



- certificated concentric flue system TEC-LAS-DECO



Concentric flue system type TEC-LAS-DECO

CE-Certification number 0036 CPR 91323 034
(further information: see Declaration of Performance No. 91323 034 DoP 2024-05-15)

Product information



"Chimneys – Requirements for metal chimneys - Part 1:
System chimney products" EN 1856-1:2009

Manufacturer's identification: **TECNOVIS GmbH**
Ungetsheim 16
DE-91555 Feuchtwangen

Product trade name: **TEC-LAS-DECO**
(Multi-wall chimney system with ventilated annular gap and stainless steel outer tube)

Certification office: TÜV SÜD Industrie Service GmbH

Name and position of the responsible person: Wolfgang Roth CEO

Identification of accompanying documentation

0.1	Metal chimney	EN 1856-1	T600	N1	W	V2-L50040	050	Multi-wall chimney system, concentric model with gasket, moisture resistant, without insulation, with O-ring and SS outer wall. Ventilated throughout the whole length, without covering. Locking band necessary. Operating mode in negative pressure.
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Product description

Standard number

Temperature level

Pressure level

Condensate resistance
(W: wet / D: dry)

Corrosion resistance

Flue liner material
specification

Sootfire resistance
(G: yes / O: no) and
distance to combustible
material (in mm)

Properties of a multi-wall metal chimney system

Compressive strength:

Maximum load (see installation instructions)

Flow resistance:

Average roughness: 1.0 mm,
Zeta-values according to EN 13384-1
(see installation instructions)

Thermal resistance:

0 m²K/W

Flexural strength:

Angular assembly:
Maximum length between two supports: 3 m at 90°

Tensile strength:

See installing instructions

Wind load: free standing end above last fixation:

≤ 3 m

Maximum distance between vertical supports:

4 m

Freeze-thaw resistance:

Yes

Cleaning:

The chimney system is only allowed to be cleaned with cleaning
devices made of plastic or rust-resistant stainless steel.

Concentric connecting pipe type TEC-LAS-DECO

CE-Certification number 0036 CPR 91323 039
(further information: see Declaration of Performance No. 91323 039 DoP 2024-05-15)

Product information



"Chimneys - Requirements for metal chimneys - Part 2:
Metal flue liners and connecting flue pipes" EN 1856-2:2009

Manufacturer's identification:

TECNOVIS GmbH
Ungetsheim 16
DE-91555 Feuchtwangen

Product trade name:

TEC-LAS-DECO connecting pipe (multi-wall rigid connecting pipe with ventilated annular gap and stainless steel outer tube)

Certification office:

TÜV SÜD Industrie Service GmbH

Name and position of the responsible person:

Wolfgang Roth CEO

Identification of accompanying documentation

0.1	Concentric connection pipe	EN 1856-2	T600	N1	W	V2-LS0040	O100	TEC-LAS-DECO is a multi-wall, moisture resistant, concentric connection pipe with gasket in outer tube, without insulation, with ventilated annular gap and stainless steel outer tube. Locking band necessary. Operation mode in negative pressure.
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Product description									Rigid connecting pipe of metal
Standard number									Compressive strength: 25m
Temperature level									Flexural strength: No vertical installation: ≤ 3 m between two fixations or supports.
Pressure level									Maximal distance between vertical supports: ≤ 4 m between two fixations
Condensate resistance (W: wet / D: dry)									Coefficient for flow resistance: Average roughness: 1.0 mm, Zeta-values according to EN 13384-1
Corrosion resistance									Thermal resistance: 0 m ² K/W
Flue liner material specification									Tensile strength: <6m
Sootfire resistance (G: yes / O: no) and distance to combustible material (in mm)									Freeze-thaw resistance: Yes
									Cleaning: The connecting pipe is only allowed to be cleaned with cleaning devices made of plastic or rust-resistant stainless steel.

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1) System overview

TEC-LAS-DECO

(certificate number 0036 CPR 91323 034)

Model 1: **TEC-LAS-DECO**

Concentric chimney system for decorative gas fireplaces in negative pressure for dry or wet operation mode, which operates independent of the room air. No fixed connection between internal and external pipe. The proof that the temperature of the interior wall of the system's upper end is above the water vapour dew point temperature of the exhaust gas at a constant temperature can be abandoned.

Classification acc. to EN 1856-1:

Exhaust gas system **EN 1856-1 T600 – N1 – W – V2 – L50040 – O50**

TEC-LAS-DECO-FLEX/ EW-CLASSIC

(certificate number 0036 CPR 91323 040)

Model 1 (single layer) and Model 2 (two-layer): **Inner pipes TEC-LAS-DECO-FLEX**

Flexible inner pipes for installation in shafts which meet the requirements of fire safety, for wet or dry operation mode with negative pressure to – 40 Pa. Entire chimney following the counterflow principle for decorative gas fireplaces with negative pressure and which operates independent of the room air. No connection between internal and external pipe.

Compatible with rigid pipes and fittings according to Model 3. The proof that the temperature of the interior wall of the system's upper end is above the water vapour dew point temperature of the exhaust gas at a constant temperature can be abandoned.

Classification acc. to EN 1856-2:

Exhaust gas system **EN 1856-2 T600 – N1 – W – V2 – L50008 – O**

Model 3:

Inner pipes TEC-EW-CLASSIC-DECO

Rigid, single-wall inner pipes for installation in shafts which meet the requirements of fire safety, for wet or dry operation with negative pressure to – 40 Pa. Entire chimney following the counterflow principle for decorative gas fireplaces with negative pressure and which operates independent of the room air. The proof that the temperature of the interior wall of the system's upper end is above the water vapour dew point temperature of the exhaust gas at a constant temperature can be abandoned.

Classification acc. to EN 1856-2:

Exhaust gas system **EN 1856-2 T600 – N1 – W – V2 – L50050 – O**

2) Mounting and regulations

The installing has to be performed professionally according to the installing instructions respectively according to the valid national regulations.

In Germany in particular DIN V 18160-1, as well as the applicable rules of regional building (LBauO), firing regulations (FeuVO), relevant DIN standards and all other building- and safety regulations.

The required cross section has to be determined according to DIN EN 13384 and has to be rechecked by the executing specialist firm.

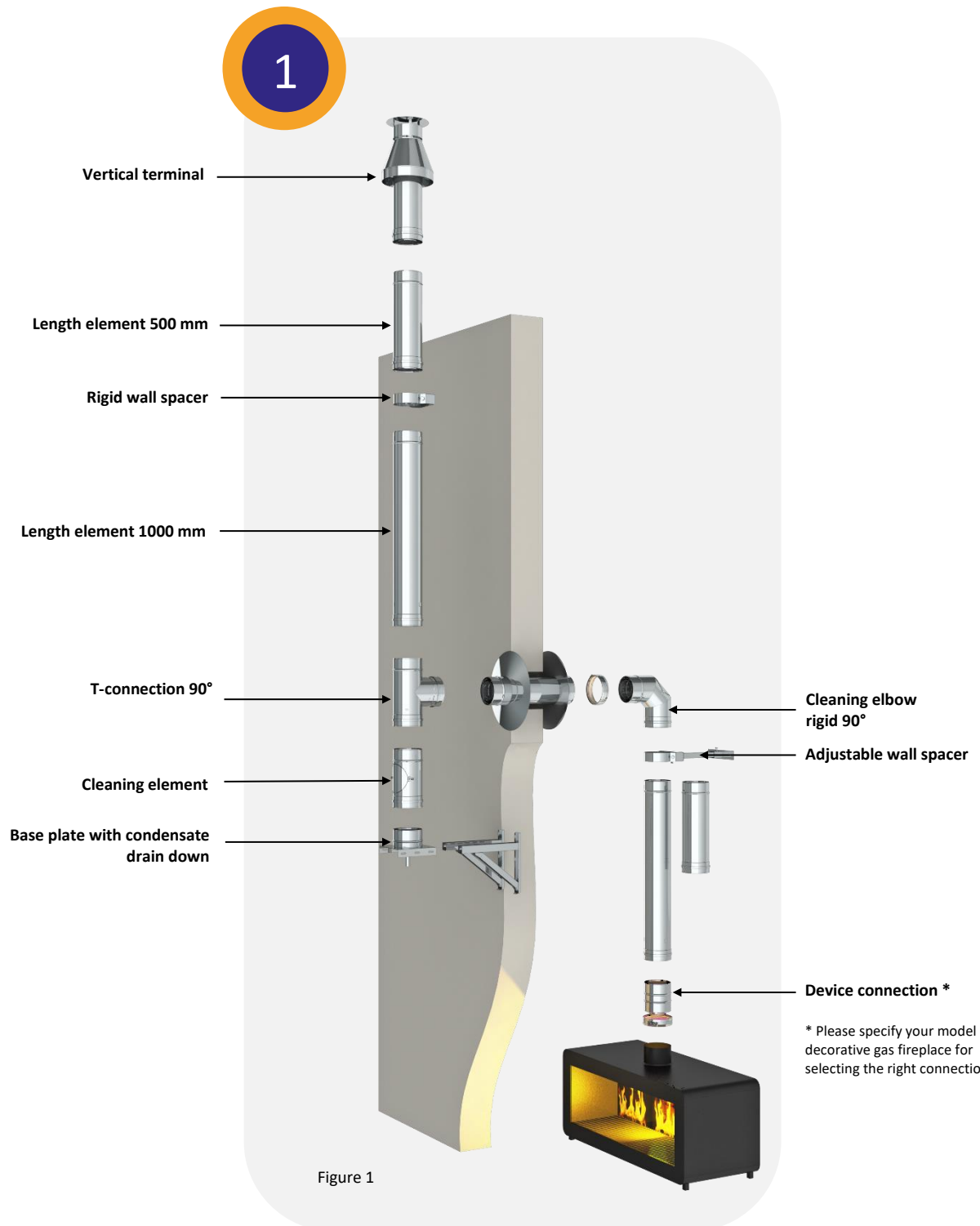


Before the installation the design of the system has to be clarified with the concerned district chimney sweeper. The suitability and safe usability of the exhaust system is to be certified by a competent district chimney sweeper before commissioning.

3) Mounting options

Vertical flue above roof on the outer wall

(further details from page 11)



* Please specify your model of decorative gas fireplace for selecting the right connection!

Shaft installation with rigid inner pipes TEC-EW-CLASSIC-DECO

(further details from page 24)

Installation in a walled shaft
e.g. a house chimney



Figure 2

Shaft installation with flexible inner pipe TEC-LAS-DECO-FLEX

(further details from page 31)

Installation in a walled shaft
e.g. a house chimney

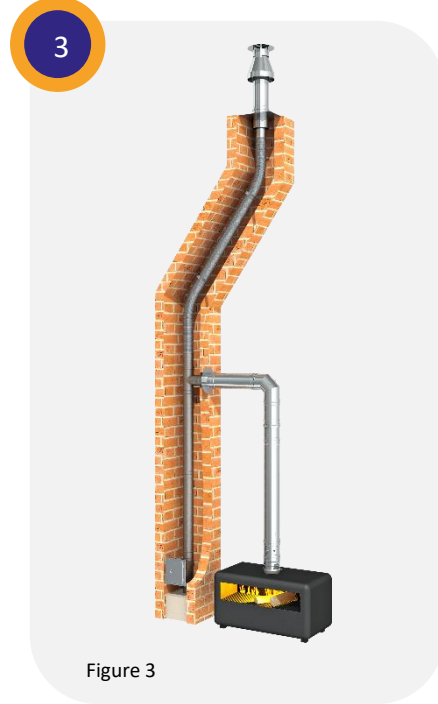


Figure 3



* In Germany and in other countries, this variant is only possible after prior consultation with the concerned district chimney sweeper.

Horizontal flue C₁₁ *

(further details from page 35)

(Usual construction in the Netherlands)



Figure 4

TEC-LAS-DECO flue system directly installed on a fireplace *

(further details from page 38)



Figure 5

**Shaft installation with
rigid inner pipes without bottom ***
(further details from page 41)



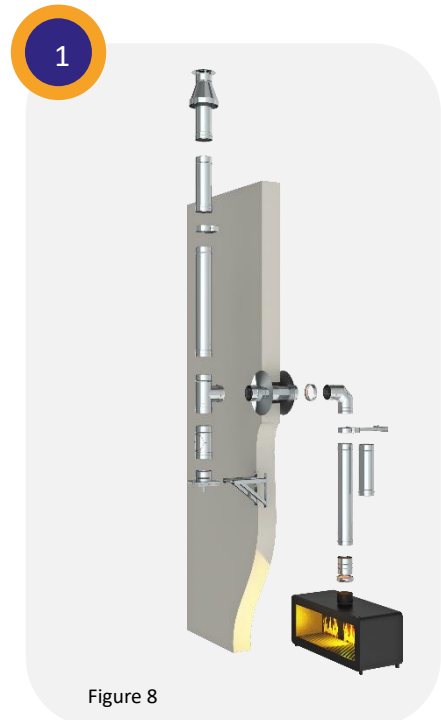
**Shaft installation with
TEC-LAS-DECO without bottom ***
(further details from page 44)



4) Vertical flue above roof on outer wall

The concentric flue system TEC-LAS-DECO consists of the concentric connecting pipe and the concentric vertical section of the chimney. The operation of the exhaust system is intended to be independent of room air.

In accordance with the German planning and execution standard DIN V 18160-1, the vertical section must be constructed with a bottom beneath the lowest fireplace connection. Accordingly, the structure must include a base plate with condensate drain, a cleaning element and a T-connection (see Figure 8).



4.1) Mounting heights

The following maximum mounting heights and distances are possible with the TEC-LAS-DECO system:

Inner / outer Ø in mm	Measure A max. distance between wall supports	Measure B free standing height above last support	Measure C height above support	Measure D height above pipe tee connection
100/150	4 m	3 m	53 m	38 m
130/200	4 m	3 m	53 m	28 m

Table 1: Installation heights



The maximum possible line length must be agreed with the gas appliance manufacturer on a case-by-case basis.

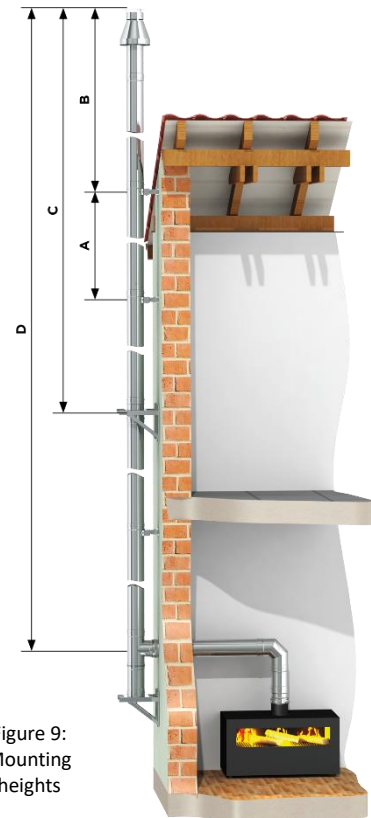


Figure 9:
Mounting
heights

Anchoring forces in kN

Inner / outer Ø in mm	Wall support type II, 500 mm			Wall spacer type A, 50 mm			
	Wall space			Wall space			Length of cantilever
	50 - 120 mm	250 mm	400 mm	50 - 120 mm	250 mm	400 mm	m
100/150	1.10	1.88	2.60	1.27	1.99	2.82	3.00
130/200	1.18	1.95	2.70	1.31	2.01	2.83	3.00
Number of dowel per support	6	6	6	2	2	2	

Table 2: Anchoring forces

Important information regarding the anchoring forces table:

The anchoring forces in the table is the angular tensile force per dowel.

The wall space of the chimney system is allowed to be up to 40 cm.

The anchoring forces for the wall spacers are valid at heights above territory up to 20 m.

For heights above territory up to 8.00 m, a reduction factor of 0.63 is valid.

For heights above territory between 20.00 m and 100.00 m, an extension factor of 1.38 has to be observed.

At wall spaces > 40 cm, special attachments / wall brackets are to be used according to the static confirmatory test.

4.2) Minimum distance to combustible materials

4.2.1 TEC-LAS-DECO (vertical section)

For outer wall installation of the TEC-LAS-DECO system, a minimum distance of 50 mm must be kept from combustible materials with flue gas temperatures of up to 600°C.

The distance from combustible materials relates to a rear-ventilated installation over the entire length!

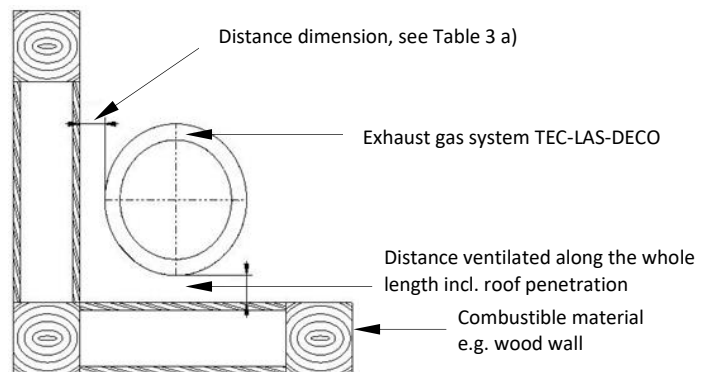


Figure 10

Model	Temperature level	Pressure level	Condensate resistance	Corrosion resistance and flue liner material specification	Soot fire resistance and distance to combustible materials	Nominal diameter (Ø inner tube)	Application
Model 1 TEC-LAS-DECO	T600	N1	W	V2-L50040	O50 (=50 mm)	Ø100–150	Gas fireplaces for wet and dry operation mode

Table 3 a): Distances to combustibles materials (vertical section)

4.2.2 TEC-LAS-DECO connecting pipe (horizontal section)

When using TEC-LAS-DECO as a connecting pipe, a minimum distance of 100 mm must be kept from combustible materials with flue gas temperatures of up to 600°C.

The distance from combustible materials relates to a rear-ventilated installation over the entire length!

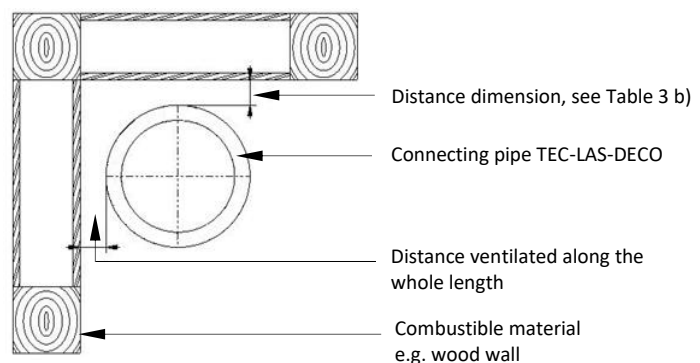


Figure 11

Model	Temperature level	Pressure level	Condensate resistance	Corrosion resistance and flue liner material specification	Soot fire resistance and distance to combustible materials	Nominal diameter (Ø inner tubes)	Application
Model 1 TEC-LAS-DECO Connection pipe	T600	N1	W	V2-L50040	O100M (=100 mm)	Ø 100–150	Gas fireplaces for wet and dry operation mode

Table 3 b): Distances from combustibles materials (horizontal section)

4.2.3 Execution of the chimney by combustible components

The firing regulations (FeuVo) of the individual German states and the standard DIN V 18160-1 govern the construction of chimneys using combustible components for temperatures of up to 400°C (T400). According to this ordinance and the standard DIN V 18160-1, constructing chimneys for temperatures up to 600°C in Germany is not permitted.

Since flue gas temperatures are mostly >400°C for decorative gas fireplaces, our wall, ceiling, and roof duct TEC-LAS-DECO have been specially tested for this application.

This is confirmed through the building approval Z-7.4-3527 (applicable to Germany).

The wall, ceiling and roof duct TEC-LAS-DECO is available to you for use with the TEC-LAS-DECO system in lengths of 1000 mm and 500 mm in the set for the diameters Ø 150 and Ø 200.

The components of the sets are:

TEC-LAS-DECO (Ø150 or Ø200) set	
Wall, ceiling and roof duct TEC-LAS-DECO for Ø150 or Ø200, length 500 mm or 1000 mm	
Fire-resistant panels, 2x per set	
Fire-proof adhesive, 1 kg per set	
Insulation lagging, thickness 37 mm; length 500 mm or 1000 mm	
Mineral darning wool, 300 g per bag	

Table 4



Wall, ceiling and roof duct TEC-LAS-DECO application

Ceiling duct for ceiling made from combustible materials

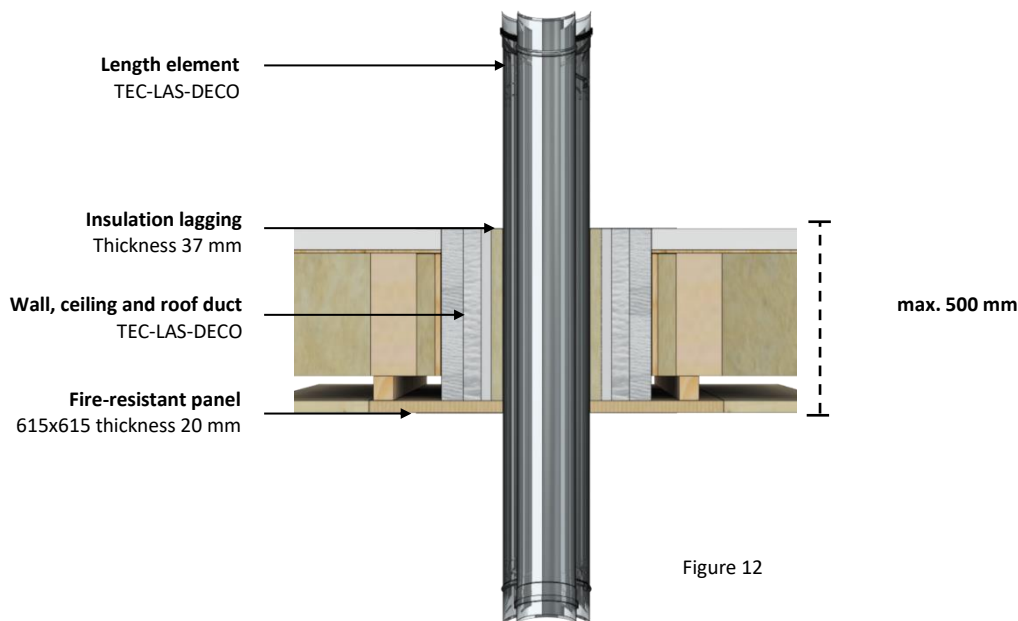
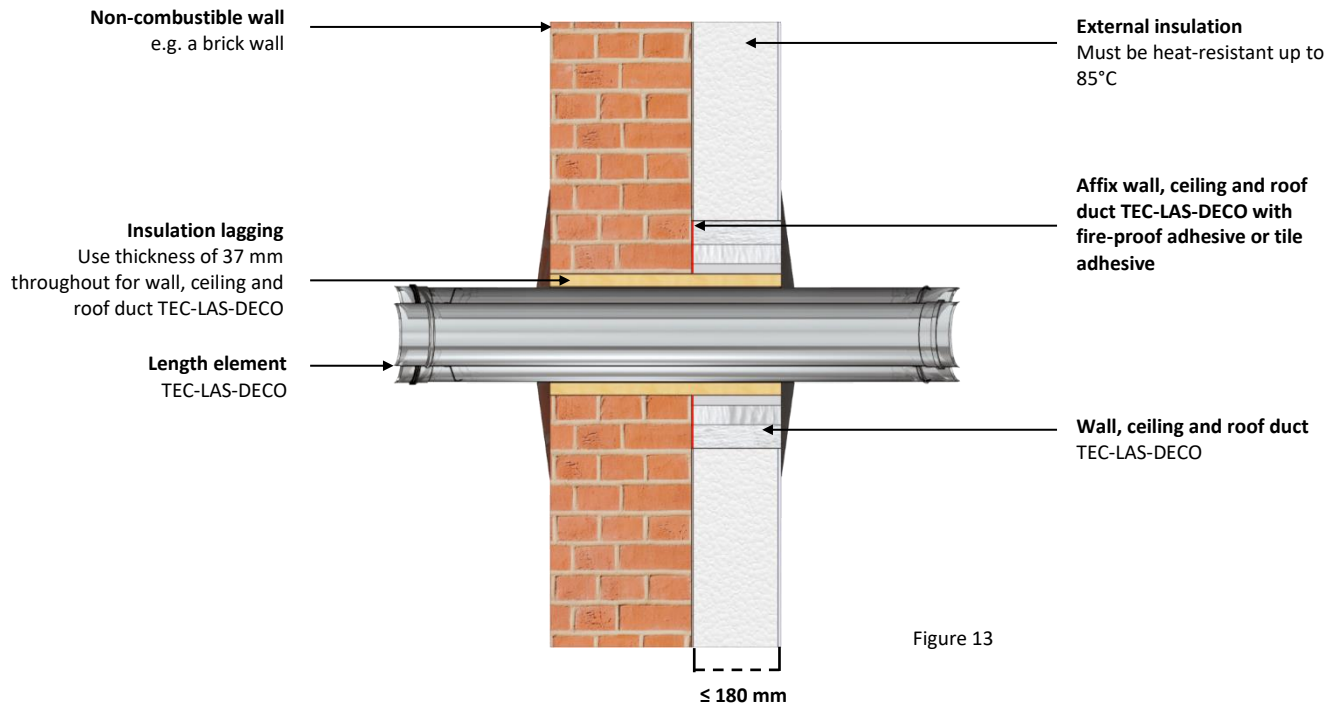


Figure 12



Make sure there is no butt joint arranged near the wall duct, because the clamp fitting of the outer cladding cannot be attached.

Wall duct for non-combustible wall with external insulation



If wall, ceiling and roof duct TEC-LAS-DECO is only used in the combustible external insulation and not installed across the entire wall width, then the thickness of the insulation must not be more than 180 mm!

Wall duct through entire combustible wall

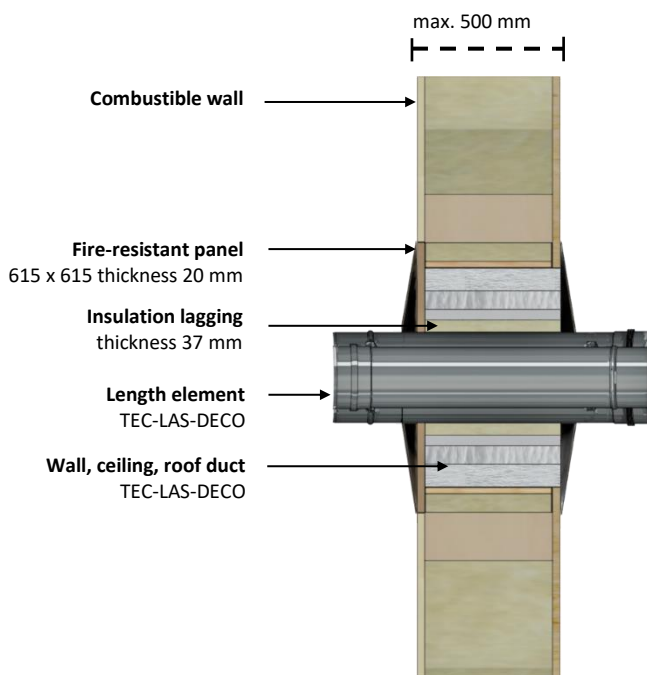


Figure 14

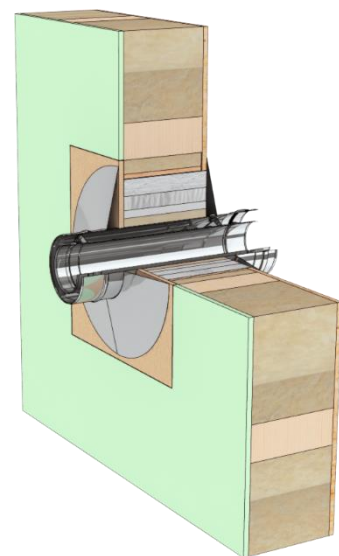


Figure 15

Roof duct for inclined run with combustible rafters

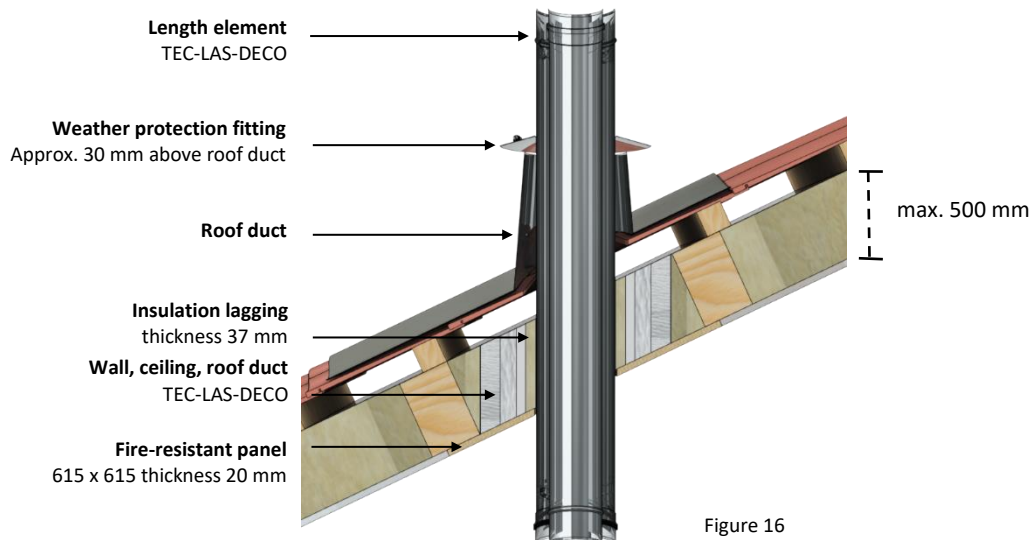


Figure 16

4.3) Installation of the flue system

4.3.1) Construction of pipes (concentric)

All components have to be mounted in a way, that the nozzle of the inner pipe is above or rather in flow direction of the exhaust gas, while the nozzle of the outer pipe has to show converse to the flow direction of the exhaust gas. Every surge is protected by a locking band. For the moulded parts and length elements of the system, the gaskets are already pre-installed in the box groove of the external pipe.

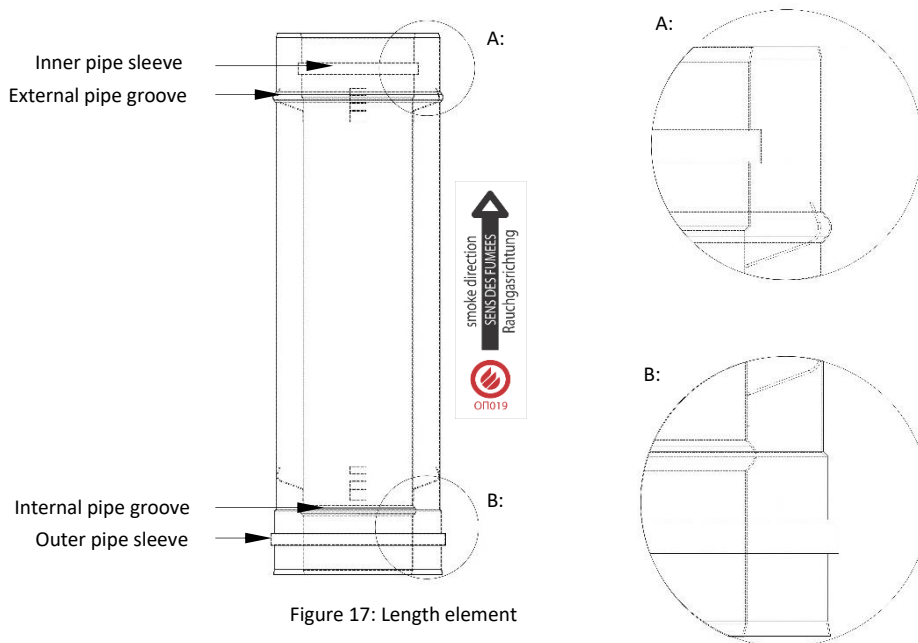


Figure 17: Length element

4.3.2) Joining the components (concentric)

In order to enable easy joining of the components, put a small amount of the supplied lubricant on your finger, and use it to apply an extremely thin coat of lube to **the groove** of the external pipe. This will help the groove slide into the sleeve and over the gasket inside it during joining.



Figure 18: Lubricant on the finger



Figure 19: Greasing the groove

ATTENTION!



Never grease the sleeve with the gasket, because the gasket could slide off the box groove during joining, and the external pipe would thus no longer be sealed.

4.3.3) Roof duct

Ducts are available for all slopes (with grading of 10°, with sealing zones made of stainless steel or lead). These guarantee the temperature-independent linear expansion of the chimney.

The storm collar (included in scope of delivery) has to be screwed to the chimney element and to be sealed (see Fig. 20). To achieve a suffice ventilation in the roof area the strom collar has to be fixed about 3 cm above of the stainless steel roof duct.

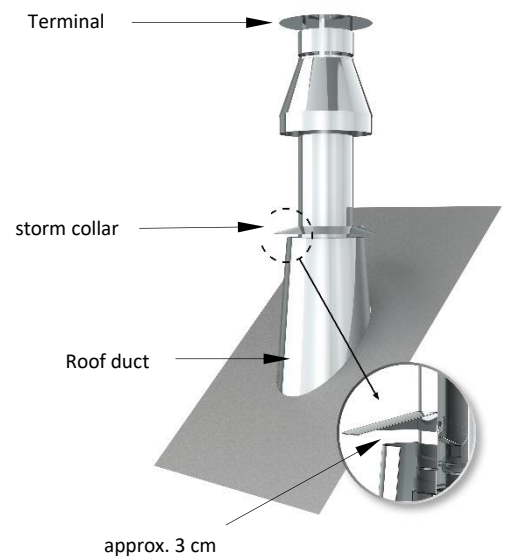


Figure 20: Roof duct

4.3.4) Cleaning opening

The position of the cleaning and inspection openings must be arranged in accordance with national regulations, in Germany this must be planned in line with DIN V 18160 Part 1 or other applicable regulations, and this should be discussed with the competent authorised district chimney sweep during the planning phase.

4.3.5) Measurement opening

(In Germany) the position of the measurement openings must be planned according to DIN V 18160 Part 1; 1. German Federal Immission Control Act (BImSchG) Annex 1 or other applicable regulations and should be discussed with the competent authorised district chimney sweep during the planning phase. The specifications of the fireplace manufacturer must also be observed.



Figure 21: Measurement opening

4.3.6) Supports

The wall spacers are used for fixing the flue gas system to the wall or to steel support structures. The rigid wall spacer has a wall clearance of 50 mm. Adjustable wall spacers are used for larger wall clearances.

As a rule, a wall spacer should be attached directly above every T-connection.

For all wall fixings the maximum distances between the individual fixings and the anchoring forces must be taken into account (see page 12). The brackets should always be attached near to a component joint.

4.3.7) Intermediate support

If the maximum mounting heights are exceeded intermediate supports should be considered, which are stable enough to absorb the static load. This is ensured through the stainless steel wall brackets and the base plate for intermediate support.

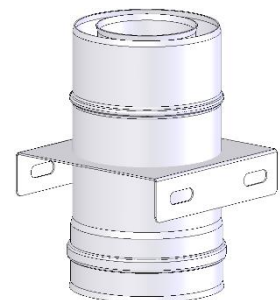


Figure 22: Base plate for intermediate support

4.3.8) Mounting above the roof

During planning of the exhaust gas system the minimum height above the roof has to be considered. The TEC-LAS-DECO system can be executed freestanding up to 3 m from the last attachment.

If the height above the last wall support exceeds 3 m, then a cantilever is required which must be designed accordingly.



Figure 23: Mounting with cantilever

4.3.9) Chimney top

Flue gas is channelled into the open wind current through the flue end (terminal), and fresh air for combustion is directed approx. 25 cm underneath (see Fig. 24a).

If several chimneys are operated next to each other, then all chimney tops must be at one height and the minimum distance between the individual chimney tops must be clarified beforehand with the device manufacturer in cases of doubt.

You should maintain a distance of at least 40 cm as a rough guideline. If this minimum distance cannot be established due to structural reasons, then a partition plate can be installed beneath the chimney top to separate supply and discharge air and to prevent excessive recirculation of the flue gas (see Fig. 24b).



Figure 24a: Chimney top (terminal)

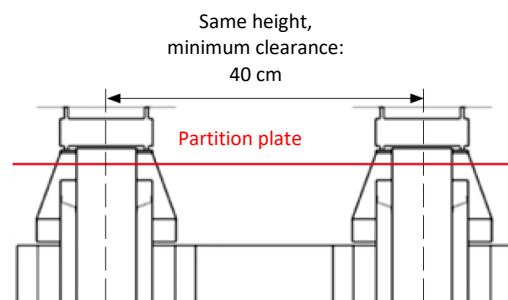


Figure 24b: Minimum height and distance

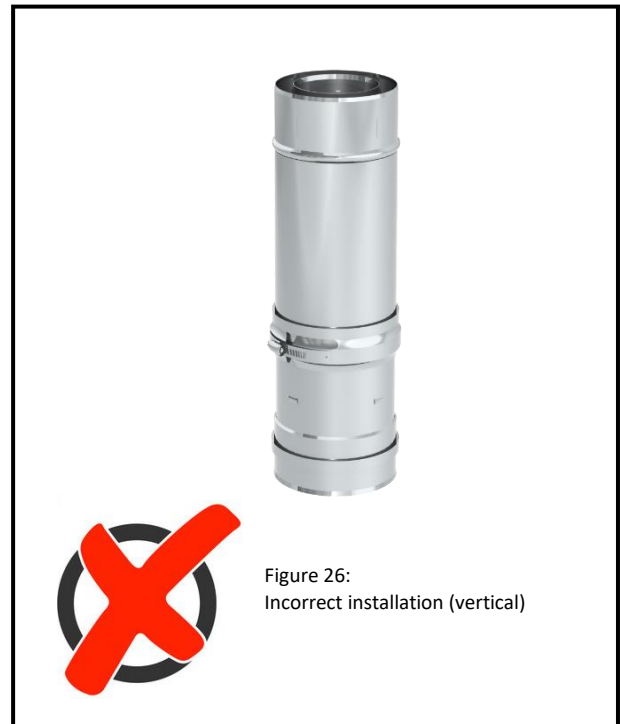
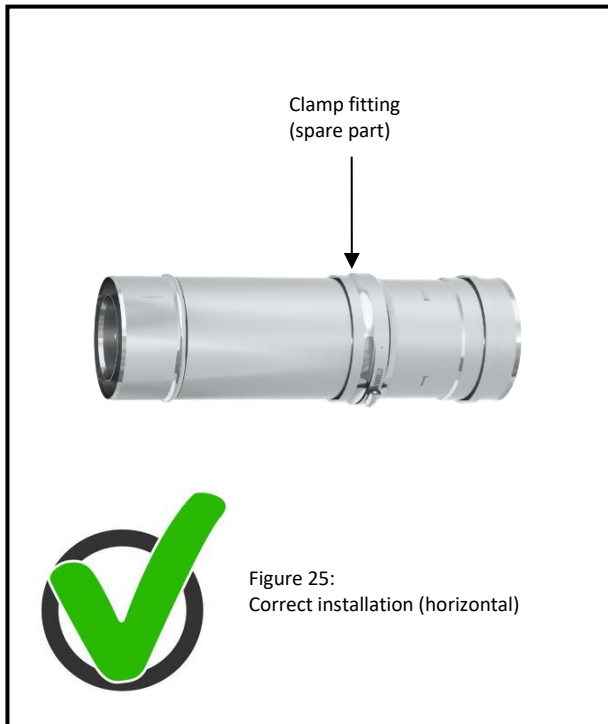


In Germany, the height of the chimney top of flues above roofs, as well as the distance from vents, windows and doors, is regulated in §9 of the Firing Installation Ordinance (FeuVo) of the individual German states.

The chimney top of a flue should always be in the open wind current so that no dangers or unacceptable disturbances can arise.

4.3.10) Sliding element (horizontal installation)

If a sliding element is installed, then it is only intended for horizontal installation and must not be installed in a vertical section of the flue. To ensure the sliding element is also sealed following installation onto the external pipe, the universal gasket kit for joint connections already included in the scope of supply, consisting of a gasket and a clamp fitting on the outside, must be attached over the joint connection of the two external pipes of the sliding element.



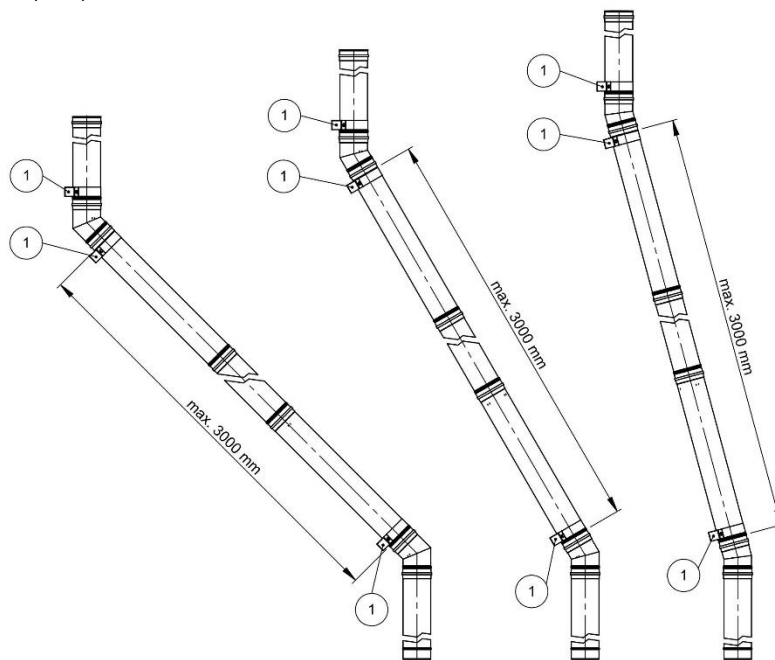
4.3.11) Inclined run

If the exhaust gas system is to be moved, the maximum dimensions in the following drawin should be observed. Please also note that during and after an offset intermediate supports with wall brackets have to be used (see Fig. 27).

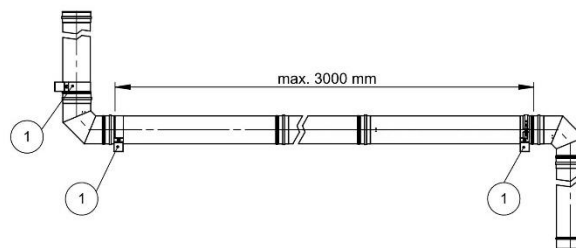


An inclined run to the vertical of 90° is possible, but it must be ensured that the chimney is only for dry operation mode.

Inclined run $45^\circ / 30^\circ / 15^\circ$



Inclined run $87^\circ / 90^\circ$



① Attachment with wall spacer Typ A (rigid, 50 mm)

Figure 27

Please consider that the clean-out openings have to be according to the national regulations (in Germany according to DIN V 18160-1).

4.4) Condensate drain

4.4.1) General notes

The discharge of condensation and rainwater to the sewage is to be provided by the customer (connect sewage connection point to the exhaust system)!

The condensate drain should be cleaned regularly and the deposits must be cleared in order to ensure the discharge of rainwater and condensate.

Note:

It is advisable to take measures which prevent the freezing of outdoor condensate drain, in particular if regular condensation is expected.

4.4.2) Neutralization of condensate

Please observe the national as well as the local regulations.

If condensation neutralization is necessary then our neutralization units are available.

4.4.3) Condensate return to the heat generator

In case of a humid operation in the connection line, at least 3° slope to the heat generator is to be laid. The accumulating condensate is to be drained before the fireplace. Suitable measures are to be taken in this regard, which ensure the complete drainage of the condensate; e.g. using a condensate trap.

4.4.4) Condensate guide at the bottom

Condensate and rainwater from the vertical part of the exhaust system flows into the base plate with condensate drain via the inner wall and from there into the condensate discharge or in the neutralization unit, which can be drained via the house drain.

Note:

If the exhaust system is intended for wet operation then the closing cap must be removed from the condensate drain in order to ensure complete drainage of accumulated condensate and rainwater. This also means the bottom can be prevented from freezing in the winter.

Taking measures to prevent condensate drains out in the open from freezing is recommended; especially if regular condensate accrual is anticipated.

4.5) General notes

The exhaust gas system TEC-LAS-DECO was developed and tested for gas leaks, corrosion resistance and secure installation. Therefore, only original parts of the system TECNOVIS TEC-LAS-DECO must be used. In addition the manufacturer's specifications and installation instructions have to be met. **Technical changes are reserved!**

4.6) Labelling after installation

The installed exhaust gas system has to be fitted depending on the application with the following nameplate:

This label must not be covered nor removed!

Manufacturer: TECNOVIS GmbH		Flue gas system:	TEC-LAS-DECO
DoP-No:	TEC-LAS-DECO 91323 034 DoP 2016-10-19		(multi-wall chimney system, with ventilated annular gap)
	TEC-LAS-DECO-FLEX 91323 040 DoP 2016-02-19		TEC-LAS-DECO-FLEX
			(rigid and flexible flue liner) (installation in stack)

Product designation:

TEC-LAS-DECO	01. EN 1856-1	T600 - N1 - W - V2 - L50040 - O50	<input type="checkbox"/>	(please tick the applicable classification, see the fireplace label)
TEC-LAS-DECO-FLEX	01. EN 1856-1 (single-ply)	T600 - N1 - W - V2 - L50008 - O	<input type="checkbox"/>	
TEC-LAS-DECO-FLEX	02. EN 1856-1 (double-ply)	T600 - N1 - W - V2 - L50008 - O	<input type="checkbox"/>	
TEC-EW-CLASSIC-DECO	03. EN 1856-1	T600 - N1 - W - V2 - L50050 - O¹	<input type="checkbox"/>	


Flue gas system designation acc. national regulation:

(EN 1443 / EN 15287-1 / ...)

Nominal diameter: **please indicate Ø** mm

Thermal resistance: ☐ **0 m²K/W without insulation**

☐ **≥0,256 m²K/W with 25 mm insulation**

Distance to combustible materials: mm rear ventilated → 

Installation company: _____ Phone: _____

Installation date: _____


 **Please find the description & fill in instructions for the label on www.tecnovis.net**

Figure 28: Nameplate

5) Shaft installation with rigid inner pipes

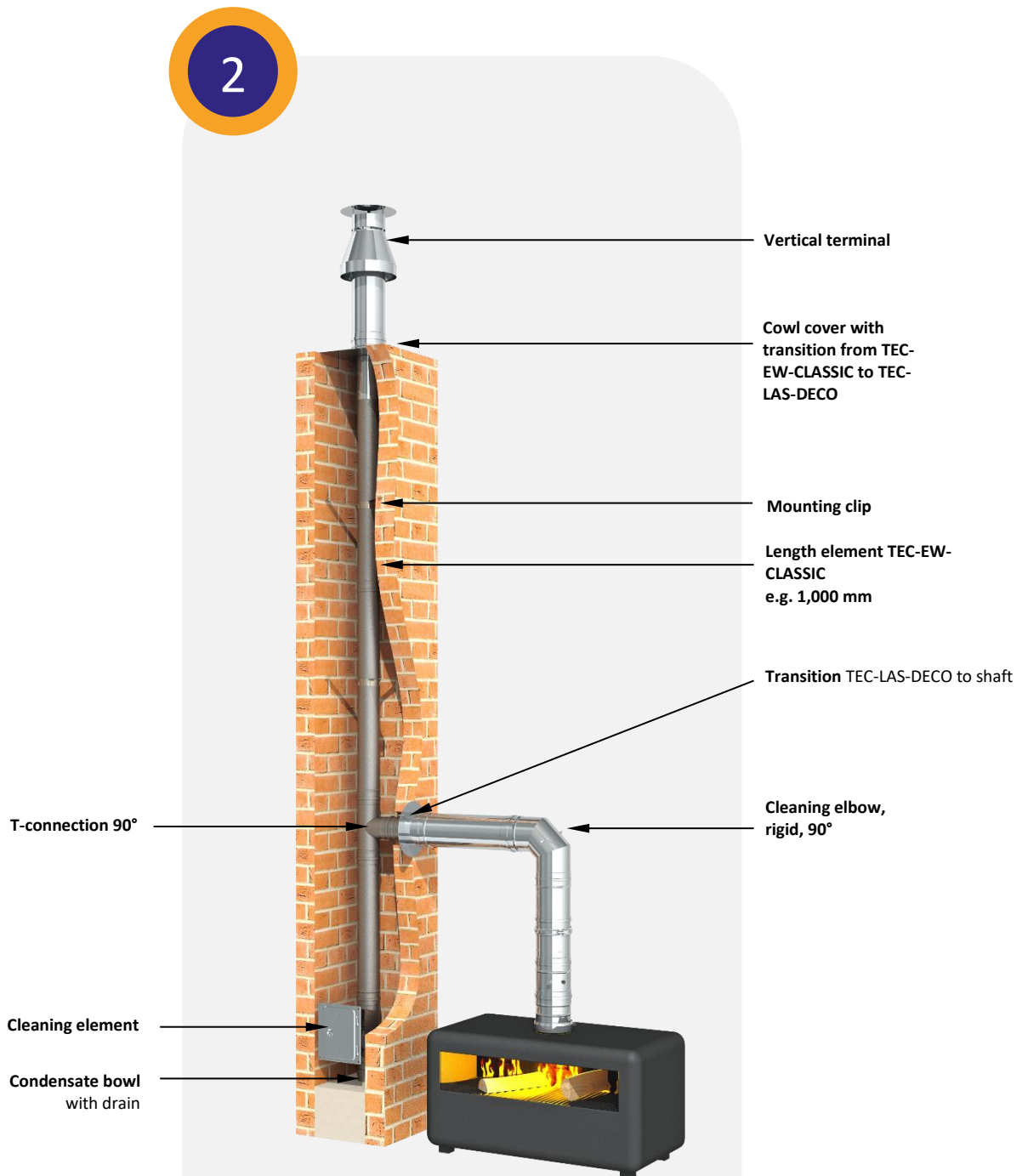


Figure 29

Installation in a walled shaft; e.g. a chimney

The TEC-LAS-DECO connecting pipe is routed concentrically from the flue outlet of the fireplace into the transition (TEC-LAS-DECO on shaft), which is attached to the outside of the shaft wall. From here, there is a single-walled installation up to the top of the chimney, whereby the sleeve is cut off at the last length element so that the length element can slide into the annular gap of the two lower ends of the cowl cover. The cowl cover (cowl cover with transition from TEC-EW-CLASSIC to TEC-LAS-DECO) is installed on the top of flue. The terminal (vertical terminal) is attached to the cowl cover and is used for discharging the flue gases and for supplying combustion air for the fireplace.

The annular gap in the shaft must not be smaller than the annular gap of the concentric TEC-LAS-DECO connection line.

DIN V 18160-1:2006-01 specifies that the vertical part of the chimney should have a bottom underneath the lowest fireplace connection. This means that the vertical part of the chimney must be constructed using a condensate bowl, a cleaning element and a T-connection (see Figures 29).

Before installing, you must consult with the competent authorised district chimney sweep regarding the system design.

5.1) Site requirements

The vertical section of the chimney must be installed inside a separate, possibly longitudinally ventilated shaft or channel.

The fire safety requirements for the shafts (L_A30 to L_A90) comply with the construction legislation (Firing Installation Ordinance) of the respective federal state or country. With the exception of the necessary cleaning and inspection openings with approved cleaning closures, the shaft must have no opening other than in the installation room of the fireplace. (The inspection openings must be agreed with the competent authorised district chimney sweep.)

Several flues (fluid and gaseous fuels) can be installed in a shaft if the national regulations and construction legislation allow this.

5.2) Mounting heights

Shaft installation

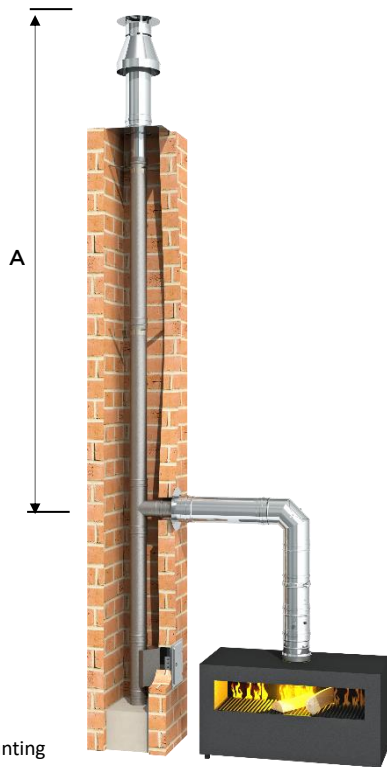


Figure 30: Mounting heights

Measure A, mounting heights above T-connection in m	
Nominal diameter of inner pipe in mm:	Wall thickness of inner pipe in mm
	0.5
100	15 *
130	15 *

* With expansion neck greater installation heights are possible in consultation with the manufacturer

Table 5: Mounting heights

5.3) Minimum distance to combustible materials

5.3.1) Non-combustible shaft (vertical section)

When used as exhaust gas line TEC-EW-CLASSIC in the shaft, a minimum distance of 50 mm must be kept from combustible materials with flue gas temperatures of up to 600°C.

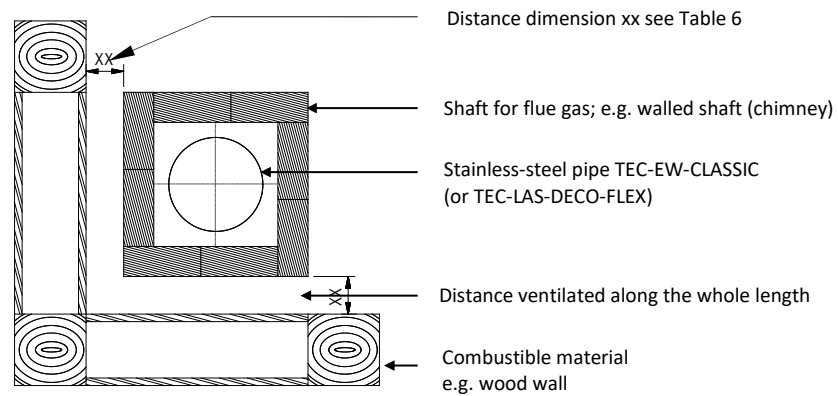


Figure 31

Model	Temperature level	Pressure level	Condensate resistance	Corrosion resistance and flue liner material specification	Sootfire resistance and distance to flammable building materials	Nominal diameter (Ø inner pipe)	Application
Model 1-2 TEC-LAS-DECO-FLEX	T600	N1	W	V2-L50040	O100 (=100 mm)	Ø80–200	Gas for wet and dry operation
Model 3 TEC-EW-CLASSIC-DECO	T600	N1	W	V2-L50040	O100 (=100 mm)	Ø80–200	Gas for wet and dry operation

Table 6: Distances

5.3.2) TEC-LAS-DECO connecting pipe (horizontal section)

see 4.2.2

5.3.3) Execution of the chimney by combustible components

see 4.2.3

5.4) Installation of the flue system

5.4.1) Construction of pipes (concentric)

See 4.3.1

5.4.2) Joining the components (concentric)

See 4.3.2

5.4.3) Transition of concentric connection line to TEC-EW-CLASSIC in shaft

The transition of the concentric connecting pipe to TEC-EW-CLASSIC in shaft (transition from TEC-LAS-DECO to shaft). Here one must ensure that in the shaft wall the cut-out is still as big as the annular gap of the concentric connecting pipe after the completion work.

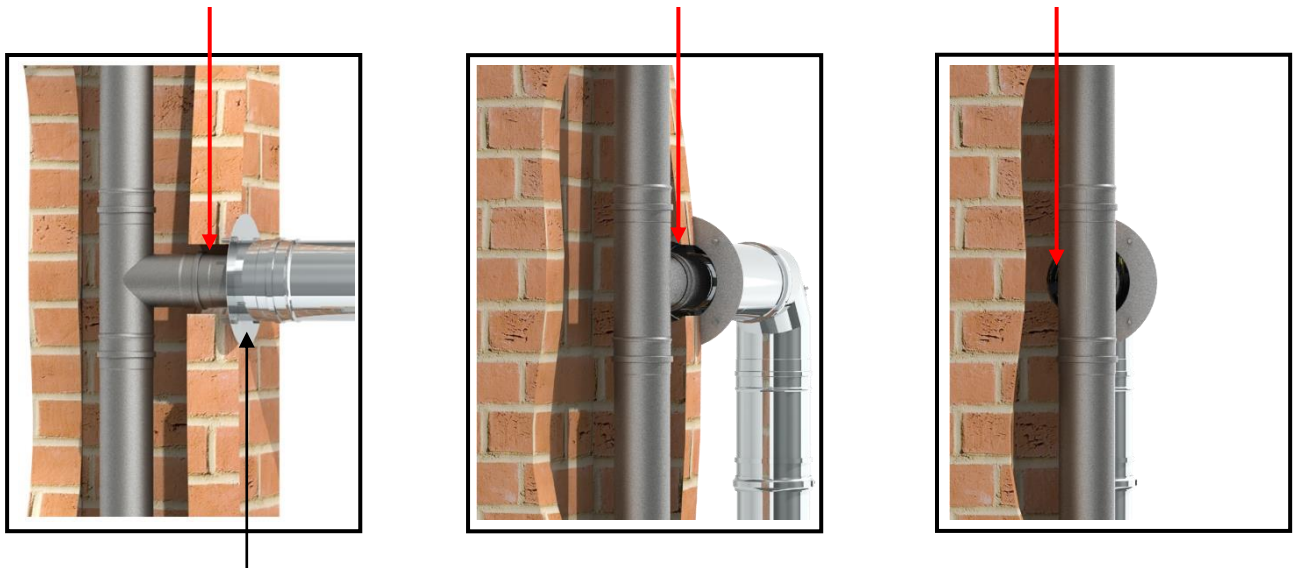
This means:

- TEC-LAS-DECO Ø100/150 has an annular gap of 2.5 cm.
The annular gap in the shaft wall to TEC-EW-CLASSIC must be at least 2.5 cm.
- TEC-LAS-DECO Ø130/200 has an annular gap of 3.5 cm.
The annular gap in the shaft wall to TEC-EW-CLASSIC must be at least 3.5 cm.



ATTENTION!

Do not weld the annular gap! Annular gap of the shaft wall must at least match the annular gap of the concentric connecting pipe!



TEC-LAS-DECO transition
to shaft

Figure 32:
Annular gap for transition of concentric connecting pipe to TEC-EW-CLASSIC in the shaft

5.4.4) Construction of pipes (single-wall internal pipes in shaft)

All single-wall components are to be installed in such a way that the sleeve points towards the flow direction of the flue gas.



Figure 33: Length element

PIPE COLUMN INSTALLATION (single-wall inner pipes in the shaft)

- Insert the cleaning element with condensate bowl in the bottom of the chimney (bottom opening) and align.
- Attach the 90° T-connection with installed mounting clip; levelling pieces may have to be attached between the cleaning element and T-connection.
- Fix a cord to the pipe with an outlet loop, and connect the pipes at the top of the chimney.
- The pipes can now be lowered.
Mounting clips for maintaining the distance to the shaft interior are necessary every 3 meters. The final length element is to be shortened so that linear expansion of approx. 3 mm is possible for every climbing meter of the flue.
- **Note:**
If additional cleaning openings are to be installed, no cleaning element with box can be installed, because this would reduce the annular gap for the combustion air supply and cause problems in terms of linear expansion due to the direct connection to the shaft.



Figure 34: Length element with outlet loop



Figure 35: Mounting clip

5.4.5) Cleaning opening

see 4.3.4

5.4.6) Measurement opening

see 4.3.5

5.4.7) Chimney top

see 4.3.9

5.4.8) Sliding element (horizontal installation)

see 4.3.10

5.4.9) Inclined construction

see 4.3.11

5.4.10) Cowl cover installation

Cut off the sleeve of the final length element so that the length element can slide into the annular gap of the bottom end of the cowl cover. The cut-off length element must be pushed 5 cm into the annular gap of the cowl cover during assembly. This will provide the space for linear expansion of approx. 15 cm. Attach the cowl cover (cowl cover with transition from TEC-EW-CLASSIC to TEC-LAS-DECO) to the chimney top and centre. Using a sealing compound (e.g. waterproof silicone) between the cowl cover and the shaft head is recommended here. Fixing the cowl cover must be performed by the customer. The terminal (vertical terminal) is attached to the cowl cover and secured using a clamp fitting.

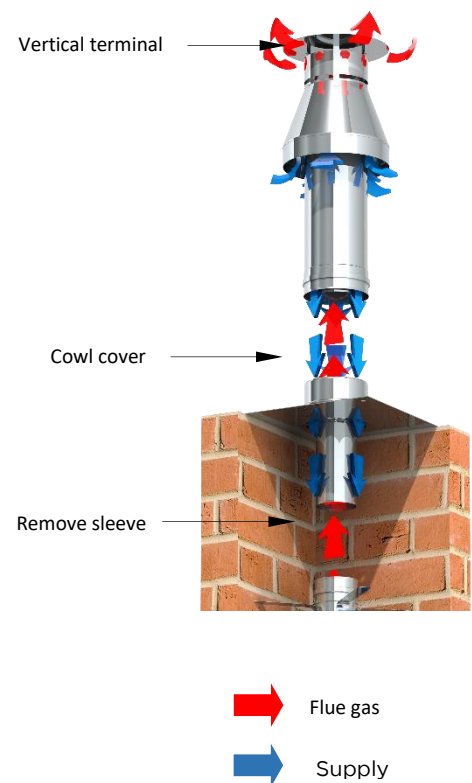


Figure 36: Vertical terminal

5.5) Condensate drain

See 4.4

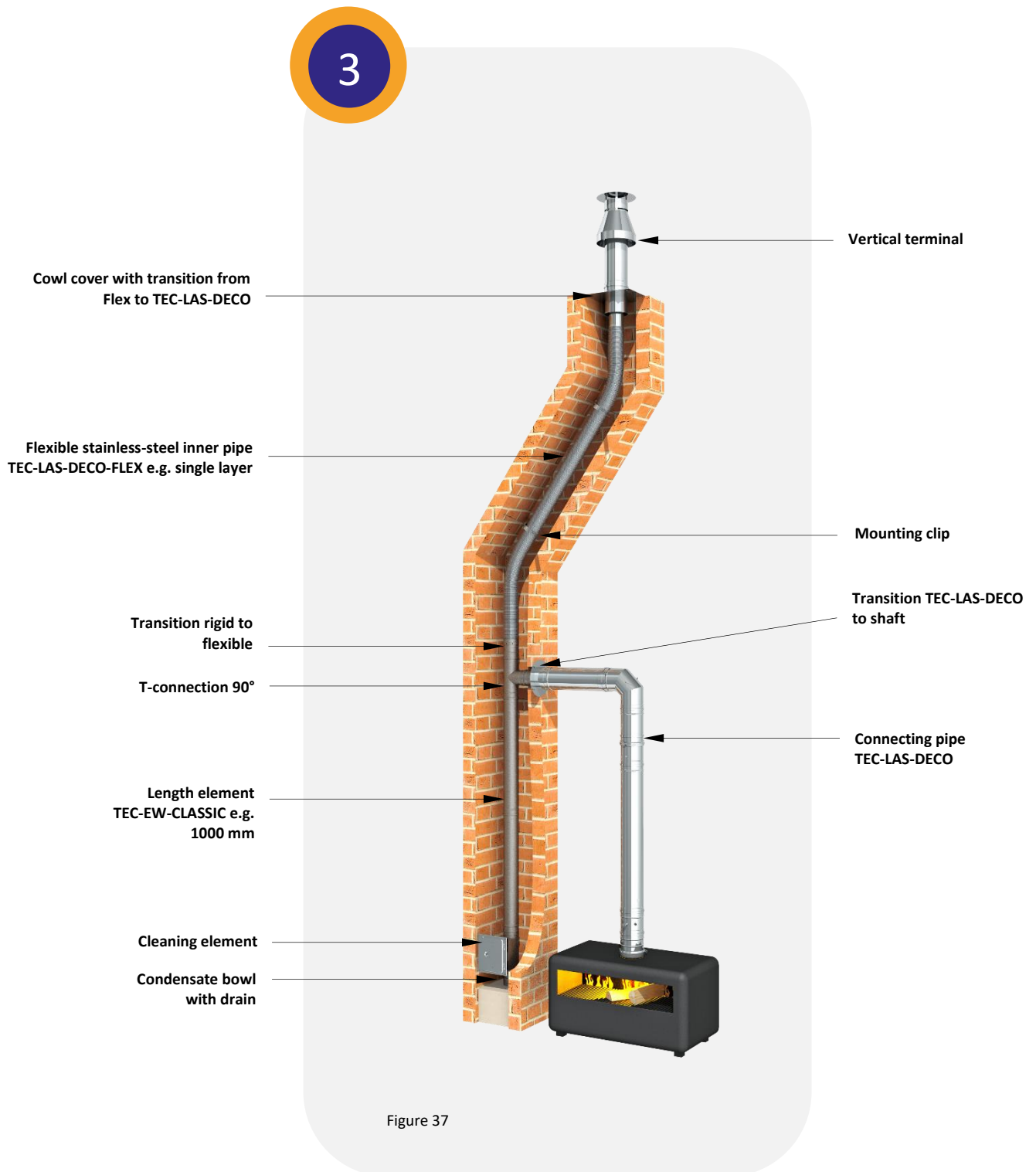
5.6) General notes

See 4.5

5.7) Labelling after installation

See 4.6

6) Shaft installation with a flexible inner pipes



The TEC-LAS-DECO connecting pipe is routed concentrically from the flue outlet of the fireplace into the transition (TEC-LAS-DECO on shaft), which is attached to the outside of the non-combustible shaft. From here there is the single-layer installation up to the transition to the flexible inner pipe. The flexible inner pipe is routed up to the cowl cover (cowl cover with transition from Flex to TEC-LAS-DECO) and attached to this. Another change of the inner pipe from flexible to rigid is also possible. In this case, the cowl cover (cowl cover with transition from TEC-EW-CLASSIC to TEC-LAS-DECO) is installed at top of the chimney. The terminal (vertical terminal) is attached to the cowl cover and is used for discharging the flue gases and for supplying combustion air for the fireplace.

The annular gap in the shaft must not be smaller than the annular gap of the concentric TEC-LAS-DECO connection line.

DIN V 18160-1:2006-01 specifies that the vertical part of the chimney should have a bottom underneath the lowest fireplace connection.

This means that the vertical part of the chimney must be constructed using a condensate bowl, a cleaning element and a T-connection (see Fig. 37).

Before installing, you must consult with the competent authorised district chimney sweep regarding the system design.

6.1) Site requirements

see 5.1

6.2) Mounting heights

see 5.2

6.3) Minimum distance to combustible materials

6.3.1) Non-combustible shaft (vertical section)

see 5.3.1

6.3.2) TEC-LAS-DECO connecting pipe (horizontal section)

see 4.2.2

6.3.3) Execution of the chimney by combustible components

see 4.2.3

6.4) Installation of the flue system

6.4.1) Construction of pipes (concentric)

see 4.3.1

6.4.2) Joining the components (concentric)

see 4.3.2

6.4.3) Transition of concentric connecting pipe to TEC-EW-CLASSIC in the shaft

see 5.4.3

6.4.4) Construction of pipes (single-wall inner pipes in the shaft)

see 5.4.4

6.4.5) Construction of pipes (flexible inner pipes in the shaft)

The transition (screwable transition rigid to flexible) is screwed onto / attached to the flexible internal pipe by turning the transition.

The installation direction of the flexible pipes is directly on the pipes; pressed on with gaps of approx. 3 m. The flexible pipe is installed from the shaft top. The required length of the flexible pipe is determined and cut for this beforehand. The spacers are arranged on the flexible pipe before moving in to the shaft.

In addition to the top and bottom fixing, spacers are to be arranged with gaps of ≤ 1.5 m. For an inclined construction, spacers must also be arranged before and after every kink. The distance from the spacer to the kink should be approx. 10 cm. The end of the flexible internal pipe without transition is fixed by connecting over the bottom end on the cowl cover (transition from Flex to TEC-LAS-DECO).

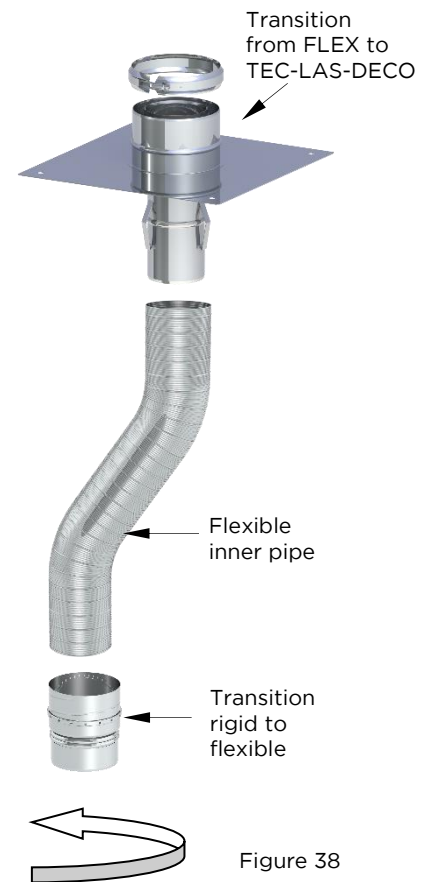


Figure 38

6.4.6) Cleaning opening

see 4.3.4

6.4.7) Measurement opening

see 4.3.5

6.4.8) Chimney top

see 4.3.9

6.4.9) Sliding element (horizontal installation)

see 4.3.10

6.4.10) Inclined run

see 4.3.11

6.4.11) Cowl cover installation

see 5.4.10

6.5) Condensate drain

see 4.4

6.6) General notes

see 4.5

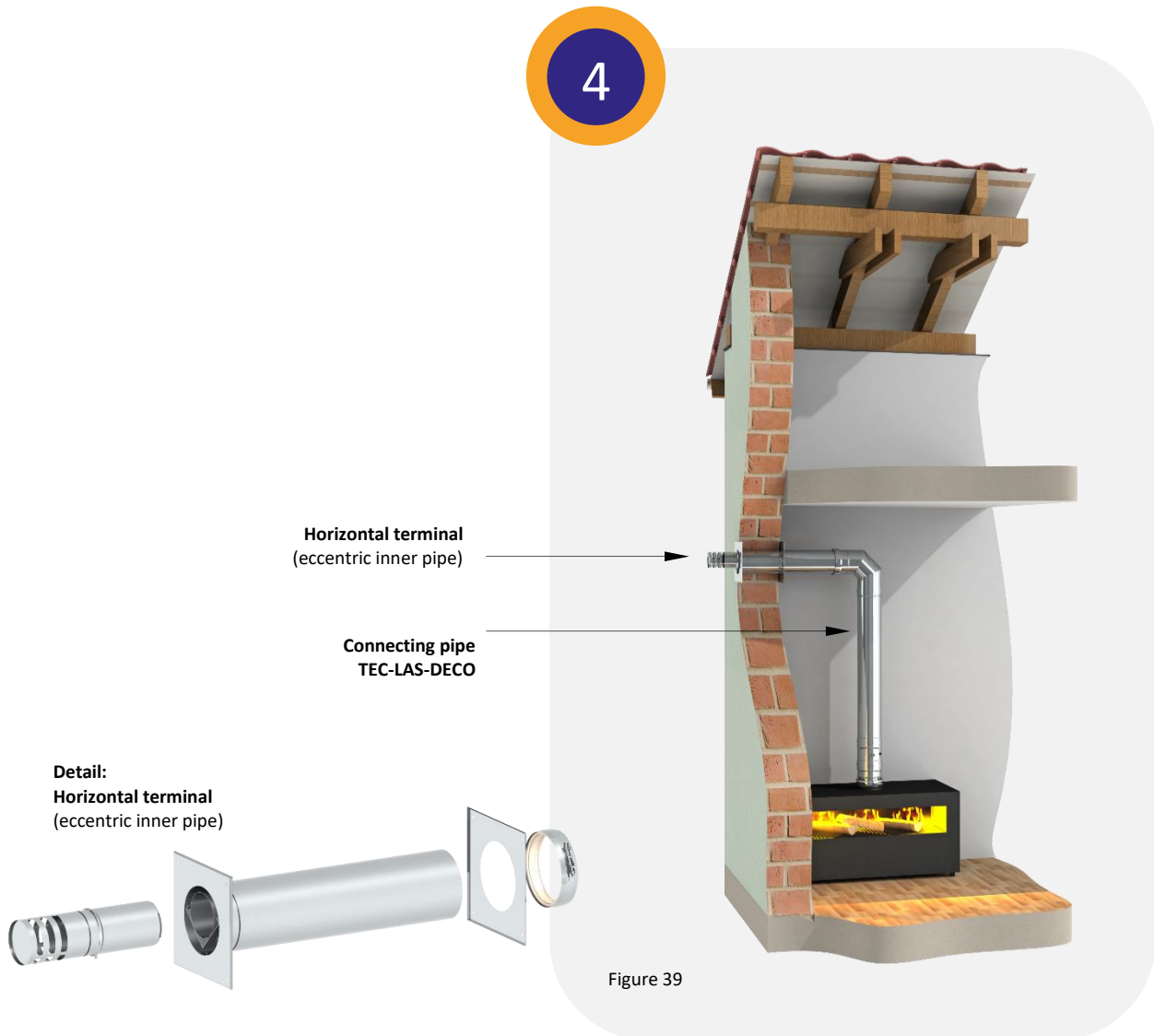
6.7) Labelling after installation

see 4.6

7) Horizontal flue C₁₁* (common design in the Netherlands)



* In Germany and in other countries, this variant is only possible after prior consultation with the competent authorised district chimney sweep.



The flue gas/intake air is channelled through the concentric TEC-LAS-DECO flue system and the horizontally installed wall terminal. This has an eccentric internal pipe which allows the flue gases to flow out at the top. The intake air is mainly sucked in from below, whereby recirculation of flue gases back into the system is minimised.

According to the Technical Guidelines for Gas Installations [*Technische Richtlinien für Gasinstallationen*, or TRGI for short], the following applies in Germany: Outer wall gas devices C₁₁ should not be the rule, but rather a sensible alternative when the discharge of flue gases above the roof is not possible, or only possible with a great deal of difficulty. This is underlined by §9, Para. 1 of the Template Firing Installation Ordinance [*Muster Feuerungsverordnung*, or MFeuV for short] which correspondingly states that the orifices of chimneys must terminate above the roof surface or ridge.

7.1) Mounting heights

see 4.1

7.2) Minimum distance to combustible materials

7.2.1) TEC-LAS-DECO connecting pipe (horizontal section)

see 4.2.2

7.2.2) Execution of the chimney by combustible components

see 4.2.3

7.3) Installation of the flue system

7.3.1) Construction of pipes (concentric)

see 4.3.1

7.3.2) Joining the components (concentric)

see 4.3.2

7.3.3) Cleaning opening

see 4.3.4

7.3.4) Measurement opening

see 4.3.5

7.3.5) Chimney top

see 4.3.9

7.3.6) Sliding element (horizontal installation)

see 4.3.10

7.3.7) Inclined run

see 4.3.11

7.4) Condensate drain

see 4.4

7.5) General notes

see 4.5

7.6) Labelling after installation

see 4.6

8) TEC-LAS-DECO flue system directly installed on a fireplace *



* In Germany and in other countries, this variant is only possible after prior consultation with the competent authorised district chimney sweep.

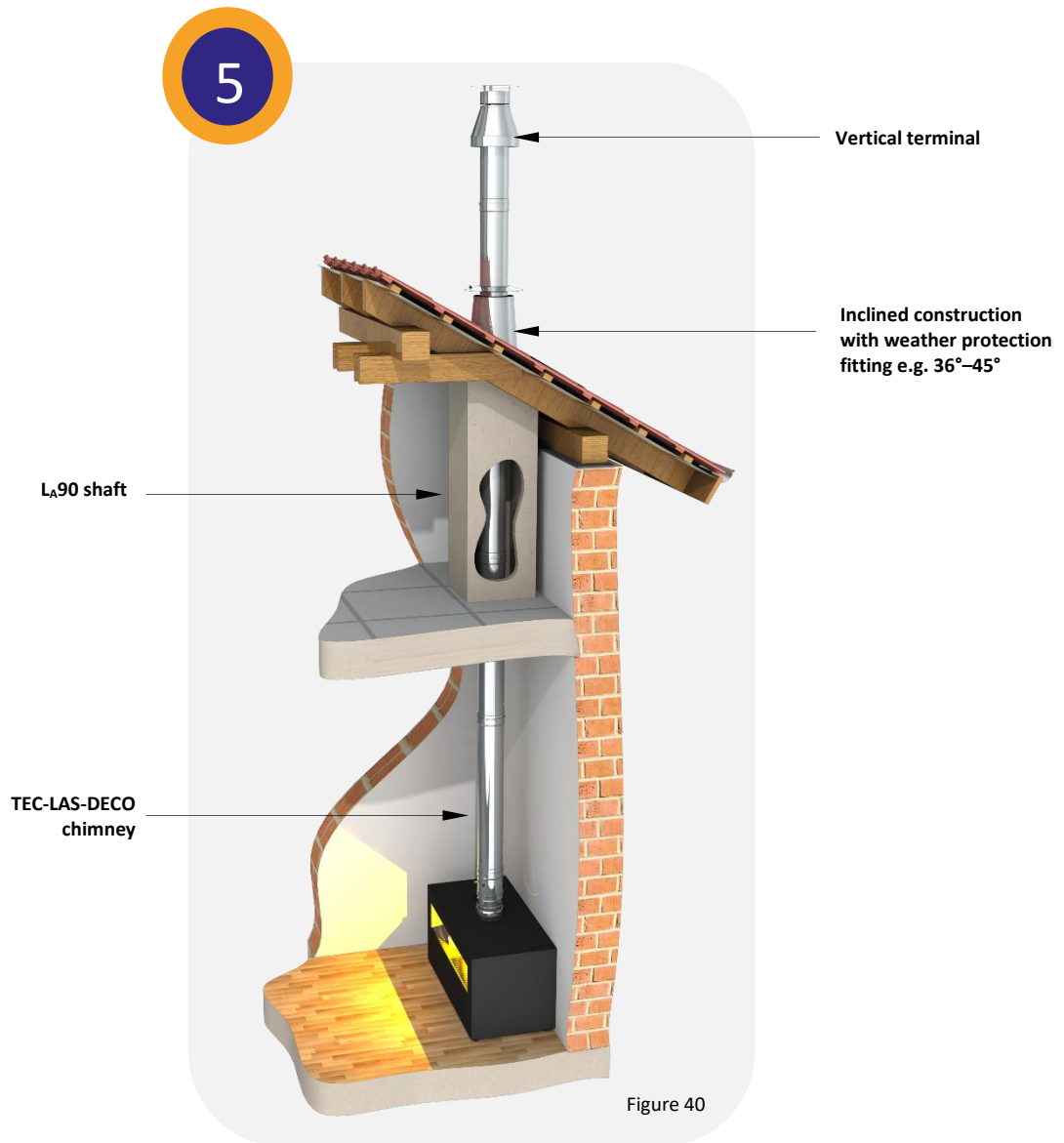


Figure 40

Installation with ceilings and roof duct. The TEC-LAS-DECO chimney is erected vertically, directly above the gas fireplace. An L_A90 lightweight construction shaft is used on the top floor for covering the chimney. Flue gas discharge and intake air suction take place through the roof terminal. Mounting clips for maintaining the distance to the shaft interior are necessary every 3 meters. The last length element is to be shortened so that linear expansion of approx. 3 mm is possible for every climbing meter of the flue.

Prior to installation, this construction must also be clarified with the fireplace manufacturer.

8.1) Mounting heights

see 4.1

8.2) Minimum distance to combustible materials

8.2.1) Non-combustible shaft

see 4.2.1

8.2.2) Execution of the chimney by combustible components

see 4.2.3

8.3) Installation of the flue system

8.3.1) Construction of pipes (concentric)

see 4.3.1

8.3.2) Joining the components (concentric)

see 4.3.2

8.3.3) Roof duct

see 4.3.3

8.3.4) Cleaning opening

see 4.3.4

8.3.5) Measurement opening

see 4.3.5

8.3.6) Mounting above roof

see 4.3.8

8.3.7) Chimney top

see 4.3.9

8.3.8) Sliding element (horizontal installation

see 4.3.10

8.3.9) Inclined run

see 4.3.11

8.4) Condensate drain

see 4.4

8.5) General notes

see 4.5

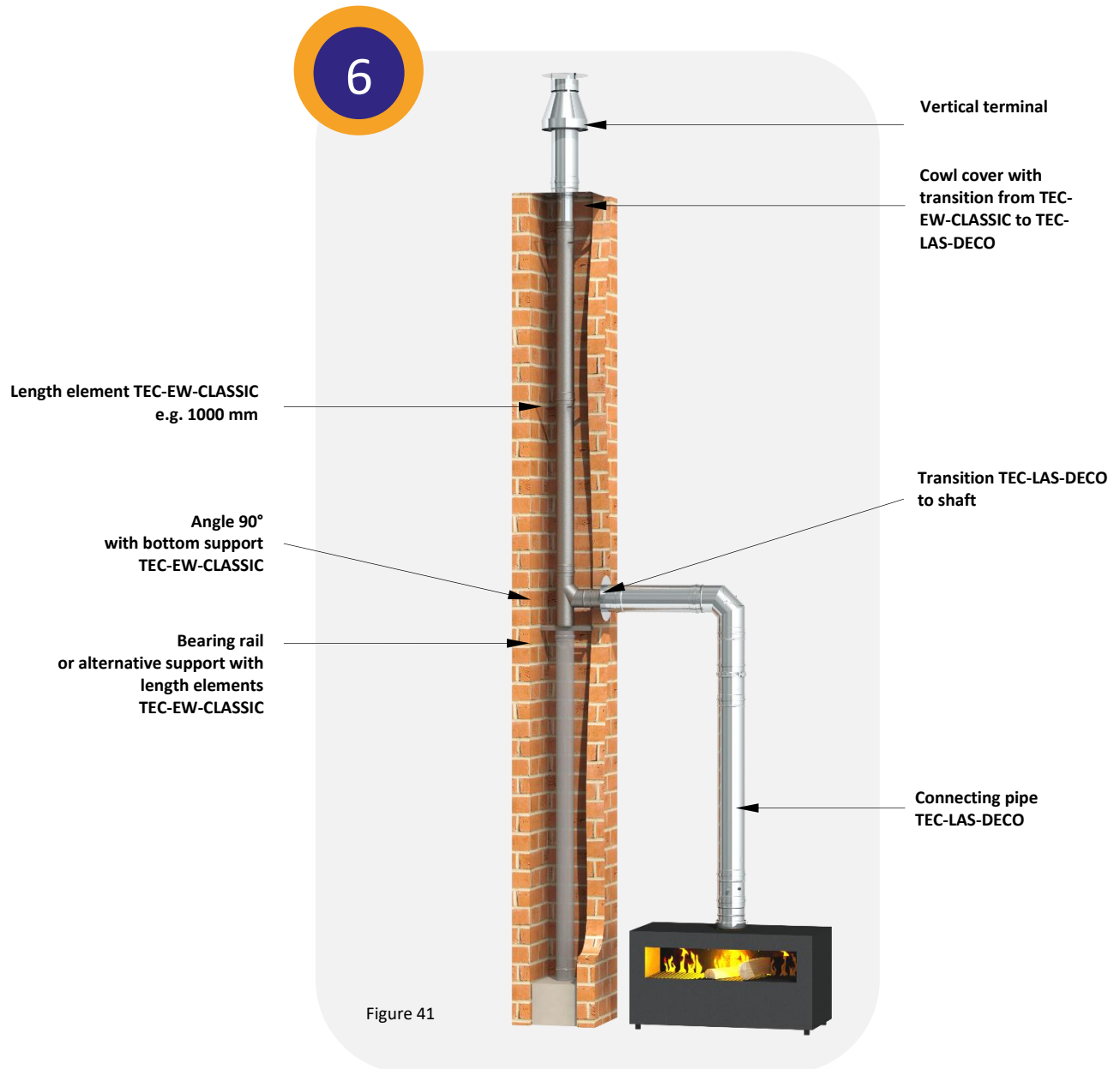
8.6) Labelling after installation

see 4.6

9) Shaft installation with rigid inner pipes without bottom *



* In Germany and in other countries, this variant is only possible after prior consultation with the competent authorised district chimney sweep.



The construction in the existing shaft with rigid inner pipes without bottom is essentially the same as the shaft installation with rigid inner pipes version, but a 90° elbow with bottom support is used in place of the bottom, which is fixed in the shaft using a bearing rail. Alternatively, the weight can also be supported using components of the TEC-EW-CLASSIC system on the bottom of the chimney.

9.1) Site requirements

see 4.1

9.2) Mounting heights

see 4.2

9.3) Minimum distance to combustible materials

9.3.1) Non-combustible shaft (vertical section)

see 4.2.1

9.3.2) TEC-LAS-DECO connecting pipe (horizontal section)

see 4.2.2

9.3.3) Execution of the chimney by combustible components

see 4.2.3

9.4) Installation of the flue system

9.4.1) Construction of pipes (concentric)

see 4.3.1

9.4.2) Joining the components (concentric)

see 4.3.2

9.4.3) Transition of concentric connecting pipe to TEC-EW-CLASSIC in the shaft

see 5.4.3

9.4.4) Component assembly (single-wall internal pipes in the shaft)

see 5.4.4

9.4.5) Cleaning opening

see 4.3.4

9.4.6) Measurement opening

see 4.3.5

9.4.7) Chimney top

see 4.3.9

9.4.8) Sliding element (horizontal installation)

see 4.3.10

9.4.9) Inclined run

see 4.3.11

9.4.10) Cowl cover installation

see 5.4.10

9.5) Condensate drain

see 4.4

9.6) General notes

see 4.5

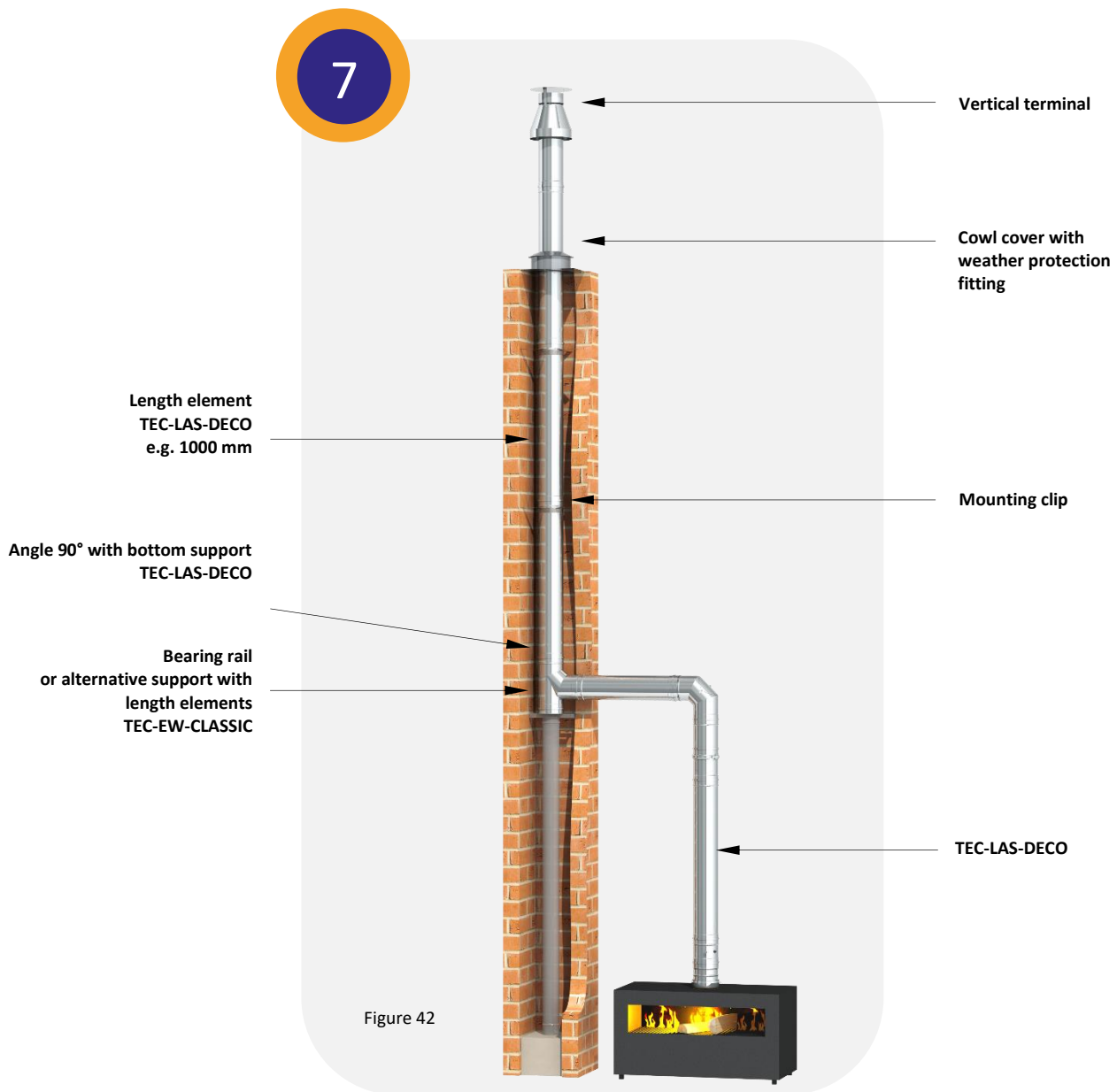
9.7) Labelling after installation

see 4.6

10) Shaft assembly with TEC-LAS-DECO without bottom *



* In Germany and in other countries, this variant is only possible after prior consultation with the competent authorised district chimney sweep.



The construction in the existing shaft with TEC-LAS-DECO without bottom is essentially the same as the shaft installation with rigid inner pipes without bottom version, but here the flue gases are channelled upwards in the shaft through the TEC-LAS-DECO system components. Here too, instead of a bearing rail, components of the TEC-EW-CLASSIC system for supporting the weight on the shaft bottom can be used as an alternative. Mounting clips for maintaining the distance to the shaft interior are necessary every 3 meters.

10.1) Site requirements

see 5.1

10.2) Mounting heights

see 4.1

10.3) Minimum distance to combustible materials

10.3.1) Non-combustible shaft (vertical section)

see 4.2.1

10.3.2) TEC-LAS-DECO connecting pipe (horizontal section)

see 4.2.2

10.3.3) Execution of the chimney by combustible components

see 4.2.3

10.4) Installation of the flue system

10.4.1) Construction of pipes (concentric)

see 4.3.1

10.4.2) Joining the components (concentric)

see 4.3.2

10.4.3) Cleaning opening

see 4.3.4

10.4.4) Measurement opening

see 4.3.5

10.4.5) Chimney top

see 4.3.9

10.4.6) Sliding element (horizontal installation)

see 4.3.10

10.4.7) Inclined run

see 4.3.11

10.4.8) Cowl cover installation

see 5.4.10

10.5) Condensate drain

see 4.4

10.6) General notes

see 4.5

10.7) Labelling after installation


see 4.6

11) Shortening a TEC-LAS-DECO length element



1. Pull apart pipe sections as illustrated.
(Pull out internal pipe on the groove side so that the pipes do not hook into each other)



2. Apply desired length to both pipe sections.
 Each of the coupled pipe ends is required!



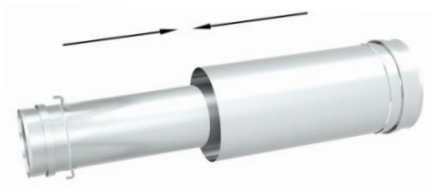
3. Cut pipe sections using an angle grinder or similar.



4. Deburr cut edges

Note:

Spacers can be easily removed when shortening because the inner pipe is re-centred automatically once it is plugged into the following element.



5. Push pipe sections together again.

Before



After

