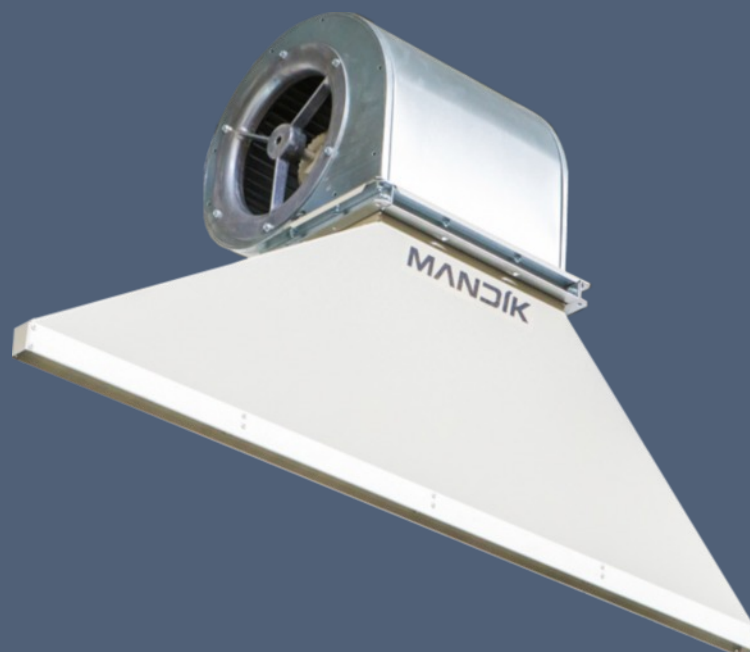


# MANDIK®

## AIRSTREAM GATE CURTAIN



These Technical Specifications define the range of the sizes manufactured, the main dimensions, the models and the scope of use of the AIRSTREAM gate curtain. They are binding to the manufacture, projection, ordering, delivery, storage, assembly, operation, maintenance and operability inspections.

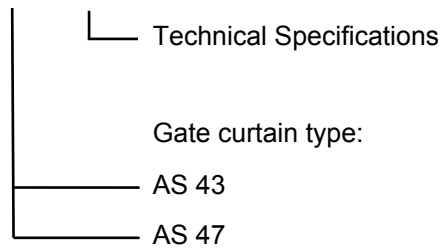
**I. TABLE OF CONTENTS**

<b>II. ORDERING DATA</b>	<b>3</b>
1. Ordering.....	3
<b>III. GENERAL</b>	<b>3</b>
2. Description.....	3
<b>IV. TECHNICAL DATA</b>	<b>4</b>
3. Sizes and terminology.....	4
4. Wiring diagrams.....	5
5. Description of function.....	8
<b>V. RECOMMENDED ACCESSORIES</b>	<b>8</b>
6. Recommended accessories.....	8
<b>VI. ASSEMBLY</b>	<b>9</b>
7. Installation of gate curtain on the wall with the help of brackets.....	9
<b>VII. INSTALLATION</b>	<b>10</b>
8. Installation conditions.....	10
9. Gate curtain installation.....	11
10. Installation of electrical connection.....	12
<b>VIII. PRODUCT DATA</b>	<b>12</b>
11. Data label.....	12
<b>IX. PACKAGE, TRANSPORT, STORAGE</b>	<b>13</b>
12. Logistic data.....	13

**I. ORDERING DATA**

**1. Ordering key**

**AIRSTREAM AS 43 TPM 102/14**



**II. GENERAL**

**Fig. 1 Gate curtain**



**2. Description**

- 2.1.** Gate curtains are HVAC devices intended to separate the indoor and outdoor environment in industrial buildings. When opening industrial gates, the indoor temperature in the building drops, which reduces the thermal comfort and increases the heating costs. The air stream from the gate curtain serves to reduce the undesirable penetration of outdoor air into the heated room at opening the gate. The curtain is based on a powerful radial fan that draws in the warmer air from the upper layers of the heated room and blows it into the gate room with the help of a long and narrow outlet.
- 2.2.** The gate curtains are intended for environments protected against weather effects, with 3K5 classification of climatic conditions, without condensation, frost, ice development and without water even from other sources than from rain according to EN 60 72133 amend. A2., with temperature range of 0°C to +40°C and BNV spaces.
- 2.3.** The air passing through the gate curtain must not contain solid, fibrous, sticky or aggressive particles.

**IV. TECHNICAL DATA**

**Tab. 1 Gate curtain technical parameters**

TYPE		AS 43	AS 47
Air output	m <sup>3</sup> /h	3800	4700
Noise level in a distance of 1m	dB(A)	72	81
Max. installation height	m	4	5,5
Hole (gate) width	m	2 to 3	2,5 to 3,5
Ventilator speed	rev./min	1130	1340
Maximal static pressure	Pa	300	480
Motor input	W	790	1200
Number of fans		1	1
Power supply	V/Hz	3f 400/50	3f 400/50
Current	A	1,3	2,4
Protection	A	3x10A	3x10A
Protection degree		IP40	IP40
Curtain weight	kg	34,8	34,8

**3. Sizes and terminology**

**Fig. 2 Gate curtain size**

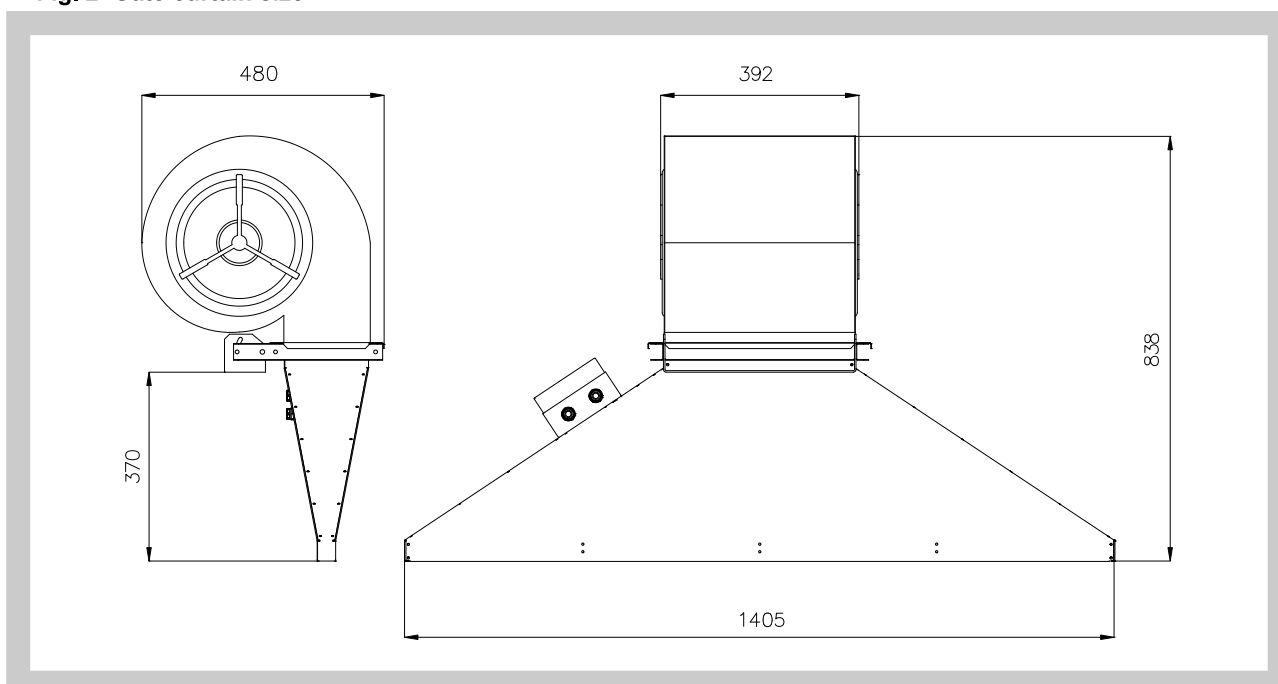
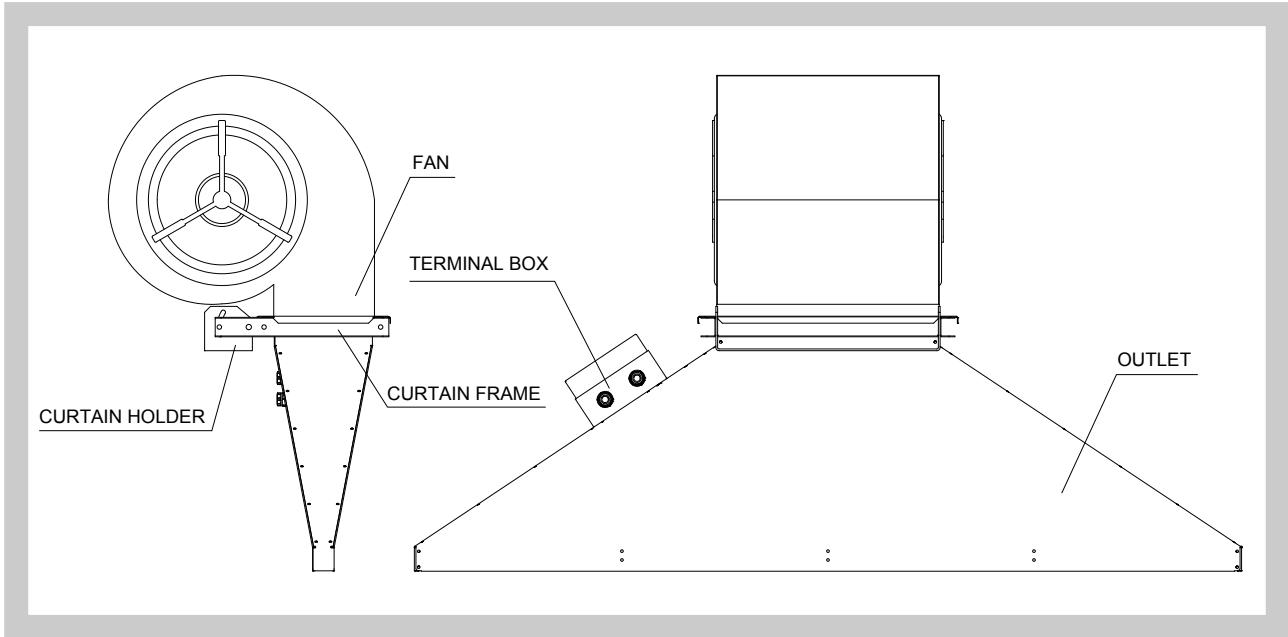


Fig. 3 Main parts of gate curtain



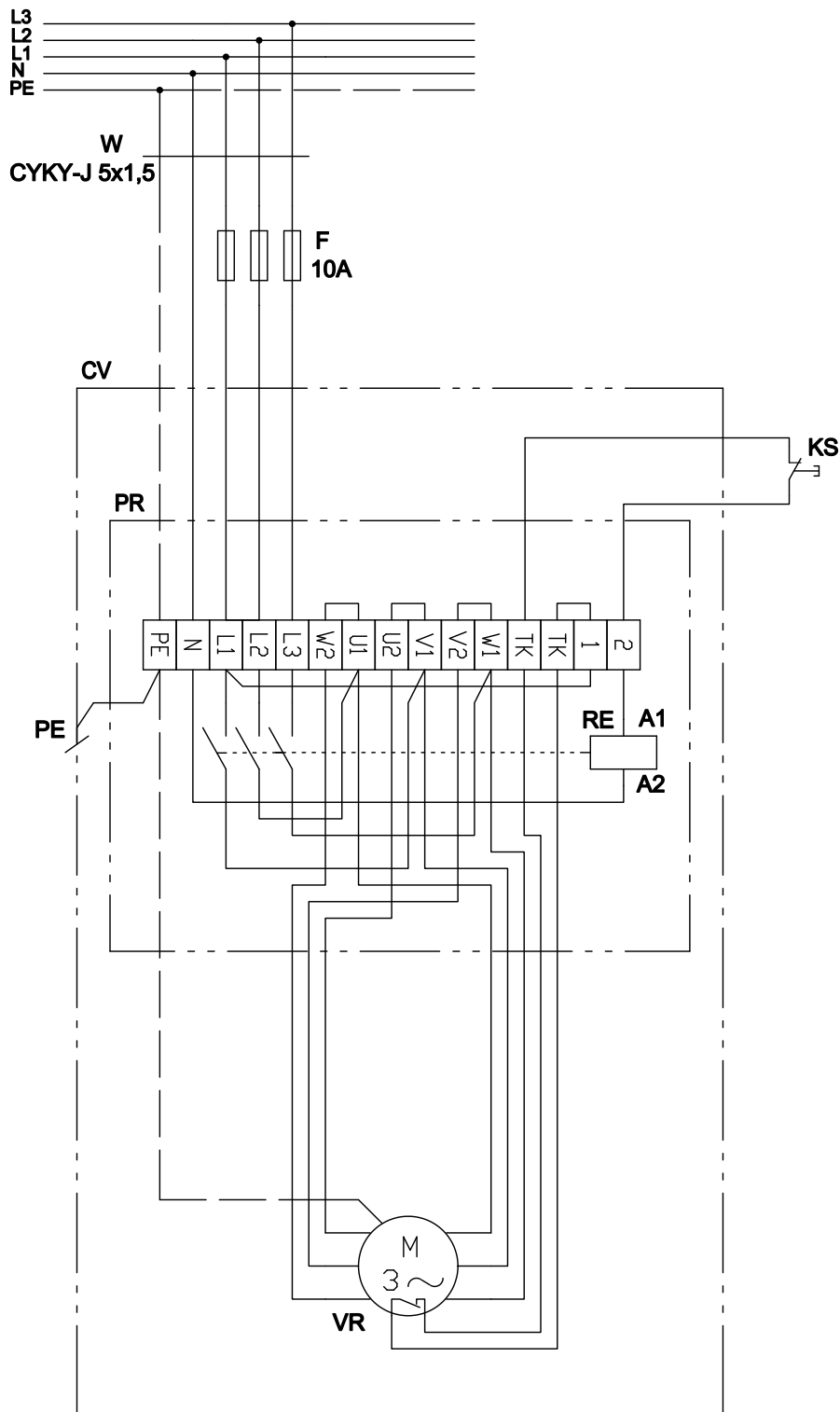
- 3.1. The radial fan provides the necessary air flow through the curtain. Fan with three-phase motor can be used.
- 3.2. The outlet gives the necessary speed to the blown air and shapes the stream. The outlet is made of galvanized and powder coated metal sheet.
- 3.3. The curtain holder serves to attach the curtain on a bracket or on another bearing structure. It allows turning the curtain air stream from  $-30^\circ$  to  $+15^\circ$  from the vertical plane. It is made of galvanized metal sheet.
- 3.4. The terminal box situated in the connecting box serves to connect the gate curtain power supply and control. The connection cable, the control cable and the supply cable of the fan are brought to the connecting box through cable grommets.

#### 4. Wiring diagrams

##### 4.1 Gate curtain wiring diagrams:

- Diagram for gate curtain with three-phase fan motor, delta connection - Fig. 4
- Diagram for gate curtain with three-phase fan motor, star connection - Fig. 5

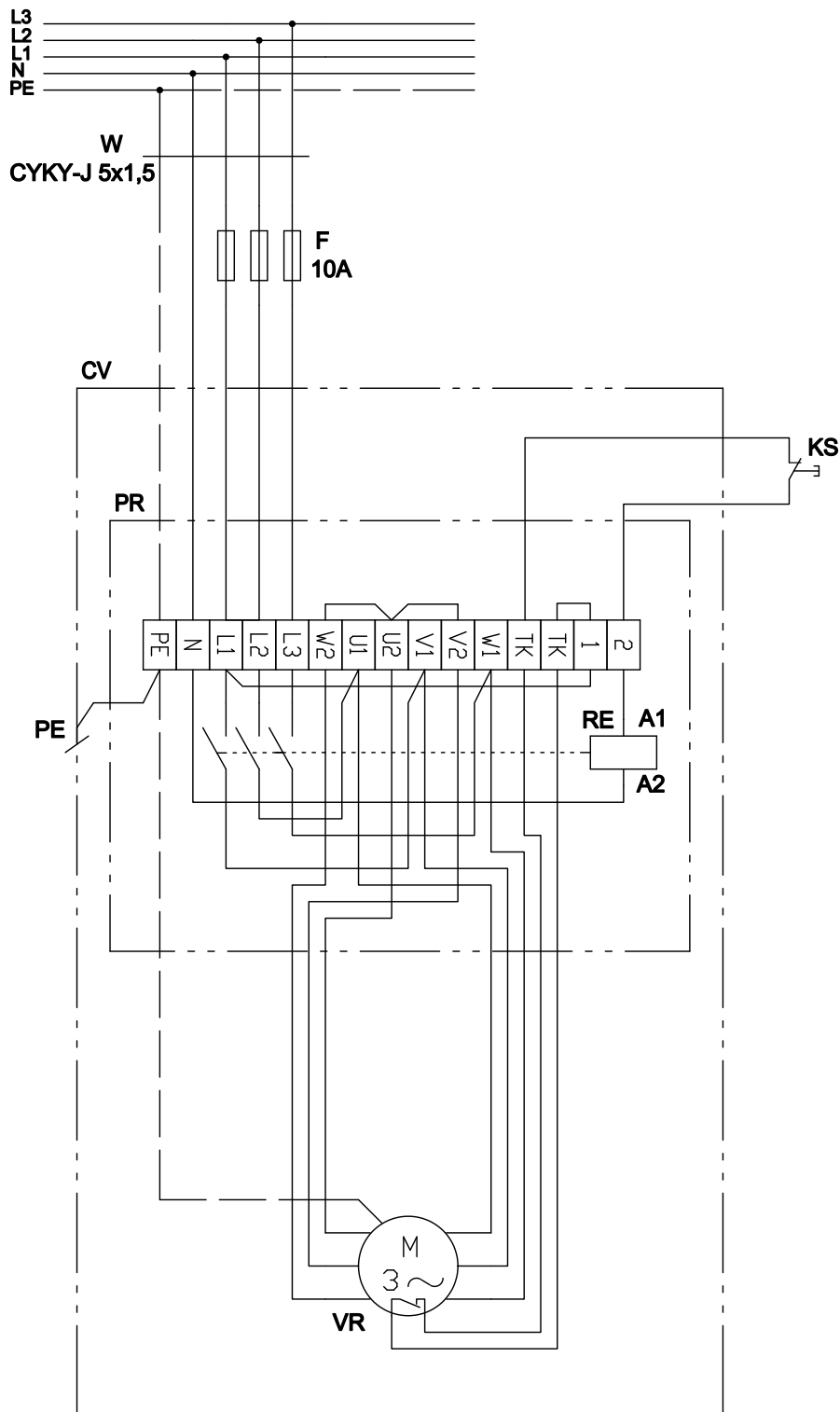
Fig. 4 Diagram for gate curtain with three-phase fan motor, delta connection



**Explanatory notes:**

- CV Gate curtain
- KS Limit switch - or another switching item
- PR Connecting box
- RE Relay
- VR Radial fan
- W Cable
- F Circuit breaker

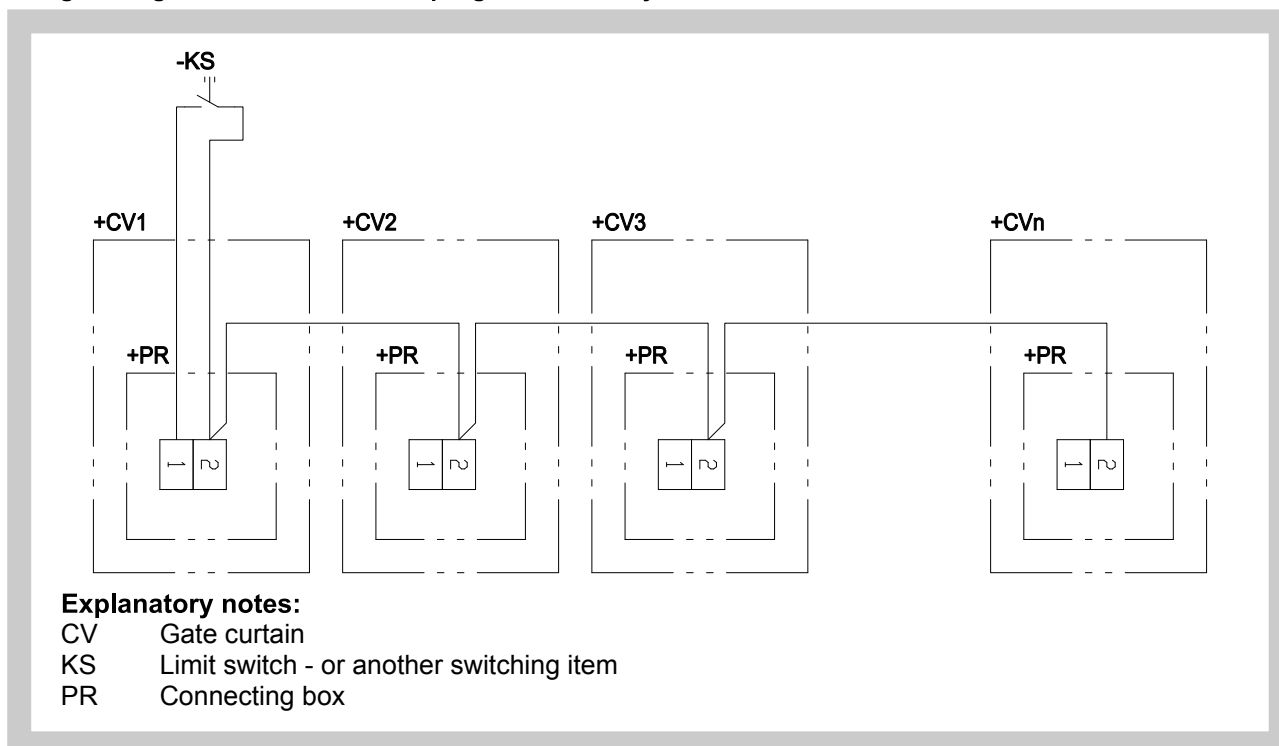
Fig. 5 Diagram for gate curtain with three-phase fan motor, star connection



**Explanatory notes:**

- CV Gate curtain
- KS Limit switch - or another switching item
- PR Connecting box
- RE Relay
- VR Radial fan
- W Cable
- F Circuit breaker

Fig. 6 Diagram for control of multiple gate curtains by one limit switch



## 5. Description of function

- 5.1 The gate curtain is installed on the upper edge of a protected building aperture. The air stream axis is adjusted askew against the penetrating air from outdoors. The curtain draws in the heated air directly from indoors. If the air stream from the curtain is well adjusted, the most air returns to the protected indoor room, only minimally mixed with the air from outdoors. The gate curtain is switched on when the gate is opened. The curtain can be operated manually or, more comfortably, with the help of a limit switch installed on the gate. The connection box of the gate curtain allows switching multiple gate curtains with the help of one limit switch.
- 5.2 The air stream direction of the gate curtain is set with the help of the curtain holder allowing to turn the air stream with the whole curtain from  $-30^\circ$  to  $+15^\circ$  from the vertical plane.

## V. RECOMMENDED ACCESSORIES

### 6. Recommended accessories

- 6.1 Special brackets are offered to attach the gate curtains on vertical building structures, see Fig. 7. The curtain is attached to them with the help of 4 bolts M8 with nuts and washers, to be fixed to the holes in the curtain holder. 2 brackets are to be used for one curtain. The brackets are made of galvanized steel sheet.
- 6.2 In cases where it cannot be excluded that the gate curtain fan could come into contact with persons or where there is risk of sucking-in items from the air, we suggest that the curtain fan should be fitted with a protective grid on both suction sides. The protective grid is attached to the fan box with the help of three self-cutting screws.



Fig. 7 Bracket for gate curtain

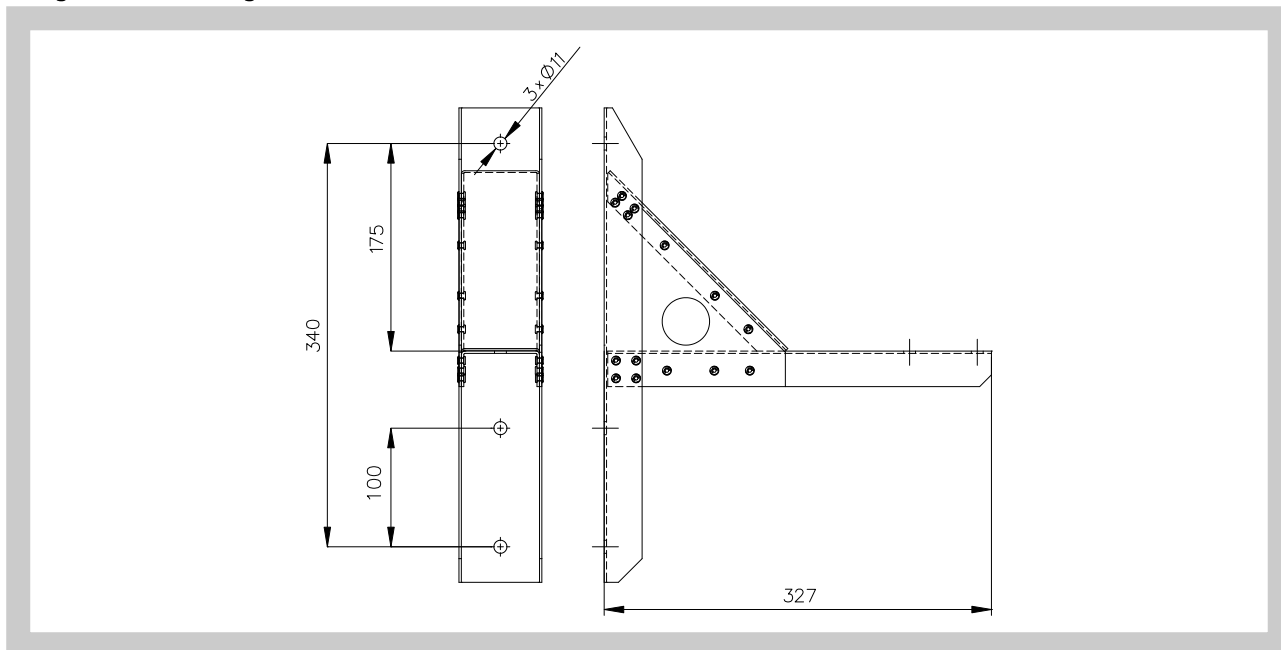
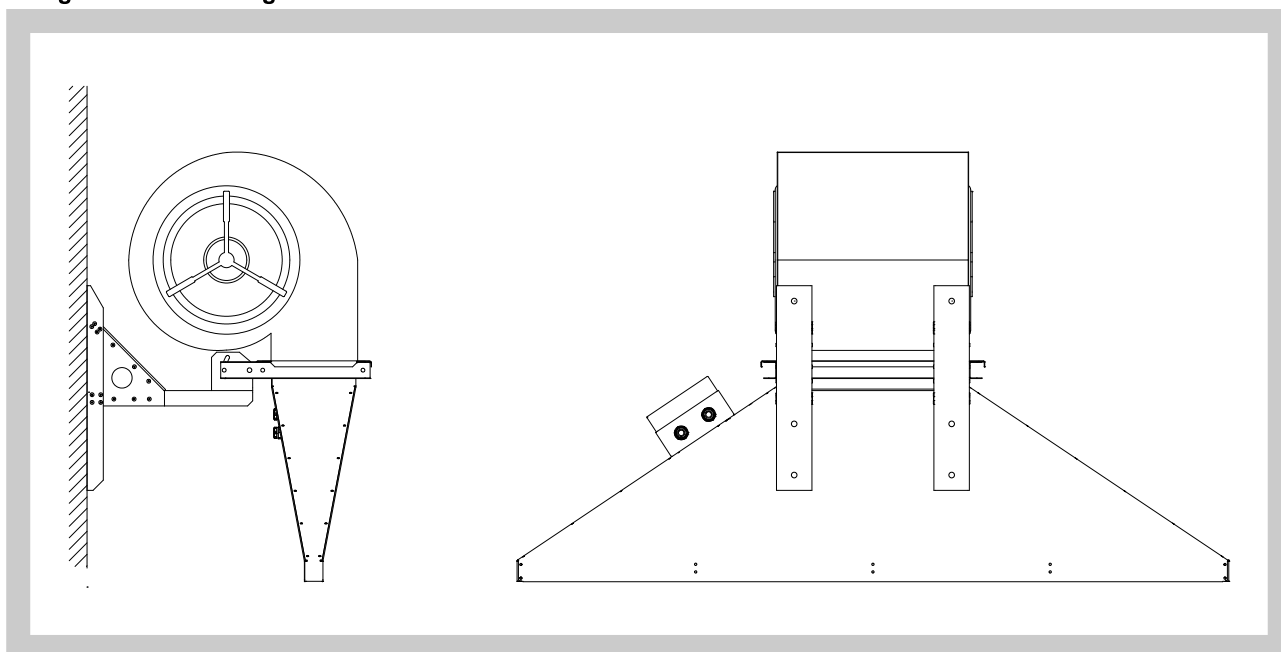


Fig. 8 Bracket with gate curtain



## VI. ASSEMBLY

### 7. Installation of gate curtain on the wall with the help of brackets

- 7.1 Remove the curtain holder from the curtain frame (2x bolt M8, 2x bolt M6)
- 7.2 Screw the curtain holder on both brackets (4x bolt M8) – see Fig. 9
- 7.3 Attach the brackets with the curtain holder on the wall with the help of 4 anchoring elements suitable for the given wall type.
- 7.4 After the anchoring elements fastening the brackets have reached their full bearing capacity, fasten the curtain in the holder on the brackets (2x bolt M8, 2x bolt M6) – see Fig. 10

Fig. 9 Installation of curtain holder on brackets

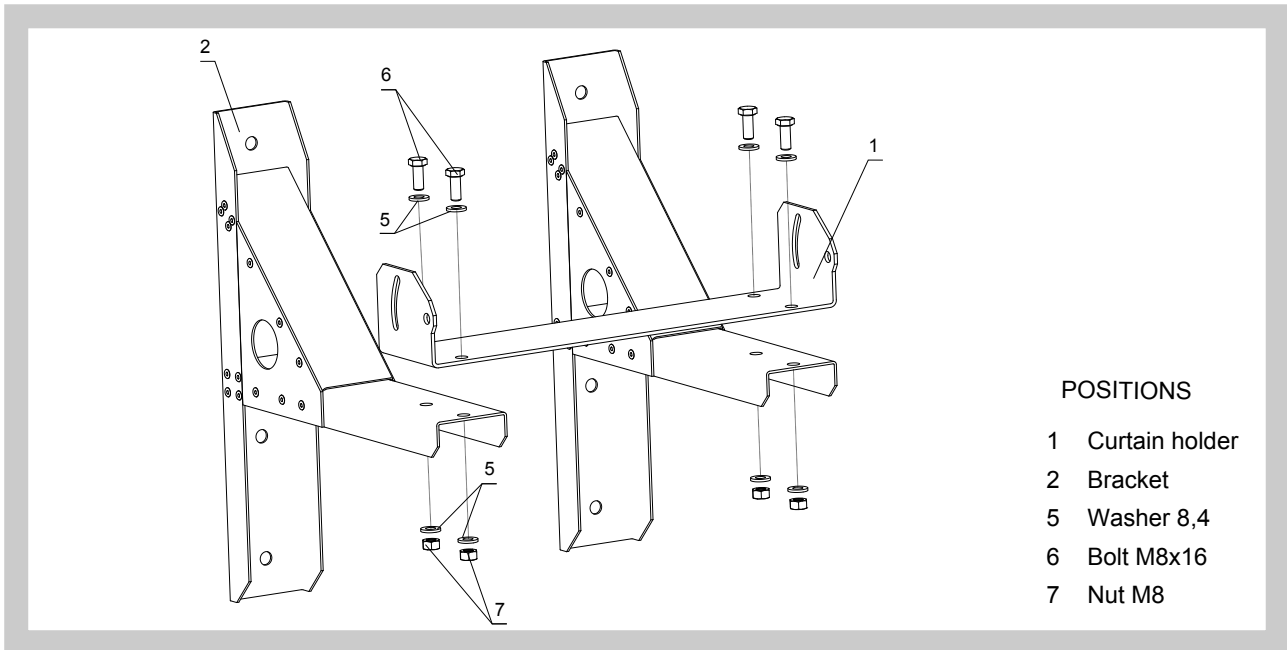
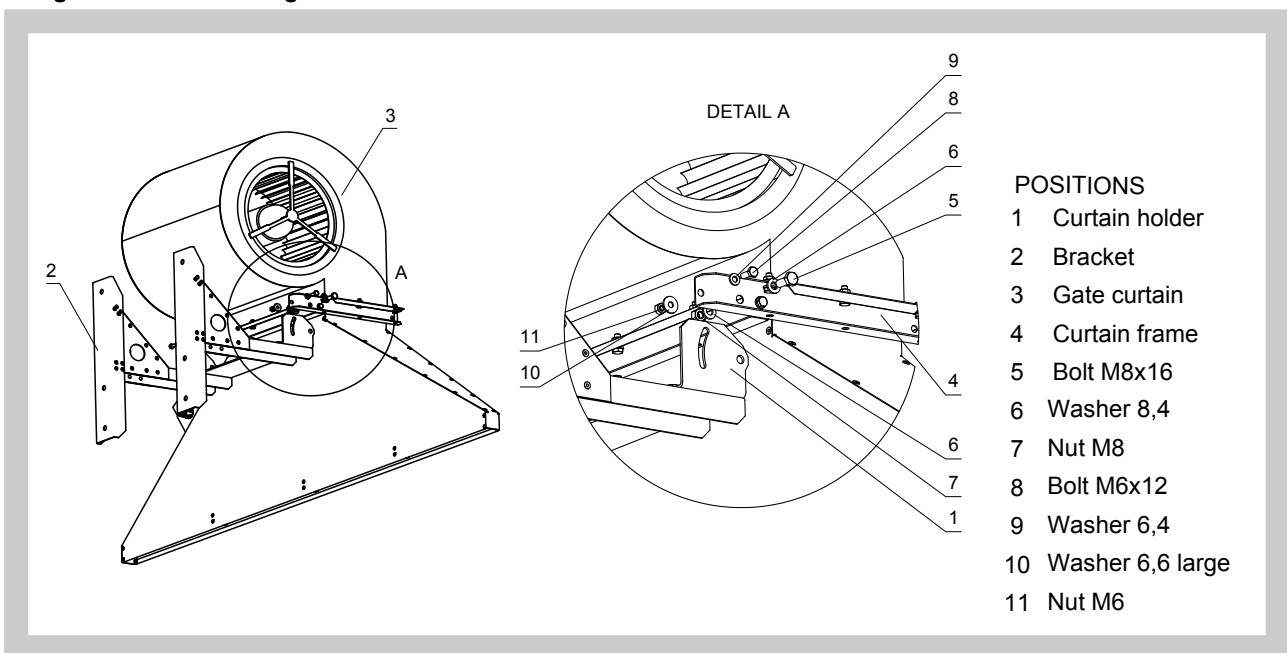


Fig. 10 Installation of gate curtain on holder



## VII. INSTALLATION

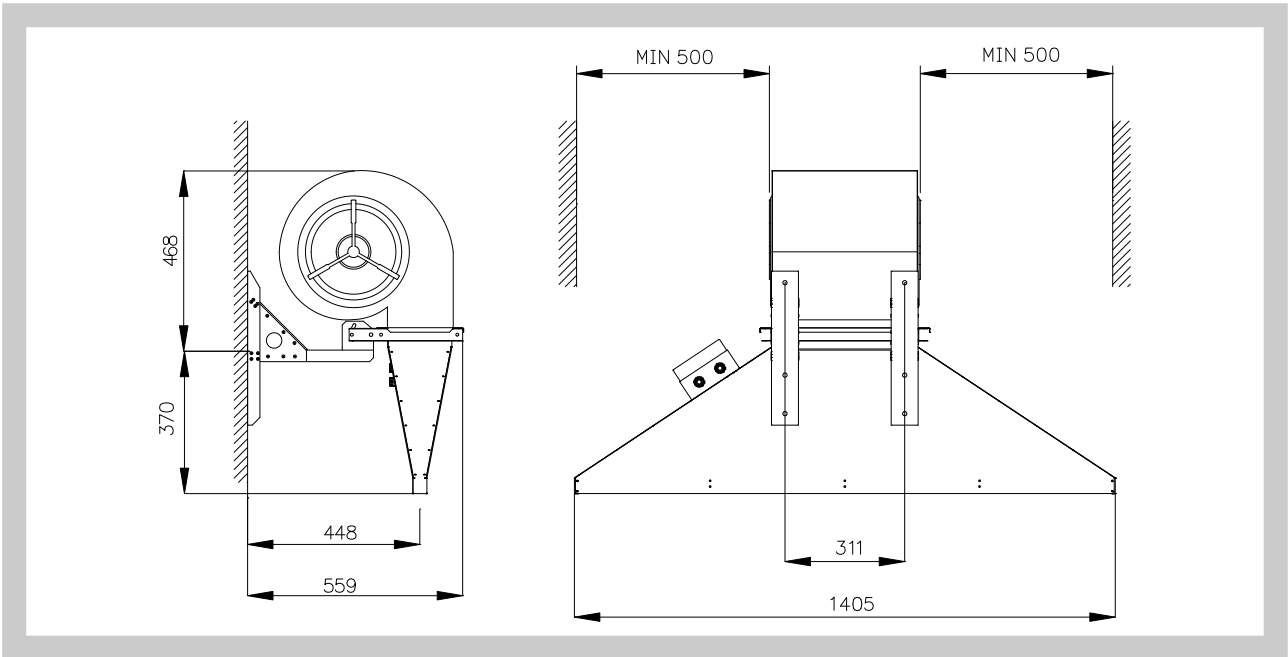
### 8. Installation conditions

8.1 The gate curtain must be installed in compliance with valid standards and regulations.

#### 8.2 Important notice:

The installation of the gate curtain must be carried out so that free space for air supply to the air fan of not less than 0,5 meters from both sides of the fan suction is provided. No obstacles must be in the way of the air stream from the gate curtain outlet; otherwise, the stream and the function of the gate curtain will be disrupted.

**Fig. 11 Installation of gate curtain on bracket**



**8.3** When carrying out the installation, valid standards concerning the following topics must be respected:

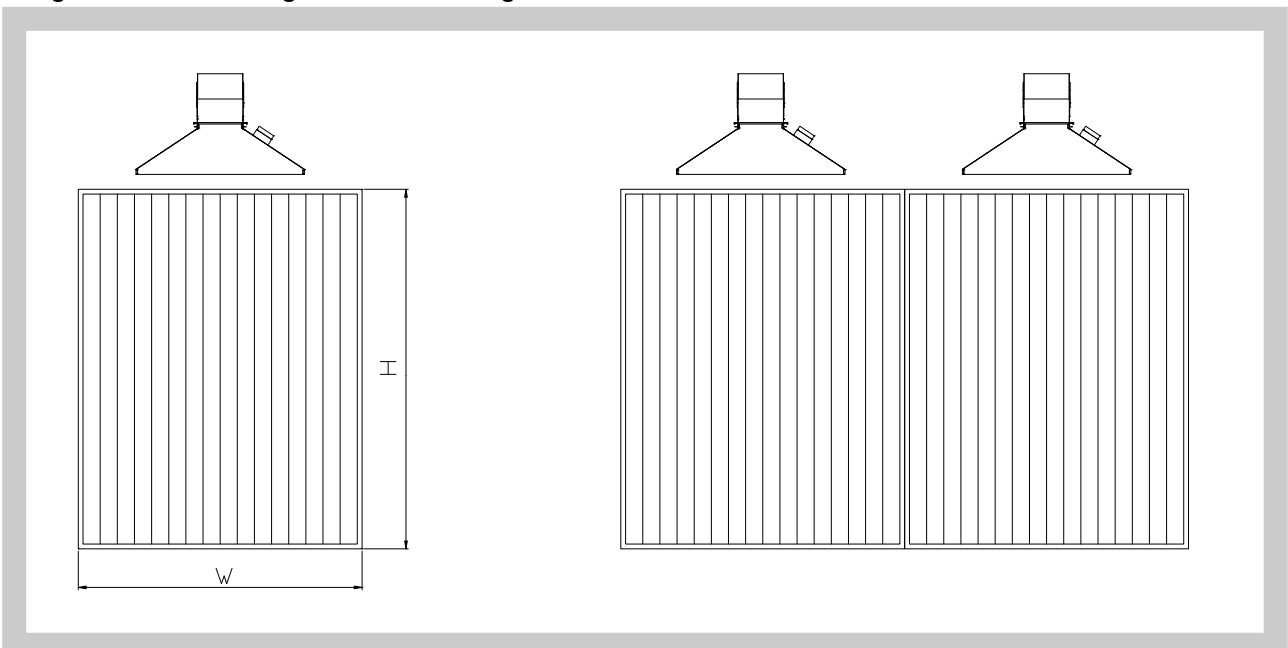
- fire protection
- electrical installation

**8.4** BEFORE CARRYING OUT THE INSTALLATION, CHECK WHETHER THE LOCAL POWER SUPPLY CONDITIONS ARE COMPATIBLE WITH THE ELECTRICAL DATA STATED ON THE IDENTIFICATION PLATE.

**9. Gate curtain installation**

9.1 The gate curtains are to be installed as low as possible above the gate, but without hindering the gate opening. For wide gates, several gate curtains are situated next to each other. The maximal gate sizes apply to indoor / outdoor temperature differences up to 20°C.

**Fig. 12 Installation of gate curtain above gate**



**Tab. 2 Maximal gate size**

Gate curtain	Maximal gate size	
	Width W (mm)	Height H (mm)
<b>AS 43</b>	3000	4000
<b>AS 47</b>	3500	5500

9.2 After installing the gate curtain, the optimal inclination of the curtain as against the gate must be tested and set, so that the curtain does not blow the indoor air outside and that it does not let too much outdoor air inside.

**10. Installation of electrical connection**

10.1 The gate curtain is, according to ČSN EN 61140, an electric appliance of class I and it is fitted with a terminal to connect a protective conductor. The terminal must be connected, see ČSN EN 61140. In case of fixed connection to electrical distribution, a shut-down switch must be included.

10.2 The power supply must have the prescribed protection according to ČSN 33 2000-4-43, ČSN 33 2000-5-54 and ČSN 34 1610.

10.3 For the diagram of connecting terminal box see Fig. 4 and 5

10.4 The gate curtain protection is IP40.

10.5 The electrical connection must be installed by a person with an adequate certification according to Regulation No. 50/78 Coll.

**VIII. PRODUCT DATA**

**11. Data label**

**Fig. 13 Data label**

<b>MANDÍK</b>		MANDÍK, a.s. 267 24 Hostomice	Dobříšská 550 Czech Republic
<b>AIRSTREAM GATE CURTAIN:</b>			
TYP:	<input type="text"/>		
PROTE:	<input type="text"/>	PROTECTION:	<input type="text"/>
VOLTA:	<input type="text"/>	WEIGHT:	<input type="text"/>
EL. INPUT:	<input type="text"/>	DESTINATION:	<input type="text"/>
SERIAL NUMBER:	<input type="text"/>		

**IX. PACKAGE, TRANSPORT, STORAGE****12. Logistic data**

- 12.1.** The gate curtains and accessories are equipped with a packing film and protected in wood casings; they are transported by covered vehicles. For handling during transport, the units must be protected against mechanical damage and weather effects. No gross shocks are admissible and the environment temperature must not exceed +50°C.
- 12.2.** The gate curtains must be stored in covered buildings, in an environment without aggressive vapours, gases and dust. A temperature in a range of -5 and +40°C and a relative humidity of max. 80% must be maintained in the buildings. For handling during storage, the units must be protected against mechanical damage.
- 12.3.** The delivery includes the complete gate curtain and the manual for installation, operation and maintenance.

MANDÍK, a.s.  
Dobříšská 550  
26724 Hostomice  
Czech Republic  
Phone: +420 311 706 706  
e-mail: [mandik@mandik.cz](mailto:mandik@mandik.cz)  
[www.mandik.cz](http://www.mandik.cz)

---

The manufacturer reserves the right to perform changes to the product. For current information on the product visit [www.mandik.cz](http://www.mandik.cz)