

BAKEjet®



BAKING AND FRYING TUNNEL

The meat-processing industry today wants to produce baked and fried products as quickly as possible with a minimum of weight loss. At Schröter, a four-person research and development team took on this challenge. With customized designs, different prototypes, and a two-year testing phase at several customers' facilities, the BAKEjet project group ultimately developed the ideal continuous tunnel for baking, frying, and roasting a wide variety of products.

When it comes to browning meat products, Schröter's new baking and frying tunnel outperforms conventional baking systems. In addition to consistently producing high-quality products, the BAKEjet system also stands out thanks to the fact that it can be easily cleaned and maintained.

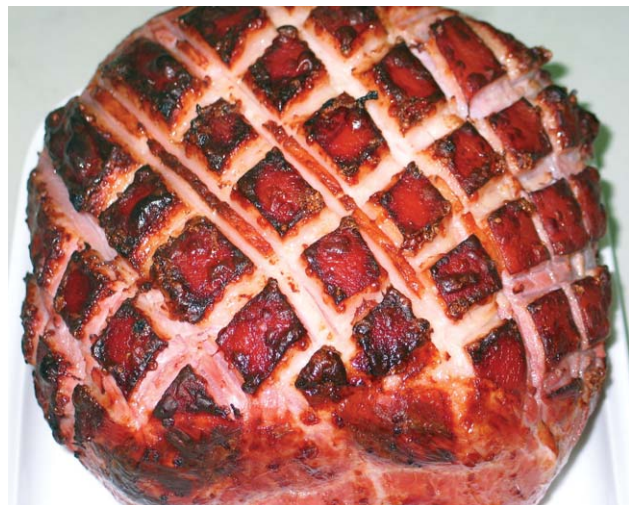
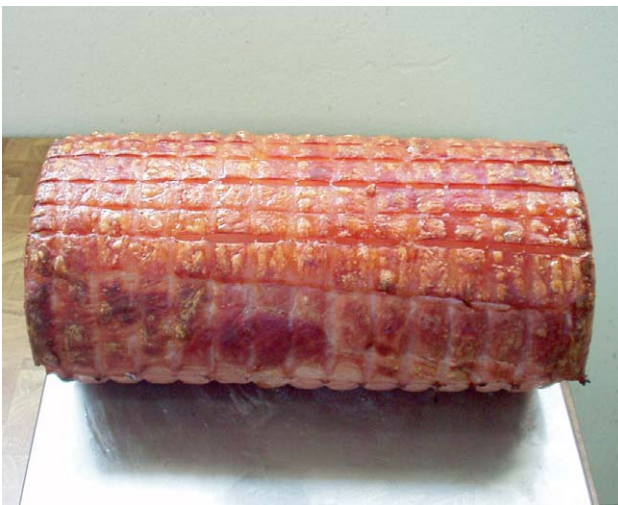
Optimum browning results are hard to achieve with conventional, trolley-based systems. We developed a new baking and frying tunnel especially for customers that place particular importance on a uniform and perfectly browned crust.

After extensive product testing, infrared heaters proved to be the best possible source of heat, and are now in use daily. Compared to conventional electric or gas-powered heaters, they can provide larger amounts of energy in shorter periods of time. Which means they are not only more powerful, but also allow the required temperature and length of time to be exactly maintained. Whether for crusted ham, poultry products, meat loaf, or pastries – the infrared heaters ensure that weight loss remains minimal and also provide for efficient, uniform, and gentle browning. Schröter can also equip the BAKEjet systems with different types of infrared heaters as well as an integrated circulating air system if the need arises. A Siemens touchscreen control panel steplessly controls both air circulation and temperature and guarantees consistent results. An added bonus: Thanks to an improved system design and the use of infrared heaters, the team was able to build the BAKEjet system in such a compact manner that it saves valuable production space. As a result, today the baking line only needs one quarter of the space needed for the original product. Furthermore, the baking system is easily operated, is energy-efficient, and is also easy to clean and maintain.

The new BAKEjet system can be used to fry, bake, and roast a wide variety of products.



SAMPLE APPLICATIONS



WELL BROWNED



A capacity of 125 kg/h of doner products.

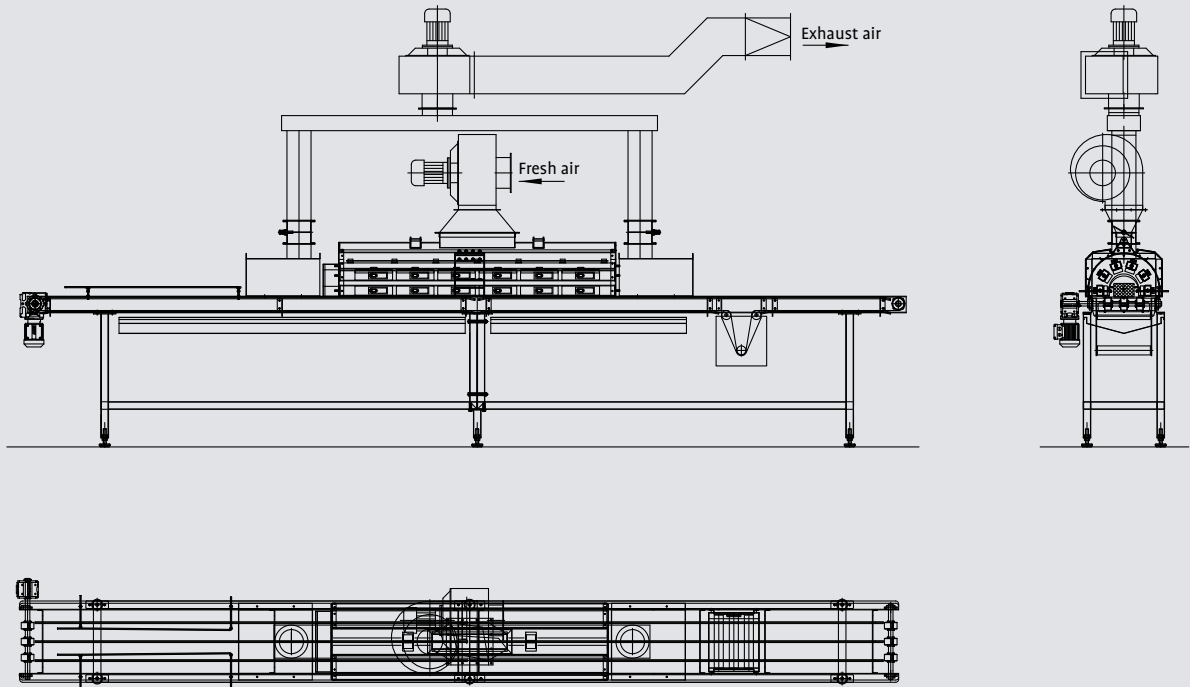
Schröter always offers its customers the best combination of systems for baking, browning, and cooking meat products. This means that fully-automated solutions are available for even the most unusual of baked and convenience products. And the newly-founded Düzgün Food GmbH has relied on such as system since 2009.

The company now uses a BAKEjet BT-125 for producing doner meat. The approximately six-meter-long baking line is equipped with high-power infrared ceramic heaters which achieve temperatures of up to 600 degrees Celsius and can be adjusted incrementally. The advantage: Since the heat quickly browns the surface of the meat and creates the perfect crust, weight loss remains minimal. An added bonus: In order to produce consistent results, both the air supply and speed can be adjusted steplessly. The programmable Siemens S7 control system makes all this possible.

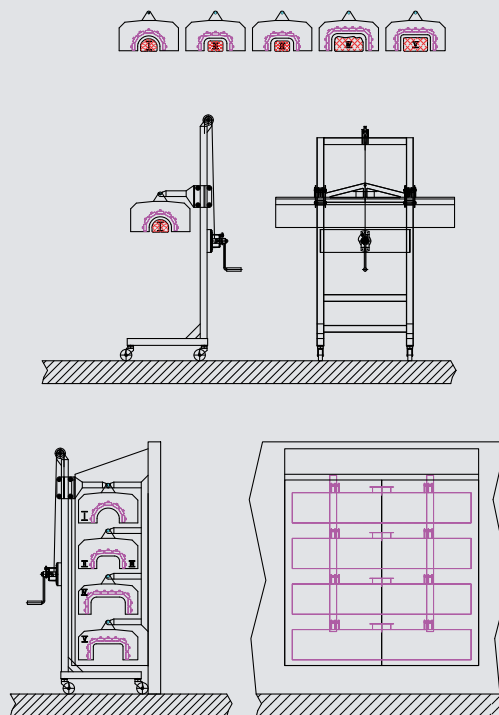


TECHNICAL DETAILS

SETUP



HEATING UNIT (EXCHANGEABLE)



TECHNICAL DETAILS

TECHNICAL DATA*	
Output	250 kg/h
Product size Ø	280 mm
Belt axis length	5000 mm
Belt width	300 mm
Belt speed	0.1–1.7 m/min
Processing temperature	max. 700 °C
Connected load (elec.)	48 kW
Connected load (water.)	2 l/min

* Example (at an output of 250 kg of “crusted ham” per hour)

POSSIBLE VARIATIONS	
Products (all shapes) Ø	10 – 350 mm
Product weight	20 – 4500 g
Belt length	2500 – 15000 mm
Belt width	300 – 1800 mm
Clear height	100 – 400 mm
Temperature	max. 700 °C
Total weight	950 kg
Measurements (L x W x H)	4.5 x 1.4 x 2.3 m

PRODUCT SPECTRUM
<ul style="list-style-type: none"> > Roast crusted pork/crusted ham > Ham au gratin, meatloaf > Poultry, poultry products > Puff pastry, pastry products > Beef jerky > Lasagne, gratin

PROCESSING METHODS
<ul style="list-style-type: none"> > Baking > Frying/Roasting > Au Gratin > Browning a glaze

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Air is circulated by returning it from the left side and feeding it in from the right side uniformly from top to bottom.

Before starting the process, the product trolley is elevated using a lifting device and is slowly rotated during the entire frying/baking process (like a rotisserie).

All products are exposed to the incoming airstream, which is blown in at different speeds and directions.

This ensures that even products that are difficult to brown or cook au gratin, such as meat in forms, pastries, etc., will have a uniform surface.

All other fried and baked products can also be produced or cooked au gratin with an increased level of uniformity.



Rotating Lifting Device



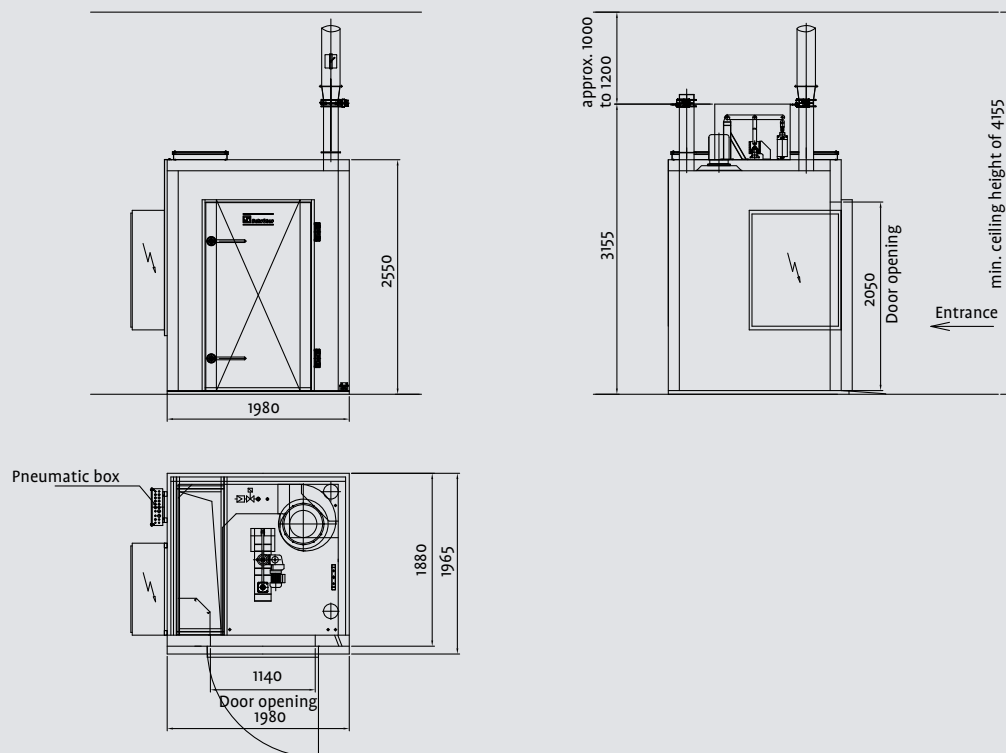
Product Examples



Product Examples

TECHNICAL DETAILS

DIMENSIONAL SKETCH



CONNECTED LOAD VALUES

Ambient temperature	+40 to +220 °C
Relative humidity	20 bis 98 rel. moisture
Electricity 230/400 V	60 kW
Heating: Electrical	54 kW
Humidifying and cooking: Steam, variable between 0.5 – 1.2 bar	65 kg/h
Shower: Water ½"	18 l/min
Compressed air 6 bar	10 l/min

FEASIBLE PROCESSES

- > Baking
- > Roasting
- > Drying
- > Cooking
- > Showering



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