

COOLING FOR DAIRY PRODUCTION



Cows cannot dissipate their heat load and do not sweat effectively. Therefore, they rely on respiration to cool themselves. In addition, heavy cattle will be more affected by heat stress compared to lighter-weight cattle. Increased fat deposition prevents cattle from regulating their heat effectively. Because of the cows' lacking ability to release heat, it may have serious consequences in hot periods such as reduced dry matter intake that will be followed by a significant drop in milk production, weight loss, breathing problems, reduced reproductive performance, and even death at the extreme situation.

Secco offers two types of cooling for the barn - high-pressure cooling and pad cooling. Great emphasis is attached to quality and flexibility when developing Secco's cooling products. Quality is ensured by using very reliable components with long service life. Both cooling systems are made of standard components that can easily be adapted to the individual barn.

CORRECT CLIMATE SUPPORT DURING WARM PERIODS WITH A HIGH-PRESSURE COOLING SYSTEM

A high-pressure cooling system reduces the temperature in the barn that will keep the cows cooled and breathe easier, especially during warmer periods. High-pressure cooling for the dairy barn can be used in most ventilation types, but typically in natural or LPV ventilation systems. With high-pressure cooling, the barn is provided with finely atomized water vapor, which cools the housing air. The water vapor can lower the temperature by up to 4-7°C and the high-pressure cooling will work more optimum when it is regulated using the climate controller and farm management program. The use and efficiency of high-pressure cooling depend on relative humidity.

A FLEXIBLE HIGH-QUALITY SYSTEM

Great importance was attached to quality and flexibility when Secco's high-pressure cooling was being developed. The individual components are very reliable and produced using materials that ensure long service life. The system is made from standard components that can easily be adapted to the individual dairy barn.

PUMPS GUARANTEE COOLING SYSTEM EFFICIENCY

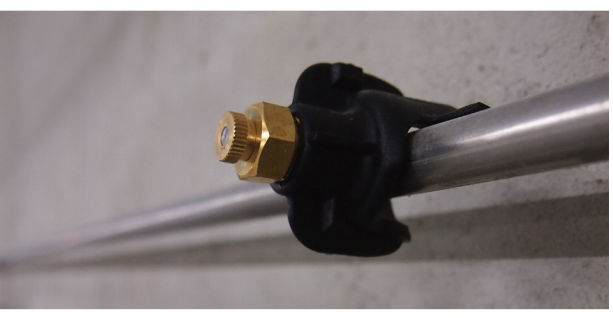
- The Secco cooling systems ship with a complete pump unit that is adjusted to the individual facility.
- The pump is equipped with a filter that clears 95-98% of particles (1 µm) from the water, ensuring the system has a long service life.
- The pump can also be equipped with a phosphate filter and electronic calcium decomposers to reduce the level of lime and minerals in the water.



For more information

seccointernational.com





PIPES AND NOZZLES

- Only stainless-steel, acid-resistant pipes, and joints with high durability and long life.
- The nozzles come in either brass, anti-lime, and stainless steel.
- The holes for the nozzles are made with special punch pliers after the piping is fitted.
- The nozzles in the patented FlexClamp nozzle holders can be placed anywhere, allowing for optimum positioning above the air intake.
- The patented nozzles are equipped with a filter in front of each nozzle head, which reduces the risk of limescale.
- The nozzle heads are supplied with an anti-lime coating, which further reduces problems with lime deposits in the nozzle head. All nozzles are fitted with an anti-drip valve.

HIGH-PRESSURE COOLING IN A LOW POWER VENTILATION (LPV) SYSTEM

Secco's LPV system is a classic negative pressure system used for ventilation that has been developed for temperate regions of the world and can be adapted to most livestock buildings.

An LPV system uses high-pressure cooling, which adds atomized water particles to the air in the dairy barn. The water particles evaporate in the heated barn's air and thereby cool the air. With the proper high-pressure cooling, it is thus possible to reduce the dairy barn temperature by up to 4-7°C. The Secco's high-pressure cooling can be used without any negative impacts on the cows due to increased air humidity. High-pressure cooling is very flexible, as it is constructed from standard components that can be easily adapted to the individual barn.



HIGH-PRESSURE COOLING IN A NATURAL VENTILATION SYSTEM WITH STIR FANS

High-pressure cooling in combination with stir fans in naturally ventilated barns is one of the most cost-effective methods of avoiding heat stress. Stir fans with high-pressure cooling nozzles placed in front of the fans are installed above the stalls directing air across the backs of the resting cows. Atomized water particles from the nozzles evaporate in the air, thereby decreasing the temperature of the air that is directed across the backs of the resting cows. The high-pressure cooling system and stir fans cool the cows with a chill effect and a lower air temperature than the ambient air temperature.

LOWER THE TEMPERATURE WITH COOLING PADS

Cooling pads can be used for the Secco's Tunnel and Combi-Tunnel systems. The cooling takes place when the fresh air is taken in through the pads, which are kept moist by recirculation of the water. The air passes through these pads and is cooled when absorbing water vapor. With the correct pad cooling setup and in very warm areas with low humidity, it is possible to reduce the dairy barn temperature by up to 20°C.

Great flexibility

Secco provides a complete cooling pad system that is very flexible and can be easily adapted to most construction types. The cooling pads are mounted to the air inlets on the sides of the barn or at the gable end of the barn.

A gutter system with an integrated water tank

- In contrast to other cooling systems, there is no need for a separate water tank for cooling pads.
- The tank is built into the lower gutter and is thus an integrated part of the gutter system.
- The tube sprinkling the pads is an integrated part of the upper gutter.
- Water is supplied directly without the use of the special distributing pads that are used in many other systems.

Easy installation and cleaning

It is easy to install the cooling pads, and the system comes with an efficient pump that has a built-in cleaning filter. It is easy to access the filter, making it easy to check and clean.



DA 150B Pad Cooling

- Max. gutter length: up to 42 meters
- Pad height: 1500 mm, 1800 mm, 2000 mm
- Max. airspeed: 2m/s through the pads