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# Autoclaves for packaged food





**More versatility  
and food safety,  
lower costs and  
processing time.**

Start a business with your own line of packaged food and ready meals or plan an expansion of your current project. TERRA Food-Tech® will allow you to increase your productivity while meeting food hygiene and safety regulations.

Cook, pasteurize\* and sterilize your products with a single piece of equipment. TERRA Food-Tech® has designed a compact autoclave to produce packaged food that offers the best performance on the market.

\*Pasteurization requirements may vary depending on the acceptance criteria of each country. Check local regulations to determine the suitability of our equipment for your specific application.



"We are very pleased with our TERRA Food-Tech® autoclave. It has met our expectations and more importantly, it has allowed us to work with high quality and safety. Definitely, it has been an excellent acquisition."

**Luca Marchini**

Michelin star chef, owner of the restaurant L'Erba de Re and the gourmet preserves brand Bottega da Re





“Cook, pasteurize and sterilize using a single piece of equipment”



#### Adjustable $F_0$ and $P_0$

Pasteurize or sterilize professionally and accurately using  $F_0$  and  $P_0$  values.



#### Adjustable pressure support

Programmable pressure support according to the type of container.



#### Fast cooling

Fast cooling by water shower to avoid product overcooking.



#### Precise control

Every process is continuously monitored thanks to the core probe.



#### Safety

Excellent safety measures for the user and his products.



#### Traceability

Manage and record each process from start to finish with our software.



#### Memory

Storage of up to 50 programs.

“Innovate with greater agility”

NOTE: Pasteurization requirements may vary depending on the acceptance criteria of each country. Check local regulations to determine the suitability of our equipment for your specific application.



## Adjustable $F_0$ - $P_0$

**Adaptable to each recipe requirements.**

The autoclave can adjust these values according to each product's needs, minimizing changes in color, texture, smell and nutritional value.



Our autoclaves allow precise adjustment of  $F_0$  and  $P_0$  values, the maximum processing temperature to be reached and duration of processing time.

These values ensure optimal pasteurization or sterilization, protecting food from unnecessary heat exposure that may cause loss of organoleptic qualities or loss of nutritional value.



## Adjustable pressure support

**Programmable pressure support according to the type of container.**

Avoid deformation, breakage or spillage of your containers during fast cooling stage thanks to the integrated air compressor within the equipment that provides additional pressure in an intelligent way.

The pressure value can be set by the user either by time segments or using a single constant value during both thermal processing and cooling stage.

Its programmable pressure support will minimize pressure differences between the chamber and the inner pressure of containers, avoiding their breakage or deformation.







## Fast cooling

**Avoid unnecessary heat exposure.**



Once sterilization or pasteurization phase is finished, a fast cooling cycle begins, which lowers temperature through a water shower and water immersion system.

TERRA Food-Tech® autoclaves allow the option of choosing the number of chamber fillings and their respective duration, so each product can be cooled as fast as the user prefers or according to the product's needs.



## Precise control

**Cycle regulation by core probe or chamber probe.**



By using a temperature probe placed inside a product sample, we ensure a perfect control of the process, ensuring the correct elimination of all microbial life within each container, while also preserving the organoleptic properties and minimizing possible changes regarding the nutritional value of the packaged product.







## Safety features

Excellent safety measures for the user and his products.



Detection of positive pressure and protection against overpressure.



Safety valve and safety thermostat.



Door with opening sensor and thermally insulated cover.



Alarms, error messages and user admin control.



## Traceability

Manage and record the entire process.

All parameters are continuously monitored and recorded to ensure correct processing. If the expected parameters are not achieved, the program is interrupted and a warning message is generated.

In addition, the software allows report printing and analysis of each cycle in great detail.



VERY IMPORTANT  
TO PASS A FOOD  
SAFETY AUDIT





## Memory

**Storage for up to 50 different programs.**

- Programs with optional pre-cooking phase and adjustable cooling speed.
- Saves the values required to produce up to 50 different recipes.
- Easy to use and program.
- With color touchscreen.



**Adjustable temperature  
between 90 and 130°C.\***



**User admin control and automatic  
data recording for each cycle.**

\*For pasteurization at temperatures below 90°C, please contact us.



"The world of packaged food will always be a good business opportunity, as they have a long shelf life, can be kept at room temperature, maintain their nutritional properties and can be distributed to many sectors of society."

**Mireia Barba**  
President of Fundació Espigoladors  
and Es Im-perfect®.



"TERRA Food-Tech®'s autoclave has been a very important element for our business, without it we would not have been able to sell any of our products with a long shelf life. We are very happy with our autoclave and the consultancy services we received."

**Iris van Beers and  
Esther van der Hoeven**  
Founders of MixBlik, a social enterprise



"We needed a modern, intelligent, reliable and fully controllable autoclave to adapt it to our specific needs, and TERRA Food-Tech®'s autoclave has fully met our requirements."

**Xavier Roura**  
Founder of Spherience



"The importance of an autoclave is unquestionable because without it, it is impossible to pasteurize and/or sterilize and, therefore, you can't meet the requirements set by health authorities."

**Antoni Izquierdo**  
Chef of Mas dels Arcs Restaurant and founder  
of Antoni Izquierdo Gourmet





# Sectors and applications

TERRA Food-Tech® autoclaves are used in many sectors and applications.



✓  
**Restaurants and catering**

Restaurants, chefs, catering companies, central kitchens, hotel chains and culinary schools that want to prepare gourmet packaged food and ready meals in a convenient, flexible, safe and simple way.



✓  
**Research centers**

Benchtop and floor-standing autoclaves capable of performing tests for multiple R&D lines. These autoclaves have all the technology and versatility required by specialized centers in food science and technology, food ingredients, food formulation and packaging.

✓  
**Entrepreneurs**

Entrepreneurs, agrotourism businesses, farmers, cooperative groups, small producers and institutions that wish to prepare and market packaged food such as gourmet, artisanal or organic preserves.



✓  
**Food industry**

Establish a more versatile and agile production line for medium-range productions. Operators can also carry out trials and pilot batches without having to walk to another plant to use an industrial autoclave while affecting production schedule. You will also reduce energy costs and your environmental impact because these autoclaves do not require fossil fuels nor external steam boilers.



✓  
**Education in vocational schools**

Education in vocational schools, culinary schools and universities that want to train their students. Our autoclaves allow a complete simulation of commercial thermal processing, and they offer full control of multiple parameters, making it easy to analyze the results later on.



✓  
**Packaging industry**

Perform scientific research on new materials and packaging options, carry out internal quality control tests, stress tests, longevity studies as well as manufacture pilot batches in their own laboratories, without needing to travel or outsource those tests.



# Advantages regarding food production

The advantages of having an autoclave when marketing your packaged food and ready meals.



**Make your business a professional one**

Produce your food by working with  $F_0/P_0$  values and using fast cooling to refine your recipes, without losing its nutritional qualities, smell, color, texture and flavor.



**Comply with food safety regulations**

Obtaining individual records that detail the thermal processing of each batch will help you to comply with food safety and hygiene regulations required health authorities.



**Obtain profits from agricultural surpluses and foodstuffs discarded for their appearance**

Make your own packaged food from agricultural surpluses and prevent food waste. Promote a more sustainable and circular economy based on proximity commerce.



**Avoid cold chain costs and expand your horizons**

Sterilization allows you to distribute and market your products for a much longer period of time and into new markets without needing a cold chain during distribution or storage.



**New business opportunity**

Package your sauces or star dishes to reach a larger public and market your products wherever you want.



**Professional food safety**

TERRA Food-Tech® autoclaves can work with  $F_0$  and  $P_0$  values, so you can quantify and guarantee the correct elimination of microorganisms and spores according to your preferences.



**Increase the best-before date of your products**

By sterilizing your products, you can extend their best-before dates up to 5 years. If pasteurized, the best-before date can vary from weeks to up to 3 months.



**Take advantage of your idle hours**

Produce packaged food and ready meals during your kitchen's off-peak hours. Avoid food waste and obtain maximum profitability from your raw materials.





# Advantages for packaged food R&D

All the technology and versatility of an industrial autoclave in a compact size.



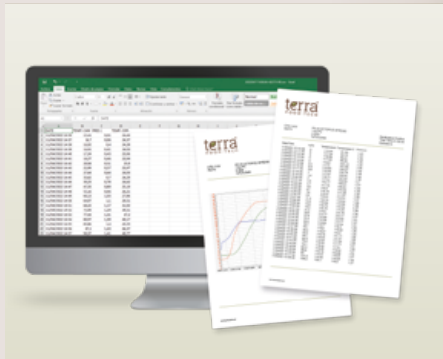
**Wide range of formats and capacities**

Choose the model, accessories and configuration according to your specific needs. Available in 3 benchtop models and 5 vertical models.



**Total parameter control**

Process regulation by core probe or chamber probe,  $F_0/P_0$  values, Z-value, reference temperature, pressure support values, cooling phase speed and chamber opening temperature.



**Specialized software and comprehensive reports**

Visualize and analyze each cycle's graphs with our specialized software. Comprehensive .PDF and .CSV reports can also be generated for each experiment.



**Ramps and  $\Sigma F_0$  &  $\Sigma P_0$  values**

Experienced users can customise pressure support and temperature ramps before and after thermal processing. The actual  $\Sigma F_0$  and  $\Sigma P_0$  values achieved are also displayed on screen and presented in the reports.



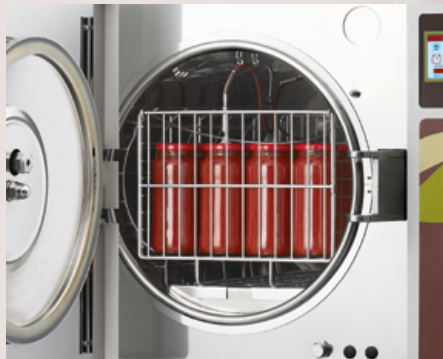
**Excellent versatility to program and manage your cycles**

5" TFT touchscreen color display with 50 programs available, customizable by name and featuring user admin control.



**Easy to install**

Compact design with integrated air compressor. To install the autoclave, all that is needed is a water inlet, a water outlet and an electrical connection. They do not require an external steam source or an external compressed air connection.



**Available accessories for all types of applications**

Specific accessories for all types of containers and applications. Validation accessories are also available.



**Speed up your innovation**

Perform your tests in your own laboratory autonomously, without needing to travel to another location, outsourcing your tests or booking time to use an industrial autoclave.





"The TERRA Food-Tech® autoclave plays a very important role in the development of our business, in terms of new products, lower defect rate, faster processing time and better preservation."

**Ignatius Zaldy**

EatNow Food Managing Director  
(MyMeal Catering)

## 15 reasons to buy your TERRA Food-Tech® autoclave

- 1.** Specialist manufacturer of autoclaves for packaged food, offering you technical support and food consultancy services.
- 2.** It allows you to comply with food safety and hygiene regulations.
- 3.** It maintains organoleptic and nutritional characteristics of your products.
- 4.** They are equipped with fast cooling to avoid damaging your containers or overcooking your recipes.
- 5.** Improve your productivity and reduce labor costs.
- 6.** Versatility for sterilizing or pasteurizing.
- 7.** Easy to install and use.
- 8.** Allows control of doneness during the process.
- 9.** Excellent security and traceability measures.
- 10.** Guarantees correct pasteurization or sterilization thanks to regulation based on  $F_0/P_0$ .
- 11.** Ability to work with either core probe or chamber probe control.
- 12.** Compatible with all types of food and containers.
- 13.** 50 programs available with control on multiple parameters.
- 14.** Adjustable pressure support according to the type of container through a powerful integrated air compressor.
- 15.** Choose among 8 different models, with capacities ranging from 21 to 175 liters.

NOTE: Pasteurization requirements may vary depending on the acceptance criteria of each country. Check local regulations to determine the suitability of our equipment for your specific application.



# Accessories

## General accessories



**Water softener**

TERRA Food-Tech® autoclaves require soft water. This prevents limescale residues from being deposited inside pipes and sterilization chamber.

**WATERSOFT**



**Specialized software**

Allows control, analysis and recording of all thermal processes carried out in the autoclave.

**SWTERRA**



**Integrated printer**

Prints tickets with data about each cycle: batch number, program name, parameter evolution, time and date, error messages. It must be installed in our factory.

**IT/TS**

## Specific accessories for vertical autoclaves



**Basket lifting cranes**

Fixed or mobile cranes for a safe and comfortable lifting of heavy loads inside the autoclave.

**ELEV-CLAV, ELEV-CLAV-R & MOB-LIFT**



**Standard and custom-made baskets and racks**

Reinforced baskets available in specific sizes for each autoclave model. Baskets and racks customization upon request.

**CVT**



**Modular tray support**

Stainless steel support. Different models available for each autoclave model.

**SRA-CFS**



**Silicone separators**

Protects delicate containers from aesthetic changes after processing.

**SEP-CFS**



**Additional core probe**

Install a second core probe, especially suitable for research environments. It must be installed in our factory.

**PT-2-CFS**



**Specific drilling kits**

Necessary to insert the core probe into the correct depth of the reference sample. Specific kits are available for different types of containers. All autoclaves include a drilling kit for containers with metal lids.

**KIT-CFS-T-V, KIT-CFS-T-H, KIT-CFS-PG-V & KIT-CFS-PG-H**



**Temperature recorder in disk format**

Temperature recorder in disk format with connection base and software. Temperature monitoring in hermetically sealed containers, especially suitable for doypacks and pouches.

**BDL-DISK3618**

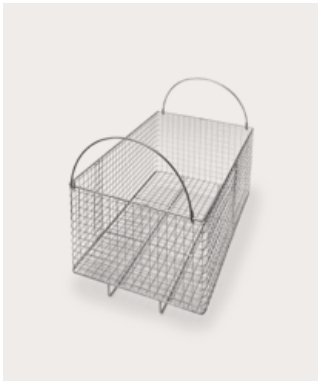
## Specific accessories for benchtop autoclaves



**Tray rack**

Stainless steel rack designed for placing trays.

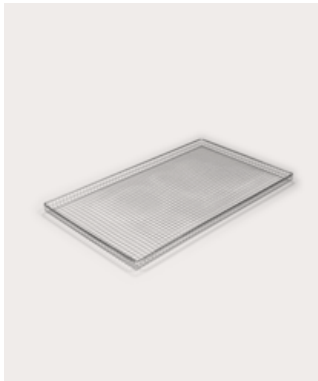
**ST**



**Rectangular basket**

Stainless steel basket for large loads.

**RB**



**Trays**

Stainless steel trays. A rack is required to place the trays inside the autoclave.

**BAH**



**Bag holder support**

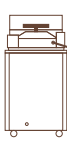

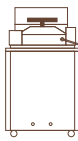

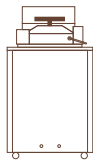



Stainless steel support to place flexible containers (such as pouches) inside benchtop autoclaves.

**BAP**



# Which is the right autoclave for you?

8 different models available.

|                                       |  |  |  |  |  |  |  |  |
|---------------------------------------|---|---|--|---|---|---|---|---|
|                                       | CFS-28V   | CFS-50V   | CFS-75V  | CFS-110V  | CFS-150V  | CFS-21H   | CFS-50H   | CFS-75H   |
| Total/usable chamber volume<br>L      | 33/30   | 55/48   | 79/73  | 115/104   | 175/150   | 21/19   | 55/50   | 79/75   |
| Usable chamber dimensions<br>Ø x H mm | 300 x 350   | 300 x 620   | 400 x 495  | 400 x 740   | 500 x 660   | 210 x 430   | 400 x 400   | 400 x 600   |
| External dimensions<br>L x D x H mm   | 505 x 580 x 1110  | 505 x 580 x 1290  | 610 x 700 x 1185   | 610 x 700 x 1435  | 750 x 820 x 1400  | 560 x 660 x 425   | 805 x 805 x 650   | 805 x 1005 x 650  |
| Power<br>W                            | 2000  | 2800  | 4500   | 6000  | 9000  | 2000  | 2800  | 3200  |
| Gross weight<br>Kg                    | 90  | 110   | 140  | 180   | 265   | 55  | 125   | 140   |
| Voltage*<br>V                         | 230 (1P+N+PE)   | 230 (1P+N+PE)   | 400 (3P+N+PE)  | 400 (3P+N+PE)   | 400 (3P+N+PE)   | 230 (1P+N+PE)   | 230 (1P+N+PE)   | 230 (1P+N+PE)   |
| Frequency<br>Hz                       | 50/60   | 50/60   | 50/60  | 50/60   | 50/60   | 50/60   | 50/60   | 50/60   |

\*Other electrical settings or voltages are available upon request.

## Not decided yet? ...we'll be glad to help you!



A free and online productivity calculator is available.

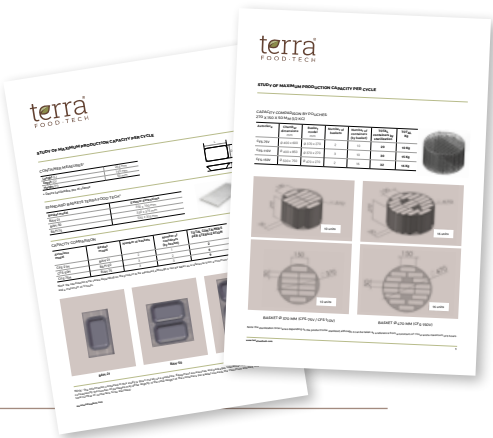
Enter the diameter and height of your cylindrical container and you will obtain the number of containers you can process per cycle for each model of our autoclaves.

[www.terrafoodtech.com/en/productive-capacity/](http://www.terrafoodtech.com/en/productive-capacity/)

### Customized productivity studies.

For applications involving non-cylindrical containers, such as pouches, plastic trays or plastic bags, please contact us and we will carry out a custom productivity study.

[foodconsultancy@terrafoodtech.com](mailto:foodconsultancy@terrafoodtech.com)



## Regulations

Our autoclaves comply with the following international regulations and standards:

EN-61010-1 Safety requirements for electrical equipment intended for measurement, control and laboratory use. Part 1: General requirements.

EN-61010-2-040 Part 2-040: Specific requirements for laboratory autoclaves.

EN-61326 Electrical equipment intended for measurement, control and laboratory use. Electromagnetic compatibility requirements.

2000-Merkblatt Pressure vessels.

2014/35/EU Low voltage.

2014/30/EU Electromagnetic compatibility.

2014/68/EU Pressurized equipments.

UNE-EN-ISO 9001:2015 Quality management systems.

UNE-EN ISO 14001:2015 Environmental Management Systems.







"At Foz-Clua Asparagus we are very happy with both the autoclave and the technical service. We would recommend it a thousand times over."

**Rubén Foz**

Owner of Foz-Clua Asparagus

## 360° customer support and food consultancy services

**We support you at all times. Before, during and after purchasing your autoclave.**

- We help you to choose the autoclave model and accessories that best suits your needs.
- We offer technical support and food consultancy services on application feasibility.
- We provide after-sales support wherever you are.
- We train your operators.



### After-sales services

- **Professional consultancy services**  
Our experts offer training and technical and food consultancy services adapted to your case. A dedicated TERRA Food-Tech® application specialist supports our customers.
- **Guided start-up**  
Installation review, training on equipment operation and guidance on software/program configuration.
- **Spare parts and repairs**  
We have a qualified technical team and a spare parts warehouse to attend as quick as possible any equipment malfunction or spare parts order.
- **Maintenance**  
We guide you about your autoclave's maintenance plan. Maintenance contracts are also available.

\*If on-site guided start-up is not possible, we offer a remote start-up option. Service availability is subject to geographic location. Some services are offered free of charge before and/or after ordering an autoclave, other services may be subject to certain fees. Some of the listed services will be offered by the manufacturer or by a TERRA Food-Tech® authorized distributor.





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