

# ACOUSTIC ENCLOSURE

**eSILENT** – THE POWER LIES IN THE SILENCE

- for heat pumps, refrigeration and air-conditioning units, and for other appliances
- sound reduction up to 14 dB(A), on request up to 25 dB(A)
- efficiency improvement (up to 10%) of the installed appliance
- as protection against vandalism, weather influences and theft



# eSILENT EFFICIENT AND EASY

## Foreward

Due to the requirements of environmental restrictions and energy costs for fossil fuels, the house heating is rapidly changing towards heat pumps. In most cases air-to-water heat pumps are used, because the energy source air is available everywhere. In addition the size of plots of land in the private housing sector is becoming smaller and smaller, which increases the noise in the neighbourhood. Moreover houses are becoming a workplace because home office is modern living.

Many sources of noise such as cars, aircraft noise, air conditioning and heating systems are becoming stress factors for people. A debate about the tolerance has begun, which is why legal disputes are inevitable. ATEC has solutions against noise from air-conditioning and heating appliances. The strict requirements of the technical instructions against noise can be met. With the expertise of over 10 years of experience in acoustics

ATEC presents: **eSILENT** the acoustic enclosure.

## Construction

The eSILENT HT acoustic enclosure consists of two floor rails, which support the appliance on its sound-insulated foot mounting and also the complete acoustic enclosure housing. The floor rails are anchored to a foundation provided by the customer (or a strip or ring foundation or heavy concrete slabs) to secure the acoustic enclosure against storms.



The walls are screwed to the base rail. The side walls and the cover, made of profiled corrosion-resistant steel, are lined on the inside part with 50 mm thick acoustic insulation panels. This insulation is protected by an abrasion-resistant coating against the effects of dirt and moisture and therefore prevents algae formation. Also the walls in the area of the air inlet and outlet are solid sound insulation baffles thanks this damping material.

The steel of the entire acoustic enclosure is coated with the high ZM310 (zinc, 3.5% Al, 3% Mg), which provides a high level of protection against corrosion in corrosivity category C4H.

This new type of surface is produced in a hot-dip process by alloying magnesium and aluminium in a zinc bath and has a self-healing corrosion protection on cut surfaces and it is even resistant to sea air. On request the acoustic enclosure can be painted in all RAL colours. The basic colour of the ZM310 surface is similar to RAL 9023. This natural surface darkens due to the effects of weather.

## Technical data / performance data

Sound reduction: up to -14 dB(A),  
up to -25 dB(A) (on request)

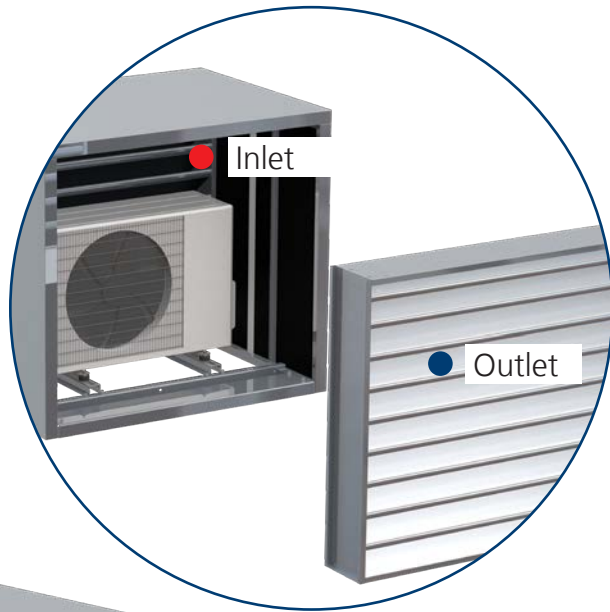
Pressure loss: < 15 Pa  
Dimension: Individual



# SOUND INSULATION-PEACE AND QUIET

## Air inlet and air outlet

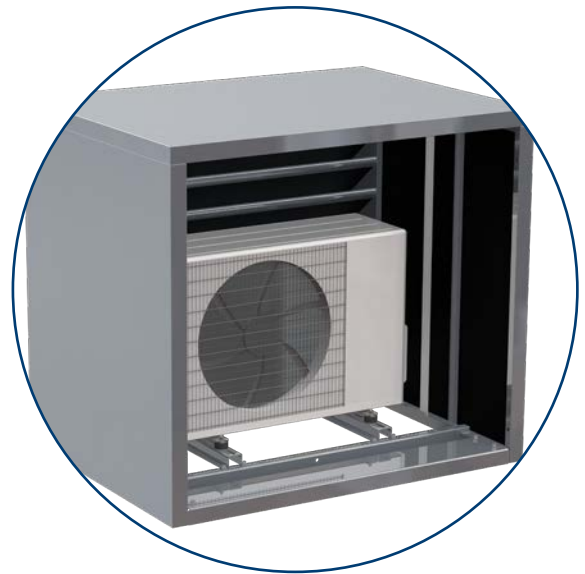
For each appliance, the air inlet and outlet routing is planned and dimensioned depending on its performance, in particular fan pressure and volume flow. The specially designed, angled opening slots (louvres/baffles) ensure optimum sound absorption without impairing the performance of the appliance.



## Service openings

The rear or lateral and the front baffle for air inlet and air outlet are also made of sea-air resistant material and, if required, powder-coated according to the RAL colour scale.

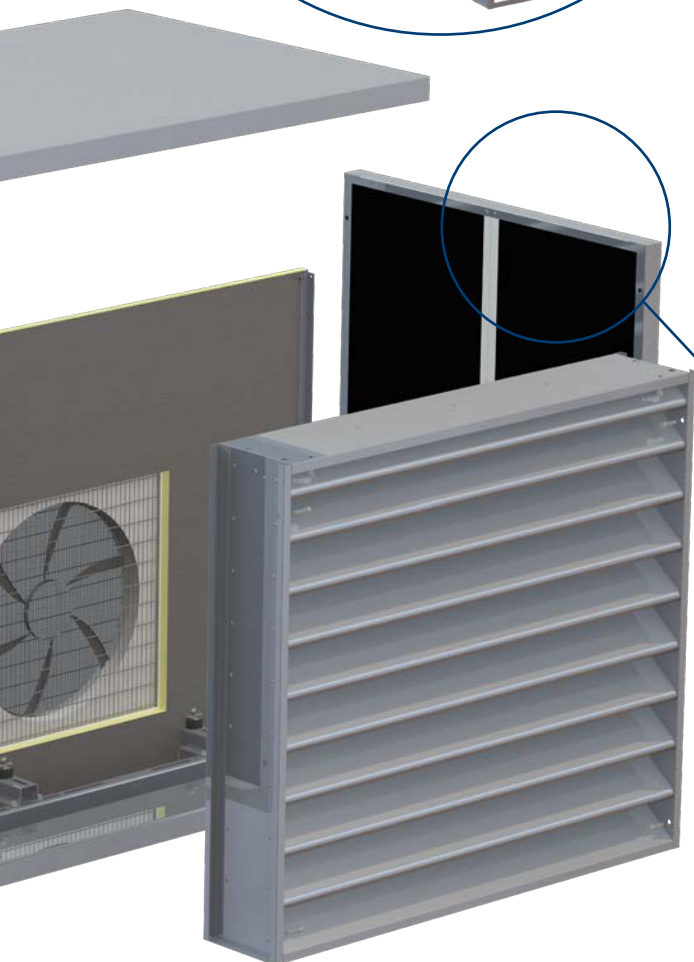
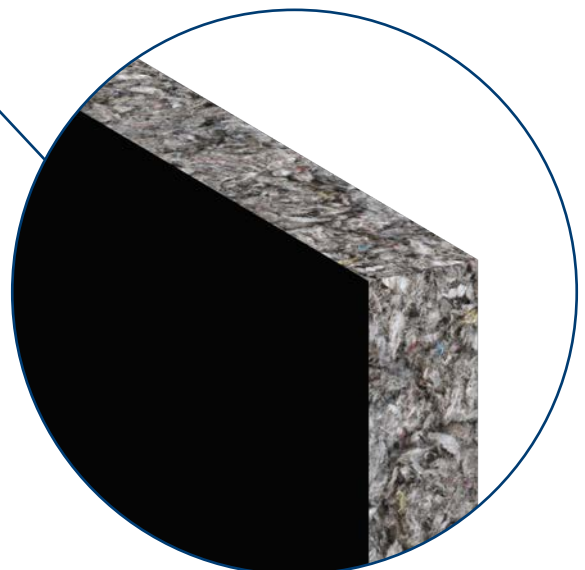
At the same time, the baffles are used for servicing the appliance and can be removed. To do this, the M8 threaded screws are removed with the appropriate Allen key, then the element can be lifted out; in this way, the heat exchanger, the fan or the electrical connection can be serviced.



## Insulation material

The insulation material is selected according to the damping requirement. For the eSILENT HT series, moisture-resistant mineral wool in 20 or 50 mm thickness is used. Its surface is protected with an abrasion-resistant, water-repellent glass fibre coating. All materials are non-combustible and comply with DIN 4102 A2.

Algae formation and mildew are not possible.

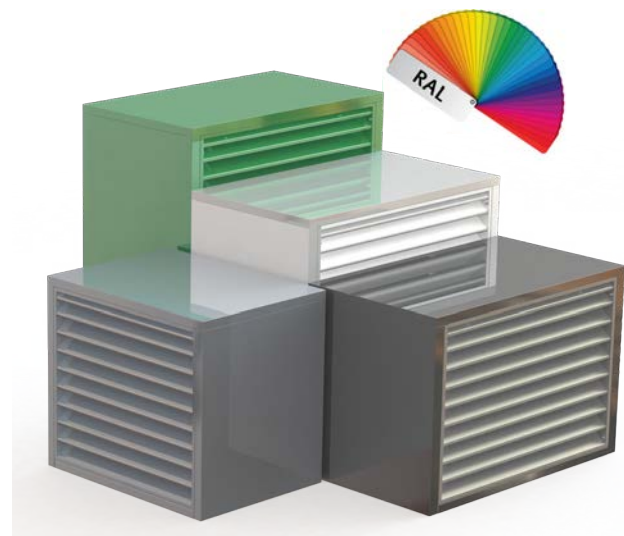




## Advantages of the acoustic enclosures at a glance

- The sound proofing with up to 14 dB(A), on up to 25 dB(A) on request.
- Energy savings due to less weather influences and avoidance of soiling on the appliance heat exchanger.
- The air resistance is usually between 7 and 15 Pascal and therefore does not influence the fan performance. The acoustic enclosure are made entirely of sea-air resistant ZM310 sheet steel. This provides lasting corrosion resistance.
- The construction is easy to set up.
- Cut-outs are easily created.
- The acoustic enclosure is fixed to the ground with its solid floor console.
- All air inlet and outlet baffles can be removed for appliance maintenance.
- If necessary, even the complete acoustic enclosure can be opened in a few simple steps to service the appliance. Only the floor console remains in its position.
- The acoustic enclosure protects against vandalism.
- The risk of theft is significantly reduced.
- The inner appliance cannot be damaged by hail, UV radiation and dirt.
- Strong wind cannot affect the fan of the appliance.
- The acoustic enclosure can be painted with RAL colours according to the customer's wishes at an extra charge.

## Example from practice



## The acoustic enclosure configurator

The ATEC configurator helps to find the right acoustic enclosure for the right application. Quite simply without registration: [www.atec-schall.de](http://www.atec-schall.de)



## The proof - sound calculator

The verification of compliance with the technical instructions against noise can be verified using the sound calculator at [www.waermepumpe.de/schallrechner](http://www.waermepumpe.de/schallrechner)



Our main programme can be found in the current ATEC price list, e.g. on the website in the download area: <https://atec-abgas.de/en/epaper/>



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