



LAVANTUS[®]

VENTAFLEX[®] air duct
for underground installation

VENTAFLEX[®]
PATENTED
TECHNOLOGY

... pur PUR:
100 % material purity

VENTAFLEX[®]

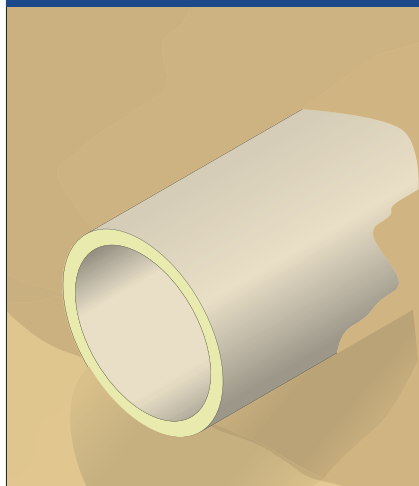
More efficiency in air conduction

INSTALLATION INSTRUCTION

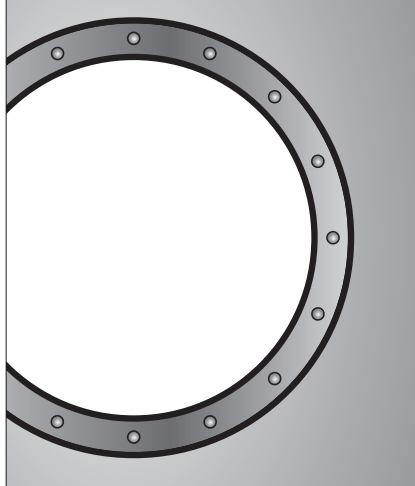
LAVANTUS®

VENTAFLEX® air duct
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underground installation



Ring seal



LavantusGrip-cuff



Responsibility

The installation instruction for VENTAFLEX® products is a non-binding recommendation which is not legally binding. They are based on construction data and installation experience.

An overall responsibility for the system on the part of VENTAFLEX® is not possible, because it solely develops, produces and delivers components and modules for the preparation of ventilation and heating systems.

Please read this installation instruction carefully before beginning with the installation and make sure that all needed material and tools are laid out ready.

Safety note

Installation work may only be done by skilled workers who have sufficient knowledge

- safety regulations
- accident prevention regulations
- guidelines and recognized rules of the technology (e.g. VDE-provisions, DIN-standards)

because of their professional training, experience und instruction.

The skilled workers must

- be able to assess the assigned work, recognize possible dangers and avoid them
- be authorized to carry out the necessary work and action by those responsible for safety of the plant.

Quick help

If you have any further questions regarding the installation or other VENTAFLEX® products, please contact our hotline or call us under **0 25 05 - 93 829 -20**

We will now lead you through the installation step by step.

Further general information for the processing of VENTAFLEX® air ducts can be found on www.ventaflex.de

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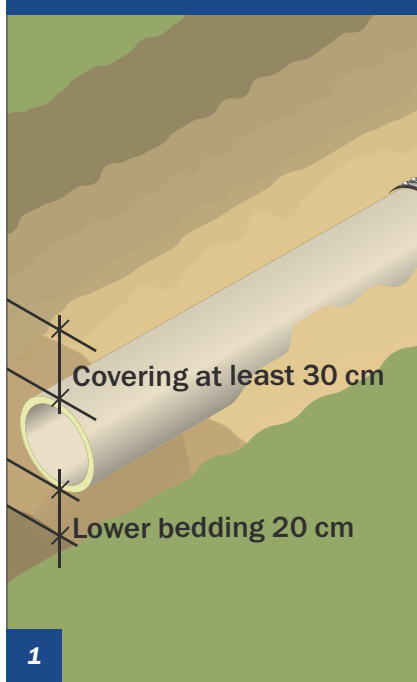
Personal consulting: +49 2505 - 93 829 0



We recommend to have a statics calculation carried out by our engineering office individually for your construction project with LAVANTUS® air ducts.

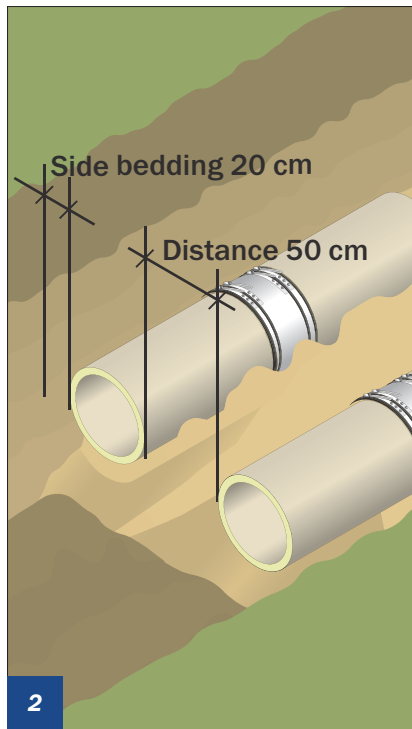
At constant exterior water pressure the application must be made in consultation with VENTAFLEX®.

Example underground installation



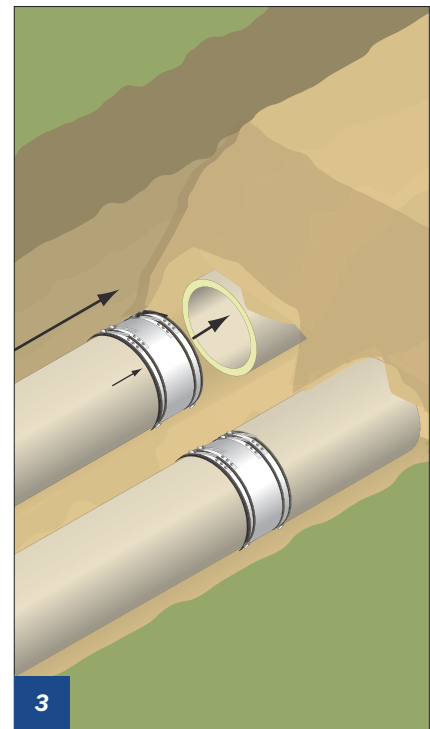
Before laying, a ditch must be created to ensure a 20 cm underlay and a minimum cover of 30 cm with filling sand.

The values given are approximate values. It is recommended that a separate statics is made due to the different local conditions.



With parallel installation of the LAVANTUS® air ducts a distance of 50 cm is to be kept so that the gusset material can be brought in properly.

An installation above one another principally has to be checked in advance.

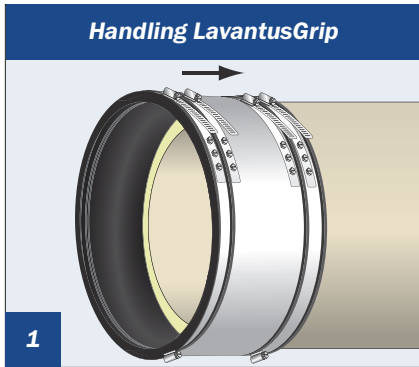
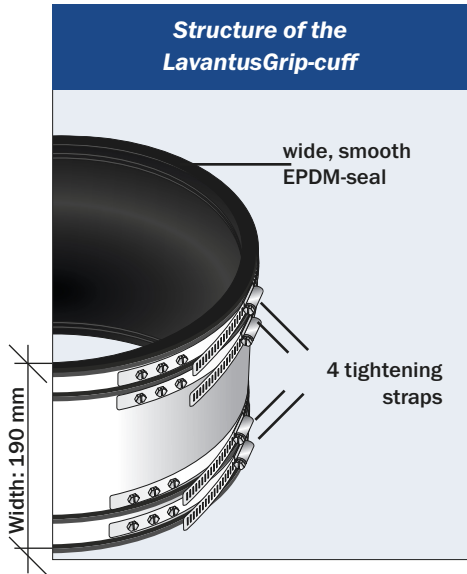


The LAVANTUS® air ducts with LavantusGrip collar (see p. 5.20). Before leak testing, the ducts must be secured against unwanted slipping apart of the butt joint.

The last step before backfilling the trench is a leak test.

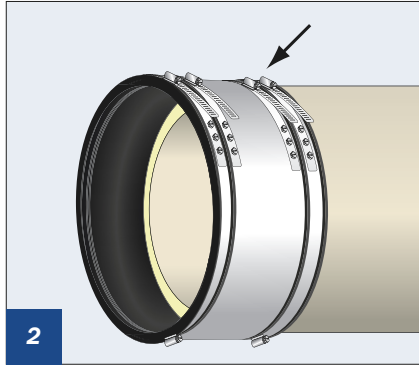
Backfill the ditch with filling sand and compress carefully.

It is important to mark the backfilled duct ditch sufficiently so that it is not damaged by heavy construction machinery.



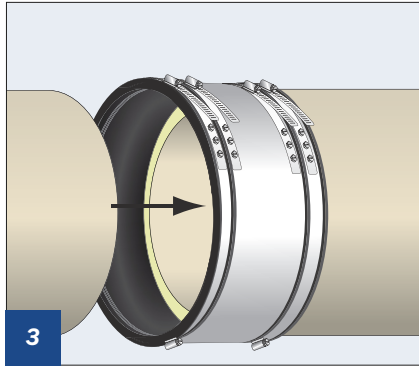
A LavantusGrip-cuff is slid half over the first air duct.

Tip:
Lubricants can be used to make the sliding easier.

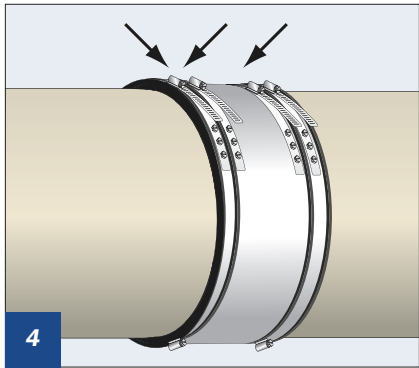


Now tighten the outer tensioning strap.

Now the first two tightening straps are tightened.



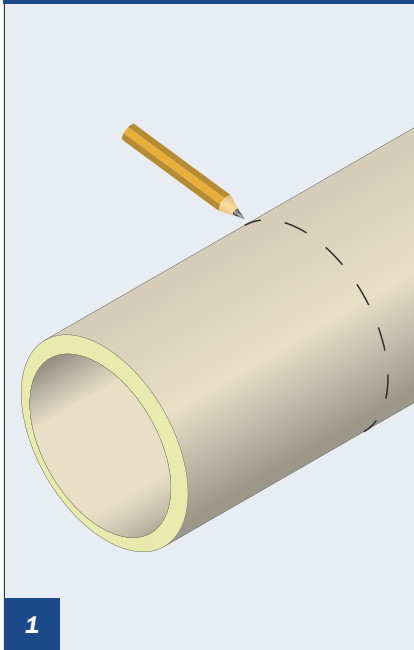
After that the second duct is slid into the cuff ...



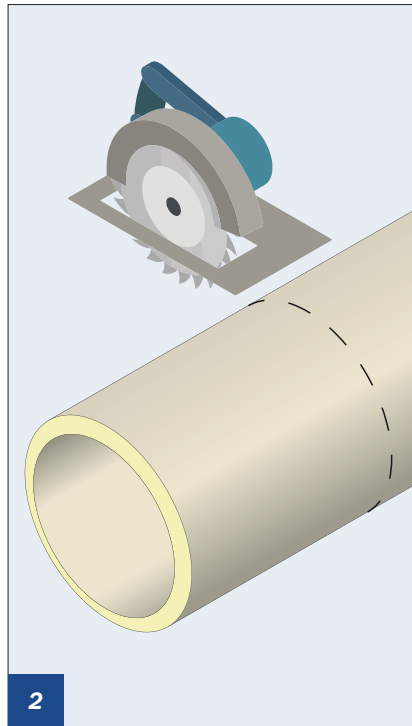
Tighten the outer tensioning strap first before tightening the middle strap evenly in a criss-cross pattern to ensure even tension.

... and the other 2 tightening straps are tightened.

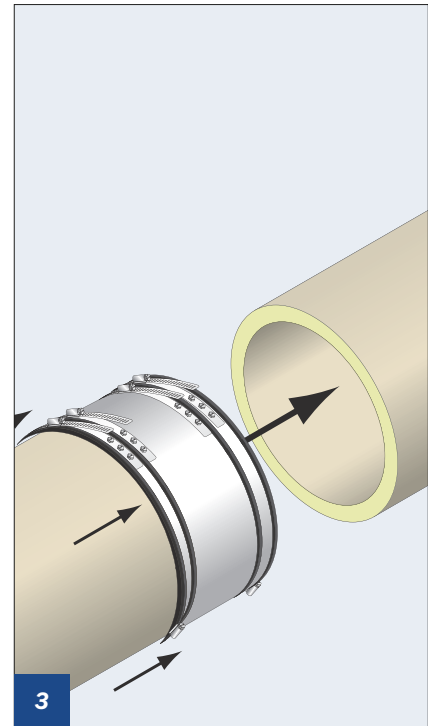
Creation of custom-fit duct lengths



Mark the duct where it should be cut.

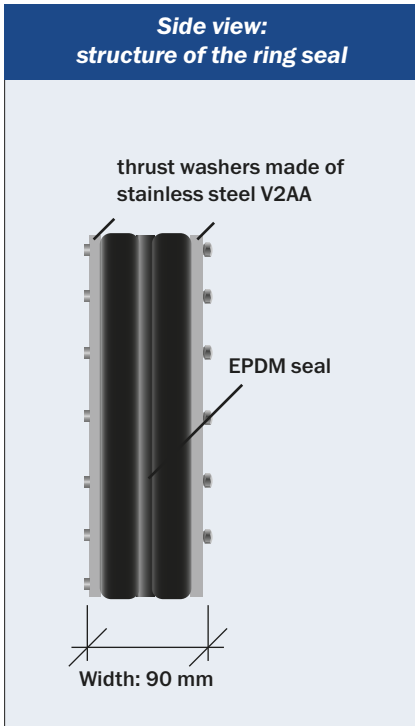


Cut the duct with a jig- or circular saw.

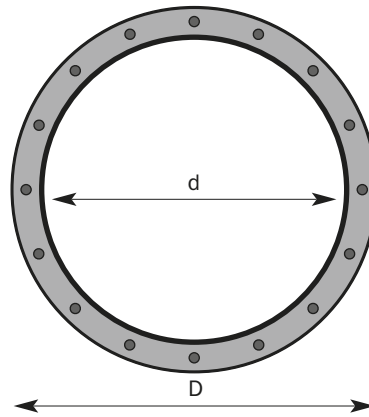


After cutting connect the LAVANTUS® air duct with the LavantusGrip-cuff (see p. 5.20).

Tip:
We recommend to cut the LAVANTUS® air duct with a saw with a plastic saw blade.

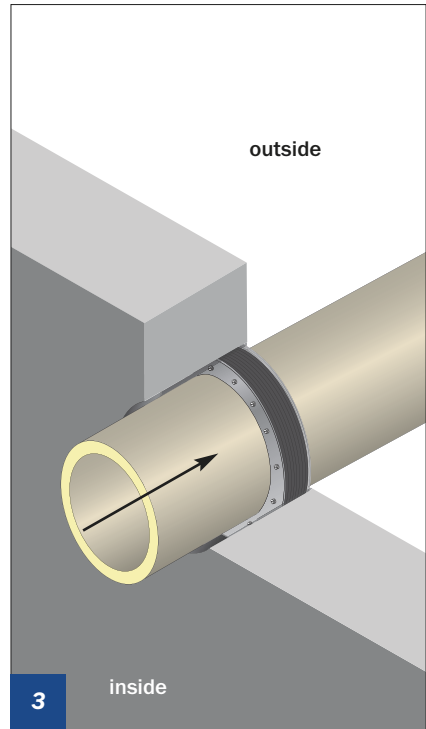
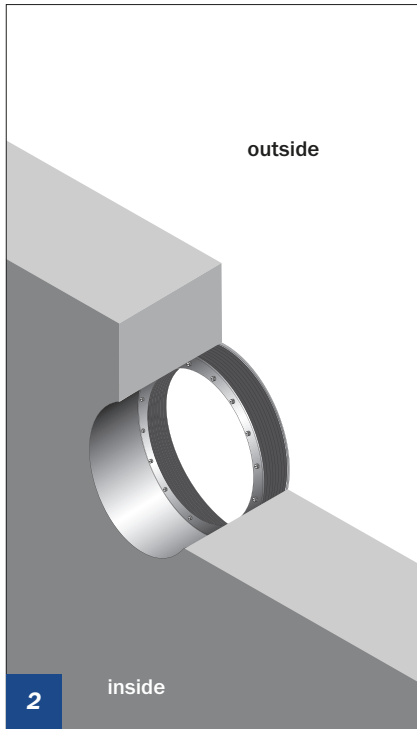
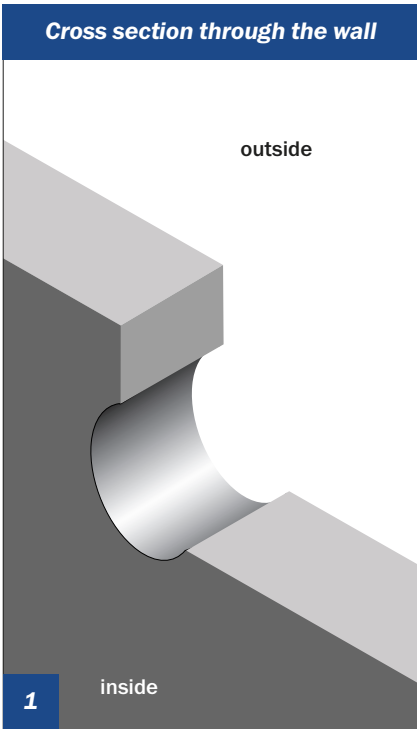


The clean solution to run the air duct through the brickwork, walls and floor plate



Duct diameter and the according size of the ring seal

LAVANTUS® – underground installed air ducts		LAVANTUS® ring seal	
nominal diameter mm	outside diameter mm	d mm	D (core drilling) mm
200	270	282	350
250	320	324	400
300	370	376	500
355	455	465	600
400	500	516	600
500	600	606	700
600	700	708	800
710	810	818	900
800	900	908	1000
900	1000	1008	1100
1000	1100	1108	1200
1250	1370	1378	1500



Check before if core drilling and duct diameter match specification of the ring seal. (see table p. 5.22).

Do a core drilling through the concrete wall, clean the drill hole.

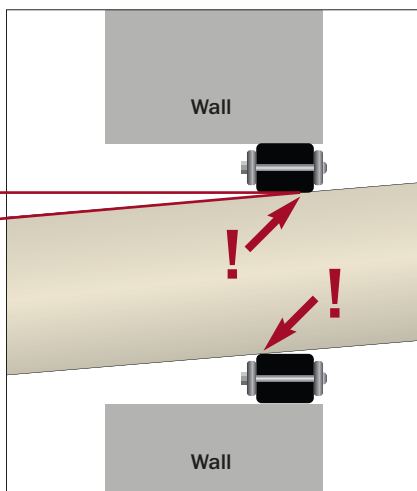
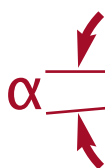
Note: The core drilling can be coated with epoxy resin to smoothen possible unevenness.

Push ring seal to the end of the core drill, so that it comes exactly to the end of the building exterior.

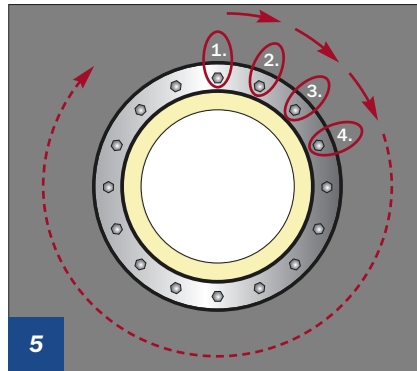
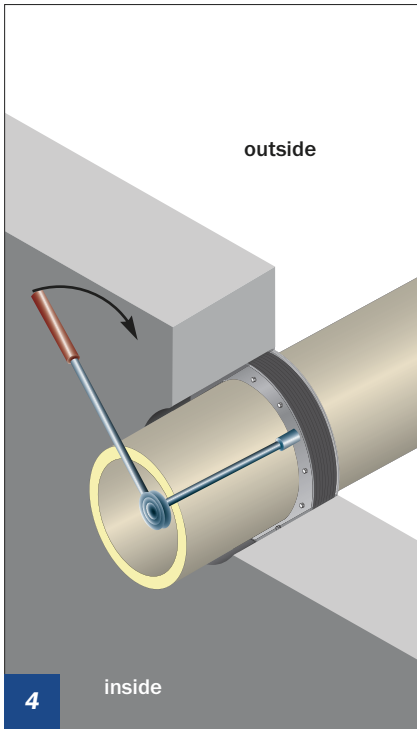
The direction of the clamping nuts has to be put in such way that they can be tightened from the building interior.

The surface of the duct must be clean, clean it if necessary. Push LAVANTUS® underground installed air ducts through the ring seal, support if necessary.

The ring seal does not serve to centre or secure the air duct against buoyancy. Other structural measures should be taken for this purpose.

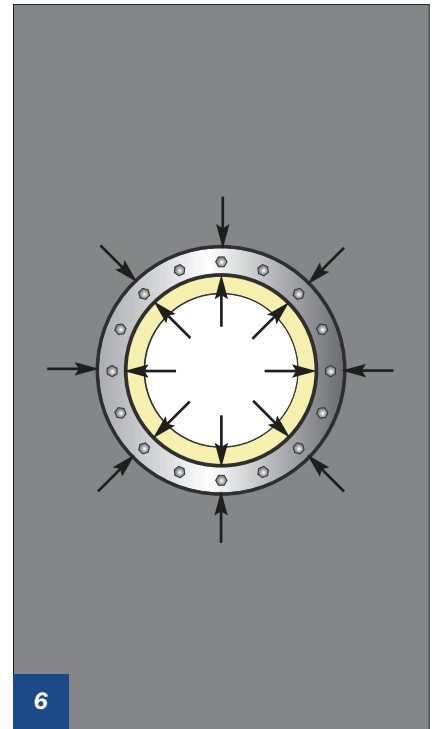


Attention!
The slope of the air duct must not be greater than 2 % because leaks can occur.



The nuts are tightened one after the other in a clockwise direction.

The torque should be achieved in several rounds with approx. 3 turns per nut.

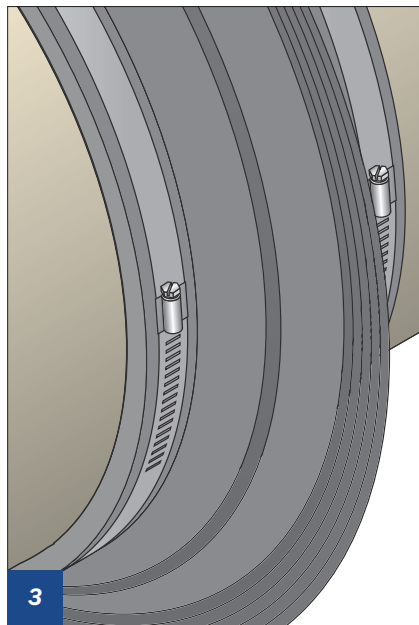
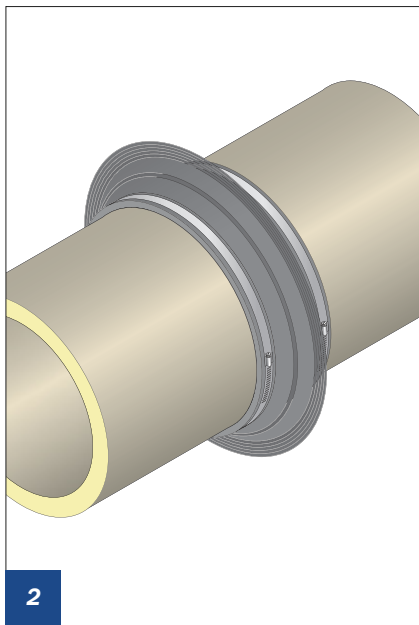
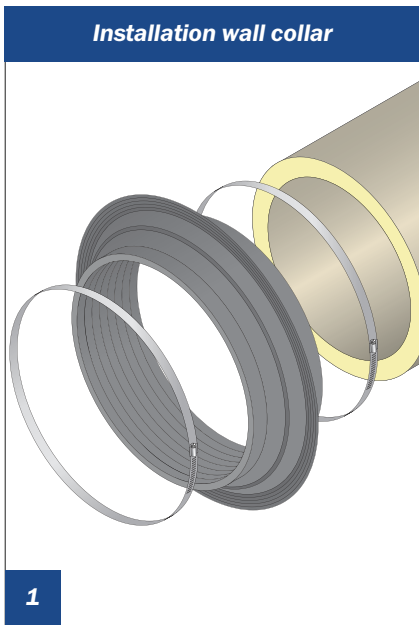


Final visual inspection if the ring seal fits closely along the duct and along the core drilling of the LAVANTUS® underground installed duct circumferentially.

Tighten the clamping nuts with a torque wrench from inside.

Please note the permitted torque allowed indicated on the ring seal.

nominal size air duct mm	outside diameter air duct mm	bolt	max. tightening torque Nm
200	270	M8	8
250	320	M8	8
300	370	M10	22
355	455	M8	8
400	500	M8	8
500	600	M10	22
600	700	M12	26
710	810	M12	26
800	900	M12	26
900	1000	M12	26
1000	1100	M12	26
1250	1370	M12	26

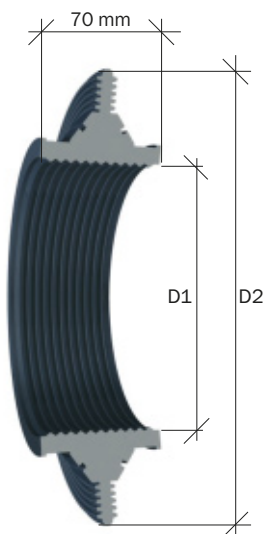


Push the wall collar onto the LAVANTUS® air duct with both clamping rings.

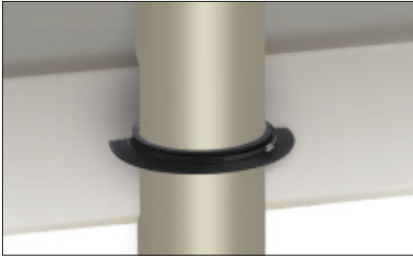
Following this adjust the wall collar according to the structural conditions.

By tightening both clamping rings the wall collar is fixed to the duct.

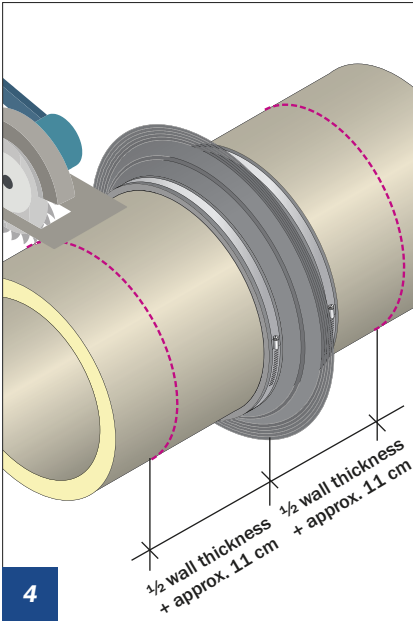
Tip:
Lubricants can be used to make the pushing easier.



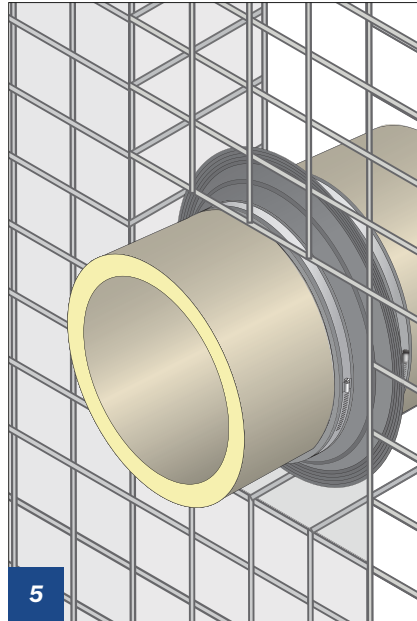
LAVANTUS® – underground installed air duct		LAVANTUS® wall collar	
nominal diameter d mm	duct outside ø mm	D1 inner dimension wall collar ø mm	D2 external dimension wall collar ø mm
200	270	265	359
250	320	315	409
300	370	365	459
355	455	450	544
400	500	495	589
500	600	595	689
600	700	695	789
710	810	805	899
800	900	895	989
900	1000	995	1089
1000	1100	1095	1189
1250	1370	1365	1459



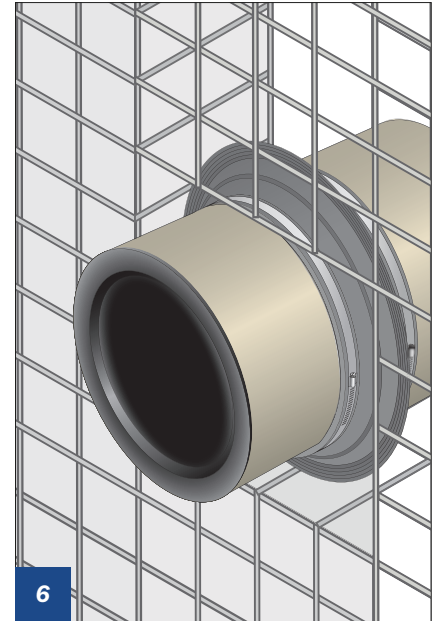
Wall collar in base plate



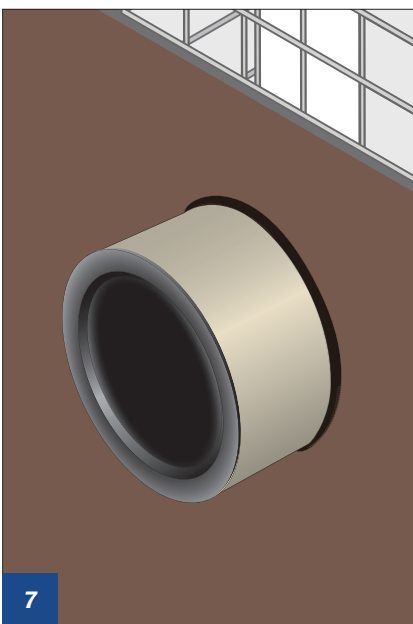
Shorten the duct piece in front of and behind the wall collar and insert it into the reinforcement at appropriate position of the wall.



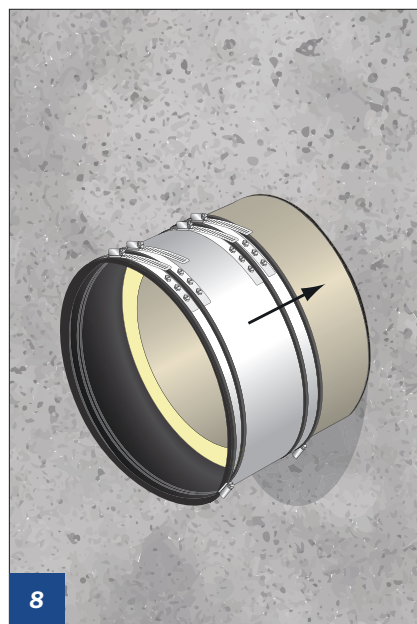
This way the air duct including the wall duct is placed into the reinforcement, so that it protrudes at least 11 cm on both sides of the completed wall.



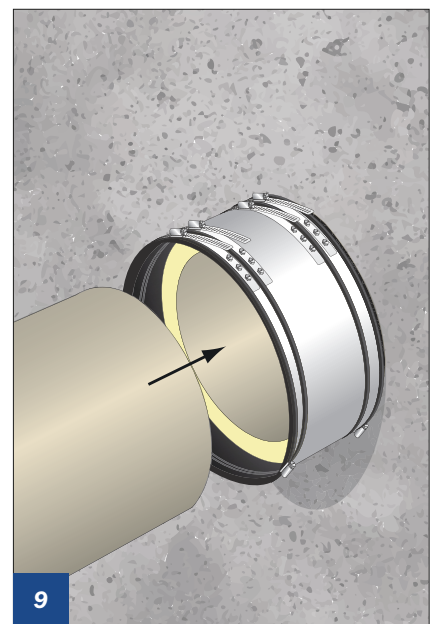
We recommend to protect the duct with an end stopper from damage or soiling during the construction time.



Install the casing with an omission for the duct, backfill it and let it set.

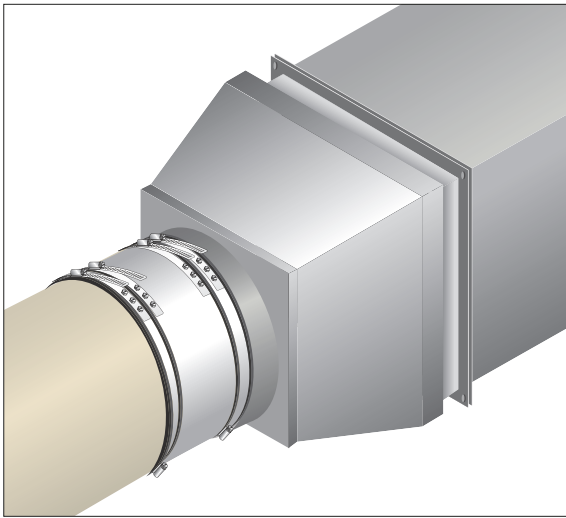


Remove casing and end stopper and slide LavantusGrip-cuff onto the duct after that (see p. 5.20).



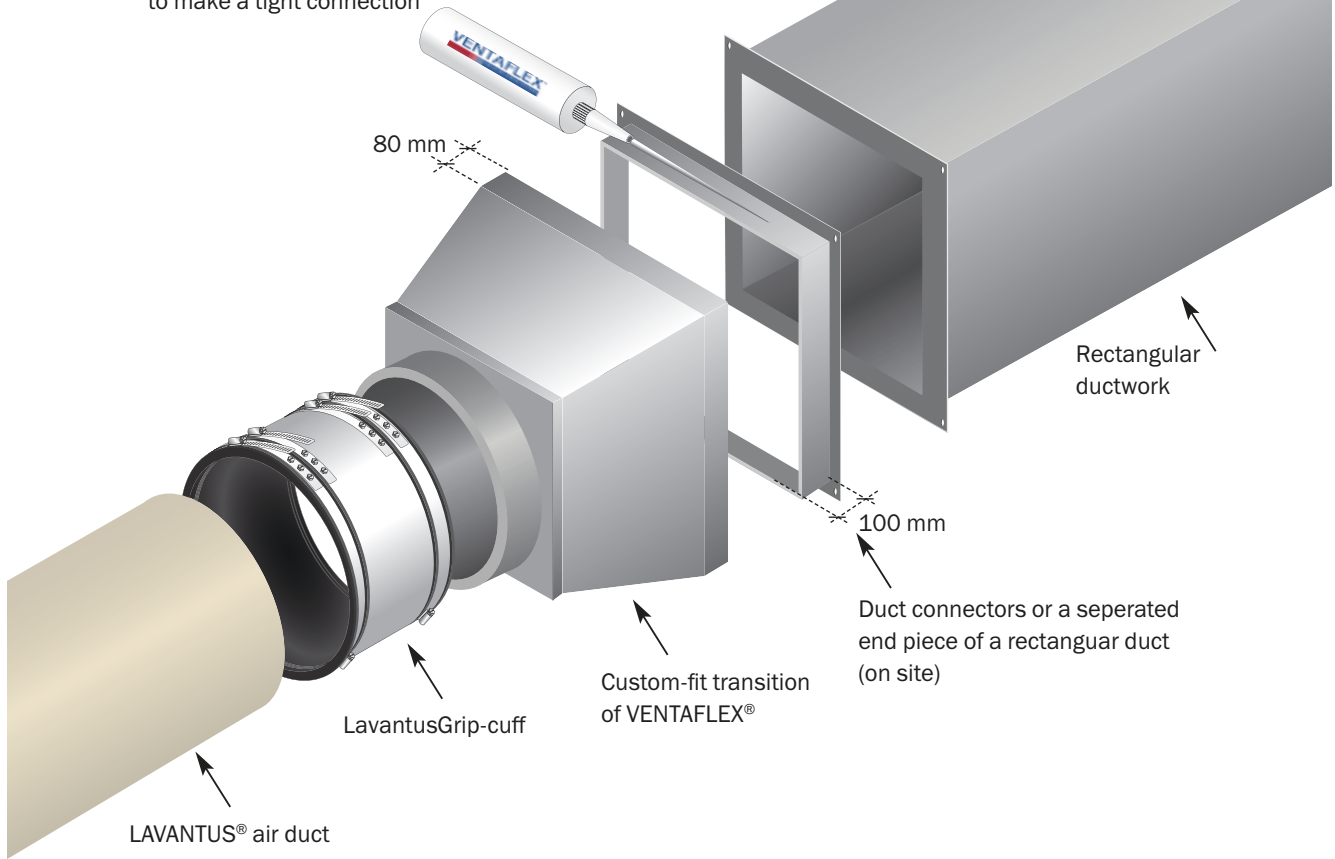
Slide pursuing duct into cuff and tighten the tightening straps.

Transition to rectangular duct work

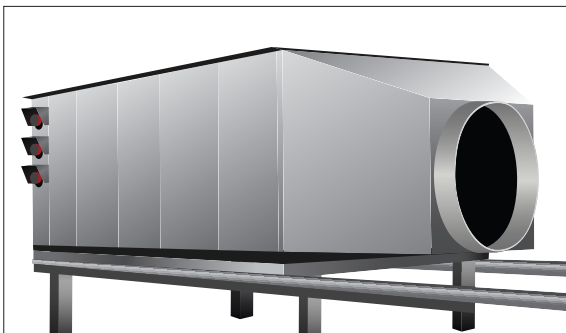


Installation of a tight connection between LAVANTUS® air duct and rectangular ductwork

Adhesion with VENTAFLEX® glue to make a tight connection

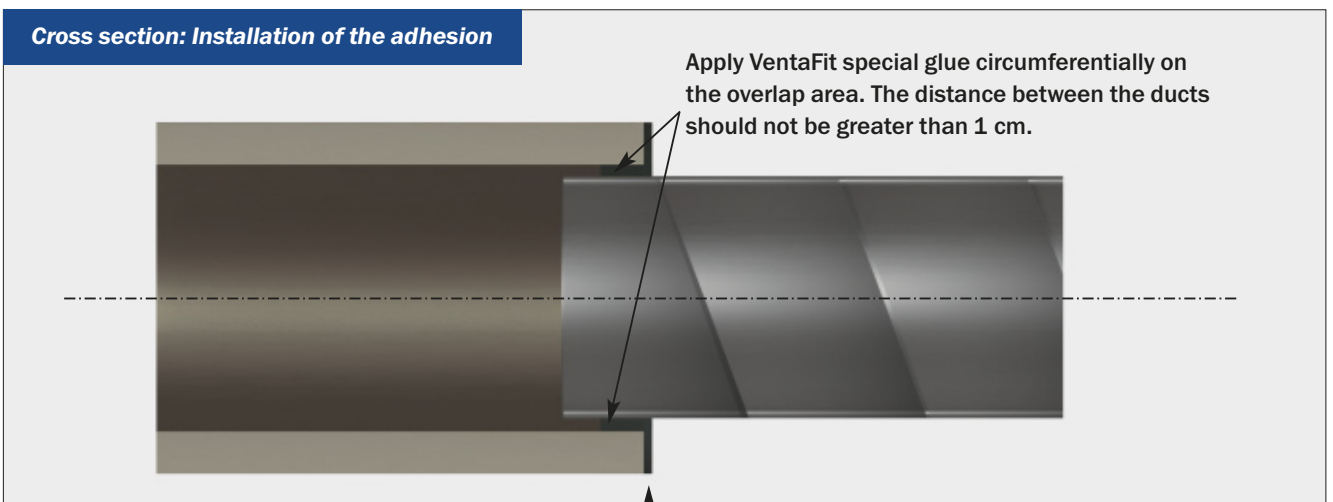
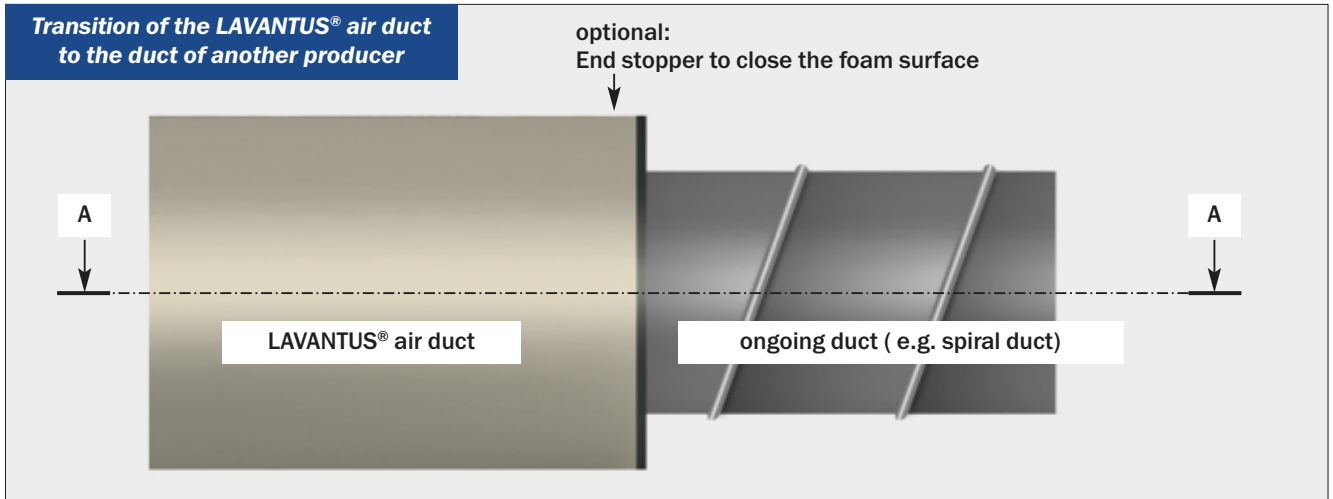


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Also suitable as a connection with transition to the correct dimension for the HVAC systems

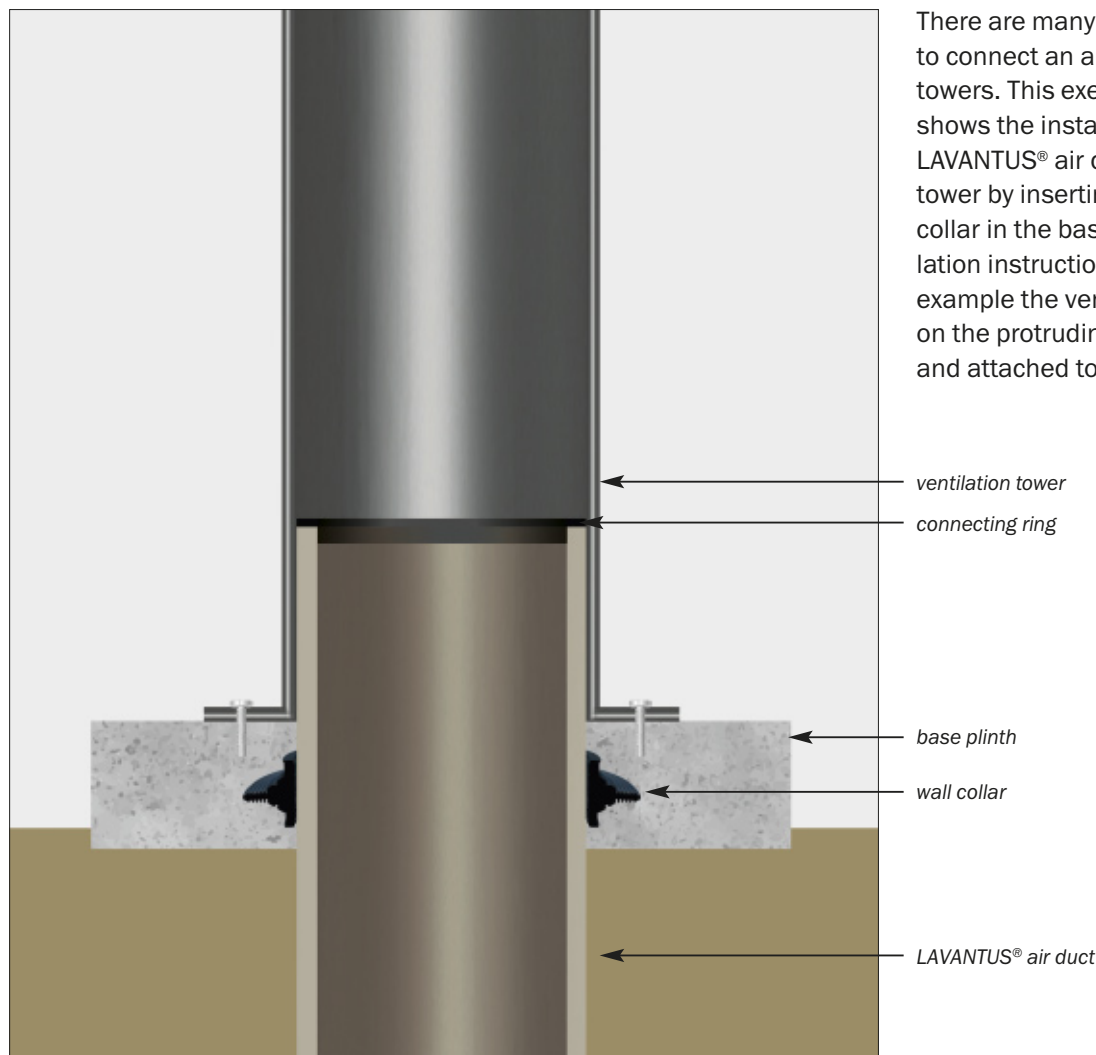
This transition is an installation inside the building



Since the diameters of the ducts of other producers are very often similar to the ducts of the VENTAFLEX® system, absolutely tight connections can be produced uncomplicatedly.
An connecting ring – if requested – makes an optically clean completion.



This transition is an installation inside the building



There are many different possibilities to connect an air duct to ventilation towers. This exemplary illustration shows the installation of the LAVANTUS® air duct to a ventilation tower by inserting it through a wall collar in the base plinth. (see installation instruction wall collar). In the example the ventilation tower is put on the protruding end of the air duct and attached to the base plinth.

Recommendation for cleaning

Ventilation systems must be inspected regularly to ensure hygiene, function and quality. The type and frequency of these inspections vary depending on individual circumstances. It is recommended that appropriate measures are carried out by a specialist company at least every 2 years.

For efficient cleaning, we recommend the use of brush robots with plastic brushes.

For stubborn soiling, we recommend MEZ CLEANER LM for cleaning and Sanosil S003 for disinfection. Both are cleaning and disinfecting agents for VENTAFLEX® air ducts and comply with the applicable safety standards. Please always read and follow the manufacturer's instructions for correct use.

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