

# Greenstar Concentric Horizontal Vent Kit

FOR BOSCH GREENSTAR HEATING BOILERS AND BOSCH GREENSTAR COMBI BOILERS



**BOSCH**

Installation Instructions



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# 1 Explanation Of Symbols

## 1.1 Key To Symbols

### Warnings



Warnings in this document are identified by a warning triangle printed against a grey background. Keywords at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

The following keywords are defined and can be used in this document:

- ▶ **NOTICE** indicates that damage to property may occur.
- ▶ **CAUTION** indicates that personal injury may occur.
- ▶ **WARNING** indicates that severe personal injury may occur.
- ▶ **DANGER** indicates that severe personal injury or death may occur.

### Important information



Important information in cases where there is no risk of personal injury or material losses is identified by the symbol shown on the left. It is bordered by horizontal lines above and below the text.

## 1.2 Safety Instructions



### **WARNING:**

Read all instructions before installing. Perform the steps in the indicated sequence. Failure to comply with these instructions can result in severe, possibly fatal, personal injury as well as damage to property and equipment.



### **WARNING: Installation and servicing**

- ▶ Ensure that only a licensed contractor installs or services the gas appliance.
- ▶ On hot components use only material with adequate temperature rating.



### **WARNING: Installation and commissioning**

- ▶ In the Commonwealth of Massachusetts, the gas appliance must be installed by a licensed plumber.



### **DANGER: If you smell flue gas**

- ▶ Switch off the appliance.
- ▶ Open windows and doors.
- ▶ Inform a trained and certified installer.



### **DANGER: Insufficient ventilation may cause toxic flue gases to escape posing a risk of flue gas poisoning.**

- ▶ Never close off or reduce the size of the air intake and outlet openings.
- ▶ The appliance must not be operated until any obstructions have been removed.
- ▶ Inform the system operator in writing of the problem and the associated dangers.

**DANGER : Danger from escaping flue gases**

- ▶ Ensure all vent pipes and chimneys are not damaged or blocked.
- ▶ Connect only one appliance to each vent system or chimney liner.
- ▶ The venting system piping must not feed into another air exhaust duct.
- ▶ Do not route the flue system piping through or inside another air exhaust duct.

**WARNING: Combustion air**

- ▶ Keep the combustion air free of corrosive substances (halogenated hydrocarbons that contain chlorine or fluorine compounds).

**WARNING: Maintenance  
Customers are advised to:**

- ▶ Sign a maintenance and inspection contract with an authorized contractor. Inspect and maintain the gas appliance as necessary and on a yearly basis. Service as needed.
- ▶ Use only genuine spare parts.

**DANGER: Fatal accidents!  
Carbon monoxide poisoning.**

- ▶ Carefully plan where you install the gas appliance. Correct combustion air supply and flue pipe installation are very important. If a gas appliance is not installed correctly, fatal accidents can result such as carbon monoxide poisoning or fire.

**DANGER: Carbon monoxide poisoning.**

- ▶ Exhaust gas must be vented to outside using approved vent material. (In Canada use only ULCS636 approved material). Vent and combustion air connector piping must be sealed gas-tight to prevent flue gas spillage, carbon monoxide emissions and risk of fire, resulting in severe personal injury or death. Approved vent terminations must be used when penetrating to the outside.

**WARNING:**

- ▶ Do not obstruct the flow of combustion and ventilation air.

**NOTICE:**

- ▶ The complete installation must comply with national, state, and local code. The installation instructions in both the gas appliance installation manual and this vent system installation manual must be followed exactly.

**NOTICE:**

- ▶ The concentric horizontal vent terminal is intended for installation only with the Bosch Greenstar and Bosch Greenstar combi boilers (hereafter referred to as "appliance"):
  - Greenstar Combi 100 ZWB28-3A23S3123
  - Greenstar Combi 131 ZWB35-3A23S3123
  - Greenstar Combi 151 ZWB42-3A23S3123
  - Greenstar 57 ZBR16-3A23S3123
  - Greenstar 79 ZBR21-3A23S3123
  - Greenstar 100 ZBR28-3A23S3123
  - Greenstar 131 ZBR35-3A23S3123
  - Greenstar 151 ZBR42-3A23S3123

## 2 Scope Of Delivery

The Bosch Greenstar Concentric Vent Kit comes packaged in two separate boxes as described below.

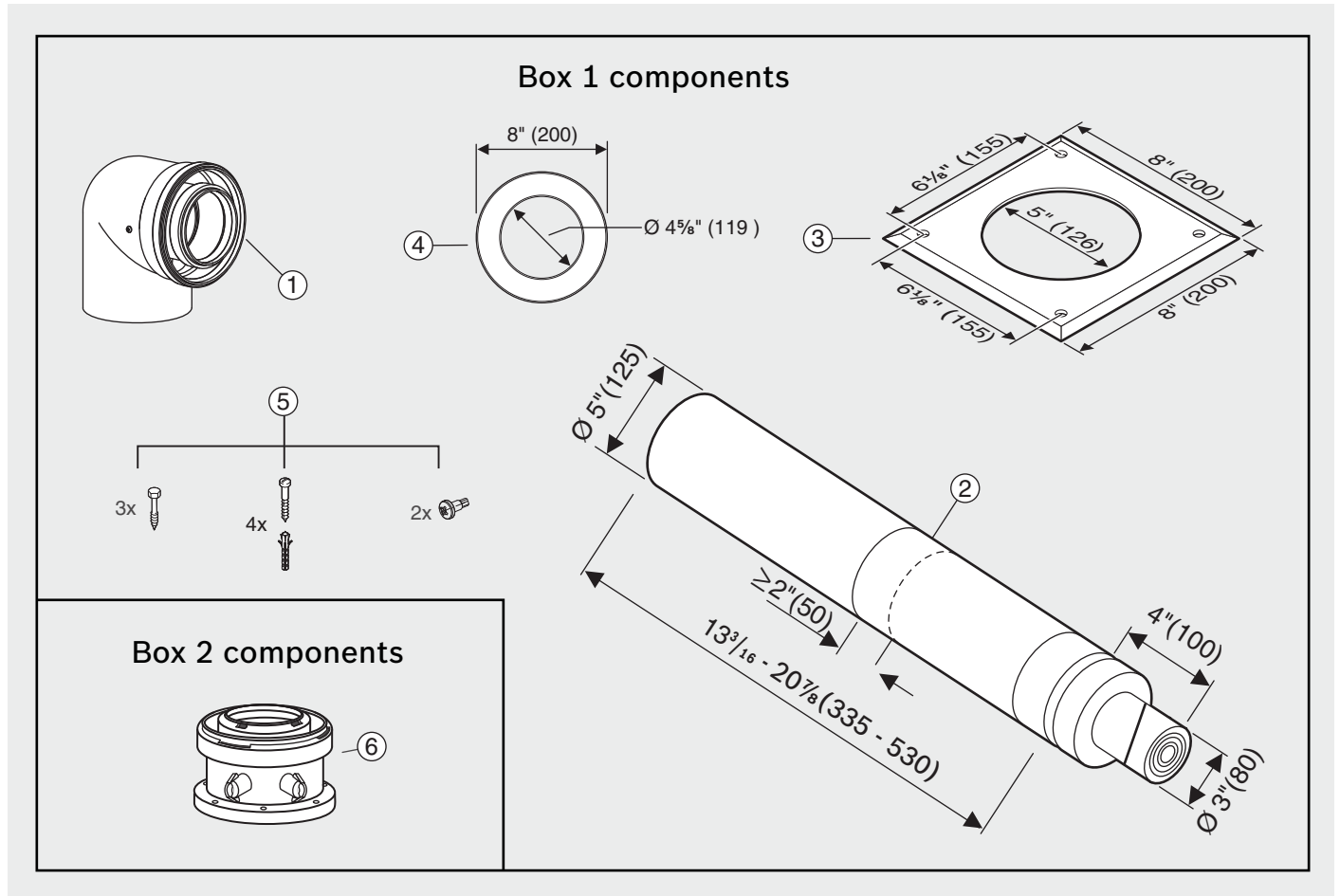


Fig. 1 Scope of delivery - dimensions in inches (mm)

### Fig.1 Legend:

#### Box 1 components:

- 1 90° elbow
- 2 Telescopic terminal assembly
- 3 Inner wall seal
- 4 Outer wall seal
- 5 Connecting/securing screws and wall anchors

#### Box 2 components:

- 6 Appliance adapter

#### Needed Tools:

- Hole saw
- Tape measure
- Phillips screw driver
- Drinking water (as lubricant for gaskets)
- Weatherproof caulk

## 3 Installation

### 3.1 Notes On Installation



**NOTICE:**

It is the installer's responsibility that the appliance is installed according to the manufacturer's installation instructions, this accessory manual, as well as national, state, and local code.



**CAUTION:**

The location and orientation of the vent termination must follow those stated in the appliance Installation Manual. When redirecting the flue discharge ensure it does not create a hazard or nuisance.



**NOTICE:**

The concentric vent kit is approved for zero (0", 0 mm) clearance to combustibles.



**NOTICE:**

This vent system is ULC-S636 certified for Canada.



**DANGER:**

- ▶ Ensure the termination is installed at least 12" (300 mm) above the average snow line. If this is not feasible, this termination can not be used.

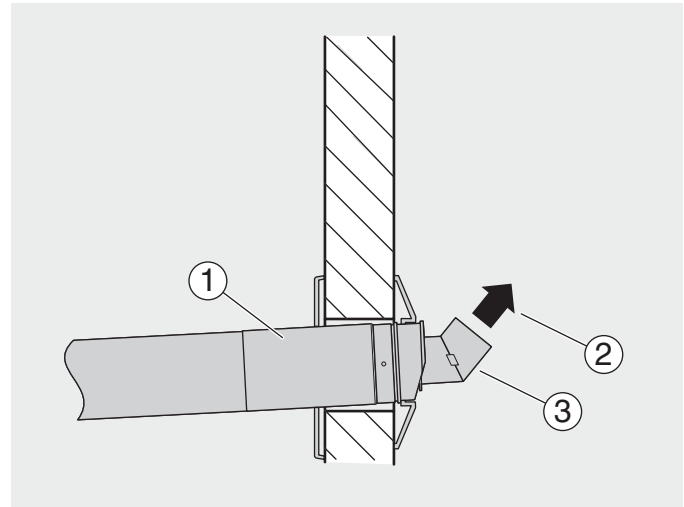


Fig. 2

**Fig. 2 Legend:**

- 1 Termination
- 2 Direction of flue discharge
- 3 Plume deflector

### 3.2 Appliance Adapter

Discard original appliance adapter, vent flange and gasket that was supplied with the boiler.

Set the appliance adapter down onto the pipe ensuring that the analyzer ports are facing to the front of the appliance and the adapter screw holes are aligning with those of the appliance.

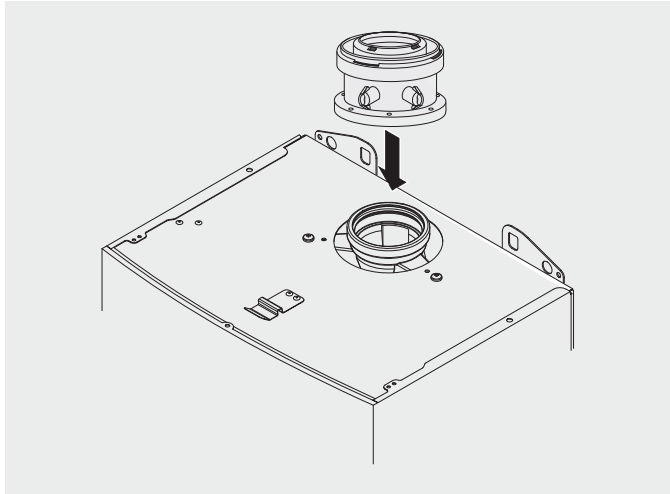


Fig. 4 Installing adapter

Insert the 4 screws, but do not tighten all the way.

### 3.3 Elbow and Wall Termination

- ▶ Apply a small amount of clean water as lubricant on all gaskets.
- ▶ Place elbow on top of the appliance adapter and align.

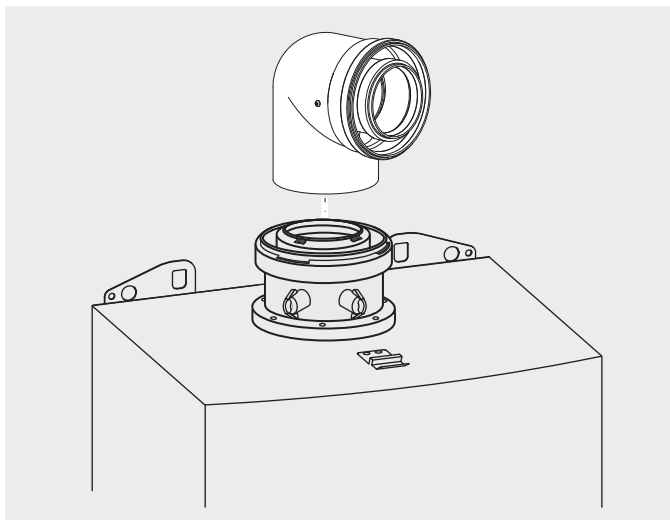


Fig. 5 Installing elbow



While the screws are not fully tightened, the appliance adapter can be swivelled around its vertical axis.

- ▶ Measure the length of the vent terminal assembly (→ Fig. 6, [1]) taking into account the thickness of the outside wall [S] and the distance from the outside wall to the end of the vent pipe [L]. It is recommended to keep at least 4" (100mm) clearance from the ceiling or joists for accessibility reasons.

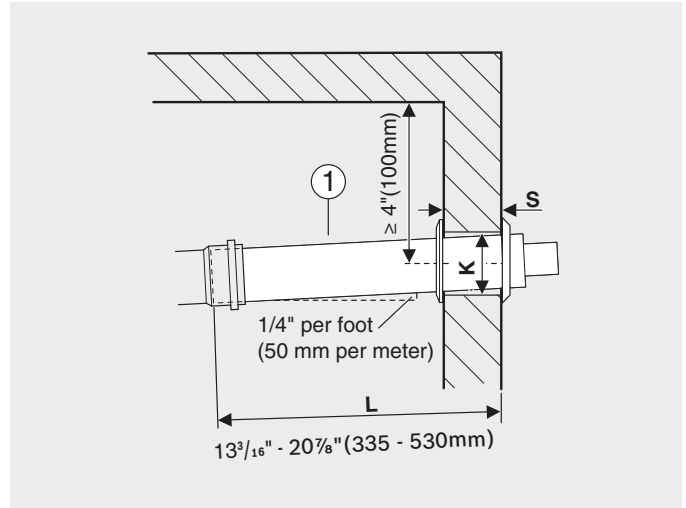


Fig. 6 Penetration through the outside wall

- ▶ Select the required diameter [K] of the hole in the wall according to the wall thickness S.

Sizing hole penetration	
Wall Thickness S	Diameter K
6" - 9 1/2" (150 - 240 mm)	6 1/4" (155 mm)
9 1/2" - 16 1/2" (240 - 420 mm)	6 1/2" (165 mm)
16 1/2" - 20 7/8" (420 - 530 mm)	7" (170 mm)

- ▶ Cut the hole in the wall while allowing clearance for the required pitch of the air/vent pipe.
- ▶ Adjust the vent pipe length to the distance [L] required & secure with three self tapping screws [2].



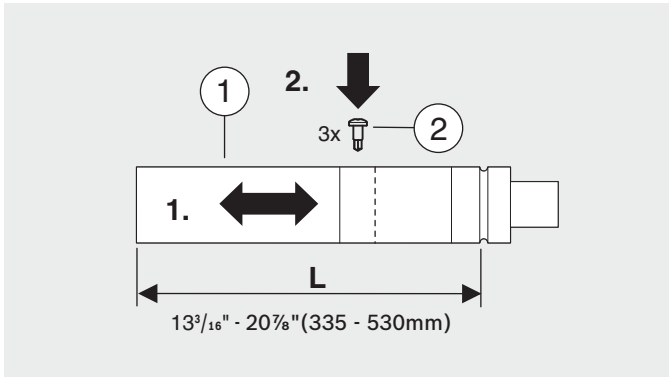


Fig. 7

- ▶ Extending the concentric pipe length beyond the telescoping termination (Fig. 7) is permissible. The maximum straight vent length allowed is dependant on appliance type and number of elbows used. See tables below.

Maximum straight vent pipe length allowed for Ø 3" / Ø 5" (Ø 80/125 mm) concentric pipe		
# of 90° elbows used	Equivalent	
	feet	m
1	50 ft (15.2 m)	44 ft (13.4 m)
2	44 ft (13.4 m)	38 ft (11.6 m)
3	38 ft (11.6 m)	32 ft (9.8 m)
4	32 ft (9.8 m)	26 ft (7.9 m)
5	26 ft (7.9 m)	20 ft (6.1 m)
6	20 ft (6.1 m)	14 ft (4.3 m)

Friction Loss Equivalent for Fittings		
Fitting	Equivalent	
	feet	m
45 degree elbow	3	0.91
90 degree elbow	6	1.82

**Example:**

- Model: **ZBR28-3A**
- 90° elbows used: **2**
- 45° elbows used: **2**

Maximum straight vent pipe allowed: **38ft (11.6m)**

- ▶ Slide the outer wall seal [2] onto the terminal [1] as shown.

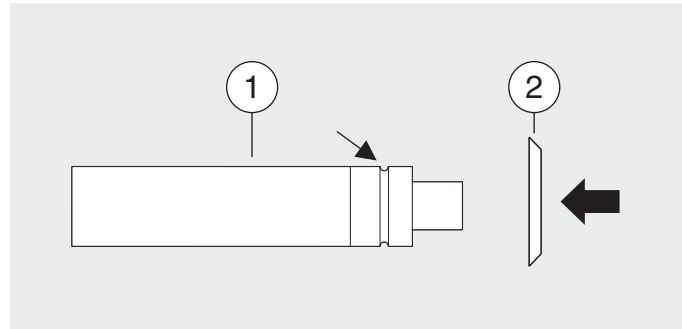


Fig. 8

- ▶ Position terminal [1] from the outside through the vent opening so rubber thimble [2] is flush against outside wall .
- ▶ Slide the inner wall seal [3] onto the terminal [1] as shown.

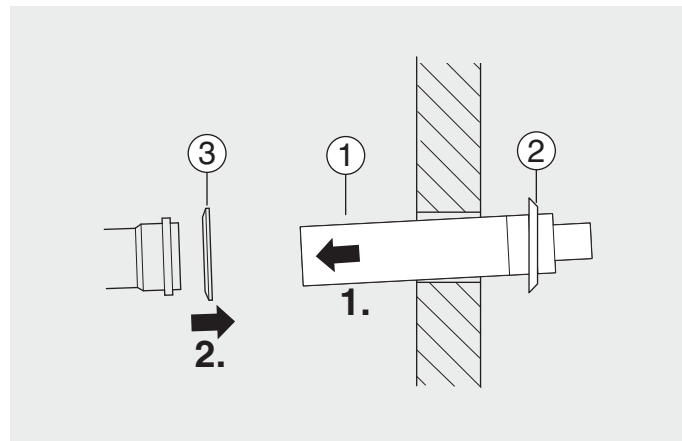


Fig. 9 Inserting termination from the outside

- ▶ Connect the termination to the elbow or to additional concentric pipe if extending the vent length.

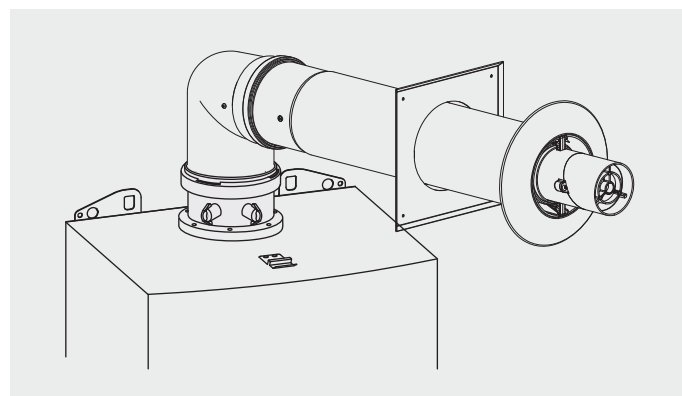


Fig. 10 completed adapter and concentric assembly

- ▶ Ensure all components are properly connected and aligned, and that the termination has the proper pitch as shown in Fig. 6.
- ▶ Tighten the four screws of the appliance adapter on the appliance.
- ▶ Complete installing the appliance per the Boiler Installation Instructions.

### 3.4 Redirecting The Vent Discharge

The vent discharge can be redirected to reduce the risk of cross contamination.

- ▶ Remove the screws [A] and disconnect the terminal end [B].

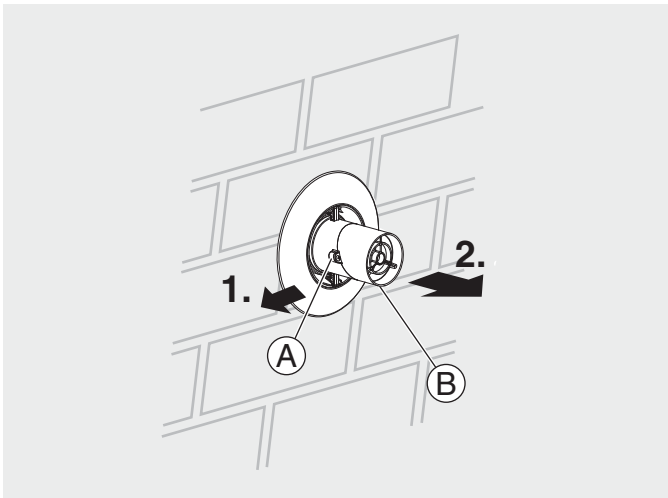


Fig. 11

- ▶ Rotate the terminal end [B] 180° so discharge faces upwards.
- ▶ Refit the terminal end [B] and tighten the screws [A].

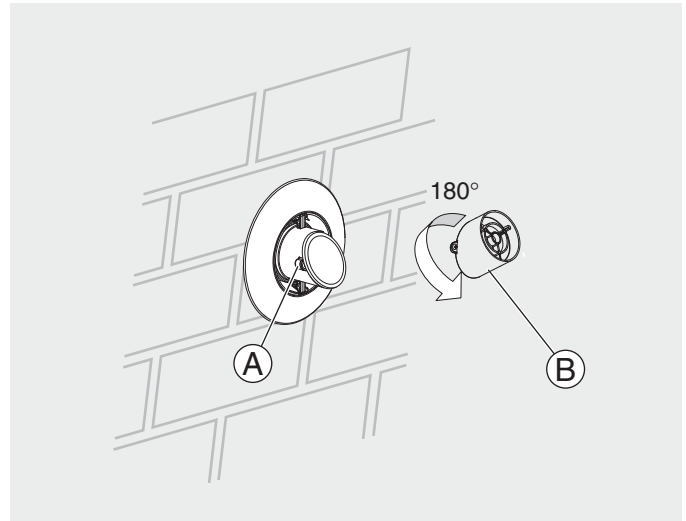


Fig. 12

- ▶ The entire termination can now be rotated left or right  $\pm 40^\circ$  to redirect the plume (→ Fig. 13).

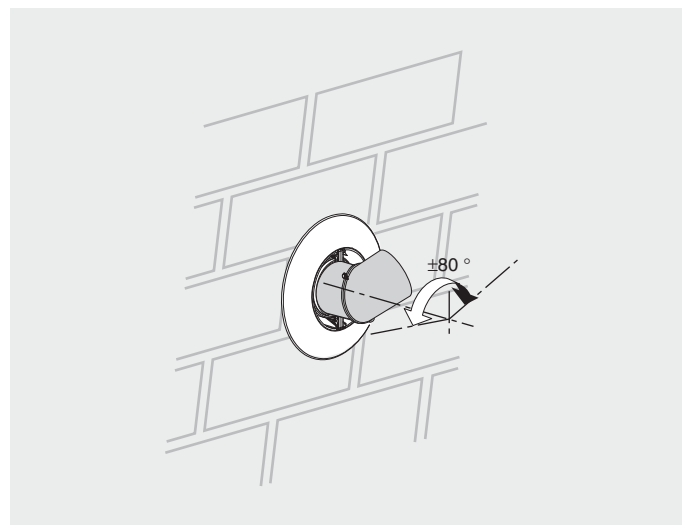


Fig. 13

- ▶ Use adequate weather resistant caulk to seal the penetration in the wall and prevent moisture damage.



**CAUTION:**

When redirecting the flue discharge ensure it does not create a hazard or nuisance.

## 4 Spare Parts

Concentric Vent Kit Components	
Description	Bosch MATNR
Greenstar Horizontal Concentric Vent Kit (contains Box 1 and Box 2)	7738003218
Telescopic terminal assembly and 90° elbow (Box 1)	7736501235
Concentric Adapter Greenstar (Box 2)	7738003219
Inner Wall Seal	7738003235
Outer Wall Seal	7738003236
Greenstar Horizontal Concentric Vent Kit Hardware	7738003237

Additional Concentric Vent Kit Accessories	
Description	Bosch MATNR
Extension PP 80/125 x 10"	7738003238
Extension PP 80/125 x 20"	7738003239
Extension PP 80/125 x 40"	7738003240
Extension PP 80/125 x 80"	7738003241
Elbow PP 80/125 90°	7738003242
Elbow PP 80/125 45°	7738003243
Seal EPDM 80	7738003244
Seal EPDM 125	7738003245



To purchase additional concentric pipe lengths and fittings, please contact Bosch Customer Service 1-800-283-3787.

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