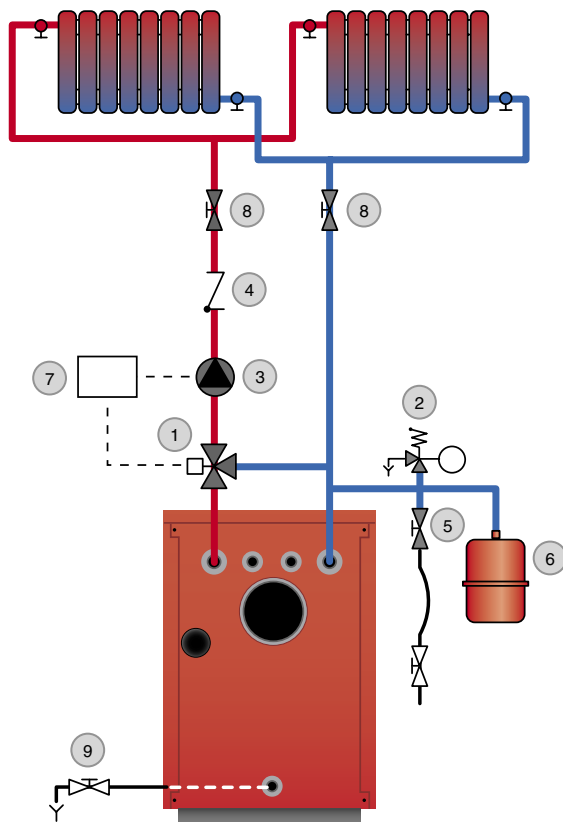


fig. 20

2. Vent the system.
3. Once you have vented the system, return the pressure to the static pressure plus 0.5 bar.

Height of the heating system:

- 10 m ⇒ heating circuit pressure = 1.5 bar
- 15 m ⇒ heating circuit pressure = 2 bar

USING THE BOILER FOR THE FIRST TIME

1. Check the fuel oil supply connection and ensure that it is free from leaks.
2. Check the electrical connection to the boiler and the boiler room ventilation, and ensure that the flue gas discharge pipes and the burner chamber plate are properly gas tight.
3. Set the boiler thermostat to between 60° and 90°C.
4. Place the Summer/Winter switch to the required position.
5. Place the main switch to "ON".
6. Carry out the necessary venting operations, measurements and settings.

RECOMMENDATION

It is compulsory to have the boiler serviced once a year. Boiler servicing and checking must be carried out by a qualified engineer.

MAINTAINING THE BOILER

1. Isolate the boiler from the electrical supply at the switch on the external control box and close the fuel oil supply valve.
2. Place the main switch on the control panel to "OFF" (except for the N-Mini).
3. Remove the boiler front panel (1) (except for the N-Mini).
4. Loosen the two nuts or locking clamps for the N-Mini to open the burner chamber plate (2).
5. Remove the insulating brick (for the N-Mini only).
6. Remove the stainless-steel turbulators (3).
7. Brush the flue ways, clean the chamber and vacuum up any soot deposits.
8. Check the insulation of the burner chamber plate (4).
9. Before reassembling, clean the burner combustion head (5).
10. Check that the thermostats and safety valves are working correctly.

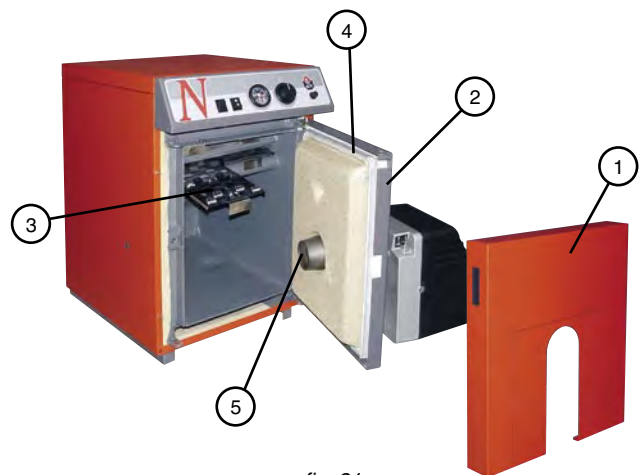


fig. 21

MAINTENANCE OF SAFETY EQUIPMENT

- Check that all thermostats and safety devices operate correctly: the boiler thermostat and the manual reset high-limit thermostat (103°C).
- Check the heating circuit safety valves.

DRAINING THE BOILER



The water draining from the drain cock is very hot and can cause serious burns. Keep all persons away from running hot water.

Draining the heating circuit (fig. 20)

1. Place the main switch on the control panel to "OFF", isolate the boiler from the electrical power supply at the switch in the external control box.
2. Close the isolating valves (8) in the heating circuit.
3. Connect a flexible tube to the drain cock (9).
4. Open the drain cock (9) to drain the heating circuit.

SPARE PARTS

N°	CASINGS	N-MINI	N 1	N 2	N 3
A01	Right side	21471387	21471380	21471381	21471382
A02	Left side	21472387	21472380	21472381	21472382
A03	Front panel	-	21473380	21473381	21473382
A04	Rear panel	21474387	21474380	21474381	21474382
A05	Top cover	21475387	21475380	21475380	21475382
A06	Unequipped control panel	21477387	21477380	21477380	21477382
A07	Front bridge	21473387	-	-	-

N° ACCESSORIES

B01	Unequipped body	30465160	30465153	30465154	30465155
B02	Burner chamber plate	2147P371	2147P380	2147P381	2147P382
B03	brick backplate	-	2147E380	2147E381	2147E382
B04	Burner chamber plate insulating brick	51701000	51404028	51404029	51404030
B05	Door ceramic fibre insulating cord	-	51401113	51401113	51401113
B06	Burner chamber insulating cover	-	51401127	51401128	51401129
B07	Pressure gauge thermometer	54763009	54441008	54441008	54441008
B08	Drain cock, Ø 1/2"		55426001	55426001	55426001
B09	M 10 19x33mm hinge pin	-	47405252	47405252	47405252
B10	Probe attachment spring	47438008	47438008	47438008	47438008
B11	Turbulators	50423098	50423097	50423097	50423098
B12	H.D.P.E. handle	-	49410280	49410280	49410280
B13	Flame inspection window	50423008	50423008	50423008	50423008
B14	Grommet	54428001	54428001	54428001	54428001
B15	Brass pocket, Ø 1/2" / L. 100 mm	63438001	63438001	63438001	63438001
B16	Control panel self-adhesive	-	617G0050	617G0050	617G0050
B17	Burner chamber plate insulation	51700033	-	-	-
B18	Door locking clamp	47405137	-	-	-
B19	Male/female brass chimney reducer, Ø 1/2" x 1/4"	43416065	43416065	43416065	43416065
B20	Clip retainer	47405004	47405004	47405004	47405004
B21	Stud	47405005	47405005	47405005	47405005

N° ELECTRICAL ACCESSORIES

C01	Full control panel	-	24614108	24614108	24614109
C02	ON/OFF switch	-	54428116	54428116	54428116
C03	Summer/Winter switch	-	54428107	54428107	54428107
C04	90°C control thermostat	54442045	54442045	54442045	54442045
C05	Manual reset high-limit thermostat (103°C)	54442015	54764009	54764009	54764009
C06	Thermal reset high-limit thermostat (45°C)	54442027	54442027	54442027	54442027
C07	Wiring	25435217	-	-	-

SERVICE RECORD

DETAILS OF THE INSTALLATION

Installation date:	Model:
% CO2 (max. load) :	Serial number:
Flue gas T°:	Heating system pressure setting:
Efficiency:	Name and signature:
Fuel oil pressure:	

SERVICE NOTES

Installation date:	Comments:
% CO2 (max. load) :	
Flue gas T°:	
Efficiency:	Name and signature:
Fuel oil pressure:	

Installation date:	Comments:
% CO2 (max. load) :	
Flue gas T°:	
Efficiency:	Name and signature:
Fuel oil pressure:	

Installation date:	Comments:
% CO2 (max. load) :	
Flue gas T°:	
Efficiency:	Name and signature:
Fuel oil pressure:	

Installation date:	Comments:
% CO2 (max. load) :	
Flue gas T°:	
Efficiency:	Name and signature:
Fuel oil pressure:	

Installation date:	Comments:
% CO2 (max. load) :	
Flue gas T°:	
Efficiency:	Name and signature:
Fuel oil pressure:	



excellence in hot water

www.acv-world.com

INTERNATIONAL

ACV international n.v
KERKPLEIN, 39
B-1601 RUISBROEK - BELGIUM
TEL.: +32 2 334 82 20
FAX: +32 2 378 16 49
E-MAIL: international.info@acv-world.com

BELGIUM

ACV BELGIUM nv/sa
KERKPLEIN, 39
B-1601 RUISBROEK-BELGIUM
TEL.: +32 2 334 82 40
FAX: +32 2 334 82 59
E-MAIL: belgium.info@acv-world.com

CHILE

ALBIN TROTTER Y ACV LTDA
SAN PABLO 3800
QUINTA NORMAL - SANTIAGO - CHILE
TEL.: +56 2 772 01 69
FAX: +56 2 772 92 62/63
E-MAIL: chile.info@acv-world.com

CZECH REPUBLIC

ACV CR SPOL. s.r.o
NA KRECKU 365
CR-109 04 PRAHA 10 - CZECH REPUBLIC
TEL.: +420 2 720 83 341
FAX: +420 2 720 83 343
E-MAIL: ceskarepublika.info@acv-world.com

DEUTSCHLAND

ACV WÄRMETECHNIK GMBH & CO KG
GEWERBEGEBIET GARTENSTRASSE
D-08132 MÜLSEN OT ST. JACOB - DEUTSCHLAND
TEL.: +49 37601 311 30
FAX: +49 37601 311 31
E-MAIL: deutschland.info@acv-world.com

ESPAÑA

ACV ESPAÑA
C/DE LA TEIXIDORA, 76
POL. IND. LES HORTES
E-08302 MATARÓ - ESPAÑA
TEL.: +34 93 759 54 51
FAX: +34 93 759 34 98
E-MAIL: spain.info@acv-world.com

ARGENTINA

TECNOPRÁCTICA
ALFÉREZ BOUCHARD 4857
1605 CARAPACHAY - BUENOS AIRES
TEL.: +54 11 47 65 33 35
FAX: +54 11 47 65 43 07
E-MAIL: jchas@tecnopractica.com

AUSTRALIA

HUNT HEATING PTY LTD
10 GARDEN BOULEVARD
3172 VICTORIA - AUSTRALIA
TEL.: +61 3 9558 7077
FAX: +61 3 9558 7027
E-MAIL: enquiries@huntheat.com.au

BRAZIL

SIMETAL INDUSTRIA E COMERCIO DE FERRAMENTAS LTDA
RUA GERSON ANDREIS 535
95112 - 130 CAXIAS DO SUL - BRAZIL
TEL.: +55 54 227 12 44
FAX: +55 54 227 12 26
E-MAIL: export@simetail.com.br

BULGARIA

PROXIMUS ENGINEERING LTD
7 BIAL KREM STR.
9010 VARNNA - BULGARIA
TEL.: +359 52 500 070
FAX: +359 52 301 131
E-MAIL: info@proximus-bg.com

CHINA

BEIJING HUADIAN HT POWER TECHNOLOGY DEVELOPMENT CO. LTD
ROOM B-912, TOWER B, COFCO PLAZA
Nº. 8, JIANGUOMENNEI AVENUE
BEIJING 100005 - PEOPLE'S REPUBLIC OF CHINA
TEL.: +86 10 652 30 363/393 EXT 101
FAX: +86 10 652 27 071
E-MAIL: li.zheng@acv-world.com

SHANGHAI COOLTECH LTD
14/F E. CHINA MERCHANTS PLAZA
Nº. 333 CHENGDU ROAD (N)
200041 SHANGHAI - CHINA
TEL.: +86 21 52 98 11 22 - 820
FAX: +86 21 52 98 13 58
E-MAIL: cooltech@cooltech.sh.cn

FRANCE

ACV FRANCE sa
31, RUE AMPERE - Z.I MI - PLAINE
F-69680 CHASSIEU - FRANCE
TEL.: +33 4 72 47 07 76
FAX: +33 4 72 47 08 72
E-MAIL: france.info@acv-world.com

ITALIA

ACV ITALIA
VIA PANA 92
I-48018 FAENZA (RA) - ITALIA
TEL.: +39 0546 64 61 44
FAX: +39 0546 64 61 50
E-MAIL: italia.info@acv-world.com

NEDERLAND

ACV NEDERLAND bv
POSTBUS 350
NL-2980 AJ RIDDERKERK - NEDERLAND
TEL.: +31 180 42 10 55
FAX: +31 180 41 58 02
E-MAIL: nederland.info@acv-world.com

POLAND

ACV POLSKA sp. z o.o.
UL.WITOSA 3
87 - 800 WŁOCŁAWEK - POLAND
TEL.: +48 54 412 56 00
FAX: +48 54 412 56 01
E-MAIL: polska.info@acv-world.com

PORTUGAL

BOILERNOX LDA
RUA OUTEIRO DO POMAR
CASAL DO CEGO, FRACÇÃO C,
PAVILHÃO 3 - MARRAZES
2400-402 LEIRIA - PORTUGAL
TEL.: +351 244 837 239/40
FAX: +351 244 823 758
E-MAIL: boilernox@mail.telepac.pt

RUSSIA

ACV RUSSIA
1/9, MAL'YI KISEL'NYI
103031 MOSCOW - RUSSIA
TEL.: +7 095 928 48 02 / +7 095 921 89 79
FAX: +7 095 928 08 77
E-MAIL: russia.info@acv-world.com

DENMARK

VARMEHUSET
FRICHSVEJ 40 A
8600 SILKEBORG - DENMARK
TEL.: +45 86 82 63 55
FAX: +45 86 82 65 03
E-MAIL: vh@varmehuset.dk

ESTONIA

TERMOMAX AS
TAHE 112A
51013 TARTU - ESTONIA
TEL.: +372 736 73 39
FAX: +372 736 73 44
E-MAIL: termomax@termomax.ee

GREECE

ESTIAS
MARASLI STREET 7
54248 THESSALONIKI - GREECE
TEL.: +30 23 10 31 98 77 / +30 23 10 32 03 58
FAX: +30 23 10 31 97 22
E-MAIL: info@genikithermanseon.gr

ÎLE MAURICE

SOTRATECH
29, RUE MELDRUM
BEAU BASSIN - ÎLE MAURICE
TEL.: +230 46 76 970
FAX: +230 46 76 971
E-MAIL: stech@intnet.mu

LITHUANIA

UAB "GILIUS IR KO"
SAVARNORIŲ PR. 192
3000 KAUNAS - LITHUANIA
TEL.: +370 37 308 930
FAX: +370 37 308 932

MAROC

CASATHERM
PLACE EL YASSIR
20300 CASABLANCA - MAROC
TEL.: +212 22 40 15 23
FAX: +212 22 24 04 86

SLOVAK REPUBLIC

ACV SLOVAKIA s.r.o.
PLUHOVÁ 49
831 04 BRATISLAVA - SLOVAK REPUBLIC
TEL.: +421 2 444 62 276
FAX: +421 2 444 62 275
E-MAIL: slovakia.info@acv-world.com

SLOVENIA

ACV D.O.O. SLOVENIA
OPEKARNA 22b
1420 TRBOVLJE - SLOVENIA
TEL.: +386 356 32 830
FAX: +386 356 32 831
E-MAIL: slovenia.info@acv-world.com

UK

ACV UK Ltd
ST. DAVID'S BUSINESS PARK
DALGETY BAY - FIFE - KY11 9PF
TEL.: +44 1383 82 01 00
FAX: +44 1383 82 01 80
E-MAIL: uk.info@acv-world.com

USA

TRIANGLE TUBE PHASE III
FREEWAY CENTER - 1 TRIANGLE LANE
BLACKWOOD NJ 08012 - USA
TEL.: +1 856 228 8881
FAX: +1 856 228 3584
E-MAIL: sales@triangletube.com

NEW ZEALAND

ENERGY PRODUCTS INTERNATIONAL
8/10 BELFAST PLACE
PO BOX 15058 HAMILTON - NEW ZEALAND
TEL.: +64 7 847 27 05
FAX: +64 7 847 42 22
E-MAIL: pmckenzie@tycoint.com

ÖSTERREICH

PROTHERM HEIZUNGSTECHNIK GmbH
TRAUNUFERSTRASSE 113
4052 ANSFELDEN - ÖSTERREICH
TEL.: +43 7229 804 82
FAX: +43 7229 804 92
E-MAIL: protherm@nextra.at

ROMANIA

SC TRUST EURO THERM SA
D.N PIATRA NEAMT - ROMAN
km 2 C.P 5 O.P 3 jud. Neamt
5600 PIATRA NEAMT - ROMANIA
TEL.: +40 233 20 62 06
FAX: +40 233 20 62 00
E-MAIL: office@eurotherm.ro

TUNISIE

SO.CO.ME CHAUMAX
BOÎTE POSTALE N°44
1002 TUNIS - TUNISIE
TEL.: +216 71 78 15 91
FAX: +216 71 78 87 31

UKRAINE

UKRTEPLOSERVICE LTD
PR. LAGUTENKO 14
83086 DONETSK - UKRAINE
TEL.: +38 062 382 60 47/48
FAX: +38 062 335 16 89