FAQ for counterflow cores

What sizes of counterflow ERV and HRV cores are available in North America today? Will other European sizes be available in the future and when?

Currently, the HRV 366 (UL) is available on the North American market. It is planned to introduce further sizes of cores (ERV 529) prospectively, depending on market demands and customer requirements.

How does the performance of a plastic HRV core compare with an aluminum HRV core? If the sensible effectiveness is higher with the plastic, why is that?

There is no overall answer to that question as different aspects (e.g. principle of air flow, size and shape) have to be considered. An overview of different considerations can be drawn from the table below. However, differences in the sensible effectiveness (of elsewise identical cores) are due to different coefficients of thermal conductivity of the used materials and different ways of forming and molding aluminum and plastic.

	ALUMINIUM	PLASTIC
Heat Recovery	Good	Good
Weight	Heavy	Light weighted
Cleaning possibility	Yes	Water washable
Risk of corrosion	Yes	No
Risk of debris adherence	Yes	Neglectable
Primary energy expenditure to manufacture	High (Aluminium Electrolysis)	Low
Material costs	High	Low

core
ENERGY RECOVERY SOLUTIONS

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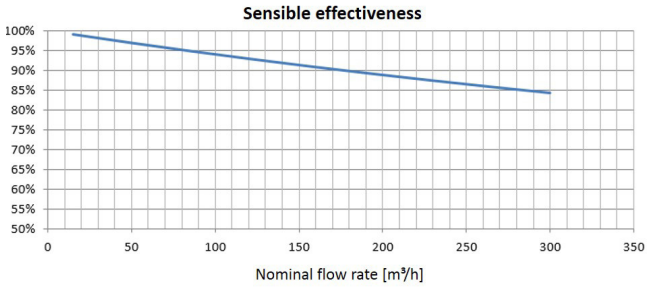
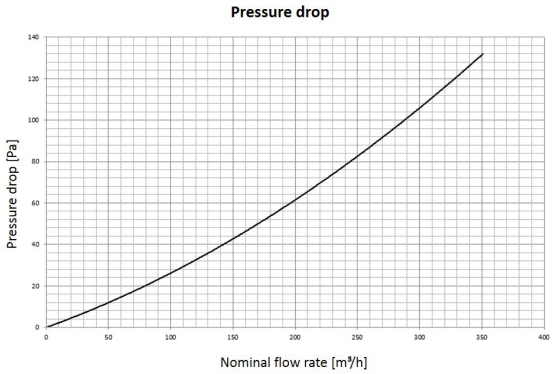
What is the performance, pressure drop, EATR leak rate and price of the 366-378 HRV and ERV at 3 different flow rates and HVI test conditions?

Performance and pressure drop of the HRV366-H378 and ERV366-H378 can be seen in the diagrams below. The leak rate (permissible) is .28 l/s.

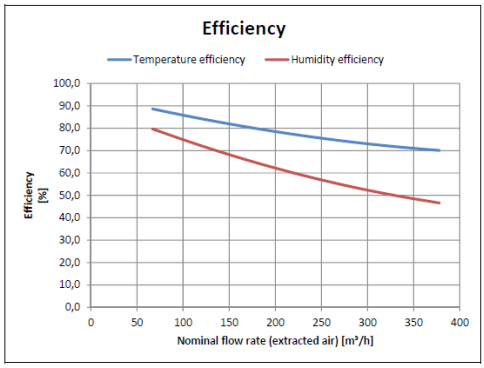
HRV366-H378

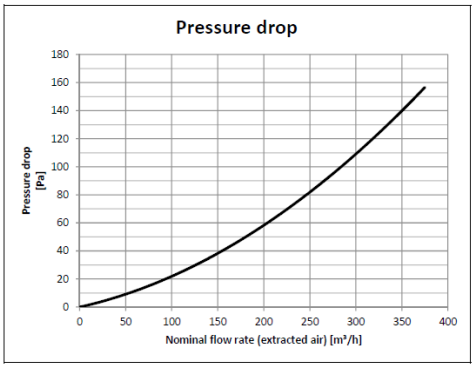


Temperature efficiency η_t	91.3 %



ERV366-H378





Temperature efficiency η_t		**81,9%**
Humidity efficiency η_x		**68,2%**

according boundary conditions (see above) following DIN EN 308:1997-06 Heat exchangers - Test procedures for establishing performance of air to air and flue gases heat recovery devices

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At what temperature do you require defrost for the counterflow HRV and ERV cores?

For our HRV cores defrosting is recommended for temperatures below 0°C, for our ERV cores defrosting is recommended for temperatures below -5°C.

What are the main advantages of the counterflow ERV over a crossflow ERV?

First, crossflow cores realize higher efficiencies in latent and sensible heat recovery and, secondly, distinguish themselves by a more compact design.

What are the main advantages of the counterflow HRV over a crossflow HRV?

The main advantage is the higher efficiency in thermal heat recovery.

For which climate zones do you recommend ERV vs HRV?

In principle, ERV cores can be applied in every climate zone. However, we recommend using a HRV core in moderate climates or if a reduction of humidity inside the home is desired.

Are the counterflow cores Passive House certified?

Our cores are not Passive House certified due to the fact that a heat exchanger itself is not certifiable, only whole ventilation units are. However, the ventilation units using one of our cores commonly have the highest ratings in the Passive House certification.

Are the counterflow HRV and ERV cores manufactured in Europe and North America? What are the lead-times for delivery?

All our counterflow cores are manufactured in Reinsdorf, Germany. The lead times is 6 weeks EXW after ordering, in practice 7-9 weeks DAP.

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We have heard about a formable membrane counterflow ERV core, when will that be available in North America?

This is depending on UL certification required or not. We are able to ship cores with a formable membrane (ERV 529) from April 2018 on. It is not very likely that our current formable will achieve UL certification.

Is there any odor cross-over with the ERV core? Do you have test data with different odors?

In incidental cases there could be odor cross-over especially with the older T4 membrane in combination with cooker hoods. The newest membranes types do not have cross-over.

Are the counterflow ERV and HRV cores UL94 HB flame certified? Water washable? Freeze tolerant? Hygiene certified?

All of our cores are water washable, freeze tolerant and hygiene certified. The HRV366 is also UL certified, however, UL for the ERV is pending.

Can you make a custom counterflow core shape for us if the volumes are large enough?

Yes we can. Typically, a series of 1500 pieces annually for HRV and 2500 pieces for ERV will do for making a new shape at competitive pricing.

Can you describe the end plates and rails that you use on the counterflow cores? Can we have custom rails?

End plates and rail are standard items/parts. However we are able to fit custom rails/ribs/fins on customer demand.

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