



DOSIMETER
RADIOMETER
SURVEY METER

MKS-17D



RADIATION
MONITORING
EQUIPMENT

MULTIPURPOSE MODULAR DESIGNED DOSIMETER-RADIOMETER

Alpha and beta external probes allow the dosimeter to serve as a contamination monitor.

APPLICATION:

- nuclear power plants and other nuclearenergy facilities;
- radiochemical productions and otherfacilities using the sources of ionizing radiation;
- nuclear medicine and PET clinics;
- metals and mining industry;
- construction sites;
- geological prospecting and exploration;
- customs check-points;
- Disease Control and Prevention Service.

PURPOSE AND TASKS:

- planned and on-call inspections of radiation environment;
- measuring of alpha and beta surface activity;
- scanning for the sources of ionizing radiation and radioactive materials;
- radiation monitoring of scrap metals, industrial and domestic wastes;
- radiation and ecological survey at the areas of construction;
- vehicles and cargo inspections.



MODULAR DESIGN

Allows a quick assembling of the device in the necessary configuration:

- Alpha, beta, gamma or neutron external probe;
- Hand grip, extension pole or floor/wall pole;
- Wireless or wired connection.

MAIN PARTS:

- ① Extension pole with holder. For use with BDKG-R20D external gamma probe
- ② BDZB-R5D external beta probe and BDZA-R5D external alpha probe
- ③ Hand grip. Included in a set of alpha, beta and gamma external probes
- ④ MBS-3 wireless unit with battery
- ⑤ BDKN-R5D external neutron probe
- ⑥ BDKG-R20D external gamma probe
- ⑦ UPI-01D control and display unit



UPI-01D control unit

- AMOLED display;
- IP65 protection enclosure;
- Easy control with two buttons;
- A variety of operation modes and measurements;
- Visual bar graph, sound signals and alarms;
- Internal memory for up to 715 measuring results.
- Overall dimensions: 132×28×89 mm
- Weight: 240 g



DATA TRANSFER

Wireless or USB-cable data transfer.

- between external probe and UPI-01D control unit;
- between UPI-01D control unit and PC.

DOSE ASSISTANT software available for download from DOZA website.



FLOOR/WALL EXTENSION POLE:

- For use with BDZB-R5D external beta probe and BDZA-R5D external alpha probe;
- Suitable for horizontal and vertical surfaces;
- Baking plate ensures parallel alignment between detector's surface and measuring surface;
- Protective screen to exclude background sunlight radiation from the measurements.

BDKG-R20D

external gamma probe

- NaI(Tl) high sensitivity scintillator detector
- Energy range of detected photon radiation: 0.05 ÷ 3.0 MeV
- Measurement range of ambient dose equivalent rate for photon radiation $H^*(10)$: 0.1 $\mu\text{Sv/h}$ ÷ 10.0 Sv/h
- Measurement range of ambient dose equivalent for photon radiation $H^*(10)$: 0.1 μSv ÷ 10.0 Sv
- Sensitivity to gamma radiation with 0.662 MeV (^{137}Cs) energy, ambient dose equivalent rate in the range 0.1 $\mu\text{Sv/h}$ ÷ 1 mSv/h: 500 $\text{s}^{-1}/(\mu\text{Sv/h})$
- Overall dimensions: 242×152×78 mm
- Weight: 1.39 kg



BDZA-R5D

external alpha probe

- ZnS(Ag) 196 mm² high sensitivity scintillator detector
- Energy range of detected alpha radiation: 4.0 ÷ 8.0 MeV
- Measurement range of alpha radiation flux density:
0.1 ÷ 1.0·10⁵min⁻¹cm⁻²
- Measurement range of alpha radiation fluence (when flux density is within its measurement range): 0.5 ÷ 3.0·10⁵cm⁻²
- Measurement range of surface activity of ²³⁹Pu radionuclide:
3.4·10⁻³ ÷ 3.4·10³Bq/cm²
- Sensitivity to alpha radiation of radionuclide ²³⁹Pu, no less:
1.2 s⁻¹/(min⁻¹·cm⁻²)
- Overall dimensions: 180×180×176 mm
- Weight: 1.55 kg



BDZB-R5D

external beta probe

- 196 mm² high sensitivity plastic scintillator detector
- Range of average energies of detected beta radiation: 0.049 ÷ 1.508 MeV
- Range of maximum energies of detected beta radiation: 0.156 ÷ 3.540 MeV
- Energy range of detected photon radiation: 0.05 ÷ 3.0 MeV
- Measurement range of beta radiation flux density: 1.0 ÷ 1.0·10⁶min⁻¹cm⁻²
- Measurement range of beta radiation fluence (when flux density is within its measurement range): 0.5 ÷ 3.0·10⁶cm⁻²
- Measurement range of surface activity of ⁹⁰Sr+⁹⁰Y: 3.4·10⁻² ÷ 4.0·10⁴ Bq/cm²
- Measurement range of ambient dose equivalent rate for photon radiation H*(10): 0.1 μSv/h ÷ 5.0 mSv/h
- Sensitivity to beta radiation of ⁹⁰Sr+⁹⁰Y radionuclide, no less: 2.0 s⁻¹/(min⁻¹·cm²)
- Sensitivity to gamma radiation of ¹³⁷Cs radionuclide, no less: 400 s⁻¹/(μSv/h)
- Overall dimensions: 180×180×176 mm
- Weight: 1.79 kg



BDKN-R5D

external neutron probe

- Lil high sensitivity scintillator detector
- Energy range of detected neutron radiation: 0.025 eV ÷ 14,8 MeV
- Measurement range of ambient dose equivalent rate (ADER) for neutron radiation: 0.1 μ Sv/h ÷ 0.1 Sv/h
- Measurement range of ambient dose equivalent for neutron radiation: 1 μ Sv ÷ 1 Sv
- Overall dimensions: 330×275×245 mm
- Weight: 8,8 kg



ORDERING INFORMATION

Part №	Product name	Notes
29097	UPI-01D Control unit	
29434	Basic set of accessories and manuals	Includes: 26549 – 1 pc, 16924 – 1 pc, 15630 – 1 pc, 29458 – 1 pc, user manual, passport, calibration certificate.
29098	MBS-3 wireless unit	For wireless connection between UPI-01D and external probe. For power supply to external probe. It is recommended to order at least 2 pcs per dosimeter.

At least one external probe has to be ordered inside the basic set.

Part №	Product name	Notes
29096	BDKG-R20D external gamma probe	It is recommended to order a spare MBS-3 unit per probe.
32190	BDZA-R5D external alpha probe	It is recommended to order a spare MBS-3 unit per probe. 6 pcs of 33486 already included in 32190 part number.
32191	BDZB-R5D external beta and gamma probe	It is recommended to order a spare MBS-3 unit per probe. 6 pcs of 32783 already included in 32191 part number.
32784	BDKN-R5D external neutron probe	It is recommended to order a spare MBS-3 unit per probe.
26549	MBS-2 wireless unit	For wireless connection between UPI-01D and PC.
29098	MBS-3 wireless unit	For wireless connection between UPI-01D and external probe. For power supply to external probe. It is recommended to have 2 pcs of MBS-3 unit per dosimeter set.
15630	Cable USB 2.0 AM-AM	For charging of MBS-3 battery.
16924	Cable USB 2.0 AM-microBM	For charging of UPI-01D. Wired connection between UPI-01D and external probe.
29458	Battery charger	Battery charger for UPI-01D and MBS-3. It is recommended to order at least 2 pc per dosimeter.

Part №	Product name	Notes
32783	Baking plate with protective screen. For BDZB-R5D.	To measure flat surfaces. To exclude background sunlight radiation from the measurements. Designed for BDZB-R5D.
33486	Baking plate with protective screen. For BDZA-R5D.	To measure flat surfaces. To exclude background sunlight radiation from the measurements. Designed for BDZA-R5D.
33487	Floor/wall extension pole	For use with BDZA-R5D and BDZB-R5D external probes.
29431	Extension pole with holder	For use with BDKG-R20D external gamma probe.
29679	Hand grip	For use with alpha, beta and gamma external probes. Included in the basic set of external probe.
28589	Carrying bag	For external probes.
32781	Rigid case	Rigid case for three probes: BDZA-R5D + BDZB-R5D + BDKG-R20.

Basic set and the list of accessories are subject to change without prior notice. Check for up to date information before order.



SPC DOZA

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Technical characteristics are subject to change without prior notice.

