



AerosolSense 2900 Sampler Manual

In-air pathogen surveillance solution

Part Number 121561-00

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Chapter 1

Introduction

The Thermo Scientific™ AerosolSense™ Sampler, a new pathogen surveillance solution, is designed to deliver timely and highly reliable insight into in-air pathogen presence for monitoring and improving facility safety protocols. Confidently help protect employees and communities while maintaining business and operational continuity.



Figure 1–1. AerosolSense 2900 Sampler

Features

The AerosolSense Sampler has the following features:

- Continuous sampling
- Small, easy to use design, lightweight and portable
- Highly sensitive and stable aerosol collection and separation technology
- Validated for Flu A/B, SARS-CoV-2 and RSV A/B, the design is intended to capture a wide variety of in-air pathogens

Product Description

The sampler collects air samples through an omnidirectional inlet. A sample cartridge installed into the sampler contains the collection substrate. The air sample is directed toward the collection substrate through an accelerating slit impactor. Particles are trapped on the collection substrate as the air is drawn through the sampler. After the sampling cycle, the sample cartridge is removed, placed into a biohazard bag, and sent to a laboratory for PCR testing. There are two laboratory testing options: (1) self-testing at on-site lab, or (2) Thermo Fisher Scientific testing services.






LED GUIDE		
LED COLOR	LED INDICATION	ACTION TO TAKE
 Blinking Green	Cartridge was installed correctly (door open)	Close door.
 Yellow	Ready for sampling (door closed)	No action required. Sampling will start shortly.
 Green	Active sampling (door closed)	No action required.
 Non-illuminating	Unit off	No action required.
 Red	Door closed – sampling error Door open – cartridge removal	Check the door and cartridge states.

Figure 1–2. Sampler LED Guide

Required Materials Not Included with the Device:

- Personal Protective Equipment (PPE)
- Applicable EPA-approved disinfectant



Warning Use CDC standard precaution guidelines, including hand hygiene and personal protective equipment (PPE) when handling the sampler and sample cartridge. ▲



Equipment Damage Do not attempt to lift the sampler with the inlet cap. ▲

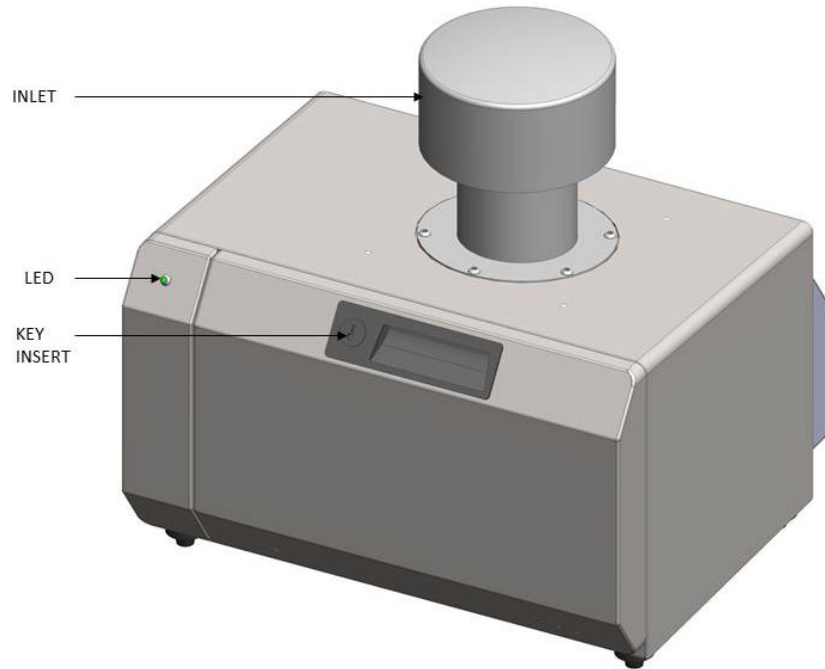


Figure 1–3. AerosolSense Sampler Front View

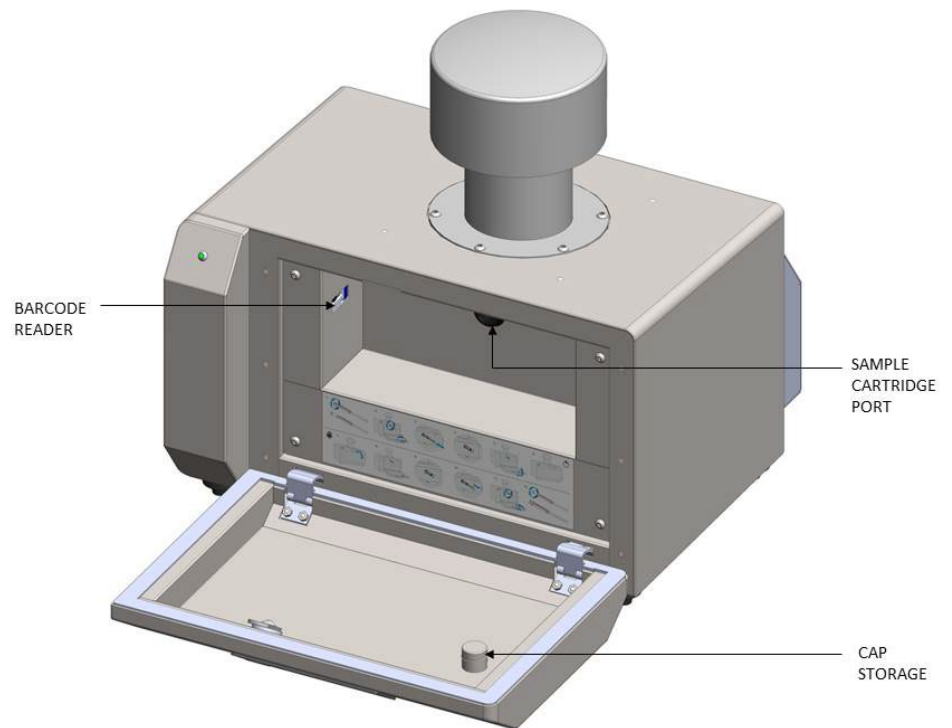


Figure 1–4. AerosolSense Sampler Inside View

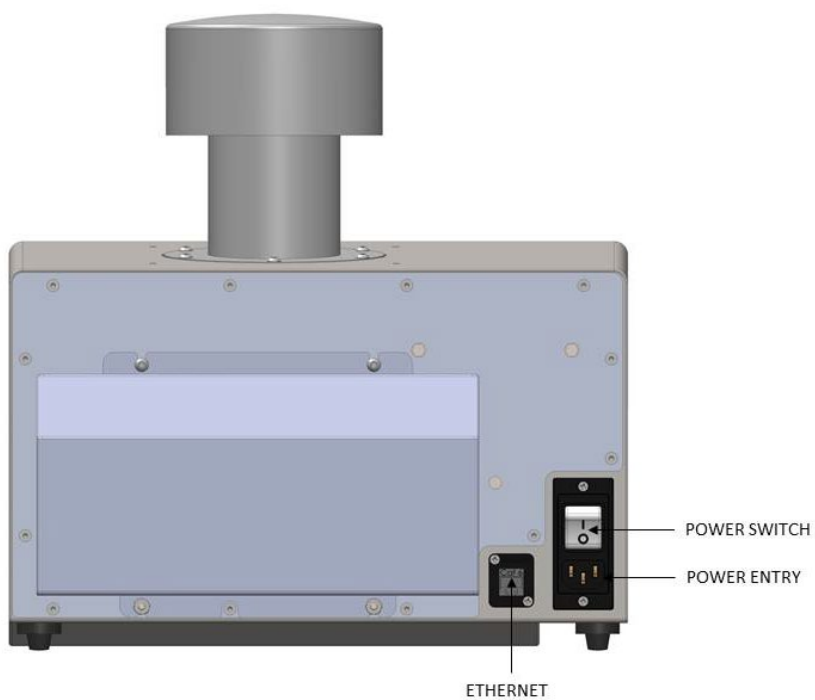


Figure 1–5. AerosolSense Sampler Back View

Specifications

Table 1–1 lists the specifications for the AerosolSense Sampler.

Table 1–1. AerosolSense Sampler Specifications

Dimensions	14.5" (H) x 14" (W) x 13" (L)
Weight	26 lbs
Sample collection holder and media	Single-use sampling cartridge containing (2) 1-inch collection substrates
Safety and electrical designations	TUV-SUD, CE, UKCA, ROHS
Sample flow control	200 L per minute
Operating temperature	5–45 °C
Status indicator	3 color LED
Power consumption	100-240 VAC 50-60 Hz 125 Watts
Dust interference (PM ₁ -PM _{2.5} -PM ₁₀)	Minimum impact (80-1050 µg/m ³)
Humidity interference	Minimum impact (over 10-90% RH)

Chapter 2

Basic Operation

This chapter includes setting up the sampler, installing and removing the sample cartridge, and result availability.

Setting up the Sampler

1. Place the sampler on a flat surface 2 to 5 feet off the ground with the inlet and exhaust unobstructed.
2. Plug the power cord into an outlet with the appropriate voltage.



WARNING

Equipment Damage The AerosolSense Sampler is supplied with a three-wire grounding cord. Under no circumstances should this grounding system be defeated. ▲

3. Toggle the power switch to the ON position.
4. Sampler is ready for sample cartridge installation.

Sample Cartridge Parts

The AerosolSense Sampler can only use this specific sample cartridge:

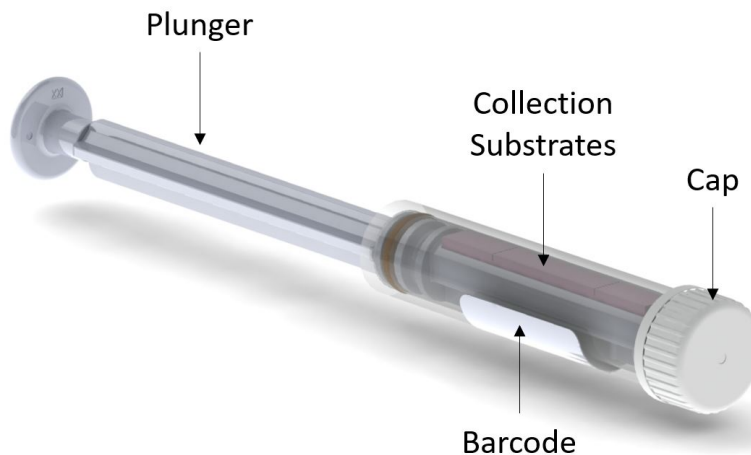


Figure 2–1. Sample Cartridge Parts

Note Two training sample cartridges are included in the box with the sampler. These are for training purposes only. Do not use for active sampling or send to lab for testing. ▲

Installing the Sample Cartridge

Use the following procedure to install the sample cartridge in the sampler:

1. Open the front door of the sampler using the key.
2. Unscrew the sample cartridge cap and screw it onto the tray for storage.

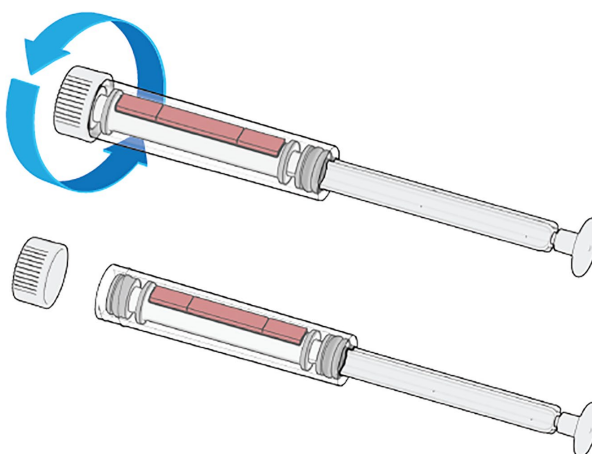


Figure 2–2. Unscrewing the Sample Cartridge Cap

3. Align the cartridge with the sample cartridge port on the sampler.

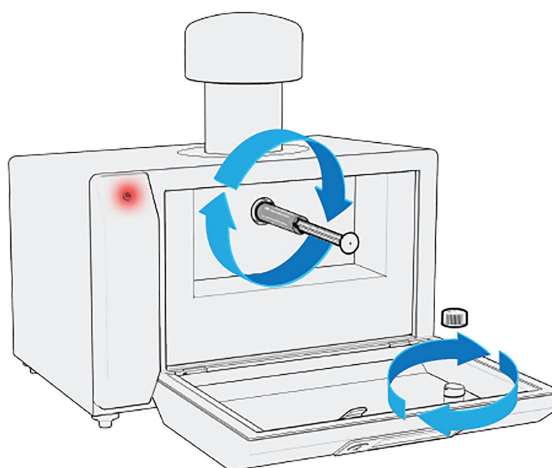


Figure 2–3. Aligning the Cartridge

Basic Operation

Installing the Sample Cartridge

4. Turn the cartridge clockwise to screw it on until it no longer turns.
5. Make sure that the collection substrate is facing up.

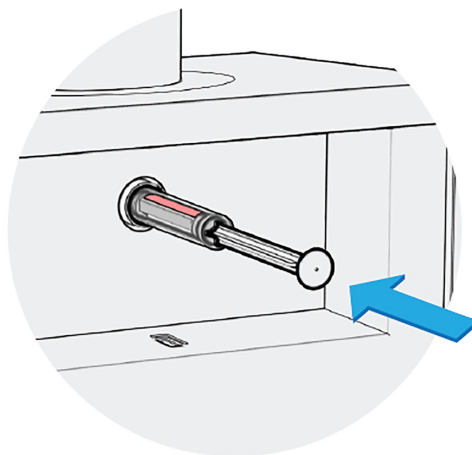


Figure 2–4. Collection Substrate Facing Up

6. Fully push in the plunger. The LED will flash green when the plunger is fully insert, indicating the sample cartridge was properly installed.

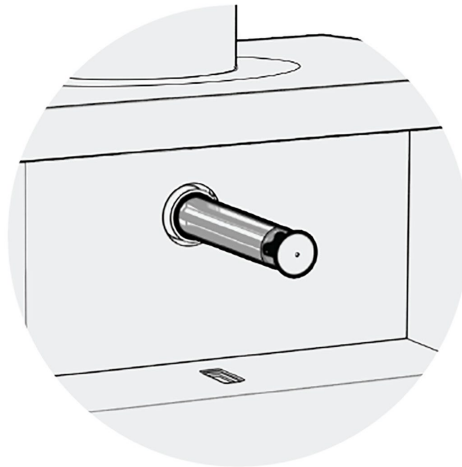


Figure 2–5. Plunger In

7. Close the door and lock using the key. The LED will be solid yellow to show the system is ready to sample.

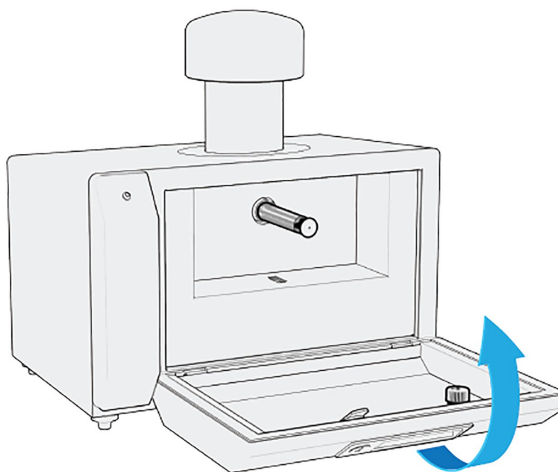


Figure 2–6. Closing the Door

8. The LED will turn green shortly and sampling will start.

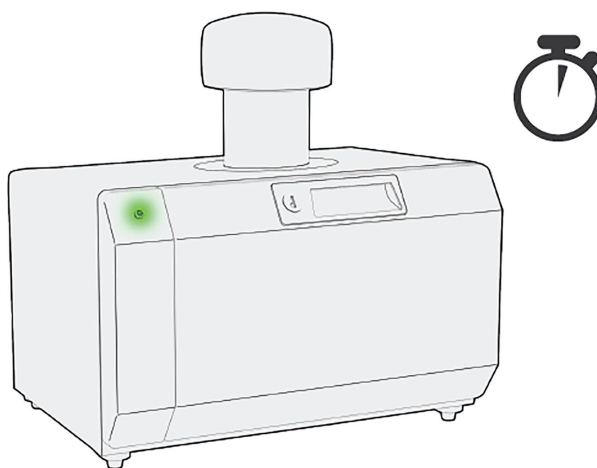


Figure 2–7. Sampling

Removing the Sample Cartridge

Use the following procedure to remove the sample cartridge:

1. When the sampling time has elapsed, proceed to remove the sample cartridge. The LED will remain green until the sampler door is opened. When the door is opened the LED will turn red. Note: The key is needed to open the door.
2. Open the front door using the key.

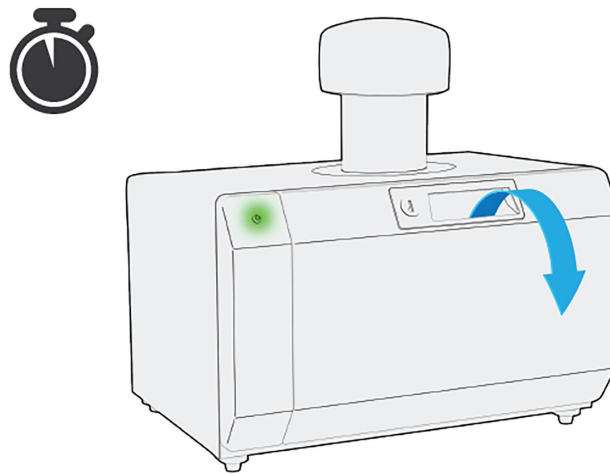


Figure 2-8. Opening the Door

3. Pull out the plunger all the way.

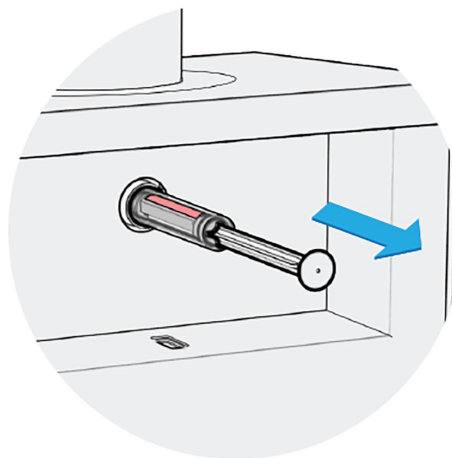


Figure 2-9. Pulling Out the Plunger

4. Turn the cartridge counter-clockwise until it comes out of the sample cartridge port.

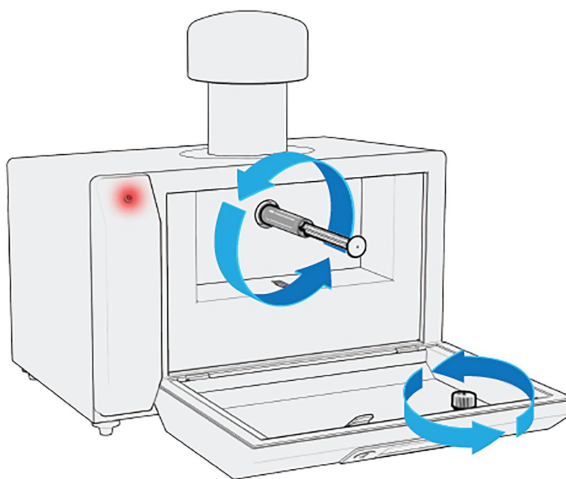


Figure 2–10. Turning the Sample Cartridge Counter-Clockwise

5. Screw on the cartridge cap.

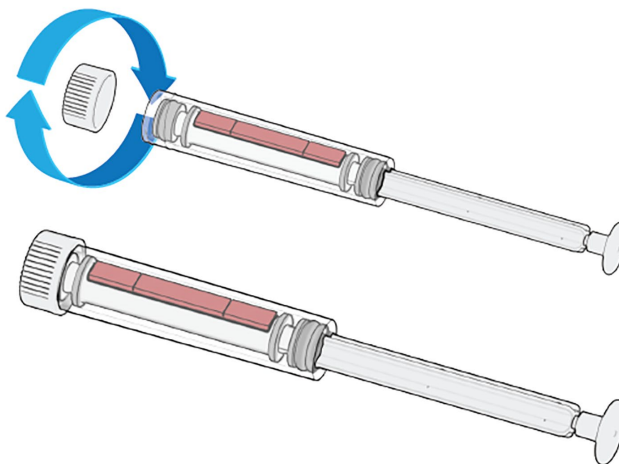


Figure 2–11. Sample Cartridge Cap

6. Place the cartridge into the biohazard bag, which is included, and seal the bag.

Basic Operation

Removing the Sample Cartridge

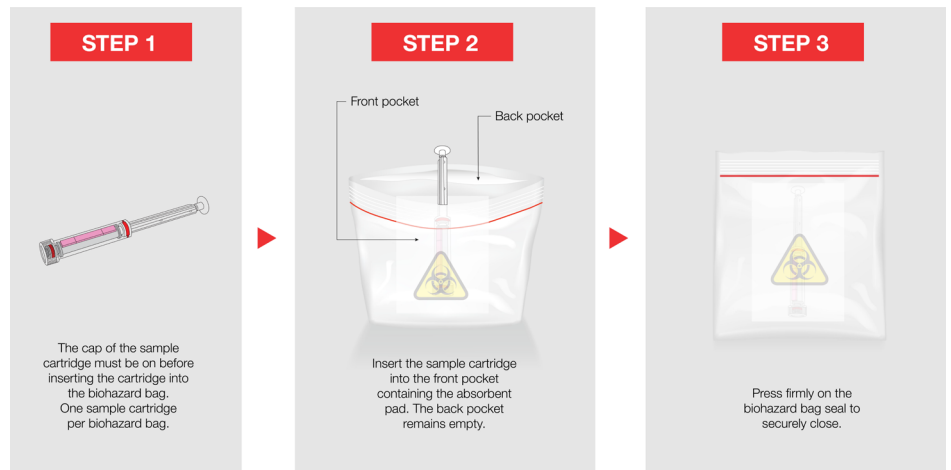


Figure 2–12. Putting Cartridge in Bag

Testing Services

The sample is ready to be sent to a lab for testing. See the following next steps depending on whether you are using an on-site lab or the Thermo Fisher Scientific testing services.

Self-Testing On-site Lab

The sample is now ready to be processed using the steps in the AerosolSense sample preparation procedure. To download the procedure, visit the In-Air Pathogen Surveillance Solution support page at:

www.thermofisher.com/apssupport

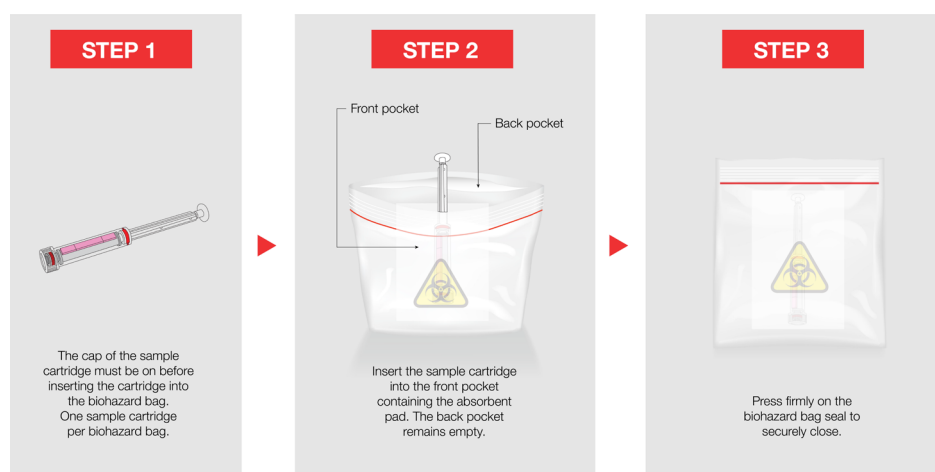


Figure 2-13. Putting Cartridge in Bag

Thermo Fisher Scientific Testing Services

The following steps apply if the sample is being mailed to an external partner laboratory as part of the testing service. The shipping material is included.

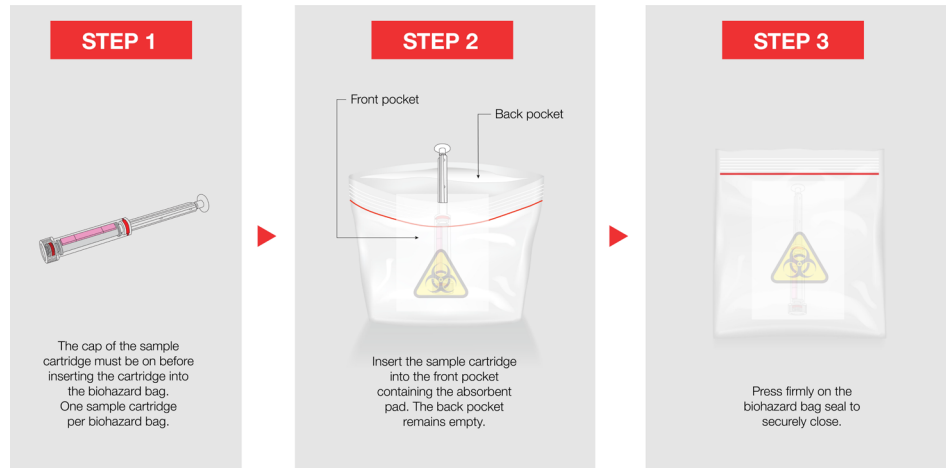


Figure 2-14. Putting Cartridge in Bag

1. After placing the sample cartridge into the biohazard bag, assemble the shipping box.
2. Place the sealed biohazard safety bag that contains the sample cartridge into the shipping box. Close and seal the box.
3. Adhere the pre-printed shipping label to the box and send it out for shipping to the lab.

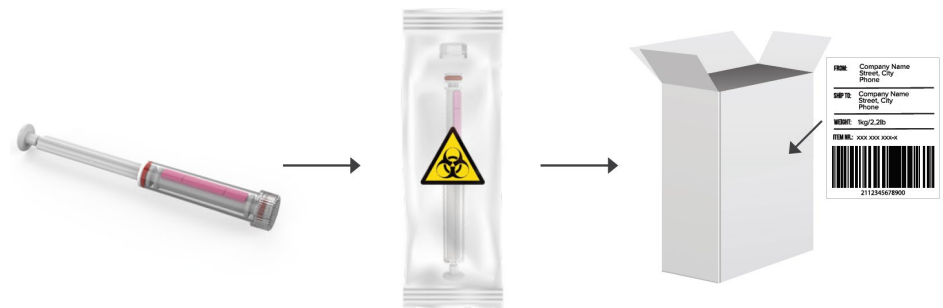


Figure 2-15. Required Packaging for Shipping

Cleaning Instructions

Perform periodic cleaning with an alcohol based wipe, as appropriate, based on the sampler usage.

Appendix A

Safety, Warranty, and WEEE





Safety

Review the following information carefully before using the instrument. This manual provides specific information on how to operate the instrument, however if the instrument is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



Safety and Equipment Damage Alerts

This manual contains important information to alert you to potential safety hazards and risks of equipment damage. Refer to the following types of alerts you may see in this manual.

Safety and Equipment Damage Alert Descriptions

Alert	Description
	<ul style="list-style-type: none"> A hazard is present that will result in death or serious personal injury if the warning is ignored. ▲
	<ul style="list-style-type: none"> A hazard is present or an unsafe practice can result in serious personal injury if the warning is ignored. ▲
	<ul style="list-style-type: none"> The hazard or unsafe practice could result in minor to moderate personal injury if the warning is ignored. ▲
 Equipment Damage	<ul style="list-style-type: none"> The hazard or unsafe practice could result in property damage if the warning is ignored. ▲

Safety and Equipment Damage Alerts in this Manual

Alert	Description
	<ul style="list-style-type: none"> Use CDC standard precaution guidelines, including hand hygiene and personal protective equipment (PPE) when contacting the sampler. ▲ <p>The AerosolSense Sampler is supplied with a three-wire grounding cord. Under no circumstances should this grounding system be defeated</p>
 Equipment Damage	<ul style="list-style-type: none"> Do not attempt to lift the sampler by the inlet cover. ▲

Warranty

Seller warrants that the Products will operate or perform substantially in conformance with Seller's published specifications and be free from defects in material and workmanship, when subjected to normal, proper and intended usage by properly trained personnel, for the period of time set forth in the product documentation, published specifications or package inserts. If a period of time is not specified in Seller's product documentation, published specifications or package inserts, the warranty period shall be one (1) year from the date of shipment to Buyer for equipment and ninety (90) days for all other products (the "Warranty Period"). Seller agrees during the Warranty Period, to repair or replace, at Seller's option, defective Products so as to cause the same to operate in substantial conformance with said published specifications; provided that (a) Buyer shall promptly notify Seller in writing upon the discovery of any defect, which notice shall include the product model and serial number (if applicable) and details of the warranty claim; (b) after Seller's review, Seller will provide Buyer with service data and/or a Return Material Authorization ("RMA"), which may include biohazard decontamination procedures and other product-specific handling instructions; and (c) then, if applicable, Buyer may return the defective Products to Seller with all costs prepaid by Buyer. Replacement parts may be new or refurbished, at the election of Seller. All replaced parts shall become the property of Seller. Shipment to Buyer of repaired or replacement Products shall be made in accordance with the Delivery provisions of the Seller's Terms and Conditions of Sale. Consumables, including but not limited to lamps, fuses, batteries, bulbs and other such expendable items, are expressly excluded from the warranty under this warranty.

Notwithstanding the foregoing, Products supplied by Seller that are obtained by Seller from an original manufacturer or third party supplier are not warranted by Seller, but Seller agrees to assign to Buyer any warranty rights in such Product that Seller may have from the original manufacturer or third party supplier, to the extent such assignment is allowed by such original manufacturer or third party supplier.

In no event shall Seller have any obligation to make repairs, replacements or corrections required, in whole or in part, as the result of (i) normal wear and tear, (ii) accident, disaster or event of force majeure, (iii) misuse, fault or negligence of or by Buyer, (iv) use of the Products in a manner for which they were not designed, (v) causes external to the Products such as, but not limited to, power failure or electrical power surges, (vi) improper storage and handling of the Products or (vii) use of the Products in combination with equipment or software not supplied by Seller. If Seller determines that Products for which Buyer has requested warranty services are not covered by the warranty hereunder, Buyer shall pay or reimburse Seller for all costs of investigating and responding to such request at Seller's then

prevailing time and materials rates. If Seller provides repair services or replacement parts that are not covered by the warranty provided in this warranty, Buyer shall pay Seller therefor at Seller's then prevailing time and materials rates. ANY INSTALLATION, MAINTENANCE, REPAIR, SERVICE, RELOCATION OR ALTERATION TO OR OF, OR OTHER TAMPERING WITH, THE PRODUCTS PERFORMED BY ANY PERSON OR ENTITY OTHER THAN SELLER WITHOUT SELLER'S PRIOR WRITTEN APPROVAL, OR ANY USE OF REPLACEMENT PARTS NOT SUPPLIED BY SELLER, SHALL IMMEDIATELY VOID AND CANCEL ALL WARRANTIES WITH RESPECT TO THE AFFECTED PRODUCTS.

THE OBLIGATIONS CREATED BY THIS WARRANTY STATEMENT TO REPAIR OR REPLACE A DEFECTIVE PRODUCT SHALL BE THE SOLE REMEDY OF BUYER IN THE EVENT OF A DEFECTIVE PRODUCT. EXCEPT AS EXPRESSLY PROVIDED IN THIS WARRANTY STATEMENT, SELLER DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, ORAL OR WRITTEN, WITH RESPECT TO THE PRODUCTS, INCLUDING WITHOUT LIMITATION ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. SELLER DOES NOT WARRANT THAT THE PRODUCTS ARE ERROR-FREE OR WILL ACCOMPLISH ANY PARTICULAR RESULT.

WEEE Compliance


This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2002/96/EC. It is marked with the following symbol:



Thermo Fisher Scientific has contracted with one or more recycling/disposal companies in each EU Member State, and this product should be disposed of or recycled through them. Further information on Thermo Fisher Scientific's compliance with these Directives, the recyclers in your country, and information on Thermo Fisher Scientific products which may assist the detection of substances subject to the RoHS Directive are available at: www.thermoscientific.com/WEEERoHS.

WEEE Symbol

The following symbol and description identify the WEEE marking used on the instrument and in the associated documentation.

Symbol	Description
	Marking of electrical and electronic equipment which applies to electrical and electronic equipment falling under the Directive 2002/96/EC (WEEE) and the equipment that has been put on the market after 13 August 2005. ▲

Appendix B

Quick Reference

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