

Plate heat exchanger (code EXP)



The EXP plate heat exchanger is a complete unit with a plate exchanger which uses heat transfer according to the air-air principle.

The purpose of the heat exchanger is to recover heat from the extract air and transfer this heat to the supply air.

This reduces the output required and the energy use.

The heat exchanger is a cross-flow unit constructed from aluminium plates which are also available with an epoxy finish. Smooth ducts in the direction of airflow provide a low pressure drop and minimal risk of dust building up.

A faulty heat recovery function through reduced recovery efficiency entails increased energy use. This also means that the planned supply air temperature will not be attained when outdoor temperatures are low.

Possible reasons for reduced recovery efficiency could be the fouling of the heat-exchanging surfaces, the bypass damper not closing completely, or the extract air filter being dirty.

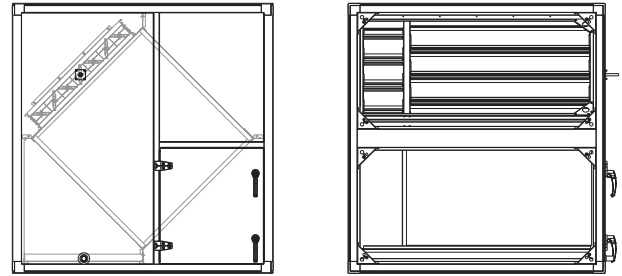
At low temperatures the extract air humidity is precipitated. The condensate is collected in a drip tray with a drainage connection. The humidity precipitation also means there is a risk of ice forming in the exchanger. The formation of ice is counteracted by some of the outdoor air flow being bypassed past the exchanger.

Particular attention should be paid to any ice forming in the extract air section of the heat recovery unit. If operation problems caused by ice forming occur, the function of the frost protection equipment on the heat recovery unit should be checked.

The bypass and shut-off dampers are of KJS type in tightness class 2 in accordance with SS-EN1751 (VVS AMA-98) and corrosion class C4 in accordance with SS-EN ISO 12944-2.

Technical data, sizes 060–600

Configuration



Drainage

Connection = Ø 20 mm

Damper

1 damper motors are required (damper shaft 12×12 mm).

Size	Required torque (Nm)
060, 100	3
150	4
190, 240, 300	5
360	6
480, 600	10

Integral attenuation (dB)

Octave band intermediate frequency (Hz)	63	125	250	500	1,000	2,000	4,000	8,000
Damping (dB)	6	7	6	5	7	10	15	18

Heat exchanger, operation and maintenance instructions

Inspection

1. Inspect the fins for fouling. Inspection can be carried out through e.g. an inspection door to the filter section.
2. Check the auto defrosting function and make sure that the bypass damper closes securely when defrosting is not in progress.
3. Check the drip tray, drainage and water trap function. A water trap without a non-return valve should be filled with water.

Cleaning

If cleaning is required this can be done with a vacuum cleaner, blowing with compressed air or by using detergent suitable for aluminium and rinsing off with hot water.

Cleaning is best done by flushing water through every single air duct (possibly adding ordinary detergent that does not corrode aluminium) across the entire length of the heat exchanger.

At operating temperatures below 0°C the heat exchanger assembly must be dry before being commissioned.

Damper, operation and maintenance instructions

Inspection

1. Check the function of the damper actuator.
2. Check the dampers for tightness when they are closed. If they are not sealed, adjust the damper actuator to make the damper tight.
3. Check the sealing strips.

Cleaning

Clean the damper blades with a cloth. If they are severely fouled, an environmentally friendly degreasing agent can be used.