MIRION TECHNOLOGIES

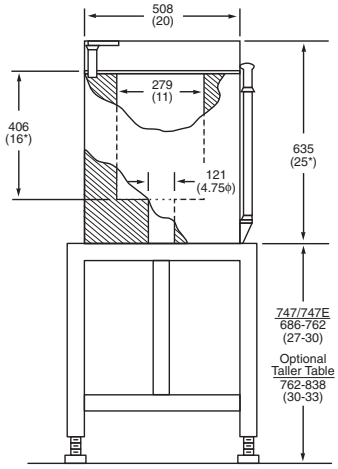
DETECTORS

747/747E

Lead Shield

FEATURES

- 4-inch thick low-background lead
- Easy-to-use lever-actuated door
- Compact – 2 foot by 2 foot floor space
- Graded tin and copper liner
- Adjustable foot pads



Front View – Dimensions in mm (inches)
* 12 in. and 21 in. respectively on 747E

DESCRIPTION

The Model 747 Mirion Lead Shield is intended for use with Germanium detectors. It will prevent high background counts due to external sources, thus reducing counting times and improving the lower limit of detection. This shield is compact and easy to use with only 0.4 m^2 (4 ft^2) of floor space required. The shield may be set up so that the door opens right or left without need for clearance to the rear. A convenient lever-actuated door lift allows the door to be placed firmly on the shield to prevent direct path radiation from entering. A shield table compatible for 7500SL and 7504SL cryostats is included in the standard package.

The 1 mm (0.040 in.) tin and 1.6 mm (0.062 in.) copper graded liner prevents interference by lead X-rays. The exterior is attractively finished with light gray textured paint, the interior is coated with clear polyurethane to prevent oxidation and facilitate cleaning. The floor of the shield has a 12.1 cm (4.75 in.) diameter hole which will accommodate either Flanged™ or Slimline™ cryostats.

The 747E model is 10 cm (4 in.) shorter than the standard 747 and does not have a door lift mechanism.

While the standard shield table is compatible with 7500SL and 7504SL cryostats, Mirion recommends to use cryostats with a Remote Detector Chamber (RDC). The advantage of the RDC is that the preamplifier can also be properly shielded from the HPGe detector improving the background performance of your detection setup. The optional tall table is available to conveniently fit a dipstick 7500SL-RDC detector in the shield.

Optional annular lead plugs are available to minimize the streaming path through the hole in the shield floor. Before ordering stand-alone annular lead plugs into existing lead shields, first determine the opening diameter of the hole in the shield floor. Older versions of the 747/747E shield may have a smaller opening diameter compared to the current 4.75 inch diameter.

MIRION TECHNOLOGIES

SPECIFICATIONS

MATERIALS

- Outer Jacket: 9.5 mm (3/8 in.) thick low carbon steel.
- Bulk Shield: 10 cm (4 in.) thick low background lead.
- Graded Lining: 1 mm (0.040 in.) tin and 1.6 mm (0.062 in.) copper.

WEIGHT

- 747: 1135 kg (2500 lb); 1250 kg (2750 lb) shipping weight including large table and annular plug options.
- 747E: 1000 kg (2200 lb); 1115 kg (2450 lb) shipping weight including large table and annular plug options.

FINISH

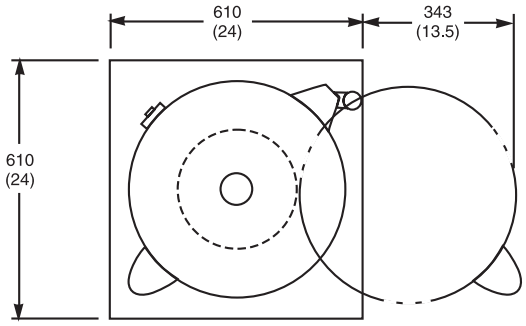
- Mirion light gray textured epoxy.

MECHANICAL

- Door Hinge: Oiled bronze bushings.
- Door Lift: Lever actuated cam (747 only).

OPTIONS

- Model 7415 Detector Lift (for use with Cryo-Pulse® 5 Plus, Aegis™ spectrometer and MAC cryostats).
- Model 747-1 Annular Plug (7504 only, consult factory for annular plug sizes fitting shield floor holes smaller than the standard 4.75 inch).
- Model 747-2-475 Offset Annular Plug (7504SL only) for standard 4.75-inch hole diameter.
- Models 747-2-XYZ Offset Annular Plug (7504SL only) for X.YZ-inch hole diameter with possible X.YZ=3.50, 3.75, 4.00, 4.25 or 4.50.
- Model 747-3 Split Annular Plug (7500SL-RDC only, consult factory for annular plug sizes fitting shield floor holes smaller than the standard 4.75 inch).
- Model 747-5 Taller Table (7500SL-RDC only).



Top View – Dimensions in mm (inches)

SPC-292-EN-A_DMD – 07/2022