FESSMANN

Leading in Smoking Technologies

Programmed on good taste for the fish-processing industry

High-tech with a tradition

For nearly 100 years, FESSMANN has been standing for cutting-edge high-tech systems for the treatment of food in the meat and fish processing industry.

FESSMANN was founded in Winnenden near Stuttgart in 1924. Today, the company is represented in more than 50 countries on all continents of the world. So far, FESSMANN has already supplied over 80,000 systems for smoking, cooking, roasting, baking and cooling. The trust that our customers place in our process engineering is what keeps us going. There is a reason that FESSMANN is an international leader in quality and service.

Each day we strive to improve even further - not only the flavour aspect but also ecologically and economically. This is how we make the environment, you and your customers happy: Our passion for quality goes beyond mere taste. It also improves your margins. How? Find out on the following pages.

Dates and facts

1924 Company founded by Wilhelm Fessmann

1969 Delivery of the first TURBOMAT universal system

1971 Development of TF3000, the first semi-continuous system

1972 Development of the first transfer system

1976 FESSMANN Technical School opens

1982 Development of the first RATIO smoke generator

1993 The patented RATIO-TOP smouldering smoke generator completes the RATIO line

1998 FESSMANN develops equipment for cooking and baking: AUTOVENT and RotathermCARAT

2004 FESSMANN introduces a real all-rounder: the Ti3000 industrial system

2008 A development success for FESSMANN: the with Triplex insulation, CIP cleaning and frequency converter

2010 The new control and the new RATIO-STEAM steam smoke generator are introduced

2013 The process monitoring software **FOOD.LOG** developed by FESSMANN is introduced

2015 The RATIO-HYBRID: Two smoking processes in a single system

2016 The F.LOADER enables fully automatic loading and unloading of the TF4000

2019 The new control generation **FOOD.CON 2** gets a universal OPC-UA interface

2021 The exhaust gas cleaning system **ECO.CLEANAIR** sets new standards for sustainable exhaust air cleaning

2022 The digitization of the machines creates transparency in the process and safety in production

FESSMANN systems offer more

Even shape, flavour and quality
Good sausage is characterised by a unique taste experience. This highest demand to quality can only be met with outstanding technology and a sophisticated concept. We want to supply our customers with the best facilities for this. Therefore, we develop and improve our machines continually. This is what our customers value about FESSMANN. We make certain that an even shape, flavour and colour make your sausage successful.

Minimal loss of weight – maximum efficiency
The minimal weight loss in smoking, cooking, roasting and baking processes maximises cost-effectiveness when FESSMANN technology is used. Optimum insulation and fast process times also ensure a high level of energy efficiency. The durability of our machines provides even more benefits – we only use top-grade components which are processed under the most stringent quality requirements.

Innovation and pioneering spirit
We love racking our brains for ideas that optimise your processes. For this purpose, FESSMANN has its own research and development department. This is where we pour our passion into innovations such as the especially environmentally friendly **ECO.LINE** smoking system. With our pioneering spirit, we have set global standards that are reflected in a number of patented detailed technical solutions. Despite our achievements, we still strive to improve further so that we can continue to offer you products that save you costs and resources.

Service and experience
Your purchase is a commitment for life. When you choose FESSMANN, you will always have a competent partner at your side. You can rely on our experience. Right from the start, we support you in planning and adapting the right solution to your needs. You will, however, rarely see our customer service personnel. This is not due to their lack of time for you but rather owed to the fact that our systems are very fail-proof and extremely low-maintenance.

Flexibility and safety
You would like to change your product portfolio? Not a problem with FESSMANN. The modular design of our systems allows them to be expanded flexibly according to your needs at any time. With our intelligent **FOOD.CON2** control system, you can easily manage your FESSMANN equipment around the clock. Even when it's not crunch time.

Patented smoker solutions

Patented smoke generators are our strength. The sophisticated smoking system achieves optimal results in a very short time. The adjustable smoke intensity levels allow for a variety of smoke flavourings and colour nuances. Thanks to the FOOD.CON2 control system, this consistently high product quality can be reproduced both in colour and in flavour.

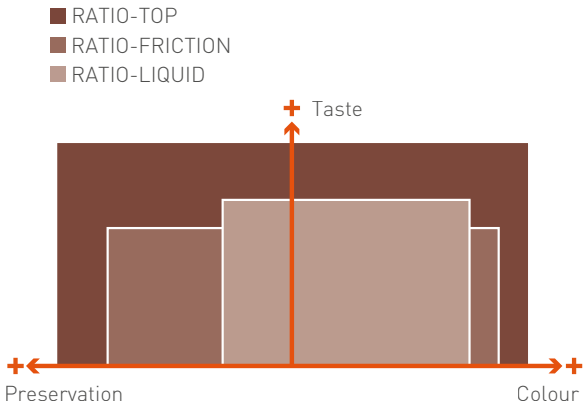
Depending on your requirements, you can choose between smouldering smoke generators (RATIO-TOP), friction smoke generators (RATIO-FRICTION) and liquid smoke generators (RATIO-LIQUID).

Technical data

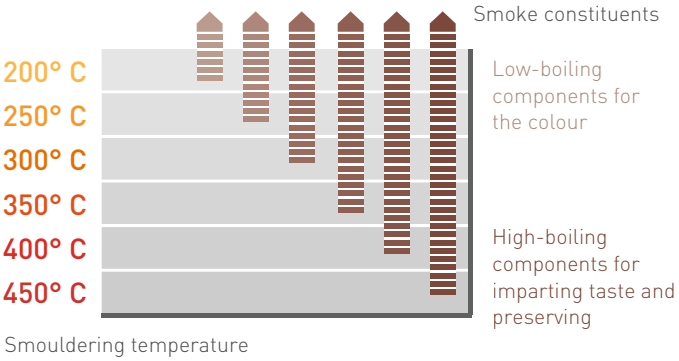
SMOKE GENERATOR	RZ325	RR325	FR325
T1800	x	x	x
T1900	x	x	x
T3000 1–2 trolleys	x	x	x

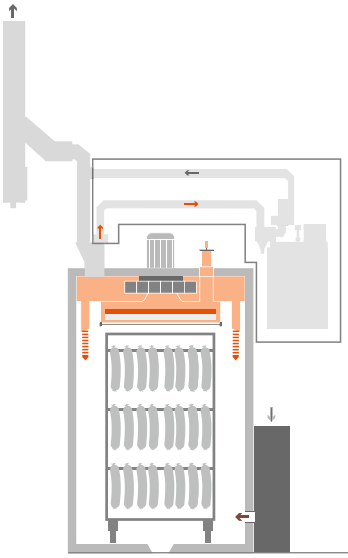
"Good flavour is the most important thing for us. Especially if we can achieve it with less weight lost and even lower consumption."

Scope of application



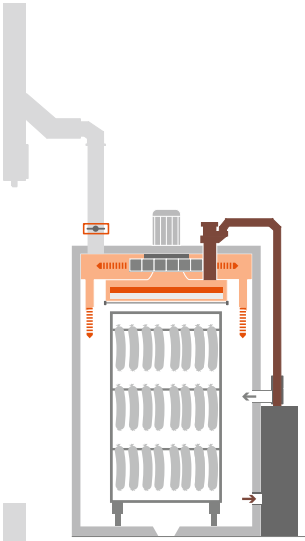
Smoke development





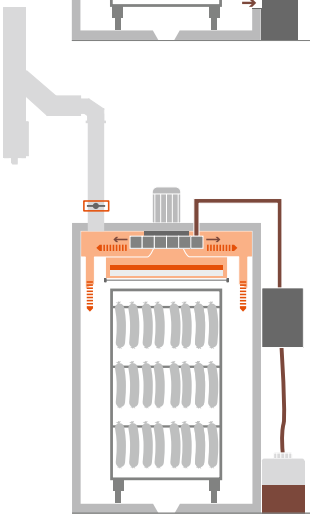
RATIO-TOP Smouldering smoke generator

- Short smoking times thanks to the rapid generation of maximum smoke concentrations
- Adjustable smoke intensity
- Various smoke flavourings and colour nuances
- TOP selection via **FOOD.CON2** control:
  – TOP 1: Light smoke
  – TOP 2: Medium smoke
  – TOP 3: Intensive smoke
- Consistent top-grade product quality in colour and flavour
- Low costs, economical consumption of smoking material
- Grain size of the wood chips ranges from 4 to 12 mm (KL 2/16)
- Automatic cleaning device



RATIO-FRICTION Friction smoke generator

- Mild smoke aroma
- Adjustable smoke intensity levels thanks to smoke interval control
- Automatic cleaning device
- Cost-effective smoking material, beech wood beams, grade II 80 × 80 × 800 mm
- Low consumption
- Low noise
- Friction wheel with unrivalled service life
- Motor with lower power consumption than conventional systems
- Includes a magazine for spare beams



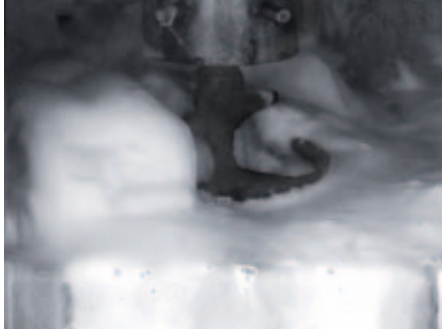
RATIO-LIQUID Liquid smoke generator

- Low acquisition costs
- Premium product quality: finest atomisation by means of the maintenance-free maximum-availability injection nozzle developed in house
- Minimal consumption of liquid smoke concentrate
- FESSMANN system: during smoking, the system works as a hermetically sealed system with full temperature control

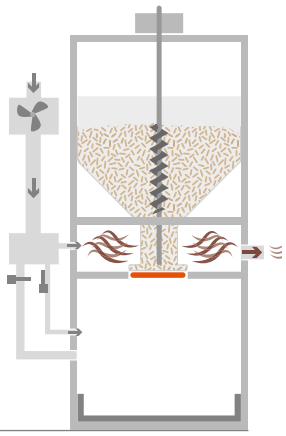
Technical data

SMOKE GENERATOR	RZ325	RZ550	RR325	RRi550	FR325	RH325	RH550
T3000 1–2 trolleys	x		x		x	x	
T3000 3–6 trolleys		x		x	x		x
Ti3000 3–6 trolleys		x		x	x		x

Friction smoke generation

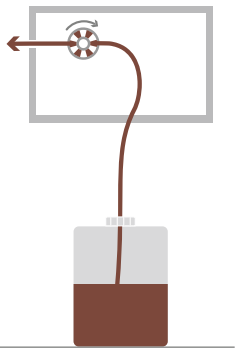


Automatic cleaning device for RZ550



RATIO-TOP
Open system with
reduced exhaust

RATIO-FRICTION
Closed system



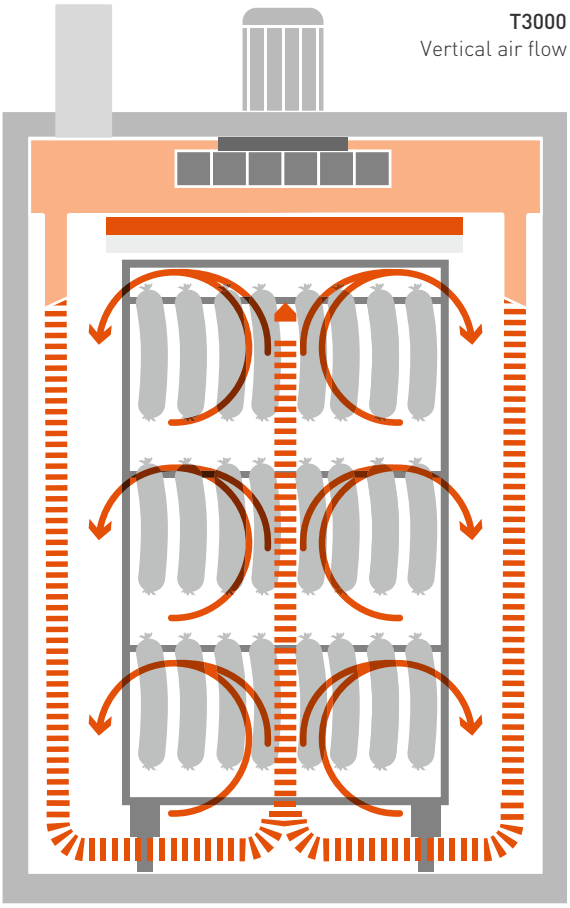
RATIO-LIQUID
Closed system

Quality based on tradition

Modern butcher's businesses face the challenge of having to produce high quantities at a consistently high quality and as low a price as possible. Turbomat **T3000** by FESSMANN can help you achieve both: Quality and productivity.

The proven FESSMANN technology with a stepless recirculating fan ensures an exquisite smoky flavour and accurately reproducible results. Minimal weight loss, fast process times and low maintenance and operating costs make this universal system profitable in no time. The automatic control allows you to manage the system easily with minimal manpower. If your capacities increase, the system grows with you thanks to its modular design. With our variety of models and features to choose from, the Turbomat universal system can be suited to your needs perfectly.

T3000
Vertical air flow



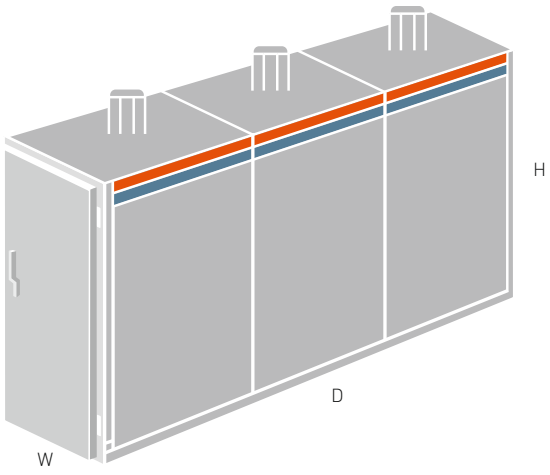
Technical data

T3000[1]		T3000/1	T3000/2	T3000/3	T3000/4	T3000/5	T3000/6
DIMENSIONS		1 TROLLEY	2 TROLLEYS	3 TROLLEYS	4 TROLLEYS	5 TROLLEYS	6 TROLLEYS
Floor space HP heating (W x D)	cm	151 x 136	151 x 246	151 x 356	151 x 466	151 x 576	151 x 686
Height with EL/HP heating, body	cm	250	250	250	250	250	250
Height with gas/oil heating, body	cm	220	265	265	–	–	–
Minimum room height EL/HP heating	cm	333	439	439	451	451	451
Recommended room height EL/HP heating	cm	340	439	439	451	451	451
Smoke trolley dimensions (H x W x D)	cm	198 x 104 x 102	198 x 104 x 102	198 x 104 x 102	198 x 104 x 102	198 x 104 x 102	198 x 104 x 102
Max. stick length	cm	100	100	100	100	100	100
HEATING CAPACITY							
Connection value for HP heat	kW	34	68	102	136	170	204
Connection value for EL heat	kW	28,35	56,7	85,05	113,4	141,75	170,1
Connection value for gas heat	kW	37	69	90	–	–	–
Connection value for oil heat	kW	37	69	90	–	–	–

[1] This data is merely a summary and must not be used for structural application. Please see the relevant dimension sheets for complete dimensions and power connections.

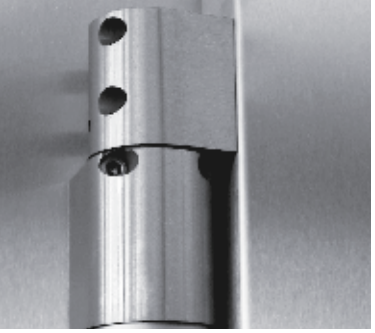
HP = heated with high pressure, EL = heated electrically, oil = heated with oil, gas = heated with gas

T3000
3 trolleys



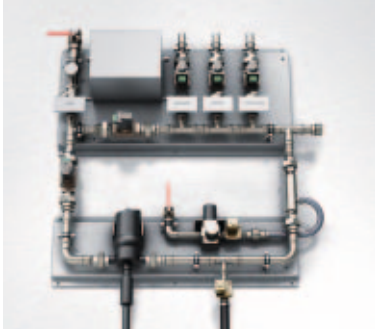
All benefits at a glance

- Made from all stainless steel with low installation height
- Automatic cleaning as standard feature
- Different means of heating available
- Optional with climate package for optimum maturation
- Stepless recirculating fan for best results and uniform smoking climate in the entire system
- Proven control mechanisms for reproducible results as standard feature
- Modular design for flexible expansion of up to 8 trolleys. Each expansion part includes its own heating and recirculation components for short production times with maximum quality
- Compatible with all smoke generators from the RATIO line

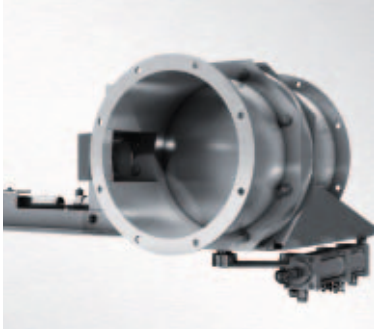


Stainless steel lifting hinge

Unique FESSMANN air flow



Automatic CIP cleaning



FESSMANN RATIO flap

"Up to 1.5 % higher yield with a consistent level of quality. That pays off."

All benefits at a glance

- Panel construction and central unit technology for top air flow and process performance
- More flexibility in realising custom product requirements thanks to stepless fan speed adjustment
- Higher system capacities due to faster process times = higher yield
- Compatible with all types of feed trolleys for industrial use
- Use of "extra long" feed trolleys and transport frames
- Automatic door opener as standard feature
- Automatic CIP cleaning system as standard feature

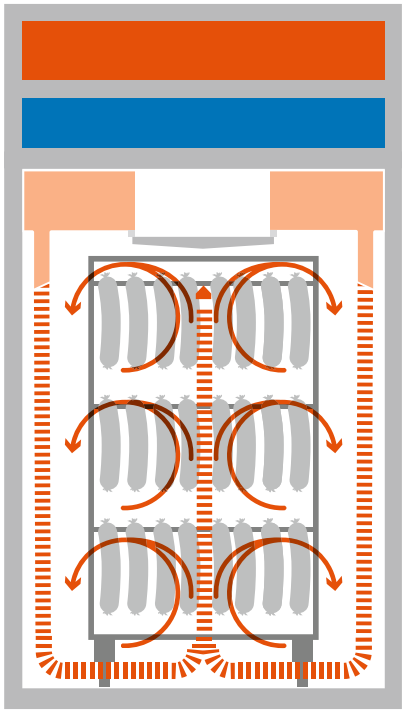
More flavour, more weight, more FESSMANN

The **Ti3000** industrial system generates 1.5 % more yield than other systems while maintaining the proven FESSMANN quality. Manufactured from all stainless steel and in steam-tight panel construction, the Ti3000 can be used for universal applications and specific demands. The central unit technology also makes it a flexible and cost-saving system with the highest air circulation capacities and short process times.

Benefit from higher system capacities and a reduced weight loss. New ventilation technology with central air recirculation ensures effective processing and unrivalled speed in smoking times with even faster drying times. At the same time, it provides a high degree of drying, optimal flavour and highest quality. The Ti3000 is the ultimate all-rounder for meat and fish processing.

It performs complete manufacturing processes with heating, drying, reddening, smoking, roasting, baking, hot-air cooking and cooking processes as well as optional shower cooling and cooling/dehumidification functions. The intelligent **FOOD.con2** control is intuitive and precise in operation and allows 99 different product programmes and even cold smoking processes to be stored.

Ti3000
Vertical air flow



Technical data

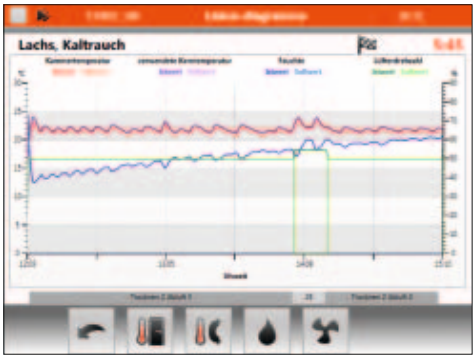
Ti3000[1]		Ti3000/3	Ti3000/4	Ti3000/5	Ti3000/6
DIMENSIONS		3 TROLLEYS	4 TROLLEYS	5 TROLLEYS	6 TROLLEYS
Floor space HP heating (W × D)	cm	151×356	151×466	151×576	151×686
Height with EL / HP heating, body	cm	273	273	273	273
Height with gas / oil heating, body	cm	273	–	–	–
Minimum room height EL / HP heating	cm	450	450	450	450
Recommended room height EL / HP heating	cm	500	500	500	500
Smoke trolley dimensions (H × W × D)	cm	198×104×102	198×104×102	198×104×102	198×104×102
Max. stick length	cm	100	100	100	100
HEATING CAPACITY					
Connection value for HP heat	kW	135	180	225	270
Connection value for EL heat	kW	118.8	158.4	158.4	–

[1] This data is merely a summary and must not be used for structural application. Please see the relevant dimension sheets for complete dimensions and power connections.

HP = heated with high pressure, EL = heated electrically, oil = heated with oil, gas = heated with gas

All benefits at a glance

- Easy operability: intuitive, clear and ergonomic programme outline
- Maximum availability and limited downtime thanks to self-diagnostics and fieldbus connection of important components
- Remote maintenance by external access allows service and programme optimisations around the clock
- Always precise and easy to see on the display during ongoing programs: progress of chamber temperature, core temperature, moisture level and more
- Batch input option
- Display on mobile devices possible
- Parallel monitoring and control of up to 4 systems
- Touch screen with special protective glass: easy operation and protection from moisture
- Various levels of password protection safeguard the programmes from unauthorised access



FOOD.CON 2 – easy, intuitive, precise

The new **FOOD.CON 2** control looks good, is easy to handle and keeps quality consistently high.

Producing high-quality products in the fish and meat processing industry means to balance the demand for flexibility in the manufacture of goods and ultimate process reliability. Constant monitoring of all processes and flow of goods without breaks as well as the careful documentation of each interference in the programme sequence are of the utmost importance: It is the only way to prevent mistakes that may lead to more severe downtimes or high costs later. To achieve this, we need software that stays in control even with the high number of processes running at the same time, the multitude of systems and the ever increasing requirements for process control that rise under pressure.

Being in the know with FOOD.LOG

The process monitoring software developed by FESSMANN offers user-friendly, Windows-based control mechanisms to simplify complex production sequences. **FOOD.LOG** gives you a comprehensive overview over all data required for the quality assurance of your products. It is ergonomic and intuitive and saves all relevant data in a database, thus making it easy to monitor multiple systems at the same time.

The right programme for each company. You can choose between **FOOD.LOG** basic, professional and enterprise to meet your individual needs for production monitoring. Perfect easy-to-handle process monitoring – with **FOOD.LOG**, you won't miss a thing. You can document any system and operating condition in a detailed manner. The programme records and saves all process-related data, such as chamber temperature and core temperature, F value, process duration and relative humidity. **FOOD.LOG** allows for accurate production control and verification management according to DIN ISO 9000.

All **FOOD.LOG** features at a glance:

- Process monitoring
- Process documentation
- Verification management
- Batch reporting
- Production optimisation
- Programme maintenance
- Failure management
- System monitoring
- Integration in EN ISO 9000–9004
- Links up to 32 systems, cooling and storage rooms per PC

"We strive to not only preserve the weight of your products, but also your energy."

ECO.LINE – An energy-efficient all-rounder

The new TURBOMAT systems by FESSMANN are particularly economical and flexible. Thanks to the advanced panel construction with Triplex insulation, heat loss was reduced by more than 20 percent.

The fully automated Cleaning-in-place system (CIP) ensures environmentally friendly and convenient self-cleaning. The frequency converter, which is a standard feature, allows the speed to be controlled individually and adds to the benefits: Different products can be processed in the same system.

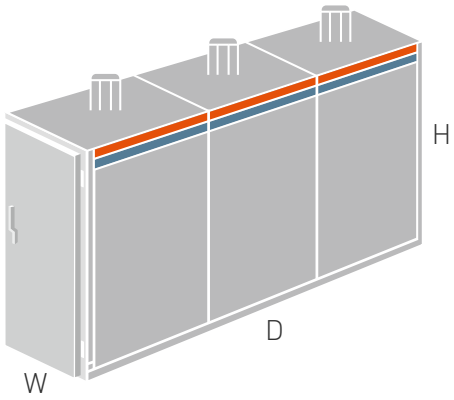
Our contribution to resource conservation

- All systems feature the unique Triplex insulation: Stainless steel side wall without thermal bridges plus PU foam insulation and additional plastic insulation panel
- Smart silicone gaskets seal any opening so that energy does not escape through covers or doors.
- Energy-efficient engines in all systems according to the latest EU standard (IEC 60034-30)
- Frequency converter for gentle and efficient product treatment
- The environmentally friendly CIP system minimises water and cleaning agent consumption thanks to intelligent control technology.
- State-of-the-art control technology optimises the cooling process and reduces energy consumption while still ensuring the same product quality
- FESSMANN Ratio smoke generators need up to 50 % less smoking material with more flexible and intense smoking results.
- The exhaust cleaning system **ECO.CLEANAIR** destroys all harmful flue gas components by its three-step process with minimal use of energie

Technical data

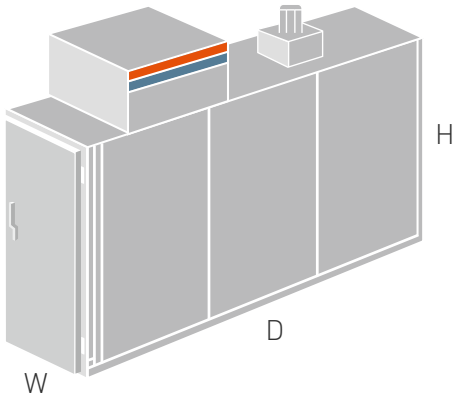
T3000[1]		T3000/1	T3000/2	T3000/3	T3000/4	T3000/5	T3000/6
DIMENSIONS		1 TROLLEY	2 TROLLEYS	3 TROLLEYS	4 TROLLEYS	5 TROLLEYS	6 TROLLEYS
Floor space HP heating (W x D)	cm	151 x 136	151 x 246	151 x 356	151 x 466	151 x 576	151 x 686
Height with EL/HP heating, body	cm	250	250	250	250	250	250
Height with gas/oil heating, body	cm	220	265	265	–	–	–
Minimum room height EL/HP heating	cm	333	439	439	451	451	451
Recommended room height EL/HP heating	cm	340	439	439	451	451	451
Smoke trolley dimensions (H x W x D)	cm	198 x 104 x 102	198 x 104 x 102	198 x 104 x 102	198 x 104 x 102	198 x 104 x 102	198 x 104 x 102
Max. stick length	cm	100	100	100	100	100	100
HEATING CAPACITY							
Connection value for HP heat	kW	34	68	102	136	170	204
Connection value for EL heat	kW	28,35	56,7	85,05	113,4	141,75	170,1
Connection value for gas heat	kW	37	69	90	–	–	–
Connection value for oil heat	kW	37	69	90	–	–	–

T3000
3 trolleys



Ti3000[1]		Ti3000/3	Ti3000/4	Ti3000/5	Ti3000/6
DIMENSIONS		3 TROLLEYS	4 TROLLEYS	5 TROLLEYS	6 TROLLEYS
Floor space HP heating (W × D)	cm	151 × 356	151 × 466	151 × 576	151 × 686
Height with EL / HP heating, body	cm	273	273	273	273
Height with gas / oil heating, body	cm	273	–	–	–
Minimum room height EL / HP heating	cm	458	458	458	458
Recommended room height EL / HP heating	cm	500	500	500	500
Smoke trolley dimensions (H × W × D)	cm	198 × 104 × 102	198 × 104 × 102	198 × 104 × 102	198 × 104 × 102
Max. stick length	cm	100	100	100	100
HEATING CAPACITY					
Connection value for HP heat	kW	155	210	250	300
Connection value for EL heat	kW	118.8	158.4	158.4	–

Ti3000
3 trolleys



"I am confident that the formulation and convincing technology along with the high reliability are key success factors for good products."

Uli Fessmann

All benefits of FESSMANN at a glance

- Smoke density can be controlled for individual and uniform taste
- Patented smoking system achieves consistent quality in the entire batch
- Very cost-effective due to minimal weight loss and perfect uniformity
- Reproducible results thanks to **FOOD.CON$_2$** control by FESSMANN
- Accurate production control and verification management thanks to **FOOD.LOG** process monitoring software by FESSMANN
- Smoke generators individually adjusted to meet your requirements
- Long-lived thanks to highest-quality materials and best processing
- Energy-efficient thanks to optimal insulation
- Future-proof: Heating optionally either with electricity, high-pressure steam, gas, thermal oil or oil
- Efficient exhaust cleaning by the thermos-catalytic afterburner **ECO.CLEANAIR**

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