



## Air intake for pig houses



## Air Intake From SKOV

**R**egardless of the size, geometry and location 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 pigs 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 pigs' productivity, 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 pig

producers 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

**S**KOV has developed a series of wall inlets of the highest quality, which may be used in most types of pig 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 can 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.

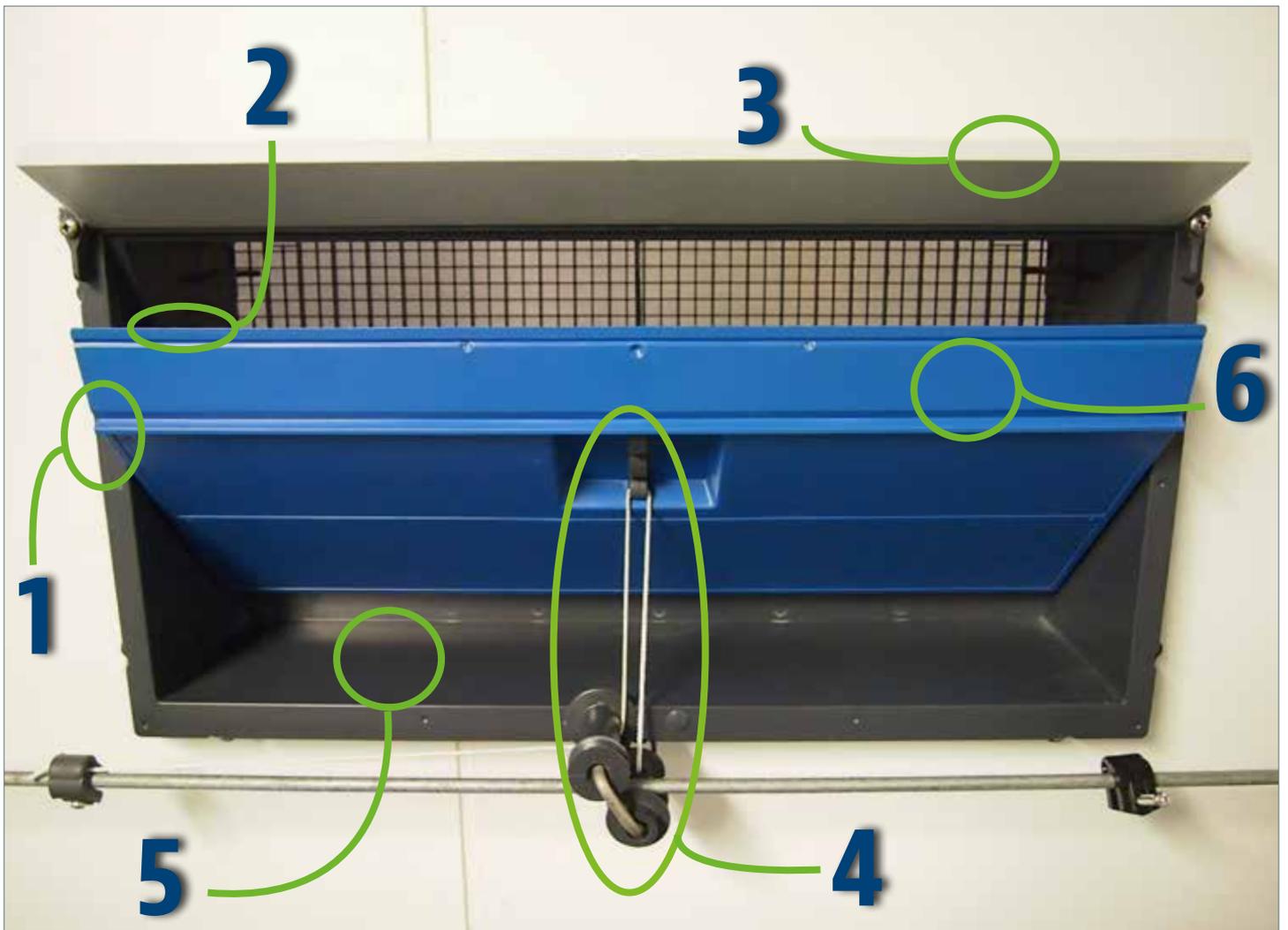
### Safe opening and closing function

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



*The SKOV air inlets may be used for all kinds of pig production and contribute to ensuring an optimal climate in the livestock house.*



### SKOV's wall inlets in brief

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



### 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.



### Baffle plates

For houses located so that the inlet is exposed to a strong wind impact, a baffle plate reducing wind impact may be used.



# Ceiling Inlets

In an LPV system, DA 1540 inlets are also used, a universal ceiling inlet that draws fresh air into the house from the attic. The ceiling inlet ensures optimum control of the air flow and ensures high performance at low air velocity.

The DA 1540 inlet can reach a fully open position. In this position the air is directed almost straight down. This feature can be utilised to cool the pigs during

hot periods. To utilise this function, the ceiling inlet should be placed above the lying area of the pigs so that it is made possible to increase the air velocity and cool the pigs immediately. Hence the required lying and dunging area can be maintained.

### Diffuse air intake

A diffuse air intake takes place when the fresh air is sucked into the house through

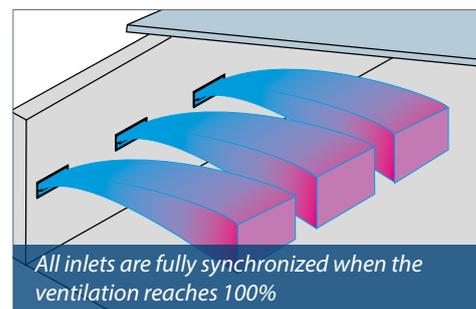
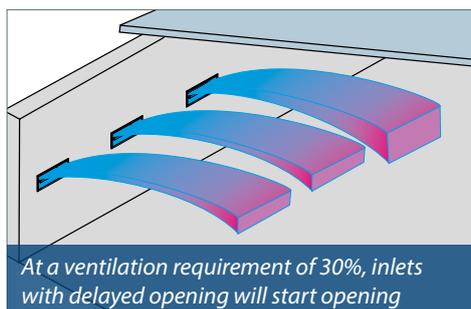
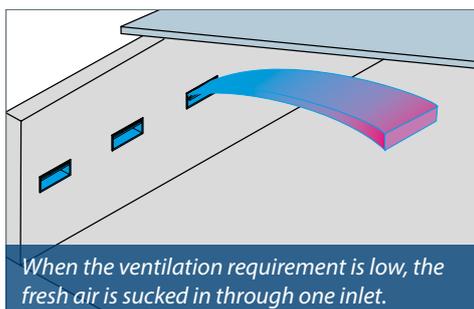
very small pores or holes in the ceiling structure with the help of negative pressure. This ensures a low air velocity when the air enters the house, thus avoiding drafts. During hot periods the diffuse air intake is complemented by SKOV's ceiling inlets DA 1540 and DA 1800, thereby establishing sufficient air velocity to cool the animals.

### 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.





# 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.





# Roof Inlets

**D**A 50 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 house buildings 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 ceiling 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 performance with high air

velocity.

The animals' conditions and productivity 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 parallel linkage system has been developed for the air supply unit ensuring that the air supply unit is opened in a uniform manner all the way around. It ensures an even air distribution in the entire livestock house.

The 100% stepless adjustment of the gap also ensures that the system can be adjusted to the air jet range desired for the time of the year.

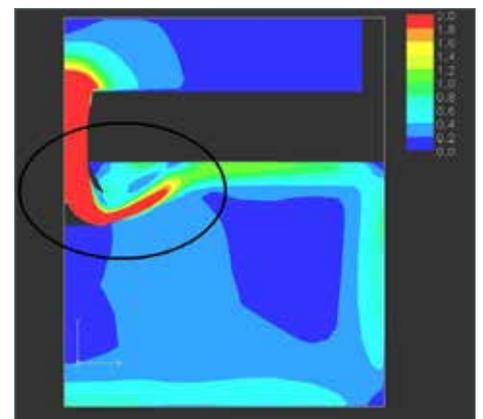
## May be adapted to all common building types

DA 50 air supply unit is a flexible construction that is composed of several separate components.

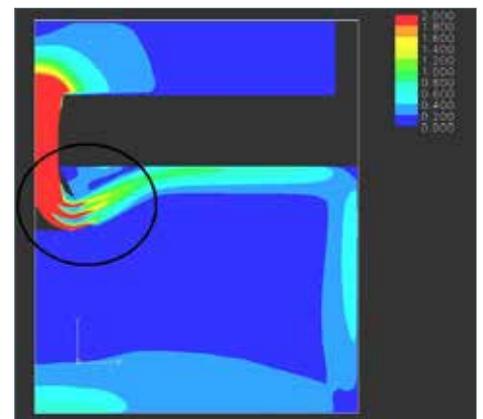
The unit has been developed with a complete duct series, ensuring that the unit may be mounted in all kinds of livestock houses.

## DA 40 for equal pressure systems

In houses with equal pressure ventilation, SKOV's DA 40 roof inlet is used, which by means of adjustable nozzles ensures an even distribution of air in the pig house.



*1 air jet - high air velocity at the intake as well as in the occupied zone*



*2 or more air jets - high air velocity at the intake as well as in the occupied zone*



*DA 50 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 space-saving 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 with an opening angle at maximum opening of only 37 cm. The inlet therefore takes up minimal space compared to other air inlets for tunnel systems and will not interfere with the equipment in the pig house.

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**

As an alternative to the DA 17K tunnel inlet, a Rack & Pinion tunnel opening may be used.

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 mounted directly in the wall of the livestock house with a cooling pad.

## **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 the 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.*

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