

DO - Vertical Flue Gas System for GB125 Oil Condensing Boiler

For trained and certified
installers

Please read carefully prior
to installation.

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1 General information

1.1 Standards, regulations and directives

It is the responsibility of the installer to ensure that the system corresponds to all current regulations and rules.

This flue gas system is only approved for the GB125. Use with other boilers is not permitted.

Only use parts intended for this flue gas system and do not combine it with other systems.

1.2 System certification

For Logano plus GB125 oil condensing boilers:

The GB125 is system-certified with this flue gas system for the USA and Canada.

An individual approval of the flue gas system is not required.

The flue gas system must be installed in accordance with these installation instructions. The maximum permissible overall length and the number of changes of direction are specified in the "Technical data" section.

2 Safety

2.1 About these instructions

These installation instructions contain important information for the safe and appropriate installation and start-up of the flue gas systems.

These installation instructions are designed for specialists, who – through their vocational training and experience – are knowledgeable in the handling of heating systems and oil installations.

2.2 Intended use

The basic kits DO may be used as flue gas systems for the Buderus oil condensing boilers with maximum flue gas temperatures of 248 °F (120 °C). Suitable are, e.g. boilers of the types:

- Logano plus GB125-22/30/35

2.3 Layout of the instructions

Two levels of danger are identified and signified by the following terms:



RISK OF FATAL INJURY

Identifies possible dangers emanating from a product, which might cause serious injury or death if appropriate care is not taken.



RISK OF INJURY/SYSTEM DAMAGE

Indicates a potentially dangerous situation which could cause minor or moderately serious injuries or damage to property.

Additional symbols for identification of dangers and user instructions:



USER NOTE

User tips for optimal use of equipment and adjustment as well as other useful information.

2.4 Please follow these instructions



Risk of fatal injury **FROM FLUE GAS POISONING.**

Insufficient ventilation or leaky flue gas lines may cause dangerous flue gas leaks.

- Make sure that air intake or exhaust air vents are not closed off or their size reduced.
- The boiler must not be operated until the obstruction has been removed.

Inform the system user in writing of the fault and its associated dangers.



Risk of fatal injury **DUE TO FALLS AND FALLING PARTS.**

- Take appropriate action to prevent accidents during all work on roofs.
- Take all necessary precautions against a possible fall while working on the roof.



Only use original Buderus spare parts. Damage caused by the use of parts not supplied by Buderus is excluded from the Buderus warranty.

2.5 Tools, materials and accessories

For the installation of the boiler, you will require the standard tools used for central heating and oil and water systems.

The following may also be necessary:

- Safety equipment for work on the roof
- Mounting cable at least 9 ft. (3 m) longer than the chimney

2.6 Disposal

- Dispose of the packaging of the flue gas system in an environmentally responsible manner.
- Dispose of components of the flue gas system that are replaced through an authorized agent in an environmentally responsible manner.

3 Product description, scope of delivery and technical data

3.1 Basic kit DO (DN 125/80)

The basic kit DO is specially conceived for boiler installation in the attic.

The air flue gas line is a concentric pipe-in-pipe system of plastic or steel. The outer concentric pipe is a combustion air pipe (balanced flue operation), the inner pipe is a flue gas pipe. Only one boiler may be connected to the flue pipe.

- Before starting any installation work, check that all listed items are present.

Contents (Fig. 2)

1	Plug end (pipe without sleeve), DN 125	1 ×
2	Flue gas pipe, DN 80 L = 28" (700 mm), can be cut to length**	1 ×
3	Concentric outer pipe, DN 119, white**	1 ×
4	Adjustable flashing, two-piece, DN 125	1 ×
5	Rafter clamp, DN 125	1 ×
6	Universal roof tile with rain cap (accessory)*	1 ×
7	Flat roof flange (accessory)*	1 ×
8	Roof termination, DN 125/80, 16" (400 mm) above roof	1 ×
9	Concentric flue gas connector	1 ×
10	Concentric inspection T-joint (optional)	1 ×
11	Concentric adapter 87° (accessory)**	1 ×
	CENTROCERIN® anti-seizing compound (not shown)	1 ×

* Choose suitable item to complete the installation.

** Purchase additional extension pieces to complete the venting system.

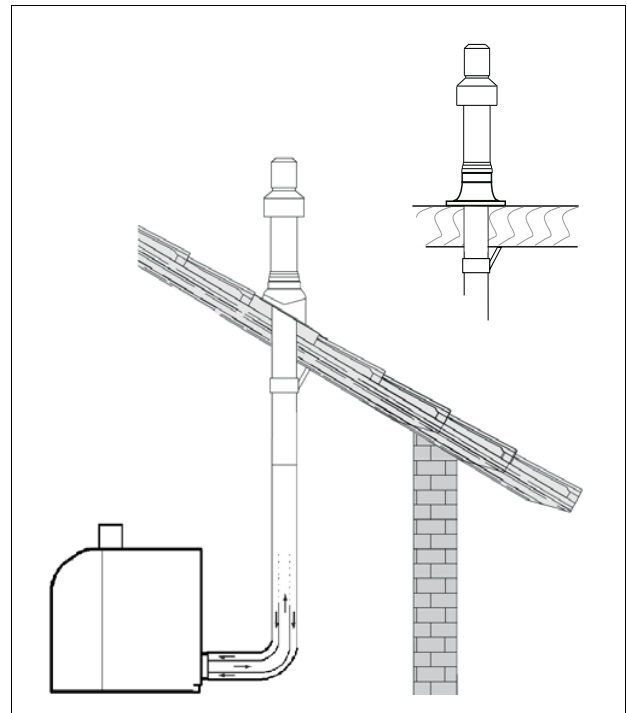


Fig. 1 Basic kit DO for roof pitches from 25° to 45° and for flat roofs

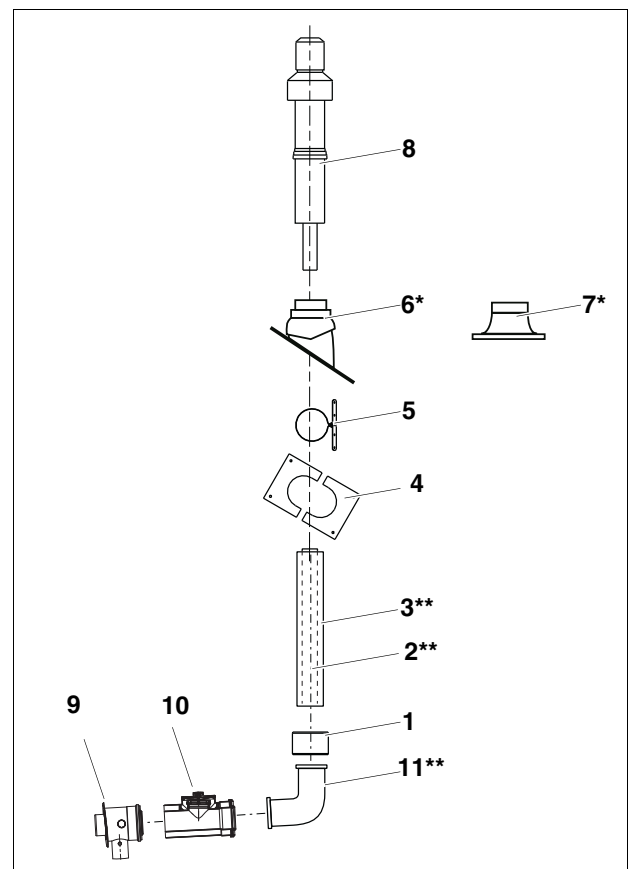


Fig. 2 Scope of supply basic kit DO

3.2 Technical data

Flue gas system	Logano plus GB125			Minimum size for chase
	Maximum flue pipe length			
	22	30	35	
DO (DN80/125)	51 ft. (17 m)	64 ft. (21 m)	71 ft. (23 m)	DIA 6-1/2" (Ø 165 mm); 6-1/2" x 6-1/2" (165 mm x 165 mm)

Tab. 1 Maximum overall lengths and minimum chimney flue diameters

Pipe changes of direction

The overall lengths apply for systems with one elbow. Every additional elbow (accessory) reduces the maximum vent length by 3 ft (1 m).

4 Notes on installation and operation

4.1 Balanced flue operation

The GB125 is designed for balanced flue operation only. All combustion air is taken in from outside.

4.2 Condensate drain

The flue gas line has an integrated condensate drain in the boiler connector. The condensate from the flue gas line flows directly into the boiler's trap (siphon).

Follow local rules when draining condensate into municipal sewage systems.

It is not recommended to drain untreated condensate in septic systems.

In any case follow local codes and regulations.

Consult the boiler installation instructions for details on installing a condensate neutralizer.

4.3 Safety distances to combustible material

The design of the concentric venting system allows installation with zero (0", 0 mm) clearance. Therefore, no particular protective measures or safety distances are required for combustible materials or furniture.

4.4 Instructions for inspection and clean-out sections

4.4.1 Inspection and clean-out sections

Local codes and regulations may require an inspection and clean-out section to be installed close to the boiler.

The inspection and clean-out section allows inspecting and cleaning the venting system without dismantling sections of it.

4.4.2 Installation of the lower inspection and clean-out section

The lower inspection section must be installed sideways in the horizontal section of the flue gas pipe as the first section after the boiler adapter.

- Keep area of at least 3 ft. x 3 ft. (1 m x 1 m) clearance in front of the inspection section for easy access.

4.4.3 Upper inspection and clean-out section

An upper inspection and clean-out section is needed if there are any changes in direction of the vertical flue gas pipe, e.g. when elbows are used to create an offset. Install the inspection and clean-out section above the change in direction.

- Keep an area of at least 1-1/2 ft. x 1-1/2 ft. (0.5 m x 0.5 m) clearance in front of the inspection section for easy access.

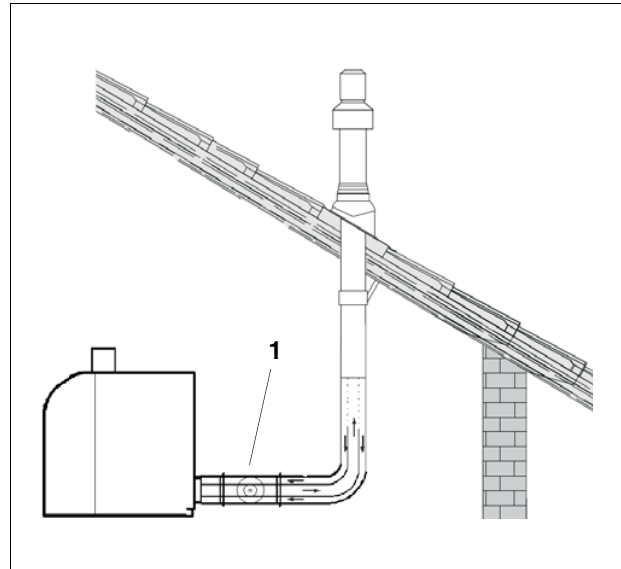


Fig. 3 Lower inspection aperture

5 Installing the flue gas system

5.1 General installation notes

Trimming pipes



RISK OF INJURY from sharp edges.

- Wear work gloves.

- With concentric pipes, pull the inner pipe out of the outer pipe.
- Trim pipes at a right angle to the required length x (Fig. 4).
With concentric pipes, trim flue gas and air intake pipe to the same length.
- Carefully remove the burrs from cut edges.
- Put the flue gas and air intake pipes together again.

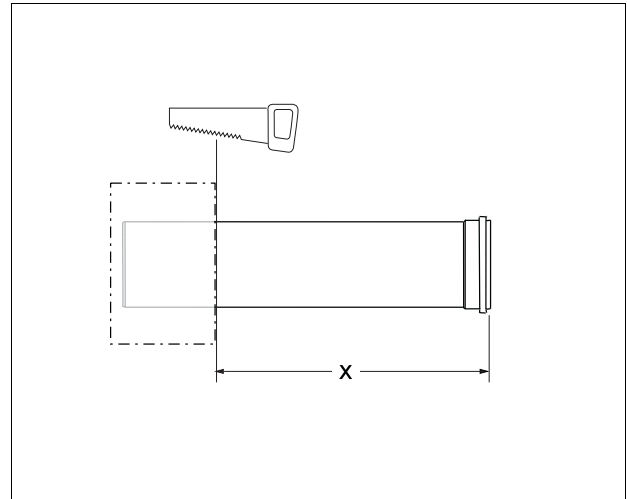


Fig. 4 Trimming pipes

Installing the pipe connection

Assemble the pipes so that the sleeve points in the direction of the flue gas stream. Only use original Buderus flue gas pipe gaskets!

- Coat the gaskets (Fig. 5, **Item 1**) with CENTROCERIN[®] anti-seizing compound.
- Push the flue gas pipes into one another (Fig. 5, **Item 2**) with a slight turning motion until the stop.
With concentric pipes, push the air intake pipe (outer pipe, Fig. 5, **Item 3**) again.
Make sure that the gaskets do not shift.

Loosening the pipe connection

- Pull the pipes out of one another while turning slightly.

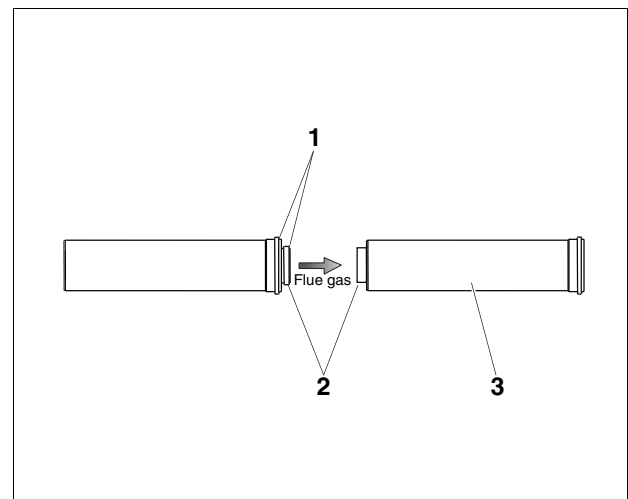


Fig. 5 Installing the pipe connections

- 1 Gaskets
- 2 Flue gas pipes (inner pipes)
- 3 Air intake pipe (outer pipe)

5.2 Installing basic kit DO



Risk of fatal injury **due to falls and falling parts.**

- Take appropriate action to prevent accidents during all work on roofs.
- Take all necessary precautions against a possible fall while working on the roof.

5.2.1 Materials and tools required on the roof

- Roof penetration and flashing
- For pitched roof: universal roof penetration and flashing
- For flat roof: flat roof penetration and flashing
- Level
- Tape measure

5.2.2 Installation on a pitched roof

- Select roof tile or shingles above the boiler connector (Fig. 6, **Item 1**) or in a suitable place for the GB125, and remove.
- Cut a 5-1/4" opening in the sheathing. Pay attention to the roof inclination (Fig. 6), and that you may need a larger hole if you don't cut vertically.
- Install universal roof penetration and flashing. Seal properly (Fig. 6, **Item 2**).
- Install the concentric adapter.
- Reinstall tiles or shingles.
- Buderus recommends consulting a commercial roofing company to avoid damage to the structure.

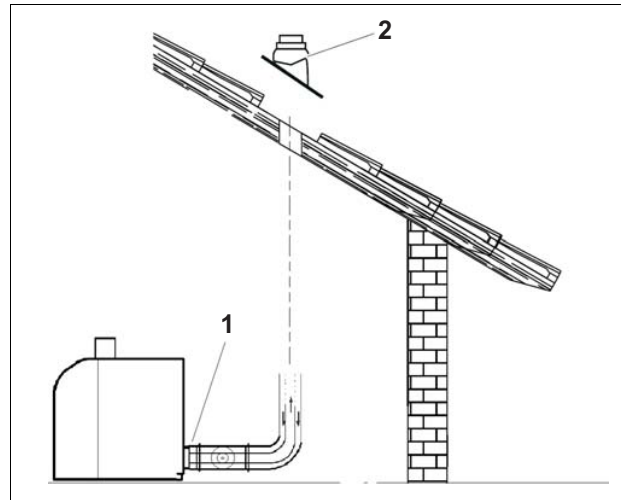


Fig. 6 Creating penetration through the roof

- 1 Boiler connector
- 2 Universal roof penetration and flashing

- Push roof termination (Fig. 7, **Item 1**) through the penetration (Fig. 7, **Item 2***) from above to the stop.
- Align the roof termination with a level so it is vertical.
- **Important:** in order to accommodate thermal expansions, the freedom of movement of the hood must be ensured (Fig. 8).
For this, the flue gas pipe must extend below the outer pipe by 1" (25 mm).
- The installation must comply with all applicable local codes and regulations. In absence of such codes and regulations NFPA 211 must be followed.

Installation in the building interior

- Push rafter clamp (Fig. 7, **Item 3**) from below above the roof termination and screw onto the rafters.
- Screw two-piece adjustable flashing (Fig. 7, **Item 4**) onto the interior covering of the roof.

Trim roof termination if necessary: do not cut off more than 8" (200 mm) to ensure a minimum insertion depth of 50 mm for the concentric pipe (Fig. 7, **Item 5**).

If necessary, extend the roof termination using concentric pipes (accessory) and coat the gaskets with CEN-TROCERIN®.

- Insert the concentric pipe (Fig. 8, **Item 1**) all the way up into the roof termination.

If necessary, trim the flue gas pipe (Fig. 8, **Item 3**): leave the flue gas pipe at least 1" (25 mm) longer than required.

If necessary, trim the concentric pipe: to trim, the insertion end (Fig. 8, **Item 2**) can be removed, then reinstall.

- Coat the gaskets in the boiler connector (Fig. 8, **Item 4**) with CEN-TROCERIN® anti-seizing compound and slide on the pipe while turning slightly.
- Install elbow and inspection and clean-out section, and insert into the boiler connector.

5.2.3 Installation on a flat roof

Carry out the installation as for a pitched roof. Use a flat roof penetration (Fig. 7, **Item 8***, accessory) instead of the universal roof penetration.

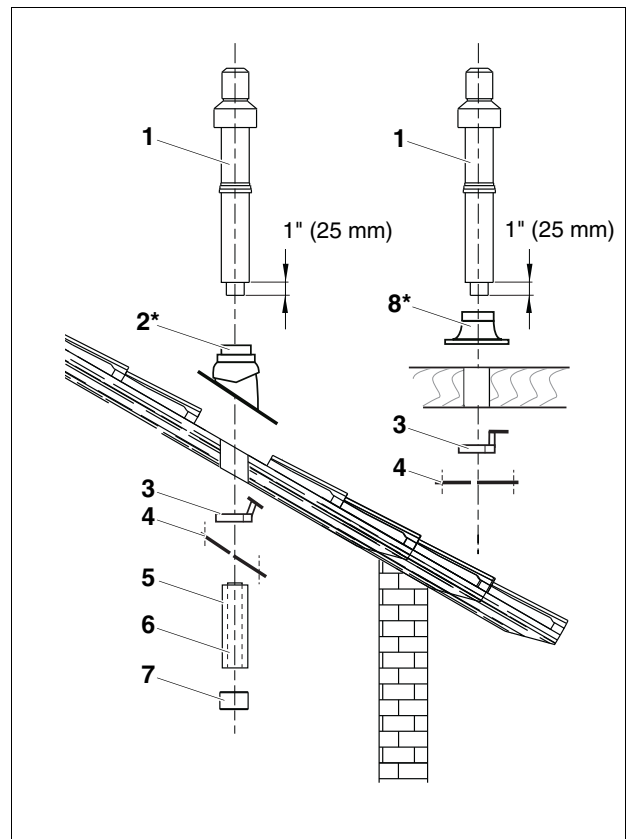


Fig. 7 Installing the roof exit

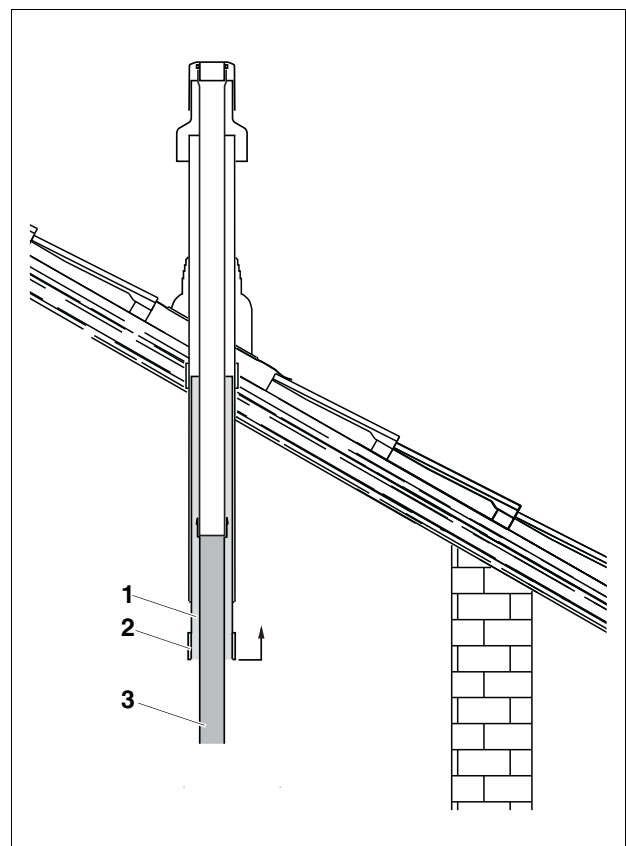


Fig. 8 Installing the concentric pipe (dimensions in mm)

5.3 Appliance connection

To install the appliance connector on the boiler identify the gasketed connection in the bottom right corner on the back of the boiler.

Apply CENTROCERIN® anti-seizing compound on the gasket of the secondary heat exchanger, and push the adapter on with a slight turning motion. The combustion air pipe should be oriented in a 10-o'clock position with all 3 predrilled screw holes visible.

Use the 3 brackets and self tapping screws in the predrilled screw holes to attach the adapter to the rear boiler panel.

Connect the combustion air hose to the adapter and secure with the provided hose clamp.

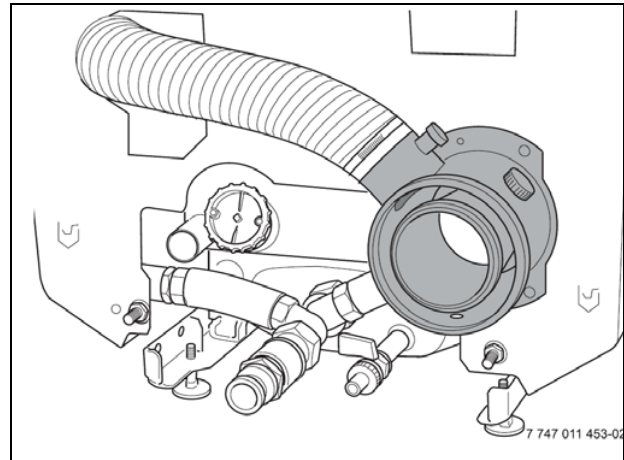


Fig. 9 Installing the boiler adapter

6 Inspecting the flue gas system

To make sure that no leaks occur during operation, the venting system must be checked for leaks before start-up.



Risk of flue gas poisoning

Leaky flue gas lines may cause dangerous flue gas leaks.

- Take the boiler out of operation until the leak in the flue gas line has been eliminated.

The flue gas line is sufficiently tight if the combustion air intake at the boiler adapter measures no higher than 0.2% CO₂, or a minimum of 20.6% O₂ (ring gap test).

Carry out the measurement over several minutes in order to avoid measurement errors. If the measurement produces a higher CO₂ value or a lower O₂ value, then a pressure test is required.

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