



# Convexo RCH

G20/G25/G25.3 (Natural gas) G31 (Propane)



English

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## 1. Step-by-step installation plan

 Read the full installation manual prior to installing the appliance.

The major points of attention of the installation are described in the check list below. Perform these steps and tick them once they have been performed correctly. After ticking all the steps, the appliance will be ready for use.

- The correct appliance has been supplied (see table 4-1)
- The appliance is free from damage
- All supplied parts are present (see table 6-1)
- The correct gas type and gas pressure is present on the location where the appliance will be placed
- The gas tap is within reach after installation and meets the legal requirements
- The gas connections are gas-tight (see section 10.1)
- The concentric system has been installed in accordance with the imposed requirements (see section 7.3)
- The total installation complies with national and local structural requirements and fire safety requirements
- The restrictor slide and/or air inlet guide(s) have been adjusted correctly (see section 8.2)
- The log, pebble or broken glass set has been placed as described (see section 8.3)
- The remote control has been prepared for use (see section 9.5)
- When the appliance is ignited for the first time, the glass pane has been removed (see section 10.3.1)
- The glass pane(s) has/have been cleaned before the appliance with glass pane(s) is ignited (see section 12)
- Make sure the appliance is safely ignited the first time (see section 10.3.1)



## 2. Introduction

DRU, a manufacturer of gas-fired and electric stoves, develops and produces products that comply with the highest quality, performance and safety requirements. The information in this installation manual will ensure the appliance is installed in such a way that it will function safely and in a correct way.

Installation and maintenance of the appliance should be performed by a certified and competent professional person, hereafter referred to as the installer. Read the installation manual prior to installing the appliance and make sure the instructions contained therein are fully and carefully observed. If applicable, this also applies to the installation manuals for the DRU PowerVent® and the DRU CM system.

The appliance is supplied with an installation manual and a user manual. The installation manual discusses the installation of the appliance and the applicable instructions, includes the technical specifications of the appliance and provides information about its maintenance and any failures that might occur and what might cause these failures. The user manual contains all information that is relevant to the user in order to operate the appliance properly and safely. After final delivery, both manuals should be handed over to the user.

Where installation instructions are not clear, national/local legislation should be observed.

Symbols are used in the manuals to indicate important information:

- Work to be performed
- 💡 Tips and additional information
- ⚠ Necessary instructions to prevent problems that might occur during installation and/or use
- ⚠ Necessary instructions to prevent fire, personal injury or other serious damages

## 3. EU/UKCA Declaration of conformity

This declaration of conformity is provided under the sole responsibility of DRU Verwarming, hereafter referred to as DRU. DRU declares that company internal measures guarantee that appliances produced by DRU meet the essential requirements and guidelines of the European regulation concerning gas-fired appliances and the accompanying standards. This declaration loses its validity if changes are made to the appliance without written permission from DRU. The instructions in the manuals must also be observed at all times. A copy of the EU test certificate can be downloaded via [www.druservice.com](http://www.druservice.com).

Product:	Gas-fired heating appliance
Type:	Convexo RCH
Product identification number:	0063DN3737
EU test certificate:	22GR0361/00
Conformity assessment body:	Kiwa Netherlands B.V. (0063) Wilmersdorf 50 Postbus 137 7300 AC, Apeldoorn
Regulations:	(EU) 2016/426, (EU) 2015/1186, (EU) 2015/1188
Directives:	2014/53/EU, 2014/35/EU, 2014/30/EU, 2009/125/EC
Standards:	EN 613:2021, EN 60335-1:2012, EN 60335-1:2012/A2:2019, EN 60335-1:2012/A11:2014, EN 60335-1:2012/A13:2017, EN 60335-1:2012/A14:2019, EN 60335-2-102:2016

DRU Verwarming B.V.  
Postbus 1021, NL-6920 BA Duiven  
Ratio 8, NL-6921 RW Duiven  
[www.drufire.com](http://www.drufire.com)

Signed for and on behalf of:

  
R.P. Zantinge, Managing director

Duiven, 27-09-2022

## 4. Technical data

Check the technical data based on the table below.

Table 4-1: Technical data					
Model identifier	Convexo RCH				
Type of appliance	Free-standing				
Combustion	Closed combustion				
Type	C11, C31, C91				
Categorie	I <sub>2EKr</sub> , I <sub>2ELLr</sub> , I <sub>2Hr</sub> , I <sub>2Er</sub> , I <sub>2E+r</sub> , I <sub>2HLr</sub> , I <sub>3Pr</sub> , II <sub>2L3Pr</sub> , II <sub>2E+3Pr</sub> , II <sub>2H3Pr</sub> , II <sub>2E3Pr</sub> , II <sub>2EK3P</sub>				
Concentric appliance connection	150/100				
Applicable concentric systems	DRU LAS ES-I 150/100, DRU LAS ES-E 200/150/100				
Flame protection version	Separated ignition / ionization plugs				
Pressure equalisation	Pressure equalization door				
Max. temp. outer tube concentric system	130°C				
Radiation range safe distance (front/side)	500 mm				
Gastype:	Symbol	G25/G25.3*	G20	G31	Unit
Indirect heating functionality		No	No	No	
Direct heat output		4,7	5,0	5,0	kW
Indirect heat output		-	-	-	kW
Space heating emissions NO <sub>x</sub>		122,8	128,6	128,1	mg/kWh <sub>input</sub> (GCV)
Heat output					
Nominal heat output	P <sub>nom</sub>	4,7	5,0	5,0	kW
Minimum heat output (indicative)	P <sub>min</sub>	2,1	2,6	2,6	kW
Technical data					
Nominal heat input (Hs)		6,4	6,7	6,5	kW
Nominal heat input (Hi)		5,8	6,0	6,0	kW
Consumption max		679	628	240	L/h
Consumption min		330	351	132	L/h
Burner pressure max		13,6	10,7	23,2	mbar
Burner pressure min		3,4	3,5	6,9	mbar
Main burner injector		1x Ø1,45 1x Ø1,05 1x Ø1,25	1x Ø1,45 1x Ø1,05 1x Ø1,25	1x Ø0,95 1x Ø0,60 1x Ø0,95	mm
Low setting injector		A****	A****	A****	mm
Efficiency class (EN613)		1	1	1	
Useful efficiency (NCV)**					
Useful efficiency at nominal heat output	η <sub>th,nom</sub>	92,3	92,4	92,5	%
Useful efficiency at minimum heat output (indicative)	η <sub>th,min</sub>	91,1	92,2	90,9	%
Auxiliary electricity consumption					
At nominal heat output	e <sub>l,max</sub>	0,0156	0,0156	0,0156	kW
At nominal heat output	e <sub>l,min</sub>	0,0124	0,0124	0,0124	kW
In standby mode	e <sub>l,SB</sub>	0,0026	0,0026	0,0026	kW
Permanent pilot flame power requirement					
Pilot flame power requirement (if applicable)	P <sub>pilot</sub>	-	-	-	kW
Energy efficiency***					
Energy efficiency index	EEl	91	92	93	
Energy efficiency class		A	A	A	
Type of heat output / room temperature control					
Single stage heat output, no room temperature control					No
Two or more manual stages, no room temperature control					No
With mechanic thermostat room temperature control					No
With electronic room temperature control					Yes
With electronic room temperature control plus day timer					Yes
With electronic room temperature control plus week timer					Yes
Other control options					
Room temperature control, with presence detection					Yes***
Room temperature control, with open window detection					Yes***
With distance controle option					Yes

\* This appliance is suitable for G25.3 with the composition according NTA 8837. \*\* System efficiency. \*\*\*(achieved) using home automation. \*\*\*\* Adjusting screw.

## 5. SAFETY

### 5.1 General

- ⚠ - Observe the generally applicable regulations and precautions/safety instructions in this manual.
- Read this manual carefully to ensure the proper and safe installation of the appliance.
- Prior to starting the installation, check that the correct appliance has been delivered on the basis of table 4-1.

### 5.2 Regulations

Please install the appliance in accordance with the applicable national, local and constructional (installation) regulations.

### 5.3 Safety instructions

- ⚠ Carefully observe the following precautions/safety instructions:
  - Installation and maintenance of the appliance should be performed by an installer.
  - The appliance was designed for atmospheric and heating purposes. This means that all visible surfaces, including the glass pane, can become hotter than 100°C. It is recommended to always place a guard grille in front of the appliance when children, older people or persons with reduced physical, sensory or mental capacities are in the same room as the appliance. If these vulnerable people are regularly present in the room without supervision, a fixed guard should be made around the appliance.
  - Keep combustible objects and/or materials outside the appliance's radiation range (see section 7).
  - Do not cover the appliance and/or do not wrap it in an insulation blanket or any other material.
  - Do not use the appliance when a pane is broken and/or cracked, until it has been replaced.
  - Only use the flue gas discharge / combustion air supply system (concentric system) supplied by DRU.
- ⚠ When installing the appliance, heed the following warnings:
  - Do not make any changes to the appliance.
  - Only use the accompanying set, such as the wood or pebble set, and place it exactly as described.
  - Leave space around the ionisation pin and spark electrode and never place glow material around these pins.
  - Place a gas tap in accordance with applicable regulations.
  - Make sure there is no dirt in gas pipes and connections.
  - Check the complete installation for gas tightness prior to commissioning.
  - Do not ignite the appliance until it is fully installed in relation to the gas connections, discharge system and electrical components.
- ⚠ When installing a built-in appliance:
  - Prevent the explosion hatch(es) on the top of the appliance (if present) from getting clogged and check that they properly fit on the sealing surface, before the appliance is built in.
  - Use non combustible and heat-resistant materials for the chimney breast, including the top of the chimney breast and the material in the chimney breast, such as the floor under the appliance and the back wall against which the appliance will be placed. For this you can use both special sheet material and stone-like materials.
  - Take sufficient measures to prevent excessive temperatures of a wall behind the chimney breast, including the materials and/or objects behind the wall.
  - Take the minimum required internal dimensions of the chimney breast into account. These are for the benefit of safety and for the prevention of excess heat accumulation in the chimney breast.
  - Ventilate the chimney breast by means of ventilation holes (see section 7). These are essential for safety and for the prevention of excess heat accumulation in the chimney breast.
  - Make sure that the construction materials used to build the chimney breast do not obstruct or block the incoming and outgoing airflow. The space above the front window, behind the construction frame, and the control hatch are essential entrances for the incoming air flow.
  - Use heat resistant electrical connectors.
  - Place heat-resistant electrical wiring away from the appliance and as low as possible in the chimney breast. This has to do with the temperature development in the chimney breast.
- ⚠ When installing a free-standing appliance:
  - Place the appliance at the indicated minimum distance from the back wall and side walls (see section 7).

## 6. Preparation

### 6.1 Unpacking

When unpacking the appliance, please proceed as follows:

- Remove all packaging materials and dispose of them by means of the correct waste processing method.
- ⚠ Keep plastic bags and packaging materials away from children.
- Remove all supplied components in, on and/or at the appliance.
- Remove the screws, if the appliance is attached to a platform or pallet.
- Check the appliance and accessories for damages (during transport). In case of damage, contact your supplier.
- ⚠ Never install a damaged appliance.
- Use table 6-1 to check if all components have been delivered. Contact your supplier if this is not the case.

- 💡 The glass panes are made of ceramic material, which means that minor irregularities in the surface cannot be prevented. These are within the imposed quality standards.

**Table 6-1: Parts included with the delivery**

Part	Number
Installation manual	1x
User manual	1x
Wood set (including: chips, vermiculite and ash)	1x
Glowing Embers set	1x
Restrictor slide	1x
Remote control	1x
Mains cable	1x
Spare self-tapping screws	1x
Compression fitting 15 mm x G3/8"	1x
Socket spanner 8 mm	1x

### 6.2 Type of gas

The data plate indicates for which type of gas, gas pressure and for which country this appliance is intended.

The data plate can be found on the appliance or can be attached to a chain to which it should remain attached.

- ⚠ Check whether the appliance is suitable for the type of gas and the gas pressure used at the location.

#### 6.2.1 Gas type conversion

In order to convert this appliance to a different type of gas, please contact DRU's service department and ask for the possibilities. The conversion should be performed by a recognised gas installer.

### 6.3 Gas connection

This appliance is intended for use on a gas installation with a gas pressure regulator in the supply. In addition, a gas tap should be installed in the gas pipe, in conformity with the applicable regulations.

- ⚠ - Make sure the gas pipes and connections are free from dirt.
- No soldering work may be performed at the flexible gas hose(s).

For the gas connection (fig. 6-2 (Gin)), the following requirements apply:

- Lay the gas pipe in such a way that no pressure loss can occur.
- The gas tap must be provided with the correct quality mark.
- The gas tap should be accessible at all times during and after installation.

### 6.3.1 Gas hose for gas connection

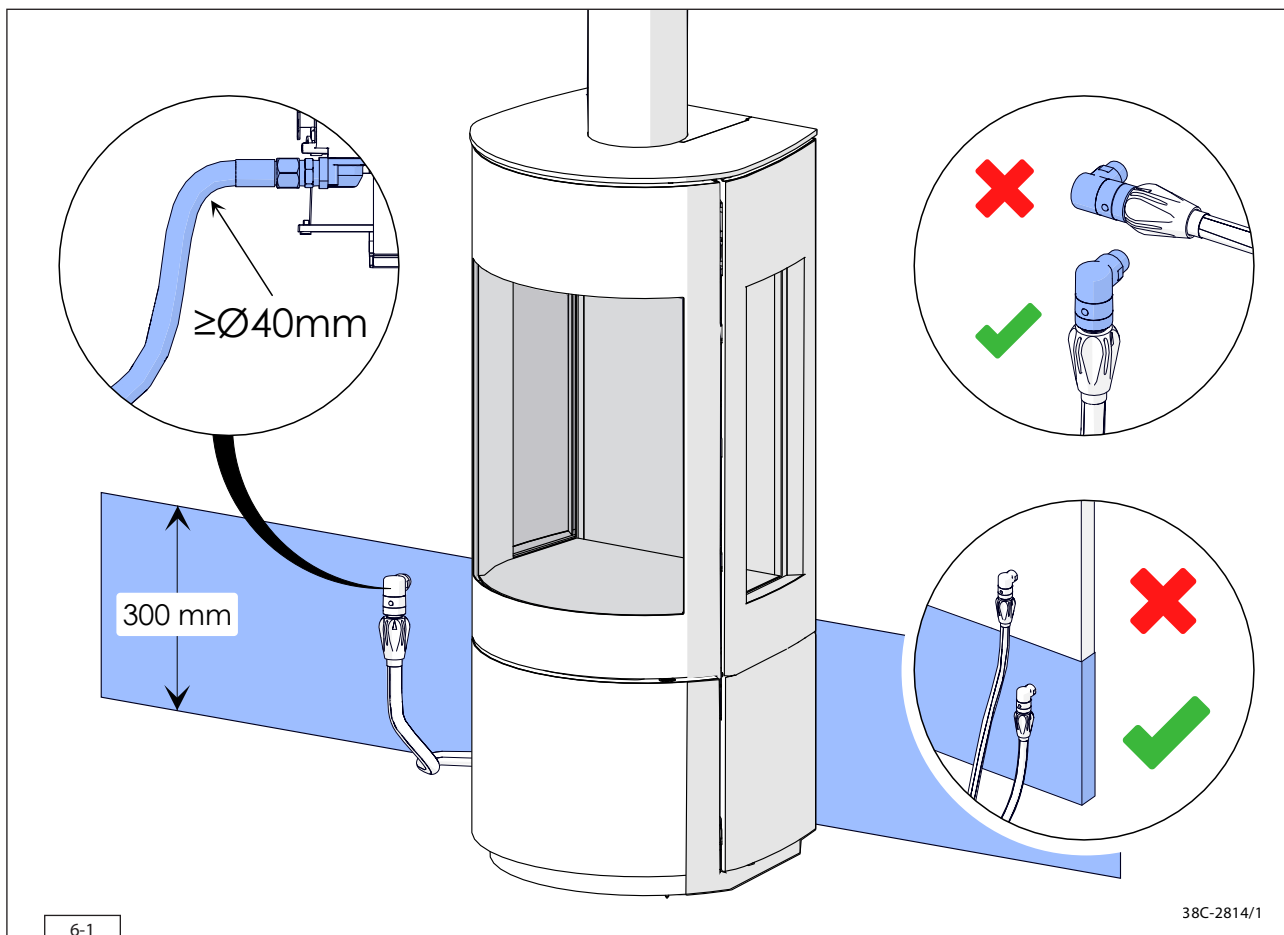
If legally permitted, a gas hose for a gas outlet (according to EN14800) can be ordered with the appliance in various lengths (consult DRU Service for this). The gas hose is mounted to the appliance at factory and has been checked for leak-tightness.

- ⚠ - The gas outlet should be accessible at all times during and after installation.
- The gas outlet may only be placed vertically (see fig. 6-1).
- The gas outlet and gas hose may not be placed behind the appliance.
- The gas outlet should be placed next or under the appliance on the wall behind the appliance.
- Measured from the bottom of the adjustable foot holder, a maximum allowed placement height of 30 cm shall apply (see fig. 6-1).
- A minimum radius of 40mm must be observed in case of a bend in the gas hose (see fig. 6-1).
- A minimum distance of 20mm must be maintained between the gas hose and the appliance, with the exception of the passage intended for this purpose.
- Do not place the gas connection within the radiation range of the glass pane.

### 6.4 Electrical connection

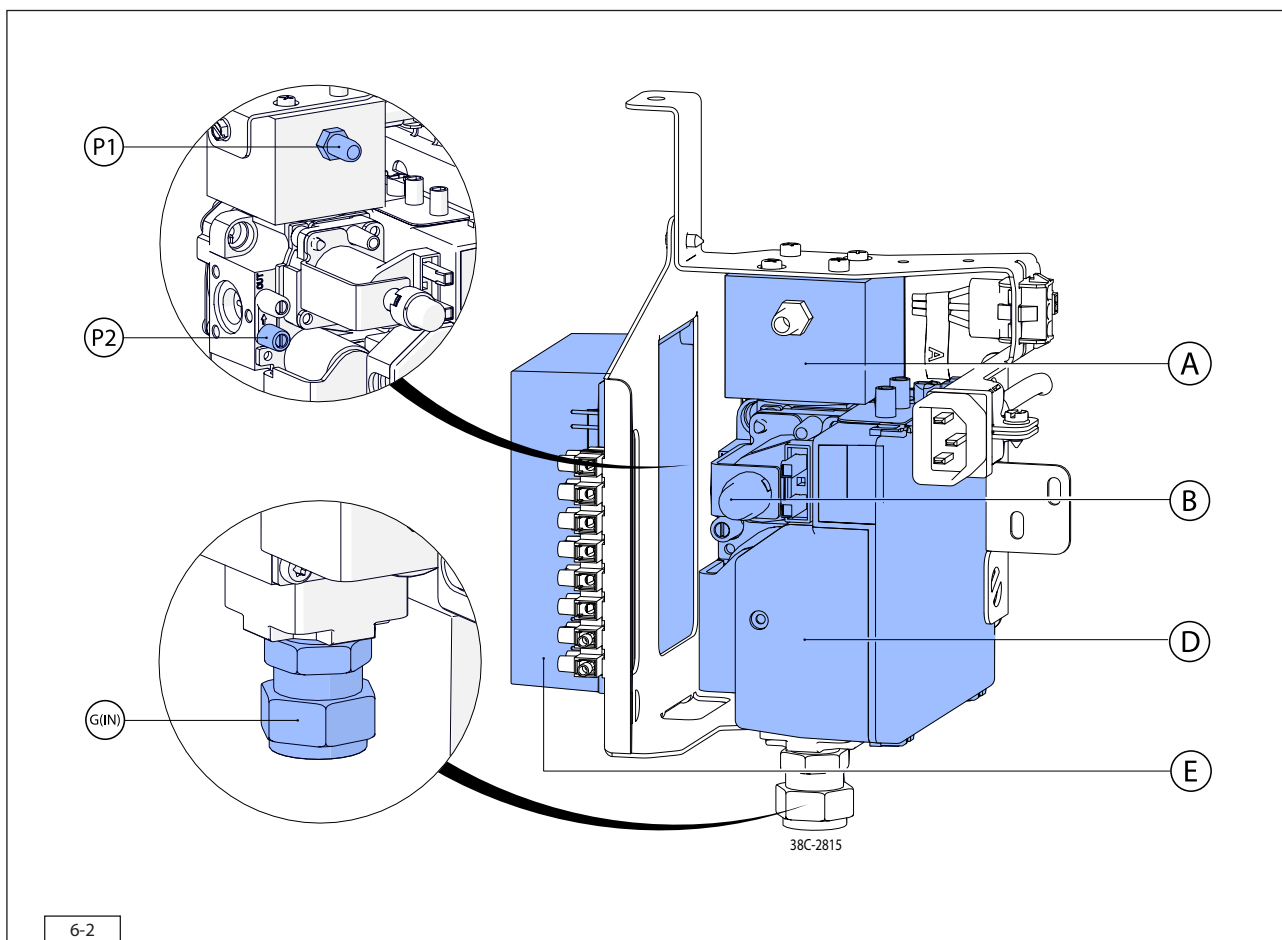
Ensure a 230 Volt earthed electrical connection. Place this connection in such a way that it is free from the appliance. When using a chimney breast, the connection should be placed as low as possible, in connection with the temperature development during use.

- ⚠ Make sure the installation can be made free from voltage easily after installation, by disconnecting the plug or using a 2-pole switch placed by an installer in accordance with normal regulations.
- ⚠ - Protect the appliance control unit and accompanying electrical components against building dust and building moisture.
- When connecting the receiver and the control panel of the CM system, observe the instructions in the provided installation manual.



### 6.5 Components of the appliance control unit

The appliance control unit consists of the following components (see fig. 6-2):



6-2

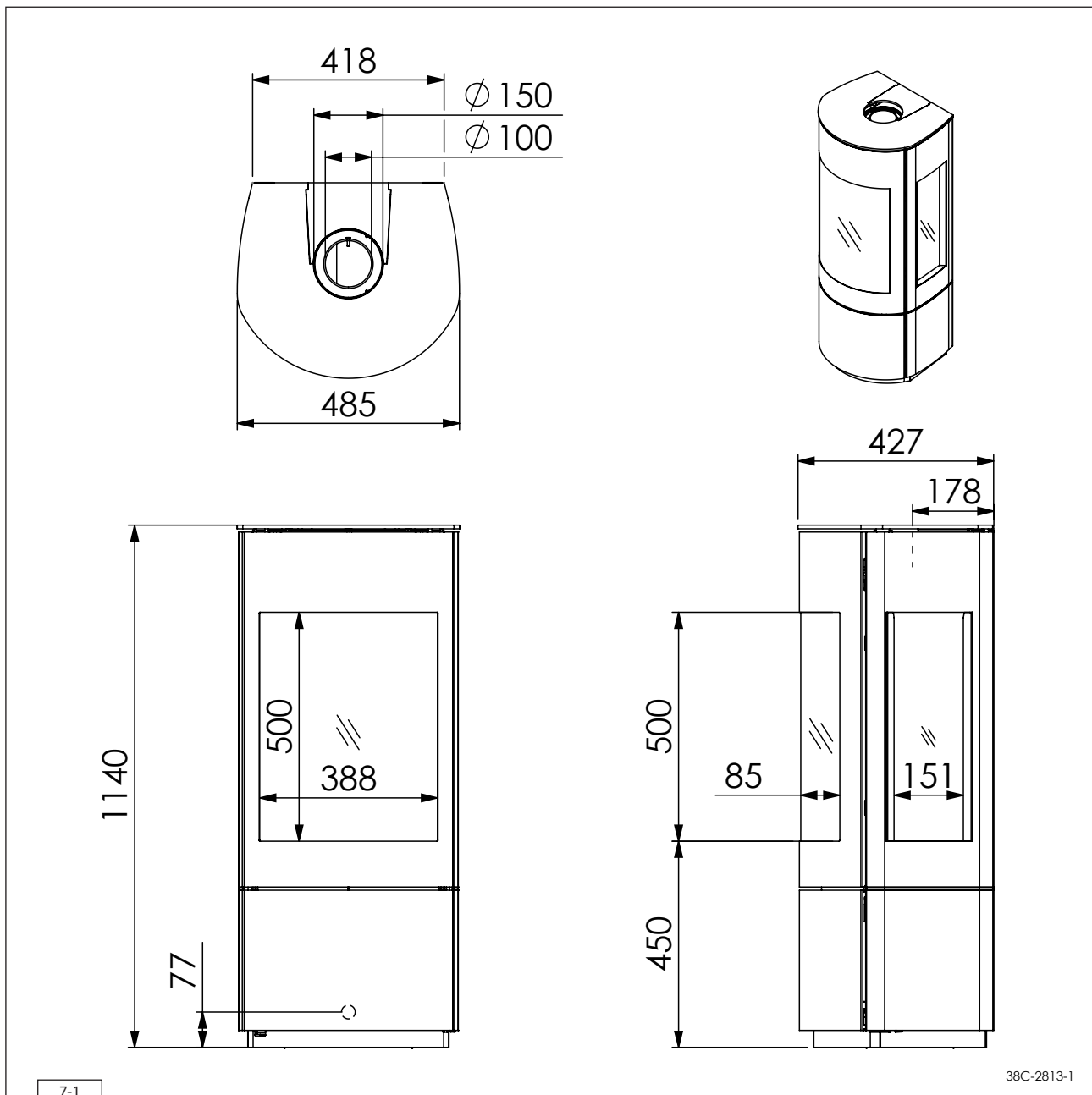
- A: Distribution block; connection of the burners
- B: Main valve; controls the gas supply to the main burner and valve second burner.
- C: Valve second burner; switches the gas supply to the second burner (if applicable)
- D: Controller (ESYS); controls the ignition procedure and checks for a safe operation
- E: Receiver (DFGT); ensures the control of the appliance
- P1: Pressure gauge nipple 1; burner pressure
- P2: Pressure gauge nipple 2; line-pressure
- G<sub>(IN)</sub>: Gas connection; connection from the gas control to the gas network

## 7. Installation

### 7.1 Placing the appliance

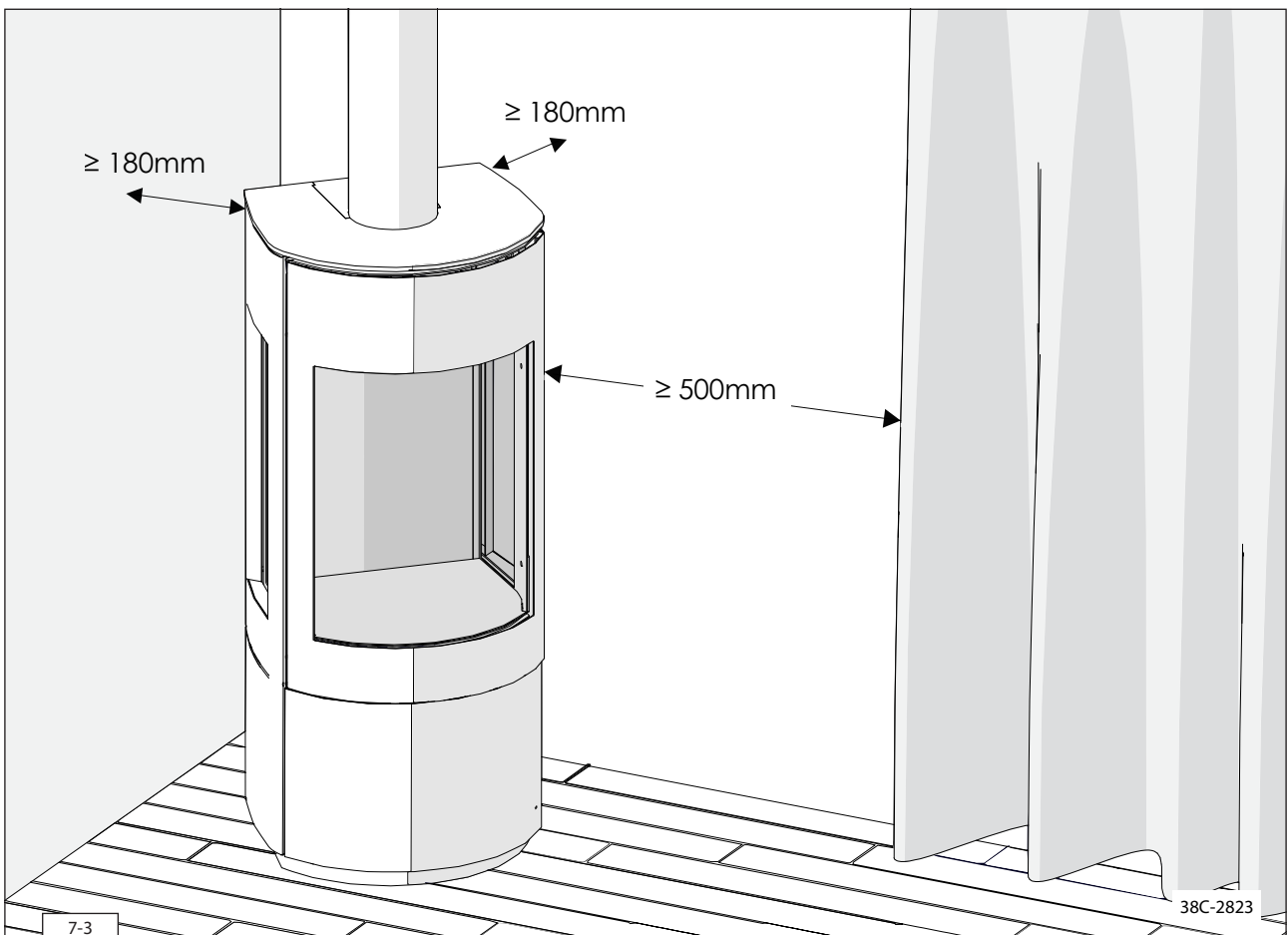
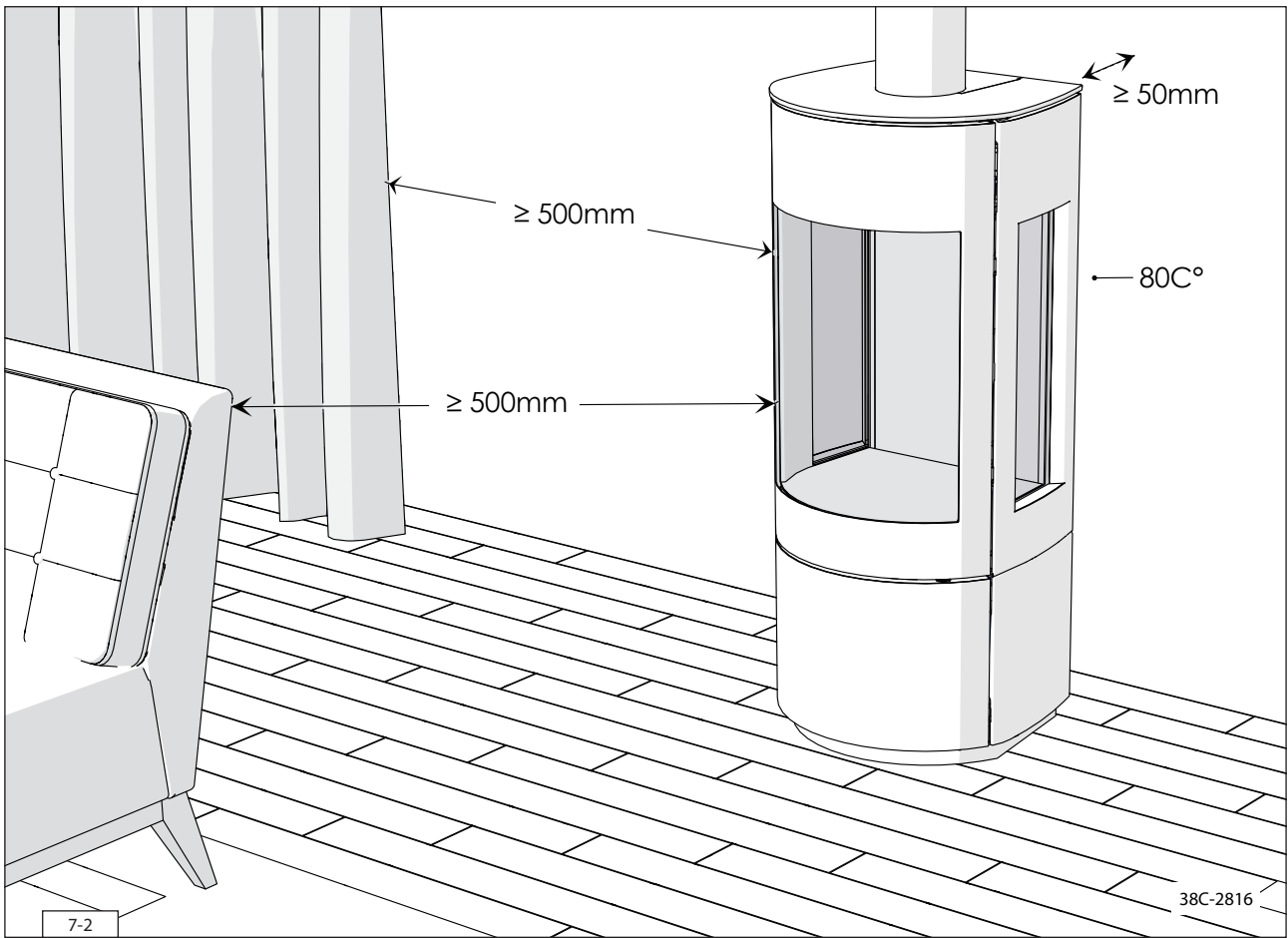
Use the steps below to set up the appliance.

- Place the appliance on the location where it will be installed and take the following into account:
  - Indoors on a dry location.
  - The dimensions of the appliance (see fig. 7-1).
  - The length of cables and pipes.
  - Place the appliance in front of a wall that is resistant to a temperature of at least 80C°.
  - Take sufficient measures to prevent a possible wall behind the chimney breast from reaching a temperature that is too high. This also applies to the materials and/or objects located behind the wall.
  - Within the radiation range (see table 4-1, fig. 7-2 and fig. 7-3) of the fire, make sure there are no combustible objects or materials located there.
  - Place the concentric system in such a way, that it is impossible for a fire hazard to occur (see section 7.3).
  - Do not cover the appliance and/or do not wrap it in an insulation blanket or any other material.



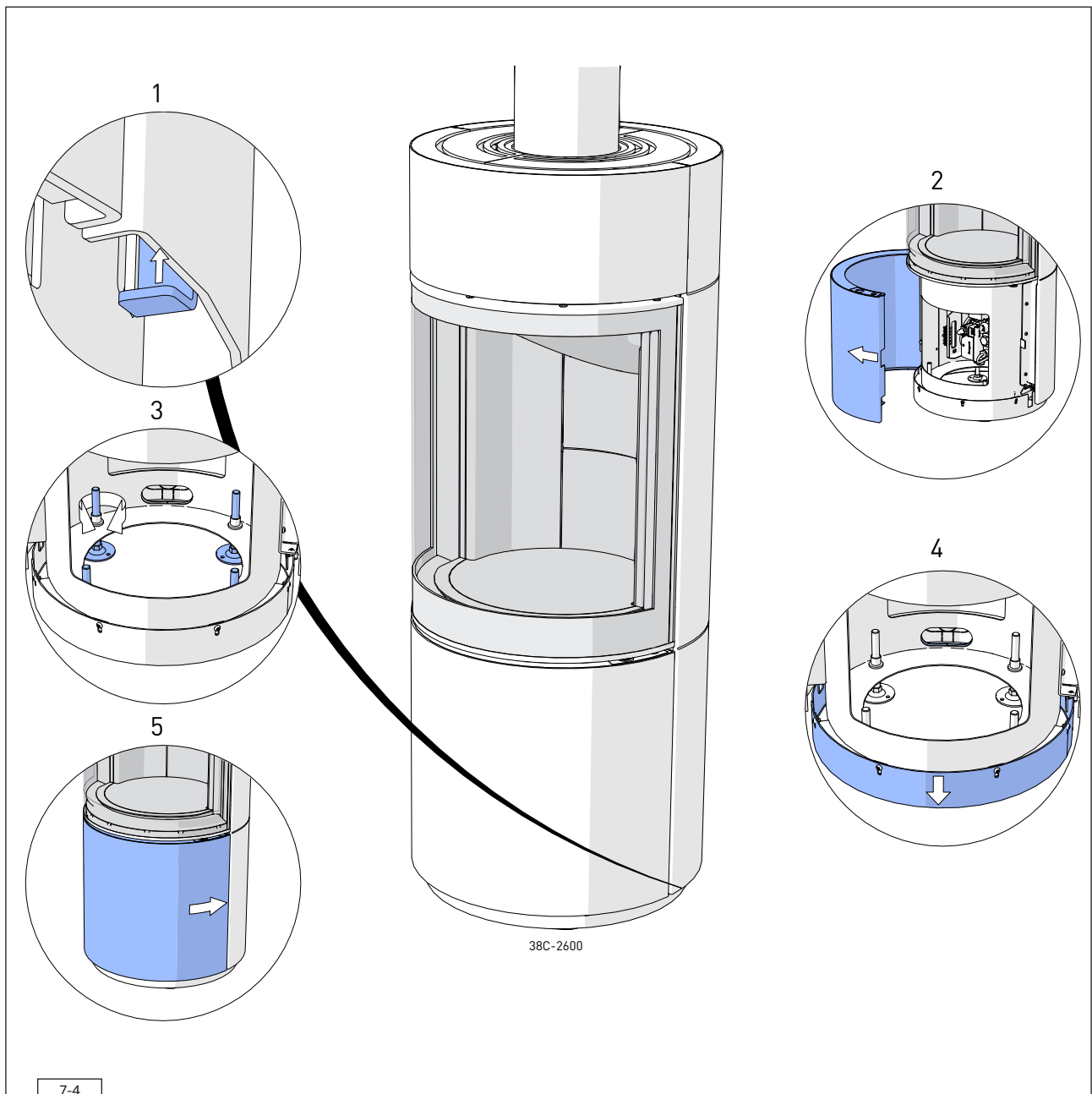
7-1

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- Ensure a stable arrangement of the appliance to be installed.
- Level the appliance and allow the decorative ring to connect to the floor (see figure 7-4):
  - Press the bottom right lip upwards to unlock the door panel and keep the lip pressed upwards (1).
  - Open the door panel (2).
  - Adjust the appliance to the right height and level it with the 4 adjustable feet. The distance between the floor and the bottom side of the door panel must be approximately 35mm (3).
  - Lower the decorative ring on the floor by loosening the self-tapping screws by a few turns, lowering the decorative ring and tightening the self-tapping screws again (4). This is necessary for a stable installation!
  - Close the door panel, it is locked automatically (5).





### 7.3 Concentric system

#### 7.3.1 General

The appliance is connected to a flue gas discharge / combustion air supply system delivered by DRU, hereafter referred to as the concentric system. DRU has different concentric systems in its range.

In the case of a concentric system, the inner tube is used as flue gas discharge. The combustion air is supplied by the outer tube. As a result, the latter always has a relatively low temperature. For the maximum temperature of the outer tube, see the technical data in table 4-1. The concentric system has been tested in combination with the appliance. Other concentric systems are not permitted.

See the table below for the different concentric systems of DRU and their application:

Table 7-1: Concentric systems and their application		
System	Permitted for this appliance?	Remarks
DRU LAS AG-I 150/100	No	Alu-galva tubes for use inside the building*. Diameter Ø150/100 mm. Cannot be combined with the SS systems.
DRU LAS ES-I 150/100	Yes	SS tubes for use inside the building*. Diameter Ø150/100 mm. Using an SS adapter, it is possible to construct further with the insulated LAS ES-E 200/150/100 system.
DRU LAS ES-I 200/130	No	SS tubes for use inside the building*. Diameter Ø 200/130. Using an SS adapter, if permitted, it is possible to construct further with LAS-ES-I 150/100.
DRU LAS ES-E 200/150/100	Yes	Insulated SS tubes. Discharge diameter Ø150/100. External diameter Ø 200 mm. Intended for use inside or outside building for placement in, for example, timber frame construction, execute with 0 mm distance along combustible material etc. It is not possible to continue building with an SS adapter with LAS ES-I 150/100.
DRU PV-I 100/60	No	Optional discharge system with fan for discharge up to approx. 60 metres long.

\* With the exception of the components intended for that purpose, such as roof and wall terminals.

The diameter of the concentric system appliance connection can be found in table 4-1. By means of natural draft, the flue gases are discharged to the outside, this can be achieved by means of a wall terminal (C11) or a roof terminal (C31). If necessary, an existing chimney can be used (C91, see section 7.3.5).

In addition, if combined with PowerVent® (C12, C32), it is possible in many cases to discharge the flue gases with a smaller diameter (DRU PV-I 100/60).

- Only use the concentric system supplied by DRU This system has been tested in combination with the appliance. DRU cannot guarantee a proper and safe operation of other systems and does not accept any responsibility or liability for this.
- Use a chimney kit for making a connection to the chimney; this can be supplied by DRU.
- For terminals, observe the information in table 7-2.

Table 7-2: Terminals				
System	Hole diameter and execution			
	Combustible material		Non combustible material	
	Ø (mm)	Notes	Ø (mm)	Note
DRU LAS AG-1 150/100 DRU LAS ES-I 150/100	≥250	The terminal hole may be covered with a rosette made of non-combustible material. This terminal hole must be ventilated. A 2 mm wide ventilation opening around the tube is sufficient. The space between the tube and the combustible material may not be filled with insulation material.	≥154	Make terminal hole all around 2mm larger than the diameter of the concentric system to prevent "ticking" and such like. The terminal hole does not require ventilation.
DRU LAS ES-I 200/130	≥300		≥204	
DRU PV-I 100/60 (also see: installation manuel PowerVent®)	≥200		≥104	
DRU LAS ES-E 200/150/100	≥204	The distance from combustible material may be 0 mm. The terminal hole does not require ventilation. If a clip binding is placed in a terminal hole, a hole diameter of Ø230 mm must be maintained.	≥204	Make terminal hole all around 2mm larger than the diameter of the concentric system to prevent "ticking" and such like. The terminal hole does not require ventilation. If a clip binding is placed in a terminal hole, a hole diameter of Ø230 mm must be maintained.

- ⚠ - Maintain a distance of at least 50 mm between the outside of the concentric system and the walls and/or ceiling. If the system is built in (for instance) a cove, it should be made with non combustible, heat-resistant material all around it. This does not apply to the insulated concentric system (DRU LAS ES-E 200/150/100).
- Some heat-resistant insulation materials contain volatile components that will spread an unpleasant smell for a prolonged time; these are not suitable.

The concentric system is constructed from (the flue spigot of) the appliance.

If, due to constructional circumstances, the concentric system is placed first, it is possible to connect the appliance by means of a telescopic pipe piece.

Place the concentric system as follows:

- Build the system up from (the flue spigot of) the appliance.
  - Connect the concentric pipe pieces and, if necessary, the bend(s).
  - Apply a clip binding with silicon sealing ring on each connection (does not apply to DRU LAS ES-E 200/150/100, here the sealing ring is inside the tube).
  - Use a sheet metal screw to fix the clip binding to the pipe on locations that cannot be reached after installation.
  - Attach the concentric system with sufficient fastening brackets, so that the weight is not resting on the appliance.
- Observe the following;
- Place the first fastening bracket 0.5 metre from the appliance, at the most.
  - Place a fastening bracket maximum 0.1 metre from each bend, if the bends are more than 0.25 metre away from each other. If two bends are closer to one another than 0.25 metre, 1 fastening bracket between these bends will be sufficient.
  - At least every 1 metre, place a fastening bracket at slanted and horizontal sections.
  - At least every 2 metres, place a fastening bracket at vertical sections.
- Fasten a roof terminal with anchor cables, if it protrudes more than 1,5 metres above the terminal.
  - Determine the remaining length for the wall or roof terminal and cut it to size, make sure the correct insertion length is maintained.
  - Place the wall terminal with the (groove/folded) seam at the top. Attach the wall terminal from the outside by means of four screws.

### 7.3.2 Roof terminal (C31)

The roof terminal can end in a sloping and a flat roof.

The roof terminal can be supplied with an adhesive plate for a flat roof or with a universally adjustable tile for a sloping roof.

When using a roof terminal (C31), the following applies:

The construction of the chosen system has to be allowed. The working method below indicates how the permissibility is determined of a concentric system when using a roof terminal.

- Count the number of 45° and 90° bends required (15° and 30° bends are also allowed; these are not counted).
- Count the total number of whole metres of horizontal pipe length.
- Count the total number of metres of vertical and/or sloping pipe length (roof terminal excluded).
- Find the number of required bends and the total horizontal pipe length (see table 7-3, columns 1 and 2).
- Find the required total vertical and/or sloping pipe length (see table 7-3, row 1).
- A box with a letter means that the chosen concentric system is permitted.
- Determine the adjustment of the appliance (see table 7-4).
- Adjust the appliance correctly with, for instance, a restrictor slide and an air inlet guide (see section 8.2).

Table 7-3: Determination of the permissibility of a concentric system with roof terminal													
G20/G25/G25.3 G31	Total number of metres horizontal pipe length	Total number of metres vertical and/or sloping pipe length											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>No bends</b>	0	B	B	B	B	C	C	C	C	D	D	D	D
<b>2 bends</b>	0	A	A	B	B	B	B	C	C	C	C	D	D
	1	A	A	A	B	B	B	B	C	C	C	C	
	2	A	A	A	A	B	B	B	B	C	C		
	3	A	A	A	A	A	B	B	B	B			
	4	A	A	A	A	A	A	B	B				
<b>3 bends</b>	0	A	A	A	B	B	B	B	C	C	C	C	D
	1	A	A	A	A	B	B	B	B	C	C	C	
	2	A	A	A	A	A	B	B	B	B	C		
	3	A	A	A	A	A	A	B	B	B			
	4	A	A	A	A	A	A	A	B				
<b>4 bends</b>	0	A	A	A	A	B	B	B	B	C	C	C	C
	1	A	A	A	A	A	B	B	B	B	C	C	
	2	A	A	A	A	A	A	B	B	B	B		
	3	A	A	A	A	A	A	A	B	B			
	4		A	A	A	A	A	A	A				
<b>5 bends</b>	-			A	A	A	A	A					


 Situation is not permissible

Table 7-4: Conditions for setting the appliance when using a roof terminal			
G20/G25/G25.3/G31			
Situation	Restrictor slide	Restrictor slide (Distance in mm)	Air inlet guide
A	NO	-	-
B	YES	35	-
C	YES	29	-
D	YES	25	-

 Always place at least 0,5 meters vertical directly on the appliance.



### 7.3.3 Wall terminal (C11)

When using a wall terminal (C11), the following applies:

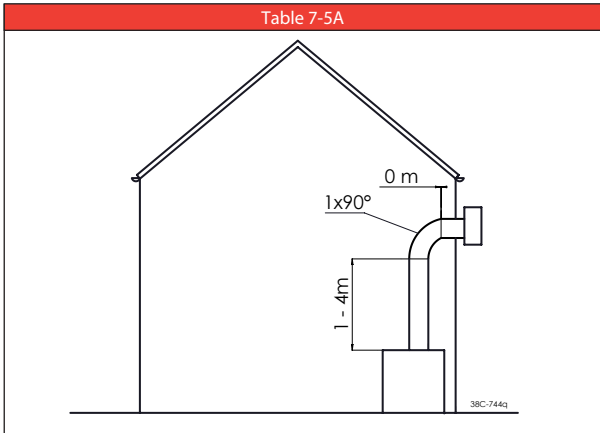
The construction of the chosen system has to be allowed.

- Check that the vertical pipe length falls between the minimum and maximum lengths (see table 7-5).
  - Check that the horizontal pipe length (wall terminal excluded) falls within the minimum and maximum length (see table 7-5).
- ⚠ In all tables below, 1 bend has been included in the concentric system. It is possible, however, to add extra bends. For each additional bend, the maximum allowed horizontal length of the concentric system is reduced. This is done as follows:
- An additional 90° bend shortens the maximum allowed length of the concentric system by 2 metres.
  - An additional 45° bend shortens the maximum allowed length of the concentric system by 1 metre.
- ⚠ At least 1 metre should always be placed on the appliance vertically, unless stated otherwise in the table.
- Determine the correct adjustment of the appliance (see table 7-5).
  - Adjust the appliance correctly with, for instance, a restrictor slide and an air inlet guide (see section 8.2).

The rosette of the wall terminal is too small to seal the opening in case of passage through combustible material. That is why a heat-resistant intermediate plate of sufficient size should first be mounted to the wall. Then, the rosette is mounted on the intermediate sheet.

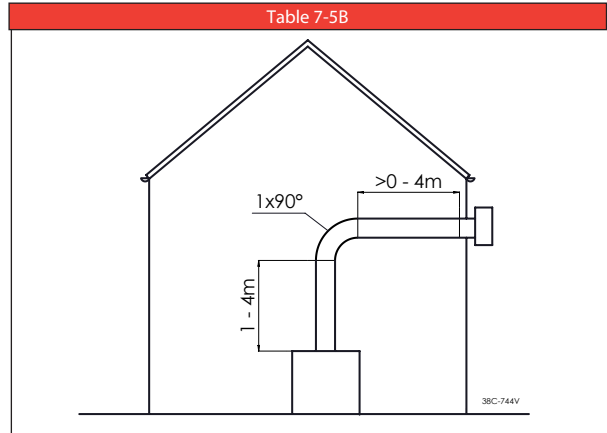
- ⚠ When using a wall terminal, place the terminal with a downward slope of 1 cm / metre towards the outside, in order to prevent rain water from raining in.





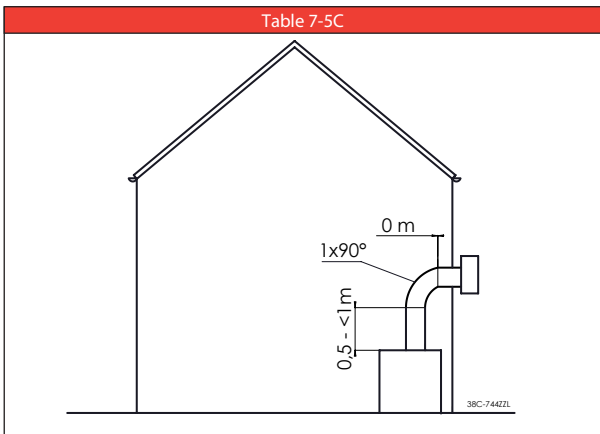
Setting	Apply
Air inlet guide	v
Restrictor slide	x

- Only use a 150/100 mm concentric system, including wall terminal.  
 - Factory setting: air inlet guide is mounted and the restrictor slide is supplied separately.



Setting	Apply
Air inlet guide	x
Restrictor slide	x

- Only use a 150/100 mm concentric system, including wall terminal.  
 - Factory setting: air inlet guide is mounted and the restrictor slide is supplied separately. The air inlet guide must be removed.



Setting	Apply
Air inlet guide	x
Restrictor slide	x

- Only use a 150/100 mm concentric system, including wall terminal.  
 - Factory setting: air inlet guide is mounted and the restrictor slide is supplied separately. The air inlet guide must be removed.



#### 7.3.4 Connection to an existing chimney (C91)


The appliance can be connected to an existing chimney (C91). A 100 mm diameter flexible SS pipe is placed in the chimney for discharging flue gases. The surrounding space is used as combustion air supply. Use the DRU spacer here. Place this spacer every three metres.

In case of an appliance connection of  $\varnothing 200/130$ , it should be reduced to  $\varnothing 150/100$ . See the situations in table 7-5 for the minimum vertical length of the reduction. The concentric system of 150/100 mm can be connected to an existing chimney.

The following requirements apply when connecting to an existing chimney:

- Only allowed when used in combination with the special DRU chimney connections. For a horizontal chimney connection, "Chimney connection stainless steel  $\varnothing 150/100$ " must be used. For a vertical chimney connection, "Chimney connection plate  $\varnothing 150$ " must be used.
- The internal dimension of the chimney should be at least  $\varnothing 150$ mm and, in case of a square/rectangular chimney, at least 150x150 mm.
- The vertical length has a maximum of 12 metres.
- The total horizontal pipe length may have a maximum length. Bends smaller than  $45^\circ$  do not count as bends, but the sloping length thereof is included in the total length of the concentric system. See section 7.3.2.
- The existing chimney has to be clean.
- The existing chimney has to be tight.

The installation requirements for the flexible stainless steel pipe must be observed at all times.

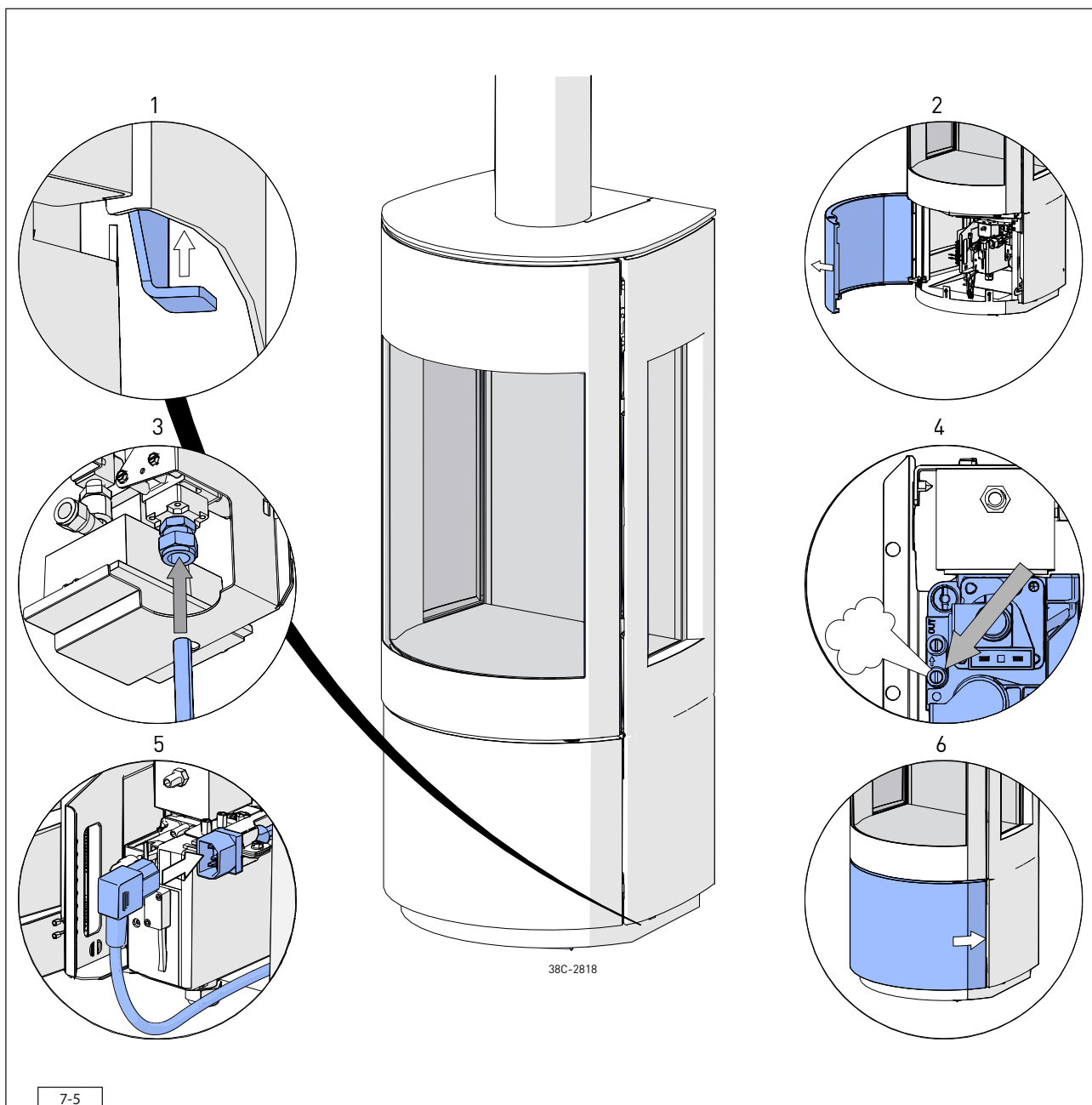
-  - If the appliance is equipped with explosion hatches (see table 4-1), the minimum chimney breast dimensions as stated in section 7.1 must be complied with.
- If the appliance is equipped with an explosion door (see table 4-1), it must be made sure that the existing surrounding structure is able to absorb sufficient heat to prevent overheating of electronic components.

For adjusting the appliance, the same conditions/instructions apply as for the concentric system described above.

### 7.4 Connecting the appliance control

The appliance control is placed in such a way that all components and all adjustment, measurement and control facilities are within reach and the components are working optimally (see fig. 7-5).

- Press the bottom right lip upwards to unlock the door panel and keep the lip pressed upwards (1).
- Open the door panel (2).
- Connect the gas pipe with gas tap (3) (also see section 6.3). The gas pipe can enter the appliance from the back, remove the press-out elements for this purpose. The gas pipe can also enter the appliance from the bottom side, from the space under the floor with a terminal.
- De-aerate the gas pipe on the gas control (4).
- Connect the 230V mains voltage with protective earth using the correct type of plug. The other side of the power cord can be simply connected with the universal 230V plug behind the door panel at the appliance control. Use this universal 230V plug to disconnect the appliance from voltage, if necessary.
- ⚠ If a 230V power cord is damaged, it should be replaced by a similar power cord or a power cord that is available from your dealer.
- Close the door panel, it is locked automatically (6).
- ⚠ Always close the door panel, because of the electricity connection behind the hatch (230V).





## 8. Appliance

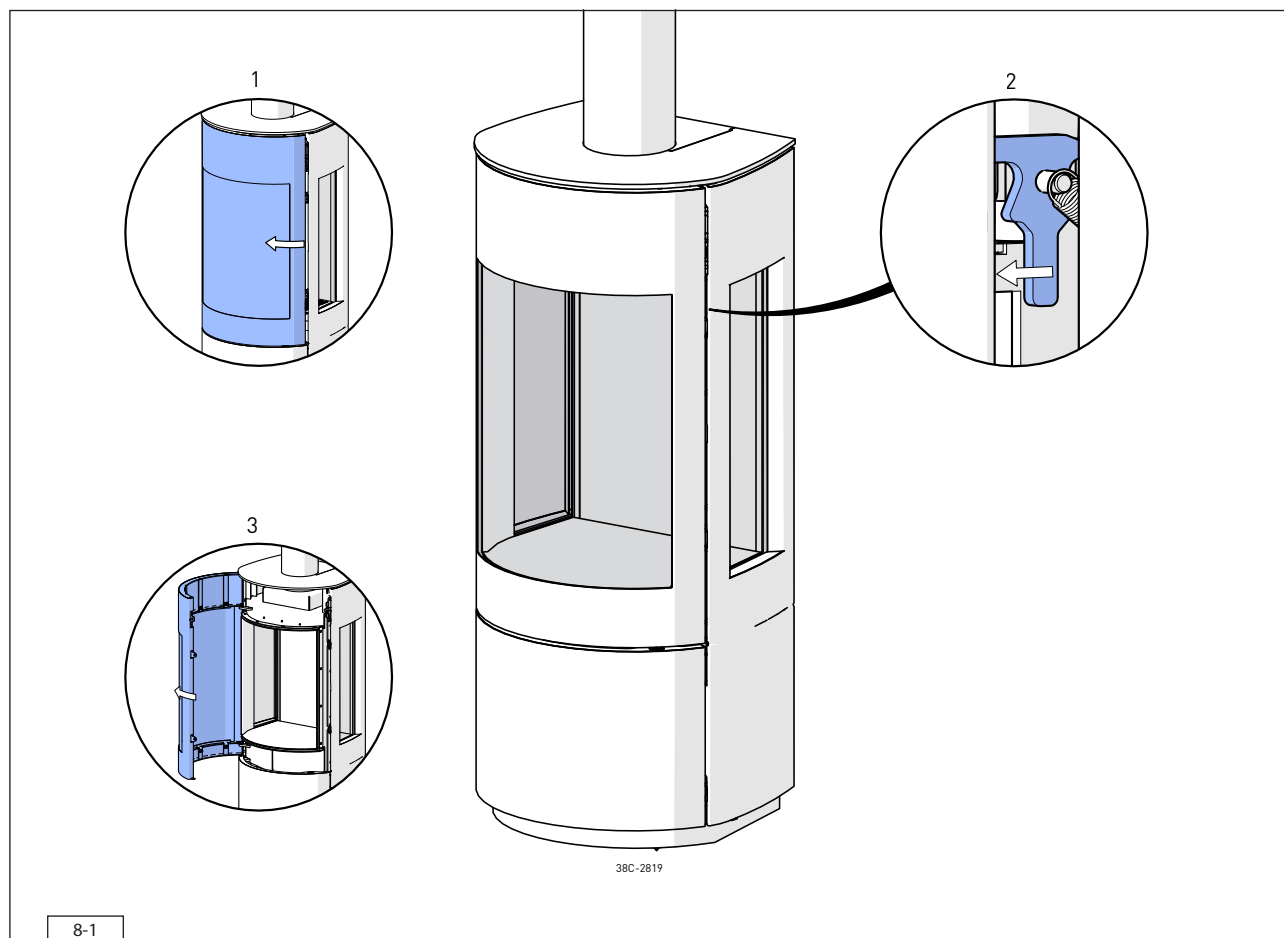
### 8.1 Glass pane

The glass pane is mounted in a frame that can be opened for placing the wood set, adjusting the appliance, performing maintenance or cleaning the inside of the glass pane.

#### 8.1.1 Opening the glass pane

Proceed as follows to open the glass pane (see fig. 8-1).

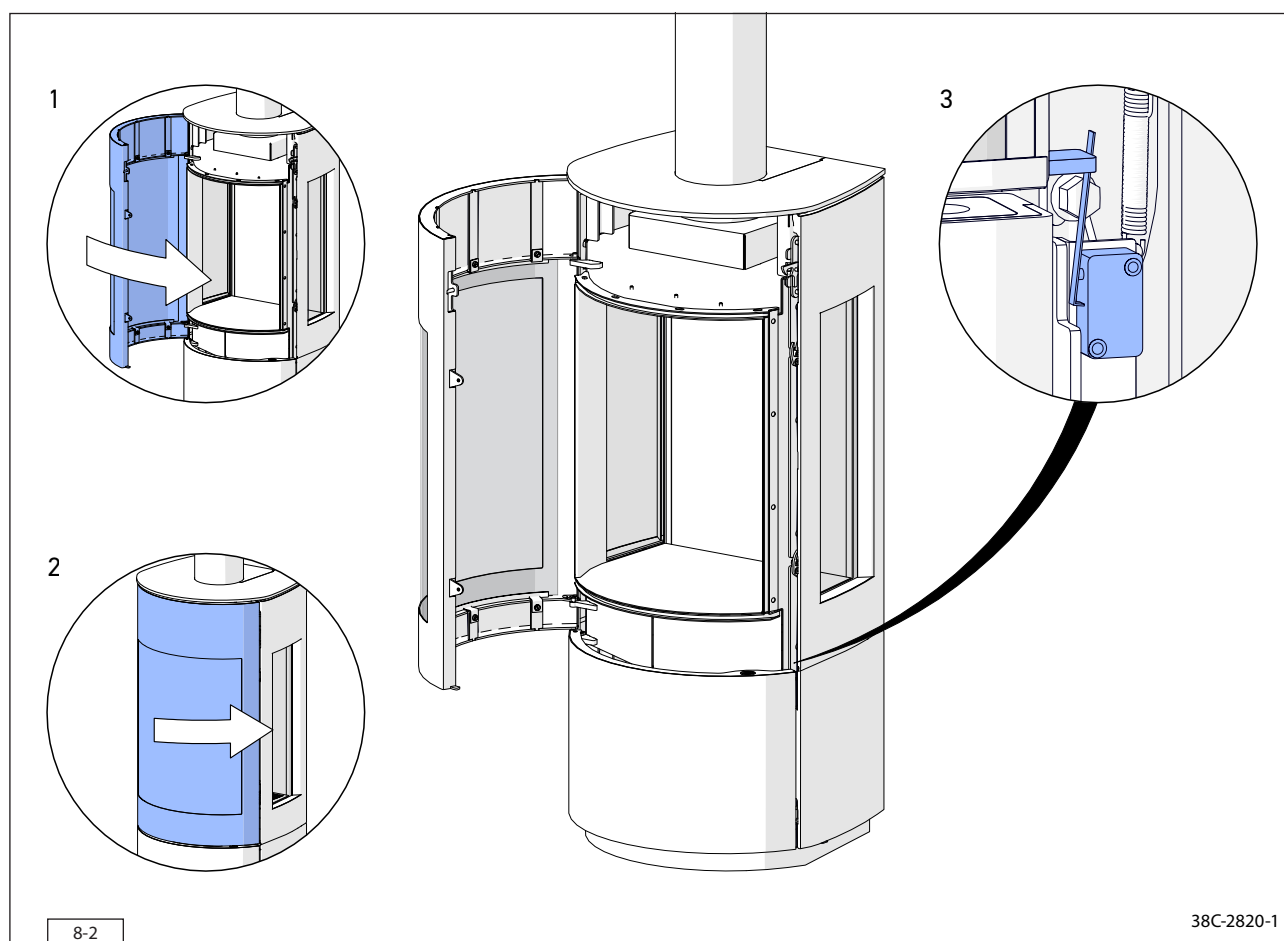
- Partly pull open the glass pane on the right side, there will be some resistance because the glass pane is self-closing (1).
- Lift the hook that is now accessible in the space created on the right top side of the glass pane (2).
- Fully turn open the glass pane (3).



### 8.1.2 Closing the glass pane

Close the glass pane after placing the wood set, adjusting the appliance, cleaning the glass pane or performing maintenance. Proceed as follows to close the glass pane (see fig. 8-2).

- Close the glass pane by pushing it closed. (1 and 2).
- Check if the switch connects after closing the glass pane. If necessary, adjust the lever of the switch (3).
- ⚠ Prevent/remove fingerprints on the glass pane, as they will burn into the glass.
- ⚠ Make sure that the lock hook has been hooked in properly and that the glass pane is fully closed.



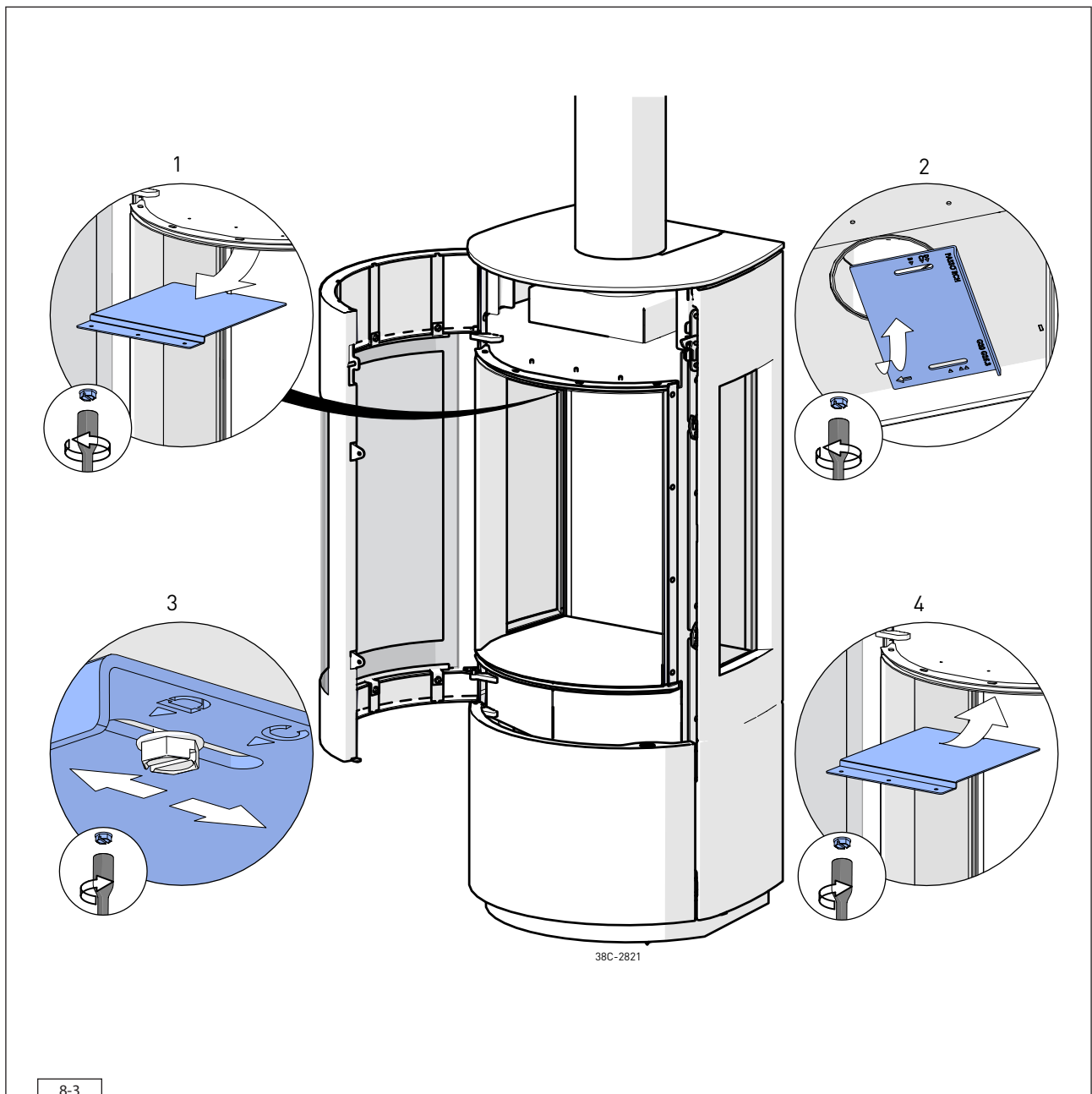
## 8.2 Adjusting the appliance

The appliance must be set up in such a way that it works correctly in combination with the smoke exhaust system. For that purpose, a restrictor slide is placed and/or the air inlet guide is removed. The conditions for use with wall and roof terminal are indicated in tables 7-3 to 7-5.

### 8.2.1 Restrictor slide

The restrictor slide is supplied separately. It is installed as follows (see fig. 8-3):

- Open the glass pane (see section 8.1.1)
- Remove the flue gas distribution plate (1).
- Unscrew the 2 pre-mounted self-tapping screws from the combustion chamber and place the restrictor slide. The restrictor slide partly falls over the hole of the exhaust pipe, do not yet tighten the self-tapping screws (2).
- ⚠ When being connected, the arrow on the restrictor slide should point to the left.
- Adjust the position of the restrictor slide by following situations B, C and D (see table 7-4). The letter for the position on the restrictor slide corresponds with the letter of the situation (see table 7-3 or 7-5).
- Make sure that the point of the triangle that indicates the correct position and the centre of the self-tapping screw are exactly aligned and tighten the 2 self-tapping screws (3).
- Reinstall the flue gas distribution plate (4).
- Reinstall the glass pane once the correct air inlet guide and wood set have been installed correctly (see section 8.1.2).

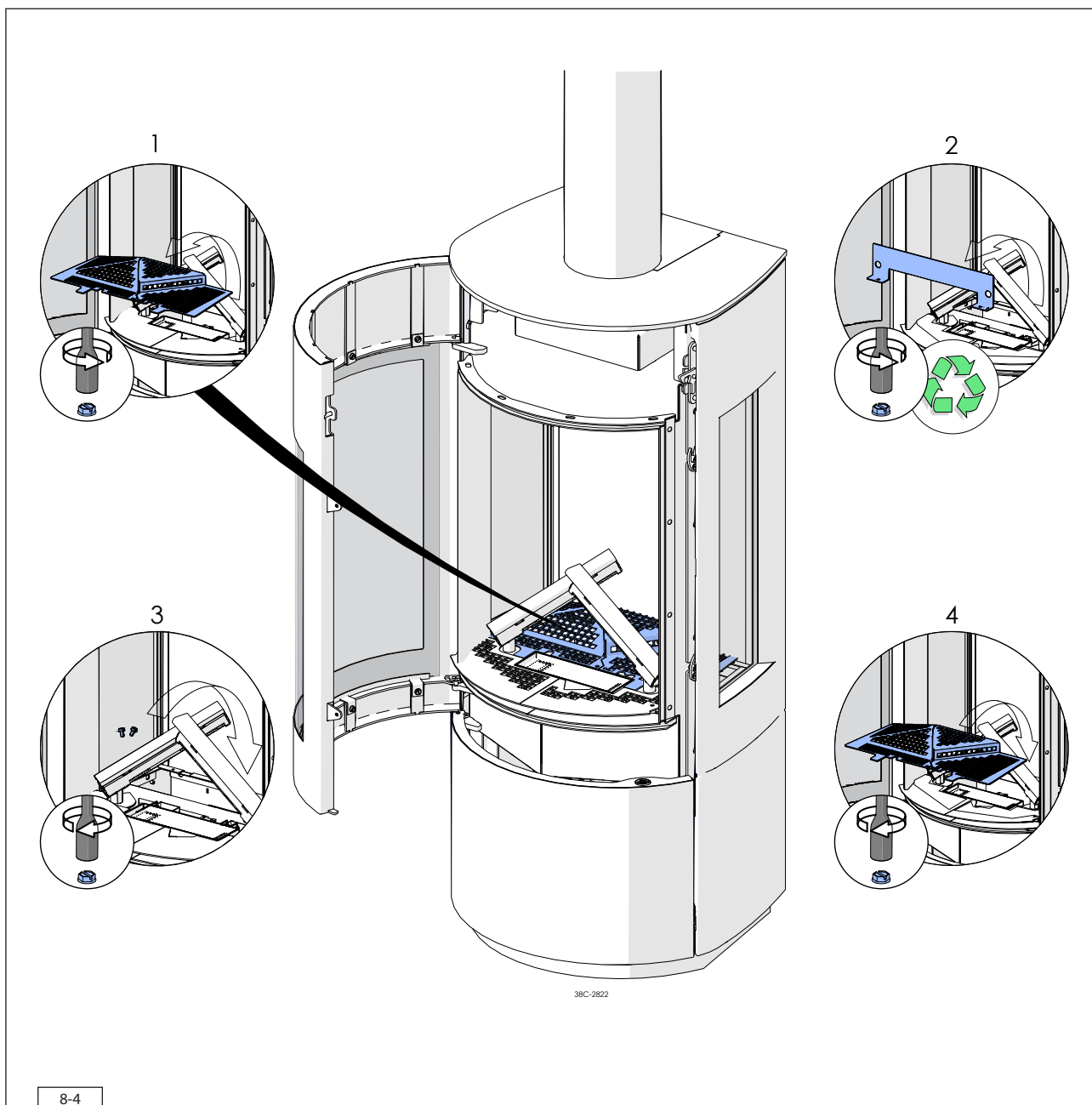




### 8.2.2 Air inlet guide

The appliance is supplied with mounted air inlet guide. When removing the air inlet guide, proceed as follows (see fig. 8-4):

- Open the glass pane of the appliance (see section 8.1.1).
- Unscrew the self-tapping screws from the two rear vermiculite plates (1) and remove them.
- Remove air inlet guide at the bottom rear of the appliance (2).
- The self-tapping screws must be placed back in the appliance (3).
- Screw the rear vermiculite plates back in place (4)
- Reinstall the glass pane once the wood set has been installed correctly (see section 8.3).



### 8.3 Wood set

The appliance is supplied with a wood set.

⚠ In the figures, the colour is not always shown correctly.

⚠ Observe the following instructions to prevent unsafe situations:

- Only use the supplied wood set.
- Place the wood set exactly according to the description.
- Keep the ionization and spark plug and the surrounding space free (see fig. 8-5 and 8-6).
- Make sure there is no vermiculite dust on the burner.

⚠ Place logs exactly as described, because otherwise:

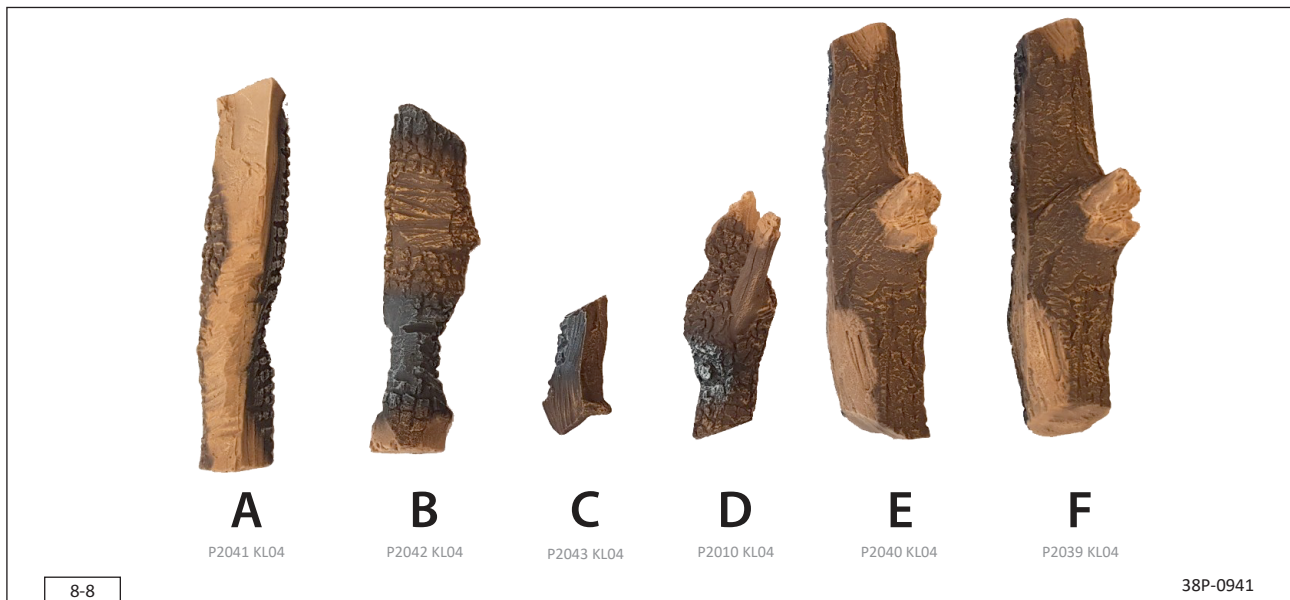
- The main burner will not ignite properly; which could result in unsafe situations.
- Contamination will occur much faster due to soot.
- The flame picture is disrupted.



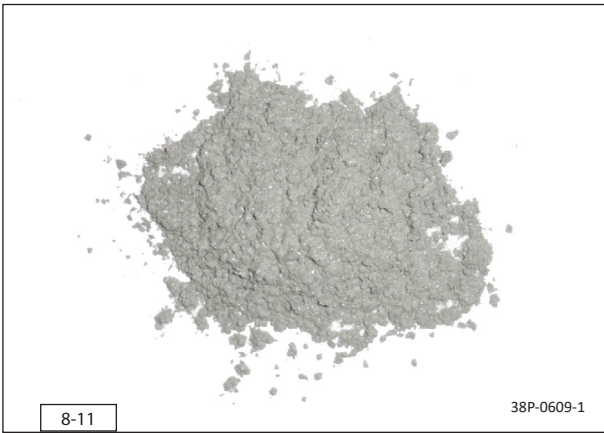
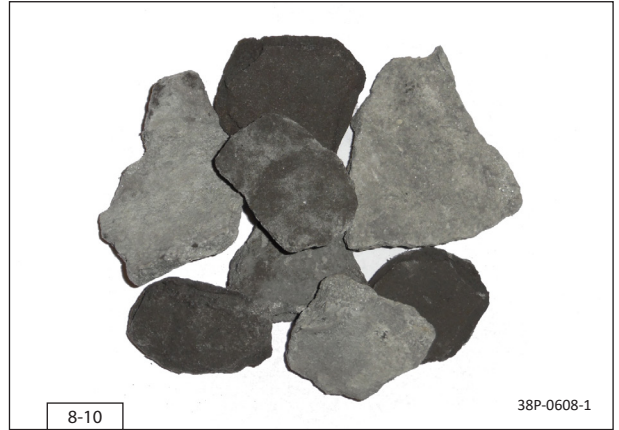
**8.3.1 Installing the wood set**

The wood set consists of a number of logs (see fig. 8-8), vermiculite (see fig. 8-9), chips (see fig. 8-10), ash (see fig. 8-11), glow stones (see fig. 8-12) and coals (see fig. 8-13).

- Fill the rectangular burner with vermiculite; spread the vermiculite evenly (see fig. 8-7).
  
- The flame picture can be altered by moving the vermiculite.
  - ⚠ - The vermiculite should not get higher than the edge of the burner.
  - The burner deck must however remain covered with vermiculite, so that the lifespan of the burner is not reduced.
- Identify logs A to F (see fig. 8-8).
  - 🔦 - Use the burn stains on the logs for identification.
  - Logs E and F are not the same.
  
- Place log A over the lower burner, allowing the front of the log to fall in the positioning recess and the rear to end up parallel against the elevation of the vermiculite plate (see fig. 8-14).
- Place log B with the rear against the elevation of the vermiculite plate and the front in the positioning recess of log A.
- ⚠ Log B should not make contact with the standing burner, leave a space of 1 cm.
- Place log C in the front left of the appliance, the front lies against the two pens, so that the rear rests on a pen.
- Fill the vermiculite plates with glow stones at the rear, spread the coals evenly on top of it and leave the sides free.
- Fill the vermiculite plates with chips at the front and sides, spread the chips evenly. Make sure that no chips end up over the edge and keep the areas that are marked red free.
- ⚠ The vermiculite plates are provided with square holes, these holes supply air. Do not place more than one layer of chips over these holes.
- Place log D in the rear right of the appliance, on top of the glow stones and coals, the front of log D will rest on log B.
- Place log E over the standing burner to the left (see fig. 8-15).
- Place log F over the standing burner to the right.
- If required, distribute the ash over the chips, prevent it from ending up on the burners.



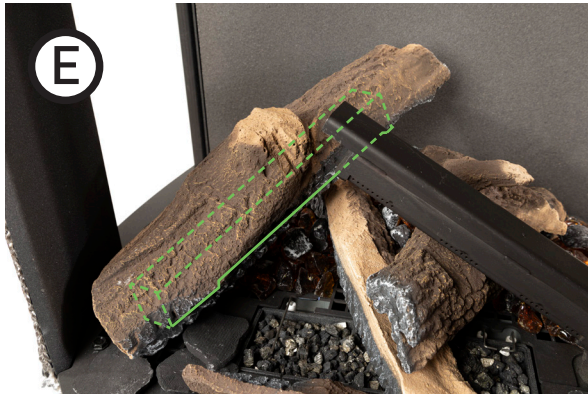






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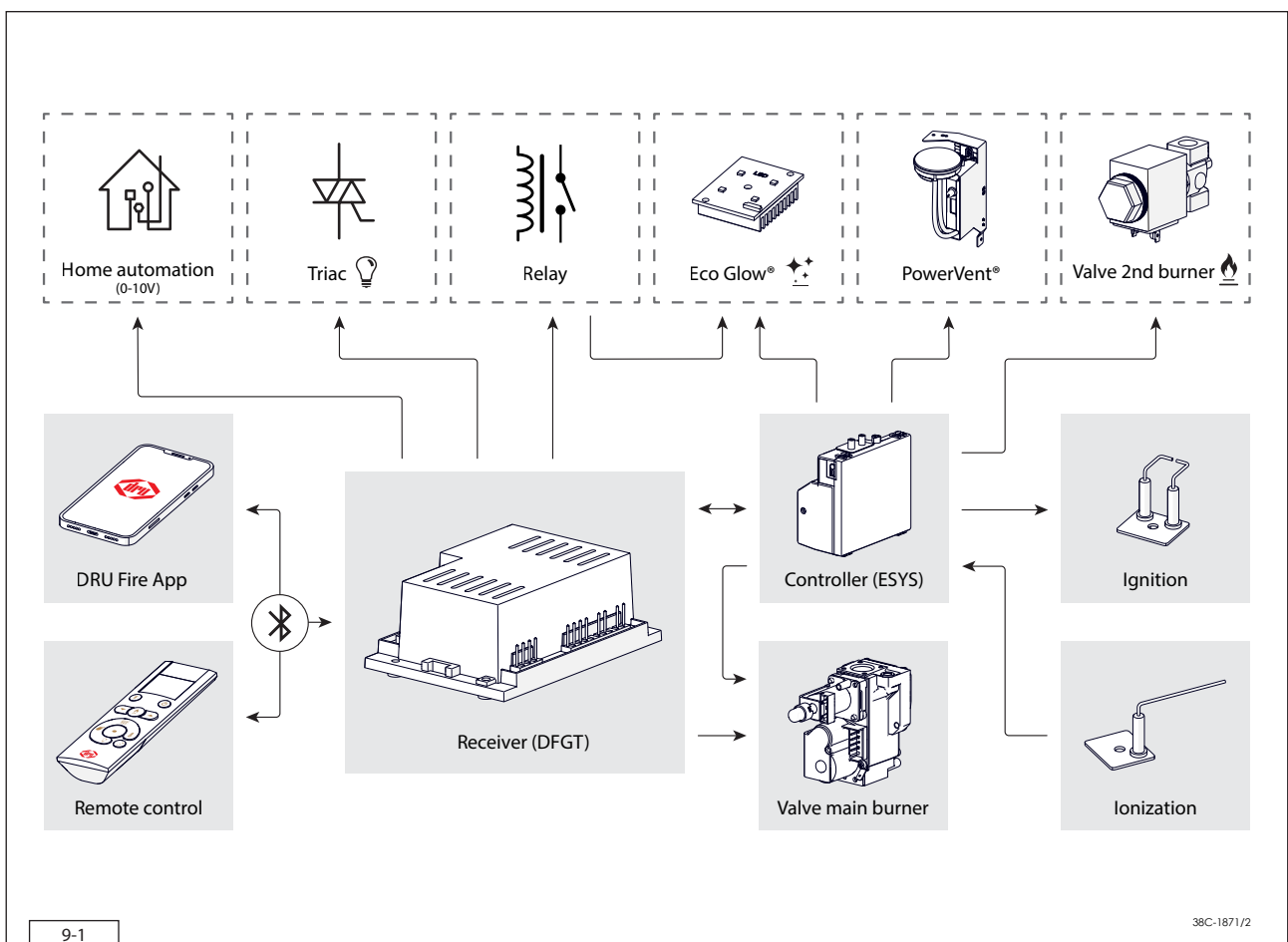
## 9. Control/operation

The appliance is supplied with a remote control. In addition, it is possible to operate the appliance via the DRU Fire App (available for iOS and Android). The user manual describes how the appliance is operated and how the remote control and DRU Fire App work.

The appliance can be operated by means of a home automation system, see section 9.6.

For the installer, there is a service menu in the DRU Fire App (available for iOS and Android) in which data of the appliance can be read (see section 9.5.3).

- ⚠ - Never ignite the appliance until it is fully installed in relation to the gas connections, discharge system and electrical components.
- For an appliance made with the CM system, the regulations from the accompanying installation manual shall also apply.



### 9.1 Igniting the appliance

Igniting the appliance takes place as follows: the appliance is switched on by means of an ignition command. This can be done by means of the provided remote control, the DRU Fire App (iOS and Android) or a home automation system. The receiver in the appliance gets the signal to start the ignition process. The valves in the gas control are switched on and a reduced amount of gas flows to the main burner. The ignition mechanism sparks for 15 seconds, as a result of which the main burner ignites.

In the case of a PowerVent® system, the module switches on after an ignition command, as a result of which the fan of the system starts up. During starting up, a waiting time of 8 seconds applies. After this the appliance will ignite as described above.

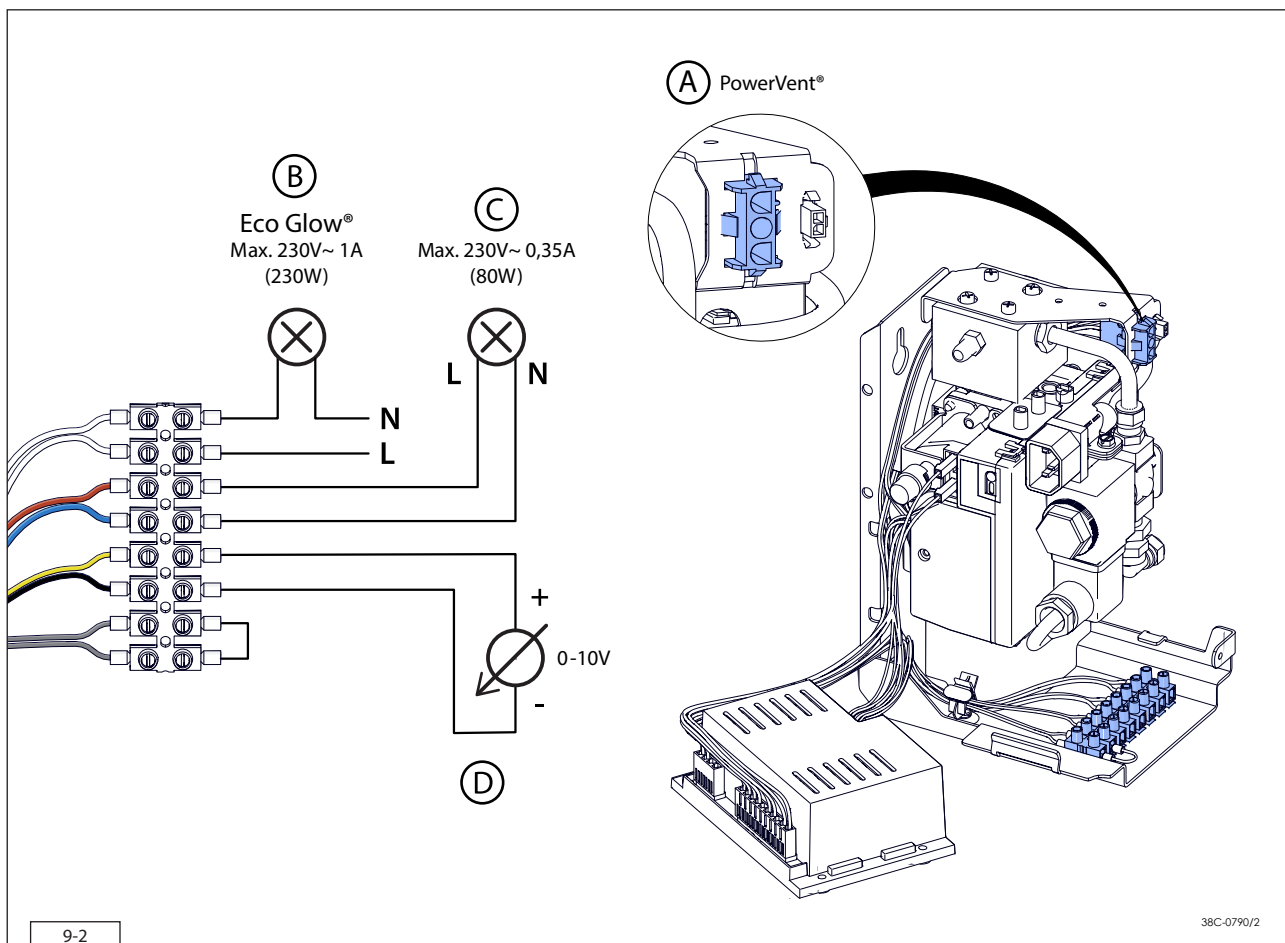
After ignition of the main burner (half the capacity), the ionization is measured to check for a correct and full ignition of the burner. When no ionization is detected after 15 seconds, the ignition cycle is interrupted and the appliance will enter into a failure condition.

When ionization is detected, the main burner will switch to full capacity. In case of an appliance with a switching second burner, the gas valve is now opened to allow the second burner to ignite (shortly before ignition a click sound can be heard). The appliance is now in manual mode, runs at full capacity and is now ready for operation.

The second burner can be switched on and off manually by means of the remote control and/or DRU Fire App. After the second burner is switched on manually, the main burner first switches to full capacity to ensure a correct ignition.



The control unit of the appliance performs a safety check on the system every 24 hours. It is possible that this check is performed while the appliance is in operation. In that case, the appliance will extinguish and ignite again. Repetition at this particular time can be prevented by removing the plug from the socket and inserting it again at a time when the appliance is rarely or never burning.





## 9.2 Connection switch contact (Eco Glow)

(if applicable)

Connection (B) is used for the Eco Glow glow lighting (see fig. 9-2 (B)). When the appliance is not made with Eco Glow glow lighting, this contact can be used for other purposes. It is a potential-free contact and may be loaded to a maximum of 230V~ 1A (230W).

## 9.3 Switching/Dimmable power supply (Triac)

(if applicable)

With connection (C), it is possible, for example, to switch the lamps of DRU lux element or a ventilation system (see fig 9-2 (C)). This can be done by means of the provided remote control or DRU Fire App. The App can also be used to dim this contact. The power supply of this connection may only be loaded with up to 230V~ 0.35A (80 Watt).

## 9.4 Operation

### 9.4.1 Remote control

Proceed as follows to make the remote control ready for use:

- Place two AA type batteries in the battery compartment of the remote control.
- 💡 After placing the batteries, the version number of the software on the remote control is briefly shown on the display.
- The display of the remote control now shows the message 'BND' and the Bluetooth symbol flashes. The remote control is now ready to be coupled with the appliance. See the user manual if the remote control is not in 'BND' mode.
- Make the appliance free from voltage for a short while by removing the plug from the appliance control unit and placing it back again.
- 💡 After briefly making the appliance free from voltage, it is possible to couple the remote control with the appliance for 5 minutes.
- Simultaneously press buttons 'ignition' and 'switch off' for 1 second.
- When coupling has been successful, the Bluetooth symbol lights up continuously and the current room temperature and possibility of ignition are shown.
- 💡 All functions of the remote control are explained in the user manual.

### 9.4.2 DRU Fire App - User

The DRU Fire App is available for both iOS and Android devices. Proceed as follows to couple the App with the appliance:

- 💡 There should always be an active coupling with the remote control before a device with App can be coupled with the appliance.
- Download the App and make sure Bluetooth is activated on the device to be coupled.
- Open the DRU Fire App and follow the steps in the App.
- 💡 For the thermostat function, the App will use the temperature sensor of the remote control. For a correct operation, the remote control should be within range and in the same room as the appliance.

### 9.4.3 DRU Fire App – Service

In addition to normal operation options, the App also has a service menu for dealers and service technician, in which the current status of the fire, the number of burning hours, the total number of error messages and the last 20 error messages can be read.

For this function you will need an account. For this, please contact DRU Customer Service.

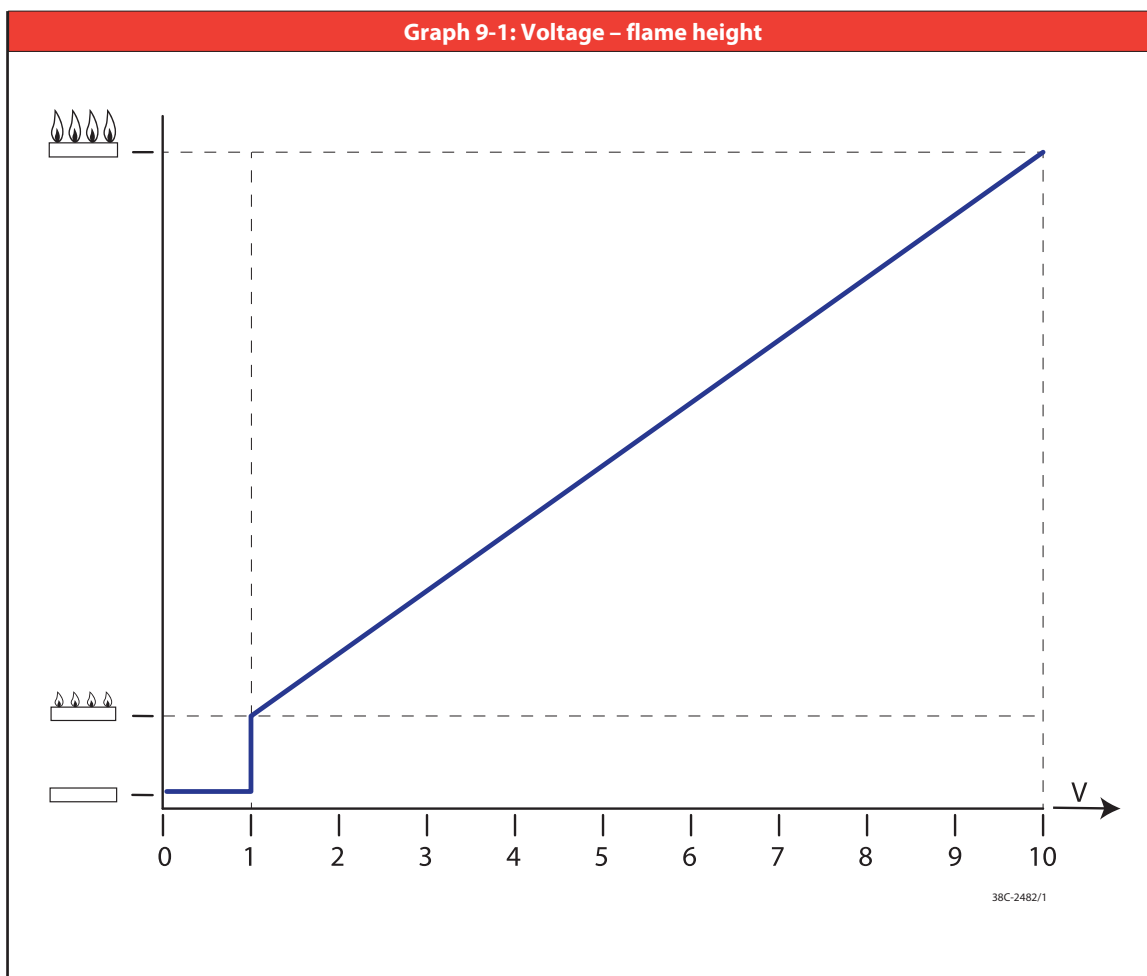
### 9.5 Wired home automation system

(if applicable)

In addition to operation by means of the remote control and DRU Fire App, the appliance can also be operated via an external source. A wired home automation system can be directly connected to the receiver (see fig. 9-2 (D)).

Wired connection of a home automation system to the receiver takes place via a 0-10V direct current (see fig. 9-2 (D)). By measuring the height of the voltage, the receiver knows to which position the appliance should be switched. Graph 9.1 shows the relationship between voltage, the height of the flame and the number of burners (1 or 2).

- ⚠ A higher voltage than 10V will damage the receiver and is therefore not permitted.
- Proceed as follows when connecting the home automation system to the receiver:
- Connect the 0-10VDC signal to connection (D), to which a black and yellow wire are connected (see fig. 9-2 (D)).
- ⚠ The yellow wire is the + pole, the black wire is the - pole. Always connect '- to -' and '+ to +'.
- Activate home automation in the service menu of the DRU Fire App before using it by changing the parameters of function '42003 Activate home automation' from 0 to 14.
- 💡 When the appliance is controlled by means of a home automation system, operation can be taken over by the remote control and/or DRU Fire App at any time. After having been taken over by the remote control and/or App, the home automation system should be reset to the zero position (0V) to allow operation of the appliance with this system again.



Off
 



 Low output
 




 Full output
   
 Main burner



## 10. Final check

For a good and safe operation of the appliance, the following checks must be performed prior to commissioning.

### 10.1 Gas tightness

- ⚠ All connections must be gas tight. Check the connections for gas tightness. The gas control can be subjected to a maximum pressure of 50 mbar.

### 10.2 Gas pressure/line-pressure

The burner pressure is set at the factory; see data plate.

- ⚠ The line-pressure in domestic systems must be checked, because it can be incorrect.
- Check the line-pressure. See fig. 6-1 (P1) for the measuring nipple on the gas control.
  - Contact the gas company if the line-pressure is too high.
  - If the line-pressure is too low, check this at the gas meter. Contact the gas company if the line-pressure is also too low at the gas meter.

### 10.3 Ignition main burner

For igniting the main burner, see the user manual.

#### 10.3.1 First ignition of the appliance after installation or adjustments

- ⚠ - Limit the ignition attempts with mounted glass pane to a MAXIMUM of 1 ignition attempt. Make sure there is no more gas present in the appliance, before a new ignition attempt is made.
- If the appliance does not ignite after three failed attempts, it will enter into a hard lock-out for 30 minutes in order to avoid a dangerous accumulation of gas. Make sure there is no more gas present in the appliance, before a new ignition attempt is made.
- If necessary, bleed the gas pipe.

Proceed as follows:

1. Always keep a safe distance.
2. Ignite the appliance by means of the remote control or DRU Fire App. See section 9.1 for a step-by-step description of the ignition process. (Go to step 11 if the burner continues to burn).

If the main burner does not ignite:

3. Reset the system by means of the remote control or DRU Fire App.
4. Repeat the ignition procedure until the main burner ignites successfully.

Consult the diagram with error messages when ignition fails after a number of attempts (see appendix 1: Malfunctions).

5. Check the flame transfer on the main burner and check that the main burner continues to burn (go to step 11 if the burner continues to burn).

If the main burner does NOT continue to burn:

6. Reset the system by pressing the buttons 'Ignition' and 'switch off' on the remote control simultaneously.
7. Now ignite the main burner and check that it continues to burn (go to step 11 if the burner continues to burn).

If the main burner again does NOT continue to burn:

8. Switch off the appliance.
9. Consult the diagram with error messages (see appendix 1: Malfunctions) (Go to step 1 once the malfunction has been resolved).


If the main burner DOES continue to burn:

10. Clean the glass pane after taking into operation for the first time, as described in the user manual. Then mount the glass pane as described in section 8.

11. Repeat the ignition procedure a few times and perform checks as described in section 10.3.2.


12. The main burner should ignite smoothly at each attempt and should continue to burn.

13. Clean the glass pane after burning for the first time, as described in the user manual.


 Wait 5 minutes before you re-ignite the appliance.


When stoking up for the first time, set the appliance at full position. When the appliance is stoked up, the flame picture can be affected and an unpleasant smell may occur as volatile components evaporate. This process may take a number of hours. Properly aerate the room and remove pets from the room (see section 3 of the User Manual).

### 10.3.2 Procedure for igniting the main burner

-  - The spark plug should ignite the main burner(s) within a few seconds and without popping.
- The main burner(s) must smoothly transfer the flame to the entire burner without popping and continue to burn.
- If the appliance does not ignite after 2 restarts and enters hard lock-out, it may never be reset by disconnecting the appliance from the power supply. If a restart is necessary after all: remove or open the glass pane and make sure the gas is able to escape from the appliance. After this, make the appliance free from voltage for 10 sec. After these 10 sec, the power supply may be reconnected.

Ignite the appliance in the same way as the first ignition, as indicated in section 10.3.1.

 Check the function of the main burner starting from a cold condition.

 If sparks are observed between the spark plugs, the main burner should burn within a few seconds.

 If NO sparks are determined, it is NOT permitted to continue the procedure.

Consult the diagram with error messages (appendix 1: Malfunctions) if the ignition of the main burner does not meet the above-mentioned requirements.

 The flame picture and a good flame transfer can only be properly judged if the glass pane is installed or closed.

### 10.4 Flame picture

The flame picture can only really be assessed once the appliance has been burning several hours. Volatile components from paint, materials, etc. that are vaporised during the first hours affect the flame picture.

 Check that the flame picture is in order.

 Consult the diagram with error messages (appendix 1: Malfunctions) if the flame picture is not correct.

## 11. Delivery

During delivery, familiarise the user with the appliance and its operation. The user manual explains all aspects that are relevant to the user step by step, but this will never surpass a careful and personal instruction.

- ⚠ Tell the user to close the gas tap immediately and contact a competent installer in case of malfunctions/poor operation. This to prevent unsafe situations.
- Provide the user with instructions for the appliance, remote control and DRU Fire App.
- Give the manuals to the user (all manuals should be stored near the appliance).
- Important aspects for the benefit of the user's safety that the user must be familiarised with:
  - Opening and closing the control hatch
  - The operation and location of the gas tap
  - The location of the 230 Volt connection
- Inform the user about the following:
  - In order to prevent cracks, a chimney breast made of stone-like materials or finished with plaster, must dry at least 6 weeks prior to taking the appliance into operation
  - Cleaning the glass pane(s)
  - In case of delivery of an appliance equipped with a DRU CM system, the Installation Manual will contain additional information about this

## 12. Maintenance

Once per year, the appliance must be checked, cleaned and, if necessary, repaired by a competent installer in the field of gas heating and electricity.

- ⚠ - Close the gas tap prior to starting maintenance work.
- Make the appliance free from voltage prior to starting maintenance work.
- Check the gas tightness after repair.
  
- ⚠ Under no circumstances may a stainless steel concentric system be cleaned (internally) with a steel brush or metal sponge, for example. This will damage the oxide skin, as a result of which pit corrosion and/or system leakage could occur.
  
- Clean the glass pane(s), if necessary.
  
- ⚠ - Only clean a glass pane once it has reached room temperature.
- Never use the appliance in case of a broken and/or cracked glass pane.
  
- ⚠ - Avoid damage to the glass pane(s).
- Avoid/remove fingerprints on the glass pane(s), as these can burn into the glass.
- Clean the glass pane(s) as described in the user manual.
- Regularly remove accumulated dirt, as it can burn into the glass.
  
- Inspect the flue gas discharge system.
  
- ⚠ You must always perform a final inspection.
- Perform the inspection as described in section 10.

### 12.1 Parts

Parts to be replaced are available via the DRU service website, dealer or importer.

Appendix 1: Malfunctions

Malfunctions			
Error code	Problem	Possible cause	Remedy
BND	No communication between remote control and receiver (DFGT)	Remote control and receiver have not been coupled	Couple the remote control with the receiver
		Remote control defective	Replace remote control
F01 E00	Communication loss between receiver (DFGT) and controller (ESYS)	Communication cable does not make contact	Properly connect the communication cable
		Communication cable defective	Replace communication cable
F01 E00	Malfunction Eco Glow® component(s)	Defective LED unit	Replace LED unit
		Defective LED driver	Replace LED driver
F02 E00	Receiver (DFGT) overheated (>70°C)	Poor ventilation at receiver	Improve ventilation at receiver
		Receiver makes contact with hot parts	Remove contact between the receiver and hot parts
F03 E00	Malfunction NTC sensor	NTC sensor incorrectly connected	Connect the NTC sensor in the correct way
		NTC sensor defective	Replace the NTC sensor
F05 LOST	Communication loss between transmitter and receiver (DFGT)	Remote control is out of the receiver's range	Bring the transmitter within the range of the receiver
		Obstacles between remote control and receiver	Remove obstacles between transmitter and receiver
		Transmission strength is too weak	Check transmission strength (see User Manual chapter 5.2)
F08 E01 E27	No ionization	No sparks	Check the distance between the electrodes (3-4 mm)
			Replace the electrodes
		No gas	Check gas supply
			In case of PowerVent®: check that gas valve opens
		Poor flame transfer main burner	Check the positioning of the logs and/or chips
			Remove dust that is present from burner openings
		No good flame under ionization pin (suffocating flame)	Check that the glass pane(s) is/are mounted correctly
			Mount the restrictor and air inlet guide as described
			In case of PowerVent®: Check pressure settings
F08 E01 E02 E27	No ionization / false ionization	Ionization pin positioned incorrectly	Position in the correct way
		Ionization pin blocked	Measure ionization current > 0,8 < 1,8 µA Remove possible blockage with vermiculite and/or chips
		Ionization pin defective	Measure ionization current Replace ionization pin when 0 µA



Malfunctions			
Error code	Problem	Possible cause	Remedy
F08 E03	High limit error	High limit bridge defective	Place High limit bridge on the controller
	Door switch does not connect through	Door is not fully closed	Close the door
		Switch is not correctly adjusted	Adjust the switch
		Switch defective	Replace the switch
F12 E12	EEPROM error	Controller defective	Replace controller
F12 E13	Appliance is in lock-out	6 reset attempts within 15 minutes	Can be reset after 30 minutes
F13 F14 E01 E27	Flame loss (no ionization) Only main burner (F13) / Main burner + 2nd burner (F14)	Short circuit on the ionization pin	Make the ionization pin free from chips, vermiculite or glow material
		Ionization current critical (18 µA)	Increase ionisation current to $\geq 1,8 \mu\text{A}$ by rearranging vermiculite and removing chips and dust from the burner openings
		Suffocation in the concentric system	Check the concentric system
			Check the setting of the appliance
		Suffocation when using PowerVent®	Check the pressure setting of the PowerVent® system
		24 hour check control (only F13)	Reset with remote control
		Gas has fallen away	Restore the gas supply
		Gas control defective	Replace the gas control
F15 E04	APS malfunction	APS bridge defective	Place APS bridge on the controller
	Fan PowerVent® does not start, appliance does not spark	Fan is defective and/or connected incorrectly	Replace the fan and/or connect wiring correctly
	Fan PowerVent® does start, appliance does not spark	Leaking differential pressure hoses	Replace/repair connections and/or hoses
		Differential pressure sensor defective	Replace differential pressure sensor
		Control signal cable defective	Replace the control signal cable
		Defect and/or leak in the concentric system	Check the concentric system for leaks and defects. Repair if necessary
F15 E09	No connection between control (ESYS) and gas control	Controller shot loose/mounted incorrectly	Mount controller correctly
		Controller mounted incorrectly	Mount controller correctly
		Pins on the connector on the gas control are bent	Bend them straight
F15 E99	Error in wire connection	Controller connected incorrectly	Connect the wiring of the controller correctly
F16 E21 E25	Hardware Error controller (ESYS)	Controller defective	Replace controller
F17	Hardware Error controller (ESYS)	Controller defective	Replace controller
F18 E30	Controller (ESYS) is not released	Controller is in hard lockout	After 30 min. with mains voltage on the appliance, F18/E30 can be reset





