

**The Appendix is an integral part of  
Certificate of Accreditation No. 448/2022 of 14/09/2022**

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

**Státní ústav radiační ochrany, v. v. i.**  
SÚRO Calibration Laboratory  
Bartošková 1450/28, 140 00 Praha 4

**CMC for the field of measured quantity: Quantities of atomic and nuclear physics**

Ord. number 1	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Work place
		min.	unit	max.	unit					
1	Air kerma rate in gamma radiation beams / Ionization chambers, dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value	5·10 <sup>-9</sup> Gy/s		1·10 <sup>-8</sup> Gy/s			3.0 %	Meter response comparison with reference meter reading; calculation	SOP 15 (chap. 10.4.1 and 10.4.2)	
		1·10 <sup>-8</sup> Gy/s	to	2·10 <sup>-8</sup> Gy/s			2.4 %			
		2·10 <sup>-8</sup> Gy/s	to	2·10 <sup>-4</sup> Gy/s			2.1 %			
2	Air kerma rate in X-ray beams / Ionization chambers, dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value	2·10 <sup>-8</sup> Gy/s		1·10 <sup>-6</sup> Gy/s			4.4 %	Meter response comparison with reference meter reading; calculation	SOP 15 (chap. 10.4.1 and 10.4.2)	
		1·10 <sup>-6</sup> Gy/s	to	5·10 <sup>-3</sup> Gy/s			1.8 %			
3	Air kerma in gamma radiation beams / Ionization chambers, dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value, passive integrating dosimeters	5·10 <sup>-8</sup> Gy		1·10 <sup>-7</sup> Gy			3.7 %	Meter response comparison with reference meter reading; calculation	SOP 15 (chap. 10.4.1 and 10.4.2)	
		1·10 <sup>-7</sup> Gy	to	2·10 <sup>-7</sup> Gy			2.6 %			
		2·10 <sup>-7</sup> Gy	to	1·10 <sup>0</sup> Gy			2.1 %			
4	Air kerma in X-ray beams / Ionization chambers, dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value, passive integrating dosimeters	1·10 <sup>-6</sup> Gy		1·10 <sup>-4</sup> Gy			4.4 %	Meter response comparison with reference meter reading; calculation	SOP 15 (chap. 10.4.1 and 10.4.2)	
		1·10 <sup>-4</sup> Gy	to	1·10 <sup>0</sup> Gy			1.8 %			

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Ord. number <sub>1</sub>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Work place
		min.	unit	max.	unit					
5	Personal dose equivalent rate, directional dose equivalent rate or ambient dose equivalent rate in gamma radiation beams / Dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value.	5·10 <sup>-9</sup> Sv/s		1·10 <sup>-8</sup> Sv/s		H <sub>p</sub> (0.07) H <sub>p</sub> (3) H <sub>p</sub> (10) H'(0.07) H'(3) H*(10)	5.0 % 4.7 % 4.5 %	Meter response comparison with reference meter reading; calculation; application of conversion coefficients from ISO 4037-3:2019.	SOP 15 (chap. 10.4.1 and 10.4.2)	
6	Personal dose equivalent rate, directional dose equivalent rate or ambient dose equivalent rate in X-ray beams / Dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value.	2·10 <sup>-8</sup> Sv/s		1·10 <sup>-6</sup> Sv/s		H <sub>p</sub> (0.07) H <sub>p</sub> (3) H <sub>p</sub> (10) H'(0.07) H'(3) H*(10)	6.0 % 4.4 %	Meter response comparison with reference meter reading; calculation; application of conversion coefficients from ISO 4037-3:2019.	SOP 15 (chap. 10.4.1 and 10.4.2)	
7	Personal dose equivalent, directional dose equivalent or ambient dose equivalent in gamma radiation beams / Dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value, passive integrating dosimeters	5·10 <sup>-8</sup> Sv		1·10 <sup>-7</sup> Sv		H <sub>p</sub> (0.07) H <sub>p</sub> (3) H <sub>p</sub> (10) H'(0.07) H'(3) H*(10)	5.4 % 4.8 % 4.5 %	Meter response comparison with reference meter reading; calculation; application of conversion coefficients from ISO 4037-3:2019.	SOP 15 (chap. 10.4.1 and 10.4.2)	

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Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Work place
		min.	unit	max.	unit					
8	Personal dose equivalent, directional dose equivalent or ambient dose equivalent in X-ray beams / Dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value, passive integrating dosimeters	1·10 <sup>-6</sup> Sv	to	1·10 <sup>-4</sup> Sv		H <sub>p</sub> (0.07) H <sub>p</sub> (3) H <sub>p</sub> (10) H'(0.07) H'(3) H*(10)	6.0 % 4.4 %	Meter response comparison with reference meter reading; calculation; application of conversion coefficients from ISO 4037-3:2019.	SOP 15 (chap. 10.4.1 and 10.4.2)	

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02, part of CMC, and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the value measured. If the calibration is carried out outside the laboratory premises, the measurement uncertainty may be affected.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).