IRD 2000™

Irradiator for Dosimeter Source Checking

KEY FEATURES

- Dosimeter source check or recalibration
- Automatic operation:
- User operation limited to dosimeter insertion and removal
- Automated measurement acquisition
- Automated efficiency calculation and load
- Database with full traceability
- ^{137}Cs shielded source, very low external radiation
- Single or double irradiators on same PC

OVERVIEW

This irradiator has been developed to be used by organisations using significant quantities of dosimeters.

The IRD 2000 is used for periodic control in NPPs, Defense departments...with a capability of up to 90 dosimeters (one irradiator) to 150 units (double irradiators) per hour. This tool is a standard production unit.
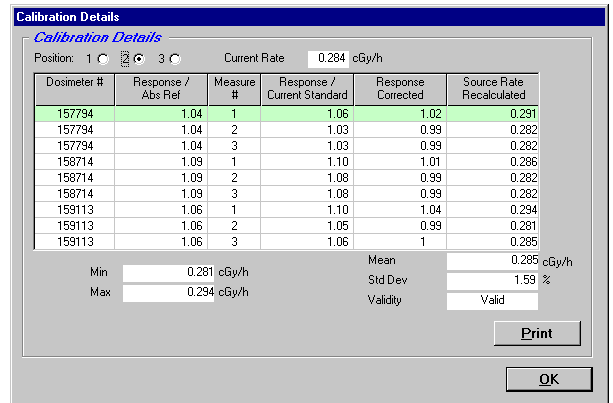
FUNCTIONAL CHARACTERISTICS

- Checks response with/without recalibration
- Results saved in the database with links to check
- sessions and irradiator calibration
- Date loading and discriminant display on dosimeter according to result
- Editing:
- Accuracy Hp(10)
- Checks per dosimeter, per session
- Calibrations
- Result printout
- Irradiator calibration assisted by Transfer-Standard dosimeter with automatic traceable acquisitions and calculation

GENERAL CHARACTERISTICS

- 37Cs - 0.37 GBq source
- Delivered dose rate: 3 mSv/h approx.
- Total check length: 2 mins (dose 50 µSv)
- Total uncertainty (K=2) 6% (dose 100 µSv)
- Total uncertainty (K=2) 7% (dose 50 µSv)
- Capacity: 3 slots for DMC2000 per irradiator module
- Max. check capability:
- 90 dosimeters/hour (1 irradiator module)
- 150 dosimeters/hour (2 irradiator modules)
- 5 cm (1.96 in) lead protection:
- External dose rate: < 2.5 µSv/h at 0.3 m (11.81 in)
- Lockable schutter
- Dimensions (irradiator module) :
- 350 x 443 x 529 mm (13.77 x 17.44 x 20.82 in)
- Weight: < 80 kg (176 lb)

SYSTEM CONFIGURATION

- One or two irradiators module
- One control module comprising an LDM2000 reader and a specific extension
- DOSICAL software (including database run-time) 1 set of cables
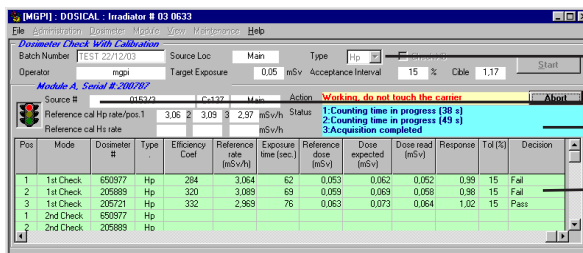- Require a standard PC with Windows 10

Irradiator calibration results

Detail of irradiator dose rate reference setting using 3 Transfer-Standard dosimeters: 3 measurements are displayed per dosimeter for each reference position.

The software checks the coherence of the reference dosimeter results and suggests a reference rate per position which is then accepted or rejected by the operator.

The reference rate history and calibration details are saved.

Information common to dosimeter batch

Reference dose rates reminder

Operator dialog box

Check results: the three dosimeters are within tolerances (here, 15 %)

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