

	1. GENERAL
1.1.	Radon radiometer RRA-01M-03 БВЕК.431110.04
	Instrument's number 47209
	Date of production
	Manufacturer – OOO "NTM-Zashita", Moscow, Russia
	Certificate RU.C.38.002.A № 10241 issued 03 Oct 2006
	Valid through 01 Oct 2011
device to m number of dwellings, a radon radio	radiometer RRA-01M-03 БВЕК.431110.04 (hereafter radiometer) is a neasure the concentration (volumetric activity) of radon-222 gas and the detected decays of ²¹⁶ Po (ThA) in the indoor air of living quarters and at workplaces and also in the outdoor air within the specifications of the meter. Additionally, the radiometer is equipped with sensors that allows limatic parameters.
- ambi - relati	ing conditions: ent temperature
- room - temp	e conditions: or warehouse with natural ventilation; eratures of the ambient air from minus 5 to +40°C; ve humidity up to 98 % at +25°C.

Изм.	Лист	№ документа	Подпись	Дата	

2. SPECIFICATIONS

2.1. Nominal and actual specifications are quoted in the table 1.

Table 1

		1	Taule 1
№ п/п	Parameter	Nominal value	Actual value
1.	Maximum permissible limit for intrinsic relative error within measurement range, %	±30	
2.	Measurement range of: radon concentration, Bq·m ⁻³ ²¹⁶ Po (ThA), decays	$20 \div 2.0 \cdot 10^{4} \\ 0 \div 10^{3}$	
3.	Sensitivity to radon-222, no less than, s ⁻¹ ·Bq ⁻¹ ·m ³ ,	1.4·10 ⁻⁴	
4.	Background signal of the radon radiometer, no more than, Bq·m ⁻³	7.0	
5.	Test code value of the ADC	200	
6.	Measurement range of temperature within ±5% accuracy, °C	5÷50	
7.	Measurement range of atmospheric pressure within ±5% accuracy, kPa (mmHg)	93÷109 (700÷820)	
8.	Measurement range of humidity within ±5% accuracy, %	30÷90	
9.	Operating time with autonomous power supply under normal conditions, no less than, hours	10	
10.	Volumetric troughput of the built-in air blower, no less than, l/min	0.8	
11.	Active volume of the measuring chamber, L	1.6	
12.	Power consumption with battery power supply, not more than, W	1.0	

						Лист
					EDEM 431110.04 H.C	
Изм.	Лист	№ документа	Подпись	Дата	БВЕК.431110.04 ПС	3

3. DELIVERY KIT

3.1. The items and documentation included in the delivery kit of the radiometer are presented in the table 2.

Table 2

			1 aut 2
Designation	Item (document)	Q-ty	Note
1	2	3	4
БВЕК.431110.04	Radiometer ¹	1	
	Filter AFA-RSP-10 TY 95 1892-89	35	Spare aerosol filter for cleaning the inlet gas (air) of airborne aerosols
	Mains adapter BPT-01	1	Mains adapter also serves as battery charger
кР 18446736.30	Dehydrator-filter	2	Filter for dehumidifying the inlet gas (air)
кР 39579707.31	Dehydrator-cartridge	1	Cartridge for dehumi- difying the measuring chamber
	Transportation case OCT 17.839.80	1	For transportation and storage of radiometer
кР 395707.10.008	Rubber cap	2	Spare rubber cap for sealing the measuring chamber
кР 395707.10.019	Air outlet	1	Air outlet for connecting an air peripheral sampling device or flexible tube for location of radon-222 sources (entry points)
	Battery Cable	1	For connection to an external battery (+ 6 V)

 $^{^{1}}$ - Radiometer contains a built-in battery (autonomous power supply), consisting of four elements of type GP 160CK

Ī							Лист
I	Изм.	Лист	№ документа	Подпись	Дата	БВЕК.431110.04 ПС	4

1	2	3	4
	CD or other media	1	Contains software
кР 18446736.10.20	Cable with connectors	1	For communication of radiometer with computer
	Tube ТУ 64-2-286-79	1	Flexible tube for location of radon-222 sources (entry points). Length 150 centimeters, diameter 6 mm
БВЕК.431110.04 ПС	Passport	1	
БВЕК.431110.04 РЭ	Operation Manual	1	
	Calibration Certificate	1	

Изм.	Лист	№ документа	Подпись	Дата

4. WARRANTY OF THE MANUFACTURER, OPERATION LIFE

- 4.1. The warranty period is 18 months from the date of sale the radon radiometer RRA-01M-03. The date of sale is indicated on the last page of the Passport.
- 4.2. During this period the manufacturer warrants repair or replacement of the product free of charge provided that the user follows the instructions for the operation, shipping and storage described in this operation manual.
 - 4.3. The warranty period is extended by the period of warranty repair.
- 4.4. The manufacturer provides under separate contracts after-warranty repairs during the operation life of the product.
- 4.5. Mean operation life is no less than 8 years provided the semiconductor detector is replaced in case of degradation.

Address of the manufacturer: 115409 Moscow, Kashirskoe highway, 31 NTM-Zashita, Ltd. tel. +7(495) 5000300 fax +7(495) 3245000

						Пууст
						Лист
Изм.	Лист	№ документа	Подпись	Дата	БВЕК.431110.04 ПС	6
 			, ,	, ,		

5. PACKAGING

- 5.1. Packaging of the radiometer was performed indoors under the following conditions: temperature of the ambient air from $+15^{\circ}$ C to $+40^{\circ}$ C, relative humidity 80%, no aggressive airborne substances.
- 5.2. Packaging of the radiometer was performed according the GOST 9.014-78 (type of protection "B3-10")
- 5.3. The radiometer is classified as the group III-I device according to GOST 9.014-78.

Изм.	Лист	№ документа	Подпись	Дата	F	SBEK.4	31110	.04 ПС	2		Лист 7

6. PACKAGING CERTIFICATE FORM 6.1. Radon radiometer RRA-01M-03 БВЕК.431110.04 (instrument's number; year of production) packed in NTM-Zashita, Ltd. (name of manufacturer, where the instrument was packed) in compliance with the technical documentation currently in force. Date of packaging "_______20___ Packed by (Name, signature) Лист БВЕК.431110.04 ПС

Лист № документа Подпись Дата

8

$\alpha \alpha \mathbf{1}$ $\mathsf{D} \cap \mathsf{T}$

7. QUA	LITY CONTROL CERTI	FICATE FORM	
7.1. Radon radiom No (instrument's number; y	neter RRA-01M-03 BBEK.	431110.04	
complies with the requi Quality control passed.	irements of the specificat	ions TV 6943-003-18446	6736-00
Date of pr	roduction ""	20	
Quality C	ontrol Manager(signate	ure) 20	
Изм. Лист № документа Подпись	БВЕК.4:	31110.04 ПС	Лист 9

8. RECORDS OF RECLAMATIONS

8.1. In case of failure of the radon radiometer RRA-01M-03 during the warranty period, the user must fill in a form (see appendix B) with a claim for repair and send it together with the radon radiometer to manufacturer:

115409 Moscow, Kashirskoe highway, 31, NTM-Zashita, (address of the manufacturer)

or reasonably demand an arrival of representative of the manufacturer

(address of the User (Purchaser))

8.2. All claims should be recorded in the table 3.

Table 3.

Date of failure	Short description	Measures	Note
1			

						Лист
Изм.	Лист	№ документа	Подпись	Дата	БВЕК.431110.04 ПС	10

9. PUTTING INTO OPERATION SERTIFICATE FORM 9.1. Radon radiometer RRA-01M-03 BBEK.431110.04 $N_{\underline{0}}$ (instrument's number; year of production) was put into operation "___"____20____ (name and signature of the person in charge during operation period) Stamp here

БВЕК.431110.04 ПС

Лист № документа Подпись Дата

Лист

11

	10	. UT	ILIZATIC	N							
	Ra	don		er RR					dangerous	chemicals	or
	Изм.	Лист	№ документа	Подпись	Дата]	БВЕН	ζ.431110	.04 ПС		Лист 12
	_		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		 ·		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		·

	APPENDIX A									1
List of refered regulatations in this passport										
	1. GOST ements»	9.014-7	/8 «T	Temporal	anticorrosion	protection	of	goods.	Genera	1
I	_									
Иом П	No more	По	Пата	<u>-</u>	БВЕК.431	110.04 ПС	l		Лис 13	
rism, Jinci	г № документа	а Подпись	дата							

APPENDIX B

Approved: (Signature of the SEO of the User (Purchaser)) RECLAMATION № _____ date: "____"____200_ г. (type of the product (instrument), instrument's number; year of production) Commission, including on behalf of the User (Purchaser): Chairman: (Name) members:_____(Name) on behalf of the manufacturer (Name of manufacturer, Name of representative) based on the results of inspection of technical condition of the product, states: (general description of the complaint) 2. Operation time since the beginning of the warranty period _____ (operation time) (description of the manifestation of failure, date of failure; suggested cause of failure; operation conditions when the failure occured) Conclusion of the commission: Signatures: Лист БВЕК.431110.04 ПС 14 Лист № документа Подпись Дата

Seller's records :	
Radon Radiometer model RRA-01m-03	
БВЕК.431110.04 (<i>BVEK. 431110.04</i>)	
serial number <u>47209</u>	
date of manufacture	
date of sale	
representative of SPC «Doza»	
Stamp	
SPC «DOZA» 6, Avenue 4806, Zelenograd, Moscow, 124460, Russia tel. +7 (495) 7778485, fax +7 (495) 7425084 www.doza.ru	
Ли	СТ
Изм. Лист № документа Подпись Дата БВЕК.431110.04 ПС 15	
 	

ſ