



FLEXIHEAT UK LTD
www.flexiheatuk.com
01202 822221

ELiS AX air curtain

Technical documentation·Instruction manual

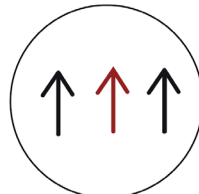
ELIS AX W-100
ELIS AX W-150
ELIS AX W-200
ELIS AX W-250



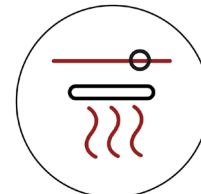
Quiet EC fans



High performance



A wide range of heating power



Works discreetly for you

TECHNICAL DOCUMENTATION

1.	IMPORTANT INFORMATION.....	3
2.	GENERAL INFORMATION.....	4
3.	TECHNICAL DATA ELIS AX.....	4
4.	DIMENSIONS.....	5
5.	INSTALLATION.....	5
6.	HORIZONTAL INSTALLATION.....	6
7.	CONNECTION OF ELECTRICAL INSTALALTION.....	7
8.	CONNECTION OF COMPONENTS.....	9
9.	CONNECTION OF HYDRAULIC INSTALLATION.....	12
10.	PARAMETERS OF THE HEATING MEDIUM.....	13
11.	OPERATION.....	13
12.	CLEANING AND MAINTENANCE.....	13
13.	CONFORMITY WITH WEEE DIRECTIVE 2012/19/UE.....	14
14.	SERVICE AND WARRANTY TERMS.....	14

TECHNICAL DOCUMENTATION

1. IMPORTANT INFORMATION

We have made every effort to make this manual as easy to understand as possible. However, if you have any difficulties, problems or questions, please contact Flexiheat UK _____

Also visit our website www.flowair.pl where you will find mounting tips.

In this manual you will find important safety information and tips marked as below:



Dangerous practices which may result in serious injury or death. Read all warnings before starting work.



Unsafe practices which, if not avoided, may result in damage to property or minor injuries. Before starting work, read all cautions.



Useful tips for the user and installer.

IMPORTANT SAFETY INFORMATION:



1. Before installing, connecting, starting up, using and maintaining the device, please read this manual completely.
2. After receiving the product, check that it has not been damaged during transport. If the product appears to be damaged, **DO NOT START TO MOUNT THE DEVICE**; instead, you must immediately report the damage to the delivery man.
3. The device must be mounted in a stable way and in accordance with the instructions, in a place that can be easily accessed, thus ensuring the possibility of carrying out repairs and routine maintenance, as well as allowing easy and safe disassembly of the device.
4. The stability and durability of installation of the device depends on the structure of the building (in particular walls and ceilings). The person performing the assembly should take these conditions into account when mounting the device.
5. The technical documentation should be kept in a safe place, easily accessible to the user and service technician.
6. Always test the operation of the device after installation.



1. The power connection shall be performed only by an authorized person.
2. The device is not equipped with a thermostat that controls the room temperature. Do not use the device in small rooms where there are people who are not able to leave the premises alone. Above mentioned does not apply to rooms with constant supervision.
3. The device requires periodic inspections in accordance with the instructions in this manual.
4. Do not hang/put pressure on the device.
5. Do not place any objects on the device or hang anything on the connection stubs.
6. The product should be stored and assembled out of the reach of small children.
7. The device is dedicated to work indoors with a maximum air dustiness of 0.3 g/m³. The device has elements made of aluminum, copper and galvanized steel and cannot be used in an corrosive environment.
8. Equipment cannot be used in an environment where oil mist is present.
9. This equipment may be used by children that are at least 8 years old, by persons with reduced physical and mental abilities and persons with no experience and knowledge of the equipment, on condition that the supervision or instruction regarding correct use of the equipment in a safe manner is provided and the possible threats are understood. The device cannot be used by children to play. Unattended children should not clean or maintain the equipment.



1. The device is powered by dangerous voltage. Always disconnect the device from the power supply before servicing or accessing its internal components.
2. Do not insert your fingers or any objects inside the device.
3. Do not cover the device.

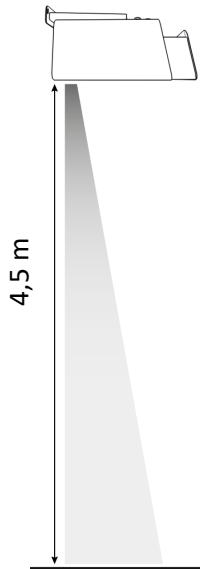
2. GENERAL INFORMATION

ELiS AX air curtain is a high-quality device that, by creating an air barrier, reduces heat losses. The device is dedicated ONLY for indoor use. The ELiS AX air curtain is intended for horizontal installation above a door opening or vertical installation with a door opening with a maximum height of 4,5 m.

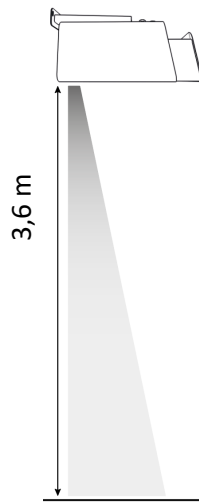
The air curtain is available in a version with a water 3-row or 4-row heat exchanger:

- ELiS AX36-W3R-100, ELiS AX36-W3R-150, ELiS AX36-W3R-200, ELiS AX36-W3R-250 – air curtains with 3-row water heat exchanger with a maximum range of 3,6 m*,
- ELiS AX36-W4R-100, ELiS AX36-W4R-150, ELiS AX36-W4R-200, ELiS AX36-W4R-250 – air curtains with 4-row water heat exchanger with a maximum range of 3,6 m*,
- ELiS AX45-W3R-100, ELiS AX45-W3R-150, ELiS AX45-W3R-200, ELiS AX45-W3R-250 – air curtains with 3-row water heat exchanger with a maximum range of 4,5 m*,
- ELiS AX45-W4R-100, ELiS AX45-W4R-150, ELiS AX45-W4R-200, ELiS AX45-W4R-250 – air curtains with 4-row water heat exchanger with a maximum range of 4,5 m*.

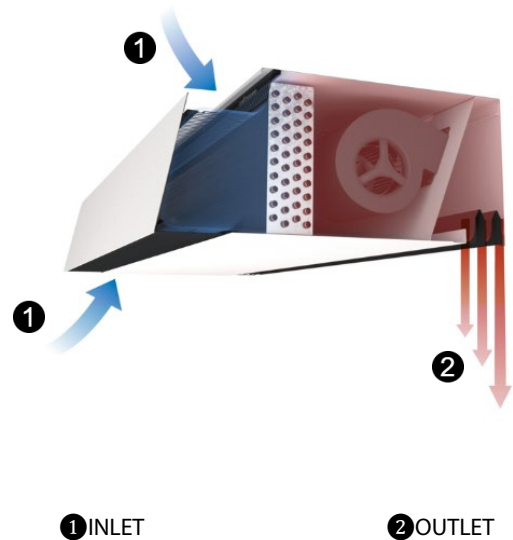
* according to ISO 27327-1



PIC. 2.1 ELiS AX45 RANGE.



PIC. 2.2 ELiS AX36 RANGE.



① INLET

② OUTLET

PIC. 2.3 DIRECTION OF AIR FLOW.

ADVICE



1. The use of an air curtain is recommended for public buildings .
2. Underpressure in the building significantly reduces the efficiency of the air barrier, the ventilation system should be balanced.
3. At a wind speed of more than 3 m/s, the heated version of air curtain should be used to increase user comfort.

3. TECHNICAL DATA ELiS AX

	ELiS AX36-W3R-100	ELiS AX36-W3R-150	ELiS AX36-W3R-200	ELiS AX36-W3R-250	ELiS AX36-W4R-100	ELiS AX36-W4R-150	ELiS AX36-W4R-200	ELiS AX36-W4R-250
Power supply [V/Hz]	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50
Max. current consumption [A]	2,3	3,3	5,6	6,4	2,2	3,2	5,5	6,3
Power consumption [kW]	0,27	0,40	0,67	0,81	0,27	0,40	0,67	0,81
IP	21							
Connection stub ["]	3/4							
Air volume⁽¹⁾ [m³/h]	900 - 1800	1200-2700	2000-4300	2300-5300	800-1700	1100-2600	1900-4200	2200-5200
Acoustic pressure level⁽²⁾ [dB(A)]	42-60	43-61	45-63	46-64	41-59	42-60	44-62	45-63
Acoustic power level⁽³⁾ [dB(A)]	58-76	59-77	61-79	62-80	57-75	58-76	60-78	61-79
Heating power⁽⁴⁾ [kW]	8,1-12,9	11,8-20,5	17,1-29,0	21,4-38,0	8,7-15,2	12,7-24,1	20,6-36,7	24,7-46,6
Temperature increase⁽⁴⁾ (ΔT) [°C]	26-21	29-22	25-20	27-21	32-26	34-27	31-26	33-26
Max. Water pressure [MPa]	1,6							
Max. water temperature [°C]	60							
Device mass [kg]	38,5	53,3	71,7	86,8	40,0	55,6	74,8	90,3
Range⁽¹⁾ [m]	3,6							

	ELiS AX45-W3R-100	ELiS AX45-W3R-150	ELiS AX45-W3R-200	ELiS AX45-W3R-250	ELiS AX45-W4R-100	ELiS AX45-W4R-150	ELiS AX45-W4R-200	ELiS AX45-W4R-250
Power supply [V/Hz]	230/50	230/50	230/50	230/50	230/50	230/50	230/50	230/50
Max. current consumption [A]	3,3	4,6	6,4	7,6	3,2	4,5	6,3	7,5
Power consumption [kW]	0,49	0,65	0,99	1,15	0,49	0,65	0,99	1,15
IP	21							
Connection stub ["]	3/4							
Air volume⁽¹⁾ [m³/h]	1100-2500	1500-3500	2200-5000	2400-6100	1000-2400	1400-3400	2100-4900	2300-6000
Acoustic pressure level⁽²⁾ [dB(A)]	43-61	44-62	45-64	46-65	42-60	43-61	44-63	45-64
Acoustic power level⁽³⁾ [dB(A)]	59-77	60-78	61-80	62-81	58-76	59-77	60-79	61-80
Heating power⁽⁴⁾ [kW]	9,3-15,7	13,9-24,1	18,4-31,8	22,1-41,4	10,3-19,1	15,3-28,9	22,2-40,6	25,6-51,3
Temperature increase⁽⁴⁾ (ΔT) [°C]	25-18	27-20	24-19	27-20	30-23	32-25	31-24	33-25
Max. water pressure [MPa]	1,6							
Max. water temperature [°C]	60							
Device mass [kg]	40,8	55,5	73,7	88,8	42,3	57,8	76,8	92,3
Range⁽¹⁾ [m]	4,5							

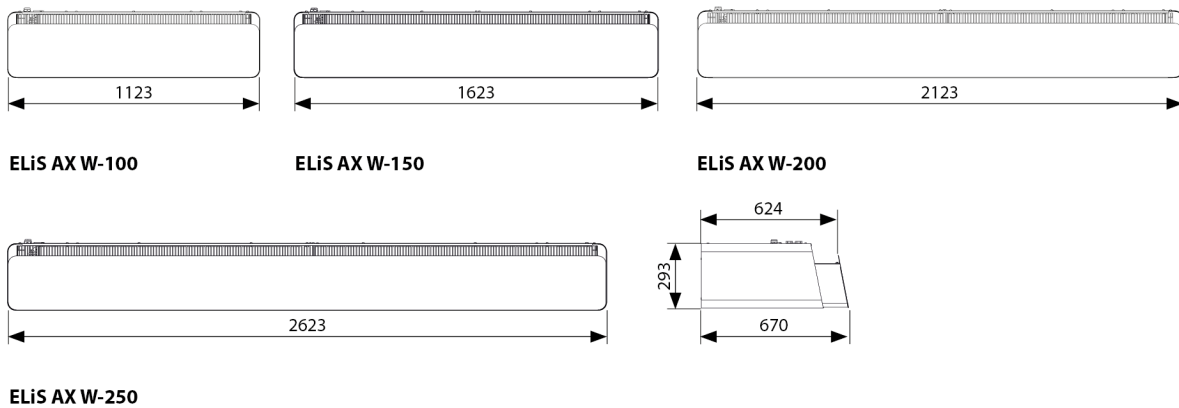
(1) According to ISO 27327-1;

(2) Acoustic pressure level has been measured in a 1500m³ space with a medium sound absorption coefficient, directional factor: Q=2;

(3) Acoustic power level according to ISO 27327-2;

(4) Power and temperature range specified for the parameters: min. capacity, heating medium temperature 60/40°C temperature at the inlet to the device 18°C - max. efficiency, heating medium temperature 60/40°C temperature at the inlet to the device 18°C;

4. DIMENSIONS

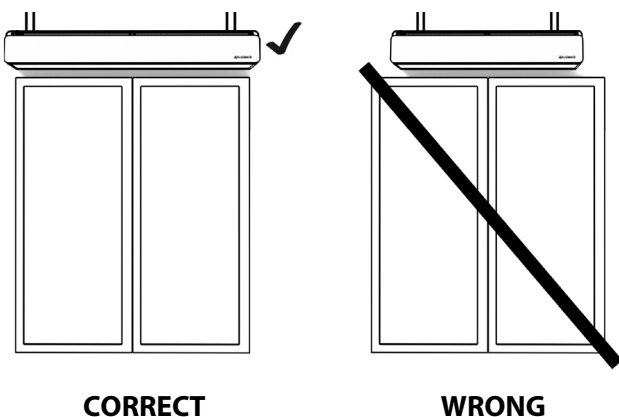


PIC. 4.1 BASIC DIMENSIONS.

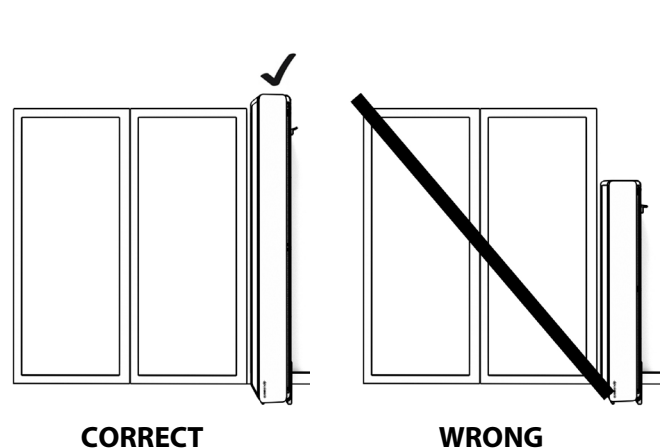
5. INSTALLATION

Air curtains must be installed as close as possible to the door opening and cover:

- the entire width (applies to horizontal installation),
- full height (applies to vertical mounting).



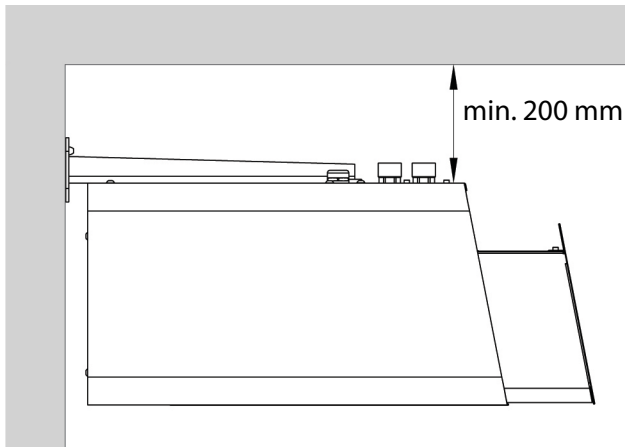
PIC. 5.1 HORIZONTAL INSTALLATION.



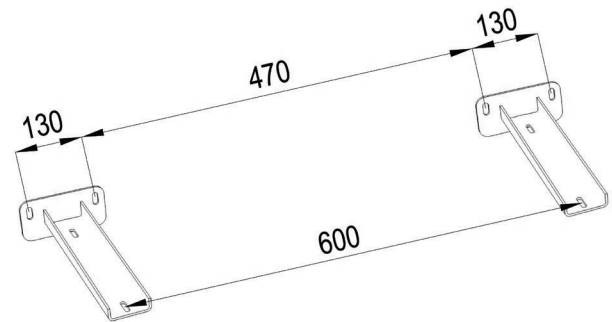
PIC. 5.2 VERTICAL INSTALLATION.

6. HORIZONTAL INSTALLATION

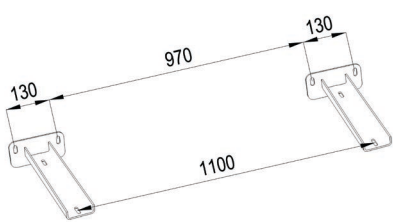
ELIS AX curtains are adapted for horizontal installation with the use of dedicated brackets or M8 threaded rods (maximum length of the rods 1m). During assembly, keep the minimum distances as shown in the figure below. The device must be leveled before it is put into operation.



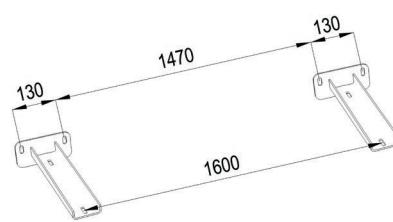
PIC. 6.1 MOUNTING WITH DEDICATED BRACKETS.



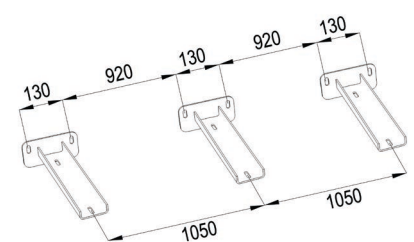
PIC. 6.2 BRACKETS DISTANCE ELIS AX W 100.



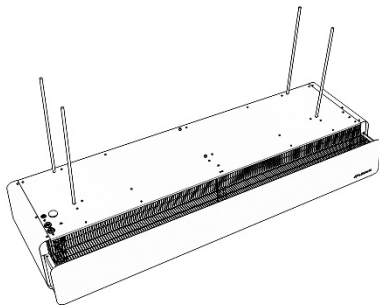
PIC. 6.3 BRACKETS DISTANCE ELIS AX W 150.



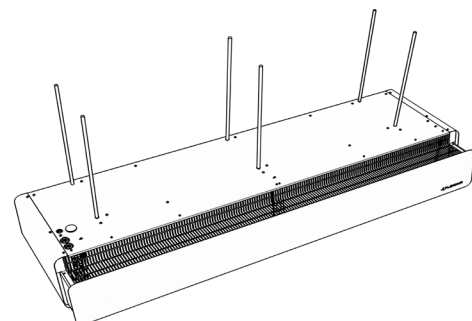
PIC. 6.4 BRACKETS DISTANCE ELIS AX W 200.



PIC. 6.5 BRACKETS DISTANCE ELIS AX W 250.

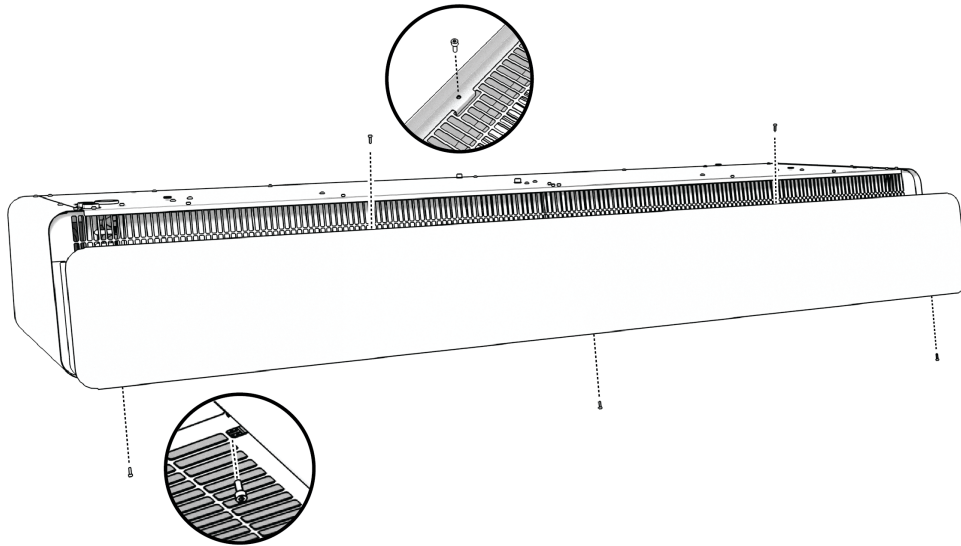


PIC. 6.6 INSTALLATION WITH THREADED RODS
ELIS AX 100/150/200.



PIC. 6.7 INSTALLATION WITH THREADED RODS
ELIS AX 250.

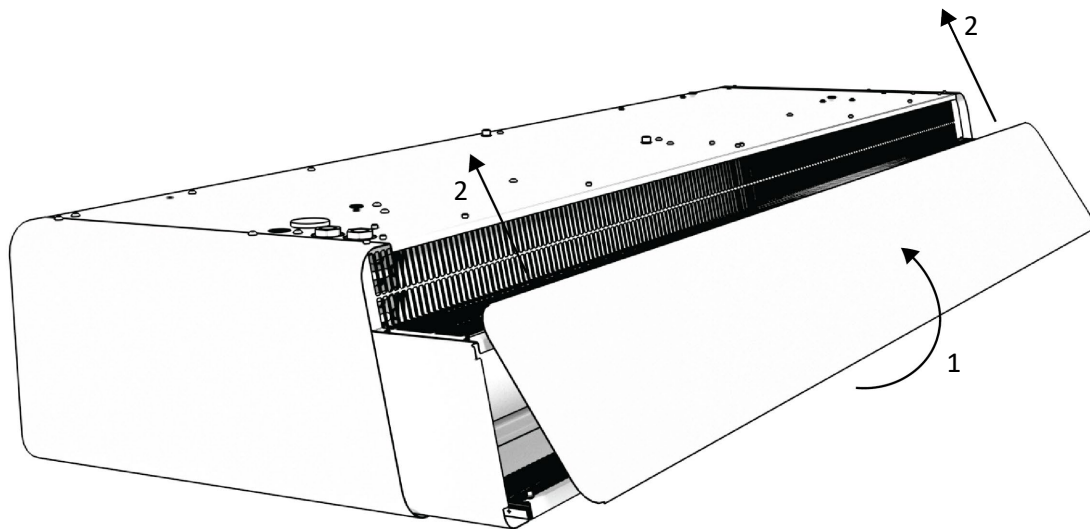
7. CONNECTION OF ELECTRICAL INSTALALTION



PIC. 7.1 SCREW POSITIONS.

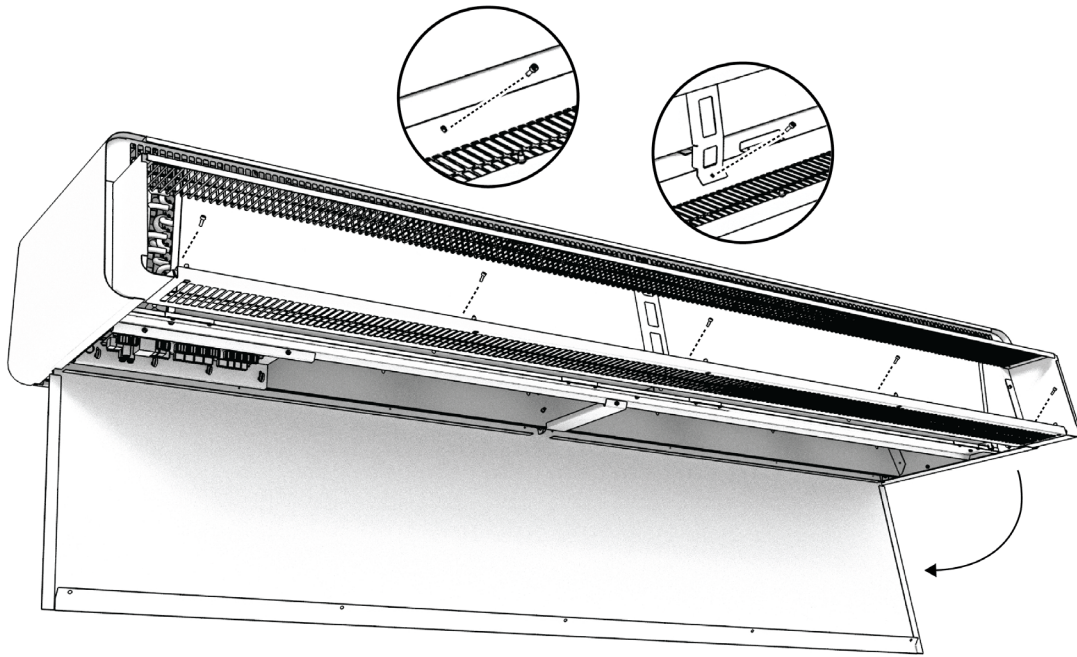
- Remove screws from down and above as in the picture PIC. 7.1.
- Use imbus 3.0mm key to remove the screws.
- Depending on the length of the device, the number of screws varies (see the table).

Model	Number of bolts from above	Number of bolts from below
ELIS AX 100	1	3
ELIS AX 150	2	4
ELIS AX 200	2	5
ELIS AX 250	3	6



PIC. 7.2 REMOVING THE COVER.

- To remove the cover, tilt it (1) and slide it out of the catches (2) as shown in the graphic PIC. 7.2.



PIC. 7.3 RELEASING THE INSPECTION HATCH.

- Unscrew the screws inside the device to be able to open the inspection hatch.
- Depending on the length of the device, the number of screws varies (see the table)

Model	Number of screws to unscrew inside
ELIS AX 100	3
ELIS AX 150	5
ELIS AX 200	5
ELIS AX 250	7

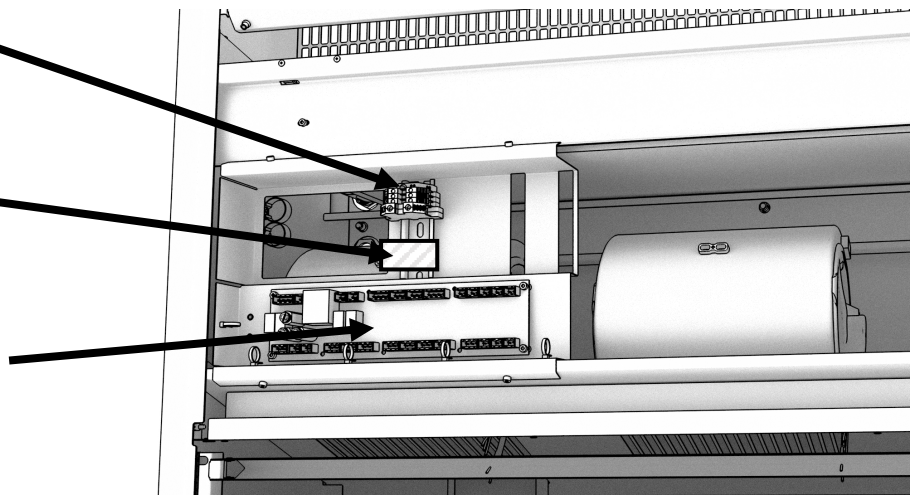
CAUTION

Hold the hatch while unscrewing to prevent it from opening suddenly.

Power supply connection position

Transformer position (optional)

Position of the DRV ELIS AX in the curtain

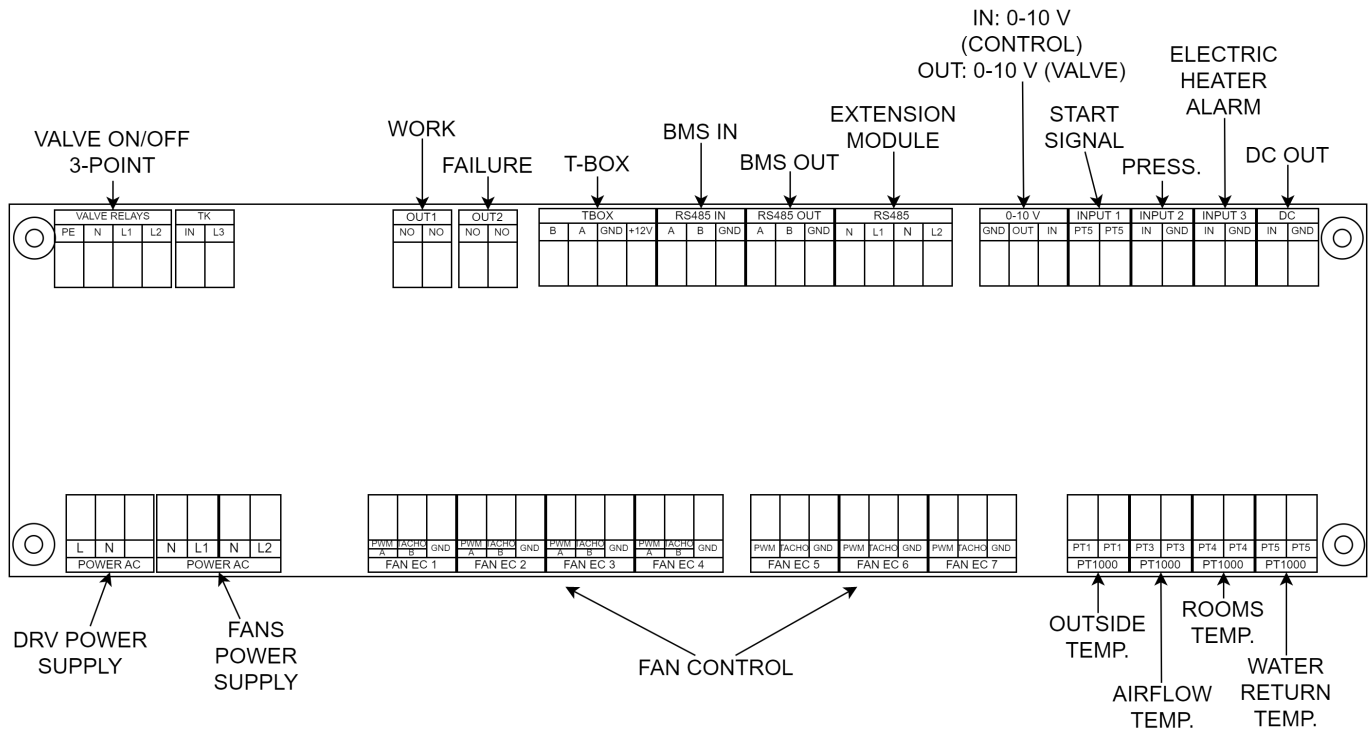


PIC. 7.4 VIEW OF CONNECTIONS AND DRV ELIS AX INSIDE THE INSPECTION HATCH

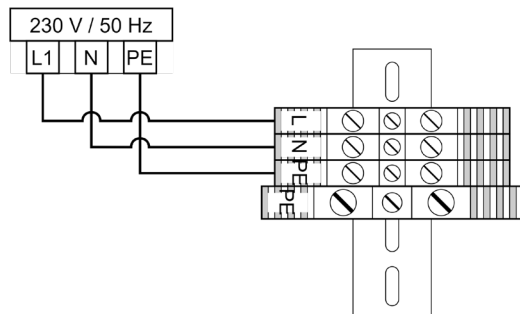
1. The power connection should be made in accordance with the technical documentation. The device installation should always be carried out in accordance with applicable local safety standards.
2. The cross-section and type of cable should be selected by the designer. (Always make sure that the disconnectors and protective switches are properly sized and disconnect all poles of the power supply).
3. Make sure that the connection of power supply and controllers to the ELIS AX curtain is made in accordance with the electrical specifications and the instructions included in the connection diagrams in the technical documentation.
4. Before connecting the power supply, check that the mains voltage corresponds to the voltage on the device's type plate.
5. Check the power connection before connecting the air curtain.
6. Starting the device without connecting the grounding wire is not allowed.
7. Protect the power cord against pulling out by clamping the cable gland.
8. Tighten all connection cables in the block properly
9. Do not start the device with the service hatch open.

WARNING

8. CONNECTION OF COMPONENTS

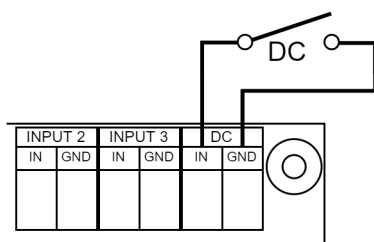


PIC. 8.1 GENERAL APPEARANCE OF THE DRV ELIX AX.



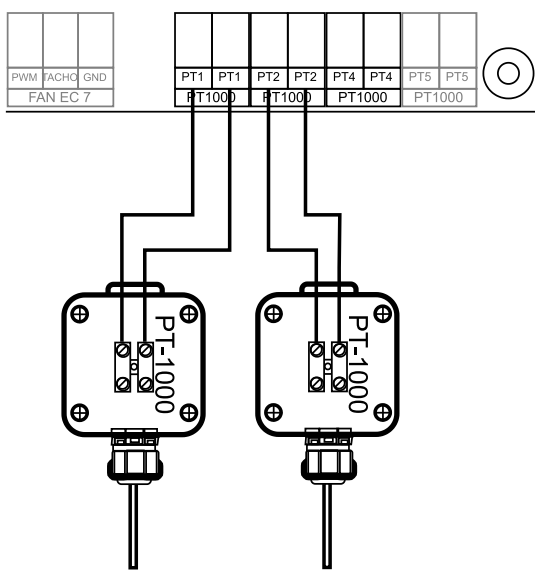
PIC. 8.2 POWER SUPPLY.

- Conductor cross-section:
- min. 3x1,5 mm²
 - Protection B10



PIC. 8.3 CONNECTING OF THE DOOR SENSOR.

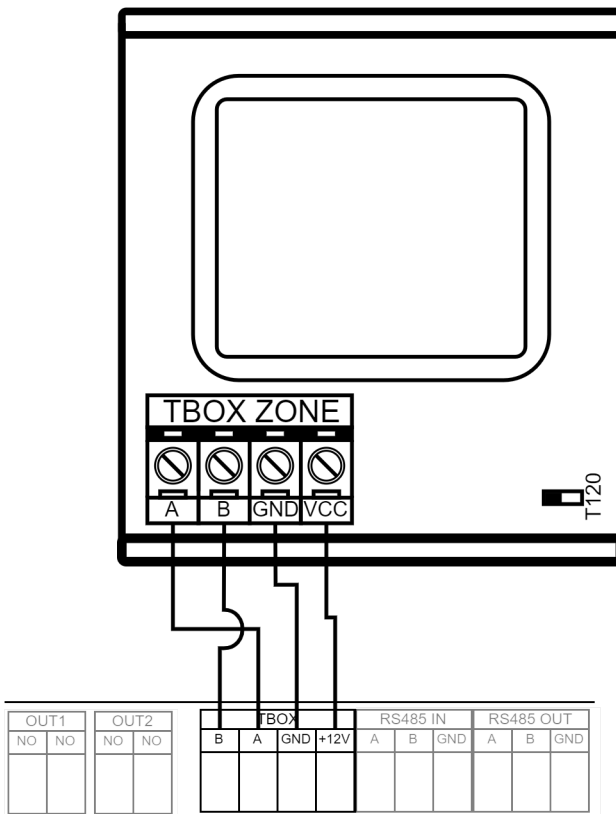
- Conductor cross-section:
- min. 2x0,5 mm²



Conductor cross-section:

- 2x0,5mm²

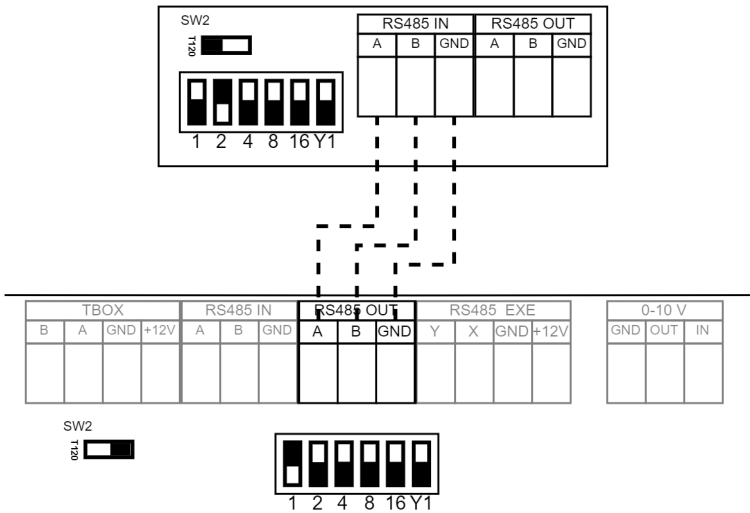
PIC. 8.4 CONNECTION OF PT-1000 SENSORS.



Conductor cross-section:

- LIYY-P min. 2x2x0,5mm²

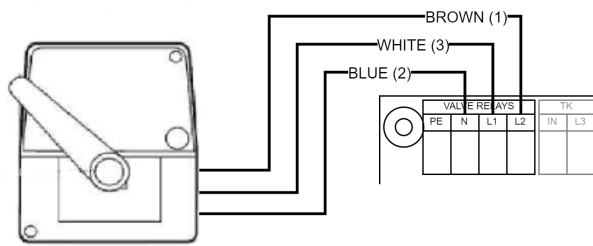
PIC. 8.5 T-BOX ZONE CONNECTION.



PIC. 8.6 DRV CHAINING.

Conductor cross-section:

- LIYY-P min. 2x2x0,5mm²

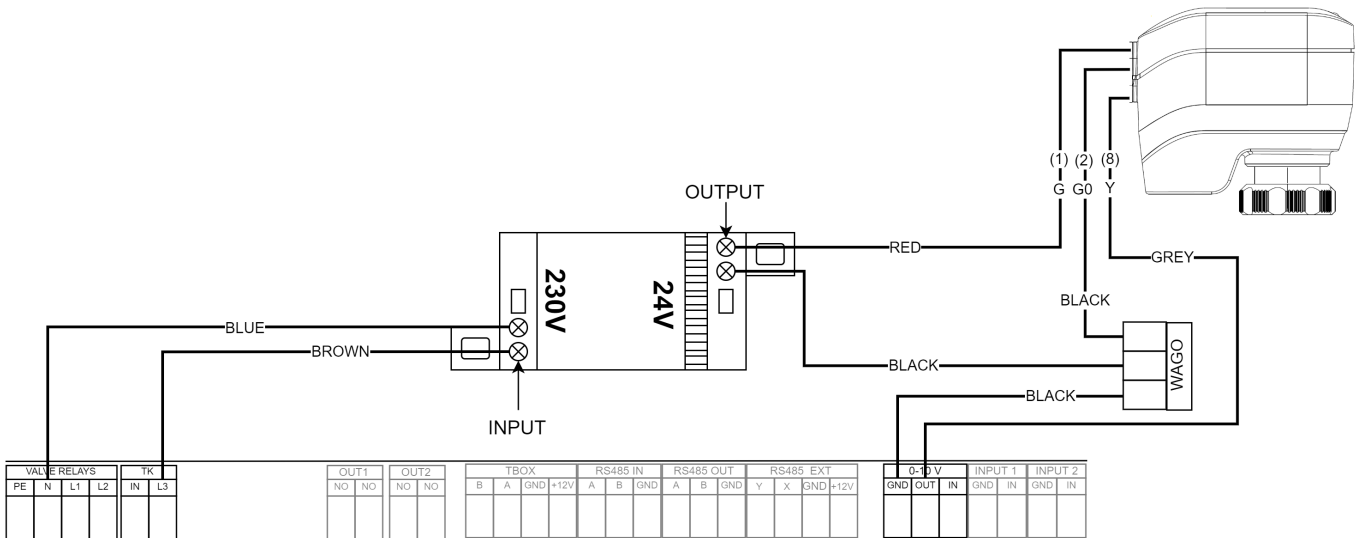


PIC. 8.7 CONNECTION OF 3-WAY VALVE WITH A 3P ACTUATOR.

Conductor cross-section:

- 3x0,75mm²

Kit sold separately

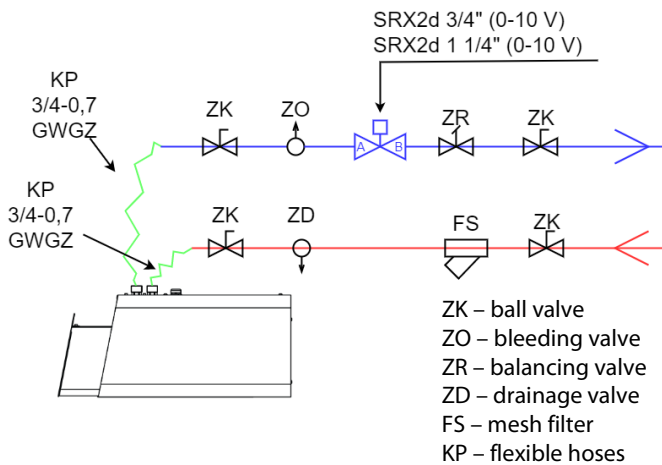


PIC. 8.8 CONNECTION OF 2-WAY VALVE WITH AN ACTUATOR (FLUENT MODULATION 0-10 V).

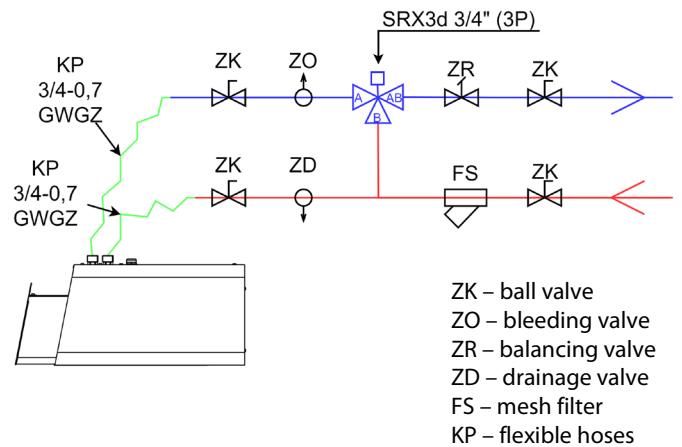
The valve set includes an actuator, a transformer and a set of wires for connection as shown in the diagram PIC. 8.8.

Kit sold separately

9. CONNECTION OF HYDRAULIC INSTALLATION



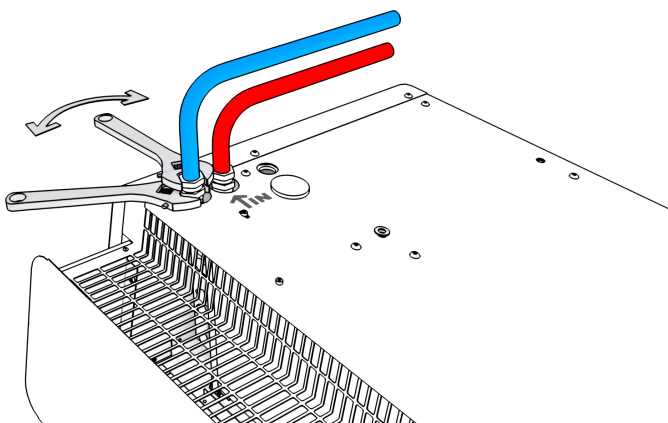
PIC. 9.1 CONNECTION EXAMPLE OF SRX2D.



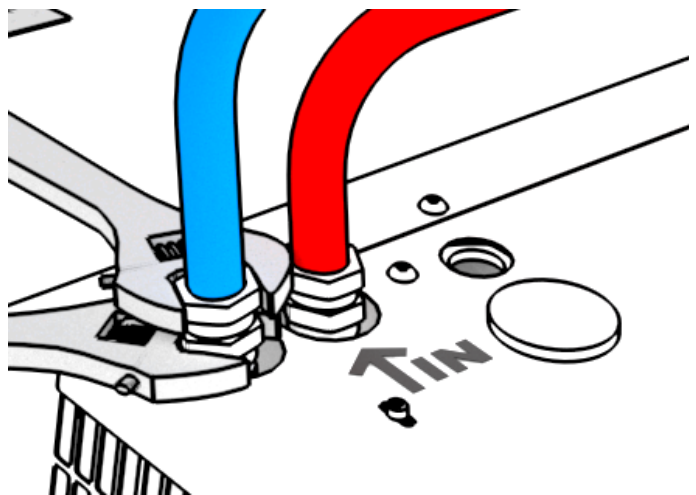
PIC. 9.2 CONNECTION EXAMPLE OF SRX3D.

SRX VALVES PARAMETERS:

- **SRX2d 3/4"** – two-way valve 3/4" with an actuator (fluent modulation 0-10 V).
 - **SRX2d 1 1/4"** – two-way valve 1 1/4" with an actuator (fluent modulation 0-10 V).
 - **SRX3d 3/4"** – three-way valve 3/4" with an actuator (3-point modulation)
- **SRX2d:**
Class of protection: IP54,
Supply voltage: AC/DC 24 V,
(with a supplied transformer: 230 V), 50 Hz,
Max. medium temperature: +120°C,
Operating pressure: 2,5 MPa,
SRX2d 3/4": Water flow range: 220 – 1330 l/h,
SRX2d 1 1/4": Water flow range: 550 – 4001 l/h
 - **SRX3d:**
Class of protection: IP40,
Supply voltage: AC 230 V/50 Hz,
Max. medium temperature: +120°C,
Operating pressure: 1,0 MPa,
SRX3d 3/4" Kvs: 6,3 m³/h,
Running time: 140 s



PIC. 9.3 COUNTER



PIC. 9.4 WATER INLET CONNECTION POINT

WARNING



1. Disconnect the curtain power supply before connecting the water system.
2. The connection should be made without stress. It is recommended to use flexible ducts supplying the heating medium.
3. Water supply should be connected to the connector marked with the symbol ↑ IN.
4. The installation with the heating medium must be protected against the increase of the heating medium pressure above the permissible value (1.6 MPa).
5. Before starting the device, check the correct connection of the heating medium and the system for leaks.
6. During assembly of the installation it is absolutely necessary to immobilize the exchanger's connector pipes (PIC. 9.3).
7. After filling the system with heating medium, check the tightness of the hydraulic connections, including the built-in vent.

ADVICE 

1. It is recommended to use bleeding/air release valves at the highest point of the installation.
2. In the event that the water from the device is drained for a longer period of time, the exchanger tubes should be blown and dried with compressed air.
3. Installation should be carried out in such a way that in the event of a failure it is possible to dismantle the device (use of flexible hoses is recommended). For this purpose, use shut-off valves next to the device.

10. PARAMETERS OF THE HEATING MEDIUM

The water heat exchanger can be supplied with water or glycol solutions up to 60% . The heat exchanger tubes are made of copper. The heating medium should not cause corrosion of this material. In particular, the parameters as below should be provided.

Parameter	Value
pH	7,5-9,0
Pollution	Free of sediments/particles
Total hardness	[Ca ²⁺ ,Mg ²⁺]/ [HCO ₃ ⁻] > 0.5
Oil and grease	<1 mg/l
Oxygen	<0.1 mg/l
HCO ³	60-300 mg/l
Ammonia	< 1.0 mg/l
Sulphides	< 0.05 mg/l
Chlorides, Cl	<100 mg/l

11. OPERATION

WARNING 

1. The device must be periodically checked. These activities should be performed **ONLY** by qualified personnel. If the device malfunctions, turn it OFF immediately and contact FLOWAIR SERVICE SUPPORT.
2. Do not attempt to repair, move, modify, or reinstall the device yourself. Performing these activities by unauthorized personnel may result in electric shock or fire.
3. Do not use a damaged device. The manufacturer is not responsible for damages resulting from the use of a damaged device.
4. The device is intended for indoor use at temperatures above 0°C. At temperatures below 0°C there is a risk of freezing of the medium.
5. **The manufacturer is not responsible for damage to the heat exchanger resulting from the freezing of the medium in the heat exchanger.**

ADVICE 

1. In the case of water supplied air curtains, when the water from the device is drained for a longer period of time, the exchanger tubes should be blown with compressed air.

12. CLEANING AND MAINTENANCE

Periodically check (at least twice a year) the dirtiness level of the heat exchanger. Clogging a part of the air intake causes a decrease in the heating power of the device and adversely affects the operation of the fan.

ADVICE 

Cleaning the exchanger should be carried out in accordance with the following guidelines:

- The power supply must be disconnected during cleaning.
- Open the service flap.
- When cleaning the exchanger, be careful not to bend the aluminum fins.
- It is not recommended to use sharp objects for cleaning, due to the possibility of damage to the lamellas.
- Cleaning with compressed air is recommended.
- The exchanger cannot be cleaned with water!
- Cleaning should be carried out along the slats, with the blowing nozzle perpendicular to exchanger.

13. CONFORMITY WITH WEEE DIRECTIVE 2012/19/UE

Running a business without harming the environment and observing the rules of proper handling of waste electrical and electronic equipment is a priority for FLOWAIR.

The symbol of the crossed out wheeled bin placed on the equipment, packaging or documents attached means that the product must not be disposed of with other wastes. It is the responsibility of the user to hand the used equipment to a designated collection point for proper processing. The symbol means that the equipment was placed on the market after August 13, 2005.



For information regarding recycling of waste electrical and electronic equipment, please contact your local distributor.

REMEMBER:

Do not dispose of used equipment together with other waste! There are financial penalties for this. Proper handling of used equipment prevents potential negative consequences for the environment and human health. At the same time, we save the Earth's natural resources, reusing resources obtained from the processing of equipment.

14. SERVICE AND WARRANTY TERMS

Please contact your dealer in order to get familiar with the warranty terms and its limitation.

In the case of any irregularities in the device operation, please contact the manufacturer's service department.

The manufacturer bears no responsibility for operating the device in a manner inconsistent with its purpose, by persons not authorised for this, and for damage resulting from this!