

Unfors EDD-30

Radiation Protection in Fluoroscopy

Immediate Warning Decrease Your Dose

Interventional radiology procedures are considered to be essential to medical diagnosis and treatment. It is recognized, however, that exposure to radiation is also potentially harmful to the staff that is required to perform these procedures.

Although steps may be taken to minimize exposure to secondary radiation through the use of protective garments and other forms of shielding, it is impossible to provide total protection to all parts of the body. Radiation dose can be monitored through the use of film badges and TLDs, but these devices can only provide retrospective information. In contrast, to learn how to avoid being unnecessarily exposed to radiation, there is a need for immediate warnings. With a simple tool like Unfors EDD, anyone being exposed to unnecessary radiation can learn to avoid it.

EDD - Educational Direct Dosimeter

The Unfors EDD consists of a small sensor on a cable connected to a display unit. The sensor can measure the dose and dose rate to a specific part of the body, i.e. to eyes, hands, feet, etc. Total exposure time is also measured. When the sensor and display unit have been positioned and the instrument turned on, dose is accumulated and alarms are triggered when selected dose or dose rate limits are exceeded.



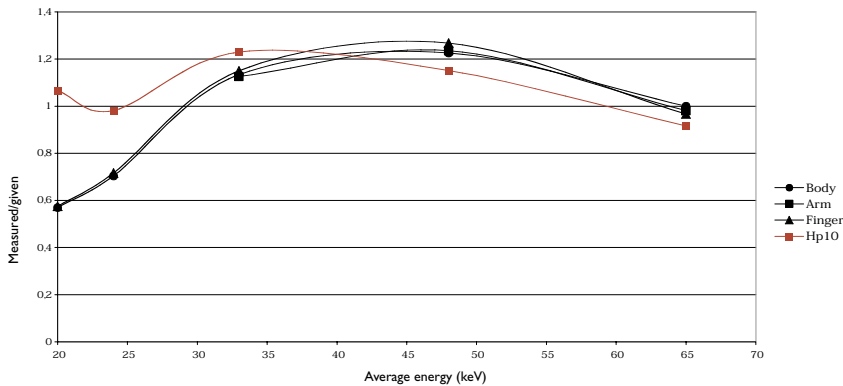
- **Immediate warning**
(within one second)
- **Easy to wear**
- **Small sensor**
- **Spherical response**

“I’m using the Unfors EDD for my own safety and to increase my radiation awareness”

unfors 

Sensor Characteristics

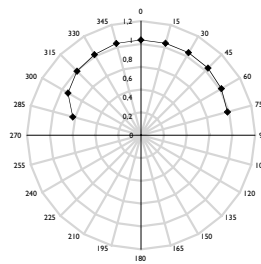
The Unfors EDD-30 sensor has a unique spherical response with an excellent linearity and accuracy so that true doses, at very low levels, can be measured anywhere on the body.



Unfors EDD-30 response [measured value/Hp(0.07)] on different ISO/ANSI phantoms and [measured value/Hp(10)] on ISO/ANSI body phantom.

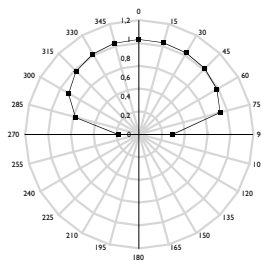
Response on body

Unfors EDD-30 response [measured value/Hp(0.07)] for 65 keV photons as a function of the incidence angle. The sensor is mounted on an ISO body phantom which is vertically rotated in the radiation field. The cable end of the detector is at 270°.



Response on finger

Unfors EDD-30 response [measured value/Hp(0.07)] for 65 keV photons as a function of the incidence angle. The sensor is mounted on an ISO finger phantom which is vertically rotated in the radiation field. The palm end is at 270° and the nail at 90°.



Specifications

General

Dose rate range: 0.03 mSv/h - 2 Sv/h
10 nGy/s - 0.6 mGy/s
2 mR/h - 130 R/h
1 mSv/h = 66 mR/h = 278 nGy/s

Dose range: 10 nSv - 9999 Sv
10 nGy - 9999 Gy
1.0 µR - 9999 R

1 Sv = 98.3 R

Start Trigger level: 0.054 mSv/h
15 nGy/s

End Trigger level: 0.036 mSv/h
10 nGy/s

Exposure time: 10 ms - 9999 s
System bandwidth: 10 Hz, 3 dB

Disinfections: Sensor, cable and instrument housing can be wiped off with 70 % medical alcohol

Power source: Two LR06 (AA) alkaline type
Battery life time: 130 hours

Auto Power off: After two hours without radiation or key activities

Read out: 4 digit custom LCD, display units

Size (H x W x L): 82 x 98 x 21 mm,
3.2 x 3.6 x 0.8 in

Weight: 200 gr

Sensor

Inaccuracy: ± 6 % at calibration point
Calibration: N-80 (80 kVp, 2 mm Cu and 4 mm Al)

Size (H x W x L): 6 x 11 x 22 mm,
0.2 x 0.4 x 0.9 in

Cable length: 1.5 m

Alarms

Body	Level 1	0.1 mSv/h
	Level 2	0.5 mSv/h
	Level 3	2.5 mSv/h
	Level 4	1.0 mSv
Eye	Level 1	0.3 mSv/h
	Level 2	1.5 mSv/h
	Level 3	7.5 mSv/h
	Level 4	1.0 mSv
Hand	Level 1	1.0 mSv/h
	Level 2	5.0 mSv/h
	Level 3	25.0 mSv/h
	Level 4	1.0 mSv
User definable alarms	Yes	
Buzzer	ON or OFF	

All specifications may change without notice.



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The Unfors Concept



Accurate result



10 s to learn



Pocket sized