

CFS-H SERIES - INSTALLATION GUIDE

Information to consider before installing your TERRA Food-Tech® autoclave.

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ELECTRICAL CONNECTION STANDARD

The following table shows the plug configuration according to IEC and SCHUKO international standards. For customers who require other plugs and other electrical configurations, please contact our technical team at sat@terrafoodtech.com.

MODELS	FREQUENCY	POWER	AMPERES / PHASE	VOLTAGE	CONNECTION
CFS-21H	50/60 Hz	2000 W	9 A	230 (1P+N+PE) V	16 A 🚺
CFS-21H-115V	50/60 Hz	2000 W	17 A	120 (1P+N+PE) V	32 A 4
0	4				
16 A	32 A				

ELECTRICAL CONNECTION NORTH AMERICA

The following table shows the plug configuration according to the NEMA standard for the United States and other countries. For customers who require other plugs and other electrical configurations, please contact our technical team at sat@terrafoodtech.com.

MODELS	FREQUENCY	POWER	AMPERES / PHASE	VOLTAGE	CONNECTION
CFS-21H-115V-US	50/60 Hz	2000 W	17 A	120 (1P+N+PE) V	NEMA 5-30P 1
0					
5-30P					



CFS-21H

CONNECTIONS GRAPH









DRAINAGE CONNECTION

CFS-21H autoclaves have a STERILIZATION CHAMBER DRAIN AND STEAM PURGE OUTLET (5) which must be connected to a drainage using the provided hose. The autoclave mixes cold water from the mains with hot water coming from inside the sterilization chamber, which drastically reduces the temperature at which water is conducted to the drainage from a maximum of 70 °C to 50 °C depending on the cycle used and the mains water temperature.

To clean the drain filter, loosen the screw on the ACCESS TO THE DRAIN FILTER OF THE STERILIZATION CHAMBER (1) while placing the provided plastic tray underneath to collect any remaining water.







WATER TYPE	MG/L ¹	FH ²	DH ³	EH⁴
Soft water	≤17	≤1.7	≤0.95	≤1.19
Slightly hard water	≤60	≤6.0	≤3.35	≤4.20
Moderately hard water	≤120	≤12.0	≤6.70	≤8.39
Hard water	≤180	≤18.0	≤10.05	≤12.59
Very hard water	>180	>18.0	>10.05	>12.59

¹ Mg/L: calcium carbonate (CaCO₂) milligrams per liter of water.
² FH: French hardness (10.0 mg CaCO₃/L).

³ DH: German hardness (17.8 mg CaCO₃/L). ⁴ EH: English hardness (14.3 mg CaCO₃/L).



CFS-21H

WATER SOFTENER INSTALLATION

If you don't have a soft water main available where you intend to install your CFS-21H autoclave, we recommend using the WATERSOFT-11 water softener.

The WATERSOFT-11 water softener comes with all hoses needed for installation (hoses are 2 meters long), one particle filter equiped with a cartridge and a water hardness measuring kit.

The HARD WATER MAINS INLET (A) must be connected from the water softener to the water main with the provided 2m hose after going through the included sediment filter (water temperature from the main must be between 5 °C and 38 °C).

Soft water must be driven from the SOFT WATER OUTLET **(B)** to the STERILIZATION AND COOLING WATER INLET **(4)** of the autoclave using the 2m long included hose.

The pre-installed drainage hoses: MAIN DRAIN (C) and SAFETY OVERFLOW OUTLET (D) must be driven to the drain.

Water softener inlet and drainage hoses must always be visible and in good condition.

Water softener dimensions: L x D x H: 290 x 530 x 660 mm

Sediment filter dimensions: L x D x H: 170 x 140 x 340 mm









AUTOCLAVE MAINTENANCE

Autoclaves are like cars: they need regular maintenance for them to work properly, to ensure good condition, prevent deterioration of its components, and maximize their useful life. Frequent cleaning and regular maintenance are essential, as autoclaves work at high pressures and temperatures and are therefore subject to a high level of stress.

We recommend adjusting the schedules of maintenance and cleaning tasks such as the automatic cleaning program or cleaning of the sterilization chamber according to the frequency of equipment use.



DAILY MAINTENANCE

Clean the gasket and the interior of the sterilization chamber door using a clean cotton towel with a soft vinegar solution (or similar product) to minimize the appearance of lime deposits.

For external surfaces, use a clean cotton towel with a little bit of water and neutral detergent. Dry all surfaces afterwards. Finally, check for residues or food leftovers inside the sterilization chamber before using it again.



WEEKLY MAINTENANCE

Execute the predefined automatic cleaning program and clean the inside of the sterilization chamber, heating elements protective cover, frame and trays.

To start the sterilization chamber cleaning, a small amount of neutral detergent must be added inside the sterilization chamber; then start the default P1-CLEANING program in the equipment. It is important to perform this operation without any product load, only with the frame, trays, and resistance protective rack.



For external surfaces, use a clean cotton towel with a little bit of water and neutral detergent.

If lime deposits appear inside the sterilization chamber, this means the water used for feeding the autoclave is too hard and the status of the water softening system must be checked.



MONTHLY MAINTENANCE

CFS-21H autoclaves have a particle filter that captures any possible leftovers from processed samples. It is located at the lower front part behind the sterilization chamber door.

Depending on application and usage, we recommend a monthly cleaning of the particle filter. With time, this filter should be replaced with a new one.

To clean the particle filter, loosen the cap detailed in the picture at the bottom of the page using a screwdriver (place the provided plastic tray beneath to collect any trapped water). Then place the filter under a water stream. Use hot water and a scourer to remove any embedded leftovers.

Also, pay special attention to cleaning the electrodes which control the water level. They are located inside the sterilization chamber and are critical to the proper functioning of the equipment. They must be cleaned gently using a scourer to remove accumulated lime or food leftovers. Always leave the metal of the electrodes clean and visible.







Electrodes which control the water level located inside the sterilization chamber.



CFS-21H



- Do not use metal towels or brushes, or other abrasive materials or products to clean the autoclave and its parts.
- Do not use chemicals or other substances not recommended by the manufacturer for cleaning the sterilization chamber.
- Do not use acid cleansers, bleach solvents or saline solutions for cleaning.
- Try to periodically eliminate lime deposits and food leftovers from inside the sterilization chamber, door or gasket.



ELECTRICAL CONNECTION STANDARD

The following table shows the plug configuration according to IEC and SCHUKO international standards. For customers who require other plugs and other electrical configurations, please contact our technical team at sat@terrafoodtech.com.

MODELS	FREQUENCY	POWER	AMPERES / PHASE	VOLTAGE	CONNECTION
CFS-50H	50/60 Hz	2800 W	12 A	230 (1P+N+PE) V	16 A 1
CFS-50H-115V	50/60 Hz	2800 W	23 A	120 (1P+N+PE) V	32 A 4
CFS-75H	50/60 Hz	3200 W	14 A	230 (1P+N+PE) V	16 A 1
CFS-75H-115V	50/60 Hz	3200 W	27 A	120 (1P+N+PE) V	32 A 4



ELECTRIC CONNECTION NORTH AMERICA

The following table shows the plug configuration according to the NEMA standard for the United States and other countries. For customers who require other plugs and other electrical configurations, please contact our technical team at sat@terrafoodtech.com.

MODELS	FREQUENCY	POWER	AMPERES / PHASE	VOLTAGE	CONNECTION
CFS-50H-115V-US	50/60 Hz	2800 W	23 A	120 (1P+N+PE) V	NEMA 5-30P 1
CFS-75H-115V-US	50/60 Hz	3200 W	27 A	120 (1P+N+PE) V	NEMA 5-50P 2
5-30P	5-50P				





COMPONENTS INCLUDED

In addition to the accessories chosen at the time of purchase of the autoclave (basket, bag supports, frame, trays, water softener, software kit, additional drilling kits, etc.), the following components are always included:

1 stainless steel protective cover for the heating elements to place on the inner base of the sterilization chamber.

MODELS	DIMENSIONS
CFS-50H	235 x 370 mm
CFS-75H	235 x 570 mm

1 auxiliary plastic tray, 250×350 mm, to collect the condensed water after opening the door or while cleaning the filter.

3 reinforced NBR hoses 2 m long with 3/4" connection at both ends for threaded connection to the equipment and tap (gaskets included).

- For:
- 4. STERILIZATION AND COOLING WATER INLET
- 7. STEAM PURGE OUTLET
- 8. STERILIZATION CHAMBER DRAIN OUTLET

Drilling kit for containers with metallic lids with the following components:

- 1 perforation bore
- 10 Ø4 mm rubber gaskets
- 5 Ø4 mm rubber O-rings
- 5 metallic drill nuts
- 16 plastic spacers, 2 of each of the following sizes: 20, 30, 40, 50, 60, 70, 80 and 90 mm

DRAINAGE CONNECTIONS

CFS-50H and CFS-75H autoclaves have a STERILIZATION CHAMBER DRAIN OUTLET (8) and a STEAM PURGE OUTLET (7) which must be connected independently to a drainage using the provided hoses. These autoclaves mix cold water from the mains with hot water coming from inside the sterilization chamber, which drastically reduces the temperature at which water is conducted to the drainage from a maximum of 70 °C to 50 °C depending on the cycle used and the mains water temperature.

To clean the drain filter, loosen the screw on the ACCESS TO THE DRAIN FILTER OF THE STERILIZATION CHAMBER (1) while placing the provided plastic tray underneath to collect any remaining water.

WATER TYPE	MG/L ¹	FH ²	DH ³	EH⁴
Soft water	≤17	≤1.7	≤0.95	≤1.19
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AUTOCLAVE MAINTENANCE

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We recommend adjusting the schedules of maintenance and cleaning tasks such as the automatic cleaning program or cleaning of the sterilization chamber according to the frequency of equipment use.

DAILY MAINTENANCE

Clean the gasket and the interior of the sterilization chamber door using a clean cotton towel with a soft vinegar solution (or similar product) to minimize the appearance of lime deposits.

For external surfaces, use a clean cotton towel with a little bit of water and neutral detergent. Dry all surfaces afterwards. Finally, check for residues or food leftovers inside the sterilization chamber before using it again.

WEEKLY MAINTENANCE

Execute the predefined automatic cleaning program and clean the inside of the sterilization chamber, heating elements protective cover, frame and trays.

To start the sterilization chamber cleaning, add a small amount of neutral detergent inside the sterilization chamber, then start the predefined P1-CLEANING. It is important to perform this operation without any product load, only with the frame, trays, and heating elements protective cover.

For external surfaces, use a clean cotton towel with a little bit of water and neutral detergent.

If lime deposits appear inside the sterilization chamber, this means the water used for feeding the autoclave is too hard and the status of the water softening system must be checked.

MONTHLY MAINTENANCE

CFS-50H and CFS-75H benchtop autoclaves have a particle filter that captures any possible leftovers from processed samples; it is located at the lower front part behind the sterilization chamber door.

Depending on application and usage, we recommend a monthly cleaning of the particle filter. With time, this filter should be replaced with a new one.

To clean the particle filter, loosen the cap detailed in the picture at the bottom of the page; place the provided plastic tray beneath to collect any remaining water. Then place the filter under a water stream. Use hot water and a scourer to remove any embedded leftovers.

In addition, there is a buoy in the inner base of the sterilization chamber which measures and controls the water level during cycles. This is a very important component for correct equipment operation.

GENERAL WARNINGS

- Do not perform any maintenance task without previously ensuring the autoclave power is off.
- Do not wash the autoclave using direct water jets; possible water filtrations inside the autoclave may affect its parts and proper operation.
- Do not use sharp or cutting tools either while cleaning the sterilization chamber or cleaning exterior surfaces.
- Do not use metal towels or brushes, or other abrasive materials or products to clean the autoclave and its parts.
 Do not use chemicals or other substances not recommended by the manufacturer for cleaning the sterilization chamber.
- Do not use acid cleansers, bleach solvents or saline solutions for cleaning.
- Try to periodically eliminate lime deposits and food leftovers from the sterilization chamber, door or gasket.

