



SPC DOZA

MKS-17D

Dosimeter – Radiometer – Survey Meter





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Multipurpose modular designed dosimeter-radiometer

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



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.





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Application:

- nuclear power plants and other nuclear energy facilities
- radiochemical productions and other facilities 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



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





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





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





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 (Cs^{-137}) 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: 245×152×78 mm
- Weight: 1.4 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





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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 ÷ 1.0·10⁶ min⁻¹cm⁻²
- Measurement range of beta radiation fluence (when
flux density is within its measurement range):
0.5 ÷ 3.0·10⁶ cm⁻²



BDZB-R5D external beta probe

- Measurement range of surface activity of Sr⁻⁹⁰+Y⁻⁹⁰:
 $3.4 \cdot 10^{-2} \div 4.0 \cdot 10^4$ 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 Sr⁻⁹⁰+Y⁻⁹⁰ radionuclide, no less: 2.0 s⁻¹/(min⁻¹·cm⁻²)
- Sensitivity to gamma radiation of Cs⁻¹³⁷ radionuclide, no less: 400 s⁻¹/(μSv/h)
- Overall dimensions: 180×180×176 mm
- Weight: 1.8 kg





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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



Basic set:

| 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.

Optional accessories / Additional items:

| 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.



If you have any questions on product purchasing or engineering issues, please do not hesitate to contact the manufacturer:

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