



Care & maintenance guide

Proper cleaning and disinfection of Heratherm environmental chambers

Proper maintenance is crucial for ensuring
optimal performance and longevity

Introduction

Thermo Scientific™ Heratherm environmental chambers are thoughtfully designed to help provide precise temperature and environmental control. They are equipped with innovative technology to help ensure reliable, sustainable performance. Heratherm environmental chambers are advanced laboratory equipment designed for use across a variety of applications, such as microbial incubation and materials stability testing. Engineered to help meet the rigorous demands across scientific disciplines, from biotechnology and pharmaceuticals to environmental science, Heratherm environmental chambers combine precision, reliability, and user-friendly operation to support innovation.

Understanding proper maintenance of Heratherm environmental chambers is crucial for enabling their optimal performance and longevity. Regular care not only helps in maintaining accuracy and reliability of environmental control, but it also protects your samples and can extend the operational life of the equipment. Key practices include routine cleaning of interior surfaces, exterior housing, door, and drains. A proactive approach to maintenance ultimately contributes to the overall success of research and industrial applications performed with these chambers. This note will review best practices for cleaning and disinfecting Heratherm environmental chambers.



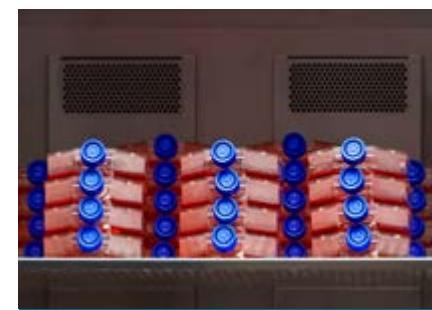
Incubation



Stability



Light



CO₂

Recommended cleaning agents

Simple and readily available cleaning agents can be used in your routine care of the Heratherm environmental chamber. For cleaning detergents, we recommend using only mild soap with minimum dwell or exposure time. For all disinfectants, including weak acids, bases, and alcohols, follow the manufacturers' recommendations for use and dwell time. We recommend following with 70 % EtOH or 70 % IPA to remove the disinfectant residues. Additionally, glass can be cleaned with nonabrasive commercial glass cleaner. Table 1 lists examples of recommended disinfectants. Gloves and eye protection should always be worn when handling chemical disinfectants.

If you have additional questions about cleaning agents, please contact your sales representative.

Table 1. Recommendations for chemicals used in manual wipe disinfection of Heratherm environmental chambers. These disinfectants have proven compatibility with stainless steel and glass when used according to manufacturer's recommendations. 70% EtOH or 70% IPA are excellent choices for use following any other chemical, to remove residues that could cause corrosion over time.

Type	Concentration	Example brand
Ethanol	70 %	Any (common)
Isopropanol	70 %	Any (common)
Quaternary ammonium	10 % or less (2 % or less is best)	Conflakt™, Lysol™ No Rinse, Fermacidal D2™
Hydrogen peroxide	6 %	Any (common)
Hydrogen peroxide	1 % / 0.8 % / <10 %	Spor-Klenz™ Ready-to-Use (RTU) Sterilant (Steris Life Sciences)

Improper cleaning agents or rinsing

We suggest using the mildest cleaning procedure that will do the job effectively. Dilution is recommended for all cleaning solutions. Do not use incompatible cleaning agents. Some device components are made of plastic, which can be dissolved or made brittle. Do not use solvents that contain any of the following:

- Sodium hypochlorite (bleach)
- Hydrocarbons
- Strong acids or bases
- Caustic solutions
- Solvents with alcohol-content of > 10 %
- Enhanced peroxide

Bleach-containing solutions may cause pitting and rust of stainless-steel surfaces. Stainless steel is corrosion resistant, not corrosion proof.

Leftover moisture can damage surfaces due to corrosion. Moisture dissolves alkaline materials (sodium / Na), which can concentrate when the moisture evaporates. This can leave white discoloration or cloudiness on surfaces. Chemicals with a pH above 9 accelerate this corrosion process. To summarize: after using proper cleaning and disinfecting agents, always remove residues with distilled water and 70% alcohol.

Cleaning schedule

It is important to set a regular cleaning schedule to help ensure proper operation of the chamber. Not all components have to be cleaned with the same frequency, depending on use and the ambient space in which the equipment is set up. At minimum, we recommend disinfecting:

- **Monthly:** Inner Chamber
- **Quarterly:** Exterior Surface, Water Reservoir
- **Annually:** Drains, Panels

The inner chamber should be cleaned the most often, due to the likelihood of spills or residue remaining

from stored samples. If you notice any spills, we recommend cleaning as soon as possible to avoid any potential risk to your workflow and unit. The frequency of cleaning and disinfecting can be adjusted according to your site's requirements and Standard Operating Procedures (SOPs) to meet your specific application needs. The drains and panels of the Heratherm chamber require infrequent cleaning and disinfection, but they should be inspected at least once or twice a year for any accumulated dirt, dust, or residue.





Procedure for cleaning inner chamber

Regular cleaning of the environmental chamber is a necessity to help protect your samples from contamination and to keep chamber functioning properly. Carefully follow these simple steps:

1. Remove all samples and accessories from the workspace, including all the shelves, the shelf supports, and any brackets.
2. Clean all the internal surfaces, shelves, shelf supports, inner door, and door gaskets with mild soapy water. The stainless-steel chamber with coved corners makes this task easier.
3. Wipe the interior surfaces and parts with a recommended disinfectant. Allow time for the disinfecting agent to act as specified by the manufacturer.
4. Rinse these surfaces and parts using distilled water and wipe them dry again using a clean, lint free cloth.
5. Follow this by wiping with 70 % alcohol to remove any remaining traces of the disinfectant. Again, be sure to reach all the corners, and remember to treat the door gasket as well. Reinstall internal parts.
6. Now you can turn environmental chamber back on and allow it to dry completely.

Wear gloves and safety goggles when disinfecting the inner chamber. Cleaning agents and disinfectants can cause skin or eye irritation. Spilled solutions may react with cleaning agents, so mouth and respiratory protection may also be needed.

Exterior surface cleaning

Thoroughly remove dirt residues and deposits using a solution of tepid water and dishwashing agent. Wipe the surfaces clean using a clean cloth and clear water. Then, wipe the surfaces dry using a new clean cloth. Always rub in the direction of the finish polish lines. For the Heratherm glass door models (ESS750, EIS750), apply nonabrasive commercial glass

cleaner and wipe dry. A soft cloth is recommended. Wiping the exterior with a soft cloth, like microfiber, is recommended between full cleanings to remove any accumulated dust.

Please note: the touch-screen display is moisture sensitive, so do not directly spray it with cleaning agent or wipe with a wet cloth. Clean using a dry cloth of 100 % microfiber.

Procedure for cleaning water reservoir and connector

Both the water reservoir and connection tube can be cleaned at the customer's discretion, but we recommend cleaning and disinfecting them at least once per quarter.

1. Remove the integrated water reservoir from the unit via front panel access.
2. Disconnect the water tube at the CPC connector on the water reservoir and by the pump. The connection from the reservoir to the Heratherm chamber is visible on the back of the unit.
3. Rinse the tube with a mild cleaning detergent, followed by 70 % alcohol and distilled water. Replace the tube completely if it is fouled.
4. Clean the reservoir using a mild cleaning detergent, followed by 70% alcohol, and rinse with distilled water.
5. Connect the tubing and reinstall the reservoir.



Procedure for cleaning drain and panel

For the condensate drain:

1. First, pull the temperature sensor out slightly and turn it away from the upper air baffle.
2. Loosen two bolts (1, Figure 1) and unhook to remove the air baffle (2, Figure 2) to the chamber.
3. The drains (3 and 4, Figure 2) can now be cleaned with a suitable soft brush. Repeat the process for the lower air baffle and drain.

For the Peltier-System:

1. Remove all internal samples and accessories to make the in-chamber Peltier-System accessible for cleaning.
2. Pull the temperature sensor off the air baffle, loosen the two bolts and remove the baffle. This allows cleaning of the rear interior wall behind the heating-cooling system.

You can also clean the Peltier-System fan. To do so:

1. Loosen the cable connector (3, Figure 3) and fixing bolts (2, Figure 3) but do not remove them completely.
2. Remove the Peltier fan (1 and 4, Figure 3).
3. Carefully wipe with mild disinfectant and follow with distilled water. Be sure not to get moisture onto the cable connector.

Precise control, exceptional results

Let our Heratherm environmental chambers address all of your stability and incubation needs. Thoughtful, sustainable and modern, the Heratherm environmental chamber is designed to deliver precise control with exceptional results. Using the information above, we hope you better understand how to clean and care for your environmental chamber. With proper care, we know the Heratherm environmental chamber will be central to your workflows for years to come.

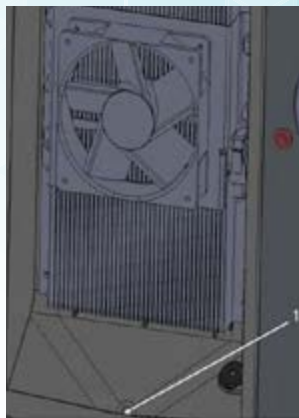


Figure 1. Condensate drain (1)

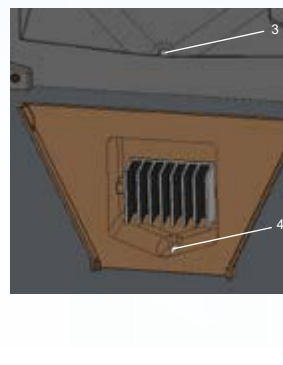
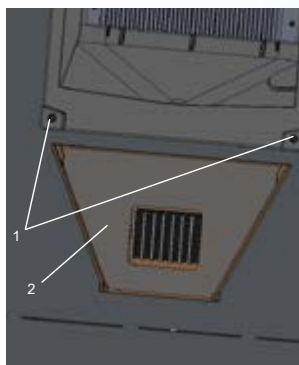


Figure 2. Lower condensate drain (1 bolts, 2 baffle, 3 & 4 drains)



Peltier-System Cleaning (1 fan, 2 bolts, 3 cable connector, 4 fan = remove)



2025 Care & maintenance calendar

Plan now, worry less

January						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February						
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23	24	25	26	27	28	

March						
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23	24	25	26	27	28	29
30	31					

April						
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27	28	29	30			

May						
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25	26	27	28	29	30	31

June						
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July						
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27	28	29	30	31		

August						
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					1	2
3	4	5	6	7	8	9
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17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September						
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	1	2	3	4	5	6
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28	29	30				

October						
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			1	2	3	4
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26	27	28	29	30	31	

November						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
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23	24	25	26	27	28	29
30						

December						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			



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