

⚠ WARNING

Incorrect installation of Flue System and Components, or failure to follow installation instructions, can result in property damage or serious injury.

- Examine all components for possible shipping damage prior to installation;
- Proper joint construction is essential for a safe installation. Follow these instructions exactly as written;
- This flue system must be free to expand and contract. This flue system must be supported in accordance with these instructions;
- Check for proper joint when joining pipes into fittings;
- Check for unrestricted flue movement through, walls, ceilings, and roof penetrations;
- Different manufacturers have different joint systems and adhesives. Do not mix pipe, fittings or joining methods from different manufacturers.



Installation manual

COXDENS[®] PP / ALU with **CONNEX₇T[®]**
Concentric Flue system



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INTRODUCTION

CoxDENS® PP/Alu with CONNEX₇T® is third party certified to CE EN 14471 T120 H1. Certified diameters are 60/100 mm, 80/125 mm and 100/150 mm. The following installation instructions are in accordance with the requirements of section 8 of the EN 14471 Standard.

In addition, please refer to the appliance manufacturer's instructions for restrictions to the total flue length or height, number of elbows that can be used, sizing of the flue or specifics as to appliance connections before proceeding with the installation of this product. Appliance manufacturer's installation instructions take precedence over this document.

The installation must conform to all relevant local, State or National codes and regulations. CoxDENS® PP/Alu with CONNEX₇T® flue system is approved for use up to a maximum flue gas temperature of 120°C.

All and any penetrations of fire rated walls, floors or ceilings have to comply with national and local building codes, building regulations and in conjunction with the local regulatory authority and buildings inspectorate.

INSTALLATION REQUIREMENTS

Installation and servicing of the CoxDENS® PP/Alu with CONNEX₇T® flue system must be performed by a qualified installer, service contractor or gas supplier.

Product specifications

- The inner flue pipe is made of UV-resistant Polypropylene (PP);
- Resistant up to temperature of 120° Celsius;
- Operates in negative and positive pressure modes;
- System diameters: Ø 60/100 mm, Ø 80/125 mm, Ø 100/150 mm;
- System approval 5000Pa (level H1);
- Gas tightness by seals;
- The concentric flue system with PP inner pipe and aluminium outer pipe is certified accordance standard DIN EN14471;
- Possible fuel types are Natural Gas and Oil;
- Thermal resistance is R00 (m²K/W);
- Minimum distance to combustibles is 0 mm;
- System can be used inside and outside the building (UV-resistant);
- Flow resistance factors are available on request.

Available products to make a complete flue system

- Pipes and fittings;
- Brackets;

- Roof terminal;
- Wall terminal;
- Plume Management Kit.

COXDENS® PP/ALU WITH CONNEX₇T® COMPONENTS

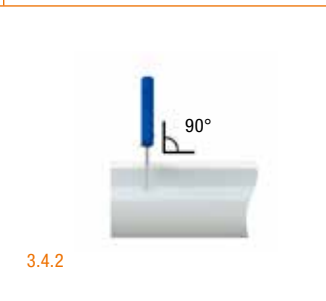
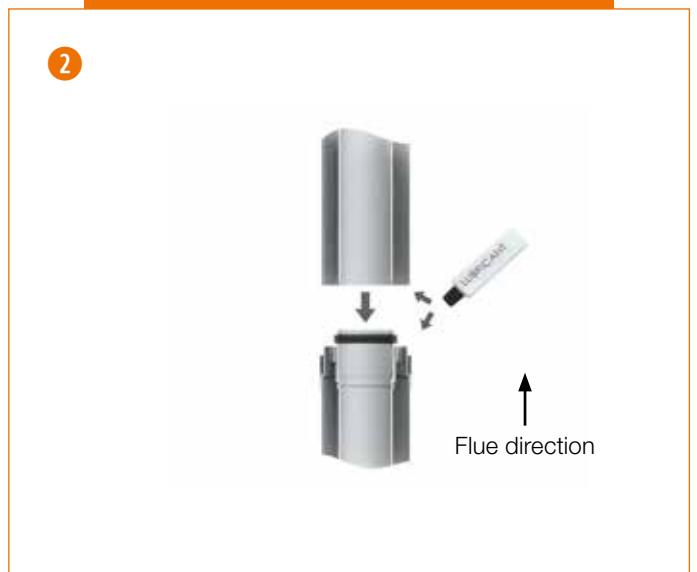
For a list of EN14471 approved CoxDENS® PP/Alu with CONNEX₇T® components, please consult the CoxDENS® PP/Alu with CONNEX₇T® catalogue or product finder at www.coxgeelen.com.

General installation conditions

1. Do not install CONNEX₇T® in areas where ambient air temperature exceeds 150°C.
2. Do not store the CoxDENS® PP/Alu with CONNEX₇T® system in a corrosive environment.
3. Appliances can be operated immediately upon the completion of the CoxDENS® PP/Alu with CONNEX₇T® flue system installation.
4. The internal flue pipe of CoxDENS® PP/Alu with CONNEX₇T® is rated to a maximum pressure of 5000Pa.
5. The maximum flue gas temperature for CoxDENS® PP/Alu with CONNEX₇T® is 120°C.
6. Cox Geelen lubricant is especially made for the assembly of flue components in plumbing and heating systems. It should be applied to all seals for ease of assembly. Do not use any other lubricant.
7. Free standing components (i.e., above a roof) must not exceed a maximum vertical height of 1m (wind load). When the freestanding length is greater than 1m, the flue terminal has to be stabilized. The maximum bracket length between the outer surface of the flue terminal and the wall is 50 mm (subjected to bracket strength).
8. The minimum clearance to combustible materials is 0 mm (zero).
9. Unless approved by the appliance manufacturer, only one appliance may be attached to the flue system.
10. Do not use CoxDENS® PP/Alu with CONNEX₇T® with any other manufacturer's flue components. Cox Geelen CoxDENS® PP/Alu with CONNEX₇T® components must be used exclusively throughout the entire flue system.

INSTALLATION OF THE COXDENS® PP/ALU WITH CONNEX,T® SYSTEM

- Check the presence of the seals and their correct placement; ❶
- Before making a connection, check the male end of the pipe to be inserted has no burrs. Then apply some lubricant onto its leading edge and onto the lips of the black seal (Ø60, Ø80mm) or grey seal (Ø100mm) in the socket of the connecting pipe, so that a smooth installation is achieved. Use only the special Chloride free Pipe Lubricant (only obtainable at Cox Geelen).
- The installation of the separate sections will be connected by pushing the CONNEX,T® spigot end of the section into the socket of the previous section; ❷
- Ensure system is installed according to the correct direction to avoid leakage of condensate.
- When a pipe section is too long, it's possible to shorten this from the male end (e.g. with a handsaw). Remove burrs at the pipe ends; ❸
- When a pipe section is too short, it can be extended by use of an adjustable pipe.



⚠ CAUTION
 Damage to the gasket can result in the dangerous release of carbon monoxide!

GENERAL BASIC INSTRUCTIONS

These basic rules specifically apply to pipe connections with the following characteristics:

- Connection to fan flued condensing boilers.
- Connection is visible in the room where the appliance is installed.
- Rigid concentric pipe with aluminum, stainless steel or plastic flue gas pipe (inner pipe).
- Maximum flue gas temperature 120 °C (T120) for plastic inner pipe.
- Diameters of outer pipe (air supply) up to Ø 150 mm.

ATTENTION! This checklist consists of a number of basic general instructions. Please also refer to the manufacturer's instruction manual for more specific instructions.

OK CHECKLIST

General

- Only use brackets specified by the manufacturer.
- When connecting pipes to create a flue gas system do not mix components of different materials or products.
- Insert the components fully into each other.
- Install tension free.
- Slope minimum 3 degrees from horizontal (i.e. 50 mm per meter) towards the boiler unit for proper drainage of condensate.

Installation and placing brackets

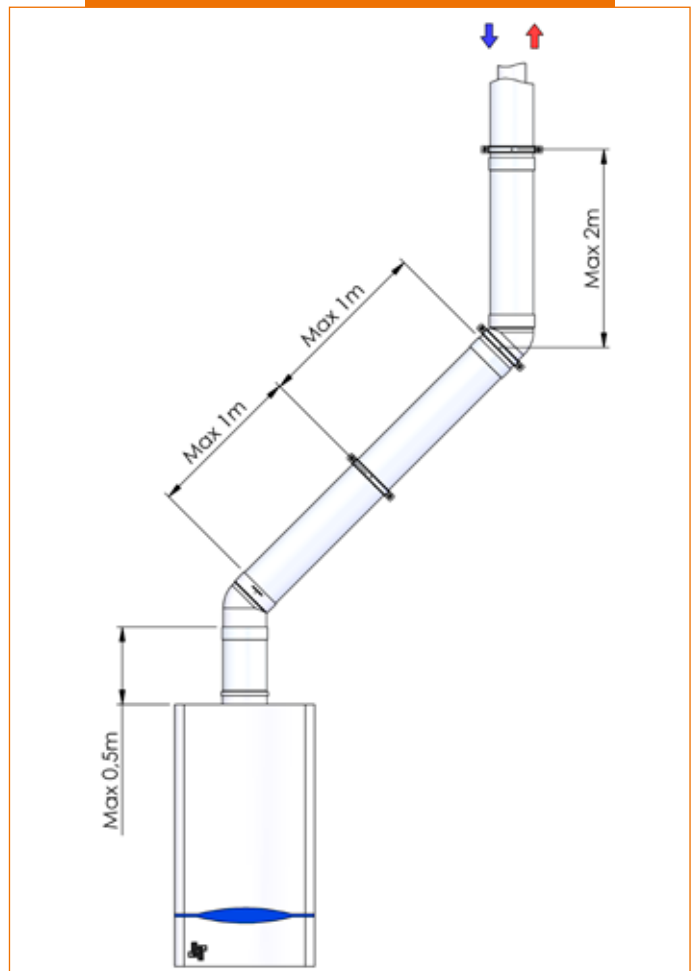
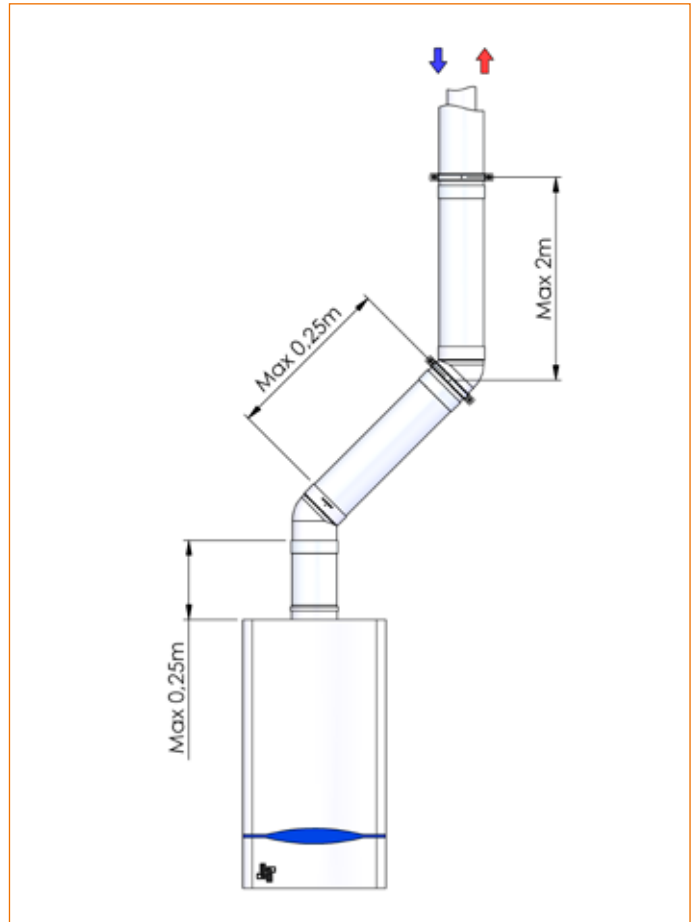
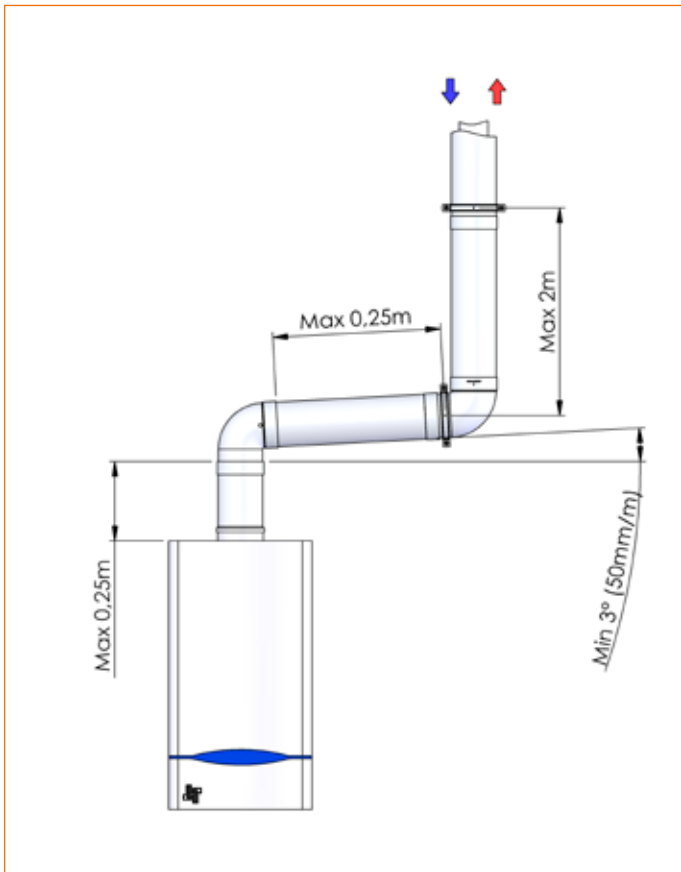
- Fix every bend with brackets near or around the socket. Exception only when connecting to device:
 - When the connecting pipes before and after the first bend are shorter than 0.25 m, the first bend does not need to be fixed with brackets.
 - Place the first bracket at maximum 0,5 m pipe length from the device.
- Horizontal and non-vertical pipes:
 - Maximum distance between brackets: 1 m.
 - For tensile strength connections (according to manufacturer's instructions) the maximum distance between brackets is 2 m.
 - Divide lengths between brackets equally.
- Vertical pipes:
 - Maximum distance between brackets: 2 m.
 - Divide lengths between brackets equally.
- Shaft connection pipes:
 - Check that the pipes belonging to the shaft are unblocked and undamaged.
 - Make sure pipes are installed at the proper slope (min 3 degrees from horizontal).
 - Make sure the stumps protrude at least 50 mm from the shaft.
- Place a bracket on the last element of the flue system before the shaft.
 - If this last element is a bend, the bracket can also be placed on the previous element.

Seals and connections

- To avoid damage to the seals ensure to always make square cuts and de-burr cut edges before connecting. For tensile strength connections follow the manufacturer's instructions.
- It is prohibited to use any kind of mastic, expanding foam, silicone or glue.
- For ease, apply Cox Geelen's lubricant or max. 1% soap solution or clean water.
- Attention! Do not use grease, Vaseline, acid-free Vaseline nor any oil.

INSTRUCTIONS

Installation and placing brackets for CoxDENS® PP/Alu with CONNEX₇T® flue gas system



DEALING WITH CONDENSATE

Always read the appliance manufacturers installation instructions in conjunction with those from Cox Geelen.

If the appliance manufacturer's installation instructions state that condensate cannot be discharged through the boiler appliance then the flue gas condensate must not be allowed to flow back to the boiler. This can be achieved by fitting the condensate trap and drain component into the CoxDENS® flue system.

Regardless of boiler appliance flue system installation mode - vertically or horizontally - the condensate trap and drain can be fitted - see diagrams below.

The condensate trap's drain off pipe must be connected to a condensate resistant tube of minimum internal diameter 15mm, then via a siphon/ airlock controlled outflow to a secured "open" connection to the sewer drain or foul water drainage system or neutralizing system. An appropriately sized siphon/airlock must be fitted to maintain room sealed conditions, preventing flue gas

emissions into the boiler room and equally to prevent back flow of fumes from the sewer/foul water discharge point.

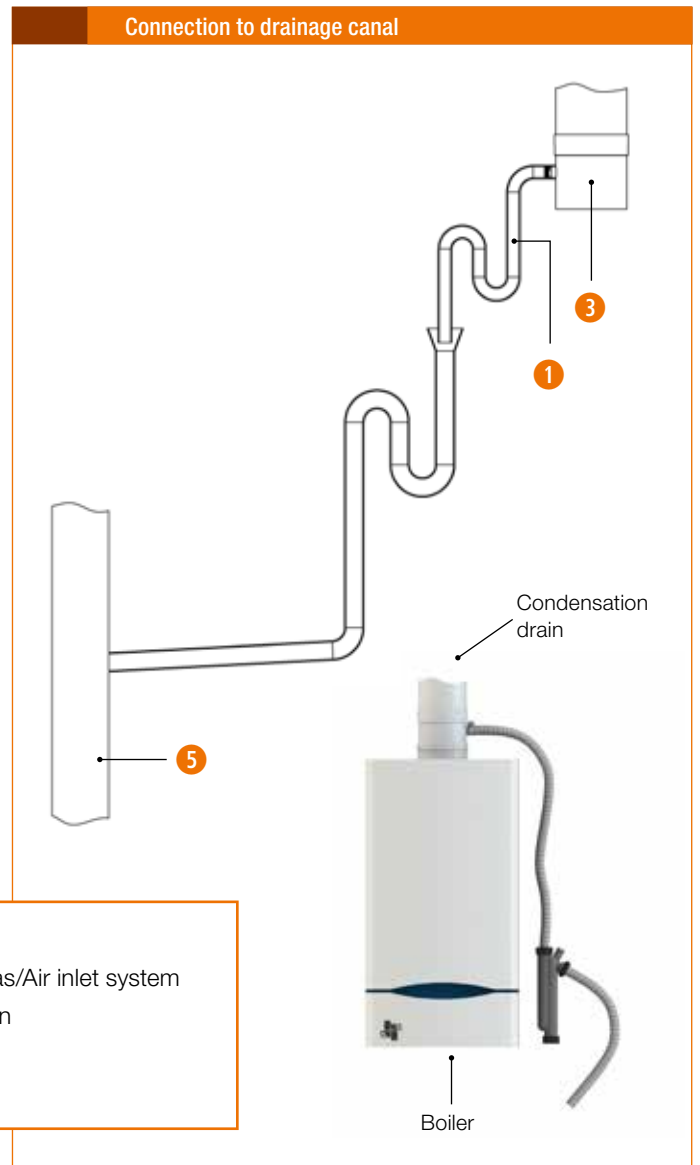
To avoid condensate freezing and disruption of normal operation of the appliance the condensate evacuation pipe routing should be suitably arranged internally wherever possible.

Exposure of condensate collection and discharge pipe work to extreme temperatures and should be avoided at all times.

Condensate removal and disposal must conform to NEN 3287 and NEN 3215.

All components within this condensate collection and discharge system should be manufactured in condensate resistant materials- this can be assured by use of the Cox Geelen siphon and drain pipe.

The condensate removal components, siphon and discharge pipe work must be inspected and maintained annually by suitably qualified appliance service engineers ideally at the annual service of the appliance.



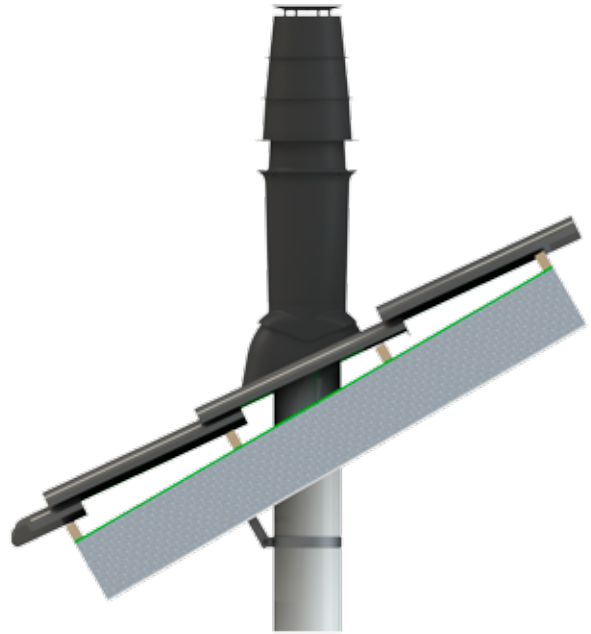
- ① Drain
- ② Concentric Flue gas/Air inlet system
- ③ Condensation drain
- ④ Appliance
- ⑤ Drainage - canal

TERMINATION

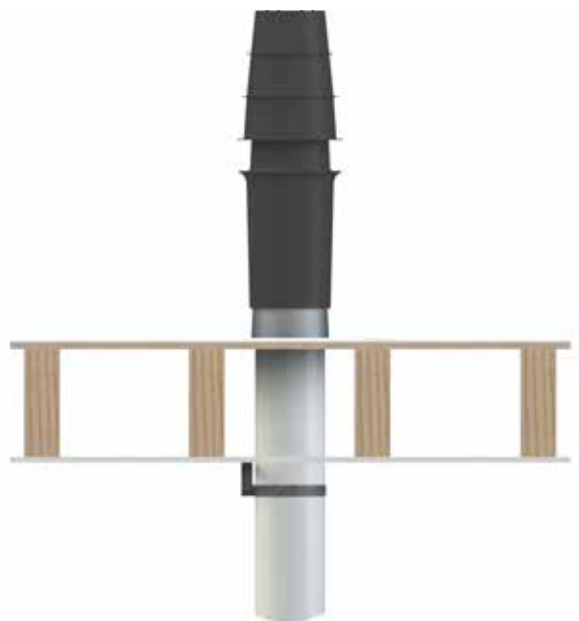
ECONEXT® Roof terminals

- If the position of the roof terminal is specified, make a hole in the roof:
 - a) For terminal Ø 60/100 mm and Ø 80/125 mm with a minimum of Ø 130 mm depending on the roof sloping;
 - b) For terminal Ø 100/150 mm with a minimum of Ø 160 mm depending on the roof sloping;
- For a good water seal, install the correct roof flashing on the roof;
- Install the roof terminal vertically through the roof flashing and fix them with the support bracket to the inside of the roof;
- The roof terminal is now ready to connect with the other flue parts.

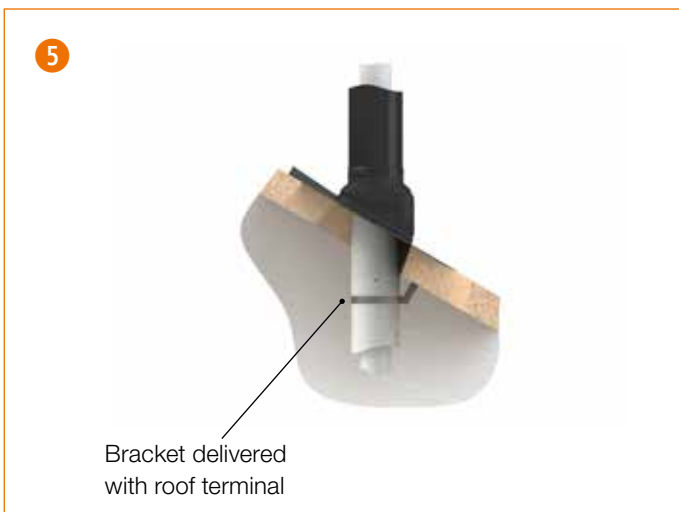
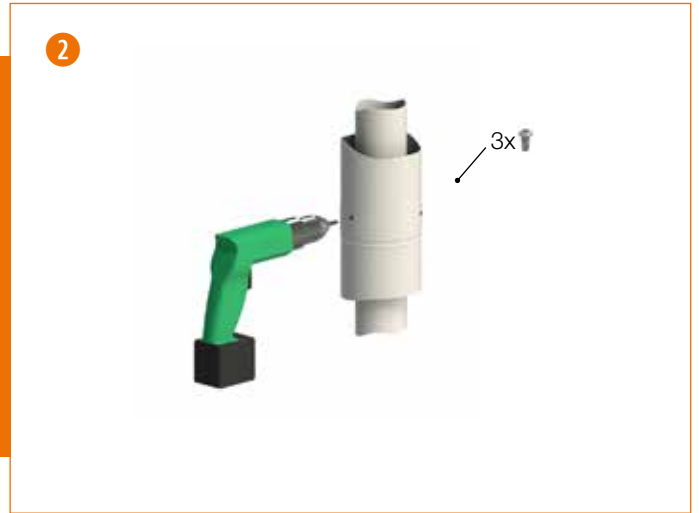
Typical sloping roof situation



Typical flat roof situation



Installation Instruction: Roof terminal extension



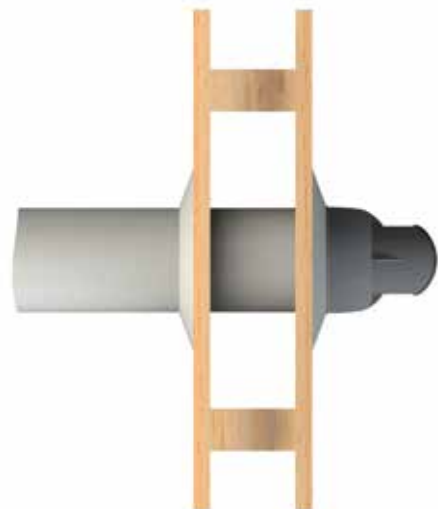
ECONEXT® Wall terminals

- If the position of the ECONEXT® wall terminal is specified, make a hole in the wall with a minimum of
 - a) Ø 105 mm for terminal Ø 60/100 mm;
 - b) Ø 130 mm for terminal Ø 80/125 mm;
 - c) Ø 155 mm for terminal Ø 100/150 mm;
- For a good water seal, install the correct wall sealing on the outside of the wall;
- Install the wall terminal horizontally through the wall;
- The wall terminal is now ready to connect with the other flue parts.

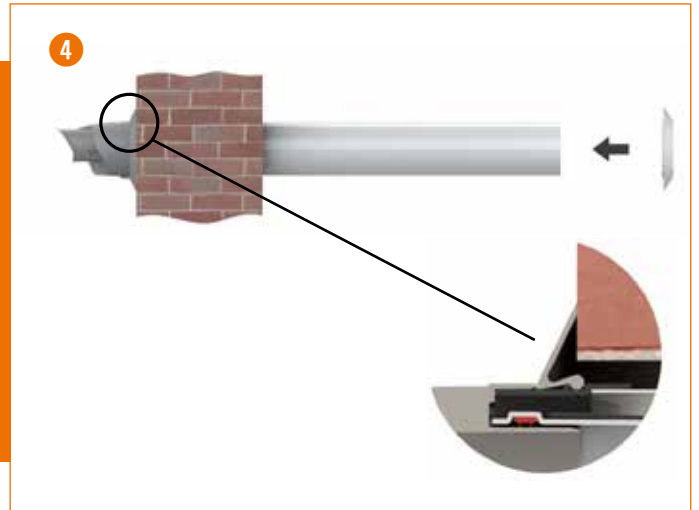
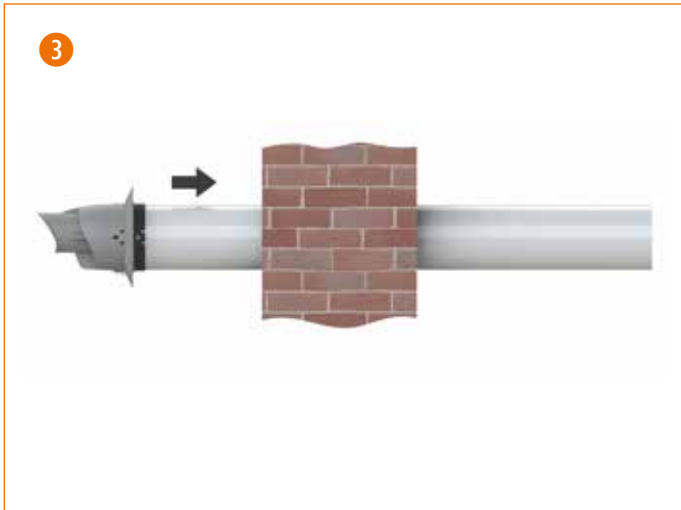
Typical wall situation



TOP VIEW



Installation Instruction: ECONEXT® Wall terminals

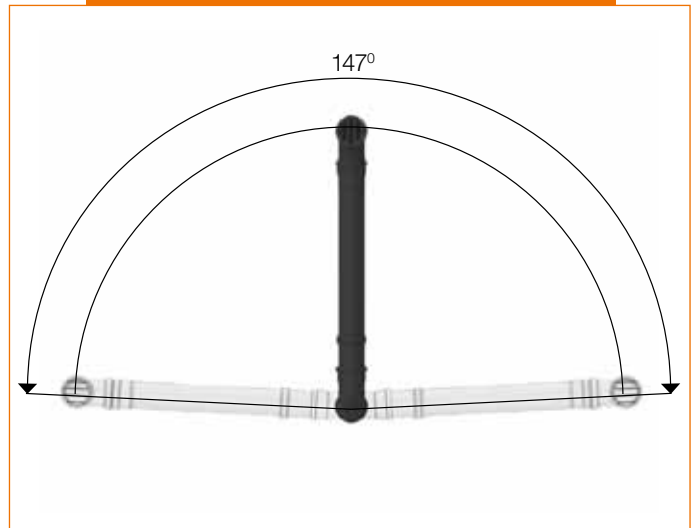


**Also available: Plume Management Kit (PMK) for ECONEXT®
Wall terminals Ø 60 mm and Ø 80 mm**

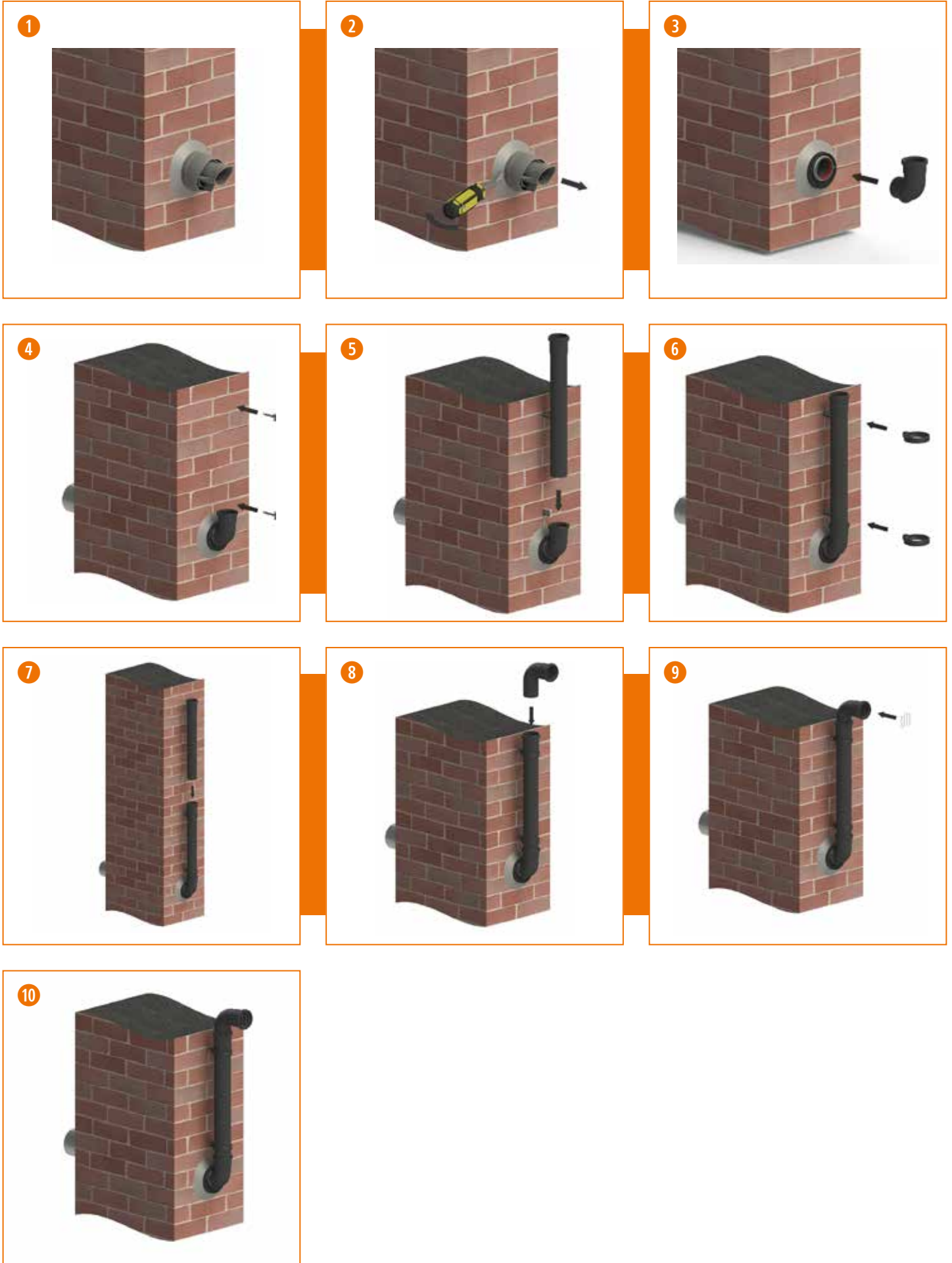
The siting of the flue wall terminal sometimes causes a plumbing problem. This problem can easily be solved by repositioning the final flue outlet point. All the Cox Geelen ECONEXT® wall terminals are provided standard with the special nozzle. With this nozzle you have the possibility to mount a Plume Management Kit within a few minutes. Just by removing the nozzle and easily clicking the Plume Management Kit on the system in every desired angle.

Installation of the Plume Management Kit (PMK)

- Remove the nozzle of the wall terminal with the careful use of a flat bladed screwdriver;
- Mount the ECONEXT® PMK bend 90°. Its main advantage is that you can install this bend into the necessary angle by simply turning the outlet;
- Connect the black vent pipe to the PMK bend;
- Use one support bracket per pipe section for the fixation of the flue pipe to the wall;
- Connect the 87° bend with bird mesh to the last mounted vent pipe to finish the installation.



INSTALLATION INSTRUCTION: ECONEXT® PLUME MANAGEMENT KIT



MAINTENANCE

Cox Geelen recommends that gas appliances using CoxDENS® PP/Alu with CONNEX₇T® flue system should be checked once a year by a qualified installer.

DISCLAIMER

These installation manuals have been compiled using all relevant current science and technology knowledge but should only be used as general guidelines as each set of circumstances at an installation site may require adjustment to suit specific products. If in doubt, please first contact one of our experts. Cox Geelen has exercised the utmost care in the preparation of these regulations but Cox Geelen cannot accept any liability for any claims for damages in the use of the product or guidance sheet. The application of these rules is solely at the risk of the user of our product. The installation must be done by a qualified installer.

Cox Geelen

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