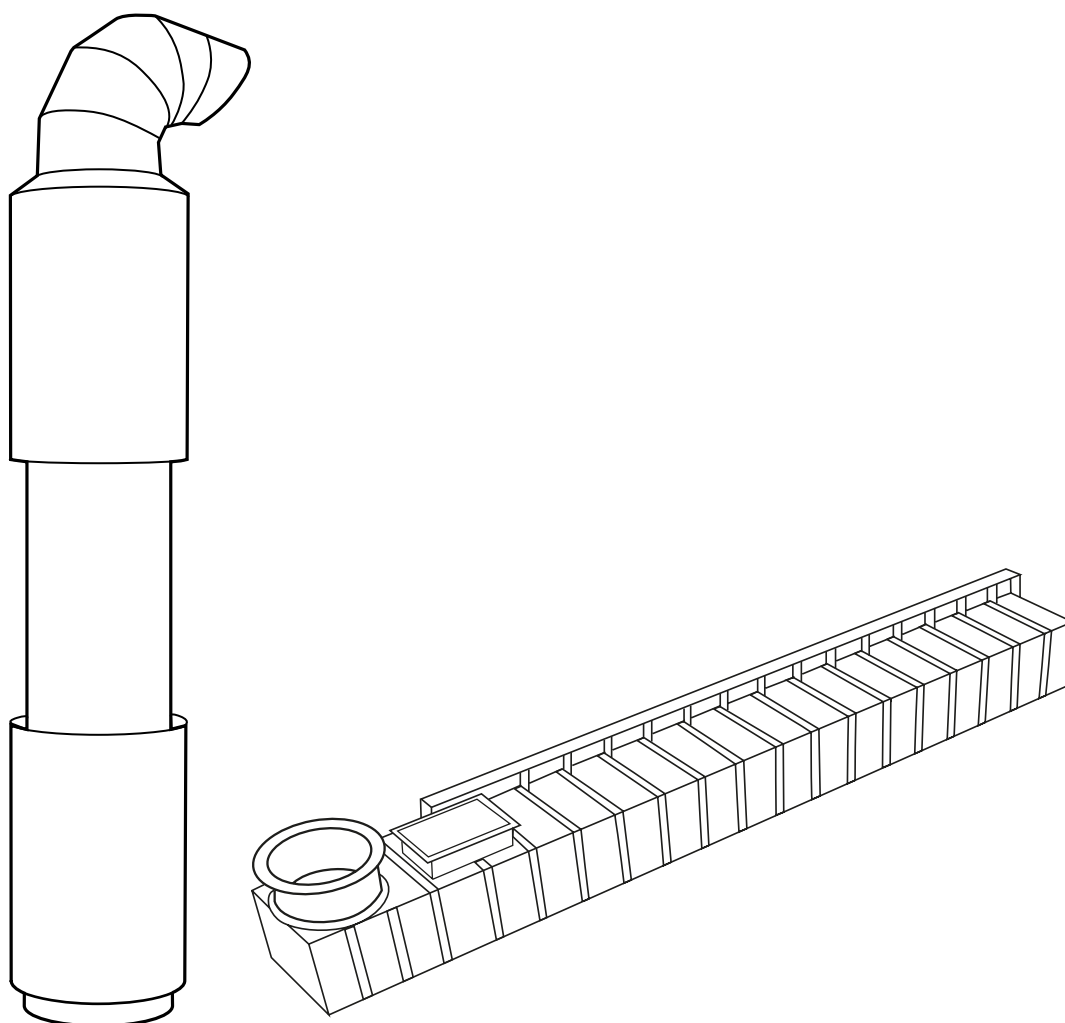


Original instructions
UF600



- SE** Introduktionssidorna består huvudsakligen av bilder. För översättning av de engelska texter som används, se respektive språksidor.
- GB** The introduction pages consist mainly of pictures. For translation of the English texts used, see the respective language pages.
- NO** Introduksjonssidene består hovedsakelig av bilder. For oversettelse av de engelske tekstene, se de respektive språksidene.
- FR** Les pages de présentation contiennent principalement des images. Pour la traduction des textes en anglais, consultez la page correspondante à la langue souhaitée.
- DE** Die Einleitungsseiten bestehen hauptsächlich aus Bildern. Für die Übersetzung der verwendeten Texte in englischer Sprache, siehe die entsprechenden Sprachseiten.
- ES** Las páginas introductorias contienen básicamente imágenes. Consulte la traducción de los textos en inglés que las acompañan en las páginas del idioma correspondiente.
- NL** De inleidende pagina's bevatten hoofdzakelijk afbeeldingen. Voor een vertaling van de gebruikte Engelse teksten, zie de pagina's van de resp. taal.
- IT** Le pagine introduttive contengono prevalentemente immagini. Per le traduzioni dei testi scritti in inglese, vedere le pagine nelle diverse lingue.
- PL** **Początkowe strony zawierają głównie rysunki. Tłumaczenie wykorzystanych tekstów angielskich znajduje się na odpowiednich stronach językowych.**
- RU** Страницы в начале Инструкции состоят в основном из рисунков, схем и таблиц. Перевод встречающегося там текста приведен в разделе RU.

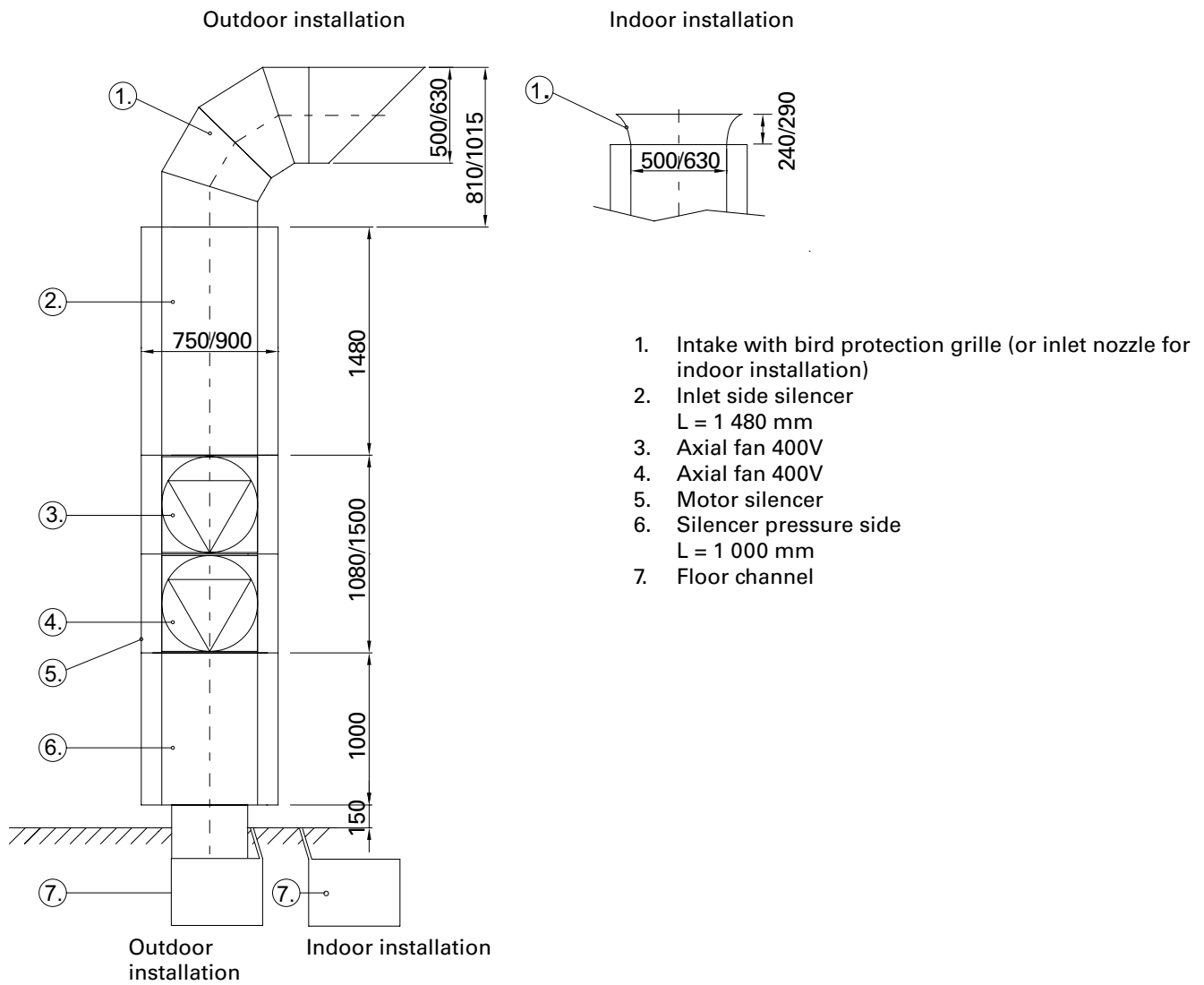


Fig. 1 Dimensions

Installation alternatives

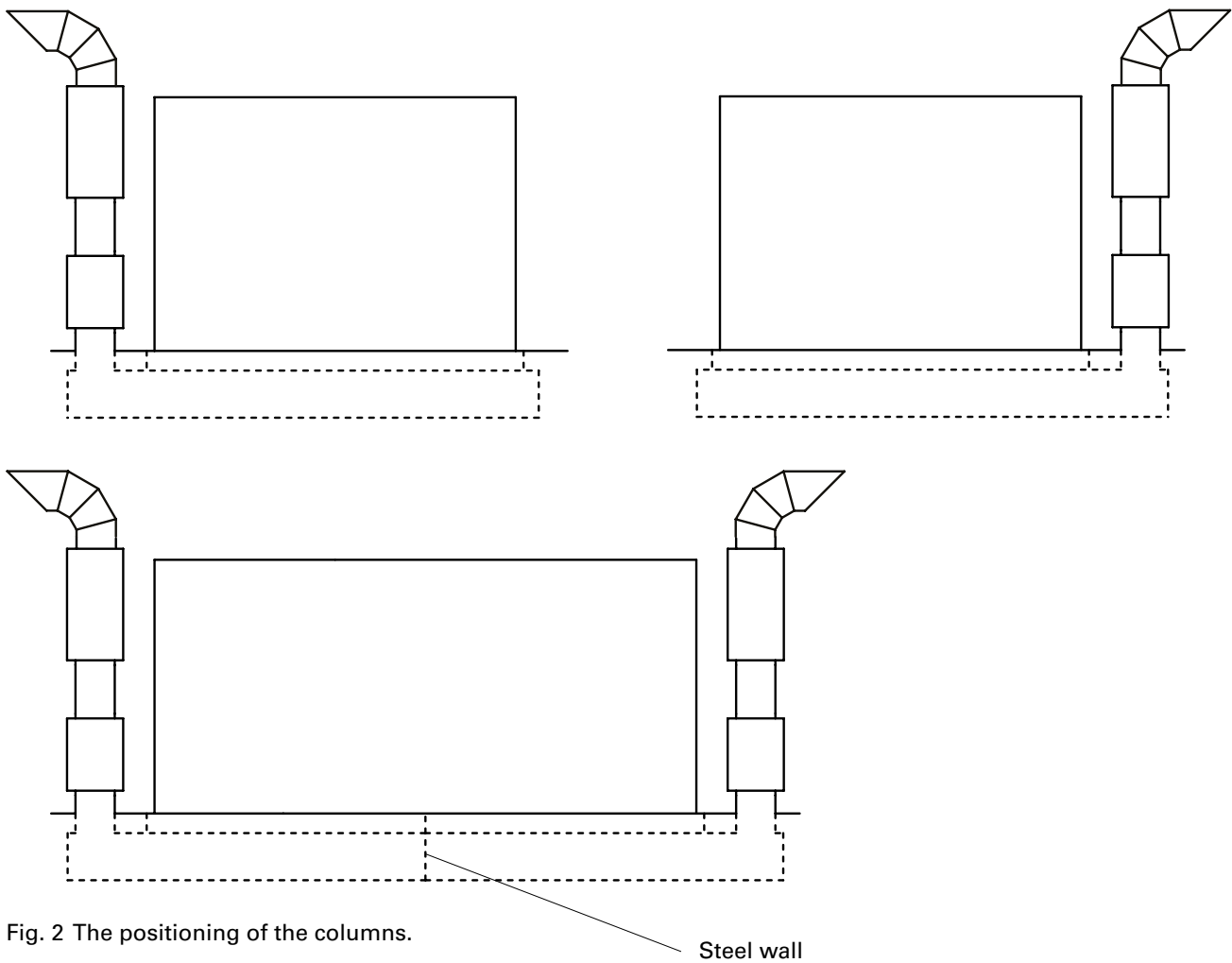


Fig. 2 The positioning of the columns.

Steel wall

Mounting

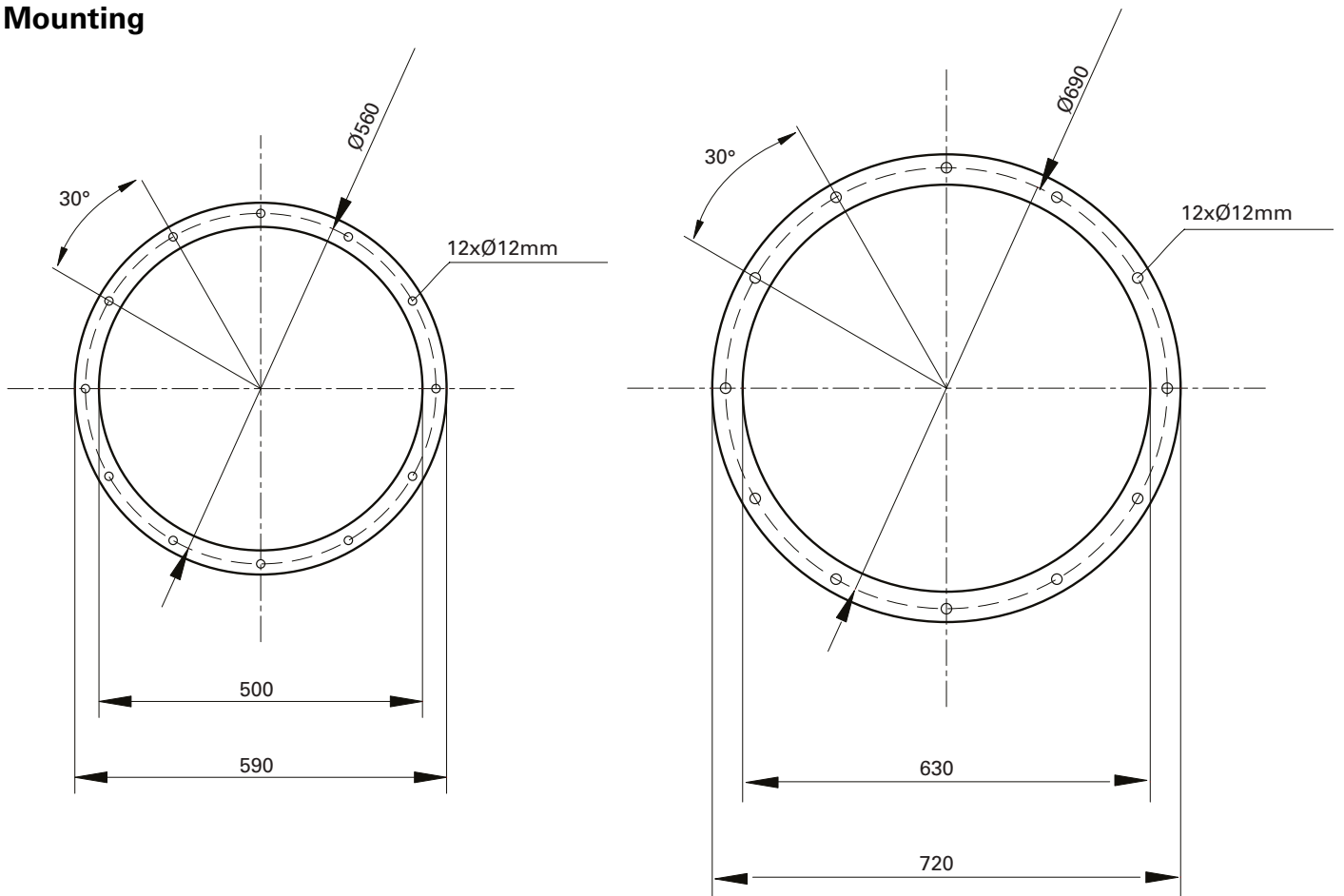


Fig. 3 Flange sizes

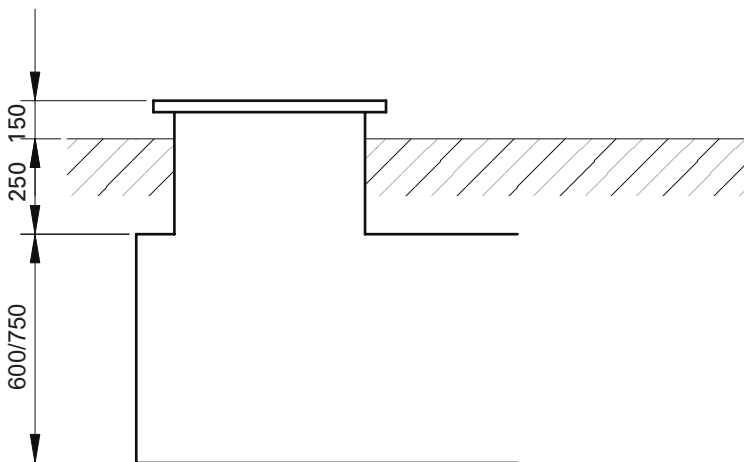


Fig. 4 Connection box

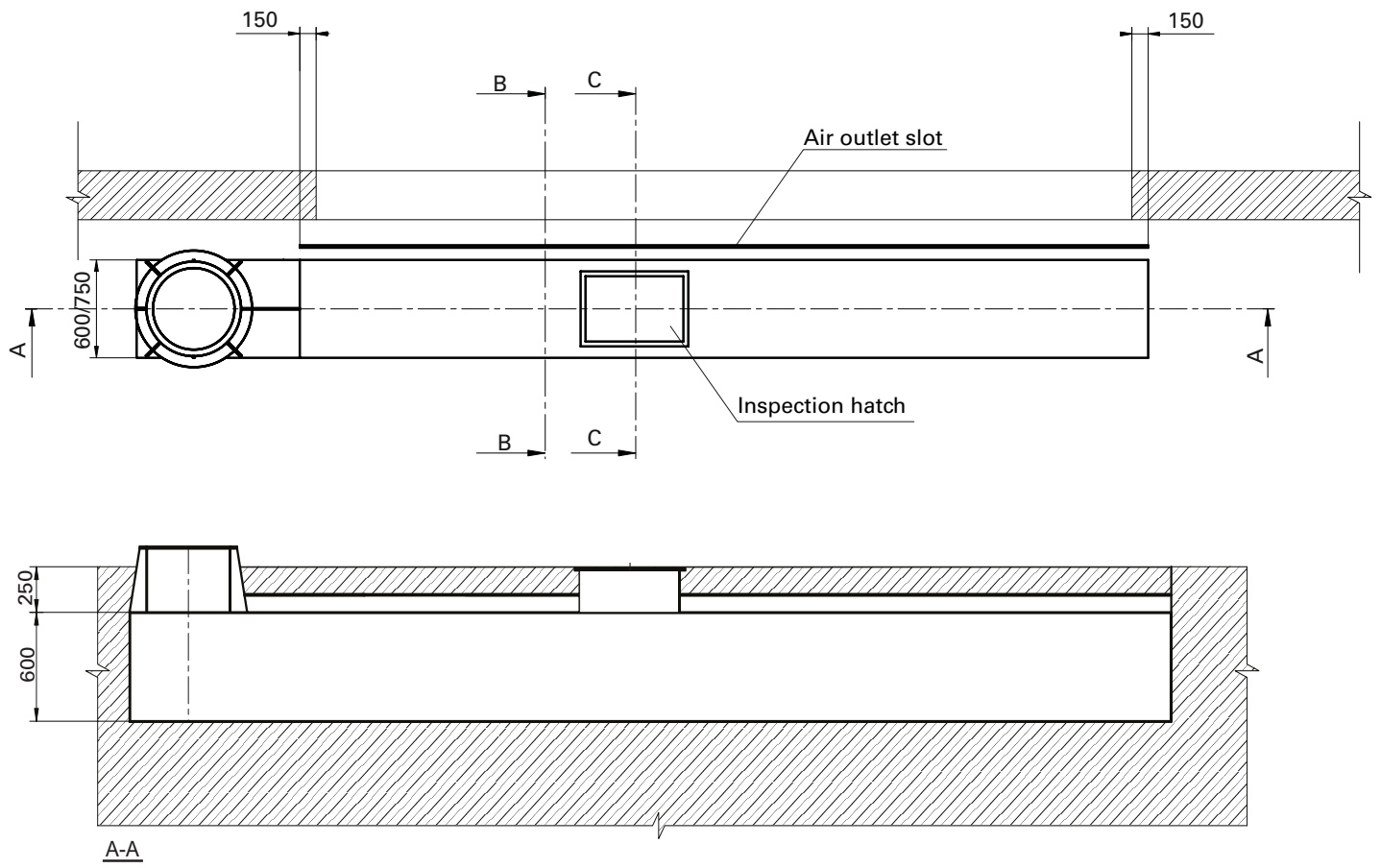


Fig. 5.1 Floor channel

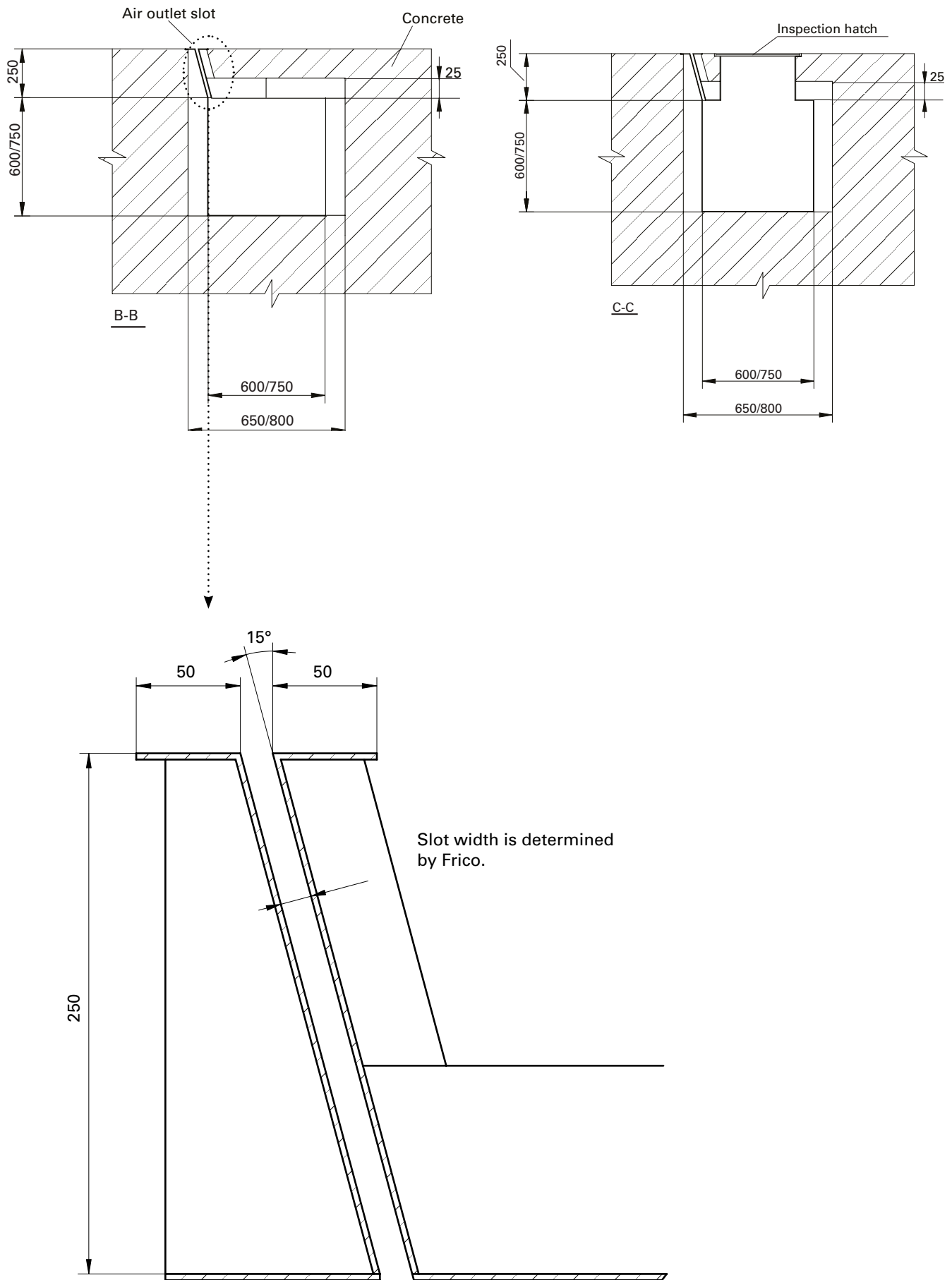


Fig. 5.2 Floor channel - cross sections

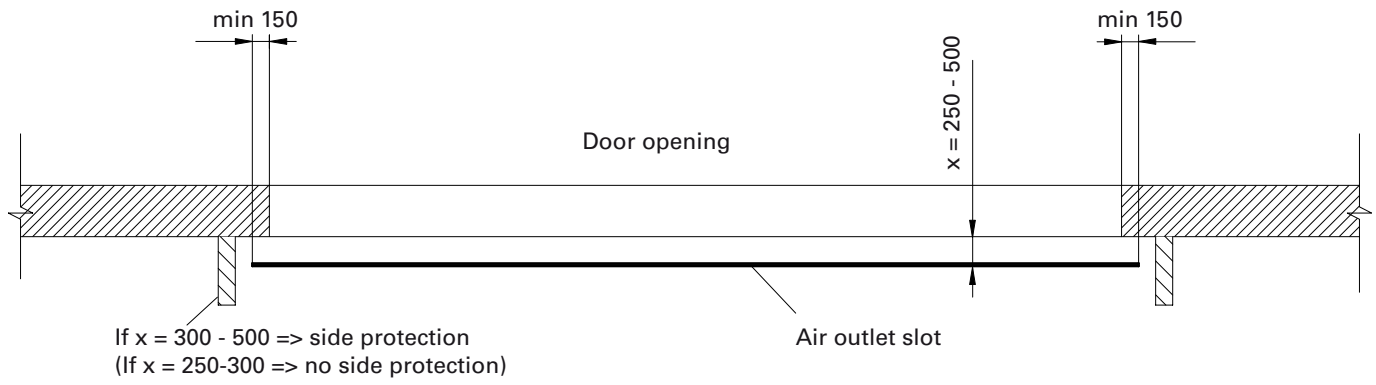


Fig. 6 Air otlet slot

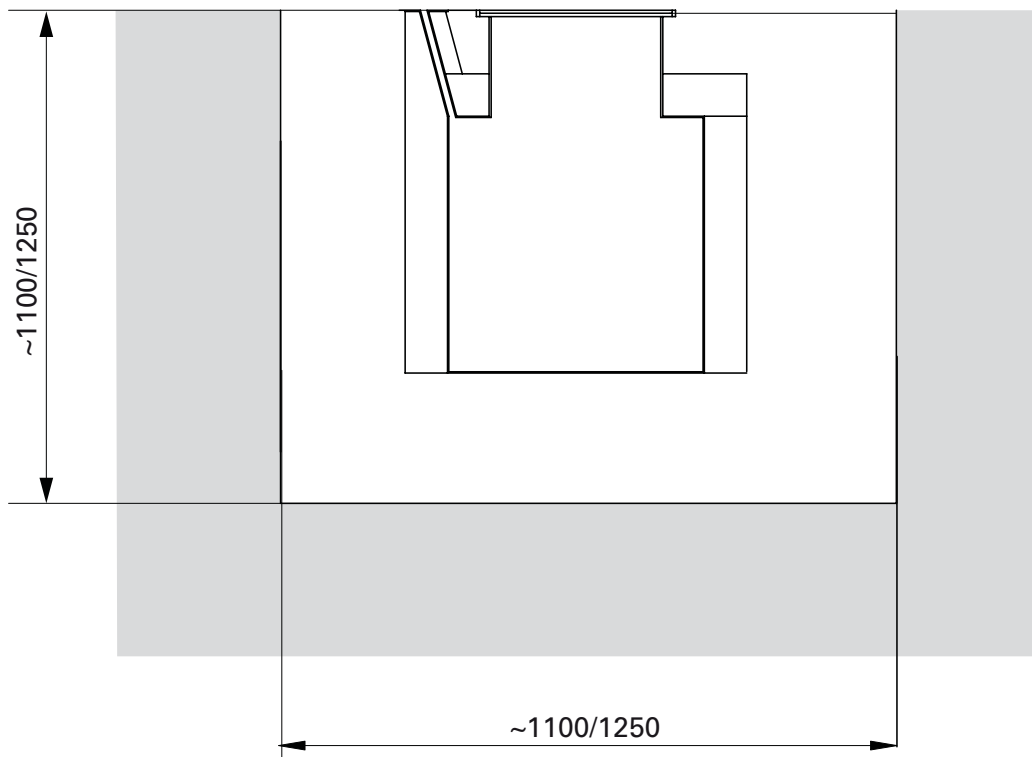
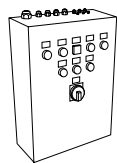


Fig. 7 Pit for embedment

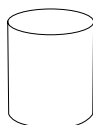
Accessories



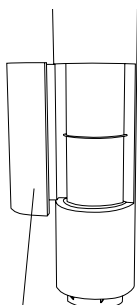
UFC600



AGB304



UFEH



UFMS

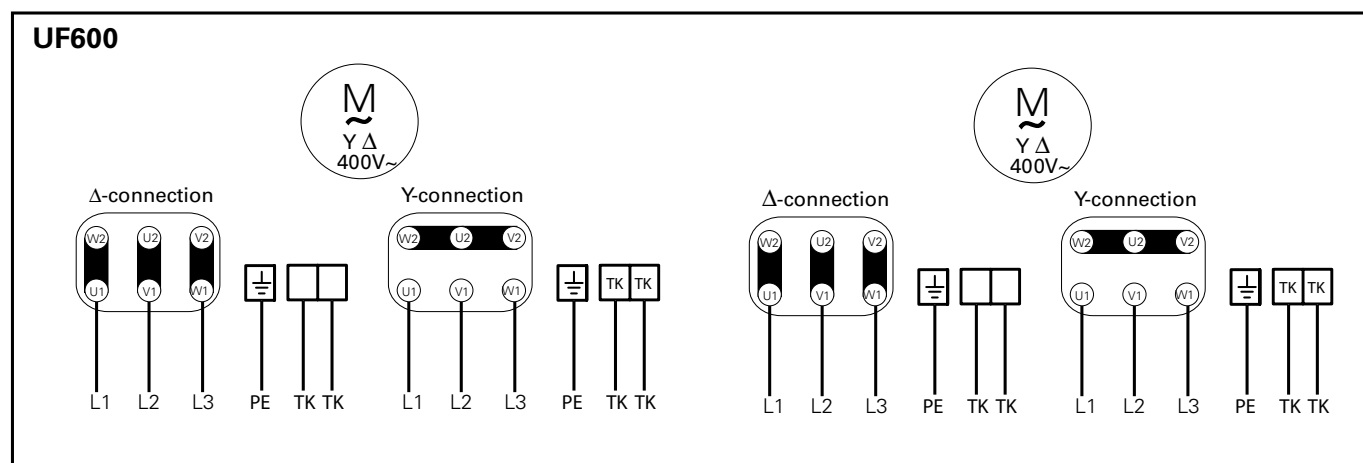


UFS

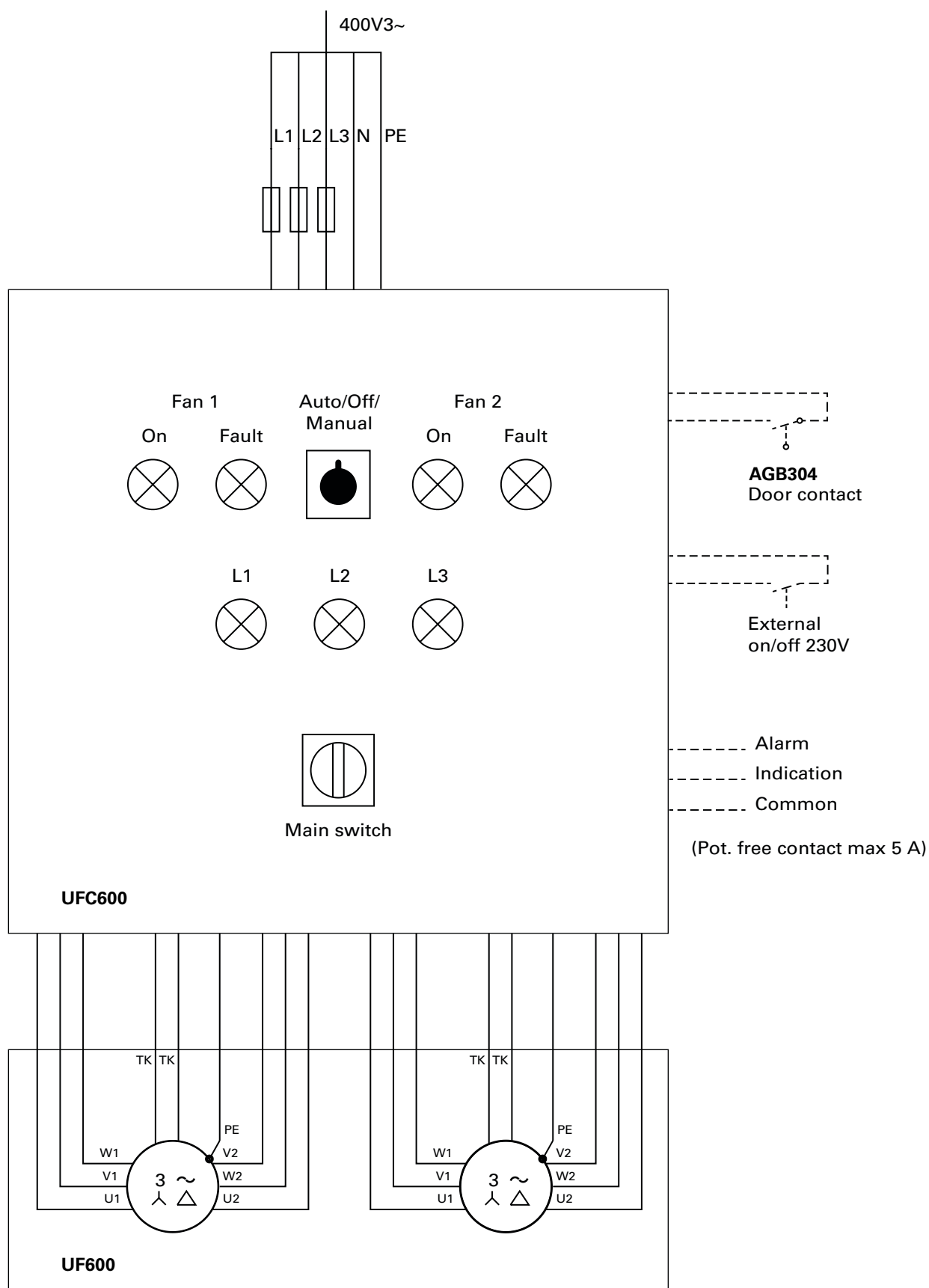
Type	Description	HxWxD [mm]
UFC601	Control box UF601	600x600x210
UFC602	Control box UF602	600x600x210
UFC603	Control box UF603	600x600x210
UFC604	Control box UF604	800x600x210
UFC605	Control box UF605	800x600x210
AGB304	Position limit switch, IP44	
UFEH505	Pillar extension, Ø500 mm, for UF601	L: 500
UFEH510	Pillar extension, Ø500 mm, for UF601	L: 1000
UFEH515	Pillar extension, Ø500 mm, for UF601	L: 1500
UFEH520	Pillar extension, Ø500 mm, for UF601	L: 2000
UFEH605	Pillar extension, Ø630 mm, for UF602-605	L: 500
UFEH610	Pillar extension, Ø630 mm, for UF602-605	L: 1000
UFEH615	Pillar extension, Ø630 mm, for UF602-605	L: 1500
UFEH620	Pillar extension, Ø630 mm, for UF602-605	L: 2000
UFMS750	Motor silencer Ø750 mm, for UF601	
UFMS900	Motor silencer Ø900 mm, for UF602-605	
UFS750	Securing strip Ø750 mm, for UF601	
UFS900	Securing strip Ø900 mm, for UF602-605	

Wiring diagrams UF600

Internal wiring diagram



UFC600



Technical specifications

✦ Ambient, no heat - UF600 (IP54)

Type for indoor installation	Type for outdoor installation	Output [kW]	Air velocity* [m/s]	Voltage [V]	Amperage [A]	Dimensions floor channel [mm]	Diameter fans [mm]	Diameter silencer [mm]
UF601 Indoor	UF601 Outdoor	2x4	30	400V3~	2x7,1	600x600	500	750
UF602 Indoor	UF602 Outdoor	2x7,5	35	400V3~	2x13,7	750x750	630	900
UF603 Indoor	UF603 Outdoor	2x11	38	400V3~	2x22	750x750	630	900
UF604 Indoor	UF604 Outdoor	2x15	38	400V3~	2x28,5	750x750	630	900
UF605 Indoor	UF605 Outdoor	2x18,5	40	400V3~	2x33,7	750x750	630	900

*) Depends on the design of the floor channel.

Dimensioning

		Door width [m]						
Door height [m]		3 m	4 m	5 m	6 m	7 m	8 m	10 m
	3 m	UF601	UF601	UF601	UF601			
	4 m		UF602	UF602	UF602			
	5 m			UF603	UF603	UF604	UF605	
	6 m				UF604		UF605	UF605

Other door sizes on request. For larger openings, two pillars are required. Please contact Frico.

Assembly and operating instructions

General Instructions

Read these instructions carefully before installation and use. Keep this manual for future reference.

The product may only be used as set out in the assembly and operating instructions. The guarantee is only valid if the product is used in the manner intended and in accordance with the instructions.

Application area and function

UF600 creates a very effective air barrier when air at high speed is pushed out through a narrow channel situated in the floor inside the door opening. An air barrier directed upwards from the floor gives the best possible protection against cold air flowing into the premises.

UF600 consists of a pillar with inlet hood, silencers and fans, as well as a floor channel with its slot at floor level. The pillar is placed outside (or inside) the door on either side of the opening. The floor channel is cast in floor. Its width is adapted to the specific door.

Ambient Temperature limits: -20 °C –55 °C.
Protection class: IP54.

Operation

The air is drawn in through the air inlet at the top of the unit and blown out through a narrow air outlet slot in the floor. The air is distributed at high velocity across the doorway, providing a protective air shield. The air shield minimises cold draughts and reduces heat loss through open doorways. The air outlet slot is angled outwards 15° to achieve the best protection. For best protection, it is advisable to set different opening positions of the door not to have to open it more than necessary. The efficiency of the air curtain depends on the air temperature, pressure differences across the doorway and any wind pressure.
NOTE! Negative pressure in the building considerably reduces the efficiency of the air curtain. The ventilation should therefore be balanced.

Mounting - see Appendix A

The UF600 unit is assembled according to this manual and bolted together with supplied bolt kit. The floor channel design chosen is cast into the floor complete with air outlet slot, inspection hatch and connection box. The air outlet slot should extend approximately 150 mm outside the door edges. The UF600 unit is connected to the connection box with the flange shown in this manual, see fig. 3.

Pillar extension can be ordered as accessory. The UF600 unit should be fastened in ceiling or wall to avoid the risk of tipping if the unit is hit by a vehicle. UF600 should also be protected with collision protection.

If the air outlet slot is more than 300 mm away from the door opening the floor channel should be prolonged or side protection should be mounted on both sides of the door to increase air curtain effect. Standard max load on floor channel is 7 ton, up to 20 ton for special orders.

Electrical installation

The air curtain should only be wired by a competent electrician, and in accordance with the latest edition of IEE wiring regulations. The connection is via the terminal box fitted on the outside of the fan housing.

See wiring diagrams.

Service, repairs and maintenance

For all service, repair and maintenance first disconnect the power supply.

The level of cleaning can vary depending on local conditions. Undertake cleaning at least twice a year.

Periodically check the following according to official requirements, however at least once a year:

- Screw connections, specifically the rotor fitting.
- Is there dirt in the fan wheel? If so, remove it.
- Have accumulations formed the rotor? If so, remove them.
- Functions and settings of the control box UFC600.

- Operating current.
- The floor channel should regularly be cleaned through the inspection hatch.

NOTE! The power supply must always be disconnected before disassembling any part of the unit.

Overheating

All motors are equipped with an integral thermal safety cut-out. This will operate, stopping the air curtain should the motor temperature rise too high. The cut-out will automatically reset when the motor temperature has returned to within the motor's operating limits.

Control box UFC600 is equipped with motor protection for each one of the fan motors. If there is an overload the motor protection will deploy, stopping the air curtain. The motor protection must be reset manually. If the motor protection is deployed, please check the fuses and if the air inlet is blocked.

Trouble shooting

If the fans are not working or do not blow properly, check the following:

- Operating power supply to the unit; check fuses, circuit-breaker, time switch/ thermostat (if any) that starts and stops the unit.
- Functions and settings of the control box UFC600.
- That the position limit switch is working.
- That the overheat protection for the motors has not been deployed.
- That the intake grille/filter is not dirty.
- That the air outlet slot is not blocked.

If the fault cannot be rectified, please contact a qualified service technician.

Drainage

If there is a risk of large amounts of water running into the floor channel, a drainage pipe should be connected to the existing 1" connection (internal thread).

Do not connect the drainage to the sewage (risk of blowing out water lock).

Start-up current

The external fusing must be adapted to the motor start-up current.

Safety

- Do not cover surfaces of the air curtain or obstruct air inlet, as this can cause excessive temperatures that can be hazardous and may cause fan motor malfunction.
- Do not block the air outlet slot.
- The air velocity will be too high for people to go through the air flow. People should not enter the opening without protection from a vehicle etc.

Control options

Control box UFC is available as accessory.

Accessories

UFC, control box

Y/D-start with time delay between the motors. Possibility to use with door switch or position limit switch or external on/off. Integrated motor protection for each fan. Alarm and running indication.

AGB304, position limit switch

Starts the air curtain when the door is opened and stops it when the door is closed. Alternating contact 4 A, 230 V~. IP44.

UFEH, pillar extension

For indoor mounting the air intake should be above the door opening, therefore an extension of the pillar is sometimes necessary. This is placed between the inlet hood and the upper silencer.

UFMS, motor silencer

Additional motor silencer which gives a lower sound level and a uniform tower.

UFS, securing strip

The securing strip is mounted round the upper silencer and fixed to the outside wall to avoid the risk of tipping.



Explanation of pages 1-12

Fig. 1 Dimensions

1. Intake with bird protection grille (or inlet nozzle for indoor installation)
2. Inlet side silencer
3. L = 1 480 mm
4. Axial fan 400V
5. Axial fan 400V
6. Motor silencer
7. Silencer pressure side
8. L = 1 000 mm
9. Floor channel

Installation alternatives

Fig. 2 The positioning of the columns

The fan pillar can be positioned on either side of the door. For large doors, two fan pillars are often required. They should be positioned one on each side. When two units are placed on each side of the doorway, the floor channel has to be divided by a steel wall in the middle to prevent the fans from working against each other.

Mounting

Fig. 3 Flange sizes

The pillar is connected to the connection box with flanges these sizes mounted on the silencers. The UF600 flange comes with Ø12 mm holes.

Fig. 4 Connection box

The connection box is where the pillar is connected to the floor channel. Please contact Frico for more information.

Fig. 5, 5.1 Floor channel, - cross sections

The floor channel box is a steel construction that is cast into the concrete floor. The outlet opening is at floor level, as close to the floor opening as possible. The length of the box and the angle and column width is determined at the project planning stage.

The channel can be made in one piece or delivered in sections which are then welded together on location and include air outlet slot, connection box and inspection hatch. Measurements are suggestions. The air outlet slot should extend minimum 150 mm outside

the door edges on each side. Please contact Frico for more information.

Fig. 6 Air curtain slot

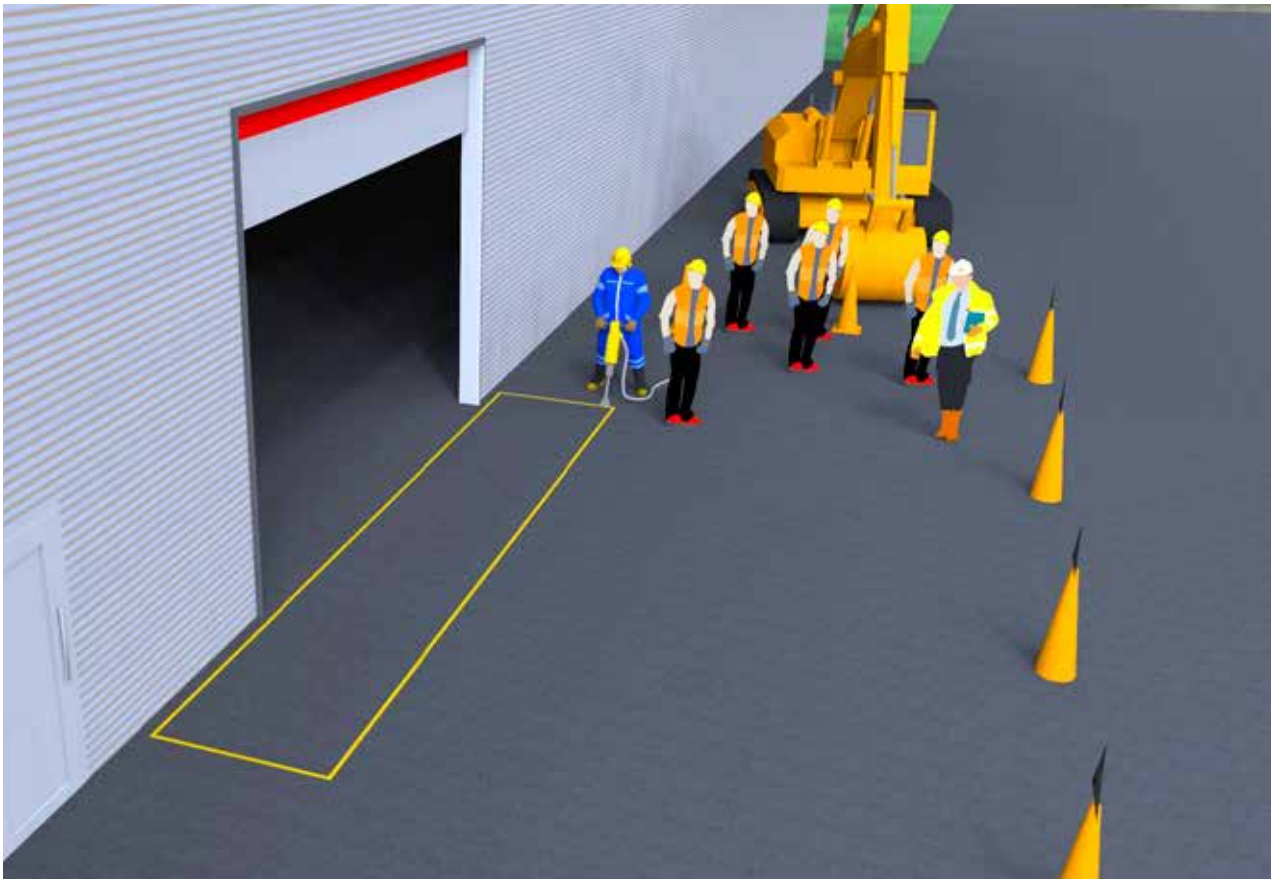
To compensate for the inward-directed pressure force, the air curtain slot is directed at an outward angle of about 15°. The air curtain slot should be at least 300 mm wider than the door opening. If the air outlet slot is more than 300 mm away from the door opening the floor channel should be prolonged or side protection should be mounted on both sides of the door to increase air curtain effect.

Fig. 7 Pit for embedment

Appendix A

UF600

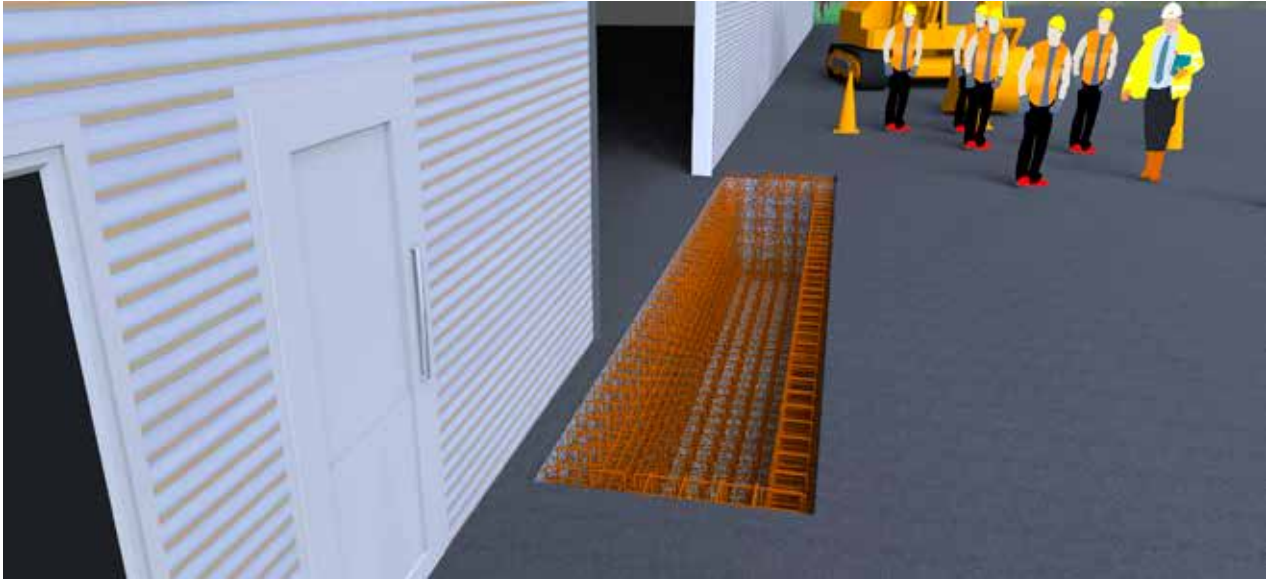
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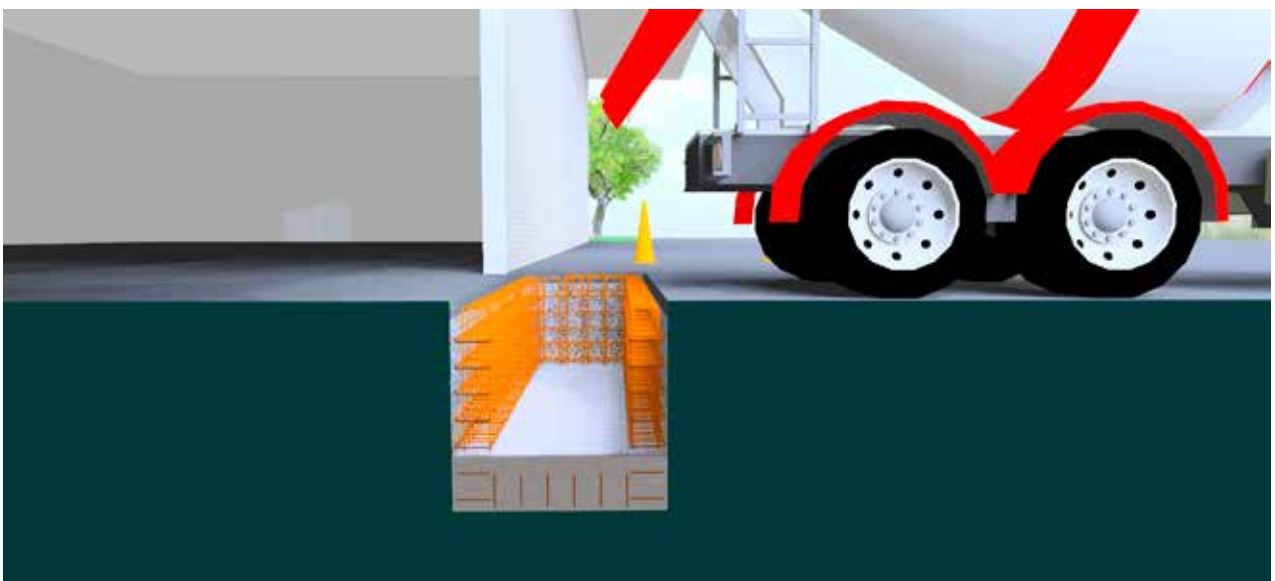
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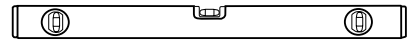
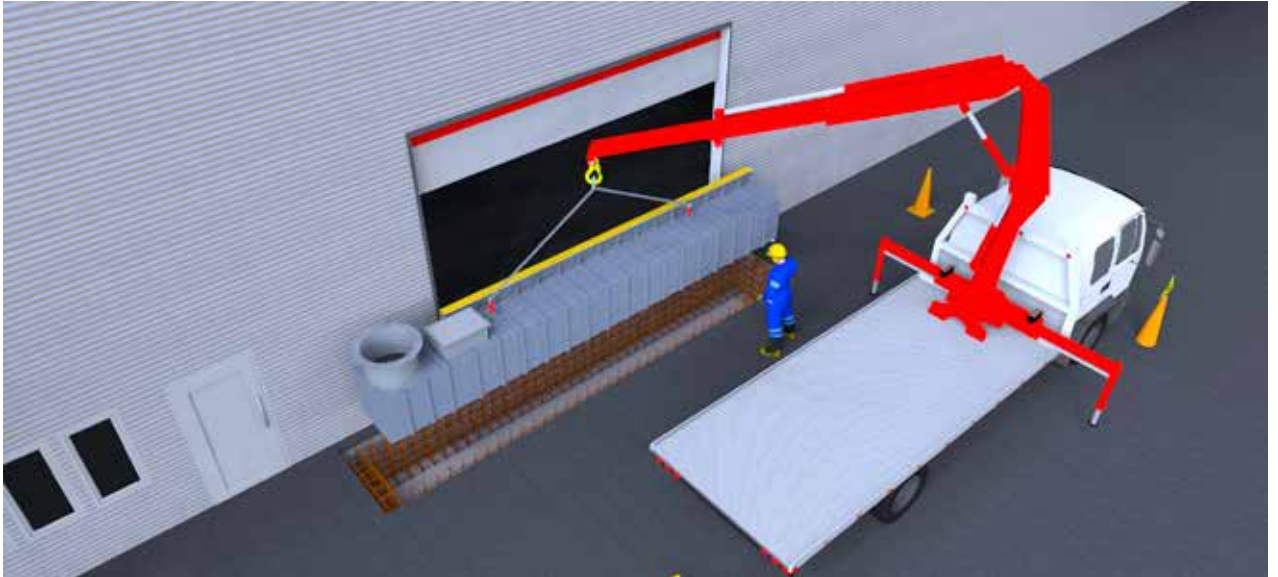
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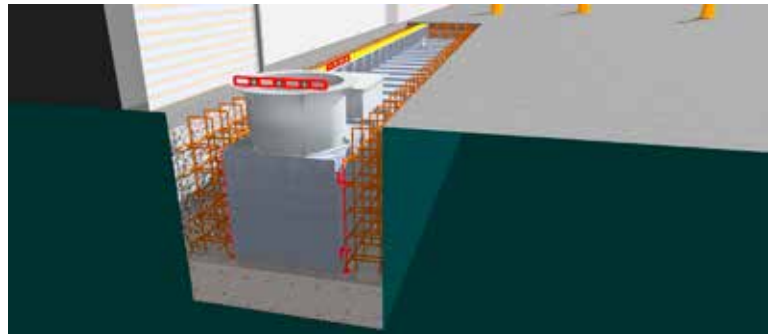
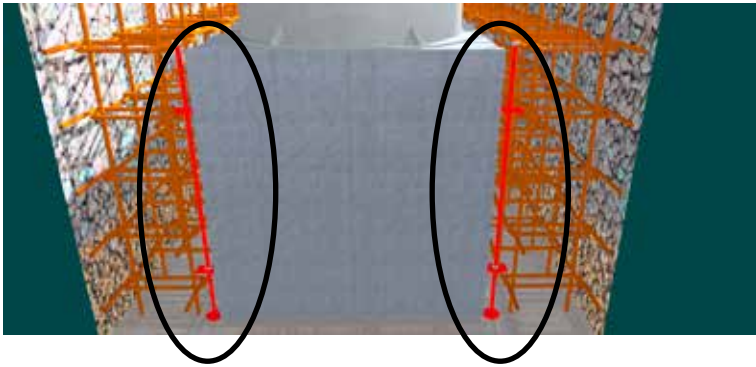
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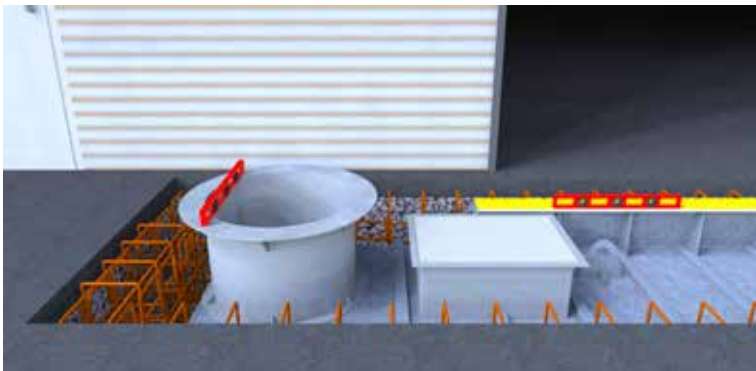
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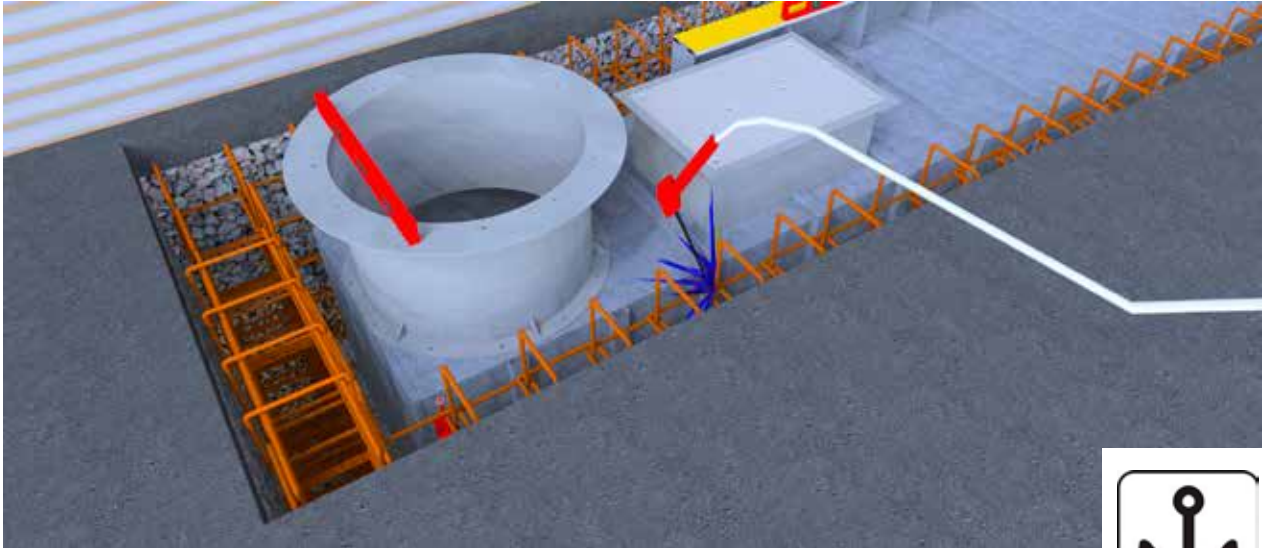
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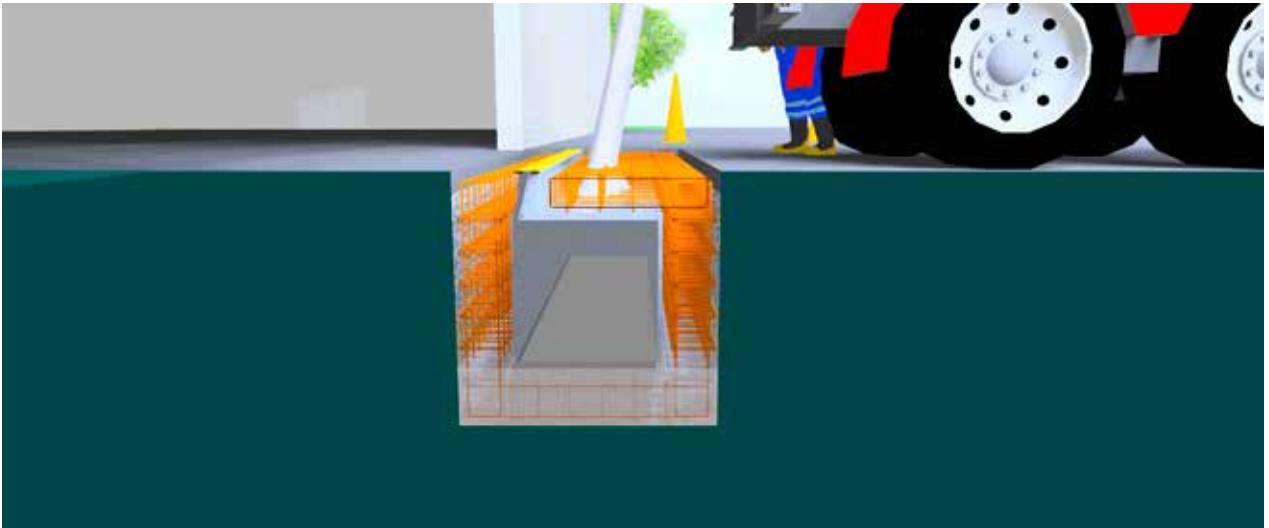
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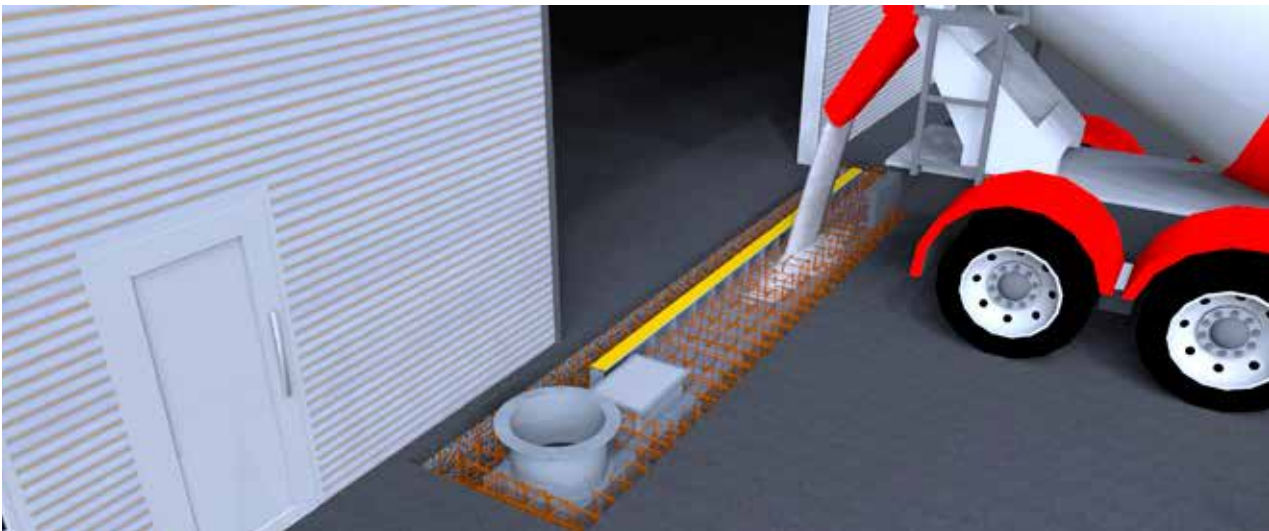
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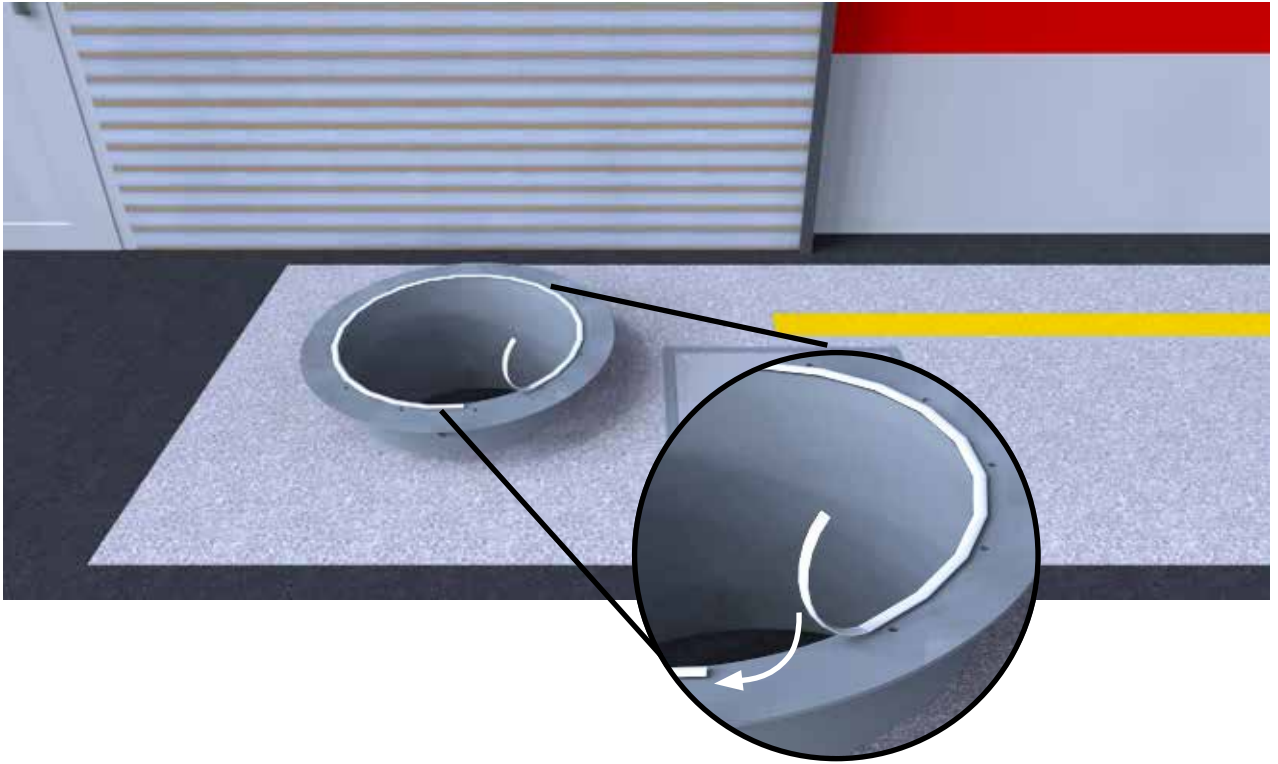
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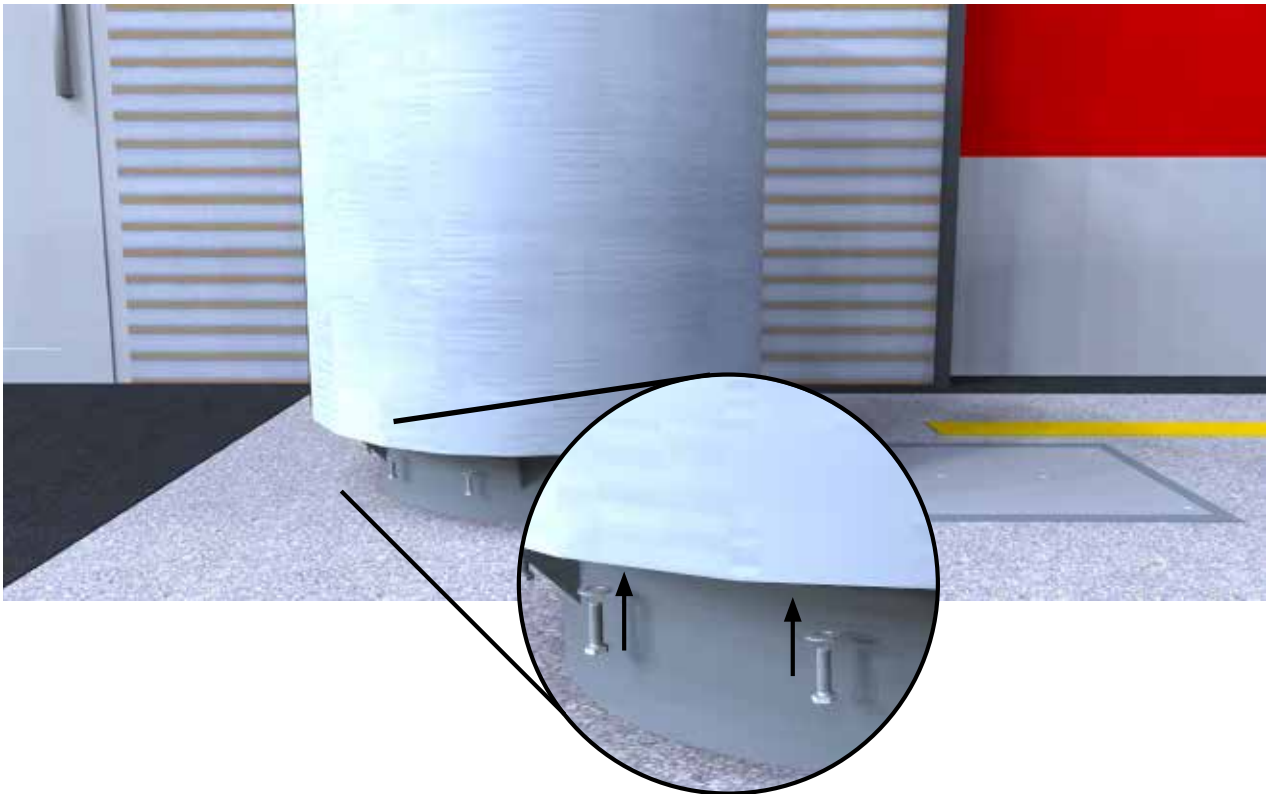
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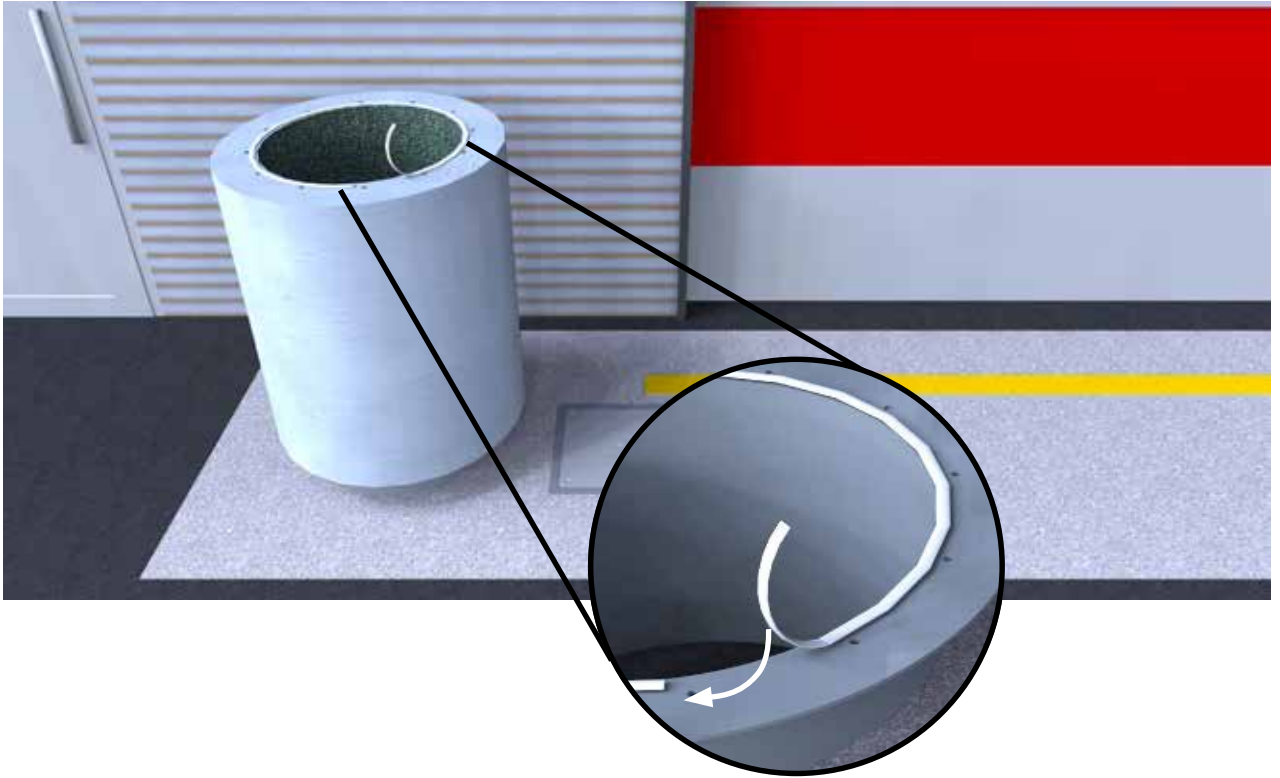
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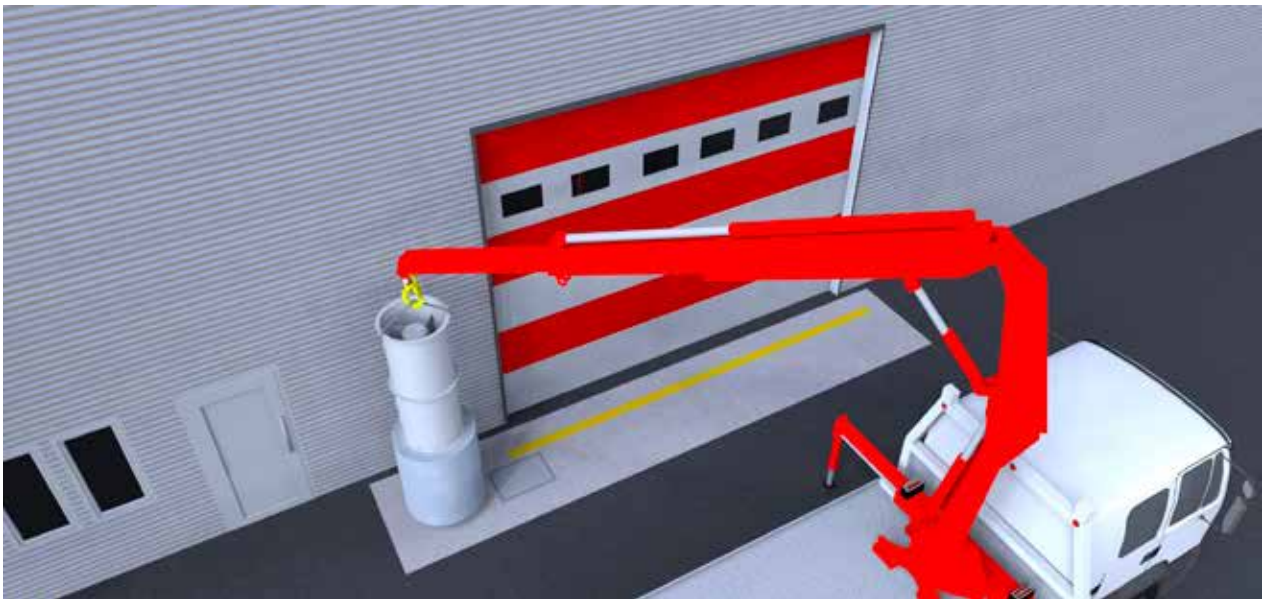
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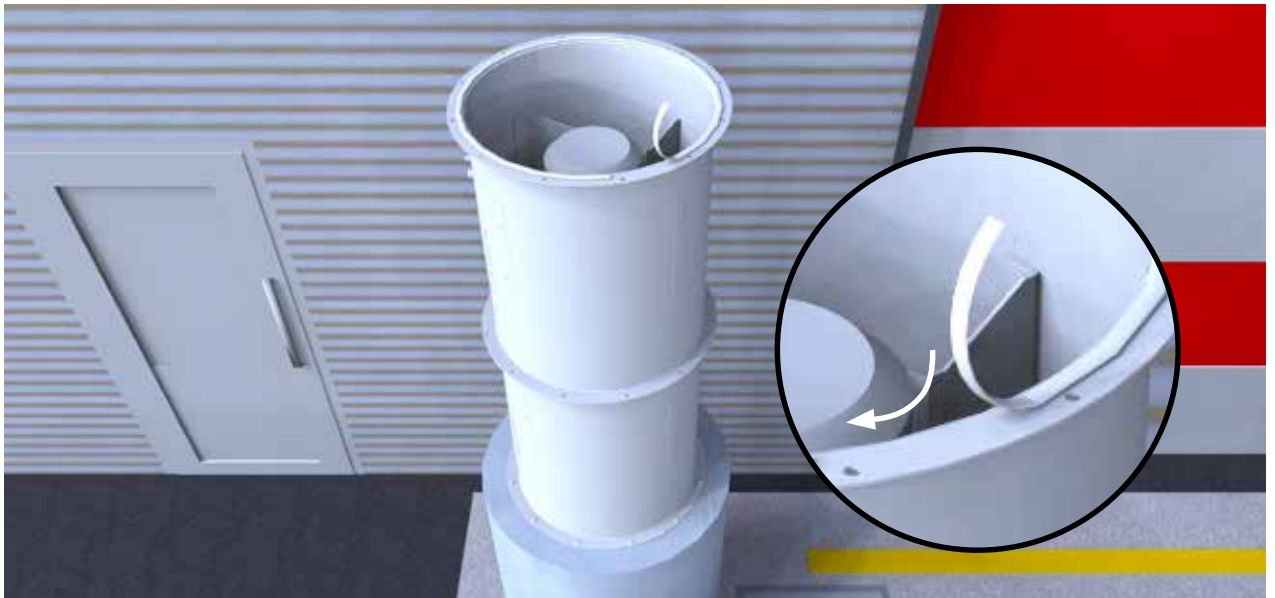
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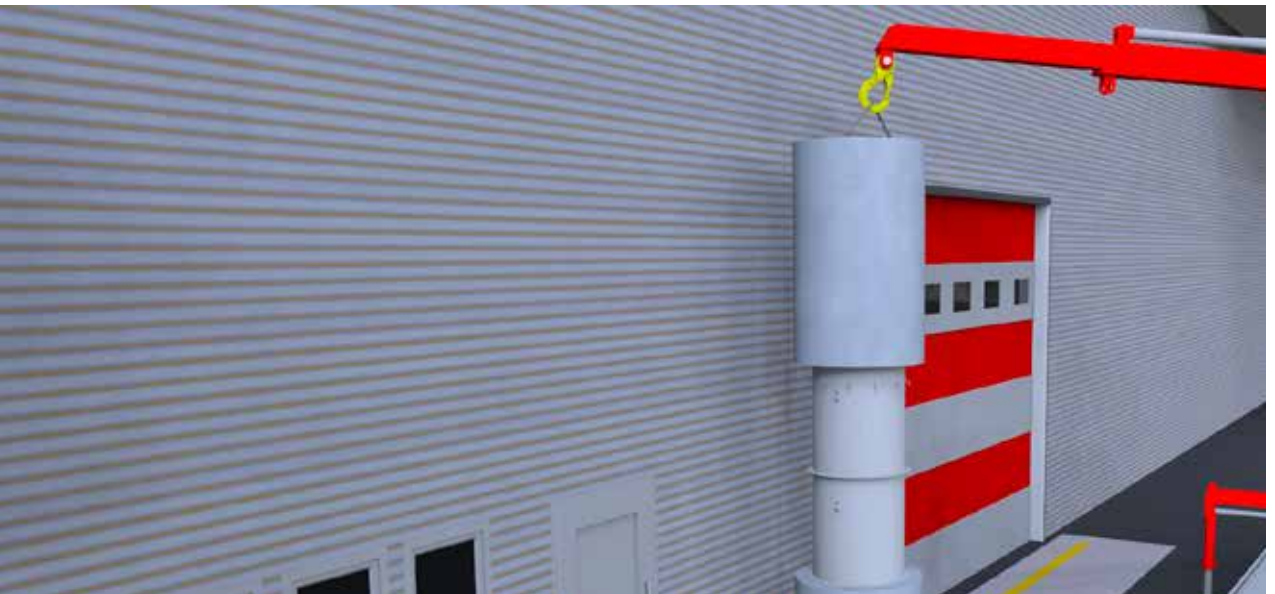
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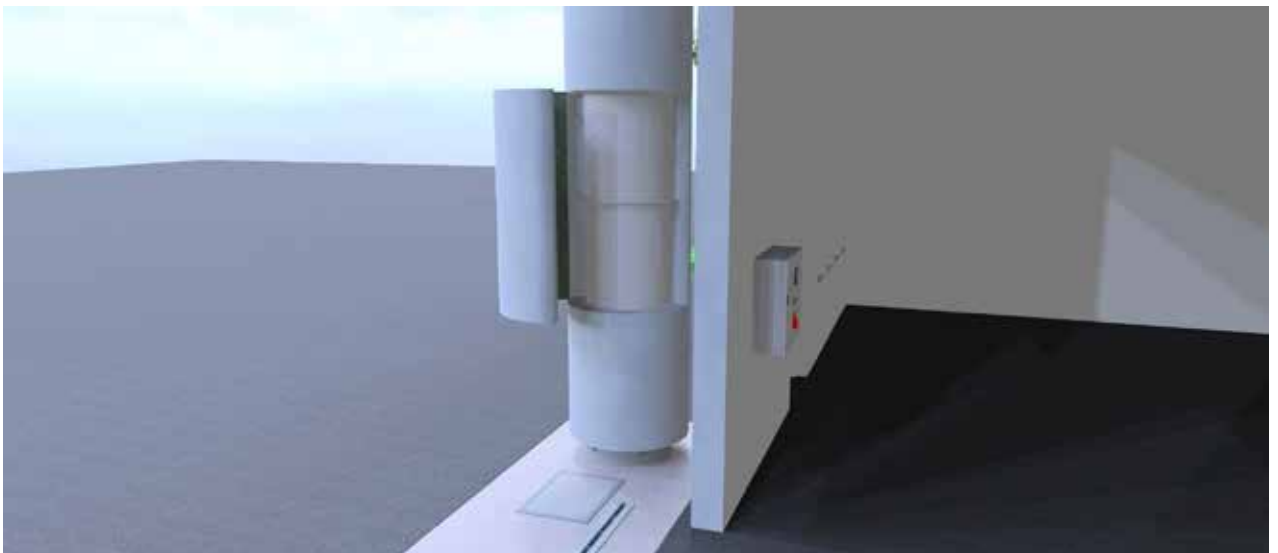
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