



## HEATING SYSTEM



### **SKIOLD HEATING SYSTEM COMPLETE HEATING SYSTEMS FOR LIVESTOCK OPERATIONS...**

Water based heating systems for high efficiency and lowest possible energy costs!

High-grade materials for satisfactory long-term behaviour!

Tailor made solution for each single farm!

Calculated carefully by highly skilled SKIOLD technicians!

An integrated part of your SKIOLD climate package!



## SKIOLD Heating System Floor- & Room Heating

*"SKIOLD HVC – Heating, Ventilation and Cooling put YOU in charge of the indoor climate in your livestock production facilities!"*

*- Consult SKIOLD in the early planning stage of your new production site, or let us have a look at your existing buildings to give you the best advice regarding heating, ventilation and cooling.*

*- Bad air quality during the cold season always originates from too little ventilation and/or too little heating in the barns.*

*"All SKIOLD heat installations are carefully balanced to correspond to your ventilation system and the type and size of buildings. This will minimize installation and energy costs, but most important of all: You will get full benefit of your investment because IT WILL WORK LIKE INTENDED!"*

*Having access to climatic data all over the world SKIOLD is capable of designing Heating, Ventilation and Cooling systems to any farm in the world*

### SKIOLD Floor Heating

Heated floor in farrow and weaner sections will keep the pigs warm and dry and show them how to use the pit properly, say where to sleep and where to be active.

A small pig has got a relatively bigger surface compared to its bodyweight than a big pig. This means that it loses relatively more heat to the surroundings. The more energy a pig needs to maintain its body temperature, the less it has got available to grow and fight stress or disease.

The piglets or weaners shall never keep the concrete floor warm – the floor shall keep the little pigs warm.

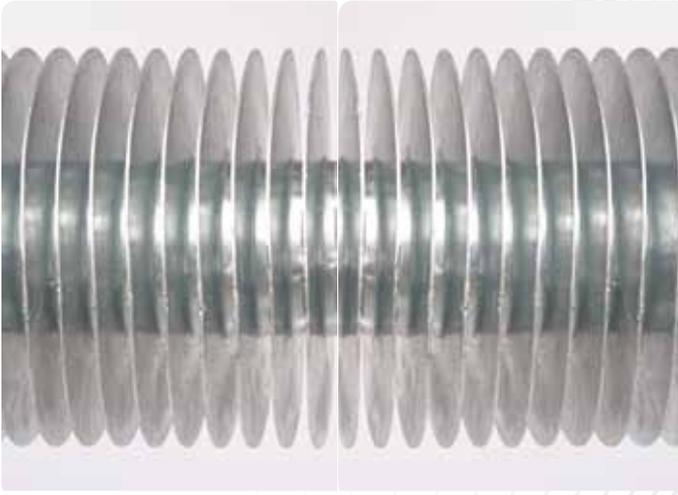
A heated floor reduces the need for straw.

### SKIOLD Room Heating

During winter it can be impossible to run the ventilation system low enough to keep the temperature up without bad effects on the air quality. Typically the air will be dense and humid and very unpleasant to staff and animals.

By installing room heat it is possible to shift enough air in the section to maintain good air quality and still keep the indoor temperature on the set point.

Furthermore the hot air from the fin tubes will lift the cold air from the intakes and "carry it". This effect prevents draft.



## SKIOLD Fin Tubes for room heating systems in livestock operations

1 inch (DN25/33,7mm) and 1½ inch (DN40/48,3mm)

2 and 3 meter elements

145 fins /m

Optimeret design for stort overfladeareal og høj varmeydelse

Hot dip galvanized surface for satisfactory long-term behaviour

High efficiency means minimized installation requirements

Pressure class: PN 10



## SKIOLD FHS – Floor Heating Shunt

Floor heat blending loop

2 to 8 circuits per FHS

Large 0-60°C thermometers on forward and return flow

Stainless steel pipes and bracket

Brass fittings

GRUNDFOS pump

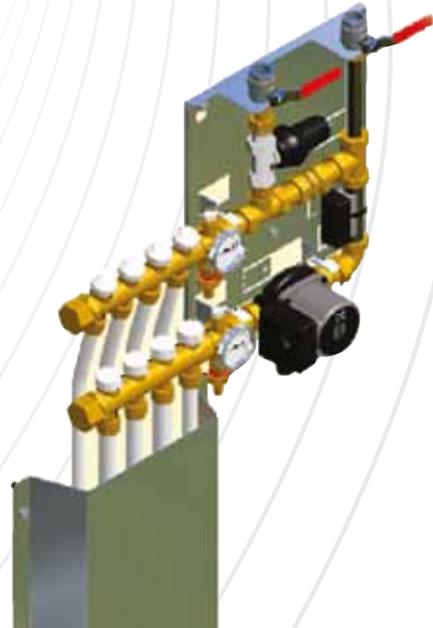
Danfoss thermostatic valve

Stainless cover for PEX tubes

Maintenance free

Unit can be mirrored

Pressure class: PN 10



## SKIOLD RHS – Radiator Heating Shunt

Standard sizes from 1,0-6,3 kvs

Motor valve 0-10 VDC/24 VAC for automatic regulation via climatic controller

Valves calibrated for Apollo Multi S for precise flow control

Large 0-120°C thermometers on supply flow, secondary forward and secondary return flow

Stainless bracket and pipes – brass fittings

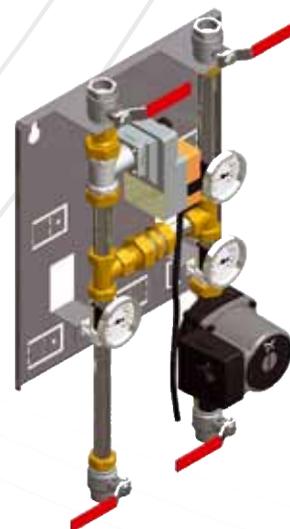
GRUNDFOS circulation pump

Light weight and standardized unit for easy installation

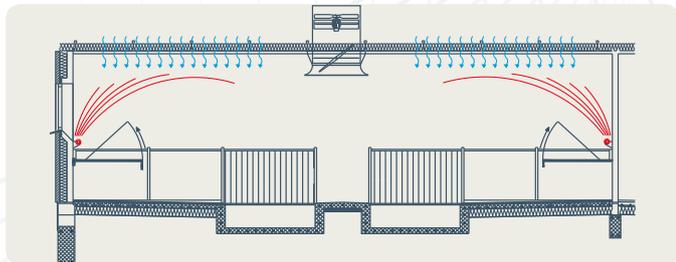
Maintenance free

Unit can be mirrored

Pressure class: PN 10



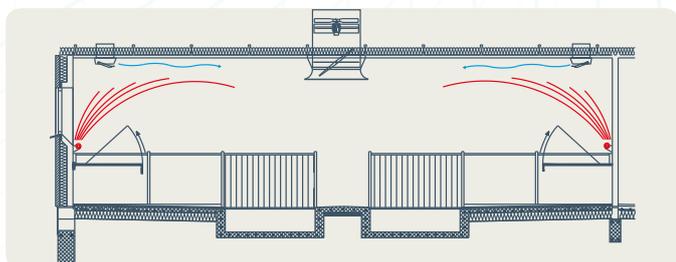
# SKIOLD Heating System Installation Examples



## SKIOLD room heating

### Installation example 1:

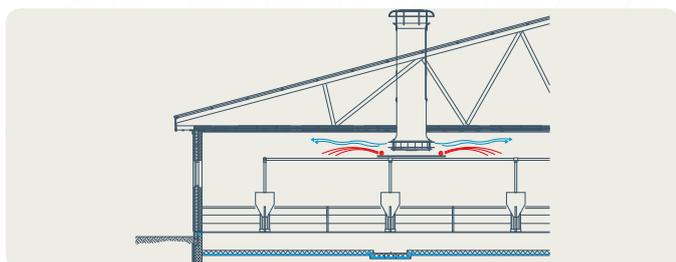
Fin tubes installed over climate covers in weaner section with diffuse ceiling.



## SKIOLD room heating

### Installation example 2:

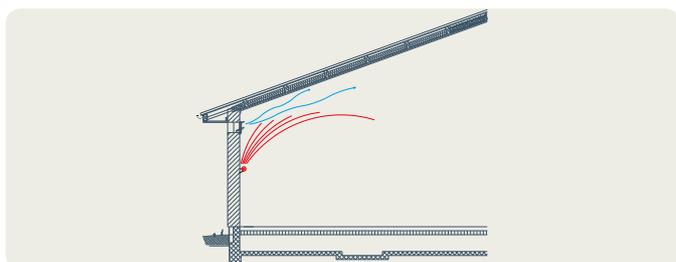
Fin tubes installed over climate covers in weaner section with ceiling inlets.



## SKIOLD room heating

### Installation example 3:

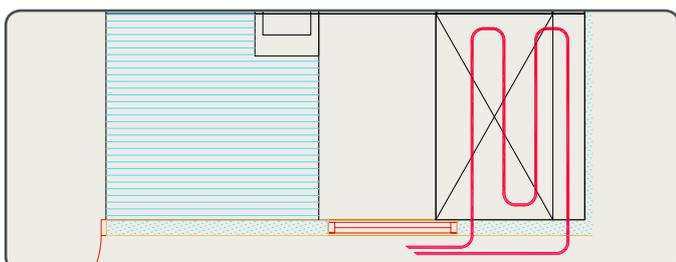
Fin tubes installed in porker section with equal pressure system.



## SKIOLD room heating

### Installation example 4:

Fin tubes installed under wall inlets. The hot air will carry the cold air jet and preheat the air before it enters the pits.



## SKIOLD floor heating

### Installation example 5:

Heat tubes in the concrete floor keep up the temperature e.g. under climate covers and keep the floor dry.