HIDEX

Product catalogue

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Triathler Luminometer

The Triathler luminometer is a compact, portable, manual instrument for measuring
samples in various vial sizes up to 20 mL in volume.

Key characteristics:

- Large dynamic range, (200 CPS to 50,000,000 CPS)
- High sensitivity, 0.6 10^{-15} mol/ml ATP
- Portable or regular laboratory use
- 32 character alphanumerical display
- RS-232 port to send out results to a PC or a printer
- Software for MS Windows^{R} to download the results to file or MS Excel worksheet is included
- 1.5 " head-on PM tube makes very high counting sensitivity possible
- Counting times from 0.1 seconds to 99999 minutes
- Power input: 12V DC, 1.5 A or 100 .. 240 V AC, 50/60Hz
- Mechanical data: H 190 mm, D 330 mm, W 250 mm, weight 8 kg

Delivered with:

- Owner's Handbook
- Adapter for 7 mL minivial (black)
- PC interface software
- RS-232- cable

Ordering information:
Description: Triathler Luminometer
Model: 425-014

Available options, see the appropriate pages

- Equipment and field cases
- Adapters for samples from microcentrifuge tubes to 20 mL LSC vials

Triathler gamma counter

The Triathler gamma counter is a compact, portable, manual instrument for counting gamma labels in the 10 keV .. 500 keV energy range.

Key characteristics:

- 32 x 32 mm NaI detector, through hole, well diameter 14 mm. Background shield 8 mm of lead
- 1000 channel Multi Channel Analyser
- Max sample diameter 13 mm.
- > 75 % counting efficiency for I-125
- Optimised to count e.g. radio-immunoassay and cytotoxicity
- Single or dual label counting with spillover correction.
- 32 character alphanumerical display
- RS-232 port to drive a PC or a printer
- Preset nuclides:I-125, I-129, Co-57, Cr-51, Cs-137, Co-58
- Software for MS Windows^{R} to download the results to a file or MS Excel worksheet is included
- Remote control of the Triathler via the RS-232 port
- Power input: 12V DC, 1.5 A or 100 .. 240 V AC, 50/60Hz
- Mechanical data: H 190 mm, D 330 mm, W 250 mm, weight 9 kg

Delivered with:
- Owner's Handbook
- PC interface software
- RS-232- cable

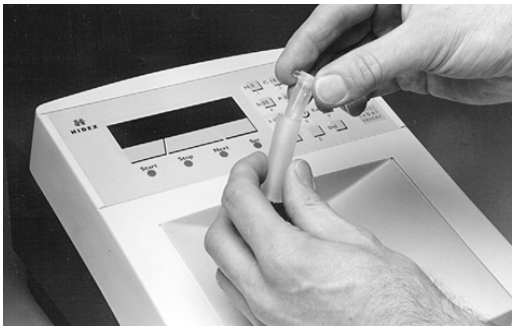
Ordering information:
Description: Triathler Gamma Counter
Model: 425-024

Available options, see the appropriate pages:

- Additional internal lead shield, thickness app. 6 mm, weight 6.5 kg
- Equipment and field cases

Triathler LSC

The Triathler LSC is a compact, portable manual liquid scintillation counter and luminometer.



Key characteristics:

- 1000 channel Multi Channel Analyser
- 2 keV 2000 keV energy range
- Up to 45 % counting efficiency for H-3
- Luminescence interference in beta counting typically < 0.1 %
- Cocktail free P-32 measurement
- Preset nuclides:H-3, C-14, P-32, S-35, P-33, I-125, Cr-51
- All Triathler luminometer features included (see Triathler Luminometer for details)
- Samples from microcentrifuge tubes to 20 mL LSC vials

- DPM calculation for variable quench beta samples
- Power input: 12V DC, 1.5 A or 100 .. 240 V AC, 50/60Hz
- Mechanical data: H 190 mm, D 330 mm, W 250 mm, weight 9 kg

Delivered with:

- Owner's Handbook
- Adapter for 7 mL minivial
- Adapter for 20 mL standard vial
- Adapter for microtubes (Eppendorf)
- PC interface software
- RS-232- cable
- Plastic scintillator tube for direct P-32 counting

Ordering information:
Description: Triathler LSC
Model: 425-034

Available options, see the appropriate pages:

- Internal lead shield
- Alpha/beta separation electronics
- External gamma detector for high energy/low background work
- Equipment and field cases
- Black adapters for luminescence

Triathler Multilabel Tester

The Triathler Multilabel Tester is three instruments in one, Triathler LSC and luminometer complemented with a NaI detector for counting gamma samples.

Key characteristics:

- All Triathler luminometer features
- All Triathler LSC features
- All Triathler gamma counter features
- Preset nuclides for LSC: H-3, C-14, P-32, S-35, P-33
- Preset nuclides for NaI detector: I-125, Cr-51, Co-57, Co-58
- Change from LSC/luminescence samples to count gamma samples takes only few seconds
- Power input: 12V DC, 1.5 A or 100 .. 240 V AC, 50/60Hz
- Mechanical data: H 190 mm, D 330 mm, W 250 mm, weight 9 kg

Delivered with:

- Owner's Handbook
- Adapter for 7 mL minivial
- Adapter for 20 mL standard vial
- Adapter for microtubes (Eppendorf)
- PC interface software
- RS-232- cable
- Plastic scintillator tube for direct P-32 counting

Ordering information:
Description: Triathler Multilabel Tester
Model: 425-004

Available options, see the appropriate pages:

- Internal lead shield
- Alpha/beta separation electronics
- External gamma detector for high energy/low background work
- Equipment and field cases
- Black adapter for luminescence

Triathler option: A/B separation

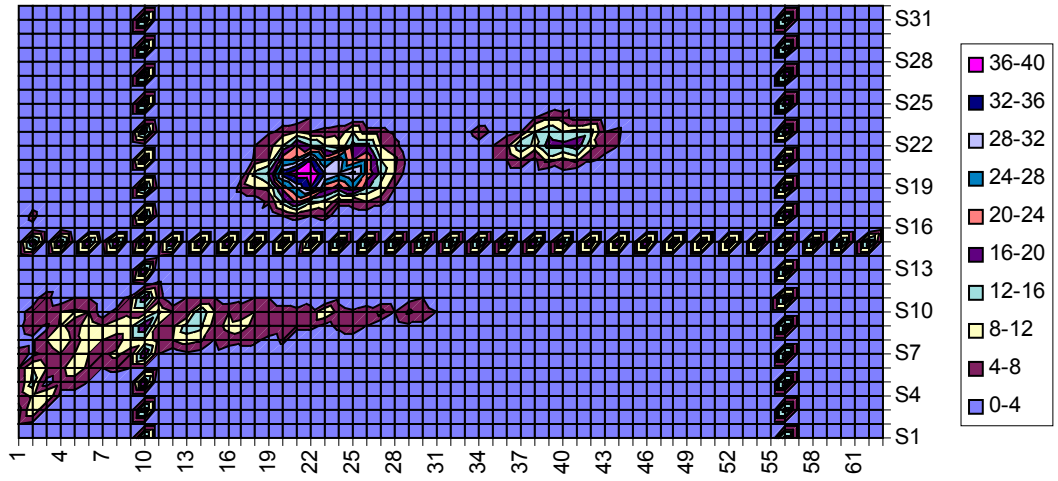
Digital electronics option for Triathler LSC and MLT models to perform alpha beta separation.

Alpha beta separation is based on pulse shape (length) analysis utilizing a multiparameter, multichannel analyser.

Key characteristics:

- sensitivity up to 1 Bq/litre for Rn-222 in water determination
- Software to download the 2D results to the file or MS Excel worksheet is included (see the MS Excel graph below)

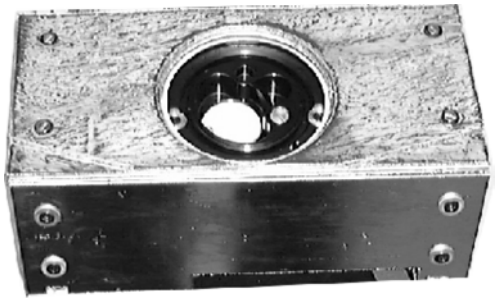
Ordering information:
Description: A/B separation option for the Triathler
Model: 525-001



Two-dimensional plot of pulse-height versus pulse shape discrimination parameter for a sample of Rn-222 in equilibrium with its daughters, taken with Thriathler. Radon was extracted into water immiscible di-isopropyl-naphtalene (DIN) based cocktail. Measurement volume was 3 ml cocktail in minivial.

Triathler option: Internal lead shield

Internal lead shield for Triathler gamma, LSC and MLT models.



Key characteristics:

- All around shield, thickness approx. 6 mm, weight 6.5 kg
- Reduces background 40 .. 60 %, (the exact value depends on local conditions and sample volume) in gamma and beta counting

Ordering information:
Description: Lead shield
Model:525-100

Description: Lead shield
Model:525-100 Upgrade

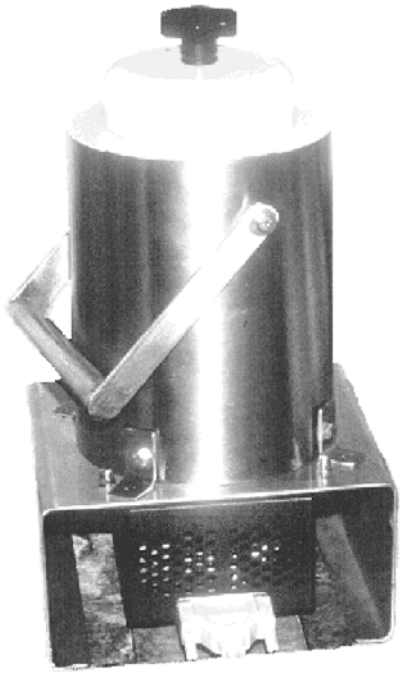
Triathler option: External NaI detector

The option comprises an external NaI interface, a connection cable, an NaI detector and appropriate software. It connects to the Triathler LSC or Triathler MLT directly. All Triathler standard features are retained. Lead shield is not included.

Key characteristics:

- 50 x 50 mm NaI detector, end well, well diam. 25 mm, well depth 33 mm
- Simple operation, the user selects the nuclide by name and presses the "Start" key, the instrument does the rest
- 15 keV .. 2000 keV energy range
- Single or dual label counting with spillover correction
- Preset nuclides:I-125, I-129, Co-57, Cr-51, Cs-137, Co-58

Ordering information:
Description: NaI detector
Model: 431-040



Lead shield for the detector 431-040

- All around shield, 30 mm of lead. 1 mm thick stainless steel surface
- Mechanical data, H 350 mm, D 200 mm

Ordering information:
Description: Lead shield
Model:431-041

Triathler options: Equipment cases

The cases are designed specifically for the protection and transportation of the Triathler and accessories. Manufactured from aluminium sheet with a robust aluminium frame. Includes a high density foam contoured to hold the Triathler and a printer.

Equipment Case

Key characteristics:

Designed for the Triathler and a printer.

- Mechanical data: H 490 mm, D 230 mm, L. 250 mm, weight 5 kg

Ordering information:
Description: Equipment Case
Model: 431-302

Field Case

Key characteristics:

As the equipment case but including a power supply.

- Built in 7 Ah lead battery and a charging unit
- Two hours continuous counting time
- Mechanical data: H 490 mm, D 230 mm, L. 250 mm, weight 6.5 kg

Ordering information:
Description: Field Case
Model: 525-203

Triathler NaI system

This turnkey NaI system comprises a multichannel analyser with the external NaI detector, model 431-040, and the lead shield, model 431-041.

- Simple operation, the user selects the nuclide by name and presses the “start” key, the instrument does the rest
- 15 keV .. 2000 keV energy range, 1000 channel MCA
- Stand alone or PC configuration, no external PC is needed (but can be connected)
- 50 x 50 mm NaI detector, end well, well diam. 25 mm, well depth 33 mm
- Background shield 30 mm of lead
- Single or dual label counting with spillover correction
- 32 character alphanumerical display
- An RS-232 port to drive a PC or a printer
- Preset nuclides:I-125, I-129, Co-57, Cr-51, Cs-137, Co-58
- Software for MS Windows^{R} to download the results to a file or MS Excel worksheet is included
- Power input: 12V DC, 1.5 A or 100 .. 240 V AC, 50/60Hz
- Mechanical data, control unit: H 190 mm, D 330 mm, W 250 mm, weight 6 kg
- Mechanical data, lead shield: H 350 mm, D 200 mm

Ordering information:
Description: Nal system
Model: 425-010

The system is also available without the lead shield.

The system is also available with 2 detectors, model 431-040.

Triathler accessories

The following items, while may form part of the Triathler delivery, can also be delivered separately.

410-001	Instrument manual
431-002	Adapter for 20 mL LSC vial
431-004	Adapter for 7 mL LSC vial
431-003	Adapter for microtubes (Eppendorf)
431-005	Adapter for 7 mL LSC vial, black
431-006	Adapter for 20 mL LSC vial, black
431-007	Adapter for microtubes (Eppendorf) , black
431-010	Plastic Scintillator for P32 counting
431-202	Power supply 100 .. 230 V 50/60 Hz
450-001	PC interface software
431-501	EMI shielded RS-232 interface cable
426-001	Printer for the Triathler (RS-232 interface)
426-002	RS-232 to Centronics converter
431-502	Car adapter cable (cigarette lighter connector)