



ELIS



**TECHNICAL DOCUMENTATION
OPERATION MANUAL**

Table Of Contents

1. GENERAL INFORMATION.....	3
2. TECHNICAL DATA	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. HEAT OUTPUT DATA	6
3.1. ELIS T-W-100.....	6
3.2. ELIS T-W-150.....	6
3.3. ELIS T-W-200.....	7
4. INSTALLATION.....	7
4.1. RECOMMENDATION OF MONTAGE DISTANCES	7
4.2. MOUNTING USING RODS UNDER THE CEILING.....	8
4.3. MOUNTING AT THE WALLS USING BRACKETS.....	8
4.4. BRACKETS.....	8
4.5. STAGES OF INSTALLATION	9
4.6. VERTICAL MOUNTING USING BRACKETS 10	
5. CONTROL SYSTEM.....	11
5.1. CONTROL SYSTEM ELEMENTS	11
5.2. CONNECTING GUIDE.....	12
5.2.1. ELECTRIC SCHEME ELIS T-W/N.....	12
5.2.2. ELECTRIC SCHEME ELIS T-E	12
5.3. DOOR CONTACT INSTALLATION	13
6. GUIDELINES FOR CONNECTION WITH POWER SUPPLY	13
7. GUIDELINES FOR CONNECTION WITH PIPELINE 13	
8. OPERATION.....	13
9. CLEANING AND CONSERVATION	13
10. SERVICE.....	14

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.
- In the building where ventilation causes underpressure, air cutrain may have limited efficiency
- When performing works at the device, remember about your own safety.
- During installation, electrical connection, connection to the heating medium, start-up, repairs and maintenance of air curtains, observe the commonly recognized safety standards and regulations.

1. GENERAL INFORMATION

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

ELIS types:

ELIS T-W-100 – curtain with water heat exchanger max. range 4 m;

ELIS T-N-100 – without heat exchanger (ambient); max. range 4 m;

ELIS T-E-100 – curtain with electrical heat exchanger max. range 4 m;

ELIS T-W-150 – curtain with water heat exchanger max. range 4 m;

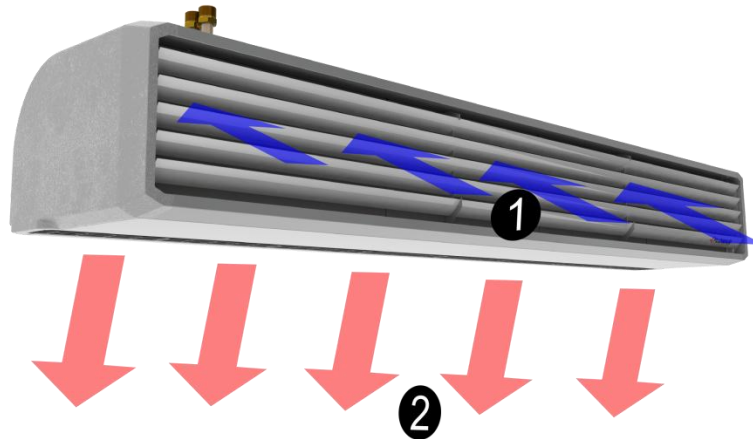
ELIS T-N-150 – without heat exchanger (ambient); max. range 4 m;

ELIS T-E-150 – curtain with electrical heat exchanger max. range 4 m;

ELIS T-W-200 – curtain with water heat exchanger max. range 4 m;

ELIS T-N-200 – without heat exchanger (ambient); max. range 4 m.

ELIS T-E-200 – curtain with electrical heat exchanger max. range 4 m,



❶ air inlet; ❷ curtain air outlet;

2. TECHNICAL DATA

	T-W-100	T-N-100	T-E-100	T-W-150	T-N-150	T-E-150	T-W-200	T-N-200	T-E-200
Power supply [V/Hz]	230 / 50		3x400 / 50	230 / 50		3x400 / 50	230 / 50		3x400 / 50
Power consumption [kW]	0,38	0,39	7,5	0,4	0,42	11,5	0,44	0,46	15,5
Current consumption [A]	1,7	1,8	11	1,8	1,9	16,6	2	2,1	22,4
IP / Insulation class	21 / F								
Connecting stub ["]	½	-	-	½	-	-	½	-	-
Max. water temperature [°C]	95	-	-	95	-	-	95	-	-
Max. water pressure [MPa]	1,6	-	-	1,6	-	-	1,6	-	-
Temperature increase (ΔT) [°C]*	15	-	11	15	-	12	16	-	13
Weight [kg]	22,1	20,7	24	29,5	27	31,5	34,3	31,5	37
Weight of unit filled with water [kg]	22,9	-	-	30,7	-	-	35,9	-	-

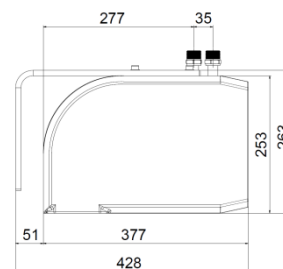
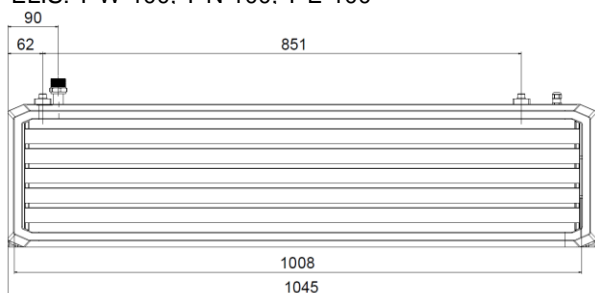
* T2-W temperature increase at inlet air 10°C and heating agent temperature 90/70°C / T2-E temperature increase at inlet air 10°C

2.1. CONSTRUCTION

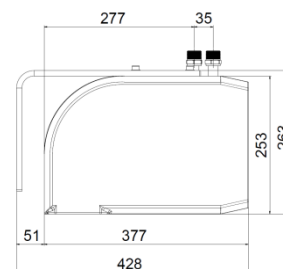
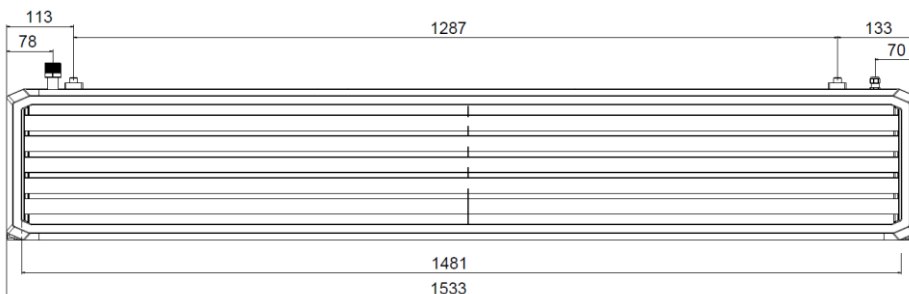
- **Main construction** – galvanized steel;
- **Fan** – motor with plastic rotor;
- **Heat exchanger** – copper-aluminium, connecting stub ½"; electrical heaters PTC;
- **Casing** – powder-painted steel, colour - grey RAL 9007
 - side elements - expanded polypropylene EPP; colour - grey
 - air inlet fins - anodized aluminum
 - outlet of air curtain PA6GF30, RAL 7016
- **Brackets** – steel section, colour - grey RAL 9007 (option)

2.2. DIMENSIONS

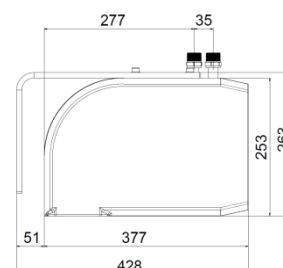
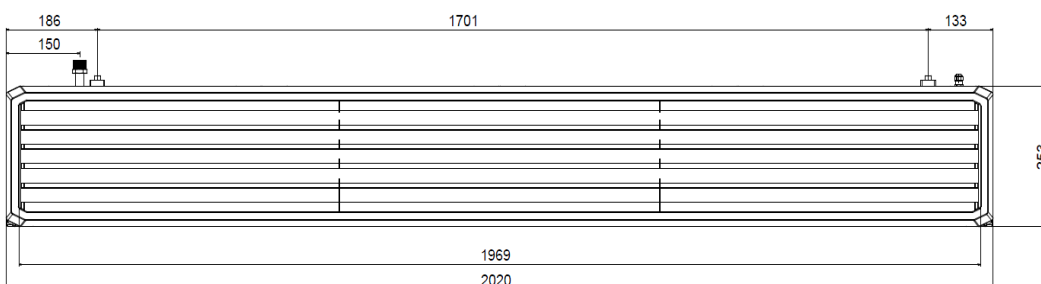
ELIS: T-W-100; T-N-100; T-E-100



ELIS: T-W-150; T-N-150; T-E-150



ELIS: T-W-200; T-N-200; T-E-200



2.3. ACOUSTIC PRESSURE LEVEL

bieg	T-W-100; T-E-100;	T-N-100;	T-W-150; T-E-150;	T-N-150;	T-W-200; T-E-200;	T-N-200;
3	68 dB(A)	69 dB(A)	69 dB(A)	70 dB(A)	69 dB(A)	70 dB(A)
2	62 dB(A)	63 dB(A)	63 dB(A)	64 dB(A)	64 dB(A)	64 dB(A)
1	58 dB(A)	59 dB(A)	59 dB(A)	60 dB(A)	60 dB(A)	60 dB(A)

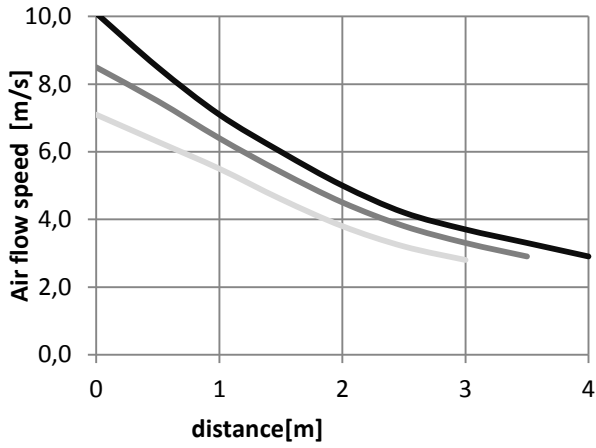
Acoustic pressure level measured in the room of average sound absorption, capacity 500m³, at the distance of 2 m apart of the unit.

2.4. AIR VOLUME

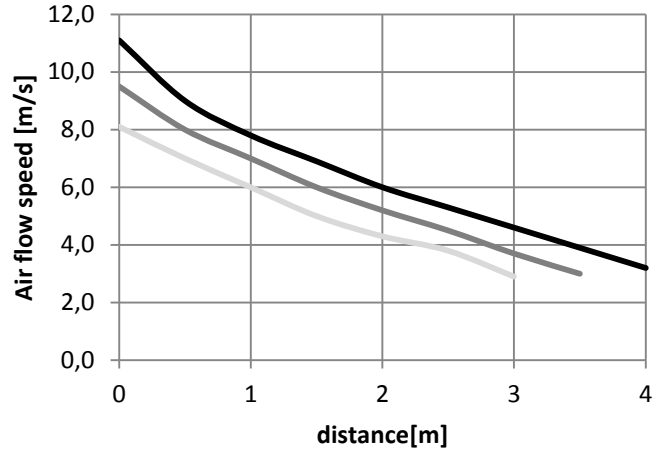
bieg	T-W-100 T-E-100	T-N-100	T-W-150 T-E-150	T-N-150	T-W-200 T-E-200	T-N-200
3	2300 m ³ /h	2900 m ³ /h	3900 m ³ /h	4000 m ³ /h	5100 m ³ /h	5300 m ³ /h
2	2100 m ³ /h	2600 m ³ /h	3500 m ³ /h	3600 m ³ /h	4100 m ³ /h	4300 m ³ /h
1	1900 m ³ /h	2100 m ³ /h	3100 m ³ /h	3200 m ³ /h	3000 m ³ /h	3200 m ³ /h

2.5. NOMOGRAM OF AIR FLOW SPEED

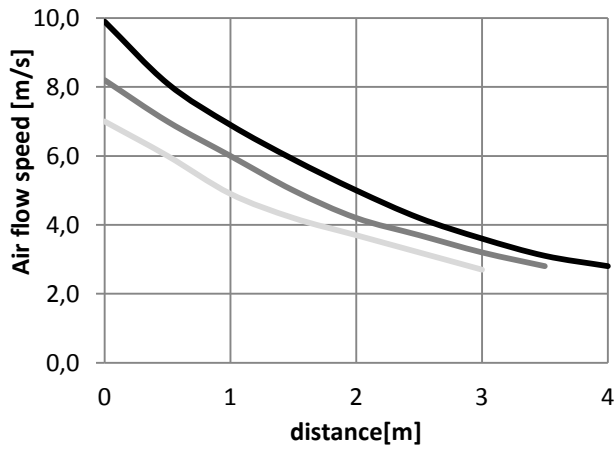
ELIS T-W-100; T-E-100



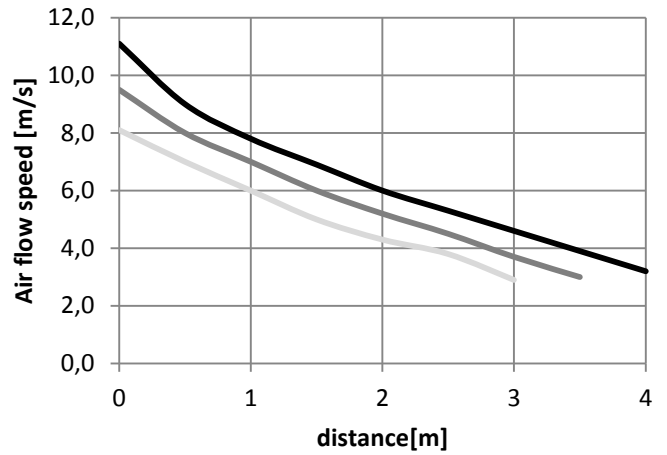
ELIS T-N-100



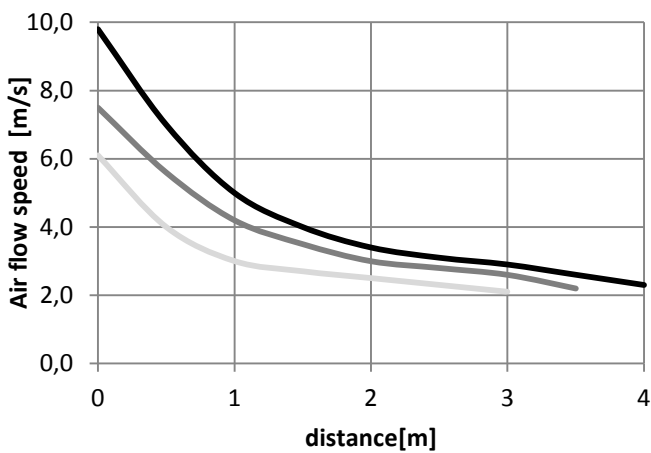
ELIS T-W-150; T-E-150



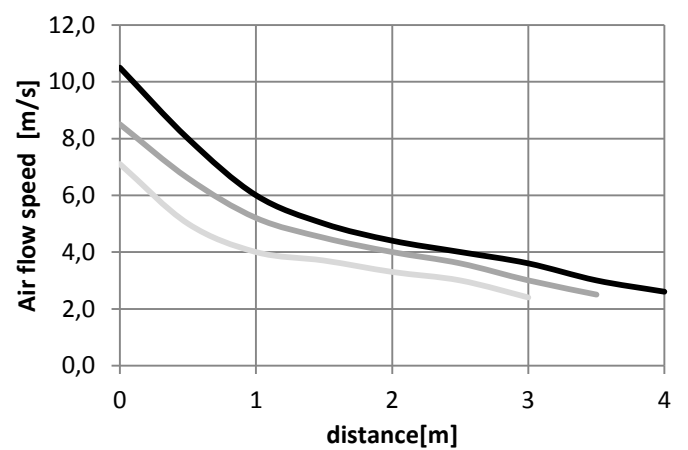
ELIS T-N-150



ELIS T-W-200; T-E-200



ELIS T-N-200



- step 1
- step 2
- step 3

3. HEAT OUTPUT DATA

3.1. ELIS T-W-100

Tp1	V	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2
		kW	l/h	kPa	°C				
°C	m ³ /h	Tw1 / Tw2 = 90/70°C				Tw1 / Tw2 = 80/60°C			
0	1900/2100/2300	11,7/12,3/12,9	516/544/571	1,7/1,8/2	18/17,5/17	9,8/10,3/10,8	430/454/476	1,2/1,4/1,5	15/14,5/14
5		10,9/11,5/12	480/507/531	1,5/1,6/1,8	22/21,5/21	9/9,5/9,9	394/415/436	1,1/1,2/1,3	19/18,5/18
10		10,1/10,6/11,1	444/469/492	1,3/1,4/1,5	25,5/25/24,5	8,1/8,6/9	357/377/395	0,9/1/1,1	22,5/22/21,5
15		9,3/9,8/10,2	408/430/451	1,1/1,2/1,3	29/28,5/28	7,3/7,7/8,1	321/338/355	0,7/0,8/0,9	26/25,5/25
20		8,4/8,9/9,3	372/392/411	0,9/1/1,1	33/32,5/32	6,5/6,8/7,1	283/299/314	0,6/0,6/0,7	30/29,5/29
		Tw1 / Tw2 = 70/50°C				Tw1 / Tw2 = 70/40°C			
0	1900/2100/2300	7,8/8,3/8,7	342/361/379	0,8/0,9/1	12/11,5/11	4,7/5,1/5,4	135/148/158	0,2/0,2/0,2	7,5/7/6,5
5		7/7,4/7,7	305/322/338	0,7/0,8/0,8	16/15,5/15	2,8/2,8/2,9	80/82/84	0,1/0,1/0,1	9,5/9/8,5
10		6,1/6,5/6,8	267/282/296	0,5/0,6/0,7	19,5/19/18,5	2,4/2,5/2,6	70/71/73	0,1/0,1/0,1	13,5/13/12,5
15		5,2/5,5/5,8	229/242/254	0,4/0,5/0,5	23/22,5/22	2,1/2,1/2,1	60/61/62	0,1/0,1/0,1	18,5/18/17,5
20		4,3/4,6/4,8	188/199/210	0,3/0,3/0,4	27/26,5/26	1,7/1,8/1,8	50/51/52	0,1/0,1/0,1	23/22,5/22
		Tw1 / Tw2 = 60/40°C				Tw1 / Tw2 = 50/40°C			
0	1900/2100/2300	5,7/6/6,3	248/262/276	0,5/0,5/0,6	9/8,5/8	6,3/6,7/7	549/579/608	2,1/2,3/2,5	10/9,5/9
5		4,8/5/5,3	207/220/232	0,4/0,4/0,4	12,5/12/11,5	5,5/5,8/6,1	475/502/527	1,6/1,8/1,9	13,5/13/12,5
10		3,7/3,9/4,2	159/172/183	0,2/0,3/0,3	16/15,5/15	4,6/4,9/5,1	401/423/444	1,2/1,3/1,4	17/16,5/16
15		2/2/2	85/87/89	0,1/0,1/0,1	18,5/18/17,5	3,7/3,9/4,1	324/343/360	0,8/0,8/1	21/20,5/20
20		1,6/1,6/1,7	70/71/73	0,1/0,1/0,1	22,5/22/22	2,8/3/3,1	244/259/272	0,5/0,5/0,6	25/24,5/24

3.2. ELIS T-W-150

Tp1	V	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2
		kW	l/h	kPa	°C				
°C	m ³ /h	Tw1 / Tw2 = 90/70°C				Tw1 / Tw2 = 80/60°C			
0	3100/3500/3900	20,6/21,9/23,2	907/968/1026	5,8/6,5/7,2	19,5/18,5/17,5	17,5/18,7/19,8	769/821/870	4,4/4,9/5,5	17/16/15
5		19,2/20,5/21,7	848/905/959	5,1/5,8/6,4	23/22/21	16,2/17,3/18,3	710/758/802	3,8/4,3/4,7	20,5/19,5/18,5
10		17,9/19,1/20,2	789/842/892	4,5/5/5,6	27/26/25	14,8/15,8/16,7	650/694/735	3,2/3,6/4	24,5/23,5/22,5
15		16,5/17,7/18,7	730/779/824	3,9/4,4/4,8	31/30/29	13,4/14,3/15,2	591/630/667	2,7/3,1/3,4	28/27/26
20		15,2/16,2/17,2	670/715/757	3,3/3,7/4,1	34,5/33,5/32,5	12,1/12,9/13,6	530/566/599	2,2/2,5/2,8	32/31/30
		Tw1 / Tw2 = 70/50°C				Tw1 / Tw2 = 70/40°C			
0	3100/3500/3900	14,4/15,4/16,3	631/674/714	3,2/3,6/4	14/13/12	11,31/12,09/12,8	329/352/373	1/1,12/1,25	11/10/9
5		13,1/13,9/14,8	572/610/646	2,6/3/3,3	18/17/16	9,88/10,56/11,19	288/307/326	0,8/0,9/1	15/14/13
10		11,7/12,5/13,2	511/546/578	2,2/2,4/2,7	22/21/20	8,39/9/9,53	244/262/278	0,6/0,66/0,8	18,5/17,5/16,5
15		10,3/11/11,6	450/481/509	1,7/1,9/2,1	25,5/24,5/23,5	6,82/7,33/7,8	198/213/227	0,4/0,5/0,5	22/21/20
20		8,9/9,5/10	389/415/439	1,3/1,5/1,6	29,5/28,5/27,5	4,93/5,42/5,85	143/158/170	0,2/0,3/0,3	25/24/23
		Tw1 / Tw2 = 60/40°C				Tw1 / Tw2 = 50/40°C			
0	3100/3500/3900	11,3/12/12,8	492/525/556	2,1/2,4/2,6	11/10/9	11,3/12,07/12,79	983/1050/1113	7,45/8,39/9,32	11/10/90
5		9,9/10,6/11,2	431/460/487	1,7/1,9/2,1	15/14/13	9,92/10,6/11,22	863/922/977	5,88/6,62/7,35	15/14/13
10		8,5/9/9,6	369/394/417	1,3/1,4/1,6	18,5/17,5/16,5	8,53/9,11/9,65	742/793/839	4,47/5/5,59	18,5/17,5/16,5
15		7/7,5/7,9	305/327/346	0,9/1/1,1	22,5/21,5/20,5	7,13/7,61/8,06	620/662/701	3,23/3,64/4	22/21/20
20		5,5/5,9/6,2	239/256/272	0,6/0,7/0,07	26/25/24	5,7/6,09/6,45	496/530/561	2,16/2,43/2,7	26/25/24

V – air flow
 PT – heating capacity
 Tp1 – inlet air temperature
 Tp2 – outlet air temperature

Tw1 – inlet water temperature
 Tw2 – outlet water temperature
 Qw – heating water stream
 Δpw – water pressure

3.3. ELIS T-W-200

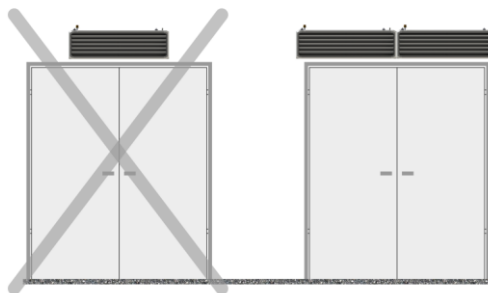
Tp1	V	PT	Qw	Δp_w	Tp2	PT	Qw	Δp_w	Tp2
		kW	l/h	kPa	°C	kW	l/h	kPa	°C
°C	m ³ /h	Tw1 / Tw2 = 90/70°C				Tw1 / Tw2 = 80/60°C			
0	3000/4100/5100	23,5/28/31,4	1037/1234/1387	8,5/11,7/14,5	23/20/18	20,2/24/26,9	885/1052/1183	6,5/9/11,1	19/17/15
5		22/26,2/29,4	972/1155/1299	7,5/10,3/12,8	27/24/22	18,6/22,2/24,9	819/974/1095	5,7/7,8/9,6	23,5/21/19,5
10		20,5/24,4/27,4	906/1077/1211	6,6/9,1/11,3	30/27/26	17,1/20,4/22,9	753/895/1005	4,9/6,7/8,2	27/24,5/23
15		19/22,6/25,4	840/998/1122	5,8/7,9/9,8	34/31/29	15,6/18,6/20,8	686/815/916	4,1/5,6/7	30/28/27
20		17,5/20,8/23,4	774/919/1033	5/6,8/8,4	38/35/33	14,1/16,7/18,8	619/735/826	3,4/4,7/5,8	33,5/32/30,5
		Tw1 / Tw2 = 70/50°C				Tw1 / Tw2 = 70/40°C			
0	3000/4100/5100	16,8/19,9/22,4	733/872/980	4,8/6,6/8,1	16,5/14,5/12,5	13,7/16,3/18,3	399/474/533	1,6/2,2/2,8	13,5/11,5/10,5
5		15,2/18,1/20,6	667/792/891	4/5,5/6,8	20/18/16	12,1/14,4/16,2	353/420/472	1,3/1,8/2,2	17/15/14
10		13,7/16,3/18,3	600/713/801	3,3/4,6/5,6	23,5/21,5/20,5	1,5/12,5/14,1	306/365/410	1/1,4/1,7	20/19/18
15		12,2/14,5/16,2	532/632/710	2,7/3,7/4,5	27/25/24	8,9/10,6/11,9	258/308/347	0,8/1/1,3	23,5/22,5/21,5
20		10,6/12,6/14,4	464/551/619	2,1/2,9/3,5	30,5/28,5/27,5	7,1/8,6/9,7	207/249/281	0,5/0,7/0,9	27/26/25
		Tw1 / Tw2 = 60/40°C				Tw1 / Tw2 = 50/40°C			
0	3000/4100/5100	13,3/15,8/17,8	581/690/776	3,3/4,5/5,5	13/11,5/10	13/15,5/17,4	1130/1345/1513	11/15,2/18,8	12,5/11/10
5		11,8/14/15,7	513/610/686	2,6/3,6/4,4	16,5/15/14	11,5/13,6/15,3	997/1186/1334	8,8/12/15	16/14,5/14
10		10,2/12,1/13,6	445/529/595	2/2,7/3,4	20/19/18	9,9/11,8/13,3	862/1025/1153	6,8/9,3/11,5	20/18,5/17,5
15		8,6/10,2/11,5	376/447/502	1,5/2/2,5	23,5/22,5/21,5	8,4/9,9/11,2	726/864/971	5/6,8/8,4	23/22/21
20		7/8,3/9,4	304/362/408	1/1,4/1,7	26,5/25,5/25	6,8/8/9	589/700/786	3,4/4,7/5,8	26,5/25,5/24,5

V – air flow
 PT – heating capacity
 Tp1 – inlet air temperature
 Tp2 – outlet air temperature

Tw1 – inlet water temperature
 Tw2 – outlet water temperature
 Qw – heating water stream
 Δp_w – water pressure

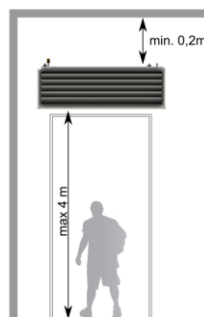
4. INSTALLATION

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



4.1. RECOMMENDATION OF MONTAGE DISTANCES

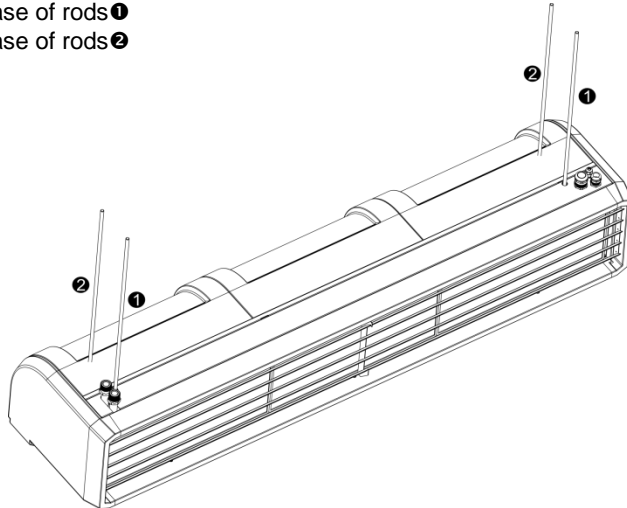
ELIS: T-W-100; T-N-100; T-E-100; T-W-150; T-N-150; T-E-150; T-W-200; T-N-200; T-E-200



4.2. MOUNTING USING RODS UNDER THE CEILING

In case of installation under the ceiling, 4 pcs of M8 rods should be screwed into the hole:

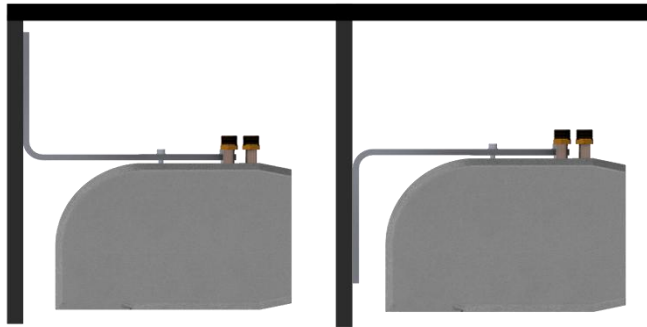
- for 20 mm in case of rods ①
- for 50 mm in case of rods ②



4.3. MOUNTING AT THE WALLS USING BRACKETS

Possible ways of installation:

T brackets (ELIS: T-W-100; T-N-100; T-E-100; T-W-150; T-N-150; T-E-150; T-W-200; T-N-200; T-E-200)



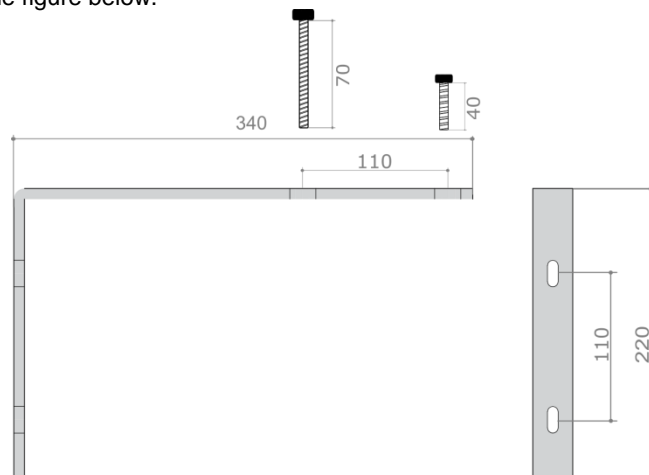
ATTENTION!

When installing the unit as in the figure above, a space (10 mm recommended) between the bracket and the casing of curtain should be ensured (contact between the bracket and the casing is forbidden). It is recommended to level the unit so that all of the screws were equally burdened by the curtain.

4.4. BRACKETS

Brackets T (option)

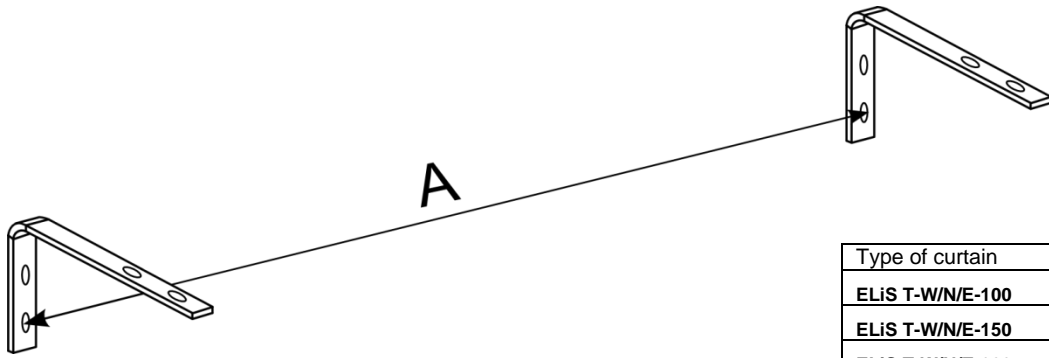
The set of brackets includes two consoles made of flat bar with $\text{Ø}10$ holes and a set of rods with nuts and washers. Is required to fix each bracket to the wall by two screws (min. M8). Installation of each bracket on the unit should also be performed using the supplied M8 rods, as indicated in the figure below.



4.5. STAGES OF INSTALLATION

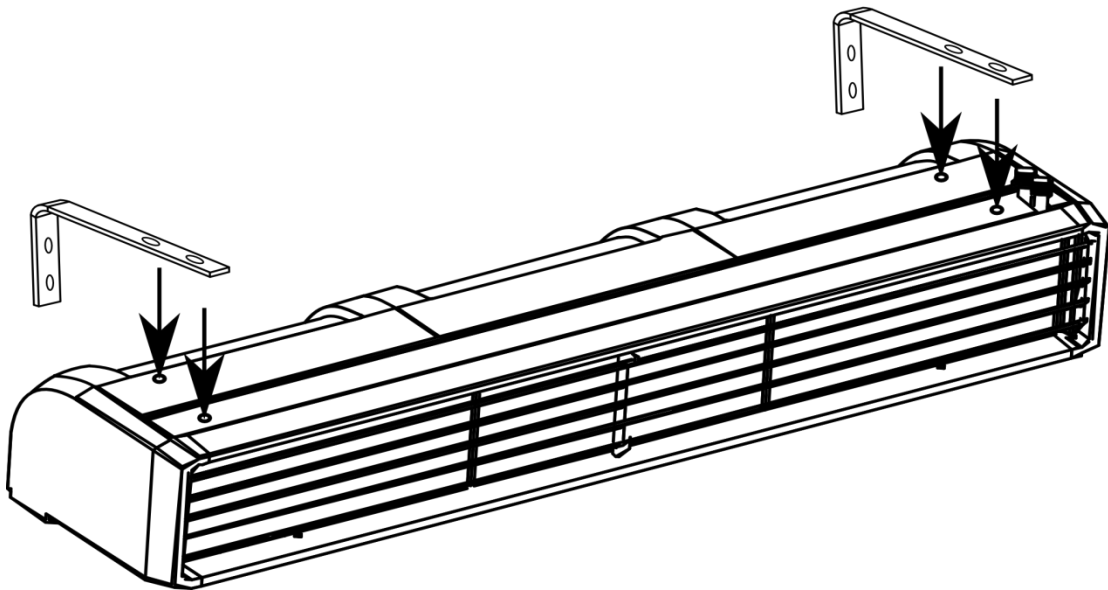
T-W-100; T-N-100; T-E-100; T-W-150; T-N-150; T-E-150; T-W-200; T-N-200; T-E-200

1



Type of curtain	Distance [mm]
ELiS T-W/N/E-100	851
ELiS T-W/N/E-150	1287
ELiS T-W/N/E-200	1701

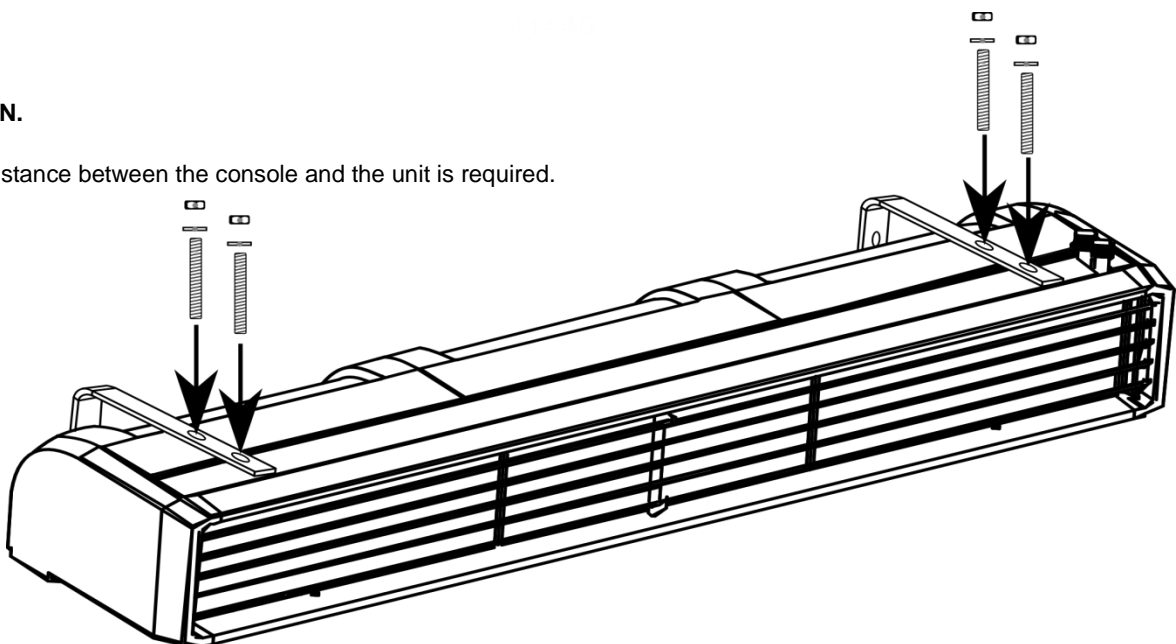
2



3

ATTENTION.

A 10 mm distance between the console and the unit is required.

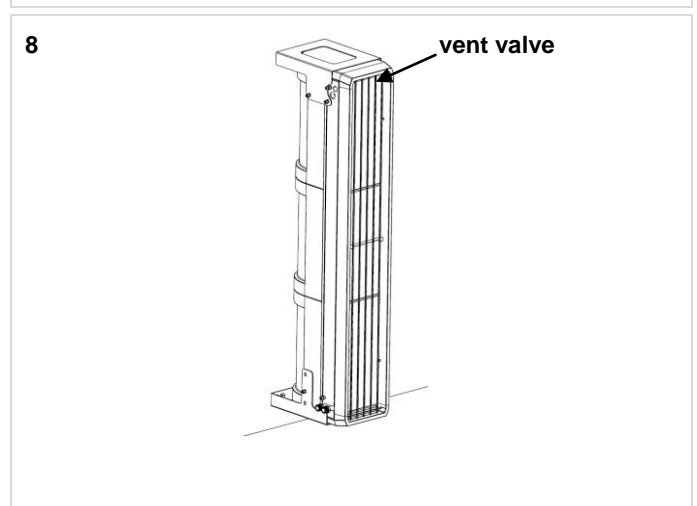
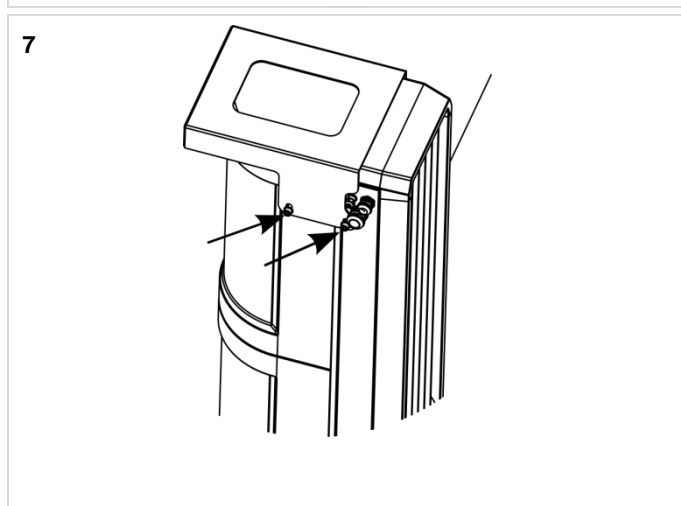
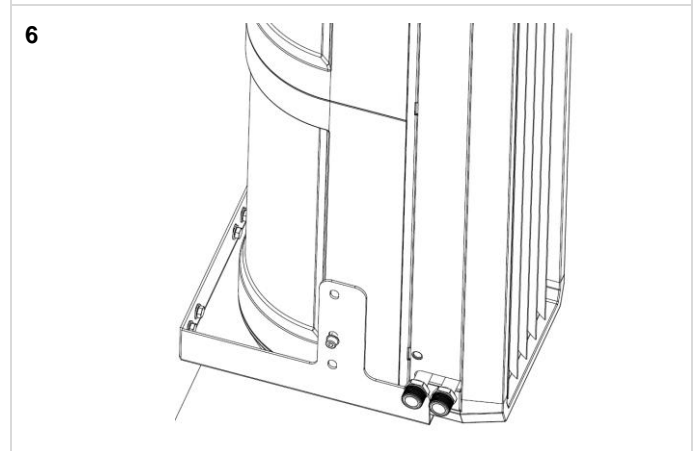
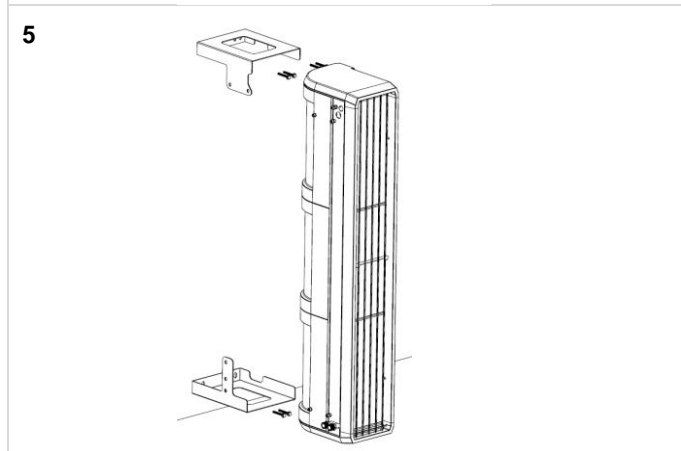
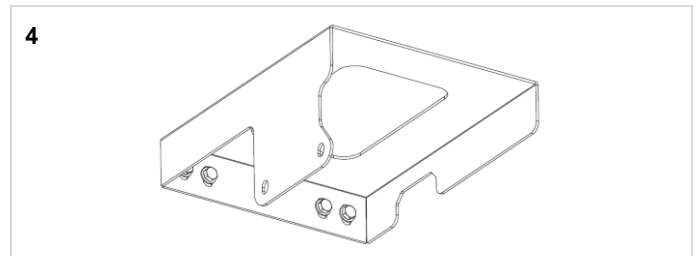
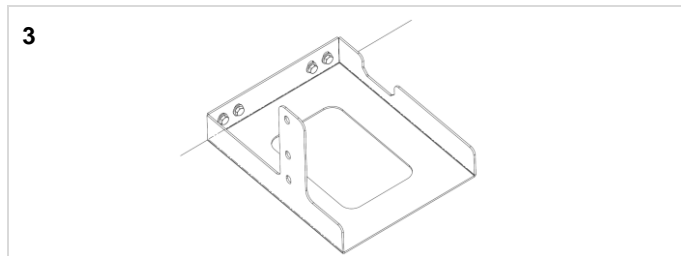
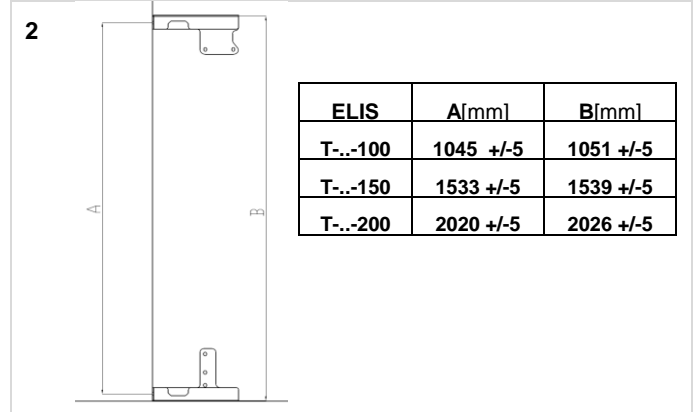
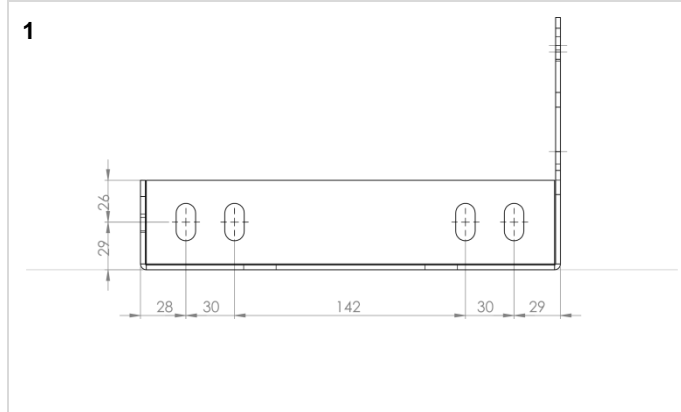


4.6. VERTICAL MOUNTING USING BRACKETS

ELIS: T-W-100; T-N-100; T-E-100; T-W-150; T-N-150; T-E-150; T-W-200; T-N-200; T-E-200

A set of brackets for vertical installation consists of two metal consoles (RAL 9007), between which the curtain is inserted. The set includes upper and lower console and a set of rods and nuts to fix the brackets to the unit.

In case of vertical mounting, fix the brackets to the vertical partition (Fig. 3, 4) and then insert unit between them the unit (Fig. 5). Screw the M8 rods into the mounting holes in the curtain (see Figure 6 and 7) and then fix the unit to the bracket by nut and washer. Rods must be screwed into a threaded hole for a minimum 10 mm. In case of a need to vent the exchanger (which connectors are placed in the bottom part), use the vent valve placed at the collector on the opposite part of the exchanger (Turn off power and water supply).



5. CONTROL SYSTEM

CONTROL SYSTEM - enables:

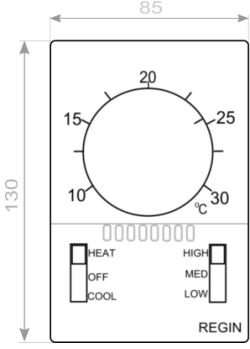
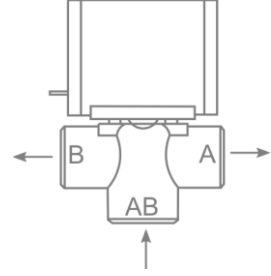
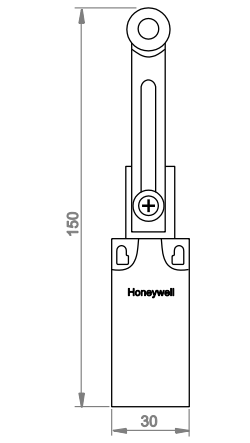
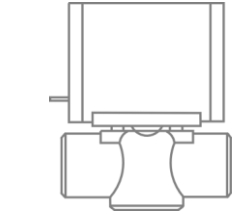
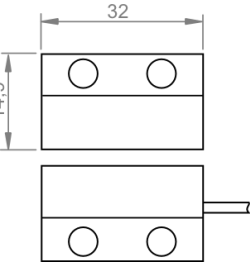
- Connection of the room thermostat*, TS fan switch, two-* or three-way* valve and DCm or DCet door contact*;

DRV ELIS CONTROL SYSTEM* (auxiliary control system) - enables:

- Connection of the room thermostat*, TS fan switch, two-* or three-way* valve and DCm or DCe door contact*;
- Connect to BMS
- Control up to 5 unit by one panel

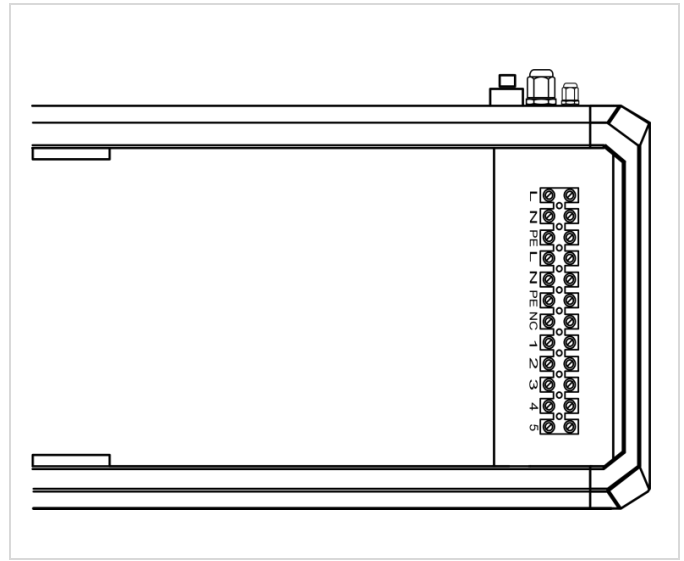
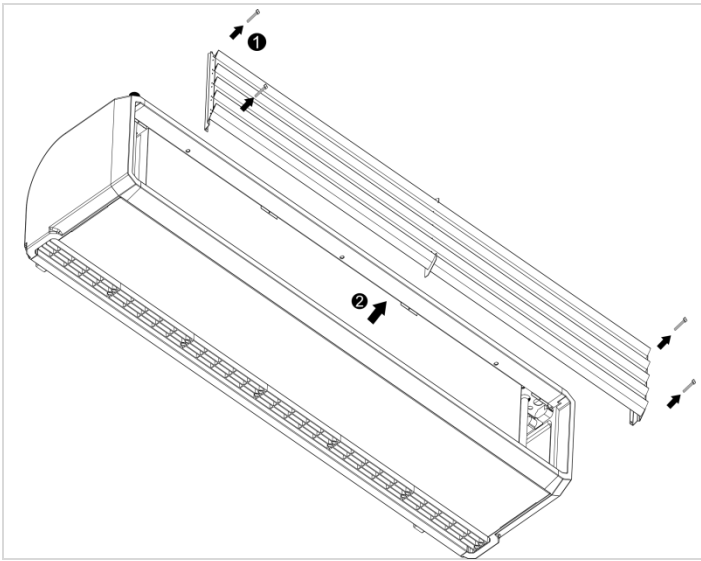
* not a standard equipment - available as an option.

5.1. CONTROL SYSTEM ELEMENTS

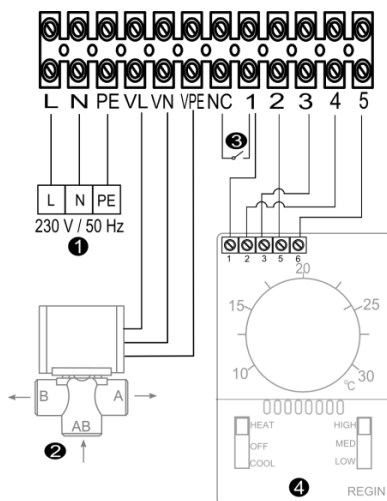
	<p>TS - 3-speed fan switch with room thermostat</p> <p>Temperature range:: +10 ... +30°C Operating temperature range: 0 ... +40°C IP/Insulation class:: IP30 Max current: inductive 2A, resistive 4A Power supply: 230V/50Hz</p>		<p>SRQ3d 1/2" – three-way 1/2 valve with actuator</p> <p>IP/Insulation class: IP20 Power supply: 200 – 240V 50/60Hz Max water temperature: +93°C Max water pressure : 2,1MPa Kvs: 3,4 m³/h Opening time: 18 s</p>
	<p>DCm – mechanical door switch</p> <p>Operating 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>SRQ2d 1/2" – two-way 1/2 valve with actuator</p> <p>IP/Insulation class: IP20 Power supply: 200 – 240V 50/60Hz Max water temperature: +93°C Max water pressure : 2,1MPa Kvs: 3,0 m³/h Opening time: 18 s</p>
	<p>DCet – magnetic door switch with relay</p> <p>Operating temperature range:: -5 - +60 °C IP/Insulation class: IP 64 Connectors: NO Max current:: inductive/resistive 0,5A Max operating contactors distance: 6 mm</p>		

5.2. CONNECTING GUIDE

To connect the control system and power supply to the ELIS T curtain, the front fins must be removed by unscrewing the 4 screws located in the corners of the unit. Power and control wires must be routed through rubber passages located in the upper part of the unit. It is allowed to dismantle the right side cover to gain additional space during electrical connections.



5.2.1. ELECTRIC SCHEME ELIS T-W/N



❶ Power supply 230V/50Hz (OMY 3x1mm²)

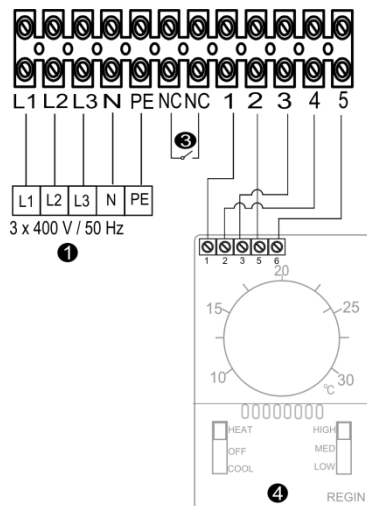
❷ Valve with actuator SRSQ3d (OMY 3x0,5mm²) or SRQ2d (OMY 3x0,5mm²)

A – Exchanger water supply
AB – Valve water supply
B – Return pipe water supply

❸ Door contact DCet/DCm (door closed – opened contacts; door opened – closed contacts).
Use DC jumper between connectors NC and 1 if door contact not used

❹ Air curtain step switch with thermostat TS (OMY 5x0,5mm²)

5.2.2. ELECTRIC SCHEME ELIS T-E



❶ Power supply 3x400V/50Hz:

ELiS T-E-100 (5x2,5 mm²)

ELiS T-E-150 (5x2,5 mm²)

ELiS T-E-200 (5x4,0 mm²)

Max. diameter of power supply wire 6 mm²

❸ Door contact DCet/DCm (door closed – opened contacts; door opened – closed contacts).
Use DC jumper between connectors NC and NC if door contact not used.

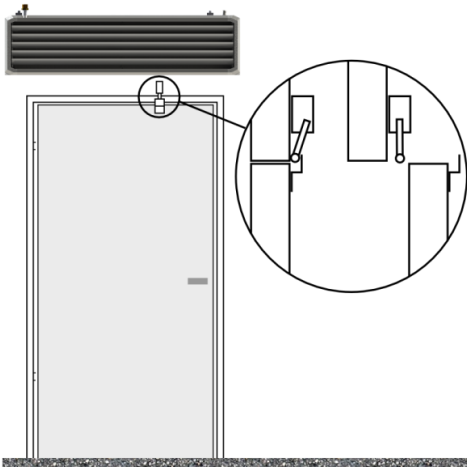
❹ Air curtain step switch with thermostat TS (OMY 5x0,5mm²)

5.3. 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.

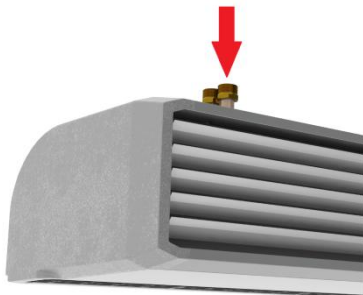
Hinged doors



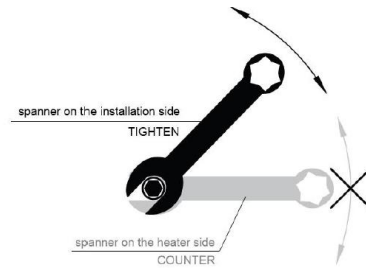
6. GUIDELINES FOR CONNECTION WITH POWER SUPPLY

- 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.
- The electrical system supplying the fan motor should be additionally protected with a circuit breaker against the effects of a possible short-circuit in the system
- Starting the device without connecting the ground conductor is forbidden.

7. GUIDELINES FOR CONNECTION WITH PIPELINE



- The connection should be executed in a way which does not induce stresses. It is recommended to use flex pipes to connect the stubs.
- It is recommended to install vent valves at the highest point of the system.
- The system should be executed so that, in the case of a failure, it is possible to disassemble the device. For this purpose it is best to use shut-off valves just by the device.
- The system with the heating medium must be protected against an increase of the heating medium pressure above the permissible value (1.6 MPa).
- While screwing exchanger to pipeline - connecting stubs has to be hold by wrench.



8. OPERATION

- The device is designed for operation inside buildings, at temperatures above 0°C. In low temperatures (below 0°C) there is a danger of freezing of the medium.
- The manufacturer bears no responsibility for damage of the heat exchanger resulting from freezing of the medium in the exchanger.** 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.
 - It is forbidden to use a damaged device. The manufacturer bears no responsibility for damage resulting from the use of a damaged device.
 - If it is necessary to clean the exchanger, be careful not to damage the aluminium lamellas.
 - For the time of performing inspection or cleaning the device, the electrical power supply should be disconnected.
 - In case water is drained from the device for a longer period of time, the exchanger tubes should be emptied with compressed air.

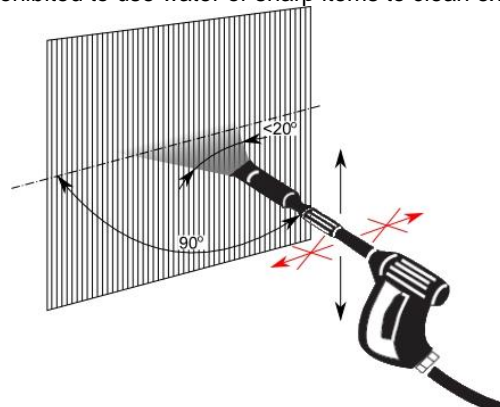
9. CLEANING AND CONSERVATION

Periodically check (min. twice a year) state of contamination of the heat exchanger (ELiS T W), electric heaters (ELiS T E) safety net (ELiS T N). Contamination of the air inlet causes a decrease of heating capacity of the unit and the adverse impact on fan operation (causes waving).

If cleaning of heat exchanger is needed use listed guidelines.

- Disconnect power supply of unit.
- Dismount inlet grill guard
- It is recommended to use pressured air to clean the exchanger, air stream need to be directed perpendicular to exchanger and moved along lamellas.

It is prohibited to use water or sharp items to clean exchanger



- Other installed equipment do not need be cleaned.

10. 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.

ul. Chwaszczyńska 151E, 81-571 Gdynia

phone. +48 58 669 82 20, fax.: +48 58 627 57 21

e-mail: info@flowair.pl



DEKLARACJA ZGODNOŚCI WE / *Declaration of Conformity*

Producent / *Manufacturer:* **FLOWAIR GŁOGOWSKI I BRZEZIŃSKI SP.J.**
Biuro / *Office:* Chwaszczyńska 151E, 81-571 Gdynia
tel. (058) 669 82 20
tel./fax: (058) 627 57 21
e-mail: info@flowair.pl
www.flowair.pl

deklaruje, że / *hereby confirms, that*

nazwa / *device name:* **Kurtyna powietrzna / *Air curtain***

modele / *models:* **ELIS T**

typ / *types:* **ELIS T-W-100 ; ELIS T-N-100 ; ELIS T-E-100;**
ELIS T-W-150 ; ELIS T-N-150 ; ELIS T-E-150;
ELIS T-W-200 ; ELIS T-N-200 ; ELIS T-E-200;

;

data wprowadzenia produktu do
obrotu / *product launch date:* **2014**

jest zgodna z zasadniczymi
wymaganiami / *was produced in*
accordance to the following **dyrektywy / *directives* MD 2006/42/WE;**
dyrektywy / *directives* EMC 2004/108/WE

European Directives:

oraz zharmonizowanymi z tymi
dyrektywami normami / *and*
harmonized norms, with above
directives:

PN-EN 60204-1:2010 – Bezpieczeństwo maszyn - Wyposażenie elektryczne maszyn
Część 1: Wymagania ogólne / *Safety of machinery - Electrical equipment of machines -*
Part 1: General requirements
PN-EN 60335-1:2004 + A1:2005 + A2:2008 + A12:2008 + A13:2009 + A14:2010 +
Ap:2005 + Ap:2006 – Elektryczny sprzęt do użytku domowego i podobnego -
Bezpieczeństwo użytkownika Część 1: Wymagania ogólne / *Household and similar*
electrical appliances - Safety - Part 1: General requirements
PN-EN 60335-2-80:2007 + A2:2009 – Elektryczny sprzęt do użytku domowego i
podobnego - Bezpieczeństwo użytkownika Część 2-80: Wymagania szczegółowe

dotyczące wentylatorów / *Household and similar electrical appliances - Safety – Part 2-30: Particular requirements for room heaters*

PN-EN 60034-1:2009 + Ap1:2009 – Maszyny elektryczne wirujące Część 1: Dane znamionowe i parametry / *Rotating electrical machines – Part 1: Rating and performance*

PN-EN 60034-5:2004 + A1:2009 – Maszyny elektryczne wirujące Część 5: Stopnie ochrony zapewniane przez rozwiązania konstrukcyjne maszyn elektrycznych wirujących (kod IP) – Klasyfikacja / *Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code). Classification.*

PN-EN 60034-8:2007 – Maszyny elektryczne wirujące Część 8: Oznaczenie wyprowadzeń i kierunek wirowania maszyn wirujących / *Rotating electrical machines – Part 8: Terminal markings and direction of rotation.*

PN-EN 60034-9:2009 – Maszyny elektryczne wirujące Część 9: Dopuszczalne poziomy hałasu / *Rotating electrical machines – Part 9: Noise limits.*

PN-EN 61000-6-1:2008 – Kompatybilność elektromagnetyczna (EMC) Część 6-1: Normy ogólne - Odporność w środowiskach: mieszkalnym, handlowym i lekko przemysłowym / *Electromagnetic compatibility (EMC) Part 6-1: Generic standards. Immunity for residential, commercial and light-industrial environments.*

PN-EN 61000-6-2:2008 + Ap1:2009 + Ap2:2009 – Kompatybilność elektromagnetyczna (EMC) Część 6-2: Normy ogólne – Odporność w środowiskach przemysłowych / *Electromagnetic compatibility (EMC) - Part 6-2: Generic standards. Immunity for industrial environments.*

PN-EN 61000-6-3:2008 – Kompatybilność elektromagnetyczna (EMC) Część 6-3: Normy ogólne – Norma emisji w środowiskach: mieszkalnym, handlowym i lekko przemysłowym / *Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.*

PN-EN 61000-6-4:2008 – Kompatybilność elektromagnetyczna (EMC) Część 6-4: Normy ogólne - Norma emisji w środowiskach przemysłowych / *Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.*

Gdynia, 03.11.2014
Product Manager
Dunajski Maciej

Dunajski Maciej

