



Maestro 80/2 RCH (LED) Maestro 80/3 RCH (LED)

G20/G25/G25.3 (Natural gas), G30 (Butane) and 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 chimney breast complies with the imposed fire safety requirements (see section 7.4)
- The chimney breast complies with the minimum dimensions and has been provided with sufficient ventilation (see section 7.4)
- The control hatch with the appliance control unit has been installed in accordance with the instructions (see section 7.5)
- 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)
- When igniting for the first time with glass pane, the appliance ignites correctly and the flame progress on the main burner is correct (see section 10.3.1)
- The user has been familiarised with the appliance and its functions (see section 11)

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.drufire.com.

Product:	Gas-fired heating appliance
Type:	Maestro 80/2 RCH (LED), Maestro 80/3 RCH (LED)
Product identification number:	0063CQ3299
EU test certificate:	18GR0159/02
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

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Signed for and on behalf of:



R.P. Zantinge, Managing director

Duiven, 05-10-2022

4. Technical data

Check the technical data based on the table below.

Table 4-1: Technical data						
Model identifier(s)	Maestro 80/2 RCH (LED), Maestro 80/3 RCH (LED)					
Type of appliance	Built-in					
Combustion	Closed combustion					
Type	C11, C31, C91, C12, C32*****					
Categorie	I _{2E+} , I _{2E+} , I _{2EK} , I _{2ELL} , I _{2H+} , II _{2H3+} , II _{2E+3+} , II _{2H3B/P} , II _{2E3B/P} , II _{2EK3B/P}					
Concentric appliance connection	200/130					
Applicable concentric systems	DRU LAS ES-I 200/130, DRU LAS ES-E 200/150/100, DRU LAS ES-I 150/100, DRU PV-I 100/60					
Flame protection version	Separated ignition / ionization plugs					
Pressure equalisation	Explosion hatch					
Max. temp. outer tube concentric system	160°C					
Radiation range safe distance (front/side)	800 mm					
Ventilation hole chimney breast	V-in: 80 cm ² (Eco Glow; 2 x 80 cm ²) / V-out: 200 cm ²					
Gastype:	Symbol	G25/G25.3*	G20	G30	G31	Unit
Indirect heating functionality		No	No	No	No	
Direct heat output		8,6	9,0	9,0	7,8	kW
Indirect heat output		-	-	-	-	kW
Space heating emissions NO _x		111,0	118,4	110,7	91,0	mg/kWh _{input} (GCV)
Heat output						
Nominal heat output	P _{nom}	8,6	9,0	9,0	7,8	kW
Minimum heat output (indicative)	P _{min}	1,3	1,4	1,6	1,4	kW
Technical data						
Nominal heat input (Hs)		11,4	12,0	12,7	11,2	kW
Nominal heat input (Hi)		10,3	10,8	11,7	10,3	kW
Consumption max		1223	1140	358	415	L/h
Consumption min		209	218	69	80	L/h
Burner pressure max		18,7	14,7	26,5	26,9	mbar
Burner pressure min		4,2	4,7	10,1	10,4	mbar
Main burner injector		2x Ø1,65 1x Ø1,55	2x Ø1,65 1x Ø1,55	2x Ø1,10 1x Ø1,00	2x Ø1,10 1x Ø1,00	mm
Low setting injector		A****	A****	A****	A****	mm
Efficiency class (EN613)		1	1	1	1	
Useful efficiency (NCV)**						
Useful efficiency at nominal heat output	η _{th,nom}	91,6	93,0	89,6	88,6	%
Useful efficiency at minimum heat output (indicative)	η _{th,min}	71,4	72,0	88,5	88,3	%
Auxiliary electricity consumption						
At nominal heat output	e _{l,max}	0,0236	0,0236	0,0236	0,0236	kW
At nominal heat output	e _{l,min}	0,0125	0,0125	0,0125	0,0125	kW
In standby mode	e _{l,SB}	0,0026	0,0026	0,0026	0,0026	kW
Permanent pilot flame power requirement						
Pilot flame power requirement (if applicable)	P _{pilot}	-	-	-	-	kW
Energy efficiency***						
Energy efficiency index	EEl	91	93	89	89	
Energy efficiency class		A	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. ***** Categories C12 and C32 only in combination with DRU PV-1 100/60 (PowerVent®).

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 (if applicable)	1x
Glow material	1x
Restrictor slide	1x
Air inlet guide	1x
Remote control	1x
Mains cable	1x
Control hatch	1x
Wall bracket	1x
Assembly set platform	Separately available
Mantle iron	Separately available
Back-up self-tapping screw for benefit of glass pane assembly	nx
Key bolt M8 (including: Hexagonal nut M8 and Washer M8)	4x
Compression fitting 15 mm x G3/8"	1x
Socket spanner 8 mm	1x
Allen key 2.5 mm	1x
Suction cup (only Maestro 80/2 RCH)	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 outlet

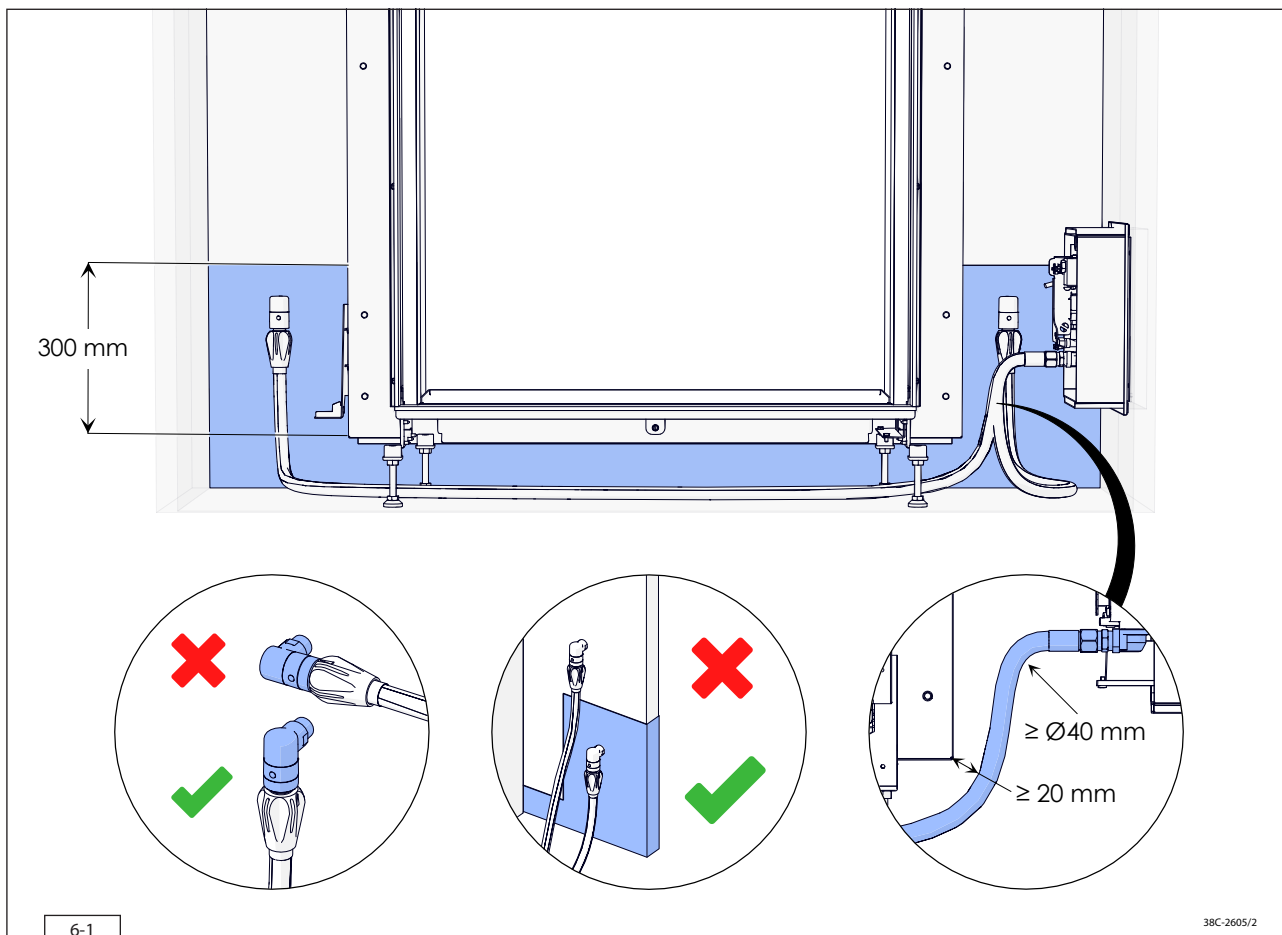
If legally permitted, a gas hose for a gas outlet (according to EN14800) can be ordered with the appliance in various lengths (consult DRU Service for this). The gas hose is mounted to the appliance at factory and has been checked for leak-tightness.

- ⚠ - 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 observed between gas hose and appliance.
- The gas hose must be placed as low as possible in the chimney breast. Place it as far away from the burner as possible.
- The input of the appliance control unit points towards the appliance. Due to the bend radius of the gas hose, the chimney breast width becomes larger on the side of the control hatch.

6.4 Electrical connection

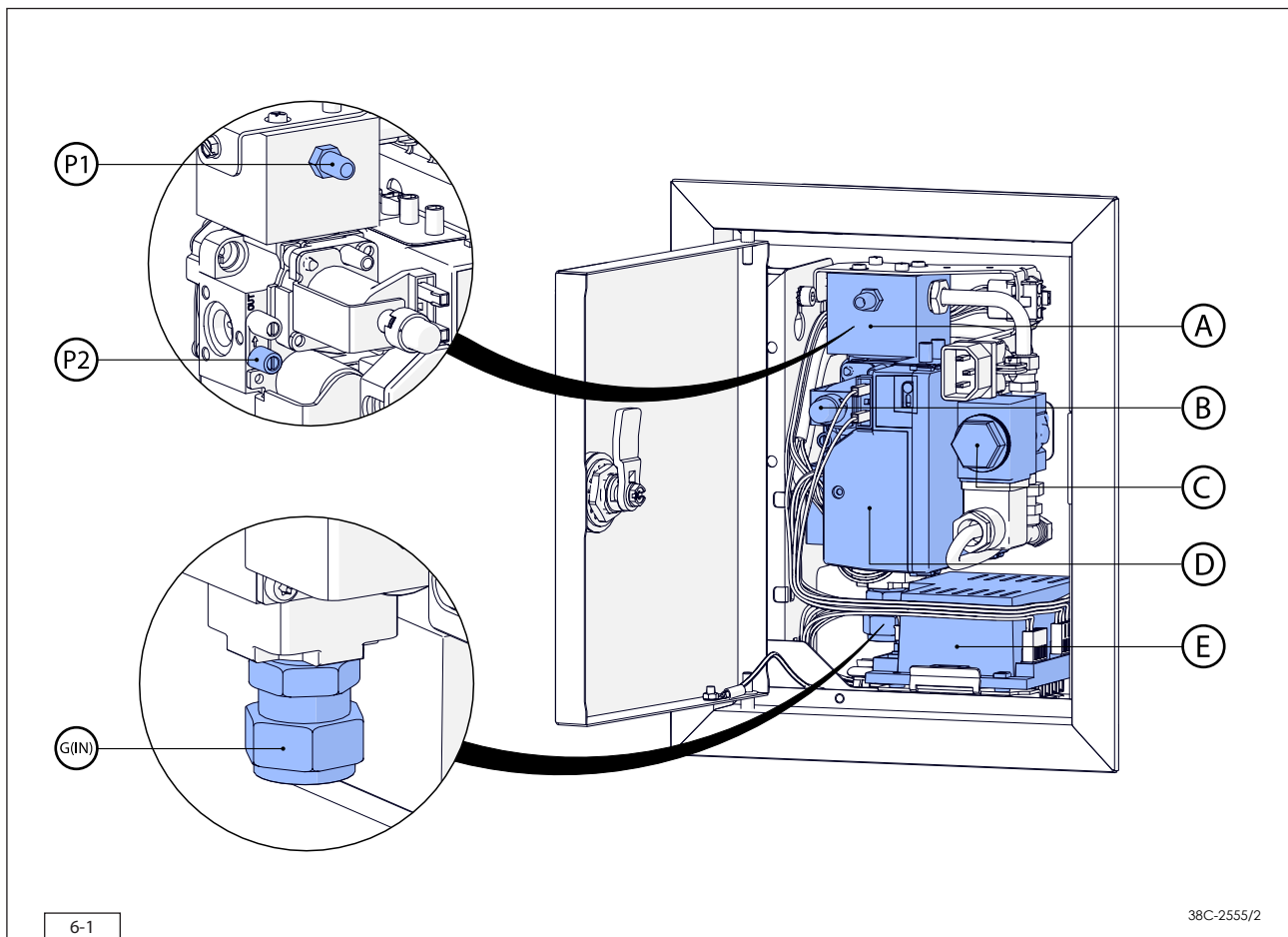
Ensure a 230 Volt earthed electrical connection. Place this connection in such a way that it is free from the appliance. When using a chimney breast, the connection should be placed as low as possible, in connection with the temperature development during use.

- ⚠ 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):



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

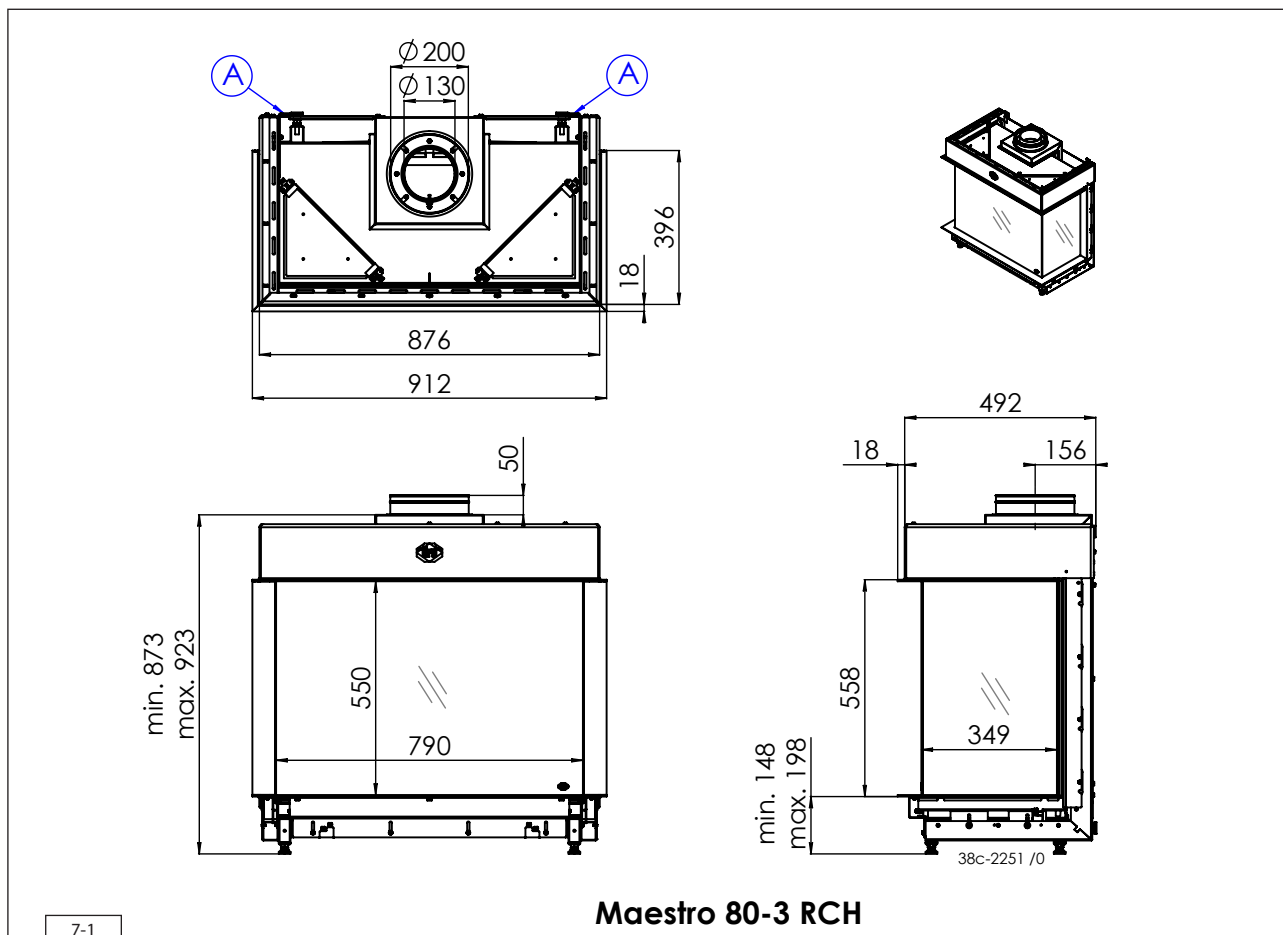
G_(IN): Gas connection; connection from the gas control to the gas network

7 Installation

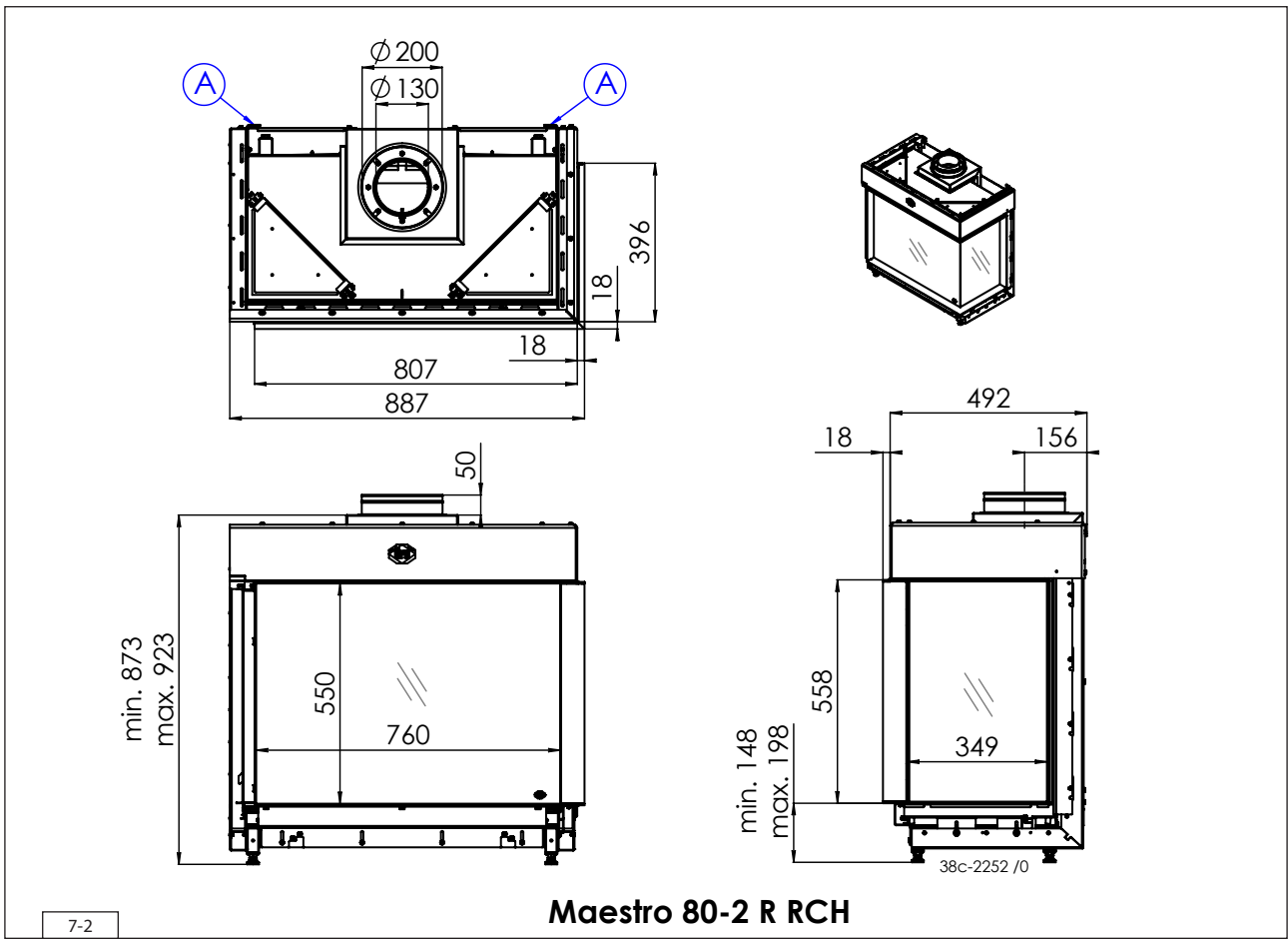
7.1 Placing the appliance

Separate sections describe different ways of placing the appliance. The general description below for placing the appliance applies to all these sections:

- Place the appliance on the location where it will be installed and take the following into account:
 - ⚠ - The construction dimensions of the appliance (see fig. 7-1 and 7-2).
 - The minimum chimney breast dimensions (see section 7.4).
 - The length of the cables and pipes (see section 7.4).
 - Place the appliance in front of heat-resistant and non combustible walls and on a heat-resistant and non combustible floor.
 - The wall brackets on a built-in appliance ensure that the minimum distance to the wall is maintained (see fig. 7-1 (B)).
 - Take sufficient measures to prevent excessive temperatures of a possible wall behind the chimney breast, including the materials and/or objects behind the wall.
 - Make sure there are no combustible objects or materials within the radiation range of the appliance (see fig. 7-12).
 - 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.
 - Make sure that the appliance to be installed has a stable position. Fasten possible extending legs with the self-tapping screws.
- Set the height of the appliance using the adjustable feet and level the appliance.
- Attach the appliance to the wall using wall brackets (see fig. 7-1 (B) and fig. 7-2 (B)).
- Loosen the appliance control unit with transport bracket from the appliance, by loosening the self-tapping screws and screw the self-tapping screws back in the appliance.
- Place the appliance control unit, together with the wiring of the ignition/ionization cable(s), the flexible gas hose(s) and the data plate with chain in the direction of the control hatch (see section 7.5).
- ⚠ - Ensure the cables of the ionization and ignition pins are lying free from metal parts as much as possible and are lying fully free from signal and voltage cables.
- The data plate must remain attached to the appliance by means of the chain at all times.



Maestro 80-3 RCH



7-2

Maestro 80-2 R RCH

7.1.1 Standing installation of the appliance

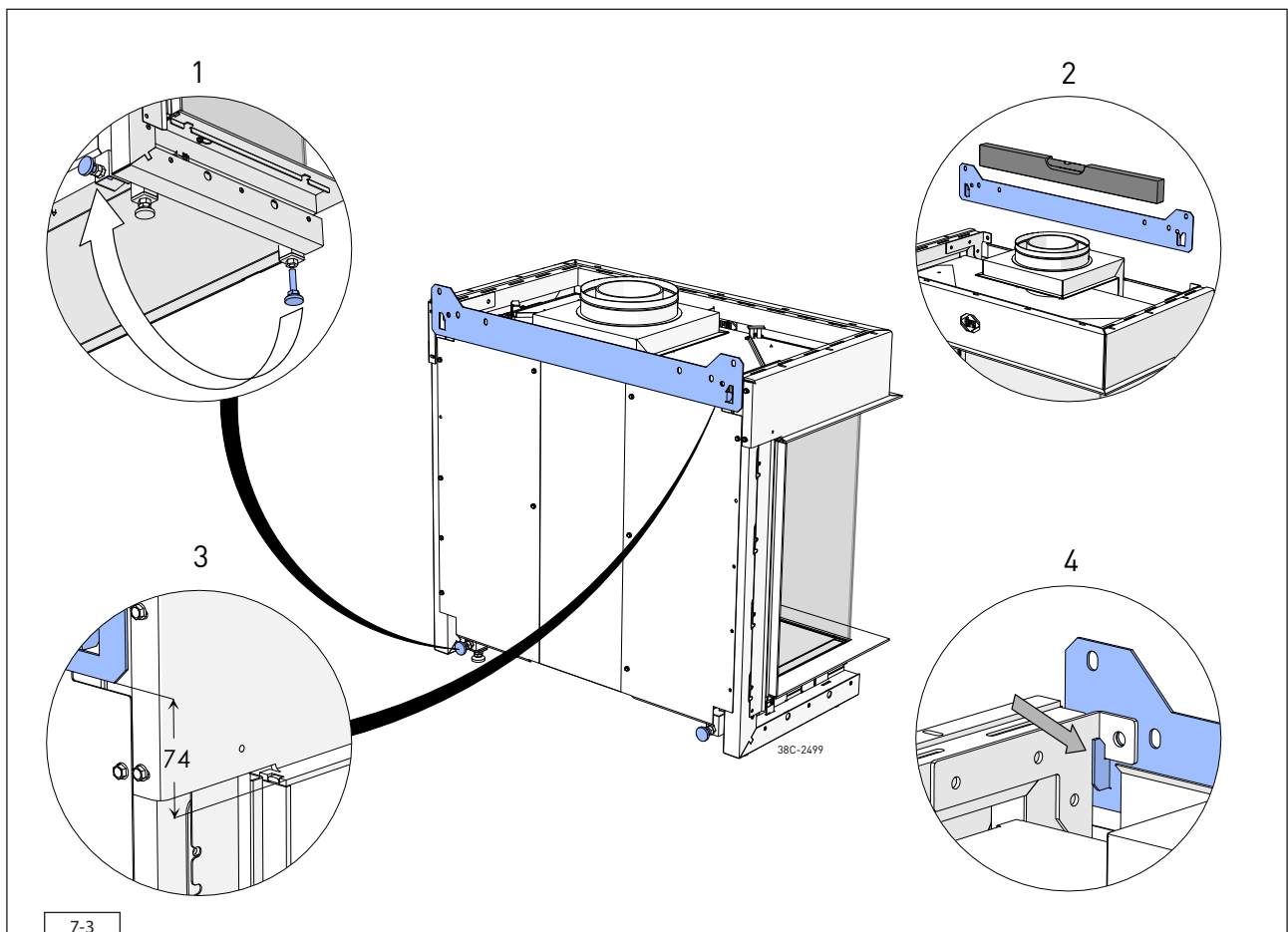
In case of a standing installation of the appliance, observe the following instructions:

- Set the height of the appliance using the adjustable feet and level the appliance.
- Attach the appliance to the wall using wall brackets (see fig. 7-1 (A) or 7-2 (A)).

7.1.2 Suspended installation of the appliance

In case of a suspended installation of the appliance, observe the following instructions:

- Determine the location and height of the appliance (see fig. 7-1 or 7-2) and the control hatch (see fig. 7-14)).
- Attach the suspension bracket to the wall using the supplied key bolts (see fig. 7-3).
- ⚠ Attach the appliance to a vertical wall of solid, non combustible and heat-resistant material.
- Use the slotted holes of the suspension bracket to level the appliance.
- Unscrew the 2 adjustable feet (1) with lock nut from under the appliance and place them in the rear of the appliance.
- Place the appliance in the suspension bracket. Wall bracket hangs in the suspension bracket (see fig. 7-3(4)).
- Use the adjustable feet (1) to level the appliance vertically and lock them with the nut.



7.2 Additional installation options

The appliance can be placed with a platform. This can be done in combination with a lower decorative strip or with the platform connecting to the glass. The accompanying chimney breast can be used with or without a false wall (see fig. 7-4 and 7-5).

It is also possible to have the interior plate of the appliance continue to the outside. In that case, the chimney breast or other heat-resistant materials can be placed up to the side pane(s) (see fig. 7-6).

- ⚠ Do not allow the weight of the platform to rest on the appliance, use the assembly set instead. It can be ordered separately.

7.2.1 Platform combined with lower decorative strip

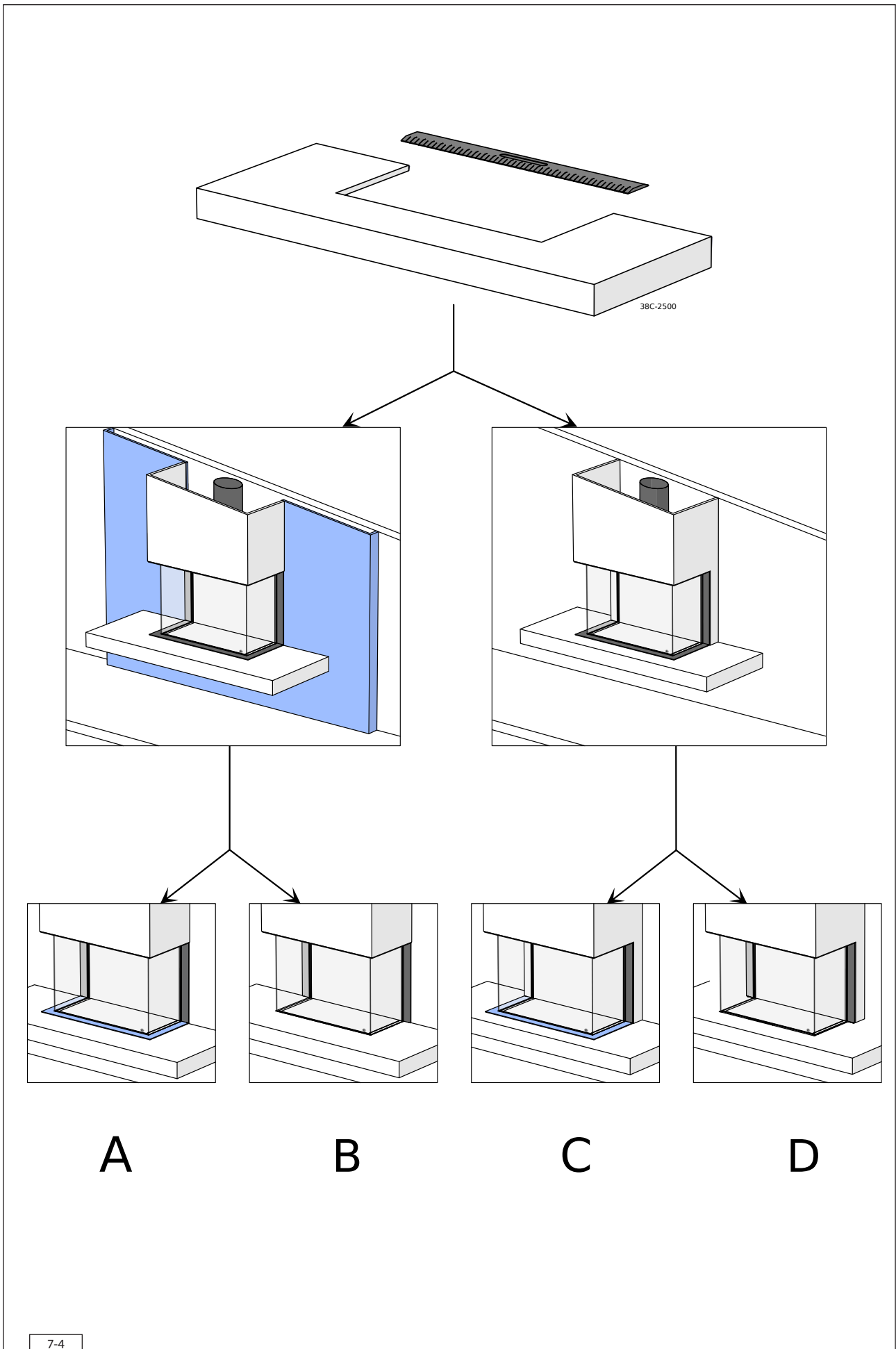
(see fig. 7-4 (A and C) and 7-5 (A and C))

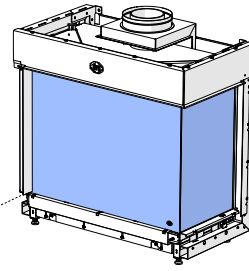
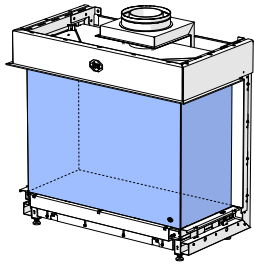
- Create a recess in the platform, in which the appliance will be placed. If a false wall is used, the recess will be less deep.
- Mutually adjust the height of the appliance and assembly set, so that the top side of the platform connects to the bottom side of the lower decorative strip.

7.2.2 Platform connecting to the glass

(see fig. 7-4 (B and D) and 7-5 (B and D))

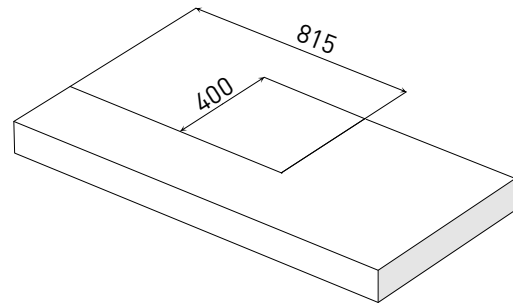
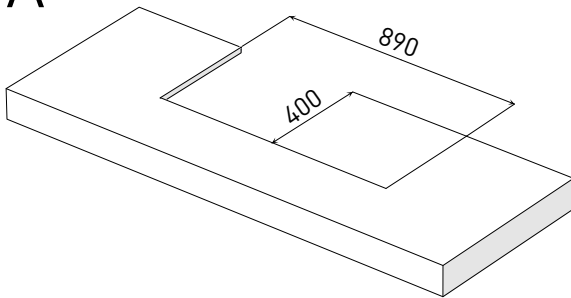
- Create a recess in the platform, in which the appliance will be placed. If a false wall is used, the recess will be less deep. Maximum material thickness is 30 mm.
- Remove the lower decorative strip (see fig. 7-6) by sliding it forward and taking it out. It will not be placed back.
- Remove the centring cam at the bottom of the decorative strip by cutting into it at the front and breaking it off. Make sure the bottom side of the decorative strip remains flat and resistant to corrosion.
- Loosen the nuts of the adjustable profiles by a few turns and adjust the profiles to the correct height. The height depends on the material thickness of the platform. For material thickness 20 mm and 30 mm, indicators have been applied. Re-tighten the nuts (see fig. 7-6).
- Mutually adjust the height of the appliance and assembly set, so that the bottom side of the platform connects to the adjustable profiles.
- ⚠ Do not allow the weight of the platform to rest on the appliance and/or the adjustable profile.
 - Make sure there is sufficient space between the platform and the springy glass pane strip in order to be able to remove/place the front glass pane. Use the end stops on both sides of the appliance.



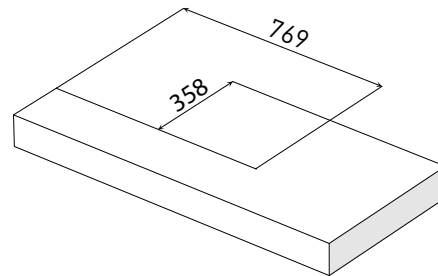
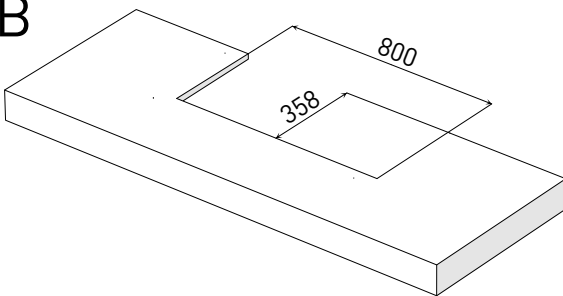


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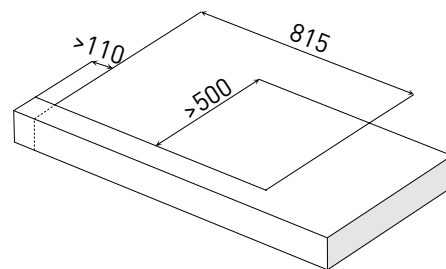
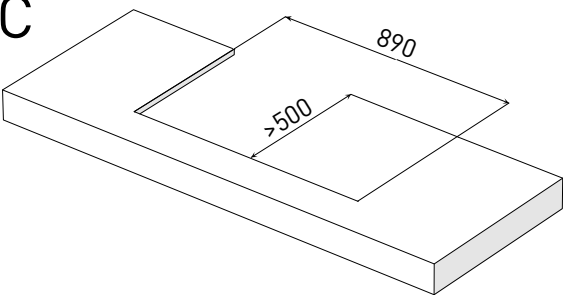
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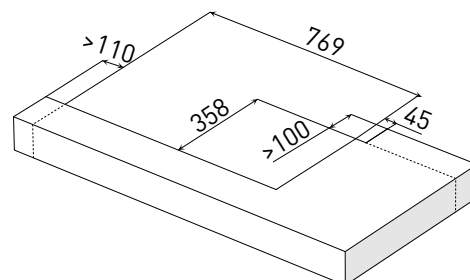
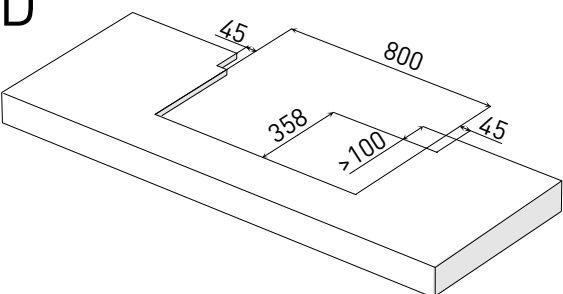
B



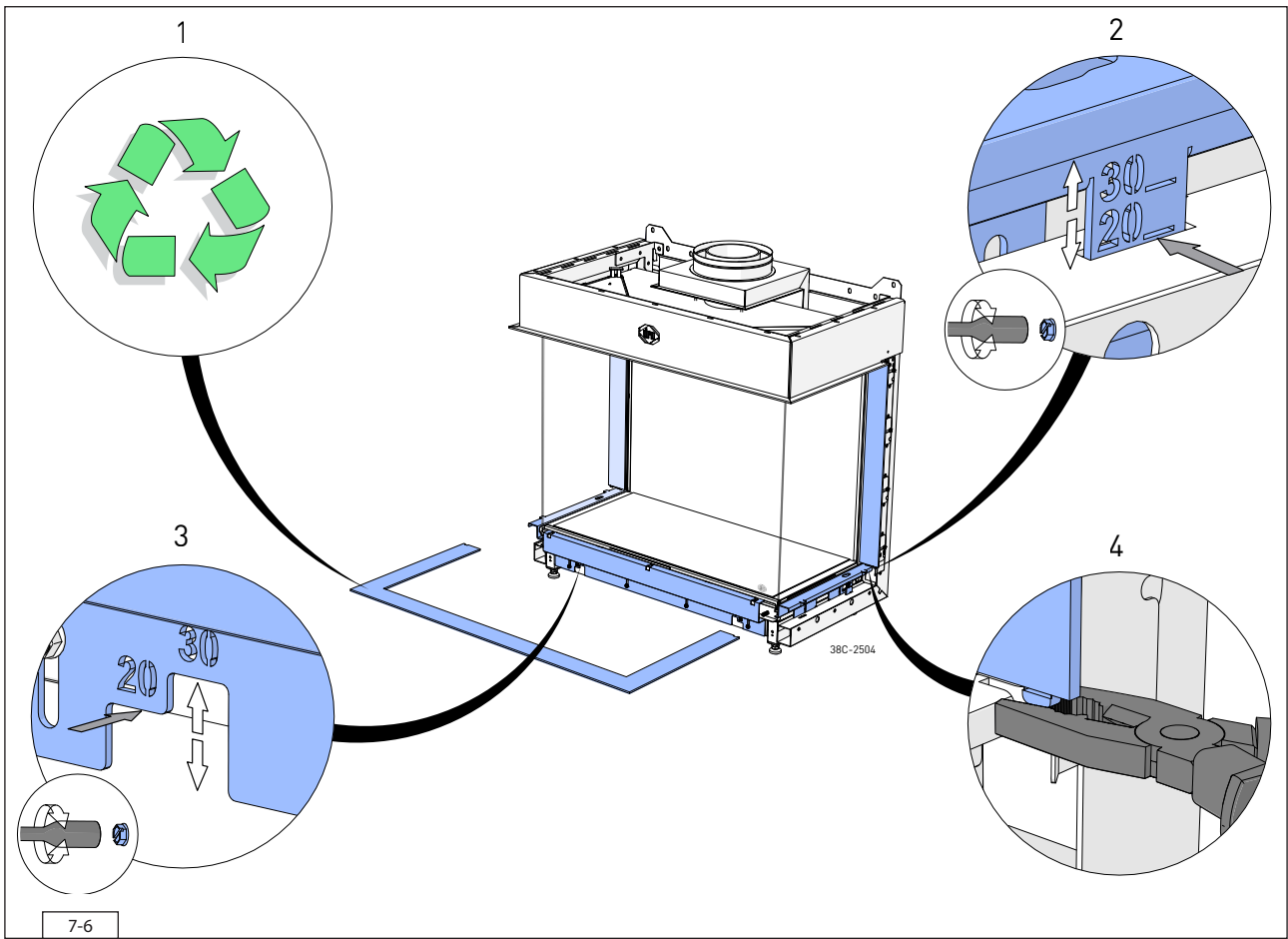
C



D



7-5



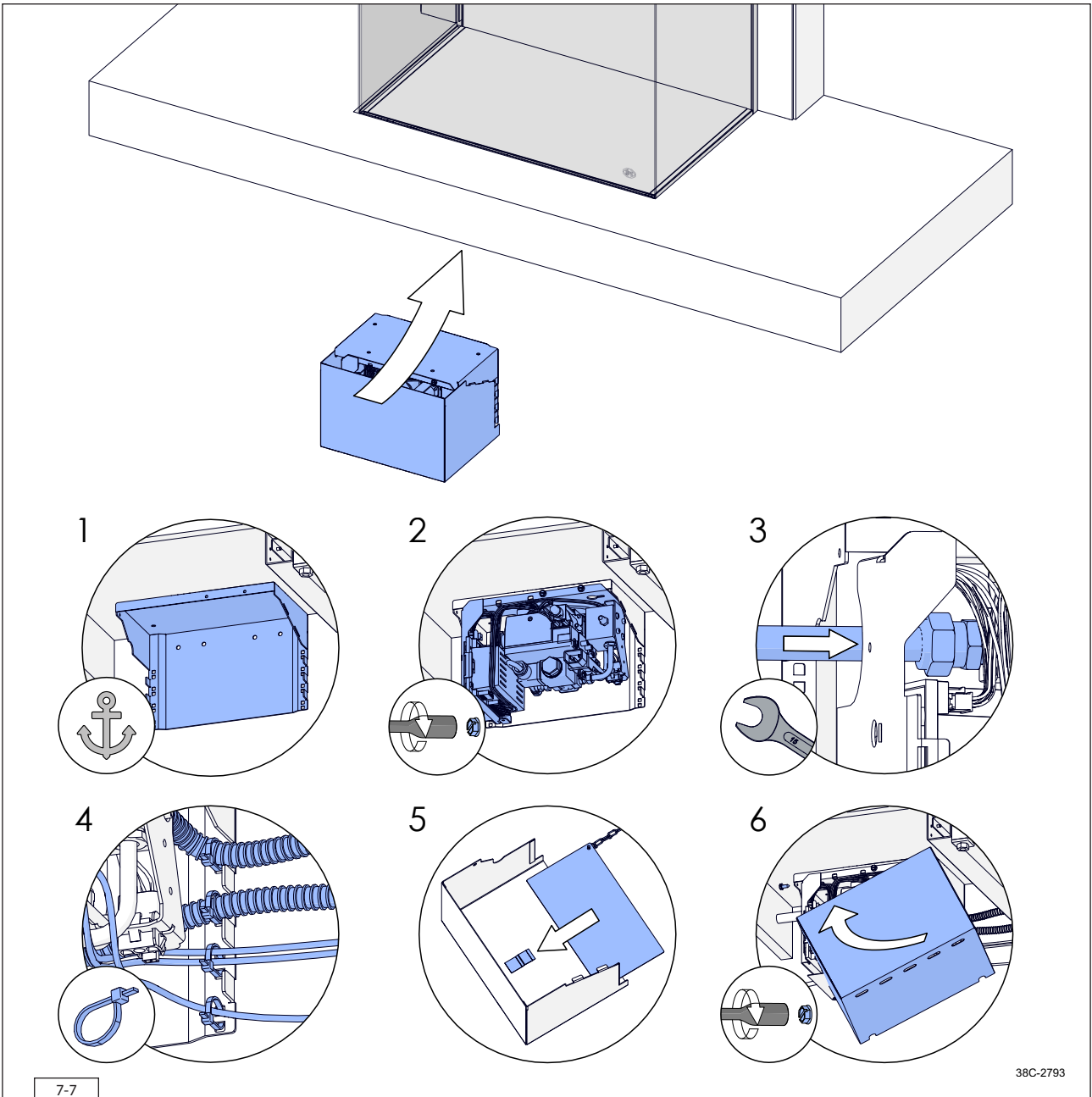
7.2.3 Placing the appliance control unit under the platform

If, in case of a situation with a platform, there is no room for the control hatch, the appliance control unit must be placed directly under the platform using the 'electricity protective cabinet'.

- ⚠ - It is not permitted to mount the appliance control unit to the appliance.
- Disassemble the appliance control unit from the transport bracket.
- Remove the transport bracket and dispose of it as required.
- ⚠ - There is 230V of mains voltage on the appliance control unit.
- Avoid kinks in the pipes.
- The electricity protective cabinet and the appliance control unit should always be placed indoors on a dry location.

When placing the appliance control unit under the platform using the protective cabinet, proceed as follows (see fig 7-7).

- Mount the attachment bracket of the protective cabinet both against the back wall and bottom side of the platform, using suitable fastening materials (Step 1).
- Disassemble the appliance control unit from the appliance and attach it to the fastening bracket of the protective cabinet (Step 2).
- Connect the gas pipe as described in section 6.3 (Step 3).
- Position the gas pipe, flexible gas pipe and cables on the recesses in the fastening bracket of the protective cabinet intended for that purpose and fasten them with tie-wraps (Step 4).
- ⚠ - Ensure the cables of the ionization and ignition pins are lying free from metal parts as much as possible and are lying fully free from signal and voltage cables.
- In case of damage to the mains cord, it should be removed immediately and replaced by a cord of the same type.
- Place the data plate of the appliance in the bracket of the protective hood (Step 5).
- Hook the protective hood into the fastening bracket and fasten it with the self-tapping screw (Step 6).

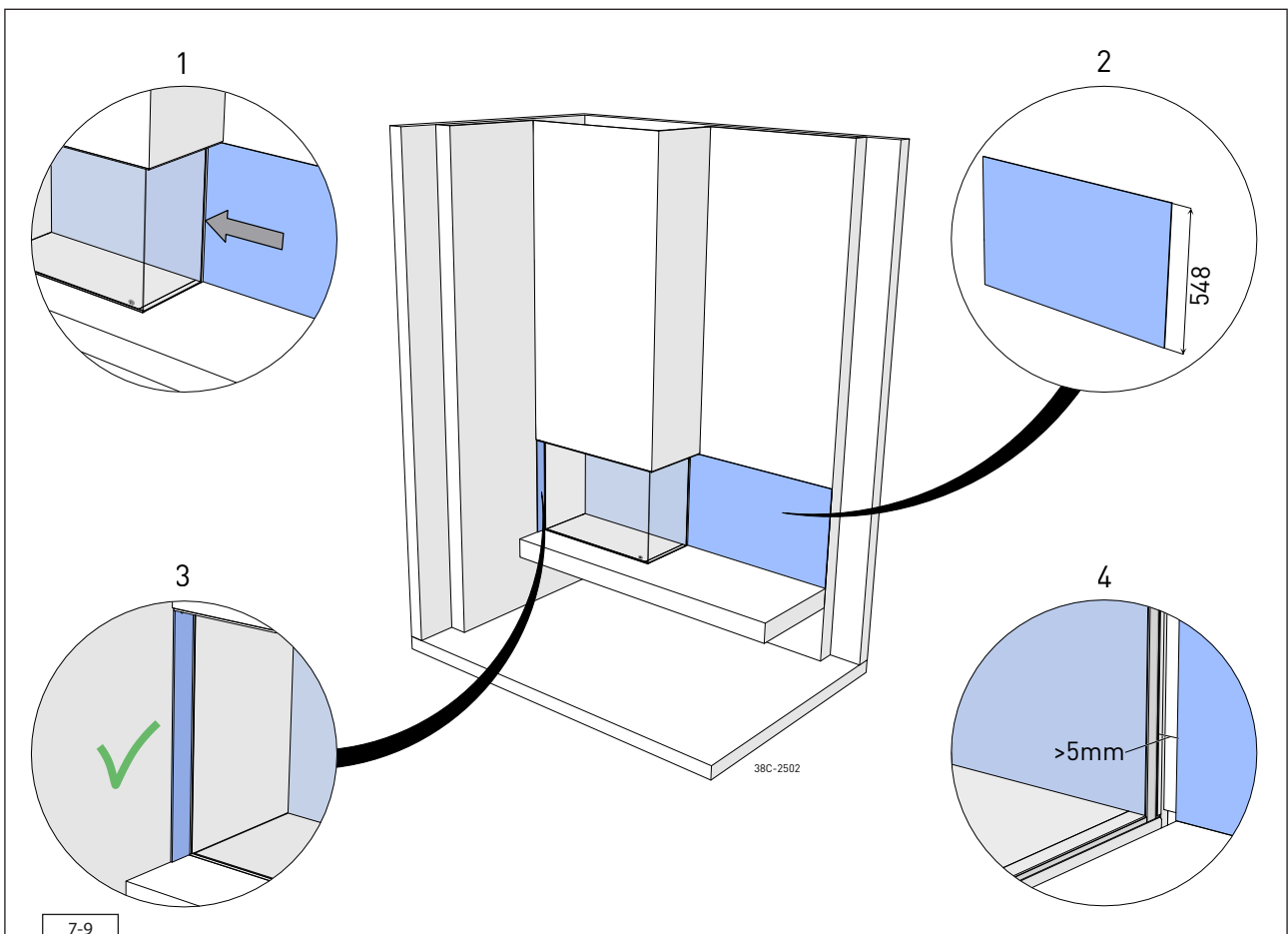
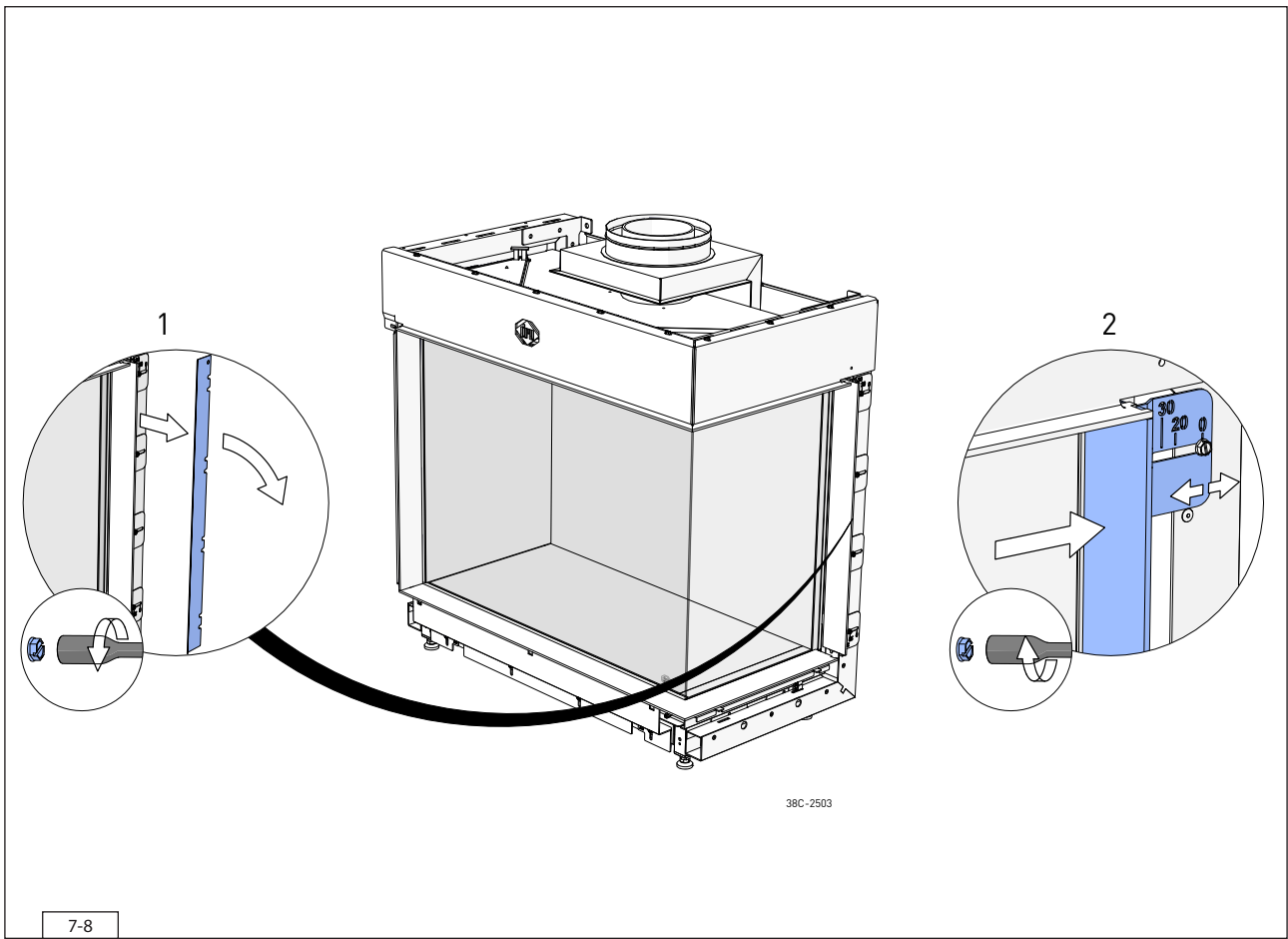


7.2.4 Back wall connecting to the glass of the side pane

(see fig. 7-8 and 7-9)

When installing the wall up to the side pane, proceed as follows:

- Make sure the back wall to be placed has the correct dimensions (see fig. 7-8).
- Loosen the self-tapping screws of the vertical decorative strip by a few turns and adjust the profiles to the correct distance. The distance depends on the thickness of the wall. For material thickness 20 mm and 30 mm, indicators have been applied. The cover plate is no longer required and can be removed. Re-tighten the self-tapping screws (see fig. 7-9).
- Maintain a 5 mm distance between the wall and the side pane.
- ⚠ - In case of a 2-sided appliance, construction on the glass of the side pane is only possible at the back wall side, not at the side wall side. It has to be possible to remove the front glass pane. For this purpose, it should be possible to remove the decorative strip.
- In case of materials up to the glass, it is important to maintain a 5 mm minimum distance from the glass!
- In case of materials up to the glass, heat-resistant material should be used that is at least able to resist a temperature of 85°C.

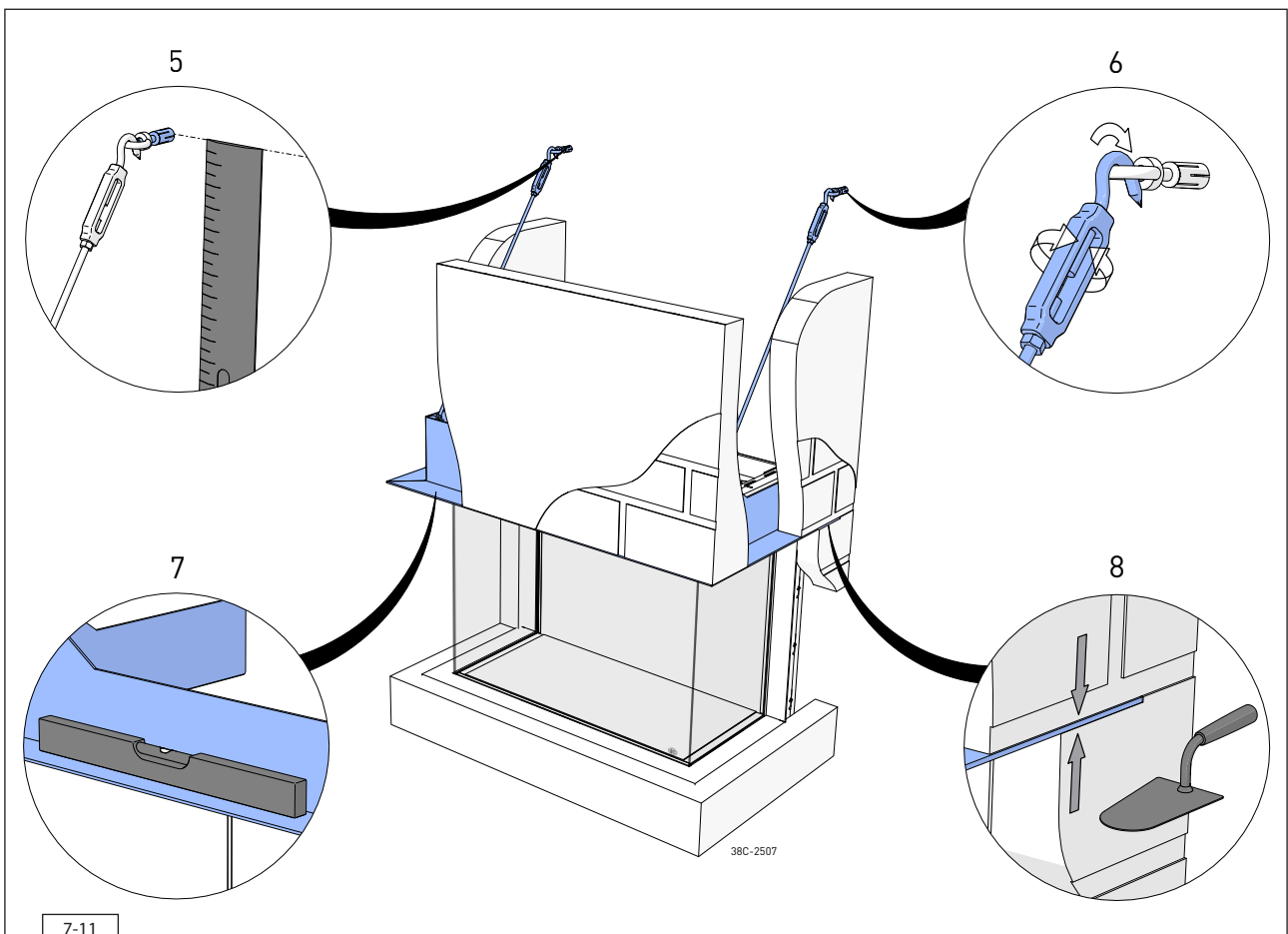
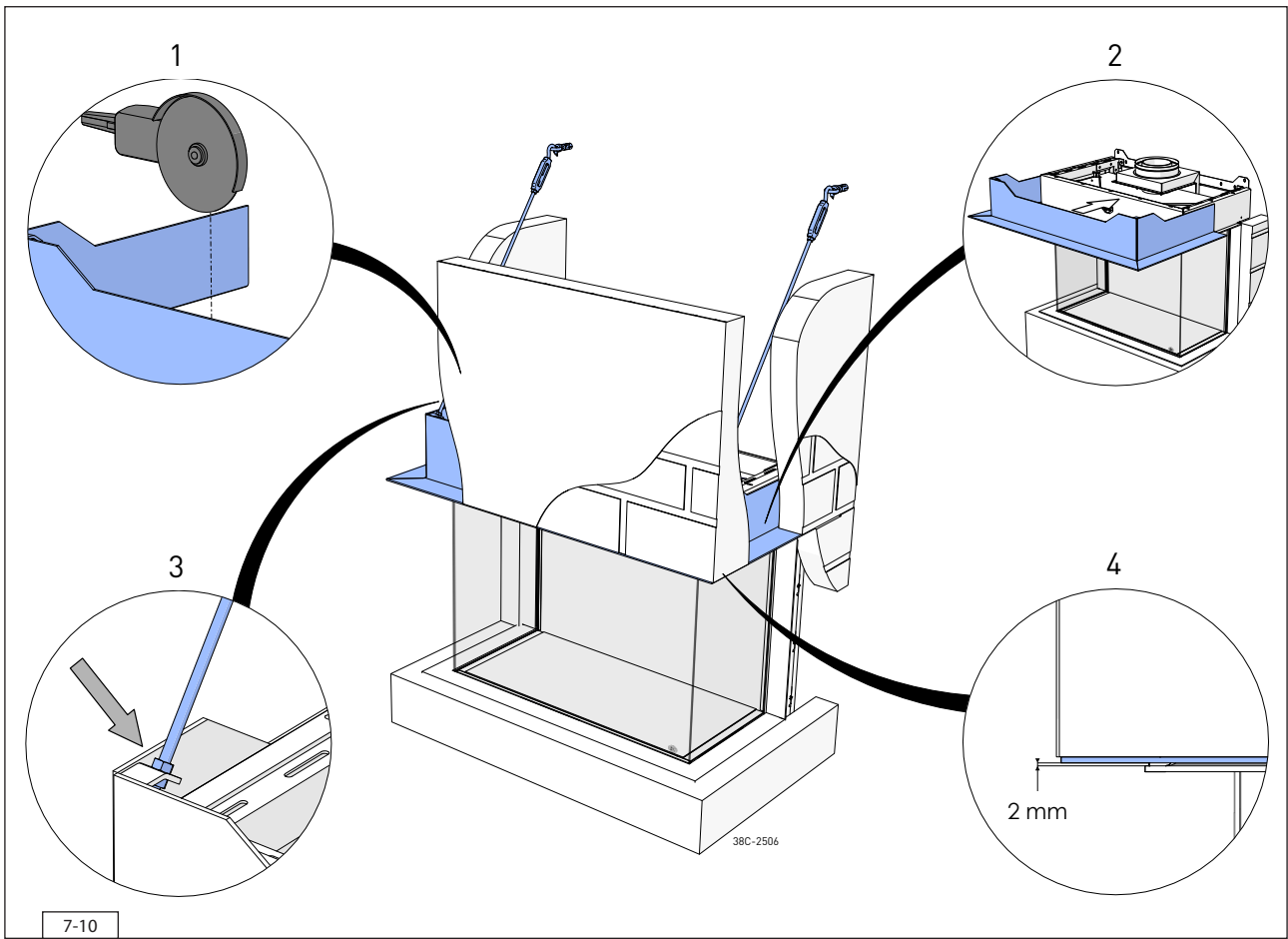


7.2.5 Mantle iron

If the chimney breast is made of stone-like material, it is necessary to place a mantle iron. A mantle iron must be placed in order to prevent the appliance from being burdened by the weight of the materials.

When installing the mantle iron, proceed as follows (see fig. 7-10 and 7-11):

- Cut the mantle iron to the correct size.
- Position the mantle iron.
- ⚠ - Do not allow the mantle iron to rest on the construction frame.
- Maintain a minimum space of 2 mm between the mantle iron and construction frame.
- Attach the threaded rod(s) in the nut(s) on the corner(s) of the mantle iron.
- ⚠ Adjust the threaded rod(s) with tensioning nut(s) so that there is sufficient room for adjustment.
- Determine the height of the eye(s).
- Attach the eye(s) to the wall using the key bolt(s).
- Attach the hook(s) of the threaded rod(s) to the eye(s).
- Level it all, using the tensioning nut(s).



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	Yes	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	Yes	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 manual 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.



My Flue Assist is a DRU web application to check whether an intended concentric system is permissible and provides advice on how to adjust the appliance. Go to the DRU Service website for My Flue Assist. The information from the installation manual is always leading.

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).



In the case of a roof terminal **without bends**: first connect 0.8 metres of concentric system with a diameter of 200/130 mm vertically to the appliance. After the first 0.8 metres, reduce the concentric system to a 150/100 mm diameter, including a 150/100 mm roof terminal.



In the case of a roof terminal **with bends**: first connect 0.8 metres of concentric system with a diameter of 200/130 mm vertically to the appliance. Make the concentric system with a 200/130 mm diameter up to and including the last bend, and reduce the concentric system immediately after this last bend to a 150/100 mm diameter, including 150/100 mm roof terminal.

Table 7-3: Determination of the permissibility of a concentric system with roof terminal													
G20/G25/G25.3/ G30/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
No bends	0	B	B	B	C	C	C	C	C	C	D	D	D
2 bends	0	A	A	B	B	B	C	C	C	C	C	C	D
	1	A	A	A	B	B	B	C	C	C	C	C	
	2	A	A	A	A	B	B	B	C	C	C		
	3	A	A	A	A	A	B	B	B	C			
	4	A	A	A	A	A	A	B	B				
3 bends	0	A	A	A	B	B	B	C	C	C	C	C	C
	1	A	A	A	A	B	B	B	C	C	C	C	
	2	A	A	A	A	A	B	B	B	C	C		
	3	A	A	A	A	A	A	B	B	B			
	4	A	A	A	A	A	A	A	B				
4 bends	0	A	A	A	A	B	B	B	C	C	C	C	C
	1	A	A	A	A	A	B	B	B	C	C	C	
	2	A	A	A	A	A	A	B	B	B	C		
	3	A	A	A	A	A	A	A	B				
	4		A	A	A	A	A	A	A				
5 bends	-			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/G30/G31			
Situation	Air inlet guide	Restrictor slide (Distance in mm)	Flue gas distribution plate
A	NO	NO	NO
B	YES	NO	YES
C	YES	62	YES
D	YES	42	YES

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.

Table 7-5a

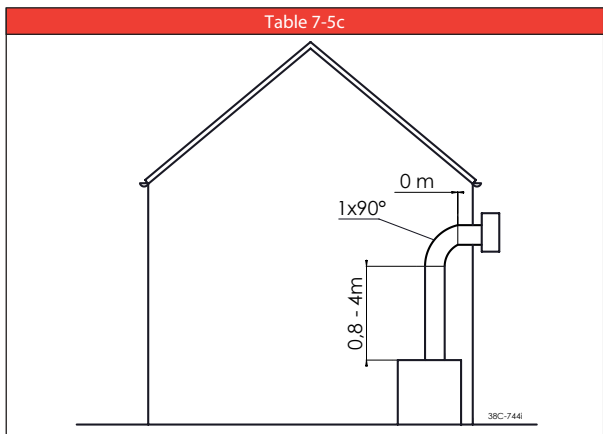
Setting	Apply
Air inlet guide	✘
Restrictor slide	✘
Flue gas distribution plate	✘

- Only use a 200/130 mm concentric system, including wall terminal.
 - In the case of this configuration, an unpainted stainless steel wall terminal must be used.
 - Factory setting: flue gas distribution plate mounted, the air inlet guides and restrictor slide are supplied separately.

Table 7-5b

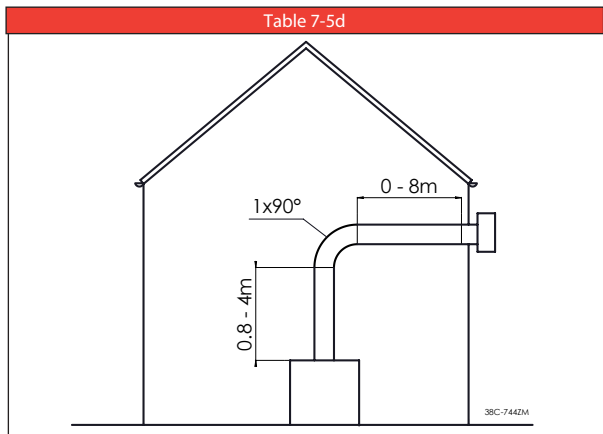
Setting	Apply
Air inlet guide	✘
Restrictor slide	✘
Flue gas distribution plate	✘

- Only use a 200/130 mm concentric system, including wall terminal.
 - Factory setting: flue gas distribution plate mounted, the air inlet guides and restrictor slide are supplied separately.



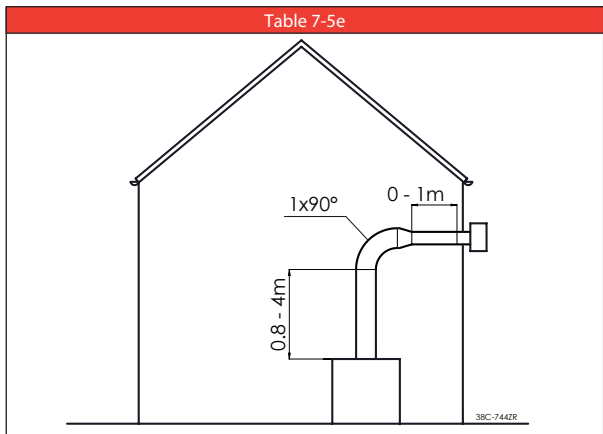
Setting	Apply
Air inlet guide	X
Restrictor slide	X
Flue gas distribution plate	V

- Only use a 200/130 mm concentric system, including wall terminal.
 - Factory setting: flue gas distribution plate mounted, the air inlet guides and restrictor slide are supplied separately.



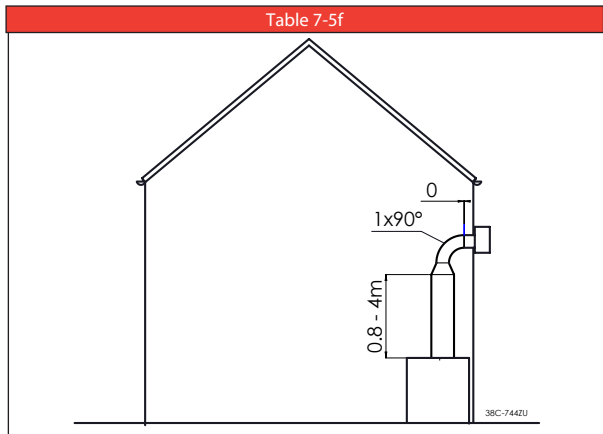
Setting	Apply
Air inlet guide	X
Restrictor slide	X
Flue gas distribution plate	X

- Only use a 200/130 mm concentric system, including wall terminal.
 - Factory setting: flue gas distribution plate mounted, the air inlet guides and restrictor slide are supplied separately.



Setting	Apply
Air inlet guide	X
Restrictor slide	X
Flue gas distribution plate	X

- Use the vertical length including bend 200/130 mm concentric system, immediately after the bend reduce the concentric system to 150/100 mm.
 - Use wall terminal of 150/100 mm (maximum 1 metre horizontal).
 - Factory setting: flue gas distribution plate mounted, the air inlet guides and restrictor slide are supplied separately.



Setting	Apply
Air inlet guide	X
Restrictor slide	X
Flue gas distribution plate	X

- Use the vertical length 200/130 mm concentric system, immediately before the bend reduce the concentric system to 150/100 mm.
 - Use bend and wall terminal of 150/100 mm (no horizontal length permitted).
 - Factory setting: flue gas distribution plate mounted, the air inlet guides and restrictor slide are supplied separately.

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° 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 Placing the chimney breast

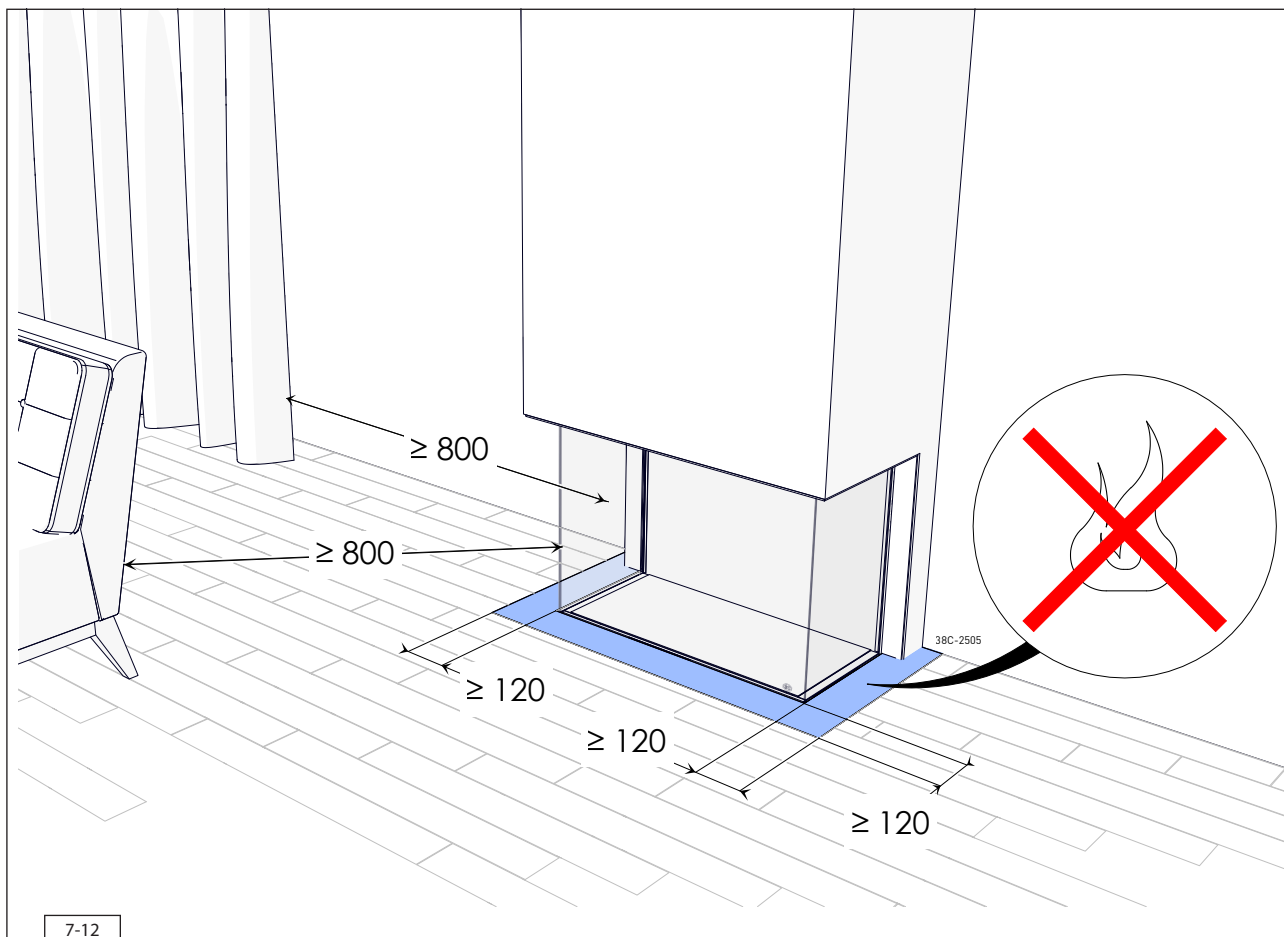
For a good heat discharge and operation of the appliance, there should be sufficient space around the appliance. The chimney breast should be ventilated sufficiently by means of ventilation holes (incoming and outgoing).

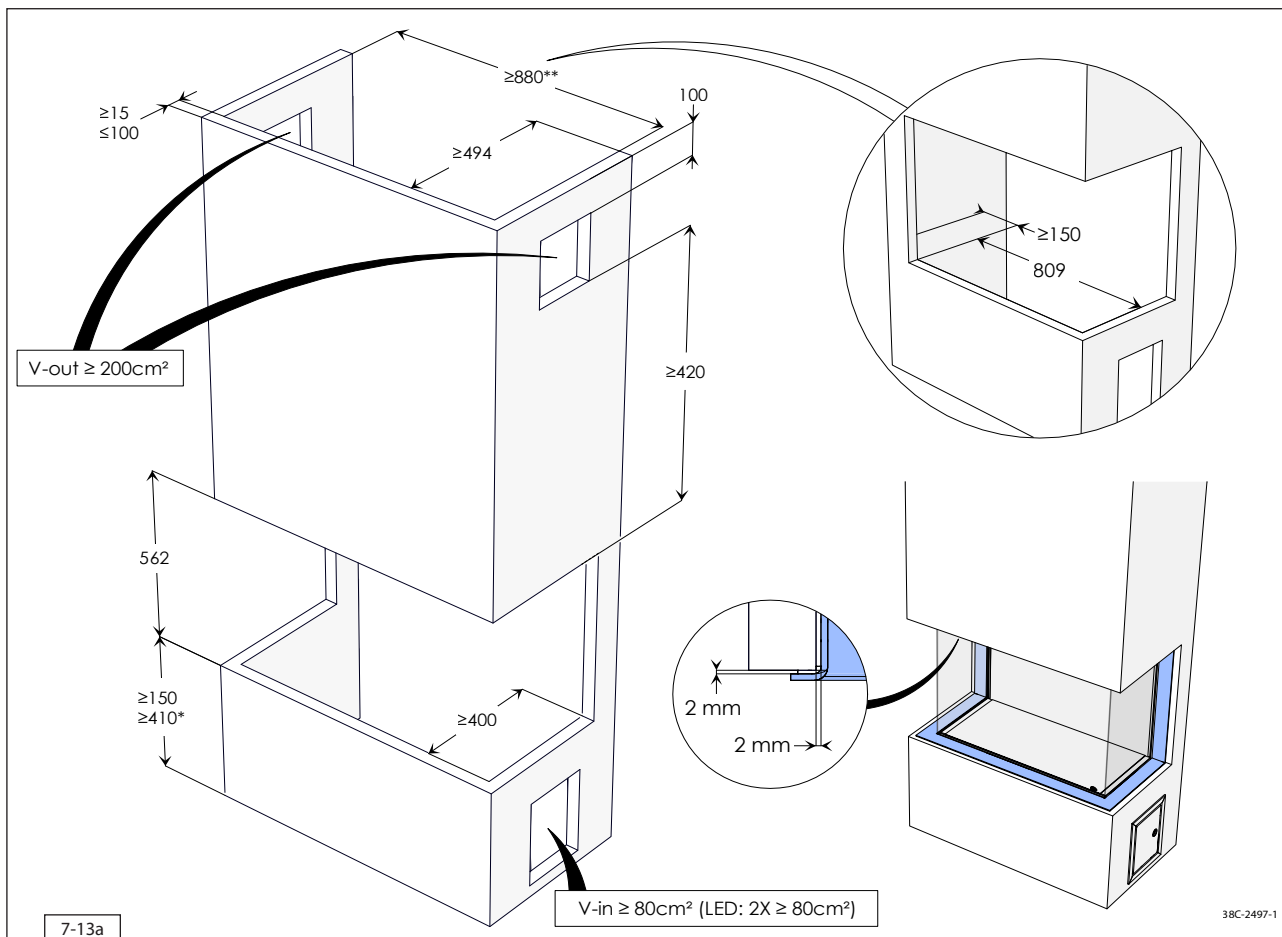
-  - When an appliance is built in the floor, please take into account the minimum distances from the floor/ground in front of the appliance (see fig. 7-12).
- Use non combustible and heat-resistant material for the chimney breast, including the top of the chimney breast, the material inside the chimney breast and the back wall of the chimney breast.
The appliance is not a support structure. Make sure the appliance does not have to bear the weight of the chimney breast for example.
- The passage of the ventilation holes (outgoing) is stated in table 4-1. If it is not possible to use a control hatch in the chimney breast, an air supply of at least 80 cm² must be placed as low as possible, but not above the burner surface. If a control hatch can be used, the control hatch will suffice as air supply (see section 7.5).

- ⚠ When placing the chimney breast, you should take the following into account:
 - The minimum dimensions of the chimney breast surround (see fig. 7-13).
 - In case of the minimum width dimension, a centred placement of the appliance is presumed in order to guarantee sufficient convection (see fig. 7-13).
 - The location of the control hatch: this must be placed as low as possible.
 - The distance of the control hatch up to the side of the appliance (see fig. 7-14).
 - The dimensions of the control hatch (see section 7.5).
 - The location of the ventilation holes (V-out).
 - A minimum 100 mm distance between the top of the ventilation hole (outgoing) and the ceiling of the room.
 - The dimensions of the glass pane, so that it can be placed/removed after placing the chimney breast.
 - Protection of components and pipes of the appliance control unit against building dust such as cement and lime.
 - Placement of decorative strips, frames and such like; if possible, install these after the carrying out any structural work. If this is not possible, protect them during this work. Avoid the use of painter's tape. If this is not possible: use good quality painter's tape and remove this tape immediately after plastering or painting work (prolonged application of painter's tape may cause damage).
- ⚠ You should preferably apply the ventilation holes (outgoing) on both sides of the chimney breast. Use the DRU ventilation elements.

Check the following items, before the chimney breast is fully closed:

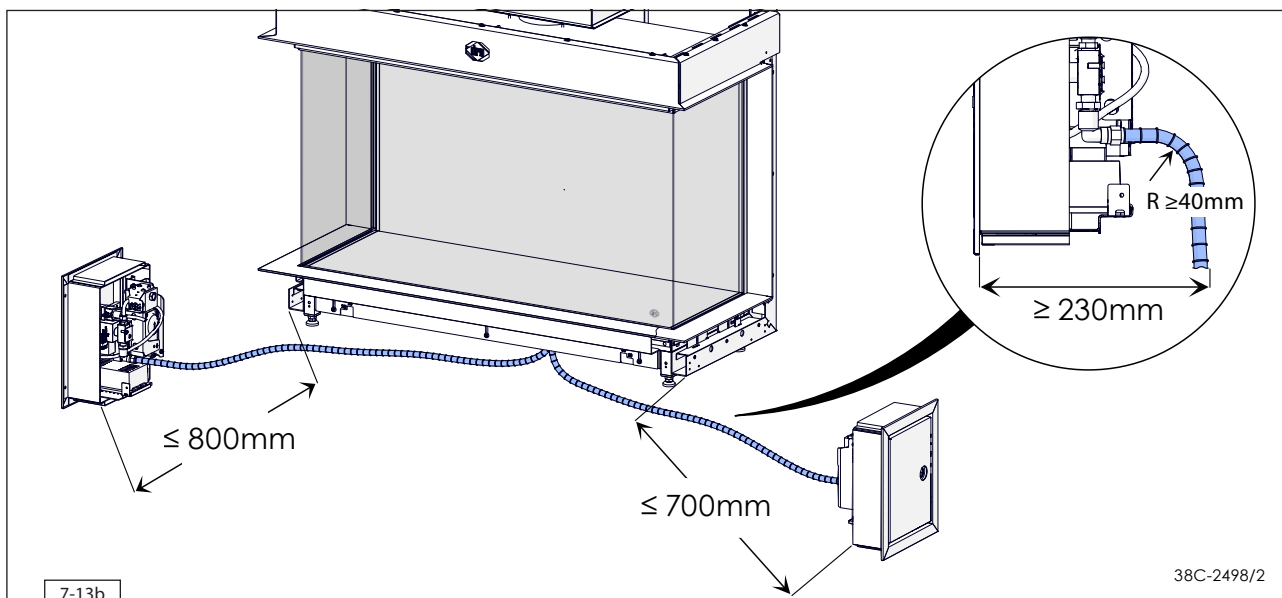
- Is the discharge / concentric system placed correctly?
- Have the channels, fastening brackets and possible clip bindings, that become inaccessible later, been secured with self-tapping screws?
- Has no plastering work been performed on or across the edges of the construction frame? This due to the fact that:
 - the heat of the appliance could cause cracks;
 - It will no longer be possible to remove/place the glass pane.
- When using stone-like materials and or plaster finishing, allow the chimney breast to dry for at least six weeks prior to taking the appliance into operation in order to prevent cracks.





* Taking into account the control hatch, placed as indicated.

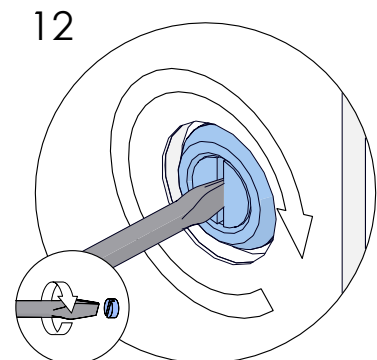
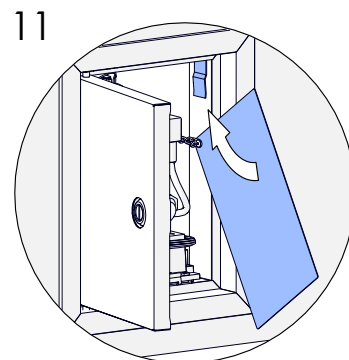
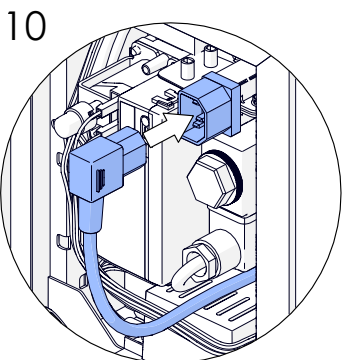
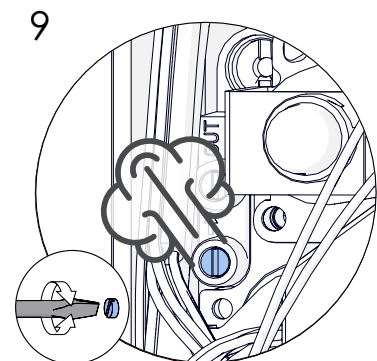
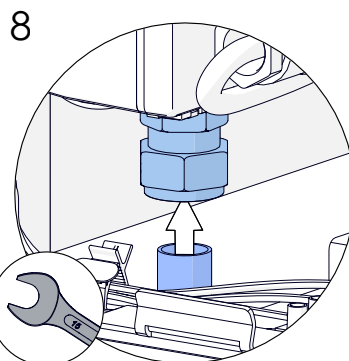
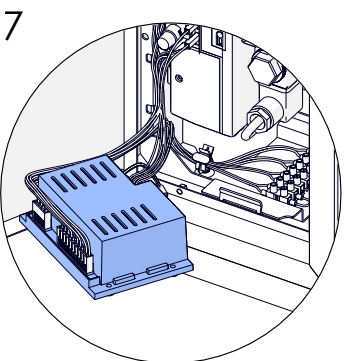
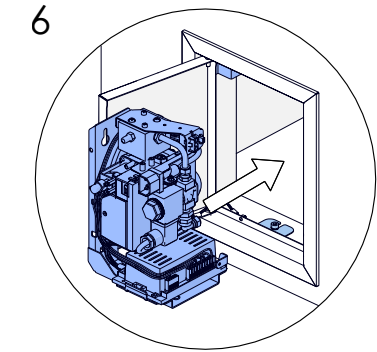
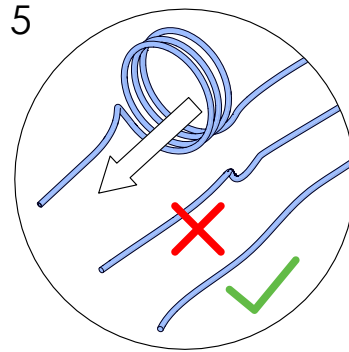
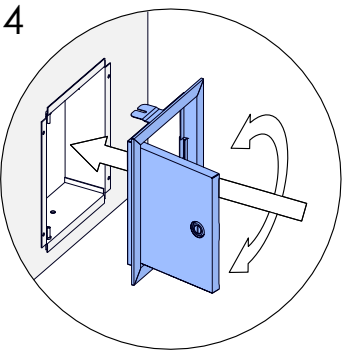
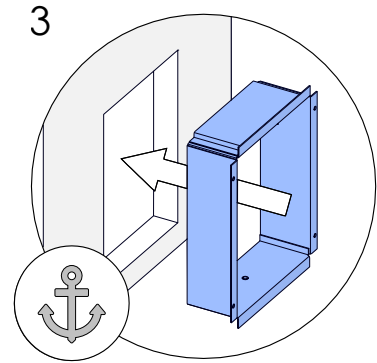
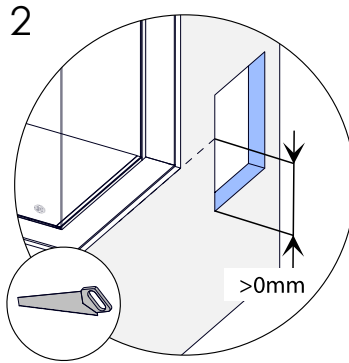
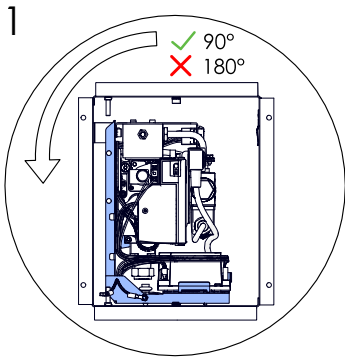
** If the appliance is installed low down in the chimney breast, a wider chimney breast must be created to accommodate the control hatch.



7.5 Placing the control hatch

In the control hatch, the appliance control unit, data plate and, if applicable, components of the DRU PowerVent® system are placed. The control hatch makes the measuring and adjustment facilities accessible and ensures a safe and optimum operation of the components. The use of a control hatch is not without significance. Not using a control hatch could void the warranty.

- ⚠ A control hatch installed at the side of the chimney breast ensures an optimum connection between transmitter and receiver.
 - ⚠ Placement of a control hatch also ensures the air supply in the chimney breast (V-in 80cm²).
 - ⚠ The control hatch and the bracket with the appliance control unit should always be placed indoors on a dry location.
- When installing the control hatch, proceed as follows (see fig. 7-15):
- ⚠ The appliance control unit must always be placed in the bottom left or bottom right of the control hatch. Other positions are not permitted (Step 1).
 - Make an opening in the chimney breast as described in the manual for the control hatch (Step 2).
 - ⚠ The opening in the chimney breast may be made both horizontal and vertical.
 - ⚠ The bottom of the control hatch may not be placed higher in the appliance than the burner surface.
 - Disassemble the outer frame with door from the inner frame. Attach the inner frame in the opening of the chimney breast (Step 3).
 - ⚠ When the chimney breast is made of bricks, the inner frame can be built in with bricks. In case of different materials, the inner frame can be glued or fastened with four countersunk screws, for instance.
 - Attach the outer frame with door (3) to the inner frame using two Allen screws. The outer frame can be placed in such a way that the door turns to the left or right (Step 4).
 - Unwind the cables. This will, amongst other things, prevent a poor operation of the ignition mechanism.
 - ⚠ Ensure the cables of the ionization and ignition pins are lying free from metal parts as much as possible and are lying fully free from signal and voltage cables.
 - Roll out the flexible gas pipe(s) (Step 5).
 - ⚠ Avoid kinks in the pipes (Step 5).
 - Mount the appliance control unit to the inner frame by allowing the Allen screw to fall in the lock opening on the long side. The opening on the short side will fall over the head of the Allen screw. Then fasten the appliance control unit with the Allen key to the long side (step 6).
 - Remove the receiver by removing it from the bracket (Step 7).
 - Connect the gas pipe (Step 8) (also see section 6.3).
 - Bleed the gas pipe (Step 9).
 - Connect the appliance to 230V earthed mains voltage by means of the provided mains cord (step 10). In order to make the appliance free from voltage, the plug can be removed from the appliance control unit.
 - ⚠ In case of damage to the mains cord, it should be replaced immediately by a cord of the same type.
 - Place the data plate in its intended holder (Step 11).
 - ⚠ Always close the control hatch with the lock. The lock can be opened and closed with a flat screwdriver or coin for example (Step 12).



8 Appliance

8.1 Glass panes

After placement of the wood set (see section 8.3), it is possible to place the glass panes:

- ⚠ - Avoid damaging the glass panes during removal/placing.
- Use the socket spanner supplied for loosening/tightening the self-tapping screws.
- If applicable, use the supplied Allen key for loosening / fastening the Allen screws.
- Avoid/remove fingerprints on the glass panes, as they will burn into the glass.

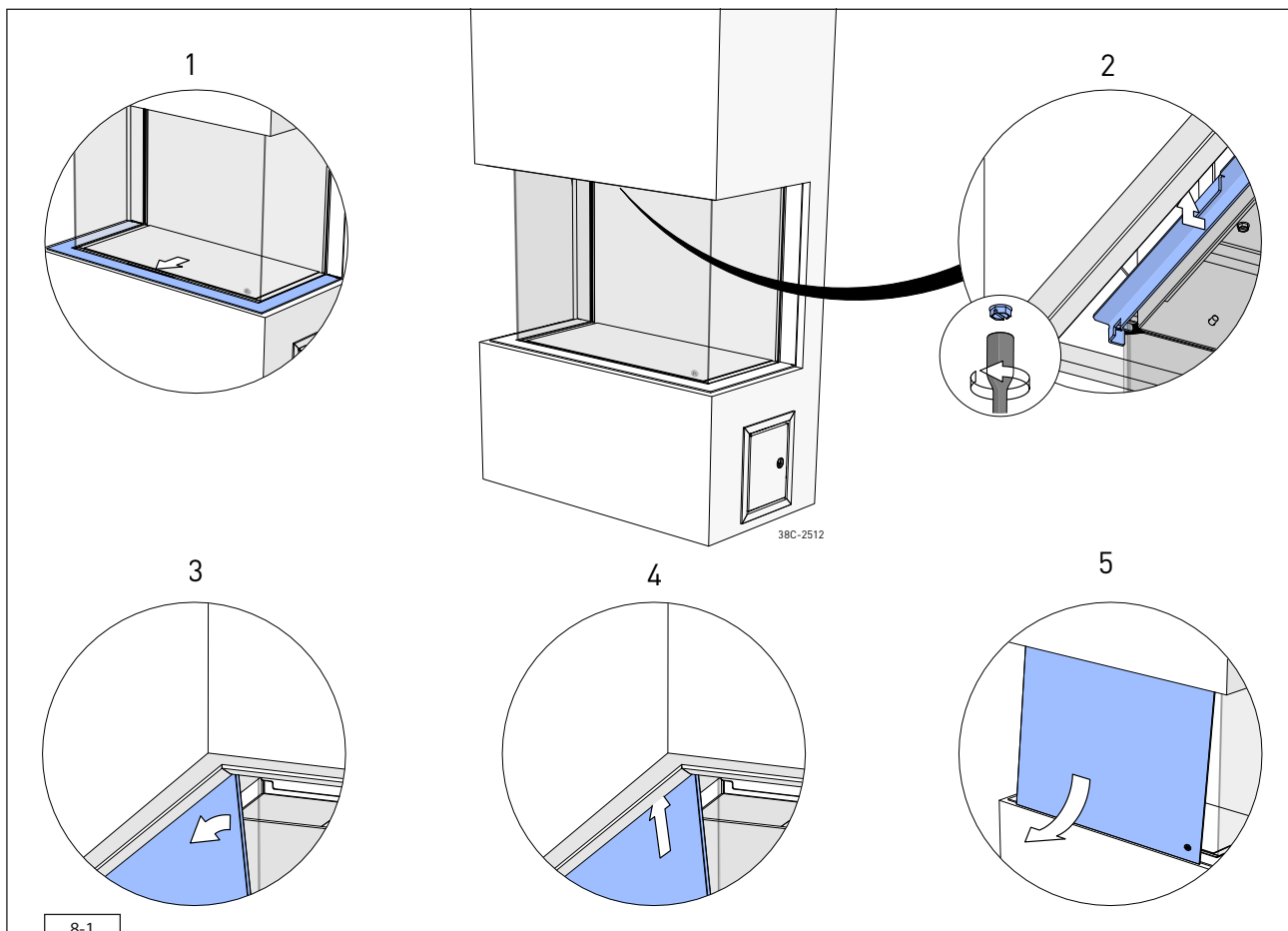
8.1.1 Removing the front glass pane

For removing the front glass pane, please observe the following steps.

8.1.1.1 Appliance with glass on 3 sides:

(see fig. 8-1)

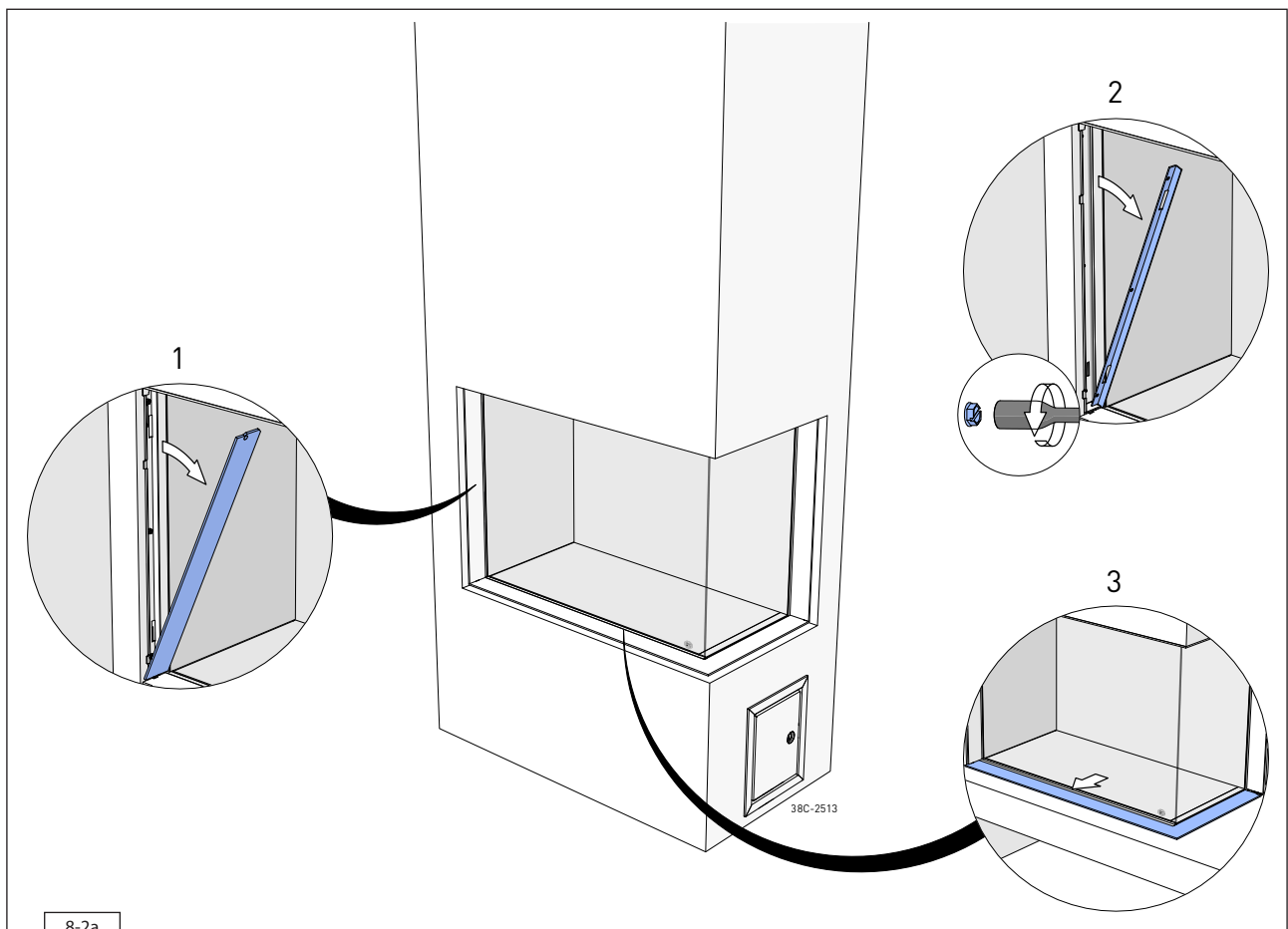
- If applicable, slide the lower decorative strip (1) towards the front. It is not necessary to remove it.
 - Remove the lock bolts from the springy glass pane strip at the top (2).
 - Take the springy glass pane strip (2) at its handles and place it on the higher brackets.
 - Grab the glass pane at both sides, tilt the top of the glass pane a little away from the appliance (3) and lift up the glass pane at an angle (4).
 - Tilt the bottom of the glass pane away from the appliance and remove the glass pane (5).
- ⚠ Prevent the glass pane from getting damaged.



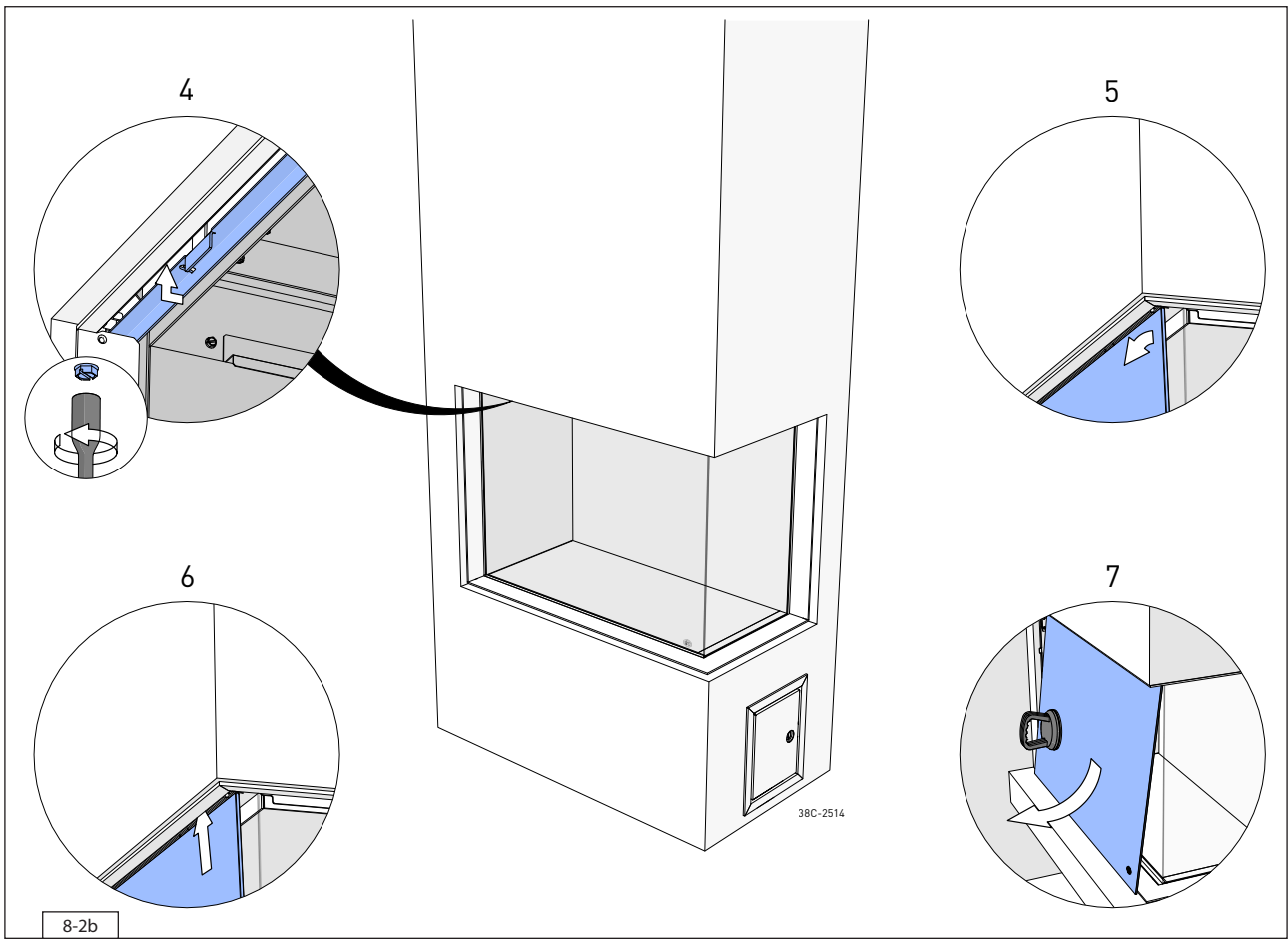
8.1.1.2 Appliance with glass on 2 sides:

(see fig. 8-2)

- Grab the vertical decorative strip (1) at the top, tilt the vertical decorative strip and remove it.
 - Unscrew the self-tapping screws from the vertical glass strip (2) and remove the vertical glass strip.
 - If applicable, slide the lower decorative strip (3) towards the front. It is not necessary to remove it.
 - Remove the lock bolts from the springy glass pane strip at the top (4).
 - Take the springy glass pane strip at its handles and place it on the higher brackets.
 - Place the suction cup on the front pane on the closed side of the appliance.
 - Grab the pane at the suction cup and side and slightly tilt the top towards you (5).
 - Lift the glass pane (6) and move it towards the side.
- ⚠ Prevent the glass pane from getting damaged.
- Tilt the bottom of the glass pane towards the front and remove the glass pane (7).



8-2a



8.1.2 Placing the glass pane

Placing the glass pane will take place in reverse order of removing the glass pane, as described above:

- ⚠ - Avoid/remove fingerprints on the glass pane, as they will burn into the glass.
- The self-tapping screws should not be over-tightened, since otherwise they could break or strip the thread.
- Place the glass pane with the logo at the bottom right.
- ⚠ - Make sure the front glass pane makes full contact with the side pane (there may be no opening between the side pane and front pane).
- Make sure the groove of the springy glass pane strip in which the glass pane is placed, is free from dirt prior to placing the glass pane.

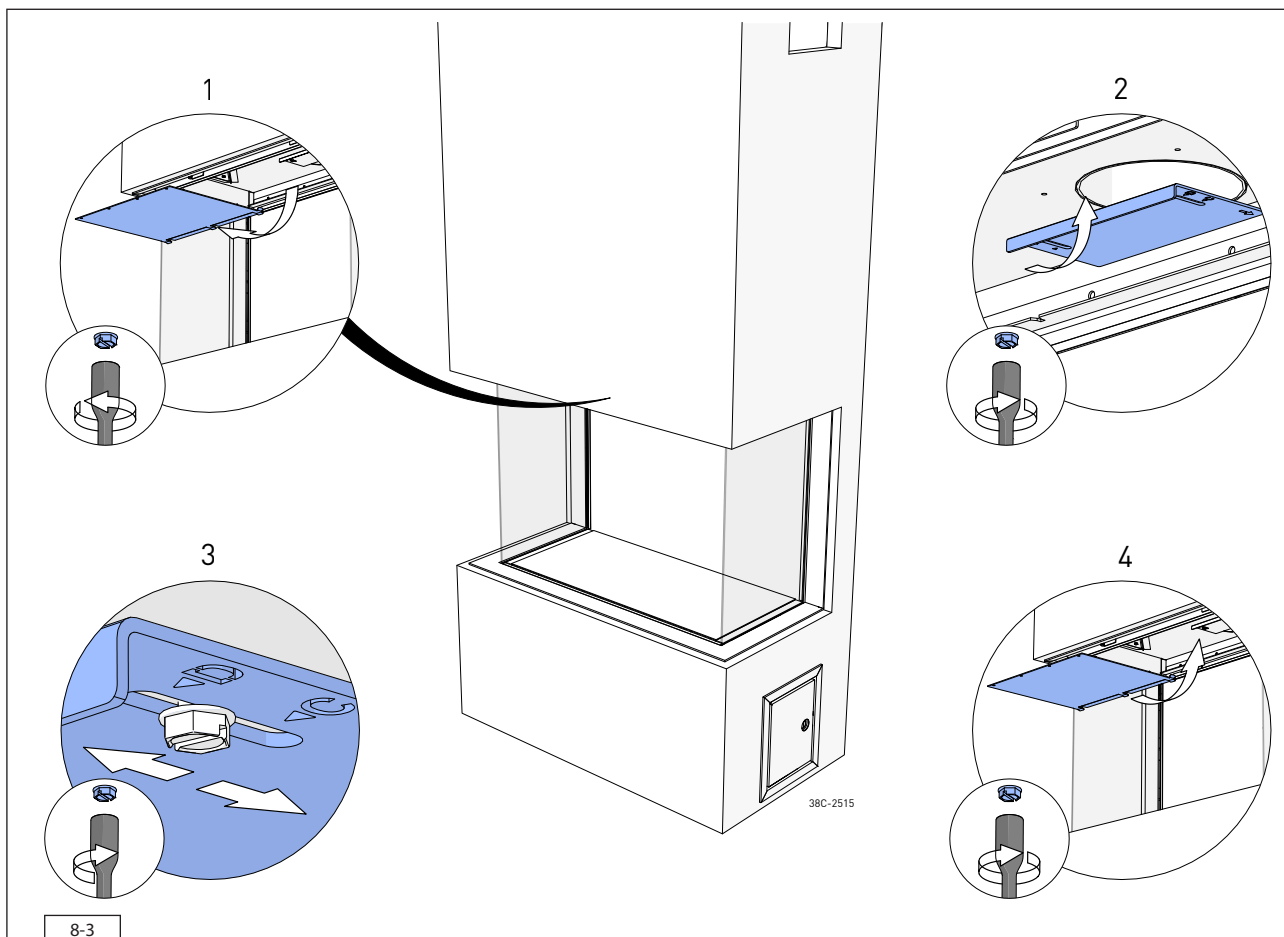
8.2 Setting the appliance

The appliance has to be set in such a way that it works correctly in combination with the discharge system. For that purpose, a restrictor slide is placed, the middle plate in the top is removed and/or the air inlet guide is removed. The conditions for using a wall terminal and roof terminal can be found in tables 7-1 to 7-3. If applicable, section 8.2.3 explains how this appliance should be adjusted for PowerVent®.

8.2.1 Restrictor slide and flue gas distribution plate

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

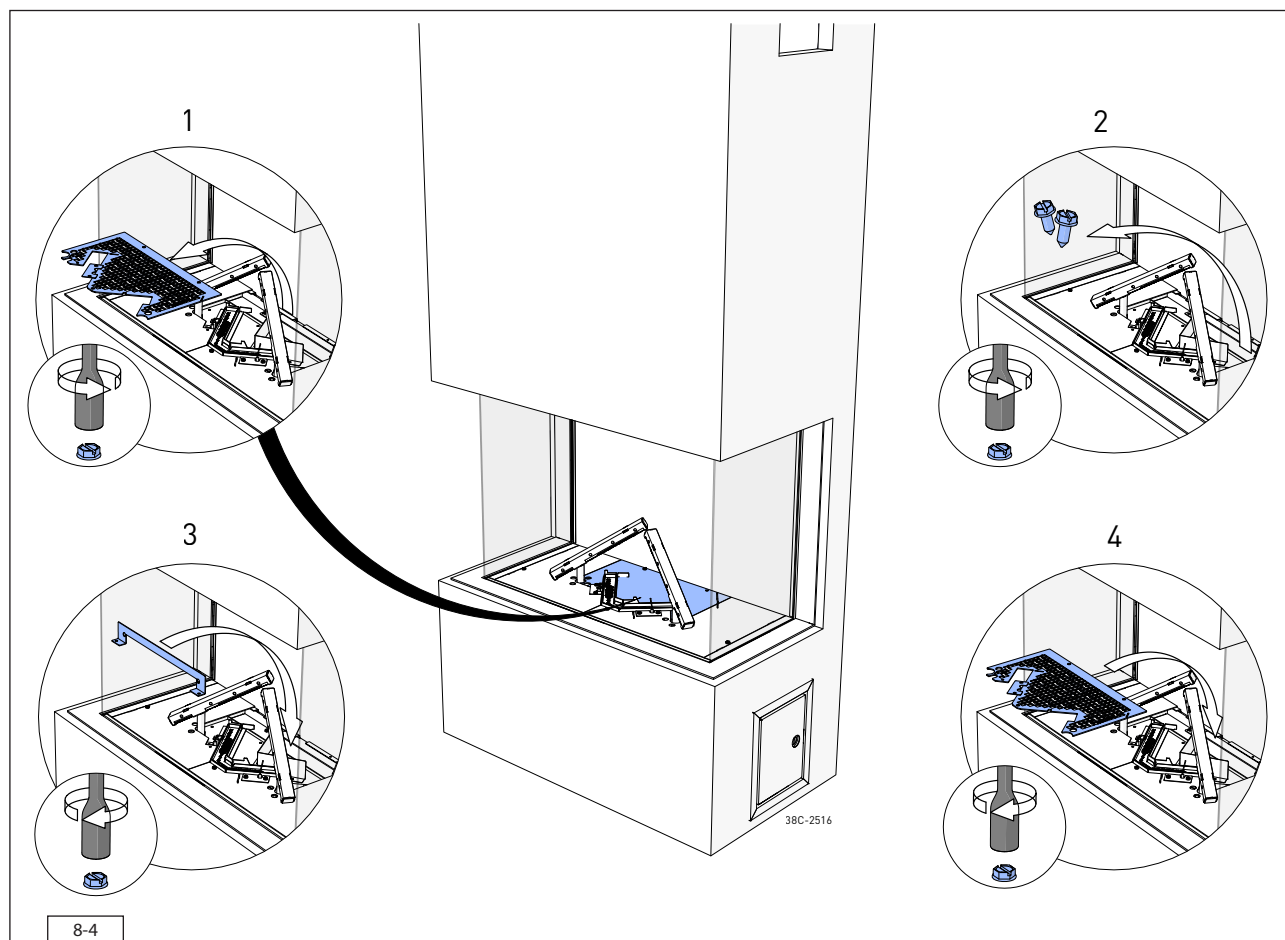
- Remove the flue gas distribution plate (1).
- Install the restrictor slide (2). The restrictor slide falls over part of the exhaust pipe hole, do not yet tighten the self-tapping screws.
- ⚠ When fastening, the arrow on the restrictor slide should point away from you.
- Adjust the position of the restrictor slide using situations C and D (see table 7-2 (3)).
- The letter of the position on the restrictor slide corresponds with the letter of the situation (see table 7-2).
- Make sure that the point of the triangle belonging to the position that you want and the centre of the self-tapping screw are exactly aligned.
- Tighten the 2 self-tapping screws.
- Place back the flue gas distribution plate (4).



8.2.2 Air inlet guide

The air inlet guide is supplied separately. In order to place it, you must remove the middle vermiculite plate. For placing the air inlet guide, proceed as follows (see fig. 8-4):

- Unscrew the self-tapping screws from the middle vermiculite plate (1) and remove them.
- Unscrew the pre-mounted self-tapping screws (2).
- Place the air inlet guide in accordance with the figure and fasten it with the self-tapping screws (3).
- Screw back the middle vermiculite plate (4).

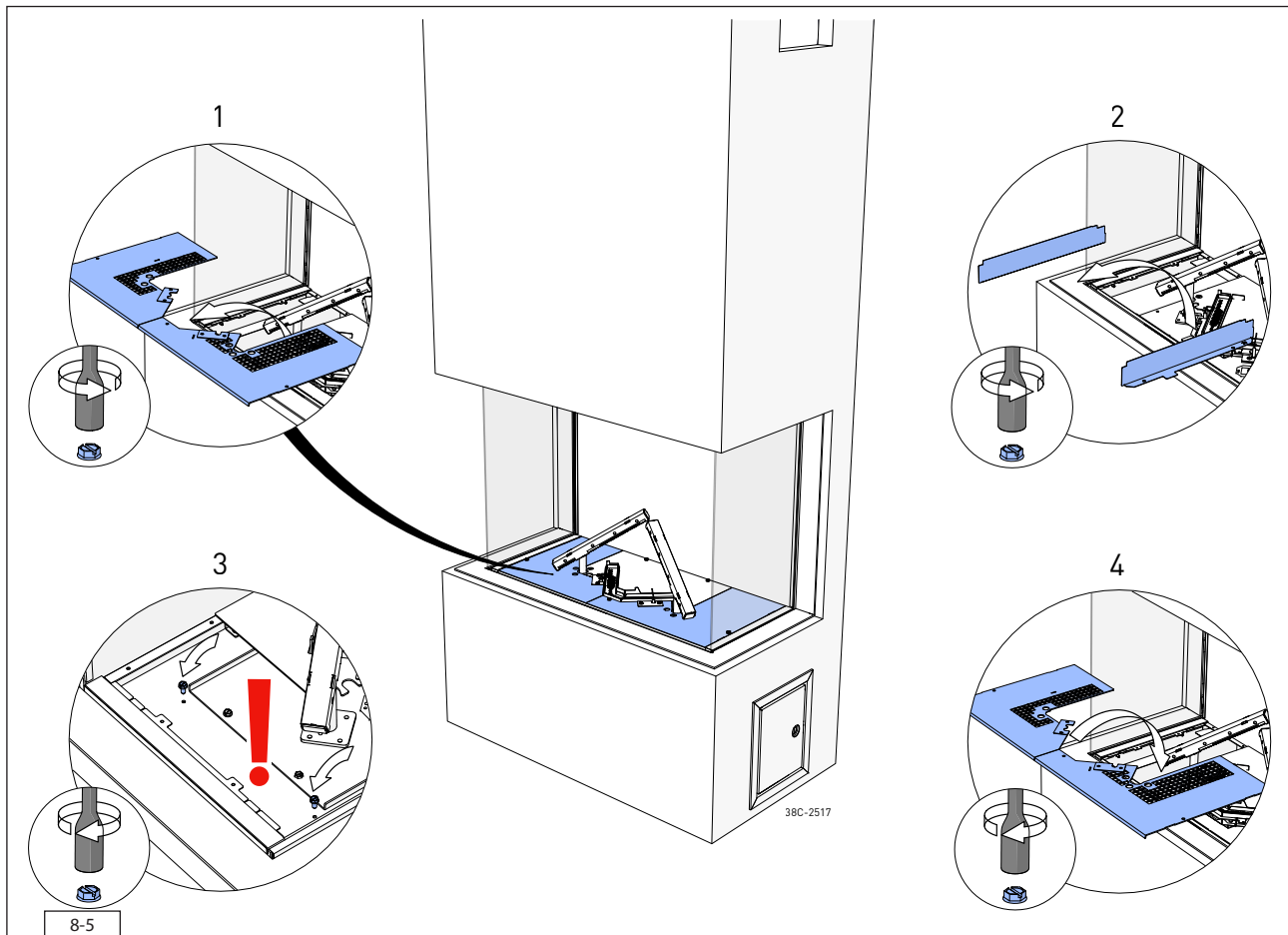


8.2.3 PowerVent®

(if applicable)

This appliance is suitable for PowerVent®. If this appliance is supplied with the bracket with PowerVent® control components mounted, the appliance is already properly adjusted ex factory. If not, check the following settings before consulting the installation manual of the PowerVent® and, if necessary, perform the following steps (see fig. 8-5):

- Unscrew the self-tapping screws from the plates and remove these plates from the appliance. Lift the plates by approximately 1 centimetre and slide them out of the appliance from underneath the standing burners (1).
- Unscrew the self-tapping screws from the partitions and remove them (2). Screw back the self-tapping screws in the combustion chamber (3).
- Unscrew the self-tapping screws from the plate and remove them (4).
- Check whether more work should be performed under the plates. If not, place these plates back in the appliance and fasten them with the self-tapping screws (4).
- For more information, please consult the PowerVent installation manual.



8.3 Wood set

The appliance is supplied with a wood set.

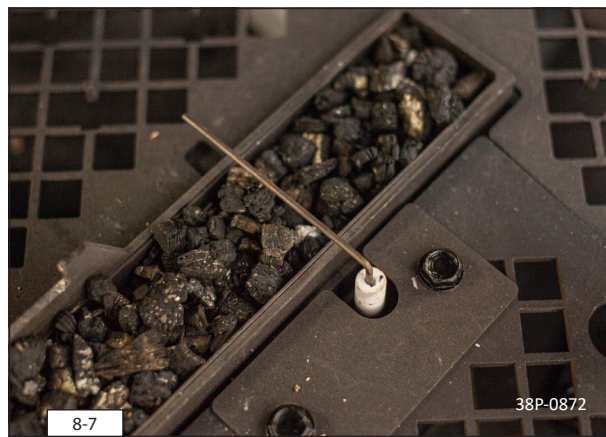
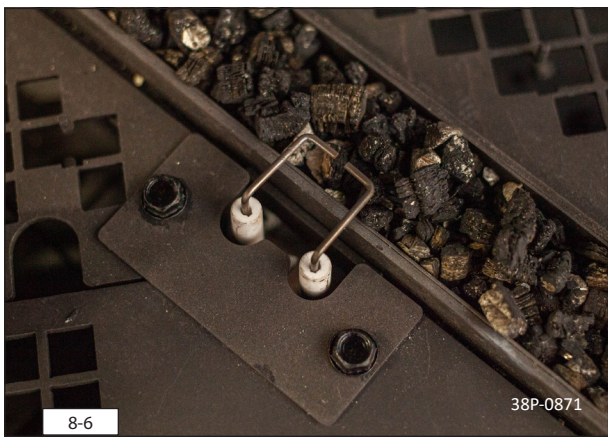
⚠ The figures do not always show the correct colours.

⚠ Observe the instructions below to prevent unsafe situations:

- Only ever use the supplied wood set.
- Place the wood set exactly as described.
- Make sure the ionization and spark electrodes and the surrounding space remain free (see fig. 8-6 and 8-7).
- Make sure there is no vermiculite dust on the burner.

⚠ Place the logs exactly as described, otherwise:

- the main burner will not ignite properly; which could result in unsafe situations.
- the appliance will become filthy more quickly, as a result of soot.
- the flame picture will be affected.

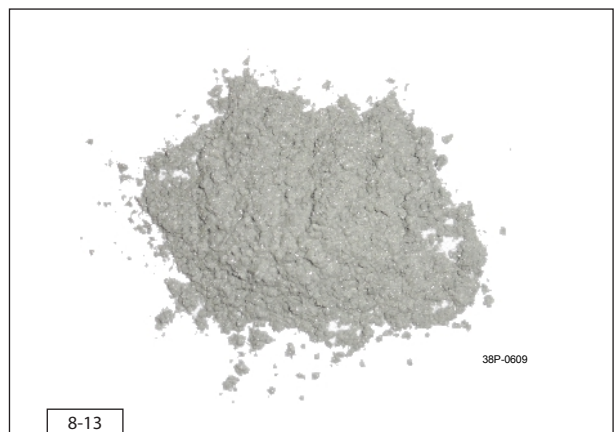
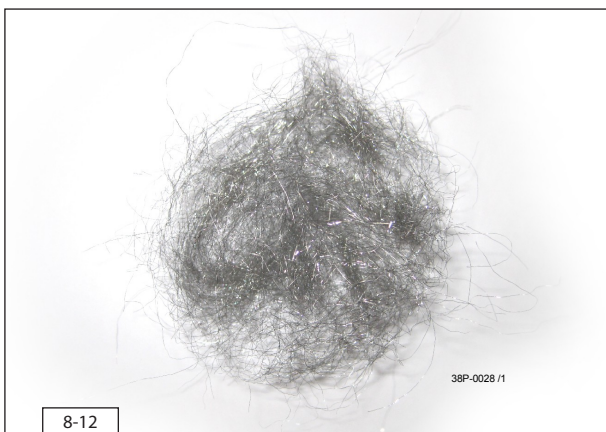
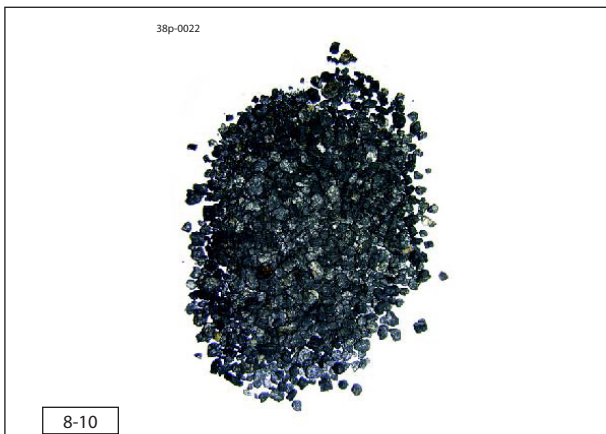
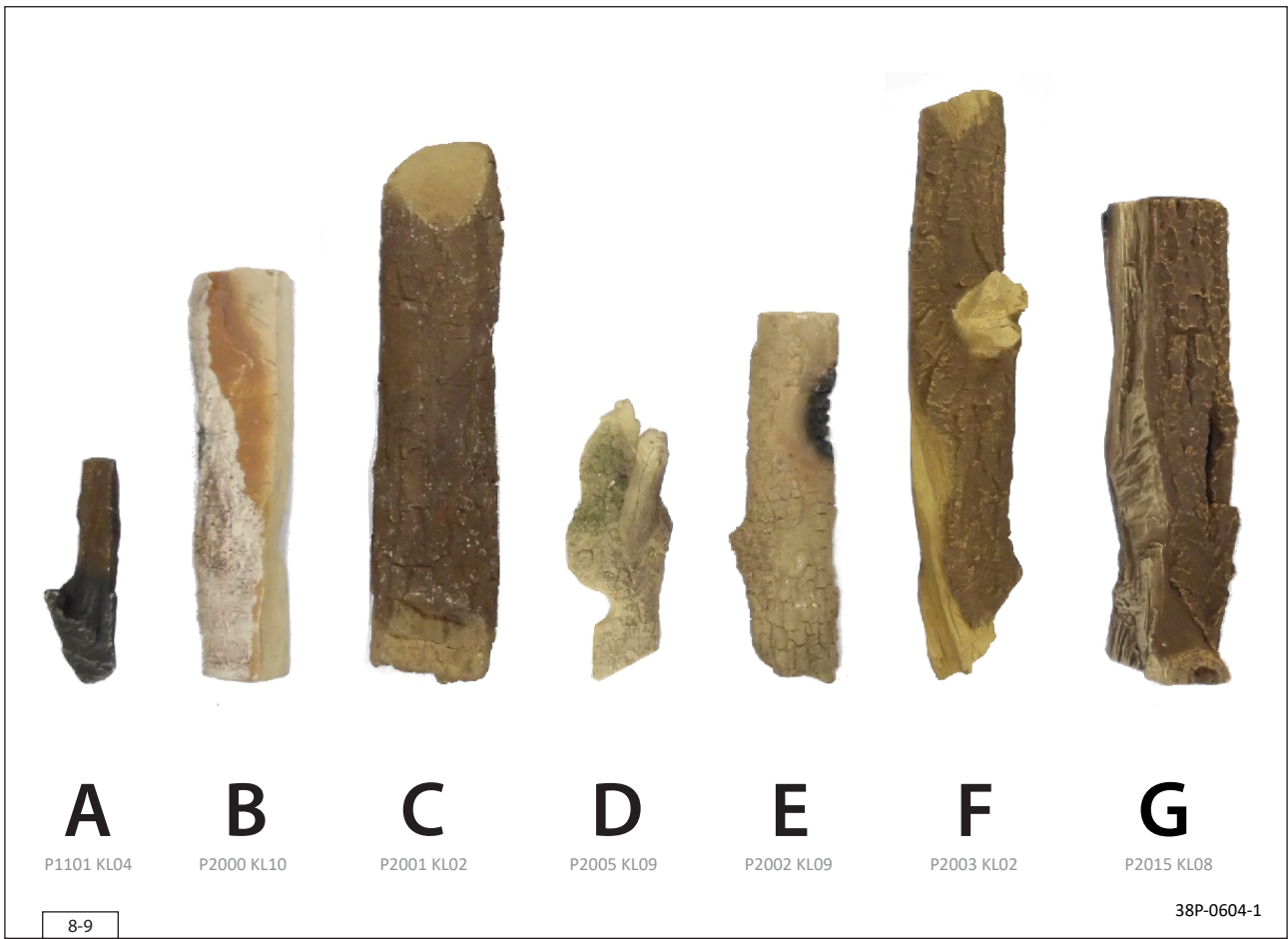


8.3.1 Placing the wood set

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

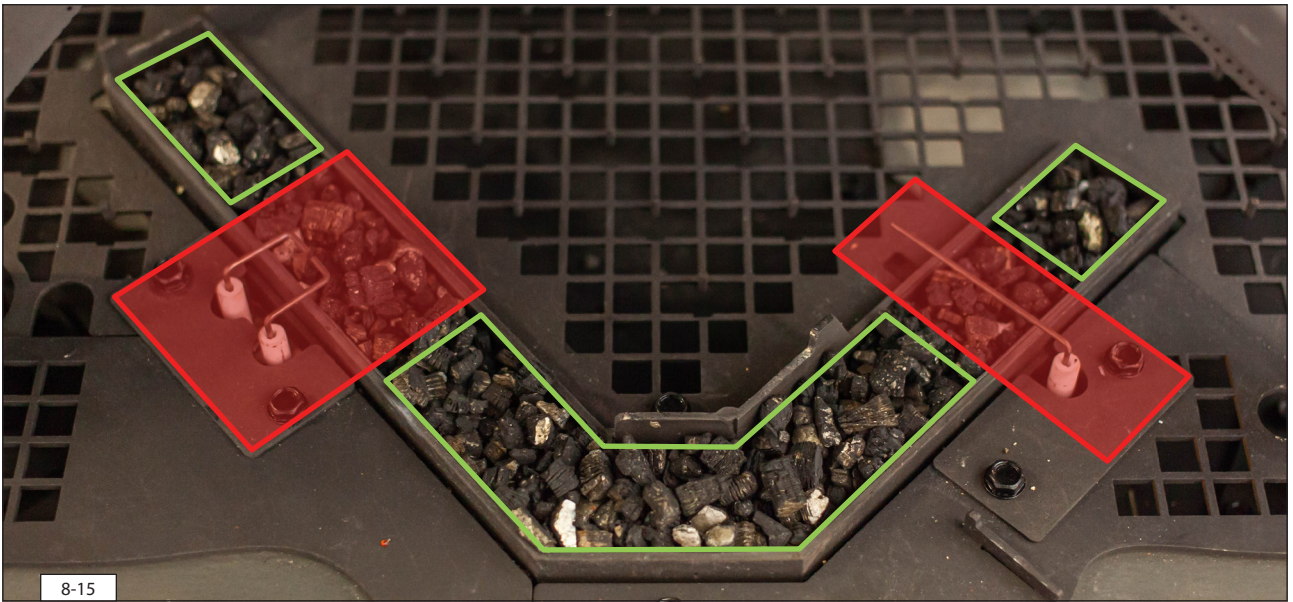
💡 For Eco Glow appliances, an extra set of Glowing Embers is supplied (see fig. 8-14).

⚠ It is not possible to completely cover the Eco Glow openings in the plate around the burner, which means there is a risk of scattered light. This can be prevented as much as possible by the correct placement of Glowing Embers, coals and chips. Scattered light can also originate under, above and next to the appliance. Take this into account when designing the chimney breast.

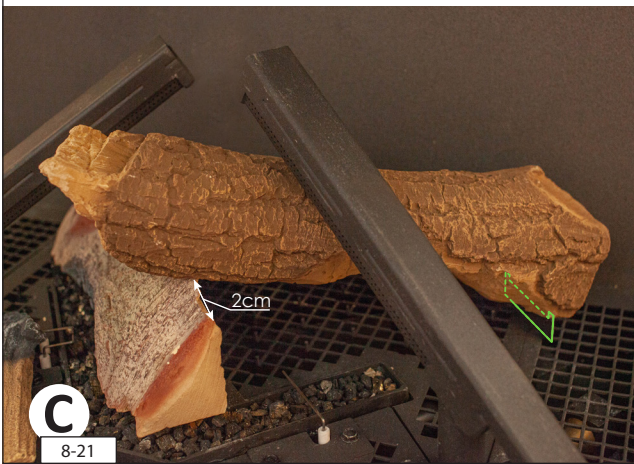




- Fill the V-shaped burner with vermiculite; evenly spread the vermiculite (see appendix 3, fig. 18). The vermiculite may not get higher than the edge of the burner.
- 💡 You can influence the flame picture by moving the vermiculite,
- ⚠ - The vermiculite may not get higher than the edge of the burner.
- The burner deck has to remain covered with vermiculite in order to prevent reduction of the burner's life span.
- For **appliances without Eco Glow**, use all chips in the wood set.
- Fill the vermiculite plates with chips, spread the chips evenly, keep the sections marked in red free of chips (see fig. 8-18).
- For **appliances with Eco Glow**, use the glow rocks, coals and a portion of the chips.
- Only use 400ml of the supplied grey chips and 2x 600ml of the black chips. This is less than the total amount supplied with the appliance. Dispose of the surplus chips according to local laws.
- 💡 First place the Glowing Embers and then the coals. Switch on the glow lighting while placing, so that the stray light can be seen directly and covered with the rocks and coals.
- Spread the Glowing Embers over the grid pattern and square holes in the vermiculite plate, keep the sections marked in red free (see fig. 8-19).
- Spread the chips over the remaining sections, keep the sections marked in red free.
- Spread the ash over the chips and/or place the glow material over the lying burner in separate tufts.
- ⚠ - Prevent the ash from ending up on the burners.
- Only place the glow material on sections that are marked green.
- The areas around the ionization and ignition should remain free from glow material (see fig. 8-15).
- The glow material may affect the colour of the flame picture.
- Identify logs A to G (see appendix 3, fig. 13).2
- 💡 Use the burn stains on the logs for identification.
- Place log A to the left of the ignition, on top of the chips. (See fig. 8-19/8-20 and 8-21)
- Place log B on top of the V-shaped burner in the position cams, the log may not cover the burner pattern (See fig. 8-19/8-20 and 8-21).
- Place log C on the position cam to the right and on log B to the left, make sure there is 1 centimeter play between log C and the standing burner to the right. (See fig. 8-19/8-20 and 8-21)
- Place log D against the tube of the left standing burner and in the position cam. (See fig. 8-19/8-20 and 8-21)
- Place log E on the position cam to the left and on log B to the right (See fig. 8-22/8-23 and 8-24).
- ⚠ Make sure in case of G31 that logs F and G of the standing burners are not lying on the cams, but against the cams (see fig. 8-24).
- Place log F over the left standing burner. (See fig. 8-22/8-23 and 8-24)
- Place log G over the standing burner to the right. (See fig. 8-22/8-23 and 8-24)



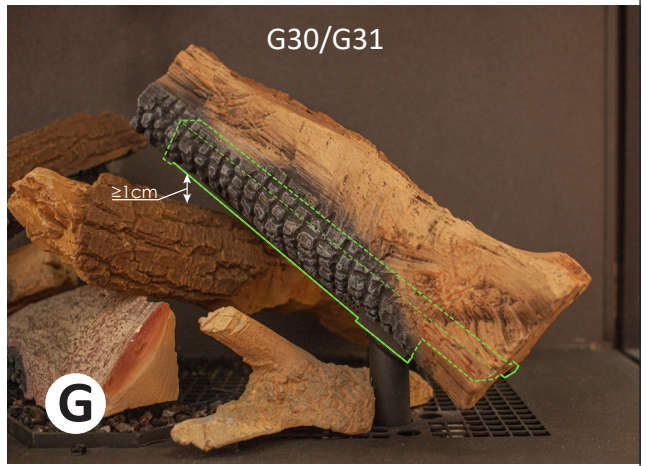
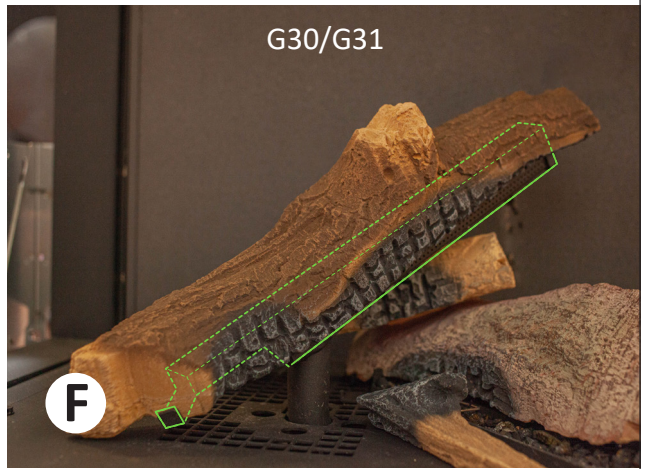








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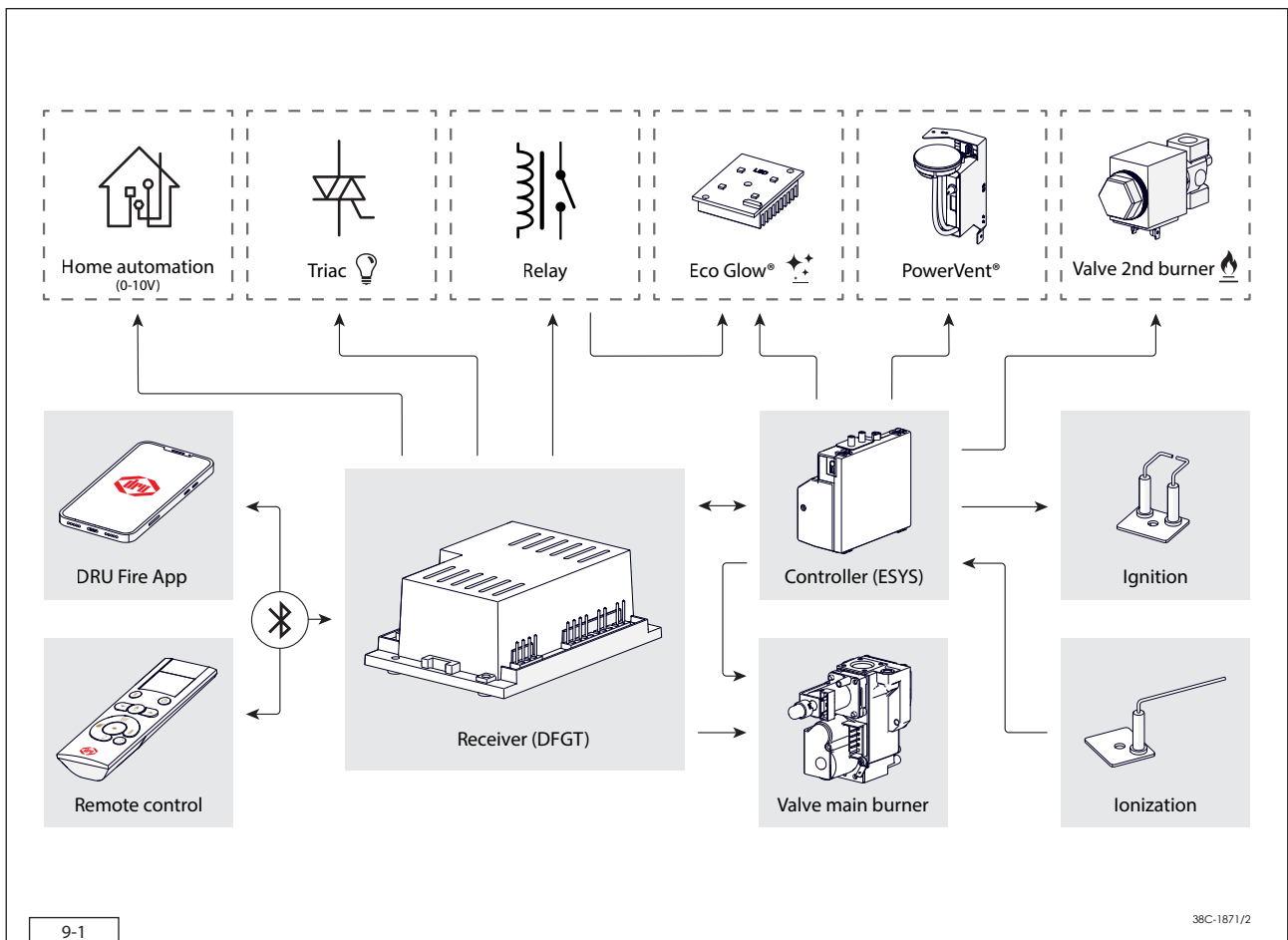
9. Control/operation

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

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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.

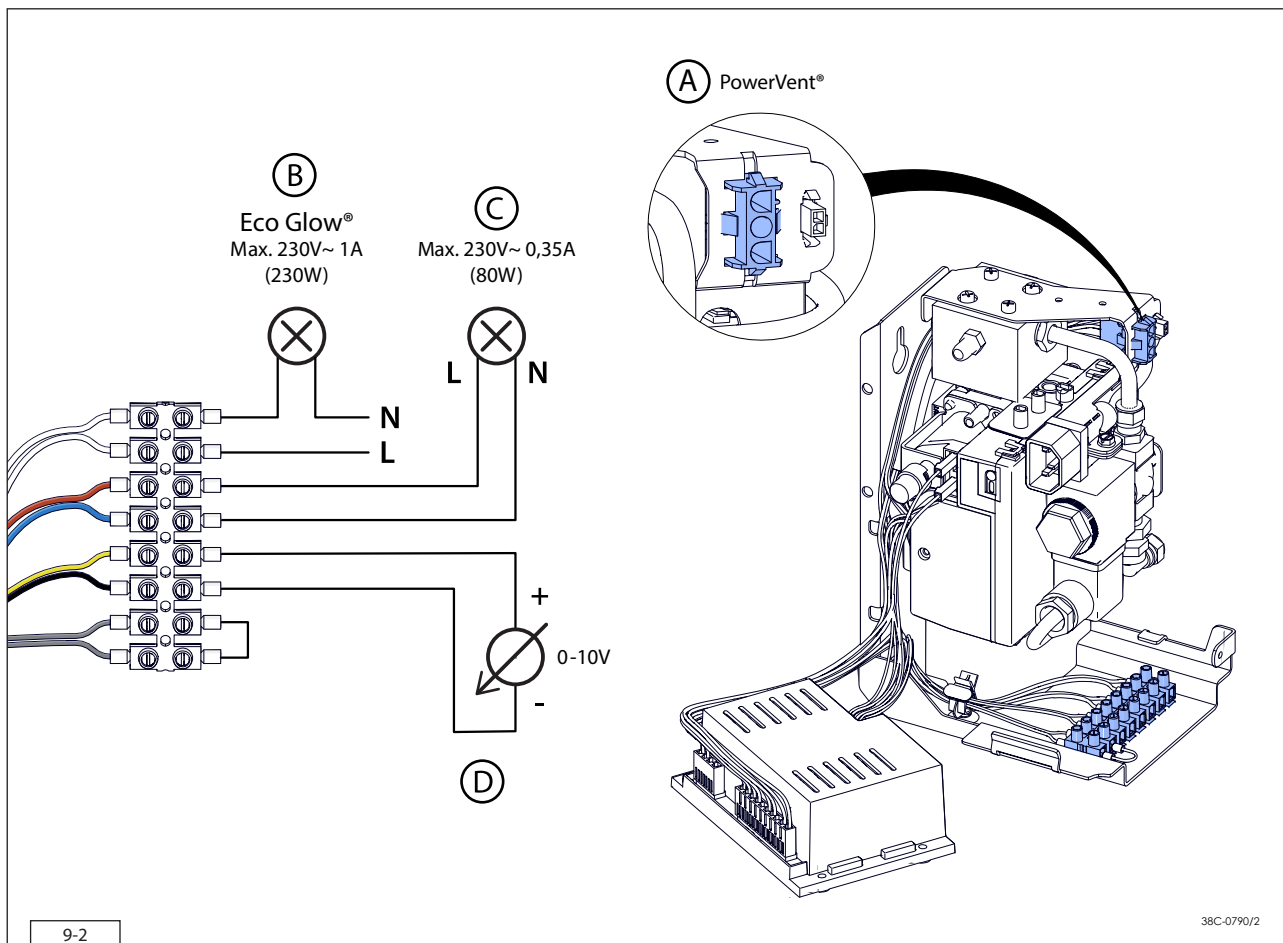
After ignition of the main burner (half the capacity), the ionization is measured to check for a correct and full ignition of the burner. When no ionization is detected after 15 seconds, the ignition cycle is interrupted and the appliance will enter into a failure condition.

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.

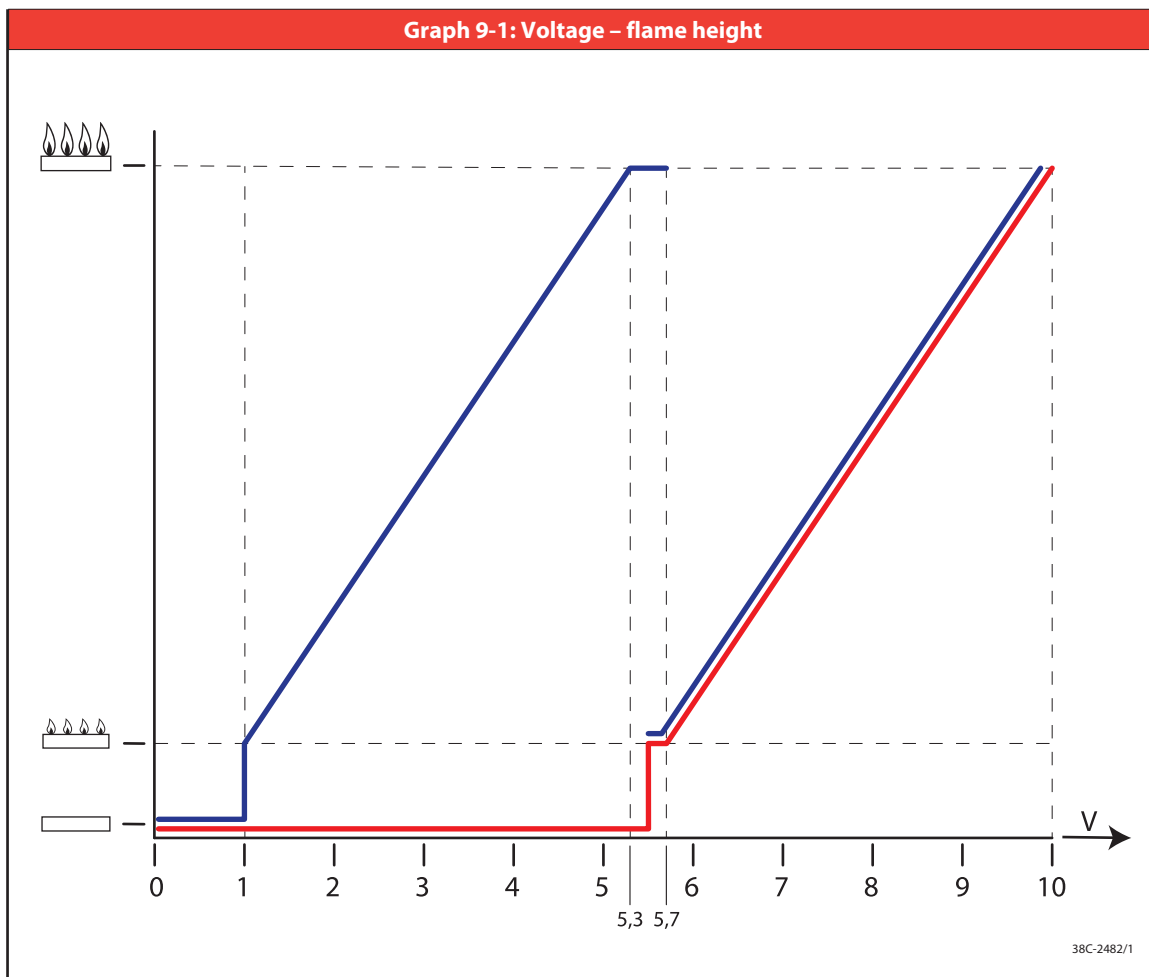
9.5 Wired home automation system

(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.



10. Final inspection

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 house installations must be checked, because it can be wrong.
- 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

- ⚠ - For inspection purposes, ignite the appliance without a glass pane after installation or after having performed work.
- If necessary, bleed the gas pipe.

Proceed as follows:

1. Remove the glass pane from the appliance (see section 8).
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.

- ⚠ 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.

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

- ⚠ 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 main burner again does NOT continue to burn:





9. Switch off the appliance.
10. 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:

11. 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.
 12. Repeat the ignition procedure a few times and perform checks as described in section 10.3.2.
 13. The main burner should ignite smoothly at each attempt and should continue to burn.
 14. 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 Igniting the burner(s)

-  - The ignition mechanism should ignite the main burner(s) within a few seconds and without popping.
 - The main burner(s) must ignite smoothly, without popping and across the entire burner, and continue to burn.
 - The second burner (if applicable) should ignite smoothly across the entire length of the burner(s) and continue to burn.
 - 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. Ignite the appliance in the same way as the first ignition as described in section 10.3.1.
-  Check the correct ignition of the main burner from cold condition.
-  If sparks are observed between the electrodes of the ignition mechanism, the main burner should ignite 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).

10.4 Flame picture

When stoking up for the first time, the flame picture is affected by the evaporation of, for instance, volatile components from paint and other materials. In case of a cold start, the appliance should first reach the correct temperature before the flame picture can be assessed.

-  The flame picture and a good flame transfer can only be assessed when the glass pane is mounted and/or closed.
-  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
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

