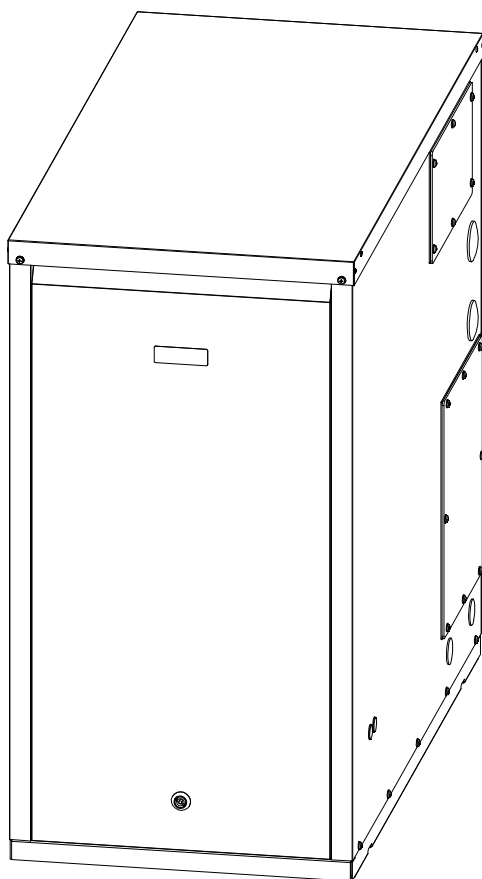


# INSTALLATION AND OPERATING INSTRUCTIONS

→ JAKA HFD CONDENS OD



**DOMUSA**  
T E K N I K

Thank you for choosing a **DOMUSA TEKNIK** heating boiler. You have chosen a boiler that, with a suitable hydraulic installation and using oil for fuel, will provide the ideal level of comfort for your home.

This manual forms an essential part of the product and it must be given to the user. Read the warnings and recommendations in the manual carefully, as they contain important information on the safety, use and maintenance of the installation.

These boilers must be installed by qualified personnel only, in accordance with the legislation in force and following the manufacturer's instructions.

The start-up of these boilers and any maintenance operations must only be carried out by Official Technical Assistance Services of **DOMUSA TEKNIK**.

Incorrect installation of these boilers could result in damage to people, animals or property, and the manufacturer will hold no liability in such cases.

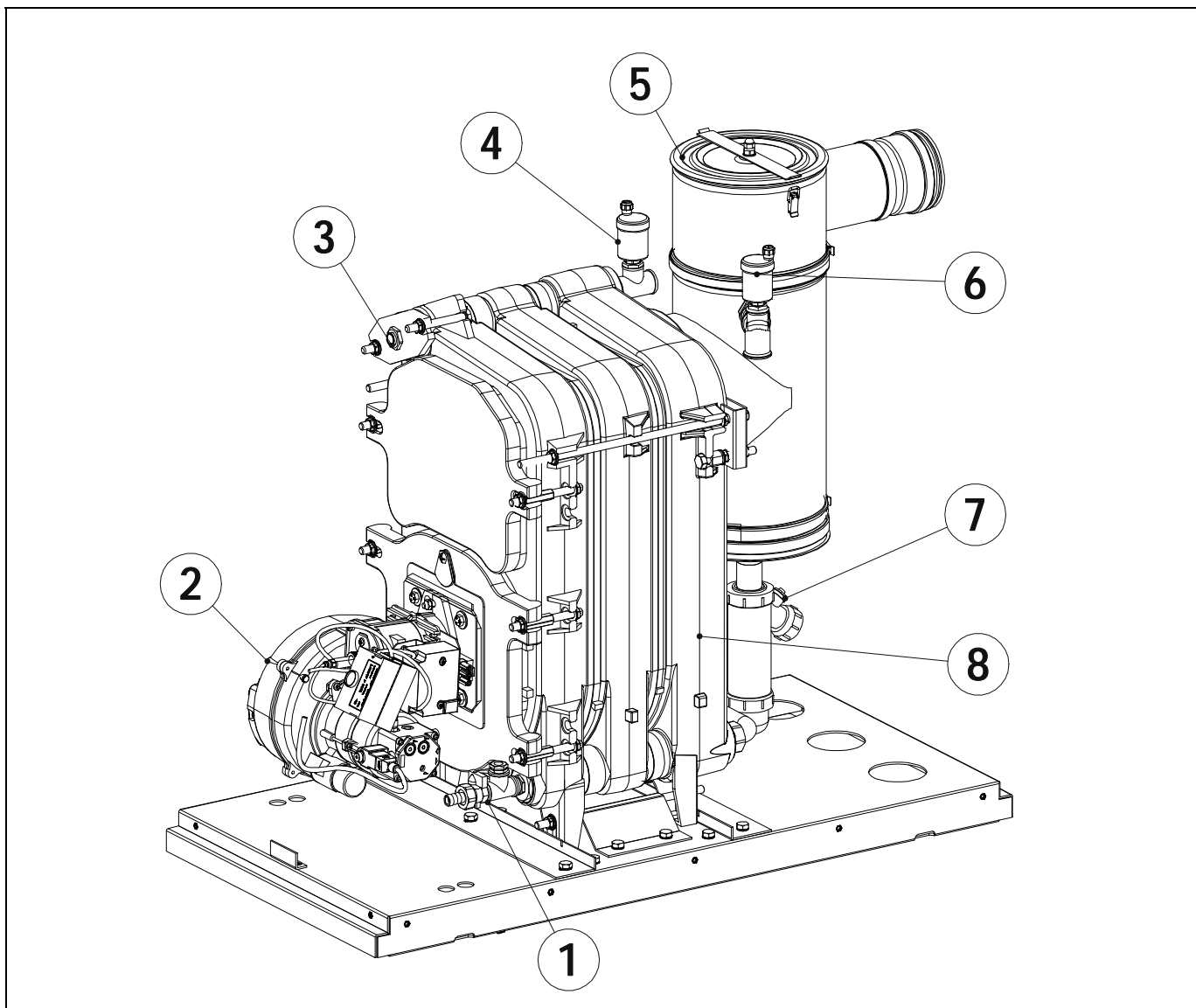
**DOMUSA TEKNIK** informs all parties concerned that, in compliance with section 1 of the first additional provision of Law 11/1997, the responsibility for delivering packaging waste or used packaging for its proper environmental management will be that of the final owner of the product (Article 18.1 Royal Decree 782/1998). At the end of its useful life, the product must be taken to a selected collection point for electrical and electronic equipment or must be returned to the distributor at the time of purchasing a new equivalent appliance. For more detailed information on the collection schemes available, contact either the collection facilities of the local authority or the distributor where the purchase was made.

## **INDEX**

## **Page**

1 DESCRIPTION OF COMPONENTS.....	2
2 CONTROL ELEMENTS.....	3
3 INSTALLATION INSTRUCTIONS.....	4
3.1 LOCATION.....	4
3.2 HYDRAULIC INSTALLATION.....	4
3.3 CONDENSATION PIPE.....	5
3.4 ELECTRICAL CONNECTION.....	5
3.5 OIL INSTALLATION.....	6
3.6 EVACUATION OF COMBUSTION PRODUCTS.....	6
3.7 DRAINING THE BOILER.....	6
3.8 PRECAUTIONS FOR PREVENTING NOISE DURING OPERATION.....	6
3.9 FILLING AND BLEEDING THE INSTALLATION.....	6
4 COMBUSTION PRODUCT REMOVAL.....	7
4.1 HORIZONTAL COMBUSTION PRODUCT REMOVAL.....	7
4.2 VERTICAL COMBUSTION PRODUCT REMOVAL Ø100.....	9
5 PIPE CONNECTIONS.....	10
5.1 HYDRAULIC KIT OD (OPTIONAL).....	11
6 OPERATION.....	14
6.1 BOILER FUNCTIONING.....	14
6.2 TEST SELECTOR.....	14
6.3 FROST PROTECTION.....	14
6.4 ROOM THERMOSTAT CONNECTION.....	14
7 SAFETY CUT-OUTS.....	14
7.1 EXCESSIVE TEMPERATURE SAFETY CUT-OUTS (THERMOSTAT T <sub>s</sub> ).....	14
7.2 LOW PRESSURE CUT-OUT.....	14
7.3 BURNER CUT-OUT.....	15
8 SHUTTING DOWN THE BOILER.....	15
9 START-UP.....	15
10 FIRST START-UP.....	15
11 DELIVERY OF THE SYSTEM.....	15
12 BOILER MAINTENANCE.....	16
12.1 CLEANING THE BOILER.....	16
12.2 BOILER WATER CHARACTERISTICS.....	17
12.3 ANTI-FROST PROTECTION.....	17
12.4 CONDENSATE DRAIN-OFF.....	18
13 TECHNICAL DATA.....	19
14 ELECTRICAL DIAGRAM.....	20
15 DIAGRAMS AND MEASUREMENTS.....	21
16 BURNER.....	22
16.1 ASSEMBLY.....	22
16.2 BURNER START-UP.....	22
16.3 ADJUSTING THE COMBUSTION CONDITIONS.....	22
16.4 PRIMARY AIR ADJUSTMENT.....	23
16.5 COMBUSTION LINE ADJUSTMENT.....	23
16.6 CORRECT POSITION OF ELECTRODES.....	23
16.7 OIL PRESSURE ADJUSTMENT.....	24
16.8 OIL SUPPLY PIPING DIAGRAMS.....	24
16.9 TECHNICAL SPECIFICATIONS.....	25
16.10 NOZZLE.....	25
16.11 ELECTRICAL CONNECTION DIAGRAM.....	25
16.12 QUICK CONNECTOR.....	26
16.13 BURNER CONTROL OPERATING SEQUENCE.....	27
17 . FAILURES.....	28
17.1 BURNER ERROR CODE.....	28
17.2 BOILER FAILURES:.....	28
17.3 BOILER SECURITY THERMOSTAT.....	29
17.4 CIRCULATING PUMP ALARMS.....	29
18 SPARE PARTS LIST.....	30
18.1 BURNER.....	30
18.2 BOILER.....	31
18.3 ELECTRIC BOARD.....	32

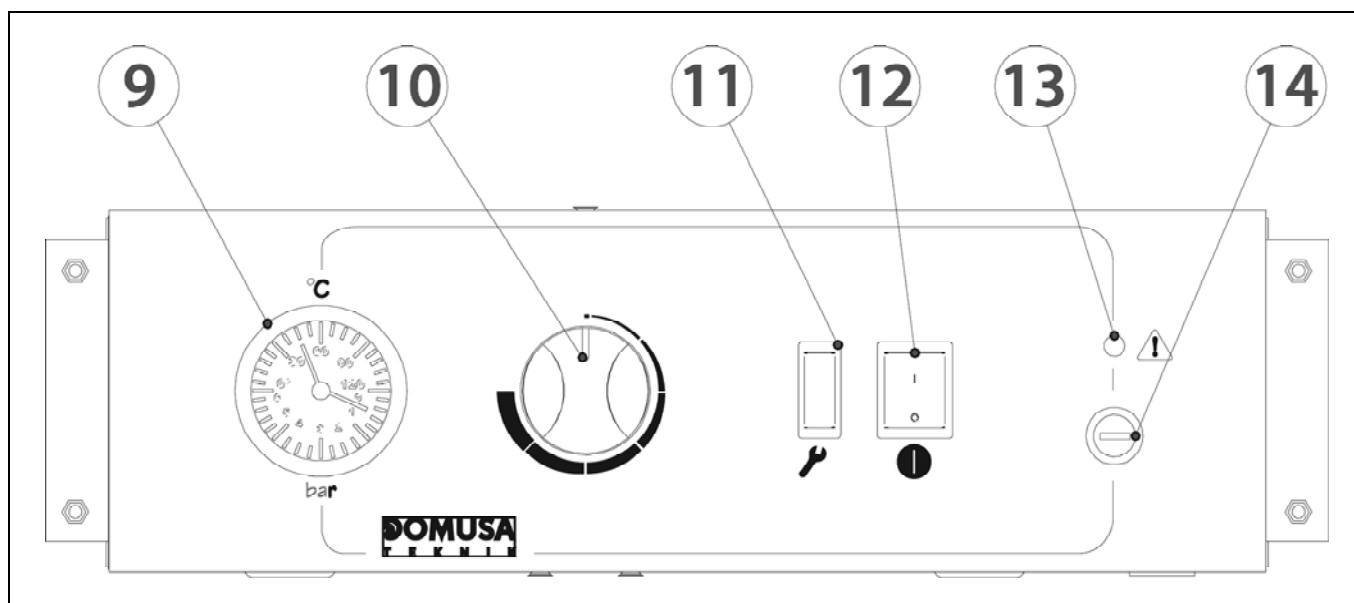
## 1 DESCRIPTION OF COMPONENTS



- 1. Blow-off valve.
- 2. Domestic sealed oil burner.
- 3. Bulb-holder sheath.
- 4. Automatic air bleed valve.

- 5. INOX Condenser output diam. 100.
- 6. Automatic air bleed valve.
- 7. Condensate siphon.
- 8. Cast body.

## 2 CONTROL ELEMENTS



### 9. Temperature and pressure meter:

It indicates the water pressure and temperature in the boiler.

### 10. Control thermostat:

With this we can select the operating temperature of the central heating, stopping the burner when the boiler temperature is equal to that selected or keeping it going when it is less.

### 11. Test switch:

It makes it possible to demand heating regardless of the signal from the thermostat.

### 12. Master switch:

This lets us turn the boiler on and off by pressing the "O/I" switch.

### 13. Blocked due to temperature pilot light:

When lit, it indicates that the boiler operation has been blocked due to excessive temperature (higher than 110°C).

### 14. Boiler safety thermostat:

This is a cut-out mechanism to ensure the boiler temperature does not exceed 110°C.

### 3 INSTALLATION INSTRUCTIONS

This boiler is suitable for heating water to a temperature below boiling point at atmospheric pressure. It must be connected to a heating installation and/or a domestic hot water distribution network, which must always be compatible with its performance and power.

This appliance must only be used for the purpose for which it has been expressly designed. Any other use is considered unsuitable and therefore hazardous. The manufacturer shall not be considered liable under any circumstances for damage caused by unsuitable, erroneous or irrational use.

Remove all the packaging and check the contents are complete. In case of doubt, do not use the boiler. Contact your supplier. Keep the packaging elements out of reach of children, as they can be dangerous.

When you no longer wish to use the boiler, disable the parts that could represent a potential hazard.

The boiler must be installed by personnel authorised in accordance with the applicable regulations and standards in force. However, the following recommendations must be complied with when installing the boiler:

#### 3.1 Location

The **Jaka HFD Condens OD** boiler must be installed taking into account the following guidelines:

- **It must be placed on a solid, level base which can bear the weight of the boiler**, even when it is full of water.
- It can be installed either against a building or in an open area at a distance from the building.
- **The relevant instructions must be followed** for the correct installation of the **flue outlet**.
- Maintain the **minimum distances from any obstacle** which may hinder the access to the components and maintenance operations.
- The boiler must be positioned in such a way that **does not obstruct the air inlets**.

The boiler must be installed in a sufficiently ventilated room and sufficient access space must be maintained to carry out preventive or corrective maintenance operations.

#### 3.2 Hydraulic Installation

The hydraulic installation must be made by qualified personnel. The applicable installation legislation is to be complied with, and the following recommendations should also be taken into account:

- The inside of the installation piping should be thoroughly cleaned before switching on the boiler.
- We recommend inserting cut-off valves between the installation piping and the boiler to simplify maintenance tasks.
- Fill the siphon with water before starting up the unit, to prevent fumes coming out of it.
- Drain valves and suitable devices for correctly bleeding the air from the circuit during the boiler filling stage should be fitted.

- Install all the necessary safety elements (expansion vessel, safety valve, etc.) to comply with the applicable regulations for the installation.
- The boiler is equipped with a standard 12 litre closed expansion vessel in the **Jaka 20 HFD Condens OD** model and a 14 litre vessel in the **Jaka 30 HFD Condens OD** and **Jaka 40 HFD Condens OD** models. Depending on the total volume of the hydraulic circuit, it may be necessary to install an additional expansion vessel consistent with this volume.

**WARNING: In order to avoid damage to the boiler, antifreeze fluid must be added to the water of the heating circuit. If the boiler is to be out of use for long periods of time, we recommend draining all the water and leaving it empty.**

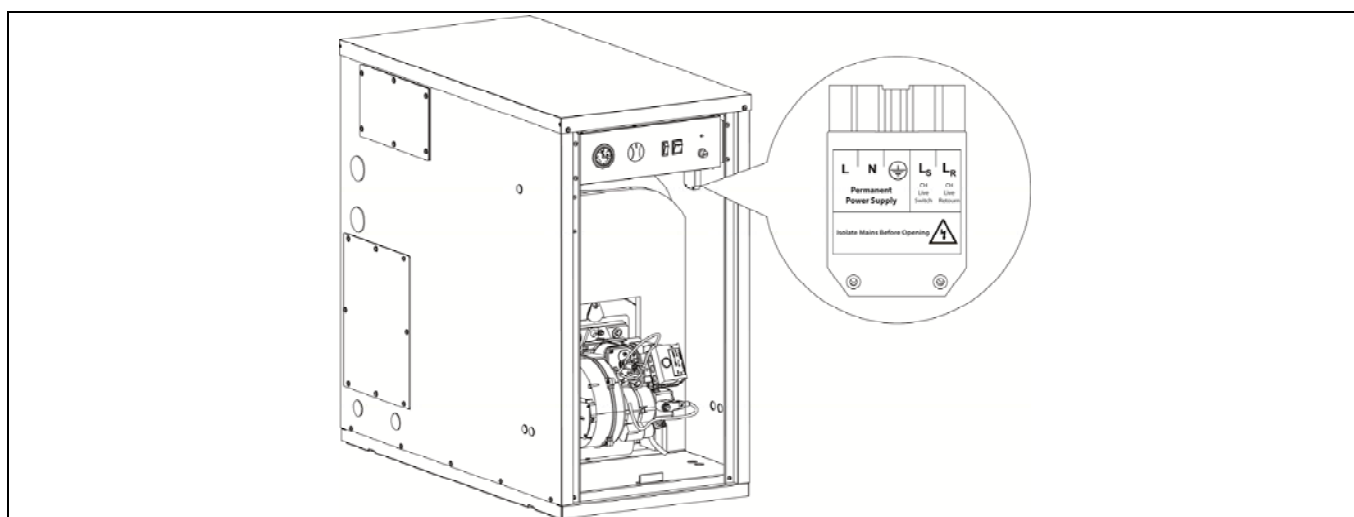
### 3.3 Condensation pipe

The condensation pipe should lead to a drain outlet, as the **Jaka HFD Condens OD** boiler is a condensation boiler and a large amount of water may be generated. This connection should be made in accordance with the regulations for draining off condensation water to the drain network and the following recommendations must be complied:

- The length of the pipes should be as short as possible. The sections external to the boiler should not exceed 3 m so as to reduce the risk of freezing.
- They must have a minimum inclination to the outside of 3° from the boiler.
- The diameter of the external pipe of the boiler should be greater than 30mm so as to reduce the risk of freezing.
- The condensation drainage pipe must be resistant to the acids of the condensation agents. Plastic materials used in water drainage are suitable, whereas copper or steel piping should not be used.

### 3.4 Electrical Connection

The boiler is equipped for connection at 230 V~, 50 Hz to terminals **L** and **N** of terminal strip **J1** (see "*Electrical Diagram*"). **This appliance must be earthed.** The 5 poles male power supply connector is in the documentation bag. This connector has also two terminals prepared for connecting the room thermostat (see wiring diagram).



### 3.5 Oil installation

The **Jaka HFD Condens OD** boiler is supplied with a **Domestic** oil burner (see model in Technical Characteristics). For the fuel installation, proceed according to the instructions attached in this manual (see Burner section). The installation of fuel and start-up of the burner must be carried out by qualified and authorized personnel.

### 3.6 Evacuation of combustion products

The installation of the evacuation ducts of the products of combustion must be carried out by qualified personnel and must comply with the requirements of current legislation and regulations (RITE).

### 3.7 Draining the boiler

The boiler is emptied by opening the drain tap located in the rear of the boiler. A flexible hose must be attached to this tap to direct it to a water outlet. After draining the boiler, the valve must be closed and the flexible tube removed.

### 3.8 Precautions for preventing noise during operation

Ensure the flow and return pipes are not touching each other, or insulate them to prevent any vibration noise. The boiler must be correctly seated on its base and levelled. Before start-up, make sure that the boiler and the system have been properly bled.

### 3.9 Filling and bleeding the installation

To fill the installation, open the fill valve until the manometer shows a pressure of 1 - 1.5 bars. The circuit should be filled slowly and with the automatic air bleed valve cap loose, to let the air out of the installation. The air should also be bled from the rest of the installation using the air bleed valves provided. Close the fill valve after filling.

**CAUTION: Switching on the boiler with no water inside could result in serious damage.**



## 4 COMBUSTION PRODUCT REMOVAL

The combustion product exhaust ducts must be installed by qualified personnel and must comply with current legislation and standards.

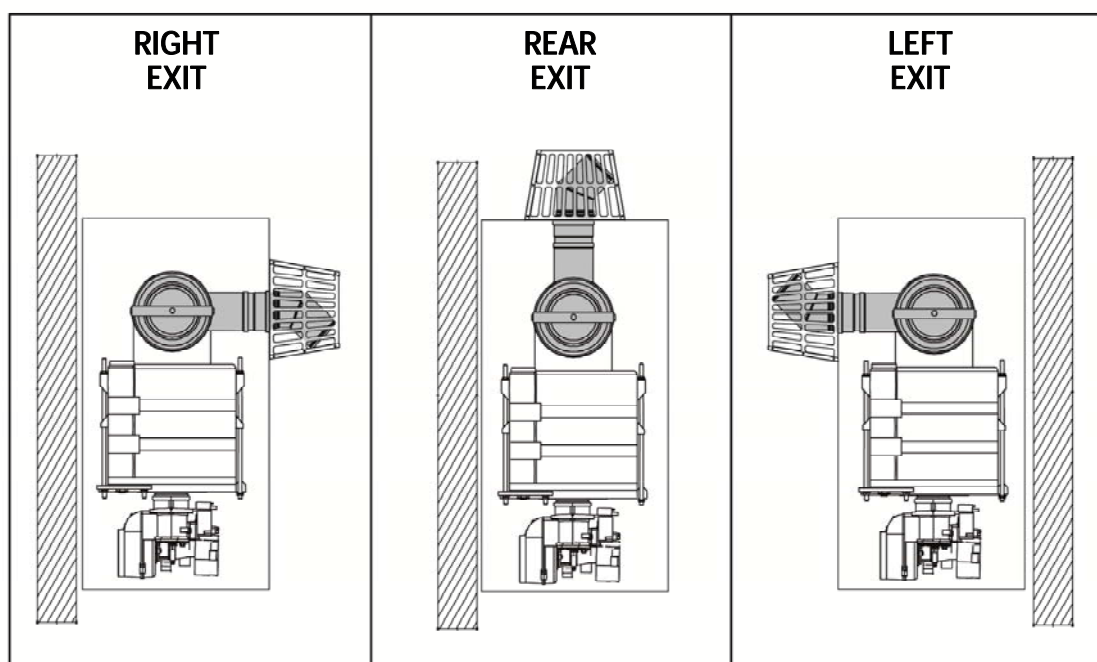
The **maximum length** of pipe that can be installed is 12 metres (HFD 40 OD) and 15 metres (HFD 20/30 OD). Each elbow of 90°, or two of 45°, reduces the available length by 1 metre, and 1 metre of horizontal pipe represents 2 metres of vertical pipe.

It is recommended that the flue gases outlet pipe be fitted slightly upwardly-inclined 2° to 3° thus preventing water and condensate projections from being ejected outside.

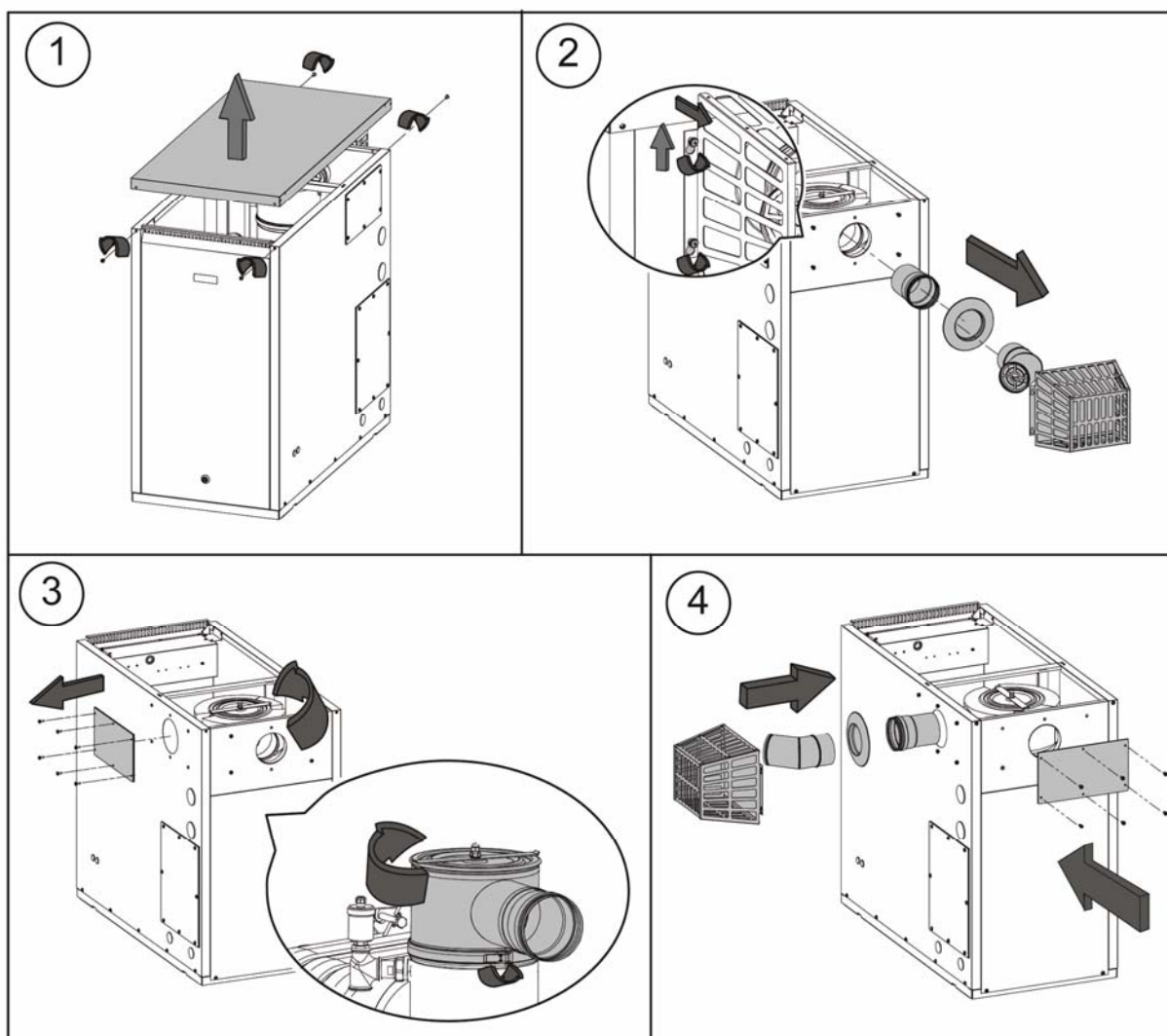
**CAUTION:** The air intake holes provided in the upper part of the door must not be obstructed at any time.

### 4.1 Horizontal combustion product removal

The **Jaka HFD Condens OD** boiler comes equipped with a 45° horizontal outlet terminal which can be placed on each of the sides or on the back of the boiler for removing fumes.



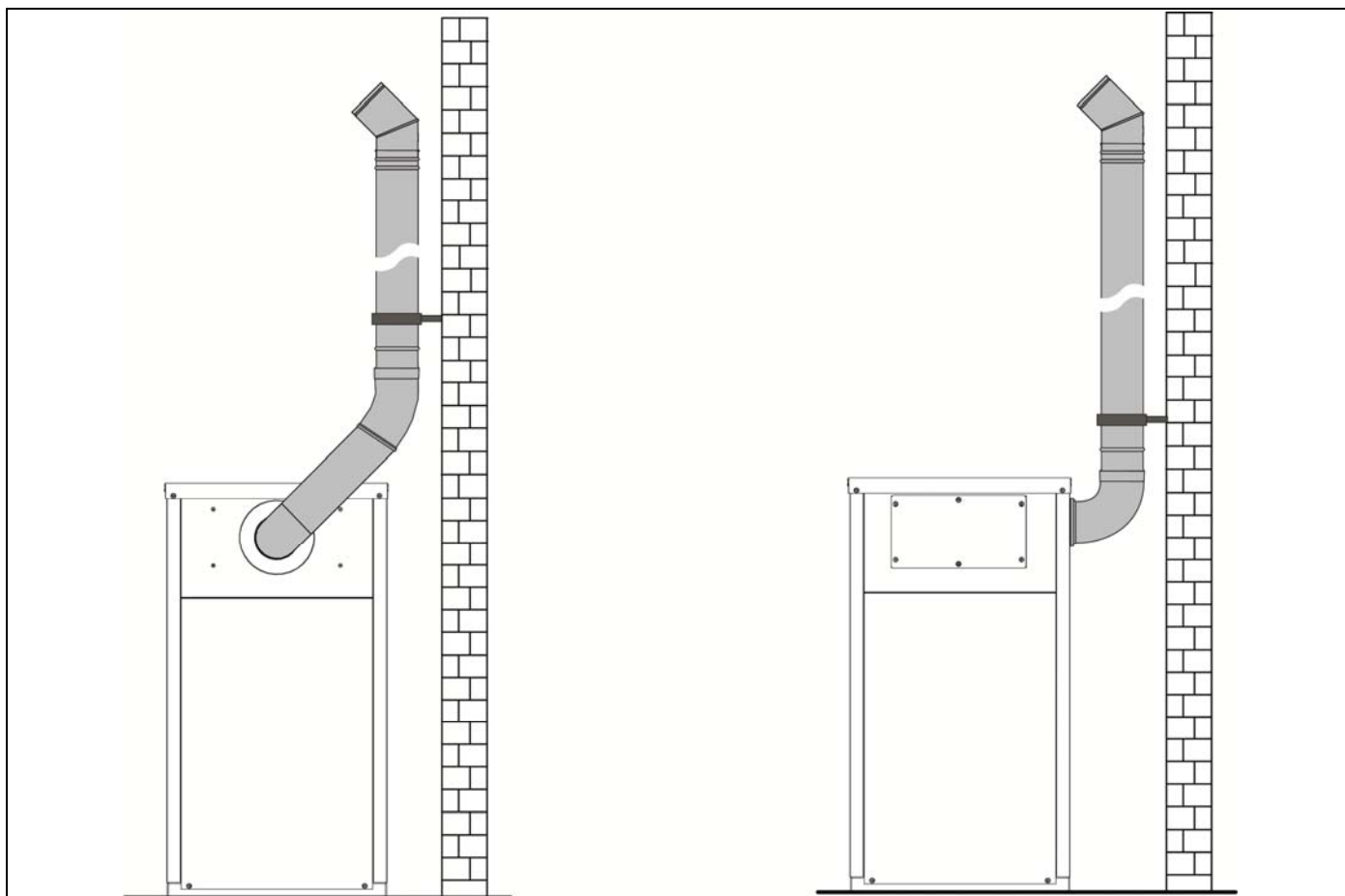
The steps for correctly modifying the position of the flue outlet are listed below:



**NOTE:** Fit the pipe with a slight upwards incline of around  $2^{\circ}$  -  $3^{\circ}$ , to prevent any water or condensation from dripping out.

## 4.2 Vertical combustion product removal Ø100

The combustion products exhaustion can be carried out through vertical pipe of stainless Ø100 mm.



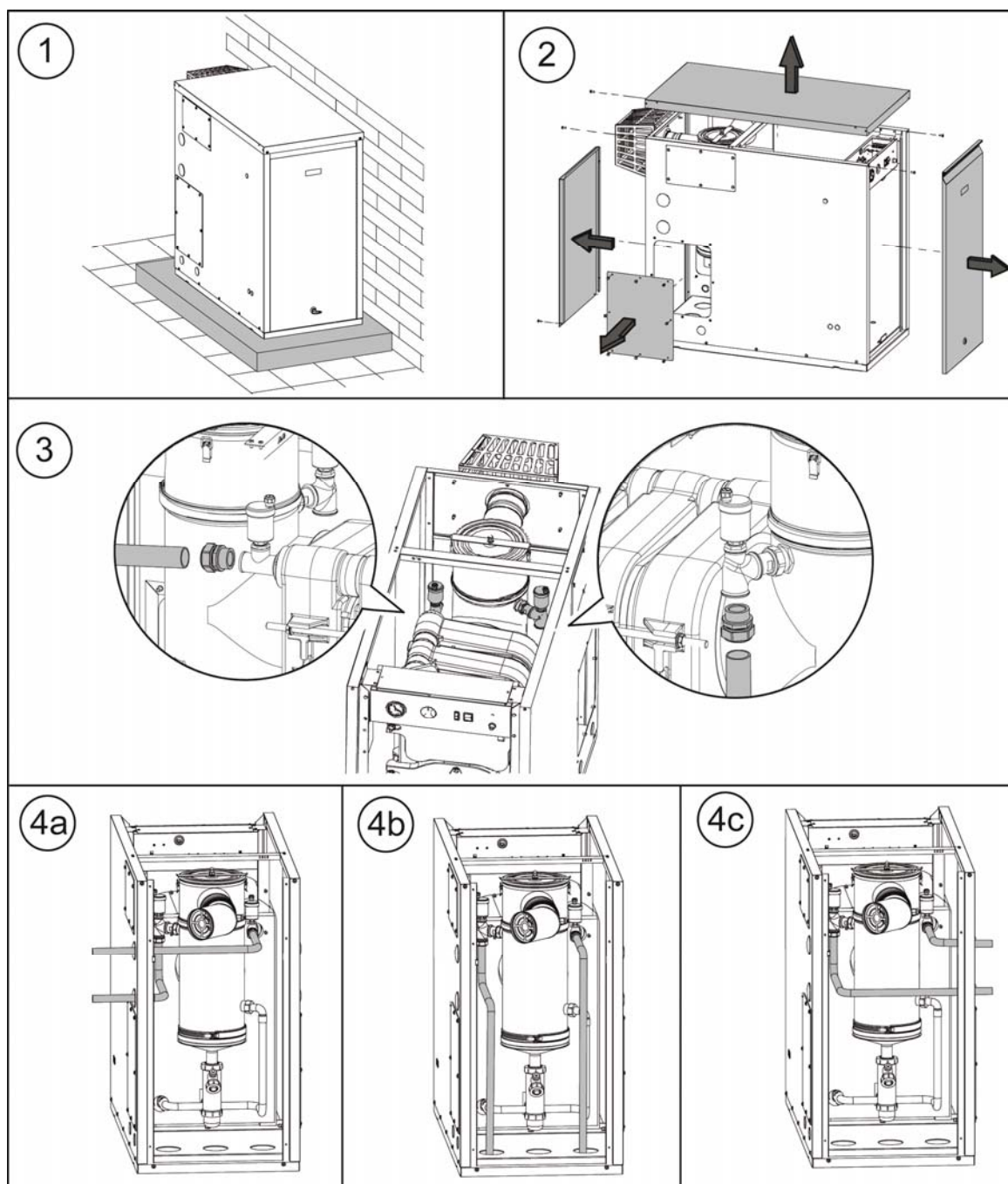
**CAUTION:** The flue terminal must not be conducted to the wall to avoid condensates.

## 5 PIPE CONNECTIONS

The heating outlet and the heating return of the **Jaka HFD Condens OD** boiler can be conducted optionally for either side of the boiler. through the pre-cut openings provided (see "Diagrams and Measurements"), when the boiler is installed against the building (see pictures N°4a and 4c). For "free standing" installations the pipework can be conducted through the pre-cut openings provided in the base of the enclosure (See picture N°4b). In this way the boiler can adapt to installations site needs. The boiler is equipped with  $\frac{3}{4}$ " female connections for the heating outlet and return.

The boiler is equipped with different removal panels on the rear, sides and top to gain access to the water connection, condensate pipe, components and do maintenance (see picture N°2). Withdraw them removing carefully the stainless screws.

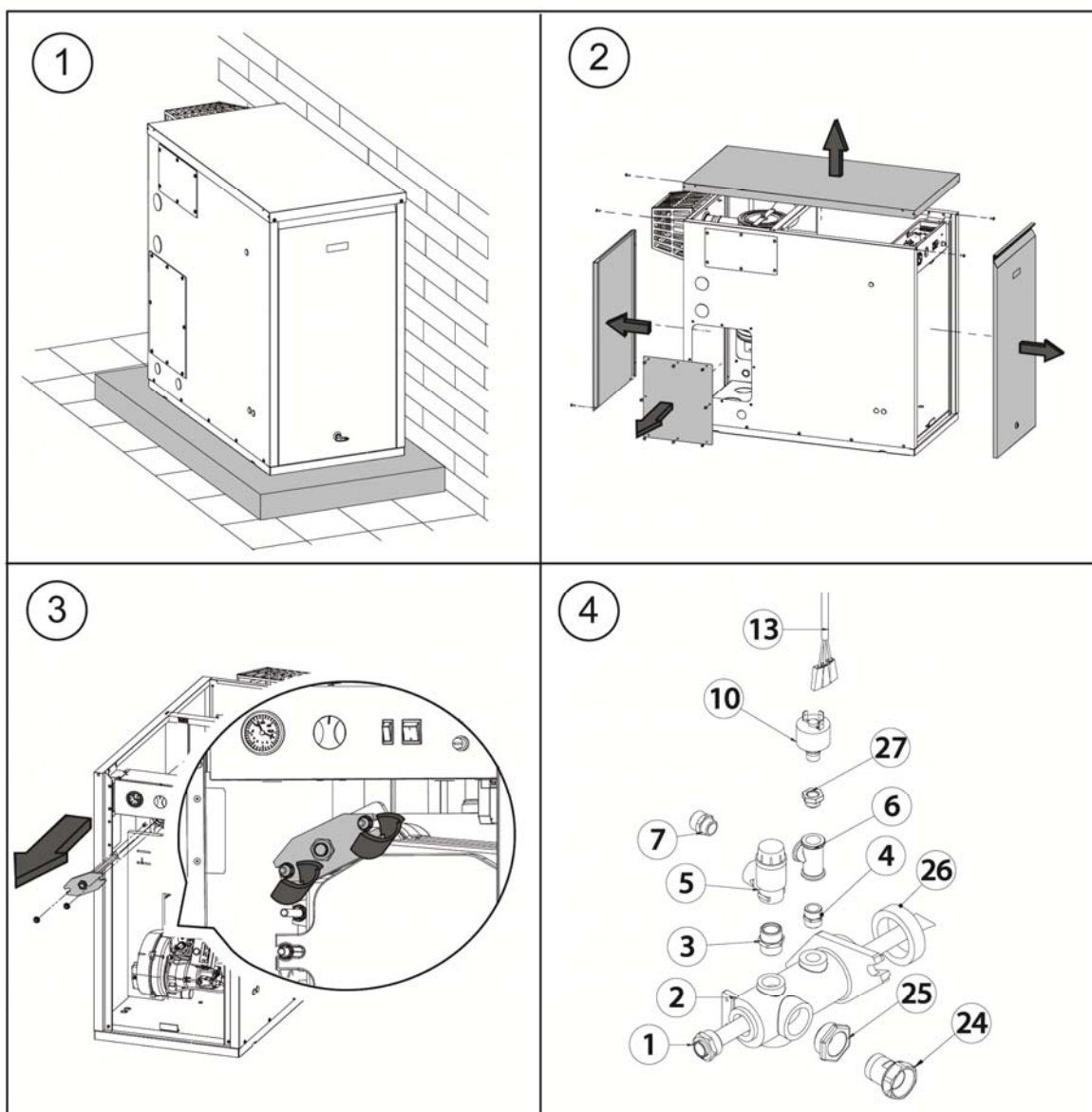
The steps for correctly connecting the heating outlet and return are listed below:



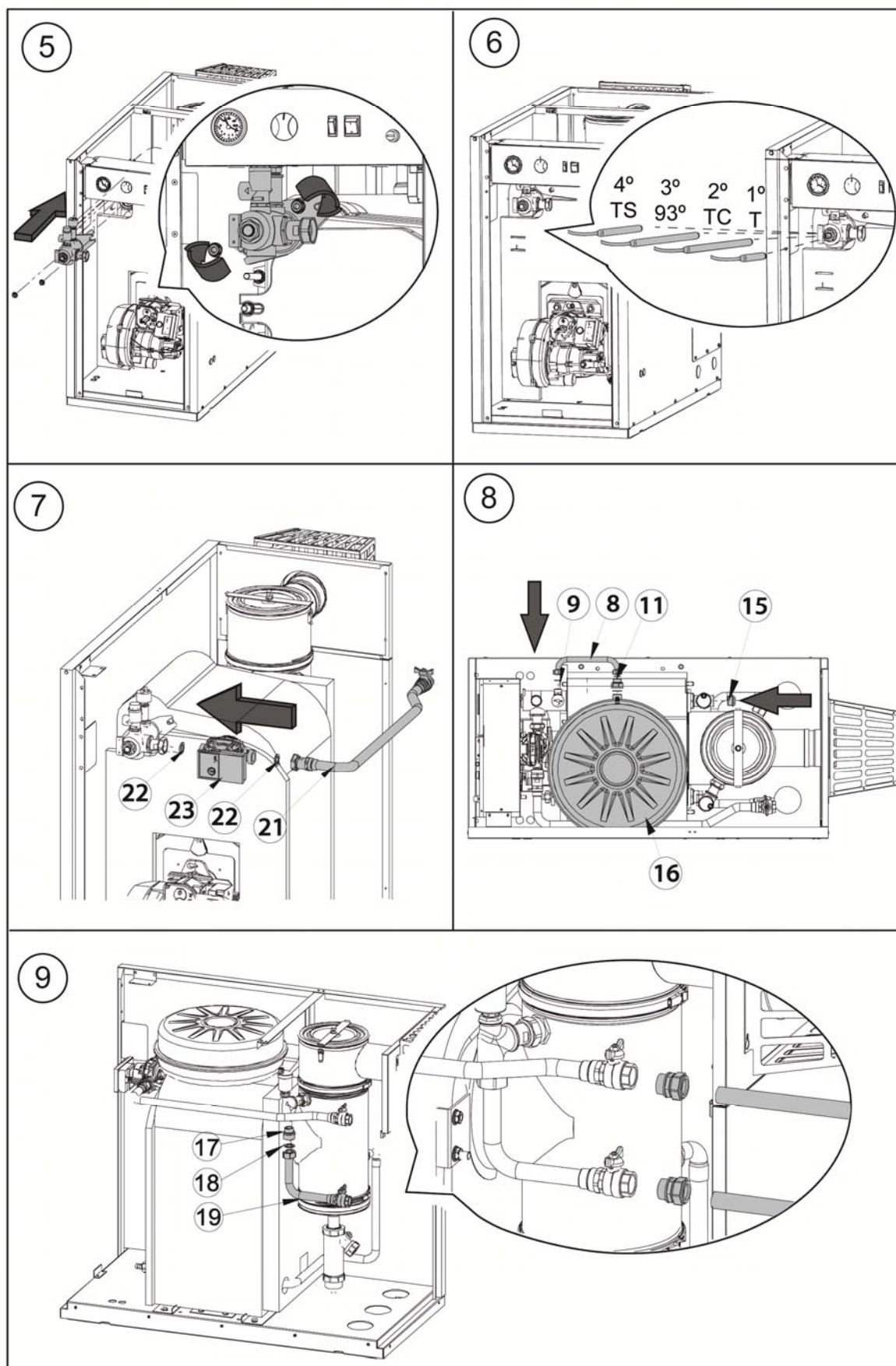
## 5.1 Hydraulic Kit OD (Optional)

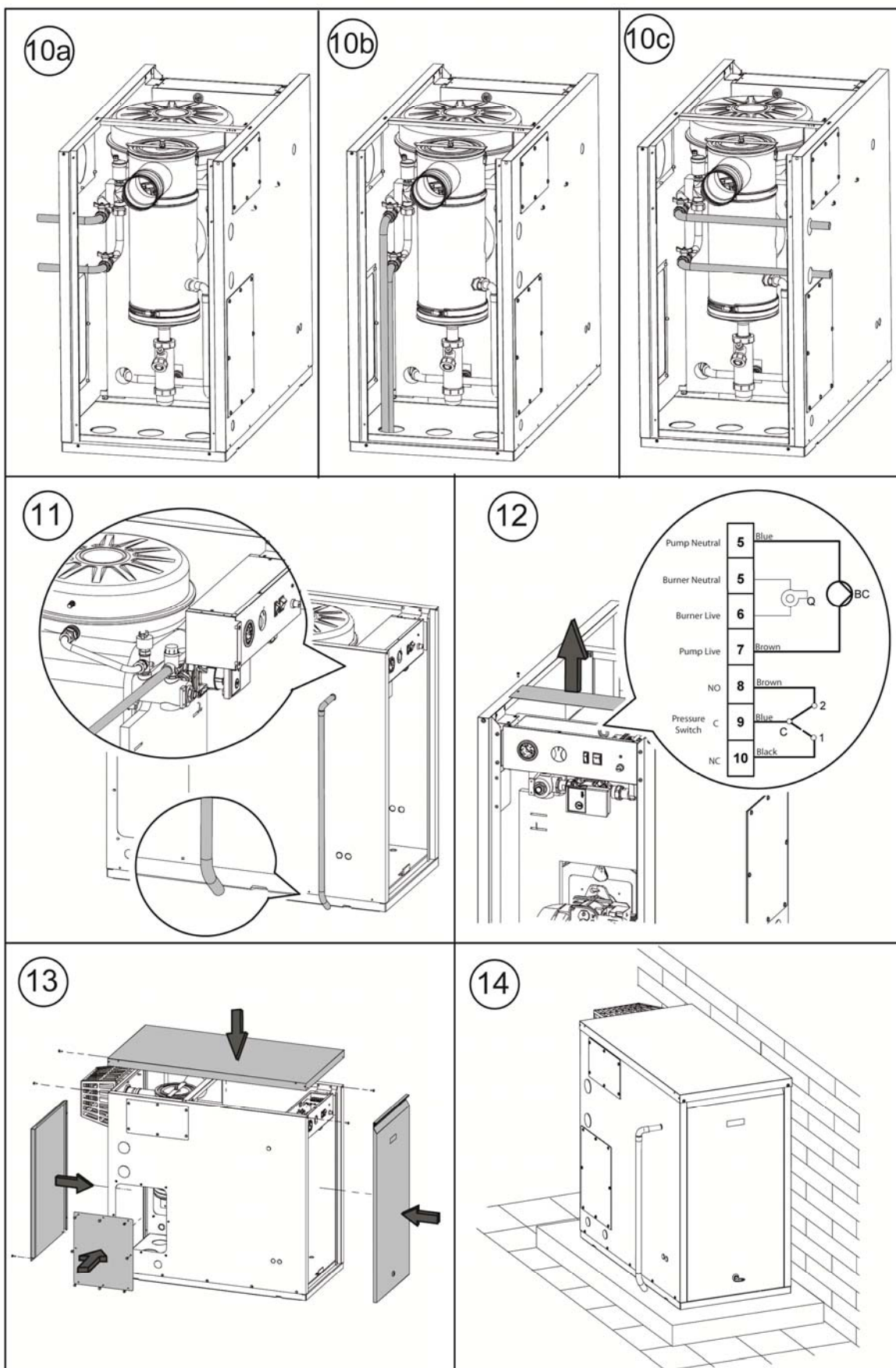
A **Hydraulic Kit OD** may optionally be supplied together with the **Jaka HFD Condens OD** boiler. This kit basically consists of a heating circuit pump, heating outlet and return pipes, pressure switch and the expansion vessel. For correct hydraulic installation, carefully follow the assembly and connection instructions enclosed with the kit.

The procedure for suitably connecting the **Hydraulic KIT OD** to the **Jaka HFD Condens OD** boiler is as follows:









## 6 OPERATION

### 6.1 Boiler functioning

Set the control thermostat and the room thermostat (if applicable) to the desired temperature. Set the main switch in position "I" and the summer-winter selector in winter position "❄". The burner and pump will come into operation until the preset temperature is reached in the installation on the control thermostat (or on the room thermostat, if any). When the temperature in the installation drops, the burner will start up again doing the heating cycle. Test switch

### 6.2 Test selector:

It allows to activate the heating demand independently of the thermostat signal.

### 6.3 Frost protection

The **Jaka HFD Condens OD** models are supplied with a factory fitted frost protection thermostat, located behind the electric panel inside the boiler. This thermostat is pre-wired to the boiler electrical system and factory set to 3°C. This will function as long as the appliance remains plugged into the mains and the **master switch is switched on**. Despite this function, and particularly in areas with very cold weather, we recommend taking precautions in order to prevent damage to the boiler. It is advisable to add anti-freeze to the water in the heating circuit. If the boiler is to be out of use for long periods of time, we recommend **draining all the water and leaving it empty**.

### 6.4 Room thermostat connection

The boiler has two terminal, **Ls** and **Lr** in the power supply connector, for connecting room thermostat or room chronothermostat (see "*Electrical Diagram*"), which, will avoid the heating service, will have the temperature of the house. For its connection, the bridge connecting Terminals **Ls** and **Lr** must be removed and the room thermostat must be connected.

Installing a room thermostat will optimise the installation's performance, adapting the heating to the requirements of your home and obtaining enhanced comfort. Also, if the thermostat allows the hours of functioning to be programmed (chronothermostat), it can adapt the heating system to the hours of use of the installation.

## 7 SAFETY CUT-OUTS

The boiler has three types of safety cut-outs:

### 7.1 Excessive temperature safety cut-outs (Thermostat Ts)

This cut-out is indicated by the pilot light for blocking due to temperature. This occurs when the boiler exceeds a temperature of 110°C. To restart, press the button on the safety thermostat after first removing the button cover.

### 7.2 Low pressure cut-out

If the **OD Hydraulic Kit** is installed, optional in the **Jaka HFD Condens OD** models, this cut-out occurs when the boiler pressure drops to below 0.5 bar, preventing the boiler from functioning when the water is drained from the installation, due to either leakage or maintenance operations. This cut-out is indicated by the blocking pilot light. To unblock it, fill the installation again until a pressure of between 1 - 1.5 bar is indicated on the thermostat pressure gauge.



### 7.3 Burner cut-out

This occurs as a result of an anomaly in the burner or in the fuel installation. To unblock it, press the illuminated button that lights up on the burner.

**NOTE: If any of these cut-outs occur repeatedly, call your nearest official Technical Assistance Service.**

## 8 SHUTTING DOWN THE BOILER

To stop the boiler, simply turn the master switch to "O".

## 9 START-UP

Before beginning the start-up process of the boiler, check that:

- The boiler is connected to the mains.
- The installation has been filled with water (the manometer should indicate a pressure of 1 - 5 bar).
- The fuel reaches the burner.
- The isolation valves are open, if there are any installed.
- The room thermostat is set to the desired temperature.
- The boiler room has effective and free ventilation (ventilation based on 0.5 dm<sup>2</sup> minimum).

To start-up the boiler, position the main switch and the room thermostat to the desired temperature.

## 10 FIRST START-UP

For the **guarantee to be valid**, the boiler must be started up for the first time by an **official DOMUSA TEKNIK Technical Assistance Service**. Before beginning the start-up process, the following must be complied with:

- The boiler must be connected to the mains.
- The installation must have been filled with water (the manometer should indicate a pressure of 1 - 5 bar).
- The fuel must be reaching the burner at a pressure of no more than 0.5 bar.

## 11 DELIVERY OF THE SYSTEM

After the initial start-up, the Technical Assistance Service will explain to the user how the boiler functions, making any observations they consider relevant.

The installer is responsible for clearly explaining to the user the functioning of any control or regulation device forming part of the installation but not supplied with the boiler.

## 12 BOILER MAINTENANCE

To maintain the boiler in perfect working order, a yearly service must be performed by personnel authorised by **DOMUSA TEKNIK**.

### 12.1 Cleaning the boiler

To maintain the boiler in optimal operating conditions it is recommended that an annual cleaning be undertaken of the combustion chamber, the fume outlets and the condenser. A cleaning brush of a suitable size for cleaning the inside of the exhaust ducts is supplied with the boiler for this purpose. This brush is located at the rear of the boiler, beside the condenser.

**The combustion chamber and exhaust ducts should not be cleaned using chemical products or hard steel brushes.** After any cleaning operation has been carried out, it is important to run several ignition cycles to check all the elements are functioning correctly.

For correct cleaning, the following recommendations should be carefully observed:

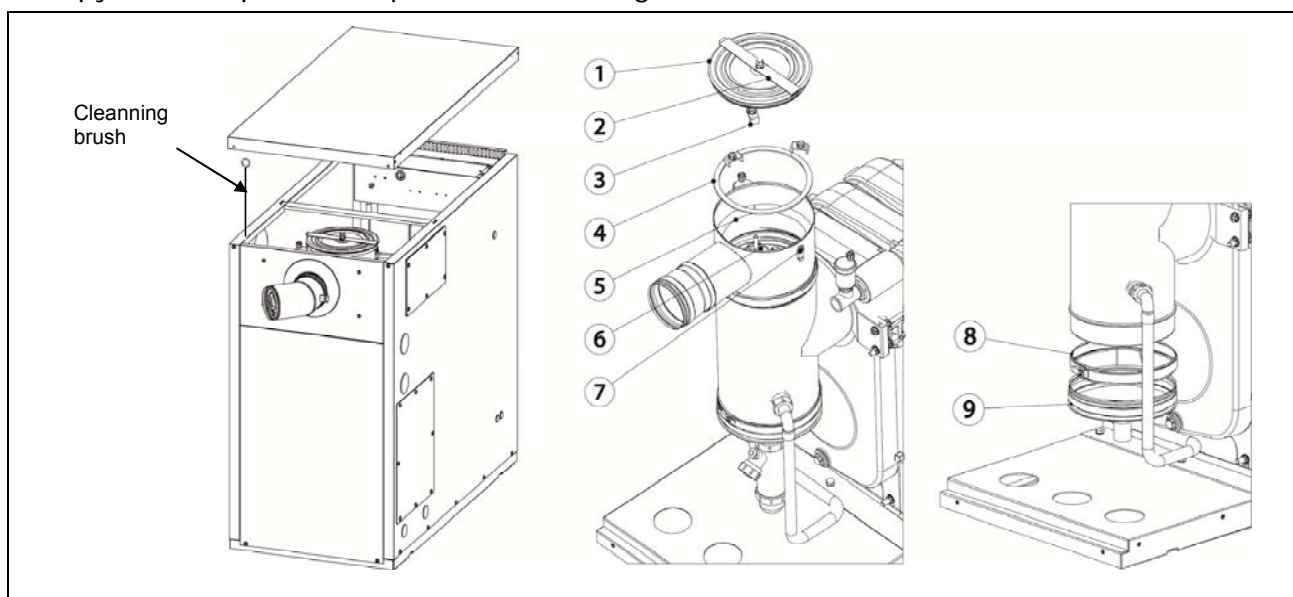
#### Cleaning the boiler body

- Open and remove the outer door of the boiler.
- Remove the burner by unscrewing the fixing nut on the top of the burner.
- Remove the combustion chamber door and the exhaust duct cover, unscrewing the six fixing nuts around them.
- Clean the exhaust ducts on the cast body, using the cleaning brush supplied with the boiler.
- Clean the boiler combustion chamber. We recommend using a soft brush for scrubbing the combustion chamber surfaces, and a blower to remove the flakes.
- After cleaning, replace the combustion chamber door, the exhaust duct cover, the burner and the outer door of the boiler.

#### Cleaning the condenser

- Open and remove the top cover of the boiler to access the condenser on the rear of the boiler body.
- Open the top cover of the condenser to access its exhaust ducts. To open this cover, release the two side closures, turn the locking plate anti-clockwise and pull the cover upwards to remove it.
- Remove the exhaust deflectors inside the exhaust outlets.
- Clean the exhaust ducts using the cleaning brush supplied with the boiler. Any scale will fall through the condensation drain and onto the lower condenser cover. It is advisable to pour water into the top of the condenser for a more effective cleaning. This water will be automatically discharged through the condensation drain.
- To clean the outer part of the condenser cylinder, remove the three screws and then remove the metal ring. Take out the seal and use the brush to clean it. Next, put the components back in place again and replace and tighten the three screws and the metal ring.
- If the lower condenser cover needs cleaning, remove the side cover of the boiler to access it. Firstly remove the bracket holding it in place and pull on it to open it. Then pull the lower cover down to open and clean it.
- After cleaning, replace the fume deflectors, the top condenser cover and the top outer cover of the boiler. Then put the cleaning brush back inside the boiler.

- The condensation siphon should be cleaned once a year. To do this, remove it and wash it in soapy water. Replace the siphon after cleaning.



## 12.2 Boiler water characteristics

In areas with water hardness over 25-30°F, treated water must be used in the heating installation to avoid any lime scale deposits on the boiler. It should be noted that even a few millimetres of scale will greatly reduce the boiler's heat conductivity, causing a major drop in performance.

Treated water must be used in the heating circuit in the following cases:

- Very large circuits (containing a large amount of water).
- Frequent filling of the installation.

If repeated partial or total draining of the installation is necessary, we recommend filling it with treated water.

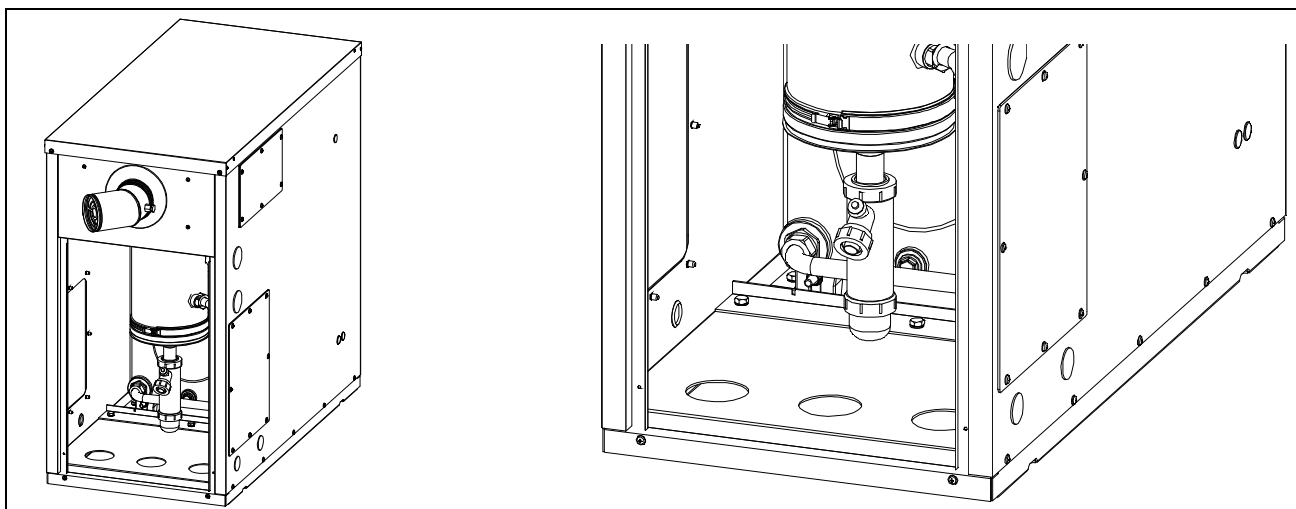
## 12.3 Anti-frost protection

The **Jaka HFD Condens OD** models are supplied with a factory fitted frost protection thermostat, located behind the electric panel inside the boiler. This thermostat is pre-wired to the boiler electrical system and factory set to 3°C. This will function as long as the appliance remains plugged into the mains and the **master switch is switched on**. Despite this function, and particularly in areas with very cold weather, we recommend taking precautions in order to prevent damage to the boiler. It is advisable to add anti-freeze to the water in the heating circuit. If the boiler is to be out of use for long periods of time, we recommend **draining all the water and leaving it empty**.

### 12.4 Condensate drain-off

The drain for boiler condensate must not be altered and must be kept clear of obstructions. Annual maintenance of the condensate trap is recommended to avoid obstructions that hinder the discharge.

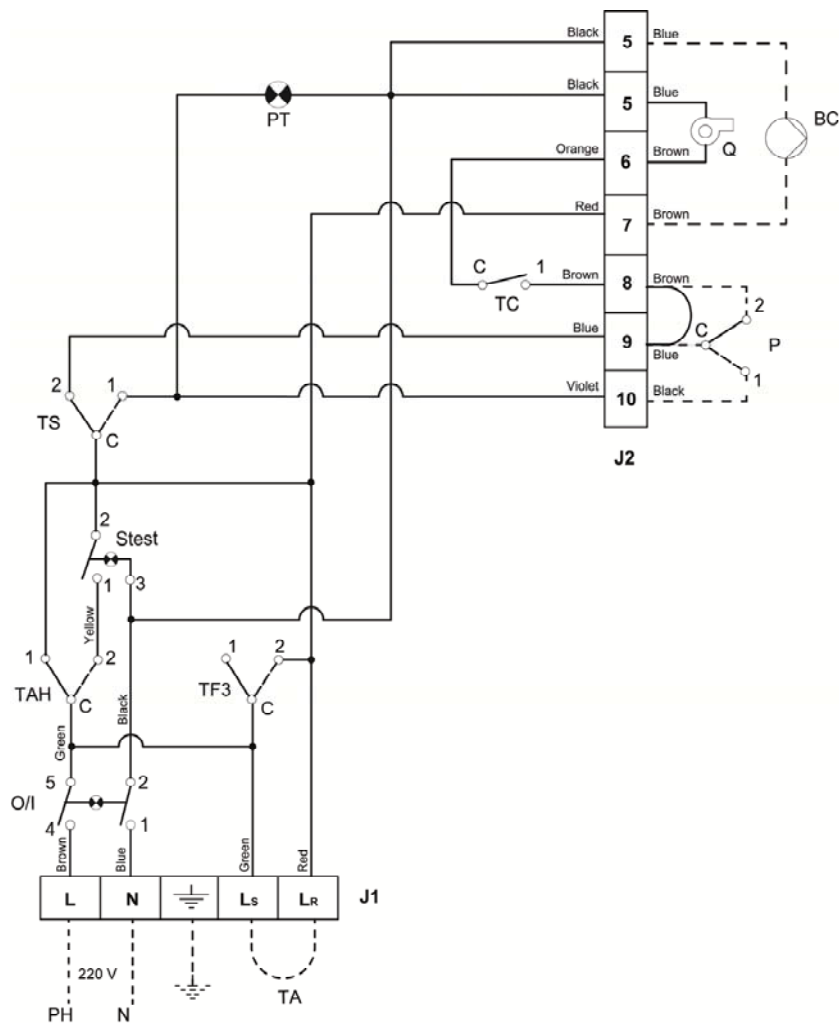
If a neutralisation system is installed in the condensate drain, it is essential to conduct annual maintenance of the system, following the instructions of the manufacturer of the neutralisation system.



## 13 TECHNICAL DATA

JAKA HFD CONDENS OD			20	30	40
Boiler type	-		Condensation		
			Heating only		
Rated heat output	$P_{rated}$	kW	19	30	40
Useful heat output	$P_4$	kW	19,0	28,7	38,7
Useful heat output (30%)	$P_1$	kW	6,1	8,5	12,4
Seasonal space heating energy efficiency	$\eta_s$	%	90	91	92
Useful efficiency	$\eta_4$	% (PCI)	96,55	97,96	97,29
		% (PCS)	91,04	92,38	91,74
Useful efficiency (30%)	$\eta_1$	% (PCI)	103,82	103,45	104,15
		% (PCS)	97,90	97,55	98,21
Auxiliary electricity consumption at full load	$el_{max}$	kW	0,226		
Auxiliary electricity consumption at part load	$el_{min}$	kW	0,078		
Auxiliary electricity consumption in standby mode	PSB	kW	0,001		
Standby heat loss	$P_{stby}$	kW	0,127	0,135	0,17
Emissions of nitrogen oxides	NOx	mg/kWh	86	84	88
Heating temperature adjustment	°C		0 - 85		
Maximum safety temperature	°C		110		
Maximum pressure for heating mode	bar		3		
Heating expansion vessel capacity	Lts		12	14	14
Heating water volume	Lts		14	19,2	23,2
Water pressure drop	mbar		96	163	272
Fume temperature	°C		69	67	83
Volume on fume side	m <sup>3</sup>		0,094	0,114	0,175
Maximum fume flow	Kg/s		0,0085	0,0132	0,0186
Fume pressure drop	mbar		0,20	0,20	0,21
Combustion chamber length	mm		220	300	400
Combustion chamber type	-		Wet, with three flue runs		
Burner adjustment type	-		ON/OFF		
Electrical supply	-		~220-230 V - 50 Hz - 200 W		
Gross weight	Kg		157	188	217

## 14 ELECTRICAL DIAGRAM



**Q:** Burner.

**BC:** Circulating pump

**O/I:** Main on/off switch.

**TA:** Room thermostat.

**TC:** Control thermostat (in boiler).

**J1:** Power supply connector.

**J2:** Components connector.

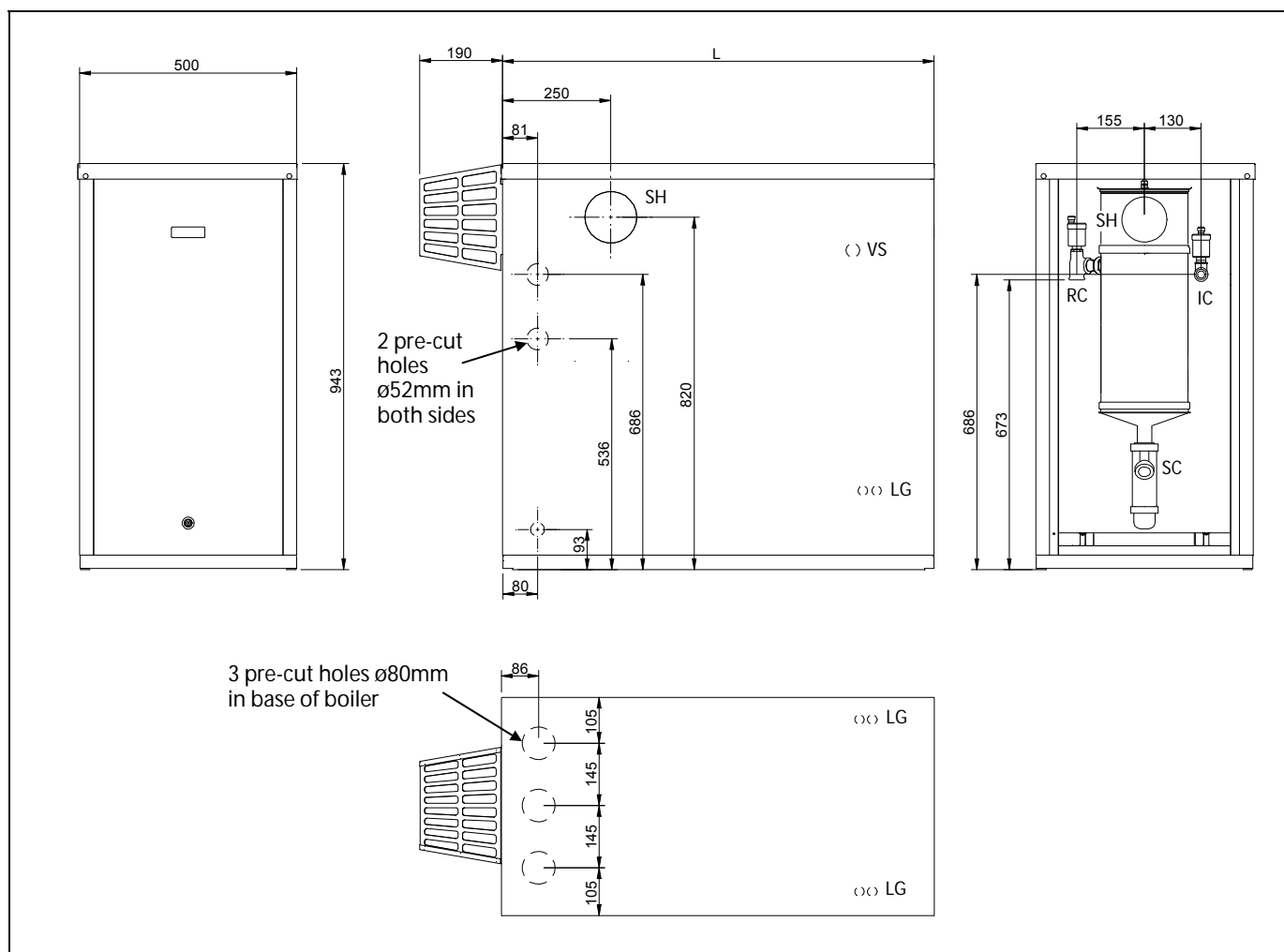
**TS:** Safety thermostat (in boiler).

**TF3:** 93° Anti-inertia thermostat (in boiler).

**PT:** Temp blocking pilot light.

**TAH:** Antifrost thermostat.

## 15 DIAGRAMS AND MEASUREMENTS



**IC:** Heating outlet.

**RC:** Heating return.

**VS:** Pressure valve pipework.

**SH:** Fume exhaust duct, Ø100.

**SC:** Condensate outlet, 25mm.

**LG:** Fuel pipes.

MODEL	IC, RC	L
<b>JAKA 20 HFD CONDENS OD</b>	3/4"F	900
<b>JAKA 30 HFD CONDENS OD</b>	3/4"F	1000
<b>JAKA 40 HFD CONDENS OD</b>	3/4"F	1100

## 16 BURNER

### 16.1 Assembly

Secure the burner support to the boiler. then fix the burner to the support. This will allow the correct tilt of the flame tube towards the combustion chamber. Fit the intake and return pipes.

### 16.2 Burner start-up

First place a manometer and a vacuum gauge and prepare the combustion analyser.

The "**Domestic**" burner is equipped with a self-extracting pump to enable fuel intake from a tank installed at a lower level than the burner, providing that the pressure difference measured with the vacuum gauge at the pump does not exceed 0.4 bar (30 cmHg).

The fuel suction must never reach the bottom of the tank, always leaving a minimum distance of 10 cm from the bottom, if possible, we recommend the float suction kit.

In installations that allow it, fuel returns must be made to a recirculation filter with an air vent, thus avoiding oxidations in the diesel pump.

Make sure there is fuel in the tank, that the oil valves are open and that voltage is reaching the burner. Turn on the master switch. Unscrew the air bleed screw (manometer point). Then, when the valve opens, remove the photocell sensor and move it towards a light source until the oil comes out. Disconnect the burner and screw the bleed screw back in.

### 16.3 Adjusting the combustion conditions

As each particular installation has a different combustion circuit, it is essential to adjust the combustion conditions of each boiler. In order for the **guarantee to be valid**, the burner must be adjusted by an **official DOMUSA TEKNIK Technical Assistance Service**.

Observe the flame. If there is insufficient combustion air, it will be dark in colour and will produce smoke, rapidly obstructing the flue outlet.

On the contrary, if there is an excess of combustion air, the flame will be whitish or bluish-white in colour. This will reduce the performance of the boiler and it will fail to comply with anti-pollution standards, and the excess air may also hinder the ignition process.

The flame should be orange in colour.

If the shape of the boiler makes it difficult or impossible to observe the flame, the combustion air flow can be regulated by observing the smoke coming out of the flue. If the smoke is dark in colour, more air will need to be provided to the burner, or if it is a very whitish colour, the air in the burner will need to be decreased until no smoke at all is observed.

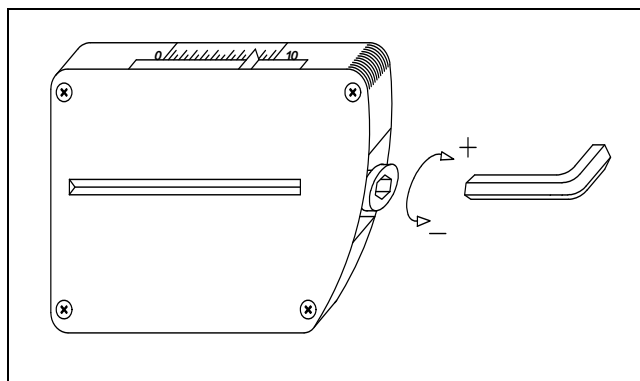
If you have a device for determining the composition of the combustion gases, this will be the best guide for flame adjustment. If not, simply follow the above indications.

To adjust the air and burner line conditions, carefully follow the instructions given below.



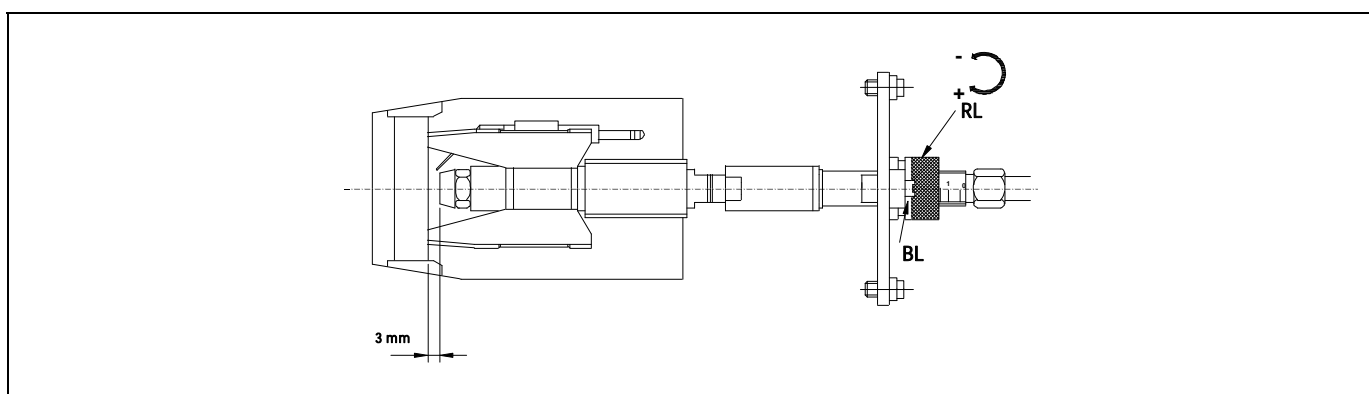
## 16.4 Primary air adjustment

To adjust the primary combustion air, turn the screw using a 6 mm. Allen key, as shown in the diagram. Turn it clockwise to increase the airflow, and anticlockwise to decrease it.



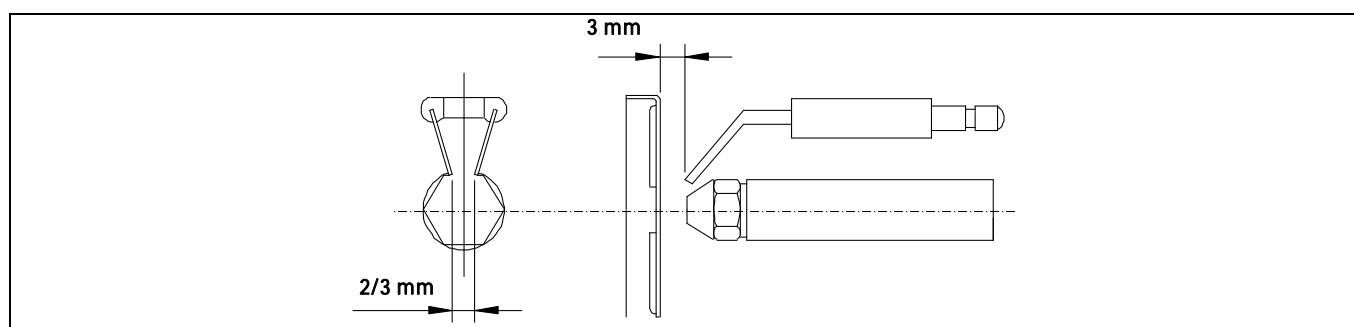
## 16.5 Combustion line adjustment

To adjust the combustion line, loosen the combustion line blocking screw "BL". Turn the line regulator "RL" clockwise to increase the airflow and anticlockwise to decrease it. After adjustment, tighten the combustion line blocking screw "BL".



## 16.6 Correct position of electrodes

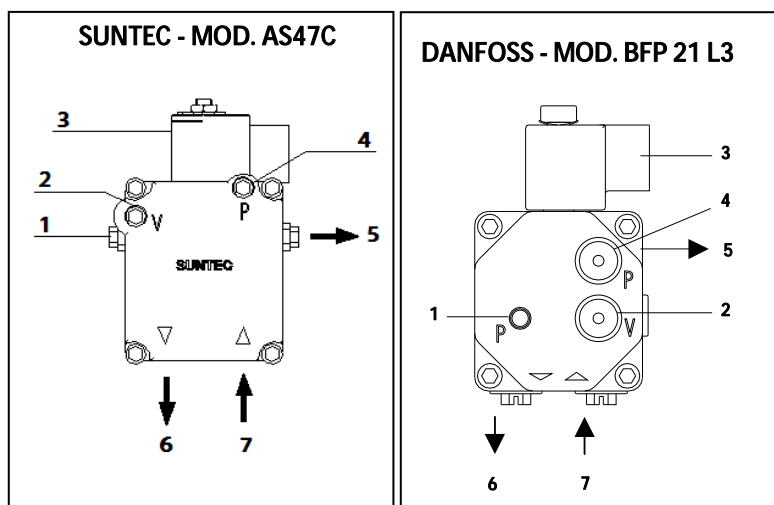
To ensure correct ignition of the "Domestic" burner, the measurements shown in the diagram must be observed. Also ensure the electrode fixing screws have been screwed in place before replacing the flame tube.



## 16.7 Oil pressure adjustment

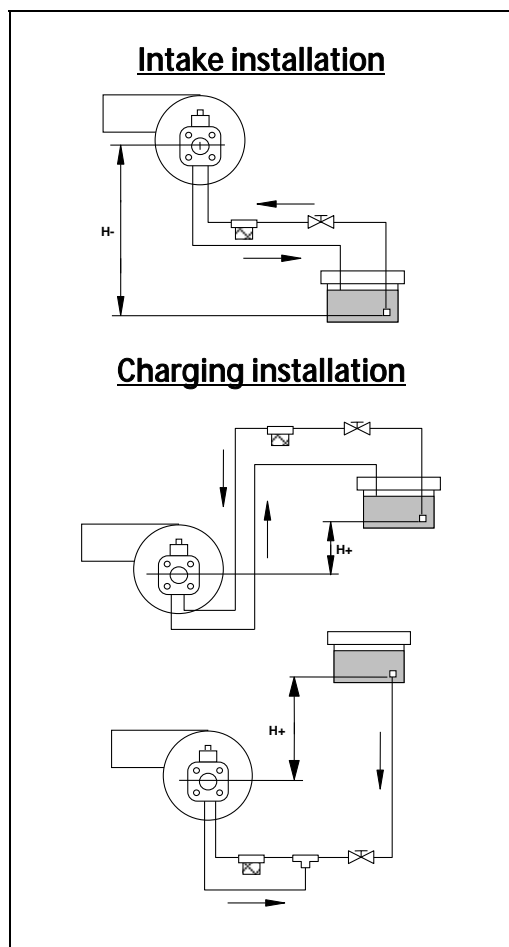
To adjust the oil pump pressure, turn the screw **(1)** clockwise to increase the pressure, and anticlockwise to decrease it.

- 1 - Pressure adjustment.
- 2 - Vacuum gauge point.
- 3 - Valve.
- 4 - Manometer point.
- 5 - Nozzle outlet.
- 6 - Return.
- 7 - Intake.



## 16.8 Oil supply piping diagrams

The diagrams and tables below correspond to installations without reductions and with a perfect hydraulic seal. It is recommended to use copper pipes. A pressure drop of 0.4 bar (30 cmHg) must not be exceeded (reading via a vacuum gauge).



Intake installation		
H- (m)	Pipe length	
	Øint 8 mm.	Øint 10 mm.
0.0	34	82
0.5	30	72
1.0	25	62
1.5	21	52
2.0	17	42
2.5	13	32
3.0	9	21
3.5	6	16

Charging installation		
H+ (m)	Pipe length	
	Øint 8 mm.	Øint 10 mm.
0.5	36	80
1.0	42	90
1.5	46	100
2.0	50	100

## 16.9 Technical specifications

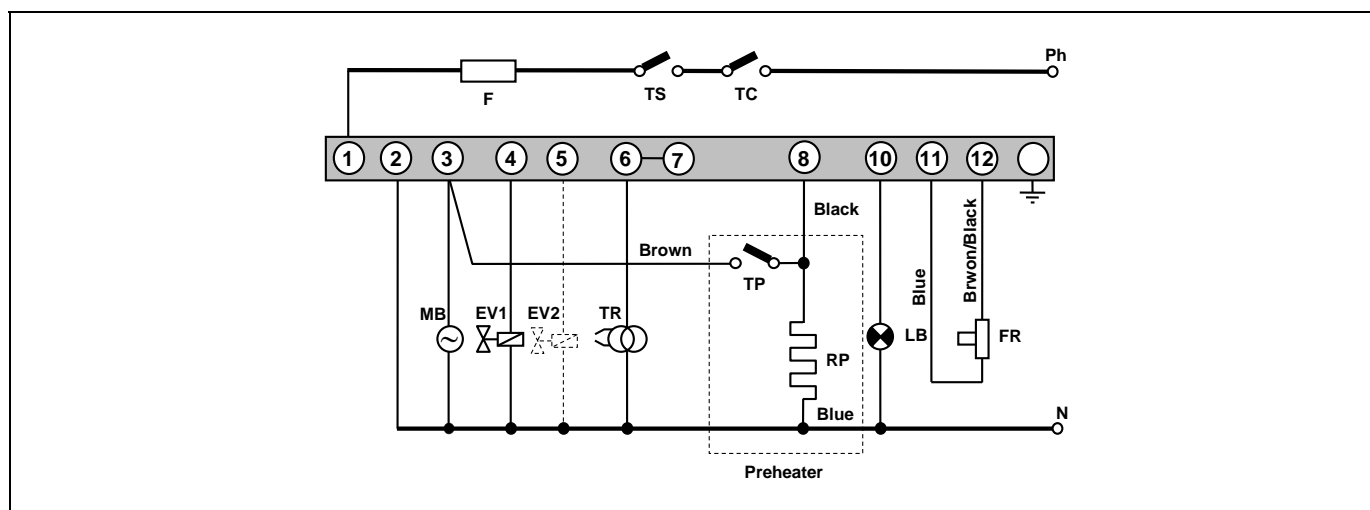
MODEL	JAKA 20 HFD CONDENS OD	JAKA 30 HFD CONDENS OD	JAKA 40 HFD CONDENS OD
Consumption max Kg/h.	1,6	2,5	3,4
Power kW.	19	30	40
Power Motor	200 W		
Adjustment type	All or nothing		
Electric current	220 V - 50 Hz		

## 16.10 Nozzle

**Jaka HFD Condens OD** boilers are supplied with the burner fitted, with their corresponding nozzle and with the standard pre-adjustment. The following table shows the nozzles and adjustments for each particular model:

MODEL	Nozzle	Burner pressure (bar)	Air adjustment	Line adjustment
Jaka HFD 20 Condens OD	0,40/ 80° H	15	6,5	1
Jaka HFD 30 Condens OD	0,60/ 60° H	11	4,5	1
Jaka HFD 40 Condens OD	0,60/ 45° H	18,5	4	1

## 16.11 Electrical connection diagram



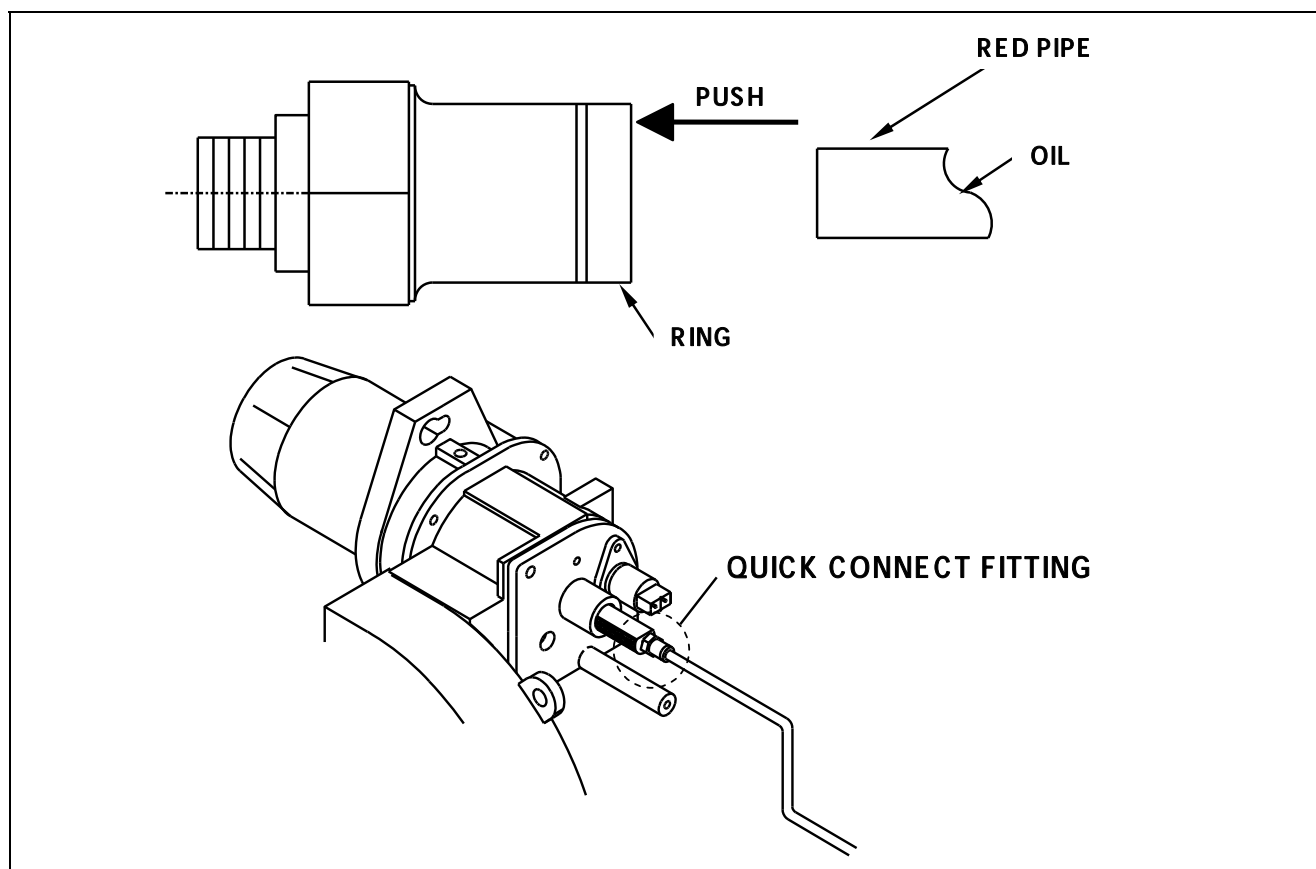
**TC:** Control thermostat (in boiler).  
**TS:** Safety thermostat (in boiler).  
**F:** Fuse.  
**LB:** Pilot light.  
**FR:** Photocell.  
**TR:** Transformer.

**MB:** Motor pump.  
**EV:** Valve.  
**RP:** Preheater element.  
**Ph:** Phase.  
**N:** Neutral.  
**TP:** Preheater thermostat.

### 16.12 Quick connector

To connect and disconnect the red oil intake tube to the nozzle, proceed as follows:

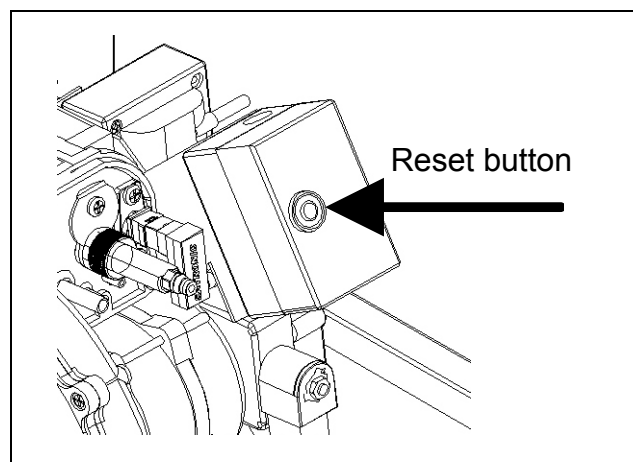
- Press the connector ring in the direction of the arrow, pulling on the red tube at the same time.



### 16.13 Burner control operating sequence

The burner's LMO14 control box has a reset button "EK", which is the key element for resetting the burner control and activating/deactivating the diagnostic functions.

The multi-colour LED on the reset button is the indicator for visual diagnosis. The "EK" button and the LED are located under the transparent cover of the reset button. During normal functioning, the various operating statuses are indicated in the form of colour codes (see the colour code table below). During ignition, the indication is as shown in the following table:



If the button is on, press to reset.  
If the button stays on, call the Technical Assistance Service.

Colour code table for multi-colour indicator lights (LEDs)		
Status	Colour code	Colour
Wait time "tw", other standby statuses	○ .....	Off
Fuel pre-heater on	●	Yellow
Ignition phase, controlled ignition	● ○ ● ○ ● ○ ● ○ ● ○ ●	Flashing yellow
Functioning, flame OK	□ .....	Green
Functioning, flame not OK	□ ○ □ ○ □ ○ □ ○ □ ○	Flashing green
External light during burner ignition	□ ▲ □ ▲ □ ▲ □ ▲ □ ▲	Red/green
Undervoltage	● ▲ ● ▲ ● ▲ ● ▲ ●	Yellow/red
Failure, alarm	▲ .....	Red
Error code output (see "Error code table")	▲ ○ ▲ ○ ▲ ○ ▲ ○ ▲ ○	Flashing red
Interface diagnosis	▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲	Flashing red light

..... Steady light  
○ Off

▲ Red  
● Yellow  
□ Green

□

## 17 . FAILURES

This section provides a list of the most common burner and boiler failures.

### 17.1 Burner error code

We have already mentioned that the burner is equipped with a cut-out system, indicated by the reset button light. It may cut out accidentally, and in this case the steady red light on this button will come on. You may unblock it by pressing the button for approx. 1 second. When the burner is blocked and the steady red light is on, visual failure diagnosis may be activated, in accordance with the error code table. To enter visual failure diagnosis mode, hold down the reset button for at least three seconds.

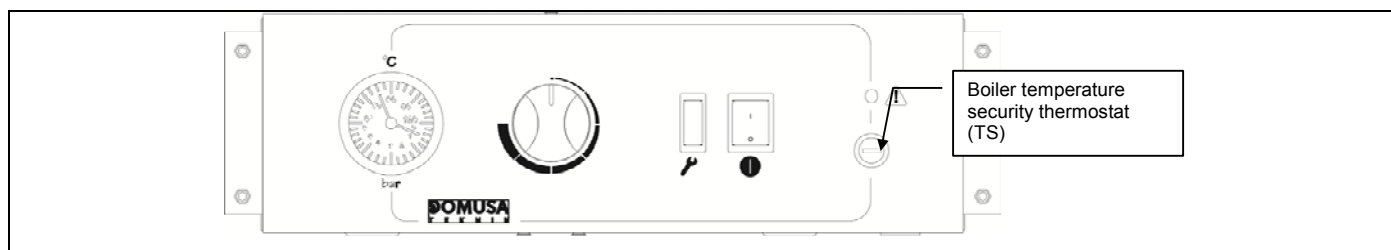
Error code table		
Red flashing LED code	"AL" on term. 10	Possible cause
Flashes 2 times	On	No flame established when ignition safety time ends. - Fuel valves defective or dirty - Flame detector defective or dirty - Burner maladjustment, no fuel - Ignition unit defective
Flashes 4 times	On	External light during burner ignition
Flashes 7 times	On	Excessive flame loss during functioning (limited number of repetitions) - Fuel valves defective or dirty - Flame detector defective or dirty - Burner maladjustment
Flashes 8 times	On	Supervision of fuel pre-heater time
Flashes 10 times	On	Cabling fault or internal failure, output contacts, other failures

During the failure diagnosis time, the control outputs are disabled and the burner remains off. To exit failure diagnosis and activate the burner again, reset the burner control. Hold down the reset button for approx. 1 second (<3 s).

### 17.2 Boiler failures:

FAILURE	CAUSE	SOLUTION
RADIATOR DOES NOT HEAT UP	- The pump is not turning - Air in hydraulic circuit	Unblock the pump Drain the installation and the boiler (the automatic air drain valve cap must always be loose)
EXCESSIVE NOISE	- Burner badly adjusted - Flue not correctly sealed - Flame unstable - Flue not insulated	Adjust it correctly Eliminate any leaks Examine the burner Suitably insulate it

### 17.3 Boiler Security Thermostat



If the boiler goes into safety lockout due to overheating of the boiler (TS), reset by pressing the appropriate button on the thermostat. To access the buttons, unscrew the black cap.

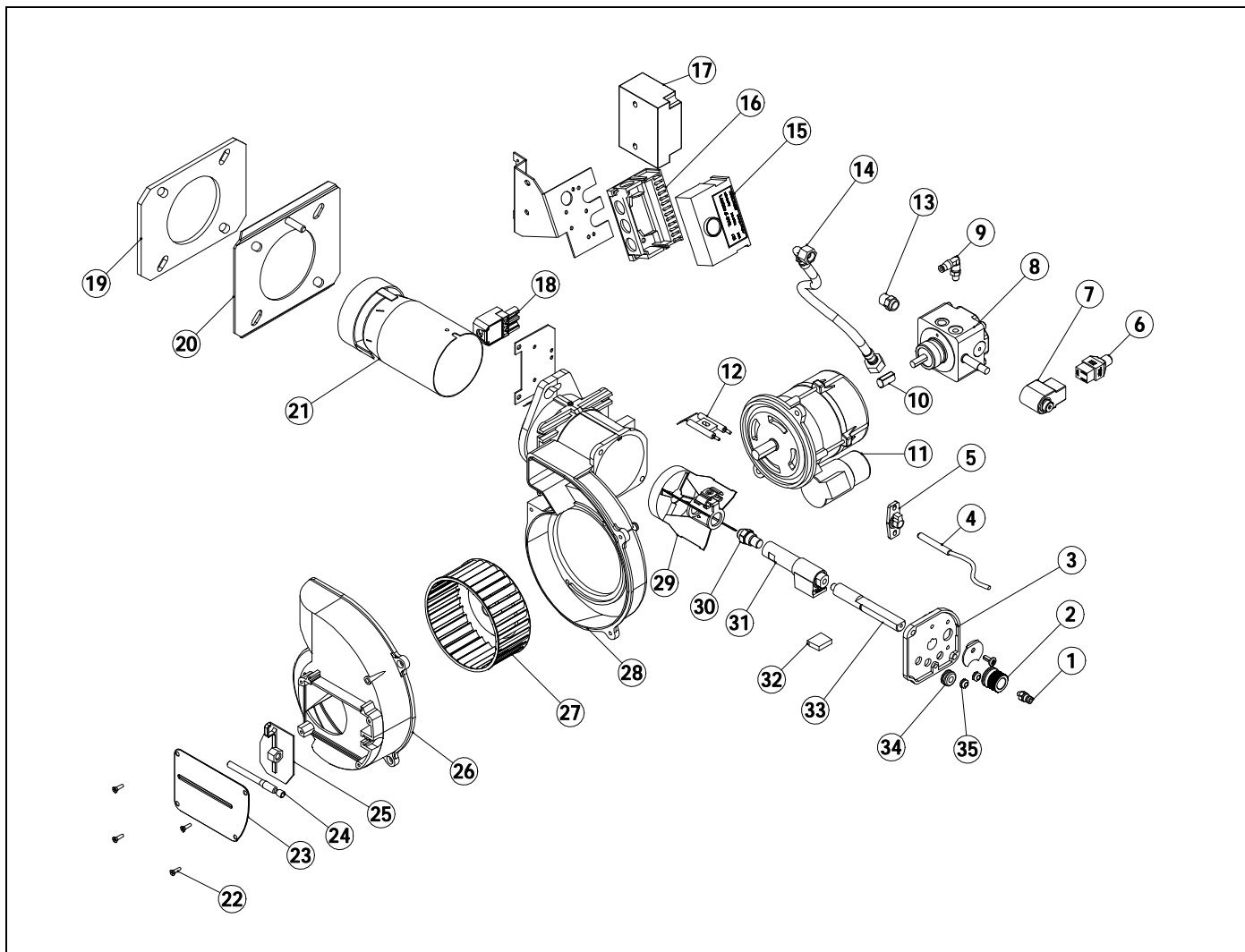
### 17.4 Circulating pump alarms

The high efficiency pumps include a Led (light) which displays their status.

PUMP LIGHT	DESCRIPTION	STATUS	CAUSE	SOLUTION
It is lit green	The pump is functioning	The pump operates according to its setting	Standard functioning	
It flashes green	Standby mode (PWM version)	The pump is in standby mode		
It flashes red/green	The pump is ready for service but is not functioning	The pump will start up again automatically once the error has been solved	1. Low voltage $U < 160 \text{ V}$ or Excess voltage $U > 253 \text{ V}$	1. Check the power supply $195 \text{ V} < U < 253 \text{ V}$
			2. Excess temperature of the module: the temperature of the motor is too high	2. Check the room temperature and that of the fluid
Flashes red	The pump is out of order	The pump is stopped (blocked)	The pump does not start up automatically.	Change the pump. Please contact your nearest official technical assistance service to have it replaced
Light off	There is no power supply	The electrical system is not receiving power supply	1. The pump is not connected to the power supply	1. Check the connection of the cable
			2. The LED is faulty	2. Check if the pump works
			3. The electrical system is faulty	3. Change the Pump. Change the pump. Please contact your nearest official technical assistance service to have it replaced

## 18 SPARE PARTS LIST

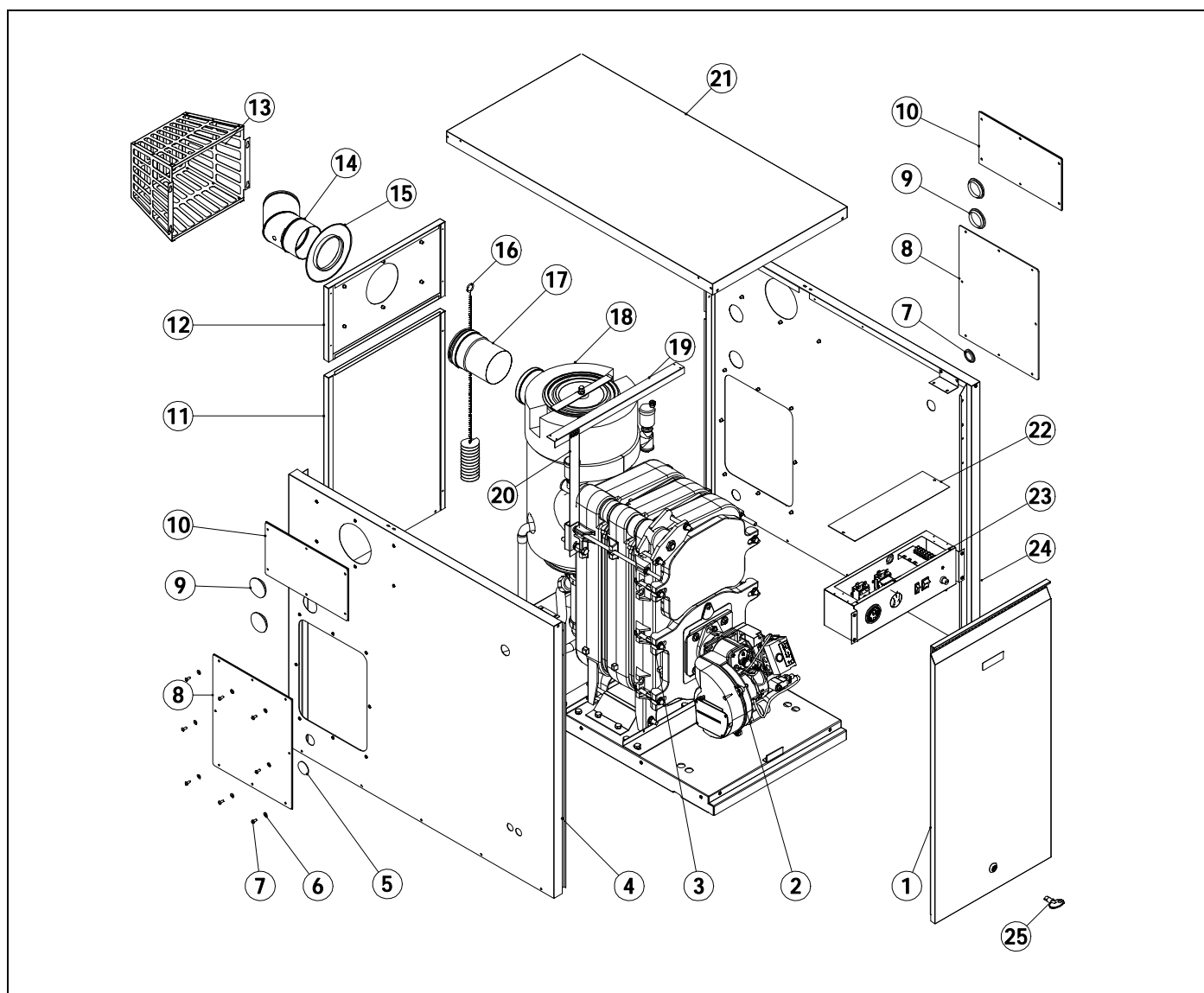
### 18.1 Burner



Pos.	Code	Description	Pos.	Code	Description
1	CTOR000006	Straight connector	21	SCON001667	Flame tube (20)
2	CTOE000054	Line adjustment		CQUE000198	Flame tube (30/40)
3	SEPO001256	Line cover	22	CTOR000025	Screw DIN-7982 3,9x13
4	SOPE000241	Photocell Siemens	23	SEPO001237	Air adjustment plate (20/30)
5	CQUE000223	Photocell support		SEPO001250	Air adjustment plate (40)
6	CQUE000124	Valve coil cable Danfoss	24	CTOE000064	Air adjustment screw
7	CQUE000089	Valve coil Danfoss	25	CQUE000151	Air adjustment plate
8	CQUE000088	Oil pump Danfoss	26	SEPO001255	Air adjustment support
9	CTOR000007	Elbow connector	27	CQUE000044	Fan
10	CQUE000004	Motor pump coupling	28	SEPO001254	Motor support
11	CQUE000102	Motor	29	CQUE000155	Turbulator disc (20/30)
12	CQUE000019	Set of electrodes		CQUE000022	Turbulator disc (40)
13	CTOE000065	Counter thread	30	CQUE000172	Nozzle OD-H 0,40-80° (20)
14	CQUE000147	Hose		CQUE000203	Nozzle OD-H 0,60-60° (30)
15	CQUE000169	Transformer		CQUE000074	Nozzle OD-H 0,60-45° (40)
16	CQUE000129	Control box plugs	31	CQUE000061	Preheater
17	CQUE000159	Transformer	32	CQUE000027	Preheater cable
18	CELC000409	3 poles female plug	33	CTOE000063	Burner line D4
19	CQUE000033	Flange seal (20)	34	CFER000187	Cable gland
	CQUE000173	Flange seal (30/40)	35	CFER000074	Cable gland
20	SCON000766	Flange			

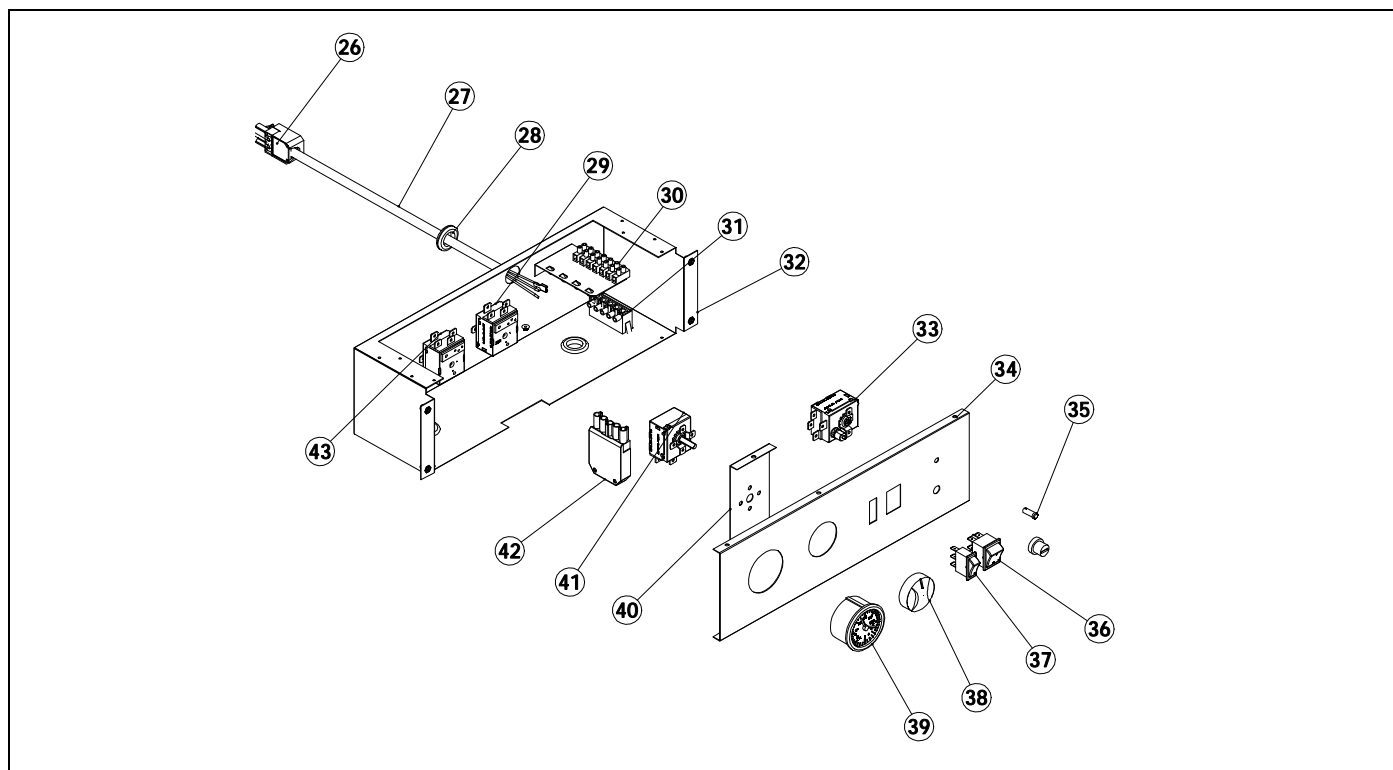


## 18.2 Boiler



# Jaka HFD Condens OD

## 18.3 Electric Board



### Pos. Código Denominación

1	SEPO002265	Door
2	RQUEJAK003	Burner 20
	RQUEJAK004	Burner 30
	RQUEJAK005	Burner 40
3	REVO000000	Boiler body 20 OD
	REVO000001	Boiler body 30 OD
	REVO000002	Boiler body 40 OD
4	RCON000933	Left side 20
	RCON000939	Left side 30
	RCON000942	Left side 40
5	CFER000245	Shutter plug D32
6	CFER000244	Washer nylon M5
7	CTOR000210	Screw. INOX DIN.7985 M5x12
8	RCON000937	Bottom cover
9	CFER000192	Shutter plug D52
10	RCON000936	Fume cover
11	SEPO002291	Bottom rear side
12	RCON000938	Rear side
13	RCON000931	Guard
14	CGAS000365	45° fume terminal
15	CGAS000366	Black fume seal
16	CFER000058	Cleanning brush
17	CGAS000364	Extensible adapter
18	RCON000932	Condenser
19	SCHA011378	Rear rigidity
20	SCHA011377	Rigidity
21	RCON000935	Top cover 20 OD

### Pos. Código Denominación

	RCON000941	Top cover 30 OD
	RCON000944	Top cover 40 OD
22	SEPO002272	Tapa frente electrico
23	RELEEVO012	Electrical main board
24	RCON000934	Right side 20
	RCON000940	Right side 30
	RCON000943	Right side 40
25	CFER000202	Key for bolt
26	CELC000410	3 pole male plug
27	CELC000415	Burner cable
28	CFER000062	Gland D22
29	CELC000034	93° Anti-inertia thermostat
30	RCON000946	Circuit board
31	CELC000407	5 pole female plug
32	RCON000945	Buck
33	CELC000022	Safety thermostat
34	SEPO002271	Panel
35	CELC000039	Red switch
36	CELC000011	Main switch
37	CELC000060	Test switch
38	CELC000099	Black rotary knob
39	CELC000084	Termohydrometre
40	SCHA011396	Knob support
41	CELC000007	Control thermostat
42	CELC000408	5 poles male plug
43	CELC000411	Antifreeze thermostat

**NOTES:**

This image shows a full page of a document template. It consists of approximately 28 horizontal dashed lines spaced evenly down the page, providing a guide for handwriting practice. The lines are light gray and extend across the entire width of the page. There is no text or other content on the page.

# DOMUSA

## T E K N I K

### POSTAL ADDRESS

Apartado 95,  
20730 AZPEITIA  
Spain

### HEADQUARTERS & FACTORY

San Esteban auzoa z/g  
20737 ERREZIL (Gipuzkoa)  
Tel: (+34) 943 813 899

**[www.domusateknik.com](http://www.domusateknik.com)**

**DOMUSA TEKNIK** reserves the right to make modifications of any kind to its product characteristics without prior notice.



CDOC002071

29/07/20