



VENTAFLEX®

air duct Classic

for room · facade · roof

VENTAFLEX®

More efficiency in air conduction

Technical specifications

VENTAFLEX® air ducts Classic insulated
Facts and figures for application

VENTAFLEX®

air duct Classic

for room · facade · roof



Our demand on ourselves Quality management

A good idea only has continuance if it is permanently making progress and research, current legislation and experience are meticulously collected and taken into account during this process. In order to meet the increasing quality standards we apply refined examination procedures at VENTAFLEX® again and again. Thus no component leaves the production without having gone through different company tests. Furthermore one part of the critical review phase are our “Practice Reports”, which show various VENTAFLEX® solutions on the basis of specific projects and have exemplary character for planners.

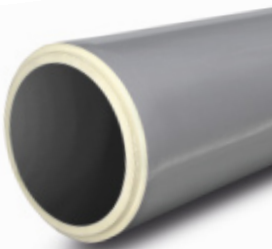
Regular internal quality checks and special certifications by independent institutions guarantee continuous quality of our products and the eligibility for special application areas – e.g. for the hygiene sector.

Argumentation aid

On the basis of documented specifications it is illustrated which advantages VENTAFLEX® air ducts Classic offer at different applications under various conditions.

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Quick-check air guidance

Comparison:	VENTAFLEX® air ducts Classic highly insulating PUR rigid foam	Spiral duct stainless steel	Spiral duct galvanized sheet steel
Features of the different air ducts in the building, on the facade or on the roof			
Time saving at installation	●●● finished insulated air ducts	— has to be insulated on-site	— has to be insulated on-site
Tightness	●●● certified*	●●	●●
Chemical resistance	●●●	●	●●●
Thermal protection	●●●	●	●
Weight saving	●●●	●	—
Application in the hygiene sector f.e. food industry, sports facilities, laboratories, hospitals	●●● certified*	—	●●●
Cleaning	●●●	●●	●●

*The VENTAFLEX® air ducts are certified according to

EN 16798-3 class ATC2/tightness class D and according to VDI 6022

Legend: ● = average ●● = good ●●● = excellent — = not sufficient or not existent

Check list: planning

By compliance with certain planning principles a construction with VENTAFLEX® air ducts Classic and the consequently resulting order is very easy. If the following information and headwords are considered beforehand, this can be very helpful for the planning and respectively the order.

Planning principles before ordering			Done	
			Yes	No
Match duct system to project				
Break parts list up for VENTAFLEX® molded parts				
Check to what extent the components 2/3 m can be prefabricated at the VENTAFLEX® production. (For duct joints having been sealed at the plant no further connection clamps are required.)				
We recommend to use a compensator for longer duct sections (greater than 15 m).				
For special components (respectively connection ventilation unit to VENTAFLEX® air duct system) like transfer (round to square) an installation drawing has to be made by the contractor.				
VentaSnap connecting clamp: installation instruction has to be taken into account.				

The ventilation system in general			Done	
			Yes	No
Volume flow in the system (in m³/h)				
Components of the ducts (single length)	2 m	3 m		
Ducts (pieces)	1 m	fitting length		
Air velocity max. 10 m/s				

Application roof installation			Done	
			Yes	No
Wind loads	wind zone	speed km/h		
VentaFix mounting clamp (pieces)				
Linear expansion (compensator needed, pieces)				
Roof duct (specify roof inclination in degree)				
For the calculation of the statics	(weight advantage e.g. duct ø 920 mm = 16,0 Kg see page 2.1) consideration at the planning of the mounting			



VENTAFLEX® air duct Classic versus conventional insulated duct

Structure and thermal insulation by comparison

VENTAFLEX® air duct Classic

Highly insulated
PUR rigid foam,
inner- and outer
coating with GRP

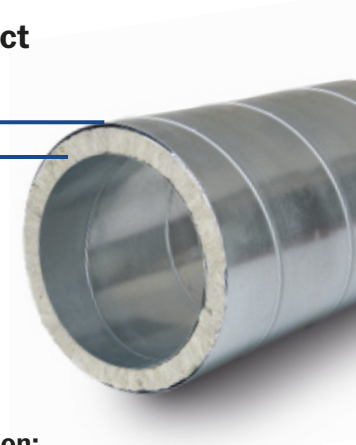


No corrosion:
visually appealing and durable

Conventional duct

Spiral duct

Rock wool

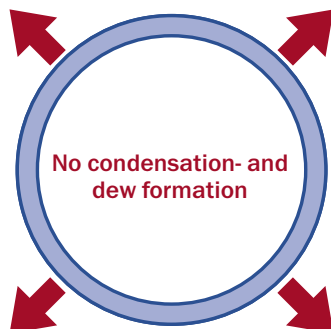


Vulnerable to corrosion:
therefore quickly unsightly and defective

Thermal conductivity by comparison

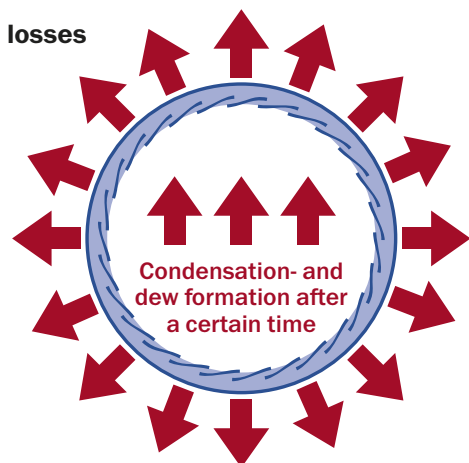
VENTAFLEX® air duct Classic

Above average
high insulation
values WLG 022 –
almost no
thermal losses



Conventional duct

High thermal losses



Heat permeability: U-value

The U-value is a measure for the heat transition through a component and is specified in W/(m²K). With the U-value it is also expressed, which thermal output per m² innersurface of the VENTAFLEX® air duct Classic is needed to maintain the temperature in the ventilation system.

The smaller the U-value, the better, because less heat is guided through the component

Formular:

$$R = \frac{d}{\lambda}$$

Thermal resistance R unit = (m²K)/W

d = material thickness in meter (m)

= Lambda W/(mK) (thermal conductivity of building materials) WLG

$$U = \frac{1}{R}$$

U-value unit = W/(m²K)

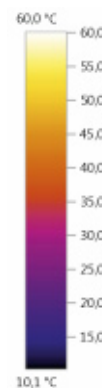
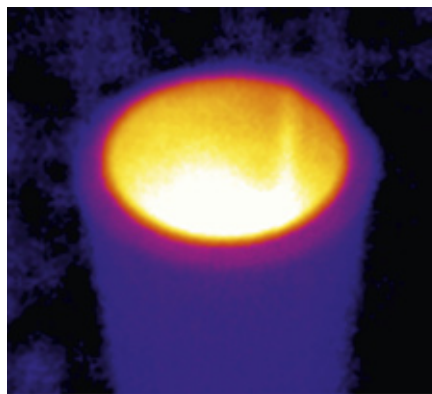
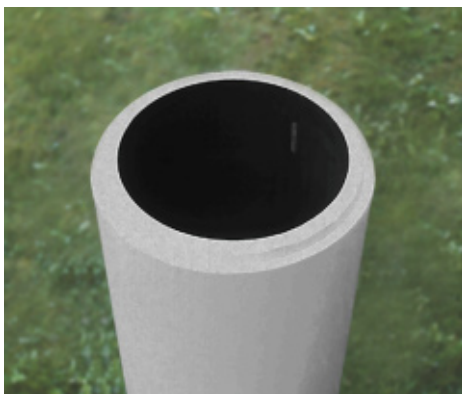
Example:

VENTAFLEX® air duct with a material thickness of 50 mm and thermal conductivity of the building material PUR foam is 0,022 W/(mK)

$$R = \frac{0,05 \text{ m}}{0,022 \text{ W/(mK)}} = \underline{2,27 \text{ (m}^2\text{K/W)}}$$

$$U = \frac{1}{2,27 \text{ (m}^2\text{K)/W}} = \underline{0,44 \text{ W/(m}^2\text{K)}}$$

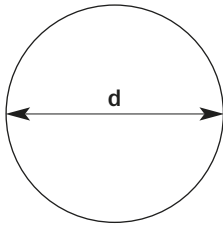
The U-value for the VENTAFLEX® ducts with a wall thickness of 50 mm is 0,44 W/(m²K).



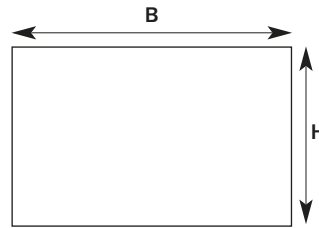
The thermo camera shows the thermal protection of the VENTAFLEX® air ducts Classic. The ducts are made of PUR rigid foam in the core. This makes for ideal insulation values (WLG 022).

Duct- and sewer frictional loss

1. Calculation of the frictional pressure loss



$$\Delta p_v = \lambda \cdot \frac{L}{d} \cdot \frac{\rho}{2} \cdot w^2$$



$$\Delta p_v = \lambda \cdot \frac{L}{d_h} \cdot \frac{\rho}{2} \cdot w^2$$

$$d_h = \frac{L \cdot B \cdot H}{B + H}$$

2. Parameters

p = Pressure loss

λ = coefficient of duct friction (VENTAFLEX® GRP coating ...)

L = duct length in [m]

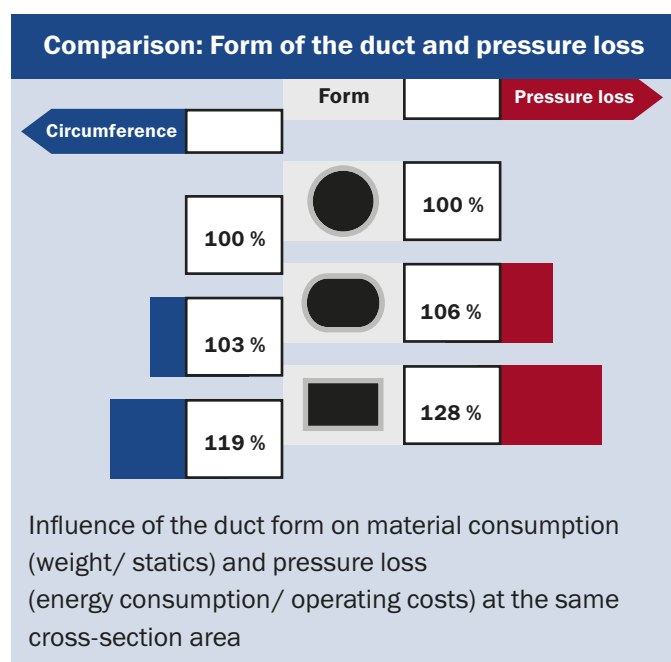
d = diameter respectively d_h = hydraulic diameter in [m]

ρ = air density in [kg/m³]

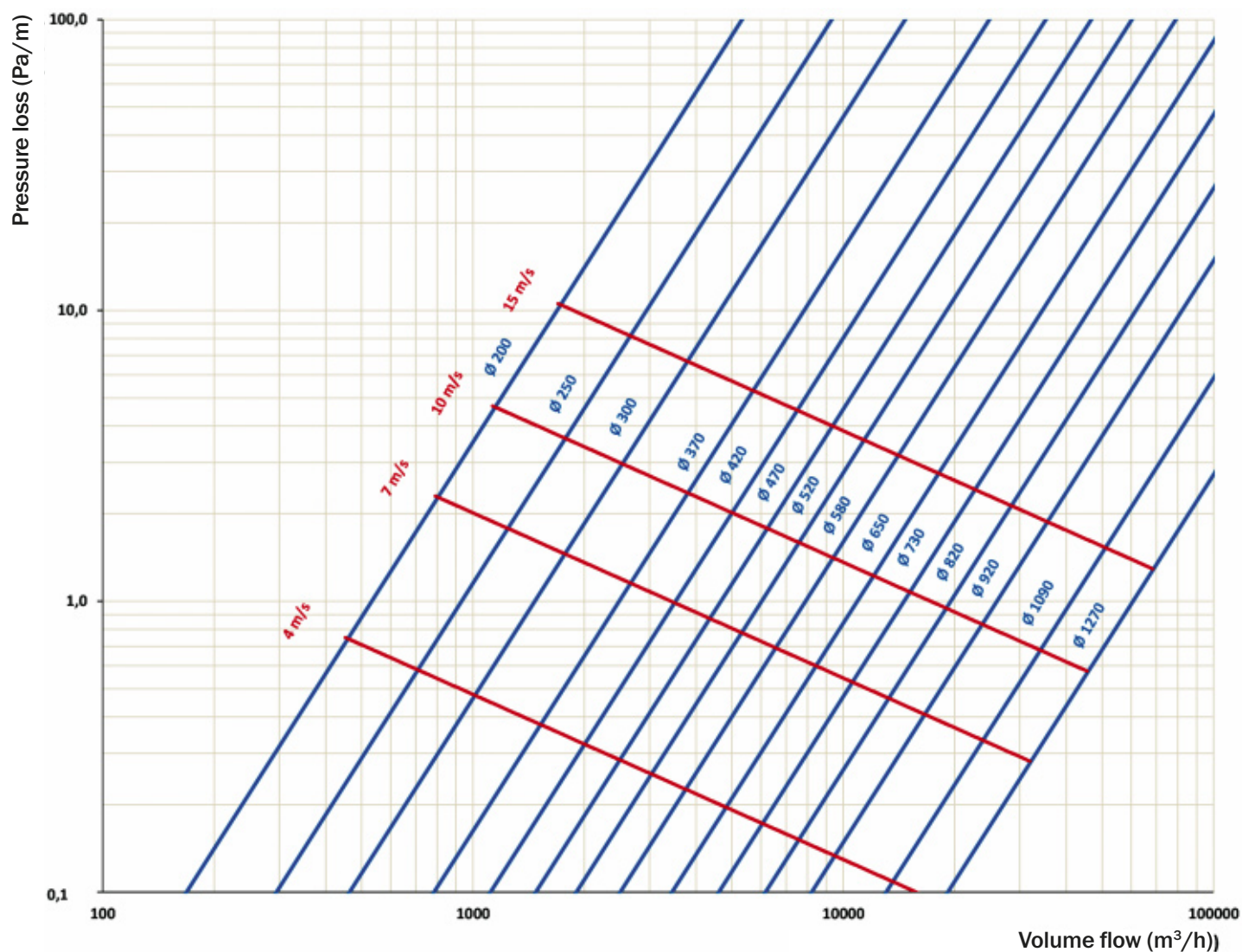
w = flow velocity in [m/s]

3. Comparison of the pressure losses

Round and oval air ducts are clearly more streamlined than square air ducts. Thus round air ducts have 20% less surface than square channels with the same performance. Due to lower pressure losses a small fan can be used. When installing VENTAFLEX® air ducts Classic round or oval operating costs are sustainably saved.



Pressure loss



For information regarding other duct forms and molded parts please contact us.

Permitted pressures for VENTAFLEX® Products

Name	Series	Overpressure/pa	Negative pressure/pa
VENTAFLEX® air duct Classic	200 – 900	5.000	5.000
VENTAFLEX® air duct Classic oval	500 – 1250	1.000	1.000
Square air channels		on request	

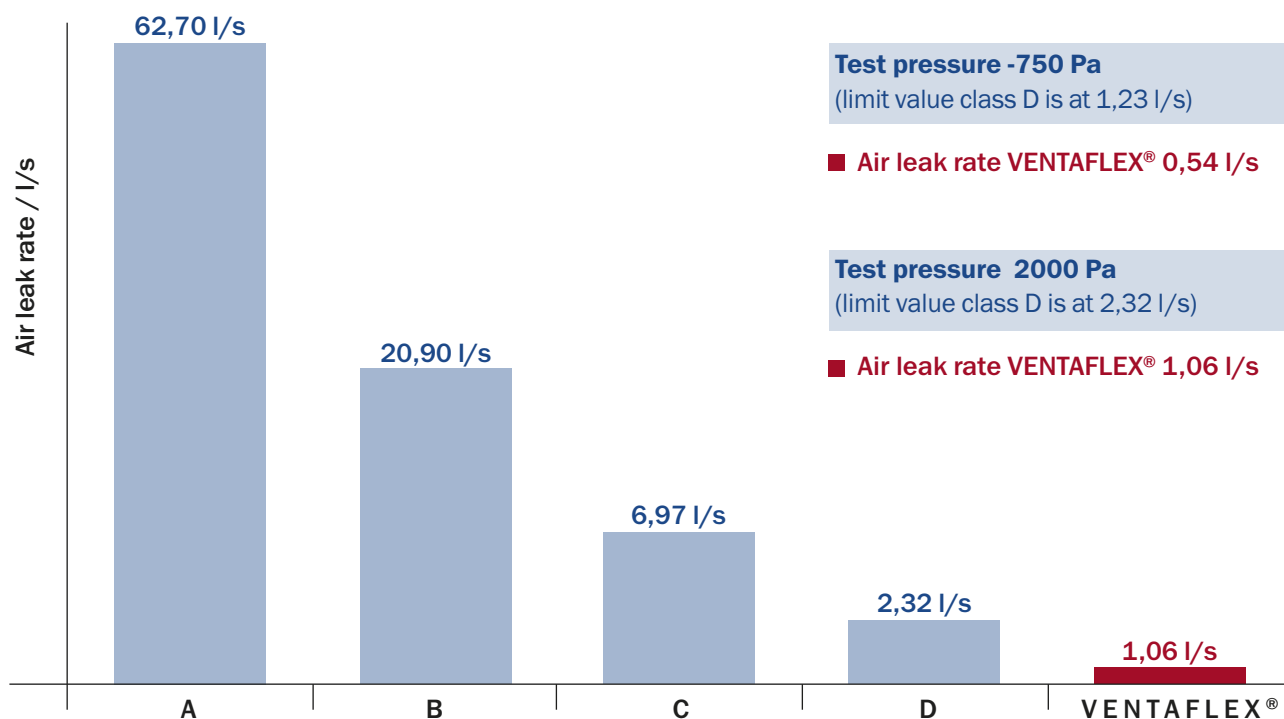


Tightness air duct round

Limit values of the air leak rate according to EN 13779 and EN 16798-3

Air tightness class		Limit value of the air leak rate	Negative for all tightness classes	Positive at tightness class 1	Positive at tightness class 2	Positive at tightness class 3
EN 13779	EN 16798-3					
A	ATC 5	$0,027 \times Pt^{0,65}$	200	400	1000	2000
B	ATC 4	$0,009 \times Pt^{0,65}$	500	400	1000	2000
C	ATC 3	$0,003 \times Pt^{0,65}$	750	400	1000	2000
D	ATC 2	$0,001 \times Pt^{0,65}$	750	400	1000	2000
Air tightness class VENTAFLEX Classic D+		$< 0,0004 \times Pt^{0,65}$	750	400	1000	2000
	ATC 1	$0,00033 \times Pt^{0,65}$	750	400	1000	2000

Leakage test according to EN 12237 examined surface 16,6 m²



The results of VENTAFLEX® air ducts Classic for the limit value class D are more than twice as good as necessary.

Ventilation systems in the hygiene sector

Certifications by the Berlin Institution for air hygiene

For the areas in which cleanliness and easy cleaning play a role – like e.g. in the food processing industry, research, pharmaceutical industry and care facilities, swimming pools or high-tech – VENTAFLEX® ducts Classic show clean room character. They satisfy highest hygienic requirements, especially because of the germ-resistant surfaces, the avoidance of condensate due to exceptionally good insulation and easy cleaning because of the smooth and resistant GRP-surfaces. Many realised big projects from the hygiene sector can be found as Practise Reports on our website.

FURTHER CERTIFICATIONS

VDI guideline 6022 (D)
SWKI VA104-01 (CH)
DIN 1946-4 (D)
SWKI 99-3 (CH)
ÖNORM H 6020 (AT)
VDI 3803 (D)
ÖNORM H 6021 (AT)
DIN EN 13779 (EU)



Hygiene-requirements at RLT systems according to VDI 6022

Requirement levels	Packaging ex works	Protection during transportation	Protection at storage at construction site	Cleaning at construction site	Sealing of the air duct opening
Minimum requirement	no	no	yes	yes	yes
Recommendation	yes	yes	yes	yes	yes

Hygiene protection packaging



Upon request our products can additionally be packed with a special self-adhesive foil. The price for this hygiene packaging is available on request.



Durability

Chemical resistance

GRP is resistant against solvents, plasticisers, fuel, mineral oil, diluted acids and alkalis: moreover against the influence of exhaust gases or aggressive industrial atmosphere.

This is only an extract of the substance table – upon request you can get information about further resistances.

Substances (selection, more upon request)	Concentration	Resistance at 20-30 °C
Acetone		○ ○
Ammoniac		● ● ●
Petrol		● ● ●
Grease		● ● ●
Formaldehyde		○ ○
Ocean water		● ● ●
Lactic acid		○ ○
Mineral oil		● ● ●
Sodium Chloride	saturated	● ● ●
Phosphoric acid	10 % aqueous diluted	● ● ●
Turpentine		○ ○
Citric acid		● ● ●

● ● ● resistant ○ ○ conditionally resistant

Further properties

Electrical conductivity	10e -12 S/m
Microbial inertness	certified according to standards VDI 6022
Erosion and emission of particles	certified according to EN 13401

Temperature resistance

PUR rigid foam is characterized by high mechanical strength and good dimensional stability in construction applications for temperature ranges from –40 °C to +80 °C (long-term exposure). A short-term rise in surface temperature is possible, for example, when exposed to direct sunlight.

Organic resistance

PUR rigid foam does not rot, is mould- and decay resistant and physiologically harmless for the applications coming into question. Polyurethane rigid foam reacts chemically neutral.

Thermal expansion behaviour

Length change = expansion coefficient x initial length x temperature change

Example:

Expansion coefficient Ventaflex duct = 0,00005 1/K

Initial length = 1000 mm

Temperature change = 20 K

0,00005 1/K x 1000 mm x 20 K = 1 mm

**Expansion 1mm per 1m duct
length at 20 °C temperature
change**

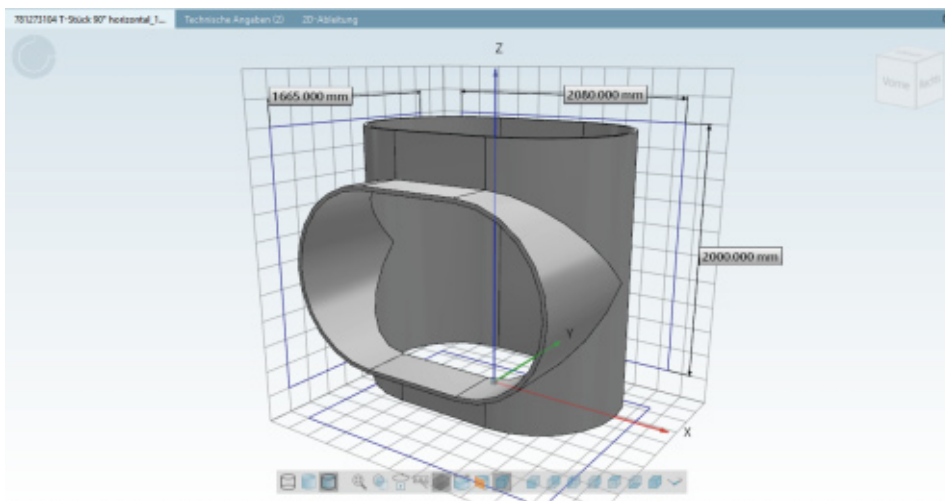
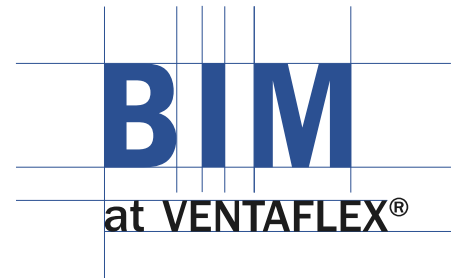


Planning and service

BIM/CAD-models

VENTAFLEX® products now in 3D (Multi CAD product catalog data) – usable for all planners and architects working with BIM

3D CAD-models are available in over 100 different file formats like for example: Revit®, CATIA®, Inventor®, SolidWorks®, Creo Parametric, NX™, AutoCAD® or Solid Edge®

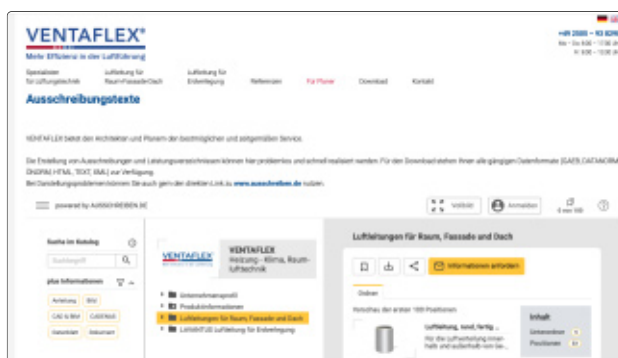


3D Multi CAD drawings
+ append points
+ 2D dimensional drawings
+ measurement charts
+ PDF data sheets
+ supplies



Tender documents

The preparation of tenders and specifications can be done comfortably and easily with the templates from the download area.



So simple and convenient

Download BIM-compatible drawings + tender texts directly in the "For planners" section of our website: www.ventaflex.de

Any questions?

Personal consulting under +49 (0) 2505 – 93 829-0



Fire protection

Classification of fire behaviour according to DIN EN 13501-1: 2010-01

Classification report 20160939/01 by the MPA Dresden GmbH:
The VENTAFLEX® air ducts Classic have the classification “E”.
A contribution of the VENTAFLEX® system to fire emergence or – expansion is not to be expected when using a suitable firewall or fire dampers.



From the classification report of the fire behaviour for the VENTAFLEX® air ducts Classic it arises that GRP / PU / GRP compounds don't continue to burn independantly and are not dripping. Upon request you can get the complete classification and test report.

Application area

This classification is valid for construction products with a wall thickness of $\geq 49\text{mm}$ as well as for free-standing / free-hanging applications with a distance of $\geq 80\text{mm}$ to other laminar construction products. Appearing cutting edges respectively joints have to be closed.

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VENTAFLEX® air duct

Classic round



**For interior and exterior installation,
application in the hygiene sector**

The VENTAFLEX® air duct Classic system stands for the efficient transportation of warm and cold air. In buildings, on the roof, underground or in the hygienic area – the innovative VENTAFLEX® Classic system is applicable everywhere. The insulated duct system reduces the installation time up to 60 %. The great energy savings potential of up to 40 % compared to conventionally insulated ventilation systems makes the air ducts of VENTAFLEX® the first choice.

Certifications

- according to EN 12237 tightness class D (complies with EN 16798-3 of class ATC2)
- for the hygiene sector according to VDI 6022

Easier installation

In contrast to spiral ducts, which have to be insulated later, the installation time of the finished insulated VENTAFLEX® air ducts Classic is up to 60 % faster. With our clamp system VentaSnap the air ducts are quickly connected with a long-term tightness.

Strong material

The basis of VENTAFLEX® air ducts Classic is PUR rigid foam. The GRP-surfaces are made of fiberglass, polyester resin and additionally with an UV resistant gelcoat cover on the outside. This special material composite gives the ducts an extremely high stability.

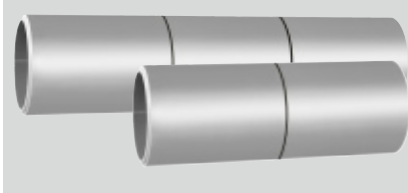
Highly insulating

The VENTAFLEX® Classic system has a thermal conductivity of only 0,022 W/mK. This corresponds to thermal conductivity group WLG 022. Consequently a condensation- und dew formation is to be excluded.

Ultra light

A component with a diameter of 650 mm and 1 m length only weighs 11 kg. In comparison to a galvanized double wall pipe the VENTAFLEX® air duct Classic thus is 70 % lighter. A great advantage not only for the installation, but also for statics and roof loads.

Prefabricated VENTAFLEX Classic component in 2 m or 3 m length saves valuable working time



Varied design

You receive the VENTAFLEX® air duct Classic system in GRP lightgrey/ RAL 7035 by standard. Alternatives are: aluminum, galvanized sheet steel and GRP in brown/ RAL 8019.

Absolutely hygienic

Because of the smooth surfaces VENTAFLEX® systems are very easy to clean and fulfill the hygiene requirement of VDI 6022.

Perfectly compatible

A connection to ducts of other producers, e.g. spiral ducts or stainless steel, is easily possible.

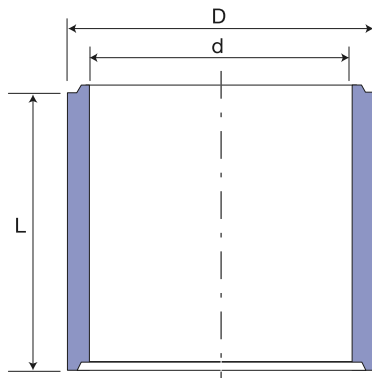
Proven fields of application

- industrial-/exhibition halls
- swimming pools/sports facilities
- hotels/gastronomy
- schools/daycare facilities
- hospitals/care facilities
- statically loaded roofs
- food industry
- pharmaceutical industry/research
- HighTech production

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The VENTAFLEX® air duct Classic round



Material

Highly insulating PUR rigid foam

Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

Light grey (RAL 7035)

d = Inside diameter
D = Outside diameter
L = Length

series	d mm	D mm	L mm	weight kg	surface insides qm	cross section qm
200	200	260	1000	3,0	0,63	0,03
250	250	310	1000	3,5	0,79	0,05
300	300	360	1000	4,0	0,94	0,07
400	420	510	1000	7,0	1,32	0,14
500	520	620	1000	9,0	1,63	0,21
630	650	750	1000	11,0	2,04	0,33
710	730	790	1000	12,0	2,29	0,42
800	820	910	1000	13,5	2,57	0,53
900	920	1020	1000	16,0	2,89	0,66
1250	1270	1330	1000	18,0	3,99	1,27
1250	1270	1330	1500	28,0	5,98	1,27

series	length mm	item no.
200	1000	102003004
250	1000	102503004
300	1000	103003004
400	1000	104205004
500	1000	105205004
630	1000	106505004
710	1000	107303004
800	1000	108205004
900	1000	109205004
1250	1000	1012703004
1250	1500	1512703004

Prefabricated components 2 meters

series	length mm	item no.
200	2000	122003004
250	2000	122503004
300	2000	123003004
400	2000	124205004
500	2000	125205004
630	2000	126505004
710	2000	127303004
800	2000	128205004
900	2000	129205004
1250	2000	1212703004

Prefabricated components 3 meters

series	length mm	item no.
200	3000	132003004
250	3000	132503004
300	3000	133003004
400	3000	134205004
500	3000	135205004
630	3000	136505004
710	3000	137303004
800	3000	138205004
900	3000	139205004
1250	3000	1312703004

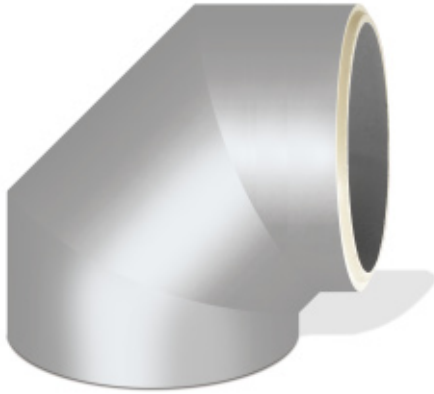
By prefabricating components with 2 or 3 m length valuable installation time can be saved at the construction site



VENTAFLEX®
More efficiency in air conduction



The VENTAFLEX® air duct Classic round Curve 90°



Material

Highly insulating PUR rigid foam

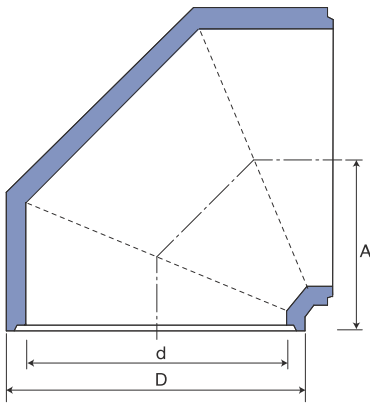
Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

Light grey (RAL 7035)

**Upon request curves can be produced
in any other needed angle.**



d = Inside diameter

D = Outside diameter

A = Axial dimension/radius

H = Height = $\frac{D}{2} + A$



series	d mm	D mm	A mm	H mm	weight kg	surface inside qm	cross section qm
200	200	260	386	498	3,0	0,63	0,03
250	250	310	411	566	3,5	0,79	0,05
300	300	360	436	616	4,0	0,94	0,07
400	420	510	595	850	7,0	1,32	0,14
500	520	620	598	908	9,0	1,63	0,21
630	650	750	602	977	11,0	2,04	0,33
710	730	790	604	1019	12,0	2,29	0,42
800	820	910	607	1062	13,5	2,57	0,53
900	920	1020	610	1120	16,0	2,89	0,66
1250	1270	1330	899	1564	28,0	5,98	1,27

series	item no.
200	902003004
250	902503004
300	903003004
400	904205004
500	905205004
630	906505004
710	907303004
800	908205004
900	909205004
1250	9012703004

Prices are also valid for 46° to 90° curves.



The VENTAFLEX® air duct Classic round Curve 45°



Material

Highly insulating PUR rigid foam

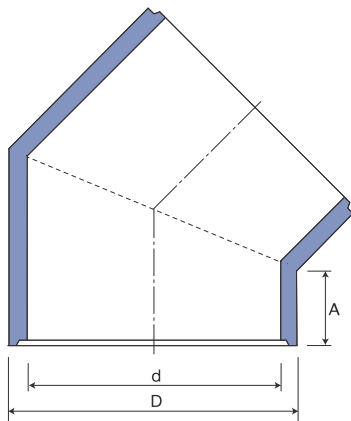
Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

Light grey (RAL 7035)

**Upon request curves can be produced
in any other needed angle.**



d = Inside diameter
D = Outside diameter
A = Side length

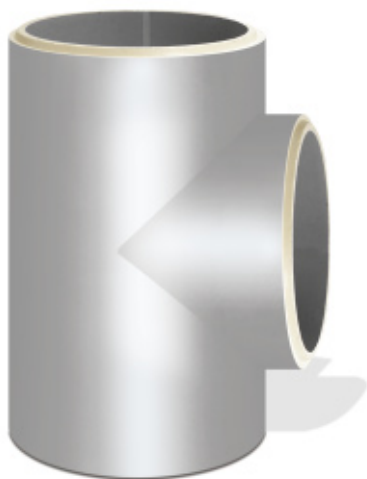


series	d mm	D mm	A mm	weight kg	surface inside qm	cross section qm
200	200	260	150	1,0	0,35	0,03
250	250	310	150	1,5	0,48	0,05
300	300	360	150	2,0	0,62	0,07
400	420	510	392	7,0	1,32	0,14
500	520	620	370	9,0	1,63	0,21
630	650	750	343	11,0	2,04	0,33
710	730	790	326	12,0	2,29	0,42
800	820	910	310	13,5	2,57	0,53
900	920	1020	287	16,0	2,89	0,66
1250	1270	1330	225	18,0	3,98	1,27

series	item no.
200	452003004
250	452503004
300	453003004
400	454205004
500	455205004
630	456505004
710	457303004
800	458205004
900	459205004
1250	4512703004

Prices are also valid for 5° to 45° curves.

The VENTAFLEX® air duct Classic round T-piece 90°



Material

Highly insulating PUR rigid foam

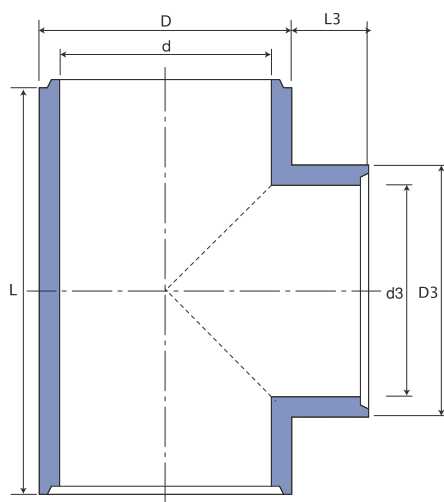
Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

Light grey (RAL 7035)

Upon request T-pieces can be produced in any other needed angle.



d = Inside diameter

D = Outside diameter

d3 = Inside diameter (Outgoing)

D3 = Outside diameter (Outgoing)

L = Length (T-piece)

L3 = Length (Outgoing) = $\frac{L \cdot D3}{2}$

series	d mm	D mm	L mm	weight/ kg	surface inside qm	cross section qm
200	200	260	1000	4,0	0,86	0,03
250	250	310	1000	4,0	1,05	0,05
300	300	360	1000	5,0	1,23	0,07
400	420	510	1000	8,5	1,63	0,14
500	520	620	1000	10,5	1,91	0,21
630	650	750	1000	12,0	2,22	0,33
710	730	790	1000	13,0	2,37	0,42
800	820	910	1000	13,0	2,52	0,53
900	920	1020	1200	19,5	3,51	0,66
1250	1270	1330	1500	26,0	5,75	1,27



d mm	d3 mm	L mm	item no.
200	200	1000	702003004
250	200	1000	702502003004
250	250	1000	702503004
300	200	1000	703002003004
300	250	1000	703002503004
300	300	1000	703003004
420	200	1000	704202005004
420	250	1000	704202505004
420	300	1000	704203005004
420	420	1000	704205004
520	200	1000	705202005004
520	250	1000	705202505004
520	300	1000	705203005004
520	420	1000	705204205004
520	520	1000	705205004
650	200	1000	706502005004
650	250	1000	706502505004
650	300	1000	706503005004
650	420	1000	706504205004
650	520	1000	706505205004
650	650	1000	706505004
730	200	1000	707302003004
730	250	1000	707302503004
730	300	1000	707303003004
730	420	1000	707304203004
730	520	1000	707305203004
730	650	1000	707306503004
730	730	1000	707303004
820	200	1000	708202005004
820	250	1000	708202505004
820	300	1000	708203005004
820	420	1000	708204205004
820	520	1000	708205205004
820	650	1000	708206505004
820	730	1000	708207305004
820	820	1000	708205004
920	200	1000	709202005004
920	250	1000	709202505004
920	300	1000	709203005004
920	420	1000	709204205004
920	520	1000	709205205004
920	650	1000	709206505004
920	730	1000	709207305004
920	820	1000	709208205004
920	920	1200	709205004
1270	200	1000	7012702003004
1270	250	1000	7012702503004
1270	300	1000	7012703003004
1270	420	1000	7012704205004
1270	520	1000	7012705205004
1270	650	1000	7012706505004
1270	730	1000	7012707303004
1270	820	1000	7012708205004
1270	920	1200	7012709203004
1270	1270	1500	7012703004



The VENTAFLEX® air duct Classic round T-piece 45°



Material

Highly insulating PUR rigid foam

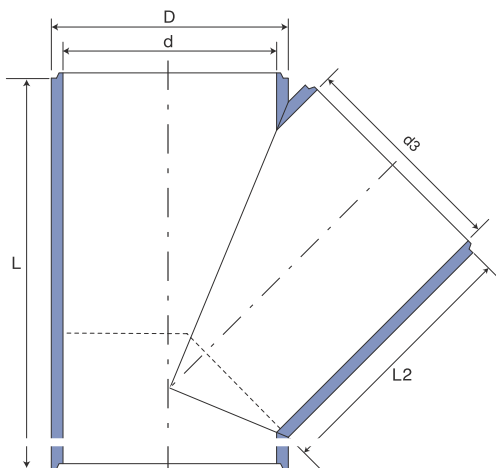
Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

Light grey (RAL 7035)

**Upon request T-pieces can be produced
in any other needed angle.**



d = Inside diameter
D = Outside diameter
L = Length (T-piece)
L2 = Length (Outgoing)
d3 = Inside diameter (Outgoing)

series	d mm	D mm	L mm	L2 mm	weight kg	surface inside qm	cross section qm
200	200	260	1000	580	4,5	1,23	0,03
250	250	310	1000	595	5,0	1,46	0,05
300	300	360	1000	620	5,5	1,70	0,07
400	420	510	1000	650	9,0	2,40	0,14
500	520	620	1000	695	12,5	2,92	0,21
630	650	750	1500	1035	23,5	3,53	0,33
710	730	790	1500	1030	24,0	3,91	0,42
800	820	910	1500	1190	28,0	4,29	0,53
900	920	1020	1550	1064	32,0	6,41	0,66
1250	1270	1330	2000	1400	58,0	8,35	1,27



d mm	d3 mm	L mm	item no.
200	200	1000	742003004
250	200	1000	742502003004
250	250	1000	742503004
300	200	1000	743002003004
300	250	1000	743002503004
300	300	1000	743003004
420	200	1000	744202005004
420	250	1000	744202505004
420	300	1000	744203005004
420	420	1000	744205004
520	200	1000	745202005004
520	250	1000	745202505004
520	300	1000	745203005004
520	420	1000	745204205004
520	520	1000	745205004
650	200	1000	746502005004
650	250	1000	746502505004
650	300	1000	746503005004
650	420	1000	746504205004
650	520	1000	746505205004
650	650	1500	746505004
730	200	1000	747302003004
730	250	1000	747302503004
730	300	1000	747303003004
730	420	1000	747304203004
730	520	1000	747305203004
730	650	1500	747306503004
730	730	1500	747303004
820	200	1000	748202005004
820	250	1000	748202505004
820	300	1000	748203005004
820	420	1000	748204205004
820	520	1000	748205205004
820	650	1500	748206505004
820	730	1500	748207305004
820	820	1500	748205004
920	200	1000	749202005004
920	250	1000	749202505004
920	300	1000	749203005004
920	420	1000	749204205004
920	520	1000	749205205004
920	650	1500	749206505004
920	730	1500	749207305004
920	820	1500	749208205004
920	920	1550	749205004
1270	1270	2000	7412703004



The VENTAFLEX® air duct Classic round Reduction symmetric



Material

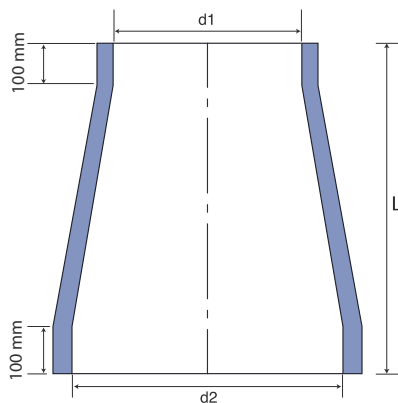
Highly insulating PUR rigid foam

Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

Light grey (RAL 7035)



d1 = Inside diameter big
d2 = Inside diameter small
L = Length



series	d1 mm	d2 mm	L mm	item no.
250/200	250	200	269	432502003004
300/200	300	200	338	433002003004
300/250	300	250	269	433002503004
400/200	420	200	544	434202005004
400/250	420	250	475	434202505004
400/300	420	300	406	434203005004
500/200	520	200	695	435202005004
500/250	520	250	626	435202505004
500/300	520	300	558	435203005004
500/400	520	420	351	435204205004
630/400	650	420	530	436504205004
630/500	650	520	379	436505205004
710/400	730	420	639	437304203004
710/500	730	520	488	437305203004
710/630	730	650	310	437306503004
800/500	820	520	598	438205205004
800/630	820	650	420	438206505004
800/710	820	730	310	438207305004
900/500	920	520	749	439205205004
900/630	920	650	571	439206505004
900/710	920	730	461	439207305004
900/800	920	820	351	439208205004
1250/900	1270	920	950	4312709203004

The VENTAFLEX® air duct Classic round Y-piece



Material

Highly insulating PUR rigid foam

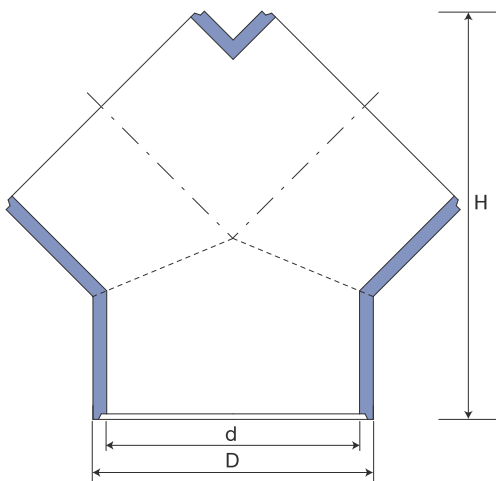
Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

Light grey (RAL 7035)

**Upon request Y-pieces can be produced
in any other needed angle.**



d = Inside diameter
D = Outside diameter
H = Height
L = Side length



series	d mm	D mm	L mm	H mm	surface inside qm	weight kg
200	200	260	446	947	0,9	4,5
250	250	310	435	963	1,1	5,0
300	300	360	425	981	1,3	6,0
400	420	510	392	1035	1,7	10,5
500	520	620	372	1073	2,0	13,5
630	650	750	343	1106	2,3	16,5
710	730	790	326	1134	2,5	18,0
800	820	910	310	1166	2,6	30,5
900	920	1020	534	1201	5,0	36,0
1250	1270	1330	475	1752	6,2	40,5

series	item no.
200	802003004
250	802503004
300	803003004
400	804205004
500	805205004
630	806505004
710	807303004
800	808205004
900	809205004
1250	8012703004



The VENTAFLEX® air duct Classic round Exhaust curve 90°



Material

Highly insulating PUR rigid foam

Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

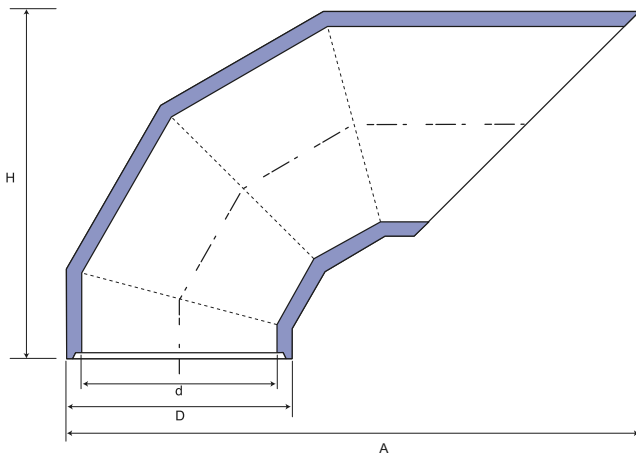
Light grey (RAL 7035)

Grille (included): material/size

Stainless steel V2A

20 x 20 x 1 mm welded

**Upon request curves can be produced
in any other needed angle.**



d = Inside diameter
D = Outside diameter
A = Extension
H = Height



series	d mm	D mm	H mm	A mm	surface inside qm	weight kg
200	200	260	497	757	0,5	3,2
250	250	310	547	857	0,6	3,8
300	300	360	597	957	0,8	4,5
400	420	510	747	1257	1,4	8,4
500	520	620	857	1477	2,0	12,4
630	650	750	987	1737	2,8	17,2
710	730	790	1067	1897	3,4	19,2
800	820	910	1147	2057	4,1	25,2
900	920	1020	1257	2277	5,0	29,7
1250	1270	1330	1567	2897	8,5	40,4

series	item no.
200	952003004
250	952503004
300	953003004
400	954205004
500	955205004
630	956505004
710	957303004
800	958205004
900	959205004
1250	9512703004



The VENTAFLEX® air duct Classic round Exhaust curve 135°



Material

Highly insulating PUR rigid foam

Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

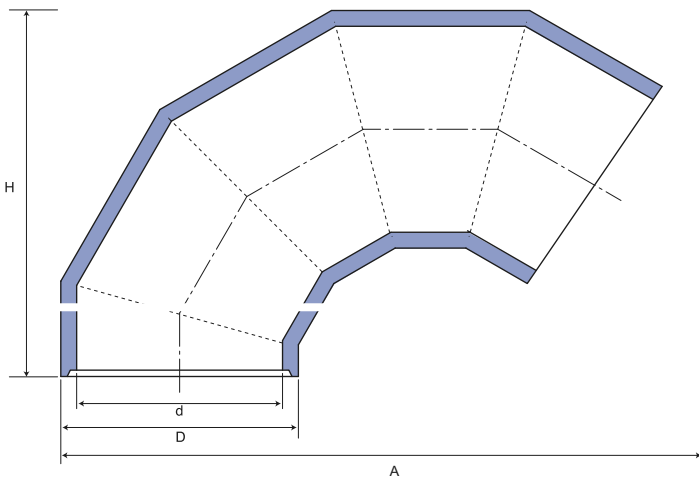
Light grey (RAL 7035)

Grille (included): material/size

Stainless steel V2A

20 x 20 x 1 mm welded

**Upon request curves can be produced
in any other needed angle.**



d = Inside diameter
D = Outside diameter
A = Extension
H = Height



series	d mm	D mm	H mm	A mm	surface inside qm	weight kg
200	200	260	530	835	0,6	4,0
250	250	310	581	920	0,8	4,5
300	300	360	633	1005	1,0	5,4
400	420	510	786	1262	1,6	11,5
500	520	620	899	1449	2,2	17,7
630	650	750	1033	1671	3,1	21,3
710	730	790	1115	1808	3,7	24,3
800	820	910	1197	1944	4,4	28,5
900	920	1020	1309	2132	4,6	45,2
1250	1270	1330	1627	2661	8,8	50,6

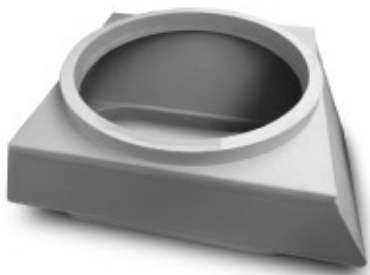
series	item no.
200	962003004
250	962503004
300	963003004
400	964205004
500	965205004
630	966505004
710	967303004
800	968205004
900	969205004
1250	9612703004

Special components

Manufacture for individual projects

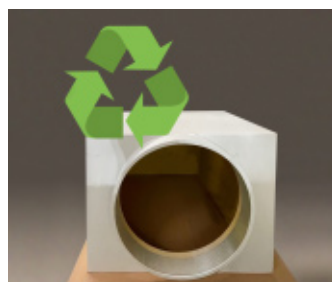
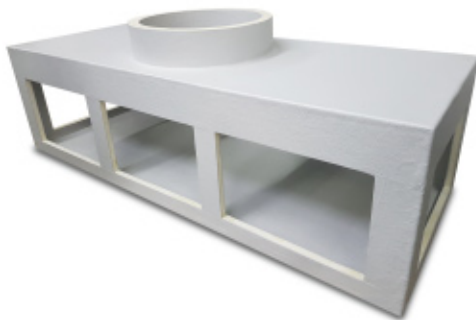
... customized solution!

Round cross section on oval?
Oval on square? The solution comes from VENTAFLEX®:
We manufacture special components, adapting to each system, which neatly connect different duct forms and –sizes with each other.



Functionality and optics

VENTAFLEX® has developed a new surface finishing process especially for special components. This means that every custom-made product has the high resistance to chemicals, abrasion and weathering that characterizes all VENTAFLEX® air ducts. Our workpieces leave production with a smooth and even surface - good looks are also important to us!



Finally recycable!

Material purity was a goal on the way to even more sustainability:
Sorted PUR residues are processed in order to be used as raw material for the production of new components at VENTAFLEX®.

Everything from a single source

The workpieces are manufactured completely by us without any detours and delivered to their place of use – constant availability and punctual delivery are our service promise.

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The VENTAFLEX® Classic Supplies-system

**Ideal components –
Customized and multiply tested**



“Everything from one provider”!
You find all materials in our supplies to install a complete duct system professionally.

The supplies are – depending on the application – practically combinable. We like to advise you on the ideal combination of your components and the material!



Content	Page
VentaSnap	2.21
VentaFix	2.22
Compensator	2.23
Roof duct	2.24
End cover	2.25
Inspection cover, roof hood	2.26
Hygiene application	2.27

VentaSnap clamp system



The fastest way to connect ducts. With our VentaSnap clamp system from now on you can abandon the glueing in many areas and therefore save valuable installation time.

Material

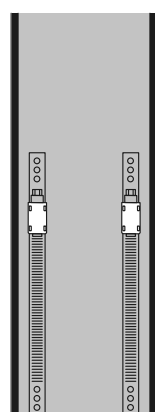
Stainless steel



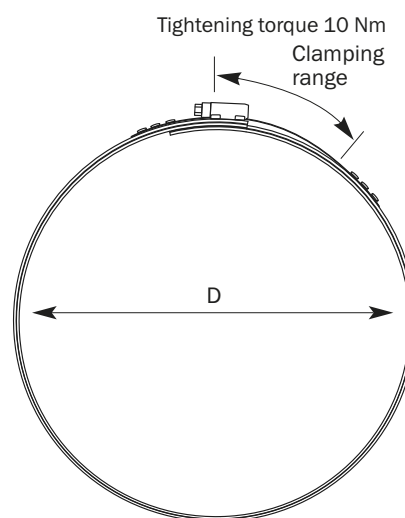
EPDM gasket insert



Fastening clamp



B



D = Diameter
B = Width

Connecting clamp made of stainless steel for connection of VENTAFLEX Klassic air ducts round

series	Ø air duct	D mm	B mm	item no.
200	200	260	100	052003020
250	250	310	100	052503020
300	300	360	100	053003020
400	420	510	100	054205020
500	520	620	100	055205020
630	650	750	100	056505020
710	730	790	100	057303020
800	820	910	100	058205020
900	920	1020	100	059205020
1250	1270	1330	100	0512703020

The VentaFix mounting clamp



Proven two-part construction for fixation at the closing flap. Designed for the dimensions of the VENTAFLEX® air duct Classic system. Safe fixing by means of thread rods due to the M10 through holes of the closing flaps. Fullfills the requirements of thermal decoupling.

Material

Stainless steel



Connection of the clamps by means of thread rods
Ø hole of the clamps: 11 mm

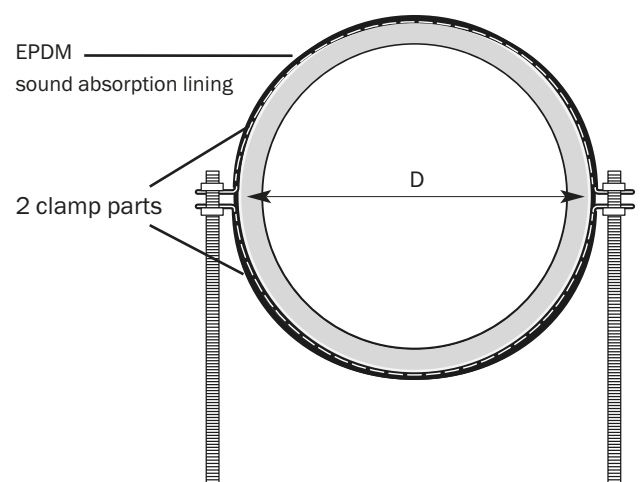


High-quality sound absorption lining

Mounting clamp made of stainless steel

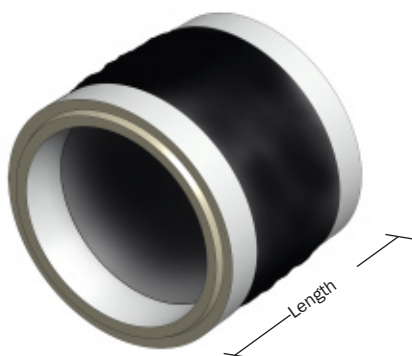
for placing on stands or hanging of
VENTAFLEX® air ducts Classic round

series	D mm	item no.
200	260	062003020
250	310	062503020
300	360	063003020
400	510	064205020
500	620	065205020
630	750	066505020
710	790	067303020
800	910	068205020
900	1020	069205020
1250	1330	0612703020



VENTAFLEX®
More efficiency in air conduction

Compensator for thermal expansion compensation and vibration damping (vibration decoupling)



Length when extended = 420 mm
Installation length = 390 mm

Material

Highly insulating PUR rigid foam

Standard coating inside/outside

GRP (glass fiber reinforced plastic)

Colour

Light grey (RAL 7035)

Wear part with limited warranty

Expansion joints must be positioned in such a way that any changes in length that occur can be fully accommodated.

The adjacent duct sections must be routed appropriately (e.g. using sliding bearings) and secured at fixed points.

The maximum surface temperature must be used for the design. During summer, roof surfaces can reach very high temperatures due to solar radiation. This results in a significant temperature difference compared to winter conditions, which must be taken into account during the design process.

Calculation example (simplified): $\Delta L = 0,00005 \cdot 10 \cdot 100$

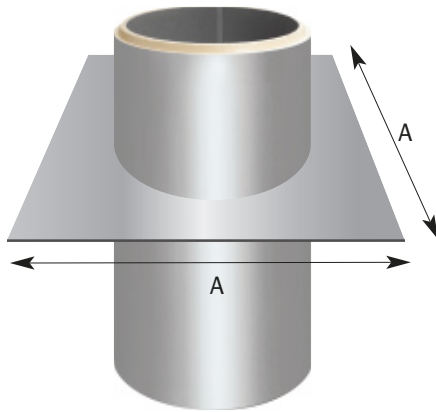
Result: $\Delta L \approx 0,50 \text{ m} = 50 \text{ mm}$

Consequently:

A 10 m long duct can expand by approx. 50 mm. This movement must be transmitted via sliding bearings and accommodated by suitable expansion joints, installed at appropriate intervals.

series	d mm	item no.
200	200	402003004
250	250	402503004
300	300	403003004
400	420	404205004
500	520	405205004
630	650	406505004
710	730	407303004
800	820	408205004
900	920	409205004
1250	1270	4012703004

Roof duct



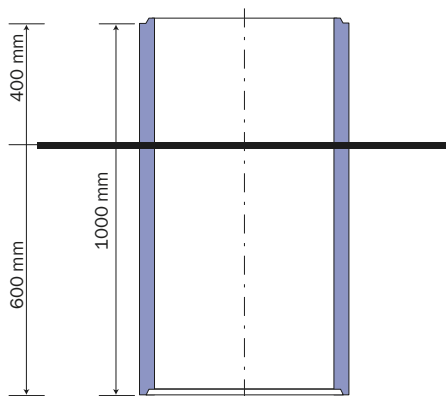
Application area: everywhere where air ducts are led through roofs and brickwork.

Material

UV-stabilized materials

Dimensions

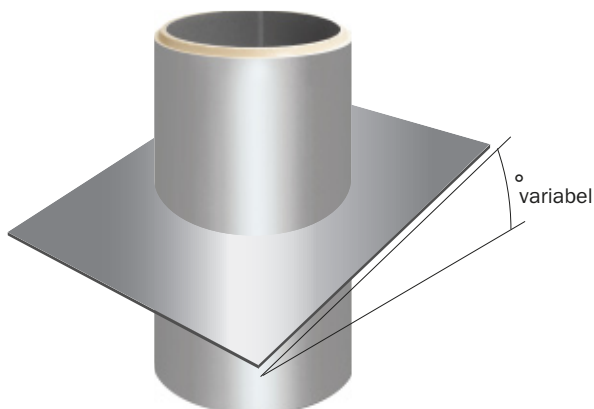
Height of the duct with roof duct is 1000 mm



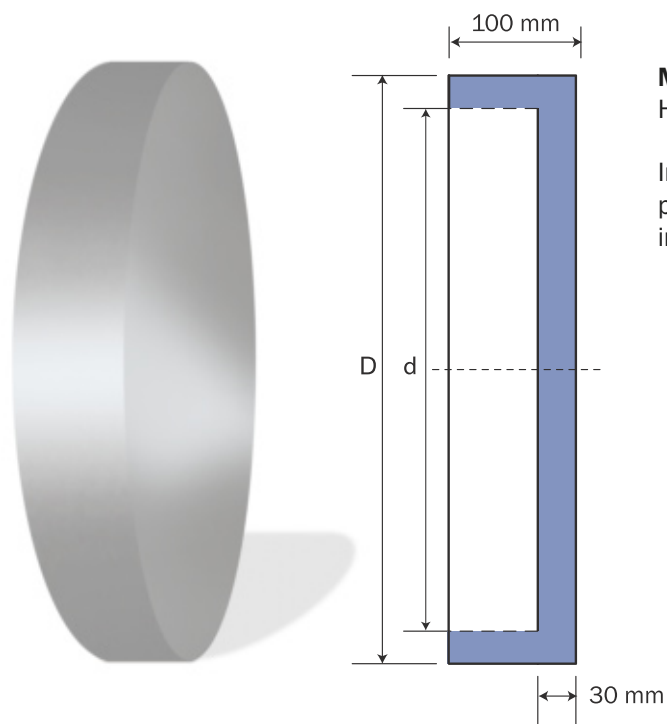
series	A mm	item no.
200	750	R022003004
250	750	R022503004
300	750	R023003004
400	1000	R024205004
500	1000	R025205004
630	1260	R026505004
710	1720	R027303004
800	1720	R028205004
900	1720	R029205004
1090	1720	R0210903004
1250	1720	R0212703004

If required VENTAFLEX® produces a roof duct according to the angle of the roof inclination.

Price upon request



End cover



Material

Highly insulated rigid foam

Install using a VentaSnap clamp;
please follow the installation
instructions. Clamp not included.

d = Inside diameter
D = Outside diameter
H = Height

series	d mm	D mm	Hight mm	cross section qm	item no.
200	200	260	100	0,05	202003004
250	250	310	100	0,07	202503004
300	300	360	100	0,10	203003004
400	420	510	100	0,20	204205004
500	520	620	100	0,30	205205004
630	650	750	100	0,44	206505004
710	730	830	100	0,54	207303004
800	820	910	100	0,65	208205004
900	920	1020	100	0,82	209205004
1250	1270	1330	100	1,39	2012703004

Inspection cover



series	cutout dimensions mm	material: galvanized sheet	material: stainless steel
		item no.	item no.
200	100 x 200	252003010	252003020
250	100 x 200	252503010	252503020
300	100 x 200	253003010	253003020
400	200 x 300	254205010	254205020
500	200 x 300	255205010	255205020
630	300 x 400	256505010	256505020
710	300 x 400	257303010	257303020
800	300 x 400	258205010	258205020
900	300 x 400	259205010	259205020
1250	300 x 400	2512702010	2512703020

Roof hood

Material

Glass fiber reinforced polyester

Delivery scope

incl. three-part mounting kit

Standard colour

grey



series	ø D mm	item no.
200-500	950	245205004
560	1100	245805004
630	1100	246505004
710	1250	247303004
800	1250	248205004
900	1350	249205004
1250	1950	2412703004

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VentaFit-6022



VentaFit-6022 was checked on the requirements on microbial inertness from the VDI 6022 and is certified for it – exactly like our air ducts.

Colour	Quantity	Item no.
black	580 ml	0030015001
gray	580 ml	0030015004



Tubular bag press

Especially for tubular bags with 400 ml or 600 ml

Quantity	Item no.
1	0030019001

Hygiene protective packaging

Upon request our products can additionally be packaged with special VDI-conform self-adhesive foil. You receive the costs for this hygiene packaging upon request.



Material requirements

The required amount of glue depends on the number of connection points – and of course on the diameter or rather the form of the duct. On the basis of the chart the expected quantity can be calculated, which can be produced by one bag.

VentaFit adhesive should be used for special hygiene requirements.

Series oval	Inside dimension oval	Number of adhesion- or rather connection points, which can be produced with one tubular bag		Series round
		oval	round	
500	520/770	2	7	250
	520/1020	2		
	520/1270	1		
	520/1520	1		
630	650/900	2	5	400
	650/1150	1		
	650/1400	1		
	650/1650	0,75		
710	730/980	1	4	500
	730/1230	1		
	730/1480	0,75		
	730/1730	0,75		
800	820/1070	1	3	630
	820/1320	0,75		
	820/1570	0,75		
	820/1820	0,5		
900	920/1170	0,75	2	800
	920/1420	0,75		
	920/1670	0,5		
	920/1920	0,5		
1250	1270/1520	0,5	0,5	1250
	1270/1770	0,5		
	1270/2020	0,25		
	1270/2270	0,25		

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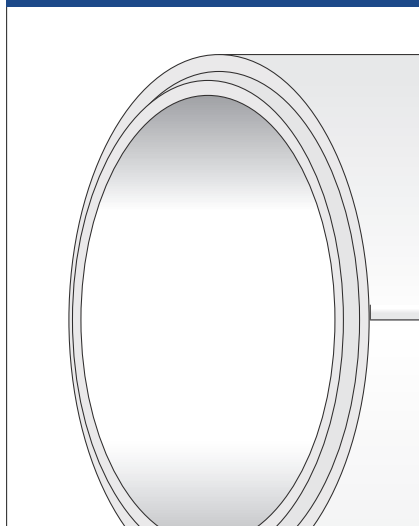
INSTALLATION INSTRUCTION

VENTAFLEX®

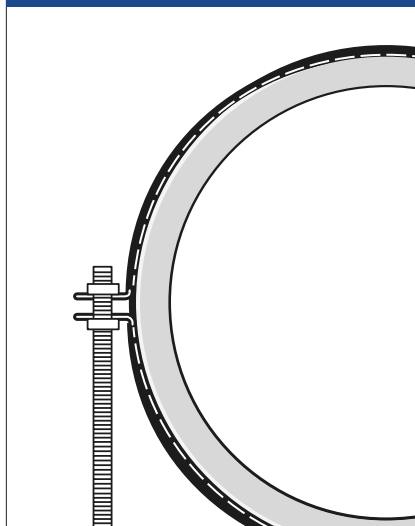
air duct Classic

for room · facade · roof

Air duct ø 200-1250 mm



VentaFix



VentaSnap, Supplies



VENTAFLEX® AIR DUCT CLASSIC ROUND

Responsibility

The installation instruction for VENTAFLEX® products are 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 starting the installation and make sure that all necessary materials and tools are ready to be used.

Safety note

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

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

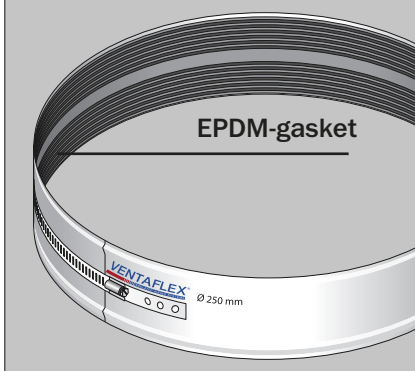
If you have any further questions regarding the installation or other VENTAFLEX® products, please contact our hotline or call us under **+49 (0) 25 05 - 93 829 -20**

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

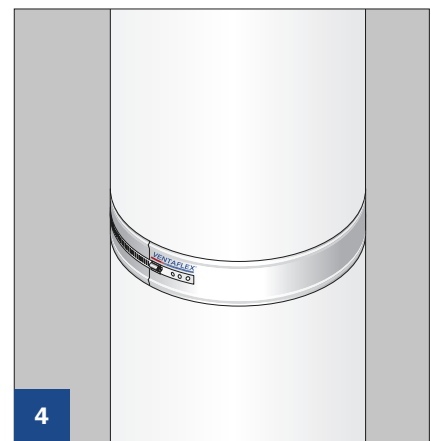
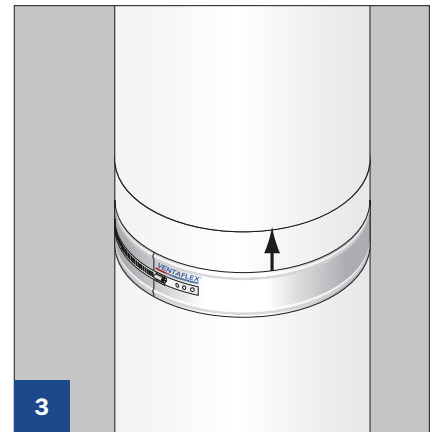
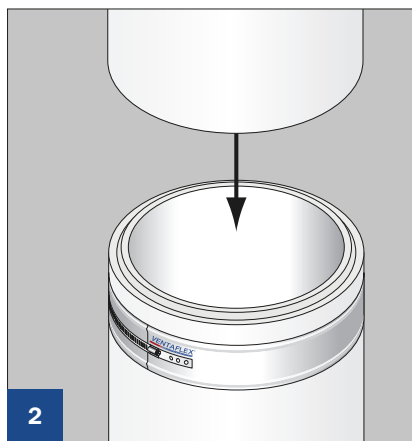
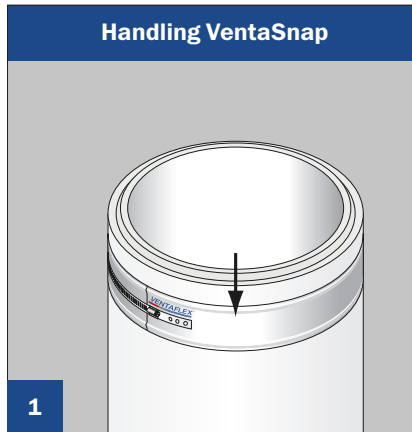
You find further generally valid information about the processing of VENTAFLEX® air ducts under **www.ventaflex.de**

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Structure of the VentaSnap clamp



Handling VentaSnap



A VentaSnap clamp is pushed over the VENTAFLEX® air duct Classic. Put a second duct on top of the first one and adjust it so that groove and tongue are joined.

Pull the VentaSnap clamp centered over the connection and screw it together.

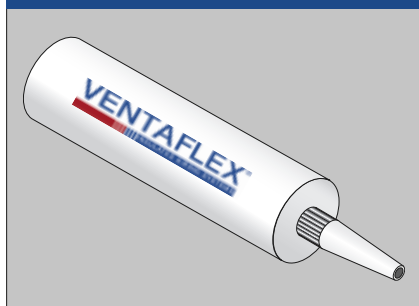
The final step is a leak test.

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

We recommend considering when planning that VENTAFLEX® air duct Classic in components is available with a length of 3 m. This way unnecessary installation effort can possibly be avoided.

Depending on the application area of the duct the sole use of the VentaSnap clamp is enough. However we generally recommend to combine the adhesion with the VentaSnap clamp. In the hygiene sector this is mandatory.

Information about VentaFit

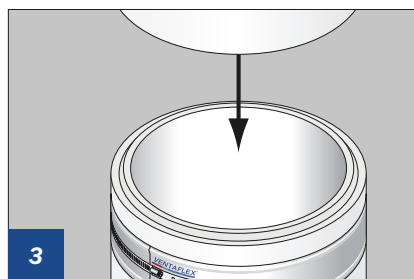
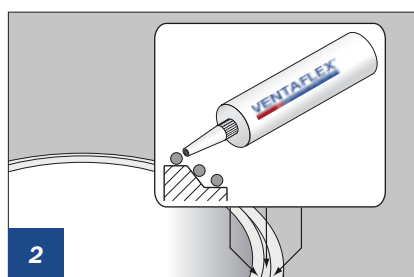
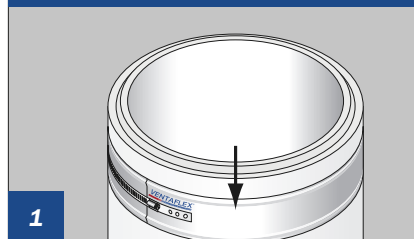


VentaFit is a special glue for PUR rigid foam. Ideal results are reached at a processing temperature of 5° C to 35° C. Skin building time is after approx. 30 min. Indications of quantity are found on the cartridge.

Tip:

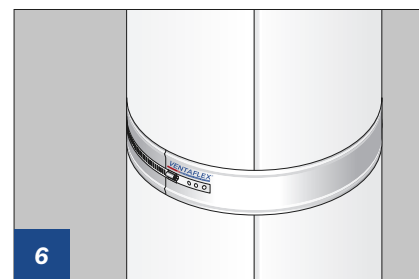
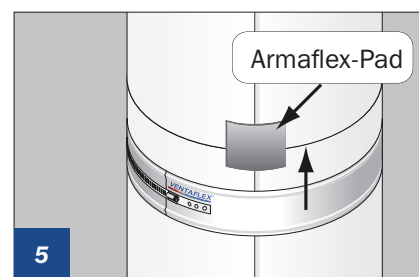
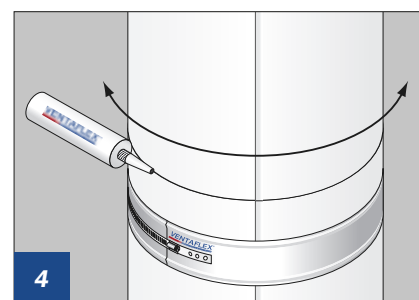
At low ambient temperature the flowability can be improved by placing the cartridges in a bucket of warm water before handling them or in heated room for storage.

Handling of VentaSnap + glue



A VentaSnap clamp is pushed over the VENTAFLEX® air duct Classic.

Apply the glue circular in three rings. Attention must be paid that all adhesive- and seal surfaces must be freed from dust, grease and other deposits.



The second duct is put on top of the first one until groove and tongue are joined. Spread the glue with pressure by moving the ducts back and forth, subsequently seal the adhesive seam with glue from the outside.

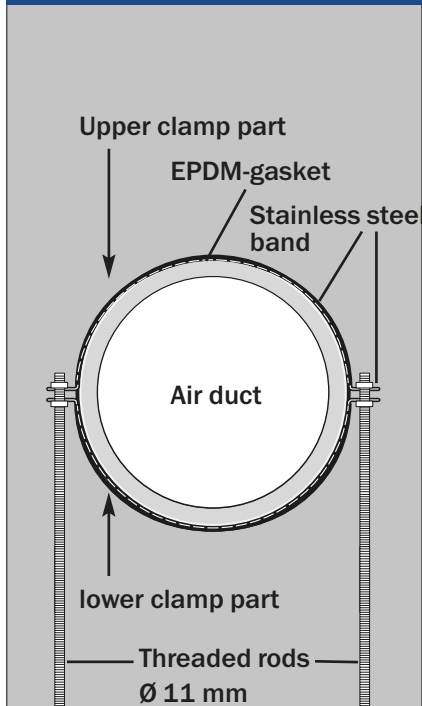
Glue the enclosed Armaflex-Pad on the seam. Pull the VentaSnap clamp centered over the connection and pad and screw it together.

After 12 hours of setting time the glue is hardened.

After this process step we recommend doing a tightness test.

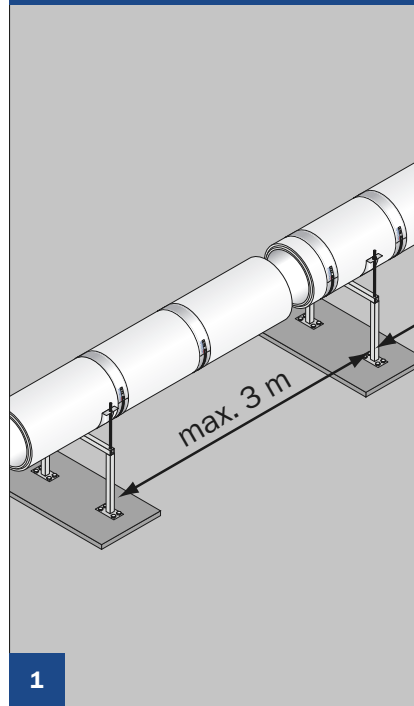
Upon request we additionally offer a tightness test for your special project with VENTAFLEX® air ducts Classic.

Structure of the VentaFix clamp

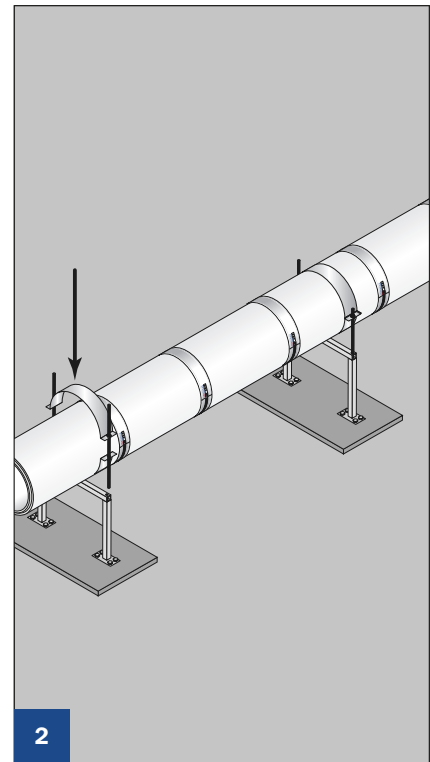


Washed concrete slabs as foundation for the construction avoids the penetration of the roof membrane. We recommend individually reconciling a possible wind load.

Handling VentaFix

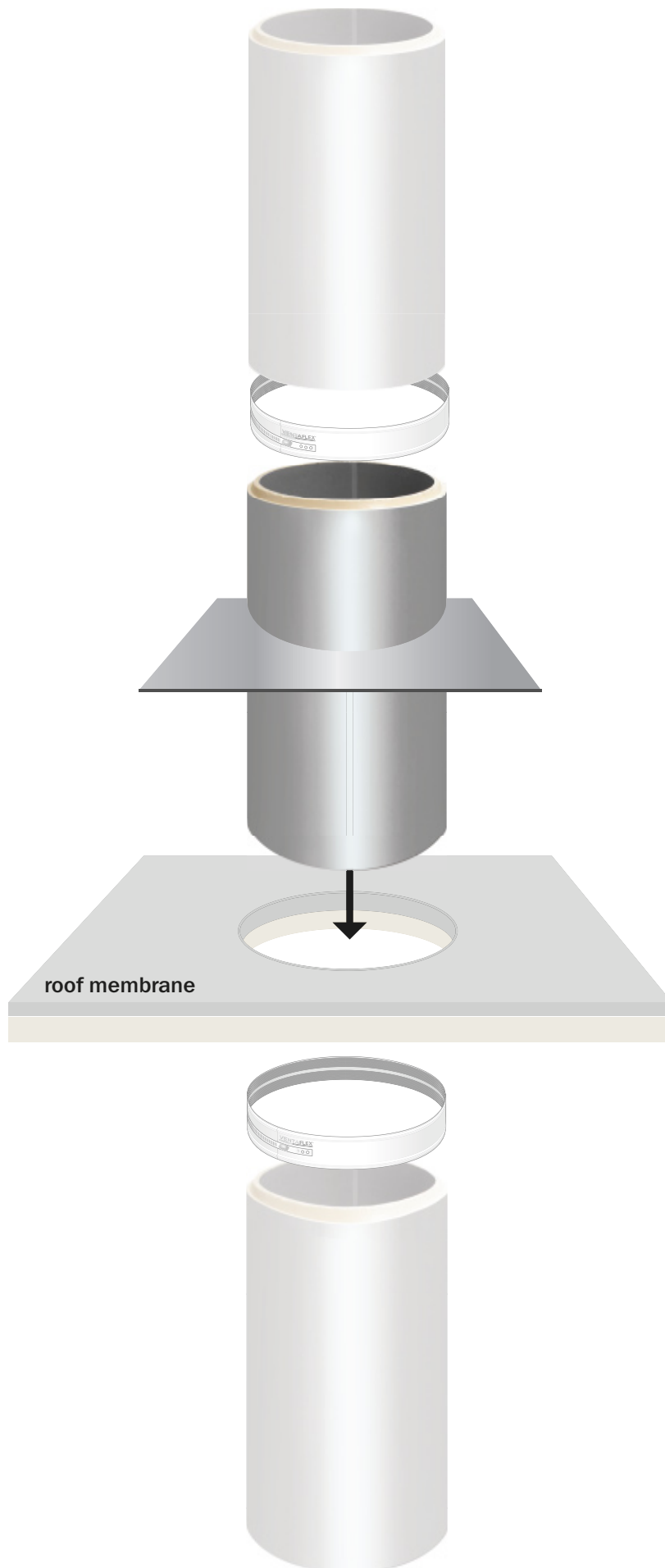


Put the components on the lower VentaFix clamp parts. After that connect the duct segments with a VentaSnap clamp as described.



Following that put down the upper VentaFix clamp and screw it together.

The distance between two VentaFix clamps should not exceed 3 m.



1

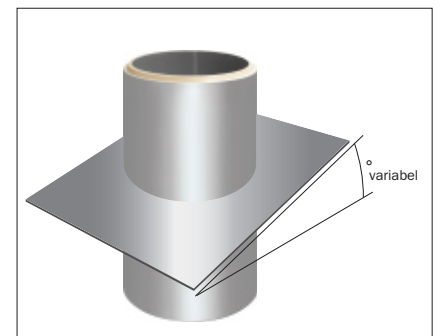
Make roof cut-out

2

Place VENTAFLEX Classic roof duct centered on the opening of the roof membrane, push it through the opening and connect it with the roof membrane generously.

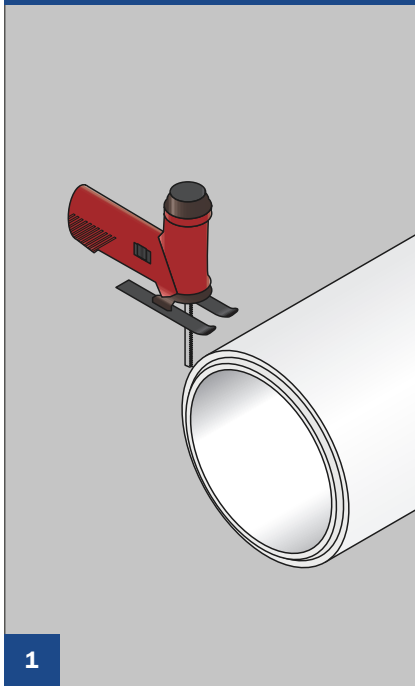
3

Connect the duct segments as shown (see „Installation VentaSnap + adhesion“).



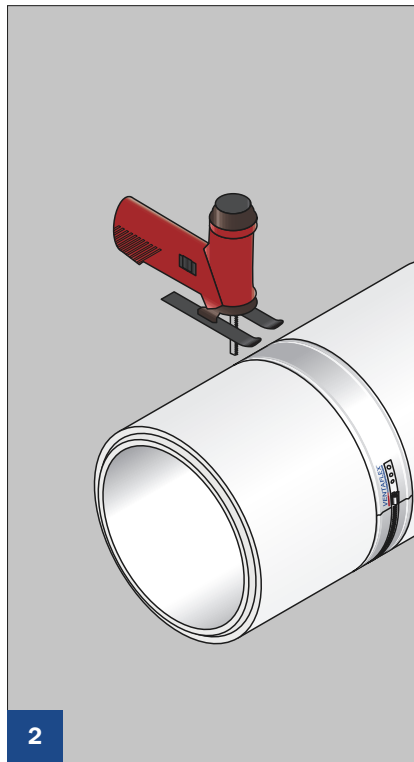
If required VENTAFLEX® produces a roof duct according to the angle of the roof inclination

Generation of exact duct length

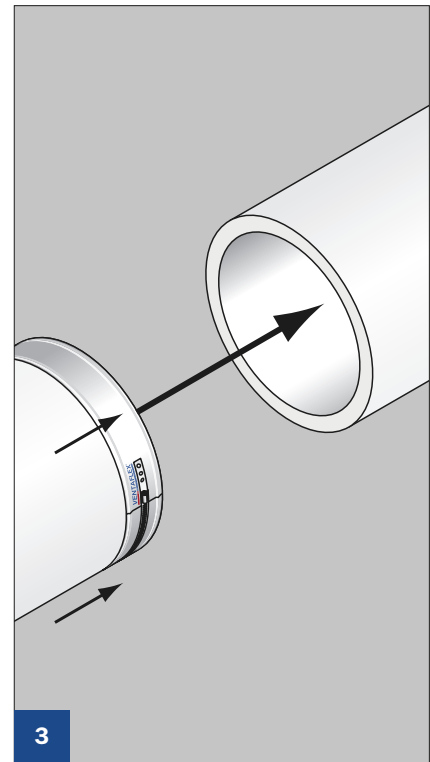


Remove groove or tongue at the connection point of the VENTAFLEX® air duct Classic..

Tip:
We recommend to cut the VENTAFLEX® air duct Classic with a jigsaw with a metal saw blade.

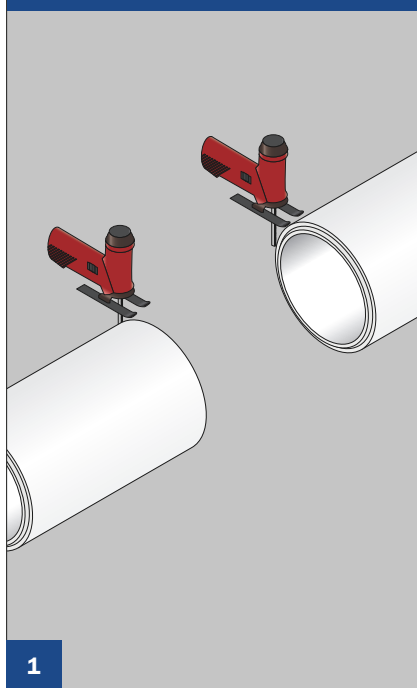


Push a VentaSnap clamp as a stop on the VENTAFLEX® air duct Classic which is to be shortened and tighten it slightly. After that shorten the VENTAFLEX® air duct Classic with the jigsaw.



Apply plenty of glue on the cutting point after shortening (see „Installation VentaSnap + adhesion“). Put both VENTAFLEX® air ducts Classic up to contact and spread the glue with pressure by moving the ducts back and forth. Finally pull the VentaSnap clamp centered over the connection and screw it together.

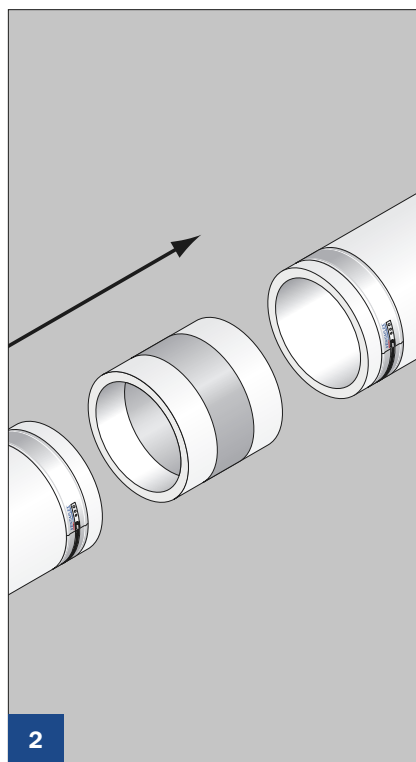
Installation of a compensator for the expansion compensation



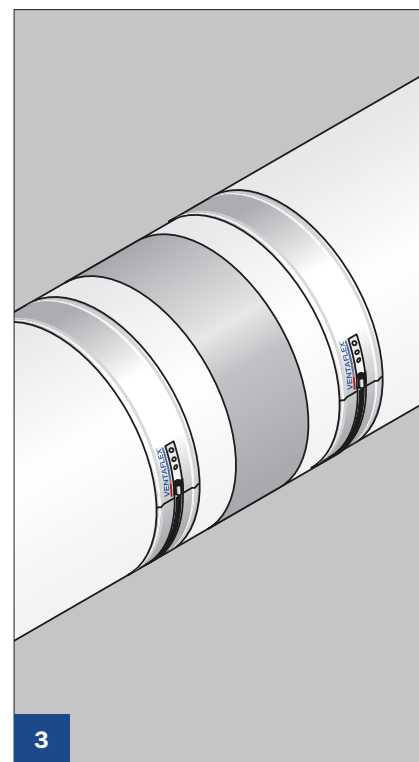
Remove groove or tongue at the connection point of the VENTAFLEX® air duct Classic with a jigsaw, between which the compensator should be inserted.

Tip:

We recommend to cut the VENTAFLEX® air duct Classic with a jigsaw with a metal saw blade.



After pushing two VentaSnap clamps on the ends of the VENTAFLEX air ducts Classic, fit in the compensator between the two cutting points.



Apply plenty of glue on the cutting point after cutting (see „Installation VentaSnap + adhesion“). Put both VENTAFLEX® air ducts Classic up to contact and spread the glue with pressure by moving the ducts back and forth. Finally pull the VentaSnap clamps over the connecting joints and screw them together.

The maximum surface temperature must be used for the design. During summer, roof surfaces can reach very high temperatures due to solar radiation. This results in a significant temperature difference compared to winter conditions, which must be taken into account during the design process.

Calculation example (simplified):

$$\Delta L = 0,00005 \cdot 10 \cdot 100$$

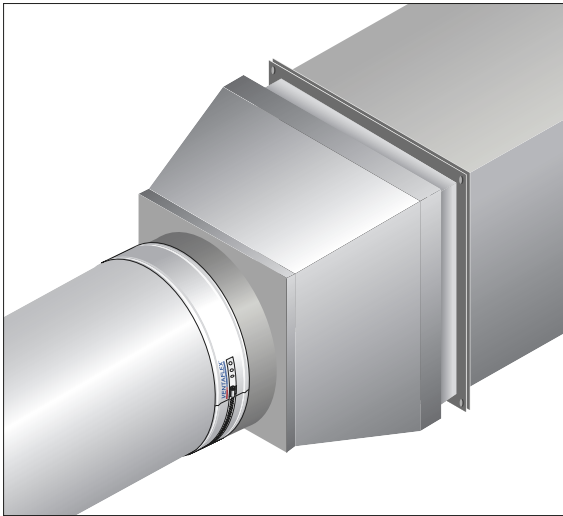
$$\text{Result: } \Delta L \approx 0,50 \text{ m} = 50 \text{ mm}$$

Consequently:

A 10 m long duct can expand by approx. 50 mm. This movement must be transmitted via sliding bearings and accommodated by suitable expansion joints, installed at appropriate intervals.

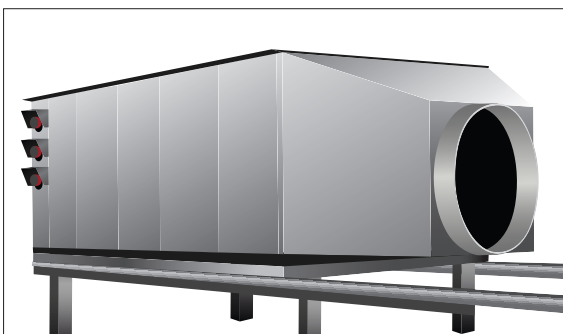
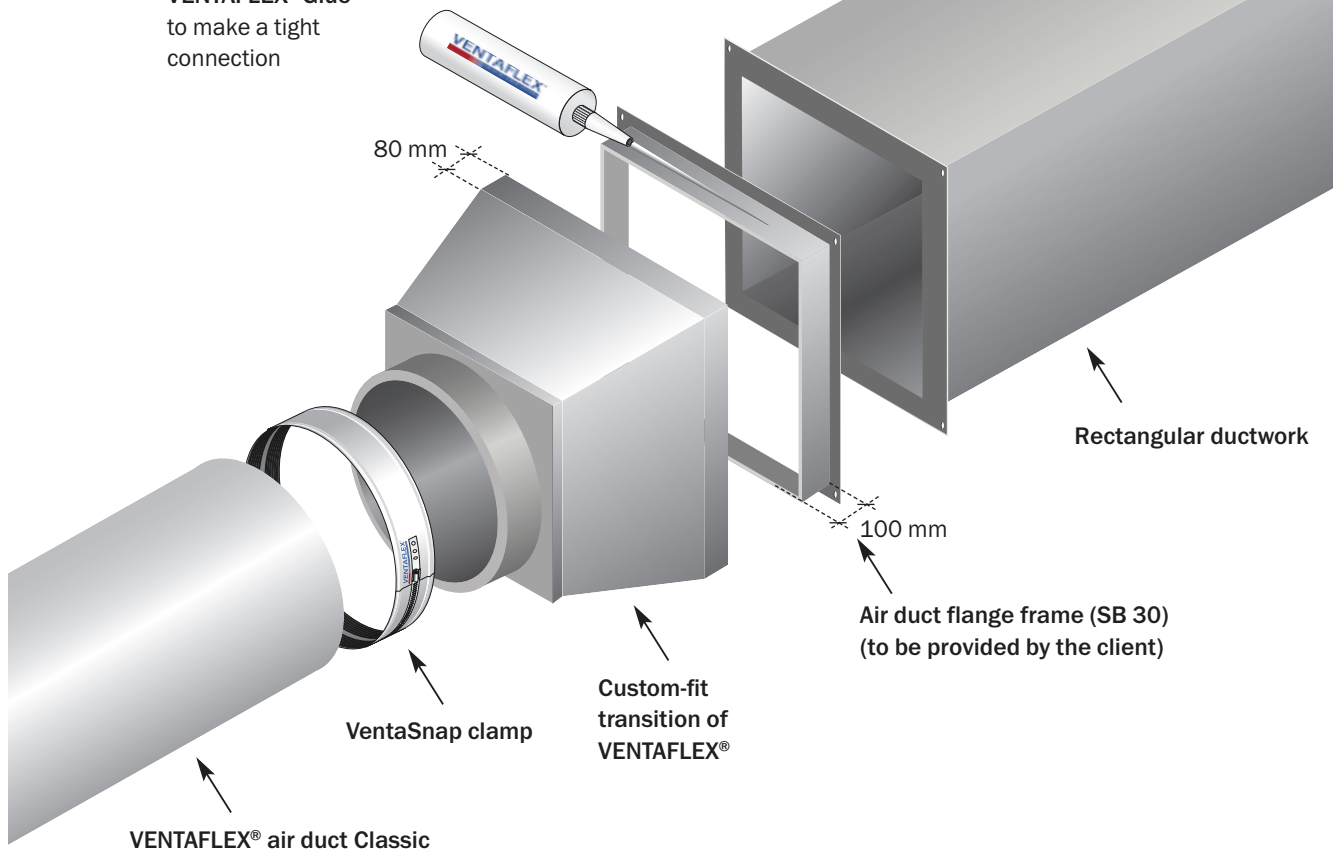
Expansion joints must be positioned in such a way that any changes in length that occur can be fully accommodated.

The adjacent duct sections must be routed appropriately (e.g. using sliding bearings) and secured at fixed points.



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

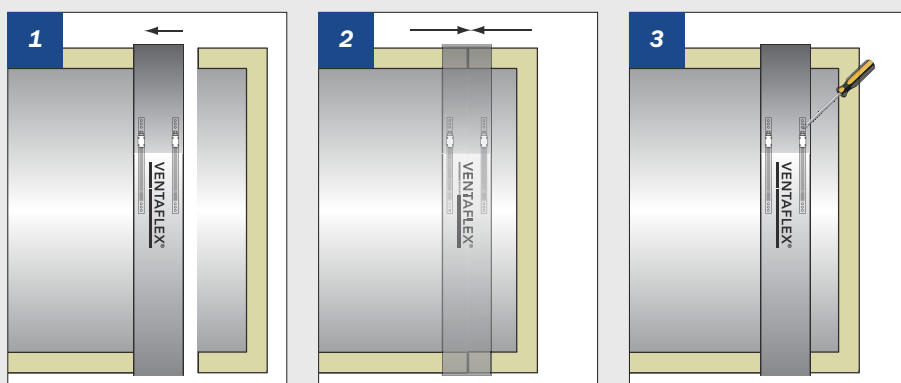
Adhesion with
VENTAFLEX® Glue
to make a tight
connection



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

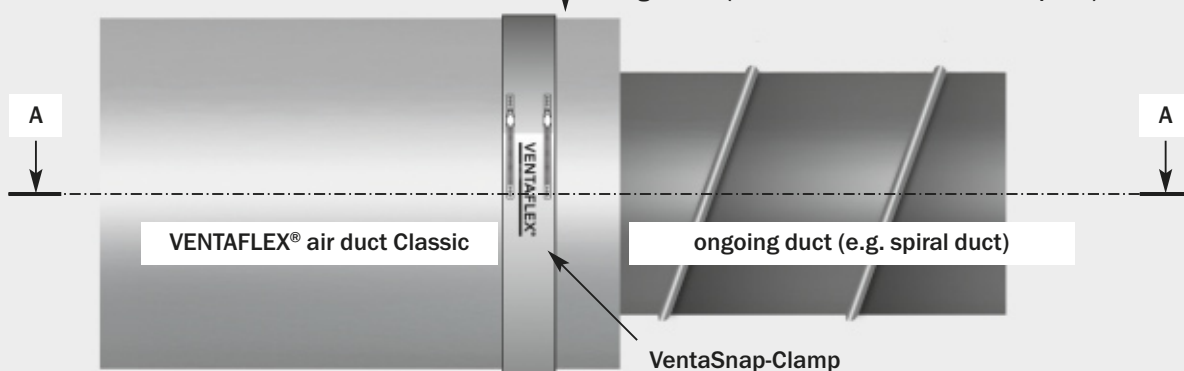
Cross-section: Applying the adhesive

- 1) Position the VentaSnap clamp on the VENTAFLEX air duct
- 2) Butt-join the duct and end cover
- 3) Centre the clamp over the joint and tighten it



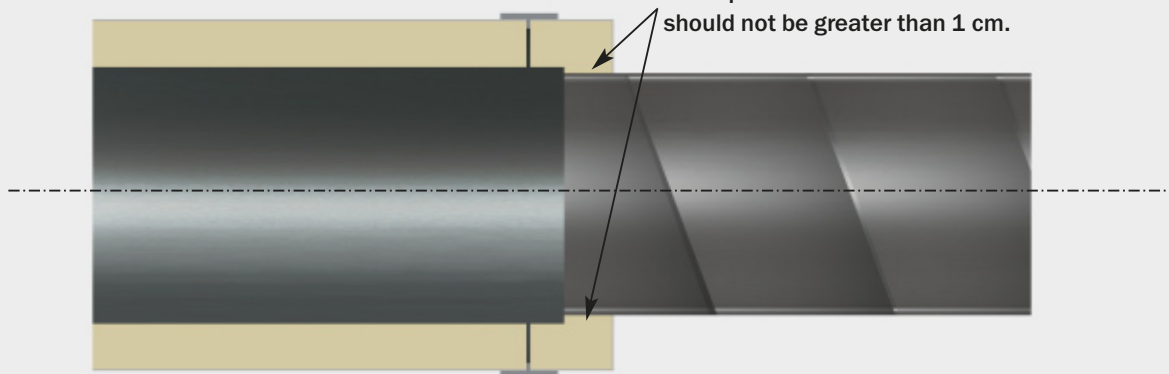
Transition of the VENTAFLEX® air duct Classic to the duct of another producer

optional:
Centre the clamp over the joint
and tighten it (with a custom-cut hole on request)



Cross section: Installation of the adhesion

Apply VentaFit special glue circumferentially on the overlap area. The distance between the ducts should not be greater than 1 cm.



As the diameters of ducts from other manufacturers are very often similar to those of the VENTAFLEX® system, it is easy to create completely leak-proof connections. If desired, a suitably cut-to-size end cover provides a neat finish.

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