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ELIS G E-150 | E-200 | E-250 | W-150 | W-200 |W-250 | N-150 | N-200 | N-250 | W-150 2R | W-200 2R

ELIS G AIR CURTAIN TECHNICAL MANUAL

TECHNICAL DOCUMENTATION: **EN**

TABLE OF CONTETNS

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 at: sales@flexiheatuk.com
Also visit our website www.flexiheatuk.com , where you will find mounting tips.
In this manual you will find important safety information and tips marked as below:

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

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

ADVICE
- Useful tips for the user and installer.

IMPORTANT SAFETY INFORMATION:

ADVICE

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 carrier.
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. The nameplate is located next the cable glands on the top of the device.
7. Always test the operation of the device after installation.
8. The device should not be installed directly under the wall socket

CAUTION

1. The power connection shall be performed only by an authorized person.
2. The device may start automatically (when motion is detected in the sensor area).
3. 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.
4. The device requires periodic inspections in accordance with the instructions in this manual.
5. Do not hang/put pressure on the device.
6. Do not place any objects on the device or hang anything on the connection stubs.
7. The product should be stored and assembled out of the reach of small children.
8. 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.
9. Equipment cannot be used in an environment where oil mist is present.
10. 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.
11. The device in electric version (SLIM E) may give off a smell of burning dust at first start up or if it is starting after a long standstill.

WARNING

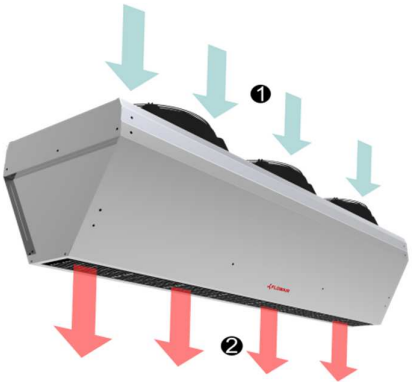
1. The device is powered by dangerous voltage. Always disconnect the device from the power supply before servicing or accessing its internal components.
2. Do not insert your fingers or any objects inside the device.
3. Do not cover the device.

2. GENERAL INFORMATION

ELIS G air curtain is a high-quality device that, by creating an air barrier, reduces heat exchange losses. The device is dedicated ONLY for indoor use. The ELIS G air curtain is intended for horizontal installation above a door opening or vertical installation with a door opening with a maximum height of 8,0 m.

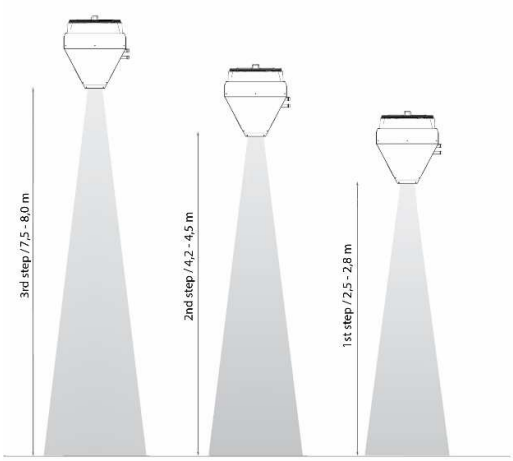
The air curtain is available in a cold/ambient version (without heating), with electric heaters or with a water exchanger:
ELIS G E-150; ELIS G E-200; ELIS G E-250 - air curtains with electric heaters with a maximum range of 7,5 m*;
ELIS G W-150; ELIS G W-200; ELIS G W-250 - air curtains with a water heat exchanger with a maximum range 7,5 m*;
ELIS G W-150 2R; ELIS G W-200 2R; ELIS G W-250 2R - air curtains with a water heat exchanger with a maximum range 7,5 m*;
ELIS G N-150; ELIS G N-200; ELIS G N-250 - air curtains without water exchanger maximum range 8,0 m*.

* according to ISO 27327-1



1 inlet 2 outlet

PIC. 2.1 DIRECTION OF AIR FLOW.

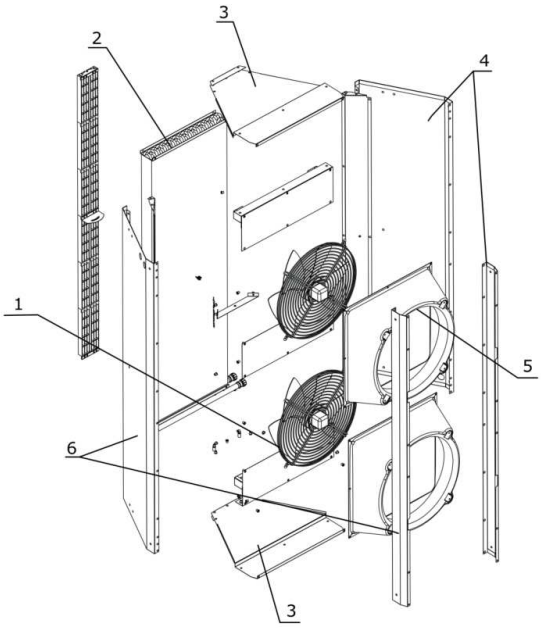


PIC. 2.2 AIR STREAM RANGE FOR DIFFERENT FAN STEPS.

ADVICE

1. In buildings where thermal comfort is required, it is recommended to use a heated air curtain (W or E).
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. CONSTRUCTION



PIC. 3.1 CONSTRUCTION ELIS G N/W/E.

1. Fan
2. Heat exchanger (W - water. E – electric heaters)
3. Side cover
4. Left cover
5. Nozzle
6. Right cover

4. TECHNICAL DATA ELIS G W

	ELIS G W-150			ELIS G W-200			ELIS G W-250		
STEP	**III**	**II**	**I**	**III**	**II**	**I**	**III**	**II**	**I**
Power supply [V/Hz]	1N ~ 230/50								
Power consumption [W]	670	480	240	1050	730	370	1400	970	490
Current consumption [A]	3	2,3	1,3	4,5	3,6	1,9	6,0	4,8	2,5
Air volume [m³/h]*	6200	4000	2500	9100	5600	3300	12000	7200	4300
Range [m]*	7,5	4,2	2,5	7,5	4,2	2,5	7,5	4,2	2,5
Acoustic pressure level [dB(A)] - 3 m**	67	57	46	69	58	47	70	59	48
Acoustic pressure level [dB(A)] - 5 m**	66	56	45	68	57	46	69	58	47
Acoustic power level [dB(A)]***	82	72	61	84	73	62	85	74	63
Weight [kg]	47,4			62,0			78,3		
Weight of unit filled with water [kg]	49,7			64,3					
IP	54								
**Connection stub [''] **	¾ external thread connection								
Max. Water pressure [MPa]	1,6								
Max. Water temperature [°C]	120								
Heating power [kW]****	7,8-27			8,7-30			15-49,6		
Temperature increase (ΔT)[°C]****	4-13			3-11			4-12		

	ELIS G W-150 2R			ELIS G W-200 2R		
STEP	**III**	**II**	**I**	**III**	**II**	**I**
Power supply [V/Hz]	1N ~ 230/50					
Power consumption [W]	670	480	240	1050	730	370
Current consumption [A]	3	2,3	1,3	4,5	3,6	1,9
Air volume [m³/h]*	6100	3900	2400	8800	5400	3100
Range [m]*	7,5	4,2	2,5	7,5	4,2	2,5
Acoustic pressure level [dB(A)] - 3 m**	68	58	47	70	59	48
Acoustic pressure level [dB(A)] - 5 m**	67	57	46	69	58	47
Acoustic power level [dB(A)]***	83	73	62	85	74	63
Weight [kg]	51,8			66,4		
Weight of unit filled with water [kg]	56,4			71,0		
IP	54					
**Connection stub [''] **	¾ external thread connection					
Max. Water pressure [MPa]	1,6					
Max. Water temperature [°C]	120					
Heating power [kW]****	16,8 - 60,1			18,6 - 66,7		
Temperature increase (ΔT)[°C]****	8 - 29			8 - 26		

* according to ISO 27327-1;
** Acoustic pressure level has been measured in a 1500m³ space with a medium sound absorption coefficient, directional factor: Q=2;
*** Acoustic power level according to ISO 27327-2;
**** Range of heating powers and temperatures specified for the parameters: III fan speed, heating medium temperature 50/40 ° C inlet temperature 20 ° C - III fan speed, heating medium temperature 90/70 ° C at the device inlet 0 ° C.

5. TECHNICAL DATA ELIS G N/E

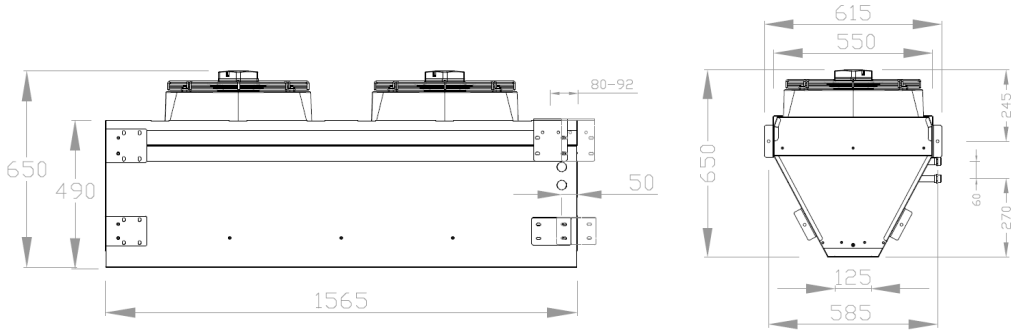
	ELIS G N-150			ELIS G N-200			ELIS G N-250		
STEP	**III**	**II**	**I**	**III**	**II**	**I**	**III**	**II**	**I**
Power supply [V/Hz]	1N ~ 230/50								
Power consumption [W]	670	480	240	1050	730	370	1400	970	490
Current consumption [A]	3	2,3	1,3	4,5	3,6	1,9	6,0	4,8	2,5
Air volume [m³/h]*	6550	4600	2800	9700	6300	3900	12800	8100	4900
Range [m]*	8	4,5	2,8	8	4,5	2,8	8	4,5	2,8
Acoustic pressure level [dB(A)] - 3 m**	66	56	45	67	57	46	69	59	47
Acoustic pressure level [dB(A)] - 5 m**	65	55	44	66	56	45	68	58	46
Acoustic power level [dB(A)]***	81	71	60	83	72	61	84	74	62
Weight [kg]	43			58			71,5		
IP	54								

	ELIS G E-150			ELIS G E-200			ELIS G E-250		
STEP	**III**	**II**	**I**	**III**	**II**	**I**	**III**	**II**	**I**
Power supply [V/Hz]	3N ~ 400/50								
Power consumption [W]	680	480	245	1050	730	370	1400	970	490
Current consumption [A]	3,0	2,3	1,3	4,5	3,6	1,9	6,0	4,8	2,5
Air volume [m³/h]*	6300	4300	2600	9400	5700	3400	12400	7800	4900
Range [m]*	7,5	4,5	2,8	7,5	4,5	2,8	7,5	4,5	2,8
Acoustic pressure level [dB(A)] - 3 m**	66	56	45	67	57	46	69	59	47
Acoustic pressure level [dB(A)] - 5 m**	65	55	44	66	56	45	68	58	46
Acoustic power level [dB(A)]***	81	71	60	82	72	61	84	74	62
Weight [kg]	47			62,2			77,9		
IP fan / IP heating elements	54 / 20								
	3N ~ 400/50 (3. power step)								
Power consumption [kW]	13,5			20,5			24,5		
Current consumption [A]	19,5			29,5			36,0		
Temperature increase (ΔT) [°C]	7,0	10	16,0	7,0	12,0	18,0	7,5	11	16,5
	3N ~ 400/50 (2. power step)								
Power consumption [kW]	9,0			13,5			14,0		
Current consumption [A]	13,0			19,5			20,5		
Temperature increase (ΔT) [°C]	5,0	8,0	11,0	5,0	8,0	12,0	4,0	5,5	9,0
	3N ~ 400/50 (1. power step)								
Power consumption [kW]	4,5			7,0			10,5		
Current consumption [A]	6,5			10,0			15,5		
Temperature increase (ΔT) [°C]	3,0	4,0	6,0	3,0	4,0	7,0	3,0	4,0	6,5

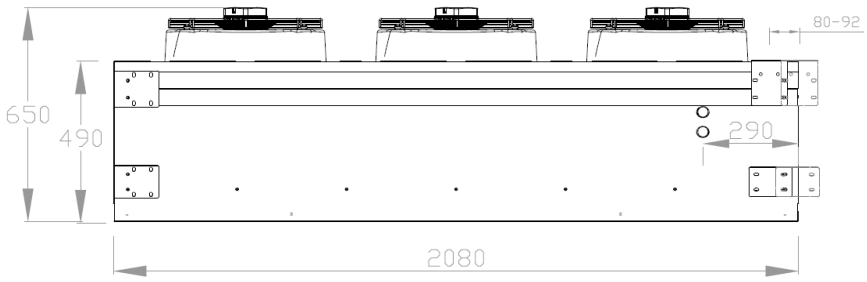
* according to z ISO 27327-1;
** Acoustic pressure level has been measured in a 1500m³ space with a medium sound absorption coefficient, directional factor: Q=2;
*** according to ISO 27327-2.

6. DIMENSIONS

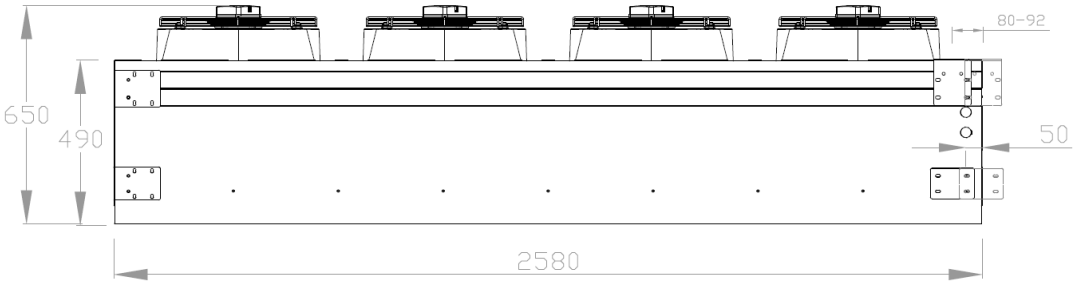
ELIS: G-N-150; G-W-150; G-W-150 2R; G-E-150



ELIS: G-N-200; G-W-200; G-W-200 2R; G-E-200

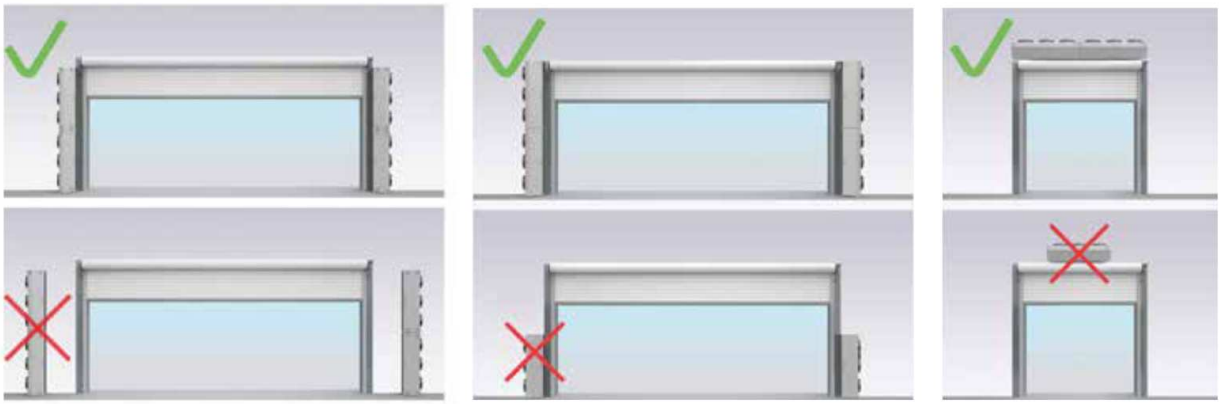


ELIS: G-N-250; G-W-250; G-E-250



7. INSTALATION

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).



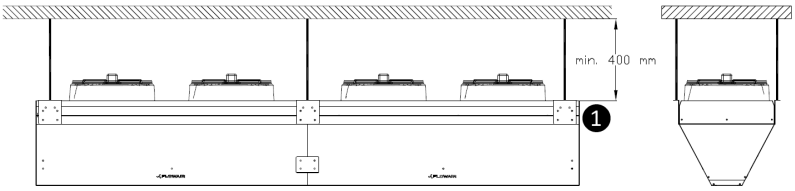
8. MOUNTING - RECOMMENDED DISTANCES

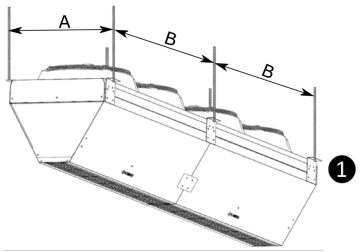
Elis G air curtains are delivered with set of hangers which allow install them horizontally as well as vertically. Installation pins and screws required for fix unit to the wall/floor/post are not included.

Max size of covered doorway:

- vertical single side installation max width 8,0 m for ELiS G-N, 7,5 m for ELiS G-E/W, ELiS G-W-2R,
- vertical double side installation max width 14,0 m for ELiS G-N, 13,0 m for ELiS G-E/W, ELiS G-W-2R,
- horizontal installation max height level 8,0 m for dla ELiS G-N, 7,5 m for ELiS G-E/W, ELiS G-W-2R,

WARNING Screw air curtain to the wall/floor/post before first start up.

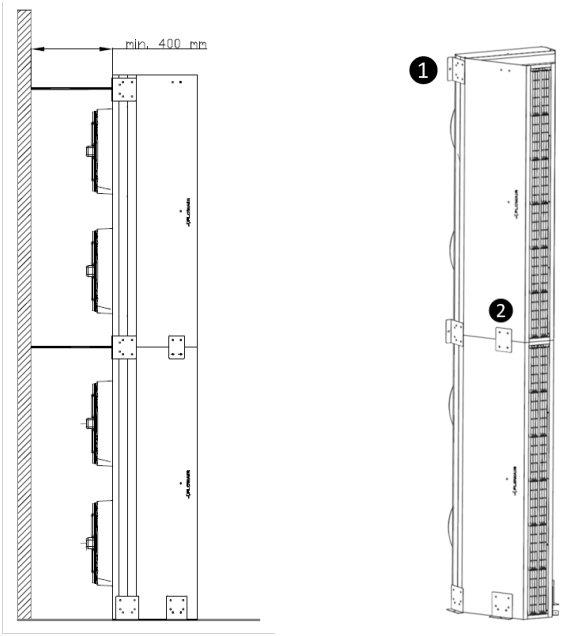




ELiS G	A [mm]	B [mm]
N/W/E-150	585	1480
N/W/E-200	585	2000
N/W/E-250	585	2495

PIC. 8.1 HORIZONTAL INSTALATION

The maximum length of the set is 10 m. In case of horizontal installation use installation plate 1 and mount unit via threaded pins M10 (included). Single unit is mounted on 4 installation plates, two units on 6 pcs. Installation plates are used to screw units among themselves a drawing.



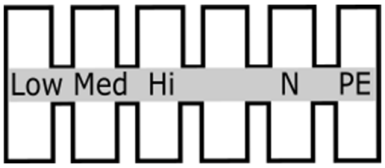
PIC. 8.2 VERTICAL INSTALLATION

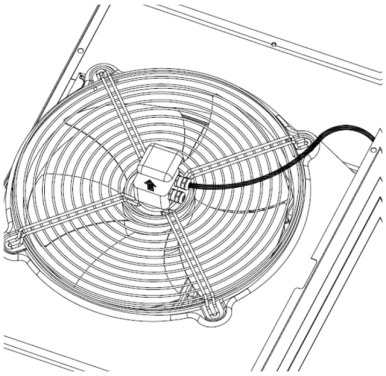
Vertical installation is executed via included in set installation plates 1, which should mount unit to the floor. Next air curtain should be putted on the first one and screwed with it via installation plate 1 and 2, those installation plates must be anchored to the wall/post (drawing). It is also required to anchor the device at the highest point of the installation. In the case of vertical mounting, mounting up to 4 stacked curtains.

9. CONNECTING OF ELECTRICAL INSTALLATION

G-N-150; G-W-150; G-W-150 2R; G-E-150; G-N-200; G-W-200; G-W-200 2R; G-E-200; G-N-250; G-W-250; G-E-250

To supply curtain with power connect it by connection box closest to unit side (or G-W / N / E-250, two electrical connections to the fans are required). Protract cable by glands (PG9 or PG11) and connect wires according to scheme from box cover.

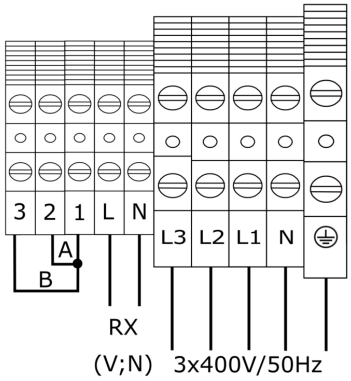




G-E-150; G-E-200; G-E-250

To activate the curtain fans, the 3N 400V / 50 Hz heating elements should be powered by connecting the cables to the box located between the fan nozzles (through the PG29 gland). Then connect the start signal from the RX manifold to the connectors (L; N through the PG9 gland).

Glands
PG29 + PG9

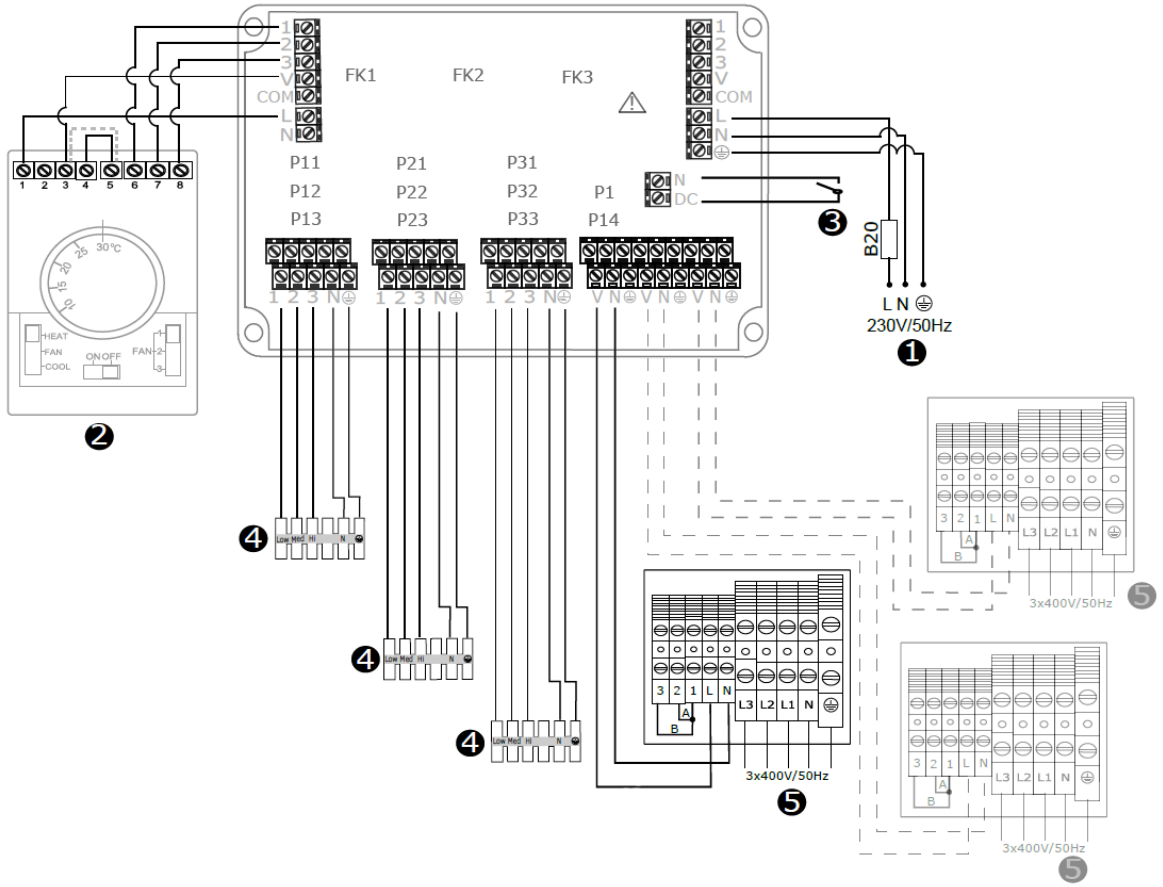


Power step [kW]			
ELiS G	A	B	A + B
E-150	4,5	9,0	13,5
E-200	7,0	13,5	20,5
E-250	10,5	14,5	24,5

WARNING

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 the cable and the protection should be selected by the designer. Always make sure that disconnectors and circuit breakers 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 G 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 it in the stuffing boxes of the fans and the junction box.
8. Tighten all connection cables in the block properly
9. In the event of a hazard due to unintentional reset of the thermal switch, this curtain (ELIS G E) should not be powered by an external connecting device such as a time switch, or connected to a circuit that is regularly switched off and switched on during use.

10. CONTROL – CONNECTION DIAGRAM ELIS G-E 150; G-E 200



RX

❶ RX Power supply: 230 V / 50 Hz (OMY min. 3x1,5 mm²); glands 16 x PG11

❷ 3 - step switch with thermostat TS
(OMY min. 5x0,5 mm²)

- HEAT – heating mode
- FAN – room thermostat deactivated
- COOL – cooling mode
- 1;2;3 step of fan
- FAN AUTO, jumper 3-5, fan operation depends on temperature,
- FAN CONT, jumper 4-5, fan continuous operation

❸ Door contact DCm (door opened – opened contacts)
(OMY 2x0,5 mm²);

❹ connection of power supply for ELiS G curtain fans (one connector can be connected to one curtain)
(OMY min. 5x1,0 mm²); glands PG7 + PG9

❺ Power supply junction box 3x400 V / 50Hz

- ELiS G-E-150 (min. 5x4,0 mm²)(overcurrent B25)
- ELiS G-E-200 (min. 5x6,0 mm²)(overcurrent B40)
- Control signal to junction box
  (OMY min. 2x0,5 mm²);
- glands PG29 + PG9

FK1; FK2; FK3 - overload protector (6,3 A);

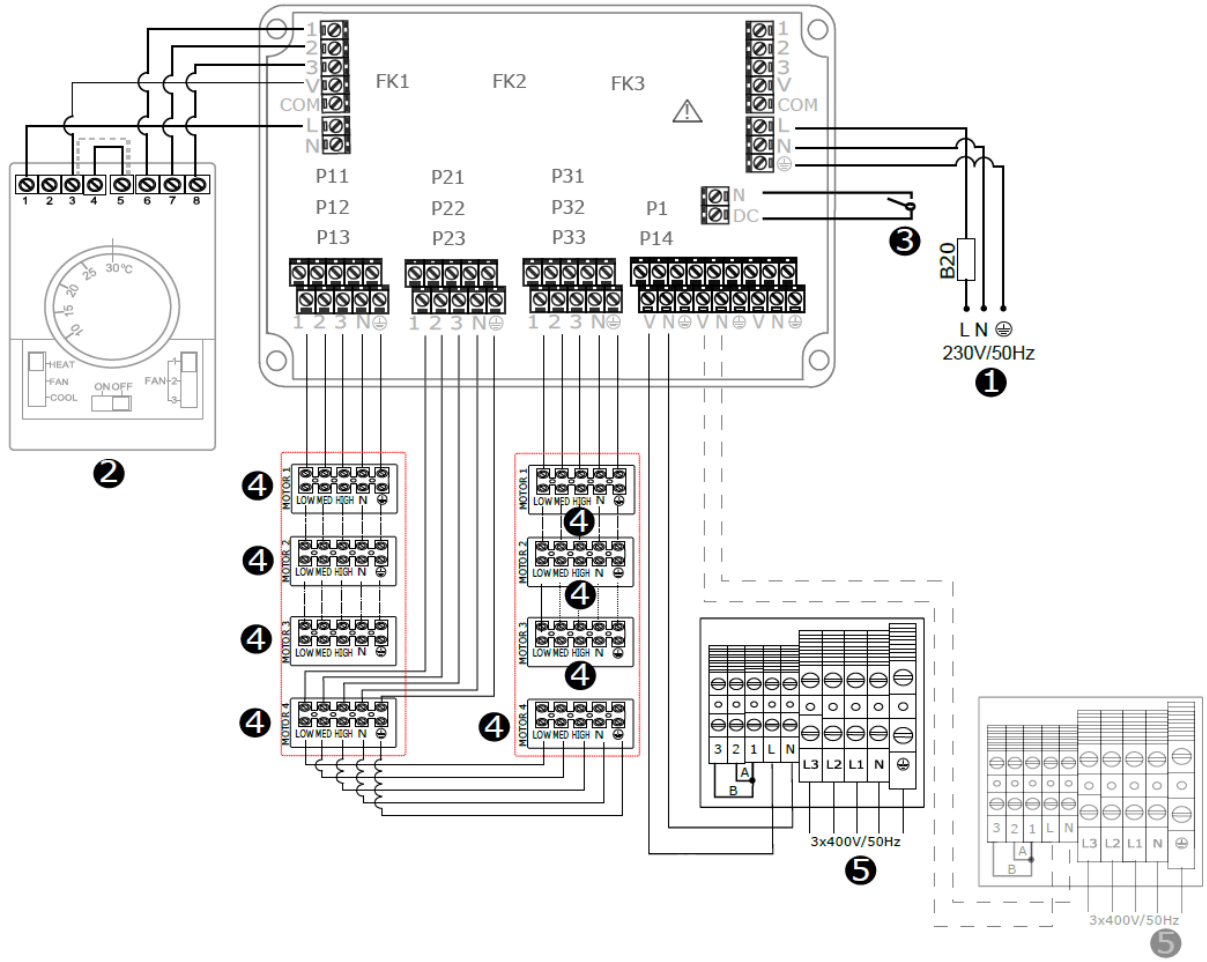
ADVICE

1. To connect the cables from the RX to the curtain, disassemble the cover of the fan box and then lead the cable through the free gland.
2. Without a door sensor, the air curtain will work in relation to the setting from TS thermostat. When working with a door sensor, the curtain will be activated only when the gate is opened (the contacts of the N; DC connector are open).
3. In order to connect the heating elements and the heating start signal from the RX, dismantle the box cover located between the nozzles of the fans, and then lead the cables through the glands.

WARNING

1. To one RX can be connected maximum of 3 G-E-150 or G-E-200 curtains
2. Disconnect all power circuits before accessing terminals.

11. CONTROL – CONNECTION DIAGRAM ELIS G-E 250



RX

❶ RX Power supply: 230 V / 50 Hz (OMY min. 3x1,5 mm2); glands 16 x PG11

❷ 3 - step switch with thermostat TS
(OMY min. 5x0,5 mm^2)

- HEAT – heating mode
- FAN – room thermostat deactivated
- COOL – cooling mode
- 1;2;3 step of fan
- FAN AUTO, jumper 3-5, fan operation depends on temperature,
- FAN CONT, jumper 4-5, fan continuous operation
-

❸ Door contact DCm (door opened – opened contacts)
(OMY 2x0,5 mm2);

❹ connection of power supply for ELiS G curtain fans
(OMY min. 5x1,0 mm2); glands PG7 + PG9

❺ Power supply junction box 3x400 V / 50Hz

- ELiS G-E-250 (min. 5x6,0 mm^2)(overcurrent B40)
- Control signal to junction box
  (OMY min. 2x0,5 mm^2)
- glands PG29 + PG9

FK1; FK2; FK3 - overload protector (6,3 A);

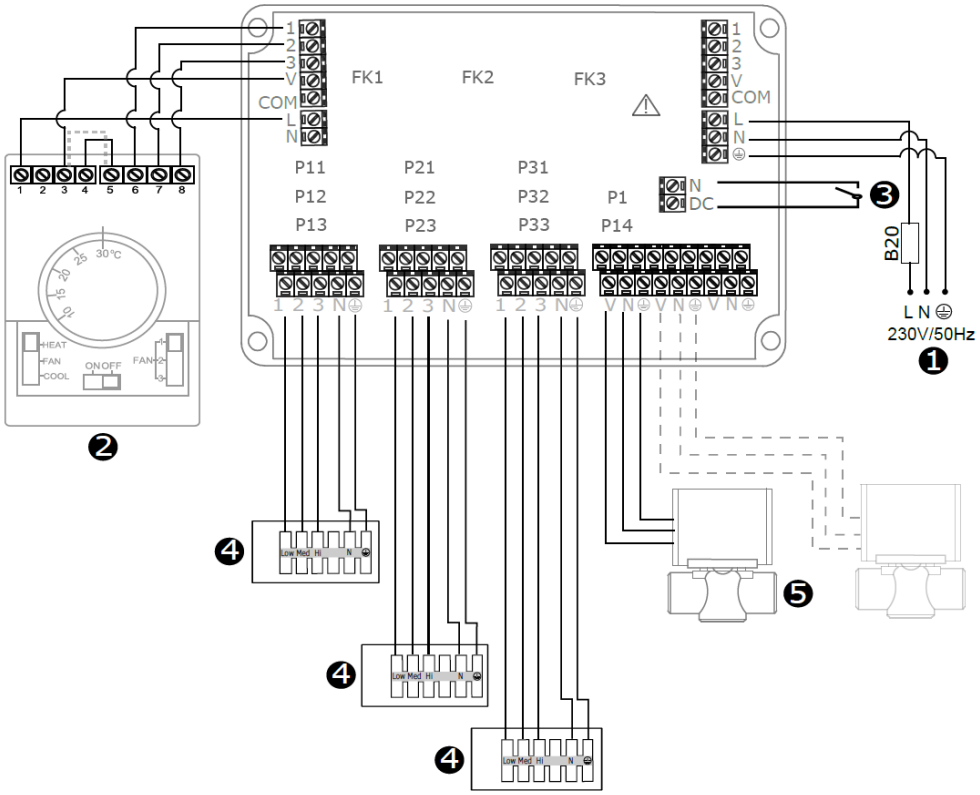
ADVICE

1. To connect the cables from the RX to the curtain, disassemble the cover of the fan box and then lead the cable through the free gland.
2. Without a door sensor, the air curtain will work in relation to the setting from TS thermostat. When working with a door sensor, the curtain will be activated only when the gate is opened (the contacts of the N; DC connector are open).
3. In order to connect the heating elements and the heating start signal from the RX, dismantle the box cover located between the nozzles of the fans, and then lead the cables through the glands.

WARNING

1. To one RX can be connected maximum of 2 G-E-250 curtains
2. Disconnect all power circuits before accessing terminals.

12. CONTROL – CONNECTION DIAGRAM ELIS G-N-150; G-W-150; G-W-150 2R; G-N-200; G-W-200; G-W-200 2R.



RX

❶ RX Power supply: 230 V / 50 Hz (OMY min. 3x1,5 mm2); glands 16 x PG11

❷ 3 - step switch with thermostat TS

(OMY min. 5x0,5 mm²)

- HEAT – heating mode
- FAN – room thermostat deactivated
- COOL – cooling mode
- 1;2;3 step of fan
- FAN AUTO, jumper 3-5, fan operation depends on temperature,
- FAN CONT, jumper 4-5, fan continuous operation

❸ Door contact DCm (door opened – opened contacts)

(OMY 2x0,5 mm2);

❹ connection of power supply for ELiS G curtain fans (one connector can be connected to one curtain)

(OMY min. 5x1,0 mm2); glands PG7 + PG9

❺ SRQ/SRQ3d valve power supply (OMY min. 3x0,75 mm²)

FK1; FK2; FK3 - overload protector (6,3 A);

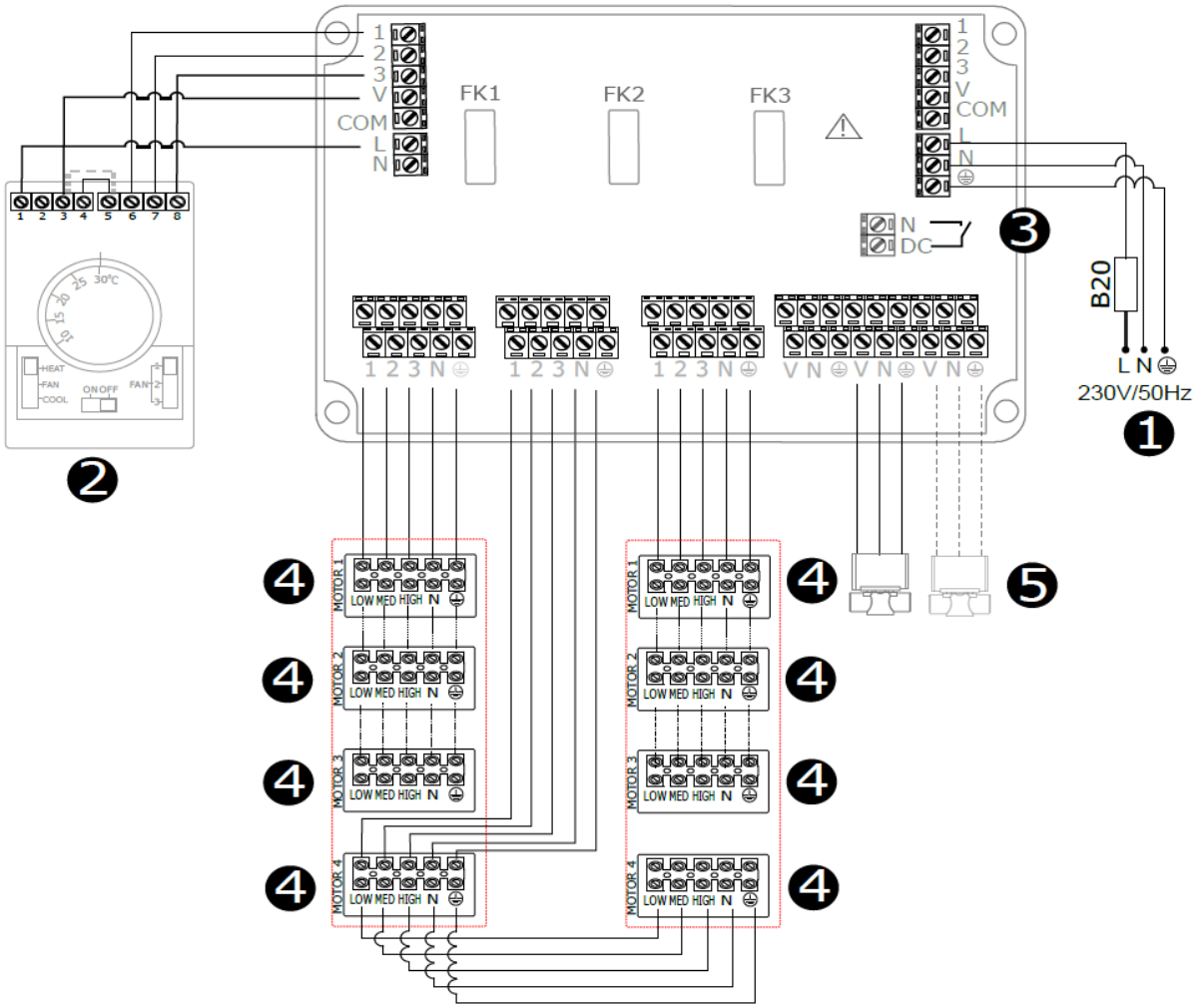
ADVICE

1. To connect the cables from the RX to the curtain, disassemble the cover of the fan box and then lead the cable through the free gland.
2. Without a door sensor, the air curtain will work in relation to the setting from TS thermostat. When working with a door sensor, the curtain will be activated only when the gate is opened (the contacts of the N; DC connector are open).

WARNING

1. To one RX can be connected maximum of 3 G-W/N-150 or G-W/N-200 curtains

13. CONTROL – CONNECTION DIAGRAM ELIS G-N-250; G-W-250



RX

❶ RX Power supply: 230 V / 50 Hz (OMY min. 3x1,5 mm2); glands 16 x PG11

❷ 3 - step switch with thermostat TS

(OMY min. 5x0,5 mm^2)

- HEAT – heating mode
- FAN – room thermostat deactivated
- COOL – cooling mode
- 1;2;3 step of fan
- FAN AUTO, jumper 3-5, fan operation depends on temperature,
- FAN CONT, jumper 4-5, fan continuous operation

❸ Door contact DCm (door opened – opened contacts)

(OMY 2x0,5 mm2);

❹ connection of power supply for ELiS G curtain fans

(OMY min. 5x1,0 mm2); glands PG7 + PG9

❺ SRQ/SRQ3d valve power supply (OMY min. 3x0,75 mm^2)

FK1; FK2; FK3 - overload protector (6,3 A);

ADVICE

1. To connect the cables from the RX to the curtain, disassemble the cover of the fan box and then lead the cable through the free gland.
2. By default, three fans are connected together, the fourth one should be connected separately to another channel of the RX distributor
3. Without a door sensor, the air curtain will work in relation to the setting from TS thermostat. When working with a door sensor, the curtain will be activated only when the gate is opened (the contacts of the N; DC connector are open).

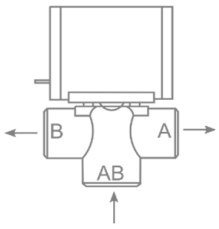
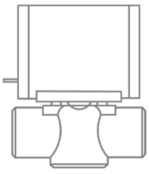
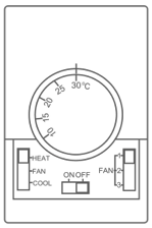
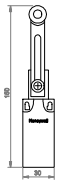
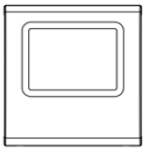
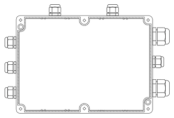
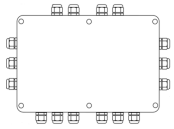
WARNING

1. To one RX can be connected maximum of 2 G-W/N-250 curtains

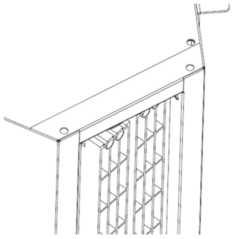
14. CONTROL - DRV ELIS + T-BOX

In the case of connecting the DRV ELIS control module with an T-BOX intelligent controller to the RX splitter, it should be done instead of the TS controller and use the diagrams available in the documentation of the RX splitter. In such a case, connecting the curtains to the RX splitter is adequate to that presented in chapters 10 to 13.

15. CONTROLS - OPTIONAL ELEMENTS

SRQ3d 3/4" – Three-way valve 3/4" with actuator	
	Protection degree: IP20 Supply voltage: 230/50 Hz Max. medium temperature: +93°C Max. Operating pressure: 2,1 MPa Kvs: 6,5 m^3/h Installation: on the supply of the water heat exchanger Motor running time: 18 s A – Return pipe water supply AB – Valve water supply B – Exchanger water supply
SRQ2d 3/4" – Two-way valve 3/4" with actuator	
	Protection degree: IP20 Supply voltage: 230/50 Hz Max. medium temperature: +93oC Max. Operating pressure: 2,1 MPa Kvs: 6,5 m3/h Installation: on the supply of the water heat exchanger Motor running time: 18
TS – 3-step regulator with built-in thermostat	
	Temperature setting range: +10 … +30 °C Operating temperature range: 0 … +40 °C Protection degree: IP30 Contact load: inductive 5 A Supply voltage: 230 V/50 Hz FAN AUTO - fan operation depends on the temperature. FAN CONT - continuous fan operation HEAT - heating function FAN - deactivate the thermostat for FAN CONT COOL - reversal of the operation logic of the thermostat
DCm – mechanical door contact	
	Operating temperature range: -10 -+80 °C Protection degree: IP 66 Connectors: 1xNC i 1xNO Max current: resistive – 10 A inductive – 3 A Max Power load: 300 Vac lub 250 Vdc
T-box – touch screen controller	
	Temperature setting range: +5 … +45 °C Operating temperature range: 0 … +60 °C Protection degree: IP30 Supply voltage: 24 VDC
DRV ELIS – control module	
	Operating temperature range:: 0 … +60 °C Protection degree: IP54 Supply voltage: 230 V/50 Hz DRV ELIS can be connected to ELIS G air curtain only via RX splitter
RX – signal splitter	
	Operating temperature range:: 0 … +40 oC Protection degree: IP54 Supply voltage: 230 V/50 Hz To one RX can be connected maximum of 3 G-N/W/E-150 or G-N/W/E-200 curtains or maximum of 2 G-N/W/E-250

16. ADJUSTMENT OF OUTLET GRILLE



The device is equipped adjustable outlet grilles. The angle should be set manually within +/- 17 °. The airflow from the outlet grille should be directed as close as possible to the plane of the door opening (taking into account the conditions prevailing at the door opening).

ADVICE

In order to increase the effectiveness of the air barrier during windy conditions, the curtain 's air stream should be directed outside the door to create a more efficient air barrier to external factors.

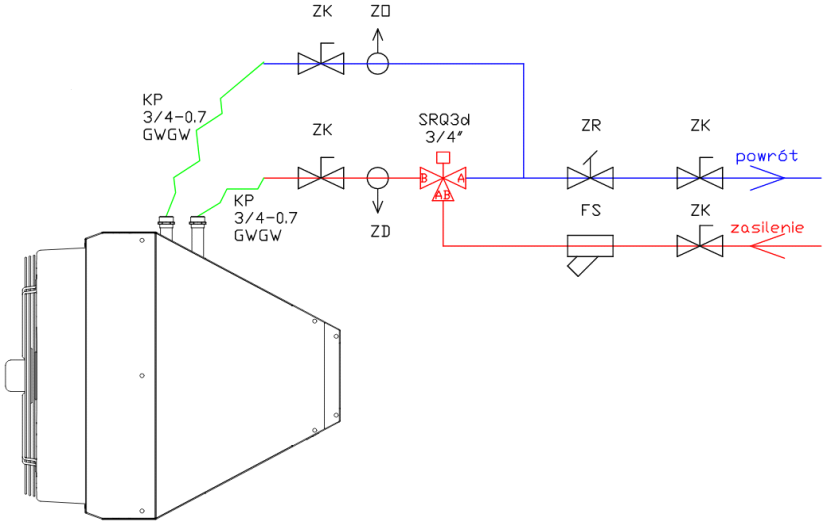
17. CONNECTION OF HYDRAULIC INSTALLATION

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 of red arrow.
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 (counter)
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. (rys. 16.1).



ZK - ball valve
ZO - bleeding valve
ZR - balancing valve
ZD - drainage valve
FS – mesh filter
KP – flexible hoses
SRQ3d – 3-way valve with ON/OFF actuator

RYS. 16.1. CONNECTION EXAMPLE OF HYDRAULIC COMPONEMTS.

18. 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	[Ca2+,Mg2+]/ [HCO3-] > 0.5
Oil and grease	<1 mg/l
Oxygen	<0.1mg/l
HCO^3	60-300 mg/l
Ammonia	< 1.0 mg/l
Sulphides	< 0.05 mg/l
Chlorides, Cl	<100 mg/l

19. 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 FLEXIHEAT UK LTD.
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.

The manufacturer is not responsible for damage to the heat exchanger resulting from the freezing of the medium in the exchanger.

ADVICE

1. The heating elements are equipped with thermal protections, which in case of too high temperature in their surroundings will disconnect the heating. The heating can be switched on again after the temperature has dropped and manual reset is performed by switching OFF and ON the heating with external controller.
If the heating disconnects repeatedly, contact a qualified service center.
2. 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.

20. CLEANING AND MAINTENANCE

Periodically check (at least twice a year) the dirtiness level of the heat exchanger (ELIS G W), electric heaters (ELIS G E). 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, and in the case of electric heaters it can cause permanent loss of rated parameters.

ADVICE

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

- The power supply must be disconnected during cleaning.
- Dismantle the fans and clean the exchanger through the air nozzles.
- 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.

21. CONFORMITY WITH WEEE 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.

R E M E M B E R :

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.

Declaration Of Conformity

The manufacturer hereby confirms that air curtain units

- ELIS G: W-150; W-200; W-250; E-150; E-200; E-250; N-150; N-200; N-250;

were produced in accordance to the following Europeans Directives

1. 2014/30/UE – Electromagnetic Compatibility (EMC) 2.
2. 2006/42/WE – Machinery
3. 2014/35/UE – Low Voltage Electrical Equipment (LVD)
4. 2009/125/WE – Energy-related products (ErP 2015)

and harmonized norms ,with above directives

PN-EN 60335-1:2012
PN-EN 60335-2-30:2010
PN-EN 61000-6-2:2019
PN-EN 61000-6-3:2007

and with norms:
ISO 27327-1:2009
ISO 27327-2:2014

Product Manager

Dunajski Maciej

23. SERVICE AND WARRANTY TERMS

Please contact your dealer in order to get acquitted 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!

FLEXIHEAT UK LTD
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