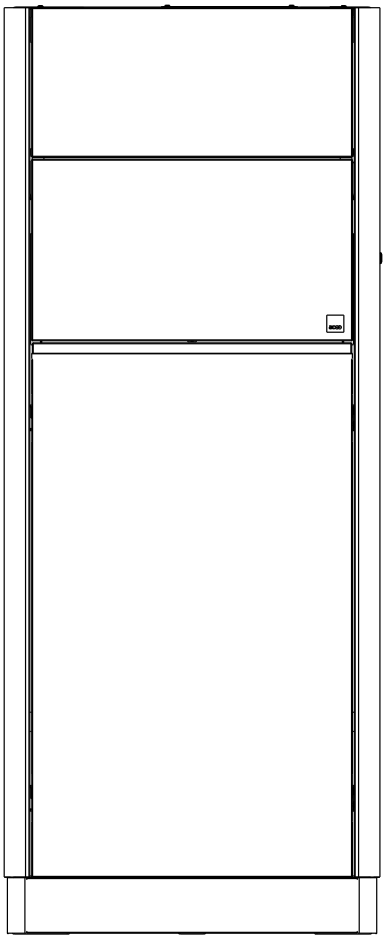
installation and maintenance manual

for the installer and the user

TEXAS

99 · 230 kW

floor — standing condensing storage water heater



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About our Products

Compliance

All our appliances are compliant with the following directives and regulations:

- **GAR 2016/426/EU**
- **LVD 2014/35/EU**
- **EMC 2014/30/EU**

Appliance Naming

In the documentation, products of this range can be designated indifferently using their full name or abbreviated name:

Texas 99 or TX 99 FS

Texas 230 or TX 230 FS

Liabilities of the Manufacturer, the Installer and the End user

Manufacturer

Our products are manufactured in compliance with the requirements of the applicable European Directives and standards, and are therefore delivered with all the required documentation and markings.

The quality of our products is essential to us, and we aim therefore at improving them continually. To this end, we reserve the right to change the technical characteristics and features of our products without prior notice. Please check for the latest revision of the manual on our website (www.myaic.eu).

The manufacturer shall not be held liable for any malfunction of the product resulting from:

- The failure to comply with the safety and installation instructions provided herein,
- The failure to comply with the safety and operation instructions and recommendations provided herein,
- The failure to have the appliance maintained regularly,
- A modification of the appliance that is not approved by the manufacturer,
- The use the product for any other purpose than its intended use,
- The use of components and accessories that are not approved by the manufacturer.

Installer

The installer is responsible for the correct installation, conversion (as required) and commissioning of the appliance according to:

- The instructions and recommendations provided herein
- The applicable regulations and standards
- The installer shall provide the end-user with:
- Any relevant explanation about the operation of the appliance and the heating system as well as the safety devices that are provided,
- Any instruction regarding periodic checks to be performed and possible anomaly to be reported
- All the documentation delivered with the appliance and installed accessories.

The installer shall also inform the end-user of the necessity to have the appliance checked and maintained regularly by a qualified professional.

End-user

To ensure the best performances and safety of the appliance, the end-user shall:

- Make sure that the appliance is installed, converted (as required), commissioned and adjusted by a qualified professional,
- Make sure that the appliance is checked and maintained regularly by a qualified professional,
- Comply with all the instructions and recommendations provided in the appliance documentation,
- Make sure to receive from the installer all the necessary explanations related to the operation of the appliance and the safety devices,
- Make sure to receive from the installer all the appliance and accessories documentation,
- Keep all the appliance documentation in a safe place for future use.

The end-user shall use the product for its intended use.

- ***Should the installer or the end user not comply with the instructions and requirements stated in this manual, the warranty will be void.***
- ***For more information on the warranty terms and conditions, please connect to our web-site (www.myaic.eu)***

About this Manual

This documentation is part of the product. It will be handed over to the end-user who will keep it, with all the other applicable documents, in a safe place and readily available for use.

Before installing, operating or maintaining the appliance, please carefully read this manual and all the applicable documents provided with the components and accessories. They contain essential safety information.

Symbols in this Manual

Indicates an essential instruction which, if not followed, can result in a hazardous situation that can cause serious damage to equipment and/or injuries or death.

Indicates an essential instruction in relation with the presence of electrical power and a danger of electrical shock.

Indicates an important instruction which, if not followed, could result in a hazardous situation that could cause damage to equipment and/or injuries.

Indicates important information.

The electrical supply to the appliance must be activated/deactivated through the external circuit breaker or the power supply cable must be connected/disconnected.

The appliance must be started/stopped using the ON/OFF switch installed on the appliance.

The gas supply to the appliance must be provided/shut down through the external gas tap.

The water circuit of the appliance must be full of water/empty.

The access panel(s) of the appliance must be open/closed.

The appliance must have cooled down.

Gas connection.

Domestic hot water outlet.

Cold water inlet.

Symbols on the Appliance

High Voltage - danger of electric shock.

Ground / Earth.

Cold water inlet connection.

DHW connection.

DHW recirculation connection.

Gas connection.

For an explanation of the symbols on the control panel, please see **"Symbols and Messages on the Control Panel" on page G-15.**

Symbols on the Packaging

This side up

Keep dry

Fragile

Do not stack

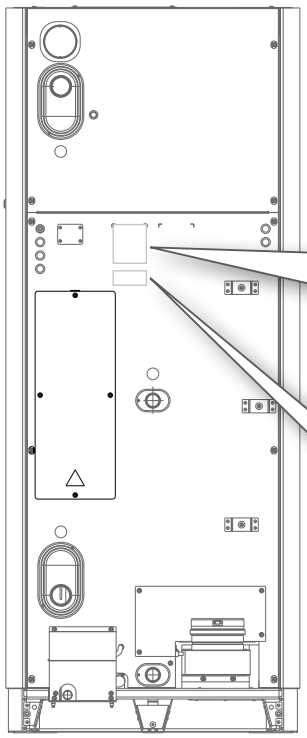
The prefixes used in the page numbering indicate the following:

- **G- : General information**
- **U- : Pages intended for the end user**
- **I- : Pages intended *exclusively* for the qualified professional (e.g. installer)**

Appliance Marking & Conversion Sticker

The data plate is located at the back of the appliance.

The conversion sticker (yellow), is located under the appliance data plate.



Texas

Floor-Standing Condensing Storage Water Heater | Stojący kondensacyjny pojemnościowy podgrzewacz c.w.u | Productor de ACS en condensación con acumulación | Produttore di acqua calda sanitaria a condensazione con accumulo integrato | Vloer-staande condenserende waterverwarmingstoestel | Akumulacijski talni kondenzacijski grelnik vode | Bodenstehender Kondens-Wassererboiler | Chauffe-eau sol à condensation et accumulation | Produtor de AQS em condensação com acumulação | Напольный конденсационный накопительный водонагреватель | Akumulacioni podni kondenzacijski grijač vode | Επιδαπέδιος Ταχυθερμοντήρας Ζεστού Νερού Χρήσης Τεχνολογίας Συμπύκνωσης | Газов подов Кондензен обменр бойлер | Boiler de sol cu arzator pe gaz in condensatie

Model

PIN

Date

AIC Europe No.

Product ID

Serial No.

	G20/G20Y20	G25	G31
Q kW			
P kW			

EXAMPLE

G20 – 20 mbar

Adjusted | Skorygowana | Configurado | Regolato | Afgesteld op | Prilagojen | Eingestellt für | Réglé pour | Configurado | Скорректировано | Podešen | Προσαρμοσμένη | Коригирано | Ajustat

aicON

AIC Europe B.V.

Graafschap Hornelaan 163A
NL-6001 AC Weert
The Netherlands

EU	UK

1015 YY

Fig. 1. Data Plate - Typical

Gas conversion label

This appliance was converted on _____ (day) /_____ (month) /_____ (year)

from gas _____ (_____ mbar) to gas _____ (_____ mbar)
gas type (G20 / G20Y20 / G25 / G25.3 / G31) and its pressure

with kit _____
fill in with the kit name or number (if required) or cross it out

by _____
name and address of the organisation carrying out the conversion procedure and validating its correctness

Please read the *Gas Conversion Procedure* and follow all safety information, warnings and procedures.

Failure to follow all instructions could cause severe personal injuries, death or property damage!

Place this label **UNDER** the existing data plate. **DO NOT** cover up the existing data plate.

Fig. 2. Gas Conversion Label - Typical

Symbol	Description	
	Electrical data	
	**PMS**	maximum operating pressure
	Tmax	maximum primary temperature
	V	water content
	**PMS**	maximum operating pressure (DHW circuit)
	Tmax	maximum DHW temperature
	V	water content
	Chimney types	
	NOx class	

Symbol	Description
Qmin	Minimum heat input
Qn	Nominal heat input
Pmin (80/60°C)	Minimum heat output (80/60°C)
Pn (80/60°C)	Nominal heat output (80/60°C)
Pmin (50/30°C)	Minimum heat output (50/30°C)
Pn (50/30°C)	Nominal heat output (50/30°C)
	CE sign indicating the compliance of the device with CE directives
	UKCA sign indicating the compliance of the device with UK regulations
	Note about handling electronic equipment waste

The use of symbols on the data plate depends on the type of product.

Safety Instructions

IF YOU SMELL GAS:

→ **DO NOT:**
- **Use an open flame**
- **Smoke**
- **Use electrical devices (phones, doorbell, etc.) or switches**

→ **DO:**
- **Close the gas supply**
- **Open all doors and windows to ventilate the room**
- **Inform the neighbours of the danger by knocking at the doors.**
- **Get out of the building**
- **Call the gas company**

- This product is intended for the production and storage of Domestic Hot Water.
- This appliance must be installed according to the applicable local regulations and standards.
- This appliance can be used by children who are at least 8 years old and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, provided that they are under supervision or have been given instructions concerning the use of the appliance in a safe way and that they understand the hazards involved.
- Cleaning and user maintenance shall not be performed by children without supervision. Children shall not play with the appliance.
- Any modification to the appliance and its components is strictly forbidden without the prior written consent of the manufacturer.
- If components need to be replaced, only genuine factory parts or components approved by the manufacturer must be used.

- When working on the appliance and the system, make sure to use the appropriate tools to avoid damaging the pipes and components.
- If works need to be performed close to the appliance (e.g. in the boiler room or close to the air inlets), make sure to shut down the appliance to prevent dust from entering and accumulating in the appliance.
- The appliance contains a frost-protection feature that will protect the appliance against frost, provided that the appliance remains in operation and the radiator valves are open.

▷ *When unpacking the appliance, check the integrity and condition of the packaging and that all the components and accessories described in the packing list are present. Contact your supplier in case of problem.*

▷ *When discarding the packaging, do not contaminate the environment. Dispose of it according to the applicable local regulations on recycling.*

Package Contents

- A Texas water heater
- An Installation and Maintenance manual
- A set of components to be installed before commissioning:
  - A condensate trap with accessories and protective cover
  - An air inlet silencer (for B-type chimney connection) and hardware

Refer to **“Unpacking the Product” on page I-29** for the complete unpacking and preparation instructions.

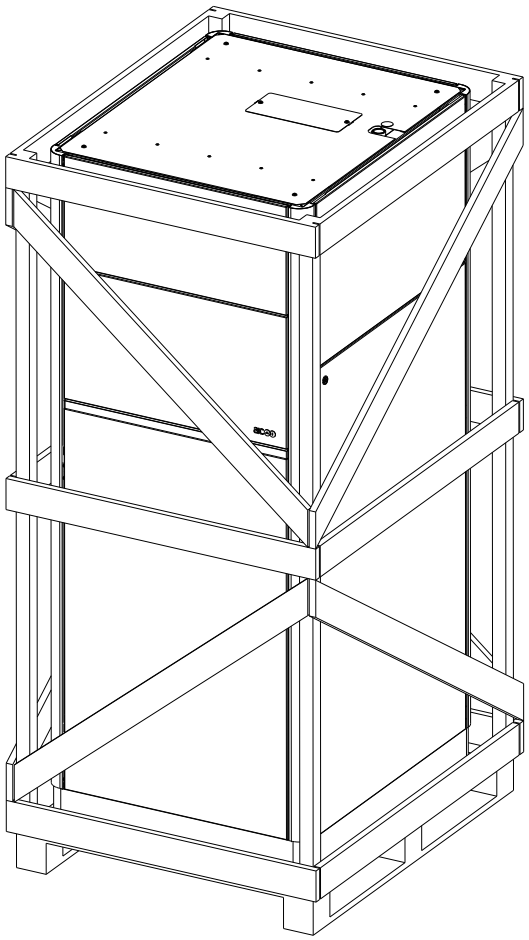


Fig. 3. TEXAS Water Heater Packaged for Transport

TEXAS 99 - 230

General Description

This floor-standing storage water heater is a compact, low-emission condensing appliance with a pre-mix burner and a stainless steel heat exchanger.

The fully radial burner ensures a high modulation ratio, combustion stability and very low NOx emissions.

This appliance produces Domestic Hot Water through a unique and proven helical “fire-tube” heat exchanger, that offers a large heat exchange surface to optimise energy and heating efficiency. The heat exchanger is built inside a stainless steel tank, that can store and deliver large volumes of hot water.

The appliances are built for natural gas but can be converted to operate with liquefied petroleum gas (propane), by performing combustion and fan speed adjustments according to the procedure provided in this manual. The conversion process should take place before commissioning and comply with applicable local regulations and standards.

The water circuit of the appliance is provided with a built-in circulating pump to allow internal circulation of water inside the tank.

The reversible hinged front door and the center access panel make it easier to access control panel and electronic components, as well as the internal pump.

The TEXAS water heaters are also able to control a DHW circuit with mixing functions as well as additional accessories, through an optional extension module. The extension module requires a power supply and a bus connection. Refer to **“Optional Modules” on page I-80** for more information.

TEXAS water heaters can be connected in a cascade, which means that the appliances are connected to the same water circuit and electronic controller, with one appliance operating as principal, and the others as subsequent. Refer to **“Texas in a Cascade System” on page I-81** for more information on cascade system possibilities.

Frost Protection

The TEXAS water heaters have a built-in anti-frost protection. The pump and the burner are started as required when the water temperature drops below 5°C (as measured by the appliance internal sensor installed on the return circuit).

The pump and/or burner will turn off when the temperature reaches the required setpoint.

The anti-frost protection function only protects the appliance, not the entire system.

Safety Devices

The water heaters of the TEXAS range are equipped with a series of sensors and switches that provide safety for your appliance and water circuit, such as:

- Water circuit temperature sensors (inlet/outlet)
- Gas pressure switch
- Flue pressure switch
- Air pressure switch
- Water high limit switch
- Burner door high limit switch
- Flue temperature sensor
- Alarm contacts
- Temperature and pressure relief valve (UK only)

The TEXAS water heaters **are not** provided with the following mandatory safety equipment that the installer must place in the system, in accordance with the applicable local standards and regulations:

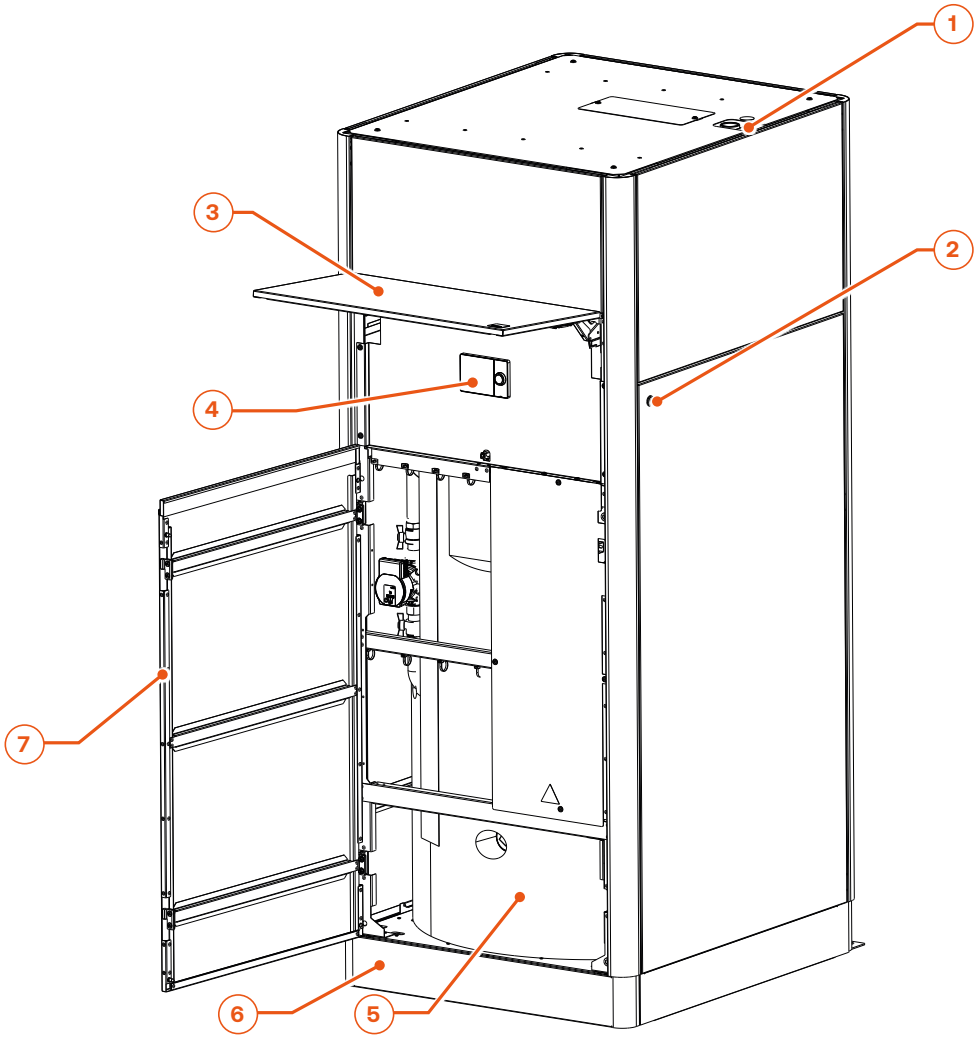
- A DHW expansion tank, suitable for the system size
- A safety group and manometer.

Optional equipment

Some optional equipment can be used with the TEXAS water heaters. Please contact your AIC representative for more information and a list of available equipment.

To lengthen the life of your appliance and system, in addition to the characteristics of the hydraulic circuit described in **“Safety Instructions for the DHW Circuit” on page I-34,** the following equipment can be installed in the circuit:

- Water filter
- Dirt separator
- Air separator



KEY

1. Gas connection
2. On/Off switch
3. Control panel access door
4. Control panel
5. Water tank insulation
6. Removable bottom panel
7. Reversible hinged front door

Fig. 4. TEXAS 99 - 230 Components - Front view

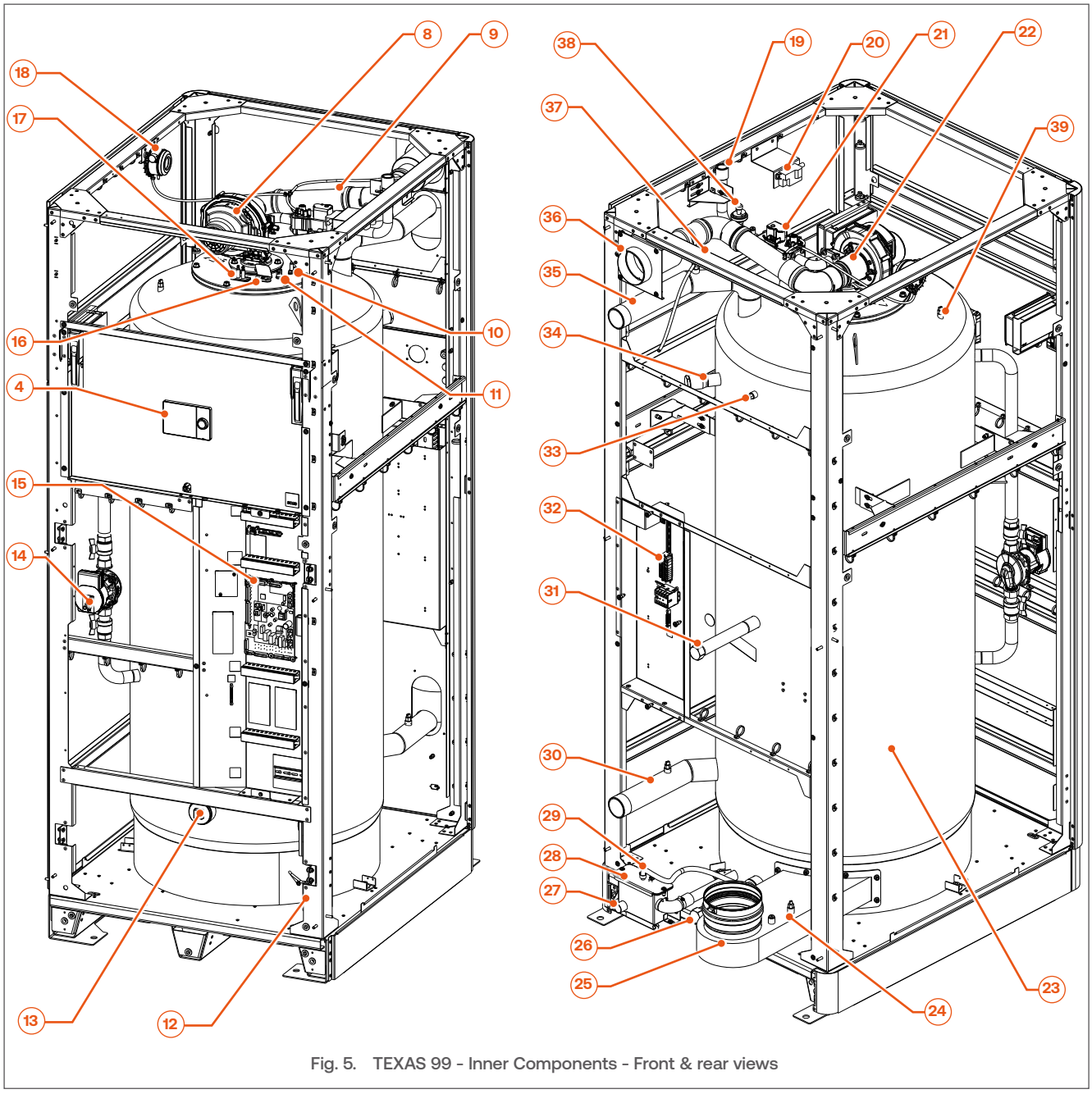


Fig. 5. TEXAS 99 - Inner Components - Front & rear views

8. Fan
9. Combustion air inlet tube
10. Ignition electrode
11. Burner plate safety thermostat
12. Flue pressure switch (not shown)
13. Inspection hole
14. DHW pump
15. Electronic board
16. Flame sight glass
17. Ionisation electrode
18. Air pressure switch
19. Gas pipe
20. Ignition transformer
21. Gas valve
22. Venturi
23. DHW tank with built-in heat exchanger
24. Condensate dish with flue gas temperature sensor
25. Flue gas connection
26. Drain Connection
27. Condensate drain
28. Condensate trap
29. Condensate trap air vent hose
30. Cold water inlet with temperature sensor
31. Recirculation connection
32. Rear terminal strip (high voltage)
33. DHW tank temperature sensor
34. Connection for T&P valve (See **“G3 Requirements - UK only” on page I-35**)
35. DHW outlet with safety thermostat
36. Air inlet connection
37. Air vent (not shown)
38. Gas pressure switch
39. Outlet temperature sensor

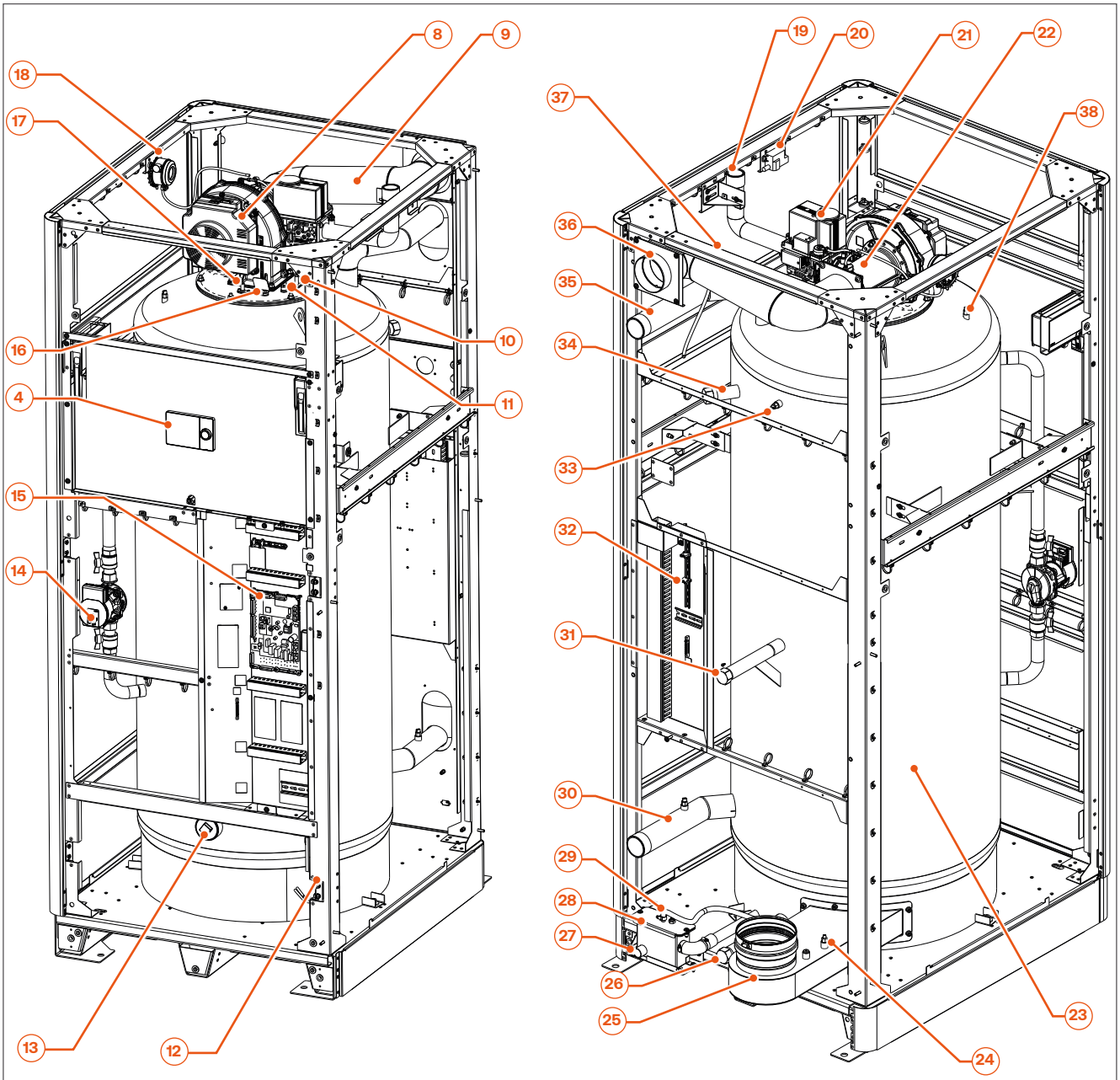


Fig. 6. TEXAS 230 - Inner Components - Front & rear views

8. Fan
9. Combustion air inlet tube
10. Ignition electrode
11. Burner plate safety thermostat
12. Flue pressure switch (not shown)
13. Inspection hole
14. DHW pump
15. Electronic board
16. Flame sight glass
17. Ionisation electrode
18. Air pressure switch
19. Gas pipe
20. Ignition transformer
21. Gas valve with built-in gas pressure switch
22. Venturi
23. DHW tank with built-in heat exchanger
24. Condensate dish with flue gas temperature sensor
25. Flue gas connection
26. Drain Connection
27. Condensate drain
28. Condensate trap
29. Condensate trap air vent hose
30. Cold water inlet with temperature sensor
31. Recirculation connection
32. Rear terminal strip (high voltage)
33. DHW tank temperature sensor
34. Connection for T&P valve (See **"G3 Requirements - UK only" on page I-35**)
35. DHW outlet with safety thermostat
36. Air inlet connection
37. Air vent (not shown)
38. Outlet temperature sensor

Control Panel and Main Functions

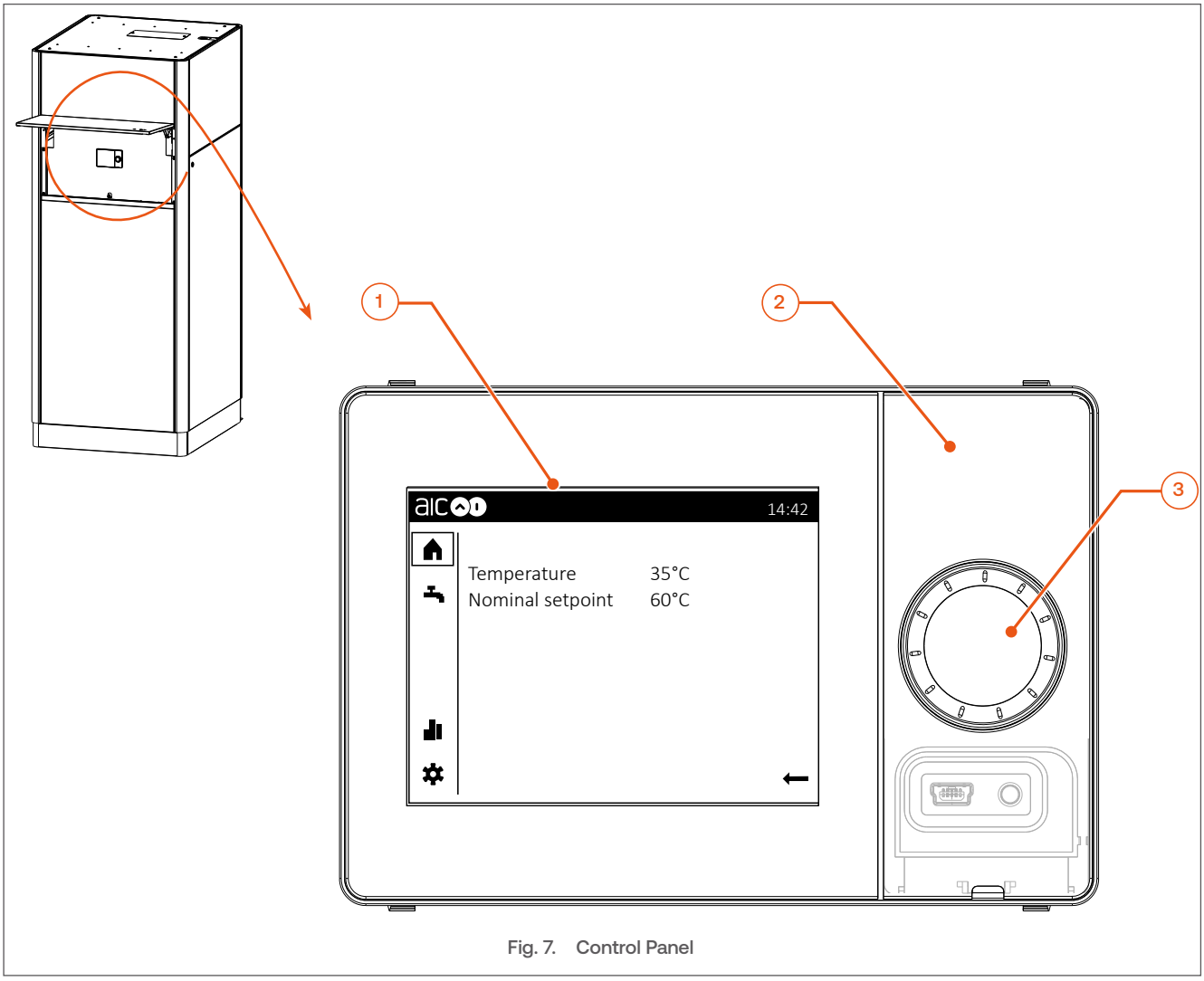


Fig. 7. Control Panel

KEY

1. LCD Display - The display illuminates whenever the rotary selector is rotated or depressed, and remains on for 8 minutes. For a detail of the symbols and messages displayed on the screen, see **"Symbols and Messages on the Control Panel" on page G-15.**
2. Removable panel - To access the USB connector and Reset button located underneath (showed in light grey on the picture, for information).
3. Rotary selector - It can be used in 3 different ways:
   - Turning the selector to the left or to the right allows to scroll through the menus (icons/functions) or increase/decrease a value after selecting a function.

When entering a menu/sub-menu, the slow rotation of the selector to the right (clockwise) allows to scroll through the menu, down to the last function. Turning the selector to the left (counter-clockwise) allows to scroll up to the first function of the menu.

   - Depressing the selector (short push) allows to select a function/value and validate a choice.
   - Depressing the selector for more than 3 sec. when an error is displayed on the screen, takes you back to the Home screen. Doing the same in Expert menus brings back to the Expert view start page.

For more information on the symbols and the operation of the controller, see **"Symbols and Messages on the Control Panel" on page G-15** and **"Operating the Controller - End User Level" on page U-24.**

Symbols and Messages on the Control Panel

The control panel display is divided into several zones (See **Fig. 8):**

- a **vertical menu bar** (**1**) on the left side of the screen, comprising a series of icons to access various menus. When one of the icon is selected and active, is displays against a black background (**2**). When one icon is selected and activated by pressing the selector, the menu bar disappears and gives way to the work area.
- a **horizontal status bar** (**3**) at the top of the screen. It permanently displays the time and, according to the situation, specific icons (Alarm, Maintenance, Event, Manual adjustment, User level and Producer in operation). See a detail of the symbols below.
- a **work area** (**4**), comprising menu and function-specific information as well as operating mode. It also displays a **back arrow** (**5**), allowing to exit the work area and go back to the vertical menu bar.

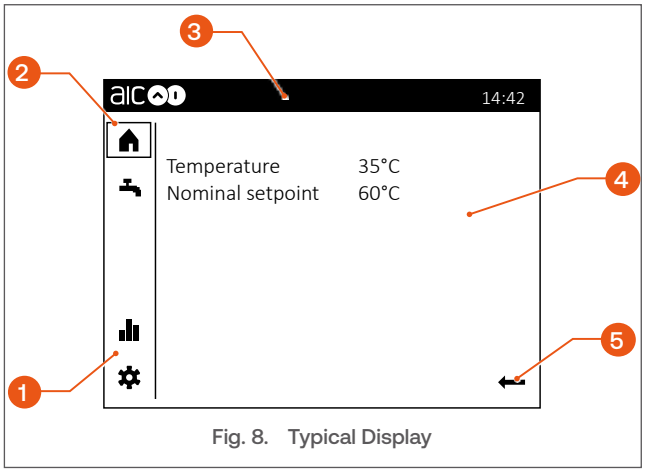


Fig. 8. Typical Display

Symbols of the **vertical menu bar**:

Home. Gives access to the System status and change it from *automatic* to **off**.

Temperature. Not used.

Ventilation. Not used.

Domestic Hot Water. Gives access to the DHW-related functions.

Info. Gives access to messages (history, errors, etc.), system information and consumption information.

Service/settings. Gives access to setting options on device or system, allows to operate special operations (e.g. for maintenance work) and allows to log in, in expert view (access to additional pages for the Installer only).

Diagnostics (Expert only). Analyze and test info on the system.

Adjust/repair (Expert only). Allows to adjust the parameters in the 'Complete parameter list', and to access the commissioning wizard.

Symbols appearing in the **horizontal status bar**:

Alarm. Indicates an error in the system.

Maintenance/Special operations. It indicates the presence of a maintenance message or special operation feedback.

Manual mode. Indicates that the operating modes on the topic pages are set to manual.

User type. This symbol with number 1, 2 or 3 indicates the access level:

1 - End user/commissioning
2 - Heating engineer/installer
3 - OEM

Producer. This symbol indicates the main producer (e.g. oil/gas appliance, heat pump) that is currently switched on.

Symbols and indications In the **work area**:

abc	Selected item (text or icon)
abc	Activated item (text or icon)
Back	To go back to higher level in the menu
	To return to the vertical menu bar icons

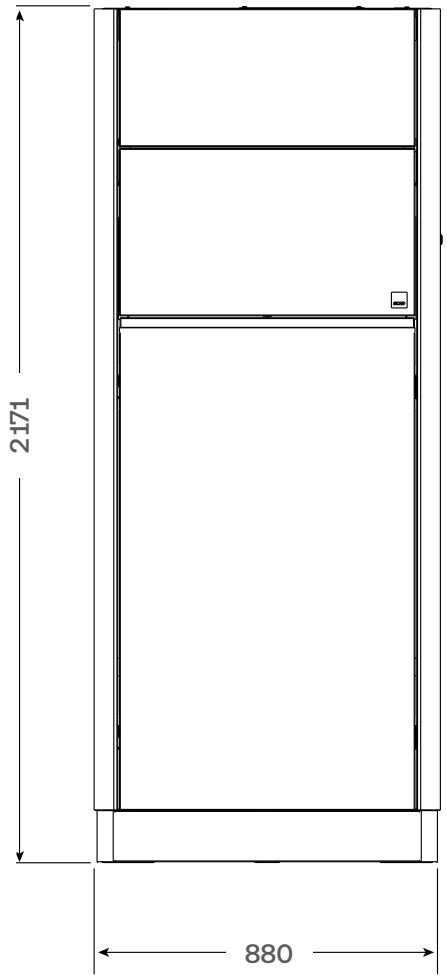
Symbols used in the manual to illustrate the **operation of the selector**:

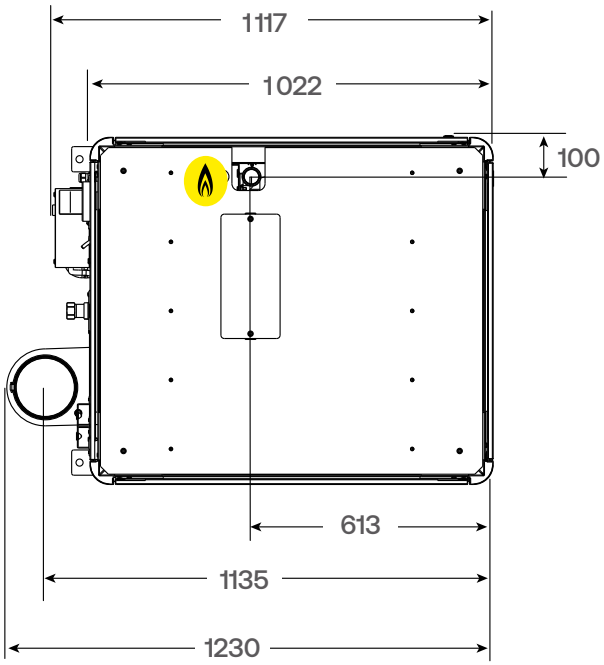
turn the selector to the left or to the right

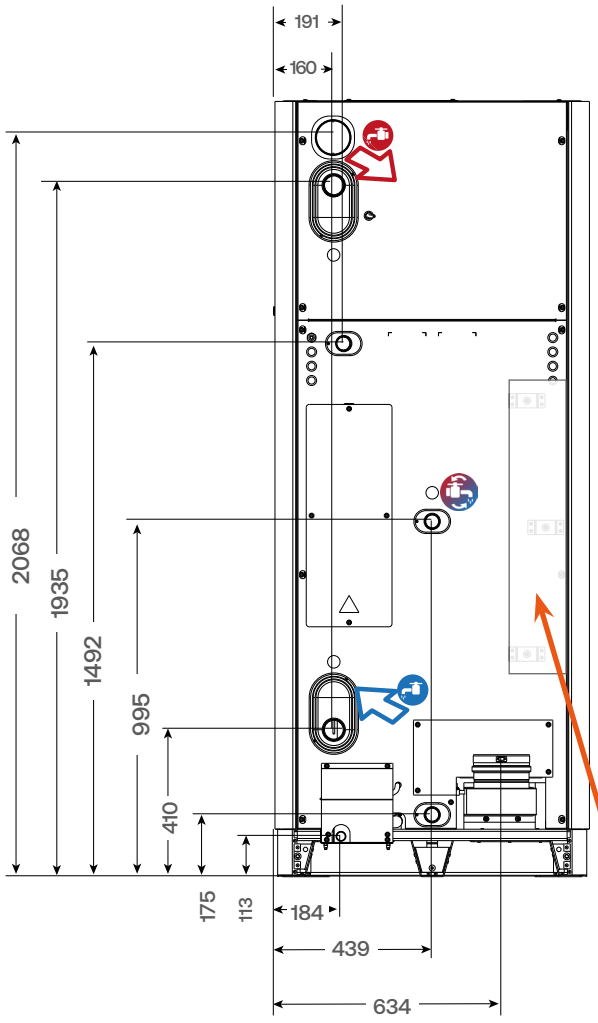
depress shortly the rotary selector

depress the rotary selector for more than 3 seconds.

Dimensions *







Bottom front panel in storage location for transport

* dimensions expressed in mm

Dimensional Characteristics		TX 99 FS	TX 230 FS
dry weight	kg	402,5	432,5
full of water	kg	902,5	932,5
connections (Ø)			
inlet ( )/outlet ( ) [M]	in.	G 2	
recirculation ( ) [M]	in.	G 1	
drain valve [F]	in.	G 2	
gas ( ) [M]	in.	G 3/4	G 1 1/4
T&P valve outlet [F] **(UK only)**	in.	1	
condensate drain	mm	26,7	
flue gas	mm	150	
air inlet	mm	100	
min. cross section area of air inlet	mm^2	7853	

Clearances

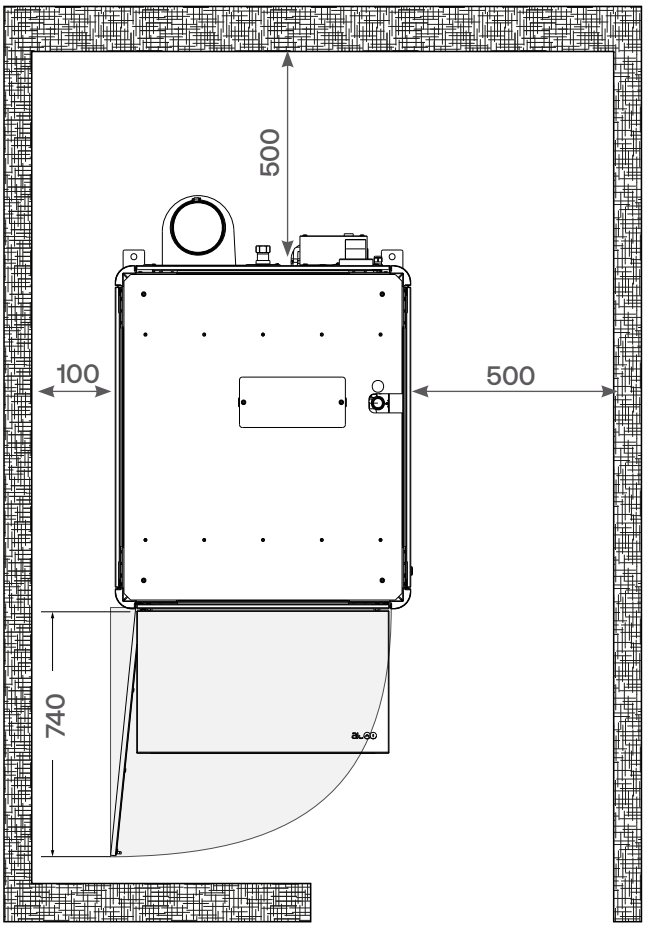


Fig. 9. Single Appliance Clearances - View from the Top

Clearances		Min.	Recommended
top	mm	400	800
back	mm	500	800
front	mm	740 (Front door fully open on hinges)	1000
sides	mm	100 (left) 500 (right)	900

Technical Specifications

Performance and Efficiency Data			TX 99 FS (min. - max.)*	TX 230 FS (min. - max.)*
nominal heat input (Q)	G20	kW	18,3 - 99,0	37,0 - 230,0
	G20Y20**		18,3 - 99,0	37,0 - 230,0
	G25		19,0 - 99,0	37,0 - 230,0
	G31		24,0 - 99,0	54,4 - 230,0
nominal useful output (P)	G20	kW	105,1	246,8
	G20Y20**		105,1	246,8
	G25		107,4	249,3
	G31		105,2	239,5
efficiency (expressed in terms of NCV) for continuous draw-off at constant dT (ηu)	G20	%	106,2	107,3
	G25		108,5	108,4
	G31		106,3	104,2

* "min. - max." stand for "@Min output" and "@Max output"

** up to 20 vol.% hydrogen

ErP Data		TX 99 FS	TX 230 FS
declared load profile		3XL	4XL
water heating energy efficiency (ηwh)*	%	93,8	92,6
mixed water at 40 °C (V40)	l	∞	∞
daily electricity consumption (Qelec)	kWh	0,136	0,379
annual electricity consumption (AEC)	kWh	30,0	83,0
daily fuel consumption (Qfuel)*	kWh	49,532	100,065
annual fuel consumption* (AFC)	GJ	39,0	79,0
sound power level indoors (LWA)	dB	84	84
heating-up time (T) to reach 50°C	min	16	6
continuous draw-off	m^3/h	3,1	7,0

* expressed in terms of GCV

Electrical Data		TX 99 FS	TX 230 FS
supply voltage / frequency / current	V / Hz / A	230 / 50 / 6	
protection class	IP	X4D	
power consumption	W	169	290

Combustion Data

			TX 99 FS (min. - max.)*	TX 230 FS (min. - max.)*
chimney type(s)			B23, B23p, C43, C53, C63, C83	
overheat flue gas temperature		°C	110	
max. flue gas pressure (incl. max wind condition)		Pa	200	
min. flue gas pressure		Pa	-25	
CO emissions	G20	mg/kWh	4,30	9,67
	G25		6,44	10,74
	G31		10,74	20,41
CO_2 contents (G20) (± 0,3)		%	8,2 - 9,2	8,2 - 9,2
CO_2 contents (G20Y20) (± 0,1)**		%	7,1 - 8,0	7,2 - 7,8
CO_2 contents (G25) (± 0,3)		%	8,3 - 9,2	8,3 - 9,2
CO_2 contents (G31) (± 0,3)		%	10,5 - 11,0	10,5 - 11,1
O_2 contents (G20) (± 0,3)		%	6,5 - 4,5	6,6 - 4,6
O_2 contents (G20Y20) (± 0,3)**		%	7,5 - 5,8	7,4 - 6,3
O_2 contents (G25) (± 0,3)		%	5,9 - 4,4	6,0 - 4,3
O_2 contents (G31) (± 0,3)		%	4,9 - 4,1	4,8 - 3,9
NOx level (GCV)		mg/kWh	37,6	37,5
mass flow rate of flue gases		g/s	8,0 - 42,0	16,0 - 96,0
maximum flue gas temperature		°C	60,0	71,0

* "min. - max." stand for "@Min output" and "@Max output"

** up to 20 vol.% hydrogen

Hydraulic Data

			TX 99 FS	TX 230 FS
	water content (V)	l	500	
	minimum water pressure	bar	0,8	
	maximum water pressure	bar	10,0	
	maximum T&P valve pressure*	bar	10,3	
	maximum DHW temperature	°C	80	
	maximum T&P valve temperature*	°C	99	

* T&P valve - UK only

Technical Specifications

Gas Data			TX 99 FS (min. - max.)**	TX 230 FS (min. - max.)**
gas type(s)			G20 , G25, G25.1, G25.3, G31	
gas categories			I2E(S), I2E, I2H, I2ELL, I2HS, I2N, I2EK, I3P, I2E(R), II2E3P, II2E(S)3P, II2EK3P, II2H3P, II2L3P, II2E+3P, II2E(R)3P, II2Esi3P, II2Er3P	
gas pressure	G20 (20 mbar)	mbar	17 - 25	
	G20Y20 (20 mbar)***	mbar	17 - 25	
	G25 (25 mbar)	mbar	20 - 30	
	G25.1 (25 mbar)	mbar	18 - 33	
	G25.3 (25 mbar)	mbar	20 - 30	
	G31 (30/37/50 mbar)	mbar	25,0-35,0 / 25,0-45,0 / 42,5-57,5	
gas flow rate (G20)*		m^3/h	2,0 - 10,0	3,9 - 22,8
gas flow rate (G20Y20)***		m^3/h	2,2 - 12,1	4,3 - 26,9
gas flow rate (G25)*		m^3/h	2,4 - 11,8	4,4 - 26,4
gas flow rate (G31)*		m^3/h	0,9 - 3,9	2,2 - 8,9

* 15°C, 1013,25 mbar, dry gas
** "min. - max." stand for "@Min output" and "@Max output"
*** up to 20 vol.% hydrogen

Gas category	Gas type	Pressure	Country of destination
I2H	G20	20 mbar	AT, CH, CY, CZ, DK, EE, ES, FI, GB, GR, HR, IE, IT, LT, LU, LV, NO, PT, RO, SE, SI, SK, TR
I2E	G20	20 mbar	DE, NL, PL, RO
I2ELL	G25	20 mbar	DE
I2HS	G20/G25.1	25 mbar	HU
I2EK	G20/G25.3	25 mbar	NL
I3P	G31	30 mbar	AT, CZ, DE, FI, NL, RO
I3P	G31	37 mbar	BE, CH, CZ, ES, FR, GB, GR, HR, IE, IT, LT, NL, PL, PT, SI, SK, TR
I3P	G31	50 mbar	AT, BE, CH, CZ, DE, ES, FR, GB, NL, SK
I2E(R)	G20	20 mbar	BE
II2E3P	G20/G31	20/37 mbar	PL
II2EK3P	G20/G25.3/G31	20/25/37 mbar	NL
II2H3P	G20/G31	20/30 mbar	AT, CZ, FI, RO
		20/37 mbar	CH, CZ, ES, GB, GR, HR, IE, IT, LT, PT, SI, SK, TR
		20/50 mbar	AT, CH, CZ, ES, GB, SK
II2L3P	G25/G31	20/37/50 mbar	FR
		25/30 mbar	RO
II2E+3P	G20/G31	20/25/37/50 mbar	BE, FR
II2E(R)3P	G20/G31	20/37 mbar	BE
II2Esi3P	G20/G25/G31	20/25/37/50 mbar	FR
II2Er3P	G20/G25/G31	20/25/37/50 mbar	FR

Appliances operating with gas categories I2E and I2H can also operate with G20Y20 gas type (G20 natural gas + 20% Hydrogen). Please check your applicable local regulations for compliance before any installation.

Safety Instructions for the User

IF YOU SMELL GAS:

→ **DO NOT:**
- Use an open flame
- Smoke
- Use electrical devices (phones, doorbells, etc.) or switches

→ **DO:**
- Close the gas supply
- Open all doors and windows to ventilate the room
- Inform your neighbours of the danger by knocking at the doors.
- Get out of the building
- Call your installer or gas company

- This appliance can be used by children who are at least 8 years old and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, provided that they are under supervision or have been given instructions concerning the use of the appliance in a safe way and that they understand the hazards involved.
- Cleaning and user maintenance shall not be performed by children without supervision. Children shall not play with the appliance.
- For safety reasons, we recommend to install smoke, carbon monoxide and fire detectors in the living areas of your building according to the applicable local regulations.
- If smoke is present, shut down the appliance, ventilate the room and exit the building. Then call your installer to investigate and solve the problem.
- Do not store any flammable, corrosive or explosive products near the appliance.
- Do not modify or deactivate any component, nor any safety device in the system.
- Do not operate the appliance when the casing is open.

- Do not modify any part of the electrical system or access internal components.
- Do not touch the appliance with any wet body parts when the appliance is supplied with electrical power.

- Do not modify or block the condensate outlet(s).
- Do not open any sealed part or component. Failure to comply with this instruction can result in damages and/or injuries.
- The flame sight glass can be very hot when the appliance is in operation. Do not touch the sight glass or its immediate surroundings.
- Make sure that the appliance and the water system are protected against freezing.
- In case of water leakage, disconnect the appliance from the power supply and gas source, turn off the water supply and call a qualified professional.

- **If works need to be performed close to the appliance (e.g. in the boiler room or close to the air inlets), make sure that the appliance is shut down to prevent the ingress and accumulation of dust.**
- **In case of abnormal noises in the system or the appliance, please notify a qualified professional.**
- **Any setting of the appliance by the end-user using the installer-specific functions is forbidden as it might cause the appliance to malfunction and result in damages to the equipment. Only the end-user settings described in this manual are available to the end-user.**
- **If a condensate neutralisation system is installed, have it checked and cleaned at least once a year.**

When cleaning the appliance cabinet panels, do not use solvents or aggressive/abrasive cleaning agents. Wipe the surfaces using a soft clean cloth, water and soap.

Disposal of the Product at the End of Service Life

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

Periodic checks

- **Check regularly that there is no water below the appliance. If there is, call your installer**
- **Check regularly that there is no error code displayed on the control panel screen. Call your installer as required.**

Starting the Appliance

The first start-up of the appliance after its installation must be performed by a qualified professional, according to the procedure in **"Start-up and Pump Setting" on page I-57.**

Conditions:

Procedure:

1. Make sure that the power supply cable is connected to the appliance.
2. Push the On/Off switch located on the right side of the appliance.

When in the ON position, the switch remains pushed in and is illuminated.

Follow-on tasks:

Check the pressure of the water circuit in operation. It should be between 0,8 and 6 bar (with pump on).

Stopping the Appliance

Conditions:

None

Procedure:

1. Push the On/Off switch located on the right side of the appliance.

When in the OFF position, the switch is released from its pushed in position. Its built-in light goes off and the button comes flush with the outer frame.

2. To completely cut the power supply to the appliance, either disconnect the power supply cable from the appliance, or use the external circuit breaker.

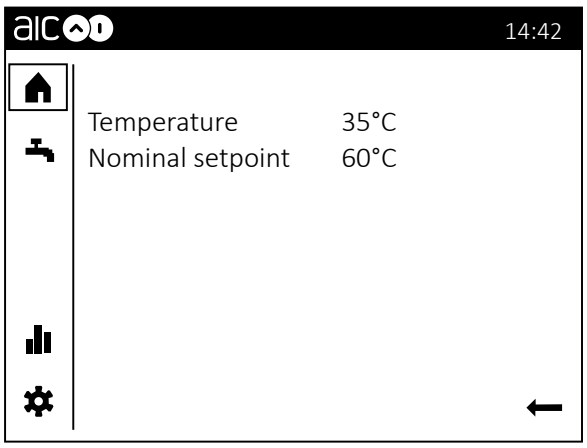
Follow-on tasks:

None

What to Do if...	Cause	Action
Appliance does not start	No power supply	1. Check that the power button is in ON position (pushed in and illuminated). 2. Make sure the power supply is connected to the mains. 3. Check the external power supply box (circuit breaker) and reset it as required.
No water goes out of the hot taps	The hot water circuit from the water heater is closed	Open the hot water circuit stop valve
	There is air in the water circuit	1. Make sure that the tank is filled with water 2. Bleed air from the circuit by opening a hot water tap until water flows out
Only cold water is coming out of the hot tap	Appliance not in operation	Check the correct operation of the appliance
Error code 105 displayed Maintenance icon ( )	Maintenance message	Select and activate the Information icon ( ) for details on the error and maintenance code.
Error code 110 displayed	Safety Water Temperature Switch opened	1. Check the system pump. 2. Make sure the appliance is properly air-vented.. 3. If the problem cannot be solved, call your installer.
Error code 132 displayed	Gas Pressure Switch opened	1. Make sure the gas supply provides sufficient pressure to the gas valve. 2. If the problem cannot be solved call your installer.
Error code 133 displayed	Time out for flame ignition	1. Open controller removable panel and depress Reset button. Refer to **"Control Panel and Main Functions" on page G-14**. 2. If the fault appears several times, call your installer.
Error code 162 is displayed	Air Pressure Switch or Flue Pressure Switch opened	1. Check for obstructions in air intake/chimney. 2. Press the reset button. 3. If the fault appears several times, call your installer.

To remove an error code from the display temporarily and go back to the Home screen, depress the rotary selector for more than 3 seconds.

Operating the Controller - End User Level



Some parameters are only visible if the circuit is installed and enabled.

Icons	In the work area	Selectable/ Adjustable Parameters	Remark
Home	Temperature: ---°C	—	This value indicates the current temperature, as detected by the system sensors
	Nominal setpoint: ---°C	—	
DHW temp. setting	▸ Operating mode	▹ Off ▹ On	When "Off", Hot water heating is switched off; when "On", Hot water is heated to the nominal setpoint as per time program
	▸ Temporary	▹ ... ▹ Recharging	"Recharging" is used to bring the storage tank to the nominal setpoint when there was a high consumption. "..." deactivates the function.
	▸ Nominal setpoint	▹ 60°C	
	▸ Time program	—	Active if operating mode is set to "On".

Icons	In the work area	Selectable/ Adjustable Parameters	Remark
Info	▸ Error (error code and description)	—	
	▸ Maintenance (maintenance code and description)	—	
	Domestic hot water ▸ Charged ▸ Ener' brought DHW...kWh	—	
	Customer service ▸ Tel. Number		Can be defined at commissioning
Settings	Regional settings ▸ Regional settings (1/3)	▹ Time 01:00 ▹ Date 01.01.2030	
	▸ Regional settings (2/3)	▹ Start of summertime 25.03 ▹ End of summertime 25.10	
	▸ Regional settings (3/3)	▹ Language	(English - Deutsch - Français - Italiano - Nederlands - Español - Portuguese - Dansk - Suomi - Svenska - Polski - Slovenština - Čeština - Slovenščina - русский - Magyar - Ελληνικά - Türkce - Serbian - Lietuvių)
	Special operations ▸ Special operations (1/3)	▹ Chimney sweep function	These functions can be set to "On" or "Off"
	▸ Special operations (2/3)	▹ Manual control	
	▸ Special operations (3/3)	▹ Economy mode --	
	Expert ▸ Select user level	▹ End user ▹ Commissioning ▹ Engineer ▹ OEM	
	▸ Enter password	▹ - - - -	For Engineer and OEM access

A password is required to access the Engineer level and the login will not be possible if you do not enter it. Please contact your AIC representative for more information.

Basic Settings

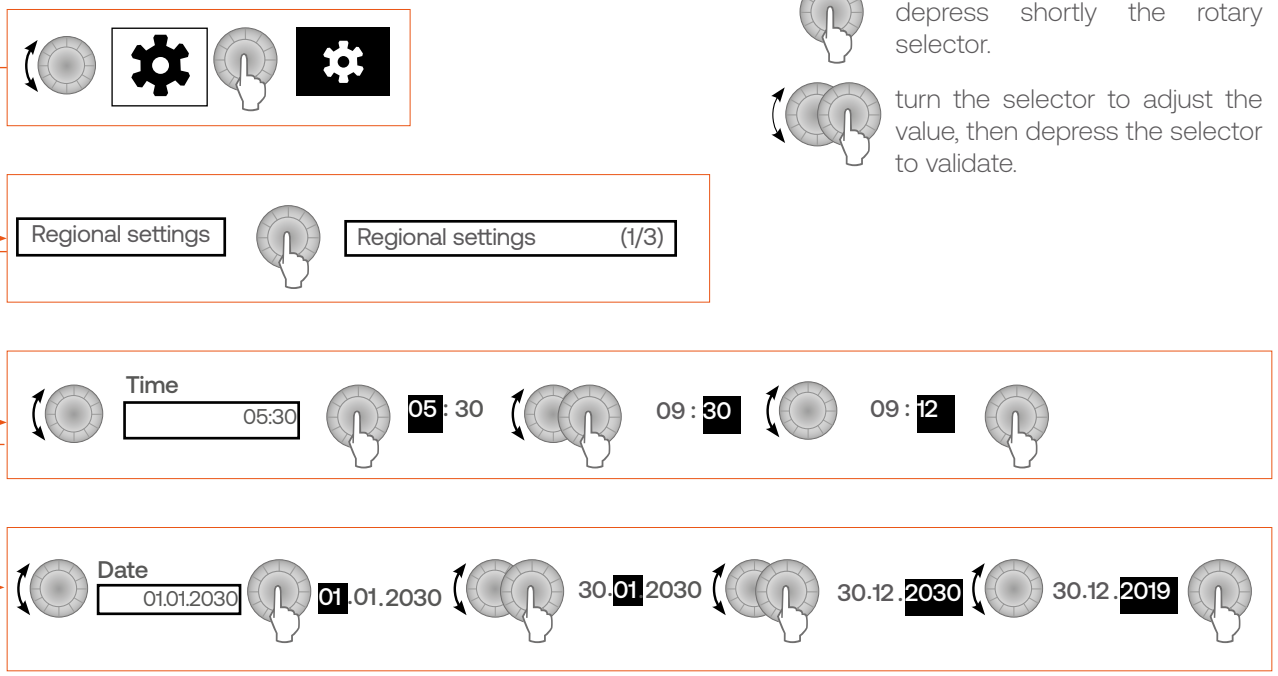
Symbols used for the **operation of the selector**:

turn the selector to the left or to the right.

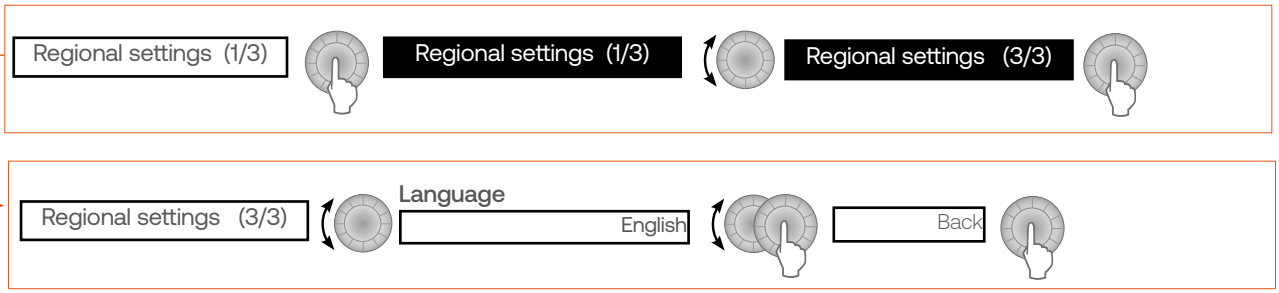
depress shortly the rotary selector.

turn the selector to adjust the value, then depress the selector to validate.

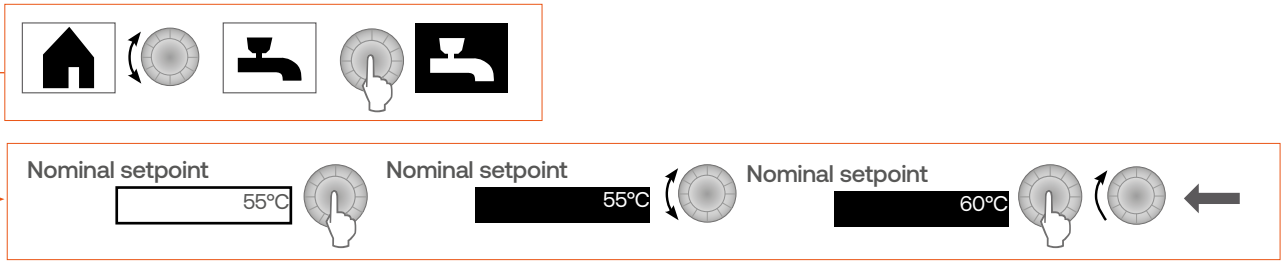
1 - Time and Date Adjustment



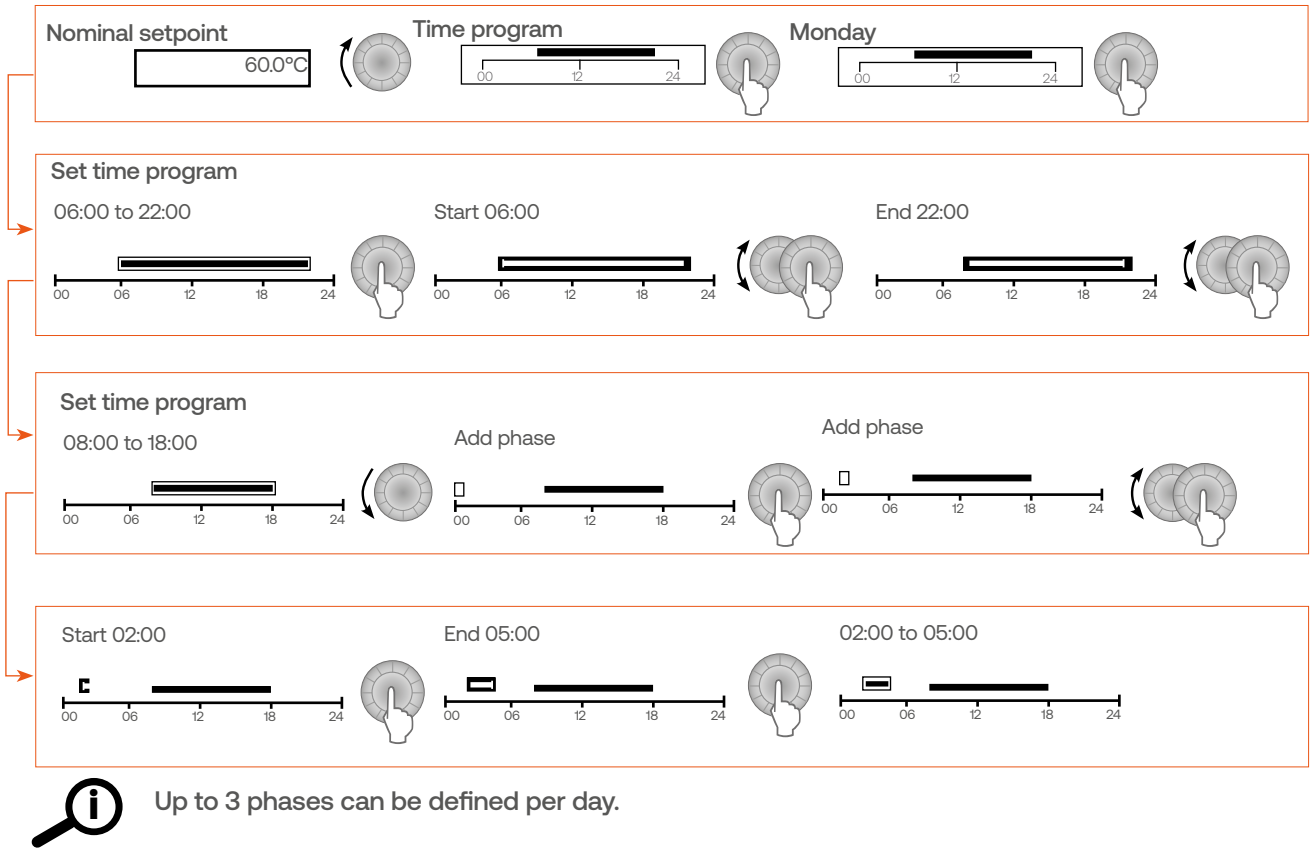
2 - Language Selection



3 - DHW Settings - Quick Setup



4 - Time Program Definition



Up to 3 phases can be defined per day.

Safety Instructions for the Installation

- All connections (electrical, flue pipe, hydraulic, gas) must be carried out in accordance with current standards and regulations in force.
- If the appliance is installed against a wall made of heat-sensitive material, such as wood, a suitable insulation must be provided by the installer between the appliance and the wall surface.
- Comply with the clearance dimensions provided in this manual, to prevent any hot part of the appliance from being too close to the walls or any combustible material.
- Make sure to maintain a safe distance of 200 mm from flammable materials; the boiler room may not be used as a storage location for material.
- Do not store any flammable, corrosive or explosive products next to the appliance.
- Do not install the appliance in a location where chemical vapours or dust are present in the ambient or combustion air.
- If the appliance is used on professional premises such as hairdresser's, cleaning company, painter's, etc. where chloride products, solvents, paints, dust, etc. are likely to contaminate the air, make sure to install the appliance in a dedicated boiler room so that the appliance is supplied with clean combustion air.
- Install a condensate neutralisation system according to the applicable local regulations and standards.
- If the appliance is intended to be used with G31 liquefied petroleum gas (propane), installing the appliance below ground level can be hazardous and prohibited in some countries. Please refer to applicable local regulations for installation requirements.

- When the appliance is connected to the electrical network, it must be earthed.
- Make sure that a fuse or circuit breaker of the recommended rating (B10A or according to applicable local regulations) is installed outside the appliance, so as to be able to shut the power down.
- Do not touch the appliance with any wet body parts when it is supplied with electrical power.
- Before performing any operation on the electrical circuit, isolate the electrical supply of the appliance through the external power-cutting device (fuse, circuit breaker, etc.)

- The appliance must be installed in a dry and protected area, with an ambient temperature comprised between 0 and 45°C.
- Make sure to protect the appliance and the water circuit against freezing.
- The appliance must be installed to ensure easy access at all times.
- Use an appropriate means of handling, suitable to the appliance size and weight.
- Floor-standing appliances must be installed on a level base and wall-hung appliances, on a vertically plumb support. Material used for base and support must have sufficient strength to support the appliance weight, water included.
- Make sure that the appliance is installed with a sufficient height to allow the condensates to flow to the sewer, and/or allow the installation of a condensate neutralisation system (as required).
- When lifting, moving or installing the appliance, be careful not to drop it. Once in position, make sure that the appliance is secured.
- Install all pipes and ducts without stress to prevent any leaks from occurring.

Unpacking the Product

The water heater is delivered on a wooden pallet and is secured to the pallet with four screws.

The appliance is protected by a wooden packaging lined with rubber protection at the contact surfaces.

Once the appliance is in the boiler room or close to the installation location (refer to "Handling the Product" below for information on transport):

1. Unscrew the wooden packaging and carefully remove all the packaging pieces.
2. Discard packaging according to applicable local regulations.
3. Using a wrench with an hex head size 8, remove four screws (See **Fig. 10)** from the bottom of the water heater and the pallet.

To prevent component damage during storage due to moisture, bags of desiccant are placed inside the water heater. Make sure to remove them before operating the appliance.

To prepare the appliance for use, refer to **"Installing and Preparing the Appliance" on page I-30.**

Handling the Product

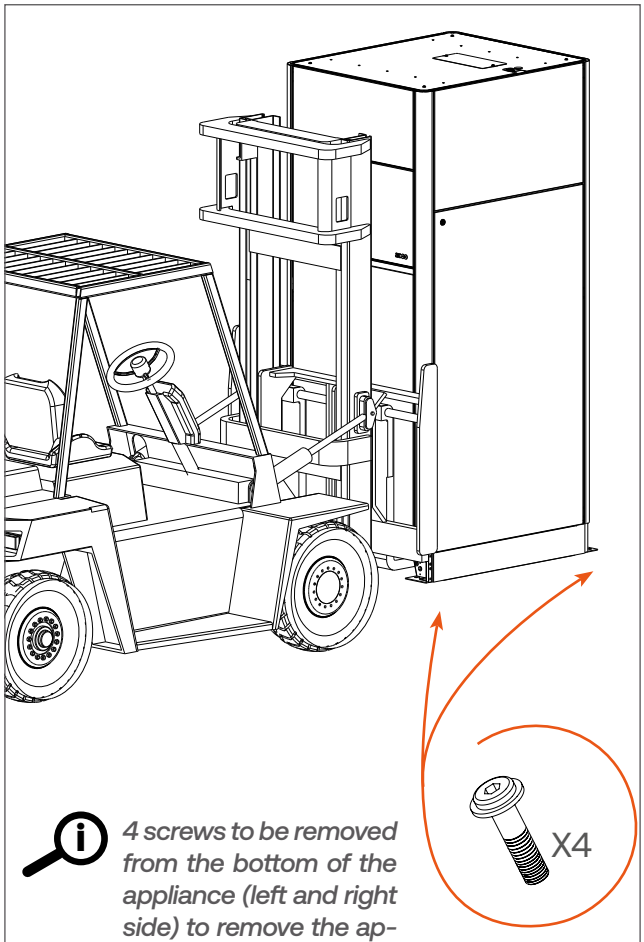
- **This appliance is heavy and requires sufficient workforce to move and handle it, as well as an appropriate means of transport. Make sure to comply with applicable local standards and regulations on product handling.**
- **It is prohibited to handle the appliance using protruding components or rest the appliance on protruding components.**
- **Failure to comply with these recommendations can result in damage to the appliance or injuries to the personnel**

Using a forklift truck or another appropriate means, move the appliance in its packaging close to the installation location.

- **To lift the appliance from the front, make sure that the front bottom panel and condensate trap are removed (they are not installed in a new water heater).**
- **Do not insert the forklift arms under the appliance if the condensate trap and front bottom panel are installed.**

Failure to comply with these recommendations can result in damage to the water heater or injuries to the personnel.

1. Bottom front panel:
   - Before placing the appliance in its final location, remove the bottom panel from its storage location, at the back of the appliance, or
   - if the bottom front panel is installed on the appliance, remove it from the bottom of the appliance, refer to "Opening and Closing the Front Door and Access Panels" on page I-31
2. Slide the arms of the fork lift under the appliance, from the front of the appliance (See **Fig. 10)**.
3. Move the appliance carefully to its final position. Make sure to comply with the recommended clearances. See **"Dimensions" on page G-16.**
4. If some height is required for condensate flow to the sewer system or if a condensate neutralisation system needs to be installed, place the appliance on a base with sufficient height (recommended slope to the drain: 3%).



4 screws to be removed from the bottom of the appliance (left and right side) to remove the appliance from the pallet.

Fig. 10. Appliance Transport and Installation

Installing and Preparing the Appliance

Conditions: 

Tools and Material:

- None

Procedure:

1. Remove the component box from its storage location.

   Check that the components listed below are present in the box. If any item is missing, please contact your supplier.

2. Check component box contents:
   - Air inlet silencer assembly
   - Condensate trap and its accessories.
3. Install the air inlet silencer:

   ▷ ***The air silencer (1) must be installed if the selected chimney connection is the B type (open). In case of C-Type chimney connection, do not install the silencer.***

   ▷ ***The foam (2) must always be installed in TX 99.***

   - **TX 99:**
     - Remove foam (**2**) located inside the silencer cover (**1**).
     - Insert foam (**2**) into the air inlet pipe, as far possible until it stops.

     The protruding fitting of the tracking tube can block the insertion of the foam (2), so bear this in mind and continue to push it through to the end of the air duct so as not to block the tracking tube

     - Place the silencer (**1**) into the air inlet connection
   - **TX 230:**
     - Place the silencer (**1**) into the air inlet connection.
4. Install the condensate trap and its accessories, refer to **"Removing, Cleaning and Installing the Condensate Trap" on page I-68**.

Follow-on task(s):

1. Place the appliance in its final location, if required.
2. Perform gas conversion, as required. Refer to **"Gas Conversion" on page I-44.**
3. Close the open panels. Refer to **"Opening and Closing the Front Door and Access Panels" on page I-31.**

▷ ***Install the air silencer (1) ONLY IF the selected chimney connection is of the B type (open).***

▷ ***The foam (2) must always be installed in TX 99, whatever the chimney type.***

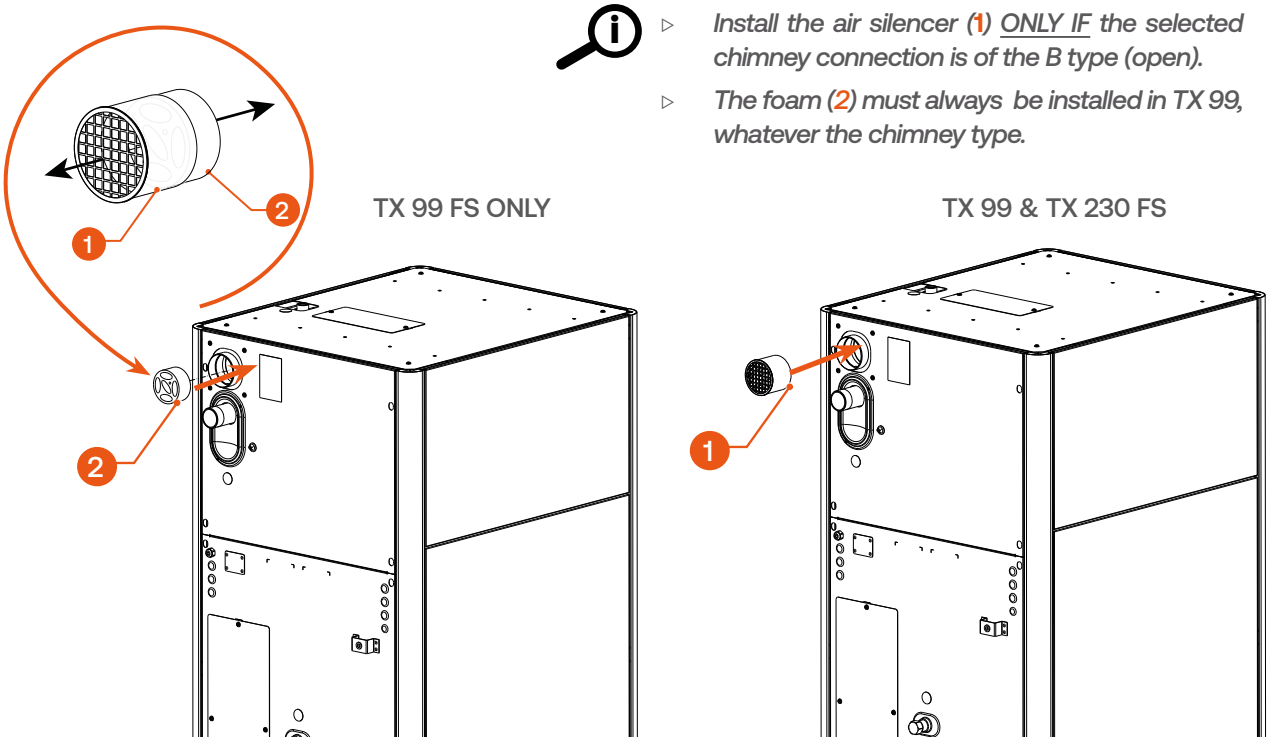


Fig. 11. Installing the Air Inlet Silencer

Opening and Closing the Front Door and Access Panels

Conditions: OF F

Tools and Material:

- Wrench, hex head, size 4

Open/Close Procedure:

- *The top front panel cannot be removed*
- *The center front panel opens upwards, at a 107° angle max.*
- *The bottom front panel is installed at the back of the appliance for transport*

Bottom front panel

1. Push/pull the panel to engage/disengage the studs into/from their receptacle.

Center front panel

1. Give a small push in the center of the bottom edge of the panel, the panel will lift automatically.
2. Push the edge of the panel down to close it.

Front door

*The opening direction of the front door can be inverted. Refer to .”*Inverting the Opening Side of the Front Door” on page I-32.

1. Holding the top right hand side of the door, disengage the upper stud from its receptacle.
2. Repeat the operation with the bottom right hand side to disengage the lower stud from its receptacle.
3. To close the door, push the top and bottom studs in position into their receptacles.

Inspection Cover

1. Release 2 screws and retain for reinstallation. Remove inspection cover. Proceed in reverse order to reinstall.

Top panel

1. Release 4 screws and retain for reinstallation. Remove top panel. Proceed in reverse order to reinstall.

Side Panels

The top side panel (1) must be removed to be able to remove the bottom side panel (2).

1. Pull/push each panel to disengage/engage the studs from/into their receptacle.

Follow-on task(s):

None

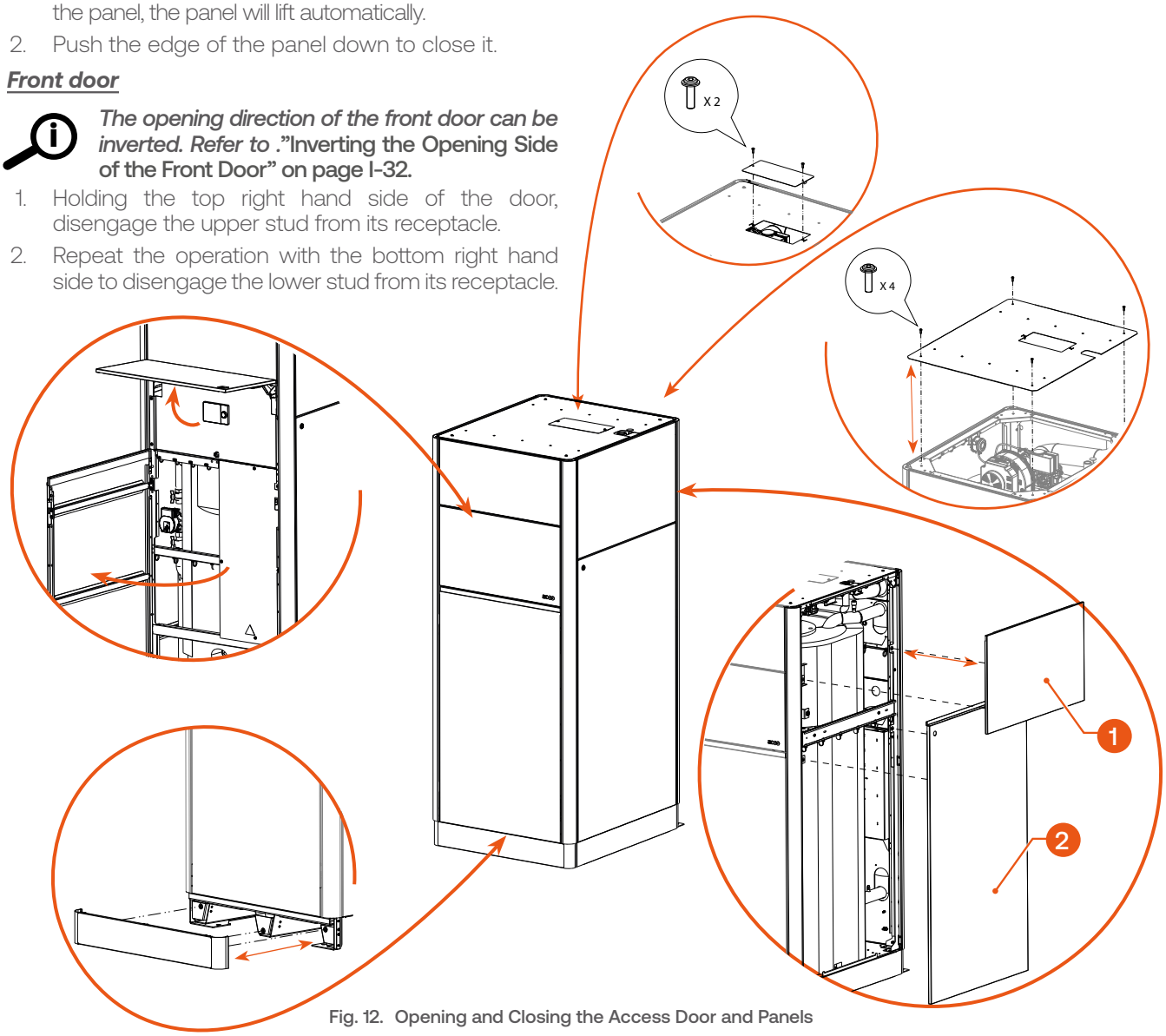
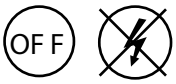


Fig. 12. Opening and Closing the Access Door and Panels

Inverting the Opening Side of the Front Door

Conditions: 

Tools and Material:

- Wrench, size 10
- Wrench, hex head, size 4

Inversion Procedure:

The frame is fitted with two sets of hinges, on the left and on the right side. From factory, the appliance is delivered with the door hanging on the left hinges. The procedure below explains how to invert the opening side of the door.

1. Lift up the center access panel
2. Open the front door (**1**).
3. Using a size 10 wrench, remove top and bottom studs (**2**) from the left side of the front door (**1**). Retain for reinstallation.
4. On the right side of the frame :
   - release two screws from top & bottom hinges (**3**).
   - rotate each hinge (**3**) 180° and reinstall with two screws.
5. Lift the front door (**1**) off the left side hinges.
6. Lower the front door (**1**) on the right side hinges.
7. Using a size 10 wrench, install top and bottom studs (**2**) on the right side of the front door (**1**).
8. On the left side of the frame :
   - release two screws from top & bottom hinges (**3**).
   - rotate each hinge (**3**) 180° and reinstall with two screws
9. Check that front door (**1**) is closing and opening properly.

Follow-on task(s):

1. Close center front panel. Refer to **“Opening and Closing the Front Door and Access Panels” on page I-31.**

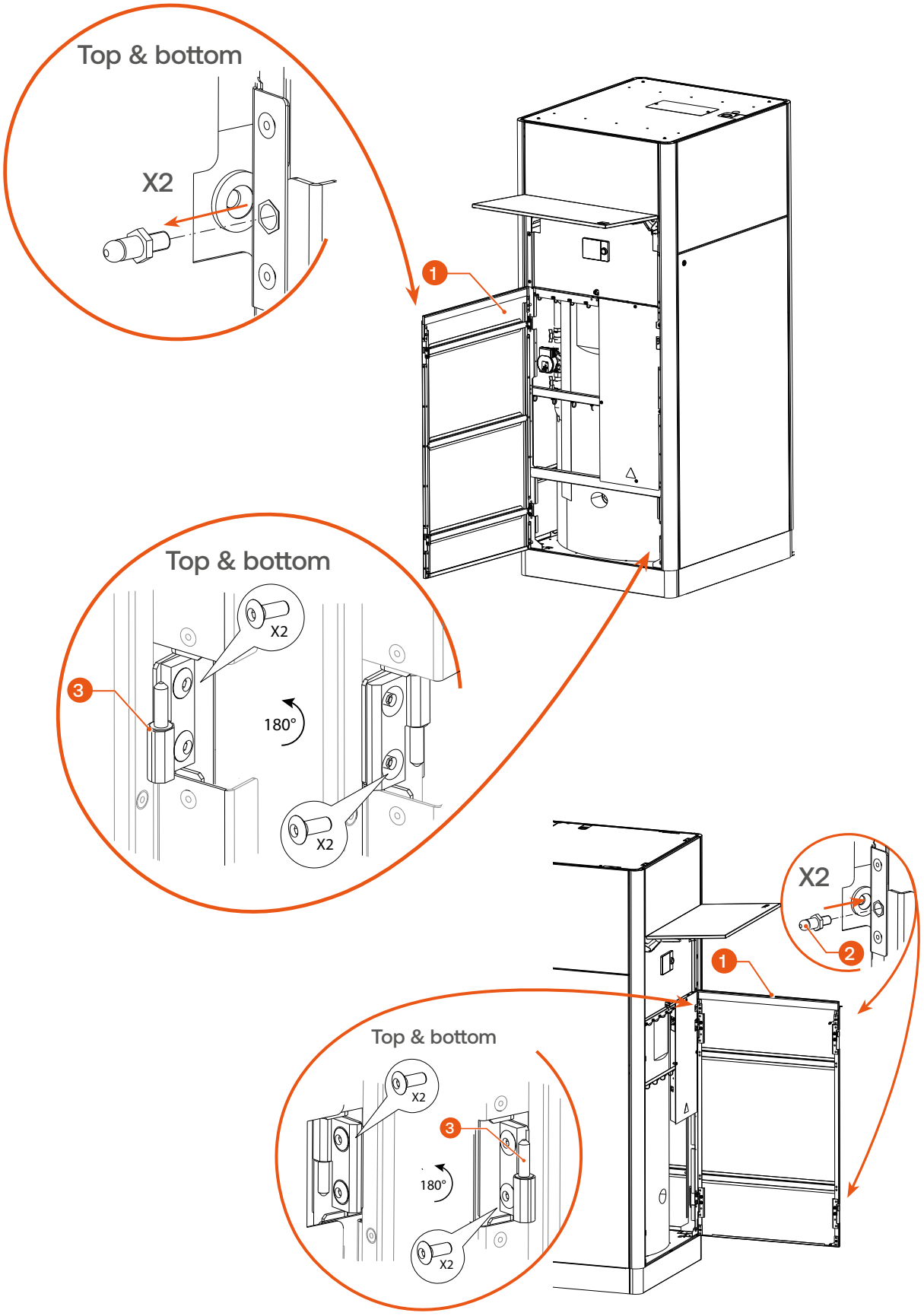


Fig. 13. Inverting the Door Opening Side

Safety Instructions for the DHW Circuit

- **Make sure that the circuit is provided with a safety group. It must be composed of a safety valve set at 6 bar, a check valve and a stop valve.**
- **Hot water can cause severe burns! The hot water produced in the circuit can reach temperatures higher than 60°C and cause scalding when drawn unmixed from a tap. The installation of a thermostatic mixing valve is therefore recommended.**
- **Do not leave young children, elderly or disabled people in the bath or the shower without supervision, as they could be exposed to extremely hot water if they use the hot water tap by themselves.**
- **The temperature of the DHW circuit shall be set according to local plumbing regulations and usage.**

- **The safety group must be installed no more than 1m from the appliance on the pipe with a diameter no less than that of the valve. No isolating valve may be installed between the appliance and the safety valve. The safety valve drainage must be connected into a pipe with a diameter no less than that of the valve itself.**
- **The device is designed for heating drinking water. The drinking water shall comply with the regulations applicable to drinking water for human consumption.**
- **When using sealant for connections of the DHW circuit pipes or sensor installation on DHW pipes, make sure to use a sealing agent that is compatible with the regulations applicable to drinking water for human consumption (e.g. Loctite 326 + 7649).**
- **The pressure of the water network used to fill the appliance must be at least 1,2 bar.**
- **The supply pressure from the network must be comprised between 1,2 and 6 bar. If the pressure is higher than 6 bar, a pressure reducing valve must be installed.**
- **Install a check valve at the cold water inlet.**

- *Flush thoroughly the circuit before operation.*
- *It is recommended to install a filter <100µm to prevent residues to contaminate the circuit.*
- *Setting the temperature higher than 60°C over long periods of time will cause faster formation of scale and reduce the water heater efficiency in time.*
- *To prevent the early formation of scale and maintain a good operational condition of the water heater, soften the water to reach a pH comprised between 6,5 and 8,5.*
- *It is recommended that the water after passing through the softening installations and mixed with the unsoftened water should contain about 1,5 mol/m3 of calcium.*
- *The installation of an expansion vessel in the DHW circuit is recommended to prevent the water hammer effect in the pipework and the frequent opening of the safety valve. In addition, the circuit between the tank and the safety valve must always remain open.*
- *To prevent the development of the bacteria Legionella Pneumophilia in the DHW circuit, it is recommended to activate the antilegionella function of the appliance.*
- *The circuit diagrams are theoretical representations that do not necessarily include all the required safety devices. Make sure to correctly plan your system according to the applicable local regulations and standard practice.*
- *To improve water distribution to the hot water taps, we recommend the installation of a circulation pump in the DHW circuit, in accordance the applicable local regulations and standard practice*

G3 Requirements - UK only

Discharge pipe from safety valves

The Building Regulation G3 requires that any discharge from an unvented system is conveyed to where it is visible, but will not cause danger to persons in or about the building.

The tundish and discharge pipes should be fitted in accordance with the requirements and guidance notes of Building Regulation G3.

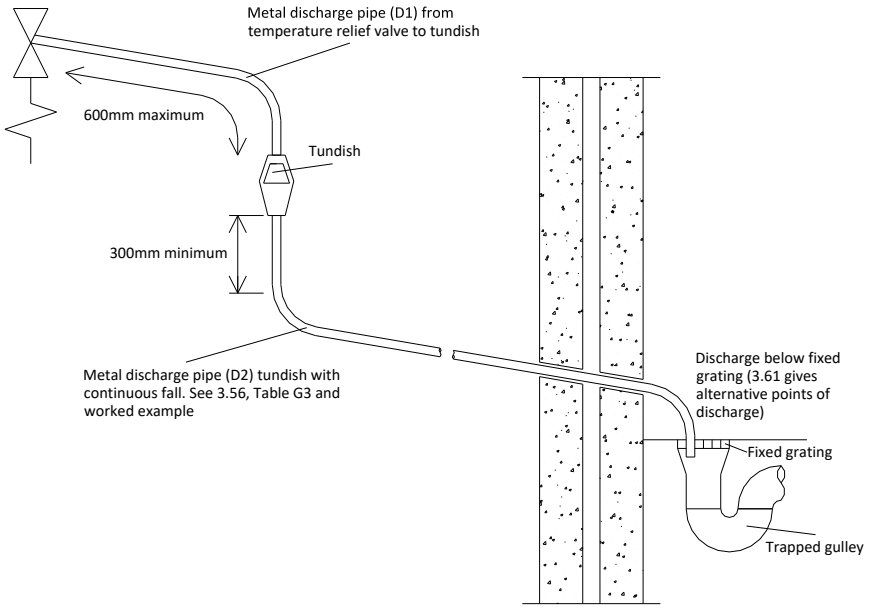
For discharge pipe arrangements not covered by G3 Guidance advice should be sought from your local Building Control Officer.

Main characteristics :

- Any discharge pipe connected to the pressure relief devices (Expansion Valve and Temperature/ Pressure Relief Valve) must be installed in a continuously downward direction and in a frost free environment.
- Water may drip from the discharge pipe of the pressure relief device.
- This pipe must be left open to the atmosphere.
- The pressure relief device is to be operated regularly to remove lime deposits and to verify that it is not blocked.

- **The temperature/pressure relief valve should only be replaced by a qualified professional.**
- **Do not tamper with control or safety valves or use them for any other purpose than what they are intended for.**
- **Make sure that the discharge pipe is not blocked or used for any other purpose than what it is intended for.**
- **Do not locate the tundish close to any electrical components.**

For further information on the types and lengths applicable to tundish and discharge pipe, please refer to G3 Requirements and Guidance sections 3.50 to 3.63.



G3: Typical discharge pipe arrangement

Typical Hydraulic Connections - DHW Circuit

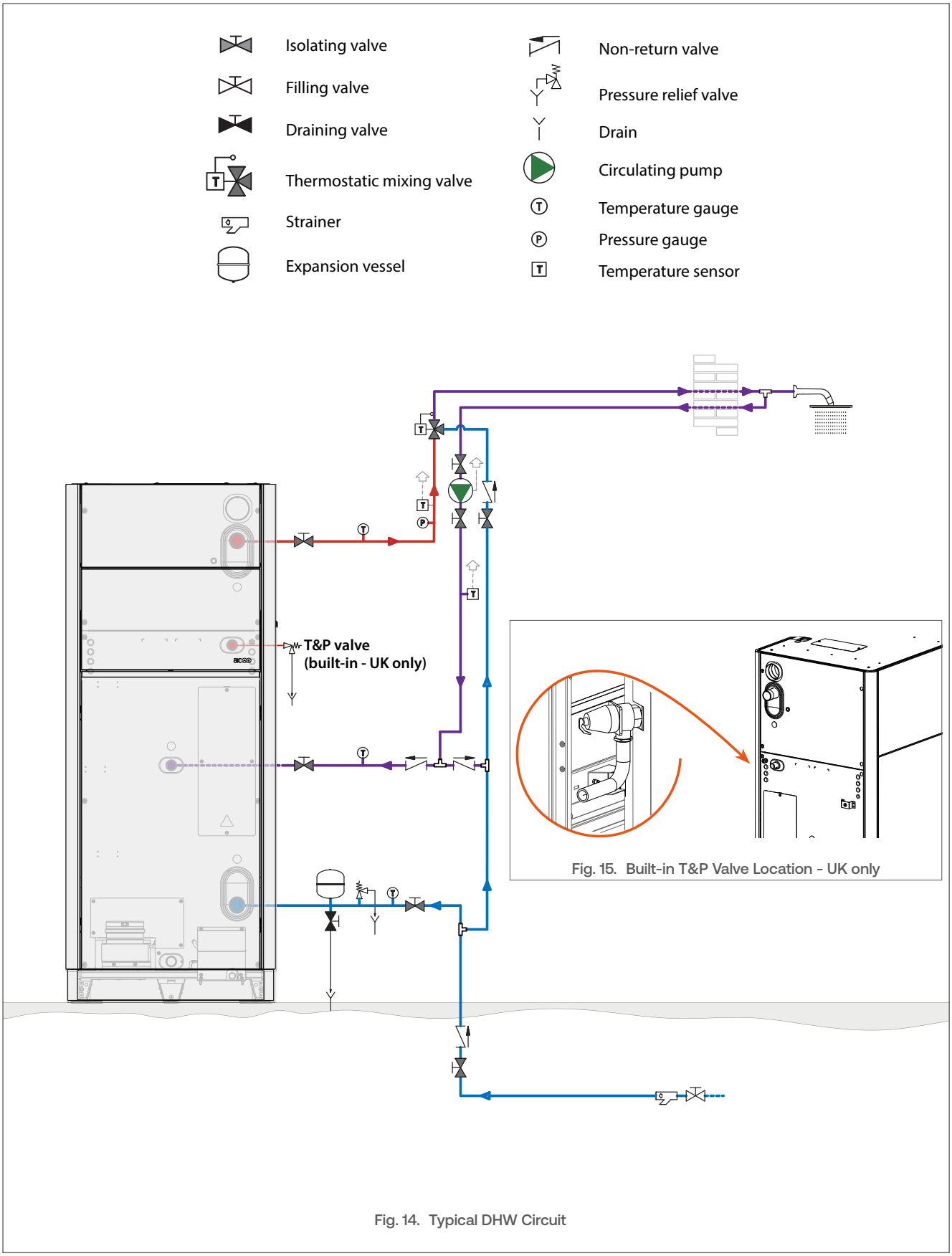


Fig. 15. Built-in T&P Valve Location - UK only

Fig. 14. Typical DHW Circuit

Safety Instructions for the Chimney Connections

- Verify installed combustion air and flue gas piping are tight and meet all provided instructions and applicable codes and standards.
- Failure to properly support the flue system can cause failure, resulting in flue gases contaminating the ambient air.
- The appliance must be equipped with flue system components from the same manufacturer and be approved by the appliance manufacturer. Ensure that the pipe and connection diameters all match to prevent any leaks from occurring.
- Any gas-fired appliance generates carbon monoxide. Failure to install carbon monoxide detectors with alarm in the boiler room can result in serious injury, or death. Refer to applicable local regulations.
- A condensate neutralisation system needs to be installed according to the applicable local regulations and standards. It must be cleaned and serviced regularly.

- Do not install the appliance into a common flue pipe with appliances operating with a different type of gas or with oil. This will cause flue gas spillage or appliance malfunction. Please contact your AIC Technical Support for more information.
- A condensation outlet connected to the sewer must be fitted close to the appliance.
- Make sure to secure the flue piping to a solid structure.
- Exclusively use the provided brackets to support the flue system.

- When assembling the pipes, make sure not to put any stress on the components.
- Install the horizontal flue pipes with a slight slope of 5 cm per meter (3°) back towards the appliance.
- It is mandatory to ventilate the boiler room. The high or low air vent opening dimensions depend on the appliance power and the boiler room size. Refer to the local regulations in force.
- If the combustion air inlet is located in an area likely to cause or contain contamination, or if products which could contaminate the air cannot be removed, the combustion air must be repiped and terminated at another location.
- If the appliance is used on professional premises such as hairdresser's, cleaning company, painter's, etc. where chloride products, solvents, paints, dust etc. are likely to contaminate the air, make sure to install the appliance in a dedicated boiler room so that the appliance is supplied with clean combustion air.
- In the case of parallel flue systems, make sure to maintain sufficient distance (at least 40 mm) between the appliance flue piping and combustible materials, and between the flue pipe and air inlet pipe if the latter is made of plastic material.
- Flue pipe elements or PP air inlet elements should not be screwed together.
- Piping elements should not be bonded together using glue (e.g. silicone) or foam (e.g. PUR).

- *Make sure to insulate the flue piping in damp rooms to avoid condensation water from forming and dripping.*
- *Cut the pipes squarely and deburr the edges. This will ensure correct sealing and prevent seals from being damaged.*
- *To ease the assembly of pipes, use exclusively a mixture of water and soap (1%) on the extremity of the pipe to be fit in.*
- *Metal flue pipes should always be fitted into the sleeve to the end stop.*
- *Plastic flue pipes should be allowed to expand under the effect of heat. Leave about 10 mm between the pipe and the sleeve end stop.*
- *The flue system should be fitted with an inspection opening.*

- *Do not exceed the maximum length recommended for the product when connecting the flue pipes, or the system power might decrease.*
- *For B- and C-type appliances, the flue gas exhaust pipes must at least comply with the category T120 H1 W1/2 O30 LI E U when using parallel piping and T120 H1 W1/2 O00 LI/LE E U0 when using concentric piping (EN 14471).*
- *The maximum length of duct must be calculated according to the permissible difference in pressure indicated in the technical specifications.*

Installing the pipes - General principles

Component	Characteristics	Recommendation
Elbow		Clamped at the sleeve
Straight element		Clamped at the sleeve
	• Horizontal < 1m • Located before or after first elbow	• One clamp with a bracket at each pipe, • Clamped in pipe center or at the end for support, • Even distribution of clamps, • Allow free movement of pipe
	Horizontal > 1m (with 3° slope)	• Clamped in pipe center for support • Allow free movement of pipe
	Vertical < 2m	• One clamp with a bracket at each pipe, • Clamped in pipe center or at the end for support, • Even distribution of clamps, • Allow free movement of pipe
	Vertical > 2m	• Clamped every 2 meters, • Even distribution of clamps • Allow free movement of pipe

Engineering the Chimney System

The chimney system must be engineered by a qualified professional, according to local standards and regulations. The overall installation resistance of each appliance should not exceed the value indicated in the combustion table (including maximum wind condition) measured at the outlet of each appliance at maximum output. Refer to "Combustion Data" on page G-19.

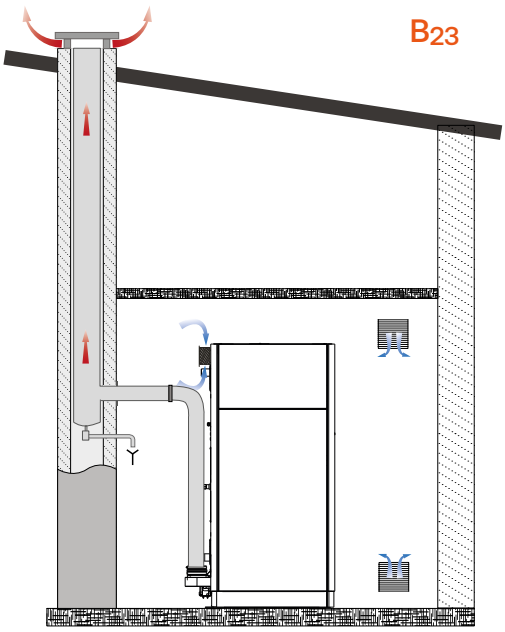
Please contact your AIC representative for more information

- *The flue system length must be calculated so as to ensure a safe performance of the system.*
- *Make sure to install the appliance with the shortest length of combustion air and flue ducts.*
- *When several appliances need to be connected to a common duct, please contact your AIC representative for more information.*

Accessories

If required by local regulations, install a condensate neutralisation system. In that case, it may be necessary to install the appliance on a base to get sufficient downward flow. If flow is not sufficient, install a condensate pump.

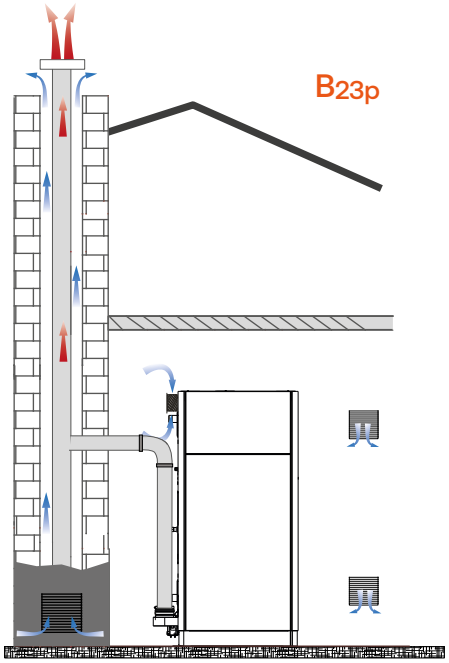
Chimney Connection



Combustion circuit	Open
Flue	Discharged to the outside
Combustion air	Drawn from the boiler room
Remark	Can be used for cascading

Make sure that the ventilation openings remain unobstructed at all times.

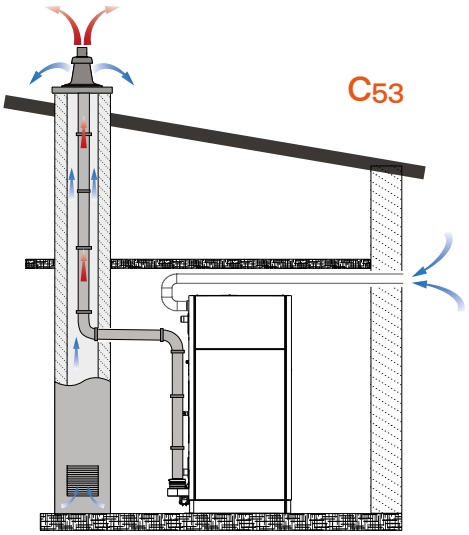
Make sure to install AIC-approved components when building B23 and B23p systems. Please contact your AIC representative.



Combustion circuit	Open
Flue	Discharged to the outside, through positive pressure
Combustion air	Drawn from the boiler room
Remark	Can be used for cascading

Make sure that the ventilation openings remain unobstructed at all times.

When building the chimney system with a B-Type connection, make sure that the silencer provided with the appliance is installed in the air inlet connection.



Combustion circuit	Sealed
Connection	Via separate ducts
Air inlet/flue outlet orifices	Through separate terminals that may terminate in zones of different pressures
Additional requirement	Orifices may NOT terminate on opposite walls of the building

Mass flow rate of flue gases
- TX 99 FS ..... 8,0 - 42,0 g/s
- TX 230 FS ..... 16,0 - 96,0 g/s

Maximum flue gas temperature
- TX 99 FS ..... 60°C
- TX 230 FS ..... 71°C

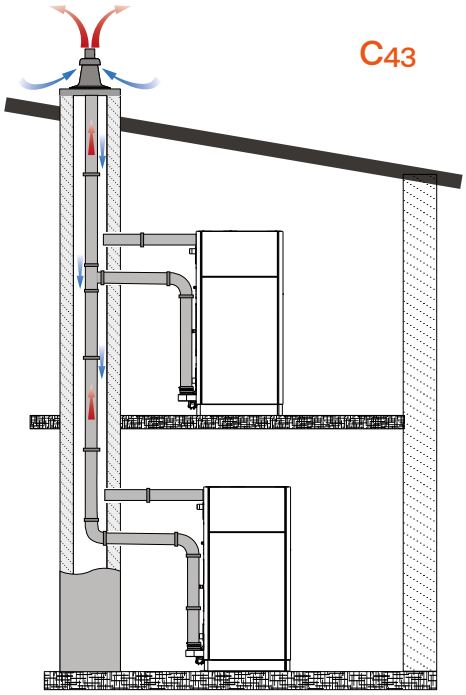
C63

Combustion circuit	Sealed
Connection	To a system that is approved and sold separately (external supplier)
Air inlet/flue outlet orifices	May terminate in zones of different pressure
Additional requirements	› Maximum allowable draught is 200 Pa. › Maximum allowable pressure difference between combustion air inlet and flue gas outlet (including wind pressures) is indicated in the technical specifications. › maximum allowable temperature of combustion air is 40°C. › Condensate flow is allowed into the appliance. › Maximum allowable recirculation rate of 10% under wind conditions › Orifices may NOT terminate on opposite walls of the building › The flue gas exhaust pipes must at least comply with the category T120 H1 W1/2 O30 LI E U when using parallel piping and T120 H1 W1/2 O00 LI/LE E U0 when using concentric piping (EN 14471).

This type of connection is prohibited in some countries - refer to local regulations and standards in force

Please also refer to the additional information in **"Engineering the Chimney System" on page I-39** *for the construction of your chimney system.*

C43

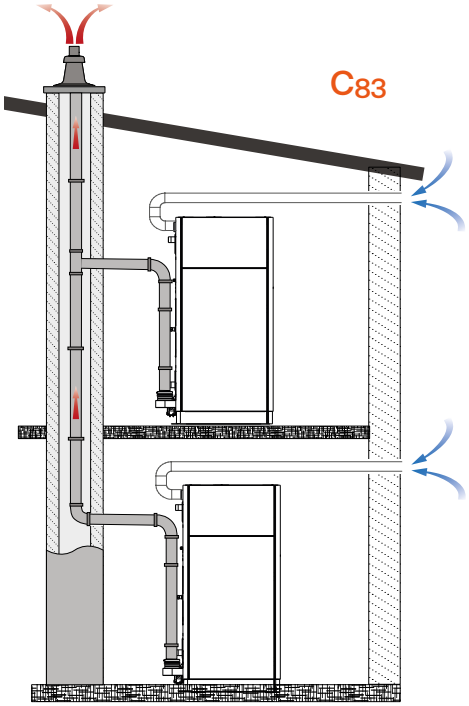


Combustion circuit	Sealed
Connection	Via two ducts to a common duct system (part of the building, designed for more than one appliance)
Air inlet/flue outlet orifices	Through a roof terminal that admits combustion air from the outside AND discharges flue to the outside › Concentric ducts OR › Both orifices are close enough to come under similar wind conditions
Additional requirements	› Chimney with natural draught only › Condensate flow is not allowed into the appliance

Mass flow rate of flue gases
TX 99 FS ..... 8,0 - 42,0 g/s
TX 230 FS ..... 16,0 - 96,0 g/s

Maximum flue gas temperature
TX 99 FS ..... 60°C
TX 230 FS ..... 71°C

C83



Combustion circuit	Sealed
Connection	Through: › a single duct system OR › a common duct system (part of the building, designed for more than one appliance)
Air inlet/flue outlet orifices	› Flue is discharged to the roof › Combustion air is taken from the outside
Additional requirement	› Condensate flow is not allowed into the appliance

- **When connecting several appliances to the same duct (i.e. types C43, C83), make sure to install an AIC-approved flue damper (it prevents flue backflow into the appliance) on each appliance in the system. The flue gas damper must be installed according to the instructions provided for its installation.**
- **For B23p chimney cascade, please contact your AIC representative.**

Please also refer to the additional information in “Engineering the Chimney System” on page I-39 *for the construction of your chimney system.*

Safety Instructions for the Gas Connection

- When connecting the gas circuit, make sure to comply with all applicable local regulations and standards. The circuit will be equipped with a meter and a gas pressure regulator if required.
- Do not exceed the maximum gas pressure.
- The conversion of the appliance from natural gas to G31 liquefied petroleum gas (propane) or the reverse can only be performed by a qualified professional.
- Gas conversion shall be performed according to applicable local regulations. It is prohibited in some countries (e.g. Belgium). Perform conversion according to the gas category specified for your country on the appliance data plate.
- Bleed the gas duct and check thoroughly if all the internal and external gas pipes and connections are tight.
- After gas circuit connection, check that there is no leak.
- Use a gas detection device or perform a bubble test to check for gas leaks. Never use an open flame, as it could result in an explosion.

- Make sure that the gas type and pressure of the distribution network are compatible with the appliance, as per the information on the appliance data plate.
- The OFFSET (A) setting of the gas valve is factory-preset and sealed. In some countries, it is prohibited to change its setting. Please refer to applicable local regulations.
- The CO_2, gas flow rate, air flow rate and air/gas supply parameters are factory-preset and may not be modified in certain countries. Please refer to applicable local regulations.

Control the gas pressure and consumption at appliance start up, and perform the adjustment procedure provided in the commissioning section of this manual.

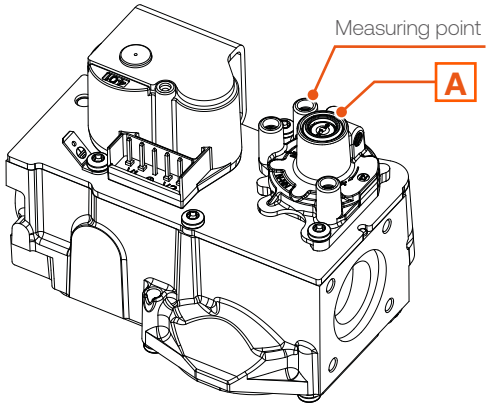


Fig. 16. TEXAS 99 Gas Valve

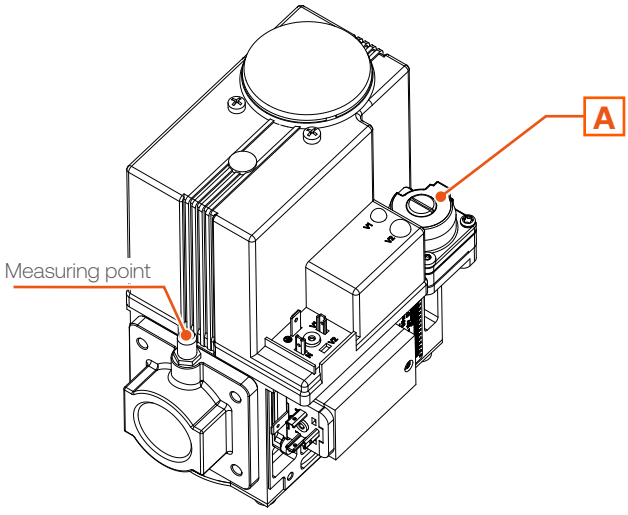


Fig. 17. TEXAS 230 Gas Valve

Gas Conversion

- **Conversion of the appliance from one gas type to another can only be performed by a qualified professional.**
- **If the water heater is intended to be used with G31 liquefied petroleum gas (propane), installing the appliance below ground level can be hazardous and prohibited in some countries. Please refer to applicable local regulations for installation requirements.**
- **If the water heater is already installed before conversion, the appliance must be turned off, the power supply must be disconnected through the external fuse or circuit breaker, and the gas supply to the gas valve must be closed.**

- **Connection of the water heater to a G31 gas system should comply with local regulations and requirements.**
- **If the appliance was running before conversion, allow it to cool down before performing any task.**

- *This procedure explains how to enable an appliance adjusted in factory for G20 natural gas to operate with G25 natural gas or G31 propane gas.*
- *Gas conversion to this appliance does not require component replacement, only adjustments:*
  - *of gas valve (through shutter and offset screws)*
  - *of settings (fan speeds at ignition, and at max. and min. outputs).*
- *Conversion can therefore be carried out either on a water heater about to be installed, or on an already installed and running water heater, provided that the installation location allows it.*

Preparing the Appliance for Gas Conversion

Conditions:

Tools and material:

- Wrench, hex head, size 4
- Screwdriver, Torx T15 (TEXAS 230)

Procedure

1. Remove the inspection cover **OR** the top panel to get access to the gas valve. Refer to **"Opening and Closing the Front Door and Access Panels" on page I-31**.
2. Disconnect the gas pipe, as required.
3. Connect the new gas supply to the gas pipe.

- **The water heater is adjusted in factory to operate with natural gas (G20). When the appliance needs to operate with propane (G31), the gas valve shutter position must be adjusted.**
- **Conversion to other gas types only requires the adjustment of fan speeds and combustion values. Refer to "Adjustment of Fan Speeds" on page I-46.**

4. **Conversion to Propane only:** rotate the gas valve shutter screw (**1**) as shown in **Fig. 18 & Fig. 19 below**:
   - TEXAS 99 – 15 full rotations counterclockwise,.
   - TEXAS 230 – 1 full rotation clockwise, towards the "-" sign.

Follow-on Task(s):

1. Perform fan speed adjustments, refer to **"Adjustment of Fan Speeds" on page I-46.**

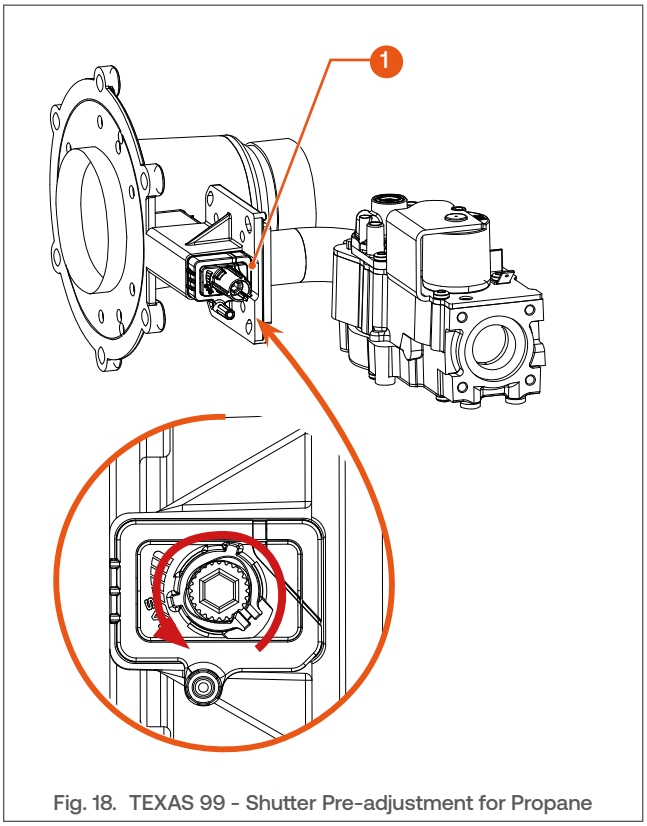


Fig. 18. TEXAS 99 - Shutter Pre-adjustment for Propane

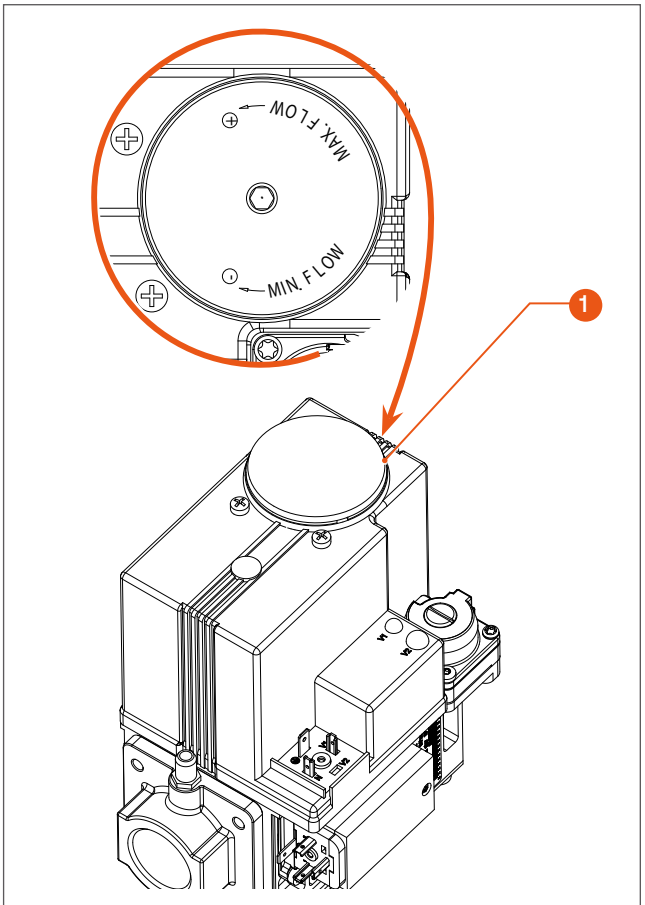


Fig. 19. TEXAS 230 - Shutter Pre-adjustment for Propane

Adjustment of Fan Speeds

Conditions:

Adjustment Procedure (Fig. 20)

1. Press the On/Off switch located on the right side of the water heater.

> ***When starting the appliance for the first time after installation, the controller will open the Commissioning Wizard automatically. This wizard process only appears once, provided that the function is disabled (set to "Off") at completion of the process. To bypass it, activate "Continue" or "Skip" displayed at the bottom of the screen, until you reach the end of the process.***

2. Rotating the selector (**1**) and depressing it to confirm each selection:
   - select the ⚙ icon,
   - select "**Expert**",
   - in "**Select user level**"; choose "**Engineer**", then enter password.

> ***A password is required to access the Engineer level. Please contact your AIC representative for more information.***

   - select the 🔧 icon,
   - select "**complete parameter list**",
   - select "**Time of day and date**" to access the list of menus.

3. Rotating the selector (**1**), scroll to the bottom of the list, "**Burner Control**".
4. On page "**(1/3)**", select "**9512 Required speed ignition**". Press the selector (**1**) to modify the value. The value is displayed in white on a black background (**2**).

> **To adapt the fan speed in the following steps, select the correct value, according to the installed chimney type (B or C). Refer to Table 21 & Table. 22 on page I-47.**

5. Rotating the selector (**1**), adjust the ignition fan speed according to the values in **Table. 21 & Table. 22 on page I-47**.
6. Press the selector (**1**) to confirm and save the value.
7. Rotating the selector, go up the screen, back to the Burner Control page number. Select page number "**(1/3)**" by pressing the selector (**1**), then go to page "**(2/3)**" and select "**9524 Required speed LF**". Press the selector (**1**) to modify the value. The value is displayed in white on a black background (**2**).
8. Rotating the selector (**1**), adjust the minimum fan speed according to the values in **Table. 21 & Table. 22 on page I-47**.

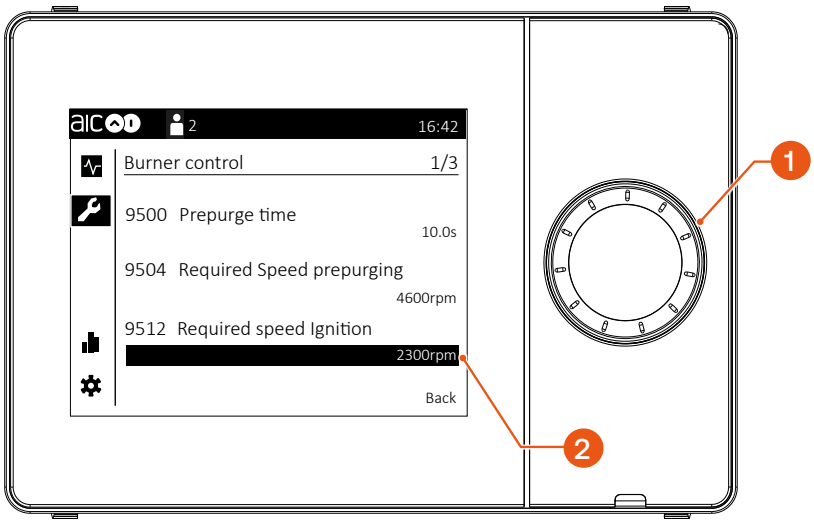


Fig. 20. Fan Speed Adjustment - Typical Screen

9. Press the selector (**1**) to confirm and save the value.
10. Rotating the selector, go down the screen to "**9529 Required speed HF**". Press the selector (**1**) to modify the value. The value is displayed in white on a black background.
11. Rotating the selector (**1**), adjust the nominal fan speed according to the values in **Table. 21 & Table. 22 on page I-47**.
12. Press the selector (**1**) to confirm and save the value.
13. Press the selector (**1**) for more than 3 sec. to exit the setting menu.

Follow-on Task(s)

- Perform the combustion adjustment. See **"Combustion Adjustment for Gas Conversion" on page I-48.**

Table. 21. Fan Speeds for C-type Chimney Type (No Silencer Installed)

Fan Speeds		TX 99 FS			TX 230 FS		
Gas Type		Ign.	Min	Max.	Ign.	Min	Max.
G20	rpm	2600	1600	6250	2000	1400	5300
G20Y20	rpm	2900	1600	6250	2000	1400	5500
G25	rpm	2600	1600	6250	2000	1400	5400
G31 (30/37 mbar)	rpm	2800	1700	5650	2000	1600	5050
G31 (50 mbar)	rpm	2800	1700	5650	2000	1600	5050

Table. 22. Fan Speeds for B-type Chimney Type (Silencer Installed)

Fan Speeds		TX 99 FS			TX 230 FS		
Gas Type		Ign.	Min	Max.	Ign.	Min	Max.
G20	rpm	2600	1600	6500	2000	1400	6100
G20Y20	rpm	2900	1600	6500	2000	1400	6300
G25	rpm	2600	1600	6500	2000	1400	6200
G31 (30/37 mbar)	rpm	2800	1700	5900	2000	1600	5900
G31 (50 mbar)	rpm	2800	1700	5900	2000	1600	5800

Combustion Adjustment for Gas Conversion

Conditions: 

Tools and material:

- Flue gas analyser
- Screwdriver, flat head
- Torx T15 & T40
- Wrench, hex head, sizes 2 and 2.5

Adjustment Procedure* (Fig. 23 & Fig. 24*):

1. Allow the appliance to operate for a few minutes.
2. Connect the flue gas analyser probe to the measuring port of the flue gas pipe.
3. Check CO_2 contents in the flue gas at max output as follows:
   - Using the rotary selector (**1**), select and activate the ⚙ icon,
   - Select "**Special operations (1/3)**",
   - Set "**Chimney sweep function**" to "**On**",
   - Set "**Burner output"** to **"Full load"**.

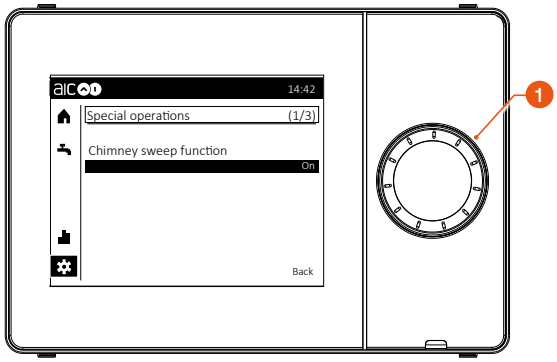


Fig. 23. Combustion Adjustment - Control Panel

4. Check the CO_2 (or O_2) contents displayed on the gas analyser, and compare the values with those in the table below.
5. If the value is outside the range, adjust the combustion value by turning the gas valve throttle (**2**) in small steps, to allow the value to stabilise before performing additional adjustments.
   TEXAS 99:
   - Rotate shutter screw (**2**) **counterclockwise (to the left) to decrease** the CO_2 contents (increase O_2 contents).
   - Rotate shutter screw (**2**) **clockwise (to the right) to increase** the CO_2 contents (decrease O_2 contents).
6. TEXAS 230:
   - Rotate shutter screw (**2**) **towards the "–" sign to decrease** the CO_2 contents (increase O_2 contents)..
   - Rotate shutter screw (**2**) **towards the "+" sign to increase** the CO_2 contents (decrease O_2 contents).
7. Check that CO level is not higher than 200 ppm.

If the CO level exceeds 200 ppm, please contact your AIC representative.

8. Check CO_2 contents in the flue gas at min. output as follows:
   - Set "**Burner output"** to **"Partial load"**.
   - Check the CO_2 contents, and compare the values with those in the table at the bottom of the page.
   - If the value is outside the range, adjust the combustion value by turning the offset screw (**3**) in small steps to allow the value to stabilise before performing additional adjustments.

Combustion and Gas Data			TX 99 FS min	TX 99 FS max	TX 230 FS min	TX 230 FS max
CO_2 contents	G20 (±0,3)	%	8,2	9,2	8,2	9,2
	G20Y20 (±0,1)	%	7,1	8,0	7,2	7,8
	G25 (±0,3)	%	8,3	9,2	8,3	9,2
	G31 (±0,3)	%	10,5	11,0	10,5	11,1
O_2 contents	G20 (±0,3)	%	6,5	4,5	6,6	4,6
	G20Y20 (±0,3)	%	7,5	5,8	7,4	6,3
	G25 (±0,3)	%	5,9	4,4	6,0	4,3
	G31 (±0,3)	%	4,9	4,1	4,8	3,9
Gas pressure	G20 / G20Y20 (20 mbar)	mbar	17 - 25			
	G25 (25 mbar)	mbar	20 - 30			
	G25.1 (25 mbar)	mbar	18 - 33			
	G25.3 (25 mbar)	mbar	20 - 30			
	G31 (30/37/50 mbar)	mbar	25 - 35 / 25 - 45 / 42,5 - 57,5			
Gas flow rate	G20	m^3/h	2,0	10,0	3,9	22,8
	G20Y20	m^3/h	2,2	12,1	4,3	26,9
	G25	m^3/h	2,4	11,8	4,4	26,4
	G31	m^3/h	0,9	3,9	2,2	8,9

TEXAS 99:

- Rotate offset screw (**3**) **towards the "+" sign to increase** the CO_2 contents.
- Rotate offset screw (**3**) **towards the "-" sign to decrease** the CO_2 contents

TEXAS 230:

- Rotate offset screw (**3**) **towards the "+" sign to increase** the CO_2 contents.
- Rotate offset screw (**3**) **towards the "-" sign to decrease** the CO_2 contents.

The offset screw (3) is factory-sealed. After adjustment, make sure to reseal it.

9. Check that CO level is not higher than 200 ppm.

If the CO level exceeds 200 ppm, please contact your AIC representative.

11. In "***Special operations (1/3)", set "Chimney sweep function***" to "***Off***".
12. Press the selector (**1**) for more than 3 sec. to exit the setting menu.
13. Restart the appliance to check the ignition behaviour. Control the correct operation of the appliance by repeating steps 1 to 9.
14. Reseal the offset screw (**3**) using some paint or tape.

Follow-on Task(s):

- Fill in the yellow sticker located next to the data plate (at the back of the appliance), to indicate that a gas conversion has been carried out.
- Reinstall top panel and close the front door, refer to **"Opening and Closing the Front Door and Access Panels" on page I-31**.
- Record the gas conversion in **"Gas conversion - Log Sheet" on page I-94**.

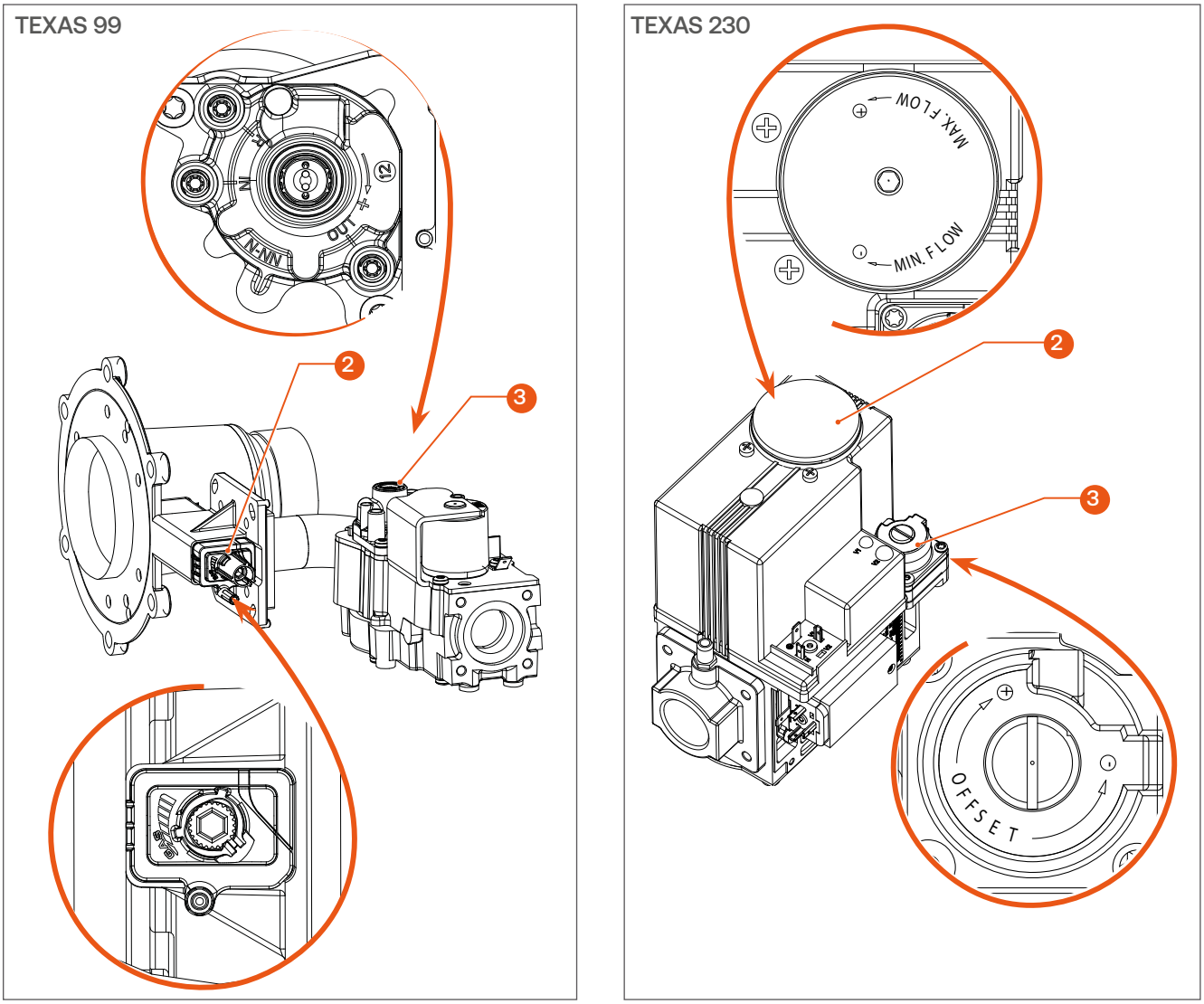


Fig. 24. Combustion Adjustment on Gas Valves

Safety Instructions for the Electrical Connections

Electrical connections must be carried out by a qualified professional in accordance with current standards and regulations in force.

- **When the appliance is connected to the electrical network, it must be earthed.**
- **Make sure that a fuse or circuit breaker of the recommended rating (B10A or according to applicable local regulations) is installed outside the appliance, to allow electrical isolation.**
- **Do not touch the appliance with any wet body parts when it is supplied with electrical power.**
- **Before performing any operation on the electrical circuit, isolate the electrical supply of the appliance through the external power-cutting device (fuse, circuit-breaker, etc.)**
- **When routing the cables through sharp-edged holes in the panels, make sure to install glands or grommets, and to secure the cables in order to prevent any damage.**

- **Make sure to make the connections to the correct terminals, as indicated on the wiring diagram. If high voltage cables are installed on a low-voltage terminal, the electronic board will be damaged.**
- **When connecting wires to the terminals, check that the connection is secure and that all the wire strands are tightly held**

Cables

- *Any damaged power supply cable must be replaced using cables as described below and installed by a qualified professional.*
- *Power supply cable must have a cross-section of at least 1,5 mm², up to 2,5 mm² max. and have the end of the L, N and grounding (⏚) wires equipped with sleeves.*

High voltage wiring is connected to a terminal strip located at the back of the appliance.

The main board and the low-voltage terminal strip are located at the front of the appliance

Routing the Cables

When installing new wiring (e.g. for accessories) to be maintained by clamps, make sure to remove the side panels to ensure correct routing and clamping. Also refer to the installation manual provided with the accessory.

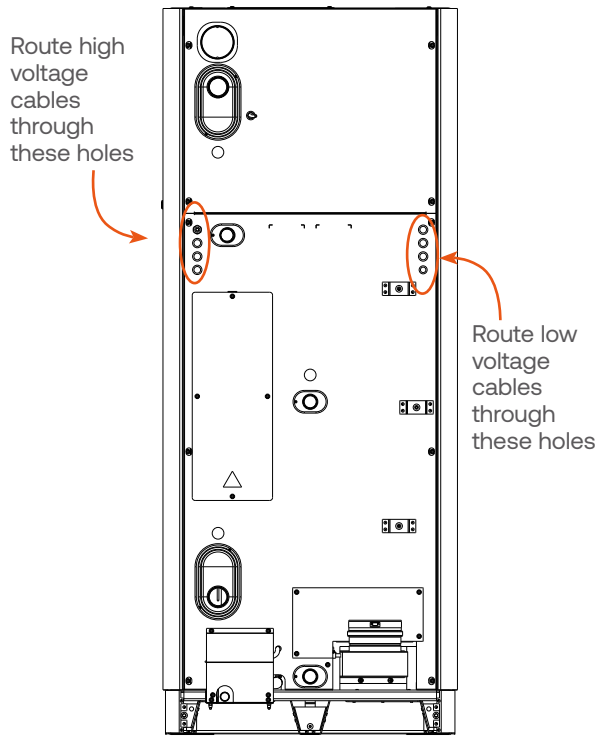


Fig. 25. Routing the Electrical Cables

Accessing the Electronic Board and Low and High Voltage Terminal strips

Make sure that the power supply to the appliance is deactivated (power supply cable disconnected from the appliance) before accessing the high voltage terminal strip.

Conditions: OF F

Tools and material:

- Wrench, hex head, size 4

Procedure:

Electronic Board and Low Voltage Terminal Strip:

1. Open the front door, see **"Opening and Closing the Front Door and Access Panels" on page I-31.**
2. Remove four screws (**1**) from the the panel. Retain for installation.
3. Lift and carefully remove the access panel (**2**) of the electronic bay.

High Voltage Terminal Strip:

1. Remove four screws (**3**) from the access panel (**4**). Retain the panel and hardware for reinstallation.

Follow-on tasks:

1. Proceed in the reverse order to reinstall the access panels back in position.
2. Close the front door, refer to **"Opening and Closing the Front Door and Access Panels" on page I-31.**

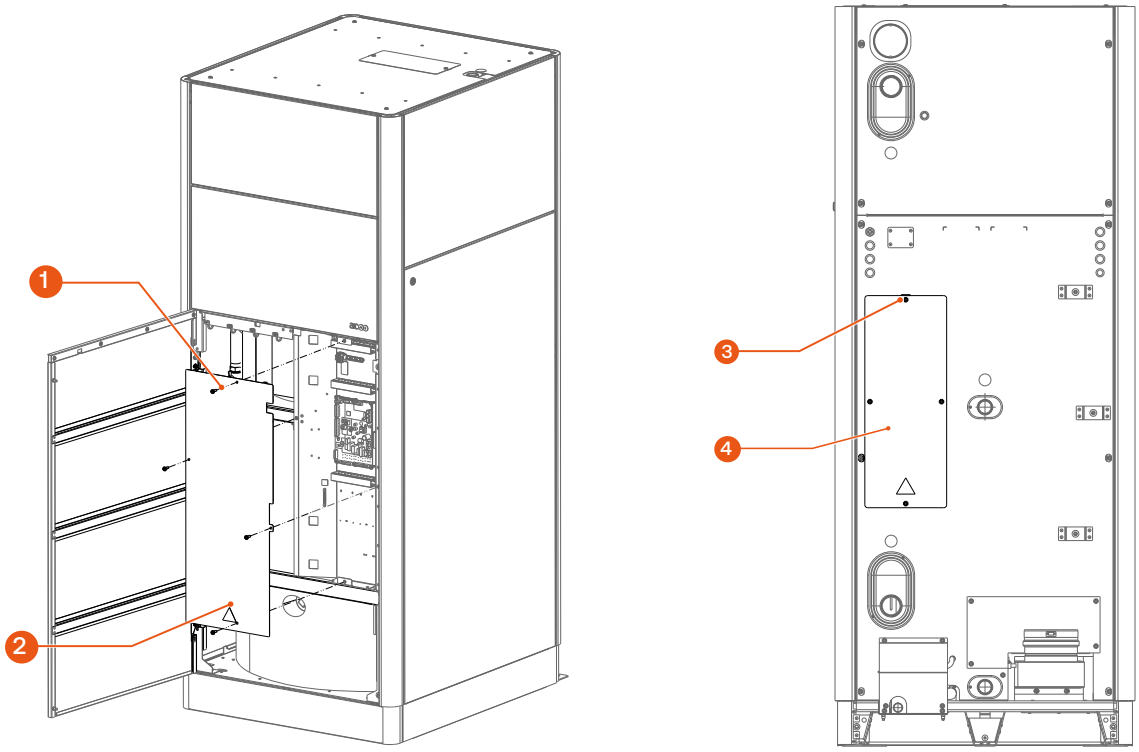
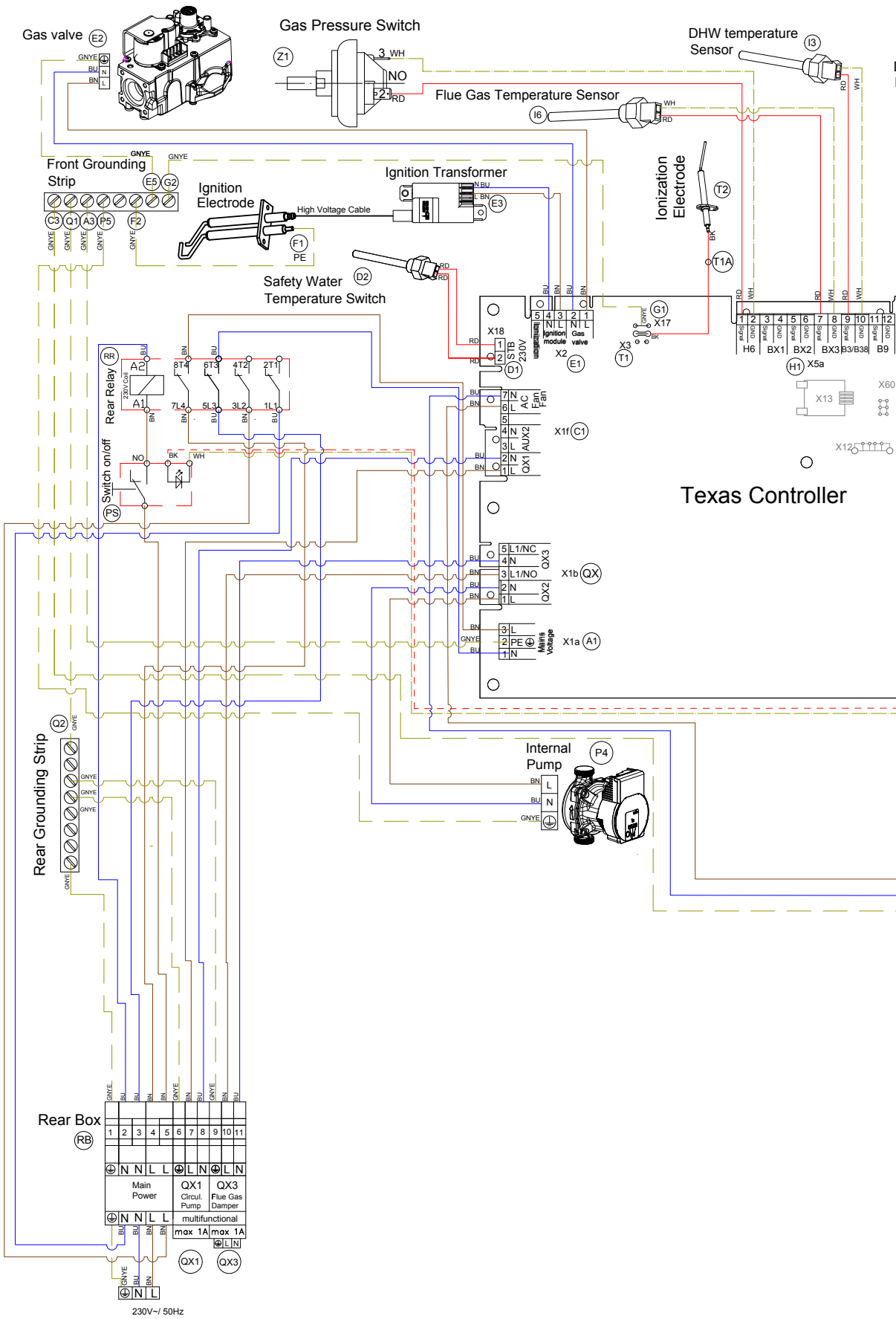
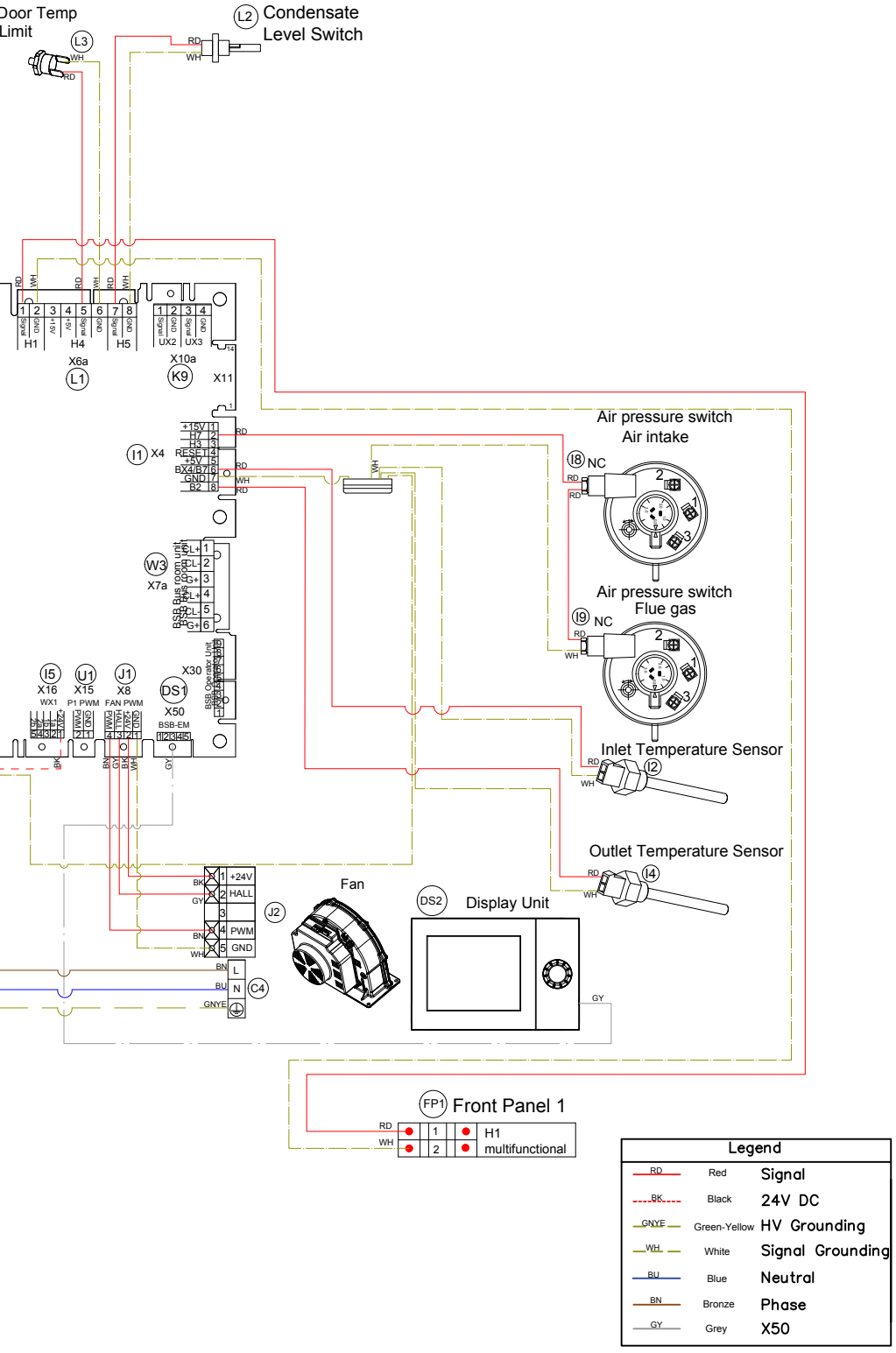


Fig. 26. Accessing the Electronic Board and High & Low voltage Terminal Strips

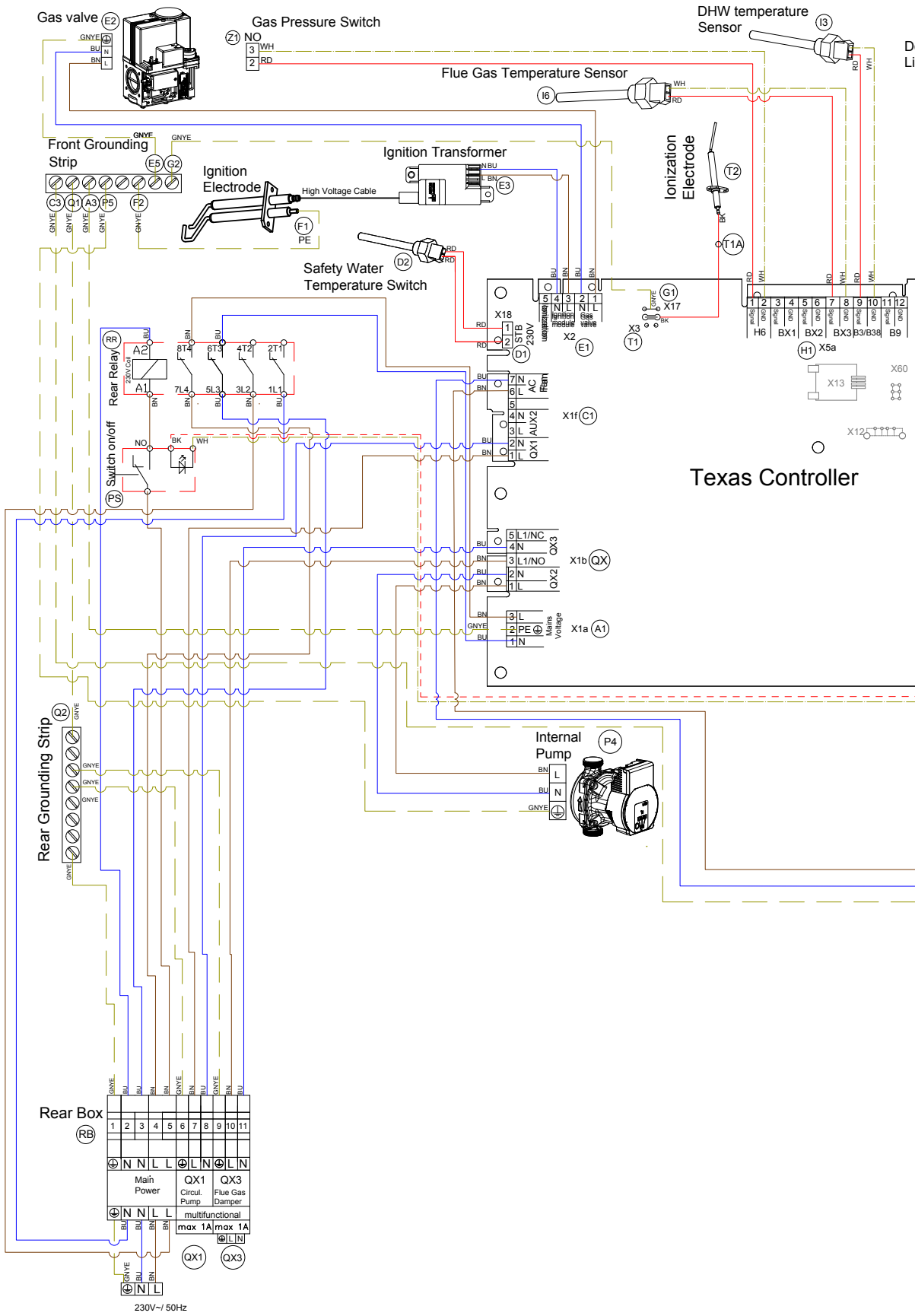
Wiring Diagram - TEXAS 99

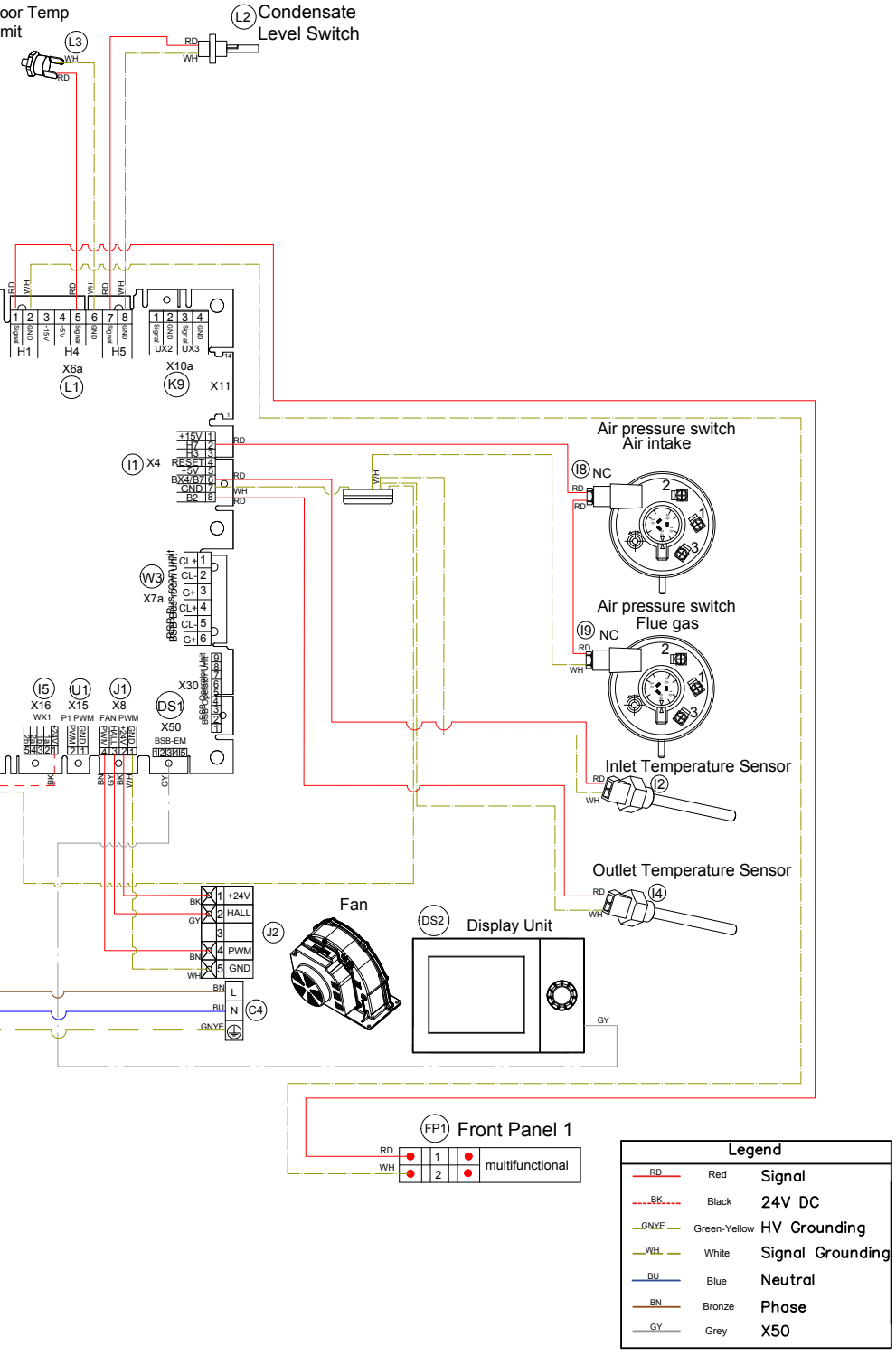




Legend		
RD	Red	Signal
BK	Black	24V DC
GNYE	Green-Yellow	HV Grounding
WH	White	Signal Grounding
BU	Blue	Neutral
BN	Bronze	Phase
GY	Grey	X50

Wiring Diagram - TEXAS 230




oor Temp
mit
L3
L2 Condensate
Level Switch
RD
WH
H1
H4
H5
X6a
L1
X10a
K9
X11
UX2
UX3
I1 X4
+15V
H7
H3
RESET
BX4/B7
GND
B2
W3
X7a
CL+
CL-
G+
X16
WX1
I5
X15
P1 PWM
U1
X8
FAN PWM
J1
X30
DS1
X50
BSB-EM
Air pressure switch
Air intake
I8 NC
Air pressure switch
Flue gas
I9 NC
Inlet Temperature Sensor
I2
Outlet Temperature Sensor
I4
Fan
J2
DS2
Display Unit
+24V
HALL
PWM
GND
L
N
C4
FP1 Front Panel 1
multifunctional
Legend
Red
Signal
Black
24V DC
Green-Yellow
HV Grounding
White
Signal Grounding
Blue
Neutral
Bronze
Phase
Grey
X50

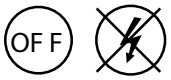
Safety Instructions Before Start-up

- **The commissioning of the water heater will be carried out by a qualified professional.**
- **Before start up, check that all connections (electrical, chimney, hydraulic, gas) have been carried out and that they are tight and secure.**
- **Check that the storage tank is full of water. Starting the appliance with the tank empty can cause severe damage to the appliance.**
- **Ensure that the condensate trap is correctly installed and connected and that it is full of water before starting up the appliance.**

- **Before starting the appliance, check that the water heater is full of water and that the appliance is supplied with gas and electrical power.**
- **Check that the gas pressure is within the allowed range.**

- *Once installation is done, connect to the aicON application and fill in all the relevant information. Refer to the back cover of the manual for easy access. Please contact your AIC representative for more information about this app.*
- *Alternatively, you can also fill in the installation checklist to indicate the components that are part of the system. Refer to "Installation Checklist" on page I-92.*

Filling the Water Heater

Conditions: 

Procedure:.

1. Connect the water network to the DHW inlet circuit.
2. Make sure that the draining valve ( ), if installed, is closed.
3. Make sure that the isolating valves ( ) are open on the DHW inlet and outlet circuits.
4. Open a draw-off tap to bleed the air from the circuit when filling it.
5. Open the filling valve ( ) of the Domestic Hot Water circuit.
6. When water flows out steadily, close the tap.

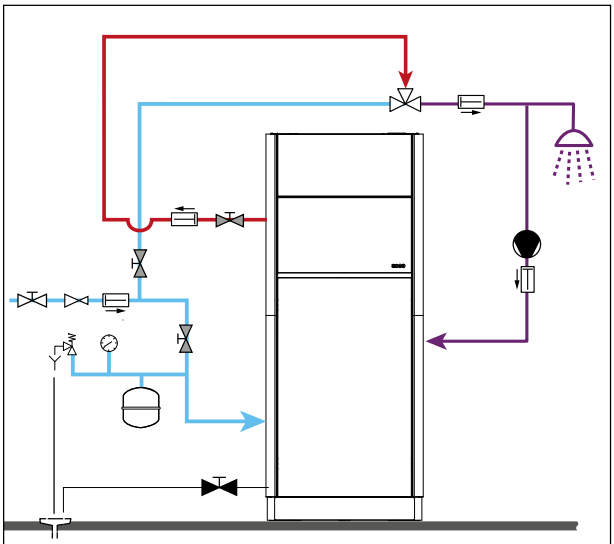


Fig. 27. Filling the Water Heater - Typical

Follow-on Task(s): None

Start-up and Pump Setting

Conditions:

Procedure:

At commissioning, it is essential to perform a check of the combustion values to ensure the correct operation of the appliance.

1. Make sure that the condensate trap is correctly installed and connected.
2. Make sure that all connections are tight and there is no leak.
3. Push the On/Off switch located at the right side of the appliance.

▷ ***When in the ON position, the switch remains pushed in and is illuminated.***

▷ ***When starting the appliance for the first time after installation, the controller will open the Commissioning Wizard automatically. This wizard process only appears once, provided that the function is disabled (set to "Off") at completion of the process. To bypass it, activate "Continue" or "Skip" displayed at the bottom of the screen, until you reach the end of the process.***

4. If required, perform the commissioning setting of the appliance, following the instructions displayed on the screen. Refer to **"Commissioning Wizard" on page I-59** for more information and a list of the settings.
5. Control the gas pressure and consumption at appliance start up.
6. Make sure that the pump is set to operate in 3rd gear (max. speed).

This part of the procedure allows to run the pump manually and bleed the air still present in the internal water circuit.

7. Rotating the selector (**1**) and depressing it to confirm each selection:
   - select the ⚙ icon,
   - select "**Expert**",
   - in "**Select user level**"; choose "**Engineer**", then enter password.

A password is required to access the Engineer level. Please contact your AIC representative for more information.

   - select "***Continue***"
   - select the icon,
   - select "**Input/Output Test**",
8. Go to program line ***7700***. "***No test***"is displayed.
9. Depress the selector (**1**) and rotate clockwise until "***Relay output QX2***" is displayed. Depress the selector (**1**) to validate.
10. Check that the pump starts running and let it run for 1 minute.
11. Depress the selector (**1**) and rotate counterclockwise until "***No test***" is displayed. Depress the selector to validate.
12. Depress the selector (**1**) for more than 3 sec. to exit the menu.

Follow-on task(s):

Perform the combustion adjustment. Refer to the **"Combustion Adjustment" on page I-58**.

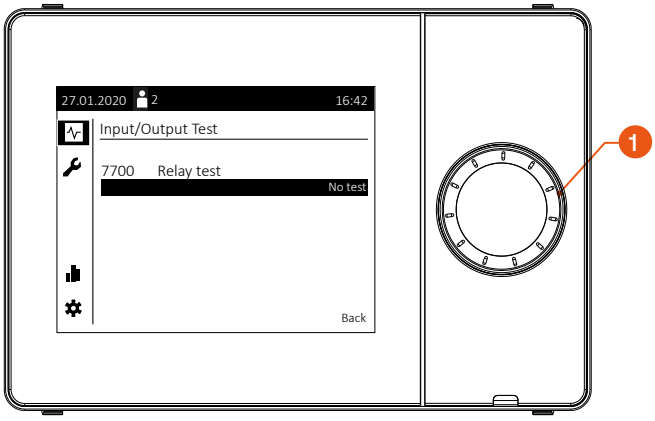


Fig. 28. Pump Check - Typical Screen

Combustion Adjustment

Conditions: 

Tools and material:

- Flue gas analyser
- Wrench, hex head, size 4
- Screwdriver, Torx T15 (TEXAS 230)

Procedure:

1. Remove the inspection cover **OR** the top panel to get access to the gas valve. Refer to **"Opening and Closing the Front Door and Access Panels" on page I-31**.
2. Allow the appliance to operate for a few minutes.
3. Connect the flue gas analyser probe to the measuring port of the flue gas pipe.
4. Check CO_2 contents (or O_2 in case of G20Y20) in the flue gas at max output as follows:
   - Select and activate the ⚙ icon
   - Select "**Special operations (1/3)**"
   - Set "**Chimney sweep function**" to "**on**".
   - Set "**Burner output**" to "**Full load**".
   - Check the CO_2 contents (or O_2 in case of G20Y20), and compare the values with those in the technical specifications (See **"Combustion Data" on page G-19).**
   - If the value is outside the range, adjust by turning the gas valve shutter screw (**1**) in small steps, to allow the combustion value to stabilise before performing additional adjustments.
   - TX 99 FS:
     - Rotate clockwise (to the right) to increase the CO_2 contents (decrease O_2).
     - Rotate counterclockwise (to the left) to decrease the CO_2 contents (increase O_2).
   - TX 230 FS
     - Rotate clockwise (towards "–" sign) to decrease the CO_2 contents (increase O_2).
     - Rotate counterclockwise (towards the "+" sign) to increase the CO_2 contents (decrease O_2).
5. Check that CO level is not higher than 200 ppm.

If the CO level exceeds 200 ppm, please contact your AIC representative

Follow-on task(s):

1. Close all opened doors and access panels. Refer to **"Opening and Closing the Front Door and Access Panels" on page I-31**.
2. Record the value in the log sheet. Refer to **"Combustion Parameters - Log Sheet" on page I-91.**

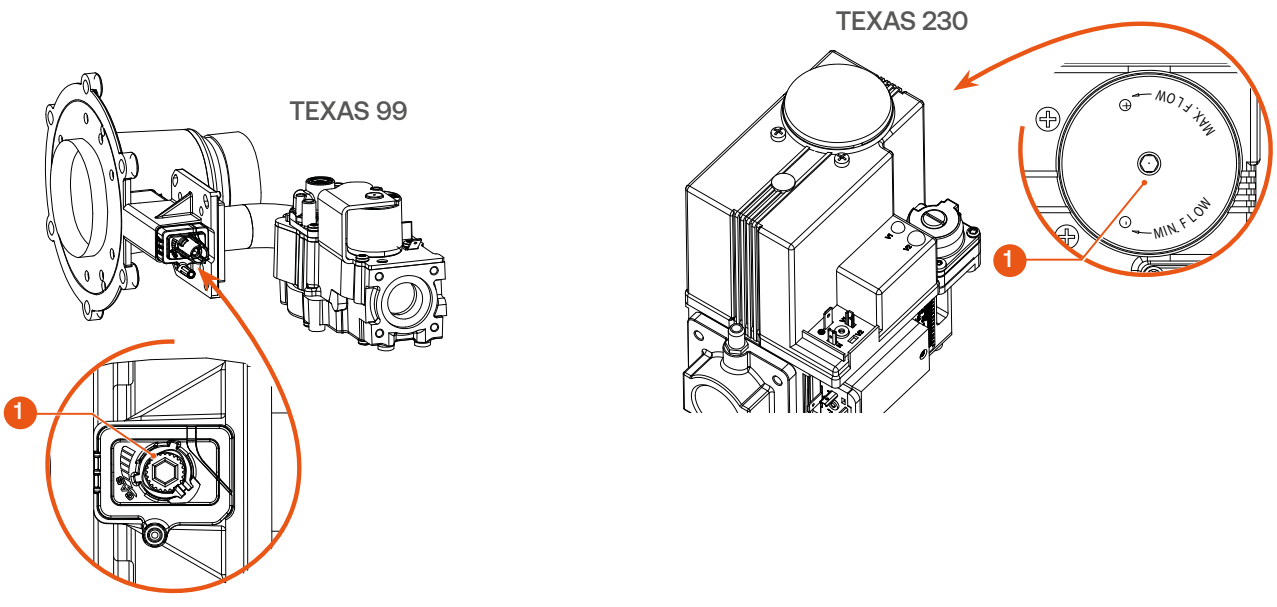


Fig. 29. Combustion Adjustment on Gas Valves

Commissioning Wizard

When starting up the appliance for the first time, a commissioning wizard will be displayed, unless it has been disabled before (e.g. from factory or through a previous manual deactivation). In that case, and if needed, it can be accessed through the "Commissioning" or "Engineer" user level.

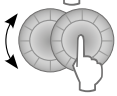
To exit the commissioning wizard without adjustments, activate "Continue" or "Skip" displayed at the bottom of the screen, until you reach the end of the process.

The following pages give a view of the structure of the commissioning wizard contents. Program numbers are provided, as well as the detail of the menu when required. In orange is the default or recommended value. Please also refer to **"Structure of Menus for the Installer" on page I-84.**

Symbols used for the **operation of the selector**:

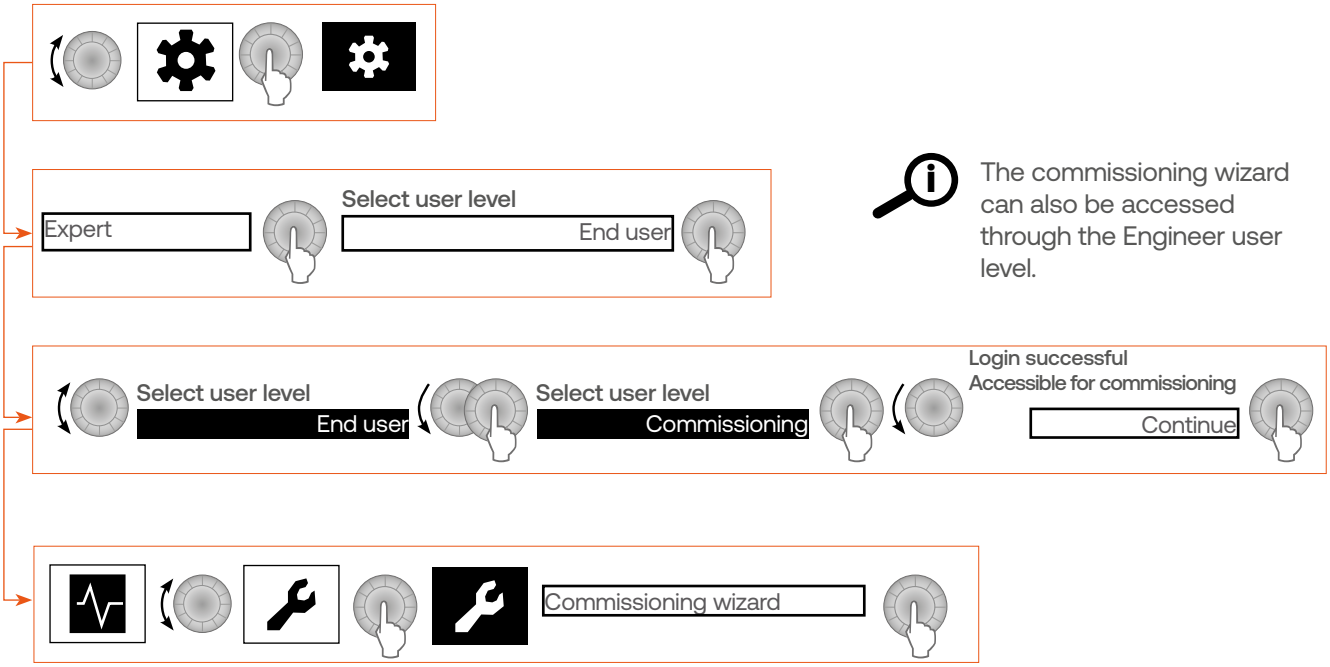
turn the selector to the left or to the right.

depress shortly the rotary selector.



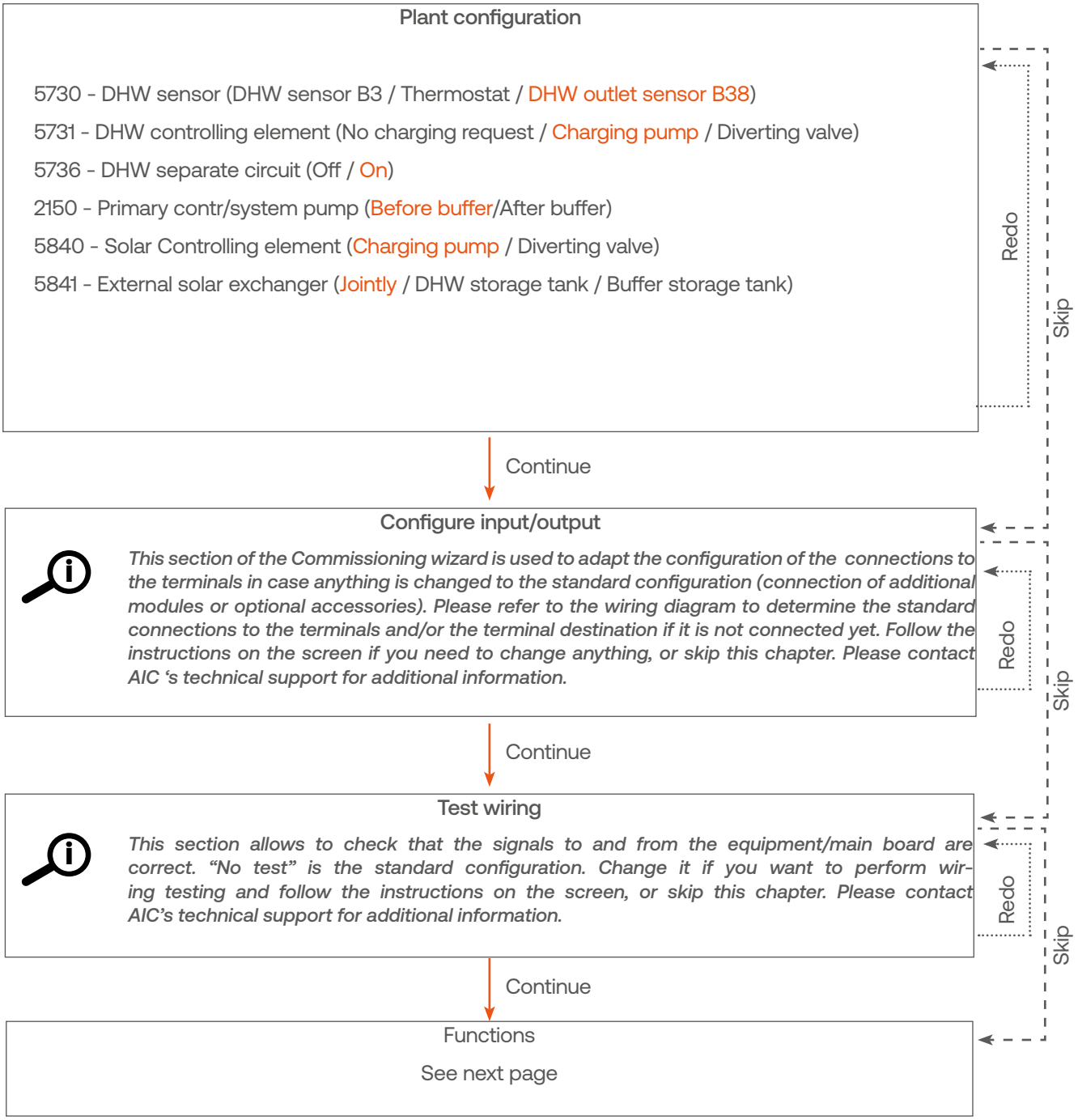
turn the selector to adjust the value, then depress the selector to validate.

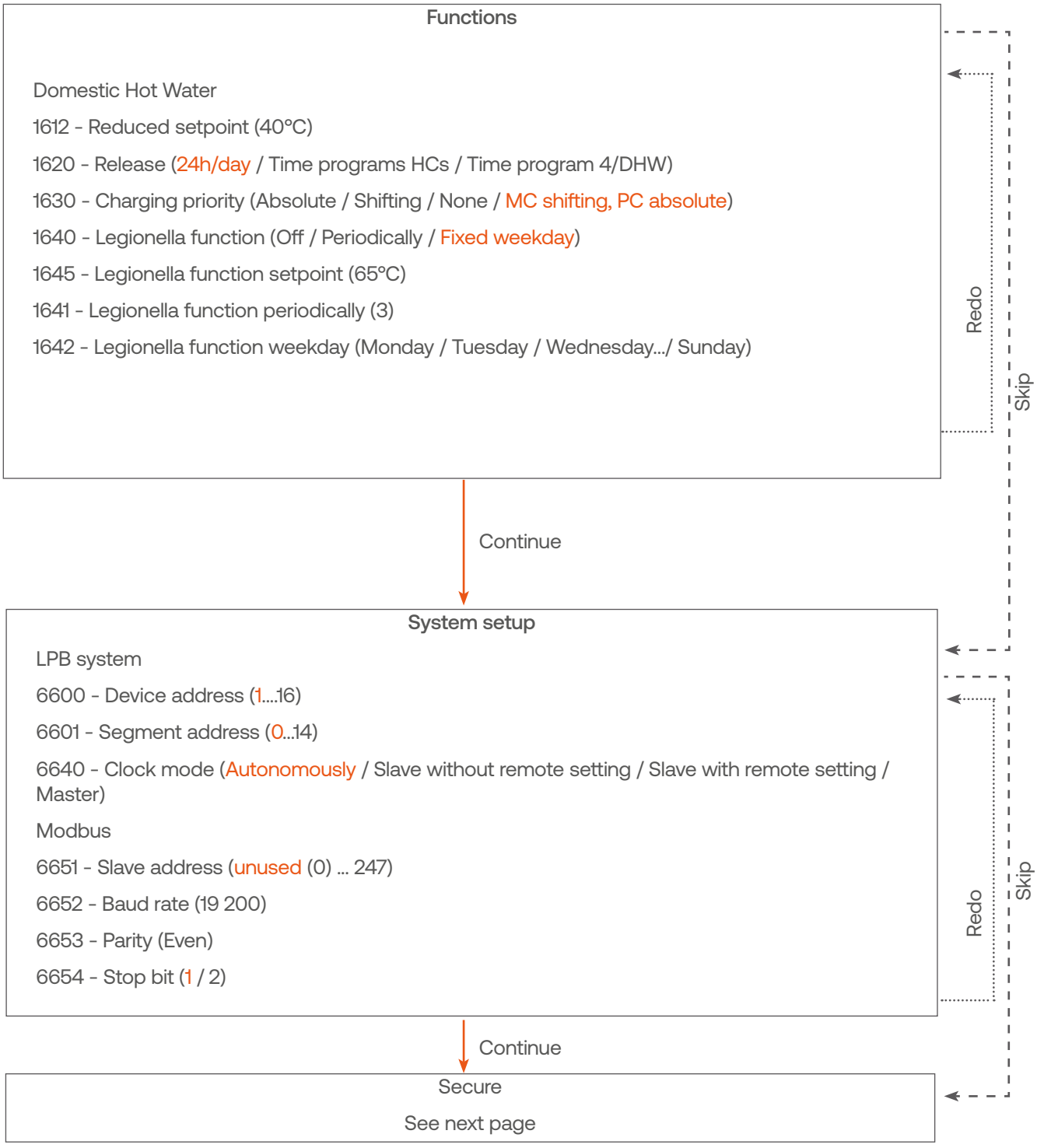
Accessing the Commissioning Wizard

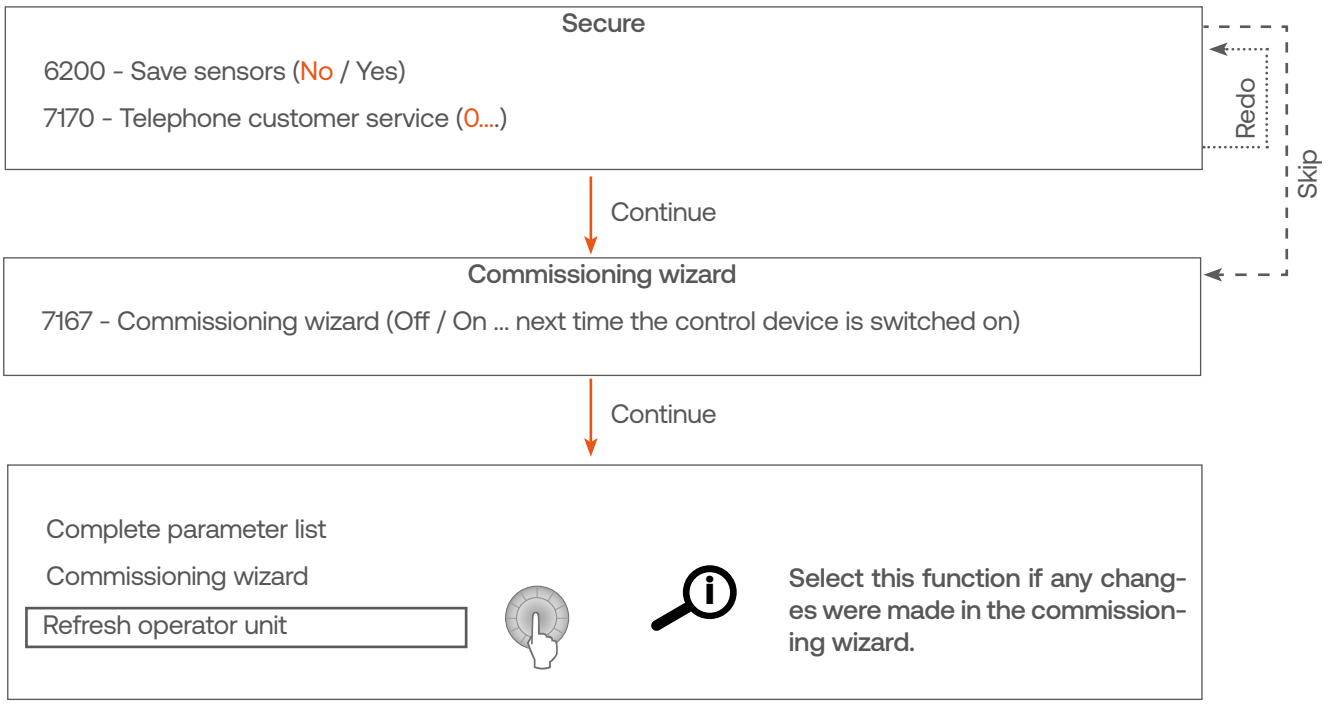


The commissioning wizard can also be accessed through the Engineer user level.

General Structure of the Commissioning Wizard




Functions
Domestic Hot Water
1612 - Reduced setpoint (40°C)
1620 - Release (24h/day / Time programs HCs / Time program 4/DHW)
1630 - Charging priority (Absolute / Shifting / None / MC shifting, PC absolute)
1640 - Legionella function (Off / Periodically / Fixed weekday)
1645 - Legionella function setpoint (65°C)
1641 - Legionella function periodically (3)
1642 - Legionella function weekday (Monday / Tuesday / Wednesday.../ Sunday)
Redo
Skip
Continue
System setup
LPB system
6600 - Device address (1....16)
6601 - Segment address (0...14)
6640 - Clock mode (Autonomously / Slave without remote setting / Slave with remote setting / Master)
Modbus
6651 - Slave address (unused (0) ... 247)
6652 - Baud rate (19 200)
6653 - Parity (Even)
6654 - Stop bit (1 / 2)
Redo
Skip
Continue
Secure
See next page



Once Commissioning is done, connect to the **aicON** *application and fill in all the relevant information. Refer to the back cover of the manual for easy access. Please contact your AIC representative for more information about this app.*

Safety Instructions for Maintenance

Inspection and maintenance tasks must be carried out by a qualified and certified professional, at least once a year.

Water flowing out of the drain valve can be extremely hot. Use extreme caution when draining a hot appliance.

Once the inspection and maintenance tasks are complete, ensure that all removed components are reinstalled and all connections are tight and secured.

- **Before performing any maintenance operation, shut down the appliance using the appliance on/off switch and isolate the electrical supply of the appliance through the external power-cutting device (fuse, circuit-breaker, etc.), unless power is required for the procedure (it will then be indicated in the procedure).**
- **Do not touch the appliance with any wet body parts when it is supplied with electrical power.**
- **Be careful ! Even when the appliance on/off switch is set to OFF, the high voltage terminals are still supplied with electrical power.**

- **During annual inspection, the qualified professional will check the general condition and correct operation of the appliance.**
- **Defective parts and components may only be replaced by genuine factory parts or parts approved by the manufacturer.**
- **Replace any gaskets or seals present on the removed components before reinstallation, unless otherwise specified in the procedures.**
- **To ensure the efficiency, durability and reliability of the appliance, it is recommended to have it de-scaled every year.**

- *To ensure the correct operation of the appliance, it is recommended that the end-user perform the periodic checks mentioned in the Safety section for the user, at the beginning of this manual.*
- *The inspection and maintenance tasks are detailed in a table in this section. Make sure to perform all the recommended tasks and to fill in the log sheets available at the end of the manual with all the required information.*

Maintenance Requirements

To perform maintenance, connect to the aicON application and fill in all the relevant information. Refer to the back cover of the manual for easy access. Please contact your AIC representative for more information about this app.

Tasks	@ inspection (1 year)	@ maintenance (2 years max)
Check that the boiler room ventilation / appliance air and flue ducts are unobstructed.	X	X
Verify flue gas and combustion air ducts are in good condition, sealed tight and properly supported.	X	X
Open the front door and side access panels and check the general condition inside the cabinet. Clean and vacuum as required.	X	X
Check the level of scaling inside the tank through the inspection hole. Descale as required. Refer to **"Checking the Scaling in the Appliance and Descaling" on page I-79**	X	
Check the condition of the hoses connected to the APS and FPS. Clean and/or replace them as required.	X	
Check the correct operation of the pressure switches (air and flue gas), refer to "Checking the Flue Gas (FPS) and Air (APS) Pressure Switches Operation" on page I-66	X	X
Clean the condensate pipe and trap. Refer to **"Removing, Cleaning and Installing the Condensate Trap" on page I-68**	X	X
Clean/service the condensate neutralisation system (if any). Refer to manufacturer's documentation.	X	X
Check for leaks, both inside and outside the appliance: water, gas, flue and condensate.	X	X
Clean any filter/dirt separator present in the hydraulic circuit, as required. Refer to manufacturer's documentation.	X	X
Check the operation of the burner (flame) through the sight glass and that the combustion parameters (CO & CO_2) are according to requirements. See **"Combustion Data" on page G-19.** Also perform the following as required: › Check the log sheets in the manual for any changes to the parameters carried out during commissioning. › Check if the current fan speed value @ minimum output is in accordance with the table in **"Adjustment of Fan Speeds" on page I-46** or the log sheet. If the value is different, take a note of this value and change it to the value indicated in the table. › Adjust the CO_2 according to the value in **"Combustion Data" on page G-19**. › If the current fan speed value @ minimum output is different from those in the table, do not adjust the gas valve further but increase the fan speed to that value.	X	X
Check the gas pressure and that the gas supply shut-off devices are operating properly.	X	
Check that the pump(s) is/are operating properly.	X	
Check that the fan is operating properly.	X	
Remove the burner and check its general condition. Clean as required. See **"Removing and Installing the Burner" on page I-74.**		X
Replace the ignition and ionization electrodes. Refer to **"Removing and Installing the Ignition and Ionisation Electrodes" on page I-67.**	X	
Check all control wiring and connections.	X	X
Check the condition of the combustion chamber and clean it if required. See **"Checking and Cleaning the Combustion Chamber" on page I-78.**		X
Check the operation of the flue damper (non-return valve), if any, and perform the required maintenance. Refer to the manufacturer's documentation.	X	X
Record the operations and results in the Log Sheets provided at the end of the manual.	X	X

Shutting Down for Maintenance

Conditions: None

Procedure:

1. Press the On/Off switch located on the right side of the control panel.

When in the OFF position, the switch internal light goes out.

2. To completely cut the power supply to the appliance, either disconnect the power supply cable from the appliance, or use the external circuit breaker.

Follow-on tasks:

Draining the Circuit

Conditions: OF F

Procedure:

1. Close the filling valve ( ) of the DHW circuit.
2. Connect the optional draining valve ( ) to the sewer with a hose.
3. Open the draining valve ( ) to empty the water circuit of the appliance.
4. Open a draw-off tap and/or open the safety relief valve to allow air to enter.

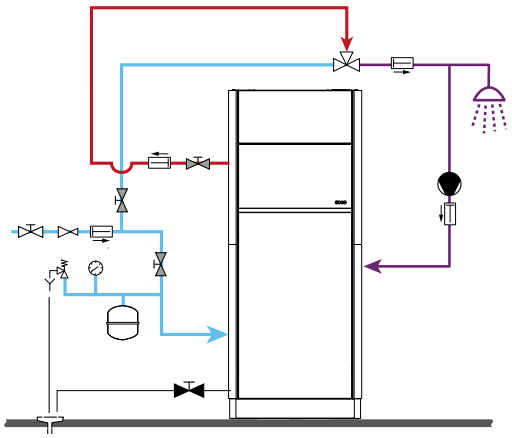


Fig. 30. Draining the Appliance - Typical

Follow-on tasks:

1. When the tank is empty, close the draining valve ( ) and remove the hose.
2. Close the draw-off tap and the safety relief valve, as required.

Restarting after Maintenance

Conditions:

Procedure:

1. Press the On/Off switch located on the right side of the control panel.

When in the On position, the switch remains pushed in and is illuminated.

2. Allow the appliance to operate for a few minutes, then bleed the air from the circuit by opening draw-off tap in the hot water circuit.

Follow-on tasks:

1. Check there is no leak in the water and gas circuits.
2. Check the combustion values according to **"Combustion Data" on page G-19**.
3. Record values in **"Combustion Parameters - Log Sheet" on page I-91**.
4. Check the circuit pressure (between 1,2 and 6 bar).

Checking the Flue Gas (FPS) and Air (APS) Pressure Switches Operation

Conditions:

Tools and material:

- Flat-head screwdriver
- Manometer (measuring range up to min. 10 mbar [1000 Pa])
- T-piece and 2 hoses

Check Procedure:

This procedure needs to be performed with appliance (and controller) running, and the top panel open.

When performing the following procedure, do not touch the high voltage connections and do no touch any inner component of the appliance with any wet body part.

1. Release the hose clamp (**1**) at the condens dish or air duct and disconnect the hose (**2**) running to the pressure switch (**3**), as illustrated on the below.
2. Connect a T-piece to the open end of the hose.
3. Connect the manometer with a hose at one end of the T-piece.
4. FPS (**4**): blow air into the hose while it is connected to the flue pressure switch and to the measuring device.
5. APS (**3**): suck air from the hose while it is connected to the air pressure switch and to the measuring device.
6. Verify that the pressure switch switches at the set pressure shown in table below and that the controller displays an error code. Refer to **"Error Codes and Solutions" on page I-86**.

	TEXAS 99	TEXAS 230
Flue Pressure Switch (**4**)	4 mbar [400 Pa]	9 mbar [900 Pa]
Air Pressure Switch (**3**)	6 mbar [600 Pa]	10 mbar [1000 Pa]

7. If the obtained values are different from those in the table, replace the hose and repeat steps 2 to 6.
8. If the values are still different, contact AIC's technical support.
9. In case of malfunction, replace the pressure switch.

Follow-on tasks:

1. Install hose clamp (**1**) on the hose (**2**). Reconnect hose to correct location and tighten hose clamps. Refer to illustration below.
2. Check that the connection is not leaking.
3. Close appliance access panels, refer to **"Opening and Closing the Front Door and Access Panels" on page I-31.**

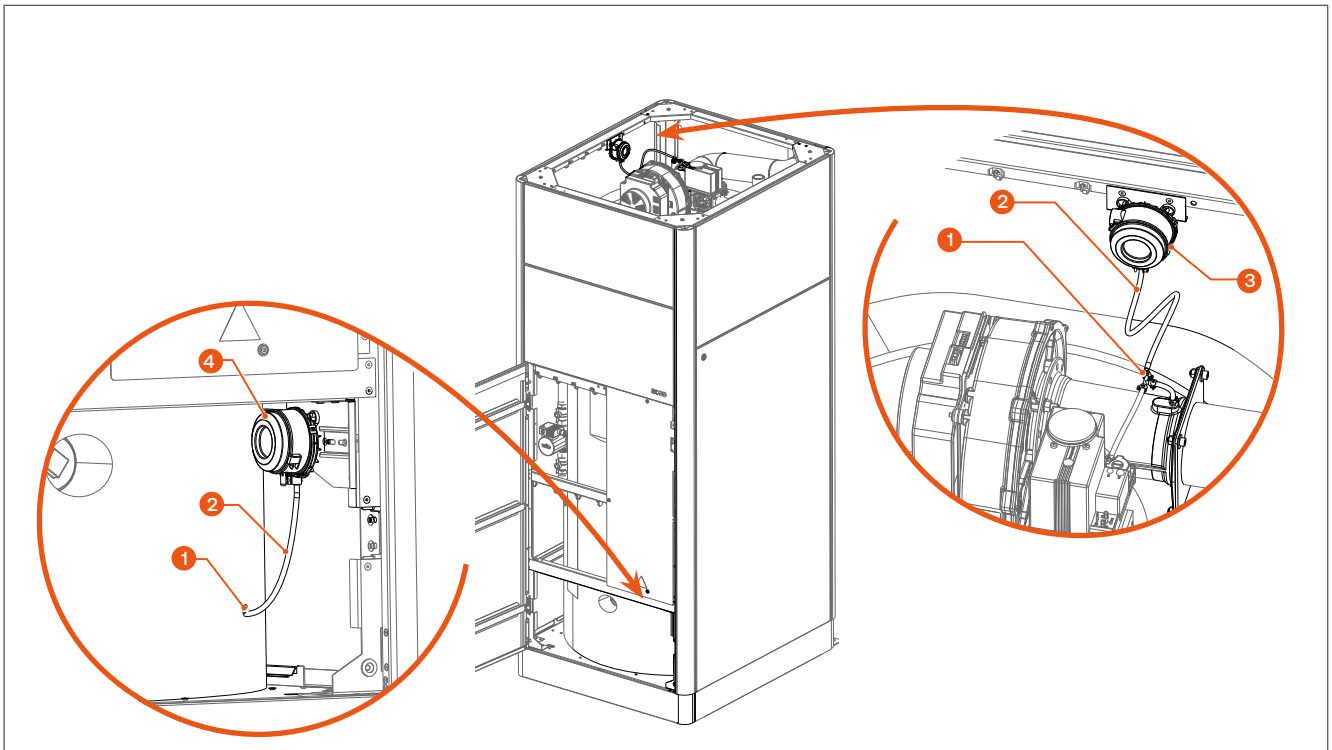


Fig. 31. Testing the Air Pressure Switch and Flue Pressure Switch

Removing and Installing the Ignition and Ionisation Electrodes

Conditions:

Tools and material:

- Wrenches, hex head, size 3 and 7
- Torque wrench, 2,5 Nm
- Protective gloves
- Face mask
- Loctite thread sealant 5972

Removal Procedure:

1. Disconnect all connectors from the electrodes.
2. Release one screw to remove grounding lug. Retain for reinstallation.
3. Wearing protective gloves and a face mask, remove insulation from the upper plate. Retain for reinstallation.

▷ *The procedure is identical for both electrodes.*

▷ *When removing the electrodes in the scope of the periodic maintenance, the electrodes and their gasket must be discarded and replaced by new ones.*

4. Release two screws (**1**) from the electrode flange.
5. Remove the electrode and screws (**1**) from the fan plate (**3**). Discard, as required.
6. Remove electrode gasket (**2**) and discard, as required.

Installation procedure:

1. Install new gasket (**2**) on the fan plate (**3**).

Before installing the ignition electrode, check that the distance between tips is as indicated on the illustration.

2. Insert the electrode and fasten with 2 screws (**1**), coated with Loctite 5972.
3. Torque screws at 2,5 Nm.
4. Wearing protective gloves and a face mask, install insulation on the upper plate.
5. Reconnect all connectors to the electrodes.
6. Reinstall grounding lug using one retained screw.

Follow-on tasks:

1. Reinstall all removed access panels, refer to **"Opening and Closing the Front Door and Access Panels" on page I-31**
2. Restart the appliance, see **"Restarting after Maintenance" on page I-65.**

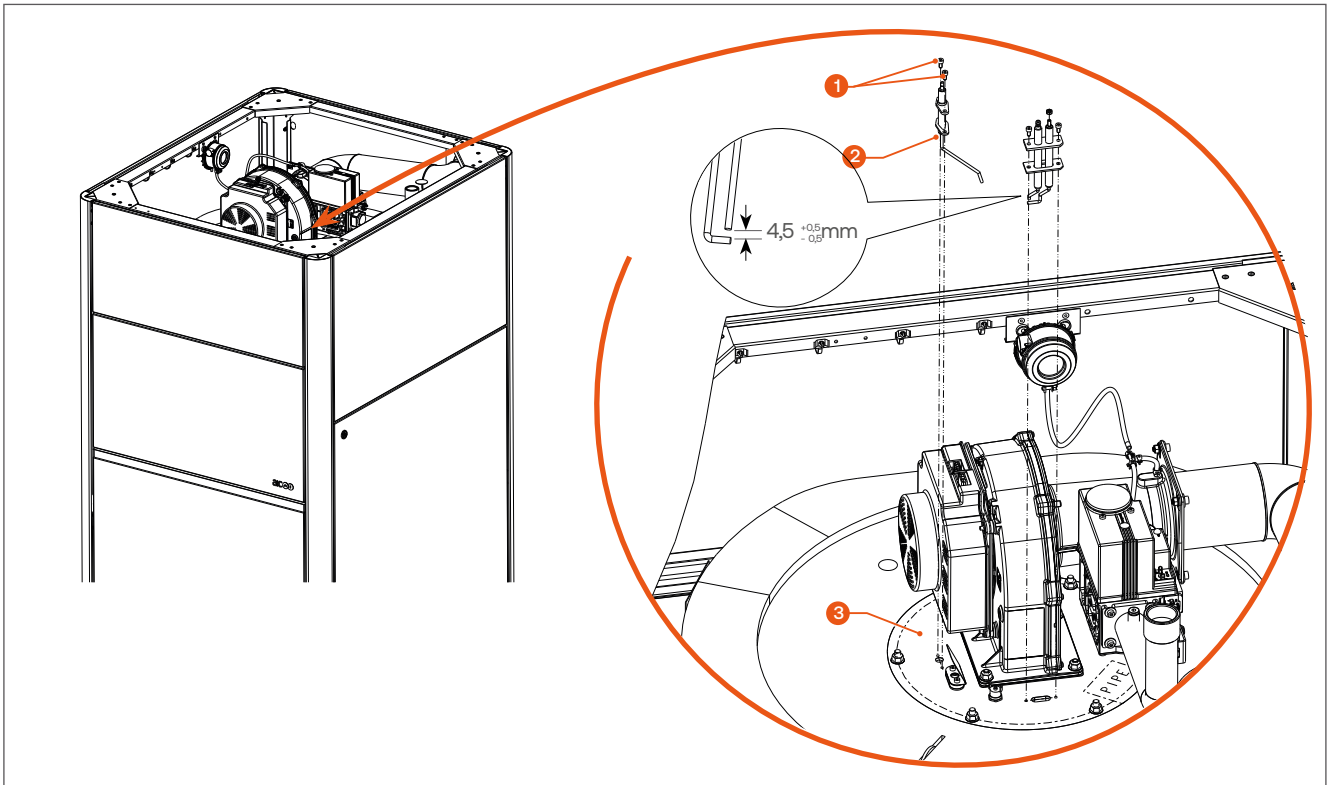


Fig. 32. Removing and Installing the Electrodes

Removing, Cleaning and Installing the Condensate Trap

Conditions:

Tools and material:

- Wrench, hex head, size 4
- Torque wrench, 6 Nm
- Clean cloth

In case of first installation of the condensate trap, go directly to step 4 of the installation procedure.

Protective Cover Removal:

1. Release two top screws (**1**) from the protective cover. Retain for reinstallation.
2. Release two bottom screws (**2**). Retain for reinstallation.
3. Remove protective cover (**3**) from condensate trap and set aside.

Condensate Trap Removal

1. Disconnect connector (**6**) from condensate level switch.
2. Release the clamp (**5**) to disconnect the condensate hose between heat exchanger and condensate trap (**7**).
3. Clean the hose. Retain for reinstallation or replace as required.
4. Release the clamp at the condensate trap end of the hose (**4**) to disconnect the vent hose between the heat exchanger and the condensate trap (**7**). Retain for reinstallation.
5. Release two screws (**8**) and remove condensate trap (**7**) and bracket from appliance frame. Retain screws (**8**) for reinstallation.

Cleaning

1. Check that the heat exchanger condensate outlet and the condensate trap inlet are not clogged. Clean as required.
2. Release two screws (**9**) and open the condensate trap cover (**10**). Retain cover and hardware for reinstallation.
3. Remove the cover gasket (**11**). Discard.
4. Wipe clean the condensate level switch (**12**) attached to the cover. Remove and replace as required.
5. Clean the deposits in the condensate trap (**7**) using clear water and a cloth.
6. Wipe the ball located above the exit pipe.

Condensate Trap Installation

Make sure to put the ball back in place in the trap before reinstalling the cover.

1. Install the ball in position inside the condensate trap (**7**).
2. Install a new gasket (**11**) on the condensate trap (**7**).
3. Reinstall the cover (**10**) with two retained screws (**9**). Torque the screws at 6 Nm.

The location of the condensate trap is identified by a sticker.

4. In case of first installation :
   - Position the condensate trap (**7**) bracket on the appliance and secure with two screws (**8**).
   - Release four screws (**13**) and remove the access panel (**14**). Retain all for reinstallation.
   - Secure one end of the vent hose (**15**) to the condensate dish connection using a clamp.
   - Route the hose (**15**) behind the back panel of the appliance, and pass through the hole.
   - Reinstall the access panel using four retained screws.
5. Connect the vent hose to the condensate trap (**7**) connection, tighten hose (**4**) clamp at condensate trap end to secure the hose.
6. Connect the condensate hose to the condensate trap inlet and heat exchanger condensate outlet. Tighten clamps (**5**) at both ends to secure hose.

Make sure that the pipe is tightly fitted to the condensate trap and heat exchanger outlet. If the connection is not tight, flue gas could escape, causing fatal accidents.

7. Connect the connector (**6**) to the condensate level switch.

Protective Cover Installation:

In case of first installation, use the hardware provided in the box of components delivered with the appliance. Otherwise, use the hardware retained at removal.

1. Install protective cover (**3**) on condensate trap.
2. Install two bottom screws (**2**).
3. Install two top screws (**1**).

Follow-on Task(s):

None

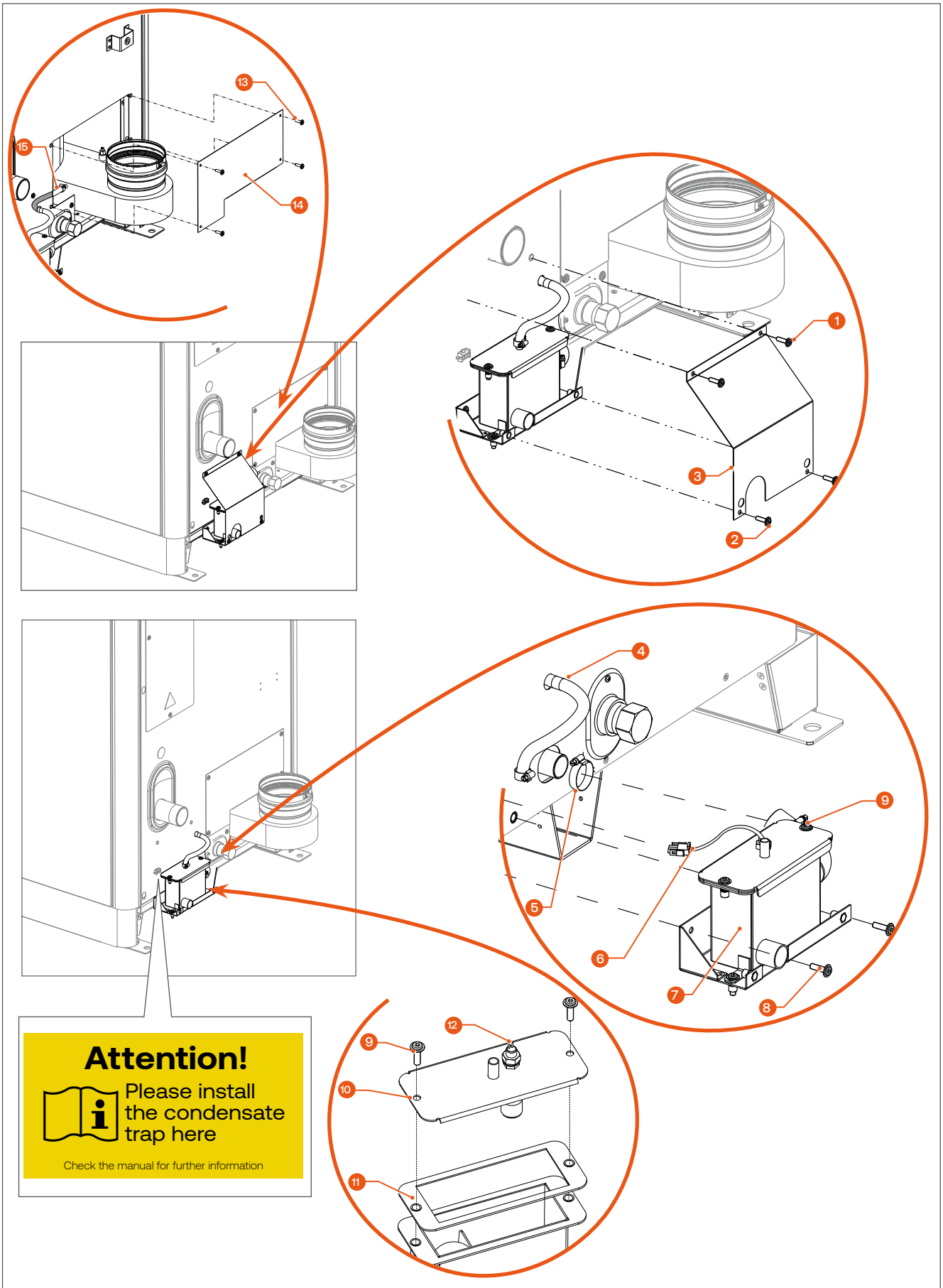


Fig. 33. Cleaning the Condensate Pipe and Trap

Removing and Installing the Fan, Venturi and Gas Valve (TEXAS 99)

Conditions:

Tools and material:

- Wrench, hex head, sizes 4, 6 and 8
- Wrench, socket head 10
- Torque wrench 3,5 to 6 Nm
- Protective gloves
- Face mask
- Loctite thread sealant 577 and 5972

Removal Procedure:

1. Disconnect all connectors and ground wires from the electrodes, as required, the fan (**1**) and the gas valve (**3**).
2. Disconnect the compensation hose (**10**) from the gas valve (**3**) and the air inlet (**6**).
3. Check the hose condition and that it is not obstructed. Clean as required, or replace with a new one.
4. Wearing protective gloves and a face mask, remove insulation from the top of the burner plate (unless done previously). Retain for reinstallation.
5. Remove three nuts that attach venturi (**9**) to fan (**1**). Retain for reinstallation.
6. Remove four nuts securing the fan (**1**) to the fan plate (**5**). Retain for reinstallation.
7. Remove the fan (**1**) from the fan plate (**5**) and from the venturi (**9**), with O-ring (**8**). Retain for reinstallation. Replace O-ring as required.

When removing an O-ring, check its general condition. Discard and replace the O-ring if it is cracked or torn.

8. Remove the fan gasket (**7**) and discard.
9. Remove four screws to release the elbowed gas pipe connection (**2**) from the venturi (**9**) flange. Retain screws and O-Ring, as required, for reinstallation.
10. Remove the venturi (**9**) from the air inlet (**6**).
11. Release the screws and washers from the gas pipe flange (**4**).
12. Remove gas valve (**3**) and elbowed gas pipe (**2**) assembly with hardware and O-ring. Retain for reinstallation, replace O-ring, as required.
13. Remove the electrodes, as required, refer to **"Removing and Installing the Ignition and Ionisation Electrodes" on page I-67.**
14. Remove the burner, as required, refer to **"Removing and Installing the Burner" on page I-74.**
15. Remove the burner plate, as required. Refer to **"Removing and Installing the Burner Plate" on page I-76.**
16. Clean the combustion chamber, as required, refer to **"Checking and Cleaning the Combustion Chamber" on page I-78.**

Installation Procedure

1. Install O-Ring on gas valve (**3**) and connect the gas pipe flange (**4**) to the gas valve (**3**) with four retained screws coated with Loctite 577.
2. Torque in a crosswise pattern at 3.5 Nm.
3. Reconnect the venturi (**9**) to the air inlet (**6**).
4. Install O-ring on the flange of the elbowed gas pipe (**2**) and connect to the venturi (**9**) flange. Install with four retained screws, coated with Loctite 577. Torque at 3,5 Nm.
5. Install fan gasket (**7**) on the fan plate (**5**).
6. Install O-ring (**8**) on the flange of venturi (**9**).
7. Align fan (**1**) with the fan plate (**5**) studs, and the fan studs with venturi (**9**) holes and set fan (**1**) in position.
8. Coat the fan plate (**5**) studs with Loctite 5972 and install retained nuts. Torque in a crosswise pattern, at 6 Nm.
9. Coat the fan (**1**) studs threads with Loctite 577 and fasten venturi (**9**) to fan (**1**) using three retained nuts.
10. Connect the compensation hose (**10**) to the gas valve (**3**) and the air inlet (**6**).
11. Wearing protective gloves and a face mask, install insulation on the burner plate, unless the electrodes still require installation.
12. Reconnect all connectors to the electrodes, gas valve (**3**) and fan (**1**).

When reconnecting to the gas valve, check that the connector is the correct one using the cable identification label.

Follow-on task(s):

1. Close all panels, refer to **"Opening and Closing the Front Door and Access Panels" on page I-31.**
2. Restart the appliance, as required, refer to **"Restarting after Maintenance" on page I-65.**

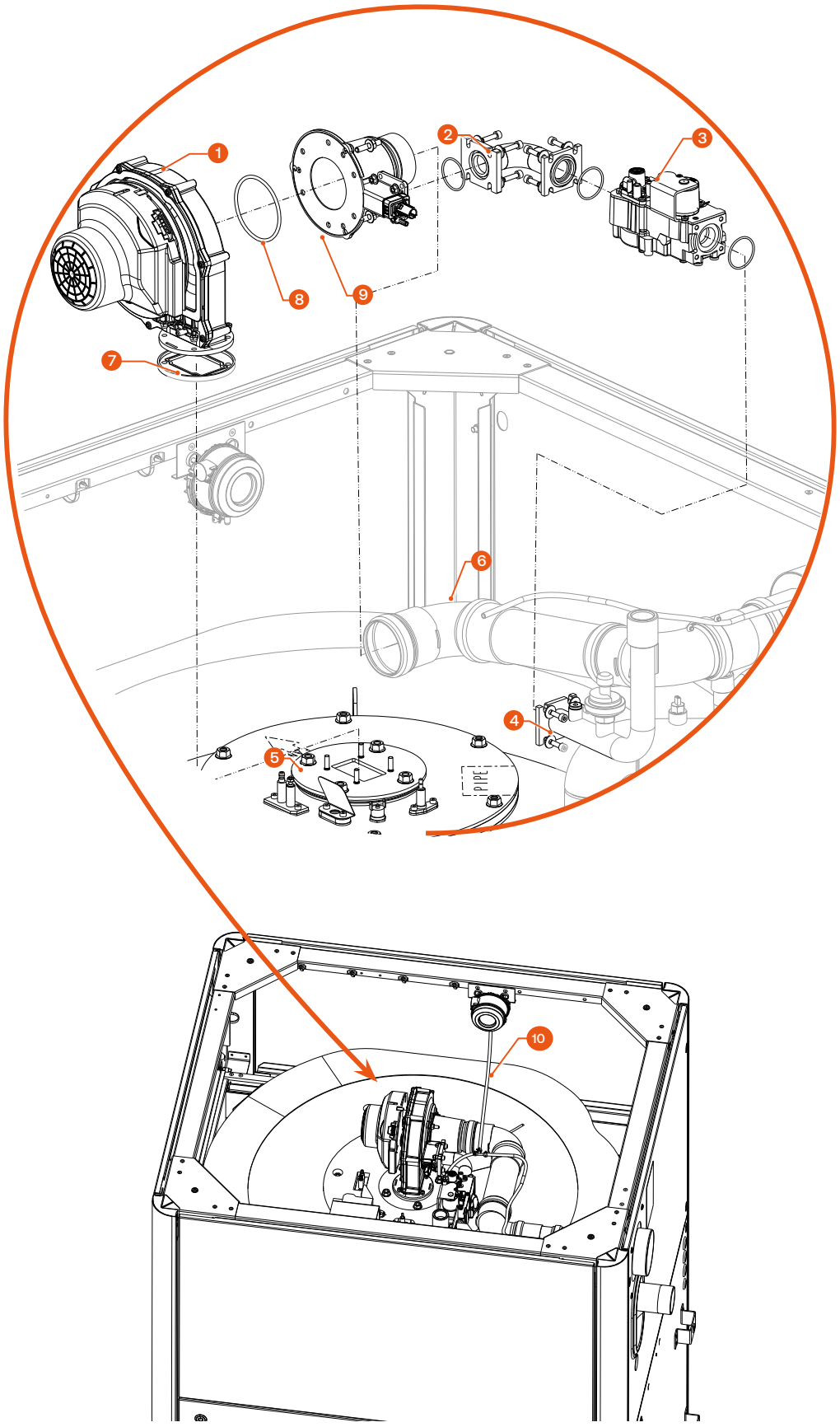


Fig. 34. TEXAS 99 - Removing and Installing the Fan/Venturi Assembly and Gas Valve

Removing and Installing the Fan, Venturi and Gas Valve Assembly (TEXAS 230)

Conditions:

Tools and material:

- Wrench, hex head, size 4
- Wrench, socket head 10
- Torque wrench, 6 Nm
- Protective gloves
- Face mask
- Loctite thread sealant 577 and 5972

Removal Procedure:

1. Disconnect all connectors and ground wires from the electrodes, as required, the fan (**1**) and the gas valve (**5**).
2. Disconnect the compensation hose (**10**) from the gas valve (**5**) and the air inlet (**7**).
3. Check the hose condition and that it is not obstructed. Clean as required, or replace with a new one.
4. Wearing protective gloves and a face mask, remove insulation from the burner plate (unless done previously). Retain for reinstallation
5. Release four screws to release the air inlet (**7**) flange from the venturi (**3**) flange. Retain screws for reinstallation. Replace O-Ring (**4**) as required.

When removing an O-ring, check its general condition. Discard and replace the O-ring if it is cracked or torn.

6. Release the screws and washers from the gas pipe flange (**8**). Retain hardware and O-ring (**6**), as required, for reinstallation.

The gas valve (5) does not need to be removed from the fan/venturi assembly (1), and the assembly can be removed as a whole. However, it is heavy and cumbersome. Either ask for help to remove the fan/venturi and gas valve assembly, or remove the gas valve (5) first, as required.

7. Remove the gas valve (**5**), as required, by releasing four screws and O-ring. Retain screws and washers for reinstallation. Replace O-ring as required.
8. Release four nuts securing the fan/venturi (/gas valve) assembly (**1**) to the burner plate (**9**).
9. Remove fan assembly (**1**) and fan gasket (**2**)and retain with hardware for reinstallation. Discard fan gasket (**2**).
10. Remove the electrodes, as required, refer to **“Removing and Installing the Ignition and Ionisation Electrodes” on page I-67.**
11. Remove the burner, as required, refer to **“Removing and Installing the Burner” on page I-74.**
12. Remove the burner plate, as required. Refer to **“Removing and Installing the Burner Plate” on page I-76.**
13. Clean the combustion chamber, as required, refer to **“Checking and Cleaning the Combustion Chamber” on page I-78.**

Installation Procedure

1. Install fan/venturi (/gas valve) assembly (**1**) on the burner plate (**9**) with new gasket (**2**).
2. Coat the burner plate (**9**) studs with Loctite 5972 and install retained nuts. Torque in a crosswise pattern, at 6 Nm.
3. If removed previously, Install gas valve (**5**) with O-ring and four retained screws and washers on venturi (**3**). Coat the screws with Loctite 577 and torque in a crosswise pattern at 6 Nm.
4. Install O-ring (**4**) on the flange of venturi (**3**) and connect fan/venturi (/gas valve) assembly (**1**) to the air inlet flange (**7**).
5. Install with four retained screws, coated with Loctite 577. Torque at 6 Nm in a crosswise pattern.
6. Install O-ring (**6**) on gas valve (**5**) and connect the gas pipe flanged end (**8**) to the gas valve (**5**).
7. Coat the screws with Loctite 577 and torque in a crosswise pattern at 6 Nm.
8. Connect the compensation hose (**10**) to the gas valve (**5**) and the air inlet (**7**).
9. Wearing protective gloves and a face mask, install insulation on the burner plate, unless the electrodes still require installation.
10. Reconnect all connectors to the electrodes, as required, gas valve (**5**) and fan (**1**).

Follow-on task(s):

1. Close all panels, refer to **“Opening and Closing the Front Door and Access Panels” on page I-31.**
2. Restart the appliance, as required, refer to **“Restarting after Maintenance” on page I-65.**

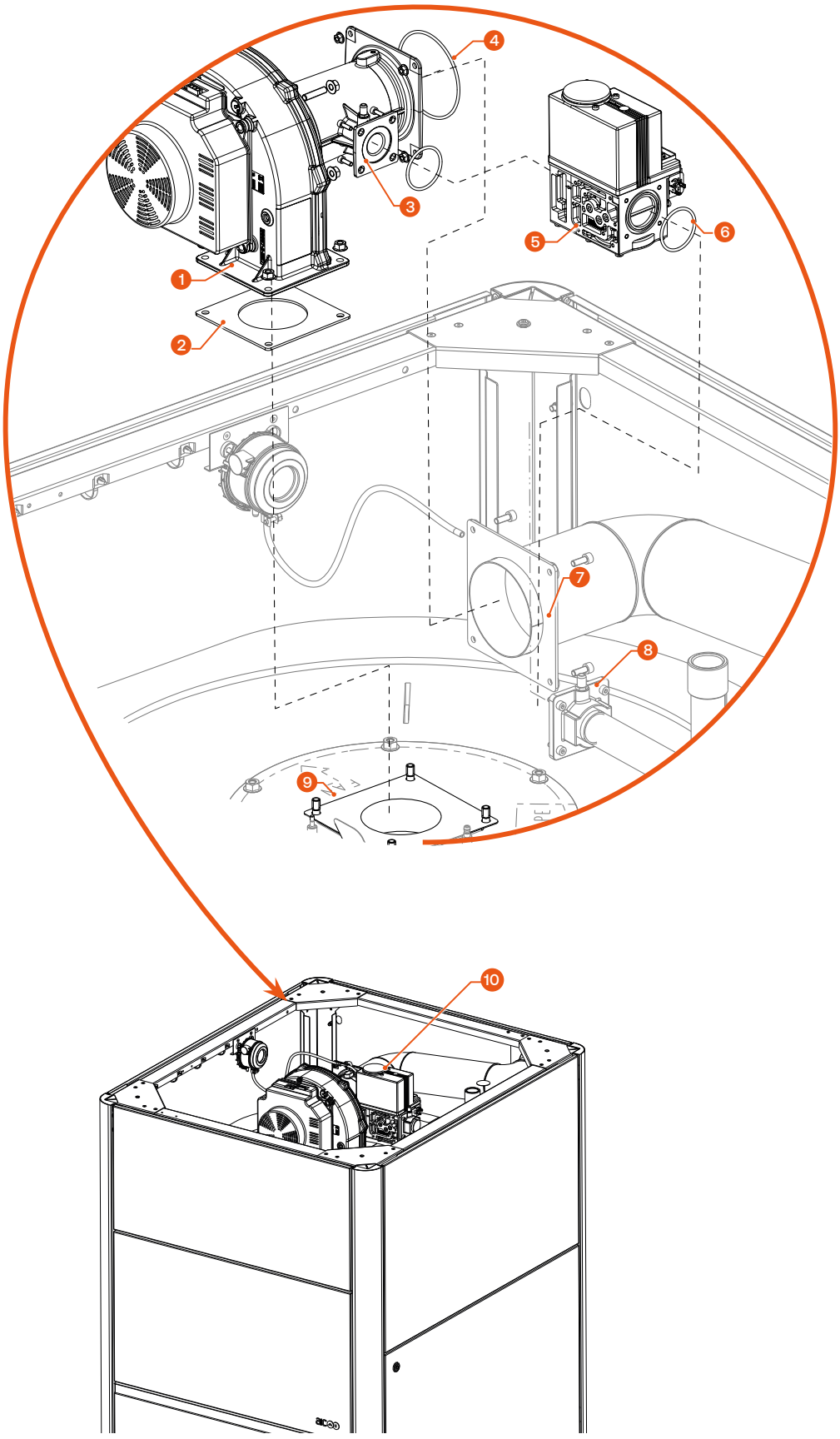


Fig. 35. TEXAS 230 - Removing and Installing the Fan/venturi/Gas Valve Assembly

Removing and Installing the Burner

Conditions:

- Fan assembly / gas valve removed, refer to **"Removing and Installing the Fan, Venturi and Gas Valve (TEXAS 99)" on page I-70. or "Removing and Installing the Fan, Venturi and Gas Valve Assembly (TEXAS 230)" on page I-72**
- Electrodes removed, refer to **"Removing and Installing the Ignition and Ionisation Electrodes" on page I-67**

Tools and material:

- Wrench, socket head size 13
- Torque wrench, 3 to 6 Nm
- Air compressor
- Loctite thread sealant 5972

Removal Procedure:

TEXAS 99 :

1. Release four nuts (**1**) securing the fan plate (**2**).
2. Remove the fan plate (**2**) and its hardware. Retain for reinstallation.

To improve grounding of the burner, a gounding lug is installed on one of the heat exchanger studs, between the lower gasket and the burner tube flange. Make sure to retain it for later reinstallation.

3. Remove the upper gasket (**3**), the grounding lug (**5**), the burner tube (**4**) and lower gasket (**6**) from the heat exchanger. Retain the grounding lug. Discard the gaskets.

TEXAS 230 :

1. Extract fan gasket (**7**), burner tube (**8**) and lower gasket (**9**) from burner plate. Discard both gaskets.
2. Remove grounding lug (**10**) from burner plate stud. Retain for reinstallation

Cleaning and Checks:

1. Visually check the condition of the burner tube.
2. Clean with compressed air to remove residues. If it is in bad condition after cleaning, replace it.
3. Remove the burner plate. Refer to **"Removing and Installing the Burner Plate" on page I-76**.

Installation procedure:

TEXAS 99 :

1. Install lower gasket (**6**), burner tube (**4**), grounding lug (**5**) and upper gasket (**3**).
2. Apply Loctite 5972 on studs and install four retained nuts (**1**). Torque nuts in a crosswise pattern at 3 Nm, then repeat in a crosswise pattern at 6 Nm.

TEXAS 230 :

1. Install grounding lug (**10**) on burner plate stud.
2. Insert burner tube (**8**) into heat exchanger with new lower gasket (**9**) and fan gasket (**7**).

Follow-on tasks:

1. Reinstall the fan and air-gas mixer assembly, refer to **"Removing and Installing the Fan, Venturi and Gas Valve (TEXAS 99)" on page I-70 or "Removing and Installing the Fan, Venturi and Gas Valve Assembly (TEXAS 230)" on page I-72.**
2. Reinstall the electrodes, as required. Refer to **"Removing and Installing the Ignition and Ionisation Electrodes" on page I-67.**
3. Reinstall all removed access panels, refer to **"Opening and Closing the Front Door and Access Panels" on page I-31.**
4. Restart the appliance, see **"Restarting after Maintenance" on page I-65.**

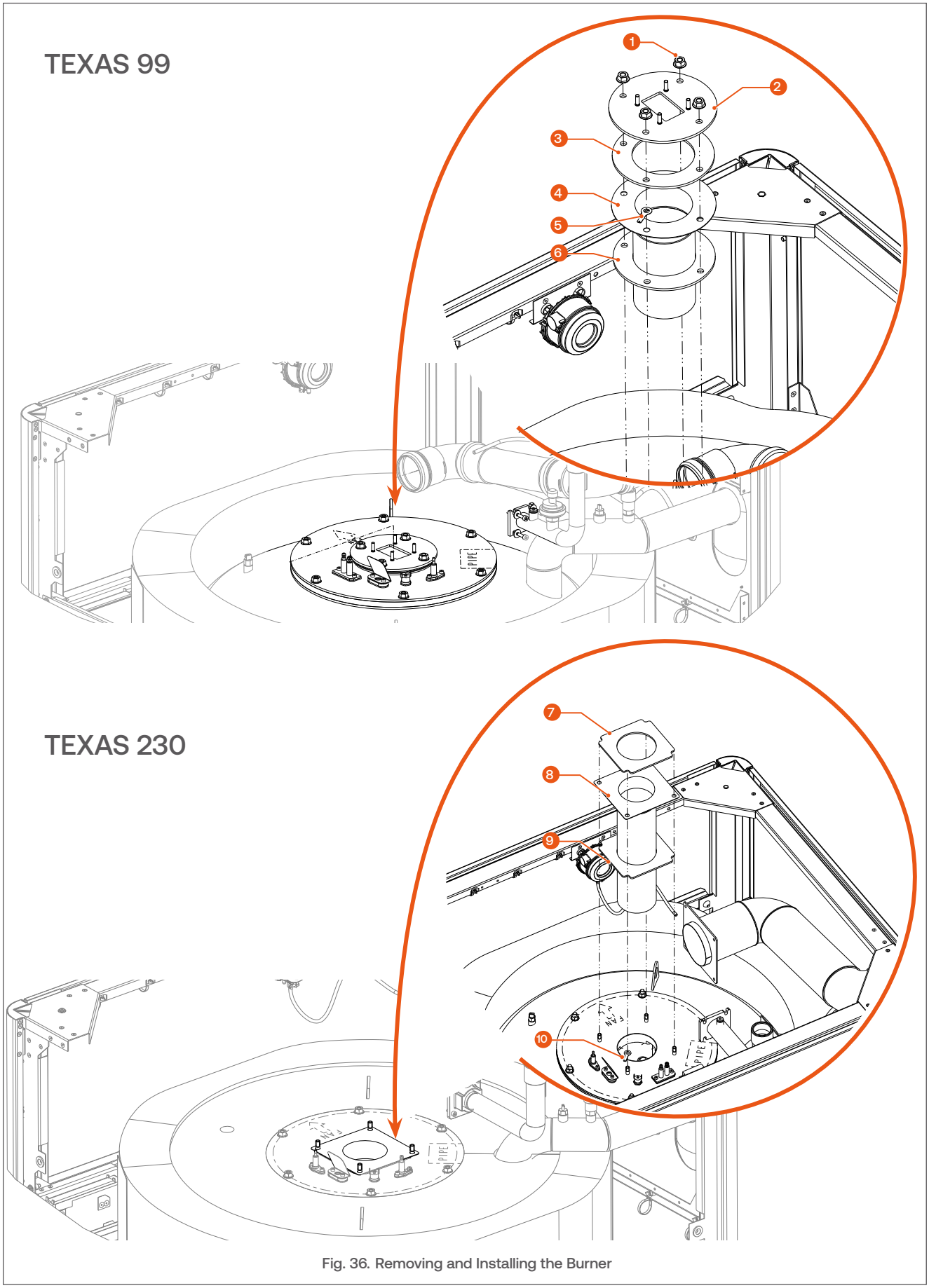


Fig. 36. Removing and Installing the Burner

Removing and Installing the Burner Plate

Conditions:

- Fan assembly / gas valve removed, refer to **"Removing and Installing the Fan, Venturi and Gas Valve (TEXAS 99)" on page I-70. or "Removing and Installing the Fan, Venturi and Gas Valve Assembly (TEXAS 230)" on page I-72.**
- Electrodes removed, refer to **"Removing and Installing the Ignition and Ionisation Electrodes" on page I-67**
- Burner removed, refer to **"Removing and Installing the Burner" on page I-74**

Tools and material:

- Wrench, socket head size 13
- Torque wrench, 1,5 to 10 Nm
- Loctite thread sealant 5972

Removal Procedure:

1. Release six nuts (**1**). Retain for reinstallation.
2. Remove burner plate (**2**) and insulation (**3**).
3. Check the condition of burner plate insulation (**3**). Replace if:
   - the insulation (**3**) is cracked and damaged, or
   - the burner plate (**2**) shows discolouration or burns,
4. Remove it as required by releasing three nuts and washers (**4**). Retain hardware for reinstallation.
5. Discard the damaged insulation.

To discard the damaged insulation, place in the transport bag from the new insulation, then throw away with normal waste. This will prevent any dust present to contaminate the area.

Installation procedure:

1. If required, install new insulation (**3**) on burner plate (**4**):
   - Coat burner plate studs with Loctite 5972
   - Install three nuts and washers (**4**) and torque at 1,5 Nm.
2. Install burner plate (**2**) on heat exchanger studs.
3. Apply Loctite 5972 on studs and install six nuts (**1**).
4. Torque nuts in a crosswise pattern at 5 Nm, then repeat in a crosswise pattern at 10 Nm.

Follow-on tasks:

1. Clean the combustion chamber, as required. Refer to **"Checking and Cleaning the Combustion Chamber" on page I-78.**
2. Reinstall the burner, refer to **"Removing and Installing the Burner" on page I-74.**

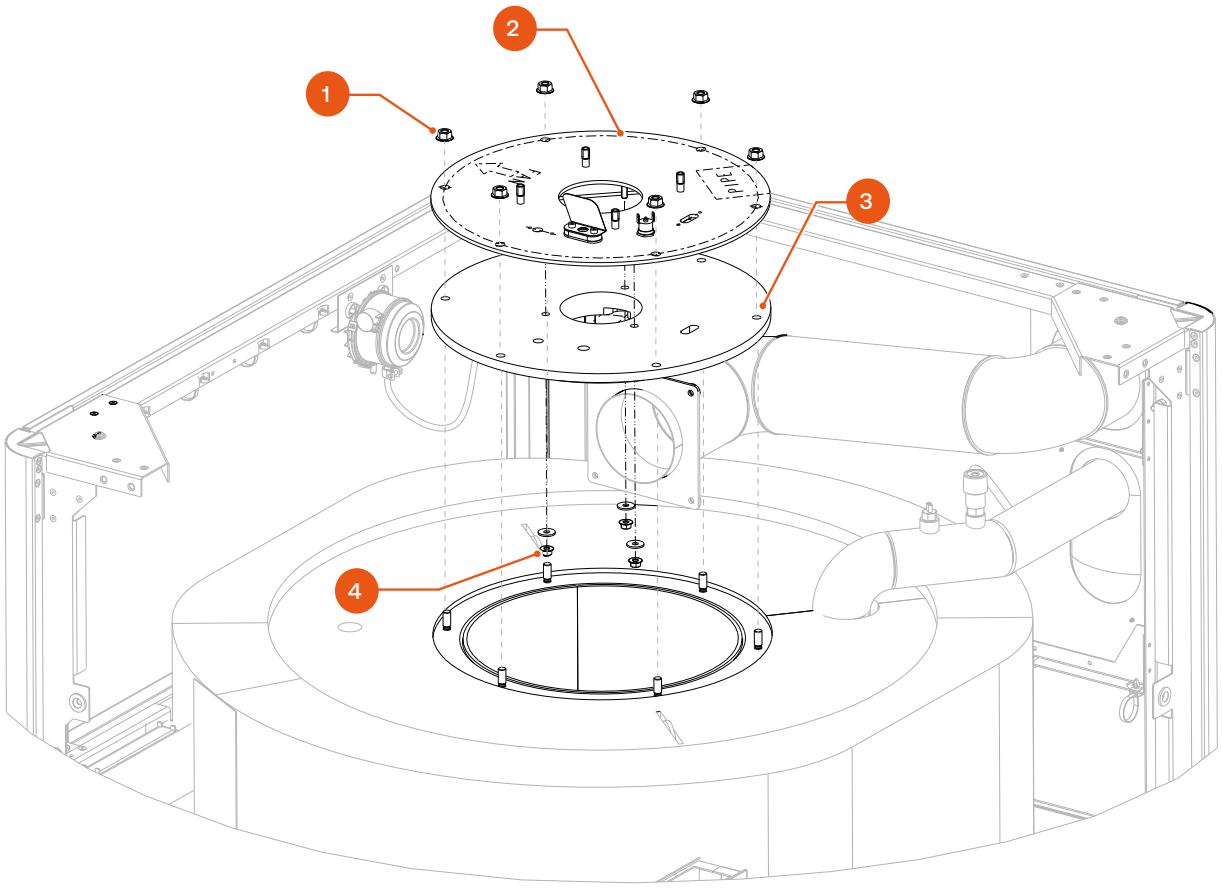


Fig. 37. Removing the Burner Plate

Checking and Cleaning the Combustion Chamber

Conditions:

- Burner plate removed, see **"Removing and Installing the Burner Plate" on page I-76.**

Tools and material:

- Industrial vacuum cleaner
- Nylon bristle brush
- Torch

Check Procedure:

1. Using a torch, visually check the condition of the combustion chamber. If it is dirty, clean it.

Cleaning Procedure:

1. Using a nylon bristle brush, sweep the walls of the combustion chamber.
2. Using an industrial vacuum cleaner, remove all deposits from the combustion chamber heating surfaces.
3. Pour some clean water to remove any residues.

Follow-on tasks:

1. Remove and clean condensate trap, refer to **"Removing, Cleaning and Installing the Condensate Trap" on page I-68**
2. Install the burner, see **"Removing and Installing the Burner Plate" on page I-76.**

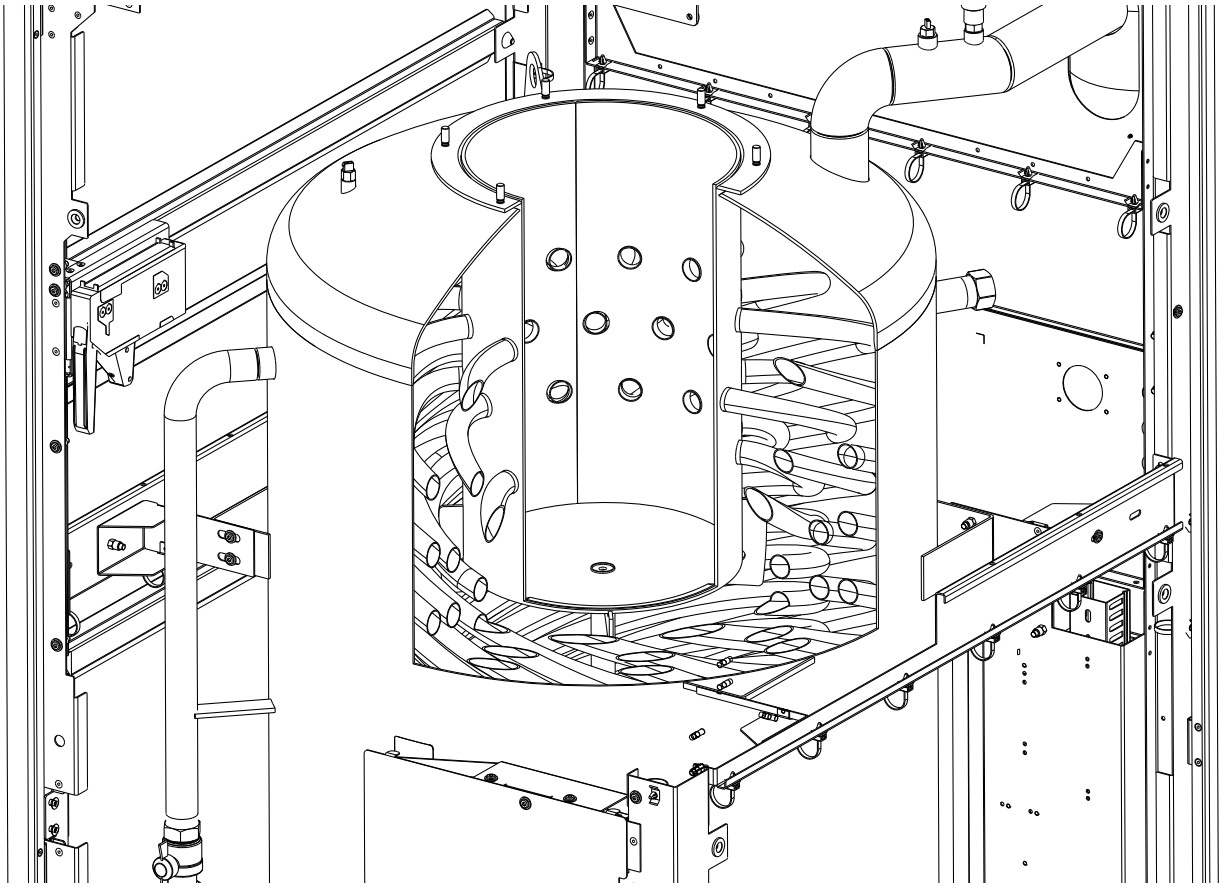


Fig. 38. Cleaning the Combustion Chamber

Checking the Scaling in the Appliance and Descaling

Conditions:

Tools and material:

- Hose for water draining
- Torch

Descaling Procedure:

If the water heater has not been left to cool down before performing this procedure, very hot water can come out. Be careful that there is no burning hazard for you or other people.

1. Drain the water from the tank. Refer to **"Draining the Circuit" on page I-65.**
2. Once the tank is empty, open the inspection hole (**1**) and inspect the bottom of the tank with a torch. Close it after inspection.
3. If required, flush away the residues with water as follows:
   - open the cold water filling valve several times for a few seconds in order to create a flow that stirs the residues from the bottom of the tank.
   - Check the amount of residues present in the water that is flushed out.

To have a clear view of the amount of residue present in the water, allow some of the water to flow into a white container.

4. Once the water flowing out of the tank is clear close the drain valve and remove the hose.

Follow-on tasks:

1. Fill the appliance, refer to **"Filling the Water Heater" on page I-56,** and restart the water heater.

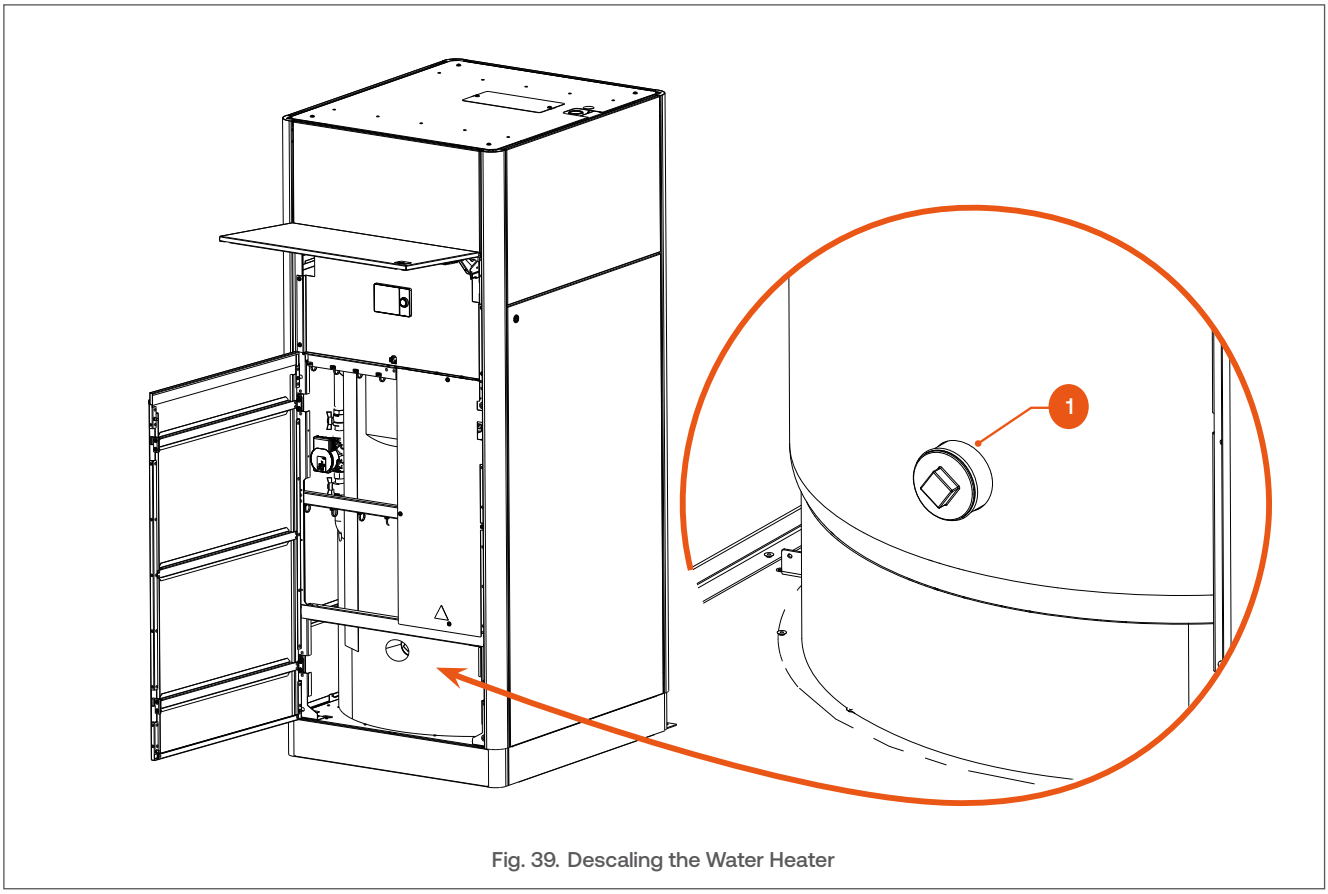


Fig. 39. Descaling the Water Heater

Optional Modules

Extension Module & Cable Hub

Thanks to an extension module, Texas water heaters can control an additional DHW circuit with mixing functions, or additional accessories. The extension module needs to be provided with power supply and a bus connection.

The cable hub increases the number of available connection points to the management system (printed circuit board).

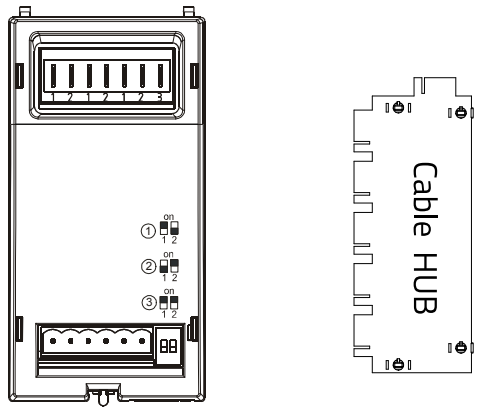


Fig. 40. Extension Module and Cable hub

Cascading module

This module allows the installation of several appliances in a cascade to increase the quantity of DHW supply in specific applications. This cascade module enables communication from one appliance to another, and must be installed in each appliance. See **“Texas in a Cascade System” on page I-81.**

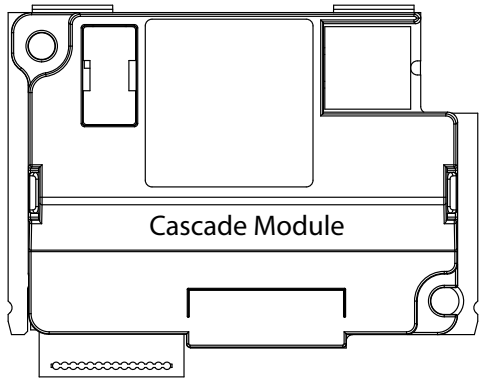


Fig. 41. Cascading Module

Web Server Module

Through the use of this module, you can connect to an Ethernet and get remote access to the appliance and the whole system via the Internet. Using a computer or mobile devices, you can monitor and control the installation remotely. Management takes place via a web browser.

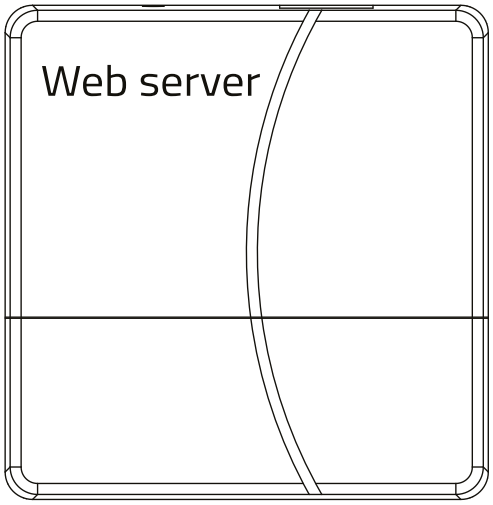


Fig. 42. Web Server Module

Texas in a Cascade System

In a system comprised of several water heaters, it is important that the power generated by the appliances adapts at any moment to the demands of the installation, always optimising the efficiency of the water heaters.

Up to 4 appliances can be connected in a cascade to one chimney, and 4 such groups of appliances with their chimneys can be controlled using the control unit of one appliance.

The water heater with device address 1 assumes the role of the cascade Principal, and the others are Subsequent.

In the controller menus, please note that the Principal appliance is called "Master" and a Subsequent appliance is called "Slave".

The principal activates the required functions and shows the additional menus with the parameters for use with the cascaded system.

This appliance has all the logic control of the cascaded system and also regulates the stop/start sequence of each appliance according to the demand of the system.

The devices are connected to each other using the cascade module (see **Fig. 44**). Each appliance has its own module, which is connected directly to the board.

When several devices are cascaded through their chimney system, make sure to install a non-return valve (flue damper) between the appliance flue outlet and the chimney connection. This will prevent any back flow of the flue gases into an appliance that is not in operation. Please refer to the manual provided with the accessory for installation and maintenance recommendations.

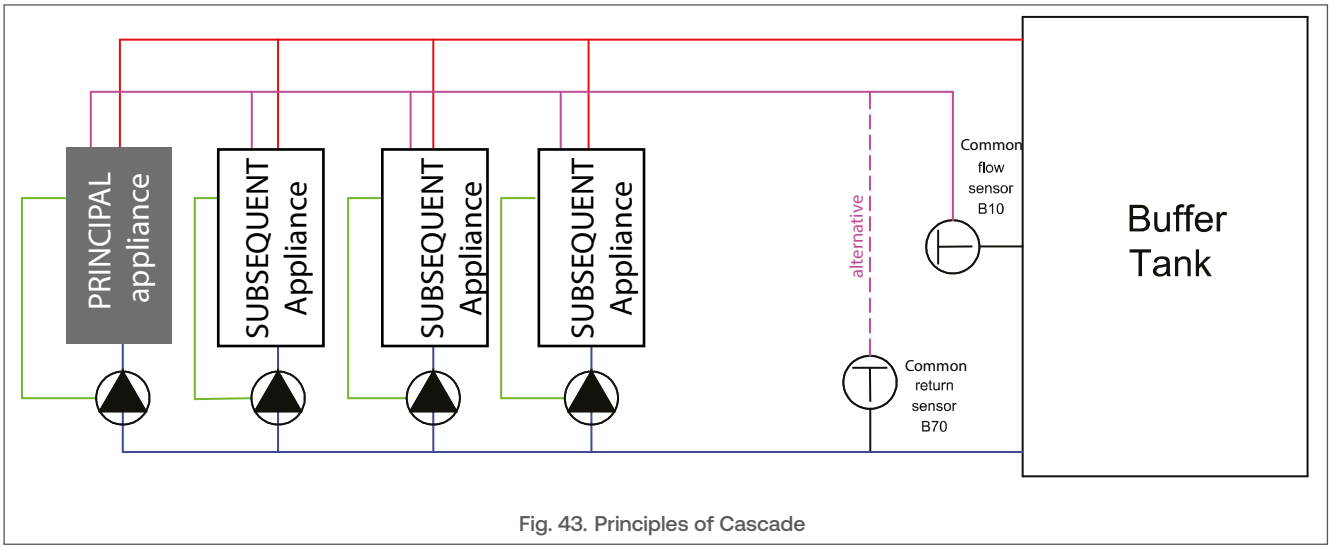


Fig. 43. Principles of Cascade

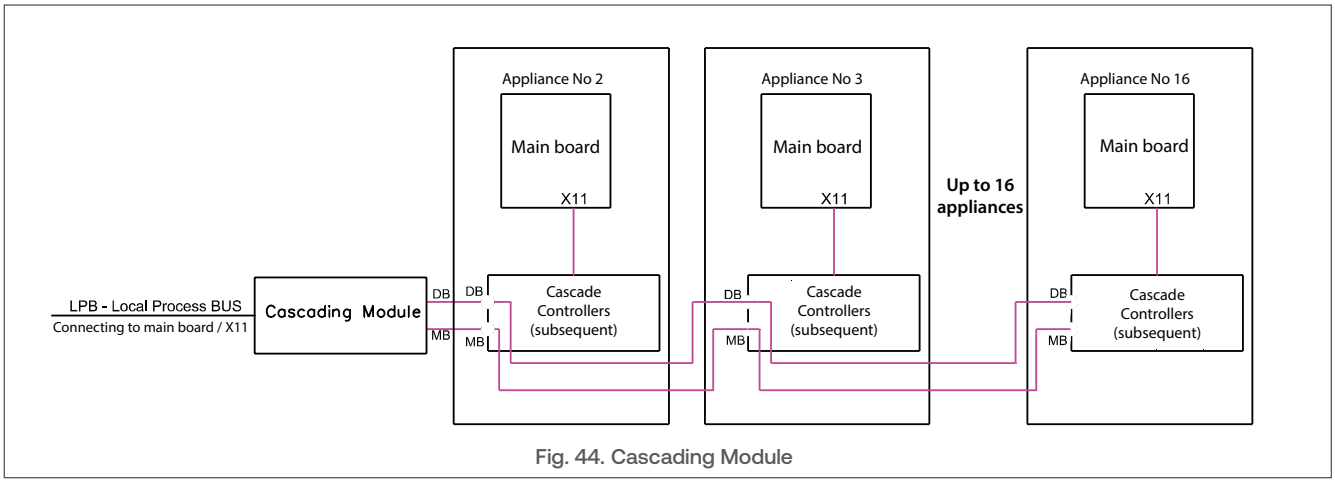


Fig. 44. Cascading Module

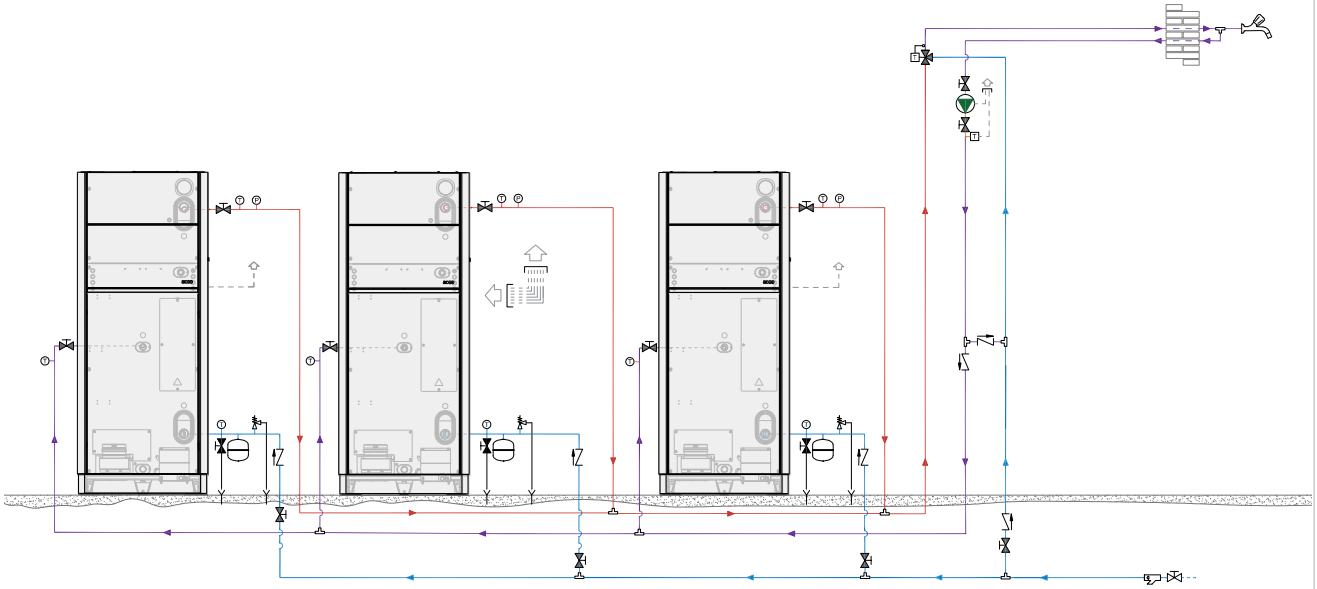


Fig. 45. Cascade with three Texas Water Heaters

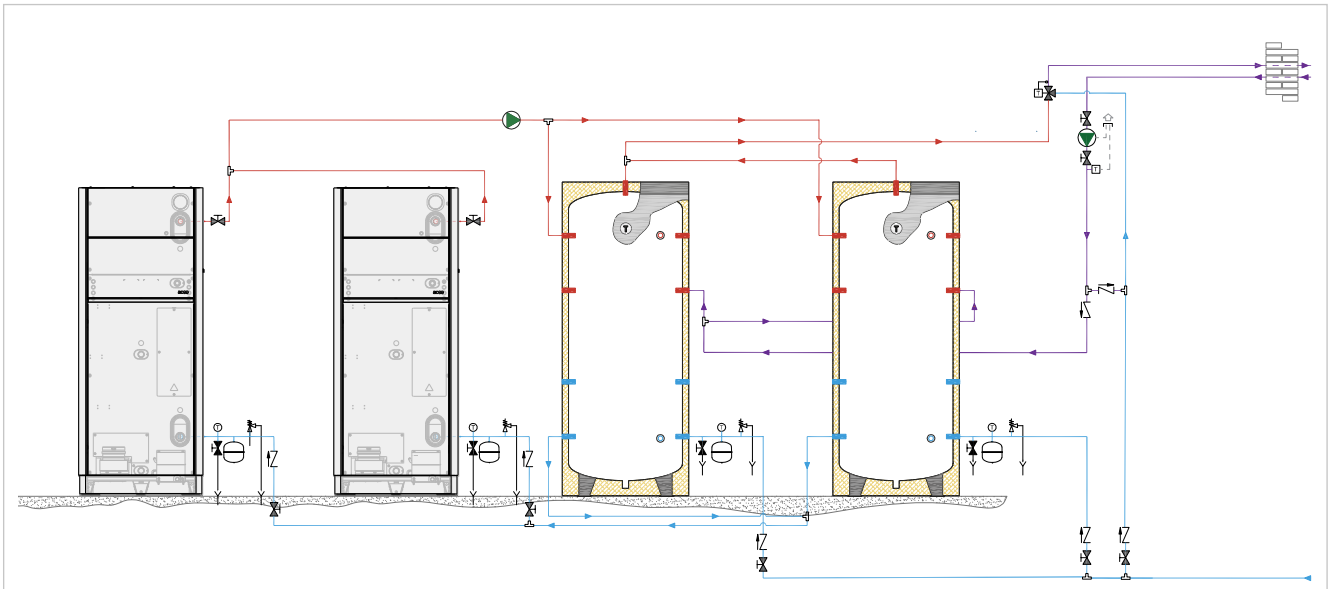


Fig. 46. Cascade with two Texas Water Heaters and Two Buffer Tanks

- Isolating valve
- Filling valve
- Draining valve
- Thermostatic mixing valve
- Strainer
- Expansion vessel
- Non-return valve
- Pressure relief valve
- Drain
- Circulating pump
- Temperature gauge
- Pressure gauge
- Temperature sensor

Appliance Settings for the Installer

Access Levels

Three different levels of settings are available for the Installer : End user level, Commissioning level and Engineer level. A fourth level, OEM, is only accessible at factory level, through the use of a code.

Each level allows to set certain specific parameters or program the appliance, according to the installed circuits.

The menus of the End user level are described in **"Operating the Controller - End User Level" on page U-24.** The menus for the qualified professional (Commissioning and Engineer) are described in the following pages.

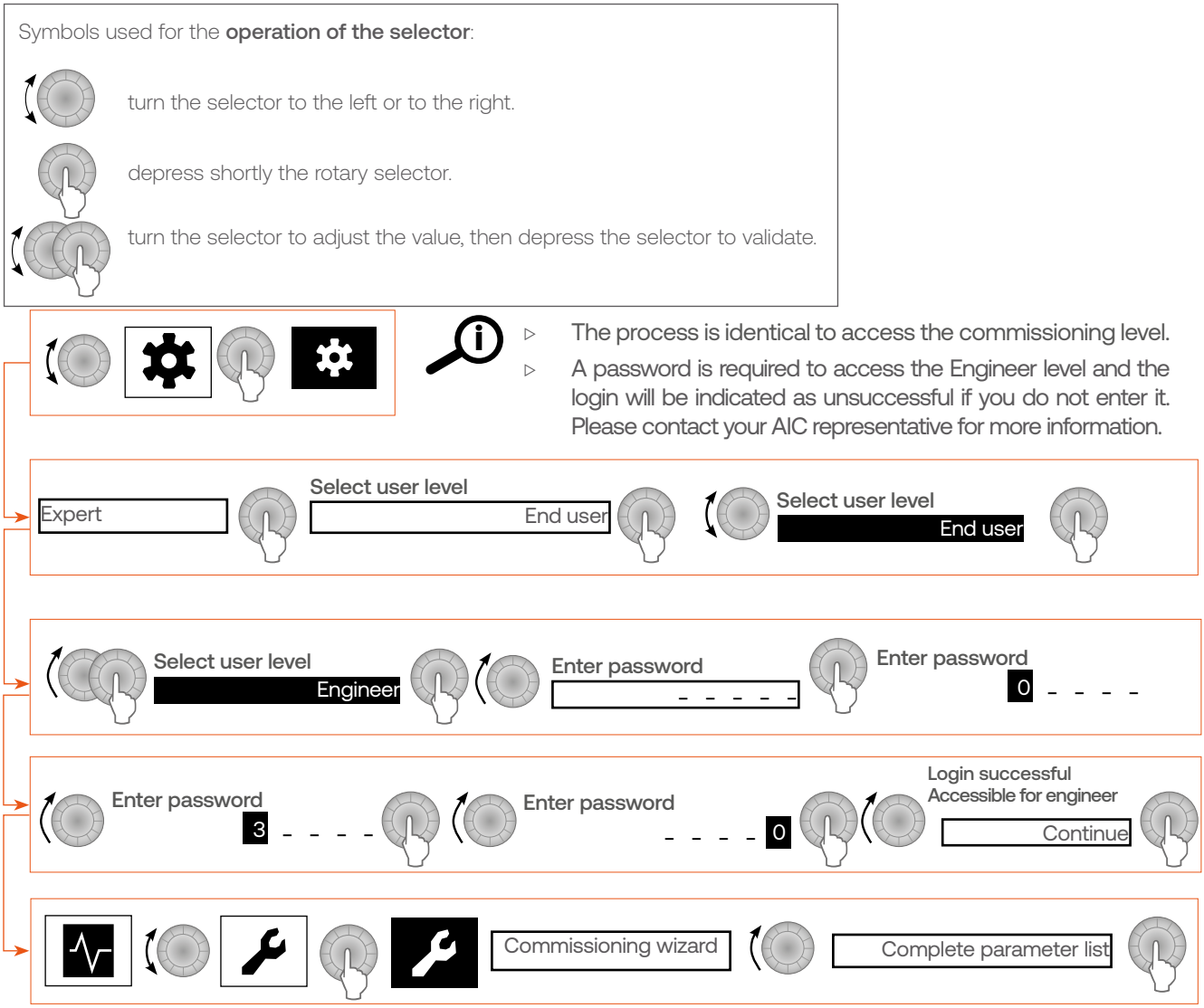
To access the Commissioning and the Engineer levels, proceed as follows:

Selecting the User Level & Accessing the Complete Parameter List

Menus and Settings

The table on the following page contains some of the menus and submenus for the installer. The last column allows the installer to write down the setting defined for each parameter at installation, if it is different from the default.

For any question related to the menus, please contact AIC's technical support.



Structure of Menus for the Installer

Top menu	Pgm No.	Submenu 1	Submenu 2	Default	Setting
Time of day and date (2 pages)	1	▸ Time		01:00 (hh:min)	
	1	▸ Date		01.01.2030 (dd.mm.yyyy)	
	5	▸ Start of summertime		25.03 (dd.mm)	
	6	▸ End of summertime		25.10 (dd.mm)	
Operator section (3 pages)	20	▸ Language	English - Deutsch - Français - Italiano - Nederlands - Español - Portuguese - Dansk - Suomi - Svenska - Polski - Slovenština - Čeština - Slovenščina - русский - Magyar - Ελληνικά - Türkce - Serbian - Lietuvių	English	
	40	▸ Used as	▹ Operator unit 1 ▹ Operator unit 2 ▹ Operator unit 3	Operator unit 1	
	42	▸ Assignment device 1	▹ Zone 1 ▹ Zone 1 and 2 ▹ Zone 1 and 3 ▹ All zones	All zones	
	44	▸ Operation zone 2	▹ Jointly with zone 1 ▹ Independently	Jointly with zone 1	
	46	▸ Operation zone 3	▹ Jointly with zone 1 ▹ Independently	Jointly with zone 1	
	48	▸ Warmer/cooler device 1	▹ None ▹ For zone 1 only ▹ For all assigned zones		
	70	▸ Software version			
Time Program 4/ DHW	—	▸ Set time program	 *Refer to* **"Basic Settings" on page U-26**		
	576	▸ Default values	▹ No ▹ Yes	No	
Domestic Hot Water (5 pages)	1610	▸ Nominal setpoint		70°C	
	1612	▸ Reduced setpoint		40°C	
	1620	▸ Release	▹ 24h/day ▹ Time programs HCs ▹ Time program 4/DHW	24h/day	
	1630	▸ Charging priority	▹ Absolute ▹ Shifting ▹ None ▹ MC shifting, PC absolute		
	1640	▸ Legionella function	▹ Off ▹ Periodically ▹ Fixed weekday		
	1641	▸ Legionella funct periodically	▹ 1 to 7		
	1642	▸ Legionella funct weekday	▹ Monday to Sunday		
	1644	▸ Legionella funct time		--:--	
	1645	▸ Legionella funct setpoint		65°C	
	1646	▸ Legionella funct duration		30 min	
	1647	▸ Legionella funct circ pump	▹ Off ▹ On	On	

Top menu	Pgm No.	Submenu 1	Submenu 2	Default	Setting
	1660	▶ Circulating pump release	▷ Time program 3/HCP ▷ DHW release ▷ Time program 4/DHW ▷ Time program 5		
	1661	▶ Circulating pump cycling	▷ Off ▷ On		
	1663	▶ Circulation setpoint		45°C	
	1680	▶ Optg mode changeover	▷ Off ▷ On		
Boiler	2217	▶ Setpoint frost control	▷ -20°C to 20°C	5°C	
Fault	6705	▶ SW Diagnostic code			
	6706	▶ Burn ctrl phase lockout pos			
Service/ special operation (6 pages)	7130	▶ Chimney sweep function	▷ Off ▷ On	Off	
	7131	▶ Burner output	▷ Partial load ▷ Full load ▷ Max heating load	Max heating load	
	7143	▶ Controller stop function	▷ Off ▷ On	Off	
	7145	▶ Controller stop setpoint	▷ 0% to 100%	0%	
	7167	▶ Commissioning Wizard	▷ Off ▷ On	On	
Diagnostics heat generation (6 pages)	8310	▶ Boiler temp		--°C	
	8316	▶ Flue gas temp		--°C	
	8323	▶ Fan speed		-- rpm	
	8329	▶ Ionization current		--µA	
	8339	▶ Hours run DHW		--h	
	8379	▶ Total gas energy DHW		--kWh	
	8382	▶ Gas energy DHW Reset?	▷ Yes ▷ No	--kWh	
Diagnostics consumers (5 pages)	8981	▶ Buffer setpoint Reset?	▷ Yes ▷ No	--°C	
Burner Control (3 pages)	9512	▶ Required output ignition		--rpm	
	9524	▶ Required speed LF		--rpm	
	9529	▶ Required speed HF		--rpm	

Error Codes and Solutions

Error code	Fault description	Explanation	Action(s)
28	Flue gas temperature sensor error	Short circuit or Open circuit flue gas sensor.	Check connection and sensor. Replace as required.
50	DHW temperature 1 sensor error		Check connection and sensor. Replace as required.
52	DHW temperature 2, sensor error		Check connection and sensor. Replace as required.
91	Data overrun in EEPROM	Internal fault in controller, process sensor	Contact AIC technical support.
100	2 clock time masters		Check time master
102	Clock time master without backup		Check clock
103	Communication error		Check connection and components
105	Maintenance message		See maintenance code (press information button once) for detailed information
109	Supervision boiler temperature		Contact AIC technical support.
110	STB (SLT) lockout	No heat removal, STB interruption, possible short-circuit in the gas valve, internal fuse faulty; Internal pump malfunction	Allow device to cool down and carry out reset; if the fault occurs several times inform AIC technical support Check the internal pump
111	Temperature limiter safety shutdown		Contact AIC technical support.
126	DHW charging temperature not reached		Check operation and heat up times for DHW
127	DHW legionella temperature not reached		Check operation of appliance
128	Loss of flame during operation	Ionization current lost after successful ignition	Check electric supply, polarity and ionization electrode.
129	Wrong air supply		Check air supply
130	Flue gas temperature limit exceeded	Heat engine is overheating	Check causes of high temps Check connection and sensor. Replace as required Check connection and chimney.
132	Gas pressure switch safety shut down	Lack of gas	Check gas supply and pressure Check connection and component
133	Safety time for establishment of flame exceeded	Lack of gas, Polarity of mains connection, safety period,	Reset, if the fault re-occurs more than 3 times, contact AIC technical support. Check ignition electrode and ionization current
146	Configuration error sensor/ controlling elements		Check sensor configuration or replace component
151	LMS14... error, internally		Check parameters (see adjustment table installer and/or call-up values) Reset controller and/or replace as required, Contact AIC technical support.

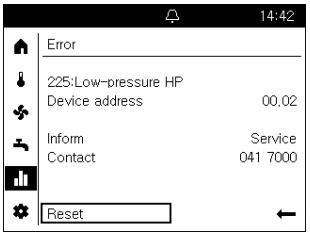
Error code	Fault description	Explanation	Action(s)
152	Parameterization error	Incorrect / Conflicting parameters input.	Verify parameters or reset to default parameters
153	Unit manually locked	Reset button stuck in	Check reset button
160	Fan speed threshold not reached	Fan possibly defective, speed threshold set wrongly.	Check parameters, connections and component. Replace as required
162	Air pressure switch error	Air pressure switch/Flue pressure switch does not close	1. Check flue path for obstructions. Unblock as required 2. Check connection/wiring and pressure switch. Replace as required. **Floor appliances (from 120 kW):** 3. Check air intake for obstructions. Unblock as required.
166	Air pressure switch error	Air pressure switch does not open	Check connection and adjustments on air pressure switch. Replace as required.
171	Alarm contact 1 active		Correct the active fault
172	Alarm contact 2 active		
173	Alarm contact 3 active		
183	Unit in parametrization mode		Wait until parametrization process is complete
193	Start prevention signal input	Short circuit or Open circuit, can apply to the following : › condensate level switch › burner plate temp. limit switch	1. Check connection/wiring and condensate level switch. Replace as required 2. Check connection/wiring and burner plate temp. limit switch. Replace as required
216	Fault boiler		Check the heating circuit configuration. Reset to default parameters
217	Sensor error		Check connection and sensor. Replace as required.
270	Temperature difference, heat exchanger too large		Check the heating system external hydraulic components.
317	Mains frequency outside permissible range		Check correct electric supply in appliance terminals.
320	DHW charging temperature, sensor error		Check connection and sensor. Replace as required.
321	DHW outlet temperature, sensor error		Check connection and sensor. Replace as required.
324	Input BX, same sensors		Check configuration in parameters list
325	Input BX/extension module, same sensors		Check configuration in parameters list.
326	Input BX/mixing group, same sensors		Check configuration in parameters list.
328	Mixing group, same function		Check configuration in parameters list.
329	Extension module/mixing group same function		Check configuration in parameters list.
330	Sensor input BX1 without function		Connect temperature sensor in BX terminal
331	Sensor input BX2 without function		Connect temperature sensor in BX terminal

Error code	Fault description	Explanation	Action(s)
332	Sensor input BX3 without function		Connect temperature sensor in BX terminal
333	Sensor input BX4 without function		Connect temperature sensor in BX terminal
349	Buffer storage tank return valve Y15 missing		Check connection of return valve Y15. Replace as required.
350	Buffer storage tank address error		Correct device address.
352	Pressureless header, address error		Correct device address.
353	Sensor B10 missing	Common flow sensor missing	Check parameters, connection and component
378	Internal repetition		Contact AIC technical support
382	Repetition speed		Contact AIC technical support
384	Extraneous light		Shut off gas supply and contact AIC technical support
385	Mains undervoltage		Check electric supply in appliance terminals
386	Fan speed tolerance		Check air supply
388	DHW sensor no function		Check connection and sensor. Replace as required.
426	Feedback flue gas damper		Check the connection and component
427	Configuration flue gas damper		Check configuration parameters
429	Dynamic water pressure too high	Expansion tank is defective	Verify pump Replace expansion tank
430	Dynamic water pressure too low		Verify pump
431	Sensor primary heat exchanger		Check connection and sensor. Replace as required.
432	Function ground not connected		Check ground connection and install as required
433	Temperature primary heat exchanger too high		Check the heating system external hydraulic components.

Performing Reset

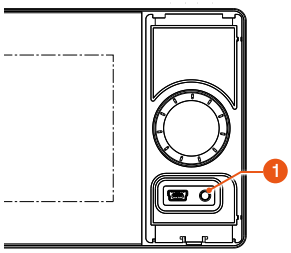
There are two types of resets depending on the kind of error:

1. **Reset interactive errors through the function.**



- Select "***Reset***" and press the rotary button.
- The text changes to "***Confirm***". Press on rotary button.
- The page is automatically closed if the error has disappeared.

2. **Reset locking errors through the Unlock button.**



Locking error features:

- Remains saved also after mains off.
- Unlocking is required even after the fault no longer is present.
- If error still persists, remove first the error.

- Remove the side cover using the tip of a screwdriver.
- Depress the Unlock button (**1**) using a sharp object (e.g. pen point) for 0,4 to 10 seconds.
- The message "***! Reset***" appears on the screen.

Troubleshooting

Problem	Cause(s)	Solution(s)
Appliance does not start	No power supply	1. Check that the power button is in ON position (pushed in and illuminated) 2. Make sure the power supply cable is connected to the mains 3. Check the external power supply box (circuit breaker) and reset it as required.
Appliance display remains blank	No power supply	1. Check wiring connection. 2. Check wiring continuity. 3. Replace wiring.
	Main board fuse(s) blown	Replace blown fuse(s) on electronic board (T6.3AH 250V).
Circulating pump does not start	Pump power supply	1. Check wiring connection. 2. Check wiring continuity. 3. Replace wiring.
	Relay malfunction	1. Check the relay. 2. Replace the electronic board.
	Pump malfunction	1. Reset the pump. 2. Check if there is voltage at the pump. If there is, replace the pump.
Gas smell	Leak in gas circuit	1. Check tightness of connections and circuit. 2. Check that pressure measuring points are closed.
Unburned gas smell	Leak in flue gas circuit	1. Check tightness of connections. 2. Check there are no obstructions in the flue system. 3. Check the quality of combustion.
Irregular combustion	Wrong combustion settings	Check the values with a gas analyser and readjust as required.
	Combustion air circulation	Check that the air openings are not blocked.
	Burner and combustion chamber condition	Check if they are clean.
	Heat exchanger fire tubes are blocked	Check if condensate outlets are not obstructed. Clean as required.
	Fan malfunction	1. Check if fan is working. 2. Check wiring connections 3. Check wiring continuity 4. Check if there is voltage at the fan. If there is, replace the fan. 5. Verify signal cable connection
Hard ignition	Wrong size of flue and/or combustion air ducts.	Check duct sizes and correct as required
	Wrong combustion settings	Check the values with a gas analyser and readjust as required.
	Ignition electrode malfunction	Check the condition and distance at stem tips (See electrode removal procedure)

Problem	Cause(s)	Solution(s)
Burner does not start after receiving signal from appliance controller	Gas valve malfunction Fan malfunction Ignition/ionization electrode malfunction	1. Check wiring connections 2. Check components
Combustion chamber gets dirty	Wrong combustion settings	Check the values with a gas analyser and readjust as required.
Appliance does not reach working temperature	Appliance controller	1. Adjust temperature setpoint. 2. Check controller operation. 3. Replace controller.
	Poor heat transfer	Clean combustion chamber
	Insufficient burner power	Check combustion settings
	Dirty burner	Clean burner
	Wrong chimney pressure drop	Check chimney pressure drop
Temperature too high compared to setpoint	Appliance controller malfunction	1. Check temperature setpoint. 2. Check controller operation. 3. Check position of temperature sensors.
	Air in the system	Bleed the air present in the heating system
Heat exchanger reaches temperature setpoint but water flowing out is cold	Circulating pump malfunction	1. Check if circulating pump is running 2. Check pump wiring connection and continuity. 3. Reset pump 4. Check if there is voltage at the pump. If there is, replace the pump.
Safety valve opens frequently	System safety valve	Check pressure rating of the safety valve (suitable to the system pressure).
	Pressure in the water circuit	Check the pressure in the system (See Hydraulic Data).
	Expansion tank	Check the expansion tank size and operation.

Maintenance Messages

Code	Meaning	Action
1	Number of burner hours run exceeded	**Contact Maintenance service**
2	Number of burner starts exceeded	
3	Maintenance interval exceeded	

Combustion Parameters - Log Sheet

CO_2 %	Flue gas T°	Remarks	Name	Date & Signature

Water Parameters - Log Sheet

Water Filling Date	Water Top-up Date	Water Quality	Water Treatment	Remarks	Name & signature

Additional Information for the Installer

Installation Checklist

	Unit	Values/Comments
General/heating system		
Type of building/system		
Commercial purpose (Y/N) ?		
Year of manufacture		
Output of system	kW	
Heated surface	m^2	
Number of heating circuits:		
• Floor heating		
• Radiators		
• Other		
Cascade (Y/N)? Number of appliances?		
Water		
Water hardness at start up	mol/m^3 or mg/l	
System volume	L	
Additive(s)/Antifreeze (Y/N)?		
• Type		
• Quantity	%	
Gas		
Type?		
Heating value	kWh/m^3	
Gas pressure regulator installed (Y/N)? Type ?		
Hydraulics		
Heating circuit normal pressure	bar	
Air purged from the system (Y/N)?		
Safety valve installed (Y/N)? rating?	bar or kW	
Expansion tank(s) installed (Y/N)? Type(s) ?		
• Size?	L	
• Precharged pressure ?	bar	
• Number		
Plate heat exchanger in the system (Y/N)? Type?		
Low loss header in system (Y/N)? Type ?		
Number of mixers ?		
Buffer tank (Y/N)? Size?	L	
DHW tank (Y/N)? Type?	L	
Pump(s) (Y/N)? Type?		
• In which circuit(s)		
• Chosen according to requirements for the appliance?		

	Unit	Values/Comments
Flue gas		
Open or closed system?		
Dimensions of combustion air openings if closed system	cm^2	
Material of flue piping		
Diameter and length of piping system	mm / m	
Chimney system engineered by?		
Calculated pressure drop, including maximum wind condition (<200 Pa)?	Pa	
Cascade (Y/N)?		
Back-flow preventer or non-return valve installed (Y/N)? Type?		
Condensates		
Condensate discharge slope	° or cm/m	
Condensate trap filled (Y/N)?		
Neutralisation system installed (Y/N)? Type ?		
Condensate pump installed (Y/N)?		
Condensate pump control line connected (Y/N)?		
Controller		
Appliance controller?		
Other controller (Y/N)? Type?		
Optional modules installed (Y/N)		
• Type?		
Optional items installed (Y/N)?		
• Outdoor sensor (Y/N)? Type?		
• Room unit(s) (Y/N)? Type?		
• Others?		
Miscellaneous		
The end user has received all relevant information (Y/N)?		
The end user has received all relevant documents (Y/N)?		

Name

Date

Signature

Gas conversion - Log Sheet

This appliance was converted on ____/____/_20_____ (dd/mm/yyyy)

from gas ______________to gas _______________________(Gas Type: Natural gas G20, G20Y20, G25, G25.3/ Propane G31)

with Kit ____ (fill in with kit name or number (if required) or cross it out)

by: ____ (name and address of organization making this conversion, who accepts responsibility for the correctness of this conversion)

This appliance was converted on ____/____/_20_____ (dd/mm/yyyy)

from gas ______________to gas _______________________(Gas Type: Natural gas G20, G20Y20, G25, G25.3/ Propane G31)

with Kit ____ (fill in with kit name or number (if required) or cross it out)

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from gas ______________to gas _______________________(Gas Type: Natural gas G20, G20Y20, G25, G25.3/ Propane G31)

with Kit ____ (fill in with kit name or number (if required) or cross it out)

by: ____ (name and address of organization making this conversion, who accepts responsibility for the correctness of this conversion)

CE 1015

EU Declaration of Conformity No. 2020/06EU/02

Product identification: **Floor-standing condensing storage water heater**

Texas 99 (TX 99 FS)
Texas 230 (TX 230 FS)

Manufacturer: AIC EUROPE B.V.
Graafschap Hornelaan 163A
NL-6001 AC Weert
Netherlands

This declaration of conformity is issued under the sole responsibility of the manufacturer. The object of the declaratio described above is in conformity with the relevant Union harmonization legislation:

GAR	**Gas Appliance Regulation (EU) 2016/426**
ErP	**Energy Related Products Directive 2009/125/EC**
LVD	**Low Voltage Directive 2014/35/EU**
EMC	**Electromagnetic Compatibility Directive 2014/30/EU**
RoHS	**Restriction of Hazardous Substances Directive 2011/65/EU**

Conformity assessment procedure:	**Module B + D**
Name, address, identification number of the notified body:	**Module B: SZUTEST Engineering Test Institute, Public Enterprise, Brno, Czech Republic; ID no. 1015**
Number EU Type Test Examination Certificate:	**1015-GAR-00978-21**
Validity date:	**21.10.2030**
Product-ID-Number:	**CE-1015DM0809**
Name, address, identification number of the notified body:	**Module D: SZUTEST Engineering Test Institute, Public Enterprise, Brno, Czech Republic; ID no. 1015**

The conformity of the product described above with the provisions of the applied Directives is demonstrated by compliance with the following standards / regulations:

EN 89:2015
EN 15502-1:2012+A1:2015
EN 15502-2-1:2012+A1:2016
EN 60335-1:2012
EN 60335-2-102:2016
EN 55014-1:2017
EN 55014-2:2015
EN IEC 61000-6-3:2021
EN IEC 61000-6-1:2019

Signed for and on behalf of Europe B.V.
Weert, 09.03.2022

Cyril Bongaerts
R&D Director

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