Question: What is the purpose and description of the RO-20 Portable Ion Chamber?
Answer: The Model RO-20 is a portable air ion chamber instrument used to detect beta (ß), gamma (γ), and x-ray radiation. The RO-20 has five linear ranges of operation to measure exposure rate for x-ray and γ radiation. The ion chamber is vented to atmospheric pressure and is specifically designed to have flat energy response into the x-ray region.

Question: What are the applications of the RO-20?
The RO-20 will meet the majority of survey meter applications where mixed gamma and beta fields are encountered, for example, as found in nuclear power or fuel processing plants. Other applications include medical and industrial dose rate shipping surveys, room surveys, and establishing boundaries for radiation areas.

Question: What isotope is the RO-20 calibrated to?

Answer: The Model RO-20 is calibrated to cesium-137 gamma (γ) radiation (^{137}Cs 662 keV energy).

Question: What is the side and front wall shielding factor?
Answer: 0.20 inch (0.51 cm) conductive plastic approximately 640 mg/cm^2 inside 0.063 inch wall aluminum case, making approximately 1000 mg/cm^2 total thickness.

Question: What is the open window shielding factor?
Answer: Two layers (one on the chamber, one on the can) 0.001 inch (25 micron) Mylar, approximately 7 mg/cm^2 total.

Question: What is the Beta Shield shielding factor?
Answer: Sliding shield on bottom of case with positive friction lock shielding factor is approximately 1000 mg/cm^2 (5/16 inch phenolic).

Question: Does the RO-20 respond to neutrons?
Answer: The fast neutron response for Plutonium Beryllium (PuBe) is approximately 8% in mR/h of true neutron field in mrem/h.

What is the typical Beta response?
Answer: The Beta response to a Uranium Slab is 30% of true mrad/h field behind 7 mg/cm^2 window with RO-20 resting on slab, slide open. The 90Sr-90Y Beta response is approximately 93% of true mrad/h field at 30 cm with slide open.

Question: What testing has been performed? (TEST TYPE DATA)
Answer: Tested to the requirements of ANSI N42.17A, "Performance Specifications for Health Physics Instrumentation - Portable Instruments for Use In Normal Environmental Conditions" (ANSI, 1989a). A copy of the report is available upon request.

Question: What is the battery connector board part number?

Answer: The older RO-20 battery connector board part number is YP11548002. New RO-20 battery connector board part number is YP11548007. The board for the RO20SIUK is YP11548009.