

A large flock of yellow chicks is shown in a poultry house. The chicks are standing on a bed of wood shavings. In the background, there are white plastic waterers and the structural elements of the house, including a wooden beam and a translucent roof panel. The lighting is bright, coming from the roof.

Greener and
sustainable profitability
with heat recovery



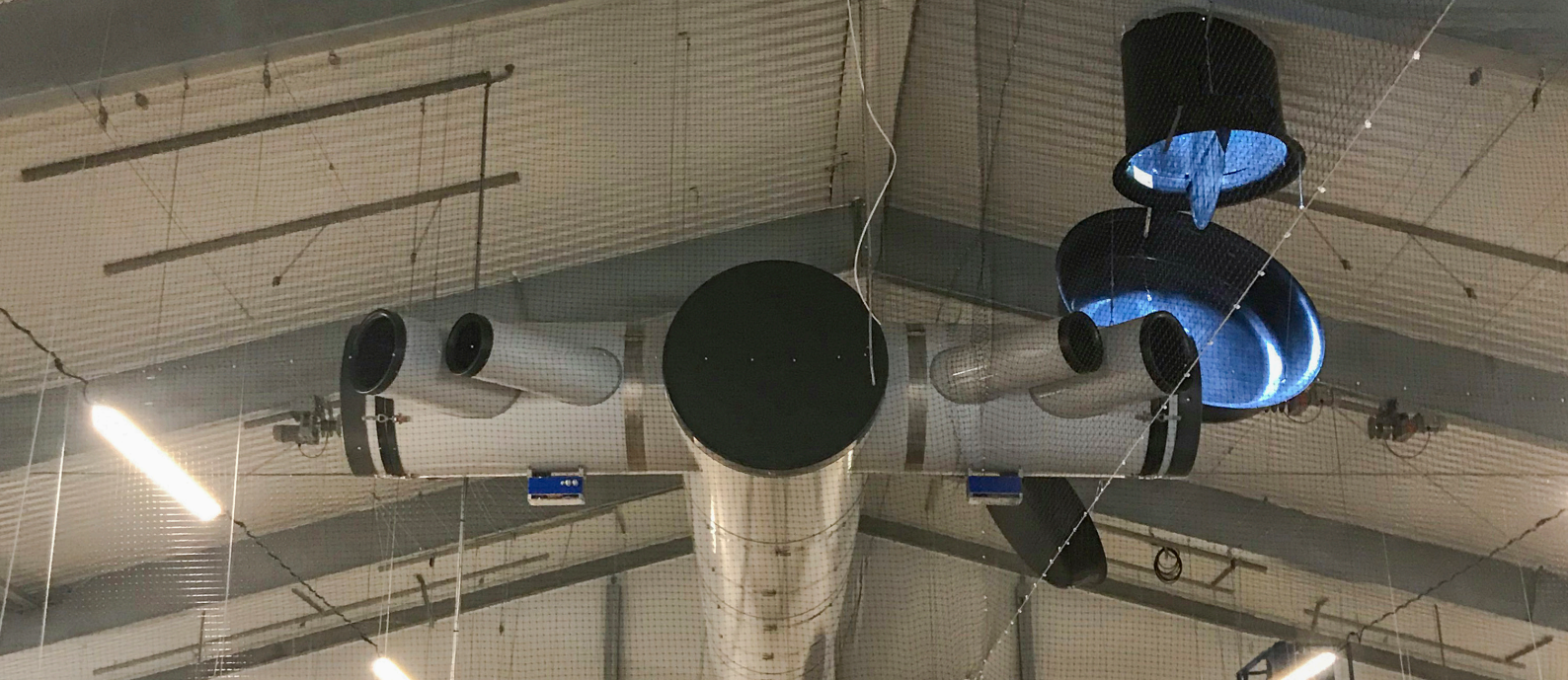
Axel Månsson is one of Denmark's leading producers of organic vegetables and eggs. The 40+ year old company places premium on quality and fresh products while showing care to the surrounding environment. A focus on flexibility and innovation has helped Axel Månsson stay above the trends of the Scandinavian food market and work in cooperation with customers and suppliers.

When it came to the construction of a new breeding barn, Månsson chose to build a "starter barn", where day-old chickens would have the best growing conditions in their first six weeks.

"The starter barn should provide the best possible combination of welfare, production environment and operating economy", says Axel Månsson.

The normal body temperature of chickens varies between 40°C to 42°C and to keep them in their "comfort zone", the barn is usually heated up to 36°C. As heating has big impact on the operating costs, Axel Månsson decided to install a heat exchanger.

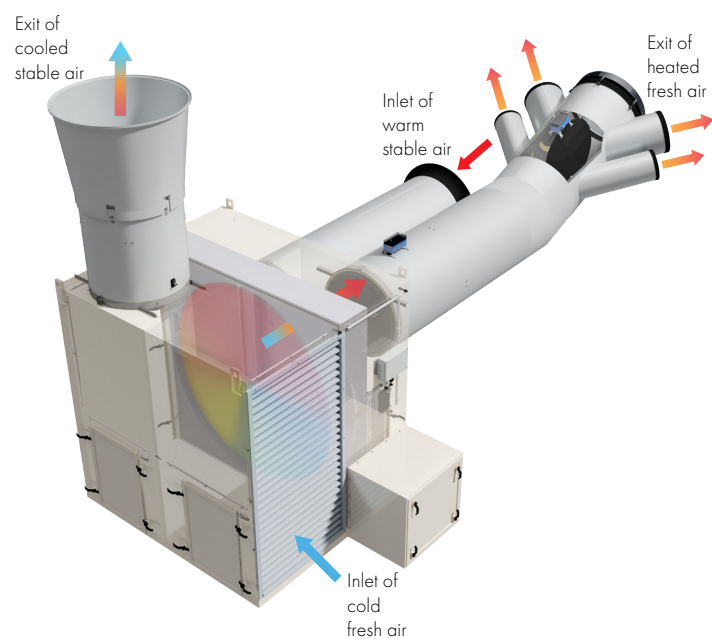
"It has been important for us to choose a heat exchanger that is operationally reliable and easy to maintain", says Axel Månsson. The choice fell on Munters Heat-X Rotate, which, in Denmark, is sold by KJ Klimateknik.

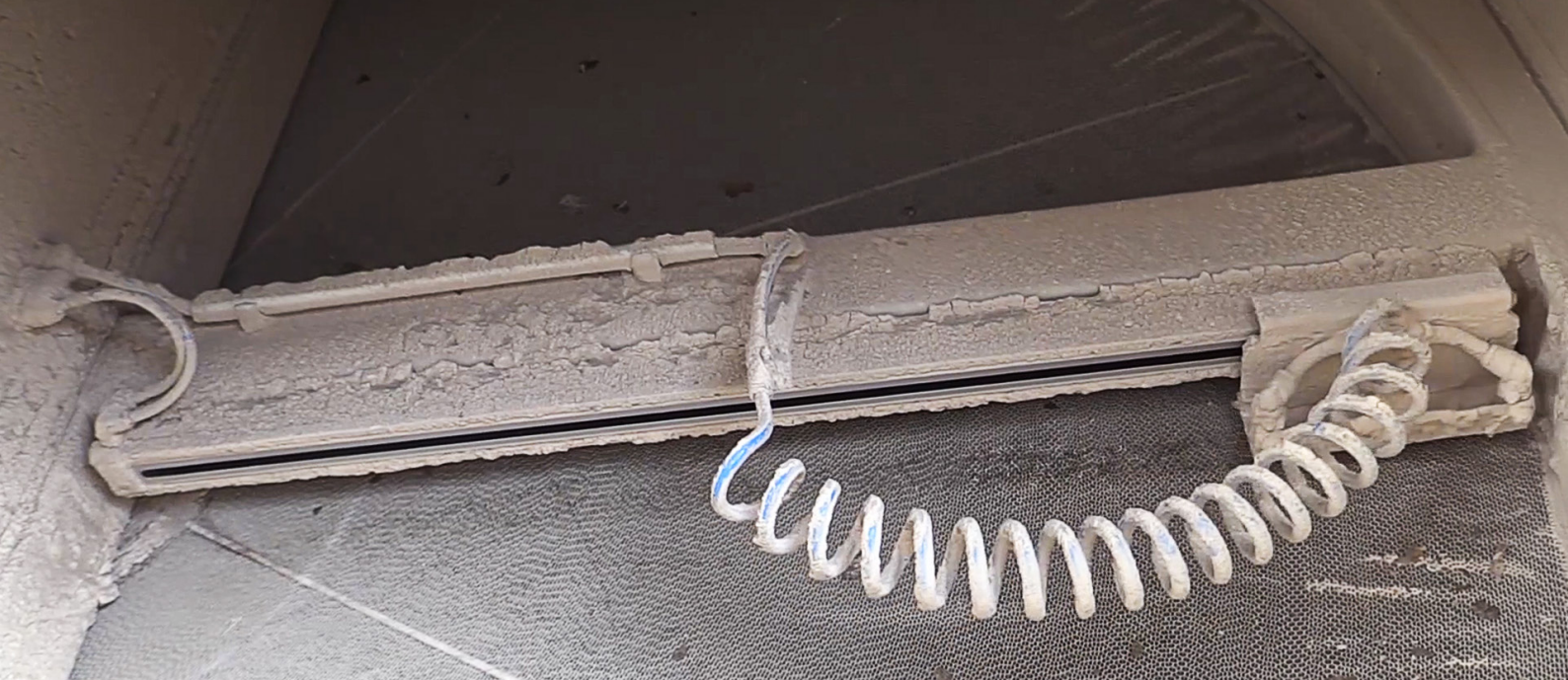


Munters Heat-X Rotate is an air-air heat exchanger developed to recover heat from the exhaust air, with an innovative technology to help farmers achieve:

- No costs and pressure losses due to preliminary filtration, as the system does not require filtration
- No heavy and complex cleaning operation, due to its self-cleaning functionality
- No risk of contamination or hygienic issues, due to the easy access for service
- Up to 85% efficiency of heat recovery
- Low installation space due to compact design
- No condensation and water waste

Munters' focus has been on providing an affordable, easy to use and high-performing solution.





According to Axel Månsson, there are key benefits to the Heat-X Rotate.

Automatic cleaning

The philosophy behind the heat exchanger is that it must be kept dry - even between flocks. The large rotor wheel that transfers the heat is cleaned automatically whenever needed. A trolley with air nozzles ensures free passage of air through the rotor at all times. A sensor continuously measures the pressure drop through the rotor wheel, and when the pressure exceeds a certain level, the built-in compressor starts, and the rotor wheel is blown through for about 30 minutes. This ensures that the efficiency of the heat exchanger is maintained at the maximum throughout the operating cycle while lowering the energy consumption. This is essential to meet the desired operating economy on the heat exchanger. As the rotor wheel is always kept clean, there is also no need for additional cleaning between flocks. The dry dust can easily be swept out from the bottom of the heat exchanger housing.

Efficient control

Munters Heat-X Rotate is equipped with a control unit, connected to the climate controller. This way, the heat recovery system can completely manage and control the operation at every pressure level. Additionally, the control unit manages the cleaning and the door switching contacts and provides an alarm in the event of malfunction.



Simple and compact

The heat exchanger is extremely compact and is delivered 95% assembled. It is largely cubic and measures about 2.4 m on each side. Normally, the heat exchanger is placed on a concrete platform along the facade of the house, and the air will be led in through a supply unit that follows the ceiling slope. Due to the design of the house at Axel Månsson's estate, they chose to place the unit on a 2.4 m high steel platform at the end of the house.

Very positive results

"The first flock of chickens has now been in the barn, and they seem to be having a great time", says operations manager Hans Klemmensen. "The barn is divided into four squares with three-meter-high partitions, so we have been a little excited about whether a uniform climate could be ensured throughout the barn. The experience from the first week is very positive. It seems that the air is very similar in all areas and corners of the barn."

KJ Klimateknik has solved the challenge of the special barn design by putting two instead of one supply unit on the heat exchanger. Each unit has four nozzles, which ensures an even distribution of air throughout the barn. Thus, there is no need for circulation fans, which reduces both investment, maintenance, and energy consumption.



About KJ Klimateknik

KJ Klimateknik, provider of husbandry ventilation and climate control solutions, has a strong partnership with Munters with the exclusive dealership for the combined Munters product portfolio for the poultry segment in Denmark.

KJ Klimateknik's in depth industry knowledge, paves the way forward to the high degree of service and support required to ensure Munters' continued success in the Danish market. Furthermore, with KJ Klimateknik's service team, Munters customers will continue to enjoy the benefits of specialized counselling and support.

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