

**Environmentally
and energy-friendly
air handling units**



Lucam: for a pleasant indoor climate

For a fresh and pleasant indoor climate, not only ventilation is important. Temperature and air humidity play an equally important role. Already since 2009, Lucam develops and manufactures energy-saving air handling units that comply with the latest requirements.

The ventilators in our units have a low energy use. Furthermore the heat recovery from the discharge air is maximal. And there-with our products comply with the highest requirements in the field of energy saving and use. This is an important requirement when designing new buildings or a renovation. The same applies to balanced ventilation. Not only for a pleasant indoor climate, but also to prevent moisture accumulation and mould. This is something we take into account when manufacturing our air handling units.

The sales of our systems run through dealers. Delivery under private label is usual. Lucam fully supports the dealers in order to implement the products at a commercial and technical level in an organisation. Thanks to our many years' experience, we have all knowledge and disciplines available.

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Lucam selection program

Simply making a choice from standard units with a high efficiency and low energy use: that is what is possible with our selection program. Both energy flows (use and efficiency) are displayed quickly and orderly in this program. It is now also possible to select a system purely based on energy use (SFP value, Specific Fan Power).

Our selection program is easy to use and complies with all current and future European requirements. As a result of the selection you obtain a full technical specification sheet, specific to the operating point of the unit.

All data is available: from needed power supply to the calculated value of the noise level. A drawing is presented as well, which shows the main dimensions and connection sizes at the openings of the unit. The price is calculated immediately, including the options selected. Wherever you are: at any given moment you can arrange for this via our web-based program. Please visit www.lucam-air.nl to find out.



Construction of unit

The Lucam air handling units are constructed of an aluminium unit profile in which the panels are included. These are blocked by means of a wedge. This sandwich panel was developed by Lucam.



The unit is provided with an indoor and outdoor plate, with rock wool insulation in between. The indoor consists of a highly corrosion-proof magnesium zinc galvanised plate. The outdoor plate is galvanised and coated in the RAL 7000 colour. The insulation applied between the plates consists of high compression mineral wool 110kg/m³ in accordance with EN 1602. That stands for a very high thermal and acoustic insulation and is furthermore non-flammable (in accordance with the NEN-EN 13501-1, class A1 standard).

The full construction of the unit complies with the specification in accordance with DIN EN 1886:

- ▶ Thermal transmission class T2
- ▶ Cold bridge class TB2
- ▶ Tightness class B/L2
- ▶ Mechanical characteristics 2A/D1
- ▶ Filters tightness class B

Lucam offers three product lines:

- **HCP-units**
- **HRW-units**
- **LPK-units**

In this brochure the various units per product line will be discussed briefly. Our product sheets include the extended information and specifications per unit.

Regulation

The Lucam units are provided with the OJ automatic; it controls the complete unit. From frost-protection for the counter-flow plate exchanger to controlling the bypass and that of the ventilators. As a standard, all units are provided with volume/airflow regulation, because of which the balance in the ventilation need is guaranteed. Even if the filters are polluted. Each air flow desired can be set within the reach of the unit.

The regulation can be reset very simply with the remote control, with your laptop, or with a computer. For the operation with the laptop or computer no separate software is needed, since this is possible via the network connection to a web-based connection via your own browser. The menu structure is clear and transparent. The access per user is blocked with several levels.



A clear and transparent overview of the unit is also available for the end user. All data is listed in it: air flow, temperatures, controlling ventilators, set point setting, position of the bypass damper, and current status of the combined cooler/heater (change-over). The current pressure loss of the filters is available as well, on the condition that this option is included in the unit.

Demand ventilation is also possible based on CO₂, air quality, pressure loss, or air humidity. Each unit is secured internally, and fully wired up to the work switch. As an option, controlling a three-way valve for cooler, heater, or change-over battery with release of a pump is possible. This is only a small selection. We are happy to inform you on the various options.

HCP-UNITS

The standard design includes a counter-flow exchanger with an efficiency of up to 90 percent. As a standard, all HCP-units are provided with a full bypass, and they are fully wired, including regulation. The basic filters are G4 in the extract and F7 in the supply.

Design of HCP-units - units provided with high-efficiency counter-flow plate exchanger

The standard HCP-units include the following components:

- Supply filter class F7
- Extract filter class G4
- High-efficiency seawater-proof aluminium counter-flow exchanger
- High-efficiency EC technology ventilators, electronically controlled direct current engine
- Fully integrated automatic

Constructions and options for the HCP-units with counter-flow plate exchanger

The HCP-units are available in eight constructions:

- HCP standard: airflow from 800 to 16,800 m³/h
- HCP S: slim design, fits through standard door opening, airflow from 800 to 3,600 m³/h
- HCP V: unit with all connections on top, air flow from 800 to 3,200 m³/h
- HCP C: flat unit for on the ceiling, airflow from 800 to 2,300 m³/h
- HCP B: basic ventilation unit fixed construction, at a competitive price from 800 to 2,300 m³/h
- HCP WM: ventilation unit as wall model, 600 and 800 m³/h
- HCP HP: ventilation unit in an outdoor setting, complete with heat pump (maximum 50 kW)
- HCP IC: standard series, air flow from 800 tot 16,800 m³/h including fully integrated cooling system



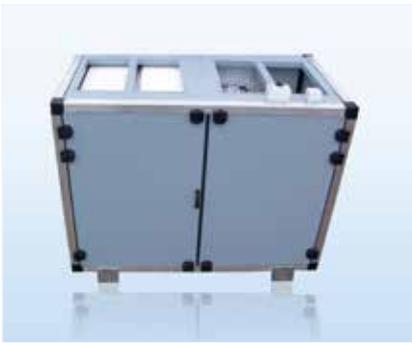
HCP standard

The HCP standard is the standard construction form in which all options are possible. The standard units can be expanded with, among other things, integrated valves, heater, cooler, change-over, and silencers. Special adaptations are possible as well. For example at the connecting joints. The fans are of the plug fan type of EBM. The automatic is a basic OJ automatic set.



HCP S

The HCP S stands for small. We have limited the width of the units in these series to no wider than 900 millimetres. The huge advantage is that this unit fits through a door. Ideal in case of a renovation project, or in a tight technical room.



HCP V

The HCP V has all duct connections on top of the unit. The V stands for vertical. Extremely handy if the technical room in which the unit is already rather full with for example distributors for floor heating.



HCP C

The HCP C stands for ceiling, and is very much suited to be affixed to a ceiling. The 800 unit is nicely low, also thanks to the 25 millimetre panel construction. The larger units in the ceiling design have the usual 45 millimetre panel enclosed inside the aluminium frame.



HCP B

The HCP B are basic units with a very short delivery time, deliverable on stock in one single construction. This type is purely intended as ventilation unit. The operating side and the air direction can be modified easily. The outdoor air damper, ducting heater, and cooler can be mounted on top of the unit.

Now also available with heat pump condensing unit: fully connected and plug-ready next to the HCP-B outdoor installations. An ideal product to keep on stock, so that it can be delivered quickly.



HCP WM

The HCP WM units are only suited as indoor installation and only intended for ventilation. The only difference with the standard panels is that these units have a thinner panel - but here also plug-fan EC ventilators are provided for and the regulation is OJ automatic. They can be mounted at or against a wall, and are available in one single construction.

The operating side and the air direction can be modified easily. The outdoor air damper, ducting heater, but also the cooler can be mounted outside the unit in the ducting. This unit is available on stock immediately. Ideal to keep on stock, in order to be able to answer to the ever shorter delivery times desired.



HCP HP

HCP HP is an addition to the complete standard unit in outdoor setting, but also to the HCP B unit in outdoor setting. The units are supplied with a heat pump outside part linked to it. The complete system is fully connected and filled. The OJ regulation itself directs the outside part and automatically switches over the system from cooling into heating capacity. The maximum heat pump capacity in cooling operation is max. 50 kW. The unit is filled and made ready for use - including a log file. Can only be applied as outdoor setup. The application is very broad though. In the basis, the ventilation air can be cooled. If cooling capacity in the room is desired, a higher ventilation capacity is required. We are glad to inform you on this. These units can be operated with the standard OJ automatic as well.



HCP IC

HCP IC is a complete standard unit with a fully integrated cooling system. Can be applied in indoor and outdoor settings. In the air charge towards the room a cooling battery is included. The heat of the cooling machine is placed via the condenser and discharged in the discharge air. The complete unit is filled and delivered ready for use - including a log file. This unit can be applied very broadly, and in the basis the ventilation air can be cooled. If cooling capacity in the room is desired, a higher ventilation capacity is required. We are glad to help you.

HRW-UNITS

Design of HRW-units - units provided with high-efficiency sorption wheel

The standard HRW-units include the following components:

- Supply filter class F7
- Extract filter class G4
- High-efficiency sorption wheel
- High-efficiency EC technology ventilators, electronically controlled direct current engine
- Fully integrated automatic

Constructions and options for the HRW-units with sorption wheel

The HRW-units are available in four constructions:

- HRW standard, air flow from 3,000 to 30,000 m³/h
- HRW C, unit with all connections on top, air flow from 3,000 to 4,500 m³/h
- HRW IC standard, air flow from 3,000 to 30,000 m³/h including integrated cooling
- HRW HP standard outdoors setting with heat pump outside part (maximum 50 kW)



HRW standard

The HRW standard is the standard construction. All options are possible here. The standard units can be expanded with, among other things, integrated valves, heater, cooler, change-over, and silencers. Special modifications for, for example, connecting openings are possible as well.



HRW V

The HRW V has all duct connections on top of the unit. The V stands for vertical. This type has many advantages if technical rooms in which the unit will stand is reasonably full with for example distributors for floor heating.

HRW IC

HRW IC is a complete standard unit with a fully integrated cooling system. Can be applied both as indoor and outdoor setting. In the air charge towards the room a cooling battery is included. The heat of the cooling machine is placed via the condenser and discharged in the discharge air. The complete unit is filled and delivered ready for use - including a log file.

The application of this unit is very broad. In the basis, the ventilation air can be cooled. If cooling capacity in the room is desired, a higher ventilation capacity is required. We are glad to help you.

HRW HP

HRW HP is an addition to the complete standard unit in outdoor setting. The units are supplied with a heat pump outside part linked to it. The complete system is fully connected and filled. The OJ regulation itself directs the outside part and automatically switches over the system from cooling into heating capacity. The maximum heat pump capacity in cooling operation is max. 50 kW. This type can only be applied as outdoor setting. In the air charge towards the room a change-over battery is included. As a result of this, the cooling and heating is done with the same direct-expansion battery. The complete unit is filled and delivered ready for use - including a log file. The application is very broad though. In the basis, the ventilation air can be cooled. If cooling capacity in the room is desired, a higher ventilation capacity is required. We are glad to help you. These units can be operated with the standard OJ automatic as well.

LPK-UNITS



Project-related LPK type units

In the project-related units (the LPK) almost everything is possible in the field of air handling. In this range we can create specific solutions for, for example, adiabatic cooling, specific solutions for defence, and roof centres for large restaurant chains. But also for specific industrial solutions.

Lucam can deliver these total packages ready to use. Whether it concerns the regulation, a complete cooling installation, central heating, or the solar panels: everything can be delivered custom-made.



Lucam: environmentally and energy-friendly

All ventilation equipment from the standard range of Lucam is provided with the Green Fresh Air logo. This stands for fresh ventilation air against energy use as profitable as possible. The ability to recycle and the user-friendliness are part of the assessment as well.

Green Fresh Air stands for:

- CO₂ or demand controlled ventilation
- Low energy consumption
- High energy recovery
- Result low CO₂ emissions due to low energy use
- Highest recyclability
- Easy access to the system over the internet



Green Fresh Air

HCP-units



HRW-units



LPK-units



Green Fresh Air stands for:

- CO2 or demand controlled ventilation
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Green Fresh Air

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