# Indoor climate systems Hoval from the Alps

2022 | Decentralised | Flexible | Efficient



# Ready for the future with Hoval by your side.

With over 75 years' experience, Hoval is one of the leading international companies for indoor climate systems. For our customers, we develop modern, decentralised heating, cooling and ventilation solutions for large halls found in a diverse range of applications.

From workshops, production halls and logistics centres to aircraft hangars, shopping centres and swimming pools, our experts can design indoor climate systems customised to your individual requirements.

And the best part: the flexibility of our systems means they can easily be adapted to meet your changing needs in the future, giving you excellent long-term results. The perfect climate and pleasant, performance-enhancing conditions for both work and well-being in halls for industrial, commercial and leisure applications. The new generation of decentralised indoor climate systems from Hoval makes it all possible.

The modular ventilation, heating and cooling systems consist of units distributed within the hall space with demand-driven control. Installed in a select number of specific locations, these systems ensure optimum climate conditions throughout the entire hall, even where different requirements are involved. The supply and extract air handling units, supply air units and recirculation units are equipped with optimised air distribution and, if desired, their own heat and cold generation system based on a heat pump.

### Hoval indoor climate systems overcome any challenge

- Decentralised and modular
- Efficient and economical
- Clean and ecological
- Competent and reliable

## A single system – the interplay of perfectly matched products

- RoofVent<sup>®</sup> supply and extract air handling units for ventilating, heating and cooling high spaces with energy recovery
- RoofVent<sup>®</sup> RG supply and extract air handling units with gas condensing boiler for heating
- TopVent<sup>®</sup> recirculation units, the cost-effective solution for heating and cooling high spaces
- TopVent<sup>®</sup> supply air units, the cost-effective solution for heating and cooling high spaces with recir-

As a specialist in universal systems for heating, cooling and ventilation, we are there for our customers at every stage of their plant's lifecycle – from planning and operation right through to modernisation. In doing so, customers are able to benefit from energyefficient solutions and first-class air quality both now and in the future. culated or mixed air

- TopVent<sup>®</sup> roof units for more space and uninterrupted operations in the hall
- TopVent<sup>®</sup> gas gas-fired recirculation and supply air units for efficient heating with recirculated or mixed air
- ProcessVent compact units for ventilating, heating and cooling production halls with highly efficient energy recovery from process air

Hoval | Responsibility for energy and environment

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# The origin story

Hoval

Always ahead of our time.



1976 Introduction of the first RoofVent® decentralised ventilation unit for handling supply and extract air in industrial halls with heat recovery.

Supply air is warmer and therefore lighter than room air. The Air-Injector gets the heat to where it is needed.



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As a system supplier, Hoval provides a 🏻 ഹൈപ്പ



2007 TopVent<sup>®</sup> gas fully decentralised with just a gas line to the unit. No equipment room.

The smart way to cool IT facilities: ServeCool. A highly efficient air-conditioning unit for indirect, free cooling of server rooms using fresh air in conjunction with adiabatic and mechanical cooling. No refrigerants are needed whatsoever.

2015 Introduction of the new generation of RoofVent® supply and extract air handling units.

 $\overbrace{0}^{6}$  Introduction of reversible heat pumps for the decentralised generation of heat and cold in conjunction with RoofVent® and TopVent® units.

2022 New product for optimum use of TopVent® SHC and TopVent® CHC supply air and recirculation units really impress with their low depth of penetration into the hall.

customised control system for its units that are designed to ventilate and heat halls. Hoval launches the sector's first control system with bus capability onto the market in the form of **DigiNet**. Expensive cable connections between the control panel and the units are now a thing of the past.

1994 Patent: Hoval TopVent<sup>®</sup> recirculation units for heating and cooling high spaces.

The **ProcessVent** compact unit is used to recover heat from process air and supply fresh air to halls with enclosed machine tools or welding systems.

2( Introduction of the new **TopTronic® C** control system, which allows the entire ventilation system to be controlled from a central location, over a network created by an intelligent bus system.

# Decentralised and modular

We design our Hoval indoor climate systems as technically autonomous and energy-independent individual solutions.

### Quick and easy to plan, our systems can be perfectly integrated into virtually any environment without the need for structural measures.

And if things change in the future, our solutions simply develop along with your plans. Whether you're converting or expanding, the modular structure of the Hoval systems allows you to adapt to new challenges with minimal expense and low investment costs.

### Maximum practicality and perfectly matched - we customise your indoor climate system to your exact specifications

- Efficient air distribution with the integrated Air-Injector - lower heat losses and no duct pressure losses
- Huge choice of units and specific designs for every application
- Completely preassembled, ready-to-connect systems for hassle-free installation, quick commissioning and easy maintenance
- Compatible, open-interface components for easy connectivity to external connections and perfect integration with the building management system



Hassle-free installation: Ready-to-connect indoor climate systems from Hoval can be integrated into virtually any environment with little effort.

# Efficient and economical

## Hoval indoor climate systems are an easy and efficient solution.

The patented Hoval Air-Injector air supply and distribution system helps reduce temperature stratification in the halls. The difference between the room temperature under the roof and the outdoor temperature remains small and only a minimal amount of energy is lost through the roof.

achieve the required and desired conditions.

100%

The Air-Injector's powerful, efficient air distribution allows the components to cover a large operating area, meaning that only a relatively low air flow rate is required. This saves not only on investment costs, but also on drive energy and running costs too. Potential energy savings for specific applications can quickly and easily be calculated using the Hoval calculation tool.



The ready-to-connect, preinstalled units with integrated measurement, control and regulation components also ensure cost-effective, quick and smooth system planning, installation and commissioning.

### Efficient indoor climate systems are good for the environment - and your finances

- Ideal air supply and distribution for minimum energy loss and maximum comfort
- Connection of recirculation units optimised according to requirements
- "Air-Quality" operating mode for ventilation according to requirements
- Economical night cooling with temporarily adapted reduced air volume
- 24/7 cooling and overheating protection
- Hoval energy recovery offering superior perfor-



The Air-Injector distributes the warm heating air close to the floor, without creating any draughts.



**Conventional air distributor** 

**Hoval Air-Injector** 

The Air-Injector uses the adjustable blades to distribute the cool air out of the ventilation unit horizontally.

mance and even higher energy efficiency

Save energy and guarantee a high level of comfort at the same time - both are possible with the Hoval **Air-Injector** 



## **Clean and ecological**

Hoval indoor climate systems create a comfortable climate and always ensure fresh air.

By guiding the air streams separately in the plate heat exchanger, dirt and odours from the extract air are diverted directly outside, preventing contamination of the supply air.

The individual indoor climate system units are installed on the ceiling or in the roof, distributed throughout the interior. Supply and extract air ducts are not required and there are no contaminated, difficult-to-clean pipes. Duct-free ventilation is therefore able to ensure maximum hygiene and comfort.

## Fresh air at all times – a plus for the environment and your health

- Renewable energy sources for heating and cooling
- Highly efficient energy recovery
- Fully separate air streams in energy recovery
- Clean supply air at all times, as difficult-to-clean air ducts are not required



## **Competent and reliable**

Right from the planning stage, our specialists get to grips with your system's unique requirements profile.

Drawing on their expertise and years of experience, they bring together the best possible units and components from across the Hoval product ranges to create your customised indoor climate system. Energy-efficient and cost effective, easy to operate, environmentally friendly, easy to service and good for your staff.

- Reliable, durable operation and hassle-free maintenance during operating times due to units that can be deactivated individually
- Independent unit response to alarm messages with alarm notification via e-mail
- Local contact for guaranteed close cooperation and immediate assistance at all times
- One contact person for the entire system



## You can rely on Hoval – over the entire lifecycle of our products

- Ready-to-connect systems with predefined hydraulic and electric connection points for hassle-free engineering
- Compact and simple function units with easy, clearly defined operating modes for smooth integration in any building
- Patented control algorithms with our specialists' expertise for energy-efficient operation
- Safety guarantee with CE certification

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## **RoofVent®** supply and extract air handling units Ventilation, heating and cooling of high spaces with energy recovery.

There is more than 45 years of climate technology experience in the new RoofVent<sup>®</sup> generation. This experience has allowed us to see what an environmentally compatible and easy-to-use indoor climate system looks like.

The units in the RoofVent<sup>®</sup> product range control the supply of fresh air and the removal of extract air through the roof – all while guaranteeing maximum energy efficiency. This economical and ecological indoor climate solution is perfect for use in combination with heat pumps.

# RoofVent<sup>®</sup> supply and extract air handling units – it doesn't get any more efficient than this

• Enormous flexibility and demand-specific adaptations through different product variants with optional features

- Heat recovery efficiency of up to 86% with the Hoval high-performance plate heat exchanger
- Suitable for combination with reversible heat pumps with a heating and cooling capacity of 30 kilowatts – can be expanded to 60 kilowatts
- Reduced investment costs, as an equipment room and water supply network are not required
- Easily extendable to include additional units
- Connection point for all electrics on the below-roof unit – the electrical supply for the roof unit is integrated and tested at the factory
- Hoval planning tool HK-Select with all technical data for the quick and easy design of RoofVent<sup>®</sup> units
- Efficient air distribution with the integrated Air-Injector – lower heat losses and no duct pressure losses



From large halls and high spaces to high-bay warehouses and supermarkets, the extensive model range in the TopVent<sup>®</sup> supply air and recirculation unit series caters to even the most diverse requirements and individual comfort expectations. The combination of decentralised and central heat and cold generation and the decentralised ventilation unit guarantees maximum sustainability in both the medium and long term.

Recirculation and supply air units in different output levels guarantee efficient air distribution via the patented Air-Injector vortex air distributor. Depending on the difference in temperature between the hall air and the air being blown in, the Air-Injector continuously and automatically adjusts the blowing angle and ensures optimum flow stability.

- Cost-effective supplement for RoofVent<sup>®</sup> supply and extract air handling systems for temporarily higher heating and/or cooling requirements
- Air duct-free systems for easy installation and low power consumption
- Different coil types and accessories for customised solutions
- Air curtains of different sizes and designs to protect entrance areas against the cold
- Control of up to ten units with the EasyTronic EC controller
- All supply air units can easily be adapted for operation with recirculated or mixed air



## The future of indoor climate systems: cost effective, flexible and environmentally friendly

 Maximum flexibility for all types of halls and hall uses due to scalable system modules with the TopTronic<sup>®</sup> C control system (heat generation, recirculation heating, recirculation cooling and zone control)

 All supply air units are available in two sizes, each fitted with a continuously adjustable fan and heating/cooling coil in different output levels for customised solutions

- Hoval HK-Select planning tool with all technical data for the quick and easy design of the TopVent<sup>®</sup> units
- Efficient air distribution with the integrated Air-Injector – lower heat losses and no duct pressure losses

# The perfect system solution for industrial production halls

Hoval ventilation units with decentralised cold and heat generation via reversible heat pumps.

When it came time to build its new production hall, the industrial specialist PMS Elektro- und Automationstechnik opted for a Hoval system solution. A total of 14 RoofVent<sup>®</sup> and TopVent<sup>®</sup> units, each running in combination with a heat pump, ensure a pleasant indoor climate.

PMS has been providing customers at home and abroad with electrical and automation engineering solutions for around 15 years now. The company, based in the Austrian town of St. Stefan in the Lavant Valley, has grown enormously in recent years. When it was time to build its new 8500 m<sup>2</sup> production plant, PMS chose a modular indoor climate solution from Hoval. As a result, two RoofVent<sup>®</sup> and 12 TopVent<sup>®</sup> units, each running in combination with a heat pump, have been operational there since September 2019. They bring all three requirements together in a single system – heating, cooling and ventilation.

#### The facts at a glance:

Hall area:	8500 m <sup>2</sup>	
Required fresh air:	7000 m³/h	
Hall height:	6 m	
Required heat output:	420 kW	
Required cooling capacity: 420 kW		
Heat recovery:	86%	
Control zones:	5 zones	
Installed units:		
2 RoofVent® RP-6 supply and extract air handling units		
12 TopVent® TP-6 recirculation units		

## Pleasant working conditions for employees

Around 120 employees work in the new production hall, where a pleasant working atmosphere was the top priority for the PMS management: "When companies talk about creating a good workplace atmosphere, many only think of employees in the office. It is important to us that the entire workforce feels comfortable and benefits from the ideal room conditions in which to perform their work", says Managing Director Alfred Krobath. With the Hoval indoor climate system, temperatures in the hall can be adjusted easily, individually and quickly by zone.



In building its new production hall, PMS intensively examined various indoor climate solutions and decided on the decentralised solution from Hoval. The modular system impressed across the board, since it is easy to plan and quick to install.

### Decision to opt for the modular system

Underfloor heating and cooling were originally planned for the new hall. In the course of the project, however, PMS again intensively examined various indoor climate solutions and finally decided on the decentralised solution from Hoval. Since the new building was already in the advanced planning stage, the company needed to act fast: "There was very little time available to engineer the indoor climate solution. But due to the simple planning and short lead time of the modular Hoval system, PMS was able to start operations with the new indoor climate concept right on time", explains Christoph Steinhäusler, Head of Product Market Management for Climate Technology at Hoval Austria.

## Sustainable operation with heat pumps

The RoofVent<sup>®</sup> and TopVent<sup>®</sup> units are each combined with 30 kW heat pumps, which automatically adjust their output to the heating or cooling requirements in the hall. PMS will soon incorporate a photovoltaic system on the roof, allowing it to run the indoor climate system on power it will produce itself. "The flexible and simple modular system from Hoval meets all our requirements", is how Krobath sums up

"It is important to us that the entire workforce feels comfortable and benefits from the ideal room conditions in which to perform their work. The flexible and simple modular system from Hoval meets all our

requirements."

Alfred Krobath Managing Director of PMS Elektro- und Automationstechnik Click or scan here to view the testimonial video



RoofVent<sup>®</sup> RP

#### **Products used**

The RoofVent<sup>®</sup> RP supply and extract air handling units and the TopVent<sup>®</sup> TP recirculation units are characterised by their completely decentralised method of energy generation. Each unit is equipped with its own reversible heat pump, which ensures maximum operational safety. This also makes it possible to heat certain zones, while simultaneously cooling others.

### RoofVent<sup>®</sup> RP

Supply and extract air handling unit with decentralised heat pump and high-capacity energy recovery for heating and cooling.

- Enormous flexibility and demand-specific adaptations through different product variants with optional features
- Heat recovery efficiency of up to 86% with the Hoval high-performance plate heat exchanger
- Reduced investment costs, as an equipment room and water supply network are not required
- Easily extendable to include additional units
- Connection point for all electrics on the below-roof unit – the electrical supply for the roof unit is integrated and tested at the factory
- Hoval HK-Select planning tool with all technical data for the quick and easy design of the RoofVent<sup>®</sup> units
- Efficient air distribution with the integrated Air-Injector – lower heat losses and no duct pressure losses

### **TopVent® TP**

Recirculation unit with decentralised heat pump for heating and cooling.

- Maximum flexibility for all types of halls and hall uses due to scalable system modules (heat generation, recirculation heating, recirculation cooling and zone control)
- Cost-effective supplement for RoofVent<sup>®</sup> ventilation systems for temporarily higher heating and cooling requirements
- Air duct-free systems for easy installation and low power consumption
- Different coil types and accessories for customised solutions





Christoph Steinhäusler, Head of Product Market Management for Climate Technology at Hoval Austria, and a Hoval customer service engineer chat with PMS Managing Director Alfred Krobath.

A Hoval customer service engineer checks the units in the indoor climate solution.

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## Hoval

# Hoval distributes air and heat in logistics halls

## A comprehensive system solution from a single source.

With around 10000 employees, the Croatian Post is one of Croatia's biggest companies. As its business is growing, it is now building a new logistics centre to cope with demand. The company is pursuing a strategic goal of achieving high energy efficiency, putting its faith in a comprehensive system solution from Hoval accordingly.

This logistics company is one of the largest in Croatia, sending out more than a million parcels every day. That means handling a total weight of more than 20 tons.

It is currently building a new logistics centre close to the capital Zagreb in response to rising demand. A system solution from Hoval will serve to heat the facility and supply it with fresh air.

### The facts at a glance:

Hall area:	32000 m <sup>2</sup>	
Required fresh air:	112 000 m³/h	
Hall height:	12 m	
Required heat output:	520 kW	
Required cooling capacity:	640 kW	
Heat recovery:	86%	
Control zones:	6 zones	
Installed units:		
14 RoofVent® RC-9 supply and extract air handling units		
15 TopVent <sup>®</sup> DKV recirculation units		
1 UltraGas® (2000) D gas condensing twin boiler		
20 UltraSol® solar collectors		
1 EnerVal (6000) buffer storage tank		
1 CombiVal E domestic water storage tank		
1 TransTherm solar transfer station		
1 TransTherm agua transfer station		

## The ventilation and heating system

The networking of the technically advanced components to create a powerful and energy-efficient complete system looks to the future in the same way as the logistics centre itself.

14 decentralised RoofVent<sup>®</sup> supply and extract air handling units and 15 TopVent<sup>®</sup> recirculation units are controlled by the TopTronic<sup>®</sup> C control platform. The latter covers six different zones in the logistics centre and is linked to the higher-level building management system over the BACnet protocol.



The Croatian Post's 32000 m<sup>2</sup> logistics centre sends parcels all over the country and is a workplace for around 1500 employees. The TopTronic® C control platform manages 14 decentralised RoofVent® and TopVent® supply and extract air handling units to heat the hall and supply it with fresh air.

## Designed specifically for halls with high ceilings

The 14 RoofVent<sup>®</sup> RC-9 supply and extract air handling units installed on the roof are designed specifically for heating and cooling halls with high ceilings. They are able to recover up to 86% of heat – saving energy while also maximising efficiency.

The TopVent<sup>®</sup> DKV recirculation units are installed underneath the ceiling. They suck in air from the room, heat or cool it and then blow it back into the room through the Air-Injector. integrates all heat generators and even absorbs the heat loss from the ventilation units. Full use is made of all sources of energy.

UltraSol<sup>®</sup> thermal solar collectors heat the domestic water and also deliver emission-free heat to heat the building. The 20 panels deliver 60–80% of the energy needed to provide DHW as well as 20–50% of the heat for additional heating. A TransTherm solar (50) transfer station transfers heat from the primary circuit for thermal energy to the secondary circuit for heat storage.

The heating system is controlled entirely via TopTronic<sup>®</sup> E software. The software obtains the weather forecasts from the Internet and coordinates operation with them. This reduces the energy consumption significantly, not least because the individual components are already working efficiently and in perfect harmony.

### Making full use of all energy

The UltraGas<sup>®</sup> (2000 D) twin boiler consists of two boilers, each with a heat output of 1000 kW. The EnerVal (6000) buffer storage tank hydraulically The major DHW requirement is covered by TransTherm aqua L (1-30) transfer stations, which heat water instantaneously, and a CombiVal E (1500) domestic water tank.



"Our products are key to enabling the logistics company to meet the objectives set in its energy efficiency strategy."

Goran Budimlija Managing Director of Hoval Croatia

# University of Greifswald relies on sustainable cooling for data centre

## Cooling that harnesses the power of nature.

Economical and environmentally friendly – the Hoval system solution delivers a convincing performance in the new data centre at the University of Greifswald. Cooling is provided exclusively by indirect free cooling and adiabatic systems. The waste heat from the computer building heats adjacent parts of the structure.

In 2021, a modern data centre covering around 1700 m<sup>2</sup> was built on the campus of the University of Greifswald in Mecklenburg-Western Pomerania. Right from the start of the project in 2012, the focus was on sustainability and maximum energy efficiency. After all, the energy consumption for cooling the IT infrastructure with a computing power of 300 kW represents a major cost factor and causes high  $CO_2$  emissions.

The facts at a glance:Data centre area:1700 m²Electrical computing power:300 kWRequired cooling capacity:180 kWInstalled units (n+1):3 ServeCool SWP air-conditioning units

"Our goal was to build an effective and environmentally friendly data centre – without refrigerants and with the possibility of using waste heat", says Christian Tambach, Head of the Department of Construction and Technology at the University of Greifswald, describing the project requirements. A sustainable and highly efficient cooling system was implemented in the computer building, which relies on indirect free fresh air cooling and adiabatic cooling. Mechanical cooling and the use of classic refrigerants are completely dispensed with in this sustainable system solution.

## Highly efficient cooling of the IT infrastructure

The data centre cooling system implemented by Hoval comprises three ServeCool compact units equipped with highly efficient twin plate heat exchangers. To keep the room temperature within an



Three ServeCool compact units from Hoval cool the data centre at the University of Greifswald.

optimal range for the IT technology, the extract air at 37°C is discharged directly at the computers. In addition, the room air is passed across the two plate heat exchangers using the recirculation principle, and cooled. The cooling energy for this is obtained from the drawn-in outside air. For free cooling, fresh air temperatures below 24°C are required. This is the case on more than 300 days a year. If the 24degree limit is exceeded, the ServeCool compact units switch on the sophisticated adiabatic system. Here, the warm process air in the unit is sprayed with water via nozzles, thus lowering the temperature by means of evaporative cooling.

"The free cooling system works perfectly. Even in the corner rooms, there is a constant temperature of 19 to 20 degrees Celsius", says a satisfied Christian Tambach about the system solution, adding: "Other plus points are the simple integration into the university's building management system and the Hoval visualisation, via which we always have an overview of everything that's going on".

## Compact, space-saving cooling solution

As is usual with such large-scale projects, the process of planning the data centre took around seven years. The decision to go with Hoval as an experienced partner in the field of data centre cooling was made during the construction phase. When designing the cooling solution, the tight structural space conditions were a particular challenge, as Stefan Kuch, Segment Manager for Data Centres at Hoval, describes:



"Our modular system as well as the compact design of the units enabled us to react flexibly to the structural conditions on site. After technical adaptation of the air ducting in the three ServeCool units, we achieved an optimum solution despite tight space conditions".



More on the Greifswald testimonial:

# Indoor climate solution from Hoval guarantees a hygienic supply of fresh air in this new production hall

## Intelligent air-conditioning with dehumidification

The Upper Austrian food and beverage manufacturer Spitz has built a new production hall for can filling. An indoor climate solution from Hoval supplies fresh air to the hall, which measures 10 metres in height. Integrated dehumidification control guarantees hygienic conditions, while a high-performance plate heat exchanger achieves a heat recovery efficiency rate of up to 86%.

S. Spitz GmbH in Attnang-Puchheim has been producing beverages and foodstuffs for over 160 years. Since October 2020, the Upper Austrian company has been operating an additional canning line. This is housed in a new 4250 m<sup>2</sup> production hall and has a rated output of 87000 cans per hour.

"During the canning process, moisture and heat are released into the air by cleaning systems or the tunnel pasteuriser, for example", says Markus Kröpfel, Head of Central Technology at Spitz, explaining the background of the project: "Our indoor climate solution needs to ensure fresh air intake in the enclosed hall, while also meeting the specific hygiene requirements for food production". Kröpfel also mentions other criteria, such as simple system maintenance and the possibility of heat recovery. That's why Spitz opted for a decentralised indoor climate solution from Hoval, consisting of six RoofVent<sup>®</sup> units for ventilation as well as three TopVent<sup>®</sup> recirculation units.

### Fresh air supply in the 10-metrehigh hall

Ensuring an adequate supply of fresh air in this 10-metre-high hall is a real challenge because the doors and skylights are closed. By taking in air from outside, the indoor climate solution from Hoval always guarantees fresh air, while also meeting all hygiene requirements. For one thing, the separate routing in the plate heat exchanger sends the extract air directly outside, preventing it from mixing with the supply air. For another, the technology does not require any hard-to-clean air ducts: "We preferred a decentralised solution because we didn't want to install any air ducts in the hall – for two reasons: firstly, this approach reduces the level of structural complexity, and secondly, it is a better option in terms of hygiene", explains Kröpfel.



An indoor climate solution from Hoval supplies fresh air in Spitz's new 10-metre-high production hall.

1	Hoval

### The facts at a glance:

Hall area:	4250 m²
Required fresh air:	24000 m³/h
Hall height:	10 m
Required heat output:	450 kW
Required cooling capacity:	440 kW
Heat recovery:	86%
Moisture to be removed:	400 kg/h
Control zones:	2 zones
Installed units:	
3 RoofVent® RHC-9 supply and extract air	
handling units	
2 TopVent <sup>®</sup> TC-9 recirculation units	



#### Up to 86% heat recovery

The solution installed at the Spitz facility not only meets the required hygiene standards in the production hall, it also ensures efficient operation through heat recovery. "The RoofVent<sup>®</sup> units are equipped with a high-performance plate heat exchanger that ensures a heat recovery efficiency rate of up to 86%", explains Christoph Steinhäusler, Head of Product Market Management for Climate Technology at Hoval. Spitz also relies on its own bio district heating network for heat generation.



"The RoofVent<sup>®</sup> units are equipped with a high-performance plate heat exchanger that ensures a heat recovery efficiency rate of up to 86%." Christoph Steinhäusler Head of Product Market Management for Climate Technology at Hoval



The energy-optimised dehumidification control system guarantees the required air quality in the Spitz production hall.



## Hygienic conditions due to dehumidification control

The indoor climate system is equipped with the options required to keep the indoor air humidity at a perfectly hygienic level. These options include, in addition to the corrosion-resistant coating and additional condensate drains, the energy-optimised dehumidification control which is integrated in the TopTronic<sup>®</sup> C control system and was developed by Hoval. "When the system is running at full capacity, it can remove up to 400 l of water from the air per hour. This enables us to achieve the required air quality in the production hall, while also keeping our energy consumption low", says Steinhäusler.

#### Connected and cooperative

All of the companies involved in the indoor climate solution project for Spitz worked side by side. The overall technical planning and engineering was overseen by Dr. Shebl & Partner Generalplaner GmbH, while the solution was implemented by Hoval's partner installation company Waser. "The system was installed perfectly, without any major effort on our part, and the Hoval customer service team adjusted it to ensure the settings were ideal", says Kröpfel, evidently satisfied with the process.

Different companies worked side by side to complete the indoor climate solution project for Spitz.



"The system was installed perfectly, without any major effort on our part, and the Hoval customer service team adjusted it to ensure the settings were ideal." Markus Kröpfel Head of Central Technology at Spitz

# New TopVent<sup>®</sup> S and TopVent<sup>®</sup> C products!

Supply air and recirculation units as a roof unit with minimal space requirements and maintenance options from the roof.

## Maximising the use of space

In warehouse, logistics and production halls and in supermarkets and DIY stores alike, it is becoming increasingly common to really utilise every last cubic meter of space. And this makes it all the more important to minimise the amount of space required for heating and ventilation technology. Not only do Hoval's decentralised ventilation units mean there is no longer any need for the ducts required by conventional, central ventilation systems, but the new TopVent® S and TopVent® C products also achieve a minimal depth of penetration through the roof opening. Crane systems or high-bay warehouses can therefore be designed to reach far below the hall ceiling, since all maintenance and service work can be conveniently performed from the roof. As such, complex jobs using lifting platforms are a thing of the past.

## Available in three designs

Both the TopVent<sup>®</sup> C recirculation units and the TopVent<sup>®</sup> S supply air units are available as heating units alone or as heating and cooling units in a 2-pipe or 4-pipe system.

### The advantages at a glance:

- Maximum flexibility for all types of halls and hall uses due to scalable system modules
- Cost-effective supplement for RoofVent<sup>®</sup> supply and extract air handling systems for temporarily higher heating and/or cooling requirements
- Air duct-free system for easy installation and low power consumption
- Different coil types and accessories for customised solutions
- Control of up to ten units with the EasyTronic EC controller
- All supply air units are available in two sizes, each fitted with a continuously adjustable fan and heating/ cooling coil in different output levels for customised solutions
- Optimised control of the needs-based fresh air content reduces the heat output and cooling capacity that has to be made available to the unit
- Maintenance work can be performed from the roof, so there are no constraints placed on the work being done in the hall
- Low space requirements in the hall, since there just needs to be enough space left for the air to be distributed

# Your contacts



## **Hoval expertise**

You can count on us.

Hoval is one of the leading international companies for heating and indoor climate solutions. Drawing on more than 75 years of experience and benefiting from a close-knit team culture, the Hoval Group delivers exciting solutions and develops technically superior products. This leadership role requires a sense of responsibility for energy and the environment, which is expressed in an intelligent combination of different heating technologies and customised indoor climate solutions. Hoval also provides personal consultations and comprehensive customer service. With around 2200 employees in 16 companies around the world, Hoval sees itself not as a conglomerate, but as a large family that thinks and acts globally. Hoval heating and indoor climate solutions are currently exported to more than 50 countries.

