

**CALIBRATION CERTIFICATE**

Type	Gamma activity monitor AT1320CJP																																																												
Serial №	30205																																																												
Measuring range	Volume (specific) ¹³⁷ Cs activity: 3.7·10 ⁶ Bq/l (Bq/kg)																																																												
Intrinsic measurement error	± 20 %																																																												
Date of calibration	2023.07.12																																																												
Calibration condition:																																																													
– temperature	+22°C																																																												
– relative humidity	40%																																																												
– air pressure	100 kPa																																																												
Reference documents	N 483, δ ₀ =6 %, P=0.95, calibration certificate 1-0116938-4823 N 93, δ ₀ =6 %, P=0.95, calibration certificate 1-0116939-4823 N 832.2021, δ ₀ =4 %, P=0.95, calibration certificate 1-0057813-4822 N 595.2020, δ ₀ =4 %, P=0.95, calibration certificate 1-0063132-4822																																																												
Calibration means	The instrument is calibrated using ¹³⁷ Cs and ¹³⁴ Cs reference sources $\delta(\%) = 100 \cdot (A_0 - A) / A_0, \quad \delta \leq 20\% + \delta_0$																																																												
Control relative intrinsic error of rate measurement	<table border="1"> <thead> <tr> <th>Measuring vessel</th> <th>A₀ (¹³⁴Cs), Bq/l</th> <th>A (¹³⁴Cs), Bq/l</th> <th>δ, %</th> </tr> </thead> <tbody> <tr> <td>Marinely, 1 l</td> <td>3952</td> <td>3840</td> <td>-2,8</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Measuring vessel</th> <th>Transition coefficient, T_C, l</th> <th>A₀ (¹³⁷Cs), Bq</th> <th>A (¹³⁷Cs), Bq/l</th> <th>A·T_C, Bq</th> <th>δ, %</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Marinely, 1 l</td> <td>4.10</td> <td>83,86</td> <td>22,7</td> <td>93,07</td> <td>11</td> </tr> <tr> <td>4.10</td> <td>846,4</td> <td>233</td> <td>955,3</td> <td>12,9</td> </tr> <tr> <td>4.10</td> <td>9121</td> <td>2440</td> <td>10004</td> <td>9,7</td> </tr> <tr> <td>4.10</td> <td>91378</td> <td>25200</td> <td>103320</td> <td>13,1</td> </tr> <tr> <td>1.40</td> <td>91378</td> <td>68100</td> <td>95340</td> <td>4,3</td> </tr> <tr> <td>Flat, 0.5 l</td> <td>0.44</td> <td>91378</td> <td>198000</td> <td>87120</td> <td>-4,7</td> </tr> <tr> <td>Flat, 0.1 l</td> <td>0.18</td> <td>91378</td> <td>499000</td> <td>89820</td> <td>-1,7</td> </tr> <tr> <td>Marinely, 0.5 l</td> <td>0.91</td> <td>91378</td> <td>113000</td> <td>102830</td> <td>12,5</td> </tr> </tbody> </table>			Measuring vessel	A ₀ (¹³⁴ Cs), Bq/l	A (¹³⁴ Cs), Bq/l	δ, %	Marinely, 1 l	3952	3840	-2,8	Measuring vessel	Transition coefficient, T _C , l	A ₀ (¹³⁷ Cs), Bq	A (¹³⁷ Cs), Bq/l	A·T _C , Bq	δ, %	Marinely, 1 l	4.10	83,86	22,7	93,07	11	4.10	846,4	233	955,3	12,9	4.10	9121	2440	10004	9,7	4.10	91378	25200	103320	13,1	1.40	91378	68100	95340	4,3	Flat, 0.5 l	0.44	91378	198000	87120	-4,7	Flat, 0.1 l	0.18	91378	499000	89820	-1,7	Marinely, 0.5 l	0.91	91378	113000	102830	12,5
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Checked by	_____	D. Abalonski	2023.07.12																																																										
	(signature)	(name and surname)	(year, month, date)																																																										
Technical control	_____	N. Kurbatova	2023.07.12																																																										
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