CLIMA*jet*® NR

Schröter
LEADING QUALITY

MR. SNELLMAN'S METTWURST SAUSAGE

The selection of salami available in Finland, the sparsely populated country in the far north of Europe, is relatively small. Oy Snellman AB has taken up the cause of changing this fact. The Finnish sausage specialist began producing "mettwurst," a type of German sausage made from raw minced pork, back in the 1950s as one of of the few companies in Finland to do so. In May of this year, his company celebrated the opening of a new sausage factory, which will allow it to introduce a number of new varieties. In this context, customized equipment technology from Schröter ensures that their delicious products are of the highest quality.

The five Snellman brothers founded their company in 1951, and it has since grown into the third-largest meat processing firm in Finland. In the beginning, the successful family business headquartered in the west Finnish city of Jakobstad concentrated solely on sausage production, but in the nineties the company branched out into primary production and slaughtering. The company introduced the "Herr Snellman" brand to selectively market its products, and the brand is now known by 95 percent of all Finns. Today, the company's diverse portfolio includes producing convenience foods and the sale of food produced internally as well as by third parties.

TECHNOLOGY FOR THE "SALAMIHUSET"

To ensure that the company would have sufficient capacity and be able to launch product innovations in the future, Snellman invested around 7.2 million euros in a new factory. The 6,000-square-meter factory now known as the "Salamihuset," was built in only eight months, and initially it was to produce 1,500 tons of mettwurst per year. For its system needs, Snellman selected state-of-the-art technology made in Borgholzhausen. In the first step, specialists from Schröter designed a complete concept plan which took both the ideal room sizes as well as the special capacity requirements into account. Since Snellman primarily produces logs, hanging in trolleys with load weights close to 450 kilograms, these high weights needed to be taken into consideration. Both the airflow and the system's performance characteristics were adjusted accordingly. One particular bonus during the planning phase: The Finns visited Schröter's reference clients to view the desired system concepts in operation.

PERFECT TEAMWORK

Locally, employees of Schröter's Finnish representatives, JTJ-Sales, headquartered in Helsinki, were responsible for remaining in continuous contact with the client. Tapani Liljeström, responsible for the sale of Schröter products in Finnland, ensured that the project went off without a hitch. "We weren't only impressed by their careful planning," says Martti Vähäkangas, Managing Director of the Snellman Group, praising the excellent collaboration. "The speedy assembly and start-up of the systems also left nothing to be desired." Thanks to the modern system, Snellman will benefit from improvements to efficiency as well as the work and production processes. And since only half of the 6,000-square-meter factory is currently being used, there is enough space left over for future expansions: The production capacity could actually be doubled. And maybe when they do decide to expand, they will once again rely on the system specialists from Germany.

CUSTOMIZED MATURING AND DRYING

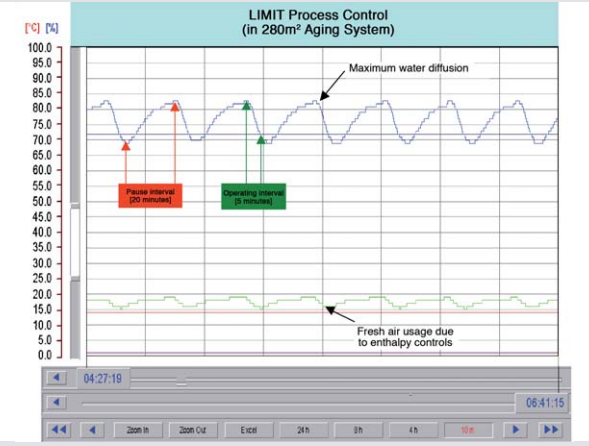
When producing raw sausage and ham, manufacturers strive for perfection with regard to maturing and drying. In addition, the amount of energy used increasingly plays a decisive role. With this in mind, Schröter Technologie GmbH & Co. KG has been pushing forward with the development of new, product-based, effective control options – from both a technological and energy-related standpoint. With its innovation known as LIMIT process control, Schröter is breaking new ground when it comes to maturing and drying.

The basis for this development is the method of maturing used in Romanian countries based on the principle of “alternating humidity control.” In this method, an interval of minimum and maximum temperature and humidity values is defined. These parameters control the constant alternation between the system operating and pausing. During a pause interval, the moisture in the products diffuses from the core to the surface, where it is subsequently released into the ambient air, causing the humidity in the chamber to rise (humidity generation using existing product’s moisture). In this process, the highest point during humidity generation is designated as the outside LIMIT value (plus plus), and it is matched to the respective product characteristics. Upon reaching the outside LIMIT value, the pause interval ends and the operating interval begins. By increasing air circulation and activating the cooling, heating, drying, and fresh air systems, moisture is dissipated and the humidity values are reduced to their predefined inner LIMIT parameters (plus). Once the inner LIMIT value is reached, the system automatically switches to the pause interval, and the humidity once again increases solely as a result of the moisture released by the products.

BENEFITS OF LIMIT SWITCHING

On the one hand, this method of drying raw sausage and ham is particularly gentle, on the other hand it allows the maximum drying speed to be achieved. Furthermore, this method is characterized by its energy efficiency. It also goes without saying that the LIMIT control system brings fresh air into the process using state-of-the-art enthalpy controls. To prevent the products from drying out, a variable “negative” maximum deviation from the target value (minus minus) can also be set. If the system dips below this value, it uses additional moisture to climb back within the normal LIMIT range (minus). With the development of this control system, Schröter has succeeded in minimizing errors in the maturing process, reducing maintenance requirements thanks to shorter operating times, and last but not least, increasing the longevity of motors and machine parts.

LIMIT PROCESS CONTROL (IN 280M² MATURING SYSTEM)



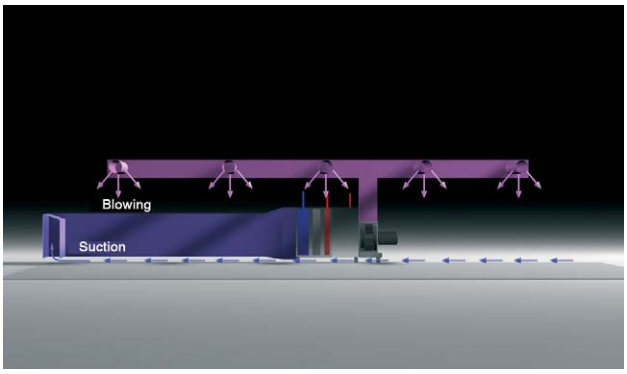
PROCESS TECHNOLOGY

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.

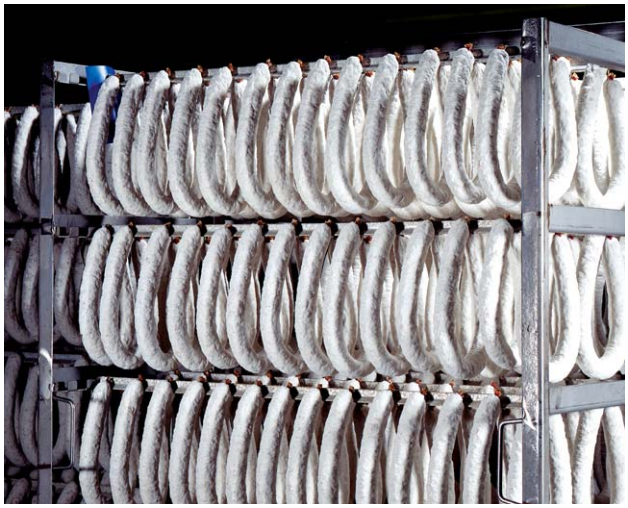
By releasing water to the ambient air, humidity is extracted from the products. This humidity is condensing out on the surface of the cooler inside the air conditioning system and is removed from the airstream. This moisture is exchanged on the cold surface of the cooling unit in the air conditioning 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.

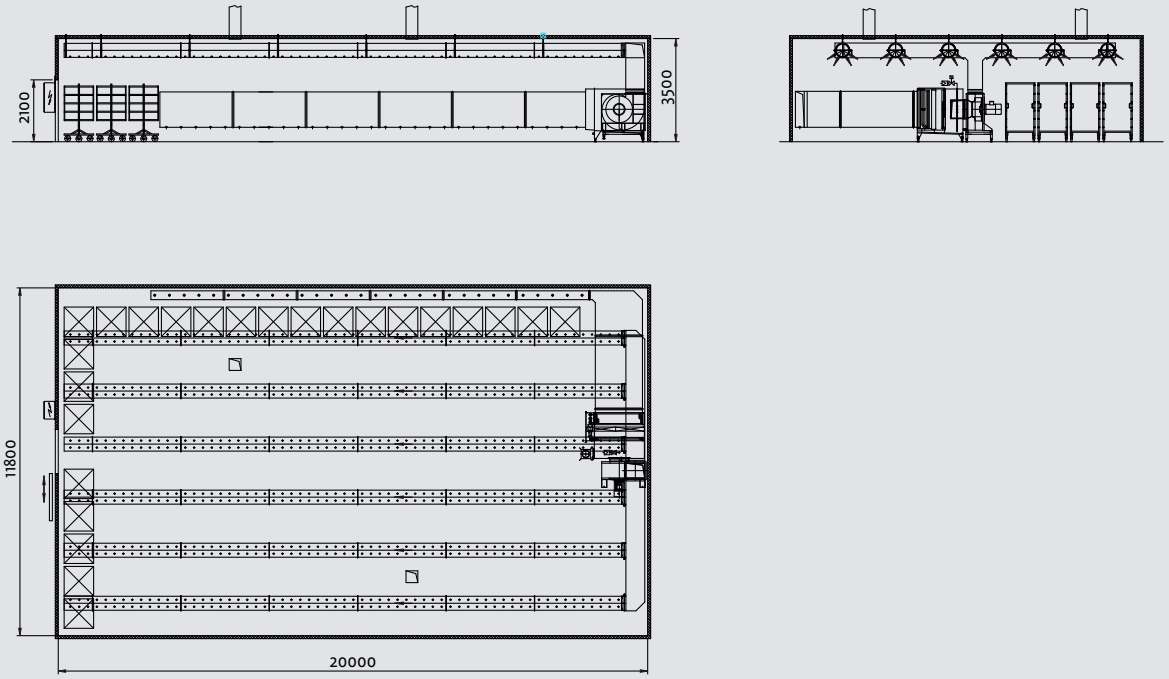


SAMPLE APPLICATIONS



TECHNICAL DETAILS

MATURING SYSTEM CLIMA*jet* NR-236



CLIMA*jet* NR CLIMATIC MATURING SYSTEMS

	CONNECTED LOAD VALUES		
Room Size m²	Electricity kW	Heating kW	Cooling kW
20	2	5	7
40	3	10	14
60	3	14	20
80	4	18	25
100	6	20	30
125	8	28	40
150	9	32	45
175	11	40	55
200	15	45	60
250	15	55	75
300	19	65	90
350	22	75	105
400	30	85	120
450	37	95	135
500	37	105	150
550	45	115	165
600	45	125	180
700	55	145	210
800	55	170	240

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

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 TECHNOLOGIE GMBH & CO. KG | BAHNHOFSTRASSE 86 | D-33829 BORGHOLZHAUSEN | GERMANY

GLC CERTIFIED ISO 9001

BKR BUNDESVERBAND KOCH- UND RÄUCHEREIANLAGEN

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Tel. +49 (0) 54 25.95 00
Fax +49 (0) 54 25.18 28

info@schroeter-technologie.de
www.schroeter-technologie.de