

Meeting Point

 **SCHRÖTER**
LEADING QUALITY

ISSUE 59 | 2021

Product and Packaging-Friendly Pasteurization

PASTEURIZATION METHOD WITH COUNTERPRESSURE INCREASES SHELF LIFE WITHOUT PRESERVATIVES

CUSTOMER REPORT

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100 Years of Premium Ham

Meat processor Beskydské uzeniny, a.s.'s Chodura brand is highly regarded in the Czech Republic and Slovakia for ham and sausage specialties of the highest quality. Original family recipes and cutting-edge technology from Schröter form the foundation upon which the company with a rich tradition can continue to successfully build/grow in the future.

Karel Chodura opened his renowned butcher's shop in Ostrava, Czech Republic, in 1919. One hundred years later, the name Chodura is a brand synonymous with high-quality ham and sausage specialties. For about 30 years, Petr Chodura has been successfully carrying on his grandfather's work through the company Beskydské uzeniny. "My grandfather's business was a great inspiration to me because I knew that, by continuing his work, I would be able to complete the plans that he was unable to carry out after 1948, when the communist regime shut down his business," Chodura explains.

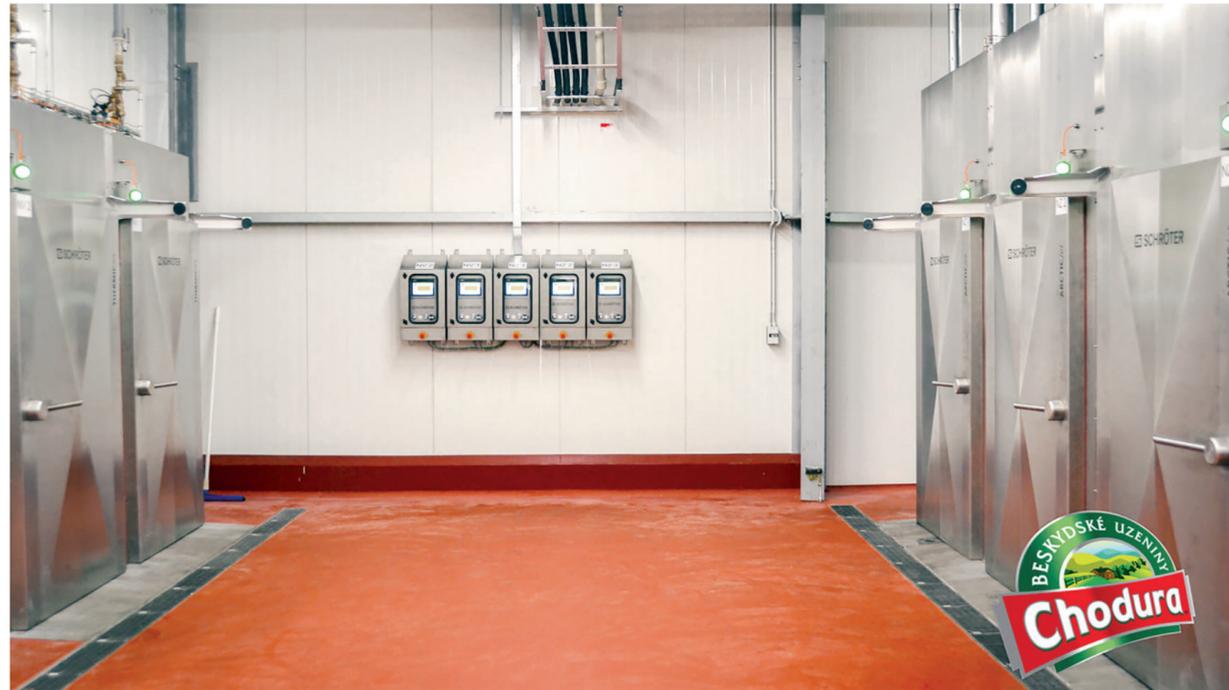
In 1990, he continued the family tradition of making sausage specialties and opened his first production facility in the former roadhouse in Stará Ves nad Ondřejnicí. In the year 2000, the company acquired a former meat processing plant in Frýdek-Místek and expanded its product range. Today, Beskydské uzeniny employs more than 200 people, making it one of the Czech Republic's mid-sized meat processing companies. Its wide range of products includes cooked and smoked pork and chicken ham, a large selection of sausages, salami, and seasonal grilled specialties.

New Production Facility

In 2019, just in time for its 100th anniversary, the meat processor invested in a new production facility dedicated to the production of Chodura brand ham. "State-of-the-art Schröter technology, twice the production capacity, new workspaces, and more storage space," says Chodura, describing the advantages of the new location. The new facility is equipped with smoking chambers, cooking chambers, and baking and cooling chambers, all of which meet the most stringent hygiene requirements. The new production technology, together with high-quality raw materials, forms the basis for a new range of ham products with reduced sodium content that the family business launched at the end of last year.

Excellent Collaboration Right from the Start

"Our first meeting took place five years ago, when we decided to purchase smoking chambers. We ultimately didn't go through with it, but when the time was right, we built a new production facility and this time things worked out perfectly," says Chodura, describing the beginning of the company's relationship with Schröter.



The deal was closed at IFFA 2019 and personally overseen by project manager Jan Gryc, general manager of Schröter's Czech representative HG Technic, and Frank Mack, authorized representative of Schröter. "The focus was always on the requirements of the customer's range," says Frank Mack, outlining the initial project with the new customer, adding, "Beskydské uzeniny needs equipment for a wide assortment of products. As a result, the company needed different systems with various functions in order to be able to work with them flexibly and use them for different products." Chodura

continues, "This is why we have two four-wagon cooking chambers, three corresponding cooling chambers, a four-wagon smoking chamber, and a three-wagon smoking and baking chamber." As such, the company has created the basis for additional expansions, should they become necessary as a result of production increasing. "I appreciated the flawless technological solution of all the details right from the start, and I can say within a short period of time that this considerable investment was completely worth it," Chodura says, highly satisfied with the results of the first project.



THE BRAND CHODURA has its own chain of stores throughout the Czech Republic.



PETR CHODURA is carrying on his grandfather's work extremely successfully through the company Beskydské uzeniny.

“*Quality, experience, professionalism – these are the reasons why we chose Schröter.*”

PETR CHODURA, owner of Beskydské uzeniny, a.s.

THANKS TO STATE-OF-THE-ART SCHRÖTER TECHNOLOGY, the company with a rich tradition has been able to double its production capacity.

CUSTOMER INSIGHTS

Facts & Figures

Beskydské uzeniny, a.s. produces high-quality ham and sausage specialties in the Czech town of Frýdek-Místek on the basis of traditional recipes and sells them under the brand name Chodura.

- > **COMPANY FOUNDING:** 1919 in Ostrava, Czech Republic
- > **HEADQUARTERS:** Frýdek-Místek, Czech Republic
- > **LOGISTICS CENTER:** Frýčovice, Czech Republic
- > **EMPLOYEES:** More than 200
- > **PRODUCT RANGE:** Pork and chicken ham: cooked and smoked, natural and formed, reduced sodium ham, flavored ham, e.g., Honey Ham, Excellent, and Burgundy varieties. Wide range of sausages in natural and collagen casings, grilled specialties, salami
- > **PRODUCTION AREA:** 3600 square meters
- > **OUTPUT:** 35 tons per day
- > **SALES:** Via its own chain of stores throughout the Czech Republic and multinational chains in the Czech Republic and Slovakia
- > **USP:** The company has been offering a range of ham products with reduced sodium content since 2020, thereby shifting its focus to a healthy lifestyle.
- > **AWARDS:** 1993 Business Owner of the Year 2017 Two Chodura products awarded the KLASA food quality mark (awarded by the Czech Ministry of Agriculture) Also received awards in the categories "Regional Food" and "Butcher's Sausage."

HG Technic

Schröter Representative for the Czech Republic and Slovakia

Schröter Technologie GmbH & Co. KG has made a name for itself worldwide with high-quality hot-smoking and climatic systems. HG Technic, based in Brno, Czech Republic, is successfully active on the Czech and Slovakian markets on behalf of the East Westphalian systems manufacturer. Jan Gryc, general manager of HG Technic since 2015, has been working with Schröter since 2011. He is responsible for sales, expert advice, service, and the installation of Schröter systems in the Czech Republic and Slovakia. When carrying out his duties, Jan Gryc can draw on more than 20 years of experience in the thermal processing of sausage, meat, and fish. This ensures that he can clarify customers' individual needs in each project and, working in close collaboration with Schröter, offer a customized solution – for the entire range from small hot-smoking systems to large climatic post-maturing systems.



REPRESENTATIVE OF SCHRÖTER IN THE CZECH REPUBLIC AND SLOVAKIA: Jan Gryc, general manager of HG Technic.

SCHRÖTER

Delivered

- > 1 X THERMICjet® HR-4 1-ROW, IN-LINE HOT-SMOKE COOKING SYSTEM
- > 1 X THERMICjet® HR-3 1-ROW, IN-LINE HOT-SMOKING, COOKING, AND BAKING SYSTEM
- > 2 X SMOKEjet® RH-09 WOOD-CHIP SMOKE GENERATOR
- > 2 X THERMICjet® KA-4 1-ROW, IN-LINE COOKING SYSTEM
- > 3 X ARCTICjet® IK-4 1-ROW, IN-LINE INTENSIVE CHILLING SYSTEM
- > 1 X RGA, CENTRAL AUTOMATED CLEANING STATION
- > 1 X INTOUCH CENTRAL PROCESS CONTROL SOFTWARE

Gentle Pasteurization with Counterpressure

Counterpressure pasteurization systems from Schröter are used to preserve a wide variety of products. The method ensures that specialties such as brown bread, salmon roe, or meat products remain fresh and flavorful for long periods of time. Along with other well-known companies, Kuchenmeister GmbH also relies on this pasteurization method, which is both product and packaging-friendly.



“
Thanks to this process, we have significantly reduced the rate of damaged packaging.”

— CARSTEN WERNER, CTO of Bäckerei Haverland GmbH & Co. KG, a subsidiary of Kuchenmeister GmbH

The industrial bakery company from Soest, Germany, uses several THERMICjets® to preserve its baked goods. The specially developed systems pasteurize products using low-pressure steam in the overpressure range instead of the hot air commonly used in the industry. The advantage of this process is that it increases shelf life without the use of preservatives. Loaves of bread preserved using this method, for example, have a shelf life of up to one year and can be sold worldwide.

Under Pressure

The food products are loaded into the pasteurization systems semi-preserved in perforated, heat-resistant euro containers on EUR-pallets. As soon as the loaves of bread packaged in film are inside the system, low-pressure steam is introduced from outside through a valve. This causes the temperature inside to rise to around 80 degrees Celsius at a pressure of over 100 mbar. While the temperature is maintained, the pressure drops due to condensation. This resulting negative pressure is compensated for via compressed air, which is fed into the system through another valve.

The air in the bread's packaging film expands as a result of the increase in temperature, building up pressure inside the packaging. “To prevent the film from bursting, we have to do something to counteract this pressure,” explains Reza Boozari, project manager at Schröter. This is done in two ways: first, by means of low-pressure steam, as long as the target chamber temperature has not yet been reached. And second, using compressed air fed into the system via another valve, but only after the steam valve has been closed. Since the overpressure ranges from 0.12 to 0.16 bar, the systems are built to be extremely robust and stable. Safety features, such as pneumatically locking lift gates, are also included to ensure that the system runs smoothly.

SCHRÖTER

Scope of Delivery

2020

> MULTIPLE THERMICjet® PA-3 SYSTEMS EQUIPPED WITH LIFT GATES

2008 & 2014

> MULTIPLE THERMICjet® PA-3 SYSTEMS EQUIPPED WITH LIFT GATES

> SCHRÖTER IS CURRENTLY OVERHAULING THE SYSTEMS FROM 2008 AND 2014 AND EQUIPPING THEM WITH THE LATEST AVAILABLE TECHNOLOGY. THIS INCLUDES, FOR EXAMPLE, UPGRADING THE CONTROL UNITS AND LINKING ALL THE SYSTEMS TO THE EXISTING PROCESS VISUALIZATION SOFTWARE. FOR THIS PURPOSE, SCHRÖTER MAKES VALUES AVAILABLE VIA A DATA MODULE THAT THE CUSTOMER CAN ACCESS AND IMPORT INTO ITS PROCESS VISUALIZATION SOFTWARE.

Measuring Core Temperatures Even More Precisely

When it comes to a sensitive product like meat, safety is the top priority. In this context, measuring the core temperature during production plays a critical role. For large-diameter products, Schröter has now further optimized the measurement process and offers the ability to measure the core temperature at three different points with one probe.

Schröter's equipment has long included a system that records the core temperature. For this purpose, core temperature sensors are inserted into the product at the beginning of the production process and remain in the product throughout the entire process. These continuously transmit the current core temperature. The resulting core temperature diagram shows the entire thermal process occurring in the product. It turns out, however, that especially in the case of products with a coarse emulsion, the measured values can vary, depending on whether the tip of the probe is reading the temperature in muscle meat or in the pieces of fat. Furthermore, depending on the type and shape of the product, it isn't always possible to insert the probe directly into the center of the product.

In order to be able to seamlessly and continuously monitor products throughout the production process, Schröter also offers wireless temperature sensors for measuring the core temperature:

- > Mobile temperature measurement with wireless Wtrans temperature probes
- > Transmitter (designed as insertion probe) in probe handle
- > Well protected by waterproof housing
- > Works perfectly in an ambient temperature range from -30 to +85 degrees Celsius
- > Temperature sensor seamlessly accompanies the

goods through various temperature levels and system zones during drying, smoking, cooking, and intensive chilling without any loss of data

- > Easily determine which goods are currently at which step of the process thanks to individual coding of the Wtrans transmitters
- > Link and record the detected temperature values with the other production values
- > Easily adjust all of the system's parameters and clearly display the entire process using InTouch visualization software

Optimized Measurement

To further improve this process, Schröter collaborated with JUMO GmbH & Co. KG, one of the world's leading component and system suppliers for individual sensor and automation solutions, to develop a way to measure the core temperature at three points with a single probe. This probe takes measurements at three different points in succession with one probe tip. These three core temperatures are displayed on the control unit and the software can automatically validate which core temperature range should be documented on the basis of predefined values. This can be used, for example, to specify whether the product should be held at temperature for a certain time without supplying further energy based on the lowest temperature reading. In summary, the new sensor configuration offers even greater reliability in determining the specified core temperature value.

“
Measuring the core temperature at three different points significantly increases safety.”

— THE CORE TEMPERATURE SENSOR takes measurements at three different points in succession with one probe tip.





SOLUTIONS

First Online Factory Acceptance Test

Prior to delivery and installation of new equipment, factory acceptance tests ensure that the manufacturer has complied with all of the technical and quality requirements. The travel restrictions imposed as a result of the COVID-19 pandemic have made this process much more difficult. Schröter has successfully remedied this situation by means of an online factory acceptance test (FAT).

At the beginning of the year, the Borgholzhausen-based company received a major order from a US customer for fermentation systems for vegan products. Prior to this, the first step had been to create a test system that the customer put through its paces and subsequently optimized. This was the basis for the follow-up order, which Schröter will deliver in three stages between now and mid 2022.

Detailed Acceptance Plan

Due to travel restrictions, the customer decided to conduct the FAT online within the scope of a two-day meeting. For this purpose, Schröter employees cleared part of the new shipping hall in order to equip it with all of the components relevant to the acceptance test. They also set up a special computer configuration for the FAT – a mobile communication island with smartphones and tablets made it possible for the customer on the other side of the Atlantic to view specific details within machine parts and electrical components. Following a

precisely defined acceptance plan with around 50 specific points, the 20 participants were able to inspect, test, and accept all of the system's components. "In order to examine and evaluate details after the fact, we recorded the entire FAT," explains Klaus Schröter, adding, "this was extremely helpful for the review that took place at the end of the first day."

“*Thanks to online conferencing, customers can participate directly in the FAT without having to travel.*”

On the second day, the participants discussed the review, then moved on to electrical and control-related components. Finally, the complete system was approved as perfectly designed and ready for delivery.

"I'd like to praise all of the employees involved for this extraordinary effort," says Klaus Schröter, summing up the groundbreaking project.



PUBLISHING INFORMATION

Publisher Schröter Technologie GmbH & Co. KG, 33826 Borgholzhausen, info@schroeter-technologie.de, www.schroeter-technologie.de | Person responsible according to German press law: Klaus Schröter | Concept, Layout, and Editorial STEUER Marketing und Kommunikation GmbH, www.agentur-steuer.de | Head of Editorial ED Press & Public Relations, Spenge | Photography and Graphic Steuer Marketing und Kommunikation GmbH, Archiv Schröter, Jan Dürfelsiek, Beskydské uzeniny.