

LEO
S1 I S2 I S3 / BMS
L1 I L2 I L3 / BMS
XL2 I XL3 / BMS
(INOX / ST)

EN **FAN HEATER**
TECHNICAL DOCUMENTATION OPERATION MANUAL

PL **AEROTERMA**
DOCUMENTATIE TEHNICA MANUAL DE UTILIZARE

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1. APPLICATION

LEO heaters make up a decentralised heating system. The air streaming through the heat exchanger filled with hot water is warmed up. Fan heaters are used for heating large volume buildings: general, industrial and public buildings etc.

The casing of LEO heaters is made from extended polypropylene EPP. LEO in special version ST has a casing made from powder coated steel. The devices LEO in special version INOX have casing and air blades made of austenitic stainless steel.

The devices are designed for indoor use where maximum air dustiness does not exceed 0,3 g/m^3. Units are built using copper, aluminum and galvanized steel. It is prohibited to install units in the areas where environment inside can causes in rusting.

1. APLICATII

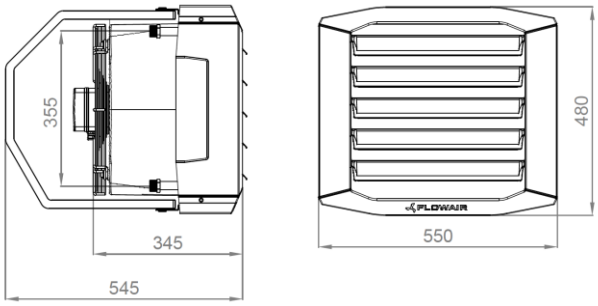
Aerotermele LEO formeaza un sistem descentralizat de incalzire. Aerul care trece prin schimbatorul de caldura plin cu apa calda este incalzit. Aerotermele sunt folosite pentru a incalzi cladiri cu volum mare: cladiri uzuale, industriale si publice.

Carcasa aerotermelor LEO este facut din polipropilena expandata EPP. LEO in versiunea speciala ST are carcasa din otel vopsita. Unitatea LEO in versiunea speciala INOX are carcasa si lamelele de aer din otel inox.

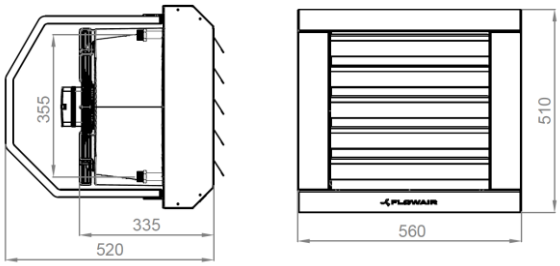
Aerotermele sunt destinate pentru uz interior unde concentratia de praf nu depaseste 0,3 g/m^3. Unitatile sun construite din cupru, aluminii si otel galvanizat. Este interzis sa se monteze aerotermele in zone unde mediul inconjurator poate cauza ruginirea.

2. TECHNICAL DATA | 2. DATE TEHNICE

LEO S1 | S2 | S3 / BMS



LEO S1 INOX / ST | S2 INOX / ST | S3 INOX / ST



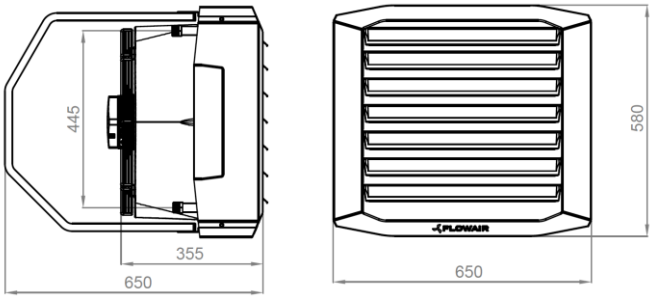
	LEO S1			LEO S2			LEO S3		
Gear | Treapta	III	II	I	III	II	I	III	II	I
Max airflow [m^3/h] | Debit maxim [m^3/h]	2300	1900	1500	2000	1600	1250	1800	1400	1000
Power supply [V/Hz] | Alimentare electrica [V/Hz] |	230/50								
Max current consumption [A] | Curent maxim consumat [A]	0,5	0,4	0,3	0,6	0,4	0,3	0,6	0,4	0,3
Max power consumption [W] | Putere maxima consumata [W]	120	90	70	130	90	70	130	90	70
IP/ Insulation class | IP/Clasa izolare	54 /F								
Max acoustic pressure level [dB(A)]* | Nivel maxin de presiune acustica [dB(A)]*	56,3	50,7	43,9	56,3	50,7	43,9	56,3	50,7	43,9
Horizontal range** [m] | Lungime maxima jet aer pe orizontala** [m]	16,0	13,0	10,0	14,0	11,0	8,5	12,5	9,5	7,0
Vertical range*** [m] | Lungime maxima jet aer pe verticala*** [m]	6,0	5,1	4,1	5,3	4,4	3,5	4,9	3,9	2,9
Max heating water temperature [^oC] | Temp. Max. Agent termic [^oC]	120 (INOX / ST: 130)								
Max operating pressure [MPa] | Presiune max de functiunare [MPa]	1,6								
Connection | Racorduri	1/2”								
Installation | Instalare	Indoor | In interior								
Max working temperature [^oC] | Temp. Maxima de functionare [^oC]	60								
Device mass [kg] | Greutate [kg] |	9,5 (INOX: 13,1, ST: 13,1)			10,4 (INOX: 13,8, ST: 13,8)			10,8 (INOX: 14,3, ST: 14,3)		
Mass of device filled with water [kg] |Greutatea aerotermei plina cu apa [kg]	10,2 (INOX: 13,8, ST: 13,8)			11,6 (INOX: 14,0, ST: 14,0)			12,2 (INOX: 15,7, ST: 15,7)		

* Acoustic pressure level has been measured 5m from the unit in a 1500m^3 space with a medium sound absorption coefficient | Nivelul presiunii acustice la distanța de 5 m față de unitate, în încăpere cu capacitate medie se absorbție a sunetului și volum de 1500 m3

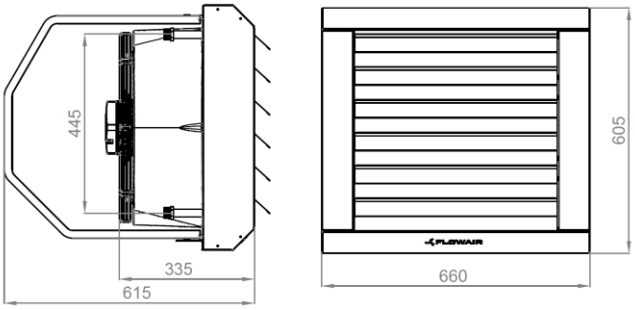
** Horisontal isothermal range for 0,5 m/s border air stream speed Lungimea jetului de aer izoterm pe orizontala la viteza de 0,5 m/s.

*** Vertical nonisothermal range for ΔT = 5oC and for 0,5 m/s border air stream speed | Lungimea maximă a jetului de aer cald nonizoterm pe verticală la ΔT = 50°C și la viteza de 0.5 m/s

LEO L1 | L2 | L3 / BMS



LEO L1 INOX / ST | L2 INOX / ST | L3 INOX / ST

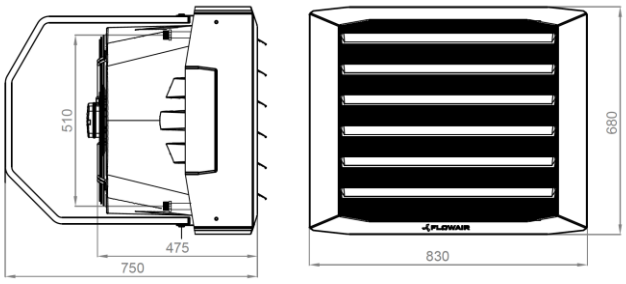


	LEO L1			LEO L2			LEO L3		
Gear | Treapta	III	II	I	III	II	I	III	II	I
Max airflow [m^3/h] | Debit maxim [m^3/h]	4250	2800	1700	3800	2400	1400	3400	2100	1200
Power supply [V/Hz] | Alimentare electrica [V/Hz] |	230/50								
Max current consumption [A] | Curent maxim consumat [A]	1,4	1,2	0,6	1,5	1,2	0,6	1,5	1,2	0,6
Max power consumption [W] | Putere maxima consumata [W]	330	240	120	340	240	120	340	240	120
IP/ Insulation class | IP/Clasa izolare	54 /F								
Max acoustic pressure level [dB(A)]* | Nivel maxin de presiune acustica [dB(A)]*	64,1	54,5	42,1	64,1	54,5	42,1	64,1	54,5	42,1
Horizontal range** [m] | Lungime maxima jet aer pe orizontala** [m]	24,0	15,0	9,5	21,5	13,0	8,0	19,0	11,5	6,5
Vertical range*** [m] | Lungime maxima jet aer pe verticala*** [m]	8,3	5,6	3,7	7,5	4,9	3,1	6,8	4,4	2,8
Max heating water temperature [ºC] | Temp. Max. Agent termic [ºC]	120 (INOX / ST: 130)								
Max operating pressure [MPa] | Presiune max de functiunare [MPa]	1,6								
Connection | Racorduri	3/4”								
Installation | Instalare	Indoor | In interior								
Max working temperature [ºC] | Temp. Maxima de functionare [ºC]	60								
Device mass [kg] | Greutate [kg] |	14,9 (INOX: 19,4, ST: 19,4)			16,2 (INOX: 20,8, ST: 20,8)			17,8 (INOX: 22,7, ST: 22,7)		
Mass of device filled with water [kg] |Greutatea aerotermei plina cu apa [kg]	15,9 (INOX: 20,4, ST: 20,4)			18,2 (INOX: 22,8, ST: 22,8)			20,5 (INOX: 25,4, ST: 25,4)		

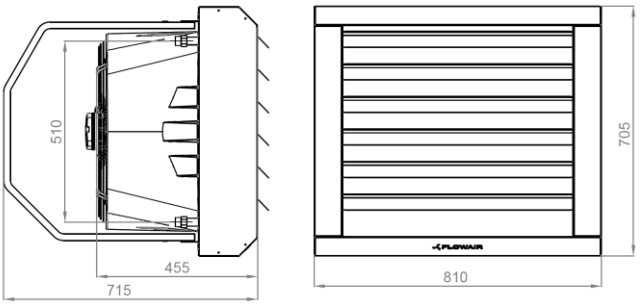
* Acoustic pressure level has been measured 5m from the unit in a 1500m^3 space with a medium sound absorption coefficient | Nivelul presiunii acustice la distanța de 5 m față de unitate, în încăpere cu capacitate medie se absorbție a sunetului și volum de 1500 m3
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*** Vertical nonisothermal range for ΔT = 5oC and for 0,5 m/s border air stream speed | Lungimea maximă a jetului de aer cald nonizoterm pe verticală la ΔT = 50°C și la viteza de 0.5 m/s

2. TECHNICAL DATA | 2. DATE TEHNICE | 2. TECHNISCHE GEGEVENS | 2. ТЕХНИЧЕСКИЕ ПАРАМЕТРЫ

LEO XL2 | XL3 / BMS

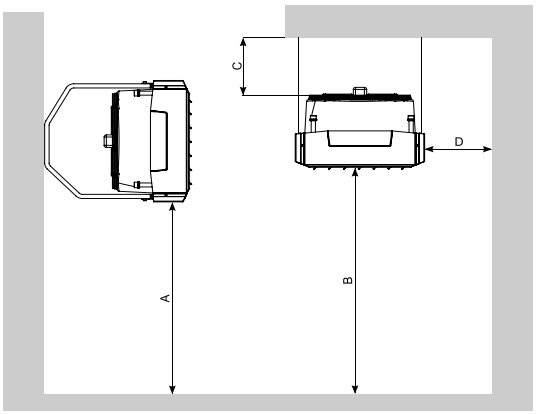


LEO XL2 INOX / ST | XL3 INOX / ST



	LEO XL2			LEO XL3		
Gear | Treapta	III	II	I	III	II	I
Max airflow [m^3/h] | Debit maxim [m^3/h]	5800	4600	2900	5300	4100	2500
Power supply [V/Hz] | Alimentare electrica [V/Hz] |	230/50					
Max current consumption [A] | Curent maxim consumat [A]	2,3	1,8	1,4	2,4	1,8	1,4
Max power consumption [W] | Putere maxima consumata [W]	520	370	270	550	370	270
IP/ Insulation class | IP/Clasa izolare	54 /F					
Max acoustic pressure level [dB(A)]* | Nivel maxin de presiune acustica [dB(A)]*	67,5	61,1	52,3	67,5	61,1	52,3
Horizontal range** [m] | Lungime maxima jet aer pe orizontala** [m]	26,0	20,5	13,0	23,5	18,0	11,0
Vertical range*** [m] | Lungime maxima jet aer pe verticala*** [m]	8,5	7,0	4,7	7,7	6,2	4,1
Max heating water temperature [ºC] | Temp. Max. Agent termic [ºC]	120 (INOX / ST: 130)					
Max operating pressure [MPa] | Presiune max de functiunare [MPa]	1,6					
Connection | Racorduri	3/4”					
Installation | Instalare	Indoor | Wewnątrz pomieszczeń | Binnen | Внутри помещений					
Max working temperature [ºC] | Temp. Maxima de functionare [ºC]	60					
Device mass [kg] | Greutate [kg] |	23,2 (INOX: 29,9, ST: 29,9)			26,2 (INOX: 34,2, ST: 34,2)		
Mass of device filled with water [kg] |Greutatea aerotermei plina cu apa [kg]	25,9 (INOX: 32,6, ST: 32,6)			30,3 (INOX: 38,3, ST: 38,3)		

* Acoustic pressure level has been measured 5m from the unit in a 1500m^3 space with a medium sound absorption coefficient | Nivelul presiunii acustice la distanța de 5 m față de unitate, în încăpere cu capacitate medie se absorbție a sunetului și volum de 1500 m3
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*** Vertical nonisothermal range for ΔT = 5oC and for 0,5 m/s border air stream speed | Lungimea maximă a jetului de aer cald nonizoterm pe verticală la ΔT = 50°C și la viteza de 0.5 m/s



	S1	S2	S3	L1	L2	L3	XL2	XL3
A	<3,0	<3,0	<3,0	2,5-8,0	2,5-8,0	2,5-8,0	2,5-8,0	2,5-8,0
B	2,5-7,0	2,5-6,0	2,5-6,0	2,5-9,5	2,5-8,5	2,5-8,0	2,5-9,5	2,5-9,0
C	>0,3	>0,3	>0,3	>0,3	>0,3	>0,3	>0,3	>0,3
D	>0,5	>0,5	>0,5	>0,5	>0,5	>0,5	>0,5	>0,5

3. INSTALLATION

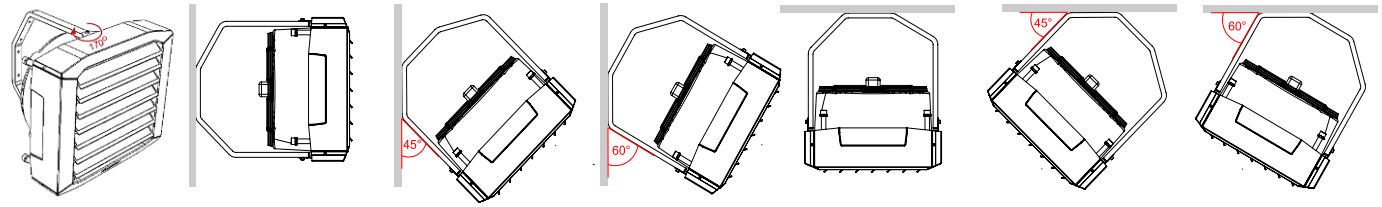
Fan heaters can be mounted to vertical or horizontal partitions in any position. During the montage, the minimal distances from the walls and ceiling have to be kept.

3.INSTALARE

Aeroterma poate fi instalata pe verticala sau orizontala in orice pozitie. In timpul instalarii, distantele minime fata de pereti si tavan trebuie respectate.

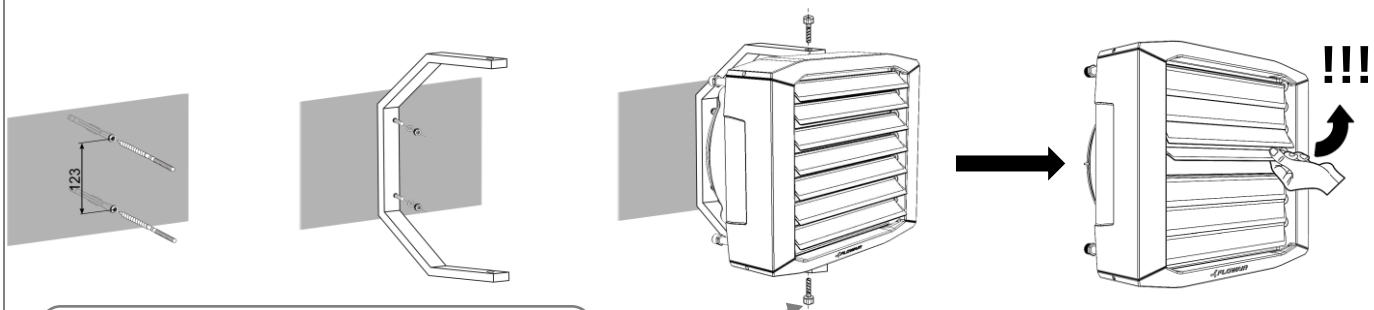
3.1. INSTALLATION –BRACKET

3.1. INSTALARE - SUPORTI

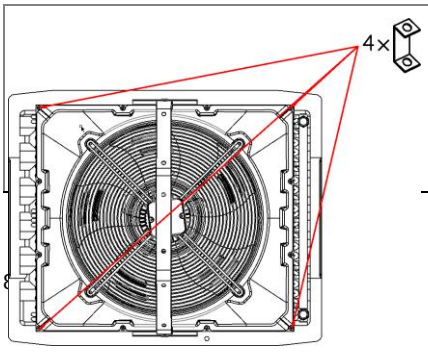


3.2. ASSEMBLY INSTRUCTIONS

3.2. INSTRUCTIUNI MONTAJ



M8 screws are in set with bracket | Suruburile M8 sunt in set impreuna cu consola



3.3 U-PROFILES (optional)

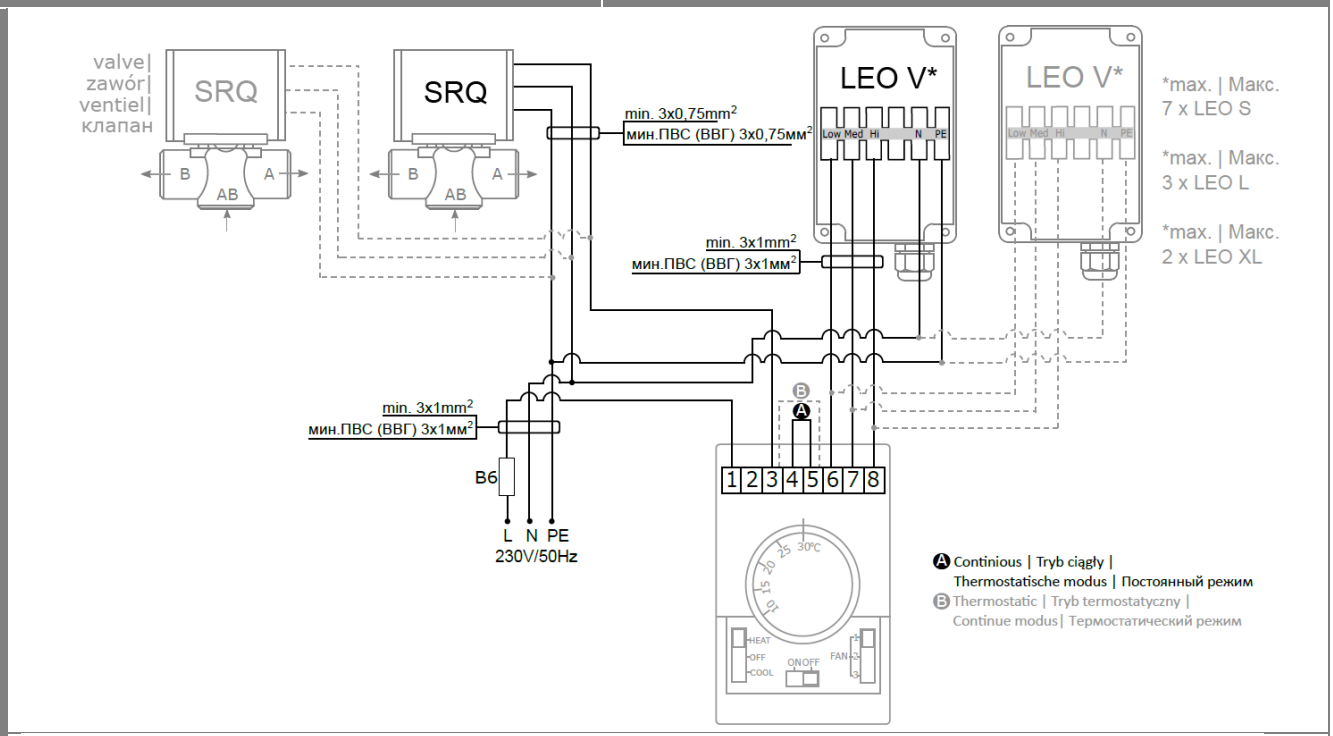
U-profiles should be mounted in corners as drawing shows. Is not allowed to screw profiles in other places.

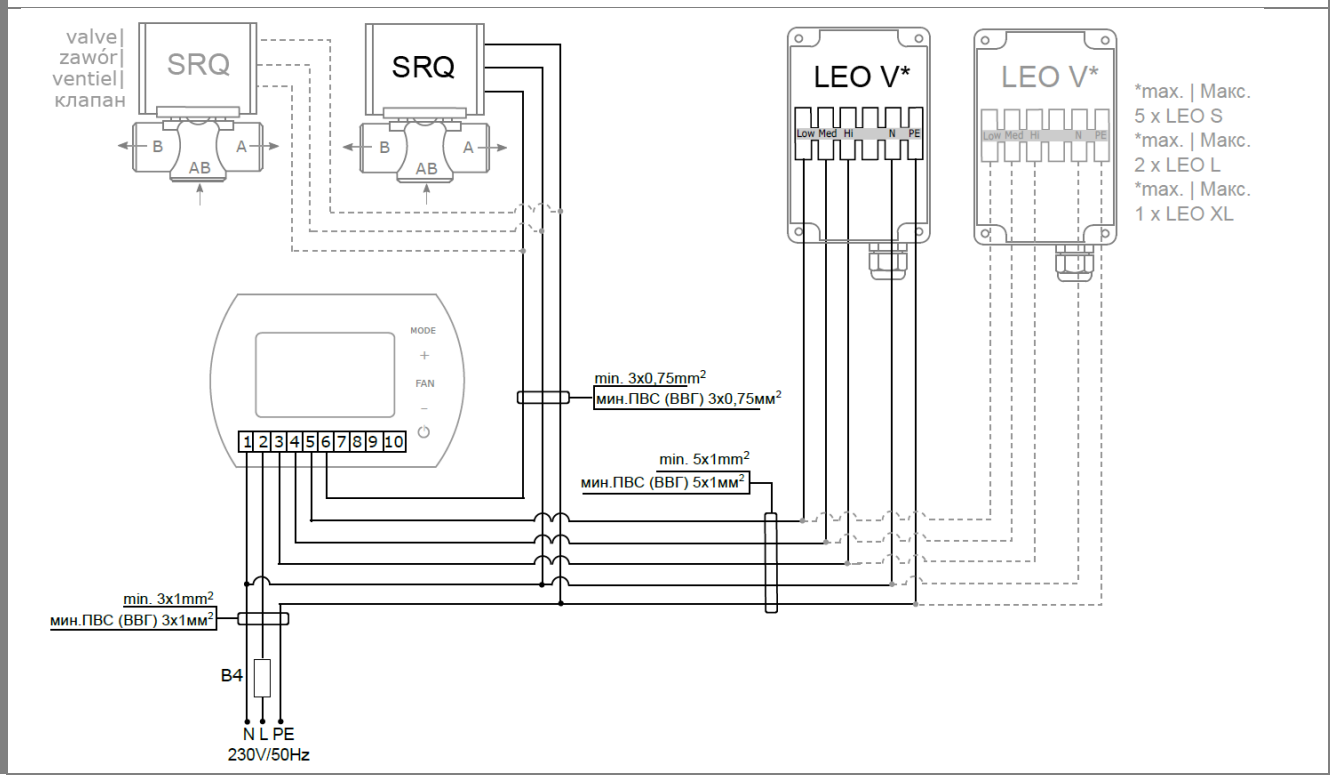
3.3 PROFILE U

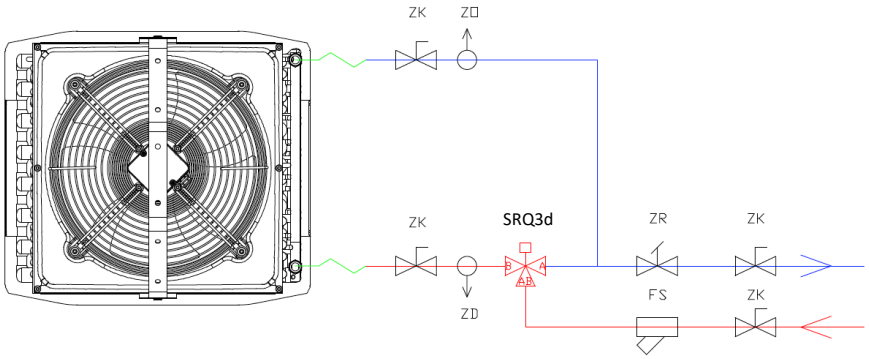
Profilele U trebuie monatate in colturi ca in desenul alaturat. Nu este permis fixarea profilelor in alte parti.

4. CONNECTION DIAGRAMS

4. DIAGRAMA CONEXIUNI



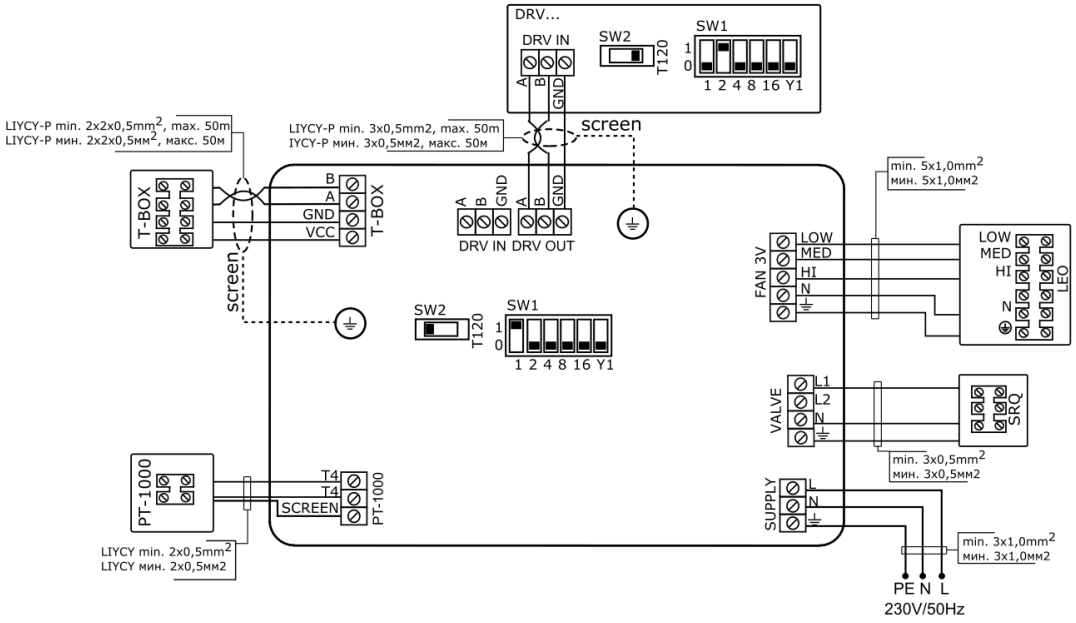




4. CONNECTION DIAGRAMS

4. DIAGRAMA CONEXIUNI

BMS



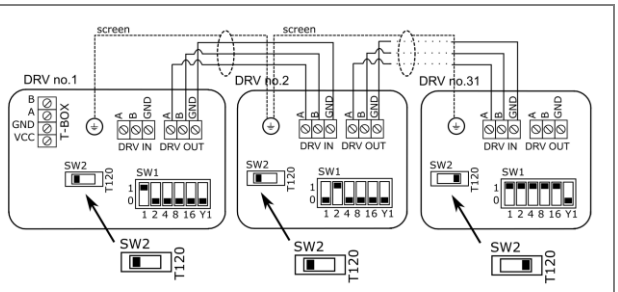
EN: When connecting DRV modules to the T-box controller or BMS, you have to binary set addresses on each (each DRV must have individual address) DRV module by DIP-switch SW1. To address modules check if the power supply is turned off, than set then the addresses as shown in the table, than turn on the power supply .|

RO: Cand se conecteaza modulele DRV la controlerul T-box sau la BMS, trebuie setata adresa pe fiecare (fiecare DRV trebuie sa aiba o adresa individuala) modul DRV pe DIP-switch SW1. Pentru a seta adresa modulelor verificati daca alimentarea electrica este oprita, apoi setati adresa ca in table, pe urma poriniti alimentarea cu curent.

.

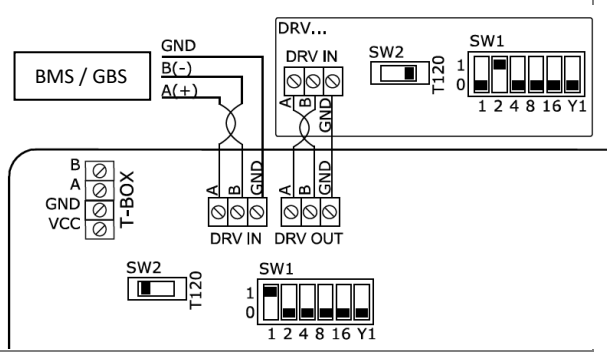
DRV no.						
1						
2						
3						
...						
31						
	1	2	3	4	5	6
	1	2	4	8	16	Y1

EN: It is possible to connect up to 31 modules DRV and control them with one T-box controller .|
RO: Este posibil sa se conecteze pana la 32 de module DRV si sa le controlam cu un T-box.



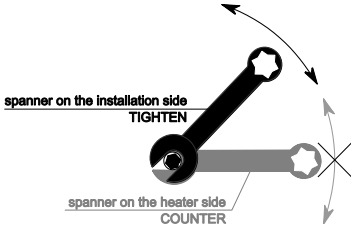
EN: DRV modules can be connected to the BMS (Building Management System). |
RO: Modulele DRV pot fi conectarte la BMS (Building Management System). |

WARNING: The connection must be carried out with 3-wire (recommended UTP) to connectors DRV IN
ATENTIE: Legaturile trebuie facute cu 3 fire (recomandat UTP) la conectorii DRV IN



Guidelines for System Connection

- The connection should be executed in a way which does not induce stresses.
- 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.



Start Up

- 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 plate.
- Before starting the device check the correctness of connection of the heating medium conduits and the tightness of the system.
- 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.

Operation

- The device is designed for operation inside buildings, at temperatures above 0ºC. In low temperatures (below 0ºC) 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. If operation of the device is expected at temperatures lower than 0º, then glycol solution should be used as the heating medium, or special automatic systems should be used for protecting against 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.

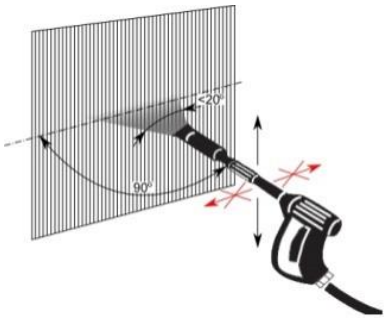
It is forbidden to use a damaged device. The manufacturer bears no responsibility for damage resulting from the use of a damaged device.

- 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.
- It is not allowed to make any modification in the unit. Any modification causes in warranty loss.
-

Periodic inspections

To keep proper technical parameters Flowair recommends periodic service (every 6 months) of fan heaters on behalf of the user.
During inspections user should:

- Check heat exchanger, if is it filled with dirt or dust. If necessary - use pressurized air stream to clean the exchanger's lamellas,

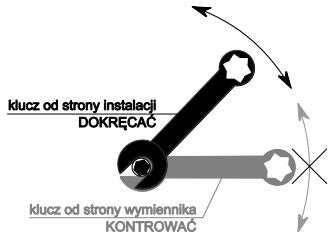


- Check heat exchanger, if is it filled with dirt or dust. If necessary - use pressurized air stream to clean the exchanger's lamellas,
- Check fan blades, in case of dirt use damp cloth and remove dirt,
- Check bracket installation,
- Check heat exchanger and hydraulic connection correctness,
- Check wires insulation,
- Check power supply,
- Check medium flow,
- Check levelling of the unit.

5. PORNIREA SI FUNCTIONAREA

Ghid pentru realizarea legaturilor

- Conexiunea trebuie realizate in sensul in care nu se formeaza tensiuni.
- Este recomandat sa se instaleze aerisitor in cel mai inalt punct al instalatiei.
- Instalatia trebuie facuta in asa fel, incat in caz de defectiune, sa fie posibila dezinstalarea unitatii. Pentru acest lucru este bine sa se foloseasca robineti de izolare a echipamentului.
- Instalatia cu agent termic trebuie protejata impotriva cresterii presiunii agentului termic peste valoarea permisa (1,6 MPa).
- In timpul conectarii schimbatorului la tevi – racordurile trebuie insurubate cu o cheie



Pornirea

- Inainte de a alimenta cu curent electric, verificati corectitudinea legaturilor la motorul ventilatorului si la controler. Aceste legaturi trebuie facute conform documentatiei tehnice aferente.
- Inainte de a alimenta cu curent electric, verificati daca tensiune de alimentare este conform tensiunii trecute pe placa de date a echipamentului.
- Inainte de pornire verificati corectitudinea legaturilor tevilor.
- Instalatia electrica care alimenteaza motorul ventilatorului ar trebui protejat aditional de o siguranta impotriva posibilelor scurt circuite.
- Pornirea echipamentului fara a fi conectat la impamantare este interzisa.

Exploatare

- Aeroterma este destinata utilizarii in interiorul cladirilor, la temperaturi de peste 0ºC. La temperature scazute (sub 0ºC) exista riscul de inghet a agentului termic.
  Producatorul nu isi asuma nici o responsabilitate pentru deteriorarile schimbatorului de caldura datorate inghetarii agentului termic.Daca aeroterma va functiona la temperaturi mai mici de 0ºC , atunci folositi un amestec de glycol cu apa, sau un sistem de protectia automata antiinghet a agentului termic in schimbatorul de caldura

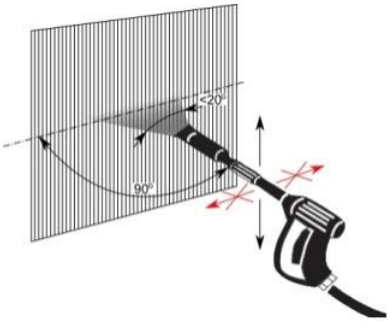
- Este interzisa amplasarea obiectelor pe aeroterma sau atarnarea lor de racordurile aerotermei.
- Aeroterma trebuie verificata periodic. In caz de functionare incorecta, aeroterma trebuie oprita imediat.
  Este interzisa folosirea unui dispozitiv defect. Producatorul nu isi asuma nici o responsabilitate pentru deteriorarile suferite din cauza folosirii unei aeroterme defecte.

- Este necesara curatarea schimbatorului, aveti grija sa nu deteriorati lamelele din aluminiu.
- In timpul verificarii sau caratarii aerotermei, alimentarea electrica trebuie intrerupta.
- In cazul in care aeroterma este fara agent termic o perioada mai lunga de timp, tevile schimbatorului trebuie golite cu aer comprimat.
- Este interzisa sa se faca modificari asupra dispozitivului. Orice modificare duce la pierderea garantiei.

Inspectii periodice

Pentru a mentine parametrii tehnici optimi, Flowair recomanda o intretinere periodica (la fiecare 6 luni) a aerotermelor efectuat de utilizator.

- Verificati schimbatorul de caldura, daca este plin cu mizerie sau praf. Daca este necesar, folositi un jet de aer sub presiune pentru a curata lamele schimbatorului.



- Verificati palele ventilatorului, daca este cu praf sau murdarie curatati cu o carpa
- Verificati montajul suportilor
- Verificati racordurile hidraulice si schimbatorul de caldura
- Verificati izolatia firelor
- Verificati alimentarea electrica
- Verificati debitul agentului termic
- Verificati pozitia aerotermei

6. 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!

Made in Poland
Made in EU

Manufacturer: FLOWAIR GŁOGOWSKI I BRZEZIŃSKI SP.J.
ul. Chwaszczyńska 135, 81-571 Gdynia
tel. +48 58 669 82 20, fax: +48 58 627 57 21
e-mail: info@flowair.pl
www.flowair.com

6. SERVICE SI CONDITIILE GARANTIEI

Va rugam contactati S.C. Arena Instalatiilor S.R.L. pentru conditii de garantie.

In cazul unei functionari defectuoase , luati legatura cu departamentul de service a producatorului.

Producatorul nu isi asuma nici o raspundere pentru functionarea in alte scopuri decat cel pentru care a fost produs, utilizarea de catre persoane neautorizate si pentru defectiunile cauzate de acestea.

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FLOWAIR
intelligent air flow

CE

Deklaracja zgodności / *Declaration Of Conformity* / *Conformiteitsverklaring* / *Декларация о соответствии*

FLOWAIR
ul. Chwaszczyńska 135, 81-571 Gdynia
tel. +48 58 669 82 20, fax: +48 58 627 57 21
e-mail: info@flowair.pl www.flowair.com

FLOWAIR Nederland
Kantoor: Minervum 7268, 4817 ZM Breda, The Netherlands
tel. +31(0)76 - 581 53 11, fax. +31(0)76 - 587 22 29
e-mail: info@flowair.nl ; www.flowair.nl

Niniejszym deklarujemy, iż wodne nagrzewnice powietrza / *FLOWAIR hereby confirms that heating unit* / *FLOWAIR verklaart hierbij dat verwarmingsunits* / Компания FLOWAIR декларирует, что водяные воздухонагреватели:

- LEO: S1, S1 BMS, S2, S2 BMS, S3, S3 BMS, (ST/INOX)
- LEO: L1, L1 BMS, L2, L2 BMS, L3, L3 BMS, (ST/INOX)
- LEO: XL2, XL2 BMS, XL3, XL3 BMS, (ST/INOX)

zostały wyprodukowane zgodnie z wymaganiami następujących Dyrektyw Unii Europejskiej /
were produced in accordance to the following Europeans Directives / *zijn geproduceerd in overeenstemming met de volgende Europese Richtlijnen* / произведены согласно требованиям Директива Европейского Союза:

1. **2014/30/UE** – Kompatybilności elektromagnetycznej / *Electromagnetic Compatibility (EMC)* / *Elektromagnetische compatibiliteit (EMC)* / *Электромагнитная совместимость (ЭМС) технических средств,*
2. **2006/42/WE** – Maszynowej / *Machinery* / *Machine* / *Машины и Механизмы,*
3. **2014/35/UE –** Niskonapięciowe wyroby elektryczne / *Low Voltage Electrical Equipment (LVD)* / *Laagspanningsrichtlijn (LVD)* / *Низковольтное оборудование (LVD),*
4. **2009/125/WE –** Produkty związane z energią / Energy-related products (ErP 2015) / Richtlijn energiegerelateerde producten (ErP 2015) / Энергопотребляющие продукты

oraz zharmonizowanymi z tymi dyrektywami normami / *and harmonized norms ,with above directives* / *en geharmoniseerde normen, met de bovenstaande richtlijnen* / а также в соединении с данными директивами стандартами

PN-EN ISO 12100:2012	Bezpieczeństwo maszyn -- Ogólne zasady projektowania -- Ocena ryzyka i zmniejszanie ryzyka / *Safety Of Machinery - General Principles For Design - Risk Assessment And Risk Reduction* / *Veiligheid van Machines - Basisbegrippen voor ontwerp - Risicobeoordeling en risicoreductie* / Безопасность машин – Общие принципы проектировки – Оценка риска и уменьшение риска.
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* / *Veiligheid van machines - Elektrische uitrusting van machines - Deel 1: Algemene eisen* / Безопасность машин. Электрооборудование машин и механизмов. Часть 1. Общие требования.
PN-EN 60034-1:2011	Maszyny elektryczne wirujące – Część 1: dane znamionowe i parametry / *Rotating electrical machines — Part 1: Rating and performance* / *Roterende elektrische machines - Deel 1: Beoordeling en prestatie* / Вращающиеся электрические машины. Номинальные данные и характеристики.
PN-EN 61000-6-2:2008	Kompatybilność elektromagnetyczna. Część 6-2: Normy ogólne. Odporność w środowiskach przemysłowych / *Electromagnetic compatibility (EMC). Generic standards. Immunity for industrial environments* / *Elektromagnetische compatibiliteit (EMC). Algemene normen Immuniteit voor industriële omgevingen* / Электромагнитная совместимость (ЭМС) - Часть 6-2: Общие стандарты - Помехоустойчивость для промышленных обстановок.

Gdynia, 12.04.2018
Product Manager

COMMISSION REGULATION (EU) 2016/2281

Contact details:
FLOWAIR GŁOGOWSKI I BRZEZIŃSKI SP.J., ul. Chwaszczyńska 135, 81-571 Gdynia
Information relevant for disassembly, recycling and/or disposal at end-of-life:
Unassembly should be carried out by a person with appropriate authorizations. After disassembly, waste should be segregated:
housing: made of EPP or steel or INOX - recyclable
heat exchanger: copper, aluminum, steel - recyclable
fan: dispose of in accordance with the rules for the disposal of electrical equipment"
Unit name: LEO
Capacity control: 3-speed

Model	Item	Symbol	Value	Unit
LEO S1	Heating capacity	$P_{rated,h}$	2,7**	kW
LEO S2			5,7**	
LEO S3			7,0**	
LEO L1			6,9**	
LEO L2			10,8**	
LEO L3			13,9**	
LEO XL2			20,2**	
LEO XL3			25,7**	

** heating capacity for parameters: inlet water temp. 45°C, water temperature drop 5°C, room air temp. 20°C.

Model	Item	Symbol	Value	Unit
LEO S1	Total electric power input	P_{elec}	0,12	kW
LEO S2			0,13	
LEO S3			0,13	
LEO L1			0,33	
LEO L2			0,34	
LEO L3			0,34	
LEO XL2			0,52	
LEO XL3			0,55	

Model	Item	Symbol	Value	Unit
LEO S1	Sound power level	L_{WA}	71,4	dB
LEO S2			71,4	
LEO S3			71,4	
LEO L1			79,2	
LEO L2			79,2	
LEO L3			79,2	
LEO XL2			82,6	
LEO XL3			82,6	