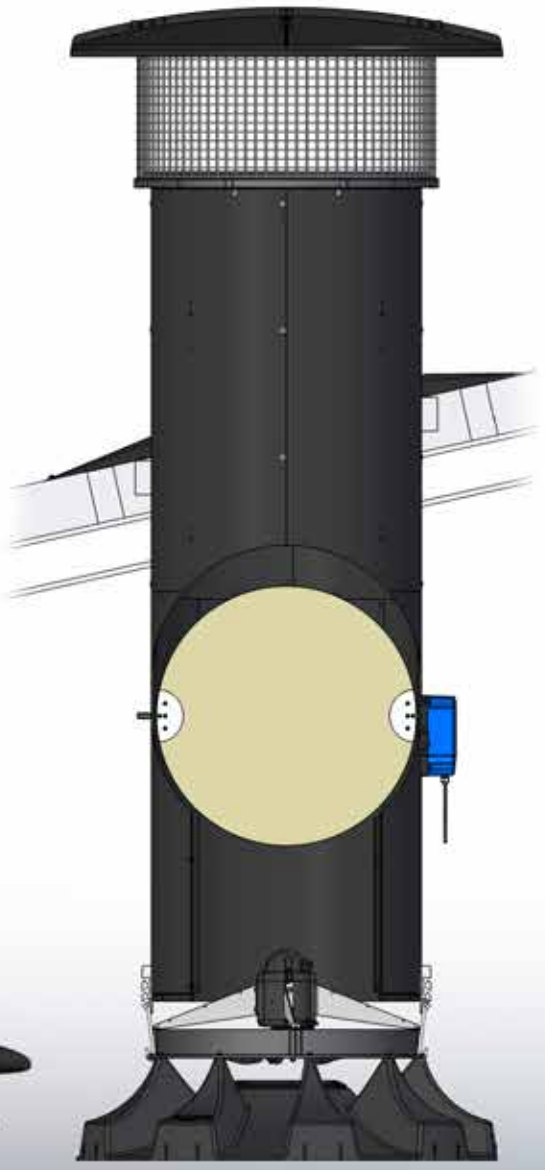
Ventilation

The idea behind our climate systems is efficiency and advanced simplicity.

DACS

INNOVATION IN VENTILATION

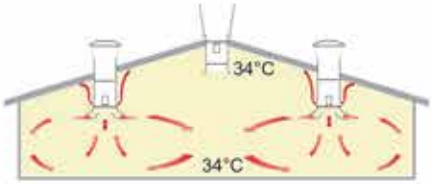
Corona Inlet Fan



Corona – an active roof mounted air inlet

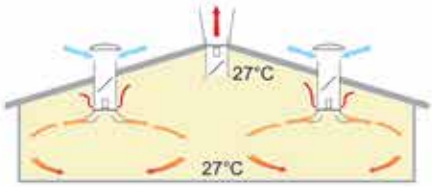
The Corona is an active fan assisted air distribution unit. The active distribution of preheated, oxygen rich air ensures a supreme climate in the house from day one to finish, no matter the outside conditions. By providing ideal airspeed and plenty of oxygen at floor level, the systems support the animals' metabolism and growth.

Tests have shown that by utilizing the warm air trapped in the roof space the Corona averagely returns 10 kW of heat for each 1 kW of electricity used and cuts the overall heat consumption by 50%.



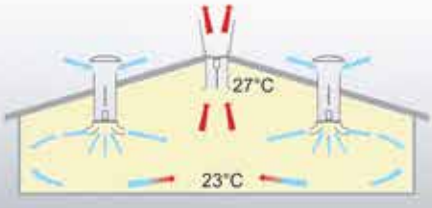
Destratificatioin

At low ventilation rates, when it is cold outside and/or when the animals are small, the Corona preheats the air by mixing small portions of cold incoming air with warm room air, before distributing the air evenly throughout the house.



Mixing

The Corona works with partially opened dampers and mixes an increasingly larger portion of incoming air with warm room air, maintaining ideal climate conditions in the house.



Full flow

When temperatures soar, the dampers go to vertical position for maximum airflow. The mixing action is suppressed by the main flow, and air is shot outwards and downwards, creating unsurpassed thermal comfort.

TECHNICAL SPECIFICATIONS	
Motor 3×230 V / 3×400 V	1.6 A / 0.95 A
Shaft output power	0.3 kW
Volume flow	12000 m³/h @ 0 Pa
Chimney diameter	760 / 740 mm
Damper	Turning
Materials	ABS / stainless steel

More about DACS ventilation on vimeo

Exhaust Fan HE740

Market-leading roof mounted exhaust fan

The HE740 is the most efficient roof mounted exhaust fan on the market. The advanced aerodynamics ensure high air exchange rates at very low energy consumption.

Trouble-free performance

The advanced chimney design with its expanded core ABS provides good insulation values and serves as a sturdy mounting base which does not flex or expand when exposed to extreme temperatures. The totally corrosion-free unit provides years of trouble-free, efficient operation.

30% lower energy consumption

In a direct comparison against leading suppliers, the HE740 exhaust unit offers at least 30% lower energy consumption at equivalent flow rates.

Butterfly damper

The HE740 exhaust with butterfly damper completely seals off from rain, birds, insects, rodents and light when not in operation. This unit is for on/off control.

Turning baffle

The HE740 with turning baffle is for speed control (0–10 Volt) via a frequency inverter, or via on/off signal.

TECHNICAL SPECIFICATIONS	
Motor 3×230 V / 3×400 V	1.6 A / 0.95 A
Shaft output power	0.3 kW
Materials	ABS / stainless steel

HE740 – 50 Hz Operation

Pressure (Pa)	Flow (m³/h)	RPM	Power (W)	W/1 000 m³/h
0	17 471	942	445	25.5
–10	16 718	942	449	26.9
–20	15 953	942	461	28.9
–30	14 872	942	477	32.0
–40	13 592	942	488	35.9
–50	12 558	942	487	38.8

HE740 – 60 Hz Operation

Pressure "WC	cfm	RPM	Power (W)	cfm/Watt
0	11 052	1 160	480	23.1
0.04	10 458	1 160	495	21.1
0.08	9 758	1 160	507	19.3
0.12	8 958	1 160	519	17.3
0.16	8 111	1 160	531	15.3
0.20	7 035	1 160	547	12.9

MagFan1

MagFan1 has revolutionized the market for ON/OFF fans by setting new standards in terms of efficiency, capacity and pressure performance. The MagFan1 is identical to the existing MagFans except it is an on/off fan. It is still a direct drive fan, so no belts and pulleys – hence no maintenance.

Technological advantages

Our technological advantages stem from the perfectly shaped body of the MagFan where the air passing through the unit meets a minimum of resistance. The proof is that the MagFan1 outperforms all other fans of similar size.

MagFan1 stands out

With 22.2 cfm/Watt MagFan1 has one of the highest Energy Efficiency Ratings of all top 1% on/off fans tested at Bess Lab. It has the best Air Flow Ratio (0.855) of all the top 1% fans. Throughout the pressure range the MagFan1 delivers a good 35% higher capacity than the best of the rest. MagFan1 simply outperforms all the other on/off fans in terms of raw performance.

MagFan1 in short:

- **Capacity up to 69 500 m³/h (40 900 cfm)**
- **Pressure capability up to −100 Pascal (0.40”)**
- **Runs voltages from 380 VAC to 440 VAC 50 Hz**
- **Asynchronous 3-phase motor 1.8 kW @ 720 rpm**

MagFan3 takes you further for less

MagFan3 offers high capacity, high pressure capability and extreme efficiency. Wherever energy is a limited resource and/or high capacity, high flow rates and high pressures are needed, MagFan3 is the answer.

... and returns your investment

The combination of high-quality materials, extreme efficiency, unrivalled performance, and simplified installation results in a very attractive Return on Investment (ROI) of maximum two years. In a direct comparison against similar products, MagFan3 offers up to 80% lower energy consumption at equivalent flow rates.

Variable Frequency Drive (VFD)

Via the dedicated VFD (MagDrive) the MagFan3 starts slowly and quietly and accelerates to the requested speed. With its precise airflow control, MagFan3 can be used even during brooding. As the need for more air increases, the fan simply accelerates smoothly and effortlessly, always matching the airflow and pressure requirements.

MagFan3 in short:

- **Capacity up to 79 700 m³/h (46 900 cfm)**
- **Pressure capability up to 75 Pa (0.30” WC)**
- **Runs on any voltage from 85 VAC to 265 VAC**
- **3-phase motor 0.3 – 2.5 kW @ 160 – 900 rpm**

MagFan5 takes you even further

The combination of unprecedented capacity, extreme pressure capability and very high efficiency makes the MagFan5 attractive wherever energy is a limited resource and/or high capacity, high flow rates and high pressures are needed.

Unrivalled performance

The high-quality materials, the unrivalled performance and simplified installation result in a very attractive Return On Investment (ROI) of maximum two years. In a direct comparison against similar products, MagFan5 offers up to 80% lower energy consumption at equivalent flow rates.

Wide duty point

MagFan5 can be used even at very low ventilation rates. As the need for more air increases, the MagDrive simply accelerates the MagFan5, always matching the airflow and pressure requirements. MagFan5 has an unrivalled, wide duty point, ranging from neutral to −150 Pa (0.60” WC). Even at high air speeds, the fan operates at low loads and has an abundance of spare capacity.

MagFan5 in short:

- **Capacity up to 77 200 m³/h (45 400 cfm)**
- **Pressure capability up to 137 Pa (0.55” WC)**
- **Runs on any voltage from 85 VAC to 265 VAC**
- **3-phase motor 0.3 – 2.5 kW @ 160 – 900 rpm**

MagFan Mini
50 and 60 Hz Operation

MagFan Mini is a downsized version of the MagFan but has the same quality characteristics, meaning it is aerodynamic optimized and highly energy efficient. Also, it is easy to assemble, install and operate.

With a diameter of 740 mm (30”) the capacity is significantly higher than that of other wall-mount fans with similar size fan motor. The power consumption of the MagFan Mini is also very low when compared to other similar size fans.

We offer the MagFan Mini for both 50 Hz and 60 Hz operation so please check the relevant data on capacity and consumption for both applications further below.

MagFan Mini is a downsized MagFan and incorporates all the MagFan Trademarks:

- **Industry leading energy efficiency**
- **Direct drive**
- **Maintenance-free**

Speed controlling

MagFan Mini is equipped with a 0.3 kW (ULc certified) high efficiency motor designed for speed controlling. With the optional MagDrive Variable Frequency Drive (VFD), variable speed mode further reduces power consumption and allows for a much more uniform and precise airflow. The fan can also be operated on/off.

MagDoor

The MagFan Mini can be installed with a MagDoor. The MagDoor creates an air-tight, insulated seal not found on any other shutter or damper on the market. The MagDoor is motorized and operates on a simple on/off signal.

MagFan Mini – 50 Hz Operation				
Pressure (Pa)	Flow (m³/h)	RPM	Power (W)	W/1 000 m³/h
0	17 471	942	445	25.5
–10	16 718	942	449	26.9
–20	15 953	942	461	28.9
–30	14 872	942	477	32.0
–40	13 592	942	488	35.9
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MagFan Mini – 60 Hz Operation				
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0.20	7 035	1 160	547	12.9

TECHNICAL SPECIFICATIONS	
Motor 3×230 V / 3×400 V	1.6 A / 0.95 A
Shaft output power	0.3 kW
Materials	PP / stainless steel

MagDoor

The only loss-free damper system

The MagDoor from DACS is a fast-operating roller door that completely seals off the MagFans when not in operation. The MagDoor with its insulated segments seals tightly even against high static pressures which ensures that the fan end of the house stays dry and warm when fans are not in operation.

Built from aluminium and high-grade polymer plastics, the construction and functionality of the MagDoor system provide years of trouble-free operation.

To further improve the thermal insulation for the MagDoor/MagFan combination installed in colder climates we offer a fan cone cover.

We offer the MagDoor system for MagFan and MagFan Mini and actually any type of wall mount fan can make use of it and greatly benefit from the completely unrestricted airflow and unsurpassed efficiency the MagDoor offers.

The MagDoor is motorized and operates on a simple on/off signal.

MagDoor in short:

- **Tubular motor design**
- **Integrated limit switches**
- **Fully enclosed motor**
- **230 VAC 50/60 Hz operation**
- **Opens and closes in 20 seconds**
- **Manual emergency opening**
- **Can be power-washed**

HEAT60 Warm Water Radiator

The warm water radiator from DACS produces plenty of dry, warm air that allows for better climate control in poultry houses.

The HEAT60 warm water radiator from DACS provides warm and dry air that allows for efficient heating and dehumidification in poultry houses. Each HEAT60 unit is equipped with a 60 kW radiator and a 0.3 kW blower. The open sides allow for suction of 8000 m^3 air per hour over the radiator.

The low-pressure water flow inside the heating element means that only a small circulation pump is needed for the entire installation. This adds to the very low energy consumption of the entire heating system. The performance on the radiator is stated at a room temperature of 30 °C (86 °F) and an average temperature in the radiator of 80 °C (176 °F). The open structure of the radiator allows for a fast and thorough cleaning.

Advantages:

- **Total elimination of CO_2 emission compared to open flame gas heaters**
- **20% humidity reduction compared to open gas heaters**
- **Significant improvement of FCR due to improved in-house air quality**
- **Significantly improved litter control due to better in-house climate**

Closed – unit ready for operation

Open – unit ready for cleaning

TECHNICAL SPECIFICATIONS

Heat capacity: 60 kW at −10 Pa and 30 °C ambient, calculated at nominal fluid flow

T- ambient °C	30	25	20	15	10	5	0
P (kW)	60	66	72	78	84	90	96

Pressure loss through unit:	0.2 Bar at 50 ltr/min through unit
Air exchange capacity:	8000 m^3/h at −10 Pa
Fluid supply requirement:	Nominal: 50 l/min per unit, 80 °C at inlet. Fluid content 14 ltr. Long Life Antifreeze suitable for aluminium must be added (25–60% concentration depending on climate conditions; consult installer)
Fluid temperature drop:	Approximately 20 °C at nominal flow and 30 °C ambient air
Fan motor:	3 × 400 VAC 6-pole (950 RPM) 0.3 kW IP55 Insulation Class F

Heat Exchanger AddAir

AddAir is a versatile and highly efficient heat exchanger, combining the simplicity of traditional heating systems with the efficient humidity control of heat exchangers – but at a fraction of the initial cost. Due to its supreme dehumidification capability AddAir quite simply is a game changer for the entire poultry industry.

Advantages:

- **Better distribution of the air in the house**
- **Better litter condition**
- **Better integration with ventilation**
- **Significantly lower power consumption**
- **Significant saving in heating costs**
- **No cleaning and maintenance during production**
- **Open construction – easy to clean**
- **Much lower initial costs and running costs**

System description

The AddAir unit is a water carried heat exchanger and connects to a conventional boiler.

Roller door closed – suction from inside

Roller door open – suction from outside

When the roller door in the unit is closed, the unit serves as a traditional heater, recirculating room air over the heater and distributing it evenly throughout the building.

When the roller door is open, the unit serves as a heat exchanger and provides superior humidity control and ample supplies of preheated fresh air. The air entering the building passes through the heater and is warm and extremely dry when entering the house. This warm and dry air will absorb moisture quickly and efficiently. The fact that it is warm air leaving the AddAir unit also ensures against draft and condensation in the house.

TECHNICAL SPECIFICATIONS

Heat capacity:	60 kW at −10 Pa and 30 °C ambient, calculated at nominal fluid flow

T- ambient °C	30	25	20	15	10	5	0
P (kW)	60	66	72	78	84	90	96

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ACS6 /ACSnet is a climate and production controller and management system built into one powerful, highly integrated and user-friendly system

The ACS6/ACSnet system is a highly user-friendly system and with its familiar windows based interface and straight forward use of language it is a very intuitive system to understand and operate.

Climate and production control

The climate control part of the ACS6 offers accurate control of the in-house climate and the flexibility of the system allows the farmer to set and operate any type of ventilation system available on the market. The production control part of the ACS6 solution measures, counts, and monitors all aspects of the production in any type of poultry production facility and ensures unsurpassed access and control of all parameters linked to the system.

Safety and traceability

The ACSnet can be accessed via any platform (PC, tablet, or cell phone) connected. With personal passwords and five different user levels (from caretaker to top technical managers) a high degree of safety and traceability can be achieved.

Large-scale operations

The ACS6/ACSnet system is an ideal platform for large-scale operations because all data can be transferred to any type of ERP management system for further analysis.

You just need to run the cables

We also integrate our ACS6/ACSnet system into our in-house build electrical panels. All internal wiring and testing have been done here at DACS, so you just need to run the cables from ventilation, heaters, sensors etc. and connect according to our documentation. This greatly simplifies the installation work, increases the level of electrical safety and equipment protection.

ACSnet

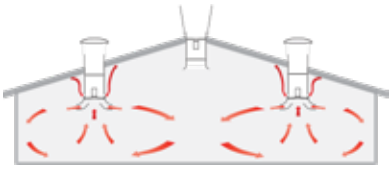
The ACSnet solution in short:

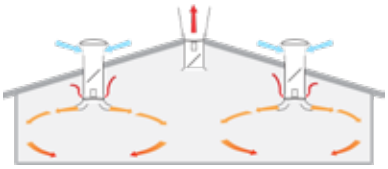
- **ACSnet is a tool for daily management**
- **ACSnet is the perfect tool for a performance and benchmarking analysis**
- **All buildings are connected to ACSnet server via ACS6 controllers**
- **Advanced feed management: water/feed ratio, FCR, EPEF**
- **Integration of production data to ERP**
- **Free software update for ACS6 controllers**
- **Free software license for ACSnet**
- **Free client license for ACSnet**
- **Free database license**
- **On-line training and support via Internet**

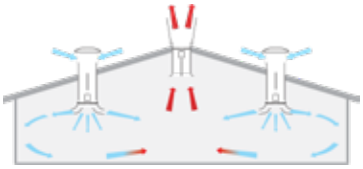
ActiveBalance

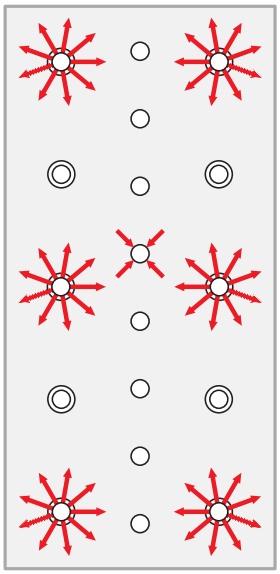
The ActiveBalance system is particularly suitable for the cold and temperate climate zones. A high degree of controlled air distribution is needed in these regions because the difference between outside and inside temperatures can be significant.

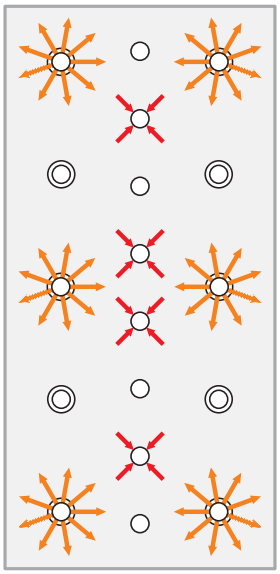
These houses are equipped with Corona inlets and HE740 exhaust units.

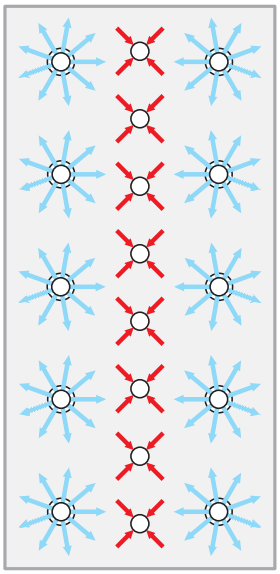










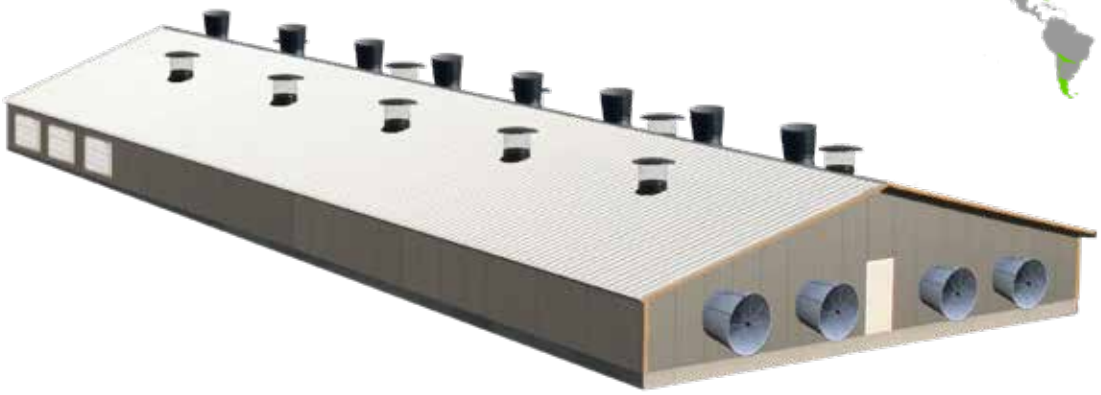


In brooding only a few Corona inlets and a few HE740 exhausts will be in operation to create a minor air exchange and a flow of warm air in the house.

Later in the production, as higher air exchange is needed more air enters through the Corona inlets and more exhausts are in operation.

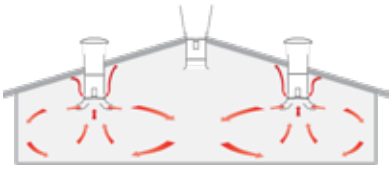
In the warm period with full grown animals all Corona inlets and all HE740 exhausts will be in operation to create maximum air exchange and air speed.

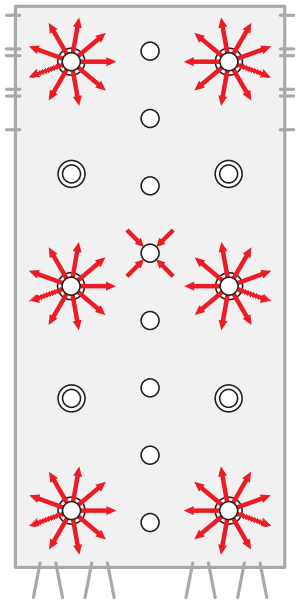
ActiveBalancePlus



The ActiveBalancePlus system is designed for the warmer parts of the temperate climate zones and the cooler subtropical climates.

These houses are equipped with Corona inlets, HE740 exhaust units, shutters and MagFans.





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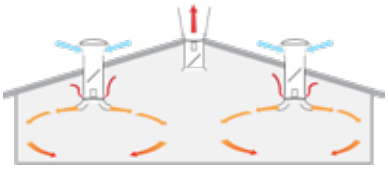

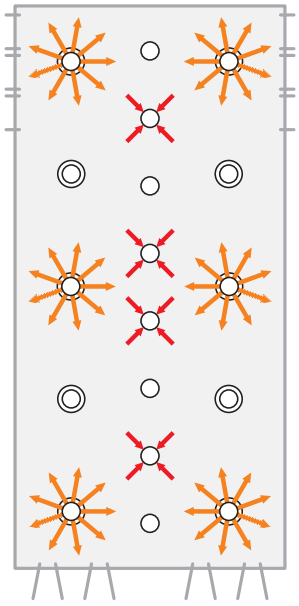

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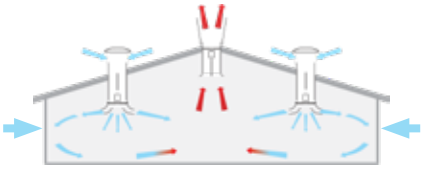
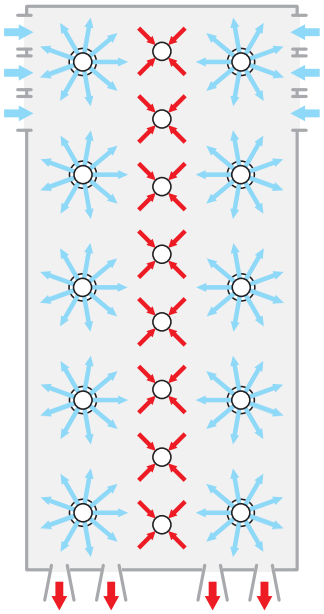


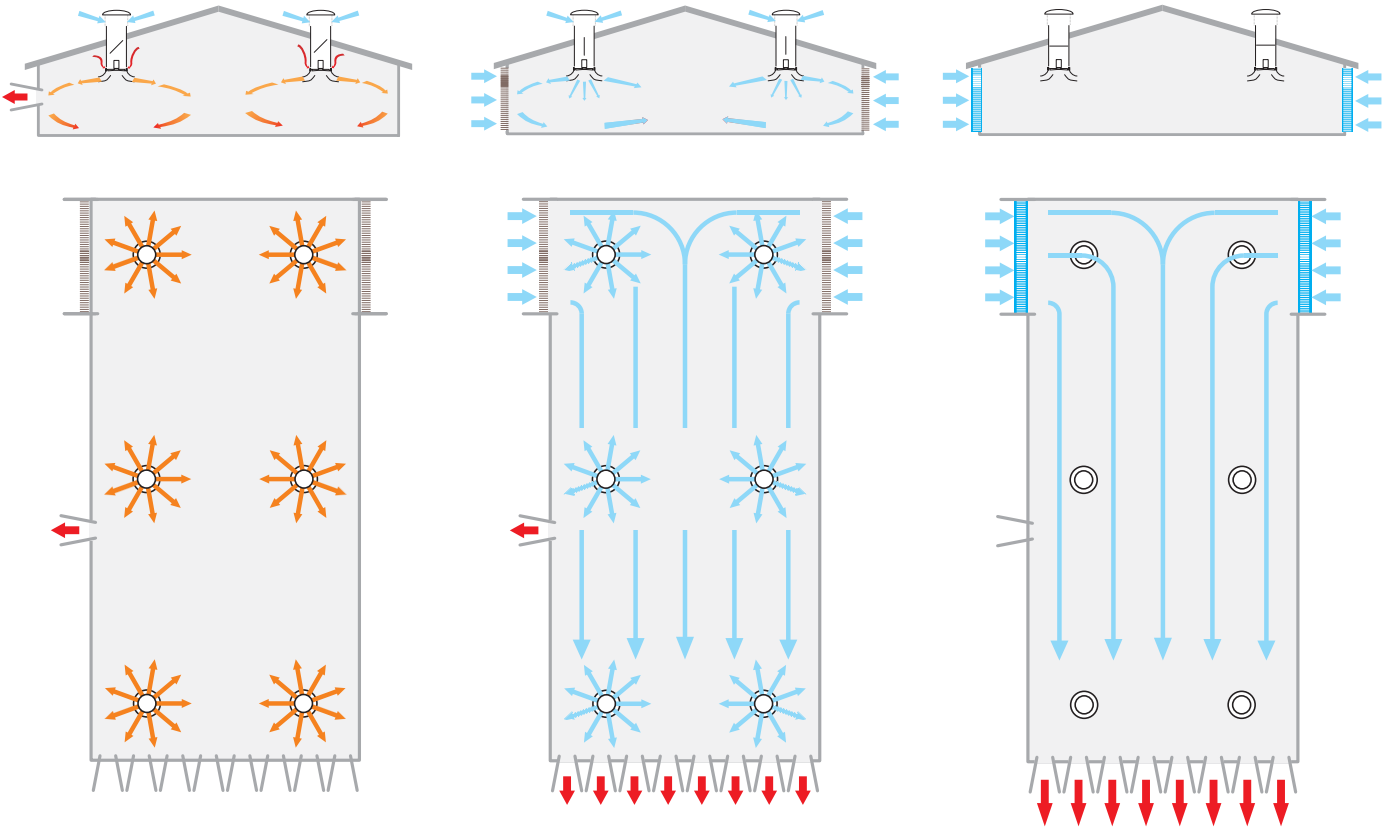


In the warm period with full grown animals all Corona inlets and all HE740 exhausts, in conjunction with shutters and MagFans, will be in operation to create maximum air exchange rates and air speed.

ActiveProgressiveTunnel

The ActiveProgressiveTunnel system is designed for the warmer parts of the subtropical zones and into the cooler tropical climates.

These houses are equipped with Corona inlets, cooling system, tunnel doors and MagFans.



In brooding and during cooler periods all Corona inlets will be in operation to create a constant flow of air and a precise air exchange.

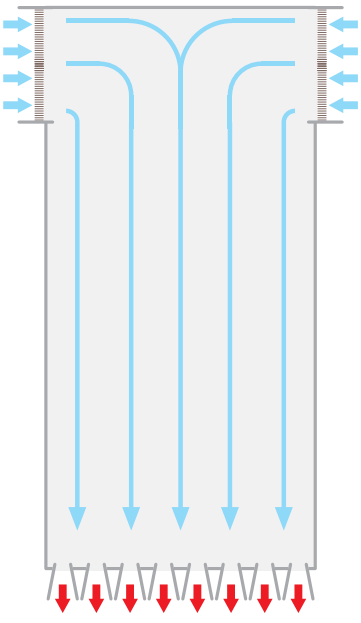
The MagFans gradually accelerate and air enters partly through tunnel doors while the Coronas stay in operation.

MagFans create high air speed and air exchange in tunnel mode. Corona inlets shut down. Cooling is active.

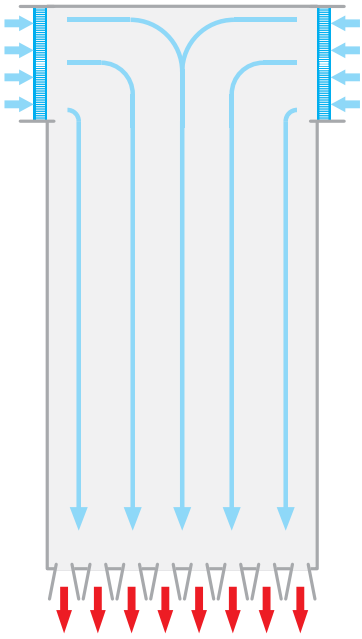
ProgressiveTunnel

The ProgressiveTunnel system is ideal for the warm and humid tropical climates. Tunnel doors and cooling systems work in conjunction with the MagFans to provide cooling.

The system operates at a fraction of the operating expenses normally associated with tunnel ventilation.



In brooding, MagFans will operate at low speed to create uniform air exchange and airspeed. The MagFans adjust their running speed very precisely, eliminating the hassling, noisy and inefficient stage control.



During hot spells, MagFans accelerate to create high efficiency cooling. Cooling is active. Very high air exchange and superior energy efficiency.

Innovative solutions for livestock production

DACS is a family-owned company with more than 30 years experience in developing, producing and servicing ventilation and control systems for livestock production.

We have used our comprehensive knowledge on both livestock production and ventilation in the development of among others our award-winning wall fan, MagFan.

Our ventilation system is simply the most energy efficient system you can get on the market.

We run tests in our own wind tunnel, and we develop our products in close cooperation with farmers and the best researchers in the field.

Our overall focus is on optimum animal welfare and on maximum energy efficiency.

DACS bring you:

- **Energy efficient ventilation systems**
- **Total production and climate control**
- **Improved animal welfare**

DACS a/s on Vimeo

DACS

INNOVATION IN VENTILATION

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