



 **ZERN  
ENGINEERING**

# **HU / HC / HD 366 SERIES**

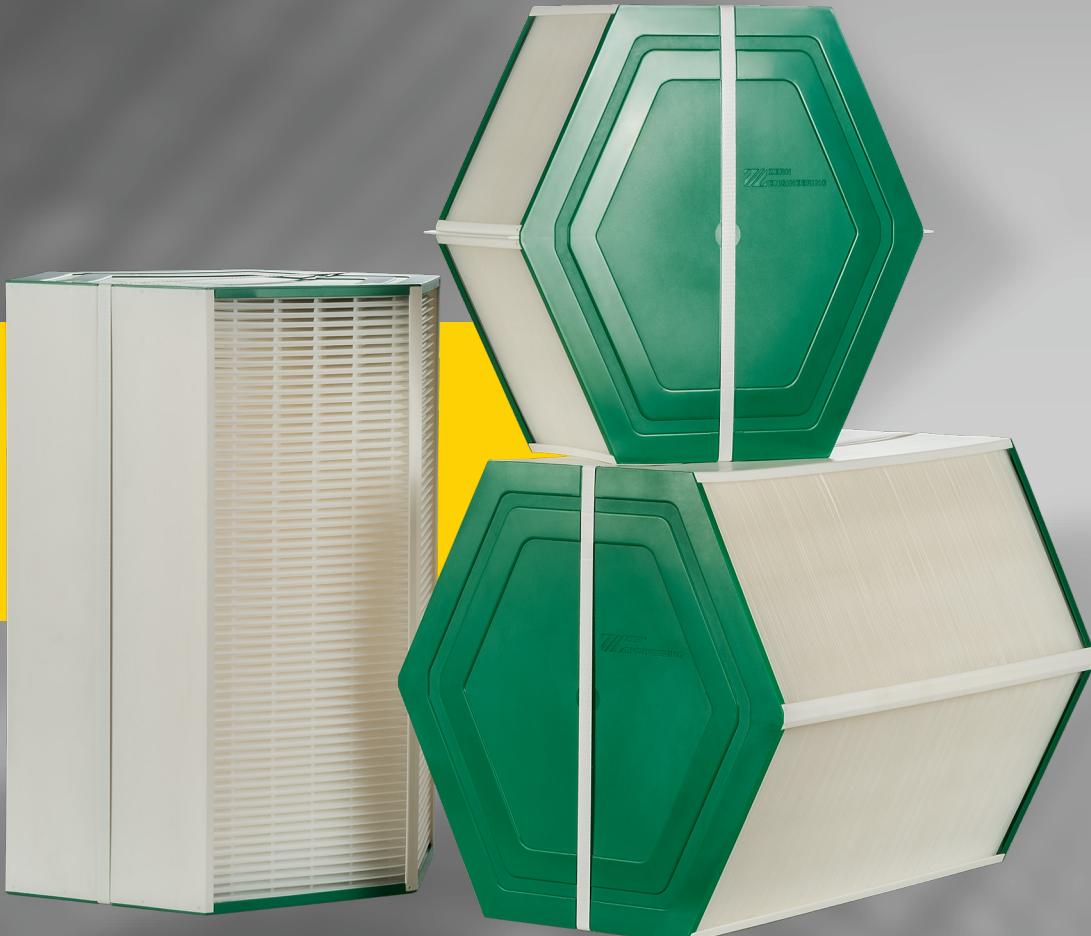
 **UNIQUENESS**

 **INNOVATION**

 **RESULT**

Through years of dedicated research and development, we have refined our models to perfection, resulting in a range of exceptional qualities adapted to different needs:

- HU-EX6 366 - high thermal efficiency
- HC-EX6 366 - perfect balance between efficiency and pressure drop
- HD-EX6 366 - low pressure drop



## MAIN ADVANTAGES

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### High efficiency

A high level of efficiency is guaranteed in all the series and over the entire depth range.



### Suitable pressure drop

Thanks to the wide range of features offered by the series, you can choose the most suitable pressure drop for your system.



### Easy installation and replacement

This heat exchanger series is widely available on the market and corresponds to the standard sizes of many HVAC manufacturers. Installation or replacement is quick and straightforward.



### Competitive price and production time

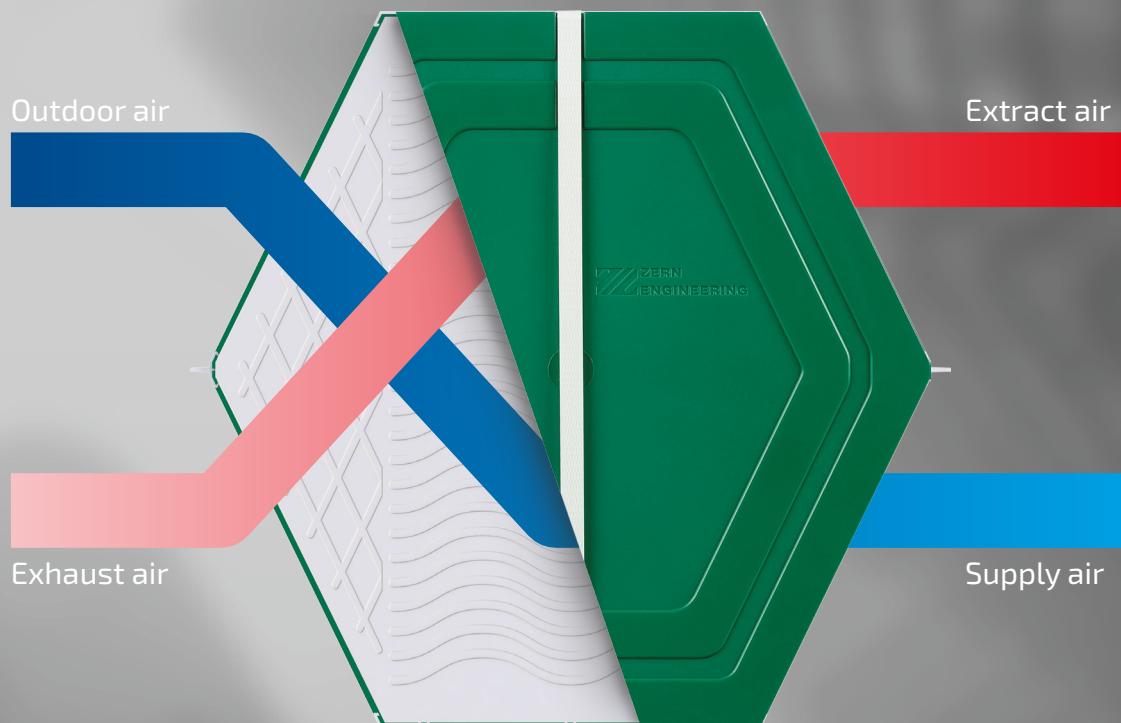
We are a customer-focused company, so you can be sure of the best possible terms and conditions.

## WORKING PRINCIPLE

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The key principle is to ensure that the two streams of air flow in opposite or counter directions through a set of heat exchange plates, the core of the heat exchanger.

This design enables maximum heat transfer. As warm air from one stream passes through the exchanging plates, it transfers its heat energy to the plates. At the same time, cooler air from the other stream passes through the same plates and absorbs the heat. This transfer of heat energy results in pre-conditioned air, reducing the need for additional heating or cooling, ultimately saving energy and money.



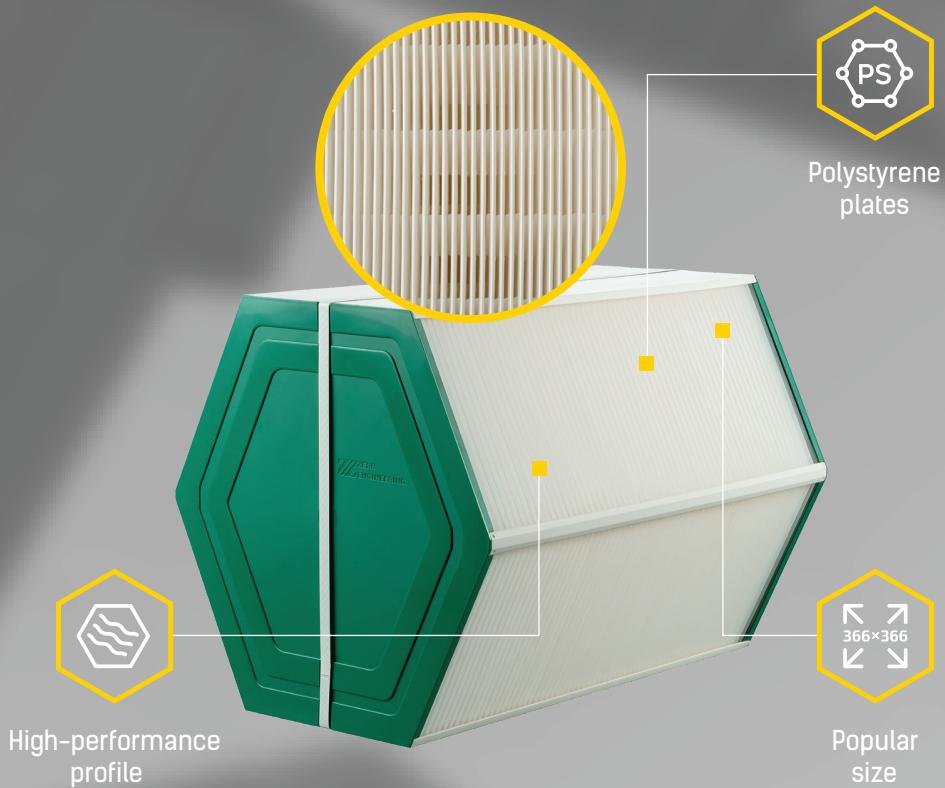
## HU-EX6 366 SERIES

### High Efficiency

HU-EX6 366 Series are our advanced plate heat exchangers, meticulously engineered to deliver exceptional performance and efficiency in heating and cooling systems. With an impressive efficiency of up to 92%, this heat exchanger is designed to maximise heat transfer while minimising energy loss.

At the heart of its efficiency is a unique high-efficiency plate profile, meticulously crafted to optimise thermal conductivity. This innovative design ensures that heat is transferred with maximum efficiency, resulting in significant energy savings for users.

Excellent for applications where efficiency is the top priority, HU-EX6 366 is the perfect solution for both domestic and commercial installations.



## MAIN ADVANTAGES



Impressive efficiency  
≈92%

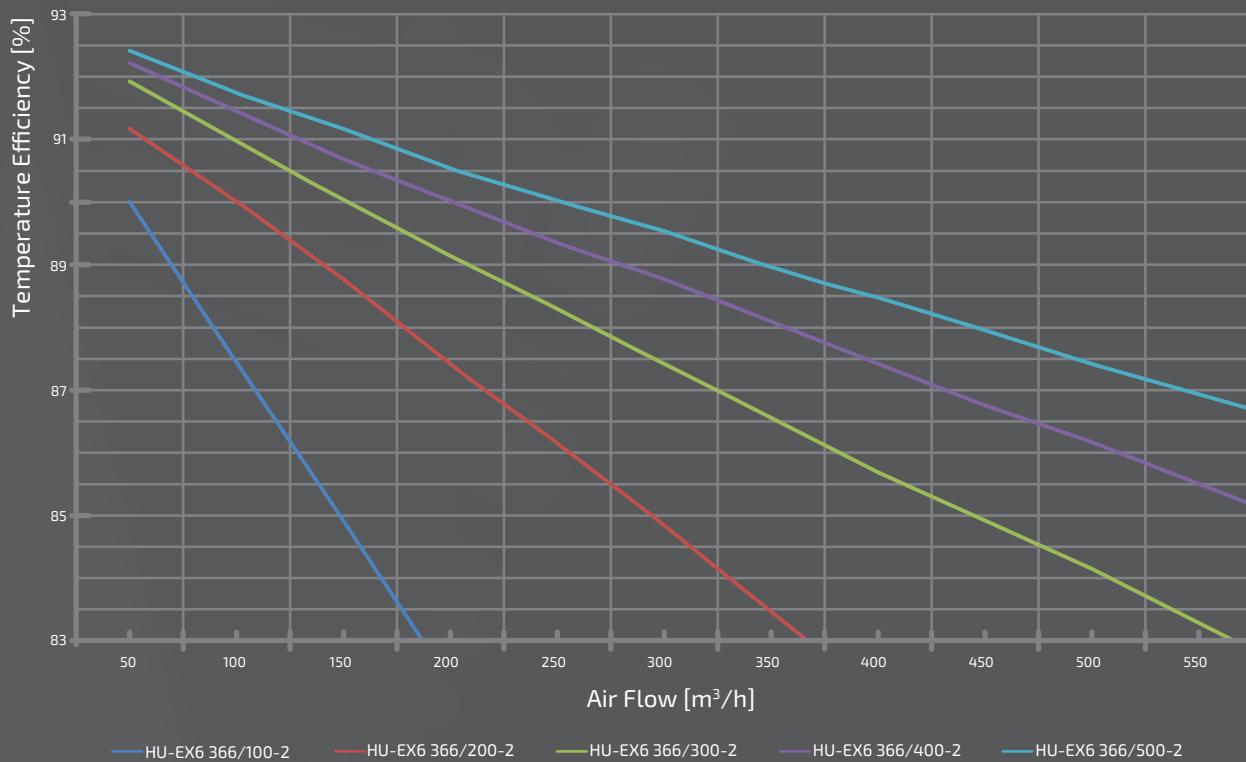


Good pressure drop

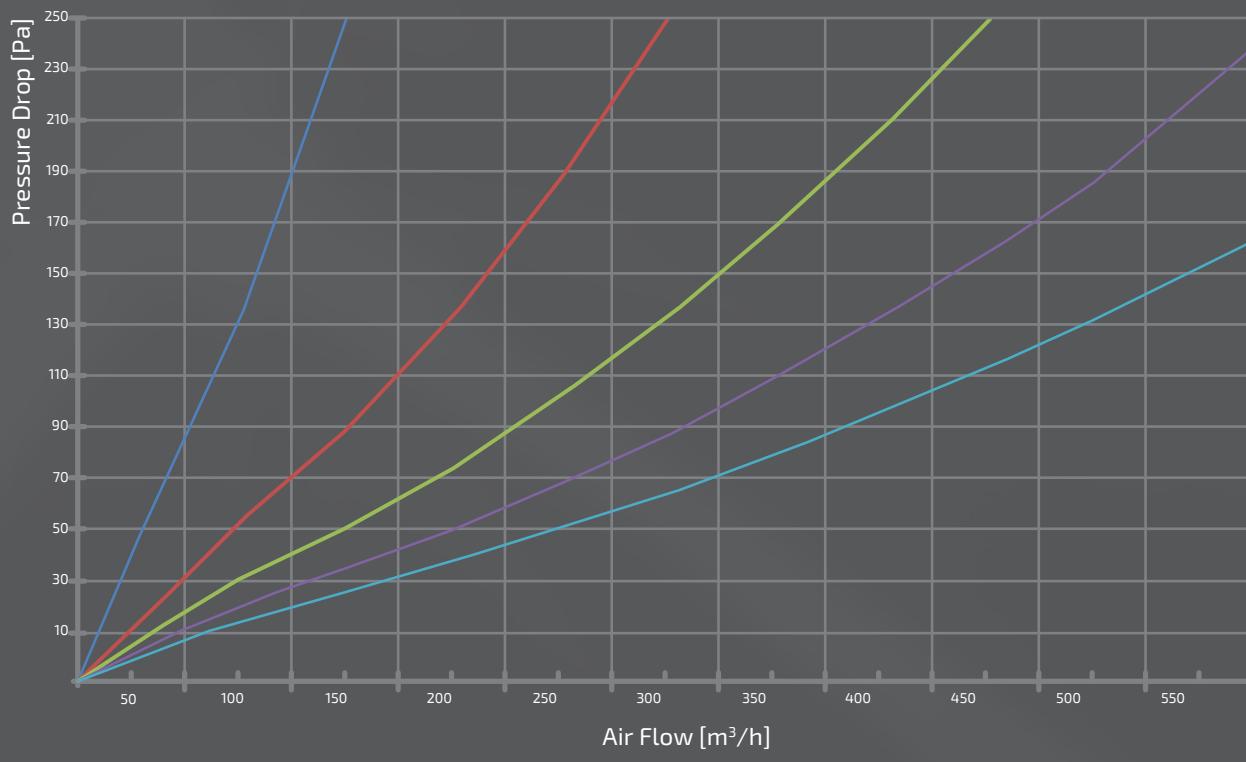


Cost-effective solution

## DEPENDENCY DIAGRAMS



## HU-EX6 366 SERIES



The results on a HU-EX6 366/100...500-2 model with a depth of 100...500 mm, test conditions according to DIN EN 13141-7 (as well as EN 308)

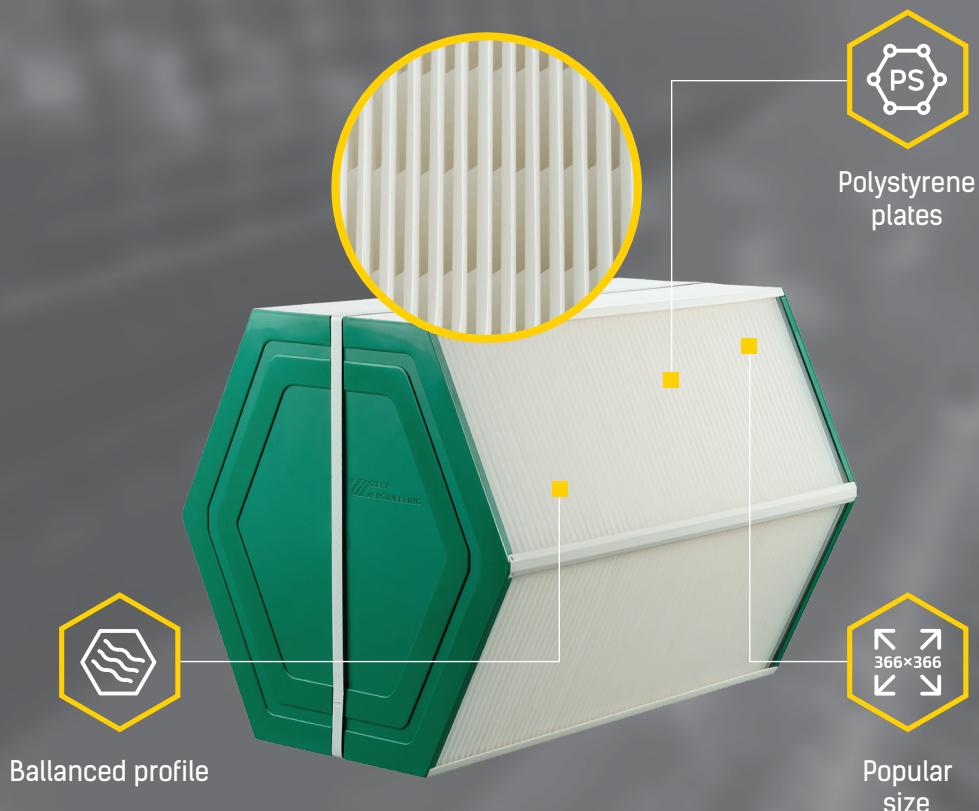
## HC-EX6 366 SERIES

### Efficiency – Pressure Drop Harmony

HC-EX6 366 Series are a groundbreaking solution that strikes the perfect balance between efficiency and pressure drop. Precisely engineered, this heat exchanger offers an efficiency up to 90%.

A specially engineered plate that ensures efficient heat transfer with minimal pressure drop, meeting the needs of users who prioritise a delicate balance between performance metrics.

Whether you are looking to improve the efficiency of your HVAC system or optimise the performance of your industrial processes, the HC-EX6 366 Series is the perfect solution. Its versatile design makes it suitable for a wide range of applications, offering reliability and efficiency in equal measure.



## MAIN ADVANTAGES



High efficiency

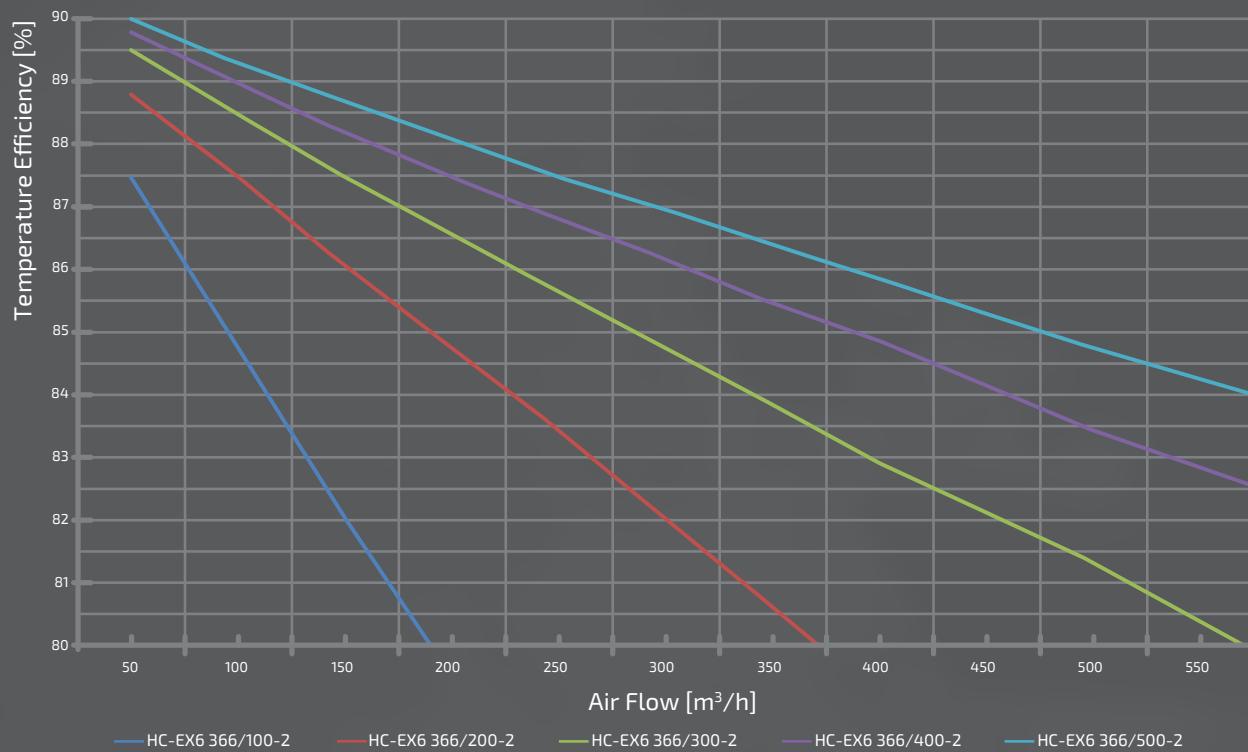


Average pressure drop

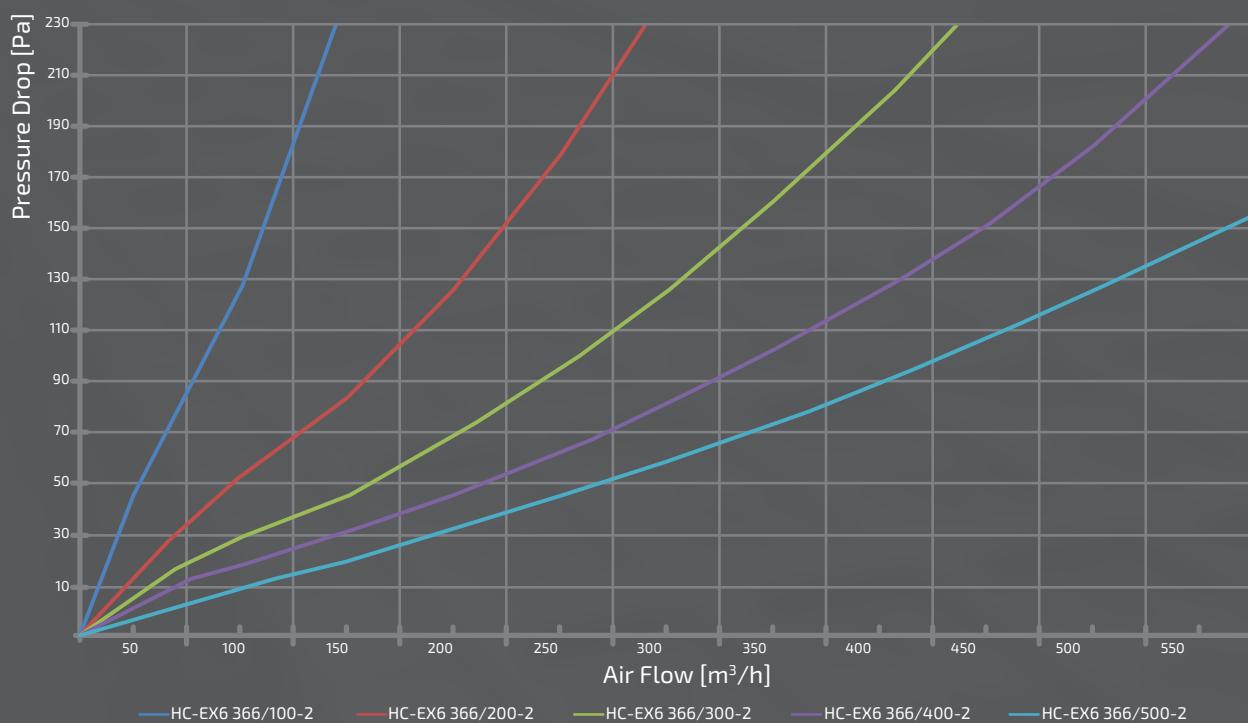


The best choice for most systems

## DEPENDENCY DIAGRAMS



## HC-EX6 366 SERIES



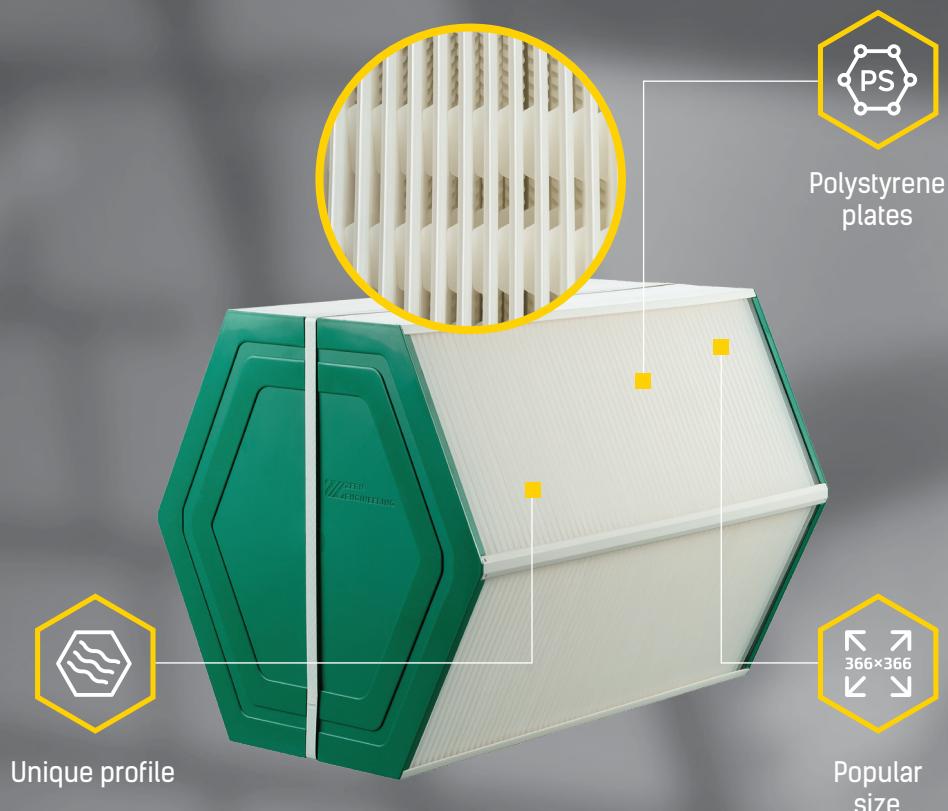
The results on a HC-EX 366/100...500-2 model with a depth of 100...500 mm, test conditions according to DIN EN 13141-7 (as well as EN 308)

## HD-EX6 366 SERIES

### Low Pressure Drop and Energy Consumption

HD-EX6 366 Series are plate heat exchangers equipped with specially designed plate profiles and optimised spacing, the HD-EX6 366 Series achieves exceptionally low pressure drop without compromising efficiency. Users experience seamless airflow with minimal air resistance, ensuring optimal performance and energy savings in every application.

With an impressive efficiency rating of up to 86%, this heat exchanger is a testament to our commitment to innovation and sustainability. Whether you're looking to reduce energy costs or minimise your impact on the environment, the HD-EX6 366 Series offers a reliable solution that will exceed your expectations.



## MAIN ADVANTAGES



Good efficiency

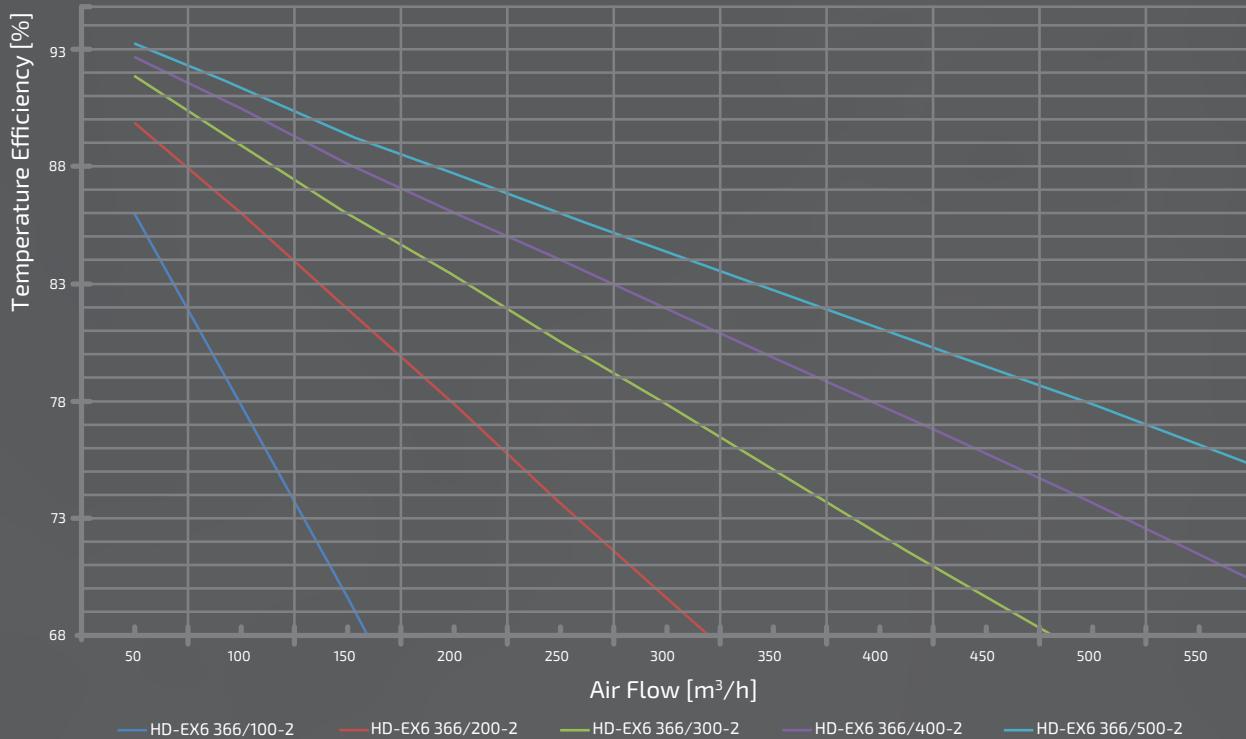


Extremely low pressure drop

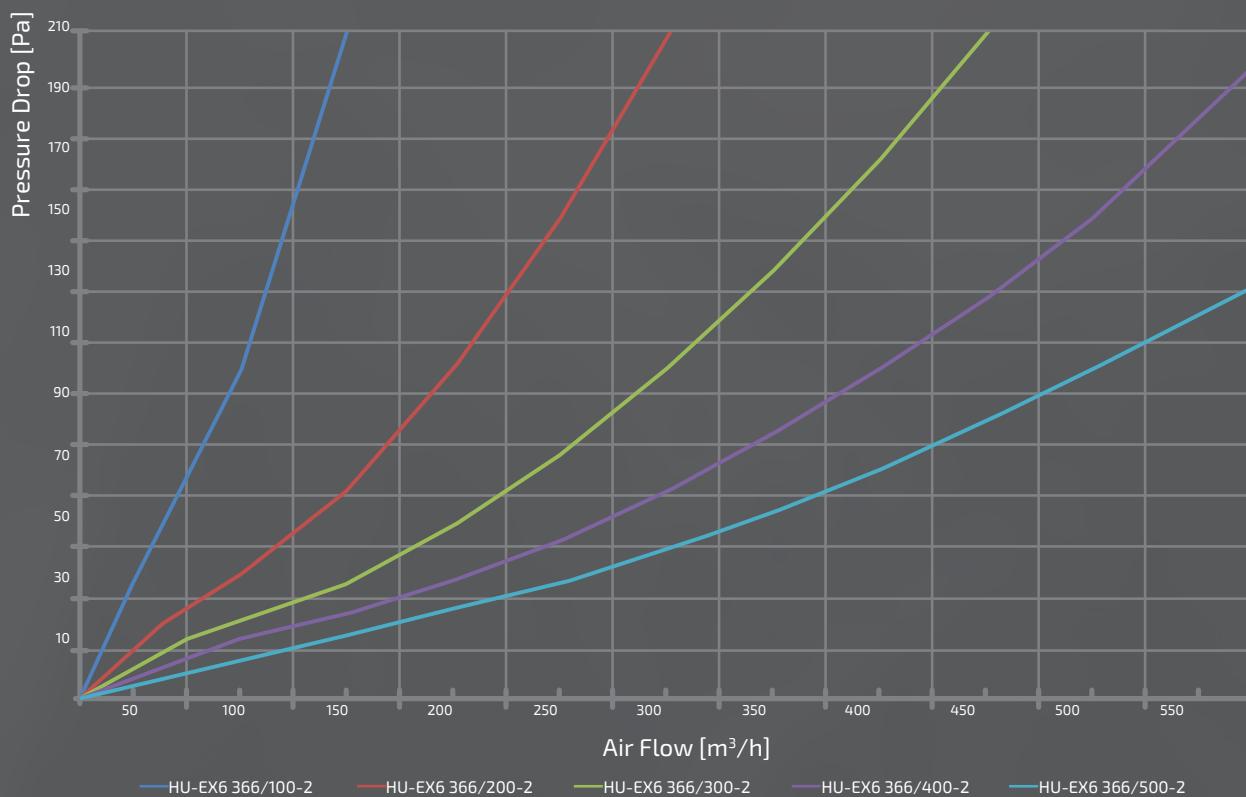


The best SFP performance

## DEPENDENCY DIAGRAMS



## HD-EX6 366 SERIES



The results on a HD-EX 366/100...500-2 model with a depth of 100...500 mm, test conditions according to DIN EN 13141-7 (as well as EN 308)

## OPERATING CONDITIONS

The HU / HC / HD-EX6 366 series heat exchangers are designed to operate under standard conditions (non-corrosive environment): houses, offices, working premises.

**The following guidelines must be observed during operation:**

- Operating conditions:

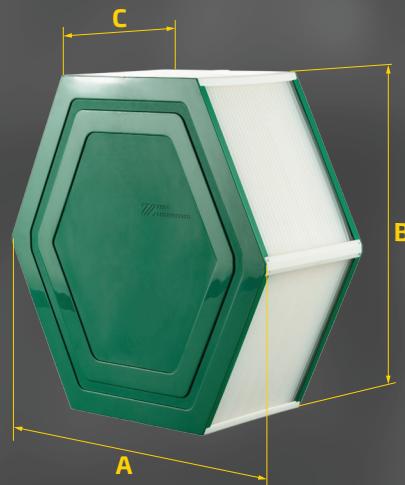
	HU / HC / HD-EX6 366 Series
Operating temperature [°C]	-25...+50*
Maximum pressure drop [Pa]	400
Relative humidity [%]	0...100
Maximum recommended flow rate [m/s]	3

\* When the dew point is reached, the moisture in the air starts condensing on the walls of the plates in the duct with the warmer air. Due to the accumulation of condensation on the plates the flow capacity of the duct is reduced. At -3 °C the moisture in the air starts to freeze, which causes the efficiency of the heat exchanger to drop to zero. It is necessary to prevent the condensate from freezing by using forced preheating of the intake cold air.

- Avoid exposure to UV rays.
- Avoid exposing the product to aggressive environments: acids, abrasives, etc.
- Avoid exposure to high temperatures and fire.
- Avoid heavy mechanical impacts on the product.
- Do not apply force or mechanical pressure to the core plates.
- Do not toss or drop the product.
- Do not twist or crush the product.
- To remove/mount and move the product, carefully use the mounting tape.
- Do not use any grease during installation/dismantling of the product.

## OVERALL DIMENSIONS

Model	Dimensions [mm]			
	A	B	C	X-casing design
HU / HC / HD-EX6 366/100...600-2 (2.1)	366	366	100...600	2/2.1



## CASING DESIGN

2 - polystyrene

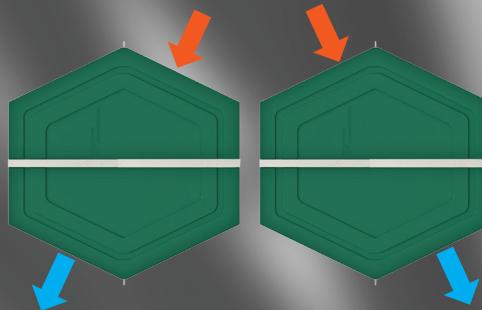
2.1 - polystyrene with a T-profile

## OPTIONS FOR INSTALLING THE HEAT EXCHANGER IN THE UNIT

### Option 1 – Edgewise

The edgewise positioning of the heat exchanger in the unit is the best option in terms of condensate removal; it will be removed by gravity.

**IMPORTANT:** ensure that the air flows top-to-bottom to allow free condensate drainage. Right-to-left or left-to-right air flow direction does not matter.

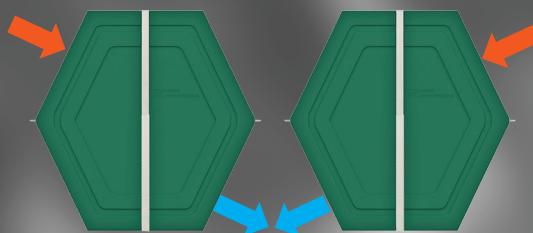


### Option 2 – Seitlich

Locating the heat exchanger sidewise in the unit is the most popular option in use.

In terms of condensate removal, this location is less favourable than the edgewise one, as condensate can accumulate in the cavity.

**IMPORTANT:** ensure that the air flows top-to-bottom. Right-to-left or left-to-right air flow direction does not matter.



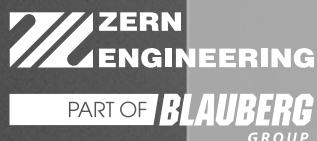
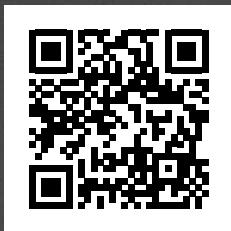
### Option 3 – Horizontally

It is also possible to mount the heat exchanger horizontally, but it should be noted that the condensate cannot be removed by gravity (it will accumulate and settle on the plates).

**IMPORTANT:** the air can be supplied both from the left or right side.



The heat exchanger must be fixed securely around the entire perimeter to prevent damage during operation. Mounting and removal must be carried out using a mounting handle or mounting tape.



Stäblistraße 6  
81477 München

HQ Tel. +49 89 23166620  
HQ Fax. +49 89 78069521

[sales@zern-engineering.com](mailto:sales@zern-engineering.com)  
[zern-engineering.com](http://zern-engineering.com)

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