	RaySafe 452	Fluke 451P	Fluke 451B	RaySafe X2 Survey
Description	A user-friendly, and flexible meter for a wide range of hospital- and industrial applications. Rapid start-up, sensitive meter with wide energy response	A multi-purpose meter for a wide range of hospital- and industrial applications. The pressurized version (451P) is suitable for high sensitivity measurements, whereas 451B has a wider energy response.		A high-performance meter optimized for measurements within the X-ray room
Ideal for	X-ray wall and tube leakage, environmental radiation, contamination measurements, radiotherapy, first responders	Environmental radiation, radiotherapy, non-destructive testing (NDT), first responders		X-ray QA, X-ray wall and tube leakage
Technology	GM tube, solid state stacked diodes. No shipping restrictions	Pressurized ion chamber. Shipping restrictions (hazardous material)	lon chamber. No shipping restrictions	Solid state stacked diodes. No shipping restrictions
Measures	Dose, dose rate, mean energy, counts	Dose, and dose rate	Dose, and dose rate	Measures dose, dose rate, mean energy, time and shows waveforms
Radiation detection	$\gamma$ (dose and dose rate) $\alpha/\beta/\gamma$ (counts)	β/γ	α/β/γ	γ (dose and dose rate)
Operational quantity [unit]	Air kerma [R / Gy], H*(10), H*(10) [rem / Sv]	Air kerma [R], H*(10) [Sv]	Air kerma [R], H*(10) [Sv]	Air kerma [R / Gy], H*(10) [Sv]
Air kerma rate	0 - 114 R/h or 0 - 1 Gy/h 30 keV - 7 MeV	0 - 5 R/h	0 - 50 R/h	0 - 10 R/h or 0 - 100 mGy/h 40 keV - 150 keV
H*(10) rate	0 - 100 rem/h or 0 - 1 Sv/h 16 keV - 7 MeV	0 - 50 mSv/h	0 - 500 mSv/h	0 - 150 mSv/h 20 - 150 keV
Data management	USB connectivity to user-friendly data management software (RaySafe View)	RS-232 connectivity, support for Excel plugin	RS-232 connectivity, support for Excel plugin	USB connectivity to user-friendly data management software (RaySafe View)
IP classification	IP64	IP40	IP40	Indoor use only
Weight	0.8 kg (1.7 lbs)	1.07 kg (2.4 lbs)	1.11 kg (2.5 lbs)	Sensor: 140 g (4.9 oz) Base Unit: 521 g (18.4 oz)
Dimensions	25 x 12.7 x 8.3 cm (9.8 x 5.0 x 3.3 in.)	10 x 15 x 20 cm (4 x 6 x 8 in.)	10 x 15 x 20 cm (4 x6 x 8 in.)	Sensor: 14 x 66 x 192 mm (0.5 x 2.6 x 7.6 in.) Base Unit: 34 x 85 x 54 mm (1.3 x 3.3 x 6.1 in.)

