

**Model 807
Vacuum Chamber
Operating and Service Manual**

Advanced Measurement Technology, Inc.

a/k/a/ ORTEC[®], a subsidiary of AMETEK[®], Inc.

WARRANTY

ORTEC* warrants that the items will be delivered free from defects in material or workmanship. ORTEC makes no other warranties, express or implied, and specifically NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

ORTEC's exclusive liability is limited to repairing or replacing at ORTEC's option, items found by ORTEC to be defective in workmanship or materials within one year from the date of delivery. ORTEC's liability on any claim of any kind, including negligence, loss, or damages arising out of, connected with, or from the performance or breach thereof, or from the manufacture, sale, delivery, resale, repair, or use of any item or services covered by this agreement or purchase order, shall in no case exceed the price allocable to the item or service furnished or any part thereof that gives rise to the claim. In the event ORTEC fails to manufacture or deliver items called for in this agreement or purchase order, ORTEC's exclusive liability and buyer's exclusive remedy shall be release of the buyer from the obligation to pay the purchase price. In no event shall ORTEC be liable for special or consequential damages.

Quality Control

Before being approved for shipment, each ORTEC instrument must pass a stringent set of quality control tests designed to expose any flaws in materials or workmanship. Permanent records of these tests are maintained for use in warranty repair and as a source of statistical information for design improvements.

Repair Service

If it becomes necessary to return this instrument for repair, it is essential that Customer Services be contacted in advance of its return so that a Return Authorization Number can be assigned to the unit. Also, ORTEC must be informed, either in writing, by telephone [(865) 482-4411] or by facsimile transmission [(865) 483-2133], of the nature of the fault of the instrument being returned and of the model, serial, and revision ("Rev" on rear panel) numbers. Failure to do so may cause unnecessary delays in getting the unit repaired. The ORTEC standard procedure requires that instruments returned for repair pass the same quality control tests that are used for new-production instruments. Instruments that are returned should be packed so that they will withstand normal transit handling and must be shipped PREPAID via Air Parcel Post or United Parcel Service to the designated ORTEC repair center. The address label and the package should include the Return Authorization Number assigned. Instruments being returned that are damaged in transit due to inadequate packing will be repaired at the sender's expense, and it will be the sender's responsibility to make claim with the shipper. Instruments not in warranty should follow the same procedure and ORTEC will provide a quotation.

Damage in Transit

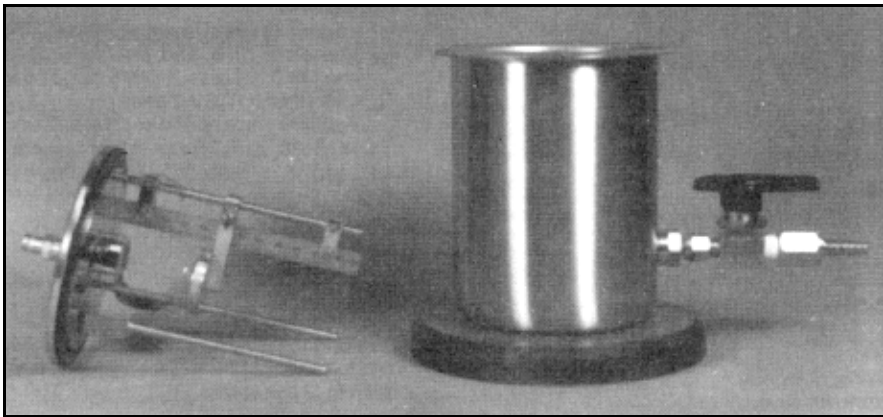
Shipments should be examined immediately upon receipt for evidence of external or concealed damage. The carrier making delivery should be notified immediately of any such damage, since the carrier is normally liable for damage in shipment. Packing materials, waybills, and other such documentation should be preserved in order to establish claims. After such notification to the carrier, please notify ORTEC of the circumstances so that assistance can be provided in making damage claims and in providing replacement equipment, if necessary.

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ORTEC MODEL 807 VACUUM CHAMBER

1. SPECIFICATIONS

Detector-to-Sample Distance Adjustable up to 5 in.

Electrical Feedthrough BNC female outside vacuum; Microcot male inside vacuum.

1.1. Materials

Chamber Wall	Stainless steel
Cover	Aluminum
Planchet and Mount	Aluminum
Legs	Stainless steel
Valve	Chrome-plated brass
Base	Wood

CAUTION

Before operating the chamber, make sure it is secured to the working surface or located so that the vacuum hose won't pull or tip it over.

1.2. Installation

The chamber must be connected to a source of vacuum by standard 1/4-in.-ID vacuum tubing.

If using our Alpha-Mini-PPS or Alpha-PPS-115/-230 pump station, the Model 807's hose adaptor must be refitted with the included Swagelok® tube fitting (P/N 805595) — this takes just a few seconds.

- Replace the factory-installed hose adaptor with the Swagelok fitting's 1/4-in. NPT fitting (the larger of the two pieces of the Swagelok fitting¹).

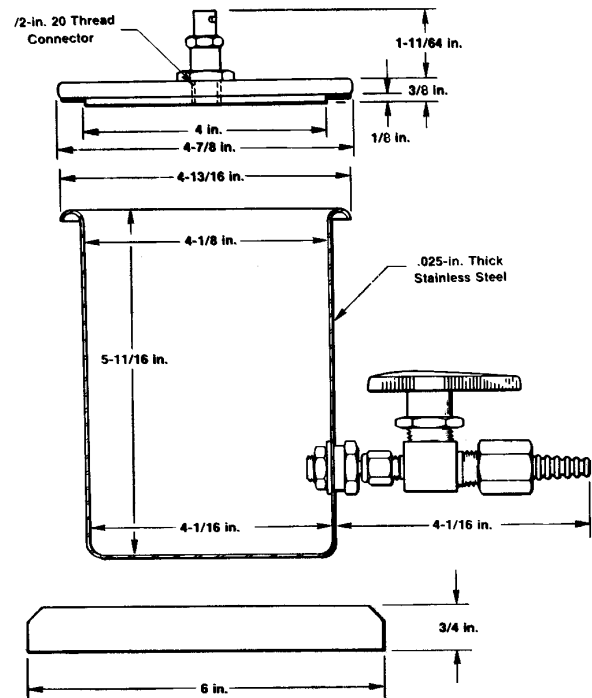


Fig. 1. Vacuum Chamber Dimensions.

- Then connect the ORTEC pump's captive female 1/4-in. tube fitting to the Swagelok hose adaptor.

¹The smaller of the two pieces of P/N 805595 is not used.

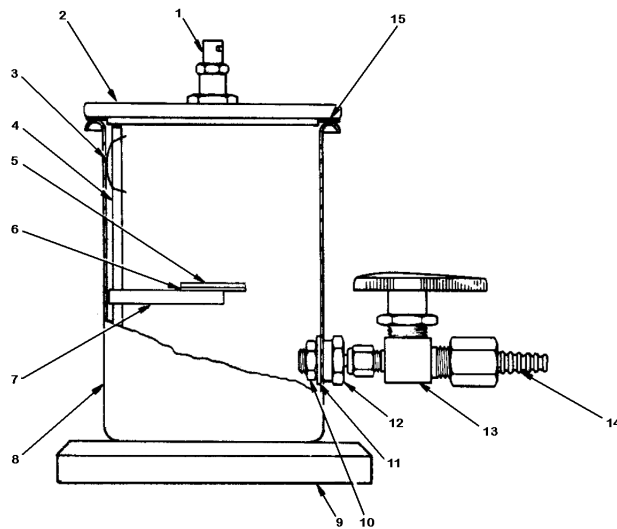
2. OPERATION

After connecting the vacuum line and securing with a hose clamp, place the valve handle in line with the valve body to evacuate the chamber. Rotating the valve 90° vents the chamber to air while simultaneously closing the vacuum line to the vacuum pump.

The vacuum chamber cover is equipped with an electrical feedthrough that will accept a detector with a Microdot connector (ORTEC A, B, ULTRA, ULTRA-AS, or ULTRA CAM series). For use with detectors having BNC connectors, a Microdot-to-BNC adapter (ORTEC Part No. C17) is available. Standard BNC connectors and cable are required to connect to the preamplifier.

Sources may be placed either on the planchet or directly on the sample support disc. Center the disc directly below the detector. A small amount of vacuum grease can be used to keep the planchet or source from sliding. If the source is to be placed near the detector, remove one spring clip and put the sample support above the springs. The springs will not work properly if they lodge in the threads on the legs.

For gamma-ray experiments such as the one described in experiment 9 in ORTEC publication AN-34, *Experiments in Nuclear Science*, the chamber base will fit over any ORTEC germanium detector with a vertical cryostat with an endcap diameter of 3 inches or less.



Item	Part	P/N	Qty
1	Feedthrough C-13	800823	1
	45035 O-ring	800842	1
2	Aluminum cover	800688	1
3	807-A-1205 Spring clip	800692	3
4	807-A-1201 Legs	800689	3
5	Planchet	800853	1
6	807-A-1203 Sample disc	800691	1
7	807-A-1202 Planchet mount	800690	1
8	807-A-0201 Beaker, stainless steel	800686	1
9	807-A-0202 Wooden base	800687	1
10	Nut, stainless steel or brass nickel-plated	800838	1
11	Flat washer, stainless steel	800874	1
12	Bulkhead, nickel-plated	800806	1
13	Ball valve, chrome-plated	800867	1
14	Hose connector, nickel-plated	800812	1
15	Gasket, neoprene	800828	1

NOTICE

ORTEC **will not accept** for repair vacuum chambers which show signs of **radiation contamination** at levels which, in our opinion, might endanger our employees or impair our ability to manufacture low background radiation detectors.