

## STX-M1 COUNTER-FLOW HEAT EXCHANGER

A **counterflow heat exchanger** is used to recover heat from the exhaust air and transfer it to the supply air. Warm exhaust air passes through the fins and heats them up. Outdoor air travels parallel to the fins, gets heated, and is then supplied to the indoor space. This technology is highly efficient and can achieve a dry efficiency of up to **85%**.

Just like with **plate heat exchangers**, the airflows never mix, which reduces the risk of unpleasant odors being transferred. Since counterflow exchangers are often used in humid environments, there is a risk of freezing. To prevent this, a **defrosting system** is in place that allows the exchanger to be defrosted during operation.

Defrosting is controlled by monitoring the outdoor temperature and the pressure drop across the exchanger. When defrosting is needed, a **bypass damper** opens while one half of a **two-part damper** closes for a set period. Then it reopens and the other half closes. This procedure is repeated until the pressure drop returns to normal.

If the pressure across the exchanger becomes too high at outdoor temperatures above the set threshold, an **alarm** is triggered.