



MICROSTAR® PACK

In situ dose measurements

Designed for mobility, the microStar® pack is an equipment adapted to the **in situ assessment of OSL (Optically Stimulated Luminescence) detectors**, InLight® dosimeters and nanoDot® single dots.

This pack gives you the opportunity to manage your dosimetry **independently and in any indoor location**.

The microStar reader enables to analyse the dosimeters, import and export data files, assign participant information to a dosimeter. Pocket Annealer enables to reset the dosimeters.

Contents of the microStar pack – complete version

- 1 microStar reader for reading OSL dosimeters, InLight and nanoDot
- 1 Pocket Annealer to reset the dosimeters
- 1 2D bar code reader
- 1 dosimeter kit as chosen, including
 - a kit of dosimeters for worker dose monitoring
 - a kit of dosimeters for calibration
 - a kit of dosimeters for quality control
- 1 laptop computer, including
 - 1 Open Office licence
 - 1 reader software
 - 1 user manual in English
- 1 kit of power (E, F) and USB cables
- 1 manual pin cutter (if InLight dosimeter kit chosen)

Services included with the pack

- Delivery and setting up
- 1 day staff training on the equipment
- 1 year warranty, parts and labour

Options

- Extension of warranty
- MicroStar pack - basic version, without Pocket Annealer
- Transport box



microStar portable reader and associated laptop computer



Pocket Annealer

OSL technology: enable multiple readings

The microStar pack equipment uses the OSL (Optically Stimulated Luminescence) technology from LANDAUER®.

OSL technology relies on the principle of light emission. The dose is monitored by an aluminium oxide powder doped with carbon (Al₂O₃:C). During analysis, the Al₂O₃:C is stimulated with LED and glow in proportion to the amount of radiation exposure and the intensity of stimulation light.

The optical stimulation keeps more than 99% of the information in the detector making possible multiple readings.



MICROSTAR® READER

Carry out your own dosimetry with complete independence!

The microStar reader is a portable reader designed for the **treatment of OSL dosimeters**, whether InLight dosimeters or nanoDot single point measurement dot. It can be used **on site or in the field** to **measure the radiation doses precisely and straight away**.

The microStar can be used for **workstation studies, radiological emergency and to run a dosimetry laboratory**.

The reader connects via a USB cable to an external computer. The microStar software provides control over data recording, analysis, and the setup and management of the database.

Calibration is carried out by reading the calibrated dosimeters. **Several kits of dosimeters exposed to known dose levels are included in the microStar pack**. Some quality control dosimeters, also included in the pack, allow you to control the reader calibration and its performance.

Advantages

Portable reader

Small and light, the microStar can be used on site or in the field. Robust, it's easy to relocate.

Plug-and-operate

Easy to configure, it doesn't need consumable (gas, filter,...) nor heating.

Reduced maintenance

As any metrologic equipment, the microStar reader requires preventive maintenance. Delivered with dosimeter kits, one for calibration, the other for quality control, adjustment and calibration are easy. It can be realised by your yourself thanks to the software.

Full and user friendly management interface

The microStar reader works with Microsoft® Windows® operating system and an SQL database. In addition to interpreting results, this software allows a simple setting of parameters for reader operation and advanced data management (search filters, file import/export, addition of personalised fields, etc.).

Immediate results

The microStar reader enables you to obtain a dose readout in 10 secondes.

1. Put the detector in the microStar drawer,
2. Turn the rotating knob for first dot dose measuring,
3. Dose is displayed,
4. Repeat the operation for the remaining dots.

Multiple readings

The OSL technology keeps more than 99% of the information in the detector making possible multiple readings.

Traceability of sensitivity

The InLight and nanoDot dosimeters need no evaluation of their sensitivity before analysis. The sensitivity is already established in our laboratory and is traceable. It is automatically read by the microStar during dosimeter reading.

Traceability of the reading

Using the bar code reader allows easy and automatic assignment. High throughput is possible.

IMPORTANT

The recommended frequency for quality control procedures is defined by the user frupon the radiation assessment application. The microStar reader must be calibrated at least once a year.

You could find the description of the calibration protocole in the user manual, uploadable from the laptop computer included in the microStar pack.



Technical specifications

Dimensions	Height = 12 cm Length = 33 cm width = 24 cm
Weight	16 kg
Power supply	110 - 220 V 1.5 A / 50 - 60Hz
Gas	No
Load capacity	Manual (1 detector)
Reading time	100 dosimeters per hour
OSL dosimeters type	InLight dosimeter nanoDot dot
Units of measurement	gray, sievert, rem, rad and their multiples
Operating temperature	-10 °C to 40 °C
Hydrometry	< 90 %

POCKET ANNEALER

The Pocket Annealer is a portable equipment which allows **to reset the dose on the InLight and the nanoDot up to 1 Gy.**

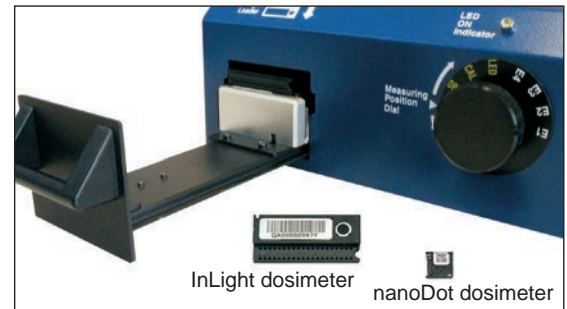
The Pocket Annealer is automatically delivered with the microStar pack - full version.



OSL DOSIMETERS

The microStar pack is delivered with **a dosimeter kit of your choice.** These dosimeters, InLight or nanoDot, relies on OSL technology which is used by more than 2 millions people worldwide.

Each kit includes a kit of dosimeters for measuring and a kit of dosimeters for **calibration and quality controls of the reader.**



Choice of kit	Dosimeters for measuring	Dosimeters for calibration and quality control
InLight	50 InLight dosimeters (Model GA detector, model 2 cover, alligator clip) 1 000 Security pins 200 Information labels	1 ¹³⁷ Cs InLight calibration kit
nanoDot	100 nanoDot dosimeters 5 microStar adaptors for nanoDot	1 80 kVp nanoDot calibration kit 1 ¹³⁷ Cs nanoDot calibration kit 1 nanoDot kit to calibrate by yourself (radiotherapy)

Dosimeters for calibration and quality controls

The microStar is delivered with a kit of dosimeters for calibration and a kit of dosimeters for quality control. A kit consists of irradiated dosimeters and corresponding certificates.

	Composition	Characteristics
1 InLight kit ¹³⁷ Cs calibrated Energy 662 keV	1 calibration kit	15 InLight: 3 detectors at each dose: 0 mSv, 5 mSv, 100 mSv, 500 mSv, 5,000 Sv
	1 quality control kit	15 InLight: 3 detectors at 0 mSv, 12 detectors at 5 mSv
1 nanoDot kit ¹³⁷ Cs calibrated Energy 662 keV	1 calibration kit	21 nanoDot: 3 detectors at each dose: 0 mSv, 10 mSv, 50 mSv, 100 mSv, 500 mSv, 1,000 mSv, 2,000 mSv
	1 quality control kit	18 nanoDot: 3 detectors at each dose: 0 mSv, 50 mSv, 100 mSv, 500 mSv, 1,000 mSv, 2,000 mSv
1 nanoDot kit 80 kV calibrated Energy 44 keV	1 calibration kit	15 nanoDot: 3 detectors at each dose: 0 mSv, 5 mSv, 30 mSv, 500 mSv, 1,000 mSv
	1 quality control kit	15 nanoDot: 3 detectors at each dose: 0 mSv, 5 mSv, 30 mSv, 500 mSv, 1,000 mSv
1 nanoDot kit to calibrate	50 nanoDot dosimeters	nanoDot to calibrate by yourself (in the case of radiotherapy)

More information online



InLight



nanoDot









Pocket Annealer

WWW.LANDAUER.EU

Find all our documentation and exclusive videos on our website.

<https://www.landauer.eu/>

APPLICATIONS

	A set of dosimeters for measuring	Calibration sets and quality control recommended
STAFF DOSIMETRY		
JOB STUDIES Measure doses received by the staff member at his/her work station With a reliable measure over long periods. Classify personnel.	nanoDot kit 	¹³⁷ Cs calibration kit
AREAS Measure integrated doses in specific areas of the establishment Delineate and signpost the monitored and controlled areas and forbidden areas or those with particular regulations.	InLight kit 	¹³⁷ Cs calibration kit
ALARA PROCEDURE Optimise the dose received by the staff member Measure the doses received by the professional/staff member according to his/her practices. Advise the practitioner/staff member in order to improve his/her practice behavior.	nanoDot kit 	80 kVp calibration kit ¹³⁷ Cs calibration kit
EQUIPMENT MONITORING Control the radiation emissions from the radiological equipment Measure the equipment radiation emissions for the staff member Equipment emitting radiation (X-rays generators etc.) Field concerned: RADIODIAGNOSIS (Photons - low energy) Quality Control of Personal and Collective Protective Equipment (PPE and CPE)	nanoDot kit 	80 kVp calibration kit ¹³⁷ Cs calibration kit
RADIOLOGY EMERGENCY To analyse a staff dosimeter in an emergency To immediately measure the dose received by a member of staff in a radiology emergency.	InLight kit 	¹³⁷ Cs calibration kit
LENS OF EYE Carry out job studies on doses received by lens of eye Workstation study to measure doses received by lens of eye by staff members at their workstation.	nanoDot kit 	80 kVp calibration kit ¹³⁷ Cs calibration kit
ENVIRONMENTAL DOSIMETRY		
BACKGROUND MEASURES Ensure a dosimeter monitoring of the background measure Carry out an internal technical check of the background measure required by regulations.	InLight kit 	¹³⁷ Cs calibration kit
INDUSTRIAL, SPATIAL AND SCIENTIFIC RESEARCH		
INDUSTRIAL RESEARCH & DEVELOPMENT Monitor the product conformity in relation to radiology specifications Within the R&D and operational framework, check and characterise the radiation emissions and/or the radiation shielding of new products and materials in the process of manufacture.	To be discussed	To be discussed
SPACE RESEARCH Evaluate the radiation shielding of equipment and material exposed to cosmic radiation Simulate space conditions for tests of your equipment and material.	To be discussed	To be discussed
SCIENTIFIC STUDIES AND RESEARCH Support for research projects and scientific studies Evaluate research hypotheses. Create and validate new methods for measuring doses	To be discussed	To be discussed
ADVICE AND TRAINING		
RADIOPROTECTION ADVICE Consulting services to Health Physics Staff	To be discussed	To be discussed
RADIOPROTECTION TRAINING Perform simulations of radiation and dose measurements	To be discussed	To be discussed

Information

Discover the microStar starting and calibration videos on our YouTube space.

<https://www.youtube.com/user/landauerfr>