PRODUCT RANGE
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Protech is one of the largest manufacturers of equipment for the thermal treatment of food, such as smoking, cooking, drying and cooling. Our goal is to successfully develop, produce and install machines and complete lines that meet the highest quality standards.

**QUICK SETUP**
On delivery, cabinets can be assembled by our service technicians. This is a smooth, fast solution for the customer.

**EXPERIENCE**
Our success is built on close cooperation with our customers. That means creating unique solutions and remaining fully committed and involved in the process until production meets expectations.

**QUALITY**
Components of the highest quality and use of the latest technology guarantee the reliability of the equipment throughout its lifespan. All development and manufacturing takes place in a modern factory specially designed to supply companies in the food industry.
The Protech Automated Spiral Smoking/Cooking System is the ultimate solution for meat processors that want to take their production capabilities to the highest level of product quality, yields and labor optimization. The Protech Spiral System provides a continuous process that significantly reduces labor and increases yields and production.

**The Protech System requires only two operators to produce 4,000 kg (or 8,800 lbs.) of finished bacon per hour!** The Protech System is fully integrated and does not require any additional accessories or equipment (such as smoke trolleys, smoke sticks, etc.)

**UNIFORM CONSISTENT PROCESS:**
The Protech Spiral System is an in-line system that requires all product to enter in the same position at the same temperature continuously. The temperature of the system is monitored and controlled during the cooking/smoking process. All product exits the system at the same position and consistent temperature.

**CIP:**
Fully integrated CIP system for cleaning.

Open drum for perfect air circulation and easy cleaning. The process with wood chip smoking.
Comparative figure for different smoking systems with production of app. 4000kg bacon per hour.

<table>
<thead>
<tr>
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<th>SPIRAL SYSTEM</th>
<th>SEMI-CONTINUOUS</th>
<th>BATCH SMOKE CHAMBER</th>
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<tr>
<td>Smoke trolley</td>
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<td>150</td>
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<tr>
<td>Hooks</td>
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<td>Yes</td>
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<tr>
<td>Maintenance trolley</td>
<td>No</td>
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</tbody>
</table>

**PROCESS STEPS:**
- Drying
- Smoking
- Cooking
- Cooling / freezing
- CIP cleaning

Traditional smoked bacon.
Continuous sous-vide cooking.
The construction allows for processing many different types of product in a cost-efficient way with optimal results.
The smoke chamber is suitable for drying, smoking and cooking processed meat products, fish and poultry within a temperature range of 15°C to 90°C. The construction allows for processing many different types of product in a cost-efficient way with optimal results. The unique air circulation system guarantees a consistent result for all products.
The unique alternating flap system continuously changes the air circulation around all the products in the chamber. This guarantees a perfectly even, dry smoke process for the products and ensures that reductions in weight and changes in colour are uniform throughout the chamber. The forced air circulation is generated by a heavy duty centrifugal fan controlled by a frequency converter that ensures an exact air flow. This enables users to set the precise air flow that produces the optimum result for each individual product.
The chamber consists of modules that are welded together to produce a completely hermetic and fully hygienic construction.

FLOOR
Made of 3 mm stainless sheet metal with additional reinforced concrete support underneath. The result is an extremely stable, non-deforming floor that copes effectively even with heavy trolleys. The floor also remains level, which prevents any puddles of water.
As Protech equipment is designed and built by us, we can adjust the specifications according to each customer’s needs. Construction and design can be tailored to suit your company’s products and production. Components of the highest quality and use of the latest technology guarantee the reliability and durability of the equipment. All manufacturing and construction takes place in a modern environment specially designed for the production of food industry equipment.
AIR DUCTS
Placed in the ceiling and alongside the trolleys to optimise the drying process for all products. The ducts have drainage for condensation and water.

CIP SYSTEM
Stainless steel cleaning nozzles strategically positioned in key locations are fed from a central pipe linked to a CIP system.

DOORS
Single door with adjustable solid stainless steel hinges and replaceable silicone door gasket. (Optional: guillotine door.)

HEATING
The smoke chamber can be heated with electricity, steam or gas. The stainless steel heating coil/heat exchanger is designed for optimal heat distribution.

COOLING COIL FOR COLD SMOKE AND COOLING
(Optional) Cooling coil made of stainless steel and used during cold smoking process to reduce the temperature and control humidity.

STAINLESS STEEL VALVES
All valves and pneumatic cylinders are made of stainless steel.

TRANSPORTATION SYSTEM
(Optional) Allows for automatic loading/unloading from the smoking chamber.

CONTROL / MICROPROCESSOR
The Protech Siemens has been specially developed to steer and adjust cooking, smoking and climate control. It measures and adjusts all parameters continuously throughout the process.

IE2 MOTORS
Our machines come with IE2 motors that ensure the highest possible efficiency and reliability.
SEMI CONTINUOUS
SMOKER/COOLER
A fully integrated smoker and cooler that ensures the smoothest possible transition between smoke chamber and cooling chamber.
The smoke chamber with intensive cooling is constructed for drying, smoking, boiling and cooling sausage, bacon and similar products. The cooling takes place in a separate section of the cabinet. Trolleys are transported automatically between the two sections. The equipment consists of an all-welded chamber with forced air circulation that guarantees an evenly heated and smoked product.
PERFECT AIR CIRCULATION GUARANTEES A CONSISTENT RESULT

The unique alternating flap system continuously changes the air circulation around all the products in the chamber. This guarantees a perfectly even, dry smoke process for the products and ensures that reductions in weight and changes in colour are uniform throughout the chamber.

The forced air circulation is generated by a heavy duty centrifugal fan controlled by a frequency converter that ensures an exact air flow. This enables users to set the precise air flow that produces the optimum result for each individual product.

CENTRAL CONDITIONING UNIT
The central conditioning unit consists of a circulation fan, heating coil, dampers, fresh air flaps and an alternating flap to the air duct in the cabinet. The entire unit is placed on top of or behind the smoke chamber and is constructed in stainless steel sheet with a minimum thickness of 2.5 mm to guarantee perfectly balanced air distribution.

DOUBLE COOLING ZONE
The cooling zone can be made 2X for long cooling process.

SMOKE GENERATOR
The smoke generator runs on wood chips, sawdust or liquid and creates smoke suitable for all types of products and processes such as cold, hot or steam smoking.
The chamber consists of modules that are welded together to produce a completely hermetic and fully hygienic construction.
ALL-IN-ONE CONSTRUCTION
A fully integrated smoker and cooler ensures the smoothest possible transition between the smoke chamber and the cooling chamber. The heart of the construction is the smokehouse (shown below), where products are heat-treated and smoked to acquire their unique flavours.

INTENSIVE COOLING CHAMBER
Designed to cool down products after smoking and cooking before transportation to packing or refrigeration. Cooling is done using water, air or brine.

AUTOMATIC TRANSPORTATION
The unit comes complete with an automatic transportation system that moves products from smoke chamber to cooling chamber as each process is completed, maximising the overall efficiency of the production process.
AIR DUCTS
Placed in the ceiling and alongside the trolleys to optimise the drying process for all products. The ducts have drainage for condensation and water.

CIP SYSTEM
Stainless steel cleaning nozzles strategically positioned in key locations are fed from a central pipe linked to a CIP system.

DOORS
Single door with adjustable solid stainless steel hinges and replaceable silicone door gasket. (Optional: guillotine door.)

SMOKE PIPES
Fully welded.

COOLING PROCESS
The cooling coil is made of stainless steel and used during the air cooling process. Cooling is effected by various methods with water, air or brine.

TRANSPORTATION SYSTEM
(Optional) Allows for automatic loading/unloading from the smoking chamber and for transferring trolleys to the cooling chamber.

CONTROL / MICROPROCESSOR
The Protech Siemens has been specially developed to steer and adjust cooking, smoking and climate control. It measures and adjusts all parameters continuously throughout the process.

BARCODE READER

IE2 MOTORS
Our machines come with IE2 motors that ensure the highest possible efficiency and reliability.
The cooking chamber is fully computer controlled to monitor and control the entire production process.
COOKING CHAMBER
The cooking chamber has been constructed for cooking sausages, ham and similar products that require temperatures of between 70°C and 90°C.

ALL STEEL CONSTRUCTION
The cooking chamber is constructed of 1.5 mm stainless steel plates welded together for a totally airtight and watertight construction. This eliminates the need for rubber gaskets. The modules have 80 mm isolation to minimise heat loss.

DOORS
Single door construction with replaceable silicone gasket. All doors have a safety mechanism so that the doors can also be opened from inside the cooking chamber. Each door has 3 stainless steel hinges.

FLOOR
The floor is made up of 3mm steel plates and The floor is made of 3 mm thick steel plate on a thick layer of concrete. This ensures a rock steady surface that copes effectively even with very heavy trolleys and products.

WORTH NOTING!
The chamber can be combined with a cooling system.
HEATING & VENTILATION
The forced air is circulated using powerful fans – one above each trolley.

HEATING
The cooking chamber is heated by direct steam. Steam ensures minimal weight loss in the products and helps to seal in the flavours.

EXHAUST
A damper and evacuation fan are placed on top of the equipment. The damper is controlled by a pneumatic cylinder connected to the computer.

MICROPROCESSOR
The cooking chamber is fully computer controlled to monitor and control the production process. All parameters are consistently regulated throughout the entire process.

VALVES
All valves and pipes are made of stainless steel.

(OPTION)
The chamber can be combined with a cooling system.
The forced air circulation in the room is generated by a powerful centrifugal fan operated by a frequency control.
COLD SMOKING AND MATURING ROOM

Our cold smoking and maturing plant is designed for smoking and maturing salami, raw ham and similar meat products within a temperature range of 15°C to 35°C.

DESCRIPTION
The plant consists of a central air conditioning unit and tubes for installation in an existing room. Alternatively, we can supply the entire room fully equipped. A fan ensures that all products in the room are uniformly dried and treated. Smoke is supplied by a smoke generator linked to the air conditioning unit.

ALL STEEL CONSTRUCTION
Protech can also provide a chamber construction on request.
The chamber is constructed of 1.5 mm stainless steel plates welded together for a totally airtight and watertight construction. This eliminates the need for rubber gaskets.

DOORS
Single door construction with replaceable silicone gasket.
All doors have a safety mechanism so that the doors can also be opened from inside the cooling chamber. Each door has 3 stainless steel hinges.

FLOOR
The floor is made of 3 mm steel plate on a thick layer of concrete. This ensures a rock steady surface that copes effectively even with very heavy trolleys and products.
COOLING & VENTILATION
The coil unit is placed alongside the chamber forcing the air to pass through it.

HEATING AND COOLING
The heating and cooling coil is made of stainless steel and placed adjacent to the fan.

VENTILATION
The forced air circulation in the room is generated by a powerful centrifugal fan placed outside the room. The fan is operated by a frequency control.

MICROPROCESSOR
The plant has a computer controlled system with a capacity of 99 programs, each easily accessible to the operator. Temperature and relative humidity are controlled with precision throughout the process.

CUSTOM BUILT
We can install the equipment in the customer's own existing room.
INTENSIVE-BRINE/COOLING CHAMBER

Computer controlled for reliable, efficient, economical operation all day, every week, year after year.
INTENSIVE COOLING
Constructed to cool down the product after smoking and cooking before transportation to packing or refrigeration. The cooling process can be done using water, air or brine.

ALL STEEL CONSTRUCTION
The cooling chamber is constructed of 1.5 mm stainless steel plates welded together for a totally airtight and watertight construction. This eliminates the need for rubber gaskets.

DOORS
Single door construction with replaceable silicone gasket. All doors have a safety mechanism so that the doors can also be opened from inside the cooling chamber. Each door has 3 stainless steel hinges.

FLOOR
The floor is made of 3 mm steel plate on a thick layer of concrete. This ensures a rock steady surface that copes effectively even with very heavy trolleys and products.
COOLING & VENTILATION
The stainless coil unit is placed alongside the chamber forcing the air to pass through the products.

SHOWER
Shower ramps are placed in the ceiling and along sections of the wall to facilitate cooling. Showering can be continuous, or intermittent to economise on water.

VENTILATION
One fan for each trolley is placed on the top over the trolley. The construction recirculates a large volume of air to facilitate rapid cooling.

MICROPROCESSOR
The cooling chamber is fully computer controlled to monitor and control the entire production process effectively. This ensures reliable, efficient, economical operation all day, every week, year after year.
Woodchip, sawdust or liquid smoke – with Protech smoke generators, the choice is yours.
FLAVOUR CONTROL

It’s all about controlling the taste. Our equipment gives you full control over the entire process, from smoking to airin.

Whether you wish to use flavour-enhancing wood chips, liquid or sawdust – with our smoke generators, the choice is yours.

Together with our smoke chamber the smoke generator gives you a complete, time-saving, cost-efficient solution for producing savoury products that everyone will enjoy.

A220 WOODCHIP

The entire smoke generator is made from stainless steel. Designed for wood chips 4–12 mm in size, this smoke generator is the perfect choice for heavy smoke that is rich in flavours. Ideal for smoking fish and all kinds of meat.

STAINLESS STEEL

The smoke generator connects to the smoke chamber with fully welded stainless steel pipes. A built-in PLC receives signals from the smoke chamber to initiate each smoking sequence.

FINELY ADJUSTED SMOKE LEVELS

The chips are ignited by an internal heating element. The combustion process is supported by a fan. The smoke density can be adjusted to the desired level via the PLC control unit and the valve on the fan.

WORTH NOTING!

The smoke generator has a built-in automatic fire extinguisher in case of fire.
A260 SAWDUST

This smoke generator produces a milder smoke that is still rich in flavour. Designed for 1–5 mm sawdust, it is ideal for smoking fish and all kinds of meat, and is the perfect choice for long-term smoke processing.

AUTOMATIC SIGNAL

The smoke generator connects to the smoke chamber with fully welded stainless steel pipes. A built-in PLC receives signals from the smoke chamber to initiate each smoking sequence.

INTERNAL HEATING ELEMENT

The sawdust is ignited by an internal heating element. The combustion process is supported by a fan. The smoke density can be adjusted to the desired level via the PLC control unit and the valve on the fan.

WORTH NOTING!

The smoke generator has a built-in automatic fire extinguisher in case of fire.

LIQUID SMOKE

The system comprises a fully automatic smoke generator for generating liquid smoke. With its built-in microprocessor and process controller, it is one of the most sophisticated solutions on the market for meeting today’s stringent requirements. The smoke generator can be used for all types of smoke processing and for both hot and cold smoking.

The advanced control functions ensure that pressure and flow remain precise, totally independent of airstream variations, to guarantee 100% stable flavour control.
Browns, crusts and heats to create savoury, delicious-looking food.
E600 POWER GRILL
The E600 Power Grill is used for heat-treating food when you want a nice brown crust or a higher temperature than is achievable in a smoke chamber or cooking cabinet.

UNIQUE CONSTRUCTION
A heating element placed between each product makes the Power Grill cabinet unique. The elements’ IR rays heat the surface of the food product directly.

MINIMAL WEIGHT LOSS
Automatic humidity and moisture control add water vapour to minimise weight loss.

WORTH NOTING!
The E600 is computer controlled to optimise temperature and moisture levels.

STEEL SHELVES
The E600 has a special shelf complete with pans and grids. The products are placed on 14 grids on 7 shelves. The maximum product height is 115 mm.

FLEXIBLE USAGE
The grids can be used both in the grill chamber and in the cooling chamber. The grids are also stackable.

STEEL RAMP
When the special shelf is placed in the grill chamber, it is controlled by a collapsible ramp.

WORTH NOTING!
The cabinet’s computer controlled system can be programmed for up to 99 different products.
TASTY-LOOKING FOOD

Ventilation, temperature control, heat control and infrared direct heating combined to brown, crust and heat products to create savoury, delicious-looking food.

Such comprehensive quality assurance not only makes sure that your products look appealing but it also reduces weight loss to an absolute minimum.

A vertical inspection window enables you to keep an eye on how things are progressing at each stage of the process.
- Wash trolleys and nets/trays at the same time.
- Movable washing ramp with high pressure nozzles.
- Pasteurization by direct steam which heats the trolleys.
- Recirculation for low water consumption.
- Throughput with integrated transport system.
- High capacity that efficiently washes 4 trolleys in 15 minutes.