



Condensing wall mounted boiler

BRAVA SLIM HE R

INSTALLATION AND SERVICING INSTRUCTIONS



EN

Gas Safety Certified AS/NZS 4552
LN: SAI-400196

CAUTION

This product must be installed exclusively by professionally qualified personnel in accordance with the requirements of the standards AS/NZS 5601, AS/NZS 3500, AS/NZS 3000 (current version) of the local gas, electricity authorities and other relevant legislation.

SAFETY WARNINGS AND REGULATIONS



WARNINGS

- After having removed the packaging make sure that the product supplied is integral and complete in all its parts. If this is not the case, please contact the Dealer who sold the appliance.
- The appliance must be used as intended by **Sime** who is not responsible for any damage caused to persons, animals or things, improper installation, adjustment, maintenance and improper use of the appliance.
- In the event of water leaks, disconnect the appliance from the mains power supply, close the water mains and promptly inform professionally qualified personnel.
- Periodically check that the operating pressure of the water heating system when cold is **1-1.2 bar (100-120 kPa)**. If this is not the case, increase the pressure or contact professionally qualified personnel.
- If the appliance is not used for a long period of time, at least one of the following operations must be carried out:
 - *set the main system switch to "OFF";*
 - *close the gas and water valves for the water heating system.*
- In order to ensure optimal appliance operations **Sime** recommends that maintenance and checks are carried out **TWICE A YEAR**.



WARNINGS

- **It is recommended that all operators** read this manual carefully in order to use the appliance in a safe and rational manner.
- **This manual** is an integral part of the appliance. It must therefore be kept for future reference and must always accompany the appliance in the event the appliance is transferred or sold to another Owner or User or is installed on another system.
- **Installation and maintenance** of this appliance must be carried out by a qualified company or by a professionally qualified technician, or authorised person, in accordance with the instructions contained in the manual. The company or technician will, at the end of installation operations, issue a statement of compliance with national and local Technical Standards and Legislation in force.
- This appliance is not suitable for pool or SPA heating

RESTRICTIONS



IT IS FORBIDDEN

- Do not allow appliance to be used by children or unassisted disabled persons.
- Do not use electrical devices or appliances such as switches, electrical appliances etc if you can smell fuel. If this should happen:
 - *open the doors and windows to air the room;*
 - *close the gas isolation device;*
 - *promptly call for professional assistance.*
- Do not touch the appliance with bare feet or with any wet part of the body.
- Do not carry out any technical intervention or cleaning operation before having disconnected the appliance from the mains power by setting the main switch to "OFF", and closing the gas supply.
- Do not modify the safety or adjustment devices without authorization and instructions from the manufacturer.
- Do not block the condensate drain (if present).
- Do not pull, detach or twist the electrical cables coming out of the appliance even if the appliance is disconnected from the mains power supply.
- Do not expose the boiler to atmospheric agents. These boilers can also be installed in partially covered areas, as per EN 15502, with a maximum ambient temperature of 60°C and a minimum ambient temperature of - 5°C. It is recommended that the boiler is installed below weathered roofs, on the balcony or in a protected niche, to protect it from exposure to weathering agents (rain, hail and snow). The boiler is equipped as standard with an antifreeze function.
- Do not block or reduce the size of the ventilation openings of the room where the appliance is installed, if present.
- Remove the mains power and gas supply from the appliance if the external temperature could fall below ZERO (risk of freezing).
- Do not leave containers with flammable substances in the room where the appliance is installed.
- Do not leave packaging material around since it could be dangerous. Therefore dispose of it as prescribed by legislation in force.
- Do not install the boiler in special environments that may limit its optimum operation (e.g. marine environment).

RANGE

MODEL	CODE
Brava Slim HE 20 R i - (Natural gas)	8112265
Brava Slim HE 20 R e - (Natural gas)	8112266
Brava Slim HE 40 R i - (Natural gas)	8112267
Brava Slim HE 40 R e - (Natural gas)	8112268

COMPLIANCE

Our company declares that **Brava Slim HE R** boilers comply with the following Australian Standards

- AS/NZS 5601 Gas Installations
- AS/NZS 3500 Water services, Sanitary plumbing and drainage
- AS/NZS 3000 Electrical installations, Buildings, structures and premises



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Gas Safety
Certified

License Number: **SAI-400196**.

SYMBOLS



WARNING

To indicate actions which, if not carried out correctly, can result in injury of a general nature or may damage or cause the appliance to malfunction; these actions therefore require particular caution and adequate preparation.



ELECTRICAL HAZARD

To indicate actions which, if not carried out correctly, could lead to injury of an electrical nature; these actions therefore require particular caution and adequate preparation.



IT IS FORBIDDEN

To indicate actions which **MUST NOT BE** carried out.



CAUTION

To indicate particularly important and useful information.

MANUAL STRUCTURE

This manual is organized as follows.

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USER INSTRUCTIONS

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1 USING THE BOILER BRAVA SLIM HE R

1.1 Control panel

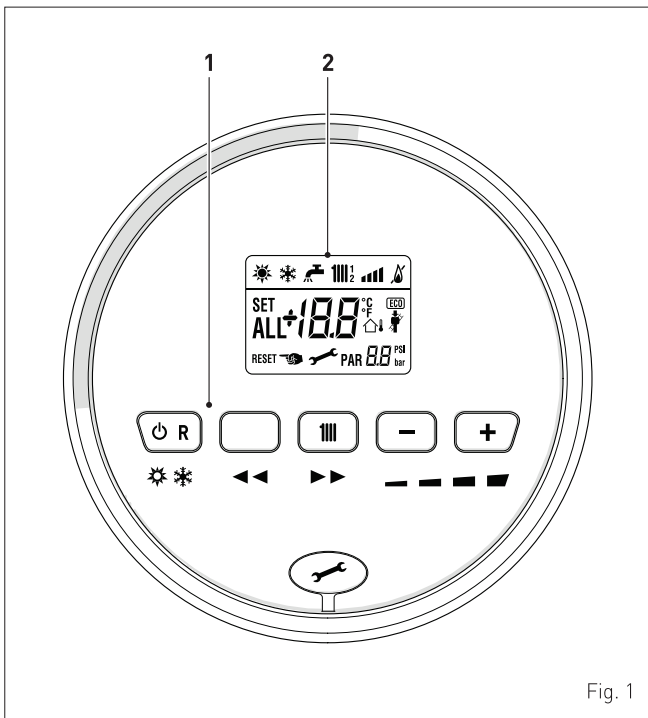


Fig. 1

1 FUNCTIONAL BUTTONS

⏻ R If pressed once or more than once for at least 1 second during normal operation, this button allows the user to change the boiler operating mode in a cyclical sequence (Stand-by – Summer – Winter). If the boiler is experiencing a fault which can be reset, it allows boiler operation to be unblocked. (Note: the "SUMMER" mode is not applicable to this boiler).

◀◀ In "parameter setting", the user can scroll through the parameter index (decreasing) by pressing this button.

||| During normal operation, pressing this button displays the flow temperature set point which can be between 20 and 80°C. In "parameter setting", the user can scroll through the parameter index (increasing) by pressing this button.

- During normal operation, pressing this button allows the user to reduce the flow temperature set point. In "parameter setting/display", the user can modify the parameter setting or value (decreasing) by pressing this button.

+ During normal operation, pressing this button allows the user to increase the flow temperature set point. In "parameter setting/display", the user can modify the parameter setting or value (increasing) by pressing this button.

🔧 Programming connector cover plug.

NOTE: pressing any one of these buttons for more than 30 seconds generates a fault on the display without preventing boiler operation. The warning disappears when normal conditions are restored.

2 DISPLAY

☀️ "SUMMER". The symbol for "Summer" mode is displayed. If the symbols ☀️ and ❄️ are flashing, this indicates that the chimney sweep function is active.

❄️ "WINTER". This symbol appears when the boiler is operating in "Winter" mode. If no operating modes have been enabled both symbols ☀️ and ❄️ will be off.

🔄 "RESET REQUIRED". The message indicates that after having repaired the fault, normal boiler operation can be restored by pressing the button ⏻ R.

||| "HEATING". This symbol lights up during heating operation or during the "chimney sweep function" It flashes during the selection of the heating set point.

🔥 "BLOCK" DUE TO NO FLAME.

🔥 "FLAME PRESENCE".

|||| "POWER LEVEL". This indicates the power level at which the boiler is operating.

PAR "PARAMETER". This indicates that the user may be in parameter setting/display, or "info" or "counter", or in "activated alarms" (history).

ALL "ALARM". This indicates that a fault has occurred. The number specifies the cause which generated the alarm.

🔧 "CHIMNEY SWEEP". This indicates that the "chimney sweep function" has been activated.

ECO "ECO", ALTERNATIVE ENERGY SOURCES. Where active, it indicates that there is a solar system available.

🔧 "MAINTENANCE REQUEST". If active, it shows it is time to perform maintenance on the boiler.

🚫 CAUTION

- Access to the control panel of models **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e** is possible after loosening screw (1) and removing panel (2).
- On completion of the operations, refit the panel on the control panel and secure fully.

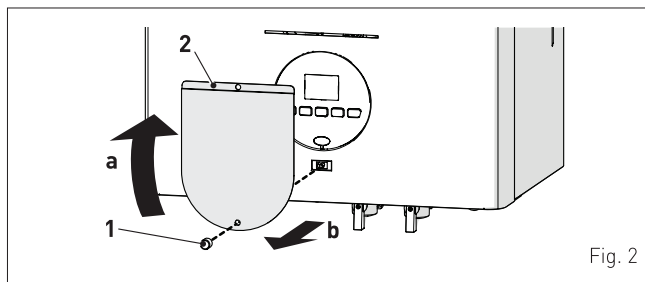


Fig. 2

1.2 Preliminary checks

Commissioning of the **Brava Slim HE R** boiler must be carried out by professionally qualified technicians, after which the boiler can operate automatically. It may, however, be necessary for the user to start the appliance autonomously without involving a technician: for example, after a holiday.

First of all check that the gas isolation and water system valves are open.

1.3 Ignition

After having carried out the preliminary checks, perform the following to start the boiler:

- set the main system switch to "ON" in order for the display to show the pressure level in the system during refilling
- **make sure that the operating mode is set to "Stand-by"**; if this is not the case, press the button until "Stand-by" mode has been selected

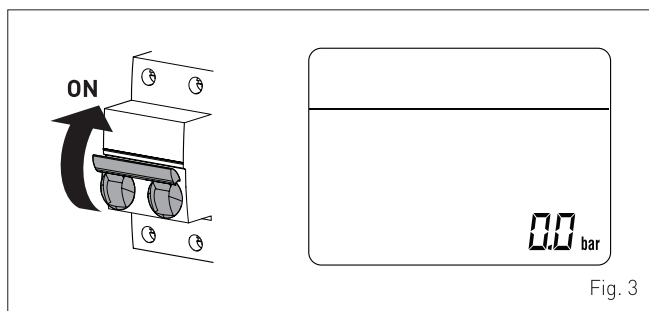


Fig. 3

- on the display (1), check that the heating system pressure when cold is **1-1.2 bar (100-120 kPa)**. Otherwise, open the filling valve, which is to be prearranged on the system return, and fill until a pressure of **1-1.2 bar (100-120 kPa)** is shown on the display (1) !da duplicazione!
- close the filling valve

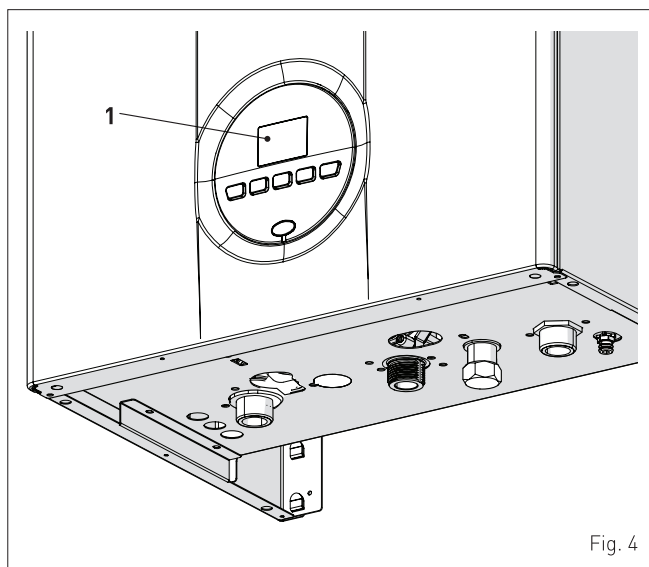
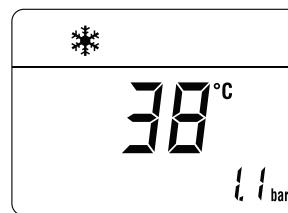


Fig. 4

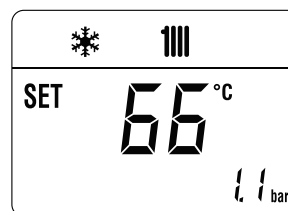
- select the "WINTER" operating mode by pressing the button twice. the value of the delivery sensor detected at that moment will appear on the display



- set the room thermostat to the required temperature, or if the system is equipped with a timed programmer or external temperature controller, check that this is ON and set accordingly.

1.4 Adjusting the heating temperature

If the heating temperature is to be increased or decreased, press the button followed by the buttons **+** or **-** until the desired temperature is reached. The temperature can be set to between 20 and 80°C.



1.5 Fault / malfunction codes

If a fault/malfunction is detected during boiler operation, the message "ALL" will appear on the display followed by the fault code.

If you see alarm "02" (low water pressure in the system):

- on the display (1), check that the heating system pressure when cold is **1-1.2 bar (100-120 kPa)**. Otherwise, open the filling valve, which is to be prearranged on the system return, and fill until a pressure of **1-1.2 bar (100-120 kPa)** is shown on the display (1) !da duplicazione!
- close the filling valve

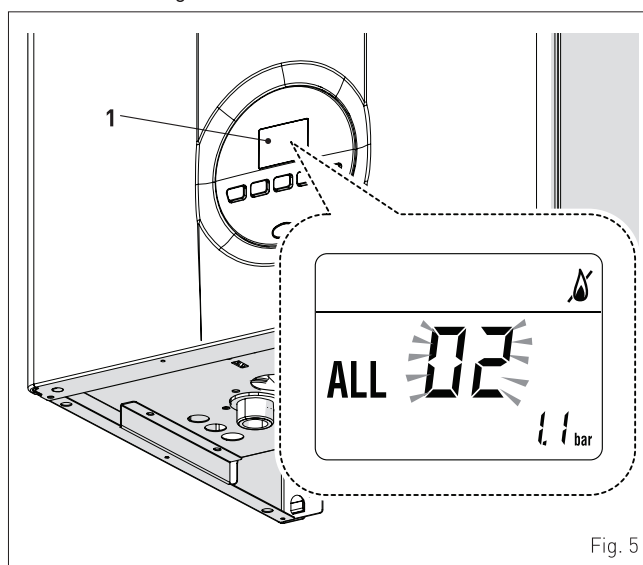
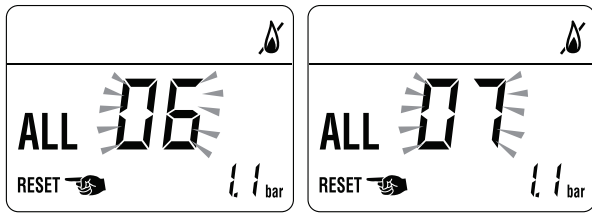


Fig. 5

If you see alarm "06" (no flame detected) and "07" (safety thermostat intervention):

- press and hold the button for more than 3 seconds and check whether normal operating conditions are restored.



If this operation is not successful, **ONLY ONE MORE ATTEMPT** can be made, therefore:

- close the gas isolation valve
- set the main system switch to "OFF"
- contact the Qualified Technical Personnel.

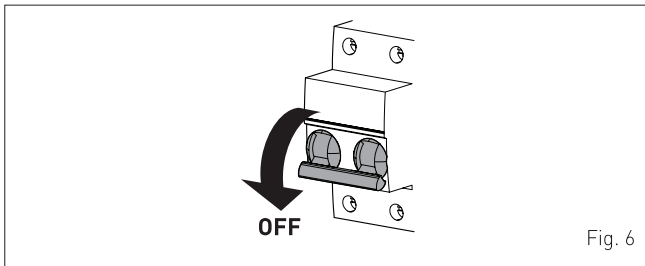


Fig. 6



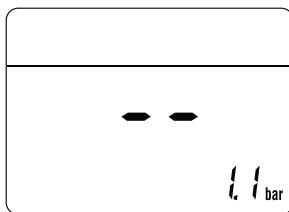
CAUTION

Should you see an alarm not described here, contact a qualified technical professional.

2 SHUTDOWN

2.1 Temporary shutdown

If the user wishes to interrupt boiler operation, press and hold the button for at least one second, once if in "WINTER mode" or twice if in "SUMMER mode" . "--" will appear on the display.



ELECTRICAL HAZARD

The boiler will still be powered.

If the user is away temporarily, for a weekend, short trip etc and if the outside temperature is at ZERO:

- press and hold the button once if in "WINTER mode" or twice if in "SUMMER mode" to put the boiler into stand-by

- set the main system switch to "OFF"
- close the gas valve.

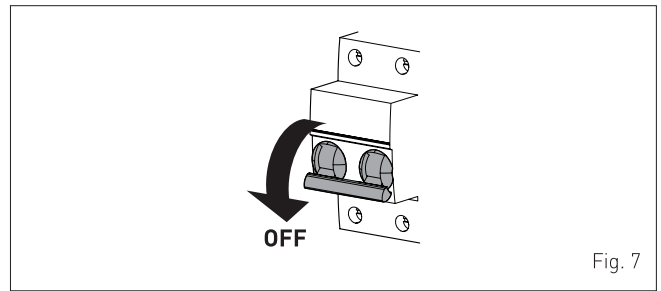


Fig. 7



CAUTION

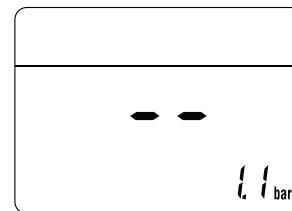
If the outside temperature might fall below ZERO, since the appliance is equipped with an "antifreeze function" and the "anti-freeze kit to -15°C":

- PUT THE BOILER INTO STAND-BY
- leave the main system switch set to "ON" (boiler is powered)
- leave the gas valve open.

2.2 Shutting down for long periods

If the boiler is to be left unused for a long period, the following operations need to be carried out:

- press and hold the button for at least 1 second, once if in "WINTER mode" or twice if in "SUMMER mode" to put the boiler into stand-by "--" will appear on the display



- set the main system switch to "OFF"

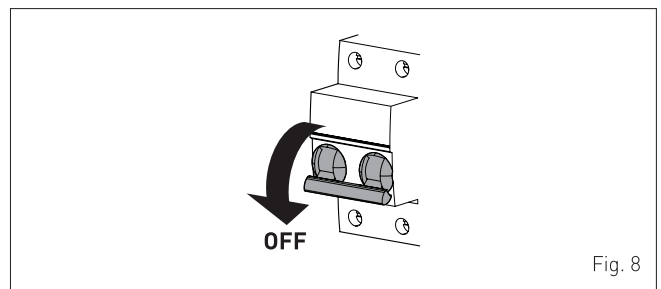


Fig. 8

- close the gas valve
- close the heating system isolation valves
- drain the heating system if there is the risk of freezing.



CAUTION

Contact the Qualified Technical Personnel if the procedure described above cannot be easily carried out.

3 MAINTENANCE

3.1 Adjustments

For the appliance to operate correctly and efficiently it is recommended that the User calls upon the services of a Professionally Qualified Technician to carry out **BI-ANNUAL** maintenance.



CAUTION

Maintenance interventions must **ONLY** be carried out by professionally qualified personnel who will follow the indications authorised in the **INSTALLATION AND MAINTENANCE INSTRUCTIONS**.

3.2 External cleaning

3.2.1 Cleaning the cladding

When cleaning the cladding, use a cloth dampened with soap and water or alcohol for stubborn marks.



IT IS FORBIDDEN

to use abrasive products.

4 DISPOSAL

4.1 Disposal of the equipment (European Directive 2002/96/CE)

Once it reaches the end of its operating life, the equipment **MUST BE RECYCLED** in line with current legislation.

It can be handed over to recycling centres, if there are any, or to retailers that offer this service.


Recycling prevents potential damage to the environment and health. It allows to recover a number of recyclable materials, with considerable savings in terms of money and energy.



IT IS FORBIDDEN

dispose of the product with urban waste.

5 HANDOVER INSTRUCTIONS

N°	Description	 When done
1	Fill in all the details on this Boiler manual.	
2	Instruct the owner /users on the correct operation of the heating system, including how to turn the systems on and off, adjust the time and temperature settings.	
3	Instruct how to turn the heating system off in summer and on for winter.	
4	Locate all major components, understand their functions and how to turn them on and off, their functions and how to check and turn them on or off. Simple fault resolution i.e. power on.	
5	Instruct how to check and remove air in the radiators. Provide a bleed key.	
6	Turn ON gas, bleed air out at the isolation valve unions. Reseal and check for gas leaks. Turn gas OFF.	
7	Underline the importance of these SERVICE RECORDS, keeping them safe & accessible.	
8	Recommend that the boiler should be serviced at/ before the start of winter next year and then every two years.	

6 SERVICE RECORDS

Service – 1 – Year 1	Date	
Service technician	Name	PIC Licence No.
Service Company		
Contact phone number		
Work Completed		
Notes		

Service – 2 – Year 3	Date
Service technician	Name PIC Licence No.
Service Company	
Contact phone number	
Work Completed	
Notes	
Service – 3 – Year 5	Date
Service technician	Name PIC Licence No.
Service Company	
Contact phone number	
Work Completed	
Notes	
Service – 4 – Year 7	Date
Service technician	Name PIC Licence No.
Service Company	
Contact phone number	
Work Completed	
Notes	

Service – 5 – Year 9	Date
Service technician	Name PIC Licence No.
Service Company	
Contact phone number	
Work Completed	
Notes	
Service – 7 – Year 11	Date
Service technician	Name PIC Licence No.
Service Company	
Contact phone number	
Work Completed	
Notes	
Service – 8 – Year 13	Date
Service technician	Name PIC Licence No.
Service Company	
Contact phone number	
Work Completed	
Notes	

DESCRIPTION OF THE APPLIANCE

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7 DESCRIPTION OF THE APPLIANCE

7.1 Characteristics

Brava Slim HE Rare last generation condensing wall mounted boilers which **Sime** has produced for heating ONLY. Models **Brava Slim HE R i** are designed for installation in rooms, while models **Brava Slim HE R e** are designed specifically for outdoor installation, protected against atmospheric agents. The main elements choices made by **Sime** for the **Brava Slim HE R** boilers are:

- the total pre-mix microflame burner combined with a steel heat exchanger for heating and a rapid heat exchanger for DHW
- the sealed combustion chamber, with respect to the room where the boiler is installed
- the command and control microprocessor electronic board provides efficient management of both heating and hot water production. It can also be connected to a remote control with an Open Therm protocol or to room thermostat and/or external sensor. If connected to an external sensor, the boiler temperature varies on the basis of the external temperature according to a selected optimal climatic curve providing significant energy and economic savings.

Other special features of the **Brava Slim HE R** boilers are:

- use of a smoke probe to control the relative temperatures. If the temperature exceeds 110°C the boiler will shut down in safety status, requiring intervention of the Technical Service department of qualified professional personnel
- the anti-freeze function which activates automatically if the temperature of the water inside the boiler falls below the threshold of the value set at parameter "PAR 10" and , if there is an external sensor, if the external temperature falls below the threshold of the value set at parameter "PAR 11"
- the anti-blocking function of the pump and diverter valve, this activates automatically every 24 hours if no request for heat has been made
- the chimney sweep function lasts 15 minutes and makes the job of the qualified technician easier when measuring the parameters and combustion efficiency
- domestic hot water comfort function which allows the time necessary for the hot water to become available to be reduced and ensures that the temperature is stable
- screen display of the operating and self-diagnostic parameters with error code display when the fault occurs. This makes repair interventions easier and allows appliance operation to be restored correctly.

7.2 Check and safety devices

The **Brava Slim HE R** boilers are equipped with the following check and safety devices:

- thermal safety thermostat 100°C
- 3 bar (300 kPa) relief valve
- heating water pressure transducer
- delivery sensor
- DHW sensor
- smoke flue gas probe.

NOTE: the proper fan operation of this boiler is checked electronically from the control panel. Then the use of an air pressure switch is not required.



IT IS FORBIDDEN

to commission the appliance with safety devices which do not work or which have been tampered with.



WARNING

Safety device may only be replaced by professional qualified personnel using **Sime** original spare parts.

7.3 Identification

The **Brava Slim HE R** boilers can be identified by means of:

- 1 Packaging label:** this is located on the outside of the packaging and provides a code, the serial number of the boiler and the bar code
- 2 Technical Data Plate:** this is located inside the front panel of the boiler and provides the technical specification, appliance performance and any other information required by law.

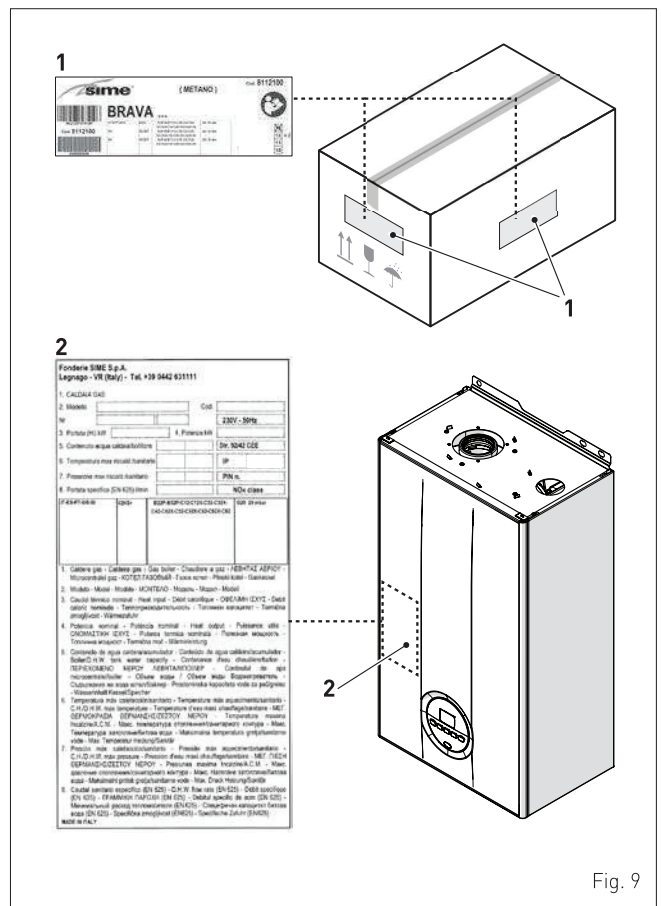


Fig. 9

KEY:

- 1 Packaging label
- 2 Technical Data Plate

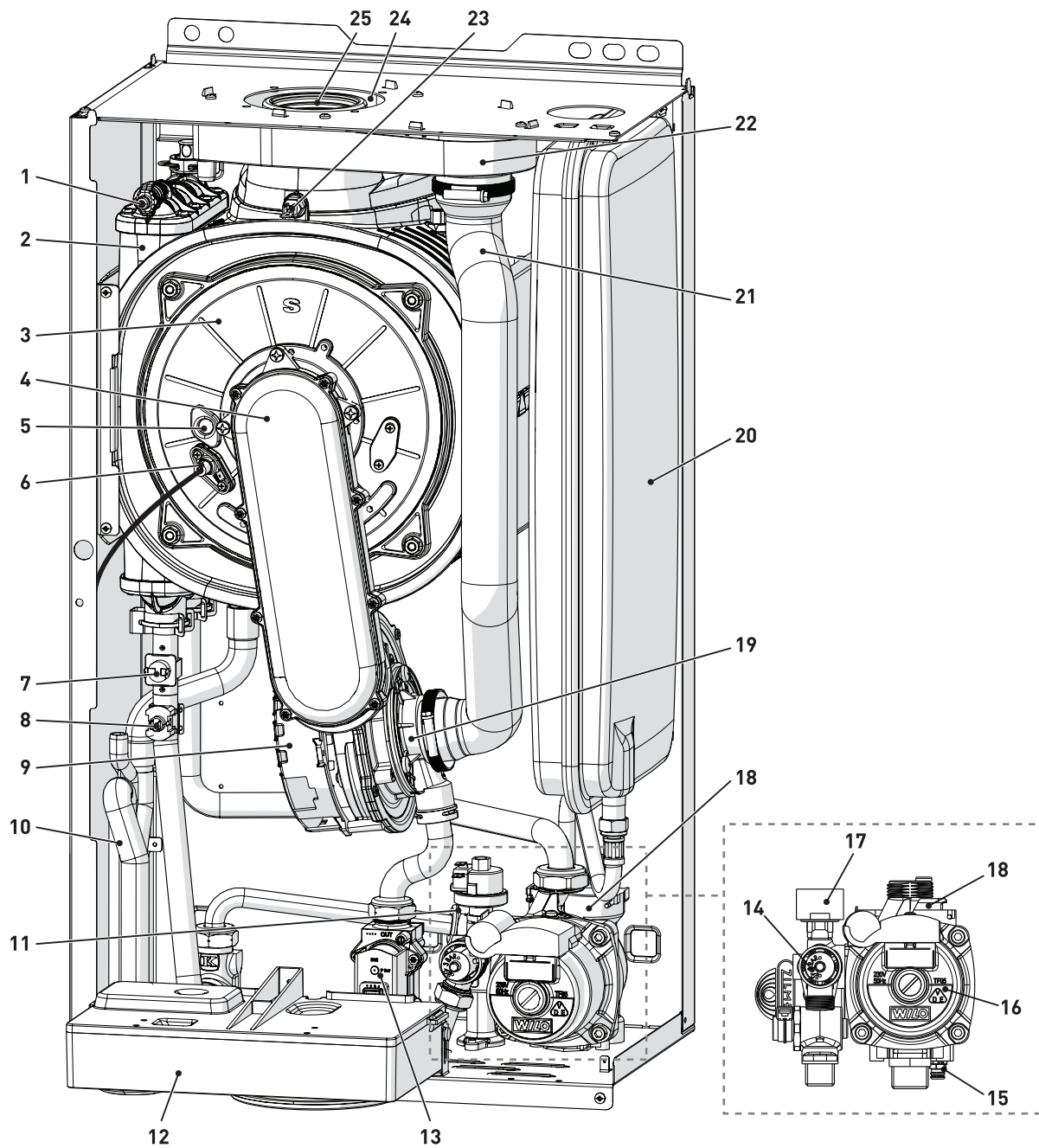


CAUTION

Tampering with, removing or failing to display the identification plate or carrying out any other operation which does not allow safe identification of the product or which may hinder installation and maintenance operations.

7.4 Structure

7.4.1 Brava Slim HE 20 R i - Brava Slim HE 40 R i

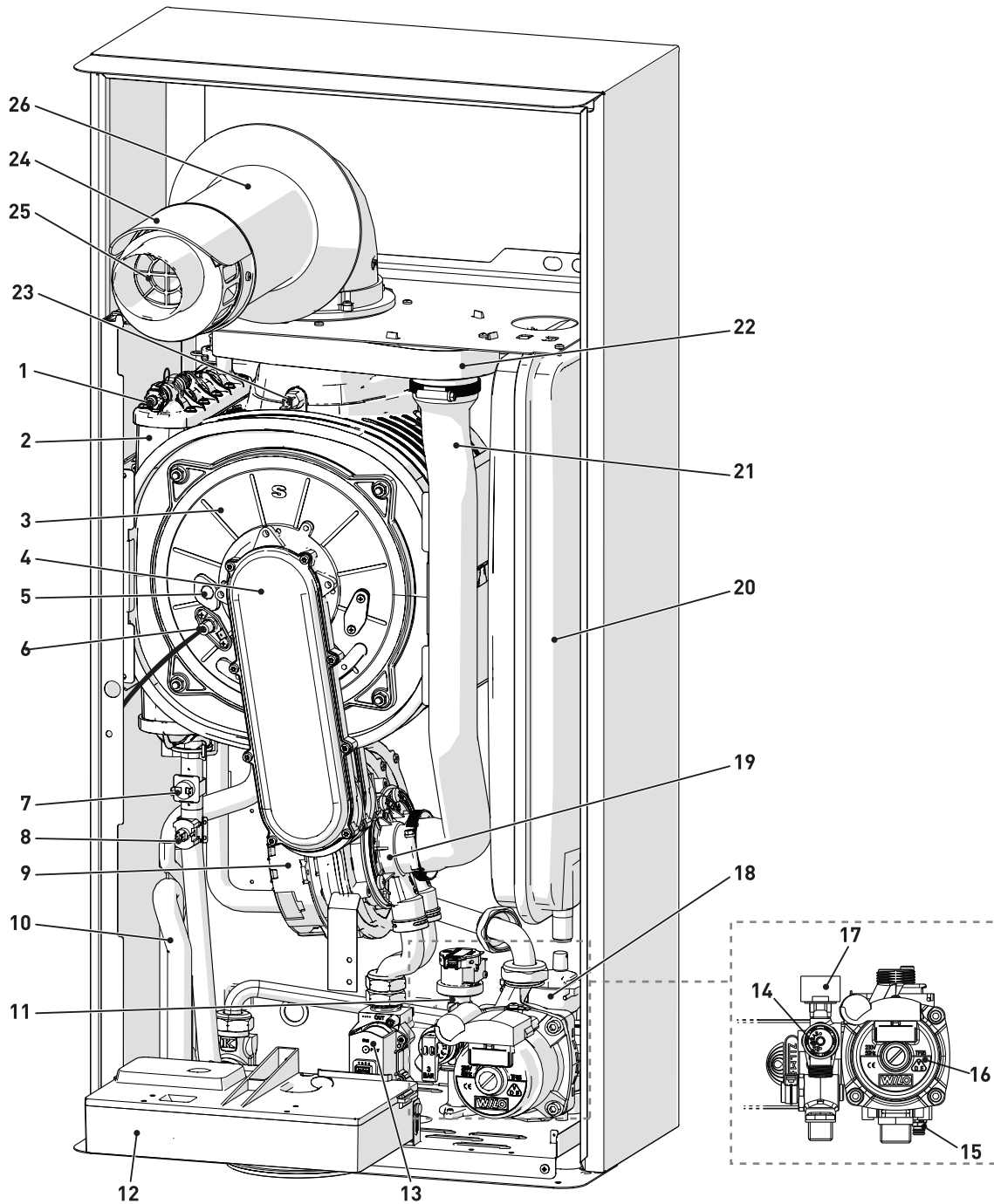


- 1 Heat exchanger bleed point
- 2 Heat exchanger
- 3 Combustion chamber door
- 4 Oversleeve
- 5 Flame viewing window
- 6 Ignition/detection electrode
- 7 Heat safety thermostat
- 8 Delivery sensor
- 9 Fan
- 10 Condensate siphon
- 11 Automatic by-pass
- 12 Control panel
- 13 Gas valve
- 14 System relief valve
- 15 Boiler drain

- 16 System pump
- 17 Water pressure transducer
- 18 Automatic bleed valve
- 19 Air-gas mixer
- 20 Expansion vessel
- 21 Air inlet pipe
- 22 Air-smoke chamber
- 23 Smoke flue gas probe
- 24 Air inlet
- 25 Smoke outlet

Fig. 10

7.4.2 Brava Slim HE 20 R e - Brava Slim HE 40 R e



- | | |
|--------------------------------|------------------------------|
| 1 Heat exchanger bleed point | 14 System relief valve |
| 2 Heat exchanger | 15 Boiler drain |
| 3 Combustion chamber door | 16 System pump |
| 4 Oversleeve | 17 Water pressure transducer |
| 5 Flame viewing window | 18 Automatic bleed valve |
| 6 Ignition/detection electrode | 19 Air-gas mixer |
| 7 Heat safety thermostat | 20 Expansion vessel |
| 8 Delivery sensor | 21 Air inlet pipe |
| 9 Fan | 22 Air-smoke chamber |
| 10 Condensate siphon | 23 Smoke flue gas probe |
| 11 Automatic by-pass | 24 Air inlet |
| 12 Control panel | 25 Smoke outlet |
| 13 Gas valve | 26 Coaxial duct |

Fig. 11

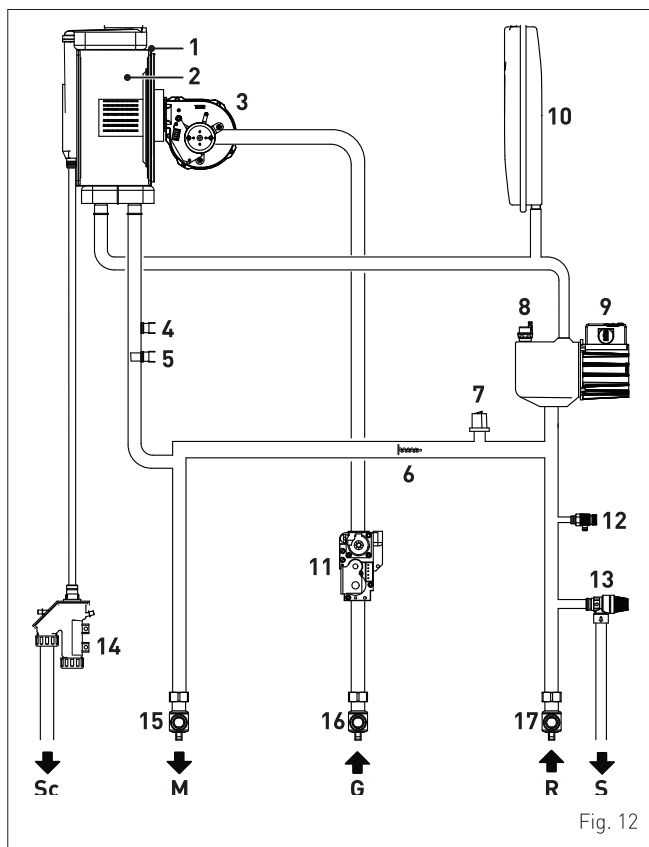
7.5 Technical features

DESCRIPTION	Brava Slim HE R		
	20 R i - 20 R e	40 R i - 40 R e	
CERTIFICATIONS			
Country of intended installation	AUS		
Fuel	NATURAL GAS / UNIVERSAL LPG		
SAI GLOBAL number	SAI-400196		
Class NO _x	5 (< 70 mg/kWh)		
HEATING PERFORMANCE			
HEAT INPUT			
Nominal	MJ/h	80	160
Minimum	MJ/h	16	28.0
HEAT OUTPUT			
Nominal (80-60°C)	kW	19.7	39.1
Nominal (50-30°C)	kW	21.4	42.2
Minimum NATURAL GAS (80-60°C)	kW	3.9	6.9
Minimum NATURAL GAS (50-30°C)	kW	4.3	7.5
Minimum UNIVERSAL LPG (80-60°C)	kW	3.9	6.9
Minimum UNIVERSAL LPG (50-30°C)	kW	4.3	7.5
EFFICIENCY			
Max useful efficiency (80-60°C)	%	98.5	97.8
Min useful efficiency (80-60°C)	%	97.5	98.6
Max useful efficiency (50-30°C)	%	107.0	105.5
Min useful efficiency (50-30°C)	%	107.5	107.1
ELECTRICAL SPECIFICATIONS			
Power supply voltage	V	230	
Frequency	Hz	50	
Absorbed electrical power	W	105	135
Electrical protection degree	IP	X5D	
COMBUSTION DATA			
Smoke temperature at Max/Min flow (80-60°C)	°C	82/66	75 / 62
Smoke temperature at Max/Min flow (50-30°C)	°C	59/45	54 / 39
Smoke flow Max/Min	g/s	11.2/1.9	18.6 / 3.3
CO ₂ at Max/Min flow rate (NATURAL GAS)	%	9.0/9.0	9.0 / 9.0
CO ₂ at Max/Min flow rate (UNIVERSAL LPG)	%	10.0/10.0	10.0 / 10.0
NOZZLES - GAS			
Number of nozzles	No.	1	
Nozzle diameter (NATURAL GAS-UNIVERSAL LPG)	mm	5.3	6.5
Gas consumption at Max/Min flow rate (NATURAL GAS)	m ³ /h	2.11/0.42	4.23 / 0.74
Gas consumption at Max/Min flow rate (UNIVERSAL LPG)	m ³ /h	0.83/0.16	3.10 / 0.74
Gas supply pressure (NATURAL GAS/UNIVERSAL LPG)	mbar	11.3 / 27.5	
	kPa	1.13 / 2.75	
TEMPERATURE - PRESSURE			
Max operating temperature	°C	85	
Heating adjustment range	°C	20÷80	
Max operating pressure	bar	3	
	kPa	300	
Water content in boiler	l	4.6	5.6

Higher Heat Output (Hs)

NATURAL GAS Hs. 37.78 MJ/m³ (15°C, 1013 mbar/101.3 kPa) - **UNIVERSAL LPG Hs.** 95.65 MJ/m³ (15°C, 1013 mbar/101.3 kPa)

7.6 Main water circuit



KEY:

- M System delivery
- R System return
- G Gas supply
- Sc Condensate outlet
- S Safety valve outlet

- 1 Condensing heat exchanger
- 2 Combustion chamber
- 3 Fan
- 4 Thermal safety thermostat
- 5 Delivery sensor
- 6 Automatic by-pass
- 7 Pressure transducer
- 8 Automatic bleed valve
- 9 Pump
- 10 System expansion vessel
- 11 Gas valve
- 12 Boiler drain
- 13 System relief valve
- 14 Condensate siphon outlet
- 15 System delivery valve
- 16 Gas valve
- 17 System return valve

7.7 Sensors

The sensors installed have the following characteristics:

- Dual sensor (thermal safety/output) NTC R25°C; 10kΩ B25°-85°C: 3435
- domestic hot water sensor NTC R25°C; 10kΩ B25°-85°C: 3435
- external sensor NTC R25°C; 10kΩ B25°-85°C: 3435

Correspondence of Temperature Detected/Resistance

- Examples of reading:
 TR=75°C → R=1925Ω
 TR=80°C → R=1669Ω.

TR	0°C	1°C	2°C	3°C	4°C	5°C	6°C	7°C	8°C	9°C
0°C	27279	26135	25044	24004	23014	22069	21168	20309	19489	18706
10°C	17959	17245	16563	15912	15289	14694	14126	13582	13062	12565
20°C	12090	11634	11199	10781	10382	9999	9633	9281	8945	8622
30°C	8313	8016	7731	7458	7196	6944	6702	6470	6247	6033
40°C	5828	5630	5440	5258	5082	4913	4751	4595	4444	4300
50°C	4161	4026	3897	3773	3653	3538	3426	3319	3216	3116
60°C	3021	2928	2839	2753	2669	2589	2512	2437	2365	2296
70°C	2229	2164	2101	2040	1982	1925	1870	1817	1766	1717
80°C	1669	1622	1577	1534	1491	1451	1411	1373	1336	1300
90°C	1266	1232	1199	1168	1137	1108	1079	1051	1024	998
100°C	973									

Resistance R (Ω)

7.8 Expansion vessel

The expansion vessel installed on the boilers has the following characteristics:

Description	U/M	Brava Slim HE R	
		20 Ri-20 Re	40 Ri-40 Re
Total capacity	l	9.0	10.0
Prefilling pressure	kPa	100	
	bar	1.0	
Useful capacity	l	5.0	6.0
Maximum system content (*)	l	124	140

(*) Conditions of:

- Average maximum temperature of the system 85°C
- Start temperature at system filling 10°C.

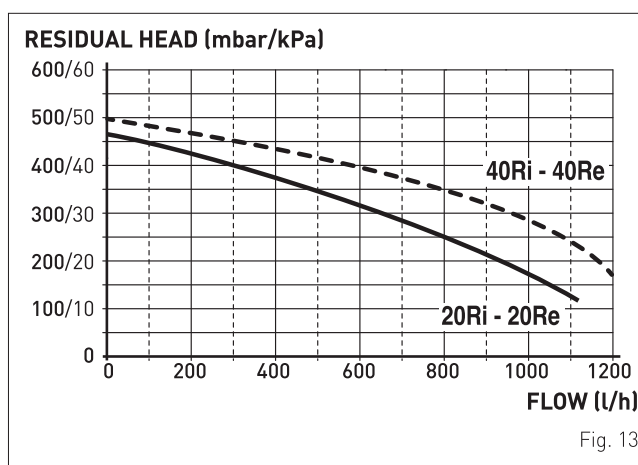


CAUTION

- For systems with water content exceeding the maximum system content (as indicated in the table) an additional expansion vessel must be prearranged.
- The difference in height between the relief valve and the highest point of the system cannot exceed 6 metres. If the difference is greater than 6 metres, increase the prefilling pressure of the expansion vessel and the system when cold by 0.1 bar (10 kPa) for each meter increase.

7.9 Circulation pump

The flow-head performance curve available for the heating system is shown in the graph below.



CAUTION

- The appliance is equipped with a by-pass which ensures water circulation in the boiler when the thermostatic valves or manual valves are used in the system.

7.10 Control panel

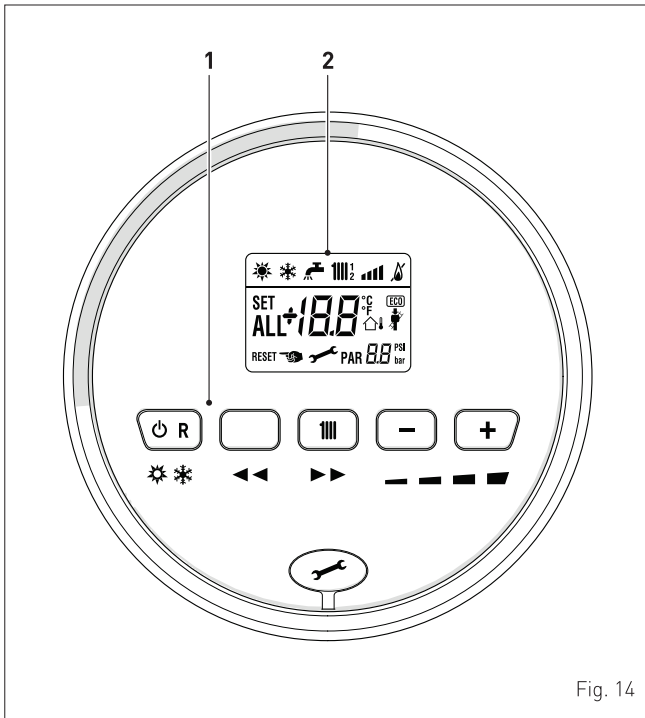


Fig. 14

1 FUNCTIONAL BUTTONS

⏻ R If pressed once or more than once for at least 1 second during normal operation, this button allows the user to change the boiler operating mode in a cyclical sequence (Stand-by – Summer – Winter). If the boiler is experiencing a fault which can be reset, it allows boiler operation to be unblocked. [Note: the "SUMMER" mode is not applicable to this boiler].

◀◀ In "parameter setting", the user can scroll through the parameter index (decreasing) by pressing this button.

||| During normal operation, pressing this button displays the flow temperature set point which can be between 20 and 80°C. In "parameter setting", the user can scroll through the parameter index (increasing) by pressing this button.

- During normal operation, pressing this button allows the user to reduce the flow temperature set point. In "parameter setting/display", the user can modify the parameter setting or value (decreasing) by pressing this button.

+ During normal operation, pressing this button allows the user to increase the flow temperature set point. In "parameter setting/display", the user can modify the parameter setting or value (increasing) by pressing this button.

🔧 Programming connector cover plug.

NOTE: pressing any one of these buttons for more than 30 seconds generates a fault on the display without preventing boiler operation. The warning disappears when normal conditions are restored.

2 DISPLAY

☀ "SUMMER". The symbol for "Summer" mode is displayed. If the symbols ☀ and ❄ are flashing, this indicates that the chimney sweep function is active.

❄ "WINTER". This symbol appears when the boiler is operating in "Winter" mode. If no operating modes have been enabled both symbols ☀ and ❄ will be off.

👉 "RESET REQUIRED". The message indicates that after having repaired the fault, normal boiler operation can be restored by pressing the button **⏻ R**.

||| "HEATING". This symbol lights up during heating operation or during the "chimney sweep function" It flashes during the selection of the heating set point.

🔥 "BLOCK" DUE TO NO FLAME.

💧 "FLAME PRESENCE".

▬▬▬ "POWER LEVEL". This indicates the power level at which the boiler is operating.

PAR "PARAMETER". This indicates that the user may be in parameter setting/display, or "info" or "counter", or in "activated alarms" (history).

ALL "ALARM". This indicates that a fault has occurred. The number specifies the cause which generated the alarm.

👤 "CHIMNEY SWEEP". This indicates that the "chimney sweep function" has been activated.

🏠 "EXTERNAL SENSOR". This indicates that the external sensor has been installed and that the boiler is working on a sliding temperature.

1 / bar "HEATING SYSTEM PRESSURE". Display of heating system pressure.

ECO "ECO", ALTERNATIVE ENERGY SOURCES. Where active, it indicates that there is a solar system available.

👉 CAUTION

– Access to the control panel of models **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e** is possible after loosening screw (1) and removing panel (2).

– On completion of the operations, refit the panel on the control panel and secure fully.

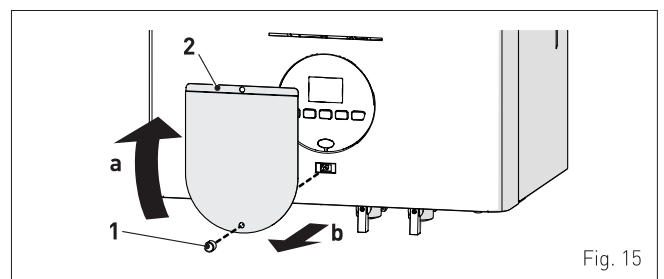


Fig. 15

7.11 Wiring diagram

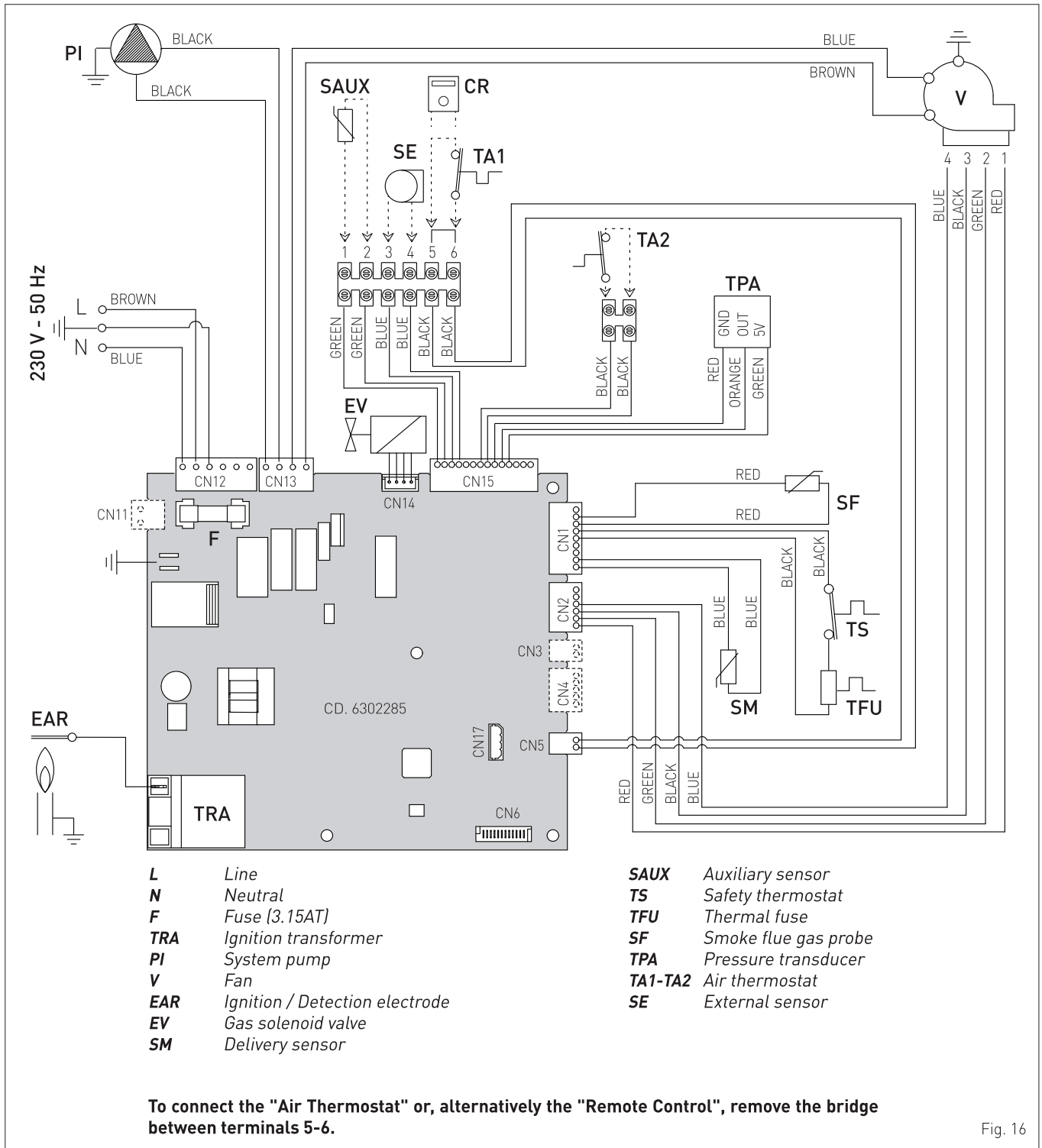


Fig. 16



CAUTION

Users must:

- Use an omnipolar cut-off switch, disconnect switch in compliance with AS/NZS Standards
- Respect the connections L (Live) - N (Neutral)
- Ensure that the special power cable is only replaced with a cable ordered as a spare part and connected by professionally qualified personnel
- Connect the earth wire to an effective earthing system. The manufacturer is not responsible for any damage caused by failure to earth the appliance or failure to observe the information provided in the wiring diagrams.



IT IS FORBIDDEN

To use water pipes for earthing the appliance.

INSTALLATION AND SERVICING INSTRUCTIONS

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8 INSTALLATION



CAUTION

The appliance must be installed by the Sime Technical Service only, or by a qualified professional.

8.1 Receiving the product

Brava Slim HE R appliances are delivered in a single unit protected by cardboard packaging.

Open the cardboard packaging, with appropriate tool and pull out the boiler.

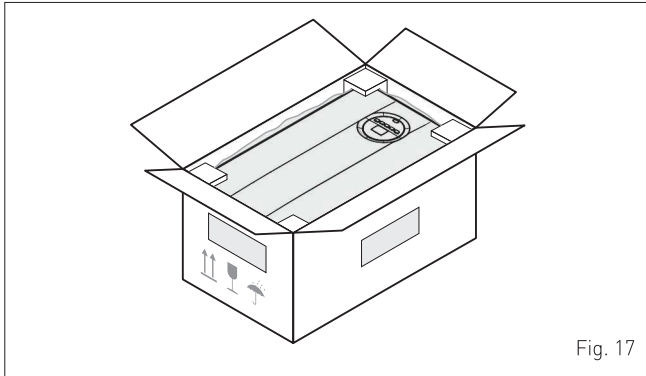


Fig. 17

The plastic bag found inside the packaging contains the following:

- Installation, use and maintenance manual
- Paper template for boiler installation
- Certificate of warranty
- Hydrostatic test certificate
- System booklet
- Bag with expansion plugs



IT IS FORBIDDEN

Do not leave packaging material around or near children since it could be dangerous. Dispose of it as prescribed by legislation in force.

8.2 Dimensions and weight

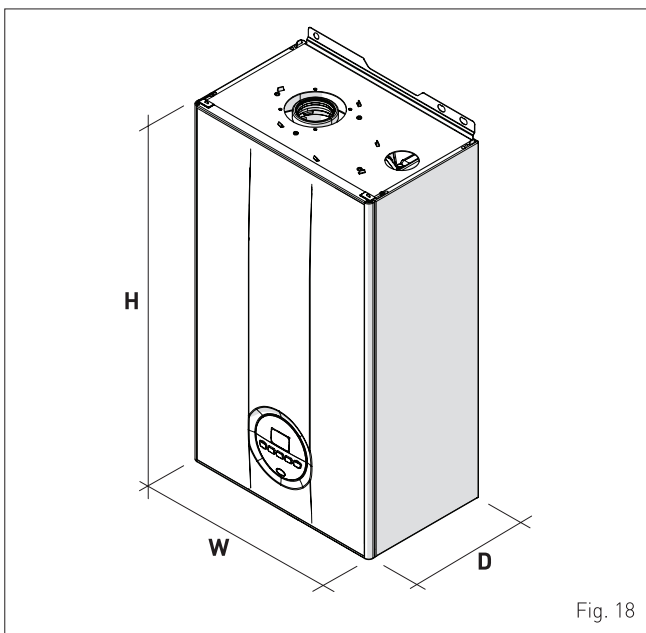


Fig. 18

Description	Brava Slim HE R			
	20 R i	20 R e	40 R i	40 R e
W (mm)	400	450	400	450
D (mm)	250	256	250	303
H (mm)	700	917	700	917
Weight (kg)	28.5	30.0	30.0	32

8.3 Handling

Once the packaging has been removed, the appliance is to be handled manually, tilting it slightly, lifting it and applying pressure in the points indicated in the figure.

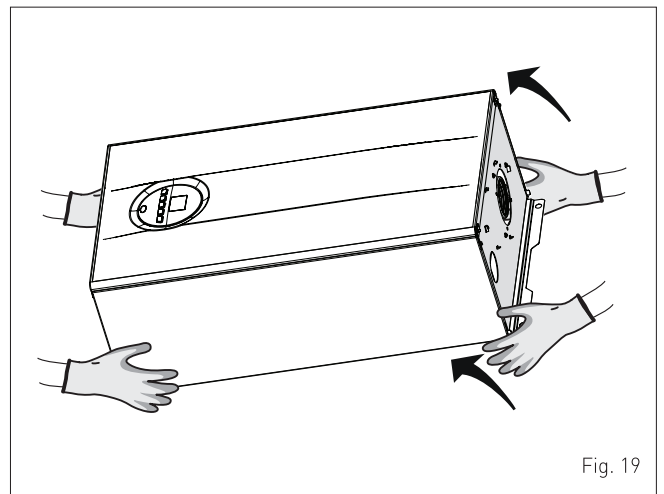


Fig. 19



IT IS FORBIDDEN

To grip the appliance casing. Hold the "solid" parts of the appliance such as the base and structural frame.



WARNING

Use suitable tools and accident protection when removing the packaging and when handling the appliance. Observe the maximum weight that can be lifted per person.

8.4 Installation room

The room where the appliance is to be installed must comply with the Technical Regulations and Legislation in force.

The minimum temperature of the installation room must NOT be lower than **-5 °C**.



CAUTION

Remember to consider the space needed in order to access the safety/adjustment devices and to carry out maintenance interventions (see Fig. 20).

APPROXIMATE MINIMUM DISTANCES

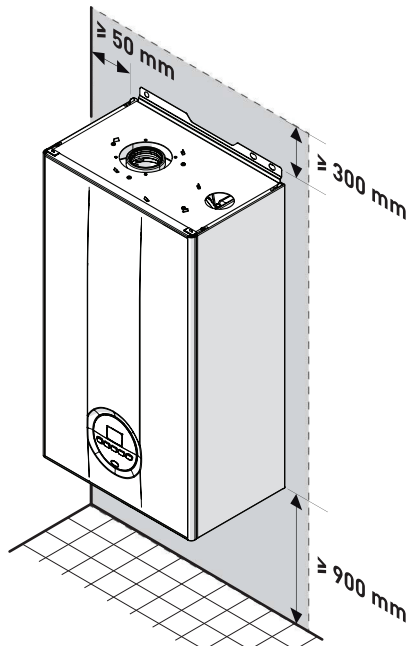


Fig. 20



CAUTION

These minimum clearances must be maintained also in consideration of outdoor installations in confined spaces (e.g. alcoves).

8.5 New installation or installation of a replacement appliance

When **Brava Slim HE R** boilers are installed on old systems or systems requiring updating, it is recommended the installer checks with appliance supplier for advice:

- the connecting flue pipe is suitable for the combustion temperature of the appliance, calculated and manufactured in compliance with Standards, current editions, that it is as straight as possible, air tight, isolated, with no obstructions or restriction and that it has appropriate condensate collection and evacuation systems
- the electrical system has been manufactured in compliance with specific Standards and by professionally qualified personnel
- the fuel delivery line and the tank (LPG) comply fully with specific Standards
- the expansion vessel ensures total absorption of the fluid dilation in the system
- the pump flow-head performance is sufficient for the system characteristics
- the system is clean, free of any sludge, deposits, de aerated and air tight. For system cleaning, please refer to the relevant paragraph.



CAUTION

Gas pipe sizing, flue installation and appliance ventilation must comply with AS/NZS 5601.



IT IS FORBIDDEN

Do not install the boiler in special environments that may limit its optimum operation (e.g. marine environment).

8.6 Cleaning the system

Before installing the appliance on a newly constructed system or replacing a heat generator on an existing system, it is important that the system is thoroughly cleaned to remove sludge, slag, dirt, residue etc.

Before removing an old heat generator from an existing system, it is recommended that the user:

- puts a descaling additive into the water system
- allows the system to work with the generator active for a few days
- drains the dirty water from the system and flushes the system with clean water once or more than once.

If the old generator has already been removed or is not available, replace it with a pump to circulate water in the system and then proceed as described above.

Once cleaning operations have been carried out and before installing the new appliance, it is recommended that a fluid is added to the water system to protect it from corrosion and deposits.



CAUTION

For further information on the type of additive and usage, please contact the appliance manufacturer.

8.7 Water system treatment

When filling and restoring the system it is good practice to use water with:

- aspect: clear if possible
- pH: 6÷8
- hardness: < 25°f.

If the water characteristics are different from those indicated, it is recommended that a safety filter is used on the water delivery pipe to retain impurities, and a chemical treatment system to protect against possible deposits and corrosion which could affect boiler operation.

If the systems are only low temperature systems, it is recommended that a product is used to prevent the development of bacteria.

In any case, please refer to and comply with Legislation and specific Technical Standards in force.

8.8 Boiler installation

Brava Slim HE R boilers leave the factory with a template for installation onto a solid wall.

For installation:

- remove the cladding (only on models **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e**)
- place the steel sheet template (2) (if supplied) on the wall (1)
- make the holes and insert the expansion plugs (3)
- hook the boiler onto the plugs.

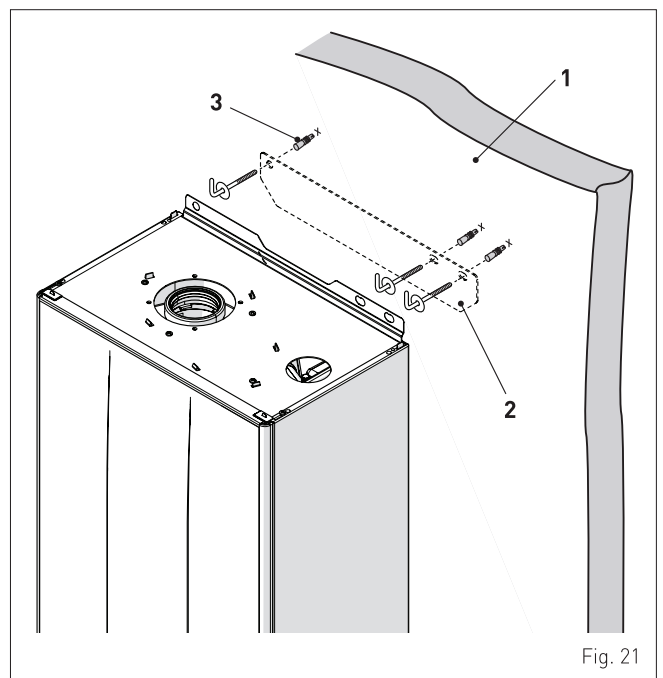


Fig. 21



CAUTION

- The wall on which the appliance is to be hung must be of adequate strength and capable of holding the weight of the appliance and associated components and pipework.



CAUTION

- The height of the boiler is to be such that disassembly and maintenance interventions are facilitated.

8.9 Plumbing connections

The plumbing connections have the following characteristics and dimensions.

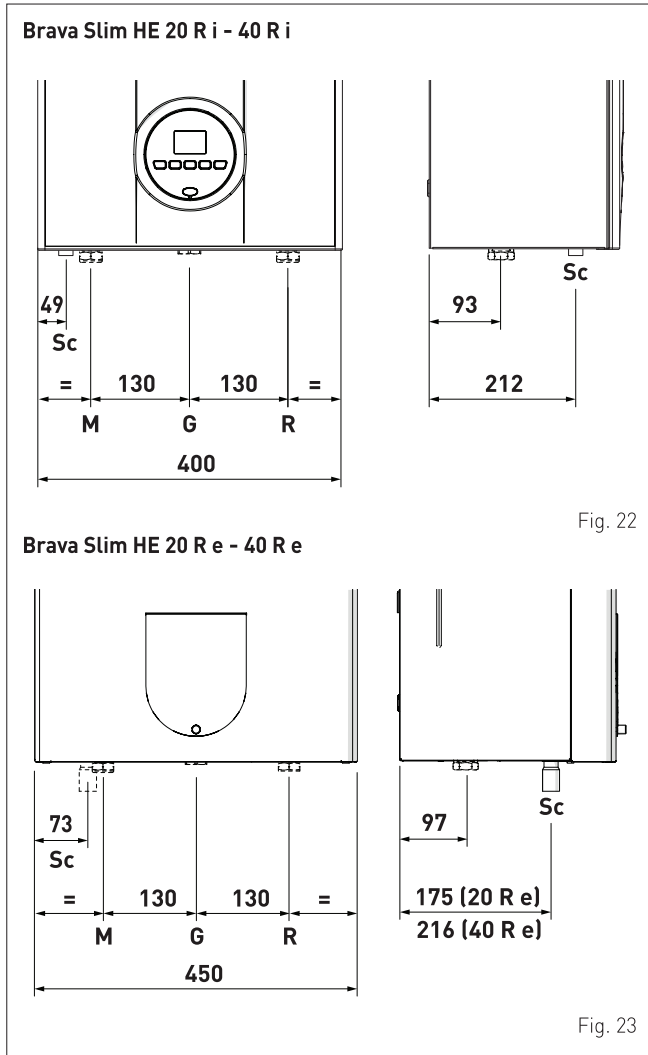


Fig. 22

Fig. 23

Description	Brava Slim HE R			
	20 R i	20 R e	40 R i	40 R e
M - System delivery	Ø 3/4" G			
R - System return	Ø 3/4" G			
G - Gas supply (*)	Ø 3/4" G			
Sc - Condensate outlet	Ø 25 mm			

(*) Brass adaptor for gas connection supplied. G3/4" to R3/4".

8.10 Condensate outlet/collection

In order to collect the condensate, it is recommended that:

- the appliance condensate outlets and the smoke outlet are ducted
- a neutralising device is prearranged
- the outlet incline is >3%.



CAUTION

- The condensate outlet duct must be airtight, suitably sized to that of the siphon and must not be restricted at any point.
- The condensate outlet must be constructed in full compliance of the National or Local regulations in force.
- Before commissioning the appliance, fill the siphon with water.

8.11 Gas supply

Brava Slim HE R boilers leave the factory prearranged for gas **NATURAL GAS** and can also work with **Universal LPG** without the need for any type of mechanical conversion. Select parameter "03" (see "Parameter setting and display") and set the type of gas to be used.

If changing the type of gas to be used, carry out the entire appliance "COMMISSIONING" phase.

Boiler connection to the gas mains must be carried out in full compliance with installation Standards in force.

Before connecting the boiler to the gas mains, the user must ensure that:

- the type of gas is correct for the appliance
- the pipes are clean
- the gas supply pipe is the same dimension as or greater than that of the boiler fitting (G3/4") and with a load loss less than or equal to that contemplated between the gas mains and the boiler.



WARNING

Once installation has been completed, check that the joints are air tight as indicated in the installation Standards.



CAUTION

It is recommended that the gas line has a suitable filter.

8.12 Connecting the flue

8.12.1 Flue Terminal Positions

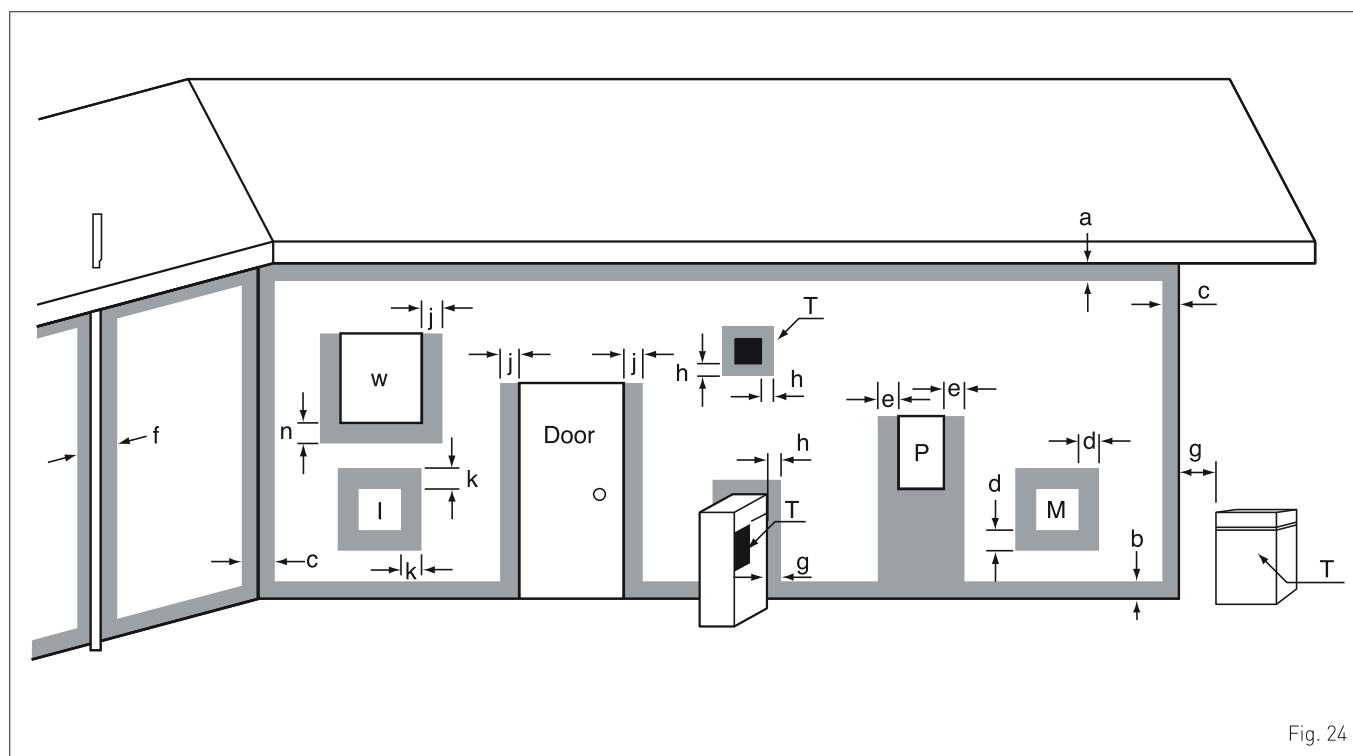


Fig. 24

DESCRIPTION	Brava Slim HE R	
	Min. Clearance (mm)	
Flue terminal	T	
Mechanical air inlet	I	
Gas meter	M	
Electricity meter or fuse box	P	
Shaded area indicates prohibited area		
Below eaves, balconies and other projections (Appliances over 50MJ/h)	a	300
From the ground, above a balcony or other surface	b	300
From a return wall or external corner	c	300
From a gas meter	d	1000
From an electricity meter or fusebox/breaker panel	e	500
From a drain pipe or soil pipe	f	75
Horizontally from any building structure or obstruction facing a flue terminal	g	500
From any other flue terminal, cowl or combustion air intake	h	300
Horizontally from any opening window, door, non-mechanical air inlet or other opening into a building with the exception of sub-floor ventilation	j	300
From a mechanical air inlet including a spa blower.	k	1000
Vertically below an opening window, non-mechanical air inlet or any other opening into a building with the exception of sub-floor ventilation	n	500



CAUTION

- Use as a guide only. See AS/NZS5601 for flue design details.
- Refer to AS/NZS5601, current version, or local gas fitting rules for specific locations.



CAUTION

- The location of the flue terminal must comply with the clearances shown on this page. If you are unsure about clearances not indicated here, in general refer to AS/NZS 5601, or your local authority.



CAUTION

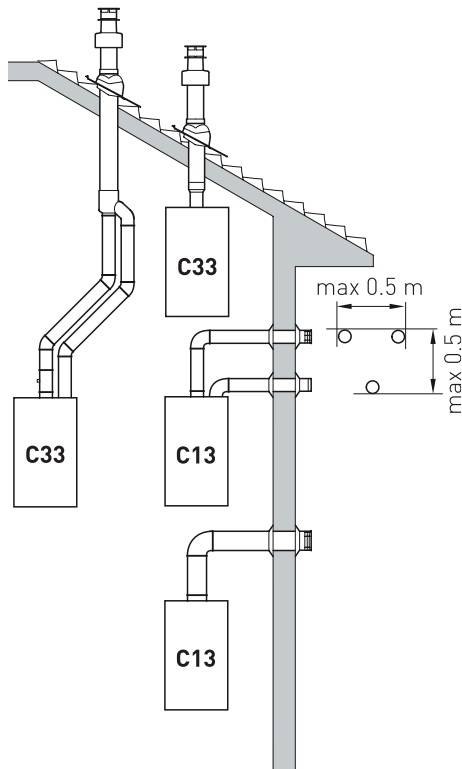
- All measurements are the minimum clearances required.
- Terminals must be positioned so to avoid combustion products entering the building.
- When the installer installs the flue through a wall, the wall must be adequately sealed and the hole must not affect the building structure or fire resistance.
- Install a fire proof back board if installing on combustible surfaces.
- The fixing method and the wall structure must be sufficient to hold the weight of the boiler.

8.12.2 Installation of coaxial flues 60/100mm - 80/125mm

Coaxial flue kits that are supplied separately. The diagrams below, illustrate some examples of fluing options allowed and the maximum lengths than can be achieved. It is essential that a flue gas analysis point is made available directly above the boiler.

8.12.3 Brava Slim HE 20 R i - 40 R i

Permitted outlets



C13

Concentric wall smoke outlet The pipes can start from the boiler but the outlets must be concentric or close together (no more than 50 cm) to be subject to similar wind conditions.

C33

Concentric roof smoke outlet The pipes can start from the boiler but the outlets must be concentric or close together (no more than 50 cm) to be subject to similar wind conditions.

Fig. 25

8.12.4 Coaxial duct (Ø 60/100mm and Ø 80/125mm)

Description	Code	
	Ø 60/100 mm	Ø 80/125 mm
Coaxial duct kit	8096250	8096253
Extension W. 1000 mm	8096150	8096171
Extension W. 500 mm	8096151	8096170
Vertical extension W. 140 mm with smoke analysis take-off point	8086950	-
Adapter for Ø 80/125 mm	-	8093150
Additional 90° curve	8095850	8095870
Additional 45° curve	8095950	8095970
Roof outlet terminal W. 1284 mm	8091205	8091205

Coaxial accessories

Load loss - Equivalent lengths

Model	Leq (linear metres)	
	Ø 60/100 mm	Ø 80/125 mm
90° curve	1.5	2
45° curve	1	1

Minimum-Maximum Lengths

Model	Duct Length Ø 60/100		Duct Length Ø 80/125					
	W Horizontal (m)		H Vertical (m)					
	Min.	Max.	Min.	Max.				
Brava Slim HE 20 R i	-	6	1.3	8	-	12	1.2	15
Brava Slim HE 40 R i	-	4	1.3	6	-	10	1.2	13



WARNINGS

- The smoke flue and the connection to the flue pipe must be in compliance with the national and local Standards and Legislation in force.
- The use of rigid ducts which are resistant to temperature, condensate, mechanical stress and are air-tight is compulsory.
- Outlet ducts which are not isolated are a risk of danger.

8.12.5 Brava Slim HE 20 R e - 40 R e

The boilers **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e** are supplied already complete with coaxial ducts for smoke outlet and combustion air inlet.

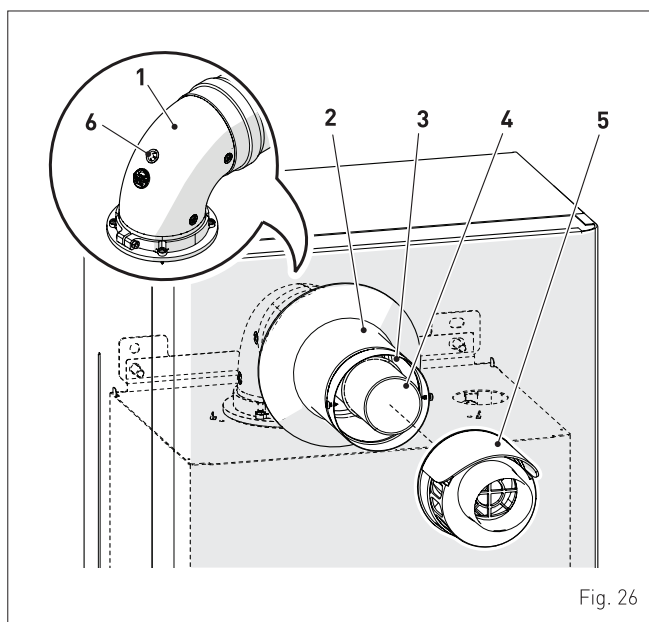


Fig. 26

KEY:

- 1 90° coaxial bend
- 2 Coaxial duct (supplied, but not fitted)
- 3 Air inlet
- 4 Smoke outlet
- 5 Outlet terminal (supplied, but not fitted)
- 6 Take-off point for smoke analysis

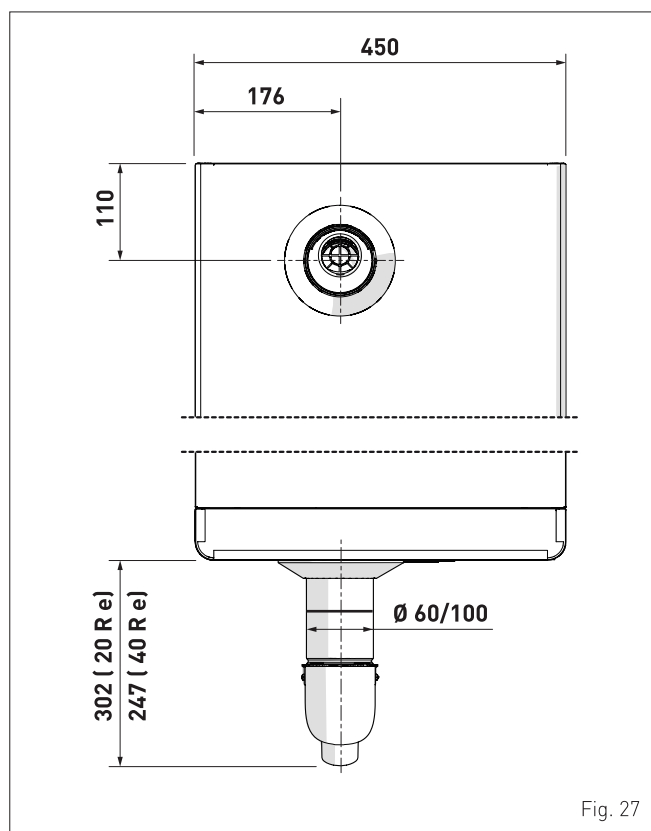


Fig. 27

8.13 Electrical connections

The boiler is equipped with a ready wired power cable which is to be connected to a 230V~50 Hz network.

If this cable needs to be replaced, an original spare must be requested from **Sime**.

Therefore only the connections of the original components as shown in the table are needed. These are to be ordered separately from the boiler.

DESCRIPTION	CODE
External sensor kit ($\beta=3435$, NTC 10K0hm at 25°C)	8094101
Remote control HOME (open therm)	8092280
Remote control HOME PLUS (open therm)	8092281



CAUTION

The maintenance interventions described must **ONLY** be carried out the professionally qualified personnel.



WARNING

Before carrying out any interventions described:

- set the main system switch to "OFF"
- close the gas valve
- make sure that no hot parts inside the appliance are touched.

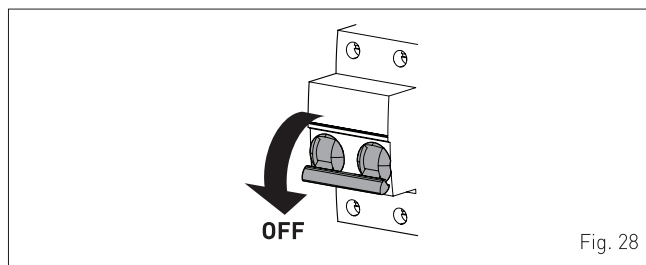


Fig. 28

To facilitate introduction of the connection wires of the optional components into the boiler:

- disassemble the smoke outlet duct of the **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e**, if fitted
- remove the screws (1), pull the front panel (2) forwards and release it from the top by lifting it

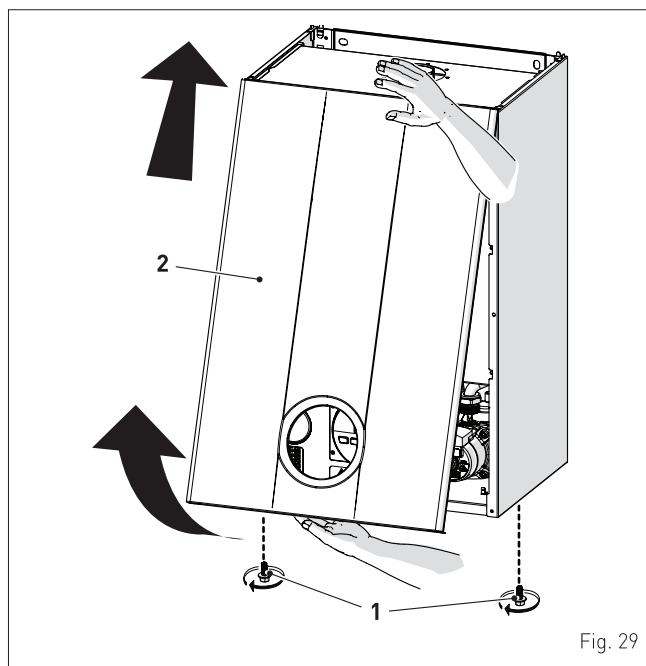


Fig. 29

- remove the screws (3) securing the control panel (4)
- move the panel (4) upwards (a) but keeping it in the side guides (5) to the end of travel
- bring it forwards and down (b) until it is horizontal

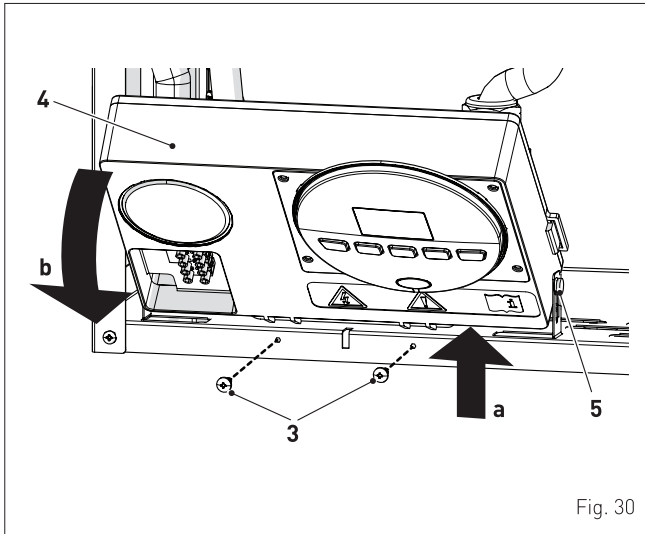


Fig. 30

- insert the connection wires into the cable gland (6) and the opening (7) on the control panel

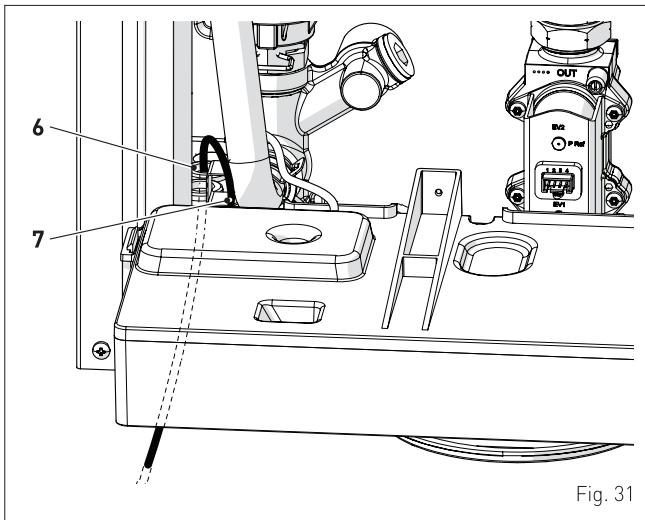


Fig. 31

- bring the control panel (4) to the original position and secure it with the screws (3) which were removed previously
- connect the component wires to the terminal board (8) following the indications provided on the data plate (9).

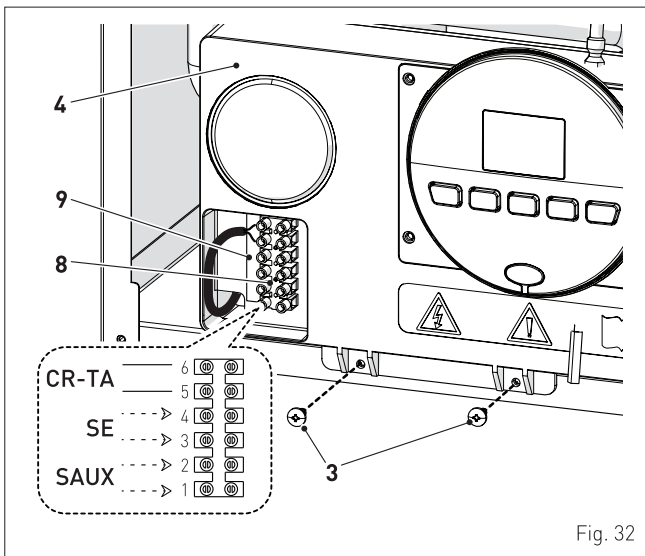


Fig. 32



CAUTION

It is compulsory:

- to use an omnipolar cut-off switch, disconnect switch in compliance with AS/NZS Standards
- if the power cable is to be replaced, that ONLY a special cable is used with a factory produced re-wired connector, ordered as a spare part and connected by a professionally qualified person
- to connect the earth wire to an effective earthing system (*)
- that before any intervention on the boiler, the mains power is disconnected by setting the main system switch to "OFF".

(*) The manufacturer is not responsible for any damage caused by failure to earth the appliance or failure to observe the information provided in the wiring diagrams.



IT IS FORBIDDEN

To use water pipes for earthing the appliance.

8.13.1 External sensor

The boiler is prearranged for connection to an external air temperature sensor and can operate with a sliding temperature. This means that the delivery temperature sent to the boiler can vary on the basis of the external temperature depending on the climatic curve selected from those shown in the diagram (Fig. 33).

When fitting the sensor on the outside of the building, follow the instructions provided on the packaging of the product itself.

Climatic curve

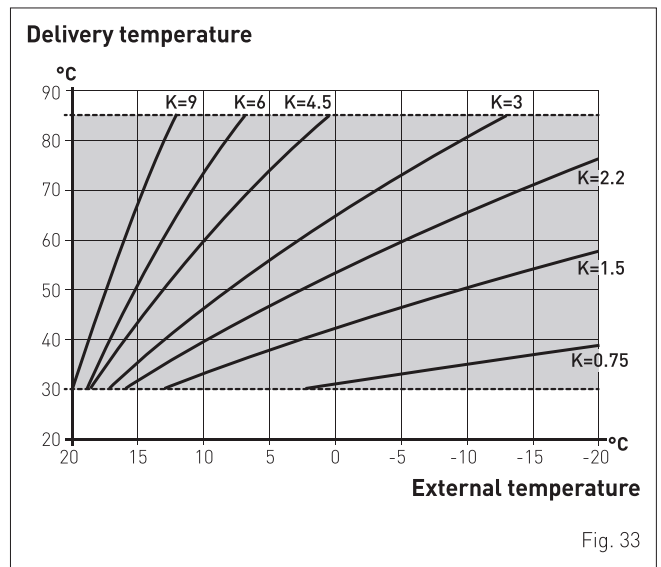


Fig. 33



CAUTION

If there is an external sensor, in order to select the optimal climatic curve for the system and therefore the delivery temperature based on the external temperature:

- press the button for 1 second
- press buttons + or - until the required curve K has been selected (within the range $K=0.0 - K=9.0$).

8.13.2 Chrono-thermostat or Air Thermostat

The electrical connection of the chrono-thermostat or air thermostat has already been described. When fitting the component in the room where the readings are to be taken, follow the instructions provided with the device.

8.13.3 EXAMPLE of use of the command/control device on some types of heating systems

KEY

- M System delivery
- R System return
- CR Remote control
- SE External sensor
- TA Air thermostat for boiler activation
- TZ1-TZ3 Air thermostat for the zone
- VZ1-VZ3 Zone valves
- RL1-RL3 Zone relays
- P1-P3 Zone pump
- TSB Low temperature safety thermostat

ONE DIRECT ZONE system, external sensor and air thermostat.

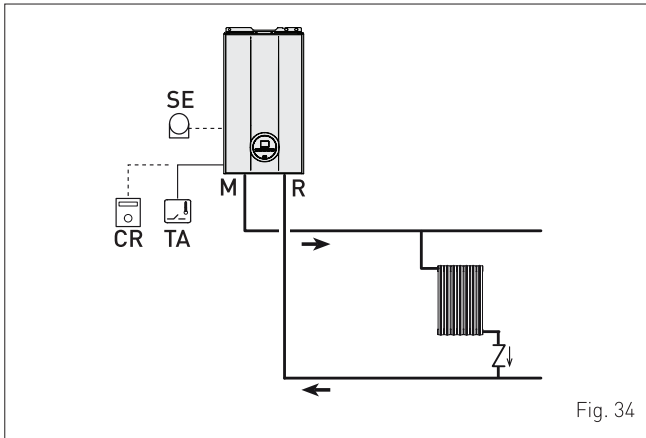


Fig. 34

MULTI ZONE system - with pump, air thermostat and external sensor.

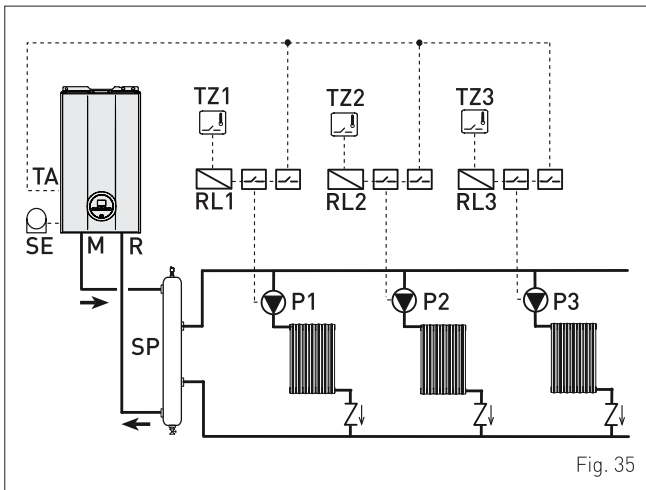


Fig. 35

MULTI ZONE system - with zone valve, air thermostat and external sensor.

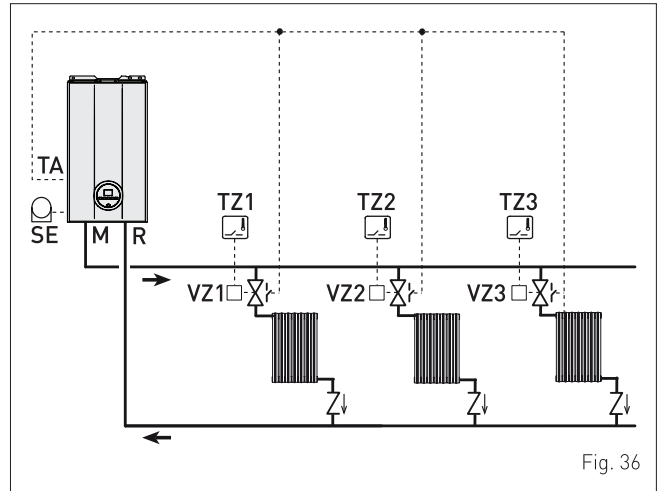


Fig. 36

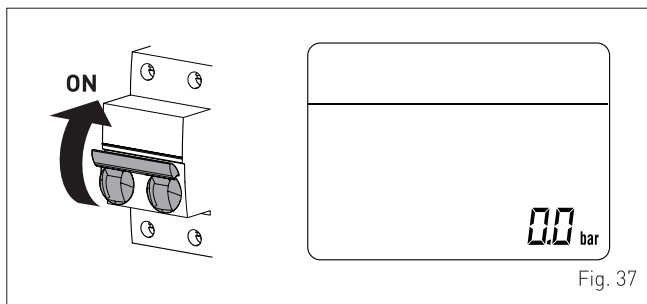


CAUTION

Set the parameter "tS 17 = DELAY SYSTEM PUMP ACTIVATION" to allow the opening of zone valve Vz.

8.14 Refilling or emptying

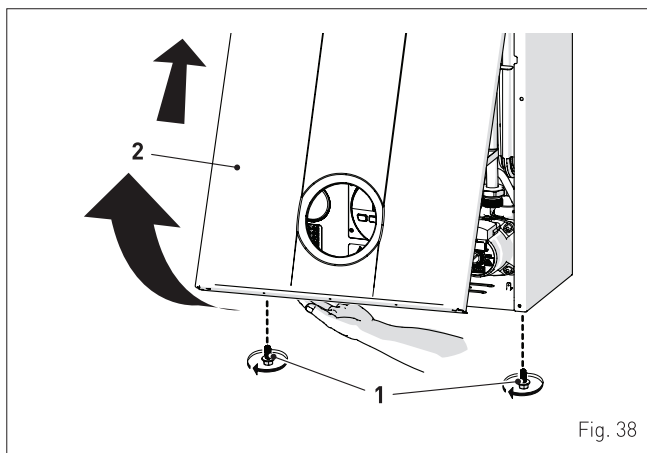
Before carrying out the operations described below, make sure that the main system switch is set to "ON" in order for the display to show the pressure level in the system during refilling. **Make sure that the operating mode is set to "Stand-by"**; if this is not the case, press the button **OR** for at least 1 second until this mode has been selected.



8.14.1 REFILL operations

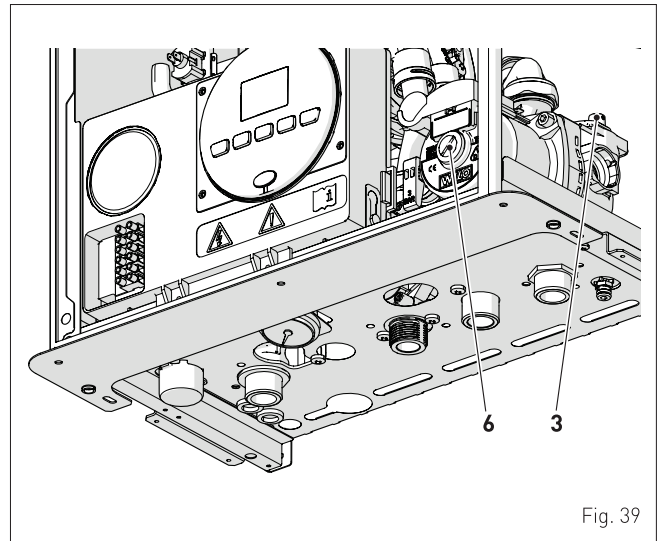
Remove the front panel:

- disassemble the smoke outlet duct of the **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e**, if fitted
- remove the two screws (1), pull the front panel (2) forwards and release it from the top by lifting it.



Heating circuit:

- open the isolation and air bleeding valves in the highest points of the system
- loosen the automatic bleed valve (3)
- open the isolation valves of the heating circuit (if present)
- Open the filling valve, which should be on the system return
- Fill until the water overflows from the air bleeding valves and shut off the valves again
- Continue filling until the pressure reaches **1-1.2 bar** (100-120 kPa) as shown on the display
- close the filling valve
- check that there is no air in the system by bleeding all the radiators and the circuit on the high points of the system
- remove the front plug (6) of the pump and use a screwdriver to check that the impeller is not blocked
- replace the plug (6)



NOTE: to completely remove all air from the system, it is recommended that this operation is repeated a number of times.

- check the pressure on the display and if necessary top up until the correct pressure reading appears
- close the automatic bleed valve (3)
- fill the siphon disconnecting it from the pipe or using (by means of) the smoke take-off point.

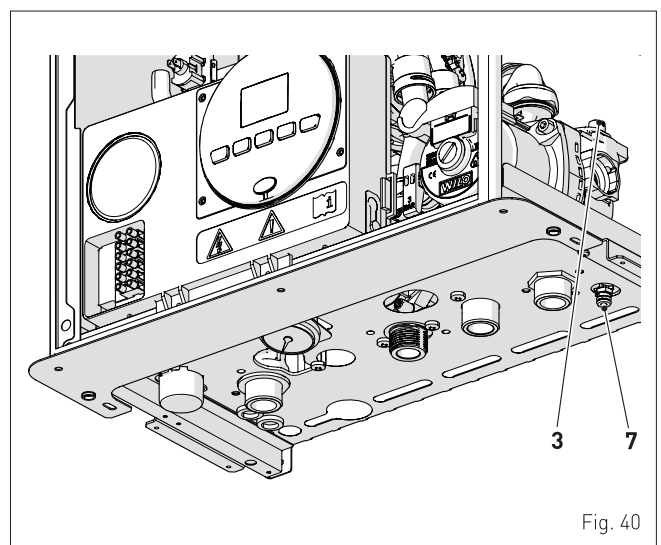
Refit the front panel of the boiler hooking it on at the top, pushing it forwards and securing it with the screw (1) which was removed previously.

Fit the smoke outlet duct of the **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e**.

8.14.2 EMPTYING operations

Boiler:

- loosen the automatic bleed valve (3)
- close the heating circuit isolation valves
- check that the filling valve is closed
- connect a rubber hose to the boiler drain valve (7) and open it
- when it has fully emptied, close the drain valve (7)
- close the automatic bleed valve (3).



9 COMMISSIONING

9.1 Preliminary operations

Before commissioning the appliance, check that:

- the type of gas is correct for the appliance
- the gas isolation valves for the heating system and the water system are open
- the pump impeller rotates freely
- the siphon has been filled
- the flue is fitted correctly.

9.2 Before commissioning

After having carried out the preliminary operations, perform the following to start the boiler:

- set the main system switch to "ON"

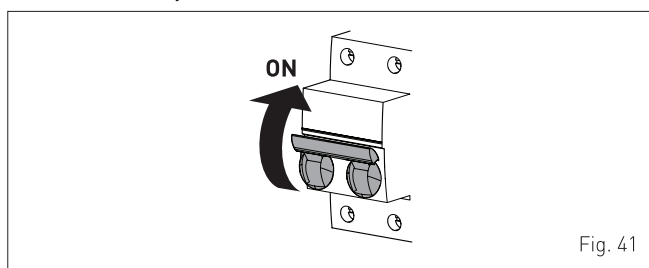
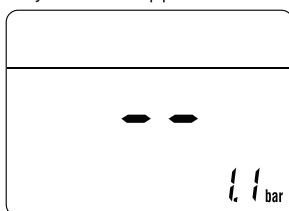
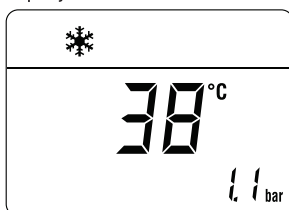


Fig. 41

- the type of gas for which the boiler has been calibrated, "nG" (methane) or "LG" (LPG,) will appear followed by the power. After this the correct representation of the symbols will be checked and finally "- -" will appear on the display



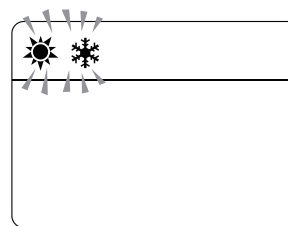
- check that the system pressure as shown on the pressure gauge when the system is cold, is between **1 and 1.2 bar (100 and 120 kPa)**
- press the button **OR** twice to select "WINTER mode" ❄️, the value of the delivery sensor detected at that moment will appear on the display



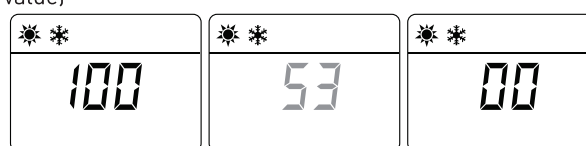
9.2.1 Self-calibrating procedure

Carry out the "Automatic self-calibrating procedure" as follows:

- press and hold down the buttons **-** and **+** at the same time for approximately 12 seconds until the flashing symbols and appear on the display



- as soon as the symbols begin to flash, release the buttons **-** and **+** and press the button **OR**, **within 3 seconds**
- the "Automatic self-calibrating procedure" starts
- **ensure that the system isolation valves are open**
- adjust the room thermostat to request status, at a high value
- the values flash on the display: "100" (maximum value), followed by an "intermediate value" and finally "00" (minimum value)



The operator must wait for approximately 15 minutes for the "self-calibrating procedure" to end and the message "WINTER mode" ❄️ to reappear on the display.

Once the procedure has terminated:

- stop the heating request by adjusting the room thermostat.
- if there is a fault, the message "ALL" will appear on the display, the fault code (eg. "06" - no flame detected) and the message **RESET**



CAUTION

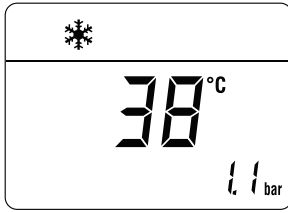
To restore the start conditions press and hold the button **OR** for more than 3 seconds. This operation can be performed up to a maximum of 6 times without the "self-calibrating procedure" being interrupted.

- adjust the air thermostat and check that the boiler starts and operates correctly
- carry out the procedure "Chimney sweeper function", to check the mains gas pressure, detect the combustion parameters and to measure the combustion efficiency required by legislation in force.

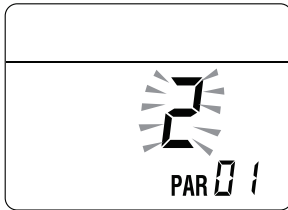
9.3 Parameter setting and display

To go into the parameter menu:

- from the selected mode (eg. WINTER)



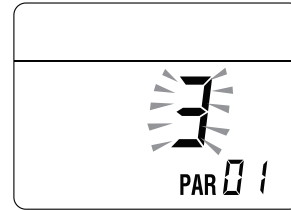
- press the buttons ◀◀ and |||| (for approximately 5 seconds) at the same time until "PAR 01" (parameter number) and the value set (0-4) appears on the display



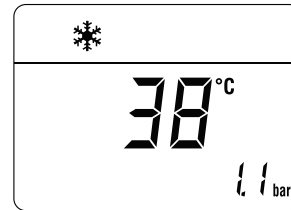
- press the button |||| to scroll up the list of parameters and then ◀◀ to scroll down the list

NOTE: holding the buttons ◀◀ or |||| increases the speed of the scrolling movement.

- once the required parameter has been reached, press the buttons + or - to modify the value within the permitted range. The modifications are stored automatically.



When all the parameter modifications have been made, exit the parameter menu by pressing and holding down the buttons ◀◀ and |||| **at the same time** until the initial screen is displayed.



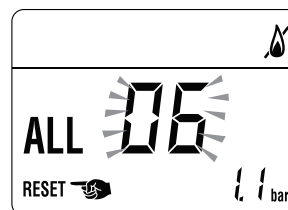
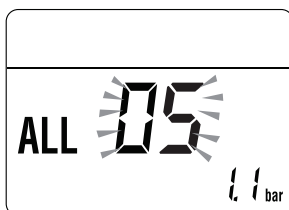
NOTE: In case of power failure all settings are stored.

9.4 List of parameters

Type	No.	Description	Range	U/M	Step	Default
CONFIGURATION						
PAR	01	Index showing boiler power in kW 1 = 25; 2 = 30; 3 = 35; 4 = 40	1 .. 4	-	1	1 or 4
PAR	02	Hydraulic configuration 0 = rapid 1 = storage tank with thermostat or heating only 2 = hot water tank with sensor 3 = bithermic 4 = instant with solar power input 5 = internal parameter (do not set) 6 = boiler with heat pump	0 .. 6	-	1	1
PAR	03	Gas Type Configuration 0 = NATURAL GAS; 1 = UNIVERSAL LPG	0 .. 1	-	1	0
PAR	04	Combustion configuration 0 = sealed chamber with combustion control	-	-	-	0
PAR	08	External sensor value correction	-5 .. +5	°C	1	0
PAR	09	Ignition fan speed	80 .. 160	RPMx25	1	128
DOMESTIC HOT WATER - HEATING						
PAR	10	Boiler Antifreeze Threshold	0 .. +10	°C	1	3
PAR	11	External Sensor Antifreeze Threshold -- = Disabled	-9 .. +5	°C	1	-2
PAR	12	Heating Curve Incline	0 .. 80	-	1	20
PAR	13	Minimum Heating Temperature Adjustment	20 .. PAR 14	°C	1	20
PAR	14	Maximum Heating Temperature Adjustment	PAR 13 .. 80	°C	1	80
PAR	15	Maximum power heating	0 .. 100	%	1	100
PAR	16	Heating Post-Circulation Time	0 .. 99	seconds x 10	1	3
PAR	17	Heating Pump Activation Delay	0 .. 60	seconds x 10	1	0
PAR	18	Re-ignition Delay	0 .. 60	Min	1	3
PAR	21	Minimum power heating/domestic hot water (premixed)	0 .. 100	%	1	0
PAR	23	External relay 1 function 0 = not used; 1 = remote alarm NO; 2 = remote alarm NC; 3 = zone valve; 4 = automatic filling; 5 = external request; 6 = recirculation pump; 7 = zone valve with OT; 8 = relaunch pump; 9 = boiler with heat pump (circulator)	0 .. 9	-	-	0

Type	No.	Description	Range	U/M	Step	Default
PAR	24	External relay 2 function 0 = not used; 1 = remote alarm NO; 2 = remote alarm NC; 3 = zone valve; 4 = automatic filling; 5 = external request; 6 = recirculation pump; 7 = zone valve with OT; 8 = relaunch pump; 9 = boiler with heat pump	0 .. 9	-	-	0
PAR	25	Auxiliary TA function 0 = according to TA 1 = TA Antifreeze 2 = domestic hot water disabled	0 .. 2	-	1	0
PAR	26	Zone Valve / Pump Relaunch Delay	0 .. 99	Min	1	1
PAR	29	Anti-legionella Function (Only hot water tank) -- = Disabled	50 .. 80	-	1	--
PAR	35	Digital / analogue Pressure switch 0 = water pressure switch 1 = water pressure transducer 2 = water pressure transducer (only pressure displayed)	0 .. 2	-	1	1
PAR	40	Modulating Pump Speed	-- = No modulation AU = Automatic 30 .. 100	%	10	AU
PAR	41	ΔT Modulating pump delivery/Return	10 .. 40	°C	1	20
PAR	42	Select heat pump or boiler convenience (only if PAR 02 = 6)	-20 .. 30	°C	-	5
PAR	43	Heat pump boiler aid activation delay (only if PAR 02 = 6)	1 .. 60	Min	-	3
PAR	47	System pump forcing (only in winter mode) 0 = Disabled 1 = Enabled	0 .. 1	-	1	0
RESET						
PAR	48	INST Parameter set to default	0 .. 1	-	-	0

In the event of a fault/malfunction the message “ALL” will appear on the display with the alarm number eg. “ALL 05” (Domestic Hot Water Sensor Fault).



Before repairing the fault:

- disconnect the appliance from the mains power by setting the main switch to “OFF”

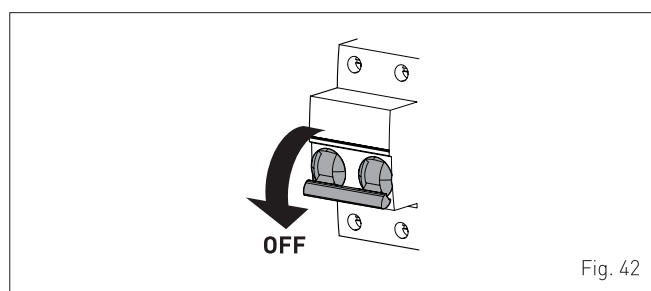


Fig. 42

- as a precautionary measure, close the gas isolation valve.

Repair the fault and start-up the boiler again.

NOTE: after having repaired the fault, when the alarm number appears on the display together with the message **RESET** (see figure), press the button **OR** for approximately 3 seconds to start the appliance up again.

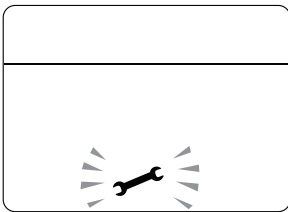
9.5 Fault / malfunction codes

Type	No.	Description
AL	02	Low water pressure in system
AL	05	Delivery sensor fault
AL	06	No flame detection
AL	07	Safety thermostat intervention
AL	08	Fault in the flame detection circuit
AL	09	No water circulating in the system
AL	10	Auxiliary sensor fault
AL	11	Gas valve modulator disconnected
AL	12	Incorrect configuration of the open /sealed chamber
AL	13	Smoke probe intervention
AL	14	Smoke probe fault
AL	15	Fan check cable disconnected
AL	18	Condensate level fault
AL	28	Maximum number of consecutive releases
ALL	30	Return sensor (SR) fault
AL	37	Fault due to low network voltage
AL	40	Incorrect network frequency detected
AL	41	Flame loss more than 6 consecutive times
AL	42	Button fault
AL	43	Open Therm communication fault
ALL	44	No flame valve opening time sum anomaly
AL	62	Self-calibrating procedure is required
AL	72	Incorrect positioning of the delivery sensor
ALL	77	EV2 SGV current max/min absolute limits error
ALL	78	EV2 SGV current upper limit error
ALL	79	EV2 SGV current lower limit error

Type	No.	Description
ALL	80	Fault on the valve control logic line/valve cable damaged
AL	81	Block due combustion during start-up
ALL	82	Block due to numerous combustion control failures
AL	83	Irregular combustion (temporary error)
ALL	84	Flow rate reduced for (presumed) low pressure on mains gas
ALL	88	Internal error (board component protection)
ALL	89	Unstable combustion feedback signal error
ALL	90	Combustion set cannot be reached error
ALL	92	System has reached maximum air correction error (at the minimum flow rate)
ALL	93	Combustion set cannot be reached error
ALL	95	Flame signal micro interruptions error
AL	96	Block due to clogging in smoke outlet
ALL	98	SW error, board start-up
ALL	99	General board error

9.5.1 Maintenance request

When it is time to perform maintenance on the boiler, the symbol shows on the display.

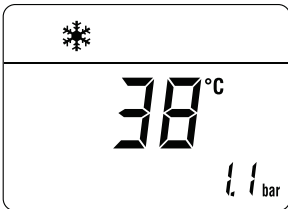


Contact the technical assistance service to organise the necessary work.

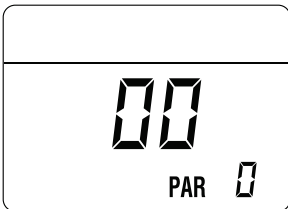
9.6 Display of operating data and counters

Once the boiler is operating a qualified technician can view the operating data and the counters as follows:

- from the operating screen in the "WINTER" mode

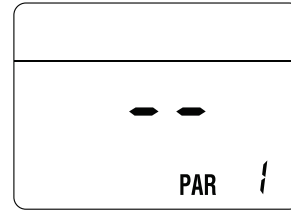


- go into "DISPLAY" by pressing the buttons and at the same time for more than 3 seconds until the following screen appears

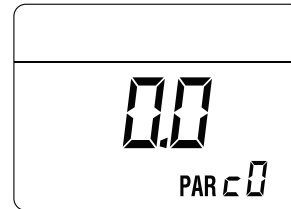


From this point, the technician has 2 options:

- scroll through the list of "information (PAR)" and "counters (PARc)" by pressing the button . Scrolling will be in sequence



- display the "activated alarms" (no more than 10) by pressing the button



- Once in this section, proceed with button or .

When all the values have been displayed, exit the menu by pressing and holding down the button for approximately 5 seconds until the initial screen is displayed.

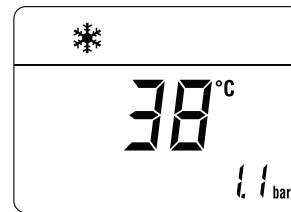


TABLE OF INFORMATION DISPLAYED

Type	No.	Description	Range	U/M	Step
PAR	00	SW version			
PAR	01	External sensor	- 9 .. 99	°C	1
PAR	02	Delivery sensor temperature	- 9 .. 99	°C	1
PAR	03	Smoke probe	- 9 .. 99	°C	1
PAR	05	AUX auxiliary sensor	- 9 .. 99	°C	1
PAR	06	Actual heating SET temperature	Par. 13 ... Par. 14	°C	1
PAR	07	Power level	0 .. 99	%	1
PAR	08	Flow meter rate	0 .. 99	l/min	0.1
PAR	09	Water pressure transducer reading	0 .. 99	bar	0.1
PAR	10	Display of current fan revolutions	0 .. 99	RPM x 100	1

TABLE OF COUNTER DISPLAYED

Type	No.	Description	Range	U/M	Step
PAR	c0	total no. of boiler operating hours	0 .. 99	h x 1000	0.1; from 0.0 to 9.9; 1; from 10 to 99
PAR	c1	total no. of burner operating hours	0 .. 99	h x 1000	0.1; from 0.0 to 9.9; 1; from 10 to 99
PAR	c2	total no. of burner ignitions	0 .. 99	h x 1000	0.1; from 0.0 to 9.9; 1; from 10 to 99
PAR	c3	total no. faults	0 .. 99	x 1	1
PAR	c4	total no. of times installer parameters "ALL" accessed	0 .. 99	x 1	1
PAR	c5	total no. of times OEM parameters accessed	0 .. 99	x 1	1
PAR	c6	time until next maintenance intervention	1 .. 199	months	1

TABLE OF ACTIVATED ALARMS/FAULTS

Type	No.	Description
PAR	A0	Last activated alarm/fault
PAR	A1	Last but one activated alarm/fault
PAR	A2	Third from last activated alarm/fault
PAR	A3	Previous activated alarm/fault
PAR	A4	Previous activated alarm/fault
PAR	A5	Previous activated alarm/fault
PAR	A6	Previous activated alarm/fault
PAR	A7	Previous activated alarm/fault
PAR	A8	Previous activated alarm/fault
PAR	A9	Previous activated alarm/fault

9.7 Checks after commissioning

9.7.1 Chimney sweeper function

The chimney sweeper function is used by the qualified maintenance technician to check the mains gas pressure, detect the combustion parameters and to measure the combustion efficiency required by legislation in force.

This function lasts 15 minutes and is activated by proceeding as follows:

- disassemble the smoke outlet duct of the **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e**, if not already removed
- if the panel (2) has not already been removed, remove the two screws (1), pull the front panel (2) forwards and release it from the top by lifting it

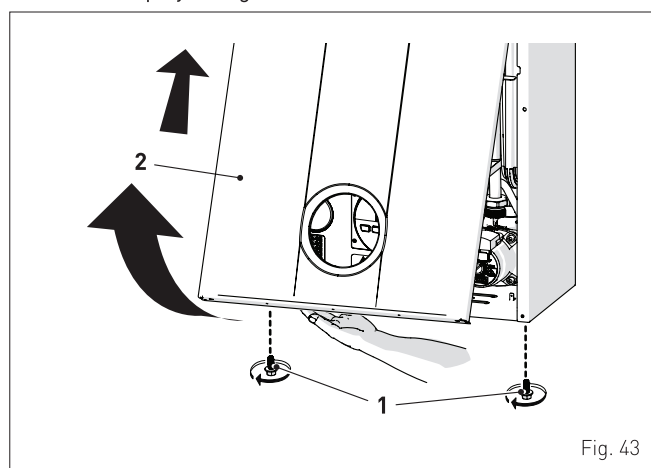


Fig. 43

- remove the screws (3) securing the control panel (4)
- move the panel (4) upwards (a) but keeping it in the side guides (5) to the end of travel
- bring it forwards and down (b) until it is horizontal

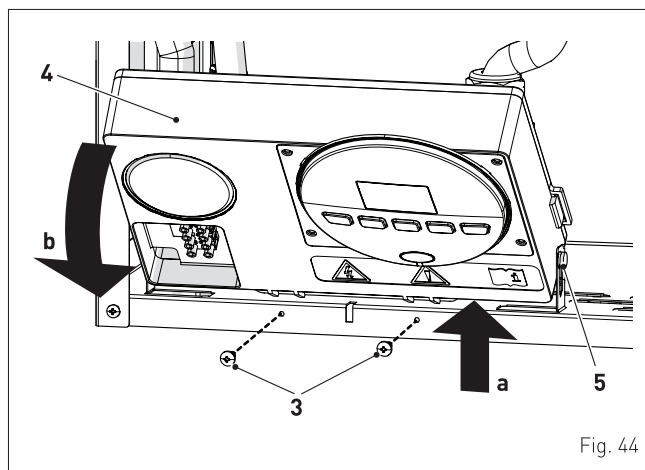


Fig. 44

- close the gas valve
- loosen the screw of the "mains pressure" point (6) and connect a pressure gauge

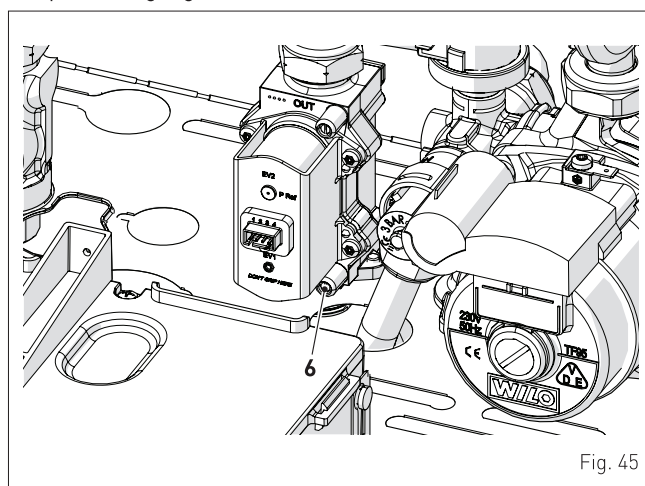


Fig. 45

- open the gas valve
- power the boiler by setting the main switch to "ON"

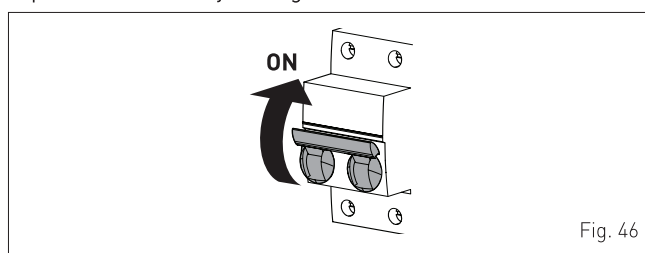
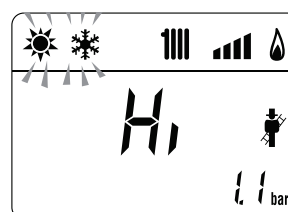
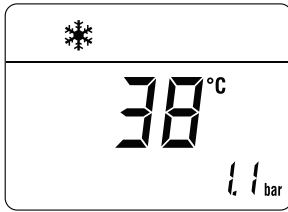


Fig. 46

- press the button **OR** for at least 1 second until "SUMMER" mode has been selected
- press and hold down the buttons **-** and **+** at the same time for approximately 10 seconds until the message "Hi" appears on the display together with the flashing symbols and



- take the combustion data reading
- press the button **OR** to exit the "Chimney sweeper Procedure". The boiler water delivery temperature will appear on the display



- disconnect the pressure gauge, carefully close the pressure point (6), put the control panel back to the original position and refit the front panel (2).

Gas supply pressure

Type of gas	NATURAL GAS	UNIVERSAL LPG
Pressure (mbar/kPa)	11.3/1.13	27.5/2.75

9.8 Gas conversion

Brava Slim HE R models can work with NATURAL GAS or UNIVERSAL LPG without the need for any mechanical conversion. Select parameter "**PAR 03**" (see "**Parameter setting and display**") and set the type of gas to be used.

If changing the type of gas to be used, carry out the entire appliance "**COMMISSIONING**" phase.

10 MAINTENANCE

10.1 Adjustments

For the appliance to operate correctly and efficiently it is recommended that the User calls upon the services of a Professionally Qualified Technician to carry out **ANNUAL** maintenance.



CAUTION

The maintenance interventions described must **ONLY** be carried out the professionally qualified personnel.



WARNING

Before carrying out any interventions described:

- set the main system switch to "OFF"
- close the gas valve
- make sure that no hot parts inside the appliance are touched.

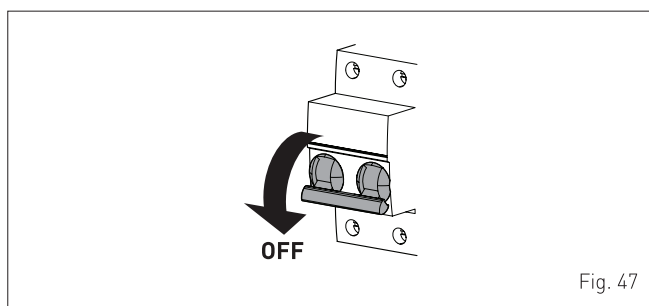


Fig. 47

10.2 External cleaning

10.2.1 Cleaning the cladding

When cleaning the cladding, use a cloth dampened with soap and water or alcohol for stubborn marks.



IT IS FORBIDDEN

to use abrasive products.

10.3 Cleaning the inside of the appliance

10.3.1 Removing components

To access the internal parts of the boiler:

- disassemble the smoke outlet duct of the **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e**, if fitted
- remove the screws (1), pull the front panel (2) forwards and release it from the top by lifting it

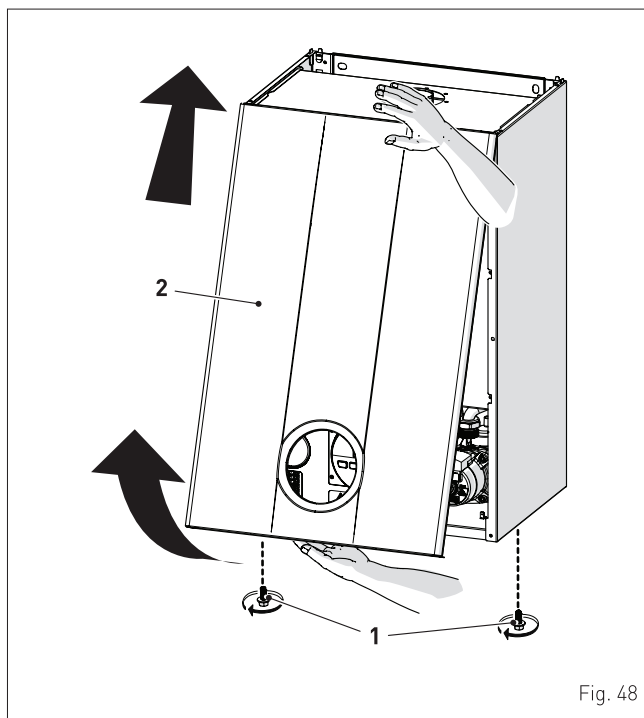


Fig. 48

- remove the screws (3) securing the control panel (4)
- move the panel (4) upwards (a) but keeping it in the side guides (5) to the end of travel
- bring it forwards and down (b) until it is horizontal

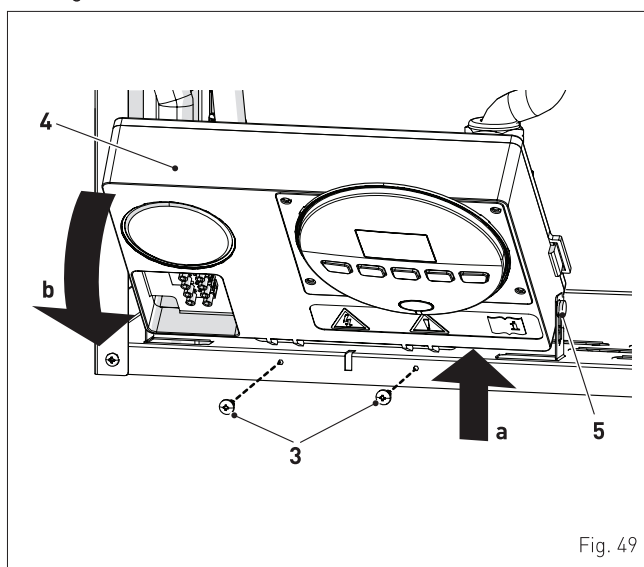


Fig. 49

- loosen the clips (6) and extract the air inlet pipe (7)
- unscrew the swivel joint (8)
- extract the connectors (9) from the fan and disconnect the electrode cable (10)

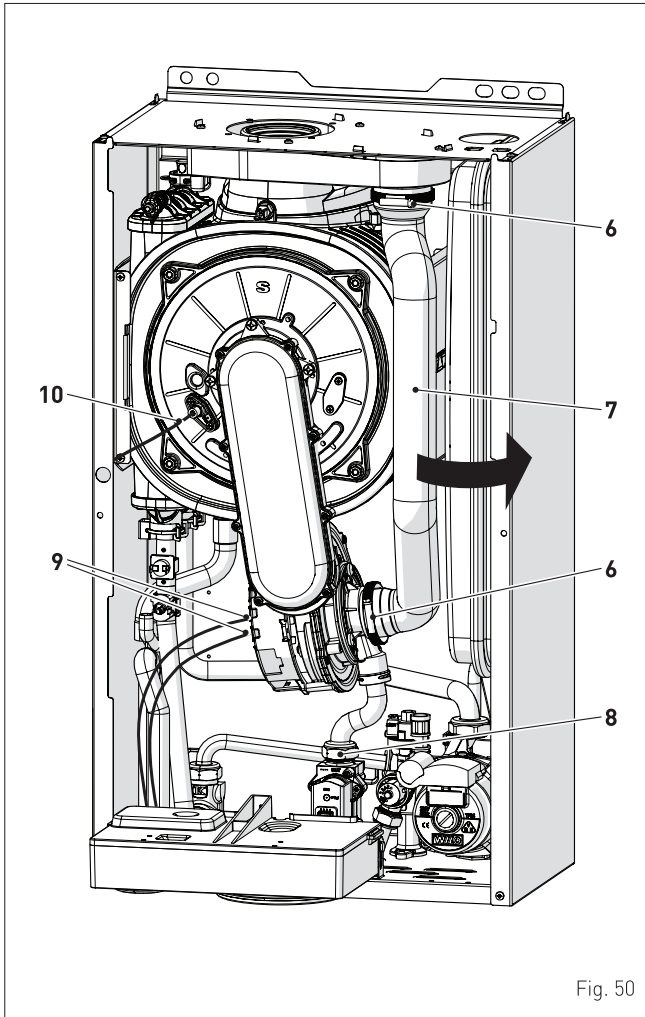


Fig. 50

- Unscrew the four nuts (11) securing the combustion chamber door (12)
- pull the fan-sleeve-door assembly (13) forwards and remove it.

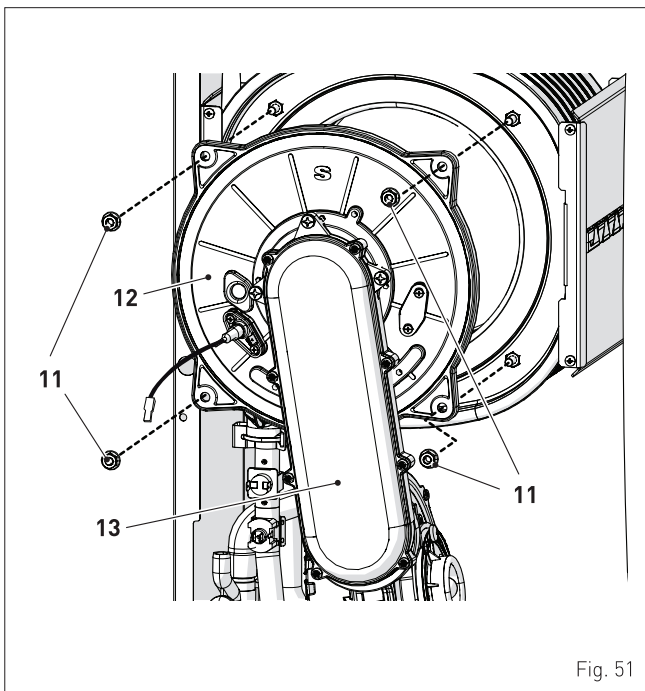


Fig. 51



CAUTION

Work carefully when removing the assembly (13) to prevent any damage occurring to the internal insulation of the combustion chamber and the door seal.

For more details refer to the drawings in the spare parts catalogue.

10.3.2 Cleaning the burner and the combustion chamber

The combustion chamber and the burner do not require any particular maintenance. Simply brush them with a soft brush.

10.3.3 Checking the ignition/detection electrode

Check the state of the ignition/detection electrode and replace if necessary. Check the measurements as per the drawing whether the ignition/detection electrode is replaced or not.

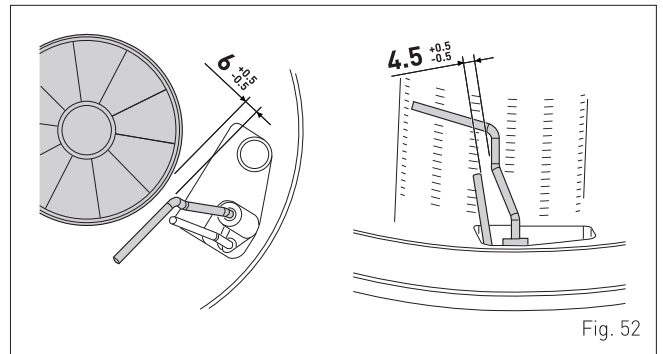


Fig. 52

10.3.4 Final operations

- After having cleaned the combustion chamber and the burner:
 - remove any carbon residue
 - check that the seal and the insulation of the door (12) to the combustion chamber are integral. Replace if necessary
 - refit the assembly by carrying out the same operations for removal but in the reverse order and tighten the screws (11) of the door to the combustion chamber
 - reconnect the connections to the fan and the electrode.

10.4 Checks

10.4.1 Checking the smoke duct

It is recommended that the user checks that the combustion air inlet duct and smoke outlet duct are integral and airtight.

10.4.2 Checking the expansion vessel pressure

It is recommended that the expansion vessel on the water side is drained and that the prefilling pressure is not less than **1 bar (100 kPa)**. If this is not the case, pressurize it to the correct value (see section **Expansion vessel**).

Once the checks described above have been completed:

- refill the boiler as described in section **"REFILL operations"**
- check that the siphon has been filled correctly
- Start the boiler, activate the **"Chimney sweeper function"** and carry out a smoke analysis and/or measure the combustion efficiency
- refit the front panel securing it with the two screws which were removed previously.

10.5 Unscheduled maintenance

If replacing the **electronic board**, the user MUST set the parameters as indicated in the table.

Type	No.	Description	Setting for Brava Slim HE R			
			20 R i	20 R e	40 R i	40 R e
PAR	01	Index showing boiler power in kW 1 = 20; 2 = 30; 3 = 35; 4 = 40	1		4	
PAR	02	Hydraulic configuration 0 = rapid 1 = storage tank with thermostat or heating only 2 = hot water tank with sensor 3 = bithermic 4 = instant with solar power input 5 = internal parameter (do not set) 6 = boiler with heat pump	1			
PAR	03	Gas Type Configuration 0 = NATURAL GAS; 1 = UNIVERSAL LPG	0 or 1			

To enter "**Parameter setting and display**" refer to the indications provided in the specific section.

Once the parameters in the table have been set, you must carry out the entire phase of "**Self-calibrating procedure**" described in the specific section.

If the **gas valve** and/or the **ignition/detection electrode**, and/or the **burner**, and/or the **fan** are replaced, the user must still carry out the entire phase of "**Self-calibrating procedure**" described in the specific section.

10.6 Possible faults and solutions

LIST OF MALFUNCTION/FAULT ALARMS


Type	No.	Fault	Solution
ALL	02	Low water pressure in system	- Restore pressure - Check for any leaks in the system
ALL	03	High water pressure in system	- Empty the system via the drain valve on the hydraulic assembly and bring the pressure to approximately 1.2 bar (120 kPa)
ALL	05	Delivery sensor fault	- Check connections - Replace the sensor
ALL	06	No flame detection	- Check the integrity of the electrode and check that it is not grounded - Check gas availability and pressure - Check the integrity of the gas valve and the card
ALL	07	Sensor or safety thermostat intervenes	- Check the sensor or thermostat connections - Deaerate the system - Check the bleed valve - Replace the sensor or the thermostat - Check that the pump impeller is not blocked
ALL	08	Fault in the flame detection circuit	- Check the integrity of the electrode and check that it is not grounded - Check gas availability and pressure - Check the integrity of the gas valve and the card

Type	No.	Fault	Solution
ALL	09	No water circulating in the system	- Check the rotation of the pump rotor - Check the electrical connections - Replace the pump
ALL	11	Gas valve modulator disconnected	- Check the electrical connection
ALL	12	Incorrect configuration of the open /sealed chamber	- Set the parameter PAR 04 (Combustion configuration) to 0
ALL	13	Smoke probe intervention	- Replace the smoke probe - Contact the Technical Assistance Centre
ALL	14	Smoke probe fault	- Replace the smoke probe - Check the electrical connection of the smoke probe
ALL	15	Fan check cable disconnected	- Check the connection cable between the fan and the board
ALL	18	Condensate level fault	- Check for any clogging in the pipe which takes the condensate to the siphon - Check that the siphon is not clogged
ALL	28	Maximum number of consecutive resets reached	- Contact the Technical Assistance Centre
ALL	30	Return sensor (SR) fault	- Replace the return probe - Contact the Technical Assistance Centre
ALL	37	Fault due to low network voltage.	- Check with tester - Contact network provider (ENEL)
ALL	40	Incorrect network frequency detected	- Contact network provider (ENEL)
ALL	41	Flame loss more than 6 consecutive times	- Check the detection electrode - Check the gas supply (open valve) - Check mains gas pressure
ALL	42	Button fault	- Check that buttons are working
ALL	43	Open Therm communication fault	- Check the electrical connection of the remote control
ALL	62	Self-calibrating procedure is required	- Carry out the self-calibrating procedure (see the specific section)
ALL	72	Incorrect positioning of the delivery sensor	- Check that the delivery sensor is attached to the delivery pipe
ALL	77	EV2 SGV current max/min absolute limits error	- Contact the Technical Assistance Centre
ALL	78	EV2 SGV current upper limit error	- Contact the Technical Assistance Centre
ALL	79	EV2 SGV current lower limit error	- Contact the Technical Assistance Centre
ALL	80	Fault on the valve control logic line/ valve cable damaged	- Check the valve cable - Contact the Technical Assistance Centre
ALL	81	Block due to combustion during start-up	- Check for blockage in chimney - Bleed the air from the gas circuit
ALL	82	Block due to numerous combustion control failures	- Check electrode - Check outlets
ALL	83	Irregular combustion (temporary error)	- Check for blockage in chimney
ALL	84	Flow rate reduced for (presumed) low pressure on mains gas	- Check gas flow rate

Type	No.	Fault	Solution
ALL	88	Internal error (board component protection)	- Contact the Technical Assistance Centre
ALL	89	Unstable combustion feedback signal error	- Contact the Technical Assistance Centre
ALL	90	Combustion set cannot be reached error	- Contact the Technical Assistance Centre
ALL	92	System has reached maximum air correction error (at the minimum flow rate)	- Contact the Technical Assistance Centre
ALL	93	Combustion set cannot be reached error	- Contact the Technical Assistance Centre
ALL	95	Flame signal micro interruptions error	- Contact the Technical Assistance Centre
ALL	96	Block due to clogging in smoke outlet	- Check for blockage in chimney
ALL	98	SW error, board start-up	- Contact the Technical Assistance Centre
ALL	99	General board error	- Contact the Technical Assistance Centre
-	-	Frequent relief valve intervention	- Check circuit pressure - Check expansion vessel
-	-	Limited production of domestic hot water	- Check the diverter valve - Check that plate heat exchanger is clean - Check domestic hot water circuit valve

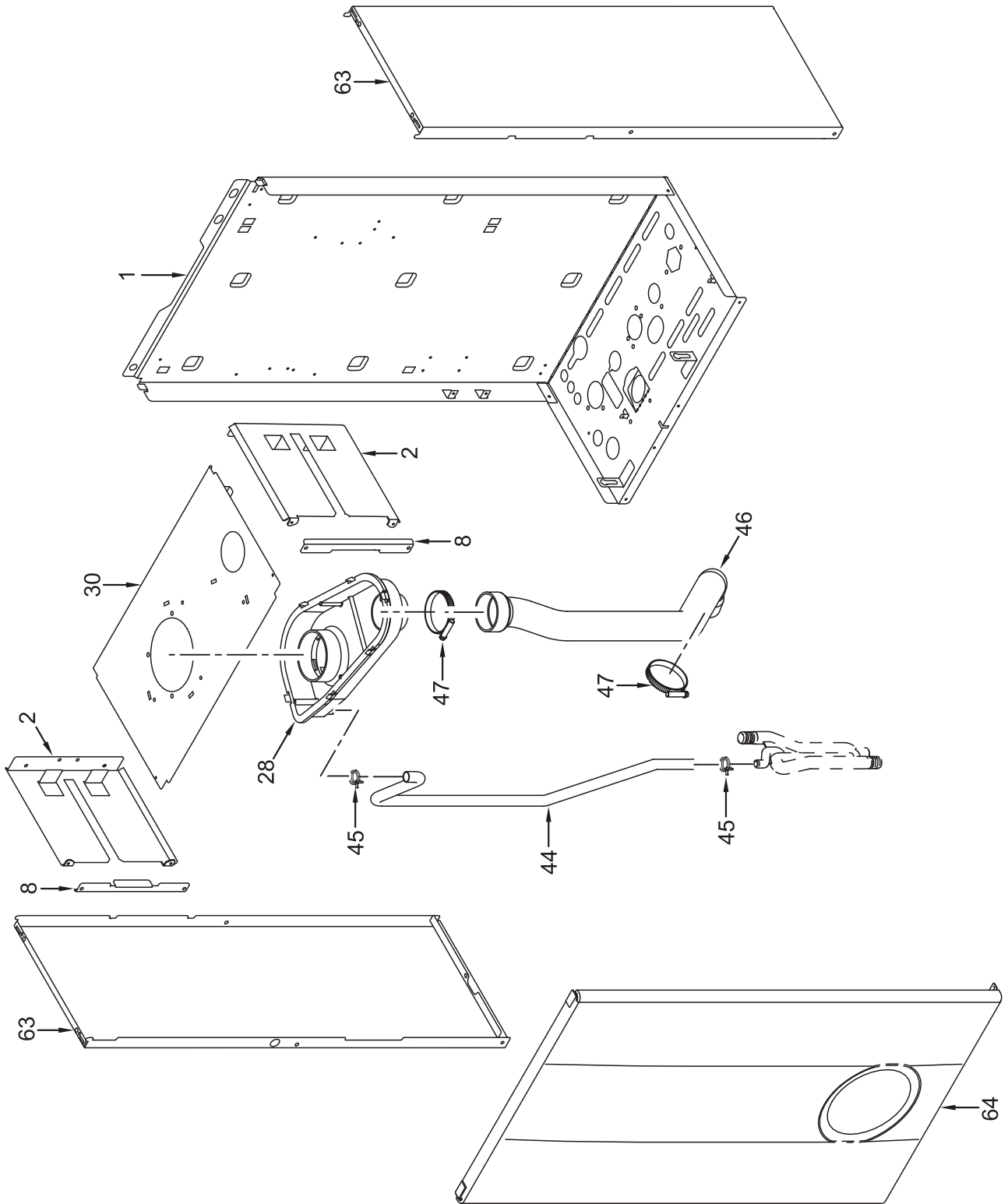
11 COMMISSIONING BOILER CHECKLIST

A suggested method of commissioning the boiler; the actual method can vary according to the boiler make, type and installation. The boiler must always be installed and commissioned by an approved gas technician. The installer certifies that this Boiler has been installed to the manufacturer's instructions, has been filled, commissioned and is ready for use.

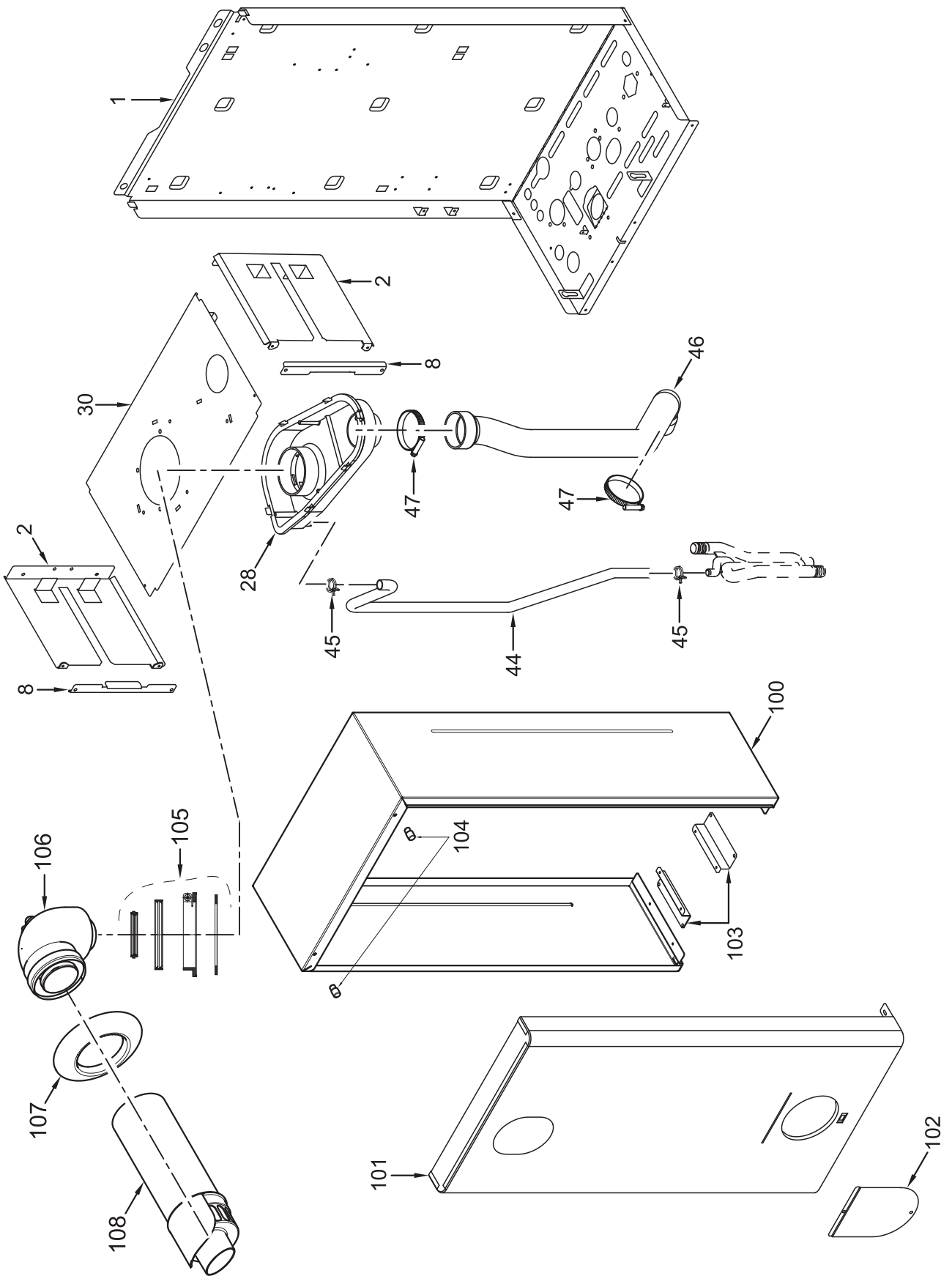
N°	Description	 When done
1	Read carefully the instruction manuals supplied with this boiler.	
2	BEFORE INSTALLING THIS BOILER FLUSH OUT THE PIPES UNTIL CLEAN WATER IS ACHIEVED.	
3	Turn off all services to this boiler - water, gas and power. Install the boiler as shown in the instructions following and connect all services.	
4	Turn on water to fill system, check for leaks regularly and bleed air from all points. Bleed the air from all the pumps in the system, and rotate the impeller shaft.	
5	Check that all radiators valves are open, remove the thermostatic valve heads, fully open all lockshield valves.	
6	Turn ON gas, bleed air out at the isolation valve union. Reseal and check for gas leaks. Turn gas OFF.	
7	Turn electricity on at the power point. At the boiler front panel set the temperature setting to the lowest setting, switch boiler to ON position. The "Power on" Indicator should light. Turn the boiler off at the front panel.	
8	Turn the room thermostat to the manual ON position set the temperature to a high level so that it does not switch off during the commissioning phase. The thermostat will unusually click and show an indicator in the window.	
9	Switch the boiler ON at the boiler front panel control.	
10	Boiler should start fan, pump and ignite gas. If it fails first few times this may be just residual air in the gas line. A noisy water pump indicates there is air in the water pipes.	
11	Boiler lights and heats the water. Check gas flame is the correct colour and for gas and water leaks as the system heats up.	
12	Check that heat is going to all radiators through the manual or thermostatic first and return via the lockshield valve. If not STOP fix NOW and any leaks.	
13	Allow the boiler to heat up to the set temperature and switch off. Re-adjust the boiler temperature to a mid temperature point. CAUTION, If this is connected to a floor heating system. The boiler should re light and increase the water temperature to the new setting.	
14	Check that all radiators are hot all the way up. If the radiator is cold at the top, then there is usually air in the radiator Bleed the radiator. Balance the system so that all radiators are hot as according to the radiator installation manual. Adjust the boiler water temperature.	
15	Set the room thermostat to the correct times and temperatures according to the manufacture's instructions.	
16	On completion of the commissioning phase, complete the information sheet at the front of this manual. Hand over the installation to the owner and demonstrate how the system works plus basic fault resolution and safety procedures. Make sure that this important document is kept in a safe accessible place.	

12 EXPLODED VIEWS

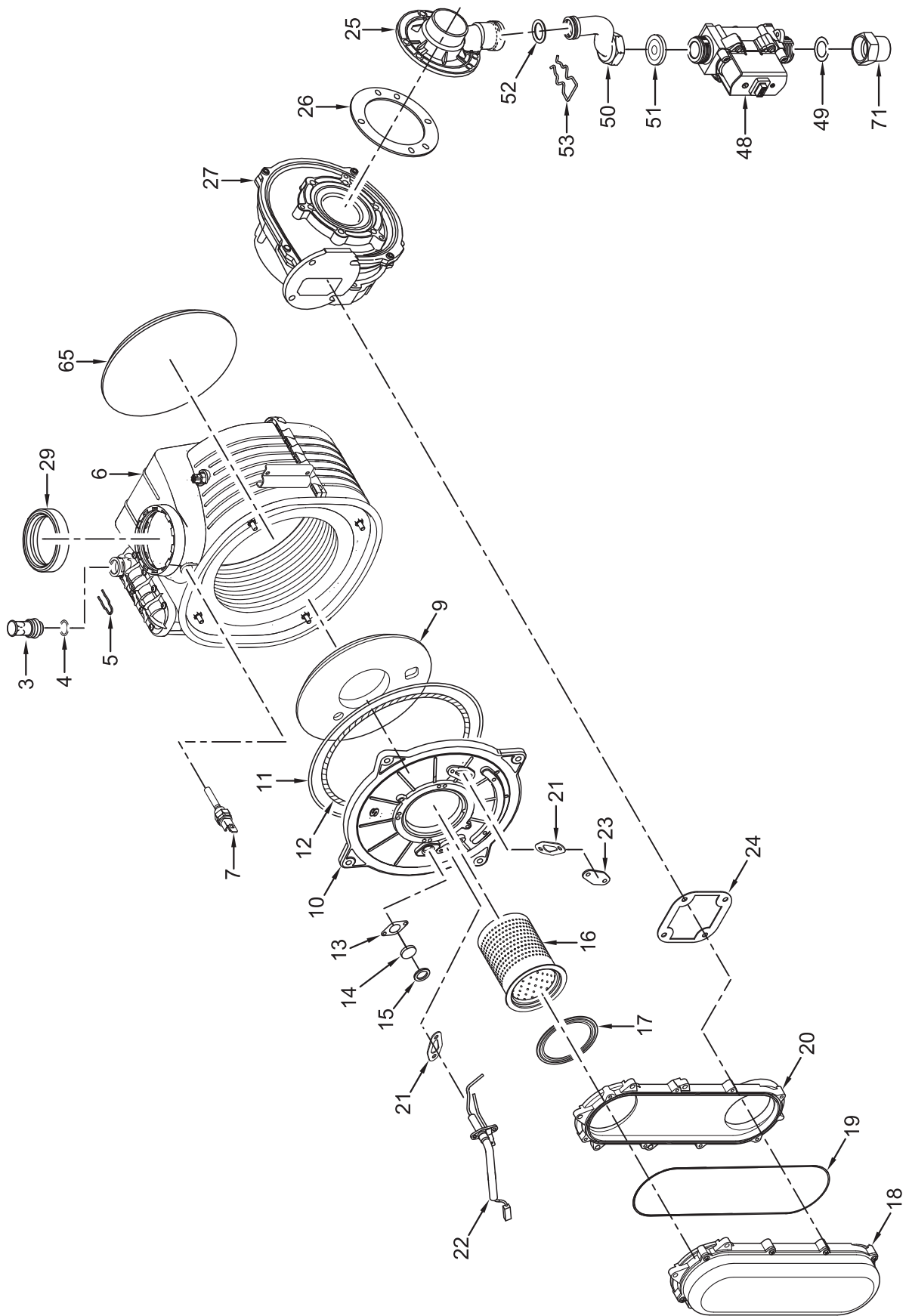
Brava Slim HE 20 R i - Brava Slim HE 40 R i



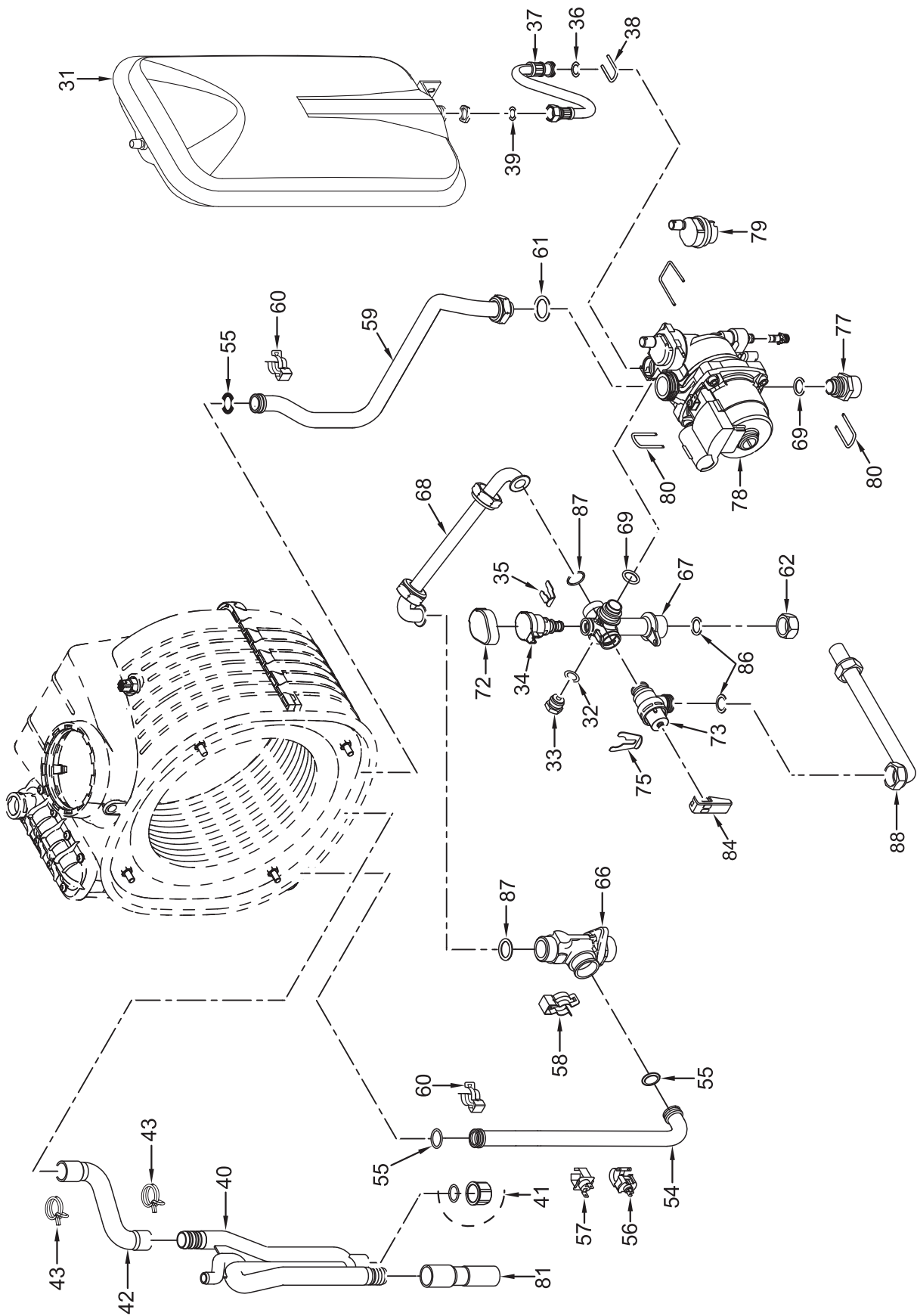
Brava Slim HE 20 R e - Brava Slim HE 40 R e



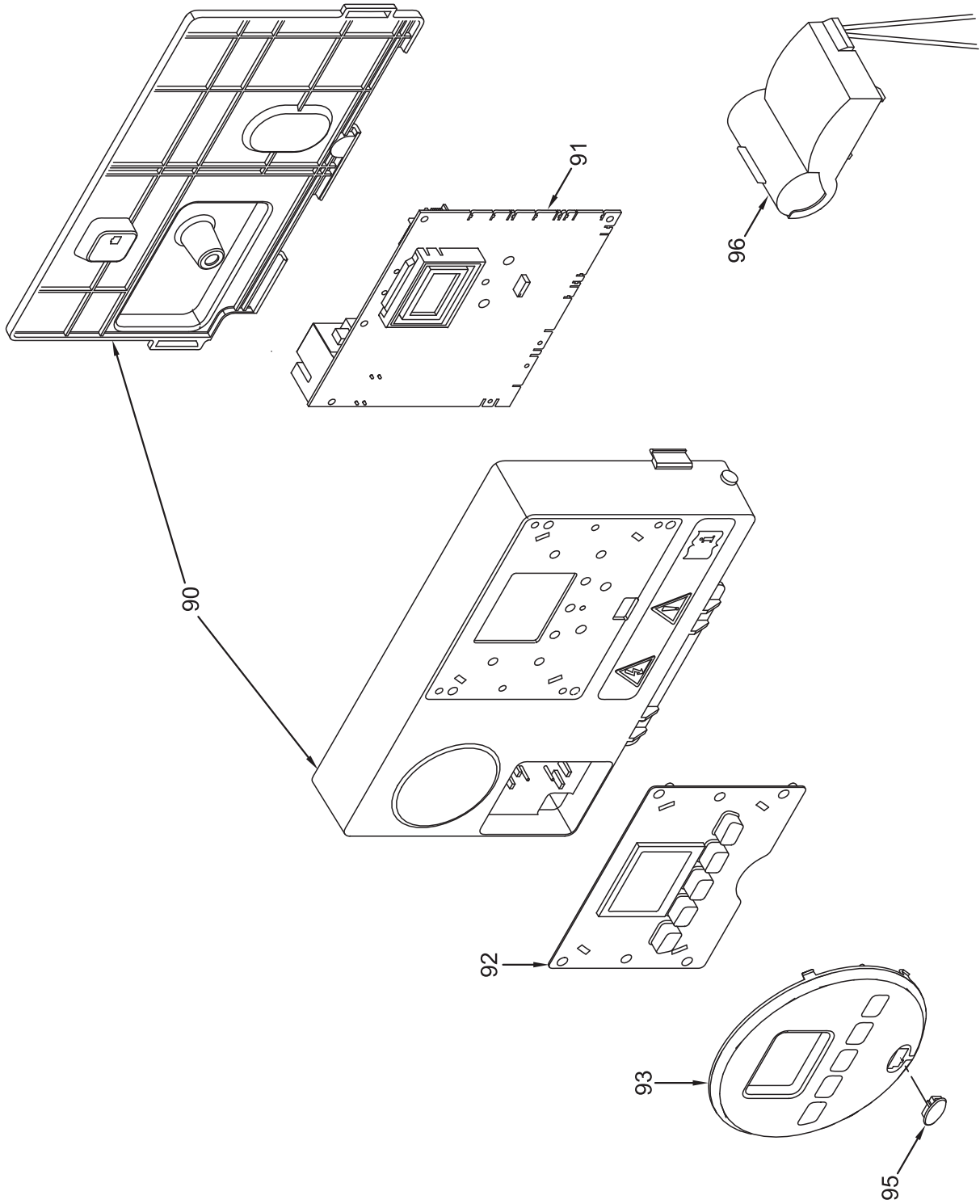
Brava Slim HE 20 R i - Brava Slim HE 20 R e - Brava Slim HE 40 R i - Brava Slim HE 40 R e



Brava Slim HE 20 R i - Brava Slim HE 20 R e - Brava Slim HE 40 R i - Brava Slim HE 40 R e



Brava Slim HE 20 R i - Brava Slim HE 20 R e - Brava Slim HE 40 R i - Brava Slim HE 40 R e



Pos.	Code	Description	BRAVA SLIM HE R				Pos.	Code	Description	BRAVA SLIM HE R			
			20 i	20 e	40 i	40 e				20 i	20 e	40 i	40 e
1	6264560	Boiler fixing bracket	x	x			53	6226636	D.H.W. elektrovalve fix.spring	x	x	x	x
1	6264565	Boiler fixing bracket			x	x	54	6227462	Flowing pipe to C.H. system	x	x		
2	6010890	Support exchangers bracket	x	x			54	6227466	Flowing pipe to C.H. system			x	x
2	6010894	Support exchangers bracket			x	x	55	6226412	O-ring 3068	x	x	x	x
3	6147412	Plug for air vent connection	x	x	x	x	56	6231372	Temperature sensor	x	x	x	x
4	6226464	O-ring 115 diam. 11.91x2.62	x	x	x	x	57	6146729	100° C safety stat	x	x	x	x
5	6226624	Spring air vent knob	x	x	x	x	58	6226601	Spring for heat exchanger connection	x	x	x	x
6	6278913	Main exchanger body	x	x			59	6227539	Return pipe from C.H. system	x	x	x	x
6	6278910	Main exchanger body			x	x	60	6226619	Spring for heat exchanger connection	x	x	x	x
7	6277130	Probe NTC D.4X40	x	x	x	x	61	2030267	Piracriten gasket Ø 30x17x2	x	x	x	x
8	6010892	Support exchangers bracket	x	x	x	x	62	6229500	Plug 1/2"	x	x	x	x
9	6269008	Main exchanger door insulation	x	x	x	x	63	6304480	casing left/right side panel	x			
10	5188360	Main exchanger door	x	x	x	x	63	6304465	casing left/right side panel			x	
11	6248870	Combustion chamber O-ring	x	x	x	x	64	6325010	Casing front panel	x		x	
12	6248871	Glass fibre sealing cord	x	x	x	x	65	6281545	Replacement rear insulat. kit	x	x	x	x
13	6311810	Glass fixing flange	x	x	x	x	66	6265895	Flowing to C.H. system manifold	x	x	x	x
14	6020103	Sight glass	x	x	x	x	67	6265835	C.H. return manifold	x	x	x	x
15	6248872	Sight glass gasket	x	x	x	x	68	6277798	Pipe connecting	x	x	x	x
16	8076115	Burner + gasket kit	x	x			69	6226475	ORing diam.18.64x3.53	x	x	x	x
16	8076116	Burner + gasket kit			x	x	71	6104708	M.F. bushing 3/4" UN1x3/4" NPT	x	x	x	x
17	6174828	Gasket for burner flange	x	x	x	x	72	6319650	Bitron transducer cap	x	x	x	x
18	6278892	Air-gas hose	x	x	x	x	73	6040211	Pressure relief valve 3 bar	x	x	x	x
19	6174819	Air-gas hose gasket	x	x	x	x	75	6226626	Pipe fixing spring	x	x	x	x
20	6278891	Side low air-gas hose	x	x	x	x	77	6120560	Pump nipple 3/4"	x	x	x	x
21	6174809	Gasket for ignition electrode	x	x	x	x	78	6272348	Modulating circulating pump	x	x		
22	6221670	Ignition-ionisation electrode	x	x	x	x	78	6272349	Modulating circulating pump			x	x
23	6285950	Bracket	x	x	x	x	79	6013182	Automatic air vent	x	x	x	x
24	6174816	Gasket for fan flange	x	x	x	x	80	6226644	Spring clip for rotating connection	x	x	x	x
25	6274390	Air/gas mixer	x	x			81	6034167	Condensate drainage pipe	x	x	x	x
25	6274391	Air/gas mixer			x	x	84	6275911	Pressure relief valve operation lever	x	x	x	x
26	6028703	Gasket for duct flange	x	x	x	x	86	2030227	Gasket Ø 12x18x2	x	x	x	x
27	6261412	Fan	x	x	x	x	88	6157653	Pressure relief valve drain pipe	x	x	x	x
28	6278703	Smoke chamber	x	x	x	x	90	6304720	Control panel	x	x	x	x
29	6248855	P.C. inlet/outlet smokes gasket	x	x	x	x	91	6324920	Main P.C.B.	x	x	x	x
30	6291150	Upper protection shield	x	x			92	6305135	Rubber button	x	x		
30	6291151	Upper protection shield			x	x	92	6305131	Rubber button			x	x
31	5183729	Rectang. expans.vessel 9 l. 3/8" M	x	x			93	6304831	Interface panel	x	x	x	x
31	5183730	Rectang. expansion vessel L.10			x	x	95	6305140	Rubber cap	x	x	x	x
32	2030225	Gasket Ø 5.5x11x2	x	x	x	x	96	6245380	Pump connector	x	x	x	x
33	6147401	Plug 1/4"	x	x	x	x	100	6255814	Boiler casing		x		
34	6273608	Water pressure transducer	x	x	x	x	100	6255816	Boiler casing				x
35	6226639	Spring clip	x	x	x	x	101	6255883	Casing door		x		
36	6226476	ORing diam.15x2	x	x	x	x	102	6255913	Flap door		x		
37	6017405	Flexible pipe M.F. 3/8" L=300	x	x	x	x	103	6262910	Boiler casing support		x		
38	6226643	Pipe fixing spring	x	x	x	x	104	6133100	Pin M5 ZnCr		x		
39	2030226	Gasket Ø 10.2x14.8x2	x	x	x	x	105	8102110	Gasket and flange kit		x		
40	6277211	Water trap	x	x	x	x	106	8085606	90° elbow with take-off points		x		
41	6119381	Cap G 1/2"	x	x	x	x	107	6230400	Rubber sealing ring Ø 100 mm		x		
42	6034155	Condensate drainage pipe	x	x	x	x	108	6230310	Flue terminal		x		
43	2051123	Clamp diam. 24.2	x	x	x	x	700	6281534	Gaskets kit	x	x	x	x
44	1010215	Rubber pipe dia. 15x2.5	x	x	x	x	701	6319695	Murelle-Format-.....o-ring kit	x	x	x	x
45	2051120	Clamp diam. 17.3	x	x	x	x	702	6211794	Peephole kit	x	x	x	x
46	6001162	Air intake pipe 40	x	x	x	x	703	6319700	Springs / clamps kit DIN	x	x	x	x
47	2051203	Hose clamp Ø 40-60	x	x	x	x	704	5202570	Complete control panel	x	x	x	x
48	6243838	Gas valve	x	x	x	x	705	6323874	4 pole cable connector CN13	x	x	x	x
49	2030249	Gasket Ø 24x17x3	x	x	x	x	706	6323876	4 pole cable connector CN14	x	x	x	x
50	6277445	Pipe connecting gas valve-mixer	x	x			707	6323872	9 pole cable connector CN1	x	x	x	x
50	6277446	Pipe connecting gas valve-mixer			x	x	708	6323873	6 pole cable connector CN2	x	x	x	x
51	6050471	Nozzle 530	x	x			709	6325602	6 pole cable connector CN12	x	x	x	x
51	6050472	Nozzle 650			x	x	710	6325617	14 pole connector CN15+CN5	x	x	x	x
52	6226477	Rubber gasket OR Ø 17x3	x	x	x	x							

13 REMOVING COMPONENTS



CAUTION

The maintenance interventions described must ONLY be carried out by the professionally qualified personnel.



WARNING

Before carrying out any interventions described:

- set the main system switch to "OFF"
- close the gas valve
- make sure that no hot parts inside the appliance are touched.

13.1 Remove panels

13.1.1 Front panel

To access the internal parts of the boiler:

- disassemble the smoke outlet duct of the **Brava Slim HE 20 R e** and **Brava Slim HE 40 R e**
- remove the screws (1), pull the front panel (2) forwards and release it from the top by lifting it

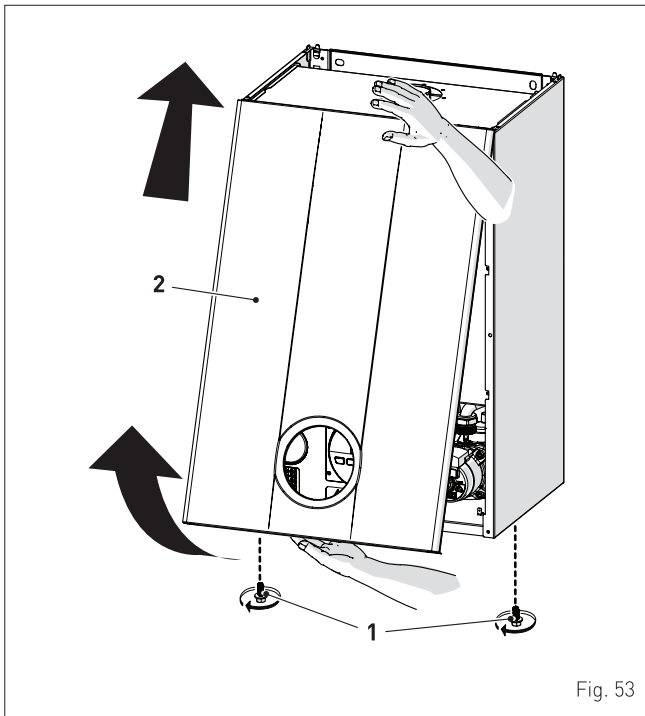


Fig. 53

13.1.2 Side panels

- Unscrew the screws (3)
- pull the side panel (4) outwards to release it from the top

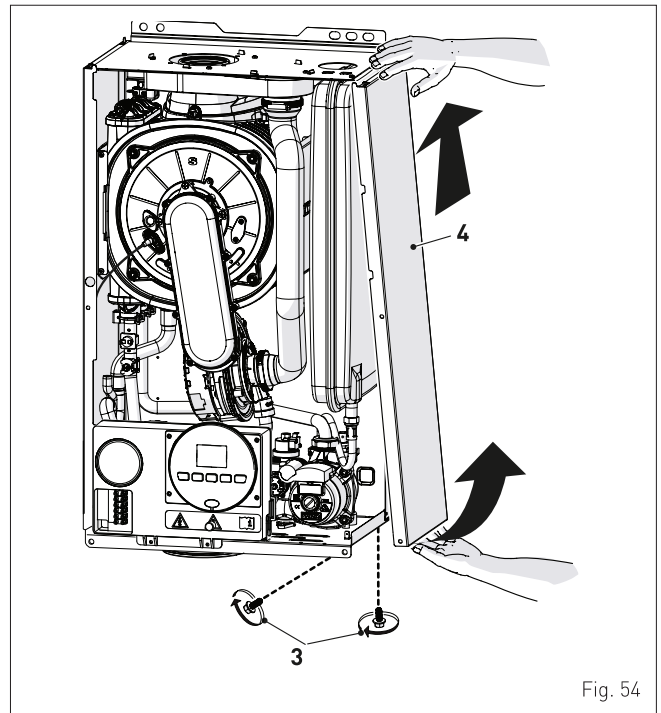


Fig. 54

- proceed in the same way for the other panel.

13.2 Rotate control panel

- Remove front panel (see "Remove panels" on page 48)
- remove the screws (3) securing the control panel (4)
- move the panel (4) upwards (a) but keeping it in the side guides (5) to the end of travel
- bring it forwards and down (b) until it is horizontal

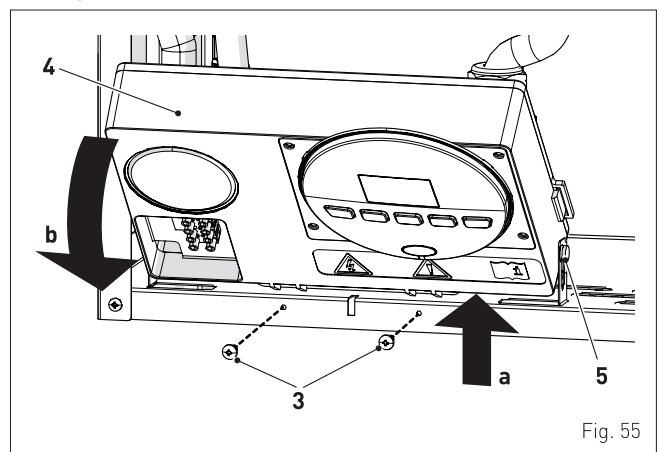


Fig. 55

13.3 Remove/replace sensor and thermostat

13.3.1 Smoke flue gas probe

- Remove front panel (see "Remove panels" on page 48)
- disconnect the connector (1)

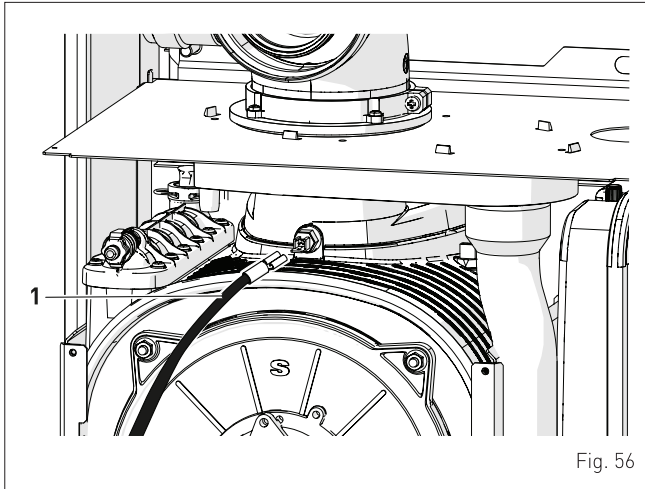


Fig. 56

- using a suitable tool, rotate the sensor 90° anti-clockwise (2)

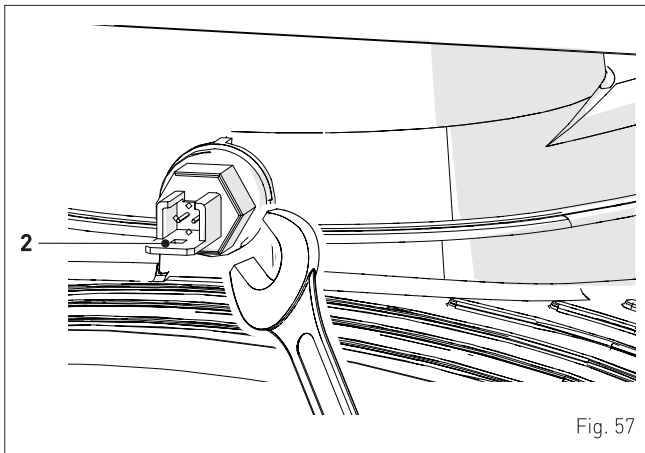


Fig. 57

- extract the sensor (2)

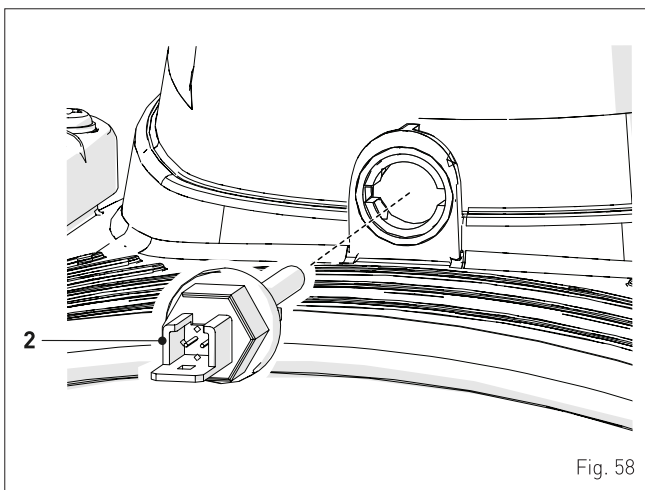


Fig. 58

13.3.2 Delivery sensor

- Remove front panel (see "Remove panels" on page 48)
- disconnect the connectors (1)

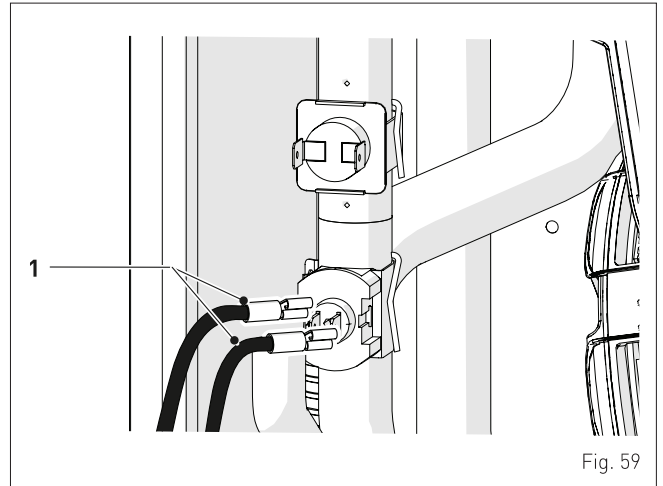


Fig. 59

- remove the rear locking clip (2)
- disconnect the sensor (3) from the pipe

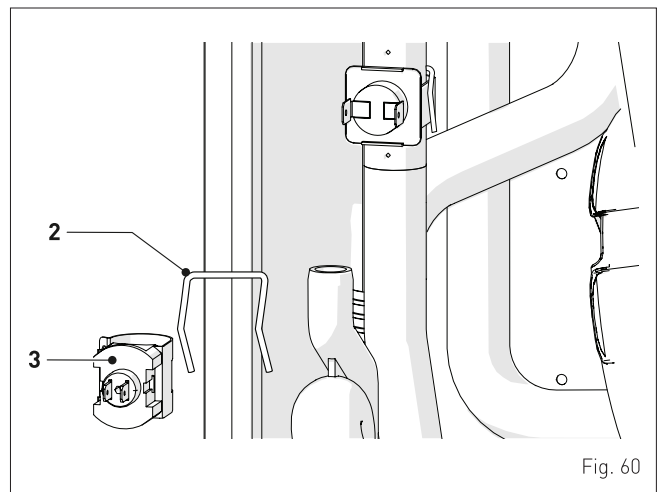
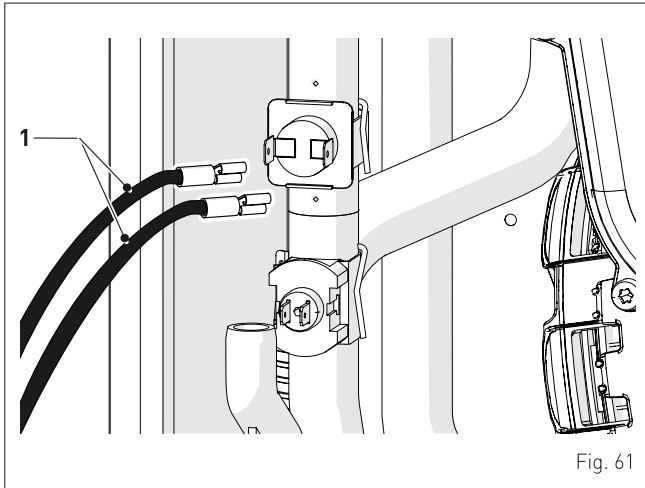


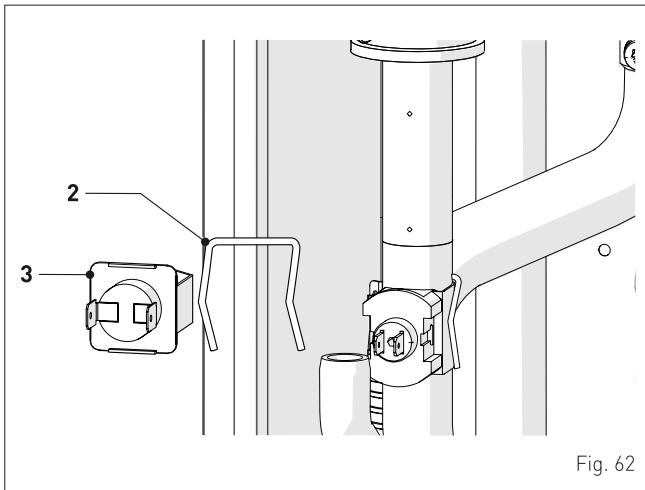
Fig. 60

13.3.3 Heat safety thermostat

- Remove front panel (see "Remove panels" on page 48)
- disconnect the connectors (1)

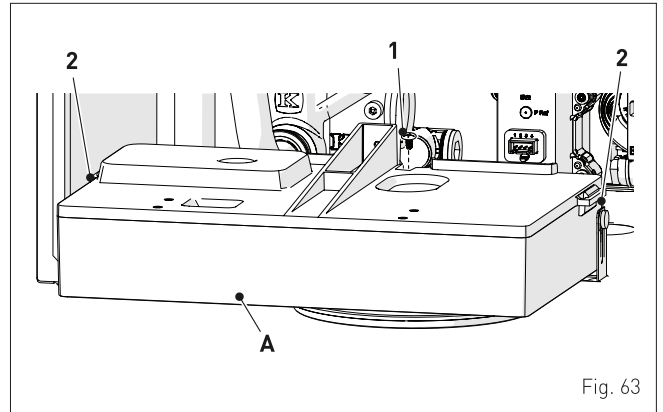


- remove the rear locking clip (2)

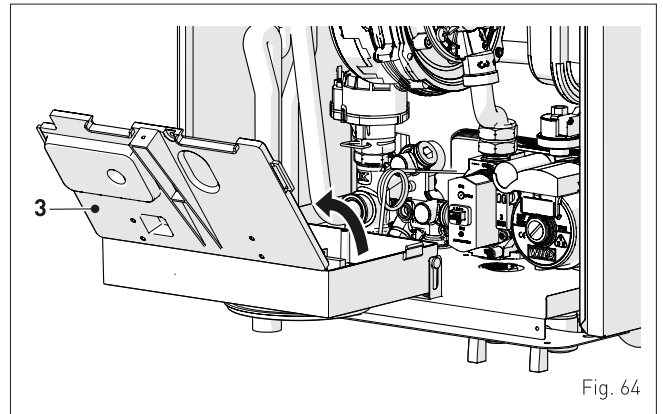


13.4 Remove electronic board

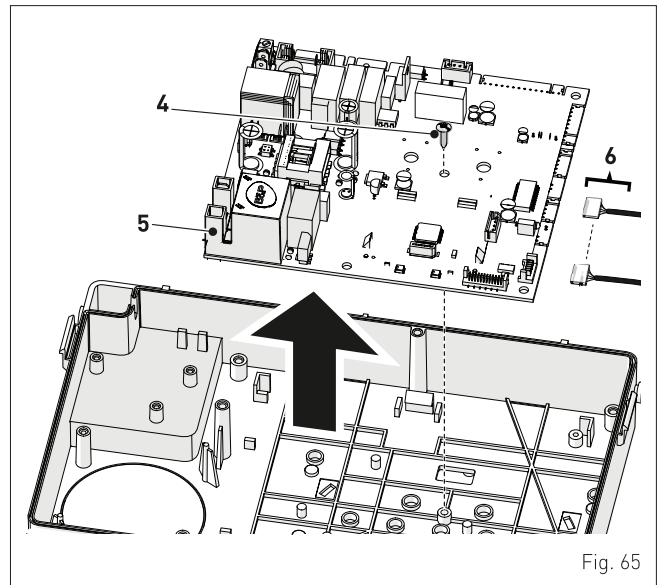
- Remove front panel (see "Remove panels" on page 48)
- move the control panel (A) into a horizontal position (see "Rotate control panel" on page 48)
- unscrew the screw (1)
- press the catches (2) to remove the cover



- open the cover (3)



- unscrew the fixing screw (4) on the electronic board
- remove the electronic board (5) by sliding upwards
- disconnect all the connectors (6)



13.5 Remove/replace combustion head unit and fan

- Remove front panel (see "Remove panels" on page 48)
- disconnect the fan connectors (1)
- remove the clip (2) and air inlet pipe
- unscrew the swivel joint (3)

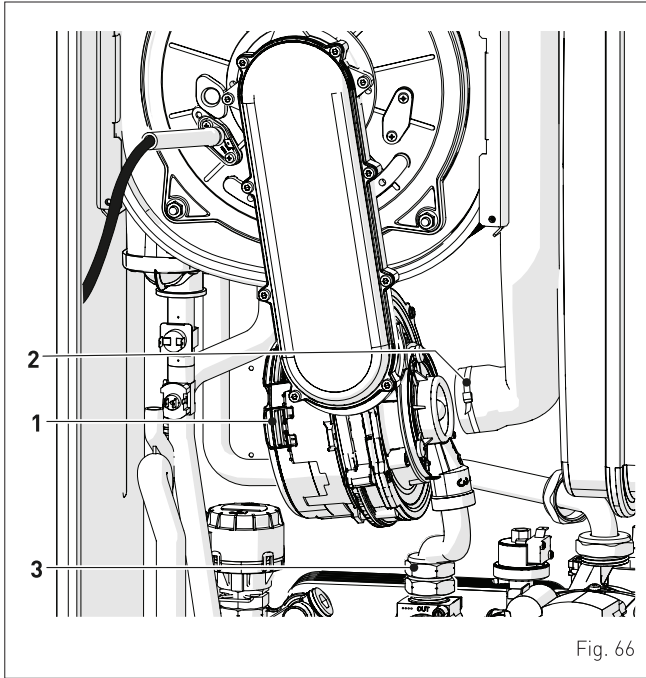


Fig. 66

- unscrew the nuts (4)
- remove combustion head unit/conveyor/fan (5)

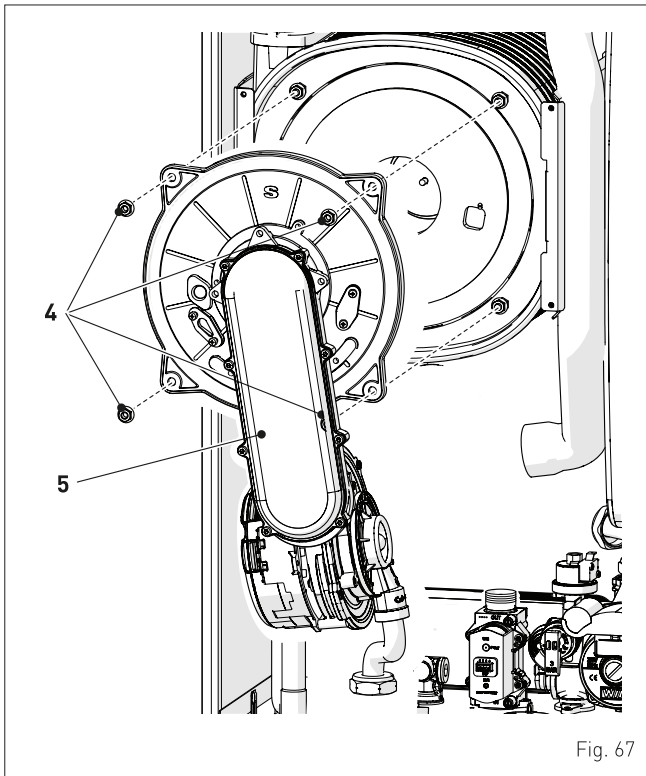


Fig. 67

- unscrew the screws (6) and unthread the combustion head (7)
- unscrew the screws (8) and remove the fan (9)

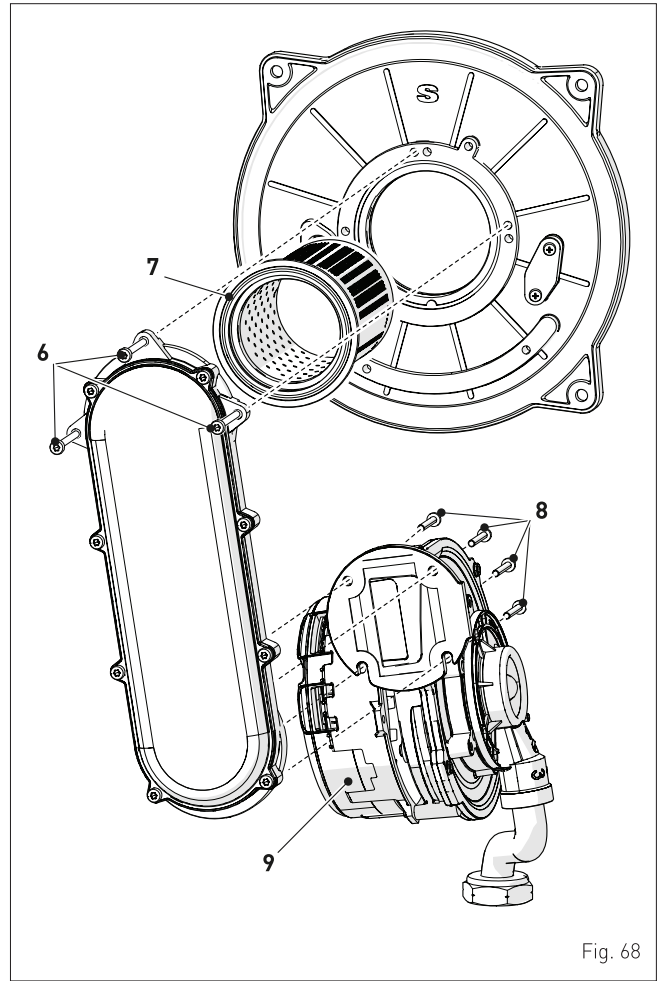
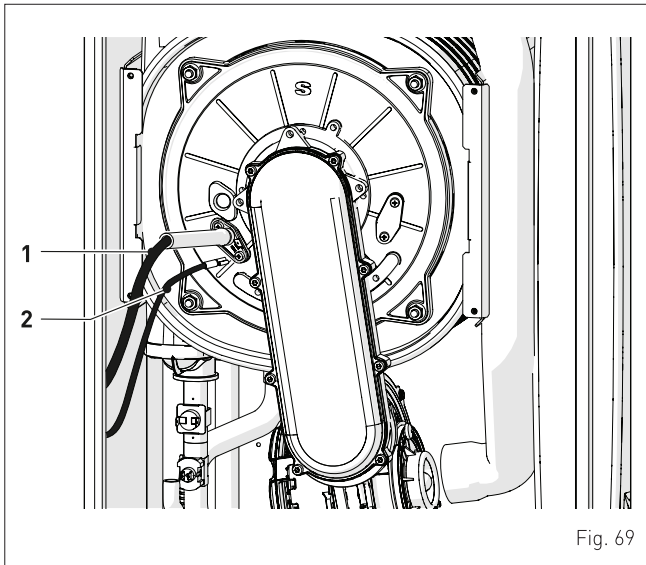


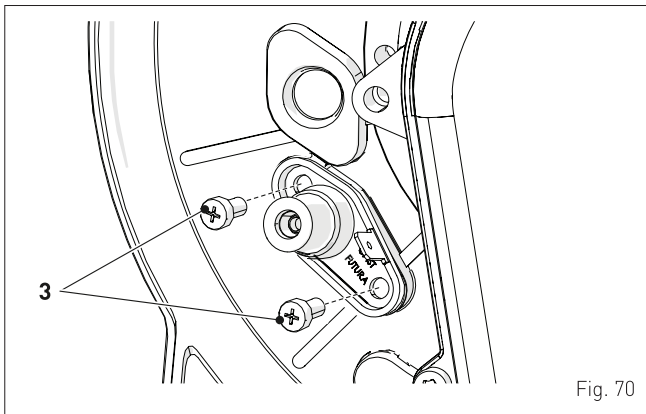
Fig. 68

13.6 Remove/replace the ignition and flame detection electrode

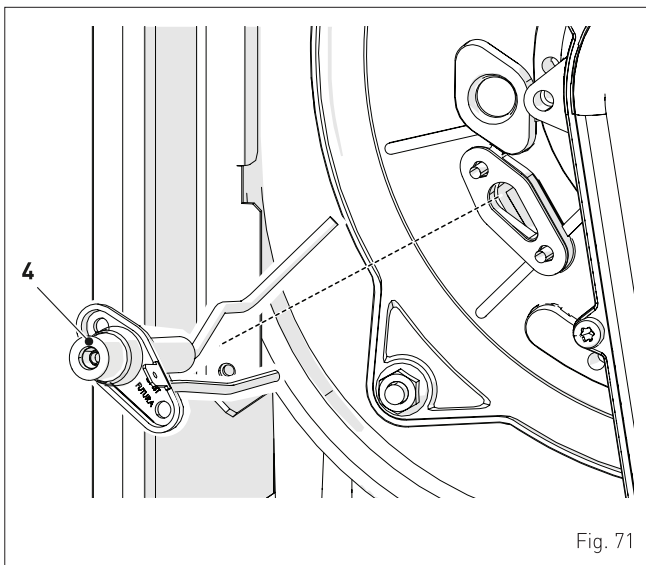
- Remove front panel (see "Remove panels" on page 48)
- disconnect the connectors (1) and (2)



- remove the screws (3)



- carefully remove the ignition/flame detection electrode (4)



- check the electrode quotas as per chapter "Checking the ignition/detection electrode" on page 38.

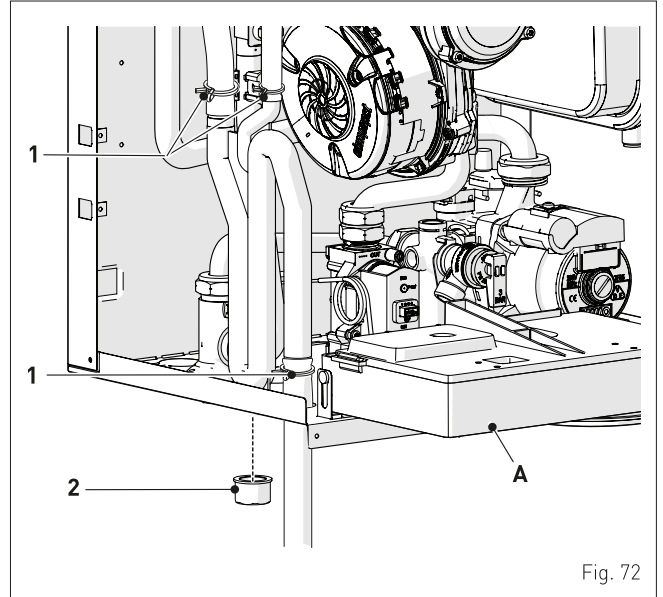
13.7 Remove/replace the siphon



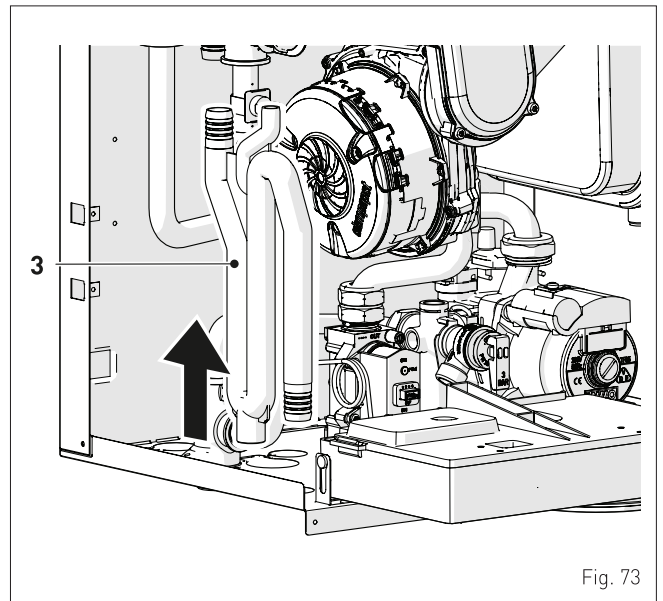
CAUTION

When disassembling, some residual water may leak.

- Remove the panelling (see "Remove panels" on page 48)
- move the control panel (A) into a horizontal position (see "Rotate control panel" on page 48)
- remove the spring clips (1)
- remove the cover (2)



- slide the siphon upwards (3) and remove



13.8 Remove/replace gas valve

- Close the gas valve
- remove the front panel (see "Remove panels" on page 48)
- move the control panel (A) into a horizontal position (see "Rotate control panel" on page 48)
- disconnect the electrical connector (2)

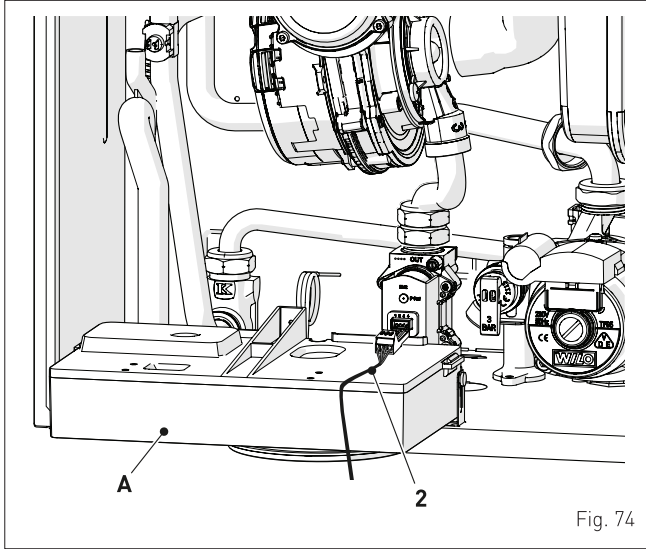


Fig. 74

- unscrew the swivel joints (3) and the screws (4)

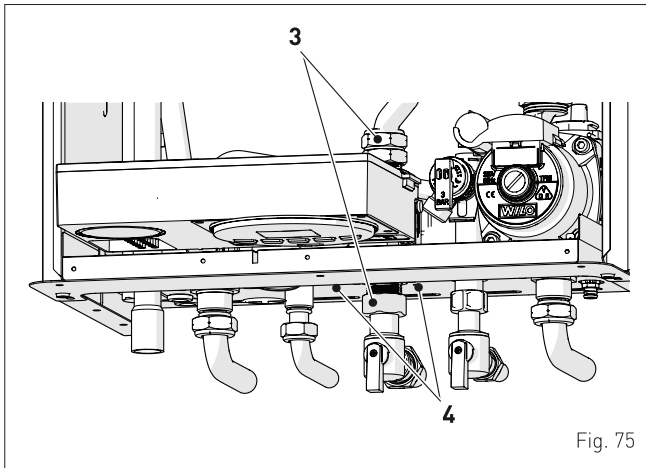


Fig. 75

- extract the gas valve (5)
- the nozzle (6) MUST be used with the new valve**

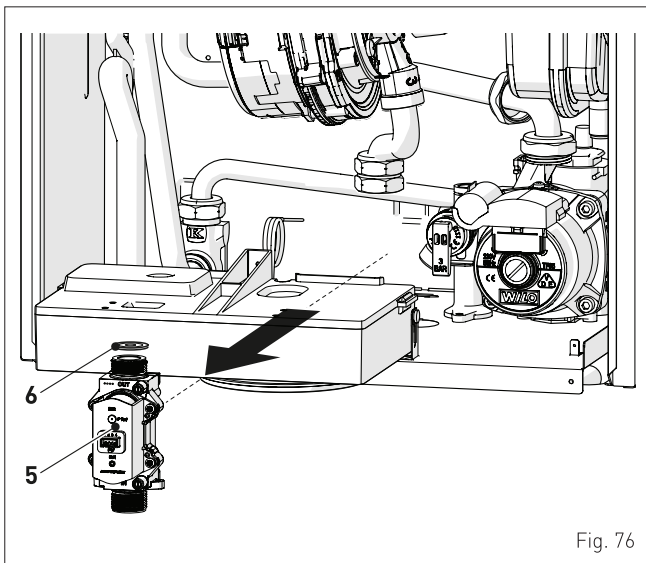


Fig. 76

13.9 Remove/replace the expansion vessel

- Shut-off the valves to the system and empty the boiler
- remove the front panel (see "Remove panels" on page 48)
- disconnect the pipe (1)
- unscrew the fixing screw (2) on the rear panel

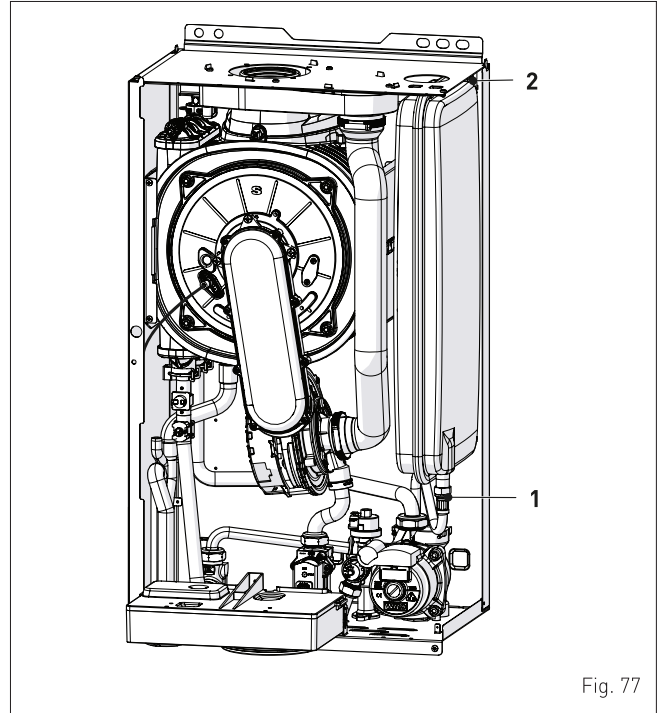


Fig. 77

- release the top section (4)
- pivoting around the hook (5), turn and extract the expansion vessel (3)

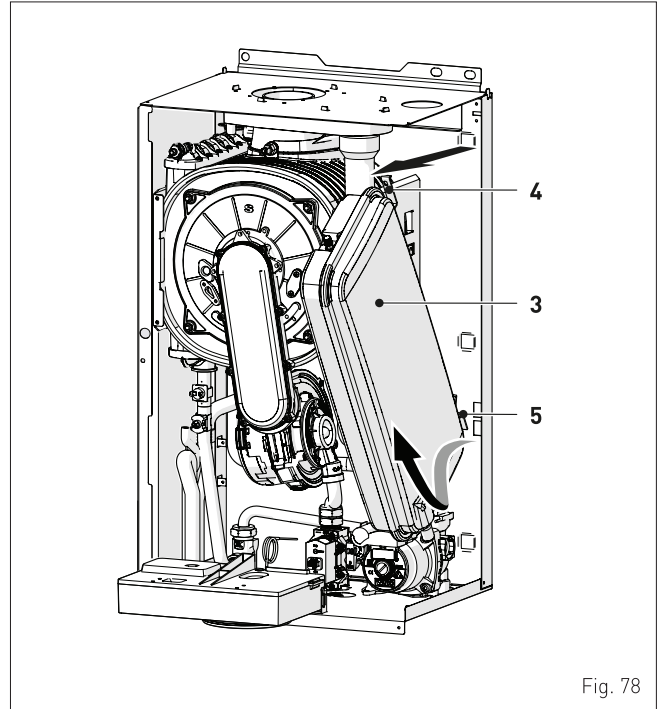
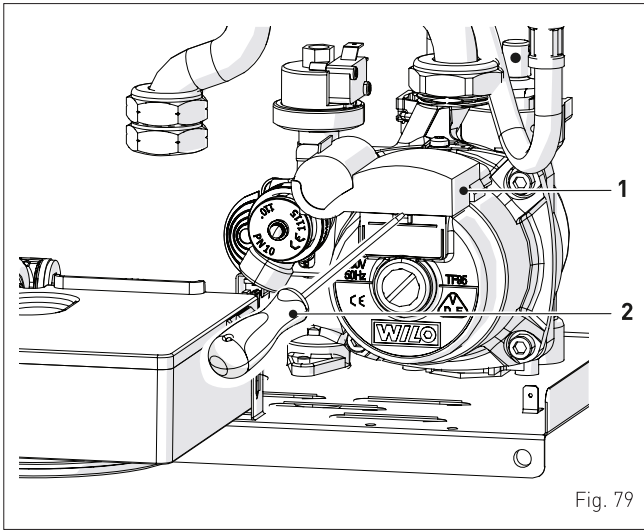


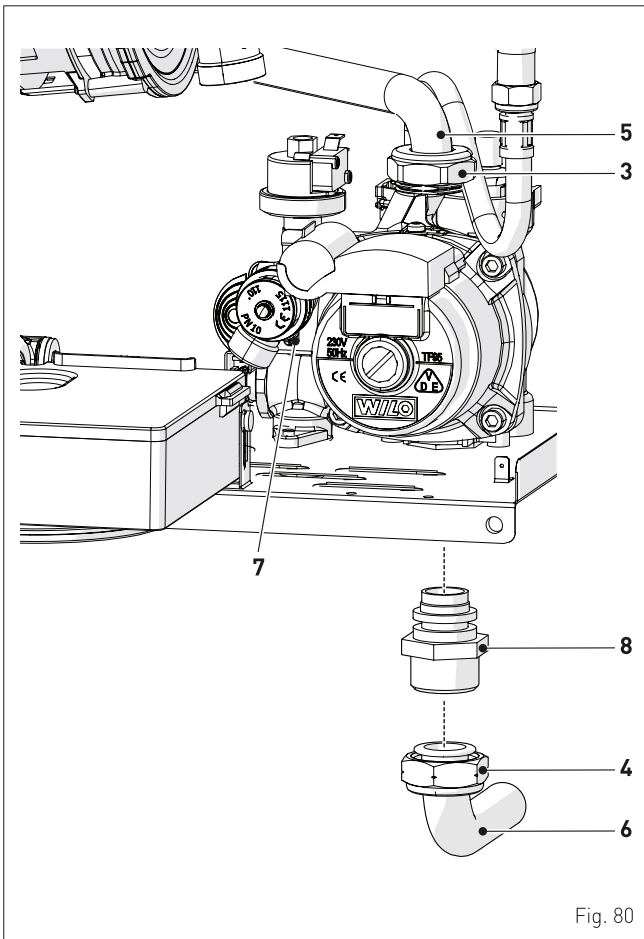
Fig. 78

13.10 Remove/replace system pump

- Shut-off the valves to the system and empty the boiler
- remove the front panel (see "Remove panels" on page 48)
- lift the connector (1) using a screwdriver (2)



- unscrew the swivel joints (3) and (4)
- disconnect the pipes (5) and (6)
- unscrew the screw (7)
- unscrew the nut (8) that secures the pump





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