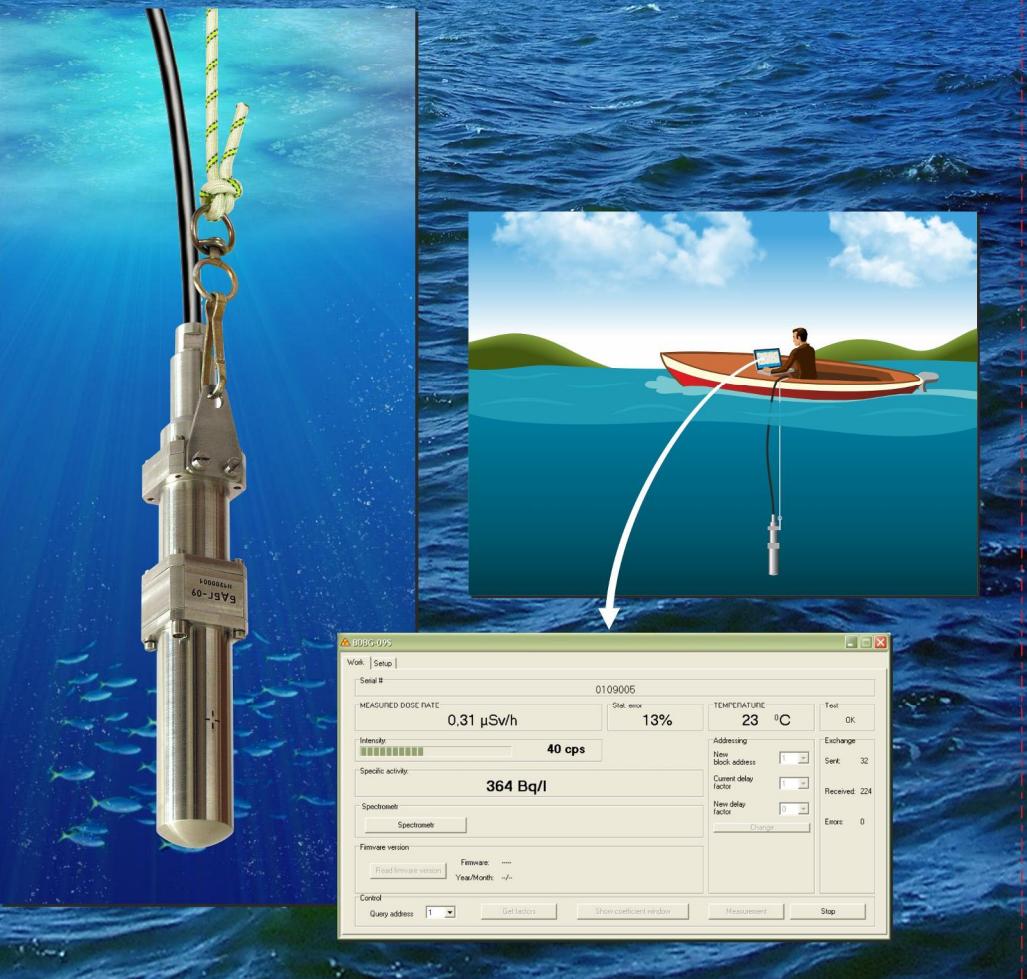


AquaRAD

HARDWARE AND SOFTWARE SYSTEM
FOR DETERMINATION OF RADIATION PARAMETERS
IN THE AQUATIC ENVIRONMENT



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PURPOSE OF USE

Measurement of the following water radiation parameters in water sources:

- gamma radiation ambient dose equivalent rate ($\mu\text{Sv}/\text{h}$);
- intensity of gamma radiation contamination (cps);
- volume activity of cesium radionuclides (Bq/l).

FEATURES

- gamma radiation detector based on the CsJ(Tl)-scintillator-photodiode;
- hermetic stainless steel housing of the detecting unit;
- measured information display on the monitor of the portable (tablet) PC with the Android OS;
- geo-referenced measurement results.

TECHNICAL SPECIFICATIONS

- measurement range of gamma radiation DER from 0.1 $\mu\text{Sv}/\text{h}$ to 100.0 $\mu\text{Sv}/\text{h}$ (indication range from 0.01 $\mu\text{Sv}/\text{h}$ to 100.0 $\mu\text{Sv}/\text{h}$);
- main relative error of gamma radiation DER measurement – $\pm 15\%$;
- energy range of registered gamma radiation from 50.0 KeV to 3.0 MeV;
- energy dependence of measurement results not more than $\pm 25\%$;
- indication range of gamma radiation intensity from 1 cps to 10 000 cps;
- volume activity range of cesium isotopes in water from 5 Bq/l to 50 000 Bq/l;
- measurement time for cesium isotopes volume activity in water from 100 s to 5000 s;
- relative error of cesium isotopes activity measurement in water – $\pm 25\%$;
- operating temperature range from +5 °C to +35 °C;
- maximum immersion depth of the detecting unit – 20 m.

DELIVERY KIT

- BDBG-09S detecting unit of gamma radiation (water-resistant version);
- connecting cable (25 m);
- capron rope (25 m);
- serial port adapter RS485/USB;
- portable personal computer (PC);
- software.

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