



## LEO H

Ceiling fans  
HVLS type



## Ceiling fans LEO H

LEO H is a series of industrial HVLS (High Volume Low Speed) ceiling fans, which allow to pump large volumes of air at the same time with low rotor speed and low power consumption. Their main function is to destratify and create an apparent cooling and heating effect.

 **Diameter**  
up to 7,3 m

 **Coverage**  
up to 1300 m<sup>2</sup>

 **Speed**  
up to 55 rpm

 **Air flow**  
up to 780 000 m<sup>3</sup>/h

 **Motor power**  
1,5 kW

 **Noise**  
do 55 dB(A)

## Why LEO H?

LEO H ceiling fan is distinguished by its simple design and low noise level. Low-power motor with high efficiency contributes to energy saving. The device is characterised by its high strength while keeping the weight of the components low. The ceiling fan is practically maintenance-free, and a wide range of accessories makes it possible to adapt the device to the investor's requirements.

## Application of LEO H

- industrial facilities – production halls, industrial plants, factories
- logistics facilities – logistics centres and warehouses
- sports facilities – football stadium stands, tennis courts, sports halls
- large halls – market halls, large offices, exhibition halls
- special applications – livestock housing, production

## Airflow scheme

The basis of the HVLS ceiling fan's operation is the rotational movement of the propeller relative to the centrally located motor. The specially shaped blades generate a downward movement of the air masses, i.e. from above the device underneath it.



## Functionality

### De-stratification

The primary function that the LEO H fan performs is to set air in motion and mix it throughout the room. Through this process, the temperature differences between the air at floor and ceiling level are balanced out, effectively preventing heat loss and providing a more comfortable temperature inside the room. The fan also prevents the formation of so-called „dead zones“, i.e. zones in which the air does not move.

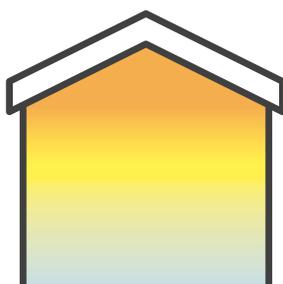
### Heating effect

Also referred to as „apparent heating“, it involves moving the warm air masses stored under the ceiling downwards to a lower zone, which leads to an equalisation of the temperature gradient in the building. This results in a significant reduction in energy requirements for re-heating the facility. The prerequisite for this effect is that the hall is adequately heated.

### Cooling effect

Also referred to as „apparent cooling“, involves moving the air masses accumulated under the ceiling downwards to a lower zone, resulting in a „draught“ effect and thus apparent cooling. This results in a significant reduction in energy requirements for conventional cooling of the facility, such as through air conditioning. This effect is also achieved when air with a higher temperature than that currently in the cooled zone is pumped.

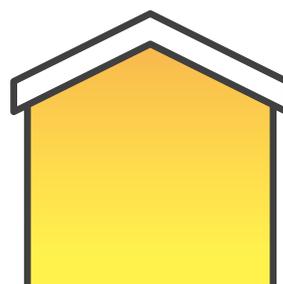
### Room temperature distribution



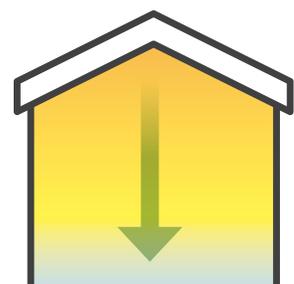
Without LEO H



With LEO H



Without LEO H



With LEO H

# Technical data and control system

## Technical specifications

	LEO H 2.4	LEO H 3.6	LEO H 4.9	LEO H 6.1	LEO H 7.3
Diameter [m]	2.4	3.6	4.9	6.1	7.3
Motor power [kW]	1.5	1.5	1.5	1.5	1.5
Voltage [V]	400	400	400	400	400
Speed [rpm]	55	55	50	50	50
Adjustment range [%]	30-100	30-100	30-100	30-100	30-100
Discharge [m <sup>3</sup> /h]	390 000	516 000	600 000	690 000	780 000
Area served [m <sup>2</sup> ]	700	800	1000	1100	1300
Maximum ventilated diameter [m]	9.0	13.5	18.0	22.5	27.0
Optimum installation height [m]	4.0-6.0	4.0-6.0	4.5-8.0	4.5-9.0	4.5-9.0
Weight [kg]	125	136	140	145	155
Noise [dBA] 2m	55	53	51	50	48

## Installation of LEO H

There are various methods of installing ceiling fans, allowing them to be attached to different surfaces with the appropriate accessories. Firstly, a mounting bracket is installed, to which the core with the motor is attached. If necessary, it is also possible to use an extension rod between the bracket and the motor. In the third step, the fan blades are attached to the core with the motor. The final step is the installation of the stabilising ropes and the connection of the control and power supply system. There is no need to decide on the mounting method already at the design stage. FLOWAIR can also supply all the mounting kits.





## LEO H control system

LEO H devices are equipped with a complete power and control automation system. Two automation variants are available. Normally, the device is equipped with a control box with an on/off switch and a potentiometer, which allows manual control. In the advanced option, the T-box Zone controller is additionally provided, enabling both manual and automatic operation.

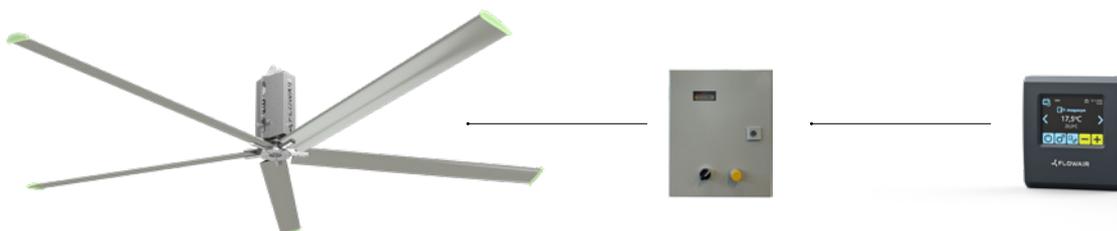
### Control system

#### Basic

- On - off
- Speed control
- Manual operation mode

#### T-box Zone / SYSTEM FLOWAIR\*

- On - off
- Speed control
- Manual operation mode
- Automatic operation modes
- Integration into FLOWAIR SYSTEM



Basic Control System

T-box Zone / SYSTEM FLOWAIR\*

\* on request

## LEO H design

LEO H ceiling fan is distinguished by its simple yet robust design, consisting of only a few components. Below are the characteristics of the main components that affect the functionality of the device.



**1. Core** - the main structural element, it is the load-bearing element for both the motor and the propellers. The blades, motor and gear motor are attached to the core.

**2. Motor in a housing** - the ceiling fan is driven by a motor with a frequency converter. It is equipped with its own high-reliability gear motor.

**3. Blades** - made of so-called magnalium, which guarantees rigidity during operation while keeping the weight low. This results in reduced energy consumption and appropriate aerodynamic and structural properties.

**4. Stabilising and securing ropes** - they stabilise the device by holding the core stationary and provide additional security.

**5. Winglets** - special blade tips. Made of lightweight plastic, they improve the aerodynamic properties of the blades.

**6. Mounting unit** - an element of the mounting of the ceiling fan at the target location, these can be so-called mounting sleds, brackets or clamps.

**7. Extension rod** - a rod made of a steel profile allows the core to be fixed at a certain distance from the ceiling, e.g. when it is necessary to avoid collision with other installations.

## Cooperation with other units

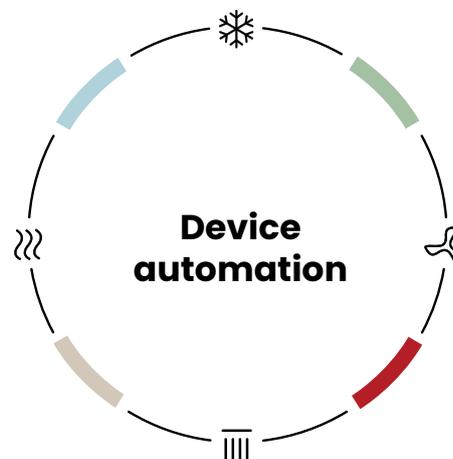
HVLS ceiling fans can be used either as stand-alone units or as solutions to support the operation of other devices from the offer. LEO H ceiling fans help to reduce the energy and financial outlay on the use of classic heating and air-conditioning systems. When working with such systems, the greatest advantage is keeping the heated air in the zone where we want to achieve this effect, instead of allowing it to get under the ceiling of the room. In the summer, fans cause an increased cooling effect, which may enable the user to reduce the settings on the primary cooling device.



LEO H - HVLS type ceiling fan  
Luna - heating and cooling unit  
LEO COOL - water cooler and heater  
ELiS AX - air curtain

## 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.





intelligent air flow

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