Bellfires
since 1928

INSTALLATION INSTRUCTIONS & MANUAL FOR MAINTENANCE

SMART BELL 80 - 80 PF

Gas fire with closed combustion system

Bellfires wishes you many cosy evenings with your new Bellfires gas fire

This document is an essential part of your gas fire. Read it carefully before installation and use of the gas fire and keep it in a safe place!

CE

Serial number:

Production date:

BELLFIRES GAS FIRE WITH CLOSED COMBUSTION SYSTEM:

Smart Bell 80 - 80 PF (Premium Fire)   (SB 80-80 PF)

IMPORTANT

These Installation Instructions form part of the documentation pack supplied with the appliance.

The complete documentation, necessary for the installation of the appliance, consists of:
1. INSTALLATION INSTRUCTIONS &
    MANUAL FOR MAINTENANCE
2. AVAILABLE COMPONENTS CONCENTRIC FLUE-SYSTEMS FOR
    BELLFIRES GAS FIRES WITH CLOSED COMBUSTION SYSTEM
3. INSTRUCTIONS FOR USE &
    MANUAL DAILY MAINTENANCE

CONTENTS

IMPORTANT

⚠️

**The installation must only be carried out by a
"Gas Safe Register" registered installation engineer.**

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1   INSTALLATION INSTRUCTIONS

1.1   GENERAL

The gas fire must be positioned and connected as a "room sealed system" (balance flue) appliance by a "Gas Safe Register" registered gas installation engineer in accordance with the following installation instructions, nationally and locally applicable regulations (see "Technical Details / Regulations" at the rear of this manual). If you have any queries regarding the installation, please consult your local gas company.

Important: **Before beginning the installation, check that the details on the**
⚠   **rating plate correspond to the gas type and pressure to which**
               the appliance will be connected.

The appliance is factory set to the correct nominal heat input. The pilot light is set to the correct level of consumption.

The appliance will be delivered from the factory with a Ø100 mm - Ø150 mm concentric connection for extracting the flue gases and supply of combustion air.

It is possible to install the gas fire with either a wall or roof outlet.

The roof connection must be carried out using the concentric flue system Ø100 mm - Ø150 mm. The fumes are exhausted naturally to the outside environment through the inner Ø100 mm pipe whereas the combustion air supply passes between the Ø100 mm and Ø150 mm pipes.

The gas fire can be installed in a completely sealed or mechanically ventilated house without extra ventilation and/or fume extraction.

The gas fire can be installed as an **insertion** into an existing open fireplace or as a **built-in** appliance in a new fireplace.

In order to prevent the fireplace heating up excessively, it must be properly ventilated by installing vents at the top and bottom of the fireplace.

The appliance is equipped with a convection casing. This brings the heated air into the room. Optionally, the appliance can be equipped with a convection fan for faster dissemination of this hot air.

If an existing chimney is to be used, please consult your installer first. If the chimney was previously used for a wood or coal fire, then it should be cleaned by an expert.

1.2 CONCENTRIC FLUE SYSTEMS Ø100 MM - Ø150 MM

- **Bellfires** - **Muelink & Grol system**
- **Poujoulat** - **DUOGAS system**
- **Ontop** - **Metaloterm US system**
- **Jeremias/STB** - **H-Twin system (STB = Chimney-Technics Brummen NL)**
- **Jeremias** - **TWIN-GAS system**

The gas fire, in combination with the concentric flue system [Ø100 mm - Ø150 mm] (rigid and/or flexible) for the brand types mentioned above, has been approved in accordance with the European CE-norm for gas appliances and may therefore be used only with these systems.
The permitted components for these systems are listed in instructions enclosed: AVAILABLE COMPONENTS CONCENTRIC FLUE-SYSTEMS FOR BELLFIRES GAS FIRES WITH CLOSED COMBUSTION SYSTEM. The guarantee on the appliance lapses if it is installed, fully or partially, with other components or a different flue system.
The concentric flue [Ø100 mm - Ø150 mm] systems can be used with either a newly-built or existing chimney.

1.3 INVENTARIS

Set documentation	- Installation instructions & Manual for maintenance - Instructions for Concentric Components - Instructions for use & Manual daily maintenance
Attributes	- Ceramic log set - Hook (for opening the frame and the glass) - Fire glass "Black" - Fire glass "Dark Amber" - Embers - Decorative ash

N.B. If any part is missing, please contact your dealer.

1.4 OPTIONS AND ACCESSORIES

The following options and accessories can be supplied by your dealer:

Part no	Option
311967	Mantle iron L = 1250 mm
343387	Built-in Frame (3-sided)
343388	Built-in Frame 4 cm deepened
343390	Classic Frame 35 mm
343389	Classic Frame 52 mm
343391	Classic Frame 70 mm
343167	Black mirror rear wall
343392	Steel panel rear wall
343393	Fan set Smart Bell 80-80: Set, consisting a convection fan (230VAC/39W), cable, assembly material and convection cover.

Part no	Accessorie
329874	Set carrying brackets (2 pieces)
302278	Adapter flue gas connection Ø100 mm for stainless steel flex.
302279	Adapter combustion air connection Ø150 mm for stainless steel flex.
3........	Bellfires (M&G) concentric flue system(*)
3........	Poujoulat (DUOGAS) concentric flue system(*)
3........	Ontop (Metaloterm US) concentric flue system(*)
3.......	Jeremias/STB - H-TWIN concentric flue system(*)
3.......	Jeremias - TWIN-GAS concentric flue system(*)
	(*) Please refer to the instructions enclosed: CONCENTRIC COMPONENTS SUITABLE FOR THE INSTALLATION OF A BELLFIRES GAS FIRE WITH CLOSED COMBUSTION

1.5 PREPARATION FOR INSTALLATION

The following preparation must be carried out before the gas fire can be installed.

1.5.1 Instructions for positioning the outlet

1.5.1.1 Positioning the outlet for correct operation:
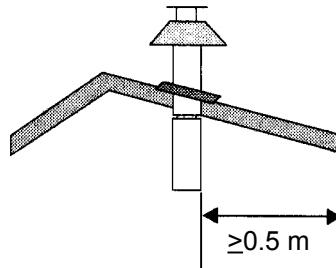
Roof-mounted outlet:

>0.5 m

Figure 1: Roof-mounted outlet

This must be positioned at least 0.5 m from the roof edge;
the apex of the roof can be disregarded.
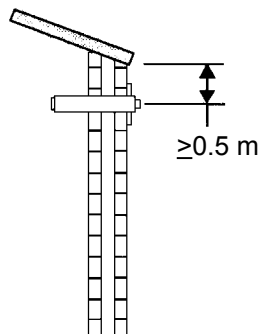
Wall-mounted outlet:

>0.5 m

Figure 2: Wall-mounted outlet

This must be positioned at least 0.5 m from:
• the corner of the building.
• the roof overhang, the rain gutter.
• balconies etc., unless the exhaust construction
  extends to at least the face of the protruding section.

1.5.1.2. Positioning the outlet to avoid affecting the surrounding area

⚠️ **All listed "distances" in this section are no more than guidelines.**
For the exact minimum "distances", please consult your national and local directives.

> "Distance" = minimum distance required for positioning of the outlet to avoid adverse effects with respect to:
>
> A. A ventilation opening serving an occupied room, a toilet or a bathroom.
>
> B. A heating air supply, when the supply flows through an occupied room.
>
> C. A window that can be opened and that is near an occupied room, a toilet or a bathroom.

Roof-mounted outlet:

To avoid adverse effects	Distance: outlet - A, B or C
At the same roof level.	>3 m (*)
At a different roof level.	>1 m (*)
At a lower positioned wall.	>1 m
At a higher sloping surface.	>3 m (**)

(*)   If the required distance cannot be achieved, the outlet position rules take precedence.

(**) If the required distance cannot be achieved, the position of the outlet must be at least 1 m above the highest facade/roof.

Wall-mounted outlet:

To avoid adverse effects	Distance: outlet - A, B or C
At walls in buildings with staggered heights.	Not permitted if A, B, or C are located above the outlet.
On a wall - general. (*)	Above the outlet: >2 m Below the outlet: >0.75 m Left and right of the outlet: >0.75 m
At <1 m from the roof overhang.	>2 m
Beneath balconies, walkways etc.	>2 m from the underside of the protruding balcony or walkway.
Beneath balconies, walkways etc. where the outlet extends to the front.	>2 m
To the garden or on the terrace.	>2 m to the outside space. (**)
With respect to a facing wall.	>2 m (if the distance from the facing wall is less, the criteria detailed for "On a wall - general" apply).
Enquire at your local gas company for the regulations relating to outlets positioned opposite each other and outlet(s) in facade(s) that form an angle.	

(*)   These minimum distances do not apply if there is an obstruction
         between the outlet and A, B and C that protrudes at least 0.5 m from
         the wall and has a length exceeding the distance.

(**)   This distance is not required if the outlet is situated at least 1 m
         higher than the intended area of the outside space.

If the outlet has a clearance of less than 0.5 m from the hard surface of a public area at a height of less than 2 m, it must be fitted with an effective protector. The mesh size of the guard must not affect the correct operation of the appliance.

1.6 GENERAL SERVICES

1.6.1 The Fume Channel/Combustion Air Intake

The combined <u>fume channel</u> and <u>combustion air intake</u> requires one of the following concentric flue system configurations.

Important:

**Due to the high temperature of the outer walls (approx. 150°C), no flammable materials may be located or used in the vicinity of the flue system.
The complete flue system, must therefore be sleeved with a heat resistant material after assembly.**

Ventilate the covered concentric flue by fitting a grid near the floor and ceiling (on each floor).

<u>Do not</u> insulate the concentric flue.

Use the universal wall/floor support Ø150 mm to attach the covering of the concentric flue system [Ø100 mm - Ø150 mm], see 1.6.2, drawing number 36.
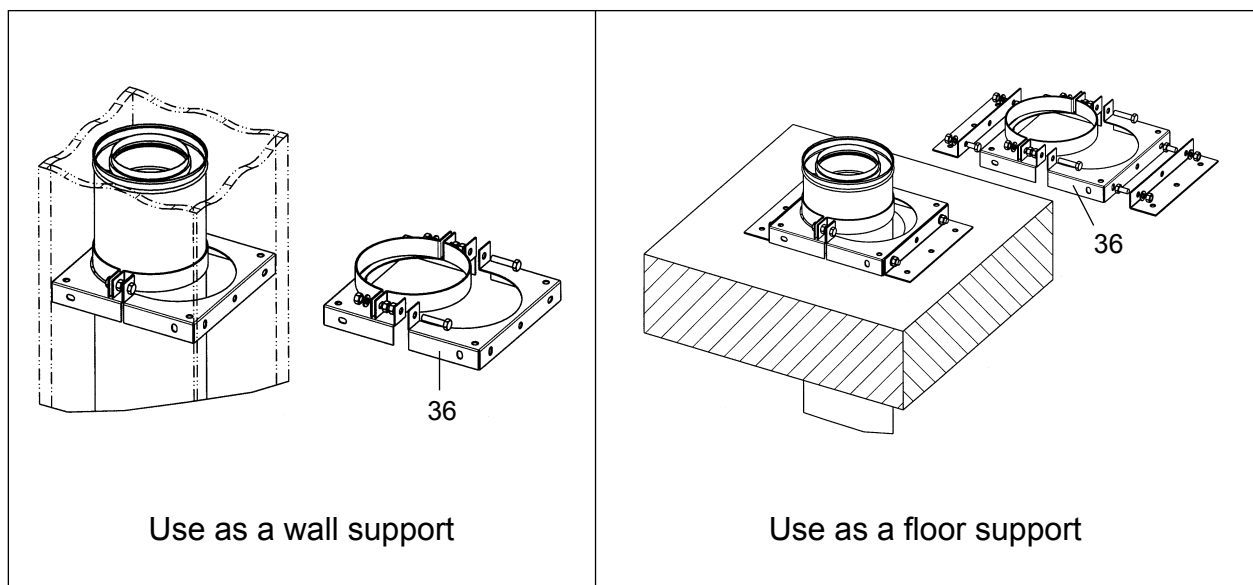
| Use as a wall support | Use as a floor support |

Figure 3: Application universal wall/floor support Ø150 mm

RIGID CONCENTRIC FLUE Ø100 mm - Ø150 mm SYSTEM CONNECTION POSSIBILITIES

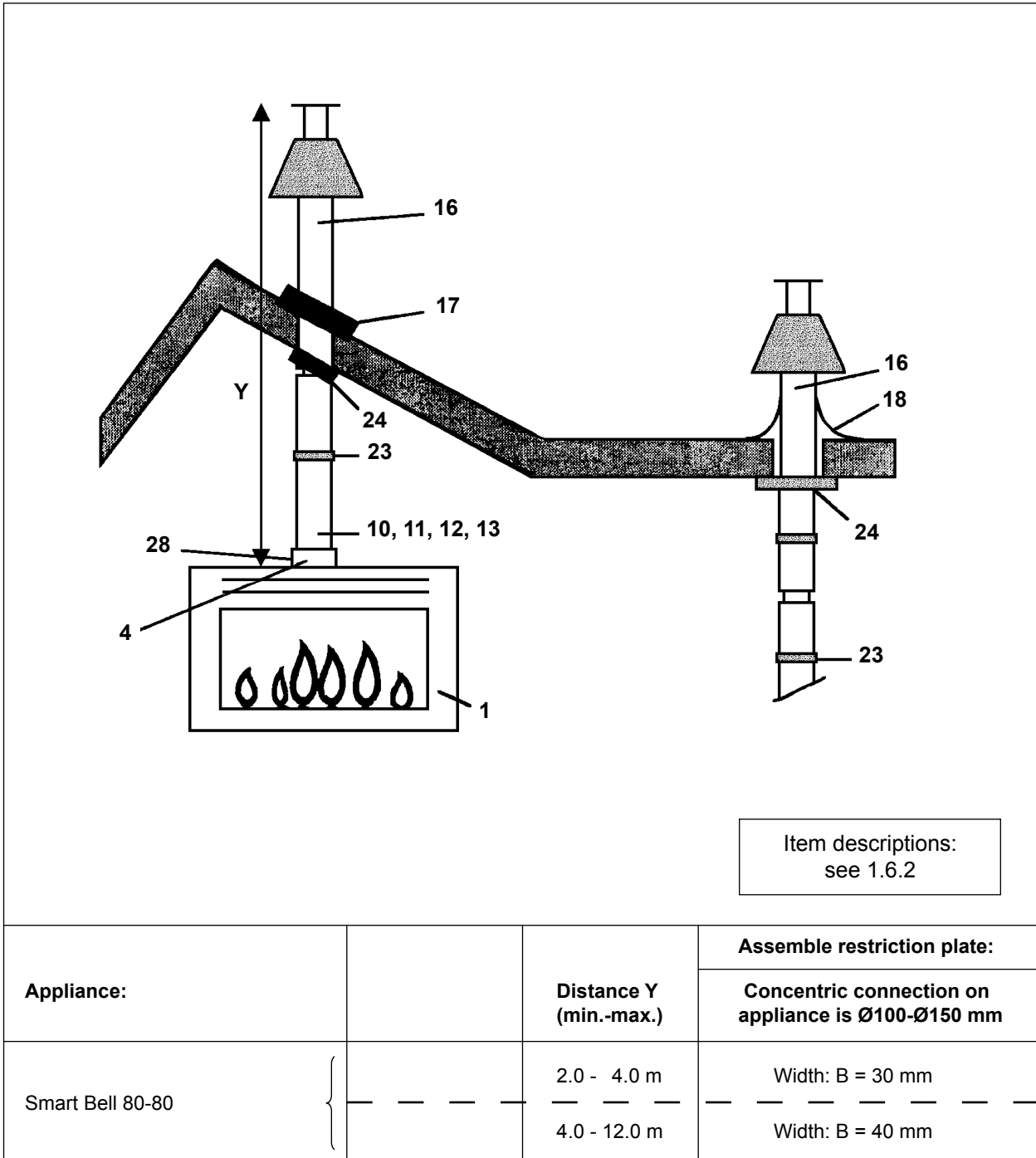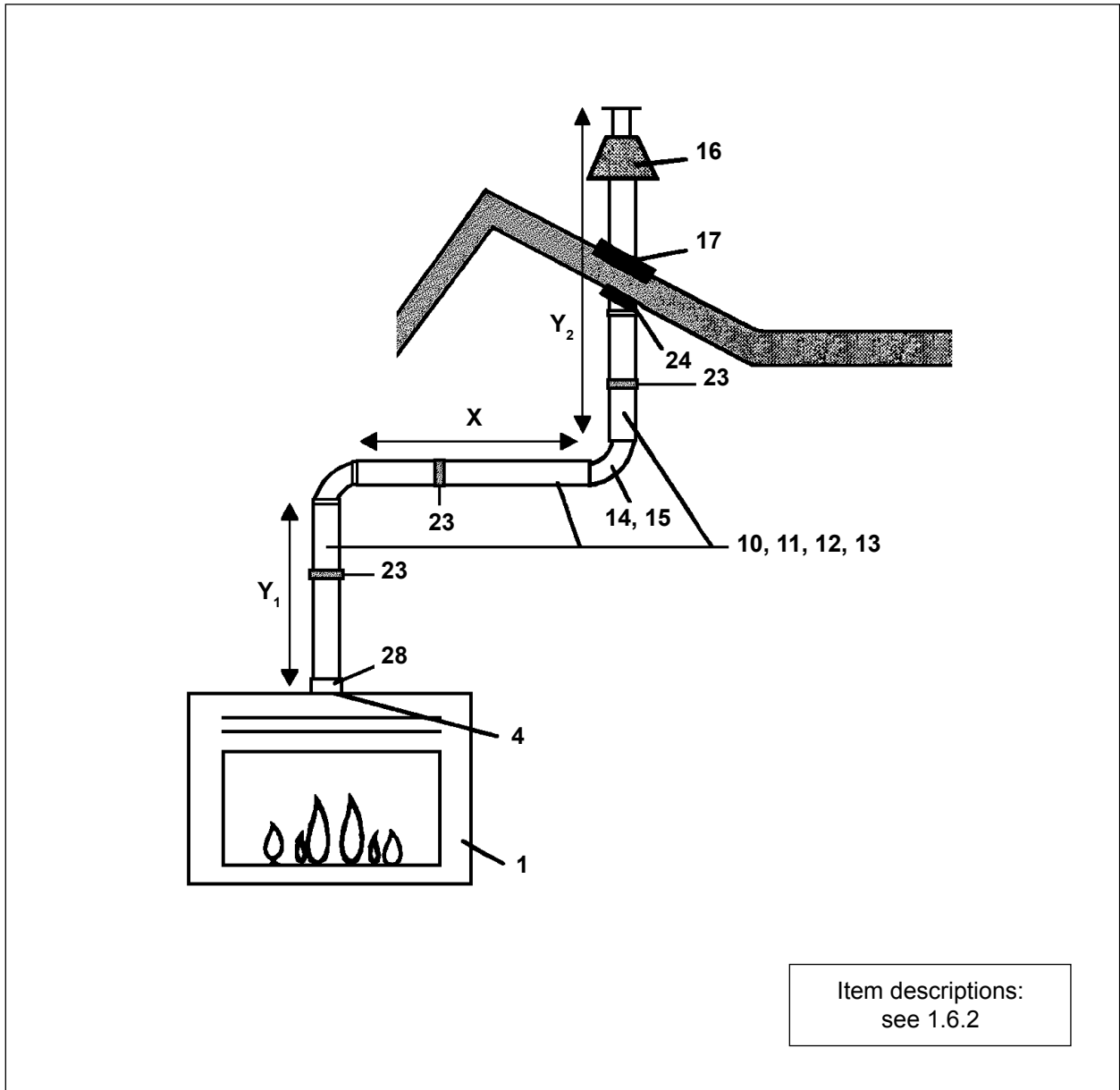**Appliance: Concentric flue connection Ø100-Ø150 mm**

Appliance:		Distance Y (min.-max.)	Assemble restriction plate:
			Concentric connection on appliance is Ø100-Ø150 mm
Smart Bell 80-80		2.0 - 4.0 m	Width: B = 30 mm
		4.0 - 12.0 m	Width: B = 40 mm

Figure 4:   Vertical roof-mounted outlet without bend

ALL SIZES <u>INCLUDE</u> THE LENGTH OF THE ROOF OR WALL TERMINATION

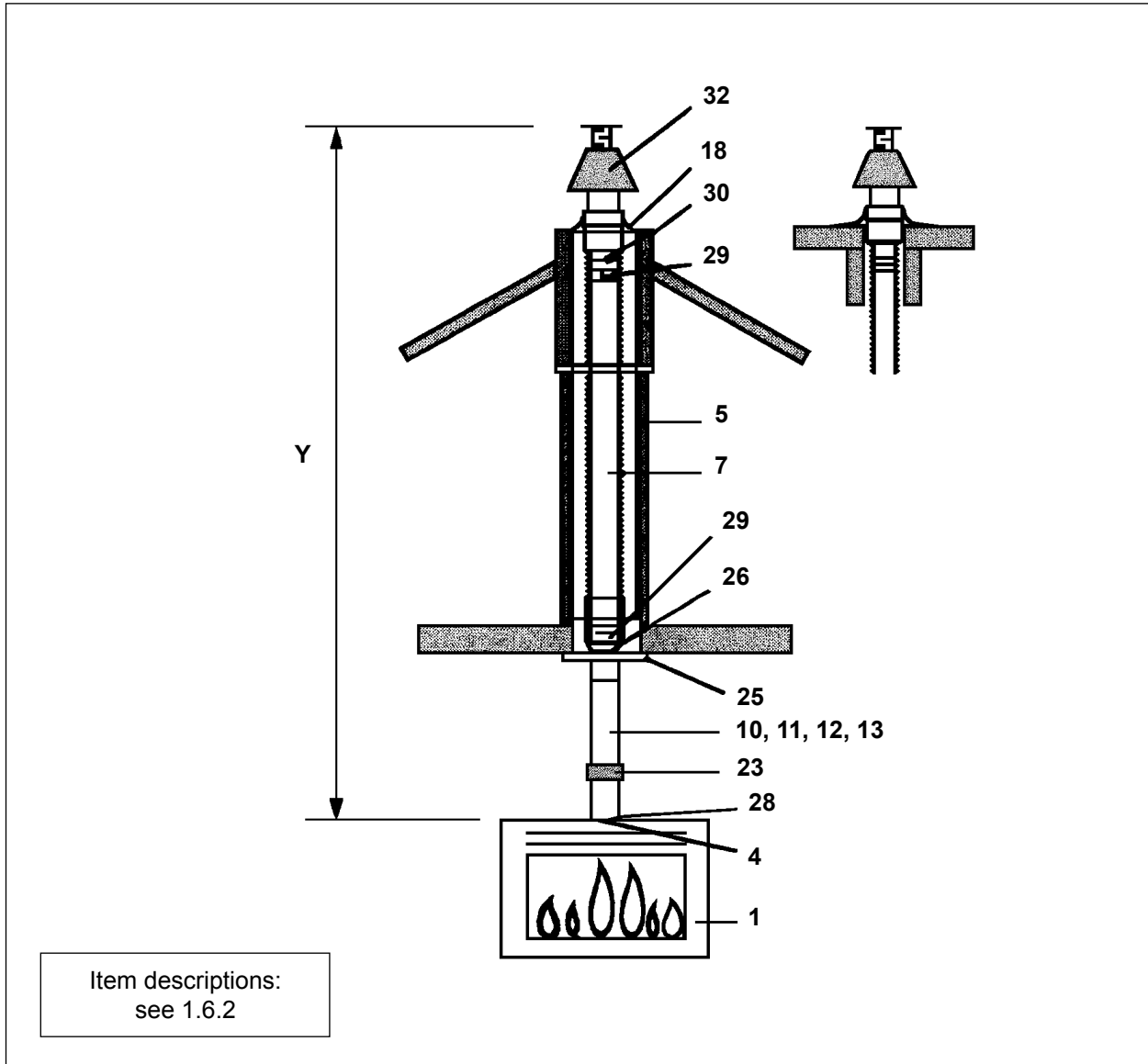| Appliance:	Distance Y_1 (*) (min.-max.)	Distance X (*) (min.-max.)	Distance $Y_1 + Y_2$ (*) (min.-max.)	Assemble restriction plate:
				Concentric connection on appliance is Ø100-Ø150 mm
Smart Bell 80-80	1.0 - 11.0 m	0 - 3.0 m	1.5 - 11.0 m	-

(*) : $(Y_1 + Y_2) : X \geq 2 : 1$
(Vertical to horizontal ratio (or 45° upwards) is always at least 2 to 1)

Figure 5: Vertical roof-mounted outlet with bend

ALL SIZES <u>INCLUDE</u> THE LENGTH OF THE ROOF OR WALL TERMINATION

## FLEXIBLE CONCENTRIC FLUE Ø100 mm - Ø150 mm SYSTEM CONNECTION POSSIBILITIES

Appliance: Concentric flue connection Ø100-Ø150 mm

Item descriptions:
see 1.6.2

Appliance:		Distance Y (min.-max.)	Assemble restriction plate:
			Concentric connection on appliance is Ø100-Ø150 mm
Smart Bell 80-80	{	2.0 - 4.0 m	Width: B = 30 mm
	{	4.0 - 12.0 m	Width: B = 40 mm

Figure 6: **Vertical chimney outlet using an existing lined chimney**
(Flexible Ø100 mm and/or rigid Ø100 mm / Ø150 mm)

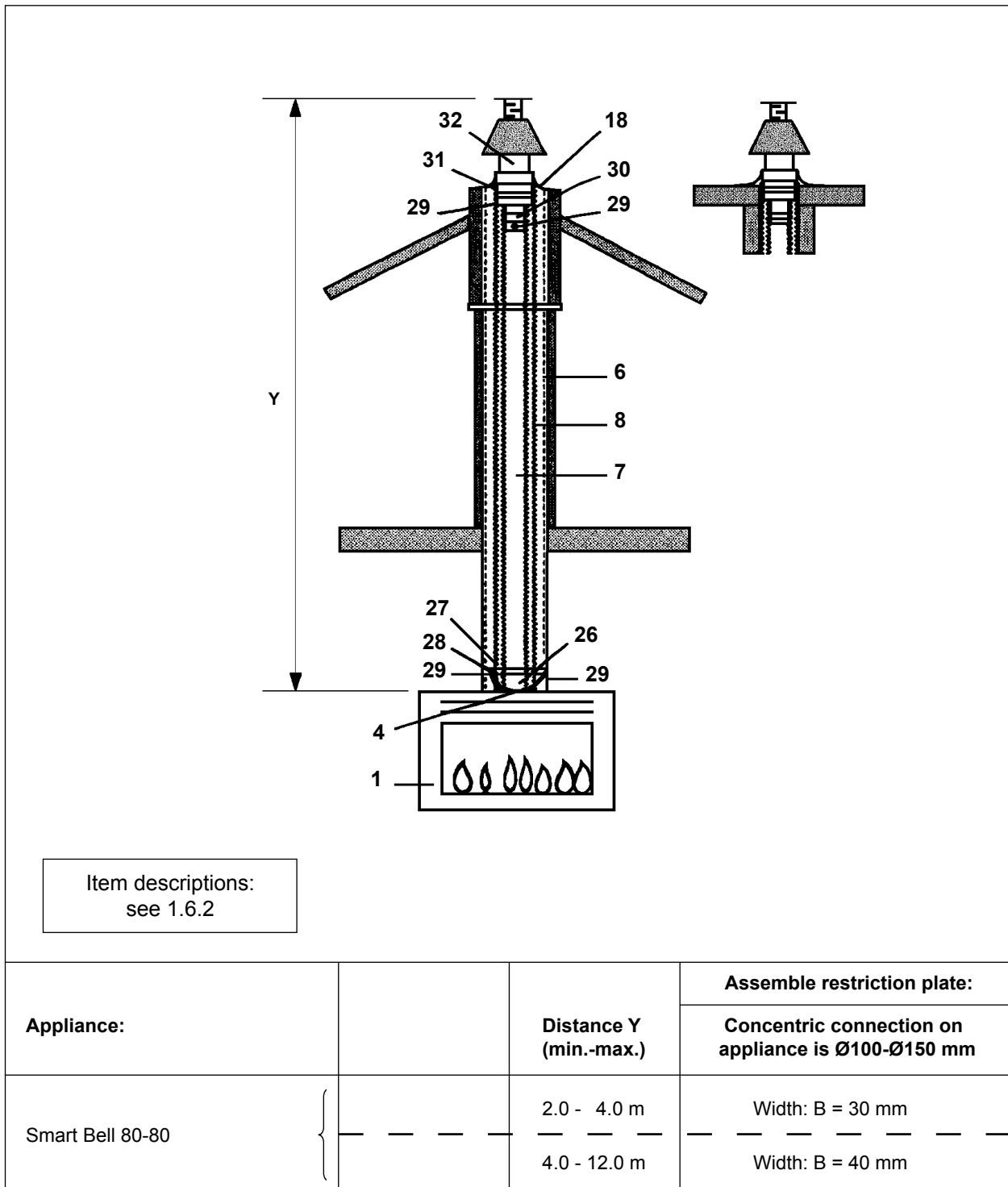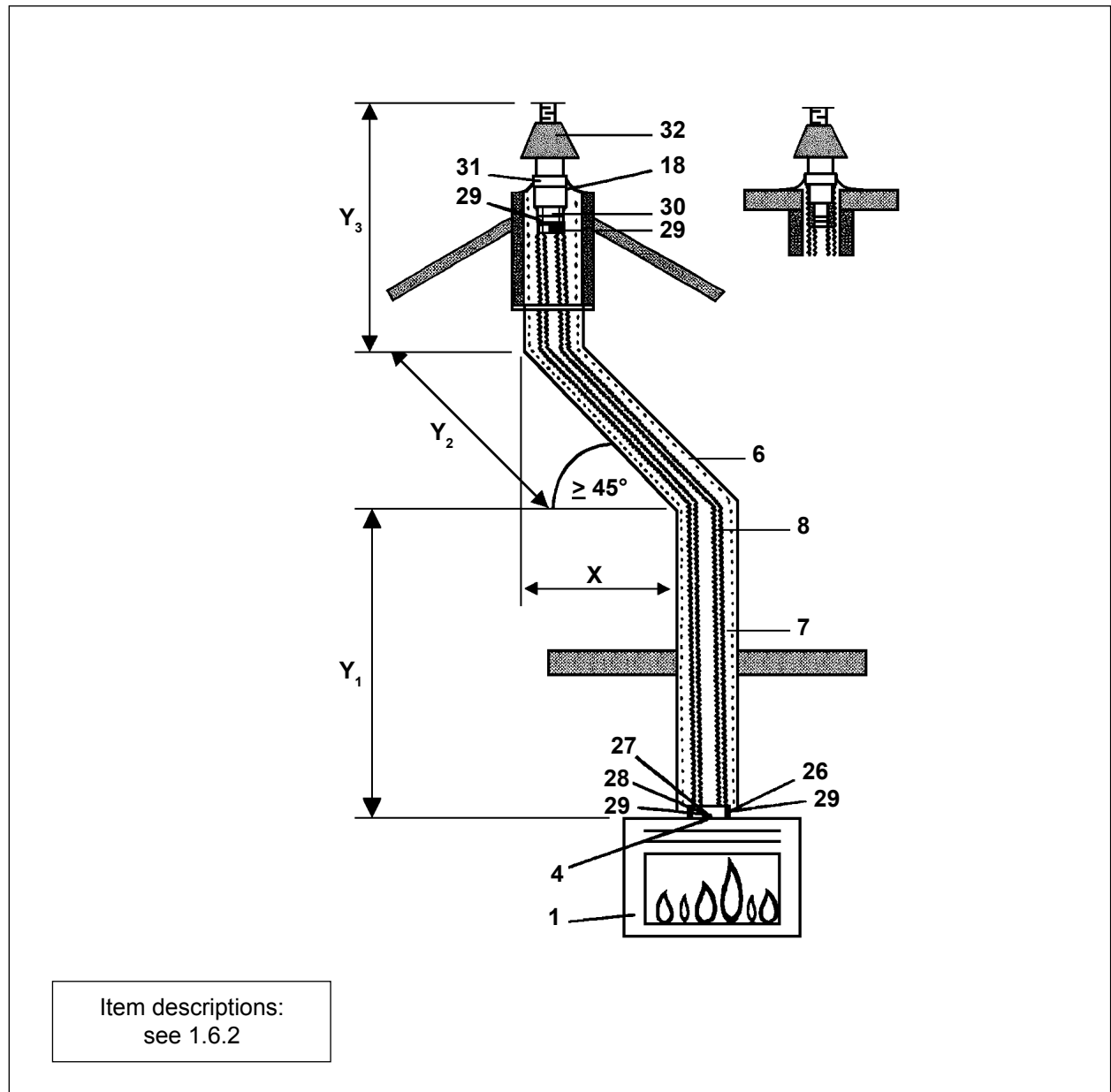ALL SIZES <u>INCLUDE</u> THE LENGTH OF THE ROOF OR WALL TERMINATION

Appliance:	Distance Y$_1$ (*) (min.-max.)	Distance X (*) (min.-max.)	Distance Y$_1$ + Y$_2$ + Y$_3$(*) (min.-max.)	Assemble restriction plate: Concentric connection on appliance is Ø100-Ø150 mm
Smart Bell 80-80	1.0 - 11.0 m	0 - 3.0 m	1.0 - 11.0 m	-
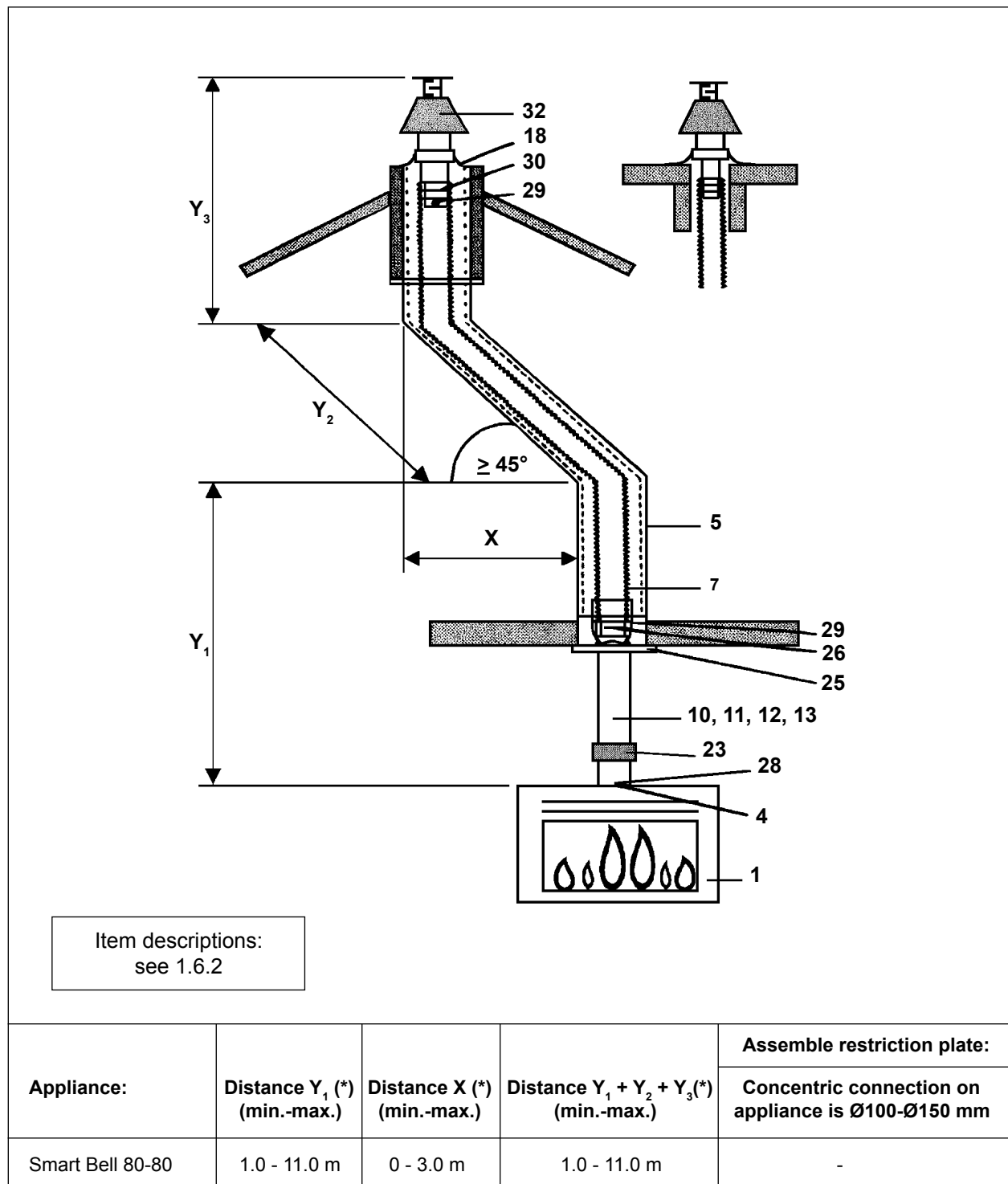
(*) : (Y$_1$ + Y$_2$+ Y$_3$) : X $\geq$ 2 : 1
(Vertical to horizontal ratio (or 45° upwards) is always at least 2 to 1)

Figure 7:   Vertical chimney outlet using a lined chimney with a bend $\geq$ 45°
            (Flexible Ø100 mm and/or rigid Ø100 mm / Ø150 mm)

ALL SIZES <u>INCLUDE</u> THE LENGTH OF THE ROOF OR WALL TERMINATION

Item descriptions:
see 1.6.2

Appliance:		Distance Y (min.-max.)	Assemble restriction plate:
			Concentric connection on appliance is Ø100-Ø150 mm
Smart Bell 80-80		2.0 - 4.0 m	Width: B = 30 mm
		4.0 - 12.0 m	Width: B = 40 mm

Figure 8:   Vertical chimney outlet using an existing unsound lined chimney or when no chimney liners are present
(Flexible Ø100 mm / Ø150 mm)

ALL SIZES <u>INCLUDE</u> THE LENGTH OF THE ROOF OR WALL TERMINATION

Appliance:	Distance Y_1 (*) (min.-max.)	Distance X (*) (min.-max.)	Distance $Y_1 + Y_2 + Y_3$ (*) (min.-max.)	Assemble restriction plate: Concentric connection on appliance is Ø100-Ø150 mm
Smart Bell 80-80	1.0 - 11.0 m	0 - 3.0 m	1.0 - 11.0 m	-

(*) : $(Y_1 + Y_2 + Y_3) : X \geq 2 : 1$
(Vertical to horizontal ratio (or 45° upwards) is always at least 2 to 1)

Figure 9: **Vertical chimney outlet using an existing unsound lined chimney or when the chimney is unlined; with a bend $\geq$45°**
(Flexible Ø100 mm / Ø150 mm)

ALL SIZES <u>INCLUDE</u> THE LENGTH OF THE ROOF OR WALL TERMINATION

RIGID CONCENTRIC FLUE Ø100 mm - Ø150 mm SYSTEM CONNECTION POSSIBILITIES and with wall outlet Ø100 mm - Ø150 mm

Appliance: Concentric flue connection Ø100-Ø150 mm

Wall Termination Position

Item descriptions: see 1.6.2

Appliance:	Distance Y (min.-max.)	Distance X (min.-max.)	Assemble restriction plate: Concentric connection on appliance is Ø100-Ø150 mm
Smart Bell 80-80	1.0 - 2.0 m	0 - 1.6 m	-
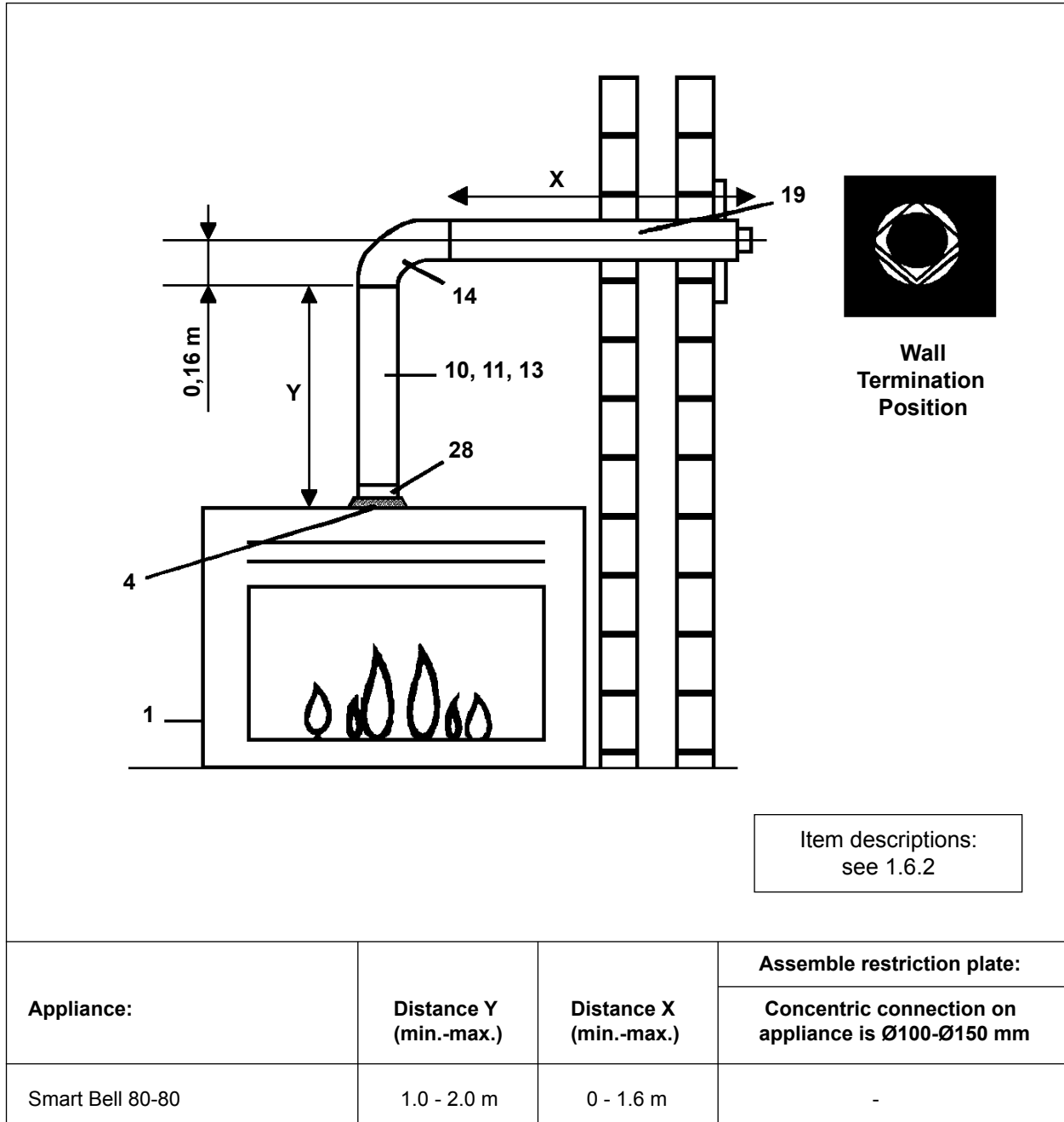
Figure 10:   Horizontal wall termination

ALL SIZES <u>INCLUDE</u> THE LENGTH OF THE ROOF OR WALL TERMINATION

1.6.2 Item descriptions for figures 4 t/m 10

FIG. NO.	DESCRIPTION
1	Gas fire; Concentric flue connection Ø100/Ø150 mm
2	-
3	-
4	Restriction plate (The different sizes restriction plates are supplied with every appliance)
5	Chimney, min. Ø150 mm internal, totally gas tight.
6	Chimney or fireproof sleeving. Min. Ø160 mm internal.
7	Ø100 mm internal flexible stainless steel gas vent chimney liner AISI 316TI.
8	Ø150 mm internal flexible stainless steel gas vent chimney liner AISI 316TI.
9	-

For the suitable and available components for concentric chimney systems, please consult the instruction book: "AVAILABLE COMPONENTS CONCENTRIC FLUE-SYSTEMS FOR BELLFIRES GAS FIRES WITH CLOSED COMBUSTION SYSTEM"

- The room-sealed gas appliances have been approved in combination with the components of the concentric flue systems listed in the instruction book: 'AVAILABLE COMPONENTS CONCENTRIC FLUE-SYSTEMS FOR BELLFIRES GAS FIRES WITH CLOSED COMBUSTION SYSTEM', according to the European CE norm for gas appliances and may therefore be used **only** with these components.
- The components of the concentric flue system of:
  * Bellfires   -   Muelink & Grol System
  * Poujoulat   -   DUOGAS System
  * Ontop   -   Metaloterm US System
  * Jeremias/STB -   H-Twin System (STB = Chimney Technic Brummen NL)
  * Jeremias   -   TWIN-GAS systeem
  may **not** be used together in one installation.
- Check whether the wall or roof termination kit to be used **exactly** matches one of those listed in the above mentioned instruction book.

1.6.3   Gas connection

The gas connection; Ø12 mm, is located, ex works, at the side of the appliance.
The appliance can be connected with the gas supply using the separately provided gas supply connector (3/8").

Use only gas piping with a minimum diameter of 1/2" and a shut-off valve.

Position the gas supply pipe so that it can be easily fitted after inserting/installing the appliance.

1.6.4   Electrical connection

The appliance is equipped with ambient lighting and is optionally equipped with a convection fan. Ensure that in the vicinity of the appliance, a wall socket with earth connection, is available. This socket should be accessible at all times.
The powercable (+ 1.0 m) with earth plug is coming from the side of the appliance.

2   INSTALLATION

2.1   POSITIONING THE APPLIANCE

Important:

⚠️

*   **Never use combustible materials during the installation. The appliance may not be installed against a flammable rear wall.**

*   **During installation of the gas fire, a clearance of 3 mm should be maintained on all sides of the appliance to allow for expansion of the appliance during operation.**

*   **Do not insulate the appliance! Only the top and sides may be fitted with a strip of white, loose insulation wool (heat-resistant to 1000°C), width 15 cm max. to protect the wall. Do not use fibreglass or Rockwool, or any other sort of insulating material. These emit a pungent odour. This is considered extremely unpleasant. They may also cause discolouring of the chimney.**

*   **Flammable materials, such as curtains, should not be placed in the vicinity of the gas fire.**
    Minimum safe distance: 100 cm.

*   **Ensure that the temperature of the floor under and in front of the appliance can <u>never</u> rise above 85°C!**
    Make use of a temperature protection plate (of non-flammable material) on the floor if necessary.
    Take care with a floor made of a flammable material.

*   **Minimum distance between the appliance and a front wooden fireplace; with a depth of less than 10 cm, is:**
    * 5 cm on the sides: (min. distance: side appliance - leg wooden fireplace surround)
    * 40 cm at the top: (min. distance: top appliance - bottom of beam wooden fireplace surround)
    The temperature on the underside of the beam of the wooden fireplace must never exceed 85°C.
    Optional: insulate the bottom of the wooden beam with a fireproof plate.

Read one of the following instructions for fitting the appliance, as applicable:

Paragraph 2.1.1   Fitting into a new chimney
Paragraph 2.1.2   Fitting into an existing opening larger than the appliance
Paragraph 2.1.3   Fitting into an existing opening equal or smaller than the appliance

2.1.1 Fitting into a new chimney

The fireplace must be mounted on a concrete floor. If there is no concrete floor, it is essential to re-enforce the floorboards underneath with concrete. Build in the fire insert up to the top of the fireplace opening. Push the appliance into the opening and make the chimney connection.

Connect the gas supply using the separately provided gas inlet connector. Ensure that the gas regulating block is straight during the connection. Ensure that the gas regulating block and pipework are not put under stress.

Make the electrical connection.

During subsequent installation, protect the gas piping against encasement by cement etc.

Important: **Cement and chalk can damage**
⚠   **the gas piping and can, in turn,**
                    lead to gas leaks.

The appliance can now be built in.

First determine the places for the ventilation ducts (grates, at the top and bottom of the fireplace).

The appliance can be built in using brickwork or by means of fire-resistant plates that are screwed to a metal frame. You can, if you like, erect a natural stone mantelpiece in front of this.

If desired, the frame can be removed temporarily, during the installation of the appliance. First remove the door (including glass); see paragraph 5.1.
Then loosen the 3 Allen bolts on the inside of the top frame and the 2 Allen bolts at the bottom left and bottom right respectively a couple of turns. Take the frame forwards and remove. When the installation is completely finished one can place back the frame. Make sure that the Allen bolts are securely turned

Allen bolts
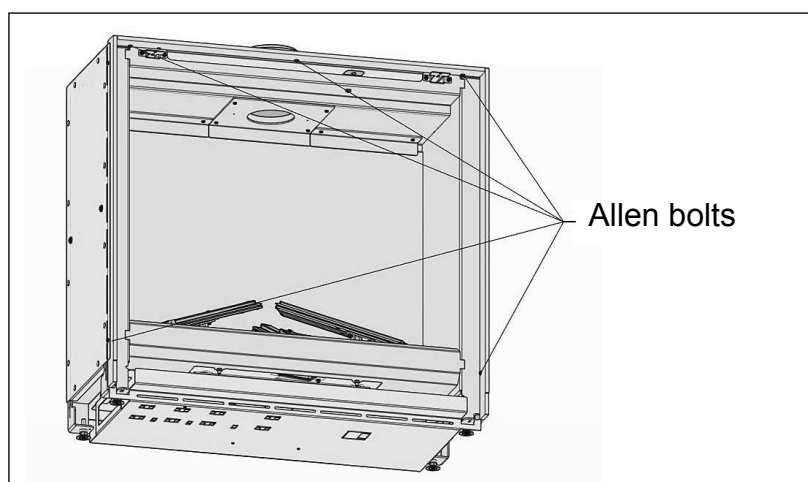
The brickwork must be built up around the hearth. In connection with the hearth expanding during burning: there must be at least 3 mm clearance on either side of the appliance. Do not build up the brickwork farther than the top of the appliance (keep in mind the thickness of any plastering!).

The appliance is supplied with a straight pressed steel lintel as option to allow installation against a flat wall or in a fireplace. The mantle iron is intended for supporting the brick-work above the appliance. The mantle iron must rest on the brickwork on both sides so that upward building is possible. The brickwork therefore must not rest on the fireplace; there must be approx. 3 mm clearance in connection with the weight.

A heat-resistant sealing cord should be placed between the appliance and the lower side of the lintel to allow vertical expansion of the appliance and to prevent cracking the fireplace.
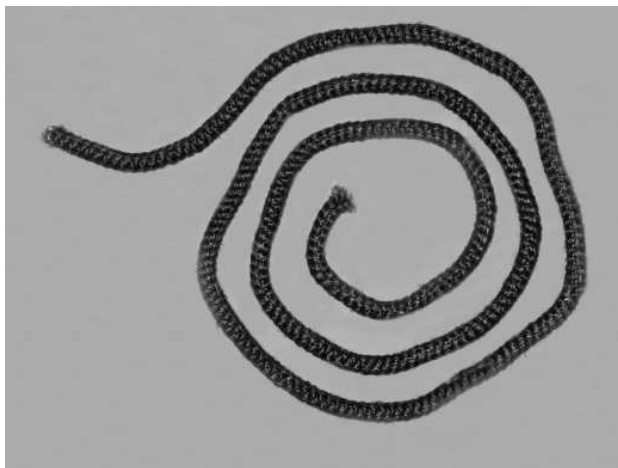
⚠️ **Do <u>not</u> use masking tape on the appliance when installing and plastering.**
Tape can damage the finish of the hearth.

The brickwork or the fire-resistant sheet construction can now be continued to ceiling height.

If using other materials, such as stone or heat-resistant plating, you should follow the supplier's instructions.

For further positioning instructions: See Paragraph 2.1.4.

Check that all connections are completely gas tight using soapy water or a leak tester.
As a check, allow the fire to burn briefly (maximum 1 minute).
Following verification that there are no leaks, finish off building in the appliance.

After installation in a new fireplace and/or applying new cement work, the appliance cannot be used for at least four weeks.

If the existing chimney has a diameter of Ø150 - 200 mm, a flexible stainless steel Ø100 mm pipe can be used for the flue gas outlet.
If the diameter of the existing chimney is over Ø200 mm, a flexible stainless steel Ø150 mm pipe must be used for the combustion air supply.

2.1.2   Fitting into an existing opening larger than the appliance

Place a stainless steel pipe of Ø100 mm or pipes (Ø100 mm-150 mm) into the flue for the connection between the flue spigot of the appliance and the chimney and then position the appliance into the fireplace. The chimney connection can be installed according to the instructions in paragraph 2.1.4.

2.1.3   Fitting into an existing opening equal to or smaller than the appliance

If the opening in the fireplace is too small for the appliance, it must be enlarged by a recognised installer in accordance with applicable building regulations.

2.1.4   Positioning instructions

Please follow the installation chronology below when positioning a fireplace:

1.   Positioning of the appliance / Gas supply / Electrical connection:

Place the appliance in the open fire place and position it by the wall. Install the appliance using a level. Ensure the gas supply pipe has already been fed through the designated opening at the rear or on the side. A gas tap must be installed in the vicinity of the appliance that must remain accessible at all times

U.K./Ireland: the appliance is factory equipped with a gas tap.

Connecting the electric connection to an earthed wall socket.
The wall socket must remain accessible at all times.

2.   <u>Mounting the glass</u>:

To dismantle the glass, please consult the instructions in chapter 5.1.

3.   <u>Chimney connection</u>

The chimney connection can be achieved in 3 ways:

a.   <u>An existing situation</u>: a flexible stainless steel Ø100 mm pipe for the flue gas outlet. The existing chimney can be used as an air supply duct if it has a maximum diameter of Ø200 mm (or max. 175 x 175).

Important:
Make the connections of the chimney completely airtight:
- Top: at the top of the chimney, make a good connection with the air inlet opening of the roof terminal.
- Bottom: make a good connection between the underside of the chimney and the top of the appliance. Front/frame of the appliance fits closely to the chimney breast.

b.   <u>An existing situation or newly built chimney</u>: a concentric flexible stainless steel pipe, consisting of a flexible Ø100 mm inner pipe and a flexible Ø150 mm outer pipe.

c.   <u>A newly built chimney</u>: a rigid concentric pipe system according to one of the examples given in paragraph 1.6.1.

4.   <u>Dismantling the flue connection</u>

a.   To connect the flexible stainless steel (Ø100 mm) flue to the appliance, the flue gas outlet connection must be dismantled from inside the appliance by loosening the 4 mounting screws.
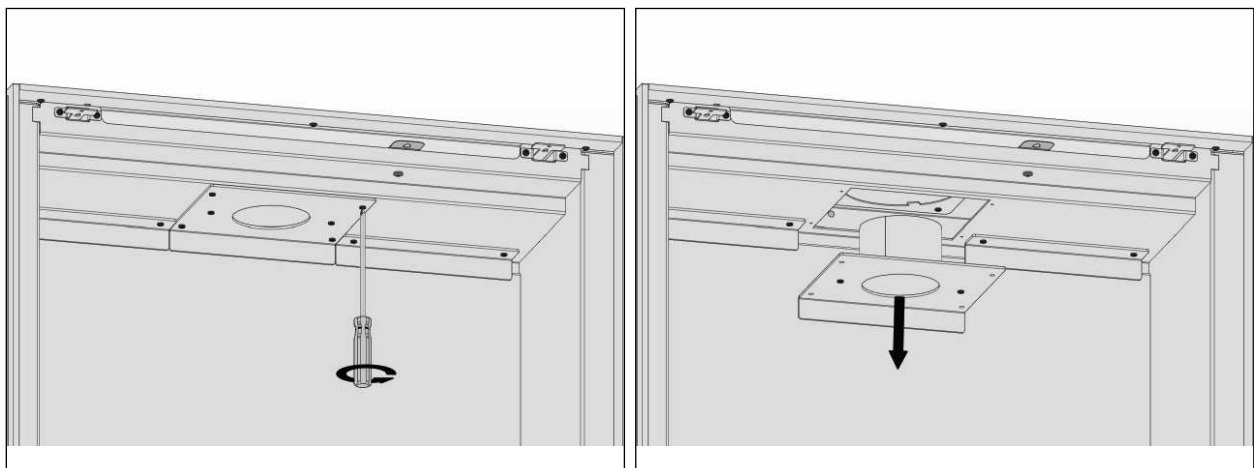
b. Next, place an adapter (article no. 302278) on the connector fitting and then insert the flexible pipe.
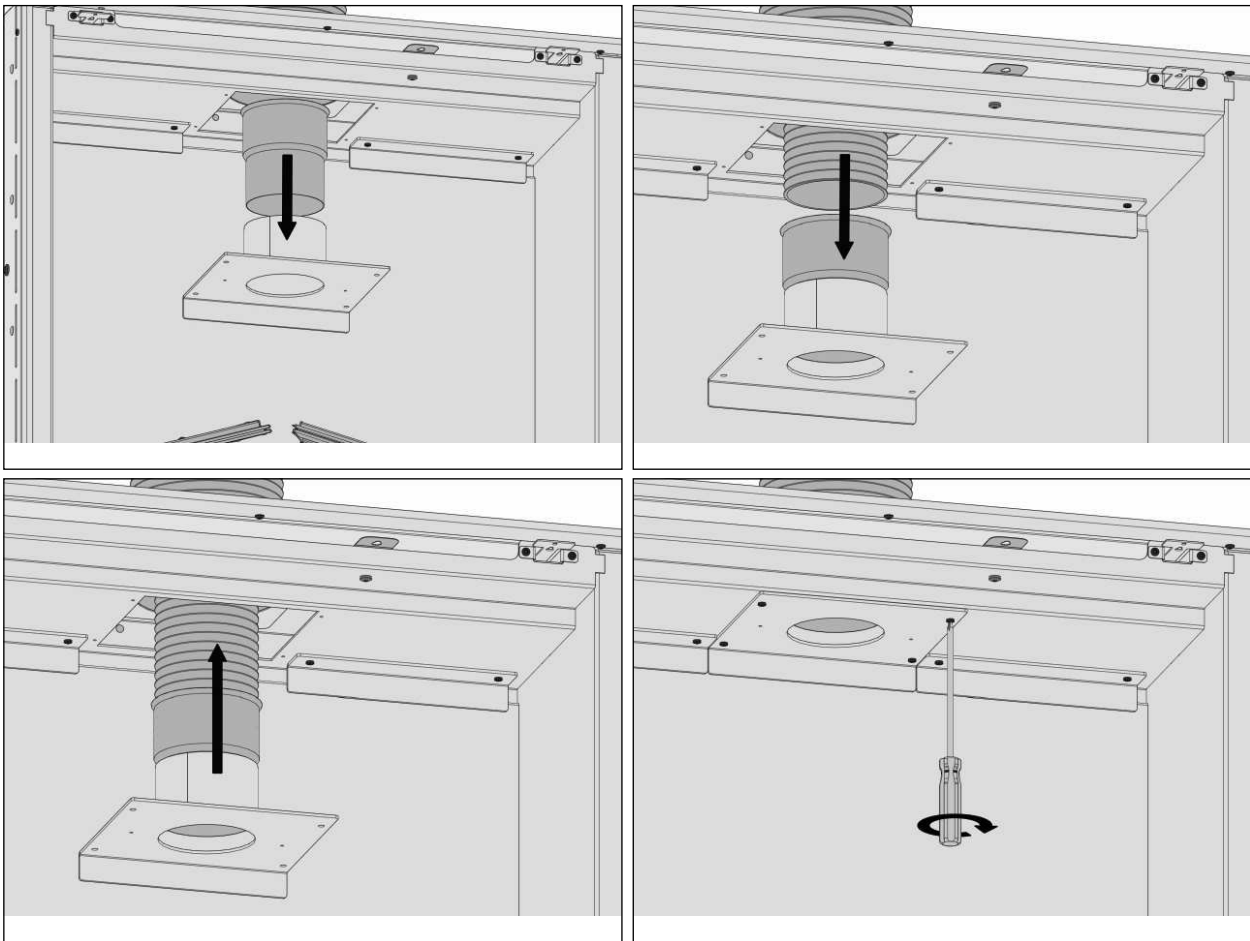
c. If a flexible stainless steel pipe is not being used for the air supply, the flue connection can be reconnected to the appliance by tightening the 4 screws. Make sure that the flue gas connections are completely gastight.
Also make sure in this situation that the underside of the chimney is connected as well as possible to the top of the appliance. So the combustion air comes into the appliance through the chimney, and not through the room where it is installed.

5. Dismantling the air supply connection
    a. After the flue connection has been dismantled, the air supply connection can be removed by loosening the 4 mounting screws that secure it.
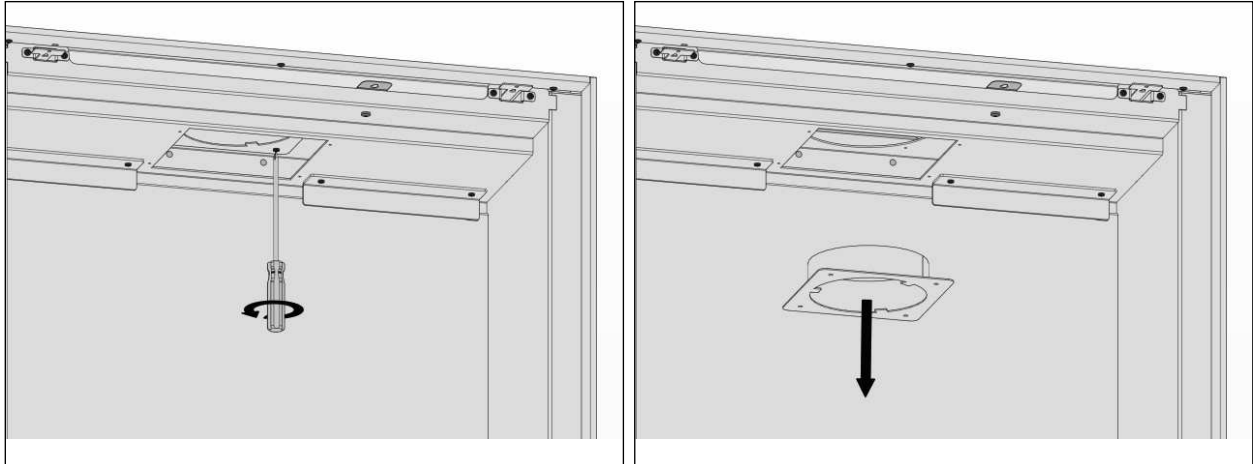
b. Place an adapter (article no. 302278) on the air supply connection and insert the flexible (Ø150 mm) air supply pipe. Reconnect the air supply connection to the appliance by tightening the 4 screws. The flue gas outlet can now be fitted to the appliance. Make sure that all connections are completely gastight.
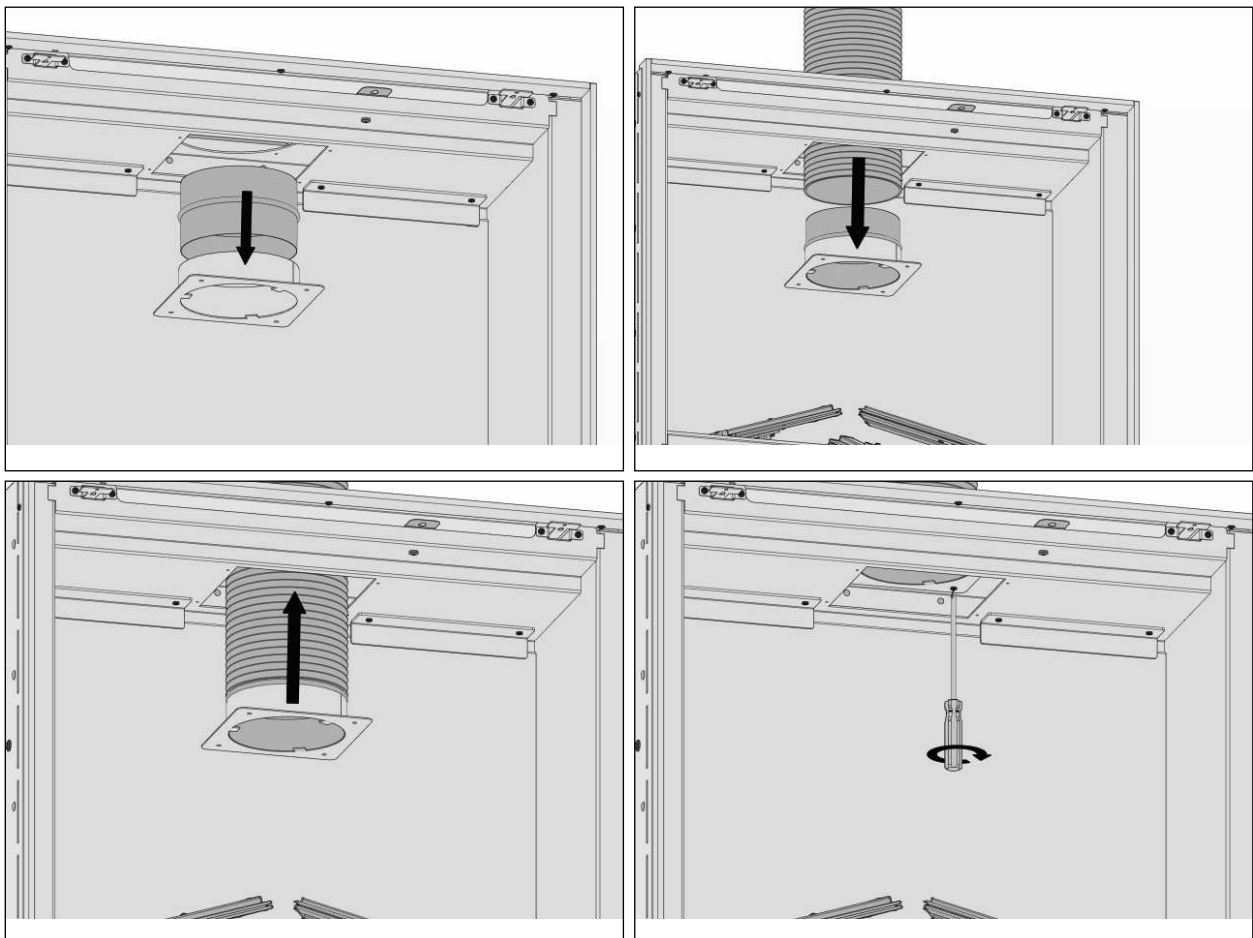
6.   <u>Install the rigid concentric pipe system</u> (if a flexible pipe system is not being used)

A rigid concentric (Ø100-Ø150 mm) pipe can only be fitted to the appliance if the appliance is being installed in a newly built chimney.

Place the concentric pipe on top of the appliance. Depending on the chosen concentric flue pipe system, the use of an adapter of that system, is sometimes necessary. Make sure that all connections are completely gastight.

7.   <u>Gas and electricity connection</u>:

Using a compression fitting you can connect the gas to the appliance.
Beware that during connection there is no power supply to the gas regulating block and pipes.
Prevent the power cord touches the side of the unit. This is due to the high temperatures of the appliance. Keep this in mind when making the connection to the wall socket.

8.   <u>Check for gas-tightness and appliance functioning</u>:

After assembly check all gas (compression) connections for gas-tightness using soapy water or a gas leak detector. Also leave the appliance to burn for a while (maximum 1 minute !) before proceeding. Please consult the instructions for use, supplied separately with the appliance.

9.   <u>Positioning the ceramic log set, 'fire glass', embers and decorative ash</u>

The appliance can be supplied with:
• Ceramic log set; See Log Nos. 14 to 25 below.
• 'Fire glass Black'
• 'Fire glass Dark Amber'
• Embers
• Decorative ash
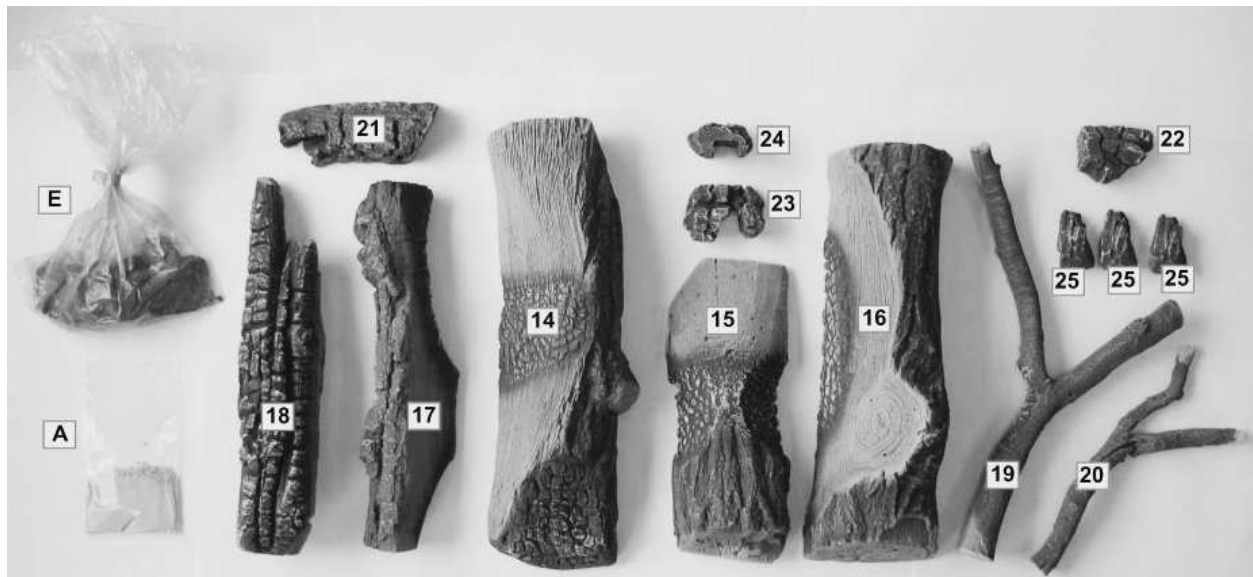
- ◦ Ceramic log set; Logs **nos. 14 to 25**
- ◦ Embers; **E**
- ◦ Decorative ash; **A**

- • 'Fire glass Black'

• 'Fire glass Dark Amber'

• Embers; **E**

• Decorative ash; **A**

Important :   • **Place the log set, 'fire glass', embers and decorative ash,
                   carefully on and around the main burners, as indicated by
                   the specifications mentioned in this chapter.**
                 • **Do not place "fire glass", embers or decorative ash on or
                   against the pilot light burner.**
                 • **To prevent this, the pilot light is fitted with a pilot light cap.
                   Never remove this cap!**
                 • **Ensure that the pilot light is always able to burn
                   freely over the main burner.
                   Proper ignition of the main burner will only be guaranteed
                   if this is the case. Not adhering to these stipulations can
                   give rise to dangerous situations.**
                 • **Ensure that the pilot light is always easily visible.**
                 • **The burner bed (with '"fire glass", embers and decorative
                   ash) and the logs construction may not be changed.**
                 • **Only use materials supplied! This has been approved and
                   the quantity is defined per appliance.**
                 • **Replacement parts are available through your dealer.**
                 • **Placement may only be carried out by an authorised
                   person.**

Remove the glass from the appliance, in accordance with the specifications in
Chapter 5; DISMANTLING / ASSEMBLING OF THE GLASS.

Ceramic log set + 'fire glass' + embers + decorative ash

1   IMPORTANT: Check the presence of the three burner fixing bolts. See photo.
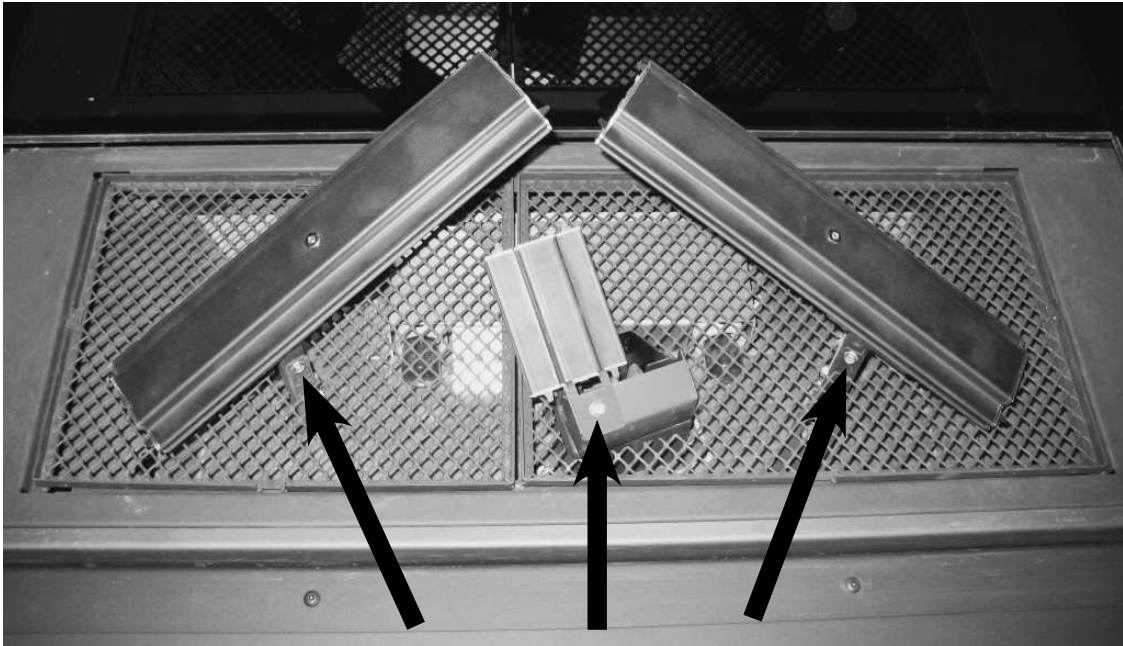
Check the operation of the ambient lighting/dimmer with the remote control.
See operating instructions;   [💡]   **Operation light / dimmer**

If necessary repair the ambient lighting.

See Chapter 3.1: ANNUAL MAINTENANCE for instructions on replacing the
ambient lights. Only use original ambient lights.

2   Place burner log **No. 16** carefully on the burner - <u>right</u>.
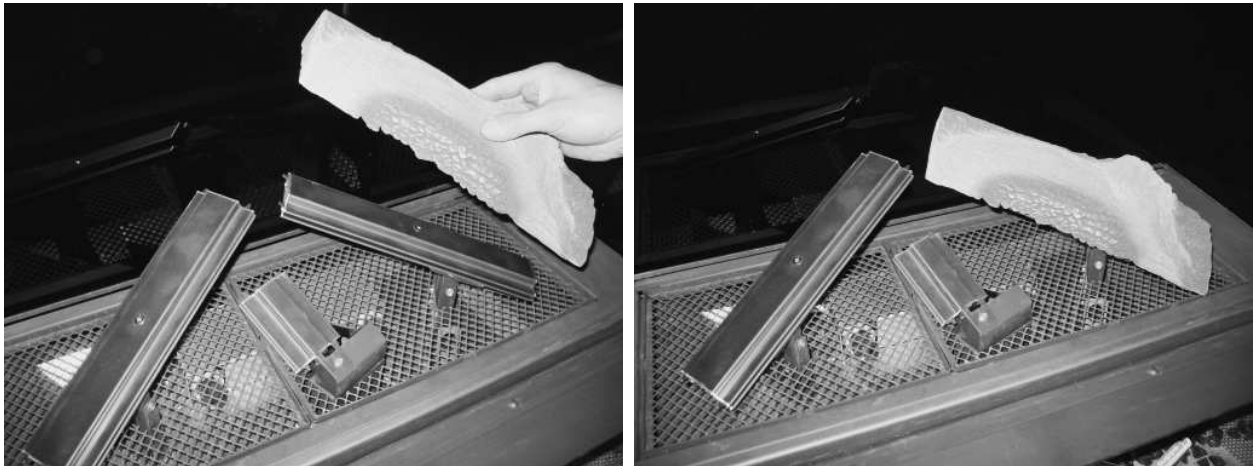
Check first if the "Arrow", on the underside of the log, is pointing up.

Burner log No. 16 =
Art. no. 340021 (legible on
the underside of the log)

Check that the underside of the log has free space on both end faces of ± 5 mm
with respect to the metal burner.
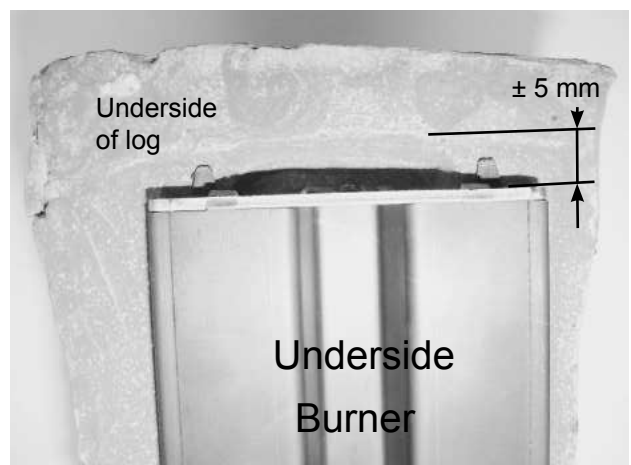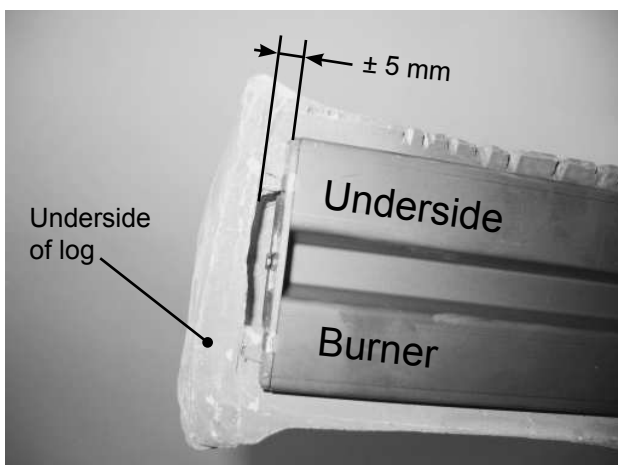
3   Place burner log **No. 14** carefully on the burner - <u>left</u>.

Check first if the "Arrow", on the underside of the log, is pointing up.
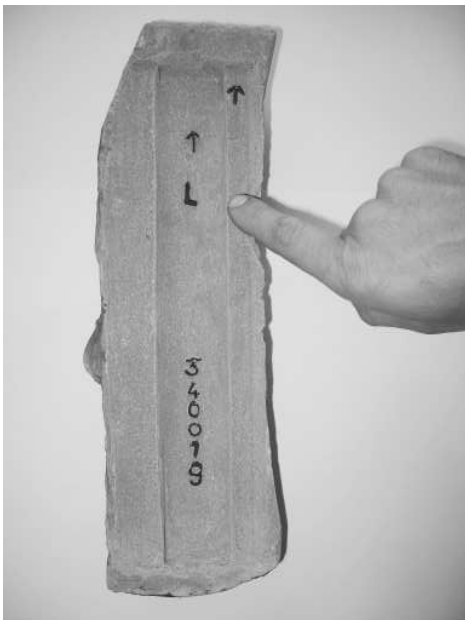
Burner log No. 14
Art. no. 340019 (legible on
the underside of the log)

Check that the underside of the log has free space on both end faces of ± 5 mm
with respect to the metal burner.
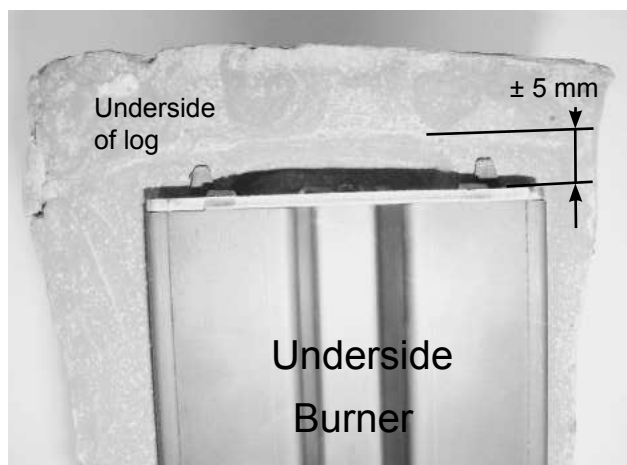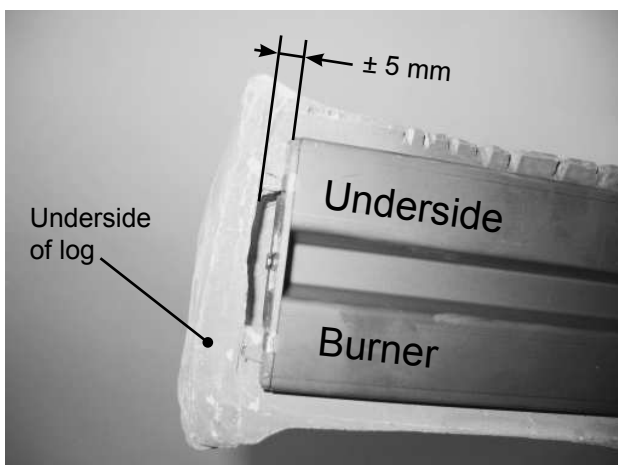
4   Place burner log **No. 15** carefully on the burner - <u>middle</u> (with the pilot light).
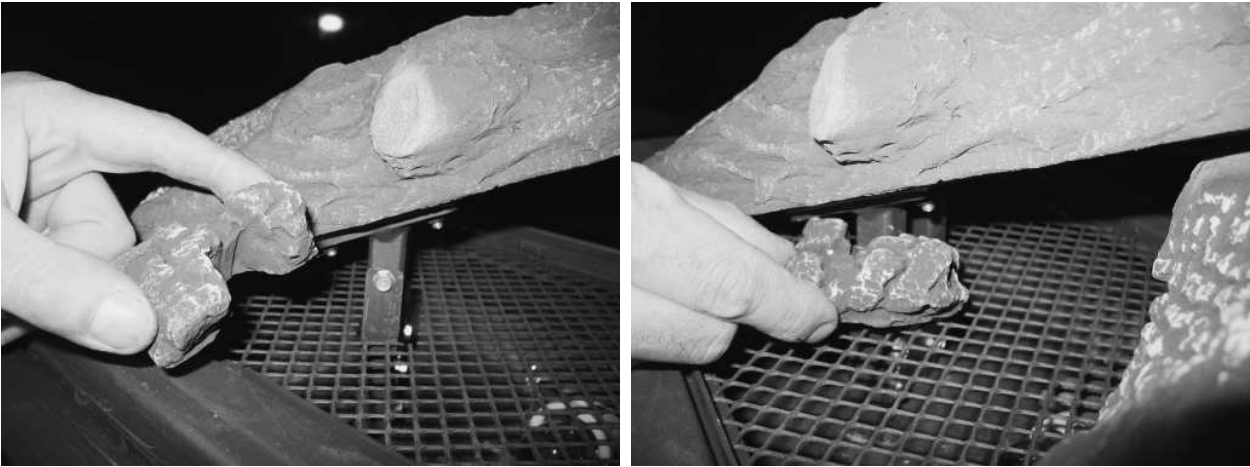

Burner log No. 15 = Art. no. 340020 (legible on the underside of the log)

Check that the pilot light remains visible.
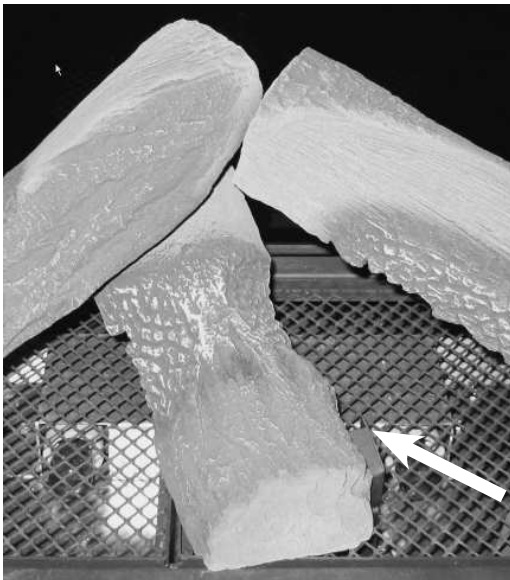
5   Place the charcoal part **No. 23** (= 1x Art. no. 340028) under the <u>Right</u> burner, around the venturi.
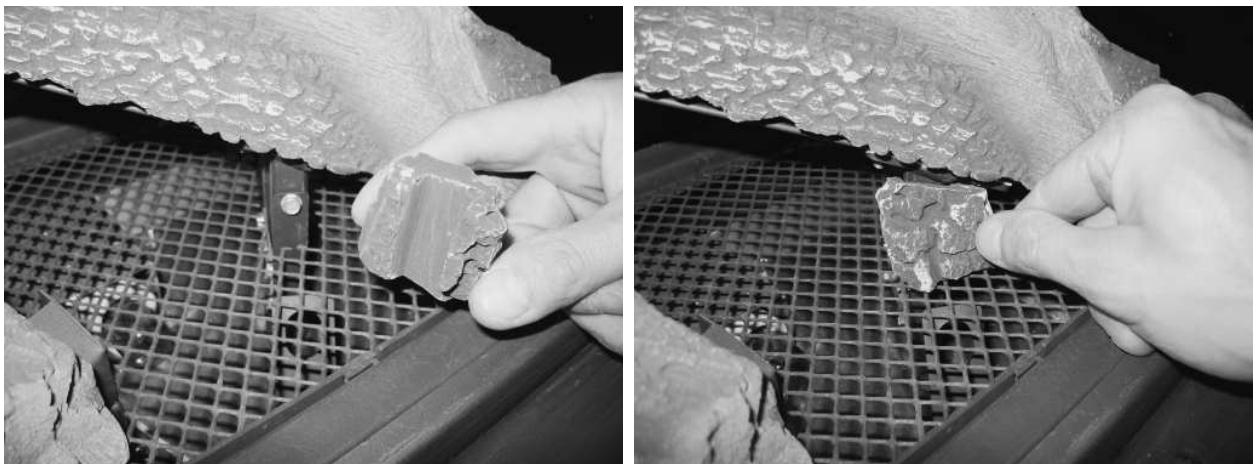
6   Place the charcoal part **No. 24** (= 1x Art. no. 340029) under the <u>Left</u> burner, around the venturi.

7   Sprinkle the 'Fire glass <u>Dark Amber</u>' evenly on the mesh grate, around the burners.
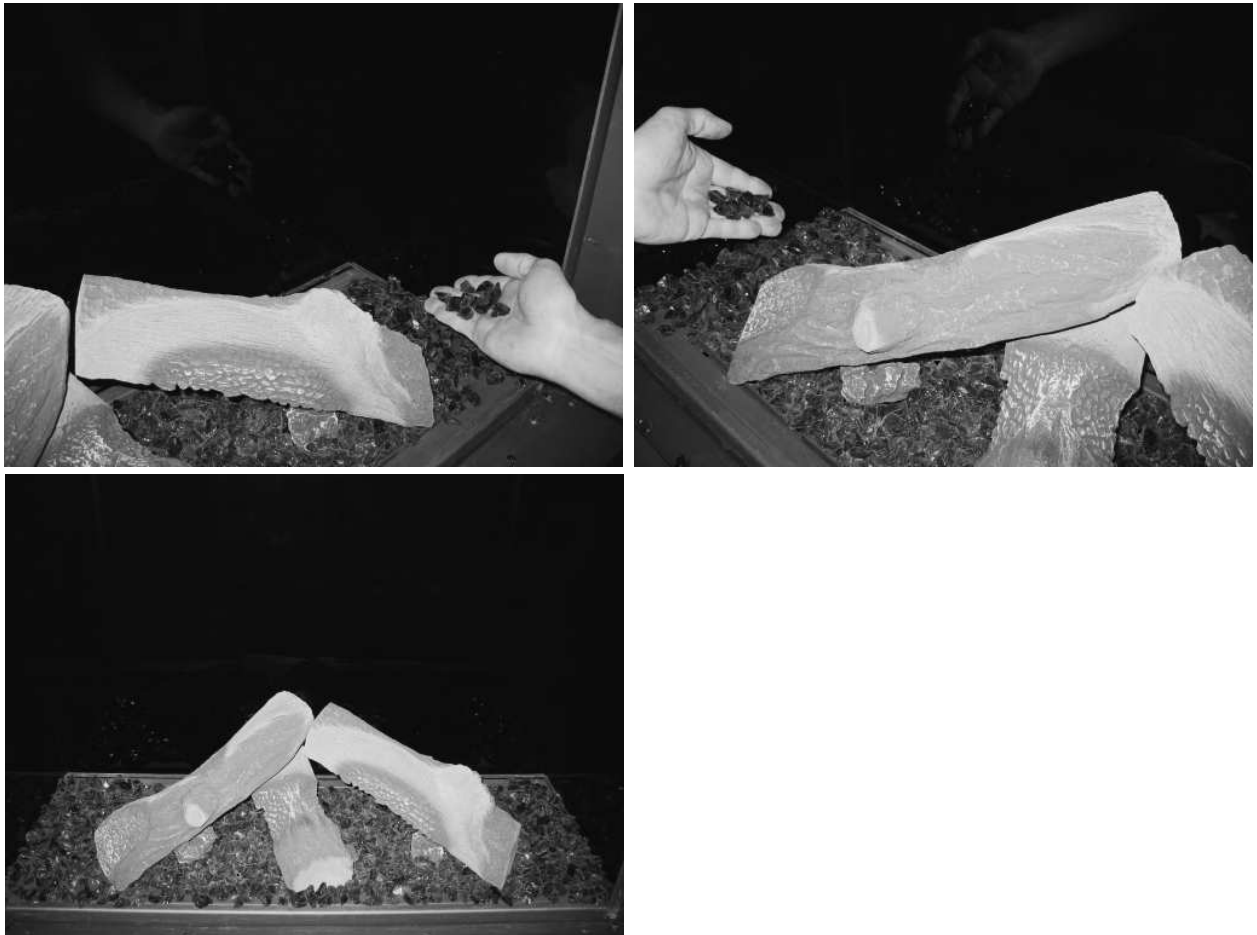   Note: Put no "fire glass" on or against the pilot light burner!
     Note: Put no 'fire glass' under burner logs **No. 14**, **15** and **16**, where these are supported by the mesh grate.
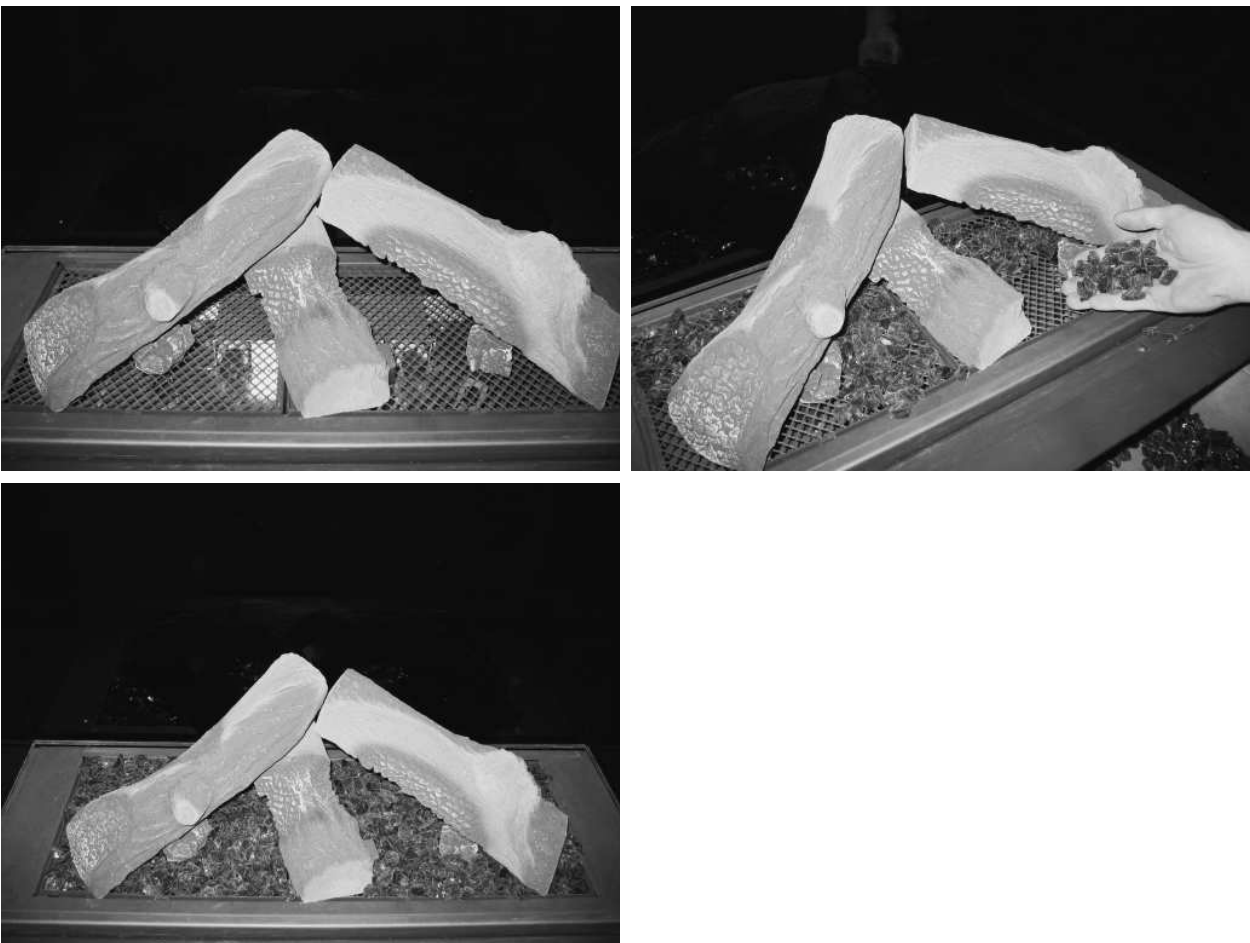
> **Note!**
>
> Do not sprinkle "Fire glass <u>Black</u>" on the mesh grate, around the burners.
> 'Fire glass Black' blocks the light too much.

8   Sprinkle the 'Fire glass <u>Black</u>' evenly on the grate, left and right of the
        mesh grate.

9   Set the light intensity of the ambient lighting/dimmer to max. on the remote control.
        See operating instructions;   [💡]   **Operation light / dimmer**
        Check that the "fire glass" is distributed evenly and that the light intensity is the
        same everywhere. Adjust the distribution of the "fire glass" if necessary.

---

10   Place log **No. 18** (= 1x Art. no. 340023).

11   Place charcoal part **No. 21** (= 1x Art. no. 340026).

12   Place log **No. 17** (= 1x Art. no. 340022).

13   Place branch **No. 19** (= 1x Art. no. 340024).

14   Place branch **No. 20** (= 1x Art. no. 340025).

15   Place charcoal part **No. 22** (= 1x Art. no. 340027).

16   Place 3x charcoal parts **No. 25** (= 3x Art. no. 340030).

17   Break the embers supplied in half and distribute the parts along the
side on the grate (around the mesh grate).
    Note: Do not place any embers on the mesh grate. Embers will block the light!
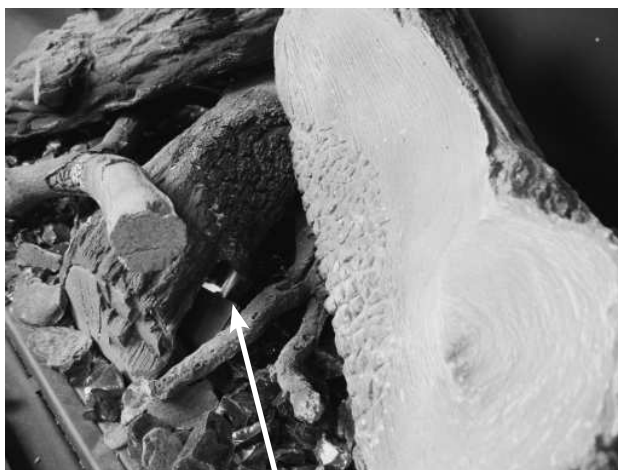   Note: Put no embers on or against the pilot light burner!

18   Decorative ash: Carefully distribute a small amount of decorative ash over the entire bottom.

19   Check that the pilot light burner is easily visible from the right hand side of the log set.
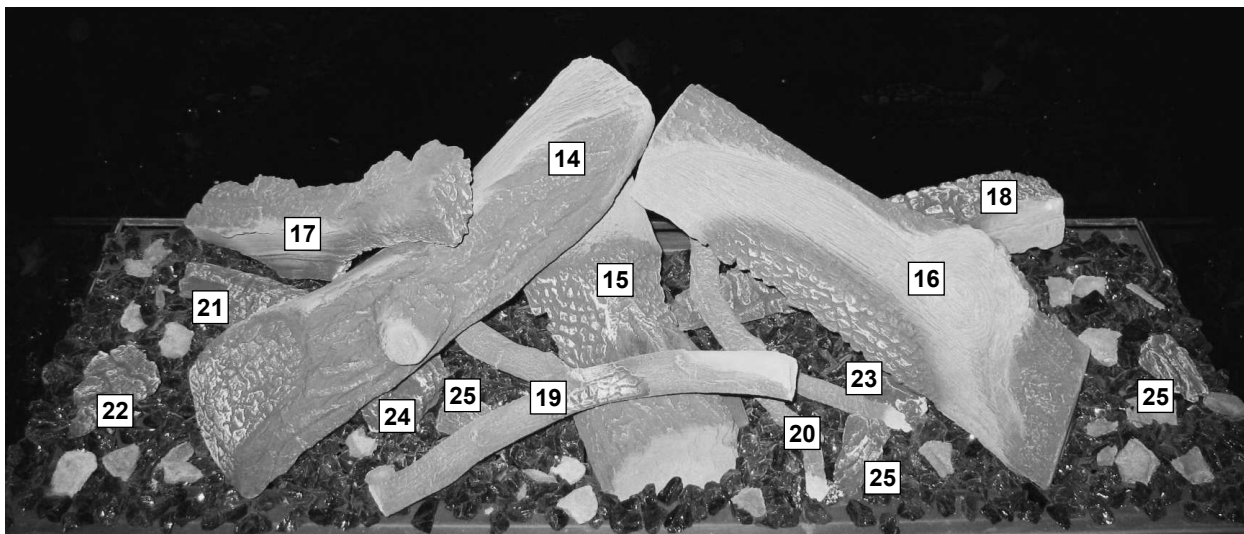

Pilot light position

Pilot light   Pilot light

20   The ceramic log set construction, "fire glass", embers and decorative ash is
      completed.

Figure 11:   Log set
            Set-up of Natural gas burner - "Premium Fire"

    IMPORTANT:
    • Do not put any "fire glass" or embers in front of the pilot light burner
    • Do not sprinkle decorative ash on the pilot light burner
    • Keep the burner orifices free
    • Check that the pilot light burns properly
    • The pilot light must be able to burn freely over the burner

    Proper ignition of the main burner will only be guaranteed if this is the case!

When the ceramic logs, "fire glass" and embers have been placed, the glass can be
assembled on the appliance once more in accordance with the specifications in
Chapter 5: DISMANTLING / ASSEMBLING OF THE GLASS.

10. Mounting flue gas restriction plate

Depending on the length and shape of the concentric flue system and the chimney
construction, you should, if indicated, fit a restriction plate with a certain width (B)
into the ceiling of the combustion chamber.
To do this, see the set-up options as listed in figure 4 through 10.

Important: **Ensure that the correct flue gas restriction plate is mounted.
Use of the correct flue gas restriction plate will provide
optimum efficiency, flame effect and combustion. Mounting
an incorrect flue gas restriction plate can result in damage
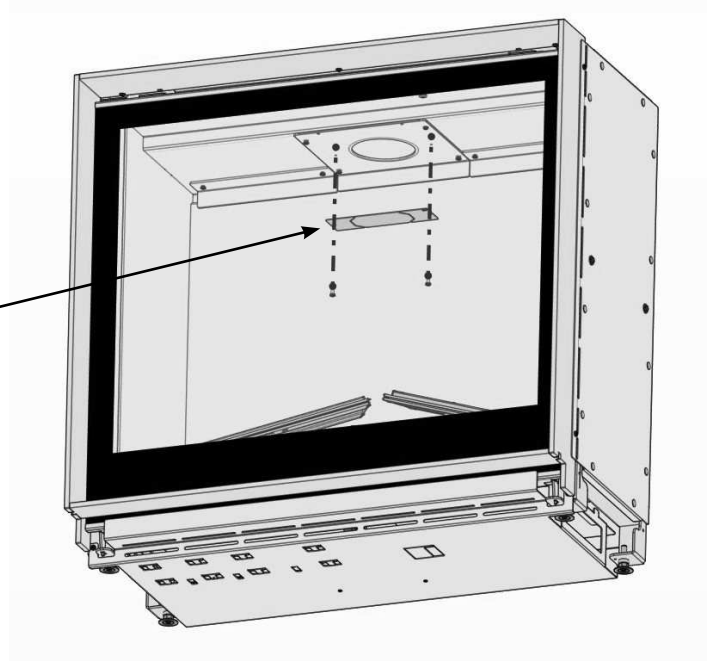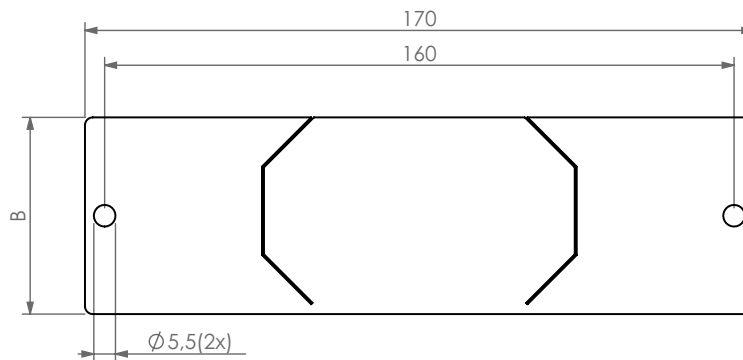to the gas fire.**

Figure 12   Positioning restriction plate

The following restriction plates are supplied:

Restriction plate:	Concentric flue connection appliance [Ø100 - 150 mm] Roof-mounted outlet
Width: Width: Width: Width:	B = 30 mm B = 40 mm B = 50 mm B = 65 mm

11. <u>Checking the appliance following installation</u>
    After installation, visually check the gas flame. When the fire is ignited, the flames should be short and blue/yellow in colour. These flames should gradually increase in height and become more yellow. When all flames are yellow, the gas fire has reached the correct temperature.

    THE GAS FIRE IS NOW READY FOR USE

3   MAINTENANCE

3.1   ANNUAL MAINTENANCE

It is <u>essential</u> that the appliance, the complete concentric flue system (where possible) and the outlet are cleaned and inspected <u>annually</u> by a recognised fitter/gas specialist.
The safe operation of the appliance will thus remain guaranteed.

Maintenance consists of the following:

• Remove first the embers, 'Fire glass', decorative ash and the logs set from the main burner and carefully clean these with a soft brush.

• Clean and inspect (visually) the main burner, pilot light, combustion chamber, flue system and combustion air intake. Dust can be removed using a vacuum cleaner.

• Clean the glass on the inside of the appliance with glass spray or ceramic hob cleaner. This also applies to the black mirror rear wall, if the appliance is fitted with these.

• After cleaning;
Carefully replace the embers, 'Fire glass', decorative ash and the logs set on and around the main burner according to the installation directions in this instruction booklet.
Do not place any embers, 'Fire glass', decorative ash or logs against the pilot light burner. Make sure that the pilot flame can burn at all times freely over the main burner. Only in this way is proper ignition of the main burner ensured. Ignoring these directions could lead to a <u>dangerous situation</u>.

• Check the gas supply, flue system, and combustion air supply route for leaks.

• Check the correct operation of the gas regulating block, thermocouple circuit and the ignition of the main burner.

• Check the gas inlet-pressure (both when the appliance is off and when it burns at maximum) and the burner pressure.

• Check the complete concentric flue system including the outlet construction.
A camera can be used to inspect the whole length of the flue gas outlet and the combustion air intake.
Also check that all connections are secure.

- Convection air appliance / convection fan (option)
  - Check the convection air route and the functioning of the convection fan (option).
  - Turn off the power to the appliance.
  - Clean the convection air intake openings, channels and outflow openings.
  - Clean the inside of the convection fan chamber.
    The convection fan is accessible after removing/dismantling the main burner and grills, at the rear/bottom of the combustion chamber.

- Ambient lighting
  - Disconnect the power to the appliance.
  - Remove the embers, fire glass, decorative ash and ceramic log set from the main burner and two grates.
  - Carefully clean the ambient lamps.

- Replacing of the ambient lamps when broken
  - Remove the embers, fire glass, decorative ash and ceramic log set from the main burner and two grates.
  - Carefully unscrew the broken light bulbs from the ceramic fitting.
  - Carefully turn the new light bulbs, left and right, in the ceramic fittings.
    Use only the Bellfires Fire Glow light bulb.

  - ⚠ Turn the Fire Glow light bulbs <u>completely</u> into the socket

  - Position the grates, ceramic log set, embers, fire glass and decoration according to the instructions in chapter 2.1.4. Fit the glass according to the instructions in chapter 5.
  - Plug the unit into the wall socket.
  - Check the operation of the lamps using the remote control.
    See Instructions for use, 💡 **Operation light / dimmer**.

- Outside appliance
  - Clean the outside of the appliance with a dry, lint-free cloth.
  - Only when the appliance has cooled, it can be cleaned. Never use abrasive, corrosive agents or fireplace cleaner.
  - Any damage to paintwork can repaired with an aerosol BELLFIRES heat-resistant paint. (Note that the appliance has sufficiently cooled down !)

- General
  - <u>Parts</u>:
    Individual parts for replacement or accessories are available from your BELLFIRES-dealer. Use only original parts.
  - <u>Modifications</u>:
    Introduced modifications to the appliance are not permitted.

4   FAULTS

4.1   POSSIBLE REASONS

Possible reasons for the gas fire going out are:

- The concentric flue system is not installed according to one of the methods detailed in Paragraph 1.6.
- An incorrect "flue gas restriction plate" is fitted.
- The pilot light extinguishes if fumes are not exhausted or are insufficiently exhausted.
- The pilot light is either dirty or defective.
- Insufficient gas pressure.
- (Internal) leak of the concentric flue system.
- Thermocouple voltage is too low. This is usually caused by insufficient heating of the thermocouple by the pilot light.
- Dirty electrical contacts in the thermo-electrical system; for example, the thermocouple connection.
- Batteries in receiver or remote control are flat.

4.2   SAFETY MEASURES IN THE APPLIANCE

4.2.1   Thermo-electric pilot light shut off

The appliance is protected by means of a thermo-electric pilot light shut off in the event of a gas escape from the main burner.

### 4.2.2   Over pressure safety system

The appliance is fitted with a patented safety system, whereby the door will extract any over-pressure that arises in a controlled way. In this, a spring system briefly causes the door to hinge forward a few centimetres. A loud noise can occur.
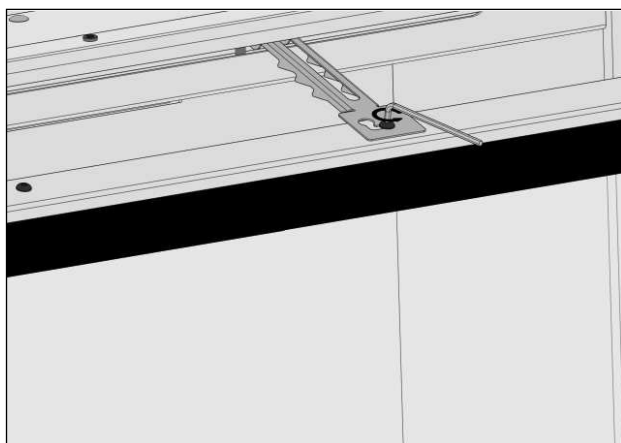A safety strip limits the maximum degree to which the door can be tilted.

If an over-pressure situation occurs, the appliance should be thoroughly checked by the installer.

5 DISMANTLING / ASSEMBLING OF THE GLASS

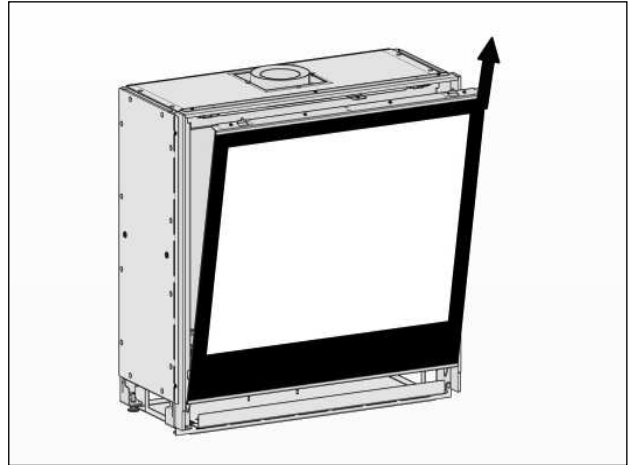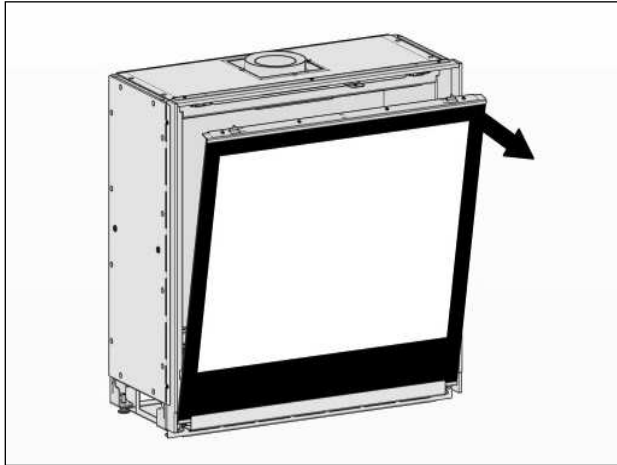- Close, before you start, the gas supply valve.
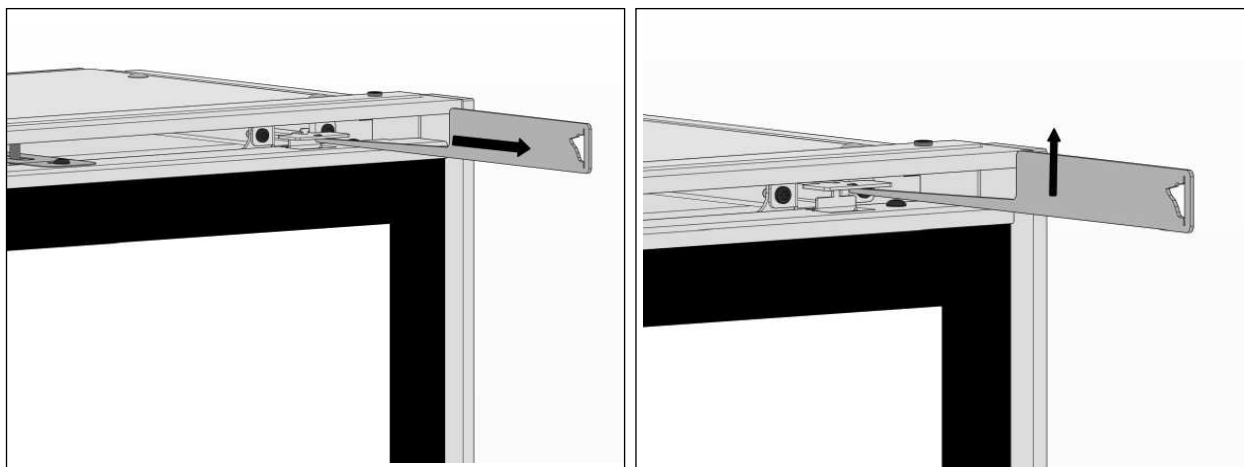
- With the hook, pull the thin, metal spring strips on the top left and right from the studs on the frame.
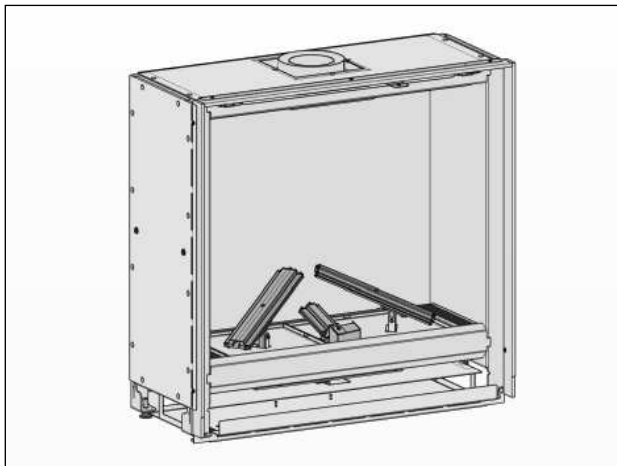

Note ! : When loosening the frame and after it has been loosened, support it with your hand to prevent it falling forward !

- Dismantle the safety strip from the frame.

- Carefully tilt the frame and the glass forwards at the top.
  Prevent damage by laying paperboard on the chimney breast, under the frame.
  Pull the frame upwards and remove it from the appliance.

Assembling of the glass:

The assembly of the glass takes place in reverse order.

1 Push the safety strip first fully back into the appliance, by lifting the strip a little.
2 Place the frame and glass, and tilt it backwards.
3 Mount the safety strip on the frame.
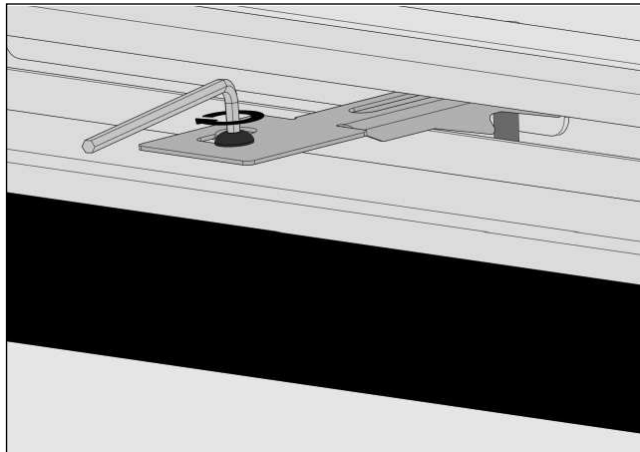
4 With the hook, pull the thin, metal spring strips on the top left and right on the studs of the frame.

Important:
• Check whether the frame is properly positioned underneath in the 2 holes of the front.
• Check whether the frame is placed in the middle of the front.
• Check whether the safety strip is securely fastened to the top of the frame (middle).
• The glass (frame) must fit tightly all round to the edge of the combustion chamber.
• Check that the spring strips, on the top, remain in their proper place.

6   DIAGRAM ELECTRICITY AND GAS
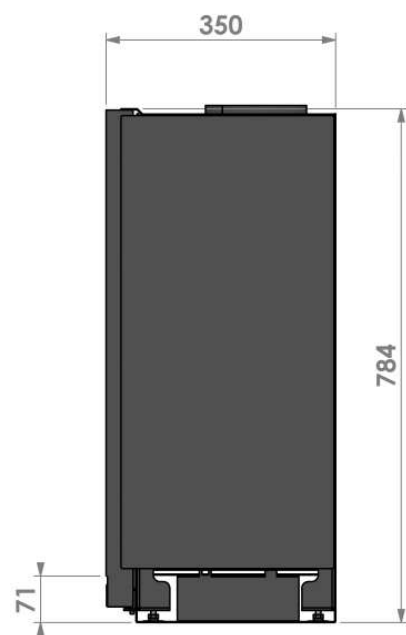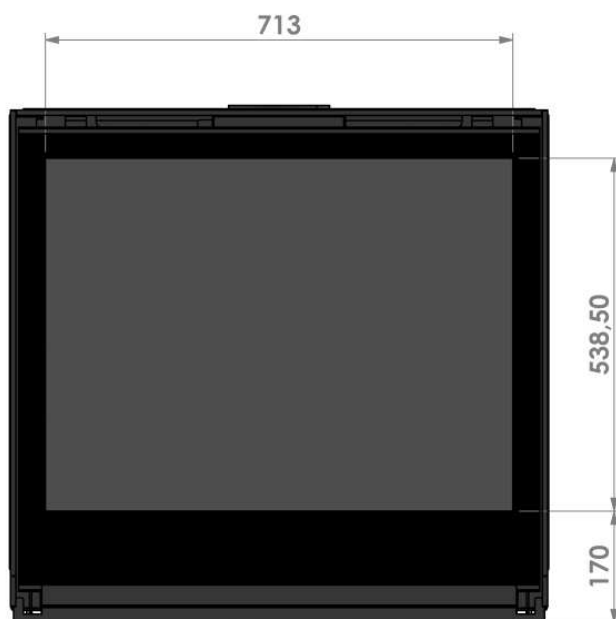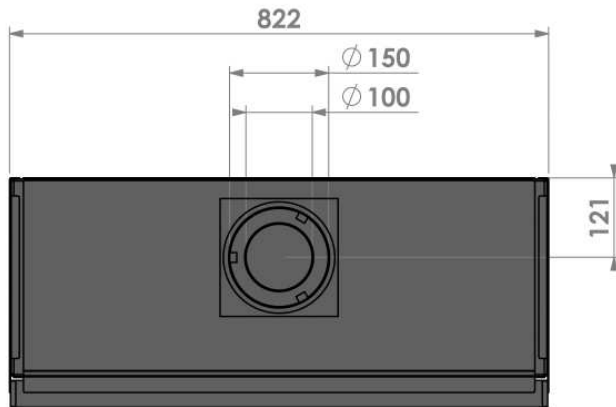
Gas pipe "Rear burner"

Gas pipe "Front burner"

Burner

8 Wire
Connecting
Cable

Motor
knob

Pilot light

Thermocouple

GAS-
REGULATOR
BLOCK

Gas
supply
connection

Pilot light gas piping

"black"

Thermo-current
Interrupter Block

"red"

Gas valve
"Rear burner"

Convection
fan
(option)

Ambient
lighting
(option)

Thermo-electric
cable SW

Thermo-
electric
cable TC

2 Wire cable

"yellow"

"red"

SW TC

Ignition(piezo)cable

AUX

Module

Connecting cable 230 VAC
Plug with Earth connection

Module (option)

5 Wire
Connecting
Cable

Button
"RESET"

Receiver
(with battery
compartment for
4 AA-batteries)

Connection cable
(option) for
external operating
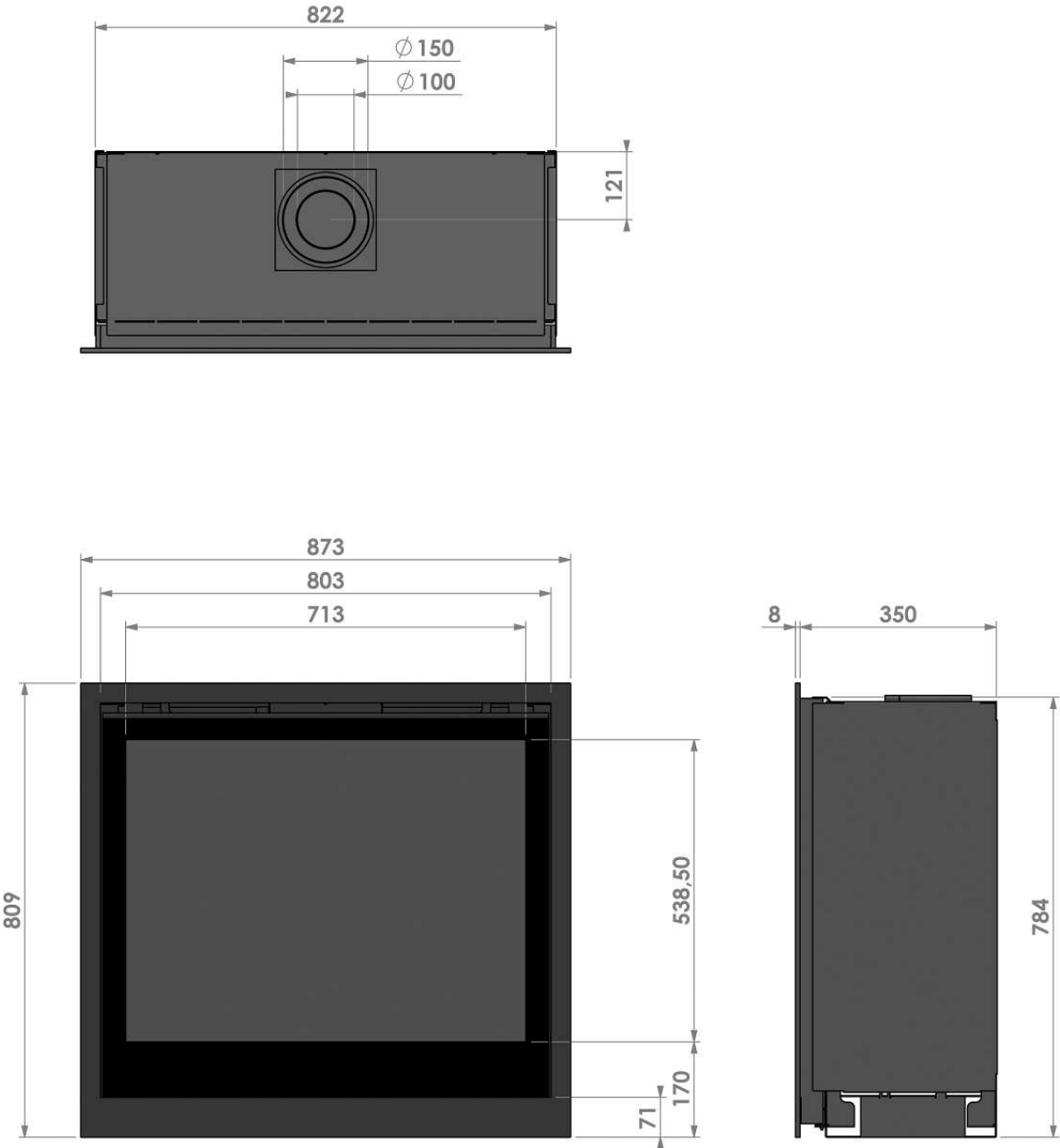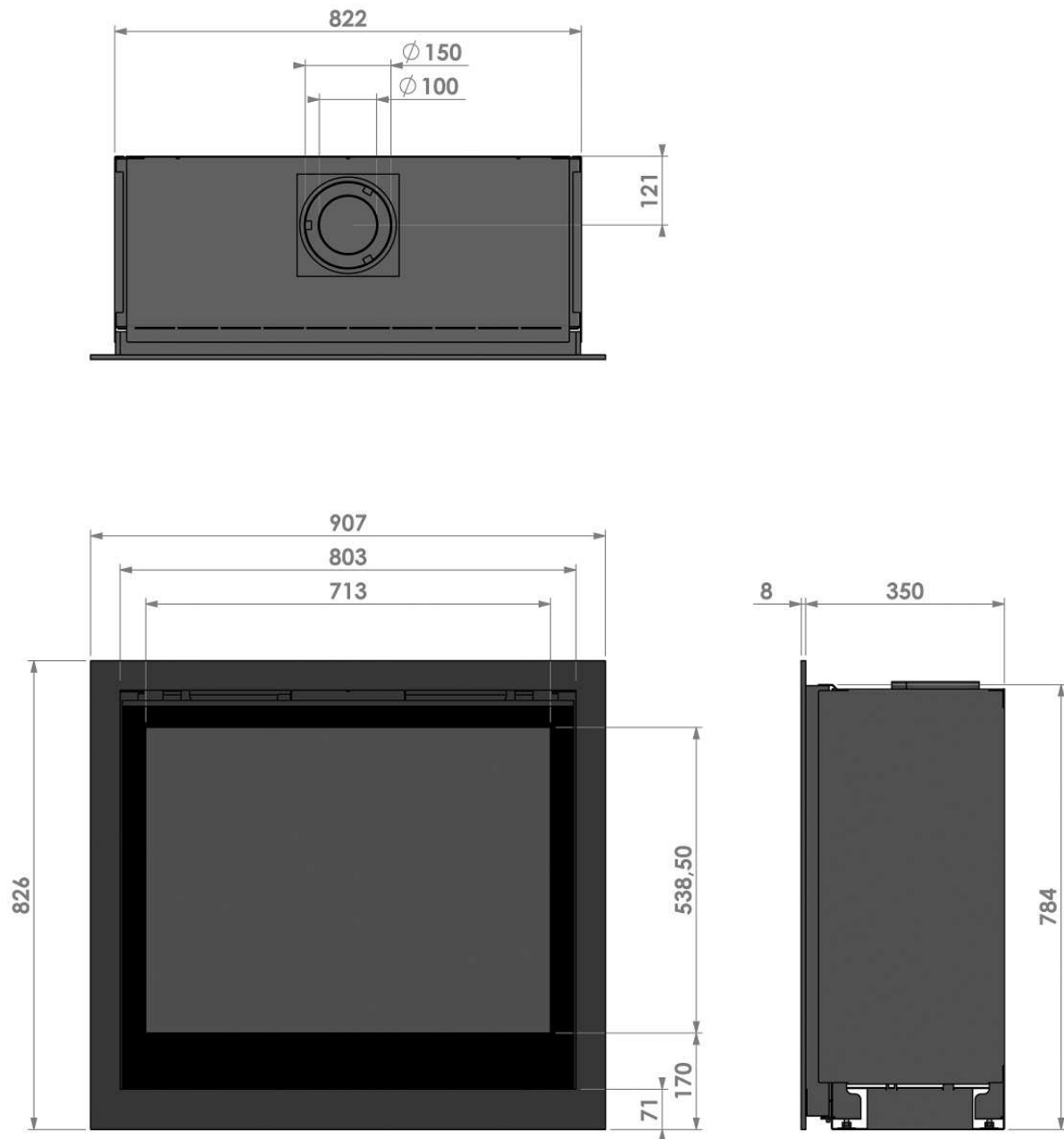(i.a. Domotica
systems)

7   DIMENSIONS

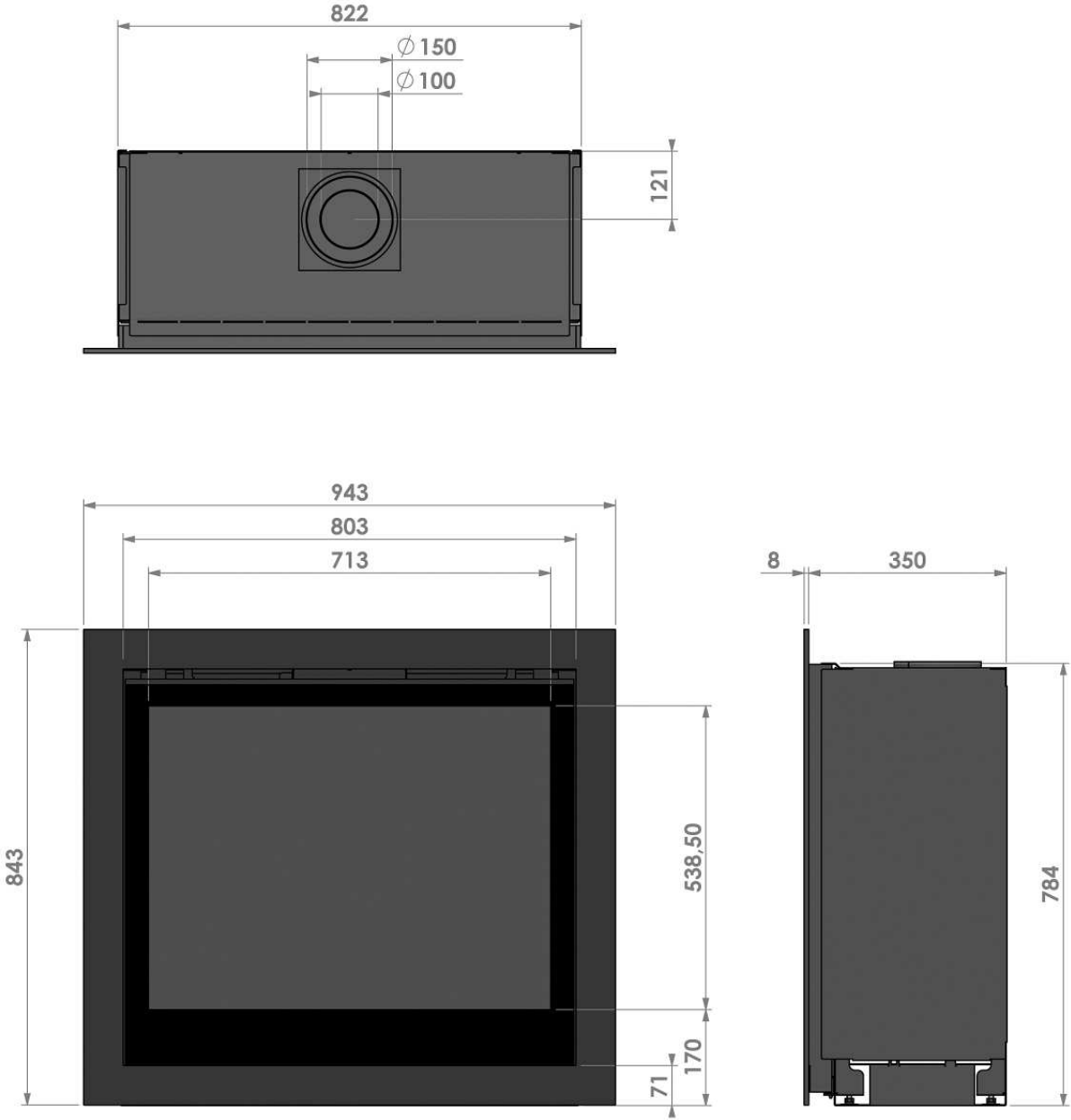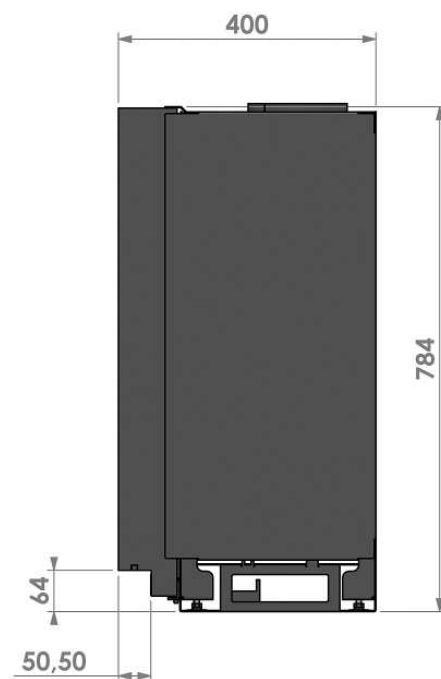## 7.1   SMART BELL 80-80 - Built-in Frame

7.2   SMART BELL 80-80 - Classic Frame 35 mm
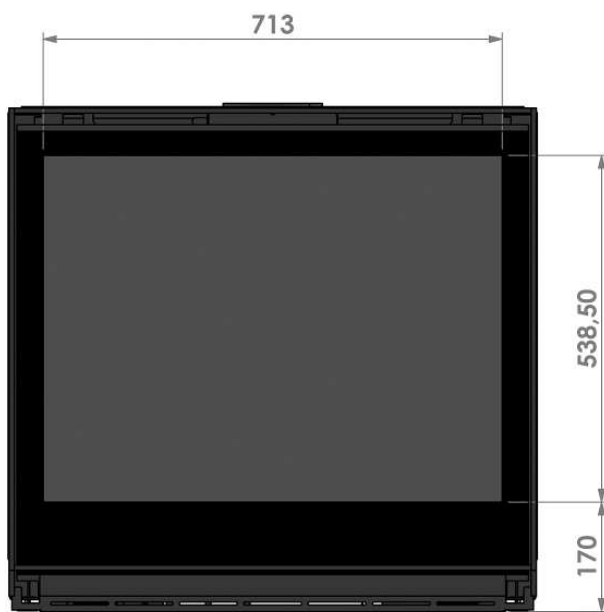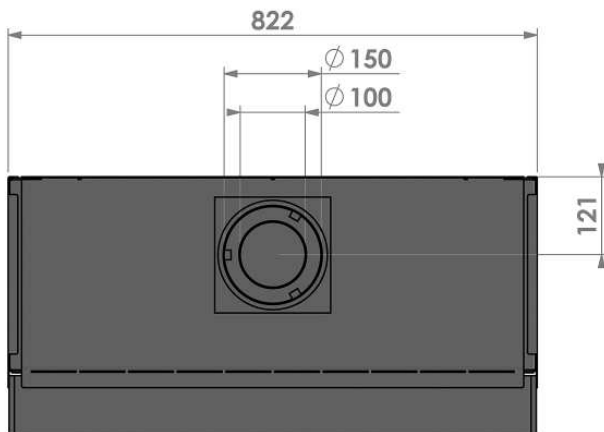
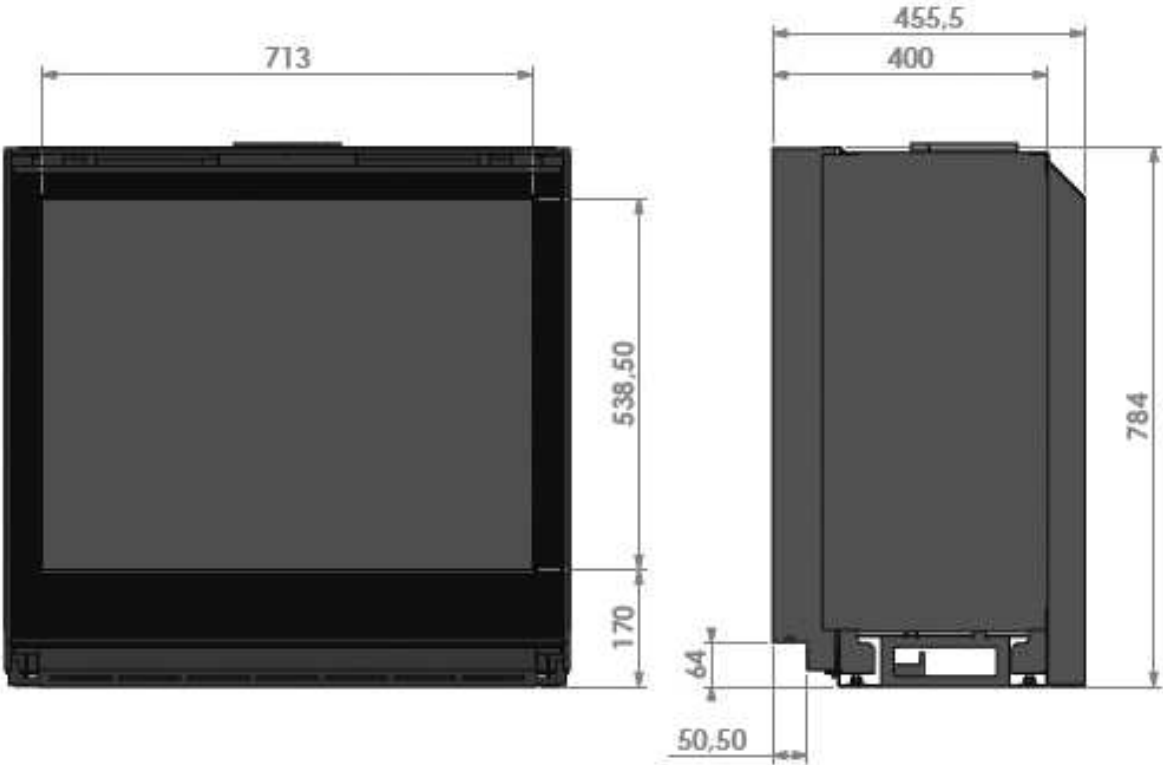## 7.3   SMART BELL 80-80 - Classic Frame 52 mm

7.4   SMART BELL 80-80 - Classic Frame 70 mm

7.5   SMART BELL 80-80 - Deepened Frame

7.6   SMART BELL 80-80 - Deepened Frame with a convection fan
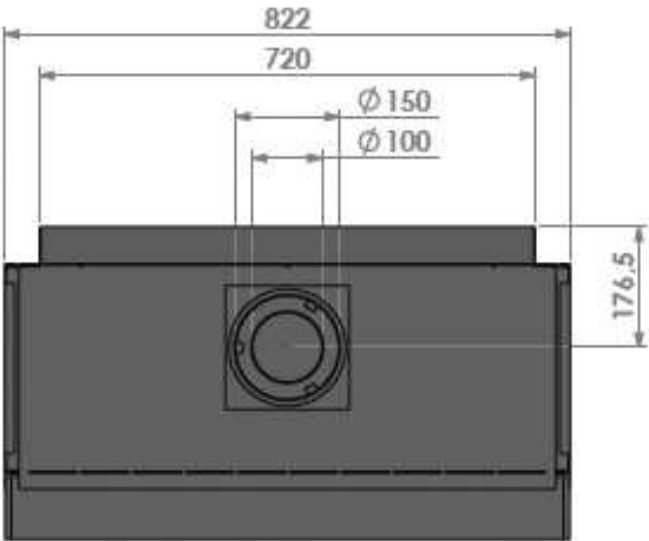
8   TECHNICAL DETAILS/REGULATIONS

National installation regulations:
- **Gas safety installation and use regulations 1998 plus all relevant safety and building regulations concerning fire installation**
- **Document J: Combustion appliances and fuel storage systems**

Model	**: SMART BELL 80-80 PF (PREMIUM FIRE)**
Gas	**: NATURAL GAS**
Country	**: GB; Great Britain/IE; Ireland**
Product identification no.	: 0063CM3684
Appliance type acc. to CE standard	: C_{11} / C_{31} / C_{91}
Appliance category	: I_{2H} natural gas G20
Nominal heat input (Gross calorific value)	: 11.5 kW
Nominal heat output	: 8.8 kW
Efficiency class	: 1 (85%)
NOx class	: 5
Gas rate (max.)	: 1.08 m^3_s/hr.
Supply pressure	: 20.0 mbar
Burner pressure (max.) Hot	: 14.3 mbar(*)
Burner pressure (max.) Cold	: 12.8 mbar(**)
Burner pressure (min.)	: 3.3 mbar(***)
Primary air inlet burner L Left-Rear and Left-Front	: LR: Ø6.5 mm LF: Ø4.5 mm
Primary air inlet burner M Middle-Front	: MF: Ø7.0 mm
Primary air inlet burner R Right-Rear and Right-Front	: RR: Ø6.5 mm RF: Ø4.5 mm

Model	**: SMART BELL 80-80 PF (PREMIUM FIRE)**
Gas	**: NATURAL GAS**
Country	**: GB; Great Britain/IE; Ireland**
Gas regulator block (remote control) Main burner	: Mertik GV 60 : Premium Fire 600 x 240 mm
Main burner injector L Left-Rear and Left-Front	: LR: Ø1.40 mm LF: Ø1.25 mm
Main burner injector M Middle-Front	: MF: Ø1.30 mm
Main burner injector R Right-Rear and Right-Front	: RR: Ø1.40 mm RF: Ø1.30 mm

"Front Burner" = LF + MF + RF "Rear Burner" = LR + RR	

Pilot light burner Pilot light burner injector Gas connection Concentric flue system connection	: SIT 0.145.019 : no. 36 (SIT 0.977.091) : 3/8" G / Ø12 mm : Ø100 mm - Ø150 mm
Remote control batteries - Receiver - Hand transmitter	 : - : 2x 1.5V AAA
Electrical connection Electrical power consumption	: 230 VAC / 50 Hz : 50 W (max.) / IP 20
Weight - Basis model - Including all options	 : 95 kg : 100 kg

(*)   : All burners at maximum setting and appliance at the required temperature.
(**)   : All burners at maximum setting and appliance cold.
(***) : All burners at minimum setting.

Flue gas exhaust and combustion air supply:
Concentric flue system Ø100 mm-Ø150 mm rigid and/or flexible.

Heat exchanging surface: Entire front of the appliance.

9   REPLACEMENT PARTS LIST

When requesting service or ordering replacement parts, please quote the model type and serial number. All parts listed in this manual may be ordered from a Bellfires dealer.

No	Part no	Description
1	3.........	Main burner "Premium Fire" 600 x 240 mm Natural gas G20 G20: Ø6.5 mm Left-Rear Ø4.5 mm Left-Front Ø7.0 mm Middle-Front Ø6.5 mm Right-Rear Ø4.5 mm Right-Front
2	334878	Main burner injector Natural gas; Left-Rear: Ø1.40 mm
3	335122	Main burner injector Natural gas; Left-Front: Ø1.25 mm
4	301928	Main burner injector Natural gas; Middle-Front: Ø1.30 mm
5	334878	Main burner injector Natural gas; Right-Rear: Ø1.40 mm
6	301928	Main burner injector Natural gas; Right-Front: Ø1.30 mm
7	333597	Gas regulator block; GV 60 (M10 Thermocouple connection)
8	302122	3/8" male x Ø12 Compression fitting
9	302084	Nut Ø8 mm for burner supply GV 60 for "front burner"
10	302089	Olive Ø8 mm for burner supply GV 60 for "front burner"
11	333607	Gas valve "rear burner"
12	333608	Adapter 3/8"bsp x 3/8"+ O-ring
13	333610	Nut Ø8 mm for gas valve "rear burner"
14	333611	Olive Ø8 mm for gas valve "rear burner"
15	302086	Shear-off nut & olive Ø4 mm GV 60
16	333601	Cable (sw): Receiver - Thermocouple interrupter, L = 500 mm
17	333602	Cable (tc): Receiver - Thermocouple interrupter, L = 500 mm
18	341205	Handheld transmitter Symax 1 - EU - 10 buttons Bellfires
19	339907	Receiver Symax 1 - EU
20	302068	8 Wire connecting cable - Receiver, L = 500 mm
21	325640	Piezo ignition cable, 2x ⌀ 2,8 x 0,8 mm, L = 500 mm
22	301999	Thermocouple M10 - 600 mm
23	333604	Thermocouple interrupter M10

No	Part no	Description
24	310908	Pilot light set outer casing, Double flame
25	310909	Packing pilot light set outer casing
26	310910	Pilot light injector; <u>Natural gas</u>; no 36
27	310907	Piezo electrode for pilot light, 2.8 x 0.5 mm
28	302062	Nut piezo electrode
29	319842	Nut thermocouple
30	332552	Pilot light olive; Ø4 mm, steel
31	332553	Pilot light nut; Ø4 mm, steel
32	336728	Pilot light pipe; Ø4 mm, L = 500 mm, Flexible, Stainless steel
33	336727	Burner pipe; Ø8 mm, L = 500 mm, Flexible, Stainless steel - 10 kW+, "front burner"
34	336727	Burner pipe; Ø8 mm, L = 500 mm, Flexible, Stainless steel - 10 kW+, "rear burner"
35	326055	Nut; Ø8 mm, compression elbow main burner
36	326054	Olive; Ø8 mm, compression elbow main burner
37	342975	Glass Smart Bell 80-80 (795 x 704.5 x 4 mm)
38	343167	Black mirror rear wall Smart Bell 80-80
39	333605	Module 230 VAC (Fan / Light)
40	333912	Fuse T 2.5 A 250 V Module
41	333606	5 Wire connecting cable Module - Receiver
42	333748	Lamp ambient-lighting 230 VAC, E14, 25 W
43	334966	Fan 230 VAC
44	341643	Handheld Transmitter Symax 2 - EU - 10 buttons Bellfires
45	341644	Receiver Symax 2 - EU
46	341645	WIFI-box Symax 2 - Bellfires
47	341647	WIFI-box cable - L=1000mm
48	340469	Log set (14-parts) <u>Natural gas</u> incl. embers and decorative ash
49	340089	'Fire Glass' Dark Amber (2.5 kg)
50	340091	'Fire Glass' Black (1.0 kg)
51	301669	Tube ceramic glue
52	301593	Black fibre glass tape 15 x 3 mm, adhesive
53	301613	Black fibre glass tape 10 x 2 mm, adhesive
54	311006	Black fibre glass tape 20 x 2 mm, adhesive
55	301617	Black fibre glass cord Ø10 mm

Appliance	Log set Art.no.: 340469															Embers with Glow effect Anthracite	Decorative ash light grey	'Fire Glass' Dark Amber	'Fire Glass' Black
	Set	Log no.																	
		14	15	16	17	18	19	20	21	22	23	24	25			Bag: 50 gr.	Bag: 10 gr.	Bag: 2.5 kg.	Bag: 1.0 kg.
	Art. no.:	340019	340020	340021	340022	340023	340024	340025	340026	340027	340028	340029	340030			xxxxxx	340031	340089	340091
Smart Bell 80-80 PF	Number	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	3x			1x	1x	1x	1x

10   DISPOSING OF PACKAGING AND APPLIANCE

The appliance comes in recyclable packaging.
This can include:
• Cardboard
• Wood
• Plastic
• Paper

Such materials must be disposed of responsibly, in line with local regulations.

Batteries should be disposed of as chemical waste. Batteries must be disposed of responsibly, in line with local regulations.

The authorities or fitter can provide you with information on responsible disposal of obsolete appliances.

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Your Bellfires dealer

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