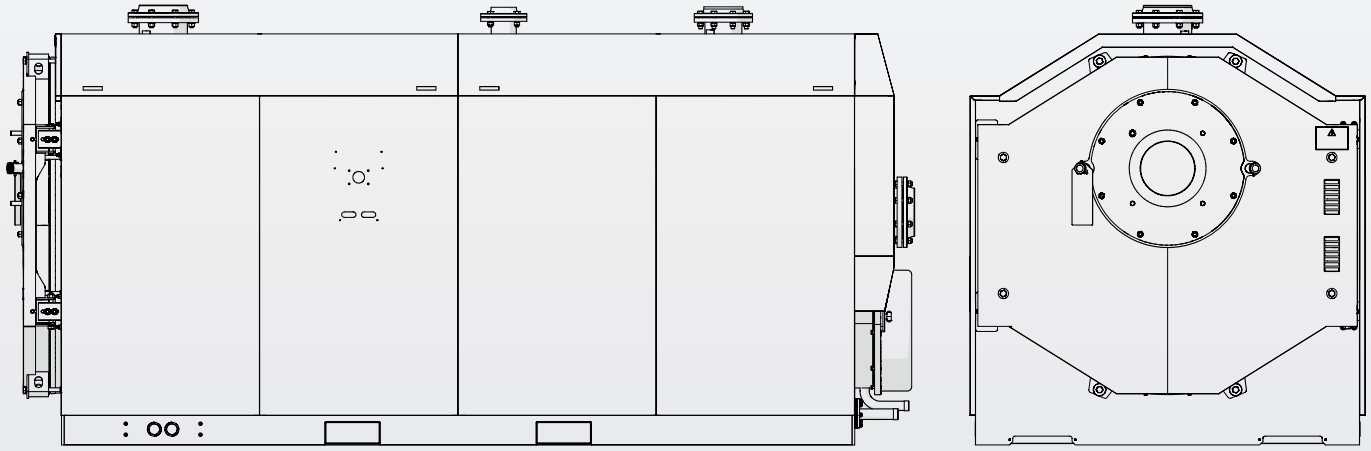
cod. 20172279 rev. 6 10/2026



TAU 1750÷3000 N

EN INSTALLATION, TECHNICAL ASSISTANCE SERVICE AND SYSTEM MANAGEMENT MANUAL

RIELLO

RANGE

MODEL	CODE
TAU 1750 N	20162157
TAU 2100 N	20162158
TAU 2600 N	20162159
TAU 3000 N	20162160

ACCESSORIES
For a complete list of accessories and details of their compatibility, refer to the Catalogue.

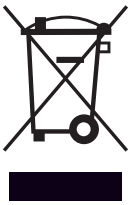
Dear Customer,
Thank you for choosing a **RIELLO** boiler. You have purchased a modern, high efficiency, quality product that is designed to give dependable and safe service and to provide comfort in the home for many years to come. Arrange for your boiler to be serviced regularly by an authorised Technical Assistance Service **RIELLO**. Their personnel are specially trained to keep your boiler efficient and cheap to run. They also stock any original spare parts that might be required.
This instruction manual contains important instructions and precautions that must be observed to ensure the efficient functioning of your **TAU N** boiler.

Please accept our renewed thanks for your purchase
Riello S.p.A.

CONFORMITY

RIELLO TAU N boilers conform to:
- Directive 92/42/EEC on efficiency requirements
- Electromagnetic Compatibility Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- Regulation (EU) 2016/426

CE



At the end of its life, the product should be not be disposed of as solid urban waste, but rather it should be handed over to a differentiated waste collection centre.

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The following symbols are used in this manual:

CAUTION! = Identifies actions that require caution and adequate preparation.

STOP! = Identifies actions that you MUST NOT do.

This manual, Code 20172279 - Rev. 6 (10/2026) comprises 52 pages.

1 GENERAL INFORMATION

1.1 General Safety Information

⚠ The boiler is delivered in separate crates. Check that it is complete, undamaged and as ordered as soon as you receive it. Report any discrepancies or damage to the **RIELLO** dealer who sold it.

⚠ This product must be installed by a legally qualified heating engineer. On completion of the installation, the installer must issue the owner with a declaration of conformity confirming that the installation has been completed to the highest standards in compliance with the instructions provided by **RIELLO** in this instruction manual, and that it conforms to all applicable laws and standards.

⚠ This product must only be used for the purpose for which it is designed and made, as specified by **RIELLO**. **RIELLO** declines all responsibility, contractual or other, for damage to property or injury to persons or animals caused by improper installation, adjustment, maintenance or use.

⚠ If you notice any water leaking from the boiler, disconnect it immediately from the mains electricity supply, shut off the water supply, and notify your local **RIELLO**'s Technical Assistance Service or a qualified heating engineer immediately.

⚠ Periodically check that operating pressure in the water circuit is over 1 bar but below the maximum limit specified for the boiler. If this is not the case, contact Technical Assistance Service **RIELLO** or a professionally qualified heating engineer.

⚠ If the boiler is not going to be used for an extended period of time, perform the following operations:
- Switch the boiler OFF at the control panel
- Turn the main system switch "off"
- Close the fuel cock and heating circuit water cock
- Drain the central heating circuit if there is any risk of freezing.

⚠ The boiler must be serviced at least once a year.

⚠ This instruction manual is an integral part of the boiler. It must be kept safe and must ALWAYS accompany the boiler, even if it is sold to another owner or transferred to another user or to another installation. If you damage or lose this manual, order a replacement immediately from your local **RIELLO**'s Technical Assistance Service.

1.2 Precautions

The operation of any appliance that uses fuel, electrical power and water demands that a number of fundamental safety precautions be respected:

⊖ It is forbidden to use electrical devices or equipment, such as switches, appliances, etc. if there is a smell of gas or unburnt products. If so:
- Ventilate the room, opening doors and windows
- Close the fuel shut-off cock
- Report the fault immediately to the **RIELLO**'s Technical Assistance Service or a professionally qualified heating engineer.

⊖ Do not touch the boiler while barefoot or wet.

⊖ Never clean or service the boiler without first disconnecting it from the mains electricity supply by turning the main power switch and the control panel switch OFF.

⊖ Do not tamper with or adjust the safety or control devices without prior authorisation and instructions from the manufacturer.

⊖ Do not plug or block the condensate drain outlet.

⊖ Never pull, disconnect, or twist the electrical cables coming from the appliance even if it is disconnected from the mains electricity supply.

⊖ Do not obstruct or restrict the vents in the room where the boiler is installed. Adequate ventilation is essential for correct combustion.

⊖ Do not expose the boiler to the elements. It is designed to work indoors.

⊖ Do not switch the boiler off if outdoor temperature drops below ZERO (risk of freezing).

⊖ Do not store containers of flammable substances in the room where the boiler is installed.

⊖ Do not allow children or persons with reduced physical, sensorial or mental abilities or with insufficient experience and knowledge to operate this system without proper supervision from the person responsible for its safe use.

⊖ Do not dispose of packaging material into the environment, or leave it within the reach of children, since it can become a potential hazard. Dispose of packaging material in compliance with applicable legislation.

1.3 Description of the appliance

TAU N RIELLO steel boilers are triple flue pass, condensing boilers for installation in a boiler room. While they are designed primarily for central heating purposes, in conjunction with a suitable storage cylinder they can also be used to produce domestic hot water.

The parts of the boiler that are in contact with combustion products are made of Titanium stabilized stainless steel, capable of providing the best possible resistance to corrosion caused by acid condensate.
The boiler has been designed with the combustion chamber at the top and the smooth pipe tube bundle at the bottom to optimise heat exchange and energy efficiency and to maximise the condensing effect.

The boiler has a high total water content which is differentially distributed between its top and bottom sections. This allows outgoing water to reach the set temperature quickly while maintaining the condensing effect and the water heating time around the tube bundle for as long as possible.

TAU N boilers feature lightly pressurised combustion chambers for a smoother burner action, and high temperature resistant, stainless steel turbulators inside the tube bundle for maximum burner efficiency.

The boiler body is thoroughly insulated with a layer of high density glass wool.
The paint finished external panelling is also internally insulated with a layer of high density glass wool.

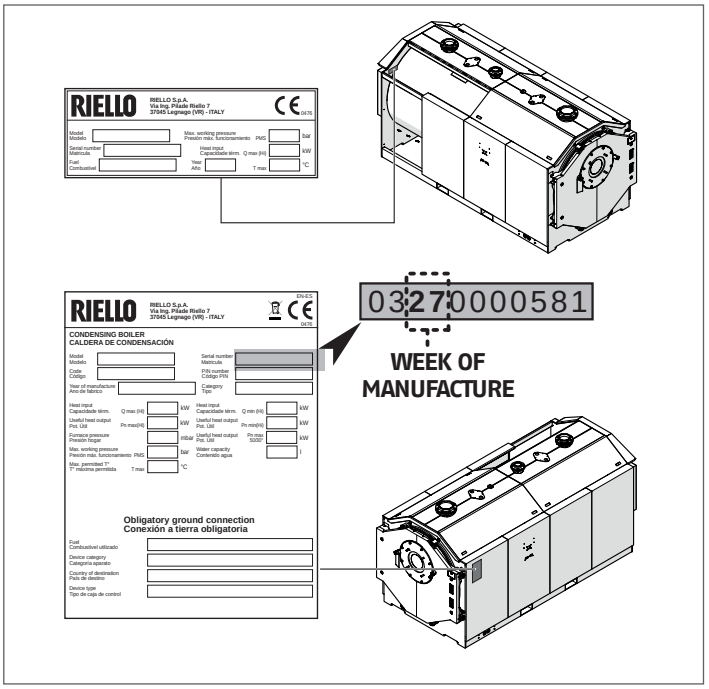
The boiler's front door and the flue gas chamber can be opened completely to facilitate the inspection, maintenance and cleaning of internal parts and to speed up servicing in general.
The front door can open in either direction and can be opened without removing the burner. The door is factory fitted with hinges on the left, but these can be reversed if necessary to suit individual installations.

1.4 Identification

The products are identified by:

Serial number plate
This is located on the boiler body and specifies the serial number, model, and furnace power.

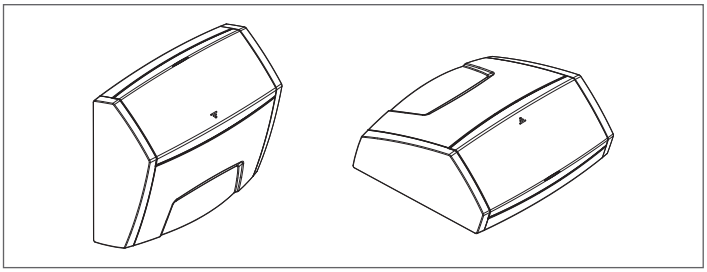
Data plate
This lists the technical specifications and performance of the product. It comes inside the documentation envelope. On completion of the installation, the <u>installer</u> MUST apply it in a clearly visible position at the top of one of the side panels. If you damage or lose this label, order a replacement immediately from **RIELLO**'s Technical Assistance Service.



If these plates or any other means of clearly identifying the product are defaced, removed or lost, proper installation and servicing may be rendered difficult.

1.5 Control panels

The **RIELLO** control panels that can be used with **RIELLO TAU N** steel boilers are listed below. These control panels cater for all the needs of the heating system and of all the devices installed in it.



RIELLOtech CLIMA COMFORT for central heating (1 direct zone and 1 mixed zone) and domestic hot water production with a single stage burner. Also for controlling solar heating system and cascaded boiler systems.

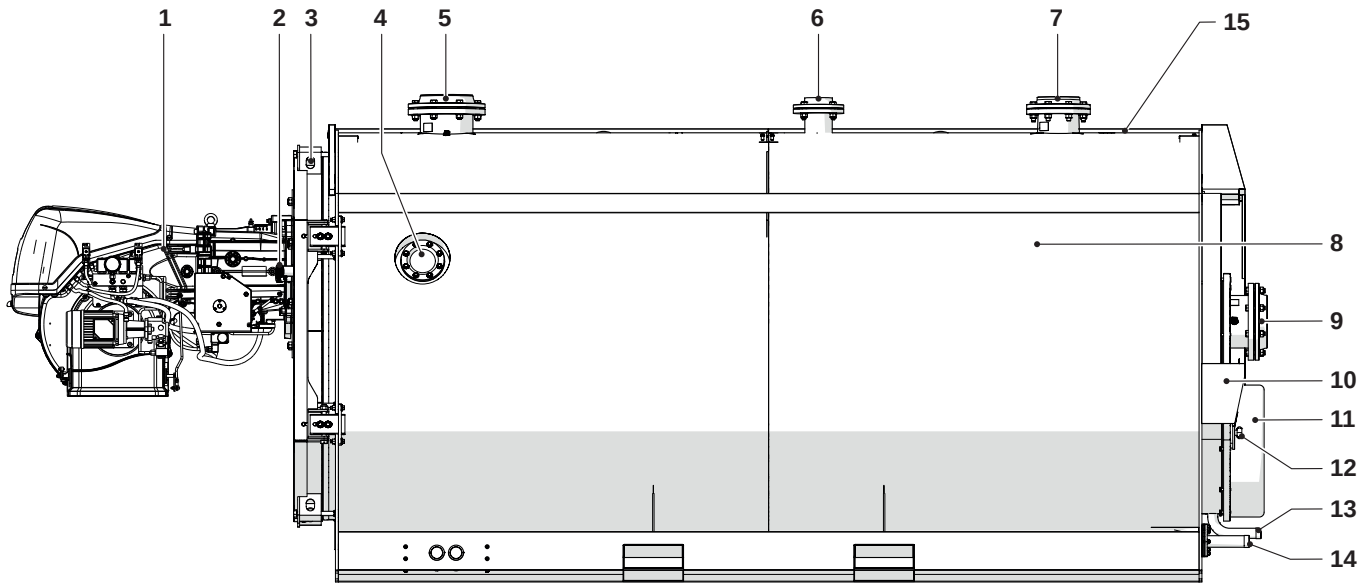
RIELLOtech CLIMA MIX for controlling 1 additional mixed zone.

RIELLOtech PRIME for central heating only (1 direct zone) with a single or two stage burner.

RIELLOtech PRIME ACS for central heating (1 direct zone) and domestic hot water production with a single or two stage burner.

When the RIELLOtech CLIMA COMFORT control panel is installed, the relative sensor must be fitted into the existing sheath on the boiler's return line (cold water). For the accessories codes, refer to the Catalogue.

1.6 System layout



1 Burner
2 Flame inspection window with pressure measurement fitting
3 Door
4 Body interior inspection flange
5 Outlet
6 Safety device fitting
7 Heating return (high temperature)
8 Combustion chamber
9 Heating return (low temperature)
10 Flue gas box
11 Flue gas exhaust
12 Inspection window
13 Condensate outlet
14 Boiler drain
15 Support surface – maximum load 150 kg

1.7 Burner combination

BURNERS	BOILER TAU N				Burner flange		Long head
MODEL	1750	2100	2600	3000	as standard (Mounted)	Accessory (compulsory)	Accessory (compulsory)
GAS – Standard (yellow flame)							
RS 190/M TC	•				20163863		
RS 250/M MZ TC		•			20163865	20163867(2)	
RS 310/M MZ FS1			•		20163865		
RS 410/M MZ FS1			• (1)	•	20163865		
RS 510/M MZ				• (1)	20163865		
GAS – Low NOX							
RS 200/M BLU TL	• (1)				20163863		
RS 310/M BLU FS1		• (1)			20163865	20163867(2)	20109208
RS 410 M BLU FS1			• (1)	•	20163865		20181392
RS 510/M BLU				• (1)	20163865		20181392
RS 200/E BLU	•				20163863		
RS 310/E BLU FS1		• (1)			20163865	20163867(2)	20109208
RS 410/E BLU FS1			• (1)	•	20163865		20181392
RS 510/E BLU				• (1)	20163865		20181392
RS 200/E 02 BLU TL	•				20163863		
RS 310/E 02 BLU TC		• (1)			20163865	20163867(2)	20109208
RS 410/E 02 BLU TL			• (1)	•	20163865		20181392
RS 200/EV 02 BLU TL	•				20163863		
RS 310/EV 02 BLU TC		• (1)			20163865	20163867(2)	20109208
RS 410/EV 02 BLU TC			• (1)	•	20163865		20181392
GAS – PREMIX							
RX 1800 S/E	•				20163865	20163866(2)	
RX 2500 S/E		• (1)			20163865	20163866(2)	
RX 3000 S/E			• (1)	• (1)	20163865	20163866(2)	

(1) For altitudes over 1800 meters
(2) To replace on the burner head fitted as standard

NOTE: burners must be fitted with a gas ramp device.

⚠ See the instruction manual provided with the burner:
- Burner installation
- Electrical connections
- Burner adjustments

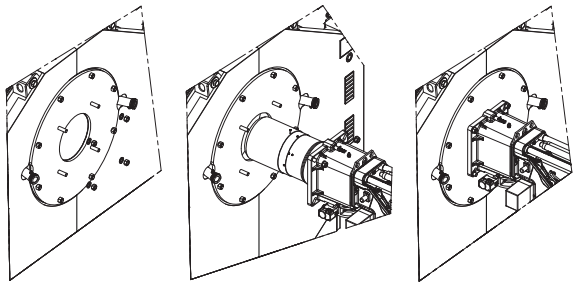
⚠ To assemble/disassemble the burners equipped with recirculation tube, it might be necessary to remove the latter before carrying out such operations (strictly comply with the use and maintenance manual of the burner).

1.7.1 Important notes for fitting the burner

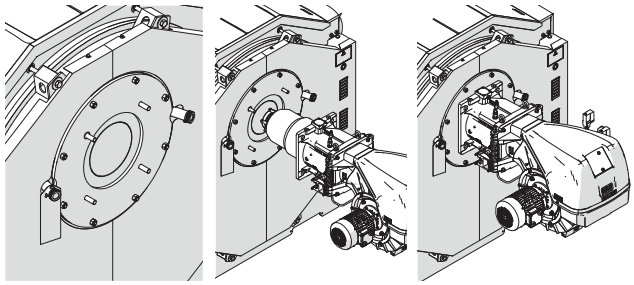
Before fixing the burner to the boiler, make sure that:
- The door opens the right way (see the relevant sections for details on how to reverse the door)
- The length (L) of the burner fixing bolts is less than (S), i.e. the total depth of the seal, plates and washer. **Longer bolts can cause the door to warp, compromising its ability to seal the boiler hermetically and permitting the release of combustion fumes.**

To ensure correct burner installation, also refer to the burner's own manual.

RS gas – RLS gas/Light oil burner

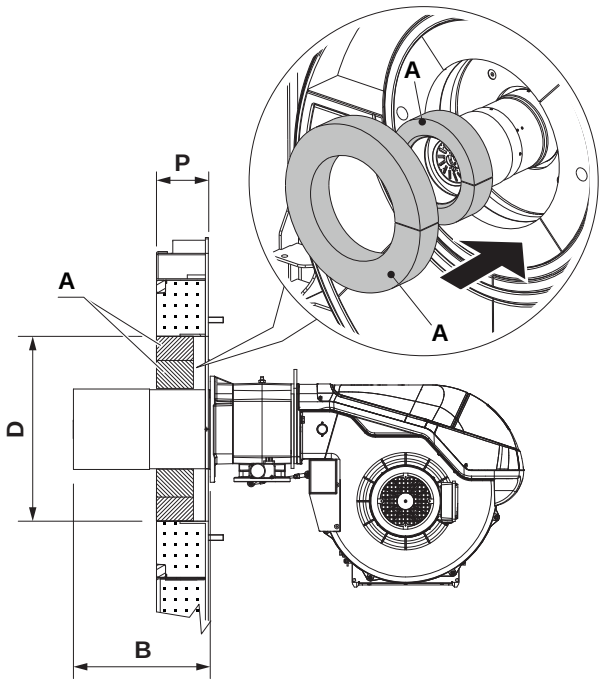


RX premix burner



If you are installing a new boiler but re-using an old burner, always perform the following checks:
- Make sure that the performance of the old burner is adequate for the requirements of the boiler
- Make sure that the length and diameter of the burner nozzle are as specified in the following table.

⚠ When you finish installing the burner in the boiler, fill the gap between the burner's blast tube and the refractory material in the door with the ceramic insulation (A) supplied with the boiler.

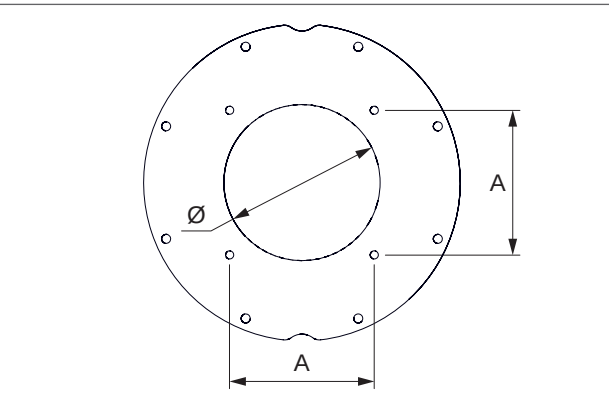


			BOILER TAU N				
			1750	2100	2600	3000	
B	Burner head	min	350	350	350	500	mm
D	Door hole diameter		520	520	520	520	Ø mm
P	Door thickness		170	170	170	170	mm

⊖ The use of burners with a head length shorter than the depth (P) of the inspection door is prohibited.

1.7.2 Burner plate

RIELLO TAU N boilers are equipped as standard with drilled burner plates for housing the recommended burners. The table below shows the characteristics of the holes.



	BOILER TAU N			
	1750	2100	2600	3000
Ø (mm)	250	350	350	350
A (mm)	260	320	320	320
Threads	M16x48	M18x58	M18x58	M18x58

1.8 Technical specifications

DESCRIPTION		BOILER TAU N				
		1750	2100	2600	3000	
Device type		Condensing boiler for central heating				
		B23 - B23P (*)				
Fuel		All GASES				
Device category		See Burner				
Max. nominal thermal capacity (Q max)	NCV	1750	2100	2600	3000	kW
	GCV	1943,0	2331,0	2886,0	3330,0	
Min. nominal thermal capacity (Q min)	NCV	1451	1751	2100	2601	kW
	GCV	1611,5	1943,6	2332,1	2887,1	
Rated useful heat output (80/60°C) P4	max	1718,5	2062,2	2553,2	2946,0	kW
Nominal useful output (80/60°C) (Pn min)	min	1426,3	1721,2	2064,3	2556,8	kW
Rated maximum useful heat output (50/30°C)		1873,3	2248	2783,3	3211,5	kW
Maximum useful output (40/30°C)		1881,2	2258,7	2796,5	3226,8	kW
30% heat output with return at 30°C (P1)		570,7	684,8	847,9	978,3	kW
Efficiency at nominal thermal capacity and high temperature operation η4 (80/60°C)	NCV	98,2	98,2	98,2	98,2	%
	GCV	88,5	88,5	88,5	88,5	
Efficiency at 30% rated heat input and in Low temperature mode η1 with return 30°C	NCV	108,7	108,7	108,7	108,7	%
	GCV	97,9	97,9	97,9	97,9	
Useful efficiency at Pn min (80/60°C)	NCV	98,3	98,3	98,3	98,3	%
	GCV	88,6	88,6	88,6	88,6	
Useful efficiency at Max Pn (50/30°C)	NCV	107,5	107,5	107,5	107,5	%
	GCV	96,9	96,9	96,9	96,9	
Losses from stack for sensible heat (Qmax)		1,9				%
Losses from casing with burner on		0,6				%
Constant pressure drop (P.max)		< 0,2				%
Flue gas temperature		< 45÷75 (**)				°C
Flue gas mass flow rate (Qmax) (***)		0,75	0,93	1,14	1,32	kg/sec
Furnace pressure		8,4	9,6	11,5	11,6	mbar
Furnace volume		1593,0	1810,0	2270,0	2632,5	dm^3
Tot. volume of flue gas side		2525,0	3040,0	3830,0	4440,0	dm^3
Total surface area for heat exchange		77,7	93,2	115,7	136,0	m^2
Volumetric thermal load (Q.max)		1098,6	1160,2	1145,4	1139,6	kW/m^3
Specific heat load		22,5	22,5	22,5	22,1	kW/m^2
Max. condensate production Full load 30/50 °C		173,0	203,0	256,0	301,0	l/h
Max. operating pressure		6				bar
Maximum permitted temperature		100				°C
Maximum operating temperature		95				°C
Pressure drops	ΔT 10°C	40	78	56	75	mbar
	ΔT 20°C	16	31	21	20	mbar
Water capacity		3060	3330	4700	5560	liters

NCV Net calorific value of fuel
GCV Gross calorific value of fuel
(*) The B23P configuration may only be adopted with premix gas burners.
(**) Depends on return temperature (30-60°C)
(***) At Pn max and Tm = 80°C, Tr = 60°C e CO2 = 10,3%

⚠ The stack must guarantee the minimum draught specified by applicable technical standards, assuming zero pressure at the connection to the flue.

⚠ Values obtained with gas burners **RIELLO** calibrated with CO_2 = 9,7% and λ = 1,2.

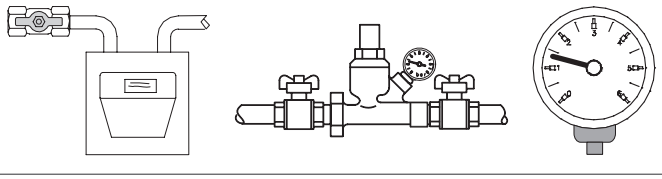
2 SYSTEM MANAGER

2.1 Putting into service

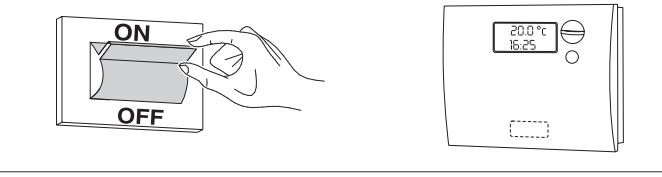
Have **RIELLO**'s Technical Assistance Service start up your **RIELLO TAU N** boiler for the first time. Once this has been done, the boiler can be left to function automatically.

Under certain circumstances, such as after long periods of disuse, the service engineer responsible for the boiler may need to re-start it without involving the Technical Assistance Service. To do so, perform the following checks and operations:

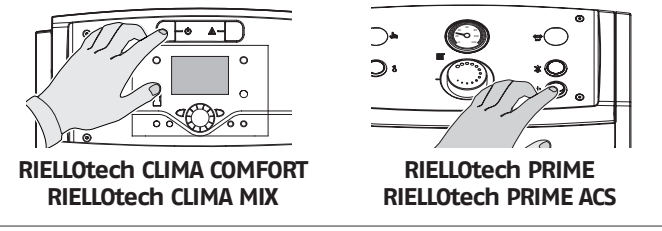
- check that the gas cock and heating water cock are open;
- check that the pressure of the hydraulic circuit when cold is always **greater than 1 bar** and less than the maximum limit permitted for the appliance;



- turn the system's main power switch ON;
- if the system is equipped with a temperature controller or timer thermostat, make sure that it is switched on;



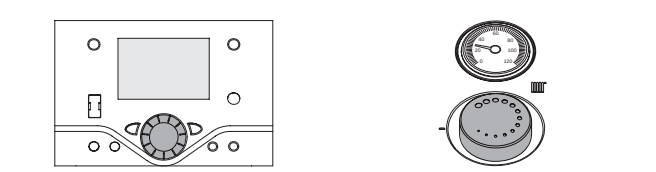
- Turn the control panel power switch ON and make sure that the green power indicator lights;



RIELLOtech CLIMA COMFORT
RIELLOtech CLIMA MIX

RIELLOtech PRIME
RIELLOtech PRIME ACS

- make the necessary settings as instructed in the instruction manual for your control panel;



RIELLOtech CLIMA COMFORT
RIELLOtech CLIMA MIX

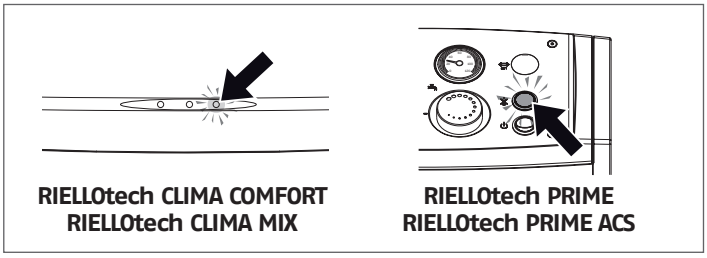
RIELLOtech PRIME
RIELLOtech PRIME ACS

- adjust the timer thermostat/s or temperature controller to the desired temperature (~20°C).

The burner should now ignite and remain in operation until the set temperature is reached.

Subsequent starts and stops will be made automatically according to the desired temperature without the need for further intervention.

If any ignition faults or malfunctions occur, the burner performs a "LOCKOUT SHUTDOWN". This is shown by the red button light on the burner and by the warning light on the control panel.



RIELLOtech CLIMA COMFORT
RIELLOtech CLIMA MIX

RIELLOtech PRIME
RIELLOtech PRIME ACS

⚠ If a "LOCKOUT SHUTDOWN" occurs, wait about 30 seconds before resetting the burner.

To reset the burner, press the red button light on the burner and wait until the flame ignites.

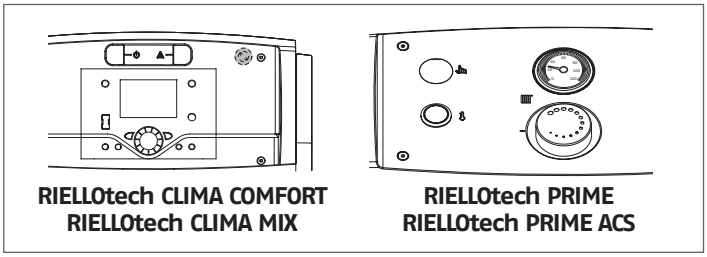
Repeat this operation 2-3 times at the most. If the problem persists after that, call **RIELLO**'s Technical Assistance Service.

If the problem persists, check that the safety thermostat has not tripped.

⚠ If the safety thermostat trips, the boiler shuts down and a warning is displayed on the control panel (if present).

Proceed as follows to reset the safety thermostat:

- Wait until boiler temperature falls below 80°C;
- Remove the safety thermostat cover;
- Press the manual reset button;
- Wait for the complete ignition cycle to be repeated and for the flame to ignite.



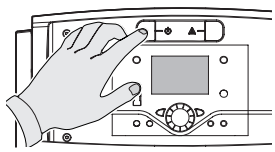
RIELLOtech CLIMA COMFORT
RIELLOtech CLIMA MIX

RIELLOtech PRIME
RIELLOtech PRIME ACS

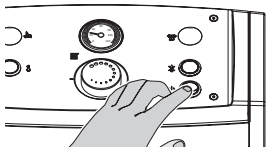
2.2 Temporary shutdown

If you need to shut down the system for a short period, proceed as follows:

- turn the control panel power switch OFF and make sure that the green power indicator goes out;

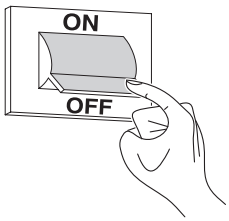


RIELLOtech CLIMA COMFORT
RIELLOtech CLIMA MIX



RIELLOtech PRIME
RIELLOtech PRIME ACS

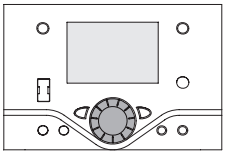
- turn the mains power switch OFF;



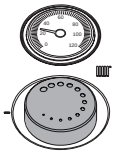
⚠ Do NOT perform this procedure if outdoor temperature falls below ZERO (risk of freezing).

Then proceed as follows:

- make the necessary settings as instructed in the instruction manual for your control panel;

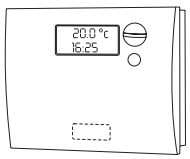


RIELLOtech CLIMA COMFORT
RIELLOtech CLIMA MIX



RIELLOtech PRIME
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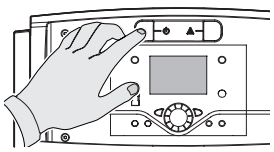
- make sure that the temperature controller or timer / room thermostat is set to "frost protection" mode.



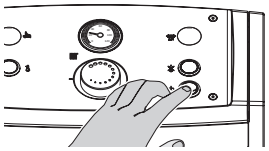
2.3 Preparing for extended periods of disuse

If the boiler is not going to be used for an extended period of time, perform the following operations:

- Turn the control panel power switch OFF and make sure that the green power indicator goes out

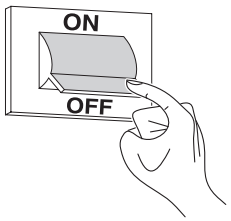


RIELLOtech CLIMA COMFORT
RIELLOtech CLIMA MIX

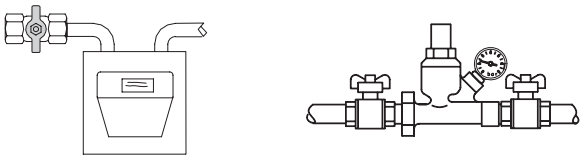


RIELLOtech PRIME
RIELLOtech PRIME ACS

- Turn the main system switch "off"



- Close the fuel cock and heating circuit water cock;



- Drain the central heating circuit if there is any risk of freezing.

⚠ Contact your local **RIELLO** Technical Assistance Service if you encounter any problems in completing the above procedure.

2.4 Cleaning

Use a cloth damped in soapy water to clean the boiler's external casing.
To remove stubborn marks, use a cloth damped in a 50% mix of water and denatured alcohol or a suitable cleaning product.
Carefully dry after cleaning.

⊖ Do not use abrasive cleaning pads or powder detergents.

⊖ Never clean the boiler without first disconnecting it from the mains electricity supply by turning the mains power switch and the control panel switch OFF.

⚠ The combustion chamber and flue pipes must be cleaned periodically by Technical Assistance Service or by a qualified heating engineer (see page 46).

2.5 Maintenance

Please remember that THE PERSON RESPONSIBLE FOR SYSTEM MANAGEMENT MUST ENSURE THAT PROFESSIONALLY QUALIFIED HEATING ENGINEERS UNDERTAKE PERIODIC MAINTENANCE AND COMBUSTION EFFICIENCY MEASUREMENTS.

RIELLO's Technical Assistance Service is qualified to satisfy these legal requirements and can also provide useful information on MAINTENANCE PROGRAMMES designed to guarantee:

- Greater safety
- Compliance with applicable legislation
- Freedom from the risk of fines in the event of spot checks.

Regular maintenance is essential for the safety, efficiency and durability of the boiler.
Servicing is a legal requirement and must be performed at least once a year by a professionally qualified heating engineer.

2.6 Useful information

Seller:.....
Mr.: .....
Address: .....
Tel.:.....

Installer:.....
Mr.: .....
Address: .....
Tel.:.....

Technical Assistance Service: .....
Mr.: .....
Address: .....
Tel.:.....

Date	Work done

Fuel oil supplier: .....
Mr.: .....
Address: .....
Tel.:.....

Date	Quantity supplied	Date	Quantity supplied	Date	Quantity supplied	Date	Quantity supplied

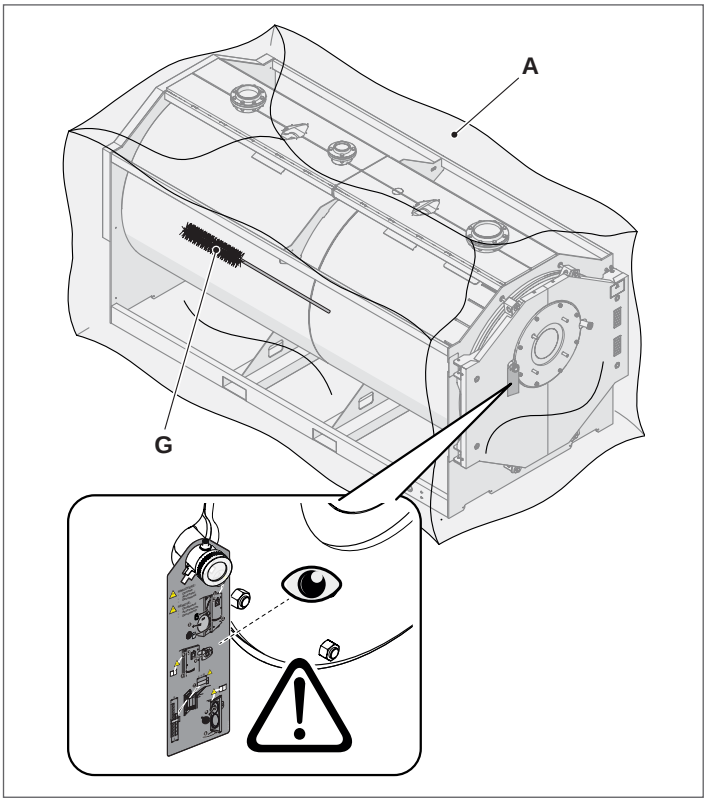
3 INSTALLER

3.1 Unpacking the product

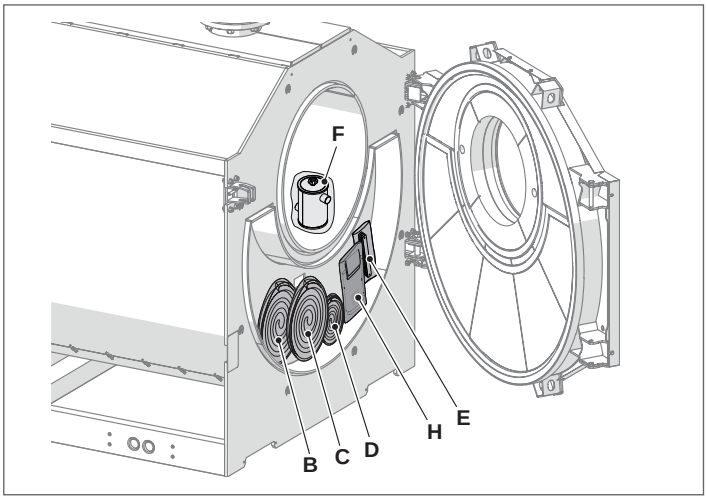
TAU N RIELLO boilers are delivered in **2 separate packages**:

1 **THE BOILER BODY** inside the protective cover (A), includes:
- Burner nozzle protective padding kit (2500x50 mm) (B)
- Burner nozzle protective padding kit (2500x80 mm) (C)
- Special glass-braid gasket (35x25 mm) (D)
- Hole cover plate kit (E)
- Condensate drain siphon (F)
- Cleaning unit for exchange pipes (ramrod brush) (G)
- Document pouch (H) containing:
  - Instruction manual
  - Technical data plate adhesive (to be applied to the panelling when installing the boiler)
  - Hydraulic test certificate
  - Conventional warranty conditions

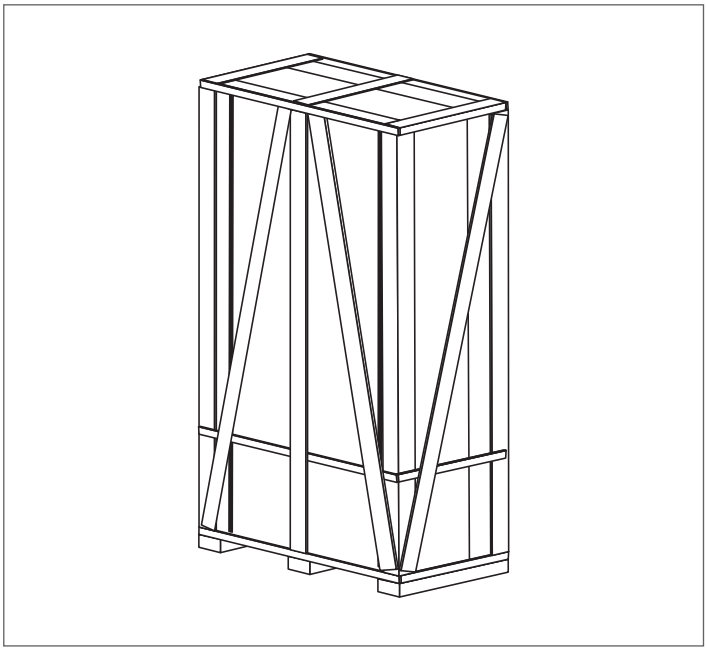
DO NOT START THE BOILER UNTIL THE OPERATIONS INDICATED ON THE RED LABEL ON THE FLAME VIEWER HAVE BEEN CARRIED OUT.



THE INSTRUCTION MANUALS ARE AN INTEGRAL PART OF THE BOILER, THEREFORE WE RECOMMEND TO READ AND KEEP THEM WITH CARE.

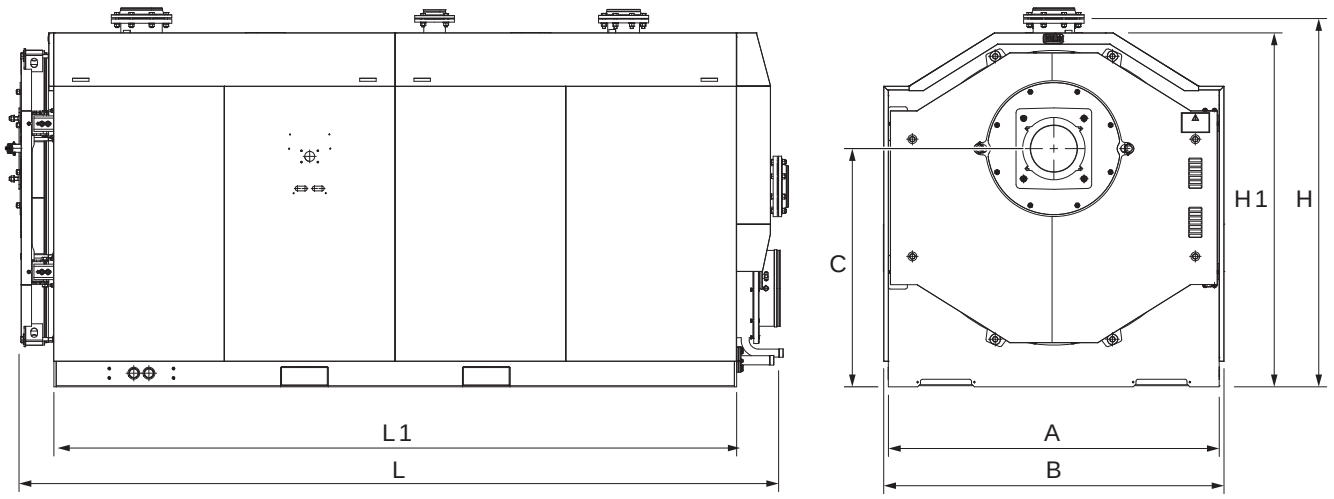


2 **THE PANELLING**, complete with the assembly accessories, inside a protective cardboard box and a wooden crate.



The operation of the **TAU N RIELLO** boilers is conditional on the use of a control panel as indicated in section "Control panels" on page 5.

3.2 0verall dimensions and weights



DESCRIPTION		BOILER TAU N				
		1750	2100	2600	3000	
A	Base width	1800	1800	1900	2000	mm
B	Width	1750	1750	1850	1950	mm
L	Length	3620	4020	4425	4640	mm
L1	Base depth	3212	3612	4024	4206	mm
C	Height of burner plate	1260	1260	1350	1410	mm
H		1945	1945	2070	2170	mm
H1		1870	1870	1997	2097	mm
Boiler body weight		3855	4590	5620	6705	kg
Panelling Weight		135	150	175	205	kg
Total Boiler Weight (including panelling)		3990	4740	5795	6910	kg

3.3 Handling

⚠ Before handling the appliance and removing the packaging, wear PPE and use tools suitable for the appliance's size and weight.

The product can be moved in two ways:

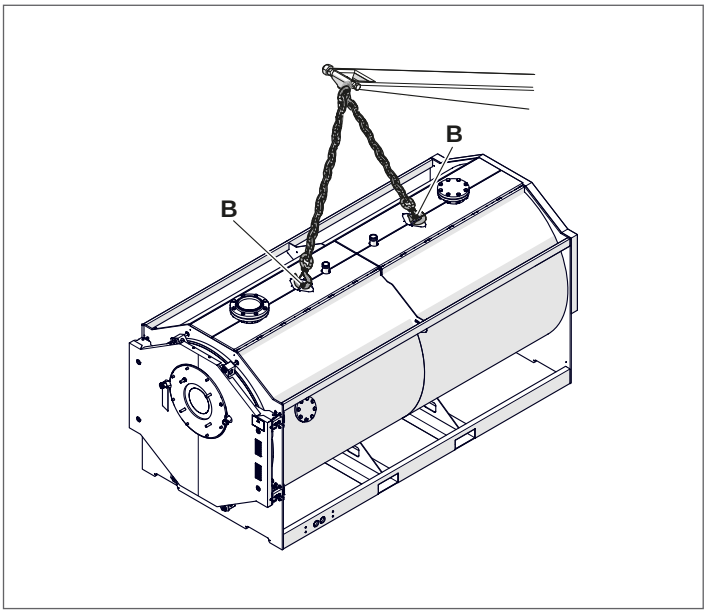
- Using a forklift truck with adequate lifting capacity.
- Using a hoist with adequate lifting capacity;

3.3.1 With a hoist:

Two lifting points (A) are provided at the top of the boiler for handling with a hoist. Proceed as follows to move the boiler and remove the packaging:

- Remove the protective film;
- Move the boiler to the place of installation, use a crane for lifting and using only the lifting accessories provided with it.
- If chains are used to lift the boiler, make sure that at least two of the chains are load-bearing.
- Lift with the utmost care.
- Maintain an angle less than 45 degrees from the vertical when lifting the boiler with chains or ropes.
- The crane must be operated by trained personnel.

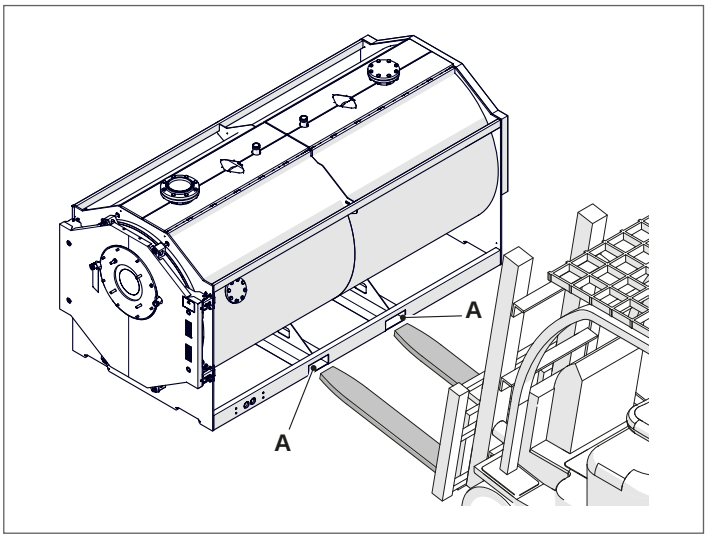
⚠ The packaging material must be disposed of carefully and must not be abandoned, as it is a source of potential danger.



⚠ Risk of injury resulting from the transport of heavy loads and inadequate fastening of loads for transport.

3.3.2 With a forklift:

Two pockets (B) for handling with a forklift are positioned in the lower part and accessible from both sides of the boiler.



3.4 Installation premises

RIELLO TAU N steel boilers must be installed in a dedicated boiler room, with adequately sized vents, in compliance with applicable laws and standards.
If at all possible, the boiler should be installed on a raised base to stop the burner fan sucking up dust and to facilitate installation of a condensate drain system.
The boiler condensate drain must be located above the height of the lid of the system's condensate neutraliser.

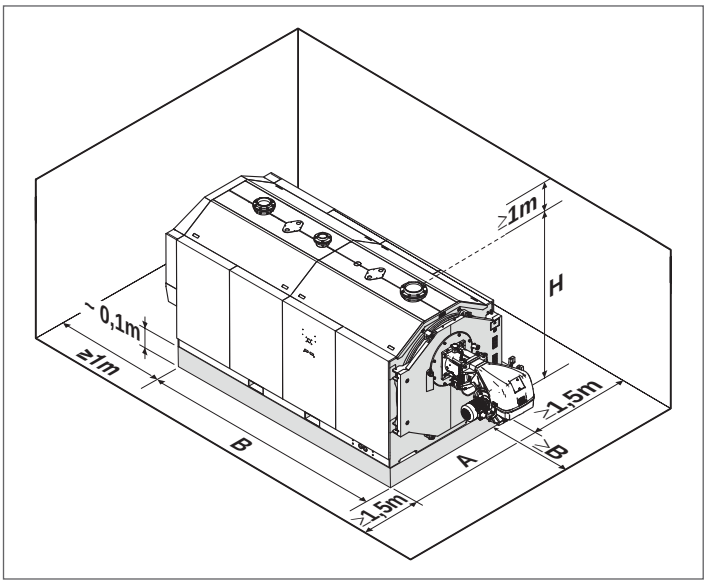
The gas supply pipe must be installed in such away that the boiler's panelling can be removed and the front door opened without having to remove the burner.

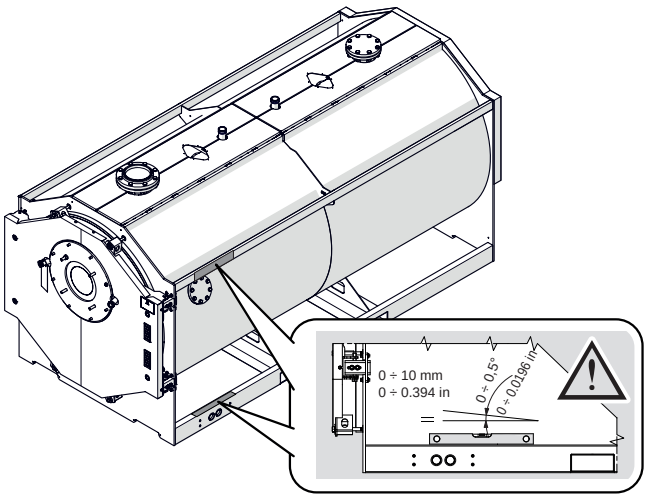
⚠ For Belgium boilers must be installed according to the NBN D51.003 standard, the NBN B61.001 standard (output > 70 kW).

⚠ When installing the boiler, allow sufficient space around it to access all safety and control devices and to permit easy maintenance.

⚠ If the specific weight of the gas supply to the burner is greater than the specific weight of air, install all electrical parts at least 500 mm above floor level.

⛔ Do not install the boiler outdoors. It is not designed to work outdoors and is not fitted with the necessary automatic anti-frost systems to do so.





Before positioning the boiler, it is recommended, where feasible, to provide a support base made of concrete or steel, with a height equal to or greater than 100 mm, taking into account the requirements shown in the figure.

⚠ The boiler support base must be perfectly level or, preferably, slightly sloped toward the rear of the boiler (condensate drain), as shown on the labels in the figure.

⚠ Before installation, verify that there is sufficient space to install the boiler on this support base and to allow full opening of the door with the burner installed.

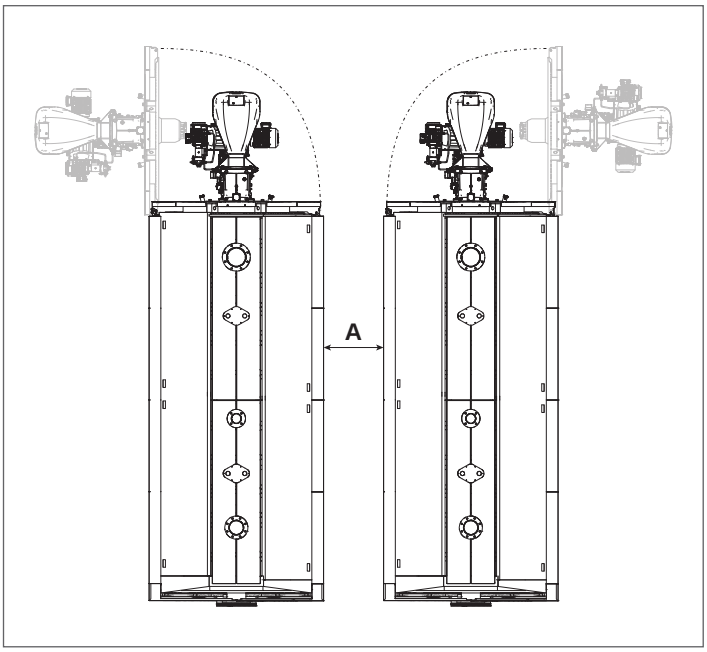
DESCRIPTION		BOILER TAU N				
		1750	2100	2600	3000	
A	Width	1750	1750	1850	1950	mm
B	Length	3212	3612	4024	4206	mm
H	Overall height (boiler + base) (100 mm)	2045	2045	2170	2270	mm

(*) Side panel may need fitting prior to placing boilers in cascade.

3.4.1 Configuration with coupled boilers

Do not install boilers with NO clearance between them. The minimum clearances are given in the table below.

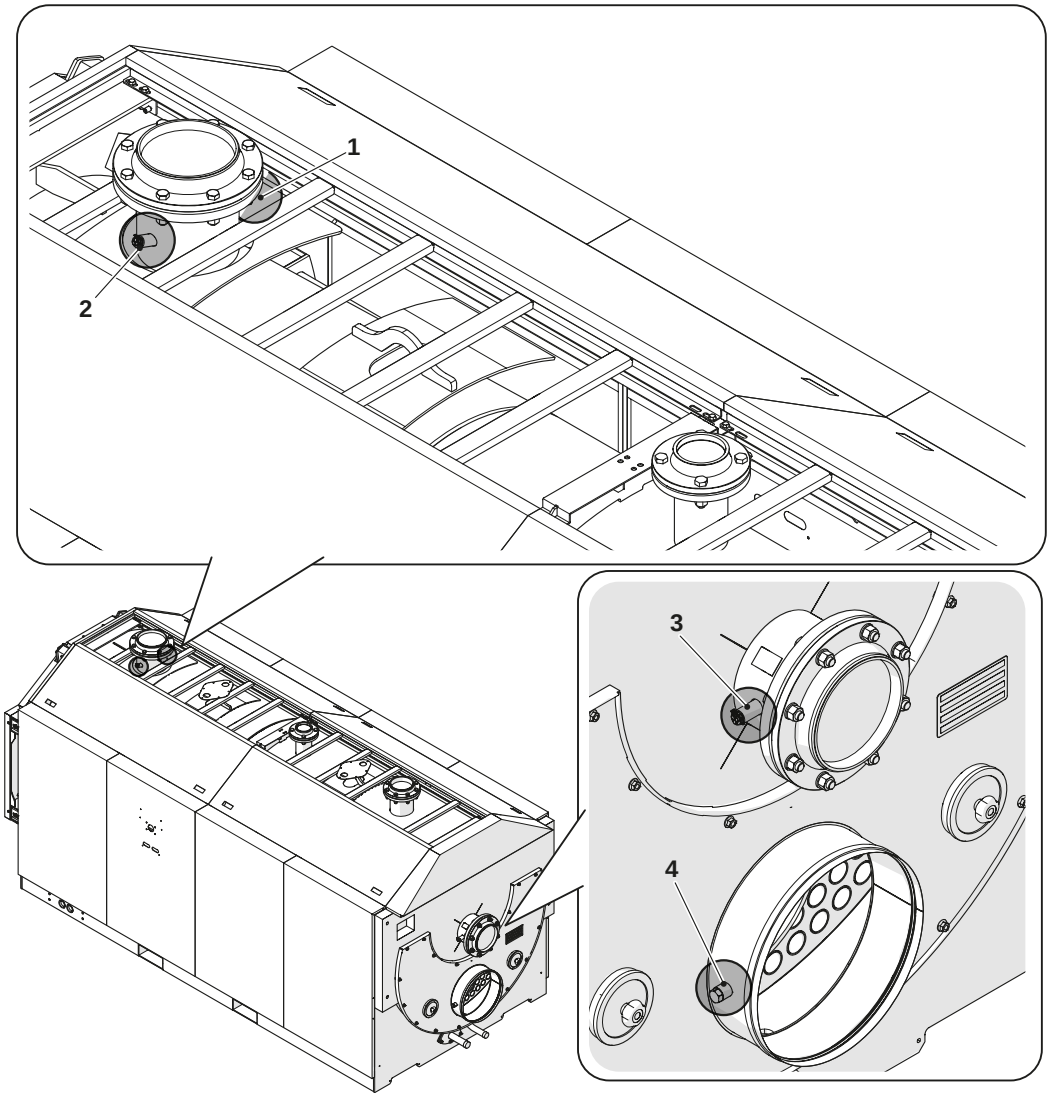
⚠ Check the door is oriented correctly.



		BOILER TAU N				
		1750	2100	2600	3000	
A	Clearance	700	700	700	700	mm

⚠ To comply with the outside dimensions, see chapter Installation premises.

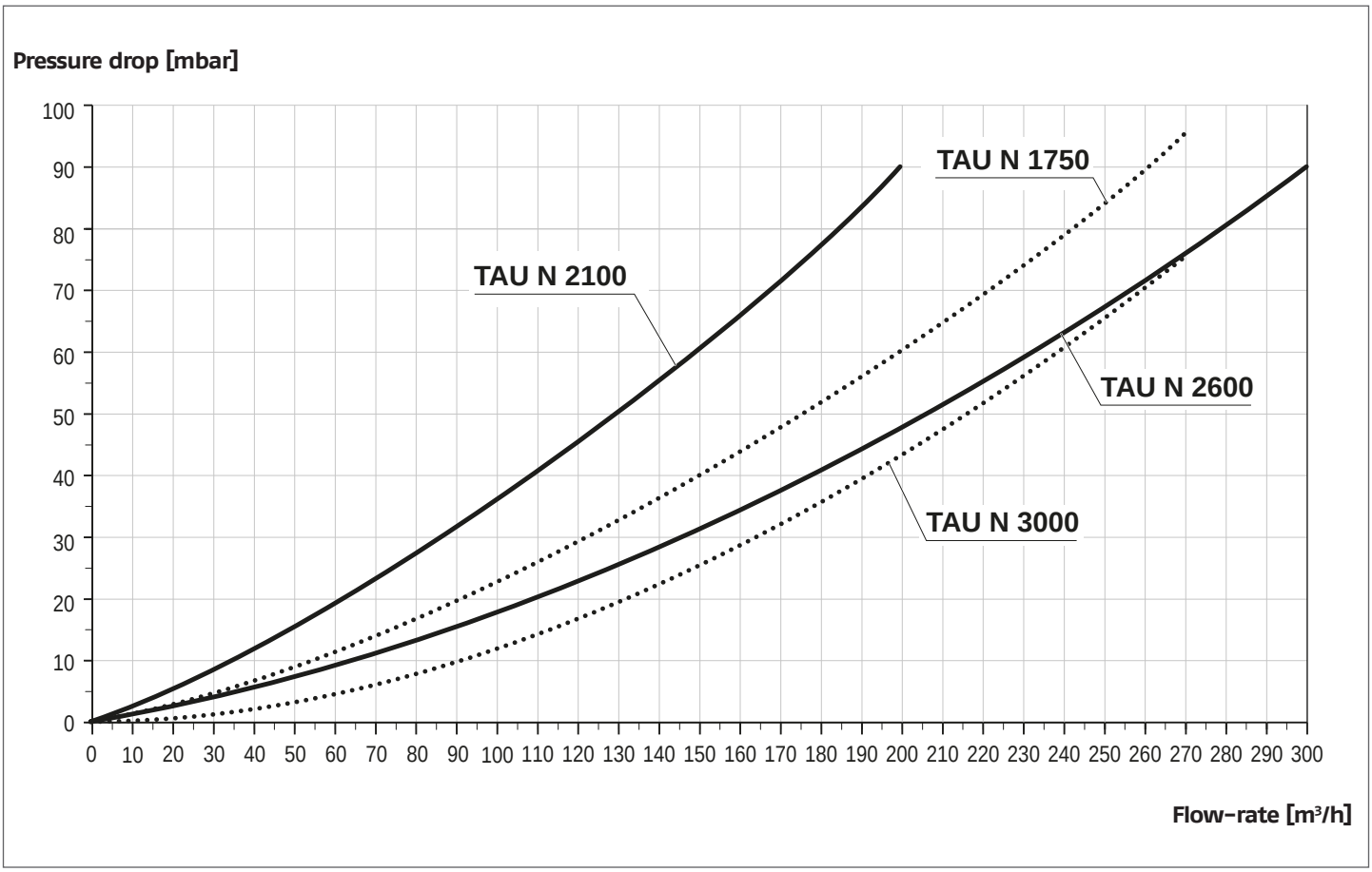
3.5 Positioning of sensor sockets



DESCRIPTION		BOILER TAU N								
		1750		2100		2600		3000		
Length of the socket		min.	max.	min.	max.	min.	max.	min.	max.	
1	Flow sensor socket connector (1/2")	70	150	70	150	70	150	70	150	mm
2	0vertemperature protection (1/2")	120	190	120	190	120	190	120	190	mm
3	Return sensor socket connector (1/2")	120	150	120	150	120	150	120	150	mm
4	Flue gases sensor socket connector (1/2" NPT)	120	190	120	190	120	190	120	190	mm

⚠ Thermometric sockets are not provided. The socket connections are closed with metal plugs.

3.5.1 Water-side pressure drop



3.6 Water in central heating systems

INTRODUCTION

Water used in central heating systems MUST be suitably treated to ensure the correct functioning of those systems and to guarantee an extended working life for boilers and all other system components. This applies not only to existing systems but to newly installed systems too.
Sludge, lime-scale and pollutants present in the water can cause permanent damage to the heating unit, also within a short time and regardless of the quality standards of the materials used.
Contact the Technical Assistance Service for any further information on type and use of additives.

⚠ Always conform to the standards and legislation applicable in the country of installation.

WATER IN CENTRAL HEATING SYSTEMS.
INSTRUCTIONS FOR THE DESIGN, INSTALLATION AND MANAGEMENT OF CENTRAL HEATING SYSTEMS.

1. Chemical and physical characteristics of water
The chemical and physical characteristics of the water must comply with the standards and table below:

European Standards:
- **EN 14868** Protection of metallic materials against corrosion in closed water circulation systems
- **EN 12953-10** Quality requirements for the supply water and the water in the boiler >100°C

National Standards / Leg Dec:
- **UNI 8065:2019** Water treatment for domestic use

STEEL BOILERS			
	U/M	Initial filling water	Regular service water (*)
pH (with aluminium)		7 - 8	7 - 8,5
pH (without aluminium)		8,3 - 9,5	8,3 - 9,5
Hardness	°F	< 15	< 15
Electrical conductivity	µs/cm		< 500
Chlorides	mg/l		< 50
Oxygen (O_2)	mg/l		< 0,1
Iron (Fe)	mg/l	< 0,5	< 0,5 (**)
Copper (Cu)	mg/l	< 0,1	< 0,1 (**)
Aluminium (Al)	mg/l		< 0,1 (**)
Turbidity		Clear	Clear

(*) system water values after 8 weeks of operation;
(**) higher values are due to corrosion, to be eliminated.

General note on water used to top up systems:
- If softened water is used to top up a system, 8 weeks of functioning after topping up, verify that the water in the system respects the above limits, in particular for electrical conductivity
- This check is not necessary if demineralised water is used to top up the system.

2. Central heating systems

⚠ Do not use automatic filling devices to add water to central heating systems. Use a manual device instead and record top-ups in the system service book.

⚠ If there are more than one boiler, they must all be put into service either contemporarily or with a very low rotation time during the initial period of service, so as to evenly distribute the limited quantity of initial lime-scale.

⚠ A flushing cycle must be programmed after the plant has been installed to flush out any installation debris.

⚠ Water used to fill a system for the first time and water used to top it up must always be filtered (using synthetic or metal mesh filters with a filtration rating of no less than 50 microns) to prevent sludge from forming and triggering deposit corrosion.

⚠ The heating system must be flushed out and cleaned with good workmanship before filling up the existing systems. The boiler may not be filled until after the heating system has been flushed out.

2.1 New central heating systems
The system must be filled up slowly the first time; once it is filled and the air expelled it should never need to be topped up again. Systems should also be operated at maximum working temperature the first time they are started up, in order to facilitate de-aeration. (Gas is not released from the water at low temperatures).

2.2 Reconditioning old central heating systems
If a boiler has to be replaced, do not refill the entire central heating circuit if the quality of water in it conforms to requirements. If the quality of water fails to conform to requirements, either recondition the old water or separate the water circuits (water in the boiler circuit must conform to requirements).

3. Corrosion

3.1 Deposit corrosion
Under-deposit corrosion is an electrochemical process, due to the presence of sand, rust, etc., inside the mass of water. These solid substances generally deposit on the bottom of the boiler (sludge), on tube and pipe heads or in the gaps between pipes and tubes.
Micro-corrosion phenomena may be triggered off owing to the difference in electrochemical potential coming to be created between the material in contact with the impurity and the surrounding one.

3.2 Stray current corrosion
Corrosion from stray currents can occur due to the differing electrical potentials between water in the boiler and the metallic mass of the boiler or piping. This process leaves unmistakeable traces i.e. small regular conical holes.

⚠ All metallic parts should be grounded by an efficient earth cable for this reason.

4. Eliminating air and gas from central heating systems
If oxygen enters a circuit continuously or even intermittently (e.g. in under-floor heating systems whose pipes are not protected by impermeable synthetic sheaths, in circuits with open expansion vessels, or in circuits that require frequent top-ups) always separate the boiler's water circuit from the central heating circuit.

Mistakes to avoid and precautions.
From what we have seen it is therefore important to avoid two factors possibly leading to the above mentioned processes i.e. contact between air and water in the installation and regular topping up with fresh water.
To eliminate contact between air and water (and to prevent the latter from becoming oxidized), it is necessary:
- For the expansion system to be a closed vessel type, correctly scaled and with the correct pre-loading pressure (to be regularly checked)
- For the installation to always be at a higher pressure than that of the atmosphere at any point (comprising the pump suction side) and under all running conditions (all the water sealing and couplings in the installation are designed to resist pressure towards outside, but not for depression)
- That the installation will not be made with materials permeable to gas (e.g. plastic pipes for floor systems without anti-oxygen barrier).

⚠ Lastly we would remind you that the warranty does not cover breakdowns incurred by the boiler due to deposits and corrosion.

3.6.1 Use of antifreeze

Do not use automotive silicate-based antifreeze in the heating system.
In areas where freezing may occur, an antifreeze may be added to protect the system water. Please adhere to the specifications provided by the antifreeze manufacturer.
- Use the antifreeze manufacturer's data to determine the right antifreeze ratio for the desired protection temperature.
- Do not exceed 50% antifreeze mix ratio and do not use antifreezes other than those specifically designed for water heating systems.
- the chemical oxidation of the metals in the system also generates hydrogen.

3.6.2 Glycol

The percentage of propylene glycol which can be used is dependent on the maximum delivery temperature and the project ΔT as defined by the generator.

To calculate the freezing temperature associated with the mix and the maximum percentage to be used, please see the technical datasheet for the product used.

⚠ The values given in the tables refer to the **RIELLO** product.

Anti-freeze effect		
Glycol (%)	Temperature (°C)	Temperature (°F)
55	-40,4	-40,7
50	-32,4	-26,3
45	-26,0	-14,8
40	-21,5	-6,7
35	-17,6	0,3
30	-14,0	6,8
25	-10,7	12,7
20	-7,0	19,4
15	-4,0	24,8
10	-2,0	28,4

Mix boiling point								
P (bar)	Glycol (%)							T (°)
	25	30	35	40	45	50	55	
11,0	186,0	187,0	186,0	188,0	189,0	189,0	189,5	°C
	366,8	368,6	366,8	370,4	372,2	372,2	373,1	°F
10,0	181,5	182,0	182,5	183,0	184,0	185,0	186,5	°C
	358,7	359,6	360,5	361,4	363,2	365,0	367,7	°F
9,0	176,5	177,0	177,5	178,0	179,5	181,0	182,5	°C
	349,7	350,6	351,5	352,4	355,1	357,8	360,5	°F
8,0	171,5	172,0	172,5	173,0	174,0	175,0	176,0	°C
	340,7	341,6	342,5	343,4	345,2	347,0	348,8	°F
7,0	166,0	166,5	167,0	167,5	168,0	168,5	170,0	°C
	330,8	331,7	332,6	333,5	334,4	335,3	338,0	°F
6,0	159,0	159,5	160,5	161,0	161,5	162,0	163,5	°C
	318,2	319,1	320,9	321,8	322,7	323,6	326,3	°F
5,0	152,5	153,0	154,0	155,0	156,0	157,0	158,0	°C
	306,5	307,4	309,2	311,0	312,8	314,6	316,4	°F
4,0	144,5	145,0	145,5	146,0	147,0	148,0	149,0	°C
	292,1	293,0	293,9	294,8	296,6	298,4	300,2	°F
3,5	141,5	142,0	142,5	143,0	143,5	144,0	145,0	°C
	286,7	287,6	288,5	289,4	290,3	291,2	293,0	°F
2,0	122,5	123,0	123,5	124,0	125,0	126,0	127,0	°C
	252,5	253,4	254,3	255,2	257,0	258,8	260,6	°F
1,0	100,5	101,0	101,5	102,0	103,0	104,0	105,0	°C
	212,9	213,8	214,7	215,6	217,4	219,2	221,0	°F

IMPORTANT INFORMATION REGARDING HEAT-TRANSFER FLUIDS
Heat-transfer fluids are particularly important for protecting the system: efficient heat exchange, thanks to a good specific heat capacity; anti-freeze properties, important for the life of the system in the winter; and anti-corrosion properties to preserve the heating system components.

When choosing a heat-transfer fluid, consider the following:
- **toxicity** in the event of leakage, contaminating domestic water or water for animal/human use/contact
- **biodegradability** in the event of leakage into the environment

All heat-transfer fluids recommended by **RIELLO** are non-toxic and in large part biodegradable.

⚠ Choose the liquid carefully and manage the heating system correctly to keep monitoring and maintenance work to a minimum, and reduce fluid changes.

⚠ Use propylene glycol-based, non-polluting antifreeze concentrate with corrosion inhibitors for heating systems.

⚠ Do not use the mixture with other antifreeze liquids; always use the same one.

⚠ Use chemically non-hazardous liquid.

⚠ It is mandatory to check the percentage of glycol according to the antifreeze effect on the data sheet of the purchased product.

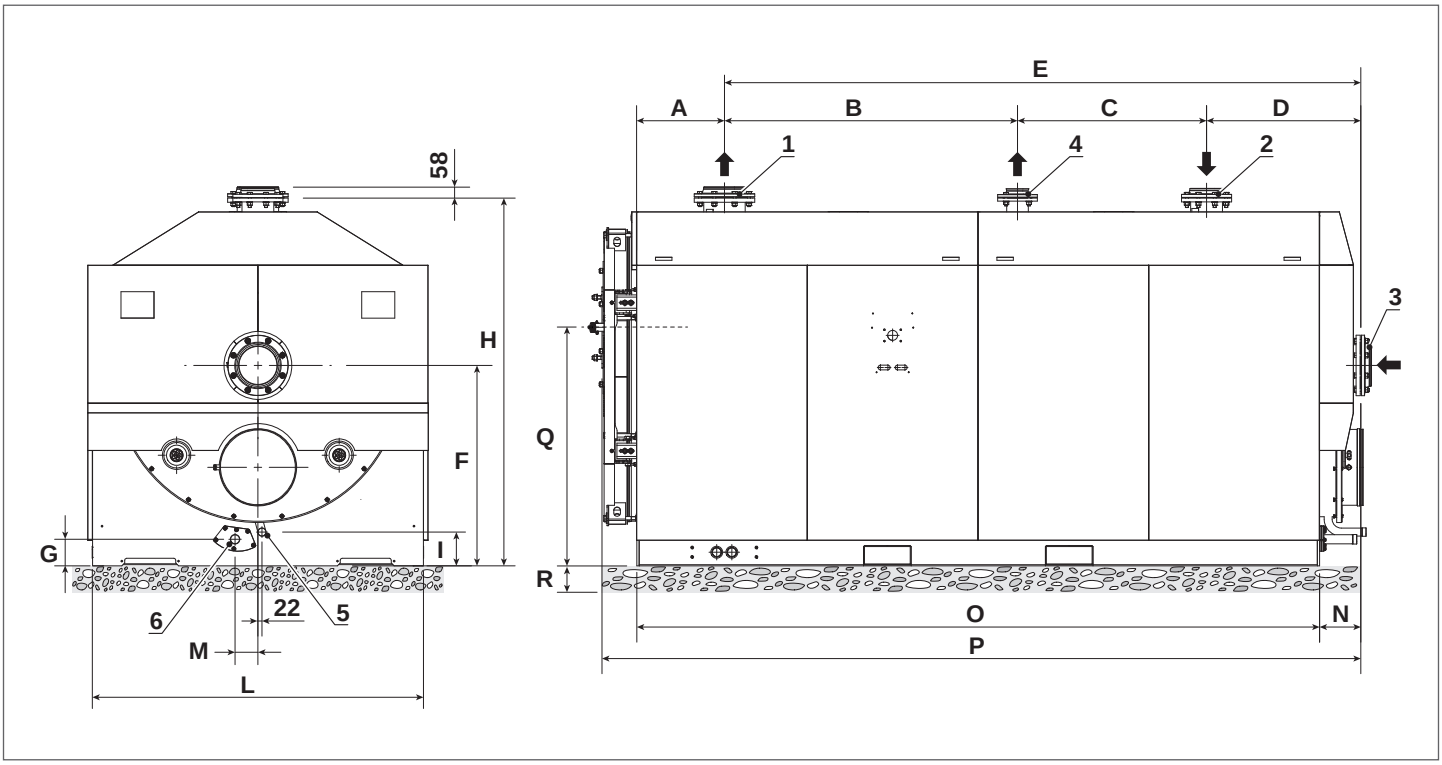
⚠ It is recommended to check the compatibility of the purchased product with the circuit sealing materials, e.g. elastomers or plastics.

⚠ It is recommended to use a filter on the primary circuit to purify the Propylene Glycol.

⚠ The system must not have any galvanised tanks or pipes on the primary side, as zinc can be dissolved by mixtures of propylene glycol and water.

3.7 Water connections

Steel boilers **RIELLO TAU N** are designed and built to be installed on heating systems and also for the production of domestic hot water if connected to suitable systems.
The characteristics of the water fittings are shown in the table.



⚠ The choice of system components and the method of their installation are left up to the installer. Installers must use their expertise to ensure proper installation and functioning in compliance with all applicable legislation.

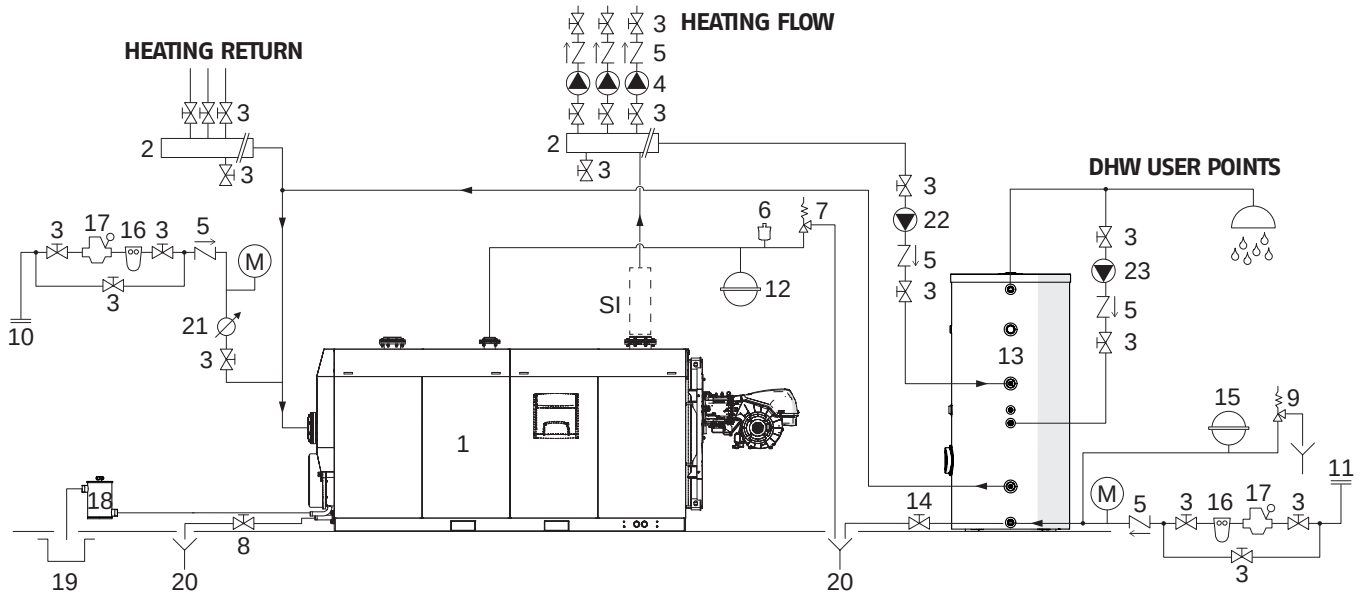
⚠ Circuits filled with anti-freeze must be fitted with water disconnectors.

	DESCRIPTION	BOILER TAU N				
		1750	2100	2600	3000	
1	System Delivery (*)	150	200	200	200	DN - PN6
2	Return 2° (High Temperature) (*)	100	150	150	150	DN - PN6
3	Return 1° (Low Temperature) (*)	150	200	200	200	DN - PN6
4	Safety valve connection	80	100	100	100	DN - PN6
5	Condensate drain fitting	1 1/4"	1 1/4"	1 1/4"	1 1/4"	Ø
6	Boiler drain fitting	1 1/2"	1 1/2"	1 1/2"	1 1/2"	Ø
A	Head Distance / Outlet	465	465	465	465	mm
B	Delivery Distance / Safety Fitting	1348	1550	1850	1850	mm
C	Return Distance 2° / Safety Fitting	950	1000	1050	1250	mm
D		665	815	880	860	mm
E		2963	3365	3780	3960	mm
F		1060	1060	1150	1210	mm
G		140	140	114	111	mm
H		1945	1945	2070	2170	mm
I		180	180	170	163	mm
L		1750	1750	1850	1950	mm
M		120	120	115	115	mm
N		215	215	220	220	mm
O		3212	3612	4024	4206	mm
P		3620	4020	4425	4605	mm
Q		1260	1260	1350	1410	mm
R	Plinth	100	100	100	100	mm

(*) All flanged connections are PN6 according to EN 1092-1.
NOTE: The vertical positions do not include the thickness of the plinth

3.7.1 Schematic diagram

Direct systems



1 Boiler **RIELLO TAU N**
2 Central heating system manifolds
3 Disconnect valves
4 System pumps
5 Non-return valves
6 Automatic vent valve
7 Boiler safety valve
8 Boiler drain cock
9 Storage cylinder safety valve
10 System filling cock
11 Boiler filling
12 CH expansion vessel
13 Remote controlled water tank
14 Storage cylinder drain cock
15 DHW expansion vessel
16 Water softener filter
17 Pressure reducer
18 Siphon
19 Condensate outlet
20 Drain
21 Water supply/top-up counter
22 DHW circulator
23 DHW circulation pump

SI System safety kit (install according to local regulations)
M Pressure gauge

⚠ Domestic hot water and central heating circuits must be completed with expansion vessels of adequate capacity and suitable, correctly-sized safety valves. The discharge of safety valves and appliances must be connected to a suitable collection and disposal system (see Catalogue for compatible accessories).

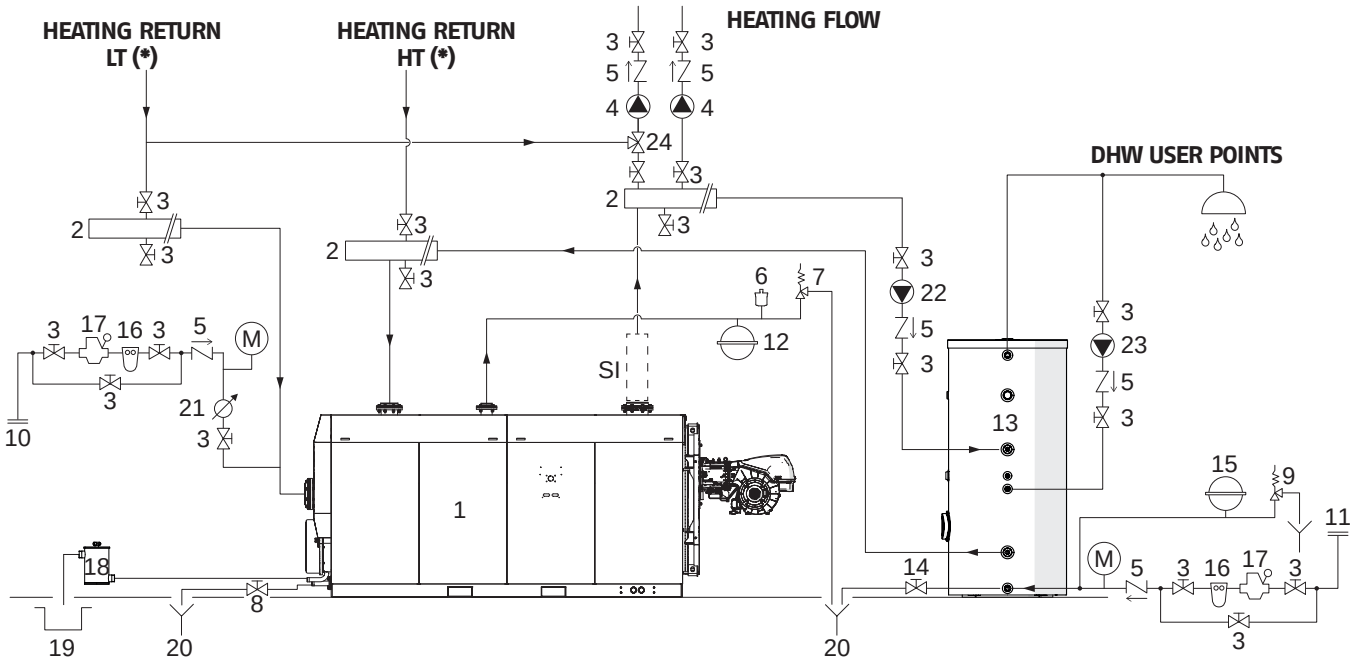
⚠ The selection and the installation of the components of the system is the responsibility of the installer, who must operate in accordance with good practice and current Legislation.

⚠ Circuits filled with anti-freeze must be fitted with water disconnectors.

⚠ Special supply/reintegration water should be conditioned with appropriate treatment systems. The values stated in the table on page 21 can be used as a reference.

⛔ It is prohibited to operate the thermal module without water.

Direct and mixed systems



1 Boiler **RIELLO TAU N**
2 Central heating system manifolds
3 Disconnect valves
4 System pumps
5 Non-return valves
6 Automatic vent valve
7 Boiler safety valve
8 Boiler drain cock
9 Storage cylinder safety valve
10 System filling cock
11 Boiler filling
12 CH expansion vessel
13 Remote controlled water tank
14 Storage cylinder drain cock
15 DHW expansion vessel
16 Water softener filter
17 Pressure reducer
18 Siphon
19 Condensate outlet
20 Drain
21 Water supply/top-up counter
22 DHW circulator
23 DHW circulation pump
24 Mixer valve

SI System safety kit (install according to local regulations)
M Pressure gauge
(*) HT = High temperature / LT = Low temperature

⚠ Domestic hot water and central heating circuits must be completed with expansion vessels of adequate capacity and suitable, correctly-sized safety valves. The discharge of safety valves and appliances must be connected to a suitable collection and disposal system (see Catalogue for compatible accessories).

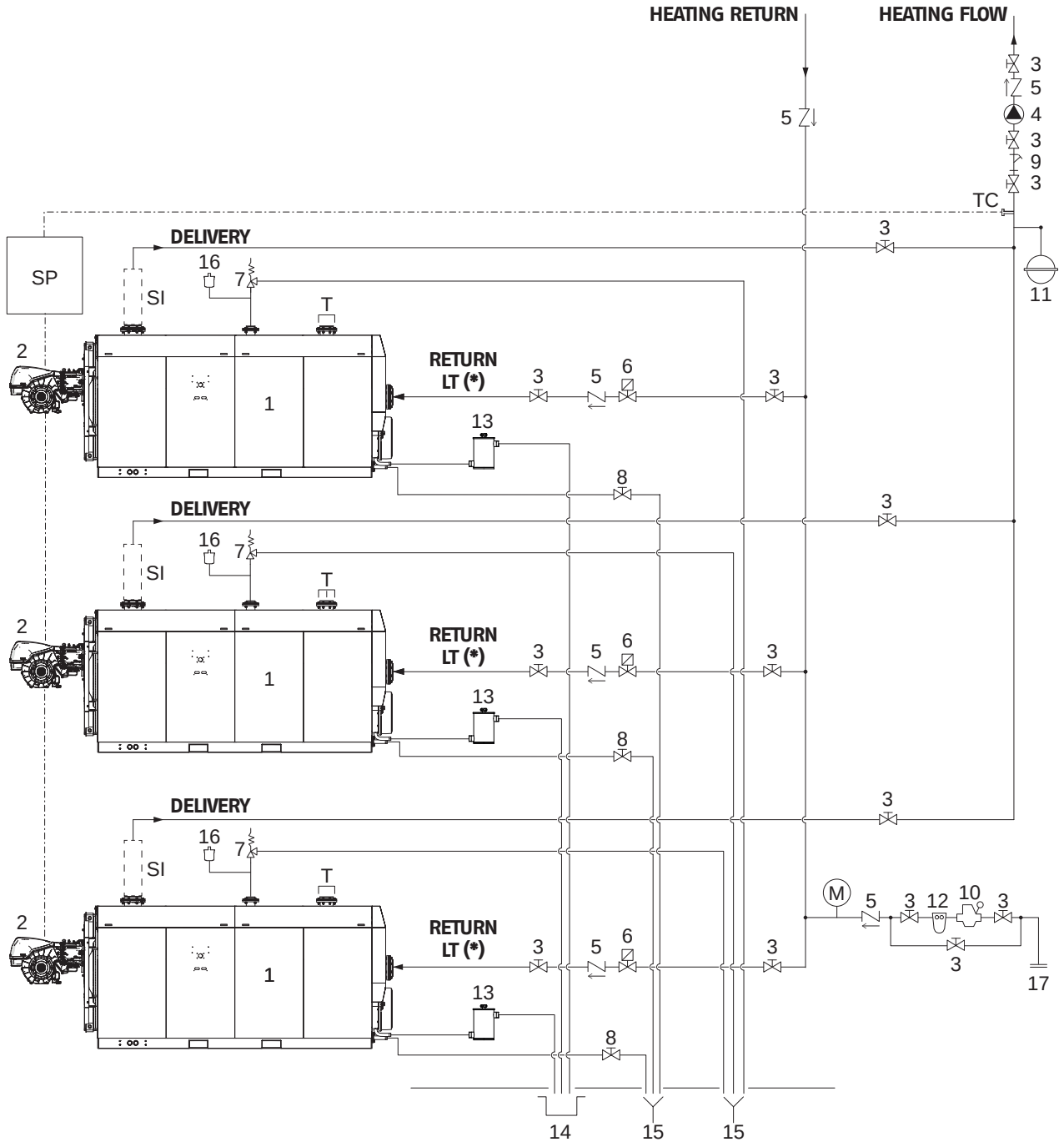
⚠ The selection and the installation of the components of the system is the responsibility of the installer, who must operate in accordance with good practice and current Legislation.

⚠ Circuits filled with anti-freeze must be fitted with water disconnectors.

⚠ Special supply/reintegration water should be conditioned with appropriate treatment systems. The values stated in the table on page 21 can be used as a reference.

⛔ It is prohibited to operate the thermal module without water.

Combination with multiple condensing boilers

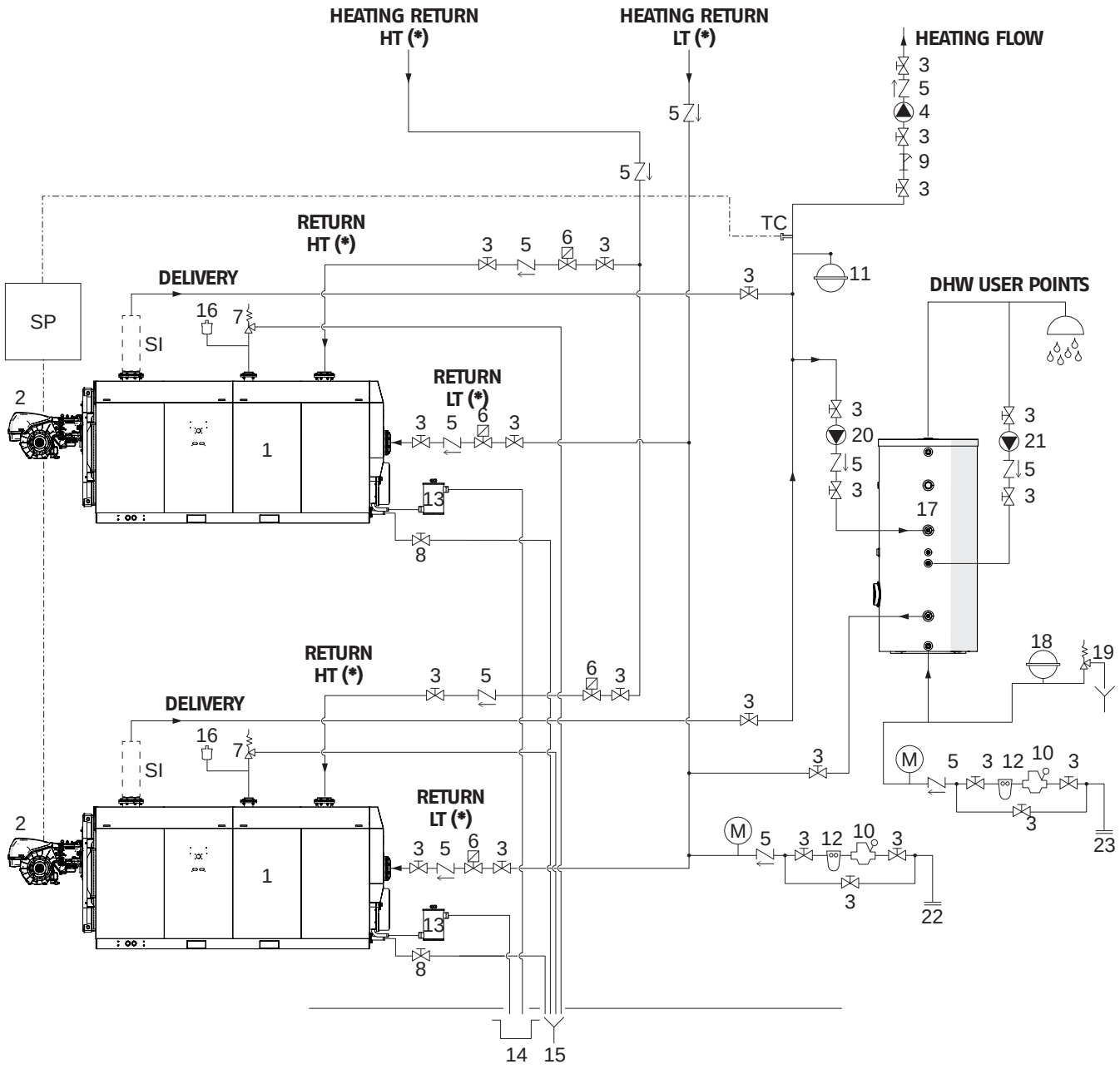


1 Boiler **RIELLO TAU N**
2 Burner
3 Disconnect valves
4 Central heating system pump
5 Non-return valves
6 Motorised two-way valve
7 Boiler safety valve
8 Boiler drain cock
9 Y filter
10 Pressure reducer
11 CH expansion vessel
12 Water softener filter
13 Siphon
14 Condensate outlet
15 Drain
16 Automatic vent valve
17 System filling cock

M Pressure gauge
T Plug
SP Cascade control panel
TC Temperature control
SI System safety kit (install according to local regulations)
(*) LT = Low temperature

⚠ It is the plumbing designer's role to evaluate application of the reverse return principle, according to the diameter of the delivery and return manifolds.

Two boilers for heating and domestic hot water production with high and low temperature input

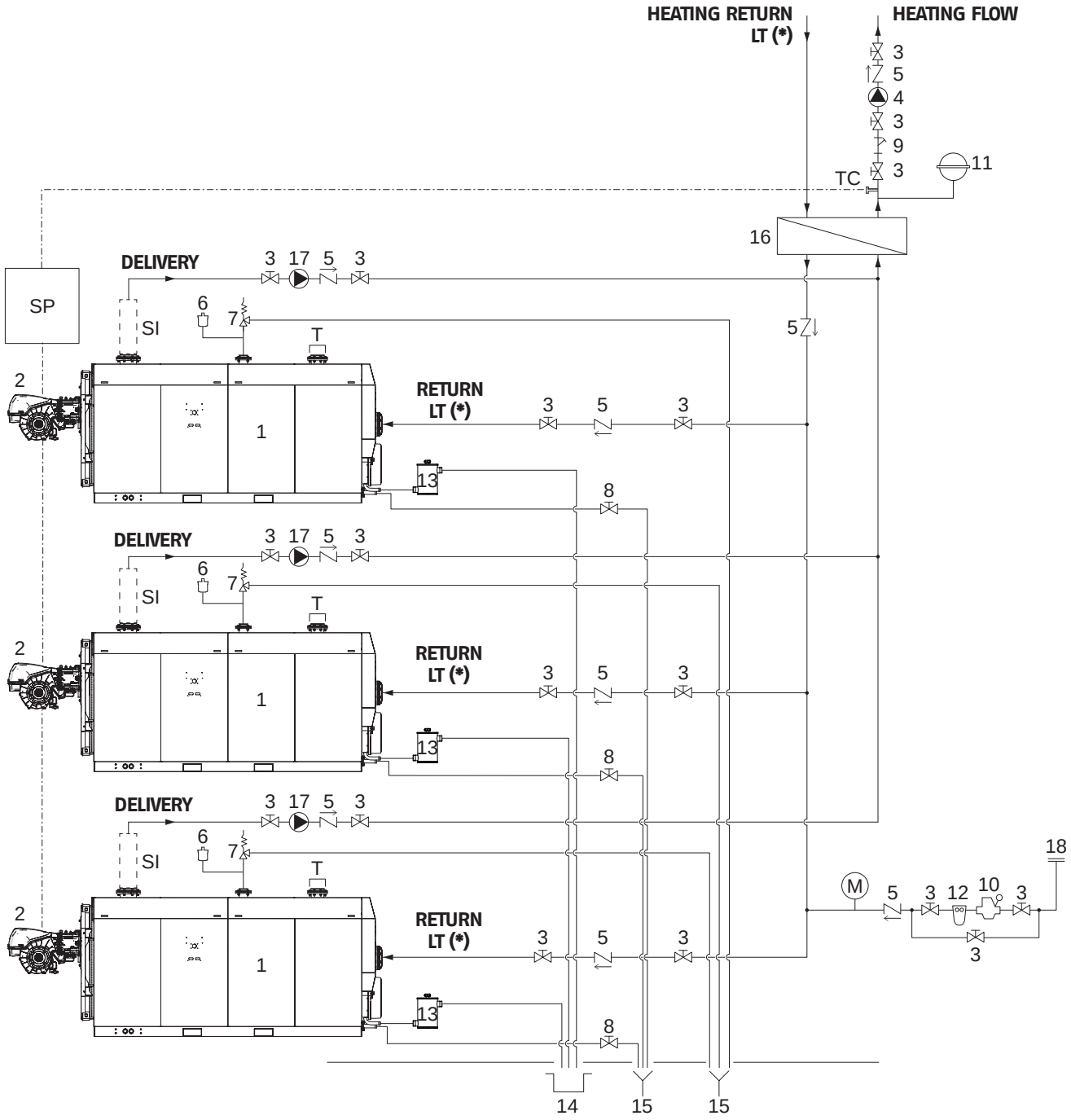


1 Boiler **RIELLO TAU N**
2 Burner
3 Disconnect valves
4 Central heating system pump
5 Non-return valves
6 Motorised two-way valve
7 Boiler safety valve
8 Boiler drain cock
9 Y filter
10 Pressure reducer
11 CH expansion vessel
12 Water softener filter
13 Siphon
14 Condensate outlet
15 Drain
16 Automatic bleed valve
17 Remote controlled water tank
18 DHW expansion vessel
19 Storage cylinder safety valve
20 DHW circulator
21 DHW circulation pump
22 System filling cock
23 Boiler filling

M Pressure gauge
SP Cascade control panel
TC Temperature control
SI System safety kit (install according to local regulations)
(*) HT = High temperature / LT = Low temperature

⚠ It is the plumbing designer's role to evaluate application of the reverse return principle, according to the diameter of the delivery and return manifolds.

Combination with multiple boilers with primary and secondary circuit



1 Boiler **RIELLO TAU N**
2 Burner
3 Disconnect valves
4 Central heating system pump
5 Non-return valves
6 Automatic bleed valve
7 Boiler safety valve
8 Boiler drain cock
9 Y filter
10 Pressure reducer
11 Expansion tank
12 Water softener filter
13 Siphon
14 Condensate outlet
15 Drain
16 Plate heat exchanger
17 Boiler pump
18 System filling cock

M Pressure gauge
T Plug
SP Cascade control panel
TC Temperature control
SI System safety kit (install according to local regulations)
(*) LT = Low temperature

⚠ It is the plumbing designer's role to evaluate application of the reverse return principle, according to the diameter of the delivery and return manifolds.

3.8 Condensate evacuation

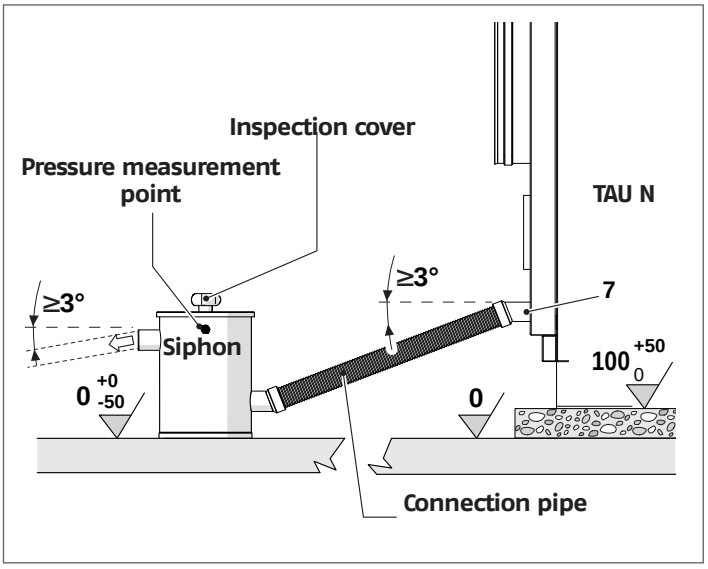
TAU N condensing boilers produce a flow of condensate that varies according to operating conditions. The maximum hourly production of condensate is shown in the technical specifications table for each individual model.
The condensate outlet must be sized according to this value and at no point must the diameter be less than the diameter of the boiler condensate discharge (7).

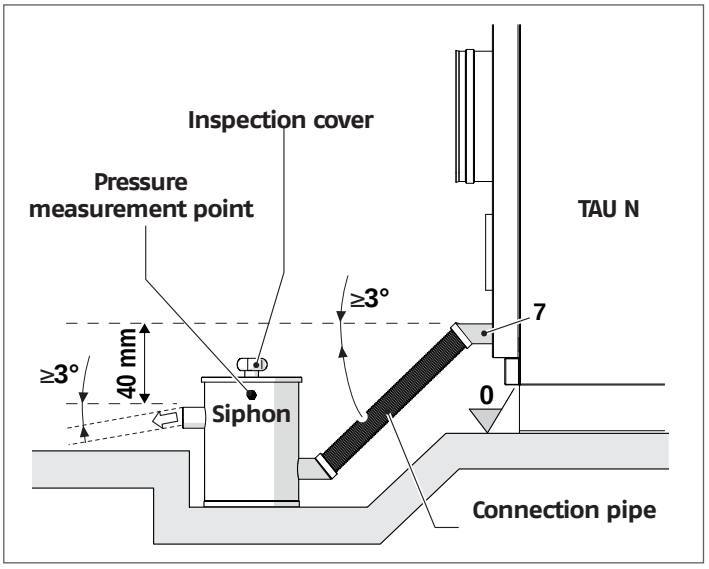
In order to avoid the release of combustion products in the thermal room, it is necessary to insert the trap supplied with the boiler in the condensation drain path. The connecting pipes between the boiler, siphon and waste water drain pit must be laid at a minimum down slope of 3° and must be installed in such a way as to prevent any build-up of.

The siphon is equipped with a tapping point (G 1/8") which a pipe can be connected to, to equalise the pressure between the siphon and the exhaust flue.

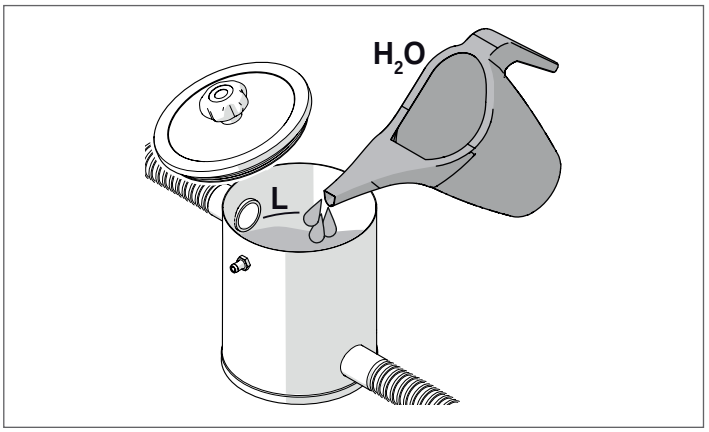
⚠ Check and clean the condensation drain line on a yearly basis.

⚠ The connection to the waste water drain pit must be made in compliance with national and local legislation and standards.

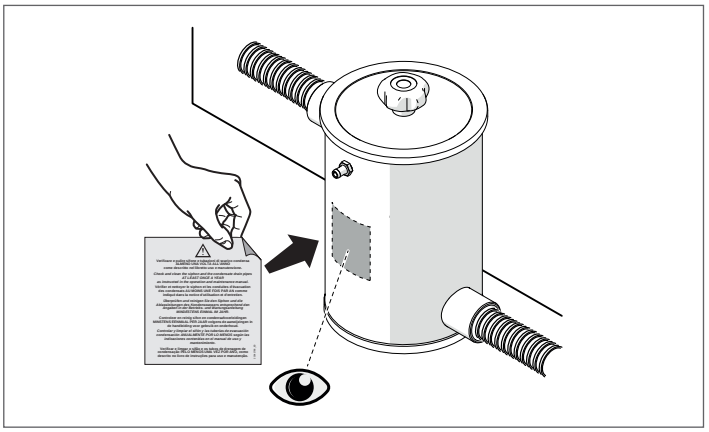




⚠ Before commissioning, fill the siphon with water up to level "L" in line with the top fitting.



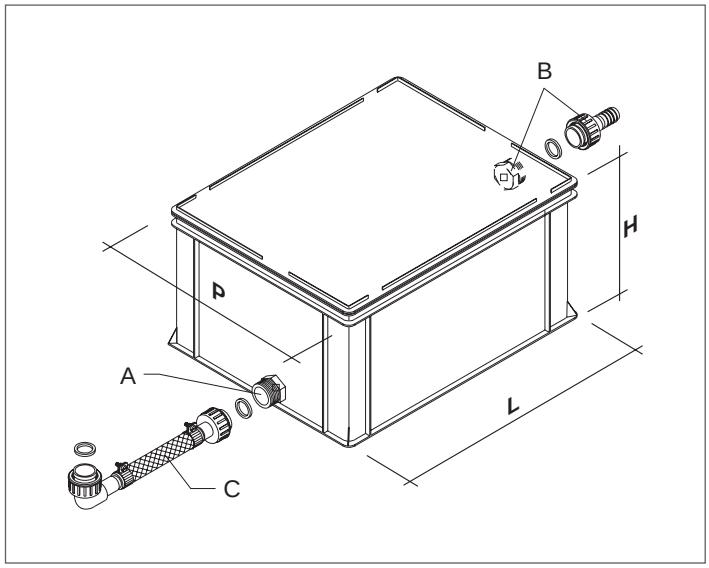
Apply the label supplied with the siphon so that it is visible and legible.



3.9 Neutralising the condensate

TYPE N3 NEUTRALISATION KIT
The TYPE N3 neutralisation units were designed for systems equipped with the central heating plant condensate outlet trap located lower than the boiler condensate outlet. This neutralisation unit does not require electric connections.

Type	N3
Maximum flow rate of neutralised condensation (litres/hour)	180
Dimension (mm)	640x400x240
Q.ty of granulate	50 kg
Fitting Ø	1" 1/2



The inlet fitting (A) of the neutralisation unit (the lower fitting) must be connected to the boiler condensate drain fitting using the flexible hose (C) supplied. This condensate drain hose is specially made to prevent combustion fumes escaping into the atmosphere.

The outlet fitting (B) of the neutralisation unit (the top fitting) must be connected to the boiler room's waste water drain pit using another section of flexible hose (not supplied).

⚠ The boiler room's condensate drain pit must be located at a lower level than the fitting (B) on the neutralisation unit.

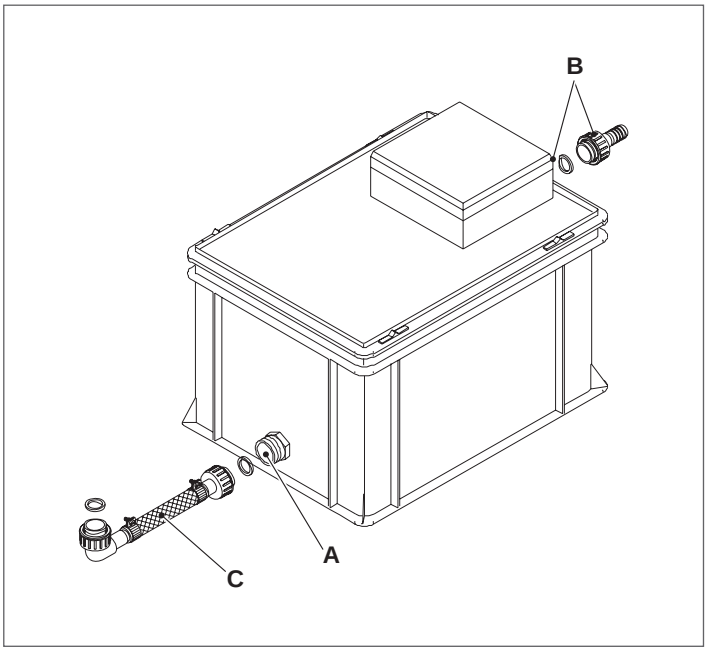
⚠ The connection pipes used must be as short and straight as possible and corrosion-resistant. Any curves or sharp bends can lead to the hoses becoming clogged and can therefore prevent proper condensate discharge.

If it is necessary to neutralise condensation produced in the chimney, we recommend to connect the condensation drains of boiler and chimney using a tee connector and then get them to the neutraliser inlet.

⚠ Make sure that you tighten the hose clamps sufficiently.

NEUTRALISATION UNIT TYPE HN3 (with pump)
The TYPE HN3 neutralisation units were designed for systems equipped with the central heating plant condensate outlet trap located higher than the boiler condensate outlet.
The maximum head that the pump can overcome consists of its maximum head minus the resistance of the drain pipe. The pump is controlled by an electrical level switch.
Refer to the instructions provided to connect these neutralisation units up electrically. The protection rating of electrical connections is IP54.

Type	HN3
Consumption (W)	45
Power supply (V~Hz)	230 ~ 50
Maximum flow rate of neutralised condensation (litres/hour)	90
Dimensions (mm)	640x400x320
Quantity of granulate (kg)	50
Circulator maximum head (m)	4
Fitting Ø	1" 1/2 - 5/8"



The inlet fitting (A) of the neutralisation unit (the lower fitting) must be connected to the boiler condensate drain fitting using the flexible hose (C) supplied. This condensate drain hose is specially made to prevent combustion fumes escaping into the atmosphere.

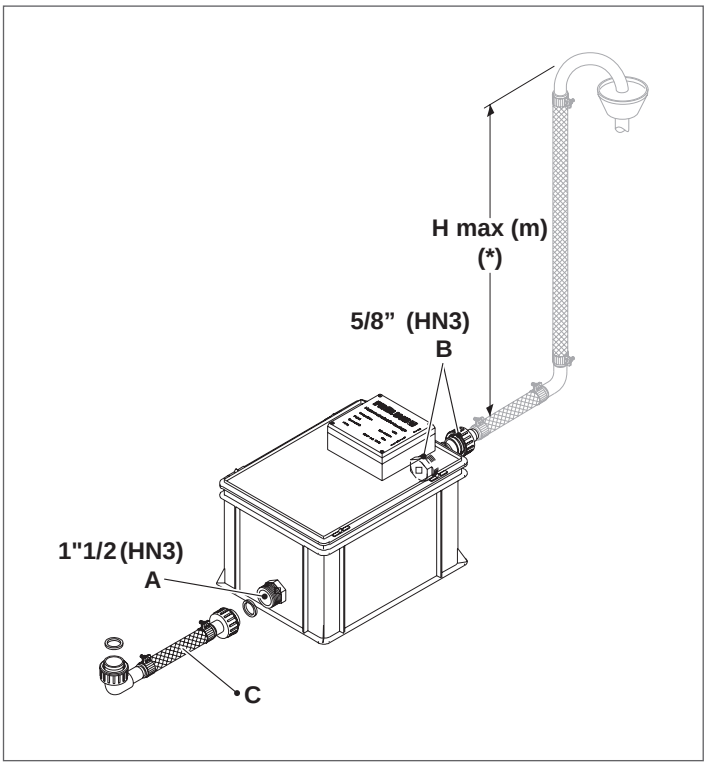
The outlet fitting (B) of the neutralisation unit (the top fitting) must be connected to the boiler room's waste water drain pit using another section of flexible hose (not supplied).

⚠ The connection pipes used must be as short and straight as possible and corrosion-resistant. Any curves or sharp bends can lead to the hoses becoming clogged and can therefore prevent proper condensate discharge.

If it is necessary to neutralise condensation produced in the chimney, we recommend to connect the condensation drains of boiler and chimney using a tee connector and then get them to the neutraliser inlet.

⚠ Make sure that you tighten the hose clamps sufficiently.

⚠ Hoses should also be fixed to the floor and suitably protected whenever possible.

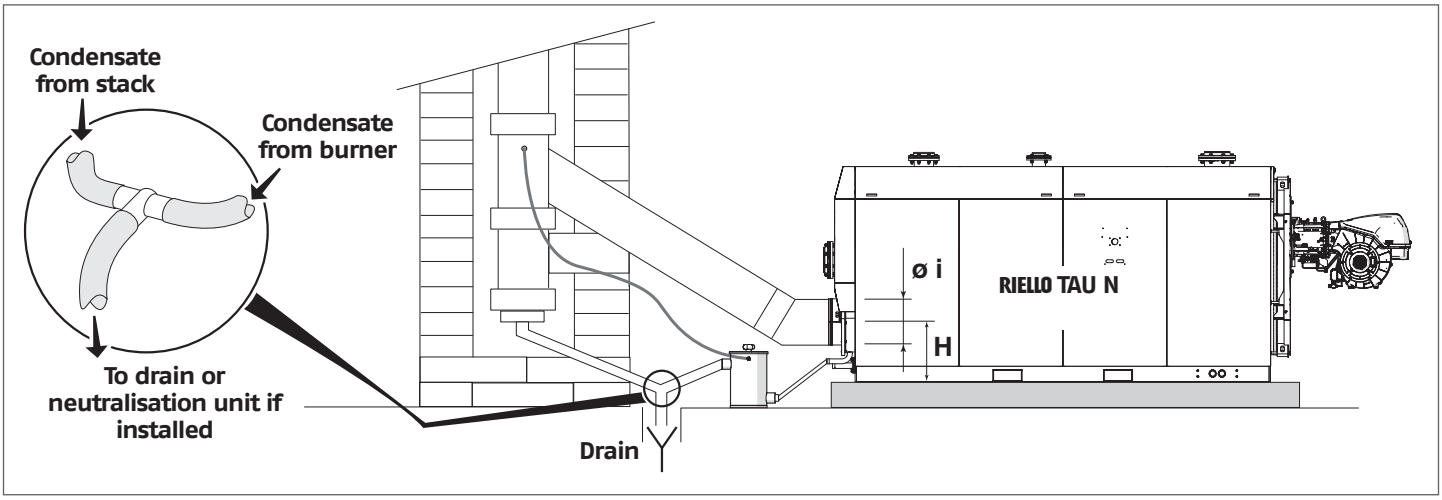


(*) The maximum head that the pump can overcome consists of its maximum head minus the resistance of the drain pipe.

3.10 Discharge of combustion products

The flue gas exhaust and stack connection must be made in compliance with applicable laws and standards, using heat resistant, condensate resistant and stress resistant rigid pipe and sealed joints.
The stack must be fitted with a condensate trap and drain and the flue gas exhaust pipe must be installed at a slope of at least 3° towards the boiler.

DIMENSIONS (mm)		BOILER TAU N				
		1750	2100	2600	3000	
H	Height of flue gas outlet	521	521	550	600	mm
Ø i	Diameter of flue gas fitting	400	400	450	450	mm



⚠ The stack must guarantee the minimum draught specified by applicable technical standards, assuming zero pressure at the connection to the flue gas exhaust.

⚠ Inadequate or badly dimensioned stacks and flues can increase combustion noise and affect combustion parameters

⚠ Joints must be sealed using suitable materials (e.g. filler, mastic or silicon based sealant).

⚠ Uninsulated flues are potentially dangerous and can cause burns.

⚠ If plastic flue gas outlet ducts are used, install an O-ring safety thermostat set to 90°C. Install the thermostat on the flue gas outlet, with the distance from the boiler body outlet equal to the diameter of the flue gas outlet itself.

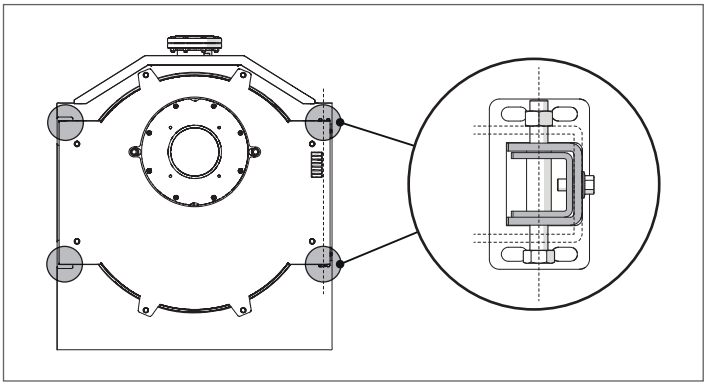
⚠ Use flue gas exhaust systems with temperature class 140°C or above.

⚠ For each boiler used, the horizontal exhaust duct must be connected to the vertical one using the 45° connectors.

⚠ When more than one boiler is installed in the boiler room, it is recommended to use separate flue-gas stacks for each boiler.

3.11 Door hinges

The boilers are equipped with 4 hinge points to allow a rapid reversal of the door opening direction.
Check that the opening direction foreseen in the factory is the desired one or modify it according to that indicated in chapter "Variation of the door opening direction".

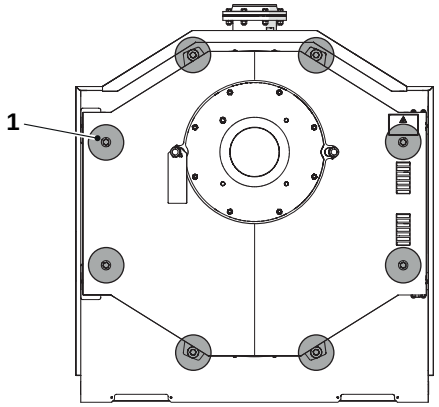


3.12 Changing the direction of door opening

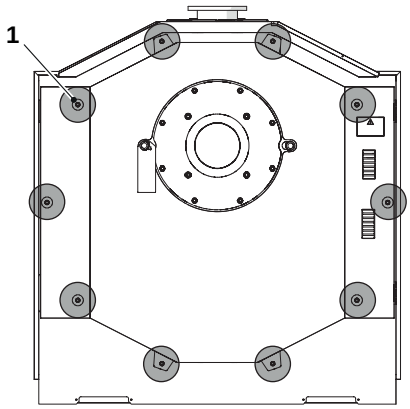
The boiler door hinges are fitted on the right of the door in the factory.
If you need to reverse the direction of opening, remove the boiler's side panel and proceed as follows.

⚠ Check that the main locking screws (1) are fully tightened.

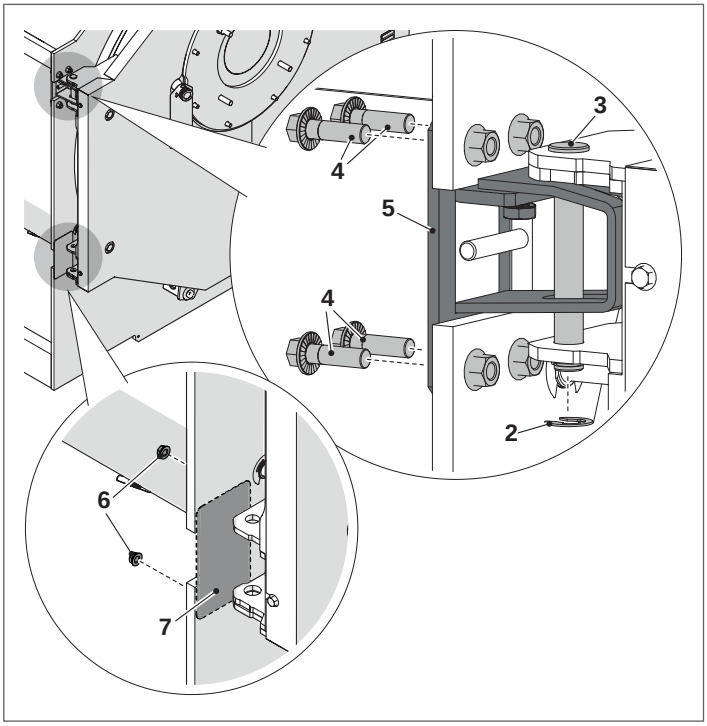
TAU 1750÷2600 N



TAU 3000 N



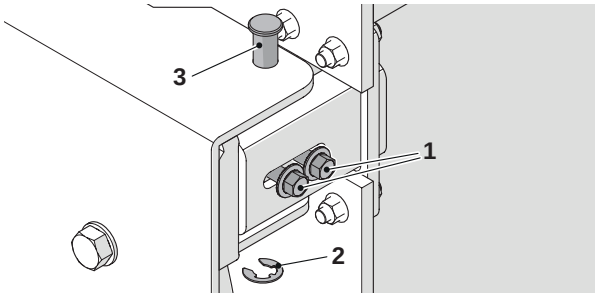
- Remove the snap ring (2) and the through pin (3).
- Unscrew the screws (4) and remove the support/centring bracket (5).
- Unscrew the nuts (6) and remove the plate (7).



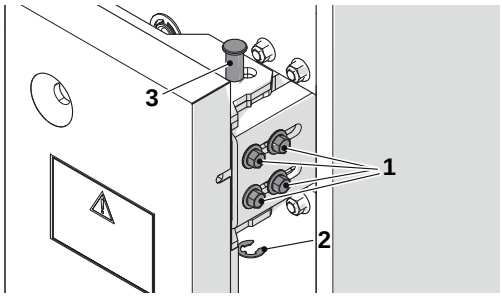
Top hinge

- Loosen the bolts (1) and remove the snap ring (2).
- Remove the through bolt (3).

TAU 1750÷2600 N

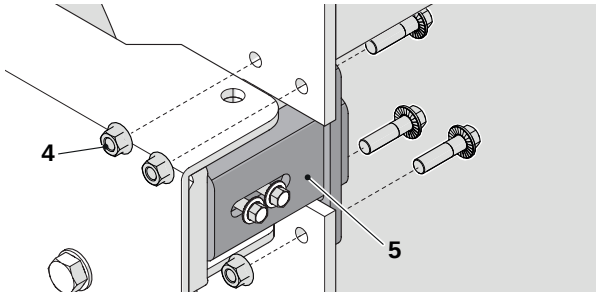


TAU 3000 N

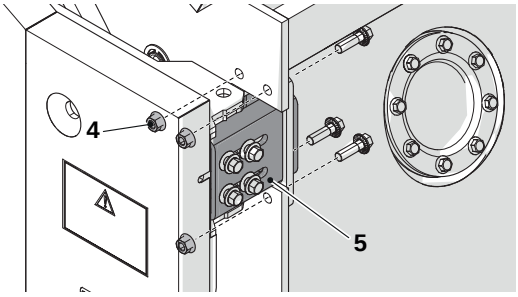


- Unscrew the four nuts (4), remove the bracket (5) and refit it on the opposite side by reversing the sequence of actions.

TAU 1750÷2600 N



TAU 3000 N

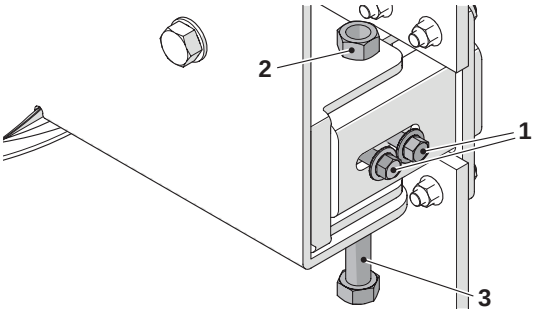


- From this side, fit the support/centring bracket and relative pin previously removed.

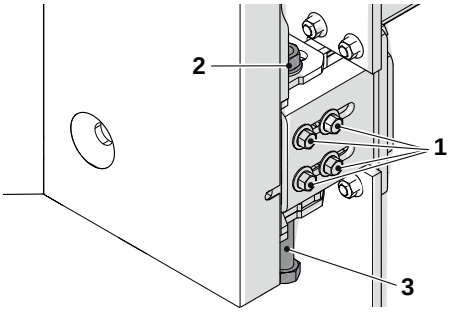
Bottom hinge

- Loosen the nuts (1).
- Loosen the nut (2), unscrew and remove the through bolt (3).

TAU 1750÷2600 N

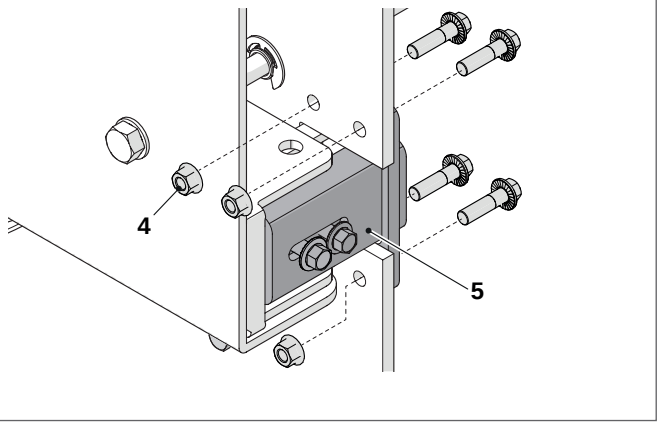


TAU 3000 N

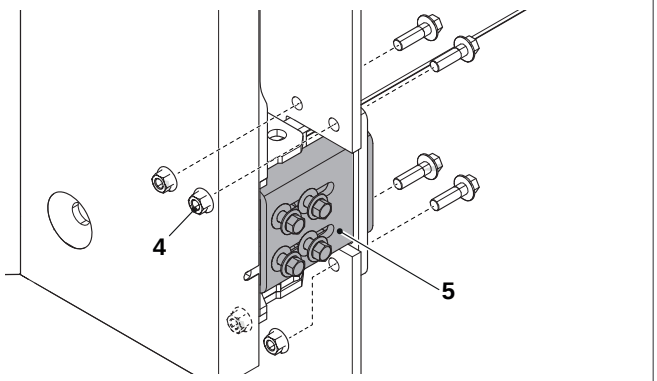


- Remove the four nuts (4), remove the bracket (5) and refit it on the opposite side by reversing the sequence of actions.

TAU 1750÷2600 N



TAU 3000 N



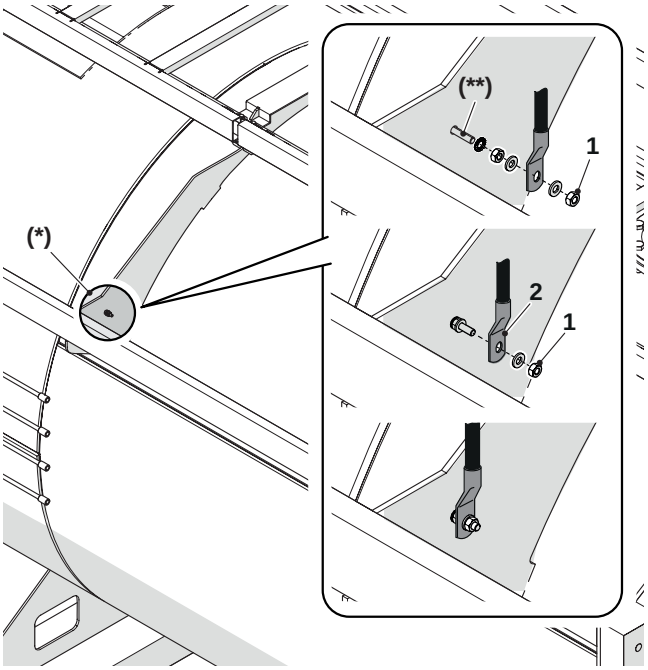
- From this side fit the plate using the nuts previously removed.

⚠ To avoid dangerous leaks of combustion gases, the door must be constantly and uniformly resting on the double gaskets. For adjustment, follow the instructions in paragraph "Adjusting the door".

3.13 Earth connection

For the earthing of the boiler body, a connection point is provided in the centre of the frame to be connected to an effective earthing system.
Proceed as follows:

- Unscrew the nut and washer (1) from the earth terminal
- Attach the earth cable's eye connector (2) to the terminal. (Make sure that the cable is of adequate size and complies with legislation in the country of installation)
- Fit the nut and washer (1) to the earth terminal and tighten the nut
- Connect the other end of the cable to the system's earth bar.



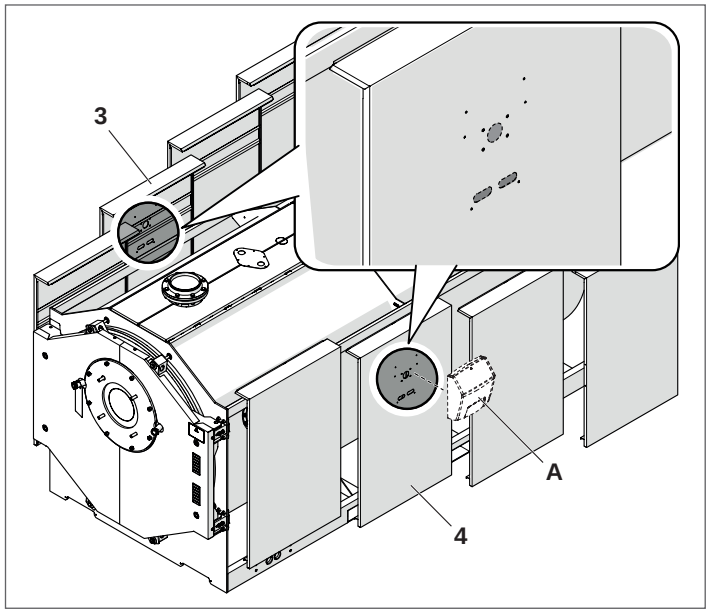
(**) **M6x30 brass**

⚠ On the left side there is another hole (*) where the earth connection can be made. If you wish to use this hole for the earth connection, remove the terminal fittings from the right of the head and move them to the left earthing point.

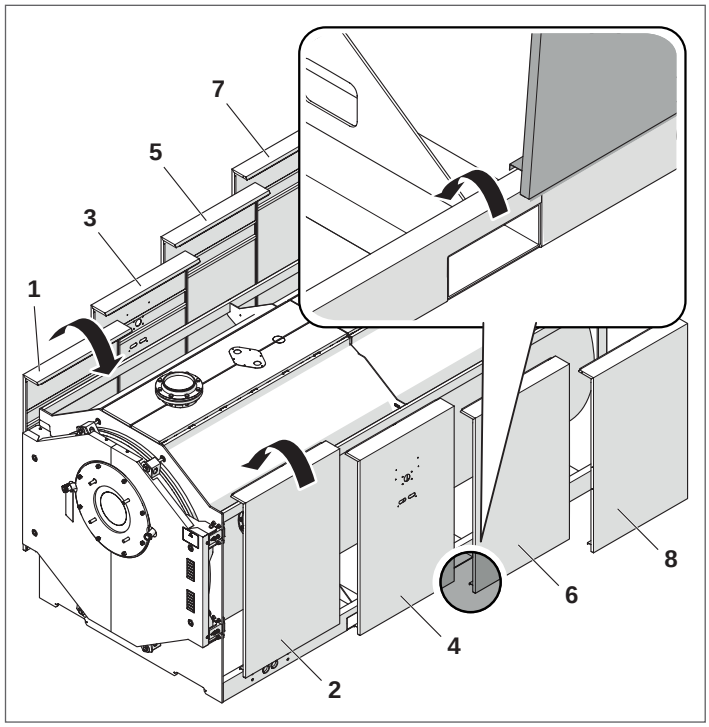
3.14 Fitting the casing panels

To mount the panelling, proceed as follows:

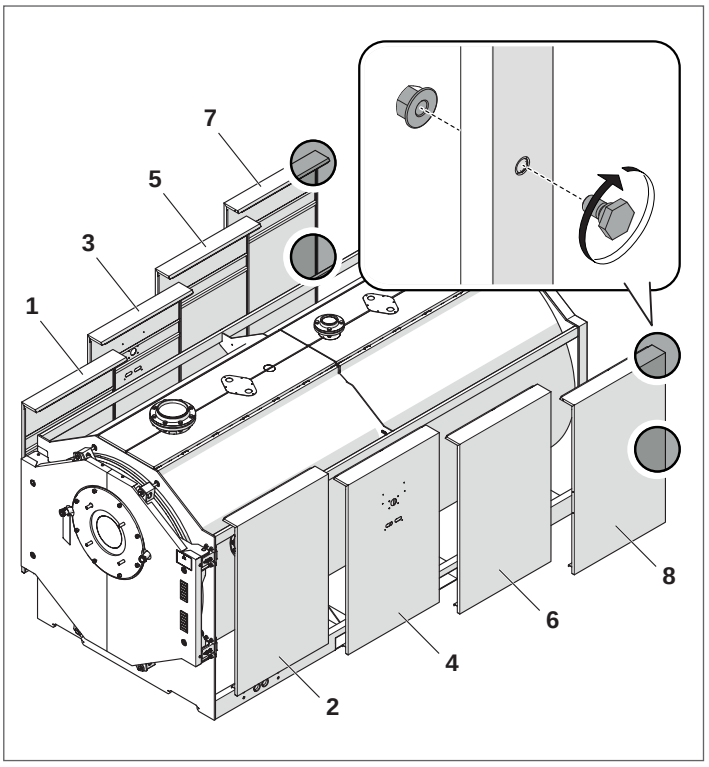
- Push out the pre-formed slots in the boiler's side panel 3 or 4 (depending on what side you want to install the control panel) corresponding to the oval cable grommets in the control panel.
- Perforate the membranes of the control panel cable grommets. Route the electrical cables through them and insert the sensors in their sockets.
- Fasten the control panel (A) to the panelling using the screws supplied.



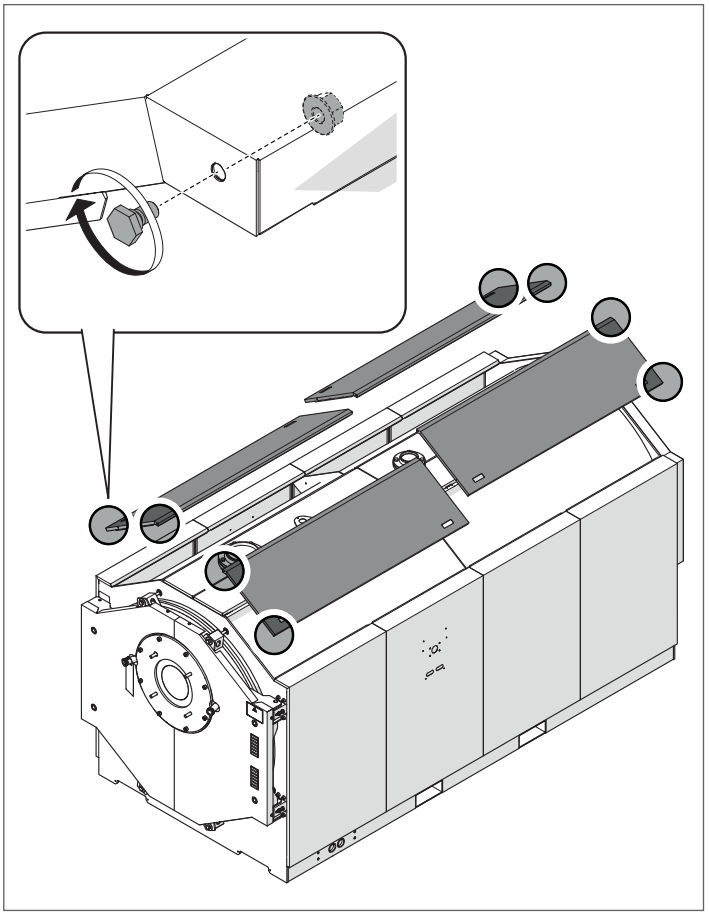
- Fit the side panels (1, 2, 3, 4, 5, 6, 7, 8) over the boiler's top profiles.



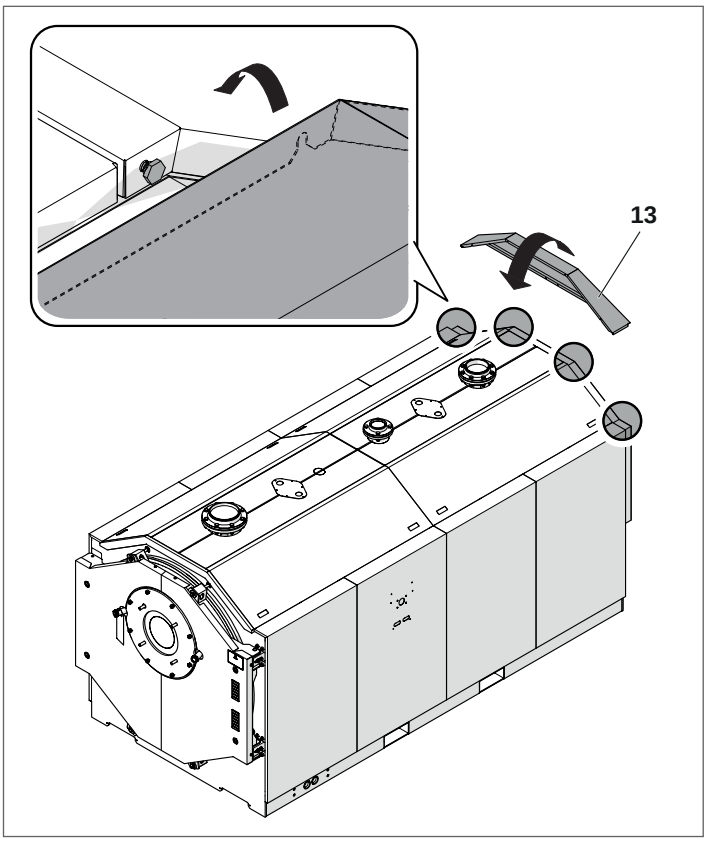
- Screw the four screws (used as fixing points) into the holes on the back of panels (7) and (8) (two per panel).



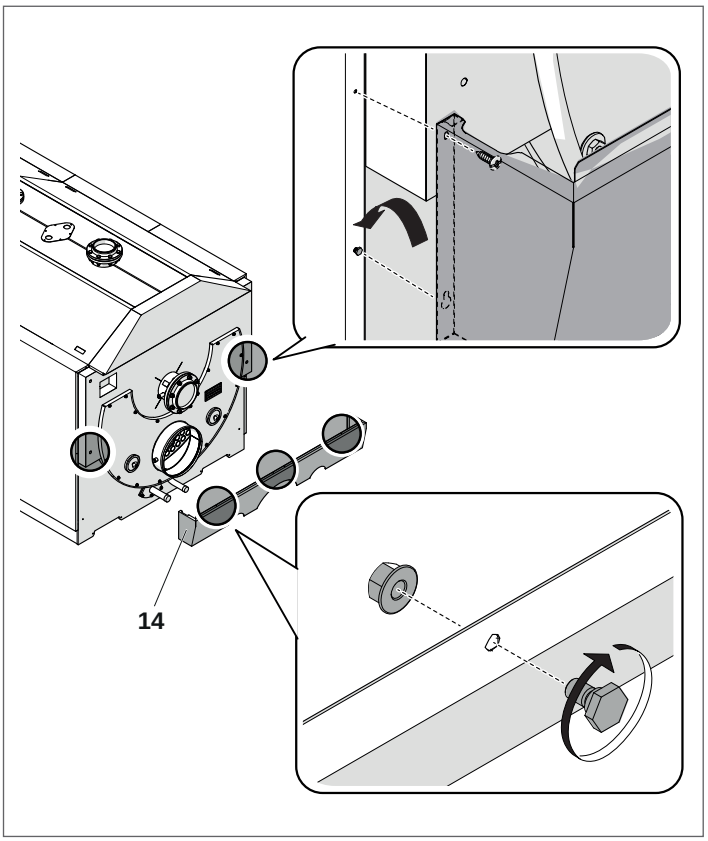
- Fit the upper panels (9, 10, 11, 12) and tighten eight screws (used as fixing points) in the front part of the panels (two per panel).



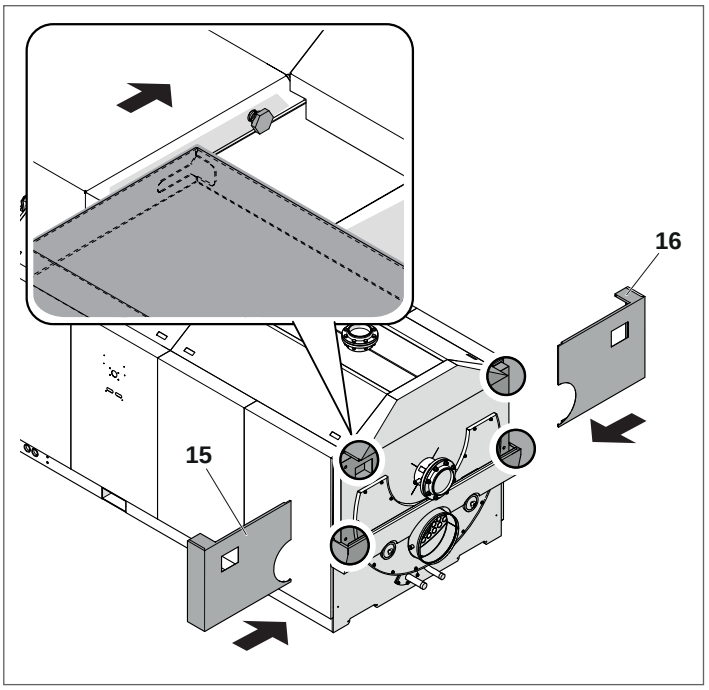
- Hook the upper rear panel (13) to the provided pins.



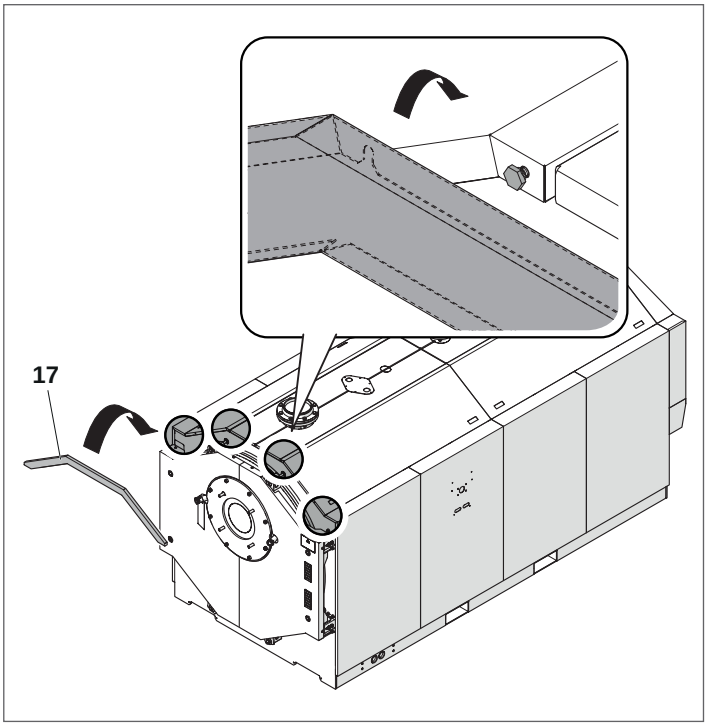
- Screw the four screws (used as fixing points) on the lower profile of the rear panel (14), hook the profile to the provided pins and fix it with two self-threading screws.



- Fit the central rear panels (15, 16), inserting them from the sides to hook them to the upper and lower pins of the side panels.



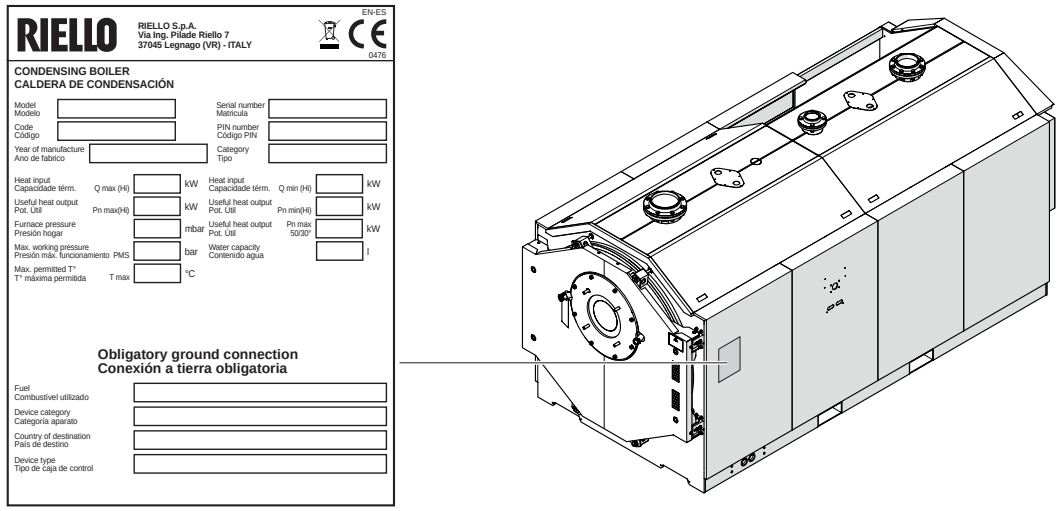
- Fit the front profile (17) by hooking it to the pins of the upper panels.



3.14.1 Applying labels

0nce the panelling has been fitted, attach the follow adhesive labels:

1 **Data plate**: this lists the technical specifications and performance of the product. It comes inside the documentation envelope.



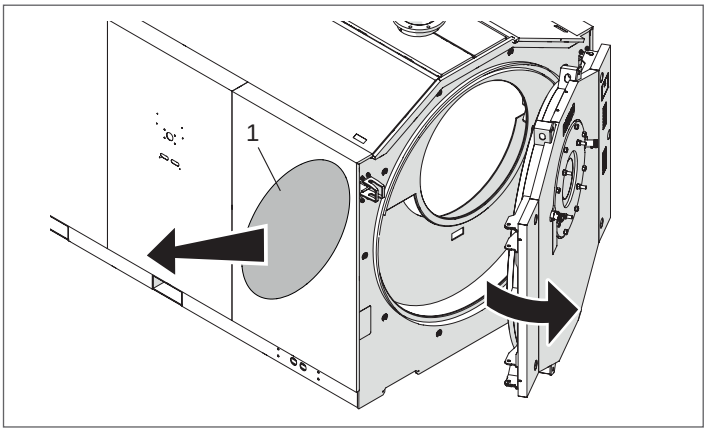
It is inside the documentation envelope and MUST BE APPLIED at the end of the installation by the appliance installer in a clearly visible position as shown in the figure.
If the labels are lost, please request new ones from the **RIELLO** Technical Assistance Service.

4 TECHNICAL ASSISTANCE SERVICE

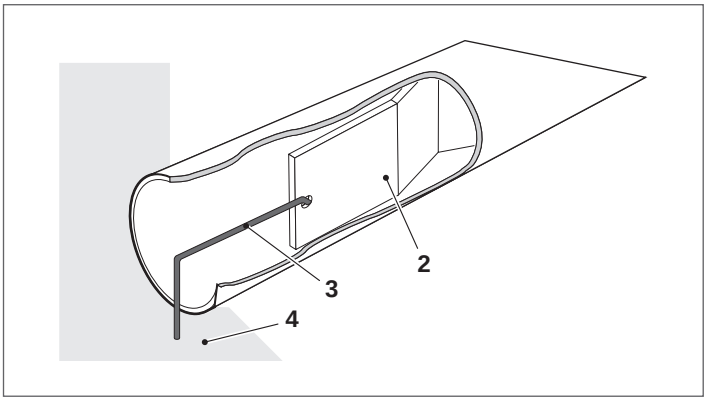
4.1 Preparing for initial startup

It is essential to perform the following checks before starting up or testing the functioning of your **RIELLO TAU N** boiler. In particular, check that:

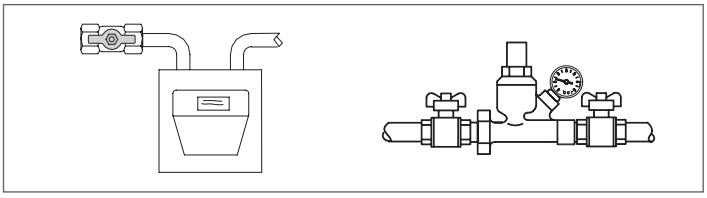
- the protective cardboard sheet (1) has been removed from the ceramic fibre;



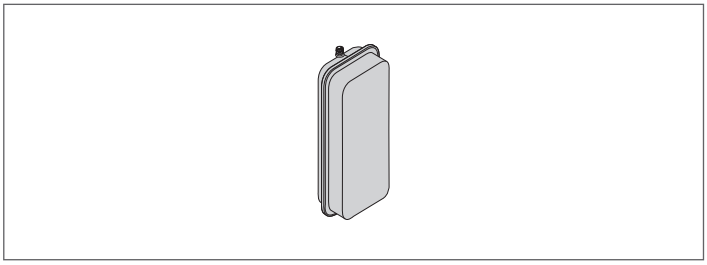
- the turbulators (2) are correctly positioned (vertical position) inside the heat exchanger tubes and the clips (3) are resting against the wall (4) of the heat exchanger



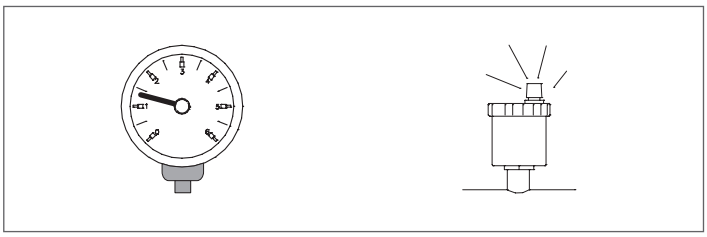
- The water and gas cocks are open



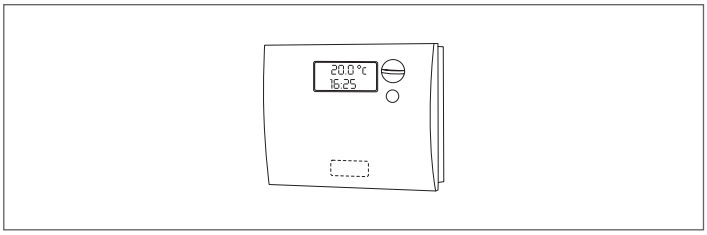
- The expansion vessel is properly charged



- The working pressure in the heating circuit is **over 1 bar** but below the maximum limit specified for the boiler
- The water circuits have been properly bled



- The condensate discharge siphon has been filled with water
- The mains power connections to the boiler and its accessories (burner, pump, control panel, thermostats, etc.) have been properly made.



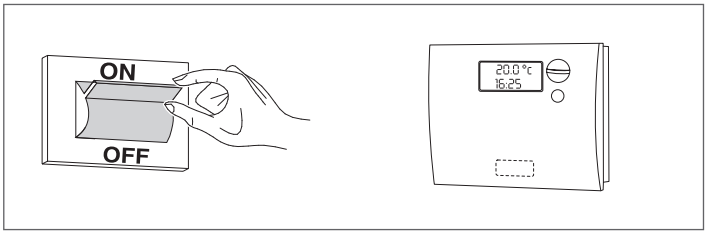
⚠ The phase-neutral polarity has been respected.

⚠ A ground (earth) connection is obligatory.

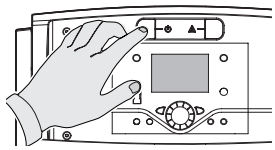
4.2 Initial startup

Once you have completed all the preparatory steps, proceed as follows to start up the boiler for the first time:

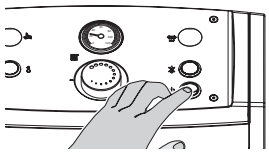
- Turn the boiler's mains power switch ON;
- If the system is equipped with a temperature controller or timer thermostat, make sure that it is switched on;



- Turn the control panel power switch ON and make sure that the green power indicator lights;

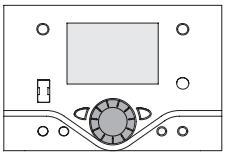


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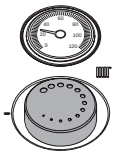


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RIELLOtech PRIME ACS

- make the necessary settings as instructed in the instruction manual for your control panel;



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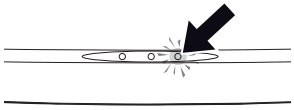
RIELLOtech PRIME
RIELLOtech PRIME ACS

- adjust the timer thermostat/s or temperature controller to the desired temperature (~20°C).

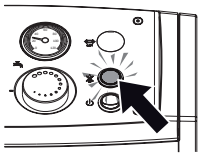
The burner should now ignite and remain in operation until the set temperature is reached.

Subsequent starts and stops will be made automatically according to the desired temperature without the need for further intervention.

If any ignition faults or malfunctions occur, the burner performs a "LOCKOUT SHUTDOWN". This is shown by the red button light on the burner and by the warning light on the control panel.



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⚠ If a "LOCKOUT SHUTDOWN" occurs, wait about 30 seconds before resetting the burner.

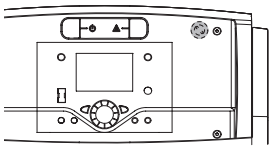
To reset the burner, press the red button light on the burner and wait until the flame ignites.
This operation can be repeated 2 or 3 times at the most. If the problem still persists after that, check:

- all checks listed in the burner's own instruction manual;
- all steps listed in the 'Preparing for Initial Start-up' section;
- all the electrical connections shown on the control panel wiring diagrams.

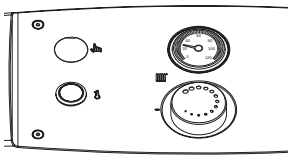
If the problem persists, check that the safety thermostat has not tripped.

⚠ If the safety thermostat trips, the boiler shuts down and a warning is displayed on the control panel (if present).
Proceed as follows to reset the safety thermostat:

- Wait until boiler temperature falls below 80°C;
- Remove the safety thermostat cover;
- Press the manual reset button;
- Wait for the complete ignition cycle to be repeated and for the flame to ignite.



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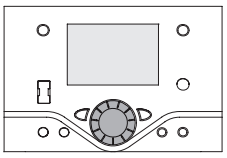


RIELLOtech PRIME
RIELLOtech PRIME ACS

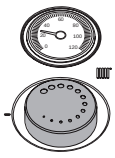
4.3 Checks during and after initial start-up

Once the boiler has started up, make sure that it shuts down and re-starts properly when the following actions are taken:

- Set the boiler thermostat to the required setting (making sure that the temperature control is in manual mode)

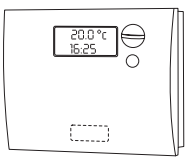


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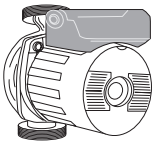
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RIELLOtech PRIME ACS

- power to the control panel is switched off and on again;
- the room thermostat or timer thermostat is adjusted.

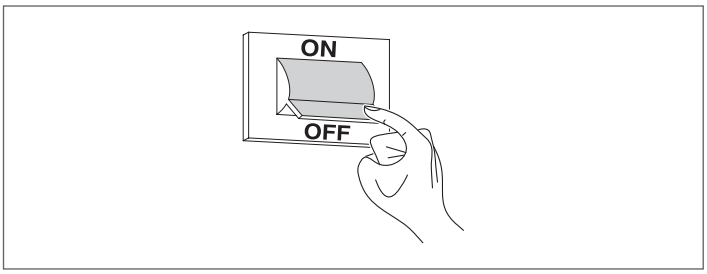


Check that there are no leaks from around the door seal. If there is any leakage of combustion gases, adjust the door as instructed on page 43.

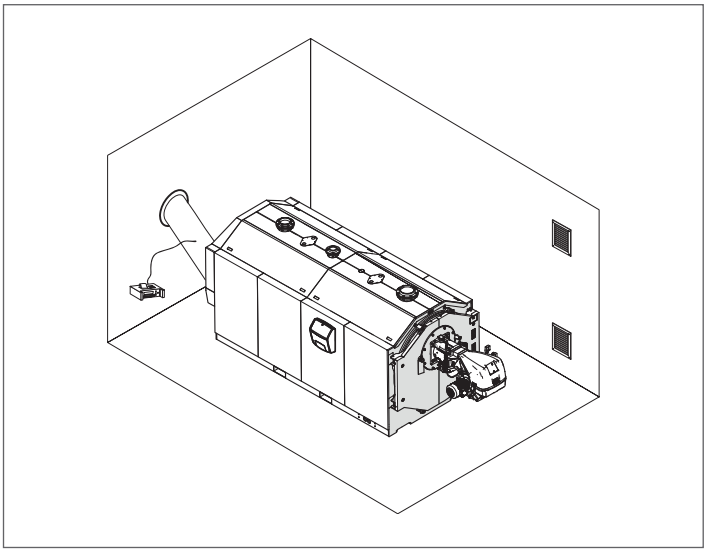
Make sure that all the pumps in the system are free and rotate in the right direction.



Turn off the main power switch to the boiler and make sure that the boiler shuts down properly.



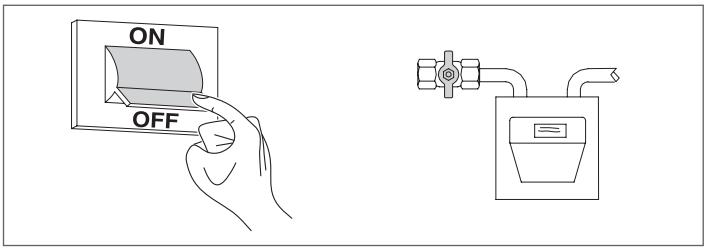
Provided all the above conditions are satisfied, start the boiler up again, then analyse the combustion fumes, measure fuel flow and re-check the door seal.



4.4 Maintenance

Regular maintenance is a legal requirement. It is also essential for the safety, efficiency and durability of the boiler. Proper maintenance keeps consumption and emissions down, and ensures that the boiler continues to operate reliably over time.
Have your boiler serviced either by **RIELLO**'s Technical Assistance Service or by a qualified heating engineer.
Analyse the combustion fumes before commencing any maintenance. The results of fume analysis can give a clear idea of what servicing or repairs are needed.

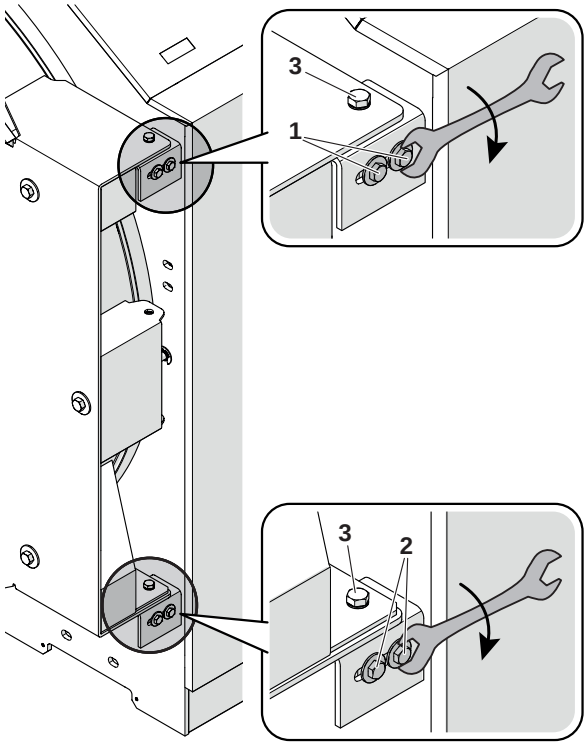
- Turn the system's main power switch OFF
- Close all the gas cocks.



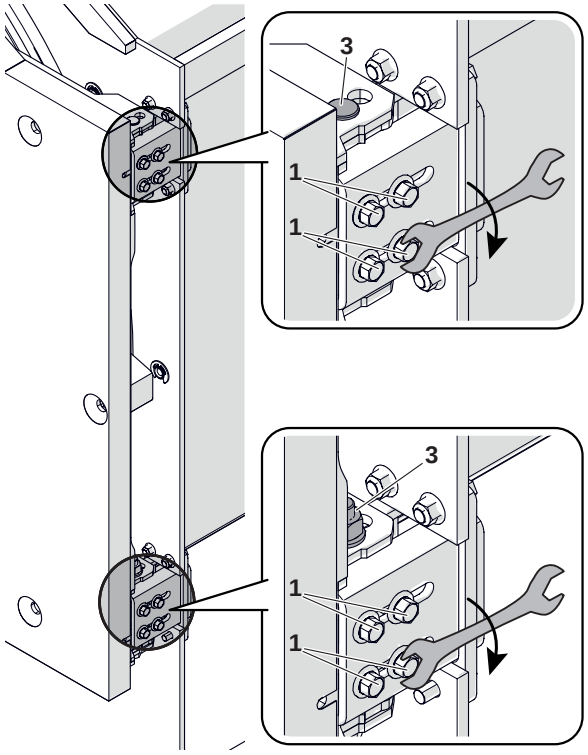
4.4.1 Door opening

- Check that the upper (1) and lower (2) door lock screws and the pin screws (3) are properly tightened.

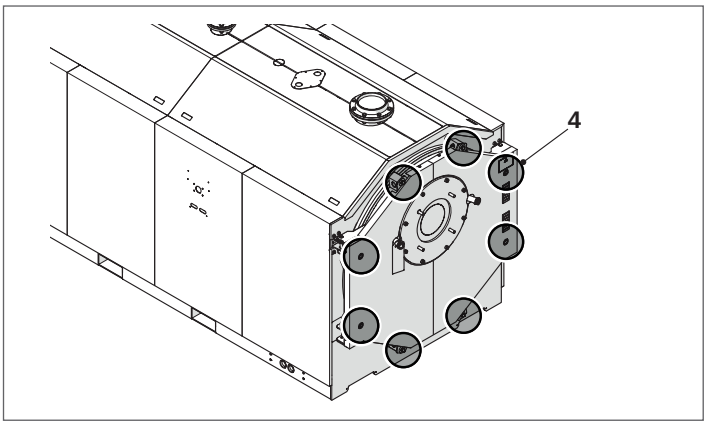
TAU 1750÷2600 N



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- Unscrew the main locking screws (4) completely. These are self-supporting on the structure, and open the door.

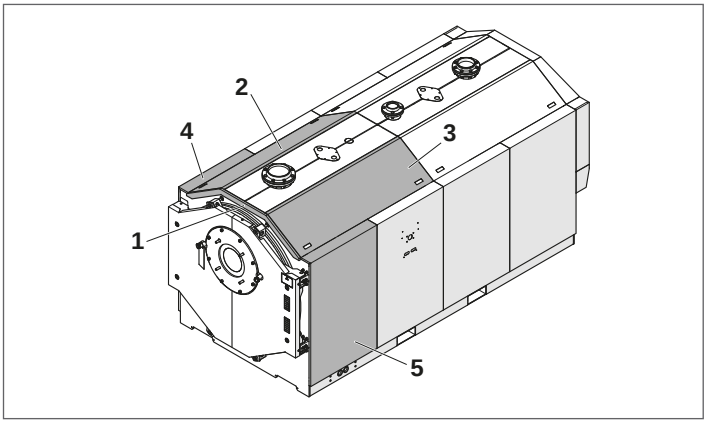


4.4.2 Adjusting the door

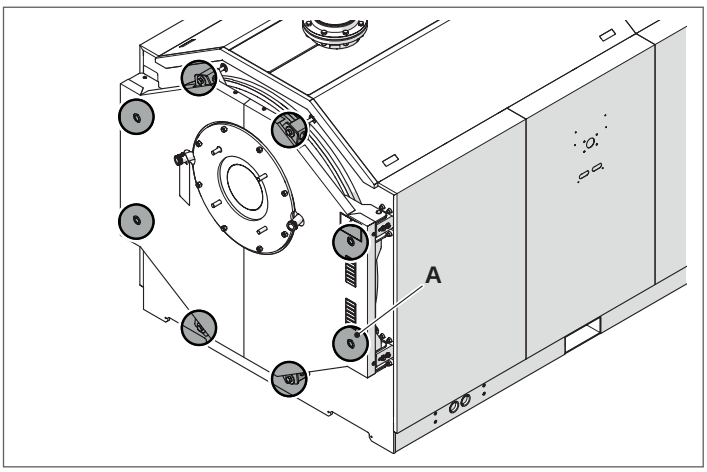
⚠ Make sure that the door is properly adjusted after every maintenance operation.

Make quite sure that the door presses uniformly all around the double seal to prevent dangerous fumes escaping into the air from the pressurized furnace. Proceed as follows to adjust the door seals:

- Remove the upper profile (1), the upper panels (2) or (3) and side panels (4) or (5) depending on the opening direction of the door.



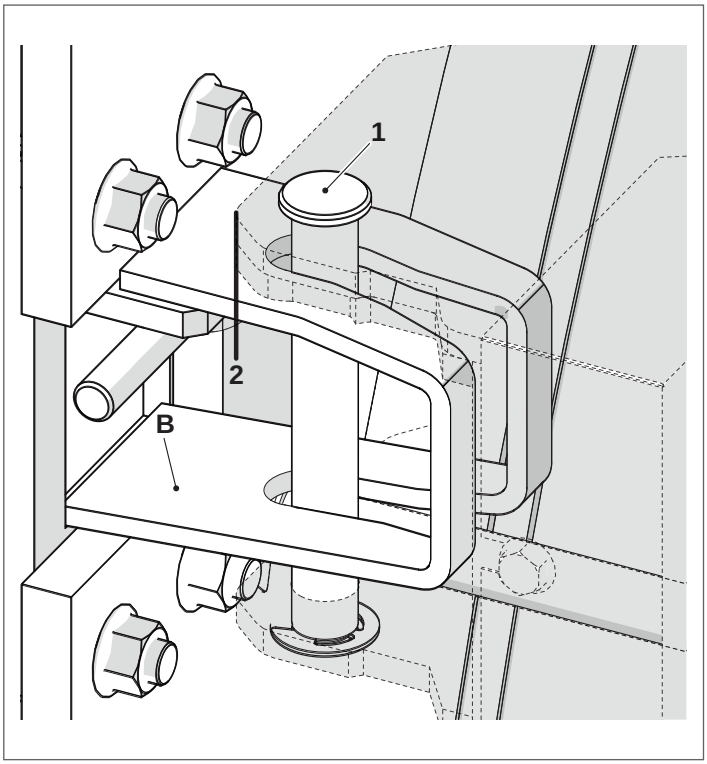
- All door adjustment operations must be carried out by loosening all the screws (A), using a 27 mm hexagonal socket wrench.



Before proceeding with the adjustment of the door:

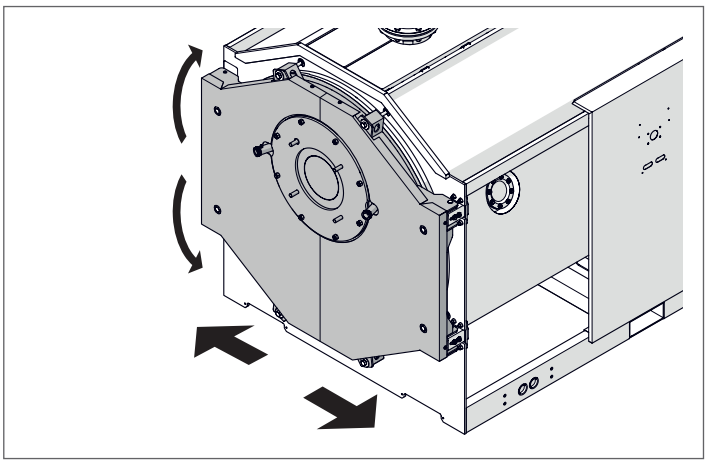
- Check that the pin (1) on the door slides freely in the centre of the slot on the support/centring bracket (B).
- Check that the door profile (2) rests on the support/centring bracket (B),

If one of these two conditions is not met, proceed with the adjustment operations described on the following pages.



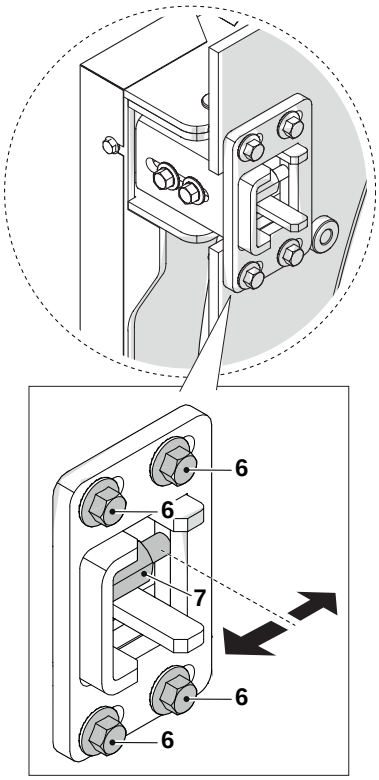
⚠ The pin (1) must not be used as a handle to close the door.

Door balancing

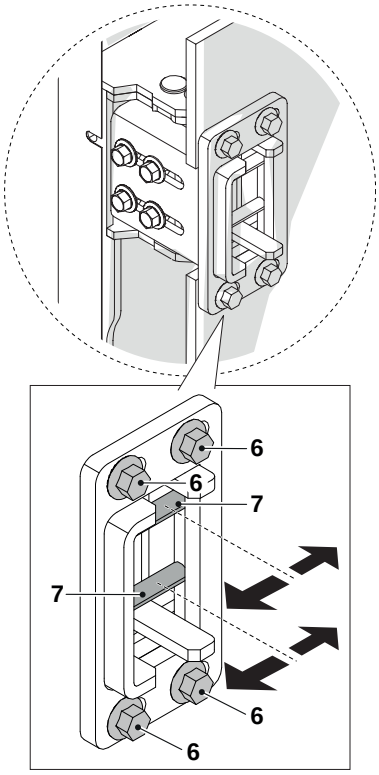


- Loosen the screws (6) of the upper hinge and act on the adjustment screw (7) to correct the horizontal alignment of the door opening/closing.
- Once the operation is completed, completely tighten the screws (6) of the upper hinge.
- Check the correct opening/closing of the door.

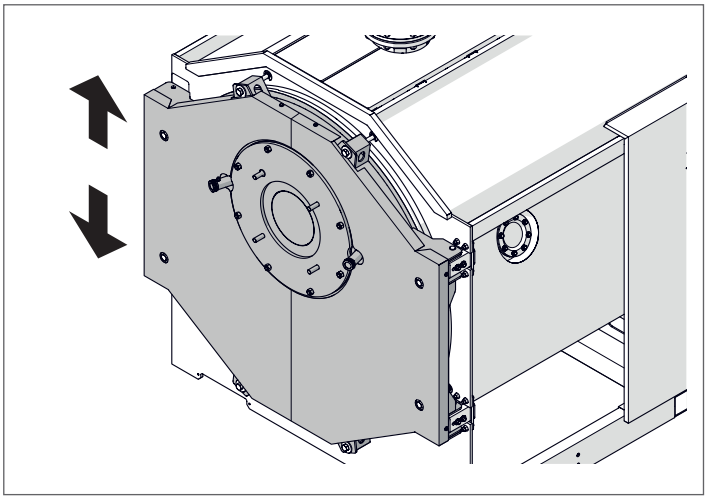
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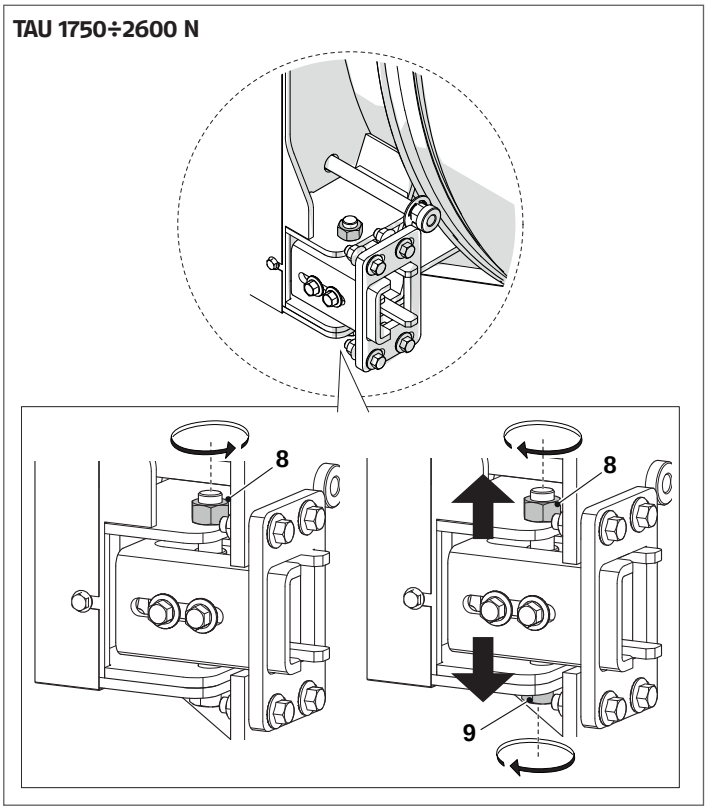


Door height adjustment

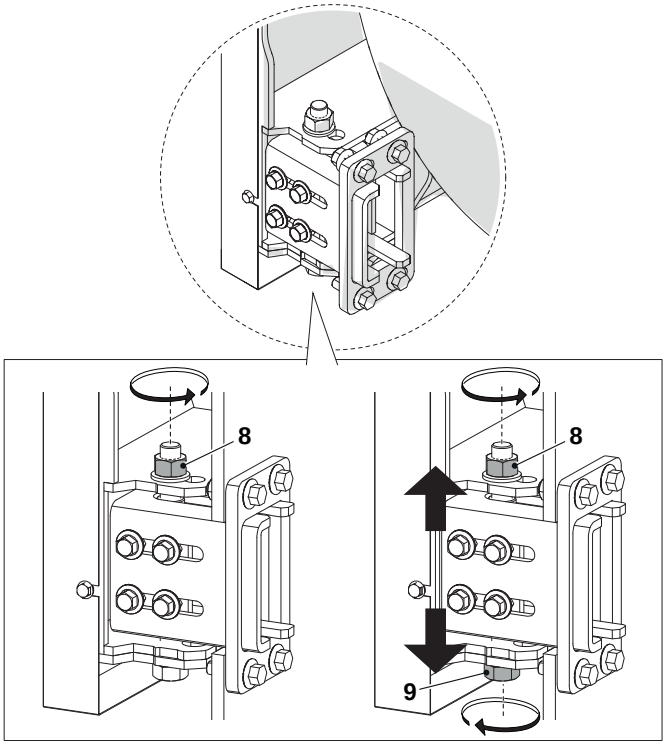


- Loosen the nut (8) of the lower hinge and adjust the vertical alignment of the door opening/closing by turning the screw (9).
- Once the operation is completed, tighten the nut (8) completely.
- Check the correct opening/closing of the door.

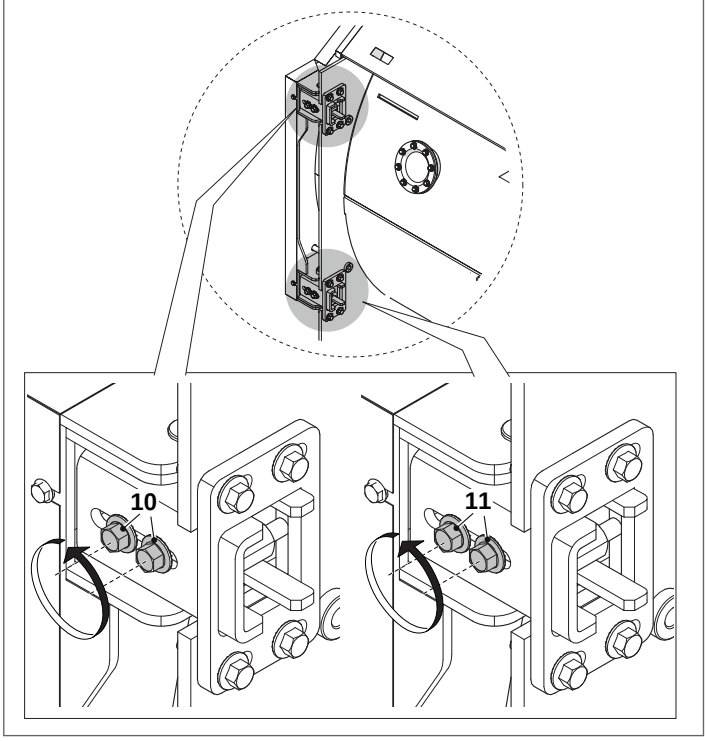
TAU 1750÷2600 N



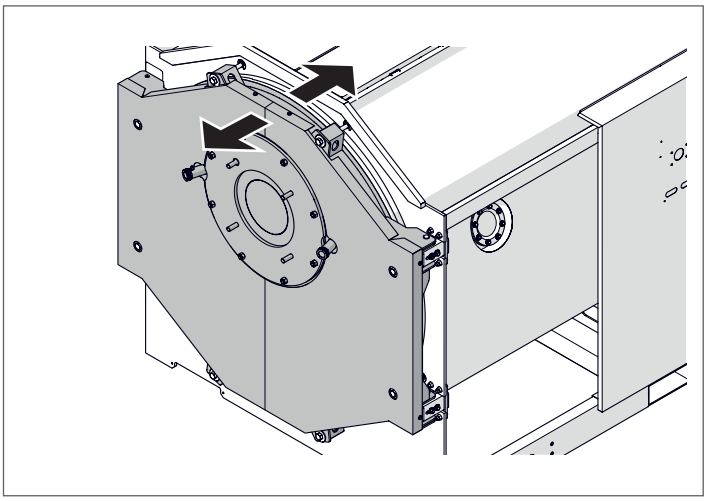
TAU 3000 N



TAU 1750÷2600 N

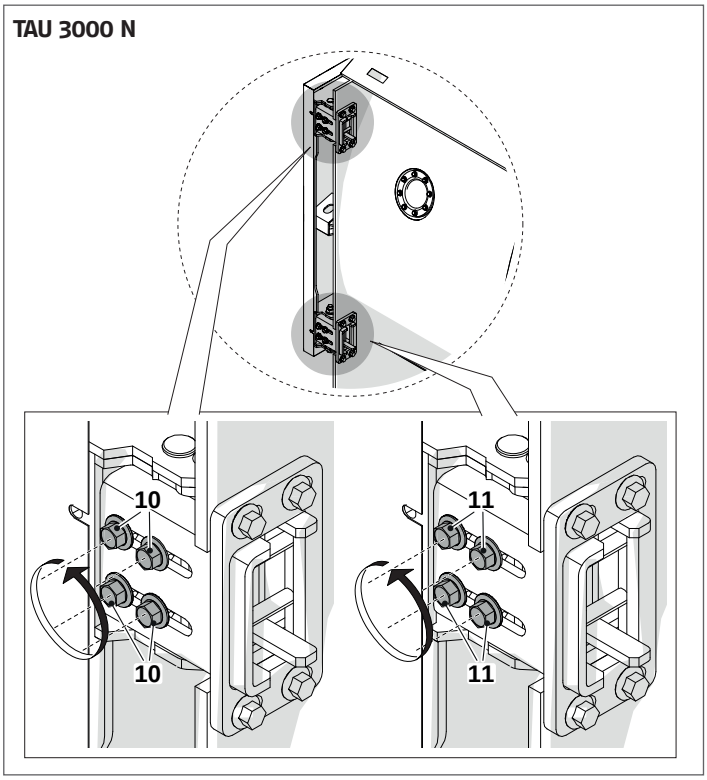


Door seal adjustment



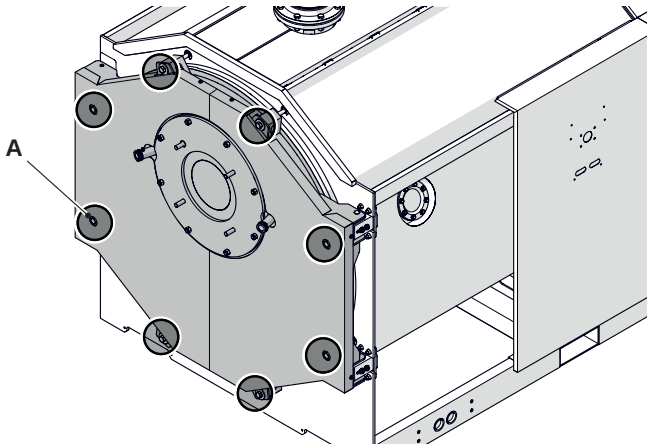
- Check that the door is resting evenly on the double gaskets.
- Loosen the screws (10) in the top hinge and the screws (11) in the bottom hinge;

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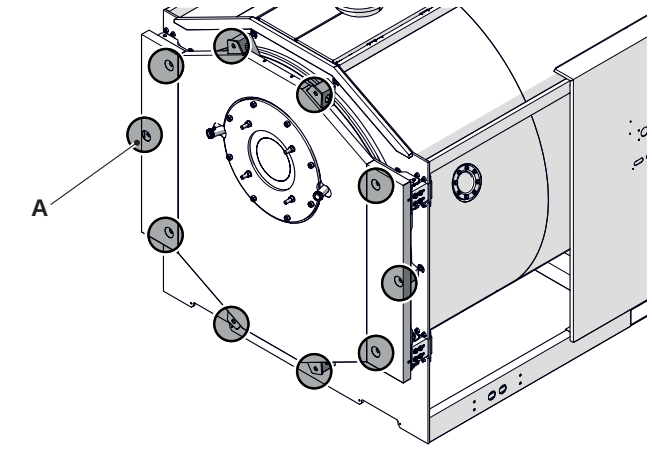


- Fully tighten the door locking bolts (A), using a 27 mm hexagonal socket wrench.

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- At the end of the operation, fully tighten the screws (10) in the top hinge and the screws (11) in the bottom hinge.

⚠ Make sure that there are no leaks around the boiler door seal. If you detect any leakage of fumes, increase the tightening of the door fixing bolts.

⚠ Make sure that the door is properly adjusted after every maintenance operation.

⚠ Make sure that the door is properly adjusted after every maintenance operation.

4.5 Cleaning the boiler

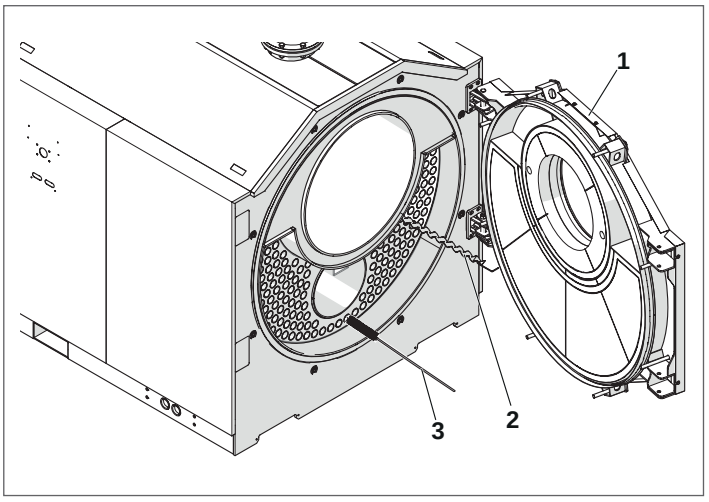
⚠ **DANGER:** Risk of death due to electric shock!
- Prior to opening the unit: disconnect the power supply and block it to prevent accidental reactivation.

⚠ **WARNING:** Damage to the system!
- Do not use abrasive cleaners or powder detergents.

⚠ **WARNING**: The combustion chamber and flues must be cleaned periodically – at least once a year – by a qualified technician.

The cleaning of the boiler and the removal of carbon deposits from the exchange surfaces must be carried out at least once a year.
This is an essential condition for the life of the boiler and to maintain the thermotechnical performance (economy of consumption).
- Open the front door (1);
- Remove the turbulators (2), check their state of wear and the opening of the fins (replace if necessary);
- Clean the internal surfaces of the combustion chamber and the flue gases using a brush (3) or other suitable tools.

	BOILER TAU N			
	1750	2100	2600	3000
N° turbulators	158	175	194	224

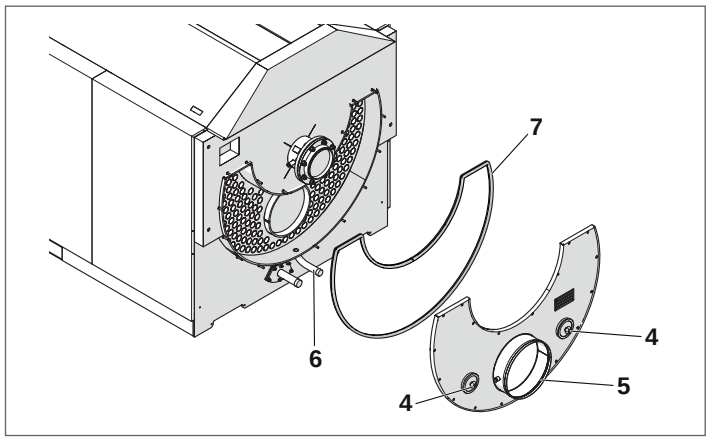


- Remove the residues removed from the flue gases chamber through the inspection openings (4).

If more thorough cleaning is needed:
- Remove the external panels.
- Unscrew the fixing bolts and pull energetically to remove the flue gases chamber closure (5).
- Check at regular intervals that the condensate drain outlet (6) is not blocked.
- If necessary, replace the sealing gasket (7).

Proceed as follows on completion of cleaning:
- Reposition the turbulators in the smoke pipes, checking that the stop is in contact;
- Reassemble the components operating in the reverse order to that described.

Apply a tightening force of 8 Nm to the retaining nuts.



4.6 External cleaning

The external panels of the boiler and control panel must be cleaned using cloths moistened with soap and water.
To remove marks from the boiler casing, use a cloth damped in a 50% mix of water and denatured alcohol or a suitable cleaning product.
Carefully dry after cleaning.

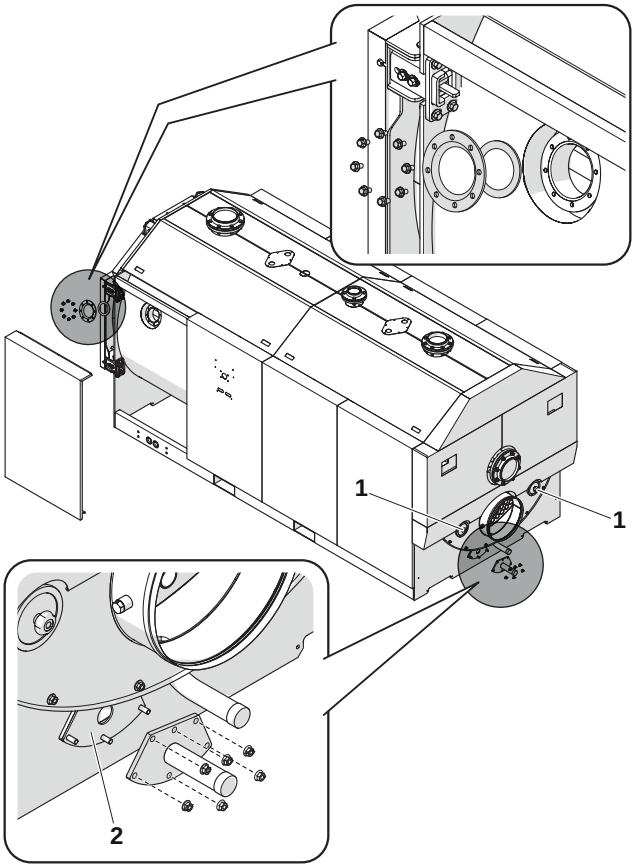
⊖ Do not use abrasive products, petrol or triethylene.

4.7 Boiler inspection - water-side

Carrying out the inspection is important in order to check the condition of thermal exchange surfaces and the presence of sludge or lime scale.
To make the inspection, maintenance and cleaning operations of the internal parts easier and to reduce intervention times, the front door and the closure of the flue gases chamber are completely openable.

⚠ All the operations indicated MUST be carried out with:
- The appliance cold
- The appliance electrically disconnected
- Suitable personal protection equipment
- The water and fuel shut-off valves closed

In order to inspect the upper part of the boiler, partially empty the boiler before opening inspection openings.
The inspection openings are as follows:



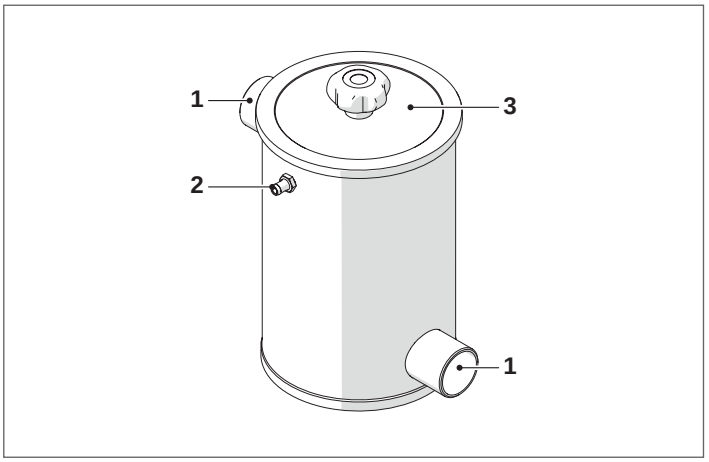
1 Inspection
2 Boiler inspection and discharge

The boiler must be completely emptied if the rear inspection door (2) has to be opened.
Check the state of wear of the gaskets and replace them if necessary.
Once the maintenance operations are complete, refit the components working in the opposite direction of what was described.
Slowly fill the boiler up to a minimum pressure value of 1 bar.

⚠ Check that the boiler drain cock is closed prior to filling.

4.7.1 Clean condensation trap

- Disconnect the corrugated condensate outlet pipes (1) and the tapping point pipe (2), and remove the inspection cover (3).



⚠ It is mandatory to check and clean the condensation trap and pipes, up to the collection/drain point, at least once a year.

On completion of cleaning, follow the above steps in the reverse order to refit all removed parts.

4.8 Troubleshooting

FAULT	CAUSE	SOLUTION
The boiler becomes dirty very quickly	Burner badly adjusted	– Check the adjustment of the burner (perform flue gas analysis)
	Blockage in stack	– Clean the flue gas pipes and stack
	Burner air intake dirty	– Clean the burner air intake
The boiler does not reach its temperature setpoint	Boiler dirty	– Clean the flue gas pipes
	Boiler and burner mismatched	– Check specifications and settings
	Insufficient air/fuel flow to burner	– Check and adjust the burner
	Incorrect adjustment	– Check correct functioning – Check the temperature setting
The boiler keeps shutting down, and the control panel warning light comes on	Incorrect adjustment	– Check correct functioning – Check the temperature setting – Check the electrical wiring – Check the sensors
	No water supply	– Check the circuit pressure
	Air in the circuit	– Check the circuit pressure – Check the vent valve
The generator is at temperature but the heating system is cold	Air in the circuit	– Bleed the circuit
	Pump malfunctioning	– Check/unseize the pump
	Problem with minimum temperature thermostat (if present)	– Check the temperature setting
	Problem with minimum temp. thermostat (if present)	– Check the efficiency of the expansion vessel
The generator does not switch on (no fault light signal)	Intervention of the transfer pump auxiliary control safety thermostat	– Check the complete deaeration of the compartmentalised zones of the hydraulic circuit – Check correct functioning – Check operation of the transfer pump activation thermostat or bit thermostat – Check the auxiliary control safety thermostat
There is a smell of fumes	Fumes escaping into the air	– Clean the boiler body – Clean the flue gas pipes – Check that the boiler, flue gas pipes and stack are all properly sealed – Check the door seal
There is a smell of gas	Gas supply circuit	– Check the seals, possible blockages and fuel quality
The safety valve keeps opening	Circuit pressure too high	– Check the circuit pressure – Check pressure reducer functioning – Check pressure reducer setting
	Problem with heating system expansion vessel	– Check the efficiency of the expansion vessel

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