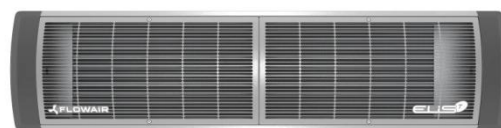


ELIS

AIR CURTAIN – UNIT HEATER COMBO



TECHNICAL DOCUMENTATION OPERATION MANUAL

Table Of Contents

1. GENERAL INFORMATION.....	3
2. DATA CHART	3
2.1. CONSTRUCTION.....	3
2.2. DIMENSIONS	4
2.3. ACOUSTIC PRESSURE LEVEL	4
2.4. AIR VOLUME	4
2.5. NOMOGRAM OF AIR FLOW SPEED	5
3. INSTALLATION	5
3.1. RECOMMENDATION OF MONTAGE DISTANCES.....	5
3.2. MOUNTING BY RODS UNDER THE CEILING..	6
3.3. MOUNTING ON THE WALLS BY THE BRACKETS.....	6
3.4. ELEMENTS INCLUDED IN BRACKET SET.....	6
3.5. STAGES OF INSTALATION.....	7
3.6. VERTICAL INSTALLATION WITH BRACKETS..	8
4. CONTROL SYSTEMS	9
4.1. CONTROLS.....	9
4.2. CONTROL SYSTEMS AND POWER SUPPLY CONNECTING	9
4.3. ELIS T – L-TYPE CONTROL SYSTEM	10
4.3.1. L - ELECTRIC SCHEME	10
4.3.2. L-TYPE CONTROL SYSTEM	11
5. DOOR CONTACT INSTALLATION	12
6. GUIDELINES FOR CONNECTION WITH POWER SUPPLY	12
7. OPERATION.....	12
8. CLEANING AND CONSERVATION	12
9. SERVICE.....	12

Thank you for purchasing the ELiS curtain. This operation manual has been issued by the FLOWAIR GŁOGOWSKI I BRZEZIŃSKI SP.J. company. The manufacturer reserves the right to make revisions and changes in the operation manual at any time and without notice, and also to make changes in the device without influencing its operation

This manual is an integral part of the device and it must be delivered to the user together with the device. In order to ensure correct operation of the equipment, get thoroughly acquainted with this manual and keep it for the future.

The devices may only be installed and operated in conditions for which they have been designed. Any other application, inconsistent with this manual, may lead to the occurrence of accidents with dangerous consequences. Every effort must be made in order to eliminate the possibility of improper use of the device. Access of unauthorized persons to the device should be restricted, and the operating personnel should be trained. The manufacturer bears no responsibility for damage resulting from incorrect installation, improper operating, or not getting acquainted with the guidelines of the manufacturer manual.

RECOMMENDATIONS AND REQUIRED SAFETY MEASURES

- Get acquainted with this operation manual before performing any works at the device.
- The device may only be installed by qualified personnel with adequate authorisations and skills.
- When performing works at the device, remember about your own safety.
- During installation, electrical connection, start-up, repairs and maintenance of air curtains, observe the commonly recognized safety standards and regulations.

1. GENERAL INFORMATION

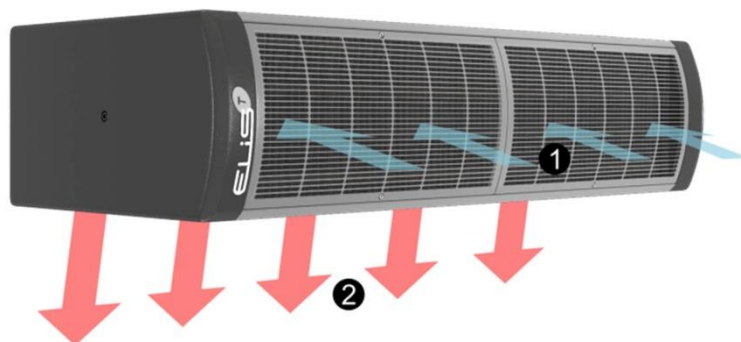
Air Curtain is dedicated to install over the door opening, it provides dynamic barrier cutting out external environment from indoor.

ELIS types:

ELIS T2-E-100 – air curtain with electrical exchanger, width 1m, maximal installation height 3,5m

ELIS T2-E-150 – air curtain with electrical exchanger, width 1,5m, maximal installation height 3,5m

ELIS T2-E-200 – air curtain with electrical exchanger, width 2m, maximal installation height 3,5m.



❶ air inlet; ❷ curtain air outlet;

2. DATA CHART

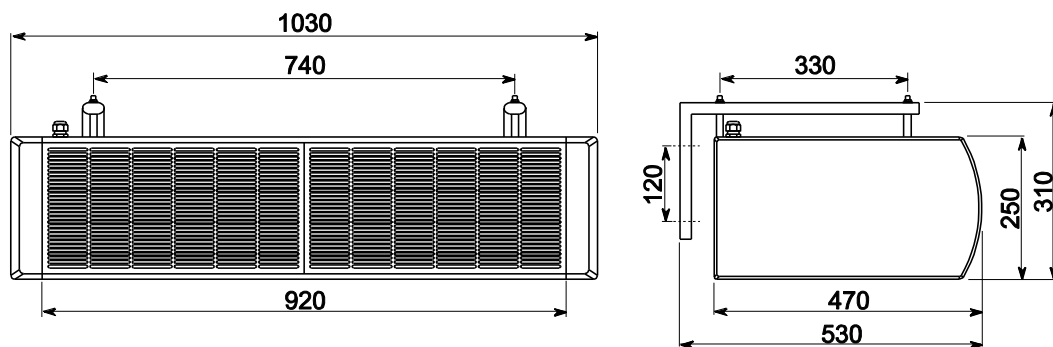
	T2-E-100	T2-E-150	T2-E-200
Power supply [V/Hz]	3x400V / 50Hz		
Current consumption [A]	10	15,5	21,5
Air temperature rise [°C]	25	21	18
Power consumption [W]	7,0	10,7	15
IP / Insulation class	21 / F		
Weight [kg]	24,8	36,0	49,4

2.1. CONSTRUCTION

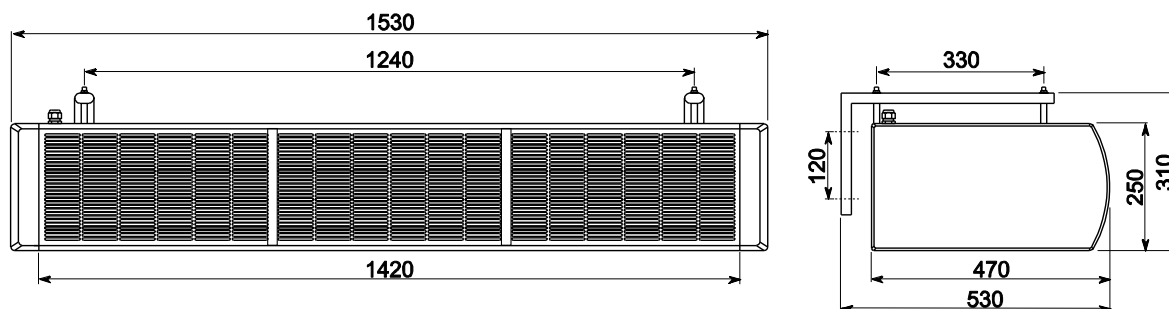
- **Main construction** – galvanized steel
- **Fan** – dual inlet radial fan, blades are made of polypropylene, IP20,
- **Heating source** – electric heaters PTC;
- **Casing** – steel sheet powder coated, RAL 9007
 - side panels are made of ABS, RAL 7016
 - inlet grille PA6GF30 plastic, RAL 9007
 - outlet of air curtain PA6GF30 plastic RAL 7016
- **Brackets** – closed structural steel, RAL 9007

2.2. DIMENSIONS

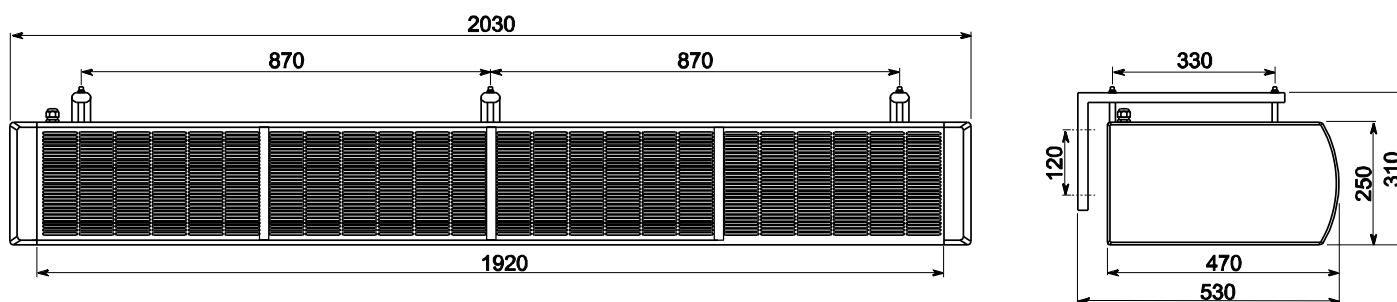
ELIS: T2-E-100



ELIS: T2-E-150



ELIS: T2-E-200



2.3. ACOUSTIC PRESSURE LEVEL

step	T2-E-100	T2-E-150	T2-E-200
3	53dB(A)	56dB(A)	58dB(A)
2	46dB(A)	49dB(A)	51dB(A)
1	42dB(A)	45dB(A)	47dB(A)

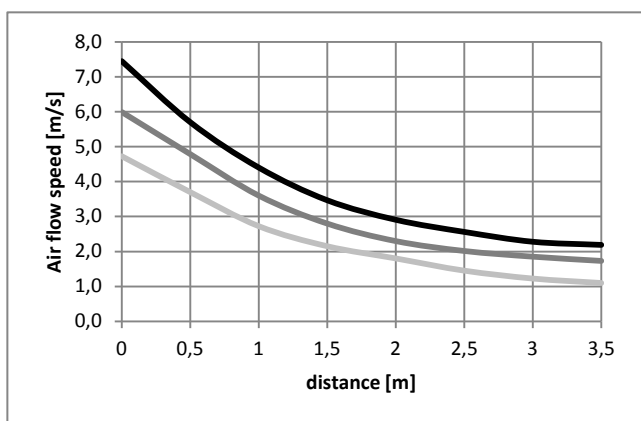
Acoustic pressure level measured in the room of average sound absorption, capacity 500m³, at the distance of 3m apart of the unit.

2.4. AIR VOLUME

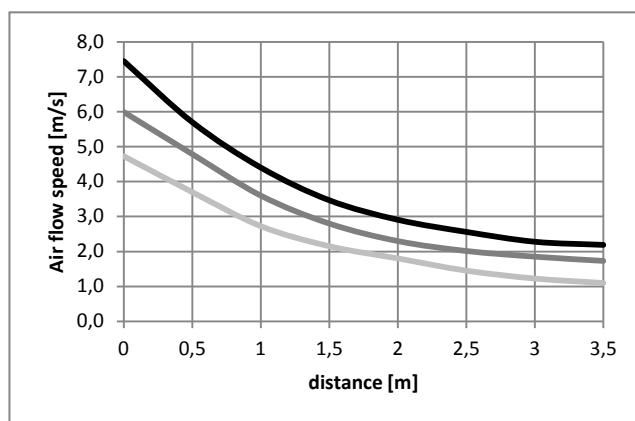
step	T2-E-100	T2-E-150	T2-E-200
3	1720m ³ /h	2450m ³ /h	3450m ³ /h
2	1240m ³ /h	2000m ³ /h	2800m ³ /h
1	990m ³ /h	1620m ³ /h	2370m ³ /h

2.5. NOMOGRAM OF AIR FLOW SPEED

ELIS T2-E-100



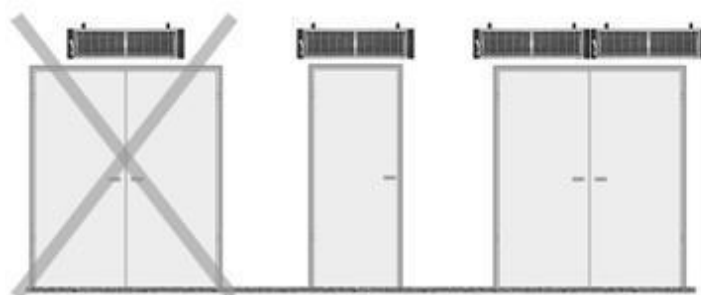
ELIS T2-E-150; T2-E-200



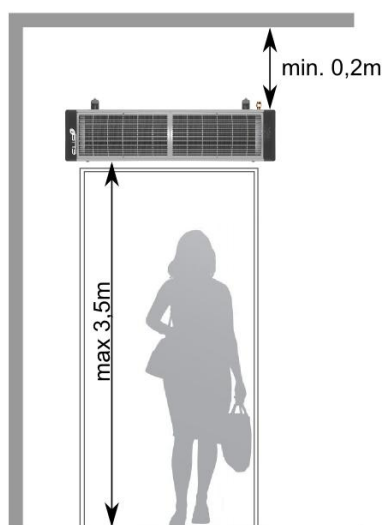
- step 1
- step 2
- step 3

3. INSTALLATION

Width of doorway must be equal or lower than width of air curtain outlet (or outlets if air curtains are installed side by side).

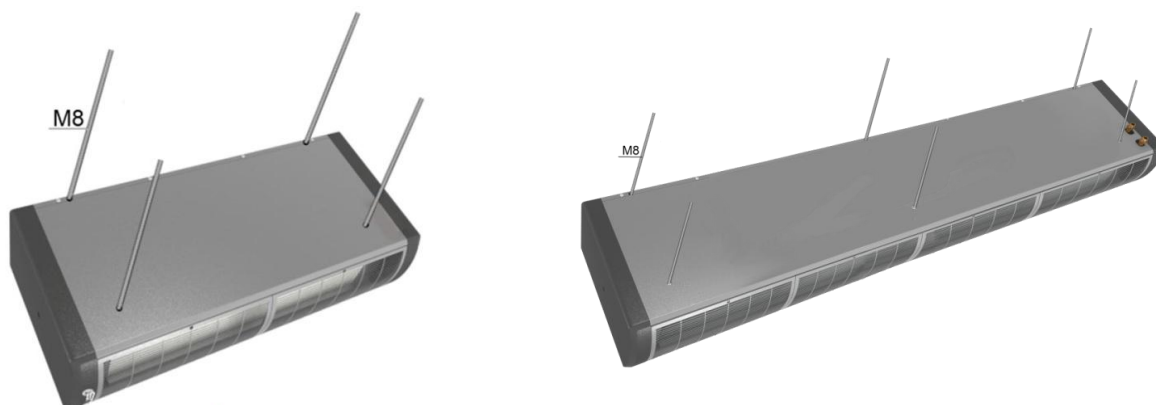


3.1. RECOMMENDATION OF MONTAGE DISTANCES

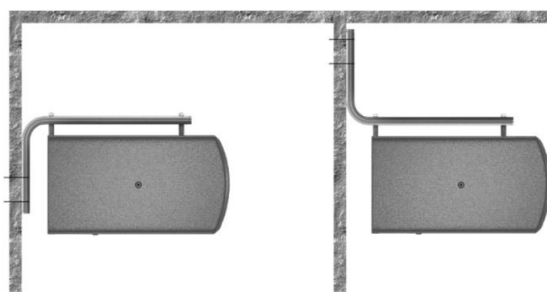


3.2. MOUNTING BY RODS UNDER THE CEILING

While mounting curtains under the ceiling, 4 rods M8 should be screwed minimum 20mm deep (6 rods should be screwed when mounting T2-E-200).

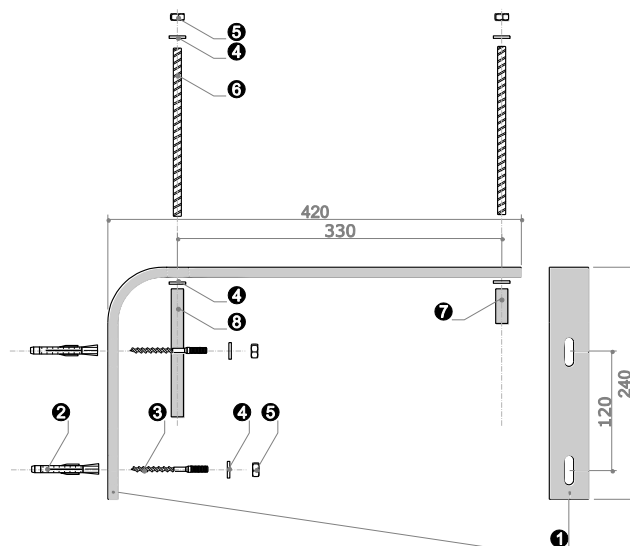


3.3. MOUNTING ON THE WALLS BY THE BRACKETS



3.4. ELEMENTS INCLUDED IN BRACKET SET

T brackets



Mounting kit for
T2-E-100/T2-E-150

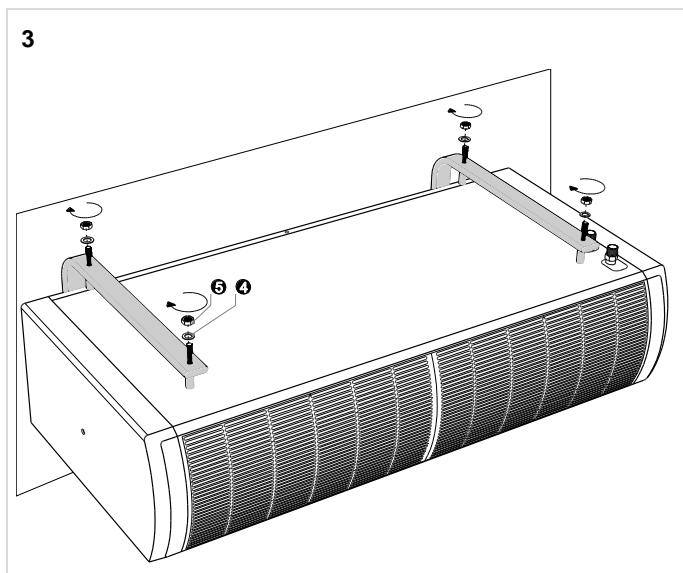
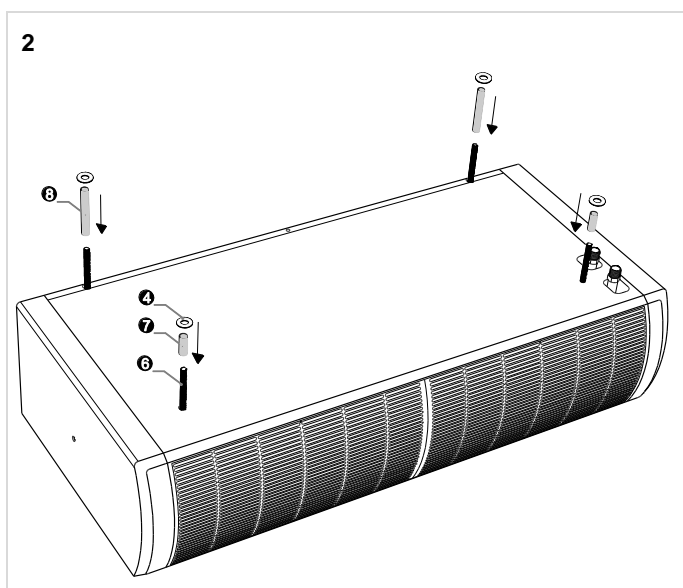
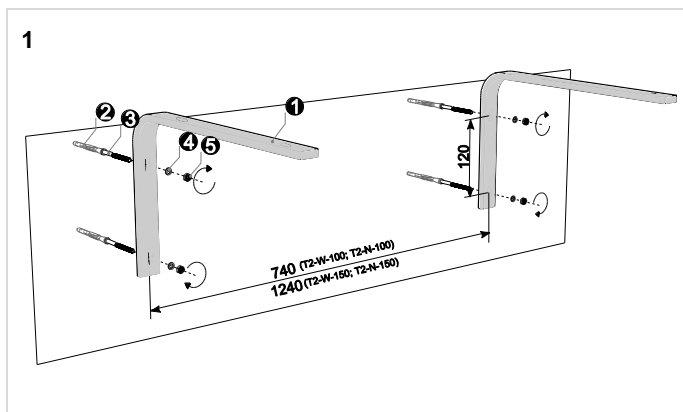
- ❶ 2x T bracket
- ❷ 4x plug $\varnothing 10$
- ❸ 4x double threaded screw M8
- ❹ 12x washer M8
- ❺ 8x nut M8
- ❻ 4x threaded rod M8
- ❼ 2x short spacer sleeve
- ❽ 2x long spacer sleeve

Mounting kit for
T2-E-200

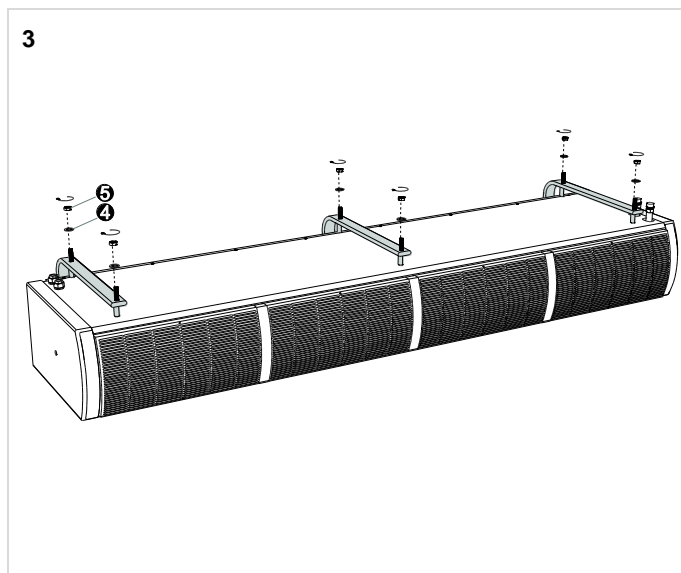
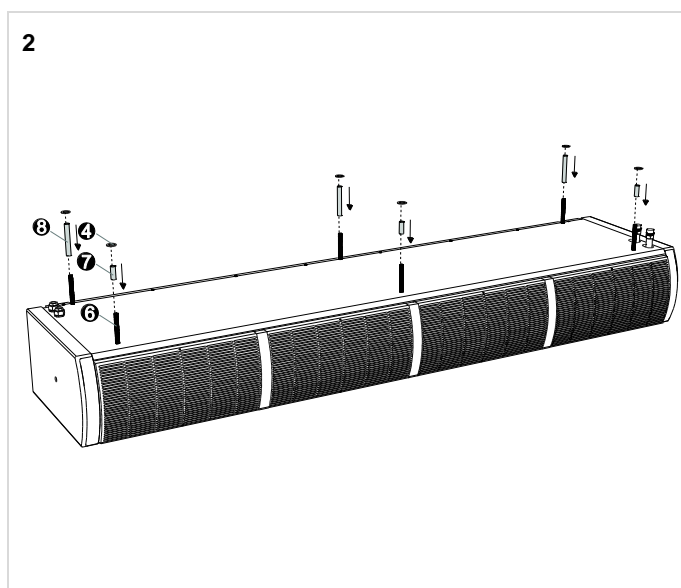
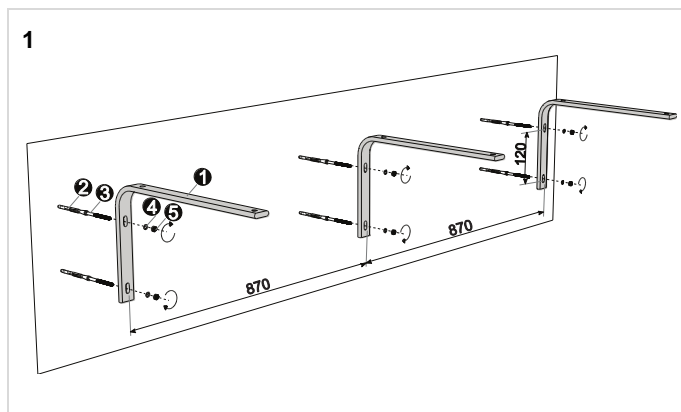
- ❶ 3x T bracket
- ❷ 6x plug $\varnothing 10$
- ❸ 6x double threaded screw M8
- ❹ 18x washer M8
- ❺ 12x nut M8
- ❻ 6x threaded rod M8
- ❼ 3x short spacer sleeve
- ❽ 3x long spacer sleeve

3.5. STAGES OF INSTALATION

T2-E-100; T2-E-150



T2-E-200

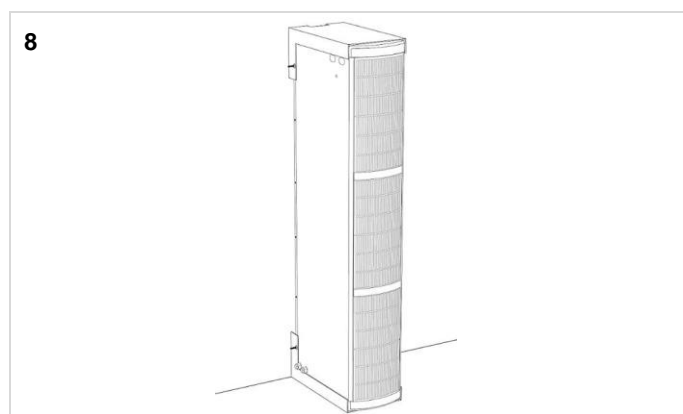
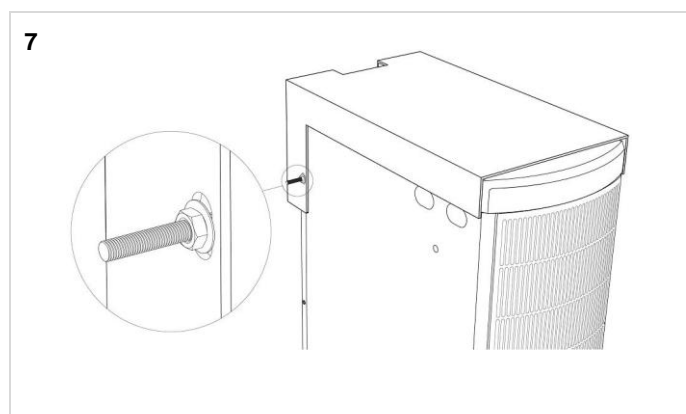
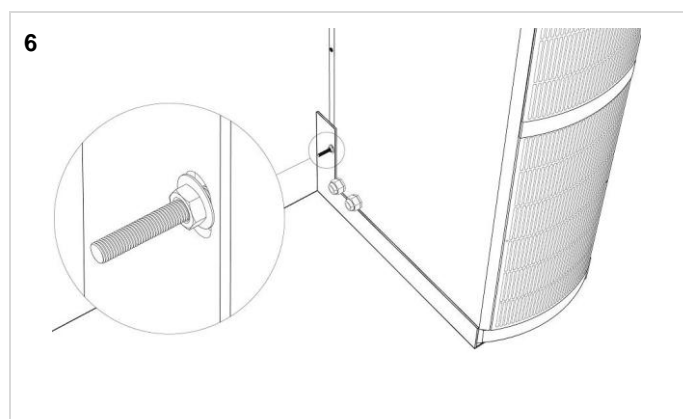
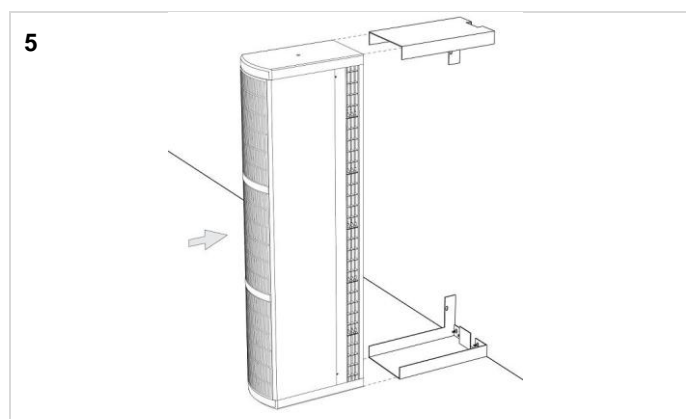
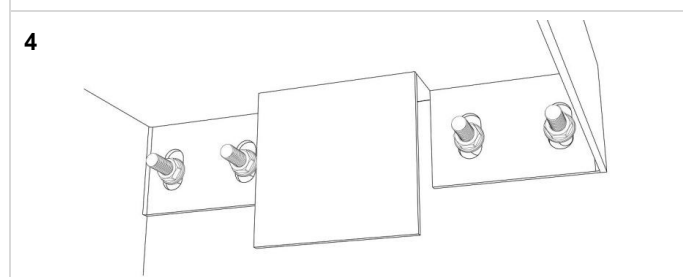
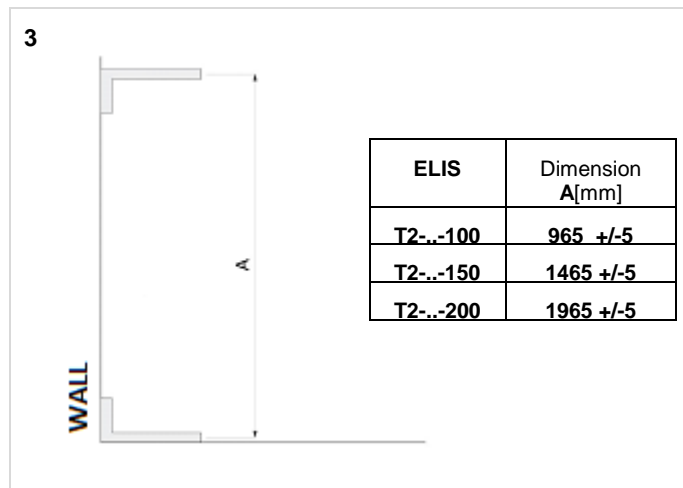
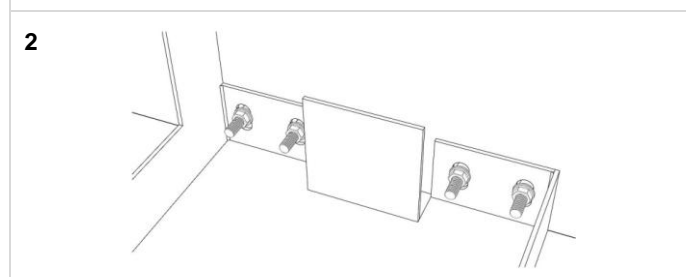
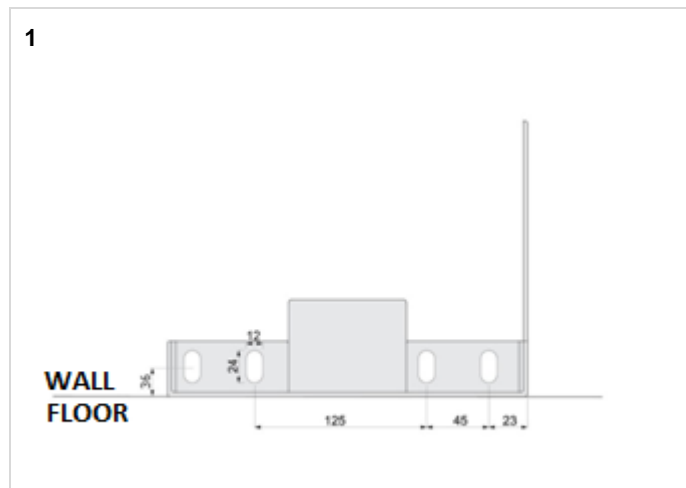


3.6. VERTICAL INSTALLATION WITH BRACKETS

ELIS T2-E-100; T2-E-150; T2-E-200;

Set for vertical mounting consists of two metal consoles, among which is retractable curtain. The kit includes upper, lower bracket and a set of pins with nuts bolts to screw the brackets to the air curtain.

Set for vertical installation should be screwed to the wall. In the air curtains holes screw 2 pin M8 (see section 6 and 7) and then screw the bracket to the air curtain. Pins should be screwed into the hole minimum 20mm thread length.



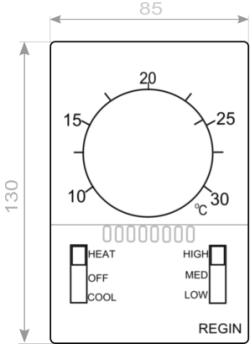
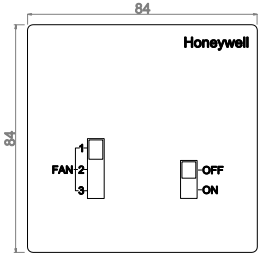
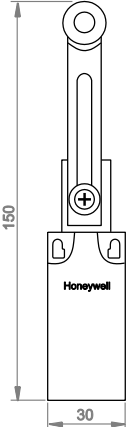
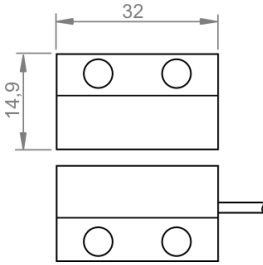
4. CONTROL SYSTEMS

L – TYPE CONTROL:

- Continuous or Intermittent mode of operating (door contact, thermostat, switch)
- Connecting curtains – controlling up to 5 units with one controller;
- Connecting to curtain room thermostat*, door contact*, speed controller*;

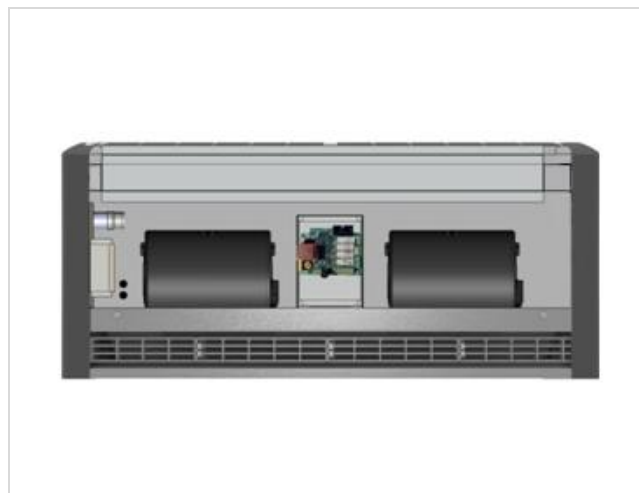
*optional equipment.

4.1. CONTROLS

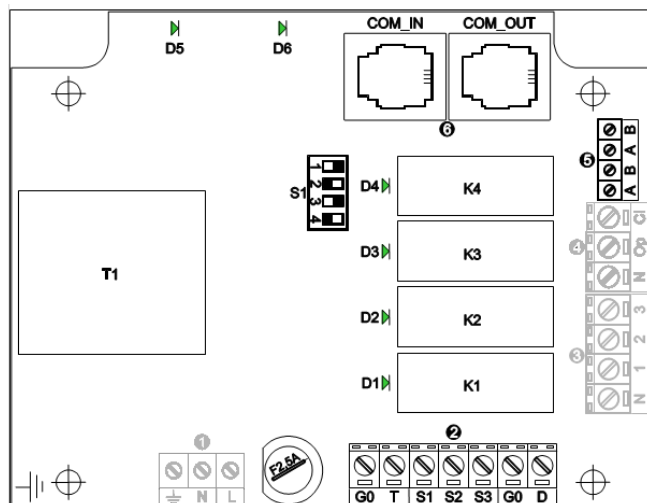
	<p>TS - 3-speed fan switch with room thermostat</p> <p>Temperature range:: +10 ... +30°C Operational temperature range: 0 ... +40°C IP/Insulation class:: IP30 Max current: inductive 2A, resistive 4A Power supply: 230V/50Hz</p>		<p>TA - 3-speed fan switch</p> <p>Operational temperature range: 0 ... +40°C IP/Insulation class: IP30 Max current: inductive 4A, resistive 6A</p>
	<p>DCm – mechanical door contact</p> <p>Operational temperature range:: -10 ... +80 °C IP/Insulation class: IP 65 Connectors: 1xNC i 1xNO Max current: resistive 4A – inductive 10A Max Power load: 300Vac or 250Vdc</p>		<p>DCe – magnetic door contact</p> <p>Operational temperature range:: -10 ... +55 °C IP/Insulation class: IP 67 Connectors: 2xNC i 1xNO Max current:: inductive/resistive 0,3A Max power Load: 24Vdc Length of cable: 3m Max operating contactors distance: 6mm</p>

4.2. CONTROL SYSTEMS AND POWER SUPPLY CONNECTING

- While connecting T – type ELIS open bottom panel, cables protract by glans placed on the top.



4.3. ELIS T – L-TYPE CONTROL SYSTEM



- ❶ Power supply 230V/50Hz;
- ❷ Connectors: thermostat, fan step switch, door contact
- ❸ Fans connectors;
- ❹ electrical heater connectors;
- ❺ Connectors for connecting curtains among themselves
- ❻ RJ 11 plug connector for connecting curtains among themselves

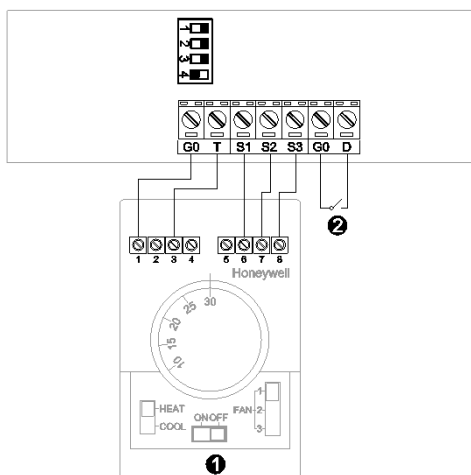
D1, D2, D3 – signalize number of fan step operating
 D4 – signalize valve operating
 D5 – signalize supply of unit
 D6 – signalize of operating mode MASTER (Intermittent) SLAVE (continuous)

S1 – operating mode switches

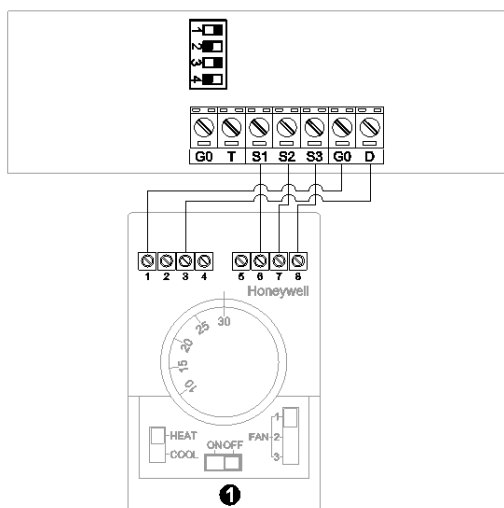
		CONTINUOUS OPERATING – after door closing valve is closed, fans operating continuously.	INTERMITTENT OPERATING – after door closing valve is closed, fans are switched off.
1	■ □	■ □	□ ■
2	■ □	Operating w/o thermostat	Operating with thermostat
3	■ □	Electrical exchanger, do not change position	
4	■ □	MASTER mode operating	SLAVE mode operating

Each change of operating scheme must be completed with restart of unit (power supply off and on)

4.3.1. L - ELECTRIC SCHEME



- ❶ Air curtain step switch with room thermostat TS (OMY 5x0,5mm²)
- ❷ door contact (door closed – switch open; door open – switch closed)

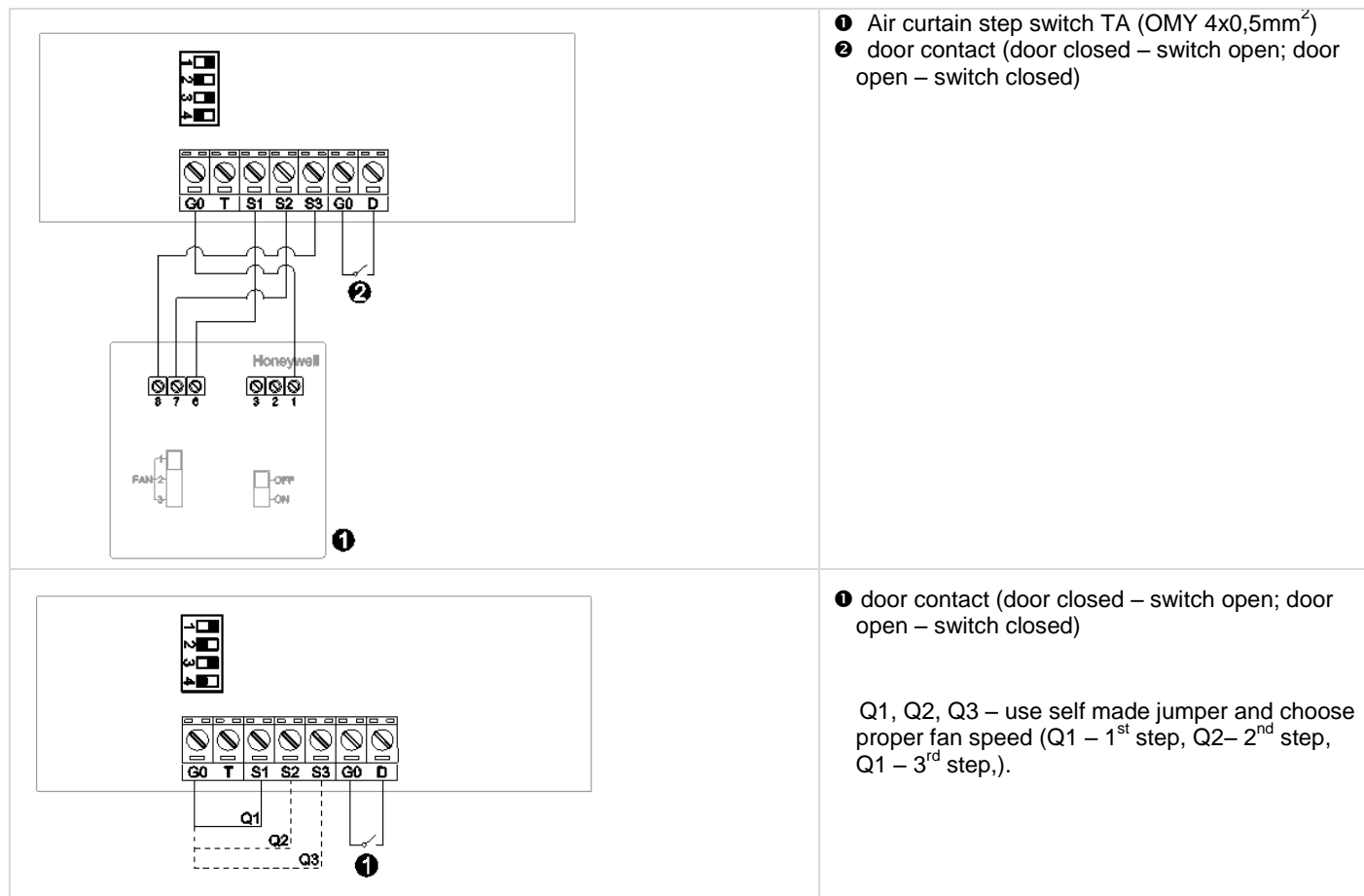


Attention!

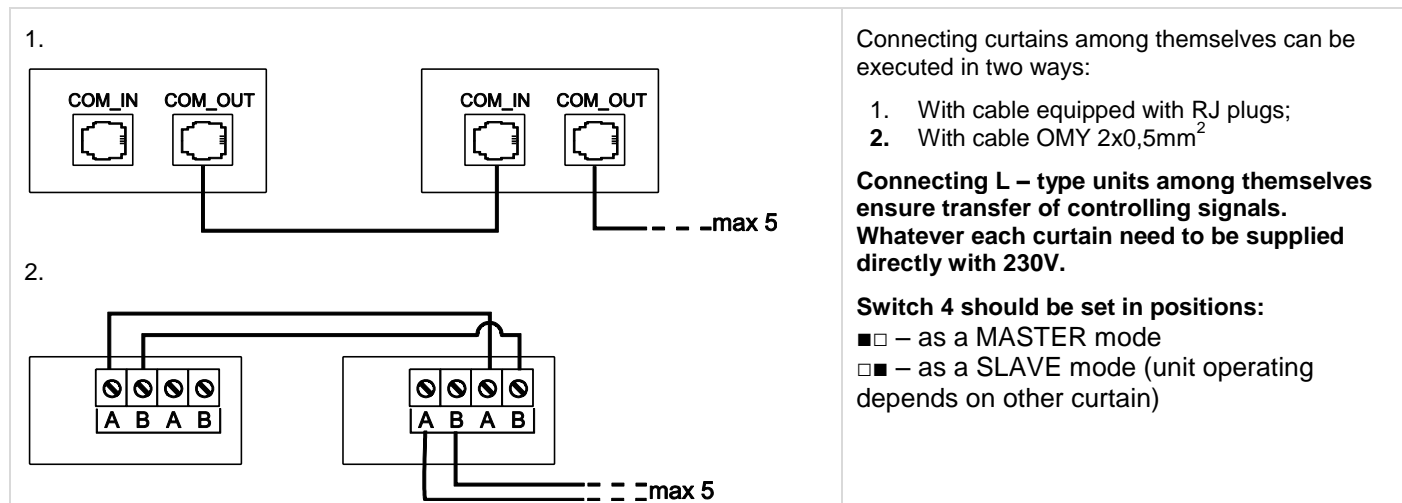
If door contact is not connected, set 2. Switch as shown on the drawing (on the left)

- ❶ Air curtain step switch with room thermostat TS (OMY 5x0,5mm²)

4.3.1. L - ELECTRIC SCHEME



4.3.2. L-TYPE CONTROL SYSTEM

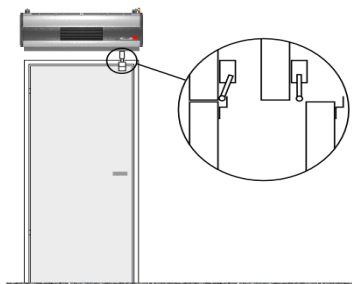


5. DOOR CONTACT INSTALLATION

Sample of door contact installation.

DCm – In case of installation in way which is show on drawing below, connectors 21 and 22 need to be used.

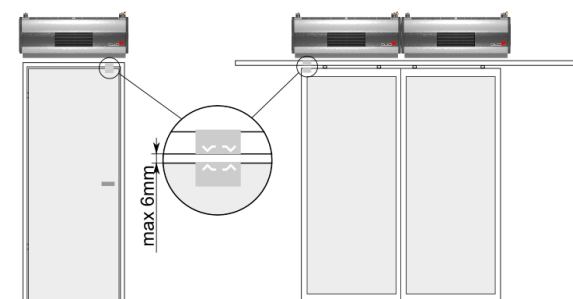
Hinged doors



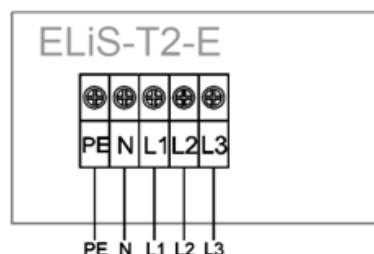
Dce – In case of installation in way which is show on drawing below, cable yellow and green need to be used. Other cables must be isolated.

Hinged doors

Sliding doors



6. GUIDELINES FOR CONNECTION WITH POWER SUPPLY



- Power connection is executed inside the side cover;
- Mind to keep procedure of air curtain disconnecting. Firstly turn-off unit by controller and then after 20 sec. Switch off Power supply.
- Immobilize cable inside the casing in front of glands.
- Minimal sizes of wires:
 - 4mm² ELiS T2-E-100
 - 6mm² ELiS T2-E-150
 - 6mm² ELiS T2-E-200

- Execute connection according to technical manuals
- Cable sizes need comply the site conditions
- Before connecting the power supply check the correctness of connection of the fan motor and the controllers. These connections should be executed in accordance with their technical documentation.
- Before connecting the power supply check whether the mains voltage is in accordance with the voltage on the device data shield.
- Starting the device without connecting the ground conductor is forbidden.

7. OPERATION

- The device is designed for operation inside buildings, at temperatures above 0°C..
- It is forbidden to place any objects on the heater or to hang any objects on the connecting stubs..
- The device must be inspected periodically. In the case of incorrect operation of the device it should be switched off immediately.

The manufacturer bears no responsibility for damage of the heat exchanger resulting from freezing of the medium in the exchanger.

8. CLEANING AND CONSERVATION

Periodically need to be checked exchanger condition.

- Disconnect supply of unit.
- Dismount inlet grill guard.
- It is recommended to use pressured air to clean the exchanger,

9. SERVICE

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 authorized for this, and for damage resulting from this!

Made in Poland

Made in EU

Manufacturer: FLOWAIR GŁOGOWSKI I BRZEZIŃSKI SP.J.

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