

$H_p(10)$ Secondary Standard Chamber



Parallel plate ionization chamber for direct measurement of $H_p(10)$ personal dose equivalent on a slab phantom

Features

- ▶ Vented sensitive volume of 10 cm³
- ▶ Measures the $H_p(10)$ personal dose equivalent directly
- ▶ Suitable as a reference chamber for $H_p(10)$ calibration

The parallel plate ionization chamber model 34035¹ is integrated into a slab phantom to measure the $H_p(10)$ radiation protection measuring quantity directly. The high performance chamber is designed to be used as a secondary standard chamber for calibration purposes. The beam calibration with the $H_p(10)$ chamber makes it unnecessary to precisely determine the spectrum of the X-ray beam. The chamber comes uncalibrated; a primary standard calibration by PTB, the German National Laboratory, is available.

The useful gamma energy range is from 10 keV to 1400 keV. The chamber response is approx. 350 nC/Sv. The chamber set includes a phantom slab of 31 mm thickness with chamber assembly and an additional phantom slab of 120 mm thickness. The slab phantom is composed of tissue-equivalent acrylic material (PMMA). The total external dimensions are 300 mm x 300 mm x 151 mm. Both sets include an adapter cable to connect the chamber either to a dosimeter with M connector or with BNC connector and banana pin. The $H_p(10)$ chamber should be used in connection with a high quality dosimeter such as UNIDOS or UNIDOS E to ensure best performance.

¹ Ankerhold, Ambrosi, Eberle – A chamber for determining the conventionally true value of $H_p(10)$ and $H^*(10)$ needed by calibration laboratories – Rad. Prot. Dos. Vol. 96, Nos 1-3, pp. 133 - 137 (2001), Nucl. Techn. Publishing

Ordering Information

- L981937 $H_p(10)$ Secondary standard chamber, M connector
- L981938 $H_p(10)$ Secondary standard chamber, BNC connector and banana pin

Option

PTB Primary standard calibration upon request

- ▶ UNIDOS Dosimeters *pages 13 and 138*