



FLEXIHEAT UK LTD

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Luna

Heating and cooling device



Luna heating and cooling device



reddot winner 2023



Heating capacity

32.5 kW (70/50°C 16°C)



Cooling capacity

14.6 kW (7/12°C 26°C 55%)



EC fan

Variable air flow adjustment



Installation height

up to 8 m



Air flow

700 - 3500 m³/h



Casing

EPP - Expanded polypropylene



Acoustic pressure level

37 - 54 dB(A)*



360° air supply nozzle

Automatic moving nozzle

What is Luna?

Luna is a versatile unit for heating and cooling representative spaces. Luna is all about comfort – advanced controls and a modern design that fits into any environment. The innovative spatial air discharge ensures optimal temperature distribution in the room. In addition, the components used enable the device to work efficiently even with low-temperature heat sources, ensuring that operating costs are minimised.



Versions

- LUNA 2H – heating device for 2-pipe systems
- LUNA 2HC – heating and cooling device for a 2-pipe system
- LUNA 4HC – heating and cooling device for a 4-pipe system
- available in white and black

*The acoustic pressure level is given assuming operation with a filter, air discharge under the device and a soundproofed room. Room volume 3000 m³, distance from sound source 5 m, reverberation time 2.0 s.



Application of Luna devices

- Representative commercial spaces, such as car showrooms
- Commercial facilities – large-scale shopping centres, shopping arcades
- High-ceilinged service facilities, e.g. exhibition centres
- Logistics facilities – distribution centres and warehouses
- Medium-sized industrial buildings requiring under-ceiling installation



Luna advantages

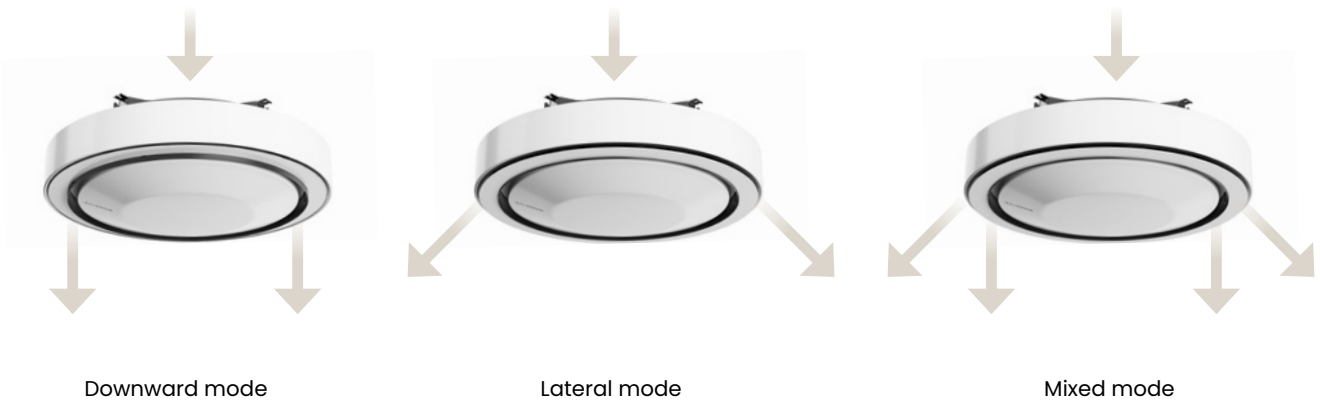
Range up to 8 m and a modern design of the device mean that Luna can be used in all places where it is important to combine technical qualities with a representative appearance. In addition, the capabilities of the heating and cooling units make it possible to provide comfort in medium-sized industrial facilities.

Why Luna?

- **Efficiency** – Luna was designed for use in open, high-ceilinged spaces. High-performance components combined with proprietary operating algorithms guarantee that the set temperature is reached quickly.
- **Minimising costs** – Luna units provide comfort even when working with low-temperature heat sources. In addition, intelligent temperature management algorithms ensure operational savings.
- **Fitting in with the interior** – The modern minimalist design and the ability to personalise the housing mean that the device can fit into any room.
- **Always even air distribution** – The automatically adjustable innovative 360° air discharge nozzle guarantees even air distribution regardless of the unit's mode or room height.

Always even air distribution

Thanks to the use of actuators, the automatic 360° air supply nozzle always supplies air at an optimum angle. The discharge nozzle can operate in automatic or manual modes. The manual mode allows the user to adjust the nozzle from the T-box Zone controller.



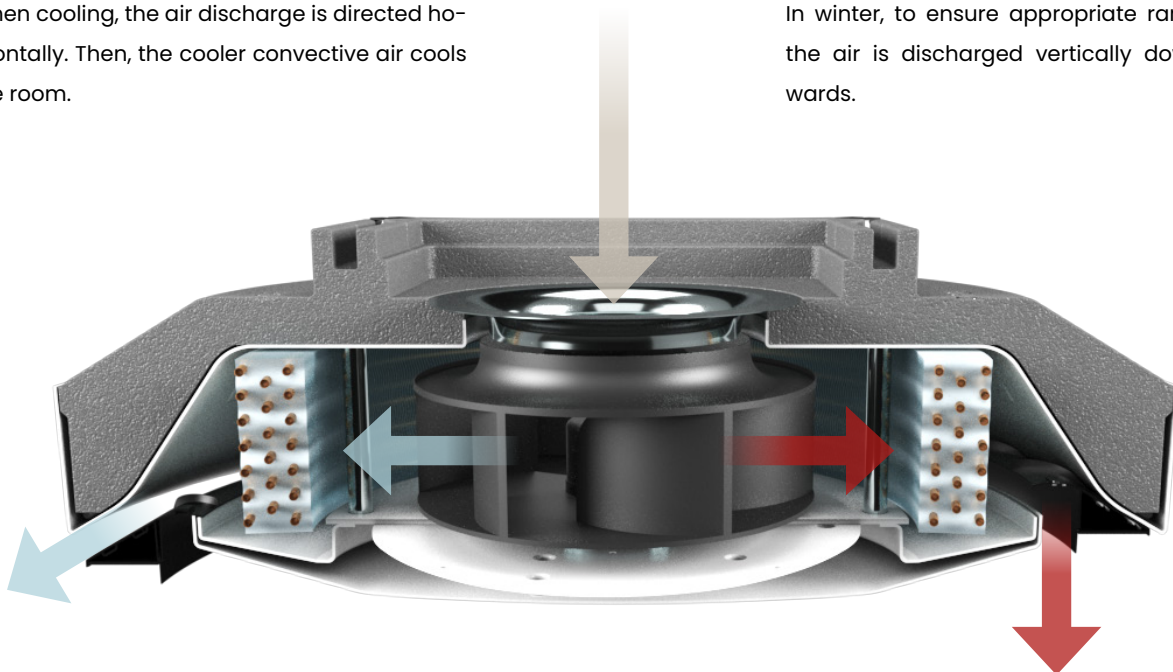
Cross-section and airflows in the device

Summer – cooling

When cooling, the air discharge is directed horizontally. Then, the cooler convective air cools the room.

Winter – heating

In winter, to ensure appropriate range, the air is discharged vertically downwards.



Nozzle setting

In heating mode, the air discharge nozzle rises, supplying air vertically downwards into the room. When cooling, the nozzle is lowered as much as possible, creating a gap so that the air is distributed horizontally around the device.

Technical data, accessories and installation of devices

Technical parameters

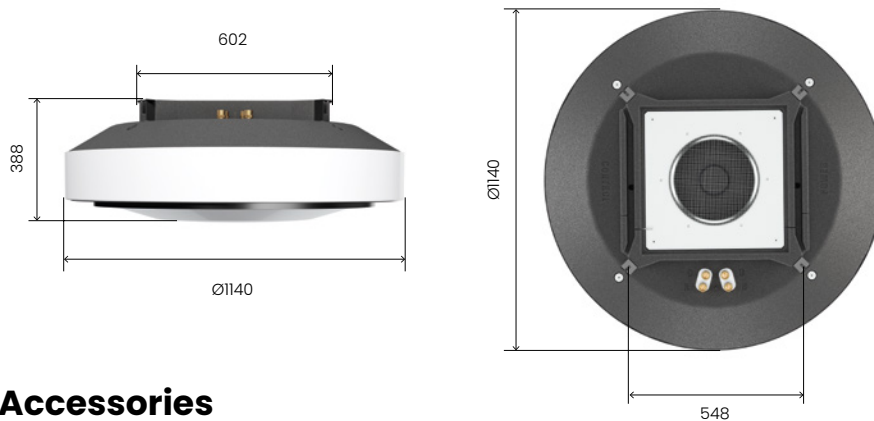
	Luna 2H	Luna 2HC	Luna 4HC
Air flow ⁽¹⁾ [m ³ /h]	700 - 3500	700 - 3500	700 - 3500
Heating capacity [70/50/16] [kW]	32.5	32.5	10.8
Cooling capacity [7/12/26 55%] [kW]	-	14.6	10.3
Acoustic pressure level ⁽²⁾ [dB(A)]	37 - 54	37 - 54	37 - 54
Power supply [V/Hz]	230/50	230/50	230/50
Max. current consumption [A]	1.7	1.7	1.7
Range ⁽³⁾ [m]	8	8	8
Device weight [kg]	33	33	33

⁽¹⁾ When air is discharged under the device, air flow is 85% of the rated air flow

⁽²⁾ The acoustic pressure level is given assuming operation with a filter, air discharge under the device and a soundproofed room. Room volume 3000 m³, distance from sound source 5 m, reverberation time 2.0 s.

⁽³⁾ Vertical range of non-isothermal jet at $\Delta T = 5^{\circ}\text{C}$ and maximum speed of 0.5 m/s; the range of capacities and temperatures is determined for the following parameters: fan speed I, heating medium temperature 40/30°C, device inlet temperature 20°C – fan speed III, heating medium temperature 110/90°C, device inlet temperature 0°C.

Luna dimensions



Accessories

- three-way valve with an actuator
- two-way valve with an actuator
- drip tray for the valve and the actuator
- ceiling fascia – ensures an aesthetic look when the device is installed in a suspended ceiling
- wall-mounted room sensor
- coarse 70% filter – enables filtration of the circulating air

Luna installation

Luna units are ideal for high-ceilinged rooms with open ceilings, but the design of the device also allows installation in a suspended ceiling. During installation, the required distances must be maintained.

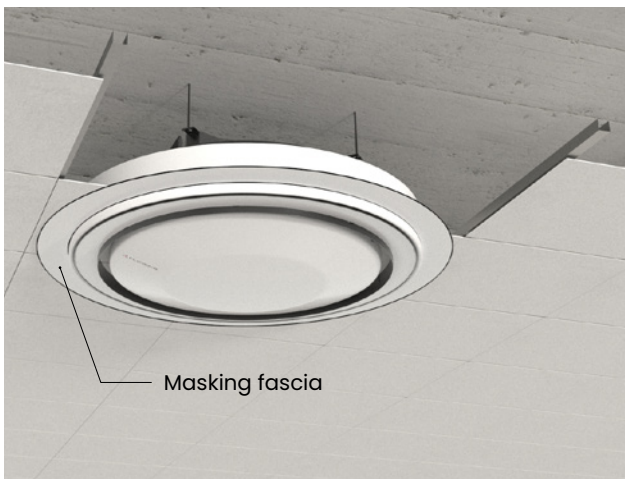


	A	B	C	D
Luna 2H	min. 1 m	min. 2 m	min. 15 cm	max. 8 m*
Luna 2HC	min. 1 m	min. 2 m	min. 15 cm	max. 8 m*
Luna 4HC	min. 1 m	min. 2 m	min. 15 cm	max. 8 m*

*vertical range of non-isothermal jet at $\Delta T = 5^{\circ}\text{C}$ and maximum speed of 0.5 m/s

Installation in a suspended ceiling

The device should be mounted using mounting pins. To make the mounting more aesthetically pleasing, a masking fascia is provided as an accessory.



Installation in a ceiling using pins

Mounting should be done using 4 mounting pins. The device is equipped with integrated mounting brackets.



Luna design



1. Internal EPP casing – Expanded polypropylene has been used in our devices for years. It ensures tightness and excellent acoustic properties. Its low weight is an additional advantage, making the device light and easy to install.

2. External casing – Made of ABS, available as standard in two colours – white and black (optionally available in any colour).

3. Moving 360° nozzle – Innovative air discharge nozzle which makes it possible to adjust the air discharge angle depending on the operating mode or user needs.

4. EC fan – Highly-efficient fan with an EC motor which enables variable adjustment and energy-efficient operation.

5. Heat exchanger– 3-row water exchanger for heating and cooling, available in a 2-pipe or 4-pipe system version.

6. Condensate pump – Available as standard in models intended for cooling. The device's automatic systems ensure that condensate is drained from the drip tray on an ongoing basis.

7. Condensate tray – Made of disinfectant-resistant plastic. The tray can be accessed from the bottom of the device.

8. Bottom casing cover – Provides easy access to device components, facilitating maintenance operations.



L1YCY-P 2x2x0,5 mm²
twisted pair of A and B
cables, max. 50 m

Luna control system

The Luna devices are equipped with a complete power and control automation system. The built-in freely programmable controller provides a wide range of options for communicating with the device. Proprietary operating algorithms adapted to the design of the devices ensure energy-efficient operation. The devices can be integrated with external control systems, such as Modbus RTU or the SYSTEM FLOWAIR, which means that 31 devices connected to a single T-box Zone controller can work together.



Advantages of control

LUNA can automatically adjust the air supply nozzle angle depending on the operating mode of the device. Variable adjustment of EC fans ensures minimal power consumption. The device can operate in a constant discharged air temperature mode vis-à-vis room temperature or inlet air temperature.

The device can work together with external sensors (gas detectors, moisture sensors, reed switches, presence detectors, etc.) and can be connected to external control systems. In addition, Luna has an automatic destratification function as well as a low ceiling mode, which reduce air flow rates in rooms with lower ceilings.

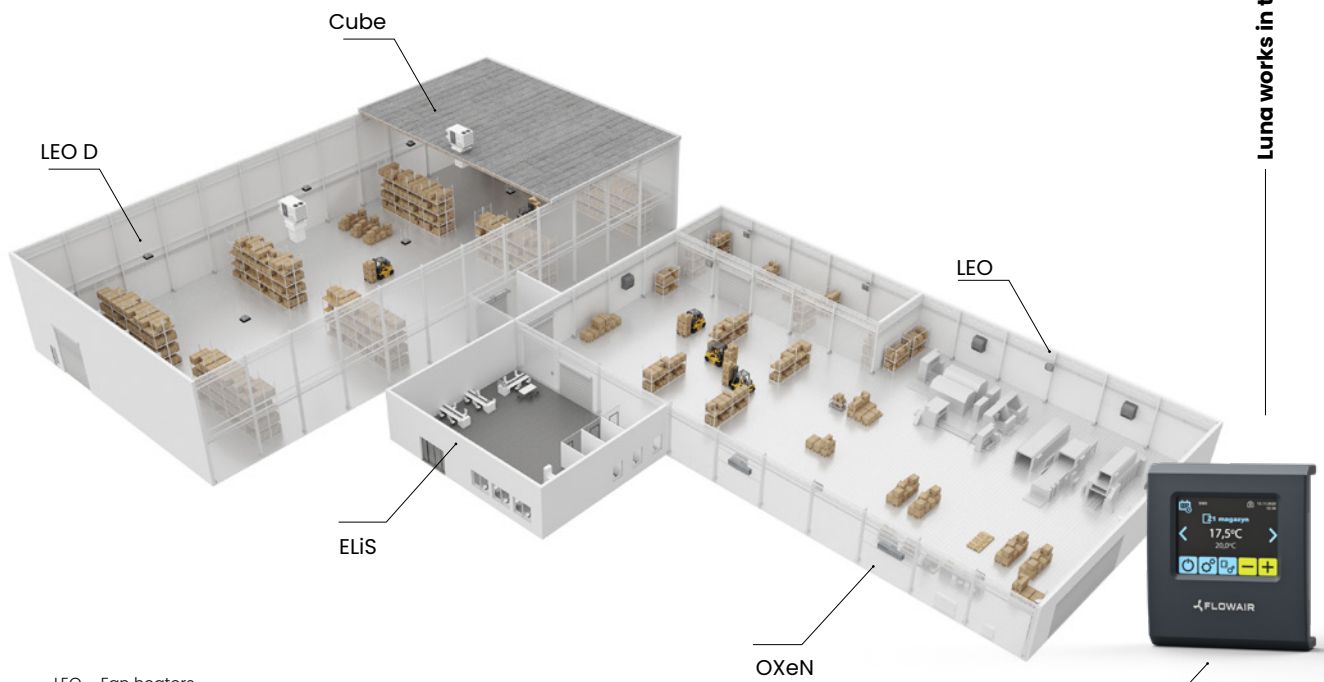
Operating modes:

- **SMART function** – A smart algorithm for limiting power consumption by using an external presence detector.
- **AUTO operating mode** – Automatic selection of operating mode – heating / cooling / destratification – on the basis of difference between temperature recorded by a guiding sensor and the set temperature.
- **MANUAL operating mode** – Enables variable adjustment of fan rotational speed and nozzle opening degree from a controller, in accordance with user needs or specific requirements of a given facility.



SYSTEM FLOWAIR

The SYSTEM FLOWAIR is a complete range of heating and ventilation devices integrated by a single controller. The T-box Zone controller allows up to 31 devices from the range to work together in 31 independent zones.



Luna works in the SYSTEM

- LEO – Fan heaters
- LEO D – Destratificators
- ELiS and Slim – Air curtains
- OXeN – Ventilation unit with heat recovery
- Cube – Rooftop devices

T-box Zone



Control of device operation with a single controller



Local adjustment of device operation



Advanced control of ventilation and heating devices



Adjustment of device operation schedule to individual needs

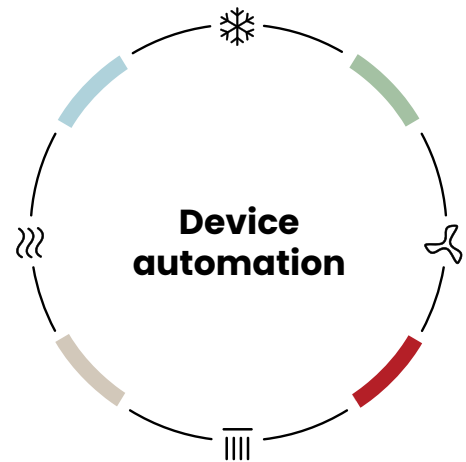


Antifreeze – Protection of the building and equipment against excessively low temperatures

Integration and interoperability of devices

The T-box Zone smart touch controller has a number of functions necessary to effectively manage the operation of the heating and ventilation system that until now were restricted to extensive Building Management Systems (BMS).

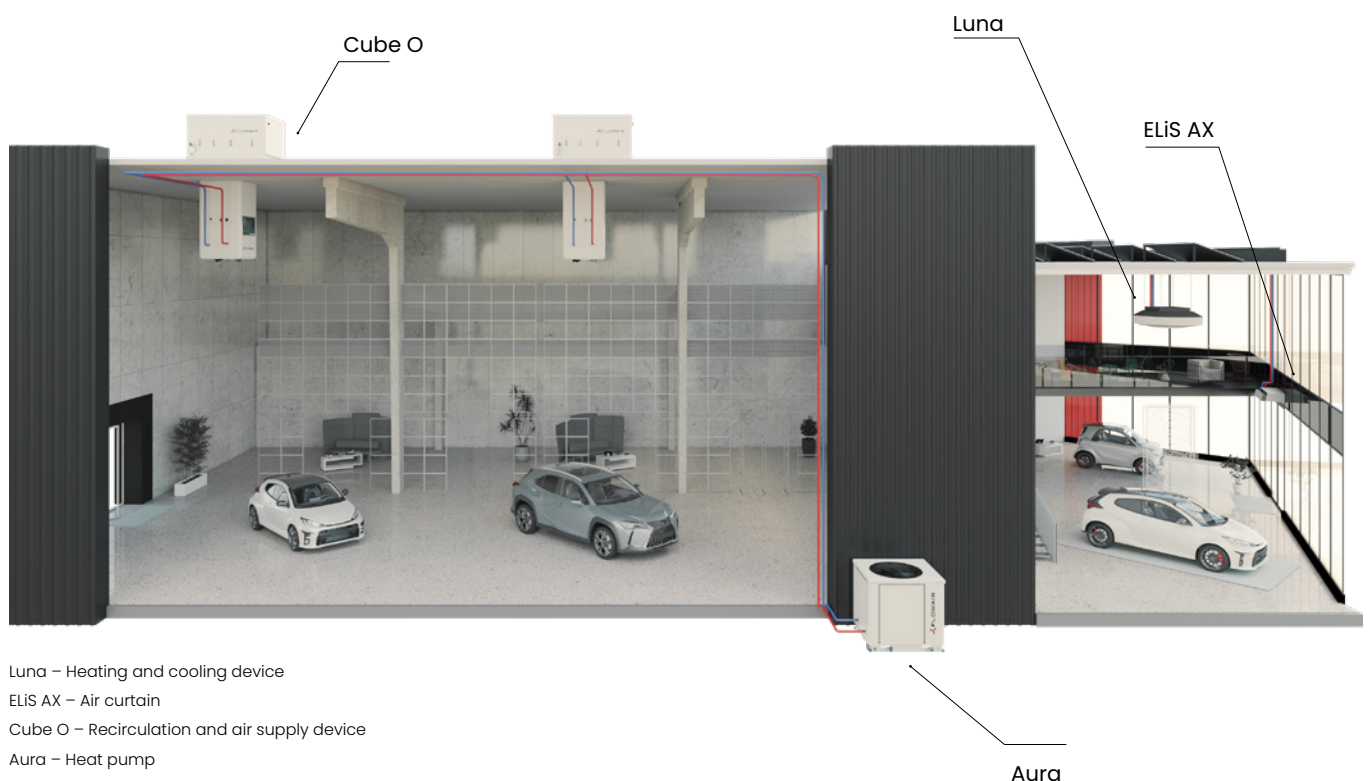
The SYSTEM enables devices to work together to ensure a higher thermal comfort and energy efficiency. The combined operation of heaters and destratifiers makes it possible to effectively utilise heat from the upper parts of the room, while saving the heat energy supplied by the heaters.



Cooperation with heat pump

Luna is a device that is ready for the challenges posed by the European Union's climate policy, which dictates that the heating and cooling sector must be decarbonised. All units use efficient components that make it possible to maintain room comfort even when working with low-temperature heat sources.

Advanced control ensures service-free interoperability with Aura heat pumps from our range. Another advantage of the solution is that it uses water as the heating or cooling medium, which increases safety and decreases the impact on the environment compared to air conditioning systems which use CFCs.





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