CLIMA*jet*® KR

Schröter
LEADING QUALITY

HIGH-TECH MADE TO ORDER

Tyrol bacon, Kaminwurzerl (matured sausage), and other sausage specialties are some of Austria and South Tyrol's culinary delights. And HANDL TYROL has been the specialist for air-dried and smoked bacon, sausage, and meat products from Tyrol for over 100 years. The long-established family business has set extremely high standards of quality, and these apply to both the raw meat they select and the manufacturing technology they use. This is why the company uses CLIMA*jet* meat smoking systems and SMOK*jet* smoke generators from Schröter which have been customized to exactly fit their needs. These systems ensure that their products are matured to perfection.

The demands the company placed on the equipment systems from Borgholzhausen were high: The most important aspect for HANDL TYROL's management was an exact amount of weight loss during the maturing process. In order for the Kaminwurzerl to taste just right at the end of the process, it must dry out by a predefined value of more than 40%. And this must be the case regardless of where the sausages are hanging in the 25-meter-long system – whether in the middle of the two rows of trolleys or on the outside. The equipment manufacturer from East Westphalia accomplished this task through the use of a multi-duct system which supplies all chambers of the CLIMA*jet* system with conditioned drying air. After conducting extensive tests which saw Schröter's specialists and HANDL TYROL's employees working hand in hand, one thing was certain: Highly consistent maturing results and exact levels of weight loss are guaranteed. And with regard to the weight loss requirements for the company's smaller products, Schröter was able to achieve a level of accuracy with a standard deviation of under one percent. In addition, energy-saving was another important aspect: "HANDL TYROL wants to operate the equipment with an air temperature of 27 to 28 degrees. The water used to warm the air shouldn't be hotter than 40 degress Celsius, however," explains Joachim Glaser, one of Schröter's project managers, with regard to the challenging goals. "This marginal difference in temperature between the heating medium and the medium being heated is at the lowermost limit, but we fulfilled the requirements using large heat exchangers. Now the company can use the heat from their own internal heat recovery system, and as a result, cut costs."

An additional challenge was the small amount of space available for the equipment systems. "Thanks to the expert installation, we can move around the room freely and all of the system's parts can be reached easily for maintenance and repair purposes," says President Karl Christian Handl enthusiastically. He wants to ensure that downtimes are kept to an absolute minimum. In this regard, the solid workmanship of the equipment systems, which includes the use of extremely robust, high-quality materials, is a particularly important contributing factor.

Quality was also much sought after when it came to the SMOK*jet* friction smoke generator. "Since HANDL TYROL wants to generate smoke using large wooden bars and also requested a high friction speed, for the first time we used a motor that outputs about 35 percent more power than the ones we normally use," explains Joachim Glaser, and adds: "A special coating on

the friction wheel prevents premature wear and tear." Schröter got additional brownie points for its ingenious technical solutions, such as constructing the air ducts with slanted surfaces so that water (from cleaning, for example) can easily drain out. And this is just one of many details that contribute to the effective and fully-automatic cleaning of the entire system. As a result, hollow spaces and ducts are cleaned thoroughly without leaving any residue, and employee inspections afterwards are no longer necessary. Which means: During the entire production process, HANDL TYROL can rely on high-tech equipment, made in Germany.

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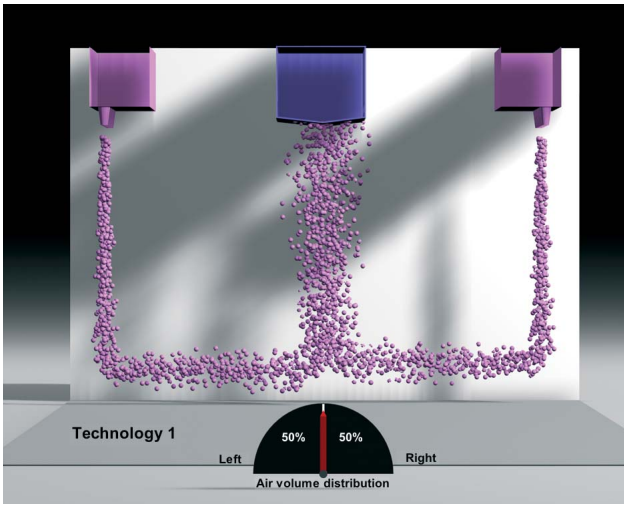
PROCESS OPTIMIZATION

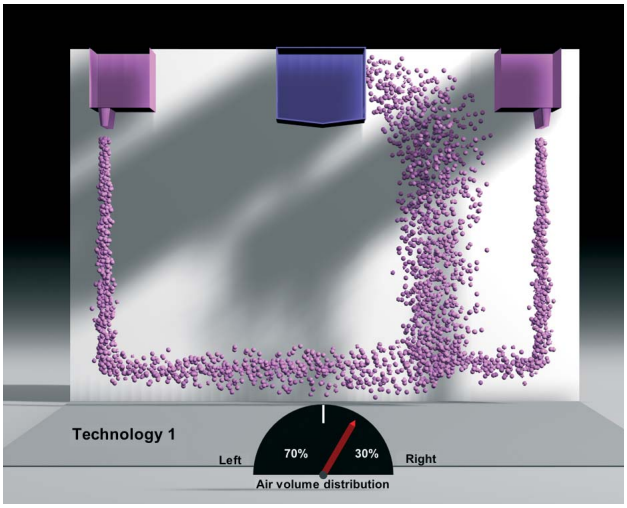
Now more than ever, manufacturers of meat and sausage products strive for a constant high level of quality regardless of the quantity produced. When it comes to maturing raw sausage, the equipment technology used plays the most decisive role. This is why Schröter is working at a fever pitch to put the current ventilation systems used for the thermal treatment of meat and sausage products through their paces and tailor them to a wide variety of processes and product characteristics.

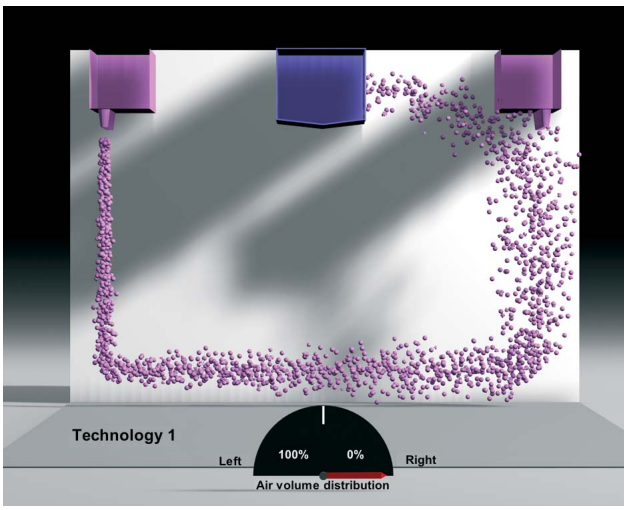
Working closely with Germany's leading sausage manufacturers and scientific institutions, in the first step Schröter had the opportunity to research the factors crucial to manufacturing products of constant quality.

With a competent team of design engineers, mechanical engineers, and meat technologists, Schröter subsequently implemented the results within the scope of its own corporate concept. And as the icing on the cake, specialized work groups also discuss their experiences in regular meetings, which ensures both that clients are provided with exactly the right advice and that their individual needs are met.

At the heart of these process optimization measures are new and more effective equipment components, product-related and energy-saving control options, different methods and speeds of routing air to uniformly mature products, as well as variable measuring point locations. With extensive methods of process visualization, such as permanent parameter documentation, batch and user verification, and batch traceability, the equipment manufacturer from East Westphalia also offers its clients the best foundation from which to easily fulfill the requirements of HACCP (Hazard Analysis Critical Control Point).







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PROCESS SEQUENCE

With the help of one or more fans, the air used in the system is introduced to the processing room through two or more air intake ducts. Outside air can also be mixed in, if so desired.

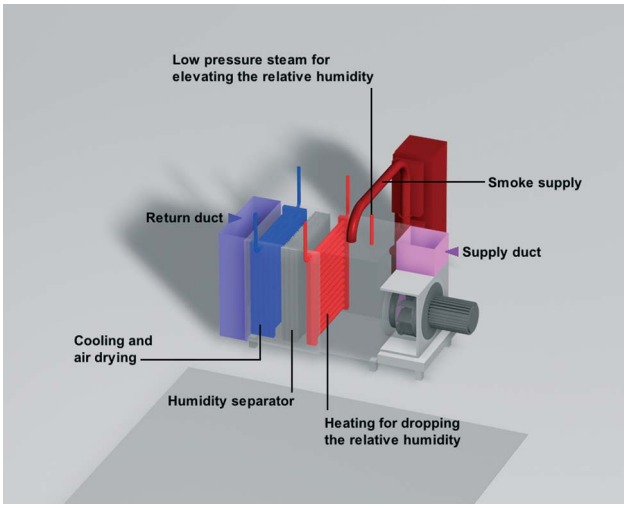
By releasing water to the ambient air, humidity is extracted from the products. This humidity condensing out on the surface of the cooler inside the air conditioning system and is removed from the airstream. This moisture is exchanged on the cold surface of the cooling unit in the air conditioning system, and is removed from the airstream. Any droplets remaining in the airstream are intercepted by the humidity separator situated downstream.

In order to bring the air cooled during moisture removal back to the processing temperature, it is reheated after passing through the humidity separator. Depending on how much water the products have released (weight loss) and the addition of outside air, the cooling (drying) system is also activated accordingly.

Depending on the type of microprocessor used and the system's design, the position of the fresh air flaps can either be preset or determined by the processor itself.

Should the supply of fresh air be controlled automatically, this must be set accordingly.

The automatic fresh air intake system continuously measures the outside temperature and uses this information to set the position of the flaps. This system makes significant energy savings possible, since the cooling and humidification system are activated only when absolutely necessary.



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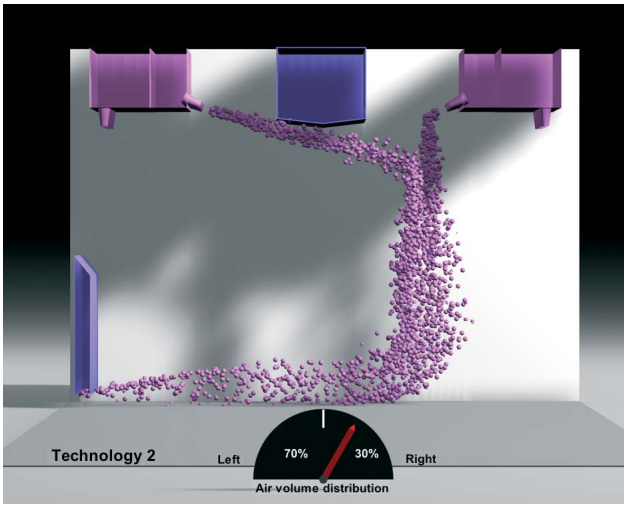
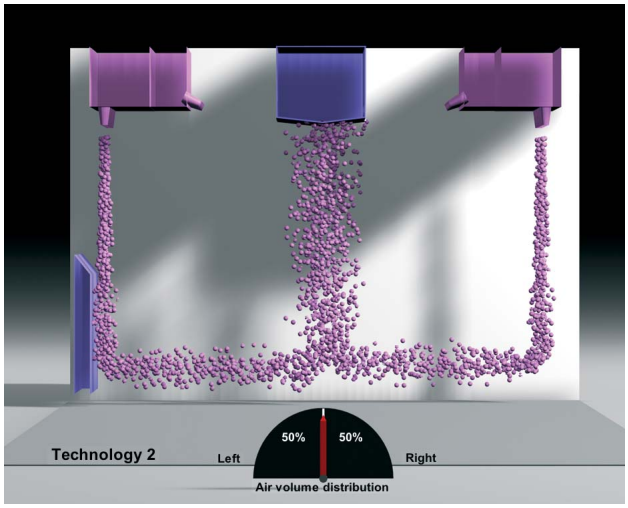
PERFECT MATURING IN A MULTI-DUCT SYSTEM

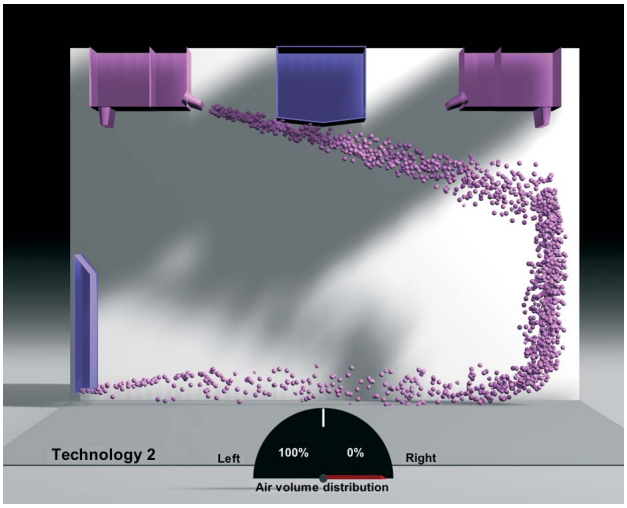
A rotating duct test system served as the basis for this new development. In connection with different return air options, the rotating duct system ensures that all critical areas of the chamber are supplied with conditioned drying air.

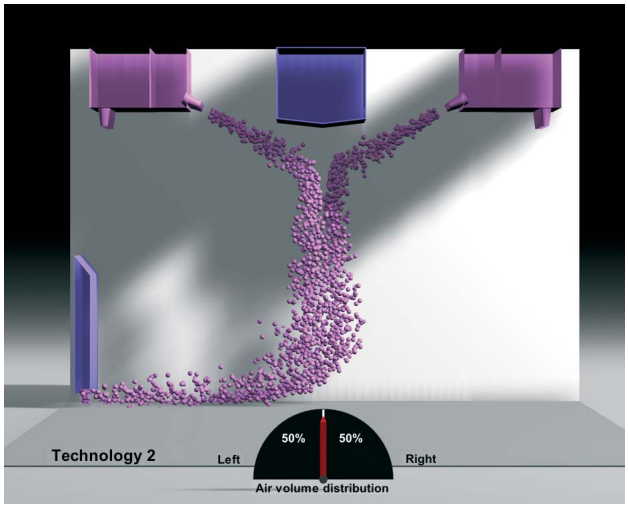
The result: Optimum drying. An alternating airstream guarantees highly consistent results, right from the first hour of maturing on – regardless of whether dealing with large or small products or those that will be dried to a low or high degree.

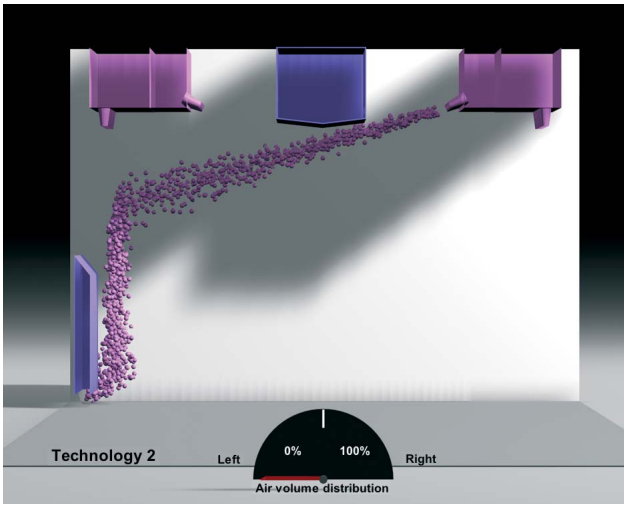
An added bonus: Air is supplied in a particularly gentle manner. Experience has shown that divided air intake ducts whose intake air nozzles are matched to the respective chamber size are most effective. Depending on the program, closing cylinders supply the horizontal or vertical air intake ducts with conditioned air, whereby the right ratio of air supplied horizontally to air supplied vertically is of particular importance. Depending on the individual intake situation, the return air ducts can also be activated in these equipment systems.











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MAKING FULL USE OF THE POTENTIAL TO OPTIMIZE

Technology 1 + 2, Airflow changes at set intervals

Since every variation in product quality, no matter how small, is known to result in added costs, it pays to optimize existing chamber systems. “By matching maturing programs and air settings to the respective products, our clients can save significant amounts of work, time, and expenses,” points out President Max Schröter. “You see, we can usually implement these options at a low cost to our clients.”

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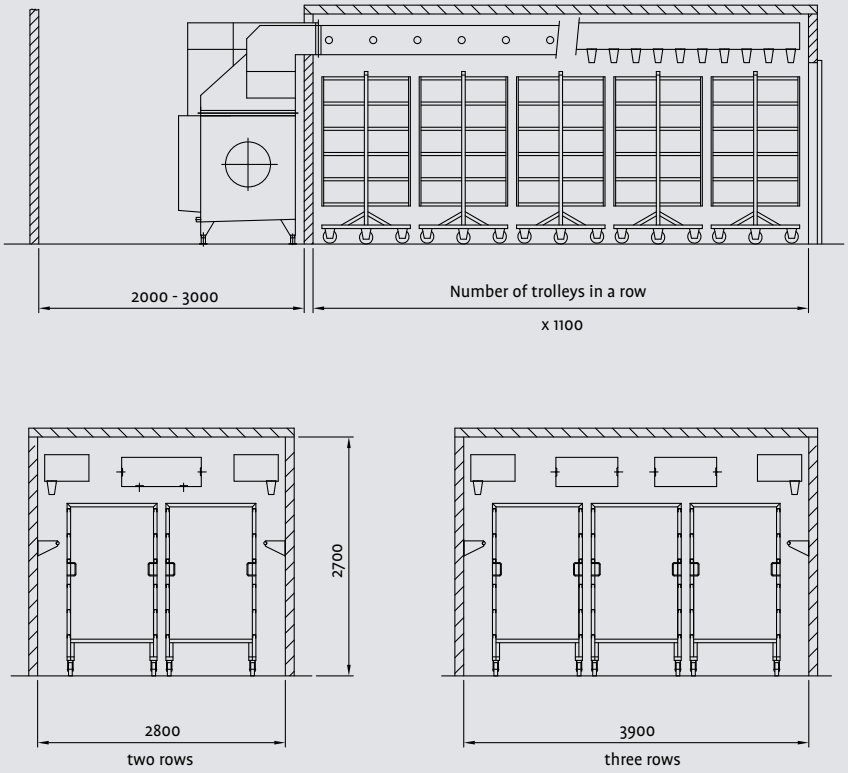
TECHNOLOGY I (CLASSIC)

TECHNICAL DETAILS



CLIMA*jet* KR CLIMATIC SYSTEMS FOR RAW SAUSAGE

	CONNECTED LOAD VALUES		
Wagon	Electricity kW	Heating kW	Cooling kW
4	2.5	8	6
6	2.5	11	8
8	4	15	11
10	4	19	14
12	6	22	16
14	6	26	19
16	6	29	22
18	8	33	24
21	8	38	28
24	10	44	32
27	12	49	36
30	12	55	41
33	16	60	45
36	16	65	49
39	16	71	53
42	19	76	57
45	19	82	61
51	23	92	69
60	30	109	81

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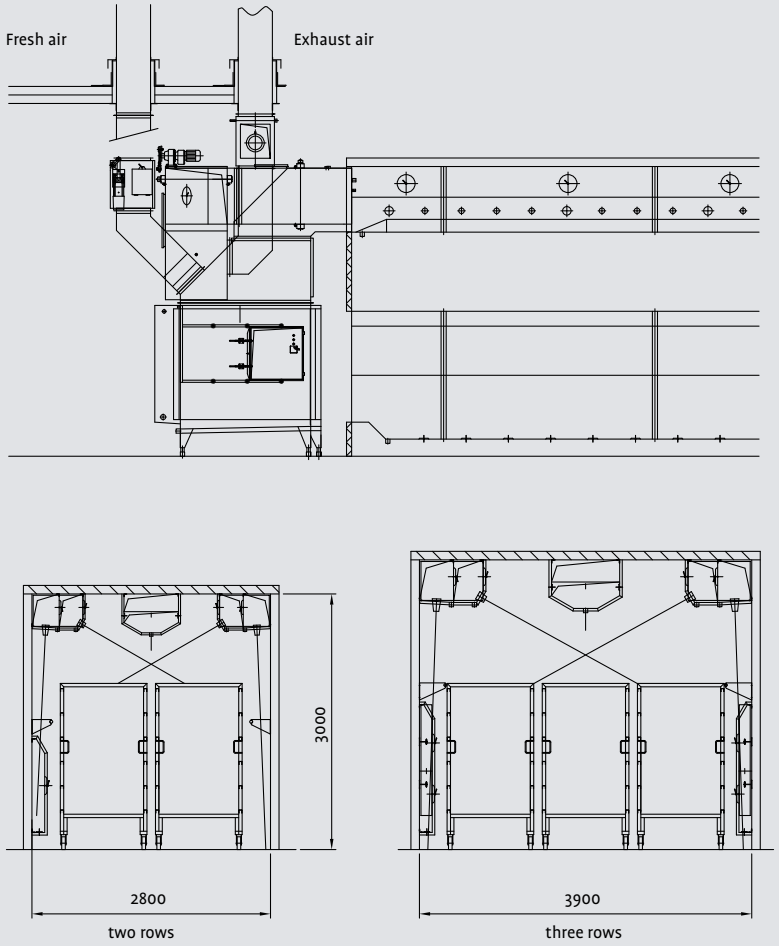
TECHNOLOGY II (MULTI-DUCT)

TECHNICAL DETAILS



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SCHRÖTER'S COMPACT CONCEPT: **CLIMA***jet*® KR

STRUCTURAL CHARACTERISTICS

- Chassis and all relevant components are built to be structurally gas and steam tight
- All components, such as insulation, motors, fans, and ducts, have the ideal dimensions
- Limit-based switching
- Enthalpy

CUSTOMER BENEFITS

- Speed
- Homogeneity
- Energy savings
- Minimal weight loss
- Quickly reach target value + accurately maintain target value
- Consistent results
- Accurately repeat a predefined result
- Ideal temperature and humidity
- Products are handled in an absolutely gentle and uniform manner

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Schröter
LEADING QUALITY

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