



75 cm³ SFD Diagnostic Chamber Type 34060

*Shadow-free plane parallel chamber
for absolute dosimetry in diagnostic
radiology*

Features

- ▶ Shadow-free design for use with automatic exposure control / brightness control
- ▶ Sensitive volume 75 cm³, vented to air
- ▶ Suitable for measurements in front of and behind a phantom

The 34060 SFD diagnostic chamber is a general purpose, high precision chamber for measurements in diagnostic radiology. The chamber complies with the standard IEC 61674. Its shadow-free design makes it possible to use the chamber even while the automatic exposure control or brightness control is activated. Together with an adequate diagnostic dosimeter the chamber features a wide dynamic range for measurements either in front of or behind a patient-equivalent phantom. The length of the mounted connection cable is 2.5 m.

Specification

Type of product	vented plane parallel ionization chamber acc. IEC 61674
Application	absolute dosimetry in diagnostic radiology
Measuring quantities	air kerma, exposure
Reference radiation quality	70 kV, HVL 2.58 mm Al (RQR5)
Nominal sensitive volume	75 cm ³
Design	not waterproof, vented
Reference point	in chamber center
Direction of incidence	perpendicular to chamber plane, see label 'Focus'
Nominal response	2.8 µC/Gy
Long-term stability	≤ 0.5 % per year
Chamber voltage	200 V nominal ± 400 V maximal
Energy response	≤ ± 2 % (50 ... 150) kV
Polarity effect	≤ 1 %
Directional response	≤ 3 % for chamber tilting up to ≤ ± 15°
Leakage current	≤ ± 5 fA
Cable leakage	≤ 1 pC/(Gy·cm)

Materials and measures:

Entrance window	0.6 mm polycarbonate, 1.55 g/cm ³ 0.002 mm graphite 0.32 g/cm ³
Total window area density	93 mg/cm ²
Water-equivalent window thickness	0.9 mm
Sensitive volume	radius 45.7 mm depth 2 x 5.71mm

Ion collection efficiency at nominal voltage:

Ion collection time	1 ms
Max. dose rate for ≥ 99 % saturation	0.16 Gy/s
≥ 95 % saturation	0.78 Gy/s

Useful ranges:

Chamber voltage	± (100 ... 400) V
Radiation quality	(25 ... 150) kV X-rays
Field size	(11 x 11) cm ² ... (40 x 40) cm ²
Temperature	(10 ... 40) °C (50 ... 104) °F
Humidity	(10 ... 80) %, max 20 g/m ³
Air pressure	(700 ... 1060) hPa

Ordering Information

- TN34060 SFD diagnostic chamber 75 cm³, connecting system BNT
- TW34060 SFD diagnostic chamber 75 cm³, connecting system TNC
- TM34060 SFD diagnostic chamber 75 cm³, connecting system M
- TL34060 SFD diagnostic chamber 75 cm³, connecting system L