



Air Intake for Poultry Houses



Air intake from SKOV

Regardless of the size, geometry and positioning of the livestock house, SKOV has a solution to supply fresh air to the livestock house. It is important to supply fresh air to the livestock house to ensure the right climate for the animals. Depending on the age and requirements of the animals, it is important that the right amount of air enters the house in an optimum direction and at the right height and velocity.

Always optimum livestock house climate

At low outdoor temperatures, cold air is sucked into the livestock house due to the negative pressure. The air must not reach the animals in the livestock house without it being mixed with the housing air first. This is ensured by correct dimensioning and interaction of the ventilation system.

At high outside temperatures, it is important to remove the excess heat from the animals and create air movement around them in order to provide a cooling effect. Regardless of the outside temperature, the inlet air should be distributed evenly throughout the livestock house and utilized to a maximum extent with the least possible energy consumption.

The livestock house climate is decisive for the productivity of the animals, including feed consumption and gain, but

also affects the stress level and infection risk among the animals. Throughout many years, SKOV has developed ventilation solutions for poultry growers all over the world, and our systems ensure an optimal climate in the livestock house, for the benefit of the grower as well as the animals.





SKOV Wall inlets

SKOV has developed a series of wall inlets of the highest quality, which may be used in most types of poultry houses. The DA 1200 series includes brick-in wall inlet as well as flange inlets. The flange inlet is also supplied as DA 1911 with somewhat higher capacity.

The inlets may be fixed in the wall, bricked in or cast in concrete elements. There are four dimensions, depending on the thickness of the wall. The inlets require no additional support by bricking in or casting.

The flange inlets may be used in light constructions, such as sandwich panels. An extension may be mounted, so the inlet may be adapted to different wall thicknesses.

Common to all SKOV's wall inlets is that the inlet flap is insulated to counteract condensation. The inlet flap is also strengthened with a metal rail, ensuring that it closes tightly, and that it doesn't lose its shape at very low or high temperatures.

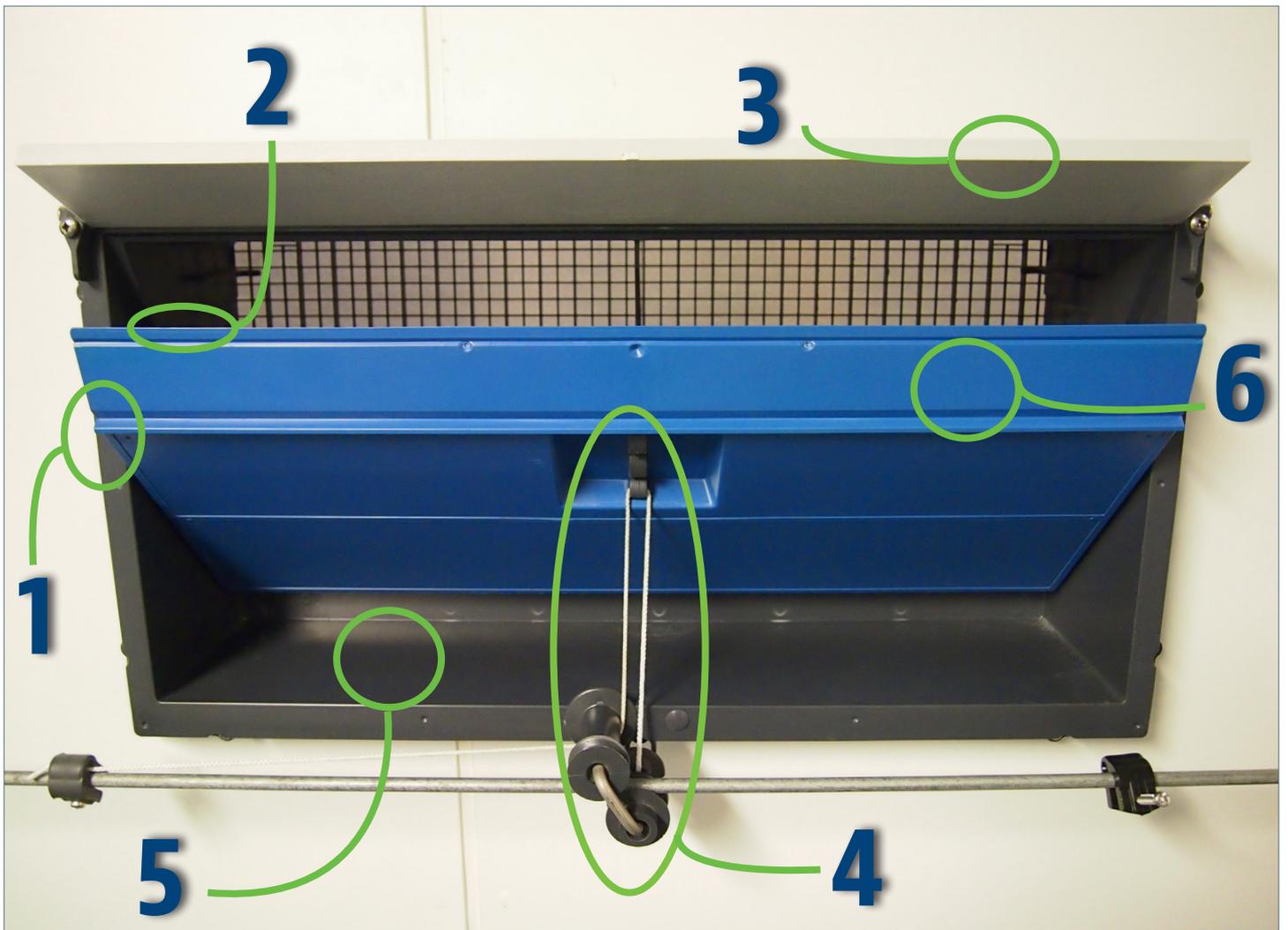
All of SKOV's wall inlets are made from plastic materials of the highest quality, ensuring that the inlet casing will not be broken in the case of minor displacements in the brickwork.

Safe opening and closing function

Four springs of stainless steel keep the flap closed. The inlets should be pulled open. In a SKOV system an 8 mm pull

rod should be used to open the flap. The strong springs of the inlet ensure optimal and exact closing function under all conditions, also in cold periods with frost formation.





SKOV's Wall inlets in brief

- | | |
|---|---|
| <p>1 Angled inlet shutter directing the air towards the ceiling</p> | <p>4 Advanced Inlet Control creating more powerful air currents at minimum ventilation</p> |
| <p>2 Sharp edge on the inlet flap, creating a more powerful air jet</p> | <p>5 No cracks in the base of the inlet</p> |
| <p>3 Air direction baffle accommodating the air jet to the ceiling slope</p> | <p>6 An inlet flap reinforced by metal band ensures that the inlet shuts tight</p> |

Accessories for wall inlets

Depending on climatic conditions, the type of production and the design of the livestock house, as well as the location, there may be a need for various kinds of accessories for the wall inlet. Below is an overview of different accessories that may be used for SKOV's wall inlets.



Mesh

The wall inlets may be supplied with a mesh, so that e.g. birds or mice cannot enter the building. This reduces the risk of infection. The mesh is available as coarse-meshed as well as fine-meshed.

Air direction baffles

Air direction baffles are used in order to adapt the air jet in cold weather, as well as to prevent that the air adheres to the wall. There are two different SKOV air direction baffles: short and long air direction baffles. The type of air direction baffle depends on the design and location of the livestock house.



Sleeve

SKOV's sleeve is designed to keep drifting snow out and mitigate the effect of wind on the inlet performance. The sleeve has a certain dimmer effect and also provides for an installation with a nice finish.

Light trap

In modern hatching egg production, it is important to be able to prevent the penetration of light and thus control the circadian rhythm of the animals. That is why SKOV has developed a light trap providing maximum luminance, combined with optimal aerodynamics.



Inlet cover with light trap

The inlet cover protects the livestock house against snow and rain, and also provides a certain wind-bracing effect. A light dimming module may be added to the inlet cover, ensuring 99% luminance.

Fresh air in monoblock livestock houses

In monoblock livestock houses, SKOV's wall inlets may not be used. Instead the fresh air is sucked in through the ceiling. SKOV's ceiling inlet DA 1540 is used

for this kind of building. As in the DA 1200 series, this inlet is equipped with an insulated inlet casing and flap, preventing condensation and freezing. The

ceiling inlet has a differentiated opening and is easy to clean.

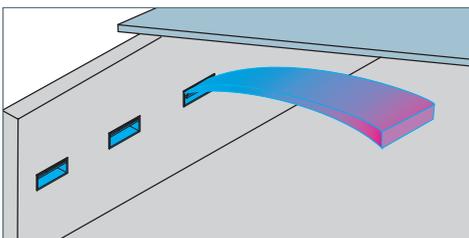


Differentiated opening

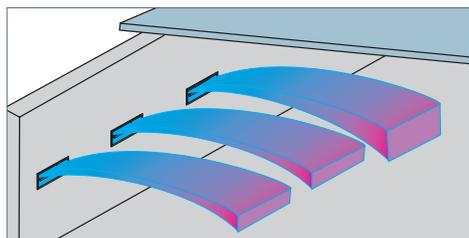
SKOV's inlets provide optimal air current at all ventilation levels. Differentiated opening makes it much easier to control air currents at minimum ventilation. Rather than opening all the inlets a little, a smaller number of the inlets open more.

This means that there will be fewer but stronger air currents. The differentiated opening and the sharp edge of the inlet flap ensures that the fresh air adheres to the ceiling (Coanda effect). The Coanda effect ensures that the air reaches far

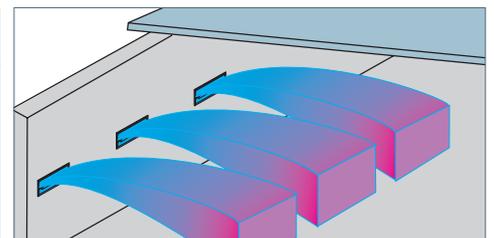
enough into the livestock house to be mixed with the air in the building, before it reaches the area occupied by the animals. At maximum opening, an increased air velocity creates the right cooling.



When the ventilation requirement is low, the fresh air is sucked in through one inlet



At a ventilation requirement of 30%, inlets with delayed opening will start opening



All inlets are fully synchronized when the ventilation reaches 100%



Interlinking

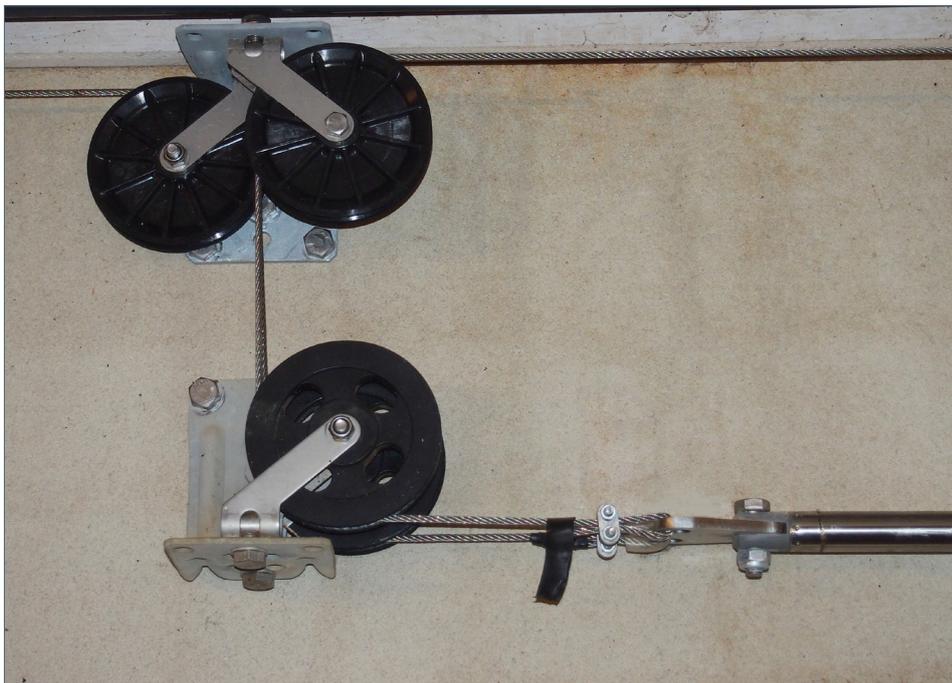
In order to ensure an exact regulation of the air inlets, SKOV has developed a heavy duty and precise actuator, DA 175. The actuator may be turned ON/OFF or made continuously variable, and is available in several variants with a tensile force of 100 kg, 150 kg, 300 kg or 600 kg, respectively. The actuator is installed with direct pull on the inlets, which ensures a simple and reliable installation. The actuator is developed so that the pull rod may be positioned in all directions, providing high flexibility in connection with assembly.

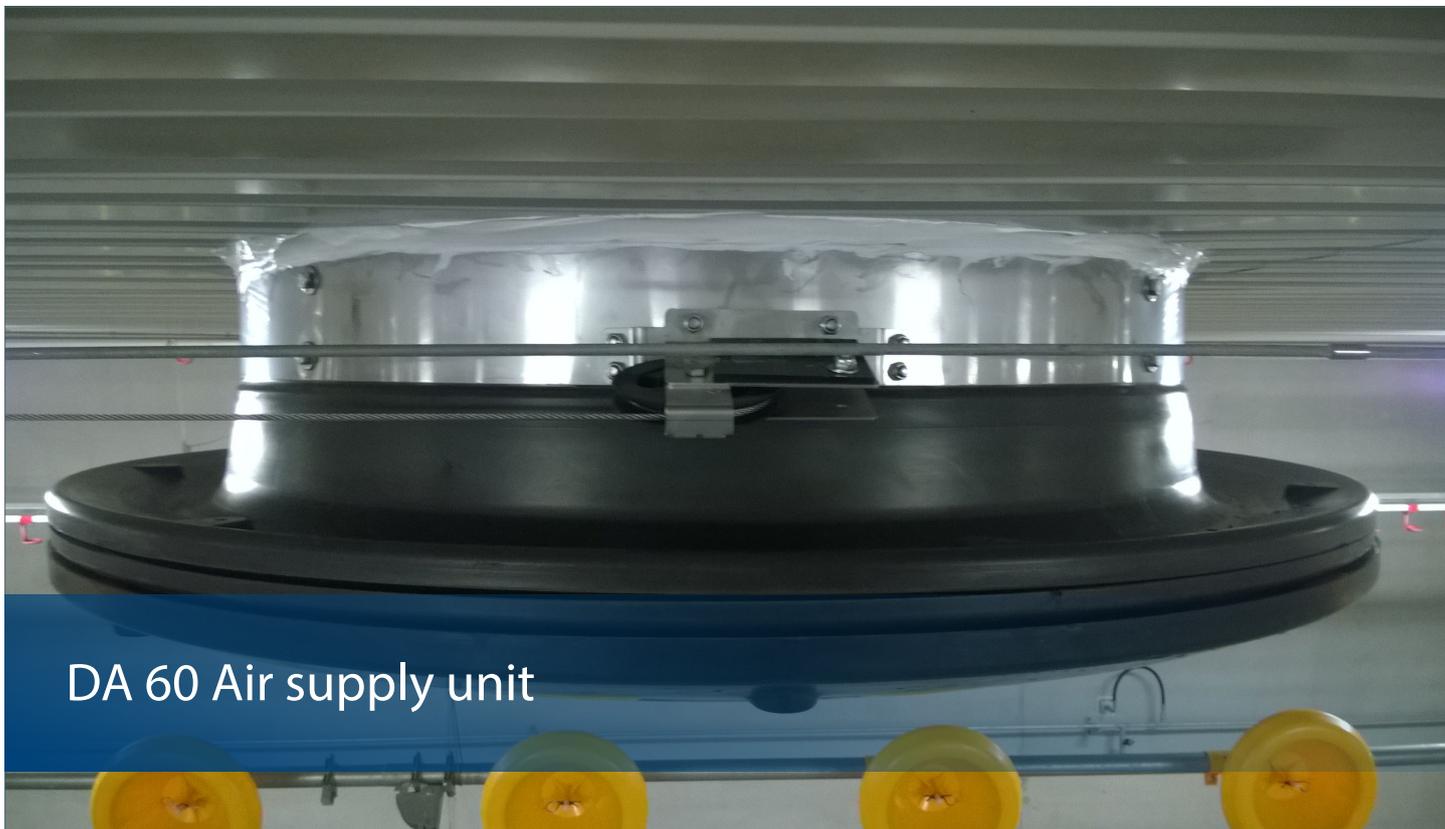
The actuator is made from maintenance-free materials, resulting in no maintenance costs once installed. For instance, the actuator does not contain any carbon brushes that require replacement on a regular basis.

Interlinking

One of the distinctive marks of a well-functioning and effective ventilation system is that the components are connected correctly. Therefore, SKOV always supplies mounting sets with all the necessary parts, including washers, wires, screws, fittings, pulleys, etc., together with the various

components, subsystems and systems. The importance of these mounting sets is often neglected, but they contribute to ensuring a quick and correct installation of the equipment, so it works optimally.





DA 60 Air supply unit

DA 60 air supply unit is an air inlet combining high performance with low air velocity in the area occupied by the animals. The air supply unit is among other things developed for use in livestock houses in countries that place special demands on the air intake. In certain countries, the air intake must be above the ridge to reduce the risk of infection. In other countries, the architectural style is characterized by monoblock houses, which makes it impossible to use conventional wall inlets, just like a roof construction without attic makes it impossible to use ceiling inlets throughout Eastern Europe.

No draughts in the area occupied by the animals

The exceptional feature of the air supply unit is the high performance, combined with the low air velocity in the area occupied by the animals. These two things may often be contradictory. SKOV has solved the problem by using air distribution plates, directing the air out in several air layers and distributing it optimally in the area occupied by the animals.

During warm periods, where the cooling effect of the air velocity is required, the air supply unit, when fully opened, provides high output with high air velocity. The conditions and productivity of the animals are improved, since they are not exposed to draught in the animal zone,

in spite of the high performance.

Uniform distribution at 100% stepless regulation

A new, patented solution has been developed for the air supply unit, providing a uniform opening. It ensures an even air distribution in the entire livestock house.

The 100% stepless regulation of the opening between the plates also ensures that the air jet range of the system may be adjusted according to the requirements of the animals and outside temperature. The air supply unit may be used with and without intermediate plate. The intermediate plate is used where the air velocity in the area occupied by the animals is to be reduced, and where the Coanda effect of the air against the ceiling should be improved. An intermediate plate should not be used when a free air flow is required.

A recirculation fan may also be used, so that the air that is taken in is mixed with the warm air in the livestock house, before it reaches the area occupied by the animals.

May be adapted to all common building types

DA 60 air supply unit is a flexible construction that is composed of several separate components. The air supply unit is cast in PUR with good insulating qualities, and the metal parts are all made

from stainless steel.

The unit has been developed with a complete duct series, ensuring that the unit may be assembled in all kinds of livestock houses.



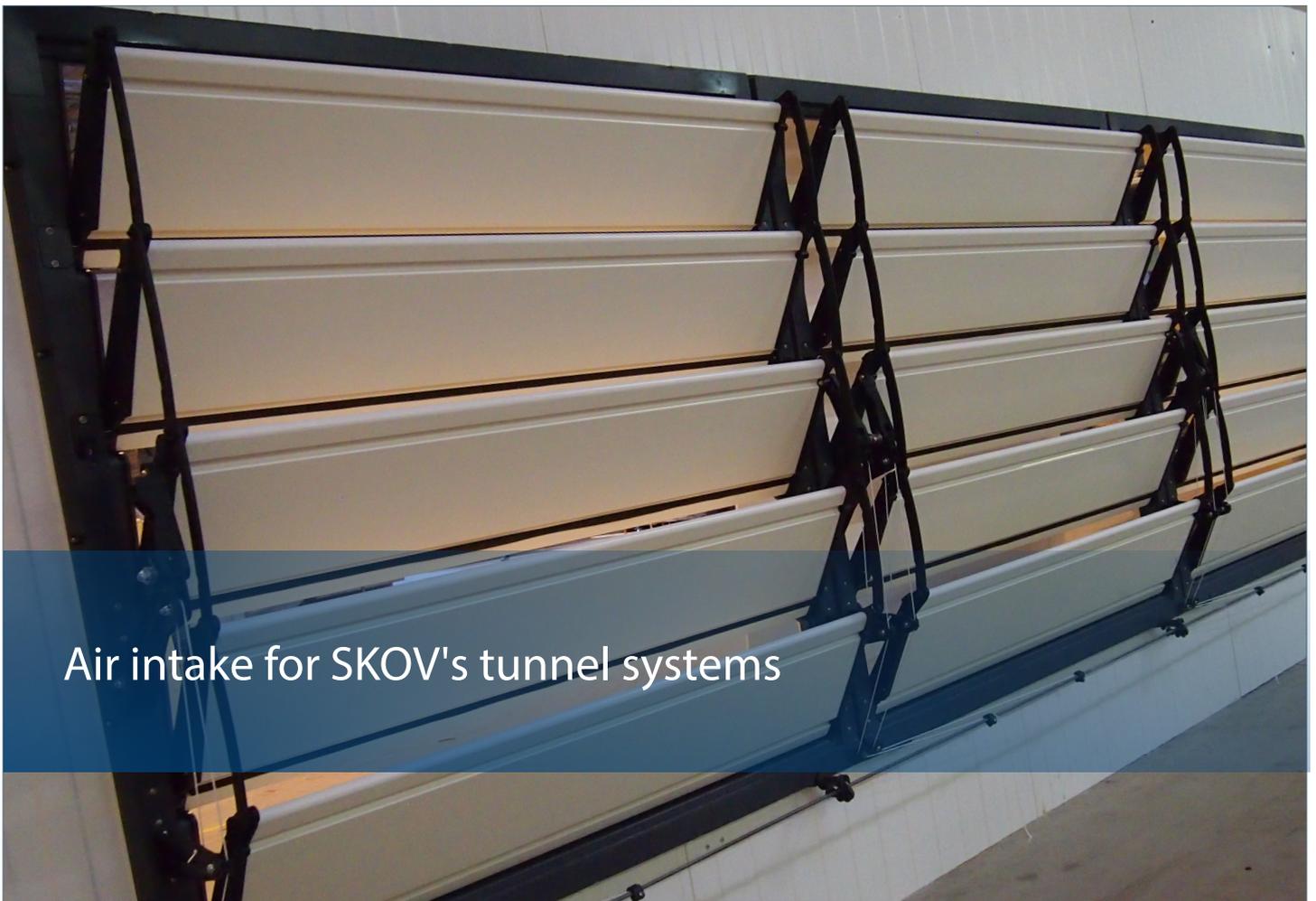
DA 60 air supply unit without an intermediate plate



DA 60 air supply unit with intermediate plate



DA 60 air supply unit combines the high performance with low air velocity resulting in the animals not perceiving any draught in the animal zone.



Air intake for SKOV's tunnel systems

SKOV's new tunnel inlet is well suited for livestock houses with cage systems as it merely opens 37 cm into the livestock house.

S KOV offers three kinds of air intake that are especially designed for Tunnel and Combi-Tunnel systems.

DA 17K Tunnel inlet

DA 17K is SKOV's new tunnel inlet, which is especially well suited for poultry livestock houses with cage systems, as the maximum opening is only 37 cm. The tunnel inlet is supplied with both semi- and highly insulated inlet flaps that are made from sturdy PVC material. Due to the insulation and impermeability of the tunnel inlet, cold areas are avoided in front of the tunnel inlet, when the ventilation runs in side mode. The tunnel inlet may be set very precisely and thus creates the best conditions for the animals in the livestock house. DA 17K is easy to install and is made from solid materials, ensuring a long service life.

Rack & Pinion Tunnel opening

Rack & Pinion is used for opening and closing the tunnel opening. Rack & Pinion is a heavy duty and stable system with a good and solid closing mechanism, ensuring a correct, insulated and sealed door. Rack & Pinion is mount-

ed directly in the wall of the livestock house with a cooling pads.

Tunnel Door Light

The tunnel door light system is an extremely flexible lightweight system,

which may be adapted to most wall thicknesses and materials. SKOV supplies the critical components, including various mounting sets, to ensure optimal functioning of air intake.



Due to the insulated inlet flaps of the DA 17K tunnel inlet, cold areas are avoided in front of the inlet and the animals are given optimum conditions.



With a Rack & Pinion opening, a stable system is ensured with a solid closing mechanism.



Tunnel Door Light is SKOV's lightweight system for tunnel openings.

SKOV A/S
Hedelund 4 • DK-7870 Roslev
Tel.: (+45) 7217 5555

SKOV Asia Ltd.
PB Tower • TH-10110 Bangkok
Tel.: (+66) 2 382 3031-2

www.skov.com

Dealer



LAE Anlagenbau GmbH
Altenwalder Chaussee 94 – 100
D – 27472 Cuxhaven
GERMANY
Tel : +49 4721 105 0
FAX : +49 4721 105 210
E-MAIL : info@lae-cuxhaven.de
Internet : <http://www.lae-cuxhaven.de>



Climate for Growth