



UF600

Air curtain for use with under floor outlet in large industrial doorways

- For doors up to (H x W): 6 x 12 m
- Vertical mounting

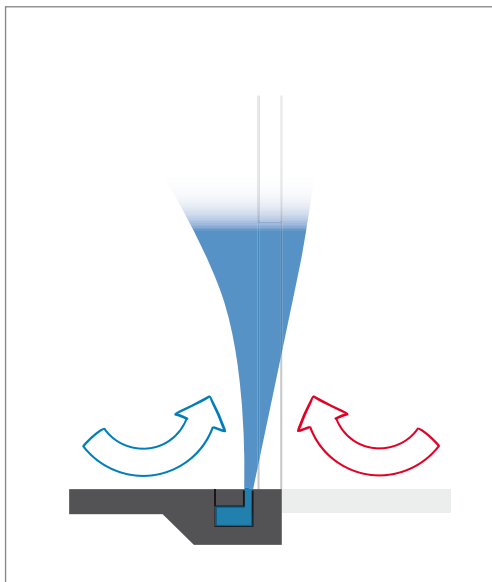
Application

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.

Design

UF600 consists of one or two pillars with inlet hood, silencers and fans, as well as a floor channel with its slot at floor level. The pillars are placed inside or outside the door on either (or both) sides of the opening. The floor channel width and blowing angle is adapted to the specific door.

Principle



Design and specifications are subject to change without notice.

Product specifications

- UF600 is available in the following models:
 - UF601 for doors up to 3 x 4 m (H x W)
 - UF602 for doors up to 3 x 6 m (H x W)
 - UF603 for doors up to 4 x 5 m (H x W)
 - UF604 for doors up to 4 x 6 m (H x W)
 - UF605 for doors up to 6 x 6 m (H x W)
 - UF606 for doors up to 6 x 12 m (H x W), UF606 corresponds to two UF604
- The floor channel is cast in the floor.
- Outer casing in galvanised steel.

Technical specifications

✿ Ambient, no heat - UF600

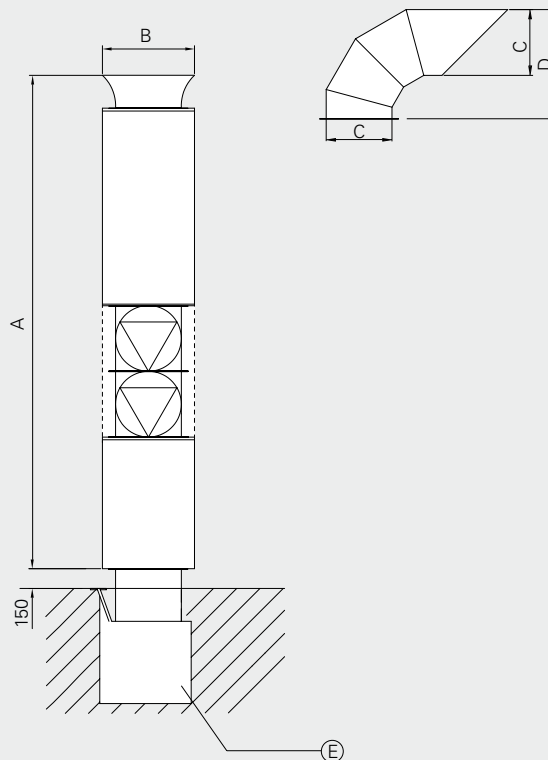
| Type | Output motor [kW] | Airflow [m³/h] | Voltage [V] | Amperage [A] | Length [mm] | Diameter [mm] | Max door dimensions HxW [m] |
|--------|-------------------|----------------|-------------|--------------|-------------|---------------|-----------------------------|
| UF601 | 8 (2x4) | 10500 | 400V3~ | 16,0 | 3900 | 700 | 3 x 4 |
| UF602 | 11 (2x5,5) | 12000 | 400V3~ | 22,4 | 3900 | 700 | 3 x 6 |
| UF603 | 15 (2x7,5) | 15000 | 400V3~ | 28,2 | 4145 | 900 | 4 x 5 |
| UF604 | 22 (2x11) | 18000 | 400V3~ | 42,0 | 4145 | 900 | 4 x 6 |
| UF605 | 30 (2x15) | 23000 | 400V3~ | 56,8 | 4145 | 900 | 6 x 6 |
| UF606* | 2x22 (4x11) | 36000 | 400V3~ | 2x42,0 | 4145 | 900 | 6 x 12 |

*) UF606 corresponds to two UF604.

Protection class: IPX4.
CE compliant.

Dimensions

For indoor mounting the air intake should be above the door opening, therefore an extension of the column is sometimes necessary. Column extension can be ordered by length from Frico.



| | A [mm] | B [mm] | C [mm] | D [mm] | E [mm] |
|-------------|--------|--------|--------|--------|---------|
| UF601-UF602 | 3750 | 700 | 500 | 830 | 600x600 |
| UF603-UF605 | 3995 | 900 | 630 | 945 | 750x750 |

UF606 corresponds to two UF604.

Mounting and connection

The fan pillar

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 duct has to be divided by a steel wall in the middle to prevent the fans from working against each other.

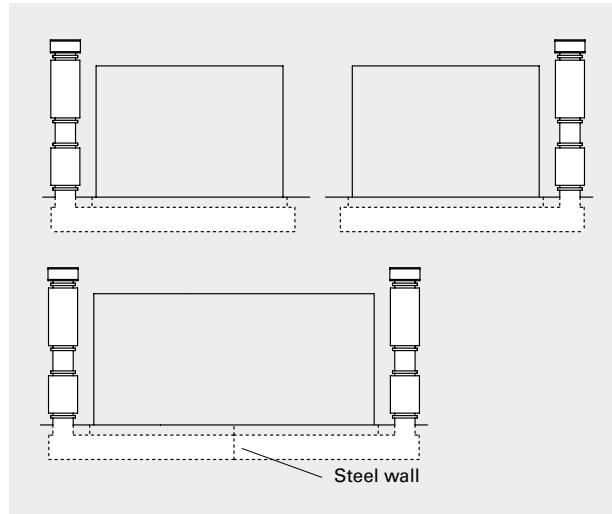
Floor duct

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. There is not normally a need for 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).

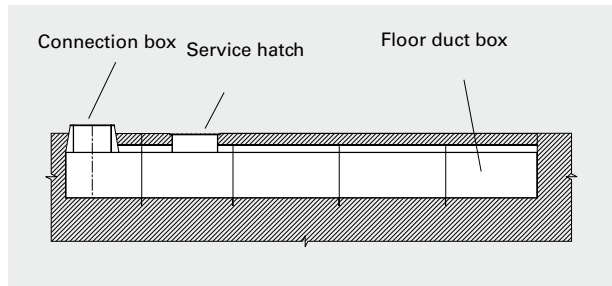
Air curtain slot

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 200 mm wider than the door opening. Internal door protectors should be mounted next to the door if the distance between the air curtain slot and the door is greater than 150 mm, see fig.

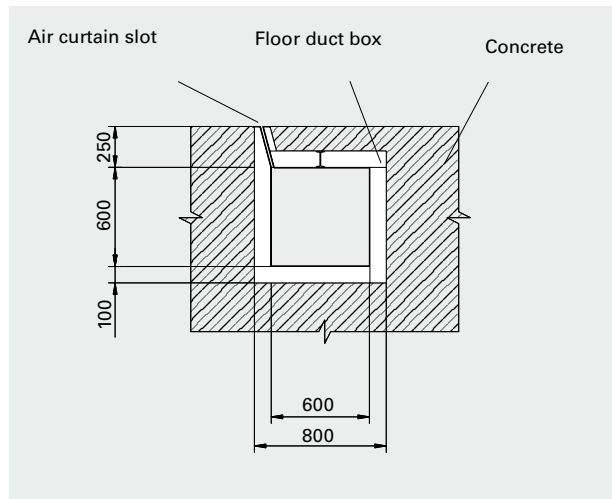
Always contact Frico for projections and dimensioning!



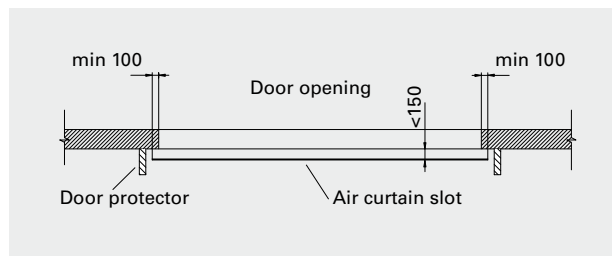
The positioning of the columns.



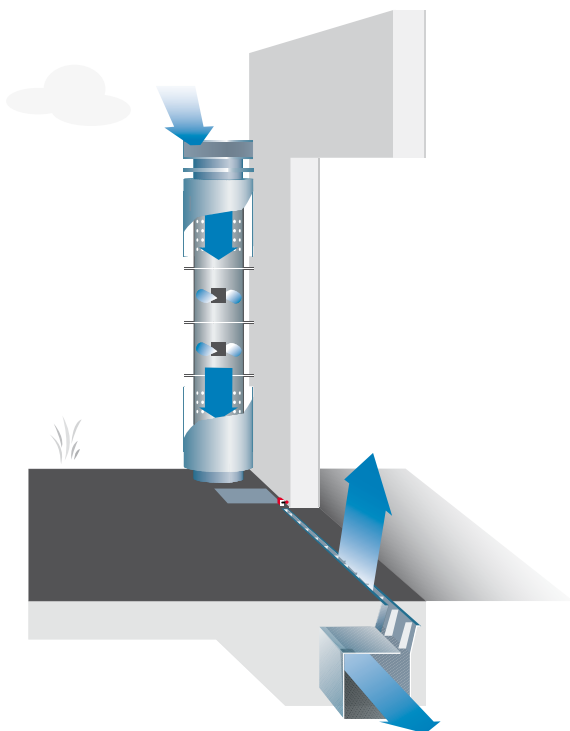
Floor duct for one column.



Cross section through floor channel for UF601-602.

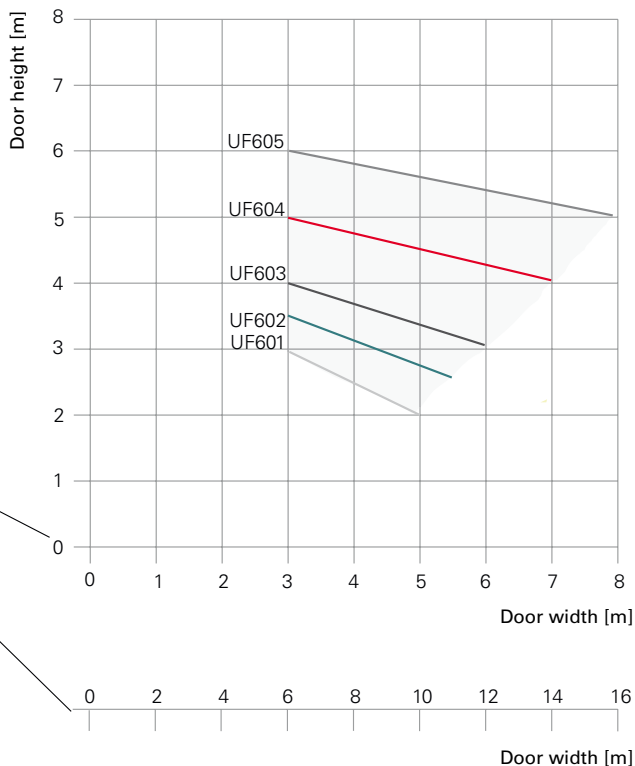
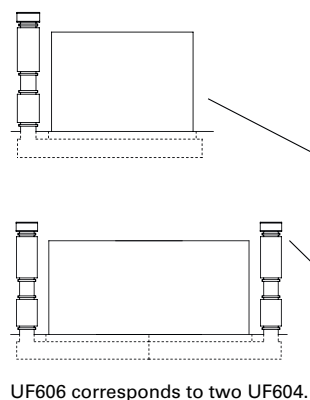


Air curtain slot



Dimensioning

The choice of air curtain can be made with the help of the diagram on this page. The diagram applies to a dimensioned underpressure of 8 Pa and an outward angle of 15° for the air curtain slot. The highlighted field shows the normal working area.



Performance

The energy efficiency can be estimated to approximately 75 %. This means that heat losses can be reduced to 25 % of what they would be if the door was unprotected.

The diagrams show how the temperature varies over time inside the open door and at different distances into the room, 4 and 20 metres, and at different heights above the floor.

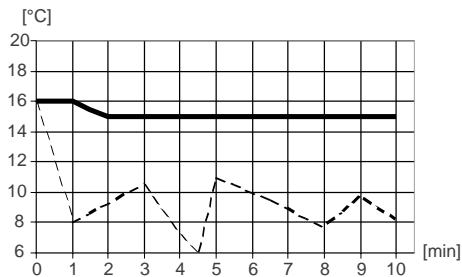
Conditions:

| | |
|---------------------|---------------------|
| Door | 4 x 4 m |
| Premises | 2000 m ² |
| Outdoor temperature | 0 °C |
| Vacuum | 4 Pa |

— With UF600
 - - - Unprotected door

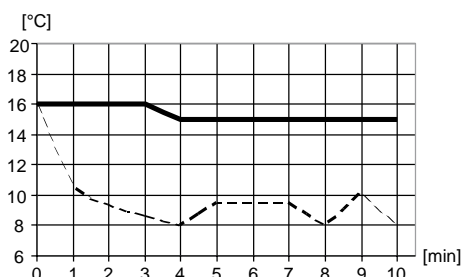
4 m inside the premises

10 cm above the floor

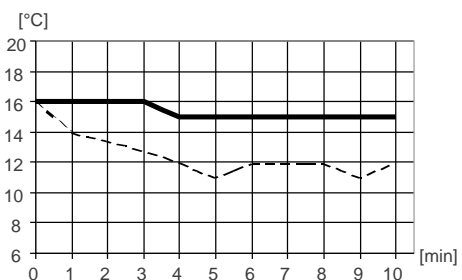


20 m inside the premises

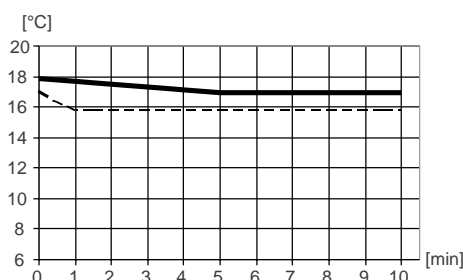
10 cm above the floor



150 cm above the floor



150 cm above the floor

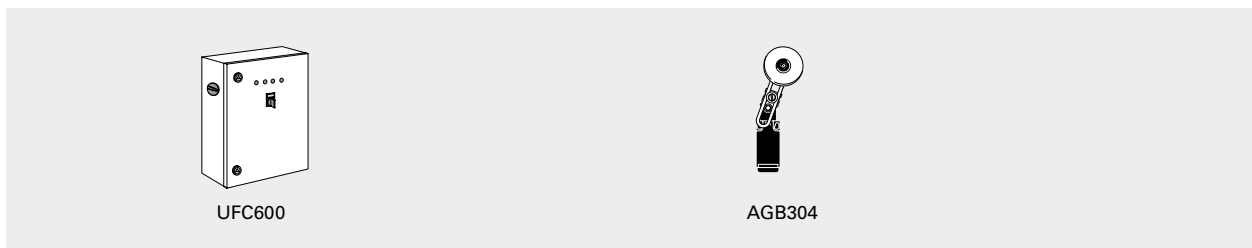


UF600

Control options

Air curtain UF600 is supplemented with starter kit UFC600. For air curtain UF601 starter kit UFC601 is used, UFC602 is used for UF602 and so on. UF606 corresponds to two UF604s, and must be controlled by two UFC604s.

Controls and accessories



UFC601/602, starter kit

Time delay between the motors at start up. Possibility of starting via door switch. Integrated motor protection for each fan.

UFC603-605, starter kit

Star delta start. Possibility of starting via door switch. Integrated motor protection for each fan.

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.

Pillar extension

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

| Type | Description |
|---------------|-----------------------------|
| UFC601 | Starter kit UF601 |
| UFC602 | Starter kit UF602 |
| UFC603 | Starter kit UF603 |
| UFC604 | Starter kit UF604 |
| UFC605 | Starter kit UF605 |
| AGB304 | Position limit switch, IP44 |

Wiring diagrams

