# Nuclear Medicine

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### Amercare Automated **Dose Dispenser**

The Amercare Automated Dose Dispenser has been developed to completely mimic the manual syringe filling process for dispensing radiopharmaceuticals in unit doses or in multi dose vials.

The ADD enables dispensing operations to be carried out in remote Hot Cell situations where manipulation of syringes and vials by tongs and manipulators is extremely difficult. It is also suitable for bench top applications, Laminar Air Flow Cabinet or Safety Cabinets.

Simply dial up the type of syringe you want to fill and drop the syringe into the tungsten shield. Then enter the volume you want to fill and the ADD loads the syringe, fills the desired volume and presents the syringe to you for removal or recapping. You can add liquid to a previously filled syringe or dispense to vials in multiple aliquots, all with the minimum of manual handling. The ADD also makes recapping the syringe needle simple.

The total time to dispense a single dose from dropping in the syringe to removing the syringe ready capped is typically less than 45 seconds.

The ADD is specifically designed for high activity 511 keV Isotopes and makes light work of the heavy syringe and vial shields that are impossible to manipulate by hand.

#### **Automatic Dose Dispensers**

- Significantly reduces finger dose in bench-top dispensing situations.
- Total cycle time of 28 seconds to dispense 1 ml, 48 seconds to dispense 9 ml.
- Mimics manual filling pharmacy procedures for vial to syringe and syringe to vial transfers.
- Increases accuracy, repeatability and throughput for dispensing operations where heavy shielding is required.
- Suitable for use with most types of syringes up to 10 ml size.
- Vial shield accepts vials up to 30ml, custom vial adaptors are available if requested.
- Stainless steel and plastic construction, resistant to most commercially available cleaning and sanitising products.
- Designed for use with 25mm long needles.

### **Posijet**<sup>®</sup> Radiopharmaceutical fractionation and injection unit

The new Posijet<sup>®</sup> is the result of continuous improvement work to launch an automatic injector that meets the needs in radiation protection and efficiency during preparation and injection of FDG, FDopa, NaF, FCholine, but also <sup>68</sup>Ga.

Posijet<sup>®</sup> offers unrivalled ease of use for the preparation and injection of high energy radiopharmaceuticals while guaranteeing the highest security conditions and radiation protection.

After 18 months, the new generation of Posijet<sup>®</sup> has been chosen by over 25 nuclear medicine departments and 300 users worldwide. After 5.535 mother solutions injected into 31.624 patients, Posijet® V3 satisfies users every day thanks to its reliability and ergonomics.

LEMER PAX

The Posijet<sup>®</sup>'s three main advantages are:

- 1. Posijet® minimises operator's exposure.
  - Injection and rinsing operations in automatic and/or remote manual mode.
  - Reduction of potential distal doses, with the proposal of a wash out of the dose solution kit at the end of the cycle before unloading.
- 2. Easy to use and adapts to your work practices for maximum flexibility.
- Automatic mother solution volumic activity check and dilution assistant.
- Consumables are quick and easy to install.
- Intuitive, user-friendly interface.
- 'Test injection site' function before the administration of the radiopharmaceutical by bolus NaCl (the volume of the bolus is adjustable).
- Possibility to reassign an already prepared dose.
- 3. Posijet<sup>®</sup> ensures the highest safety conditions for patient and operator.
  - Maximum dose threshold, air bubble detector, injection force sensor.
  - Interoperability with all WIFI and ethernet connected radiopharmacy software.
  - The secure integrated website allows remote control and monitoring of all operations carried out with Posijet<sup>®</sup>, accessible on PC and mobile devices (smartphone, tablet, etc.).



#### **Automatic Dose Dispensers**

#### Features

- Loading and planning assistant.
- Automatic mother solution volumic activity check.
- Dilution assistant.
- Volumic dosage with minimum dose of about 100 μL.
- Maximum dose threshold, air bubble detector, injection force sensor.
- Interoperability with all WIFI and ethernet connected radiopharmacy software.
- Consumables quick and easy to install.
- Intuitive, user-friendly interface.
- Radiation protection: dose rate < 15  $\mu$ Sv/h at 5 cm from the walls (mother solution 37 GBg of FDG in its 30 mm lead shielded transport pot).
- Injection and rinsing operations in automatic and/or remote manual mode.
- Reduction of potential distal doses, with the proposal of a wash out of the dose solution kit at the end of the cycle before unloading.
- Product adaptable to department practices.
- Secure integrated web site allows remote control and monitoring of all operations carried out with Posijet<sup>®</sup>, accessible on PC and mobile devices (smartphone, tablet, etc.).
- Ease of use: function 'test injection site' before the administration of the radiopharmaceutical by bolus NaCl. (the volume of the bolus is ajustable).

CMER PANK

- Possibility to reassign an already prepared dose.
- Remote maintenance.

### **Gamma Probes and Diagnostic Seeds**

#### **Care Wise C-Trak Apollo Wireless/Wired** Gamma Probe

The C-Trak Apollo gamma probe allows for the detection of radiation for use during sentinel node biopsies.

Featuring both wireless and wired connectivity with the same probe, the C-Trak Apollo eliminates any potential issues with connectivity, interference and charging – ensuring surgeries are completed without complication.

of counts at a later date.

for a variety of isotopes. • Built-in user manual.

## ()(BTH) Apollo 001013 Battery: 51% Status: Counting *Q* CareWise Probe Name: OmniProbe Tc-99m Narro 756 Range 4 CPS (Per 5 S 90 • Large touchscreen display for maximum visibility. • Probes which provide the optimal balance between directionality and sensitivity. • An automatic transcription of timed counts is stored. • Save timed counts locally – for retrieval • Fast calibration and enhanced diagnostics quickly ensure correct functioning. • Multiple probes can be stored within for use in a range of procedures. • Energy threshold and window technology

OmniProbe PET

#### Advantage<sup>™ 125</sup>I **Diagnostic Seeds**

The C-Trak Galaxy Gamma Probe System can be used with Advantage<sup>™ 125</sup>I diagnostic seeds to help treat patients in a more convenient and accurate way.

The seeds are supplied in pre-loaded needles which saves time, skill, and effort for radiologists as well as minimising the risk of dropping or losing a seed compared to the manual loading of needles.

Advantage<sup>™ 125</sup>I diagnostic seeds offer the following benefits:

- Low activity, pre-loaded in a choice of 5, 7, or 12 cm needles.
- Available in two different activities -2.4 MBg and 9 MBg
- All loaded needles are supplied sterile with a 180 day shelf life.
- Minimise migration with the option of having the seed loaded alone with a trailing spacer or with the seed and spacer stranded together.

Every order is supplied with:

- A decay chart stating the activity on each day.
- A lead pouch for the safe and easy transport of individual needles.

We can also provide transportation and disposal of your seeds in an efficient and convenient way.

### Seedseeker

Designed for detecting <sup>125</sup>I diagnostic seeds.

OmniProbe

OmniProbe EL

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#### CRC<sup>®</sup>-55tW Dose **Calibrator and** Well Counter

The CRC-55tW dose calibrator provides advanced features with the speed and accuracy you need to measure activity and prepare doses.

- Well counter includes 256 channel MCA with detailed spectrum for ID analysis.
- Automated well QC including chi-square, wipe tests and MDA (manual and automatic ROI).
- Lab tests including: Schillings, blood plasma and volume.
- Performs counting functions for wipe tests in as little as 6 seconds at activities as low as 37 Bq.
- Low activities are measured with a drilled well high sensitivity NaI(TI) detector.

#### **CAPRAC®-t Well Counter**

Measure for measure, no other well counter offers the speed, accuracy and complete range of built-in features provided by the compact CAPRAC<sup>®</sup>-t. It performs a wipe test in just 6 seconds (for 1 nCi) and detects extremely low levels of activity with the accuracy only a NaI drilled-well detector can provide.

- 8" SVGA touch screen colour display.
- 256 channel MCA with detailed spectrum for identification analysis.
- NaI drilled-well crystal detector.
- Automatic Energy Calibration, Constancy Check, and Background Subtraction.
- Automated well QC including chi-square and MDA.
- Manual and Automatic ROI.
- Sets user definable protocols for wipes.
- Print outs of all data for permanent . records with the optional printer.
- Direct readouts with spectrum display are in cpm, dpm, Curies and Bequerels.
- Meets all state and NRC wipe test requirements.
- USB and RS232 communication ports for PC and printer.
- Compatible with nuclear medicine information management systems via USB.
- Lab tests include Schilling, Plasma and RBC volume.
- Built-in database for test and wipe results as well as QC.

#### CRC®-55tR and CRC®-55PET **Dose Calibrators**

Apr 19 2010 10:15

F18 (Fluorine) 109.70 min Cal #: 472

0.14uCi

CRC-55tR

The Capintec CRC®-55tR and CRC®-55PET Dose Calibrators provide the speed and accuracy you need to measure and prepare doses with excellent reliability and performance.

The design includes a menu driven, colour touch screen interface that is easy to learn and use. Capabilities include storage of reference sources in memory that automatically decay correct for today's time and date.

The Capintec CRC®-55PET Dose Calibrator has reduced chamber pressure and increased bias voltage which increases the maximum activity range for high energy PET isotopes.

- On screen display of nuclide name, number, activity, measure and calibration number.
- Over 80 nuclides with half-lives in memory.
- Built in dose calibration, quality control and self diagnostics.
- Automated QC including constancy and linearity programmes.
- 8" colour VGA touch screen display with high visibility display and full alpha numeric touchpad.
- Optional intelligent programmable remote display.
- Chamber plug and play capability.
- Chamber and remote can be placed up to 30 metres from the readout unit.
- Optional second chamber.
- Maximum activity of up to 250 GBq (CRC®-55tR).
- Maximum activity of up to 740 GBg (CRC<sup>®</sup>-55PET).

# CAPTUS® 4000E Thyroid Uptake System

Ø

The Captus<sup>®</sup> 4000E is a comprehensive Nuclear Medicine Measurement System, with specific software modules for thyroid uptake, bioassay, wipe tests, automated quality assurance tests, lab tests, and isotope library.

The system includes a fully functional 1024 channel MCA with auto and manual calibration. Timed activity mode features a programmable repetitive timed measurement program.

Large 20" all-in-one touch screen user interface.

- Fully integrated DICOM interface for patient data, QC and wipe tests.
- Custom Protocol included as standard.
- Articulating arm with wide range of motion.
- Medical grade corian countertop with document storage shelf.
- Secure neck phantom storage location.
- Source holder for reproducible • QC positioning.











#### **Dose Calibrators and Well Counters**

#### **Dose Calibrators and Well Counters**

#### Hidex AMG Automatic Gamma Counter

A automatic gamma counter specifically designed to meet the needs of modern Nuclear Medicine, PET and environmental laboratories. With touchscreen interface and application focused design it guarantees effortless work flow and results simply at your fingertips.

- 3" NaI well type crystal provides superb counting efficiency and optimised lead shielding ensures low background and minimal interference from samples on the conveyor.
- Powerful 2048 channel MCA for detailed spectrum analysis.
- Optional onboard 4 decimal balance means samples can be weighed automatically and results reported as activity per mass or volume. This saves the operator valuable time and prevents transcription errors.

HIDEX

- For short lived isotopes there is an optional foot pedal for precise timing of the sampling.
- Software automatically calculates decay corrected activities.

Templates Live

• All results, raw data and calculated data are exported directly at the touch of a button.



#### Fidelis Radionuclide Calibrator

The Fidelis is a next generation radionuclide calibrator with unsurpassed accuracy and traceability, and enables rapid, demonstrable compliance with NPL good practice guidance on the assay of radiopharmaceuticals.

The instrument uses our own high resolution, high linearity 'PAM Electrometer Module,' in conjunction with an ionisation chamber designed at the National Physical Laboratory (NPL).

#### User-friendly interface

The user-friendly interface makes it well suited for use as a reference instrument – to assay samples for calibrating other radionuclide calibrators, thus saving money on calibrators and reference sources.

#### Meeting national standards

The Fidelis fully certified Secondary Standard ionisation chamber is an identical version of the national standard chamber held at NPL. Each chamber is tested against the master chamber using a range of radionuclides before delivery. The flexible software makes it very easy to update calibration factors for the instrument using data published by NPL.

- Secondary Standard Radionuclide calibrator with full traceability to the UK national standards maintained by NPL.
- Designed to meet or exceed the requirements of The Measurement Good Practice Guide No.93: Protocol for Establishing and Maintaining the Calibration of Medical Radionuclide Calibrators and their quality control (available from NPL).

FIDELIS

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 Provided with a well liner and removable sample holder for the assay of vial and ampoules.

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- Supplied calibrated for more than 60 radionuclides (with the option to add user defined factors, and holders).
- Future proof Calibration factors for new types of vial or new isotopes can be added using published data. Calibration data stored in chamber.
- Fully automatic self testing and daily checks.
- USB interface for easy connection to a PC.
- Available with either a laptop or desktop PC and optional printers.
- Upgrades available for older systems.

#### Software

- Comprehensive Windows<sup>®</sup> software included (XP and Windows 7 compatible), providing a simple to use, unparalleled set of measurement tools.
- Compatible with nuclear medicine management systems (export to MS Excel etc).





### **Dose Calibrators and Well Counters**

#### Accessories

The products featured are just a selection of the Capintec accessories available. For a comprehensive list please visit our website.

#### **Chamber Well Insert**

Protects chamber well, easily washable with decontaminate. Custom sizes available.

#### **Calicheck Linearity Test Kit**

Accurately tests linearity in less than ten minutes.

#### Linearity Software

CalUtility provides graphical display and data logging for CRC<sup>®</sup>-15, CRC®-25 and CRC®-55 Calibrators.

#### **Thompson Copper Filter**

Allows the 123I activity to be measured accurately in a wide range of syringes.

#### **Epson Roll Printers**

For CAPRAC®-T, CRC®-25W, CRC<sup>®</sup>-55tW, CAPRAC<sup>®</sup>, CAPRAC<sup>®</sup>-R.

#### **Epson Ticket Printer**

For CAPRAC<sup>®</sup>-T, CRC<sup>®</sup>-25W, CRC®-55tW. CAPRAC®. CAPRAC®-R.

#### Vial/Syringe Samplers (Dipper)

Ensures accurate placement every time. Various dippers available.

#### Brachytherapy Ribbon Holder

Positions <sup>192</sup>Ir seeds in the dose calibrator.

#### **Brachytherapy Source Holders**

Positions <sup>137</sup>Cs seeds in the dose calibrator.

#### **Moly Assay Canister**

Measures Molybdenum content of 99mTc

#### Lead Shielding

Nine sets of 6 cm thick lead split rings for full chamber shielding.

#### Mounting Flange

A must for all hot labs with limited counter space.



The Radhound X/E is an advanced hand-held general purpose radiation monitor, suitable for a wide range of probes. The X/I is a Radhound with an internal dose rate detector.

This feature-packed instrument boasts some unique features, such as the ability to switch between probes via the menu allowing, for example, a dose rate probe and a contamination probe to be configured for use with one instrument. This flexibility allows any standard probe to be used (300 - 1200 V).

- Clear digital LCD display with backlight.
- GM and scintillation detector options.
- Fully adjustable alarm levels.

Radhound

- Scaler timer function.
- Multiple probe library/configuration.
- Peak mode. •
- Over range.









#### **Radiation Safety**

#### **Radhound Multi-purpose Digital Radiation Meter**

A multi-purpose digital radiation survey meter suitable for all your contamination monitoring and radiation protection requirements, the Radhound is a cost effective, feature packed digital radiation monitor that is simple and easy to use.

Count rate is displayed in large clear numbers and also on a bar scale. Our smart averaging software means a steady display that can be read with confidence, yet provides a fast response.

Radhound

Southern Scientific

For source finding, one button push changes the display to a histogram plot. Alpha and Beta/Gamma counts can be displayed separately or on the same screen.

For surveying operations the Radhound also has an integrator mode.

- Clear digital LCD display with backlight.
- GM and scintillation detector options.
- Scaler timer function.
- Ergonomic tilt stand.
- Wall mountable.
- Fully adjustable alarm levels.

### **Radiation Safety**

### SS300 and SS315 Probes

The SS300 is an uncompensated pancake Geiger-Müller-based probe for alpha beta and gamma contamination measurement.

The SS315 is functionally identical to the SS300 but with a different probe geometry.

### SS330, SS335 and SS340 Probes

The SS330 probe is an excellent general purpose end window compensated pancake Geiger-Müller probe with H\*(10) energy compensation, which permits reliable measurements from ambient background up to 1 µSv/hr.

The SS335 probe is functionally identical to the SS330, but with a different probe geometry.

The SS340 is a side-window Geiger-Müller probe for ambient gamma radiation measurement to H\*(10). Dose rate range is 0 - 2 mSv/hr and energy range 45 keV - 2 MeV.

SS330

#### SS404 Al and **Be Probes**

SS335

The SS404 Al is a thin-crystal NaI(TI) end-window scintillation probe designed to be an equivalent to the Mini 44A.

This probe incorporates a  $\varnothing$  1.25" x 0.098" (32 x 2.5 mm) thick NaI(TI) crystal mounted on an aluminium window and is fitted with an internal 3.15 mm lead collimator to reduce background counts.

The SS404 Be is similar to the SS404 Al but is fitted with a beryllium window, which extends the low energy response down to 5 keV, making it suitable for counting <sup>55</sup>Fe.







### SS500 Probe

The SS500 is a very sensitive end-window gamma scintillation probe.

Equipped with a  $\varnothing$  1" x 1" (25.4 x 25.4 mm) NaI(TI) crystal, it is designed to provide a cost effective gamma monitor for energies of 50 keV upwards.

#### SS600 Probes

Equivalent to the NE BP6 / AP2, there are three versions of these 100 cm<sup>2</sup> window probes available:

- SS600 A Alpha only (Zinc sulphide layer).
- SS600 B Beta only (Plastic scintillator).
- SS600 AB Alpha/Beta (Zinc sulphide bonded to a plastic scintillator).

The use of a plastic scintillator avoids the traditional use of anthracene in this application, with a comparable response.

#### SS700 Probes

A series of three ergonomically balanced probes with a square window of 50 cm<sup>2</sup> and a 64° angled handle.

Equivalent to the NE BP7, there are three versions available:

- SS700 A Alpha only (Zinc sulphide layer).
- SS700 B Beta only (Plastic scintillator).
- SS700 AB Alpha/Beta (Zinc sulphide bonded to a plastic scintillator).

The use of a plastic scintillator avoids the traditional use of anthracene in this application, with a comparable response.

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#### **Radiation Safety**



Material, Excepted Package Contains radioactive material and is in all respective material sciences and respective **2910** Mitchelle package need ref Respective to Captain Marco

#### Tracerco T401 Contamination Monitor

Designed to meet the challenge of combining operational reliability with excellent sensitivity the T401 offers a range of features including direct surface, peak and background readings. It can be used one-handed, or detach the probe for two-handed operation.

The T401 can be supplied with an extension pole kit to securely deploy the detector probe during monitoring operations.

- Dual bar graph meter display 0 1000 cps.
- Digital numeric display with automatic direct translation to Bq/cm<sup>2</sup> for 14+ pre-programmed nuclides (natural and man-made) including <sup>14</sup>C, <sup>32</sup>P, <sup>137</sup>Cs.
- Optional extension arm.
- Detachable probe.
- Background reading and storage.
- Audible response with adjustable alarm thresholds.

#### Tracerco T402 and T406 Dose Rate and X-ray Monitors

The T402 and T406 are lightweight, yet robust and comfortable to use over extended periods.

- T402 detects gamma and X-rays from 60 keV 1.33 MeV.
- T406 detects gamma and X-rays from 17 keV 1.33 MeV.
- T402HR extended range for high dose rates.
- Digital bar graph display: 0.1 1000  $\mu Sv/h.$
- Digital dose rate indication: 0 10,000  $\mu$ Sv/h.
- Peak dose rate memory allows maximum exposure levels to be recorded.
- Accumulated dose rate memory – for risk assessment and total exposure.
- Audible response with
  adjustable alarm thresholds.
- Water-resistant so easy to clean and decontaminate.
- Shock and drop tested so highly durable.



### Tracerco Personal Electronic Dosimeter (PED)

Ideal for users who are not specially trained to measure radiation exposure, the PED family have been specially designed to be easy to use and understand. Encased in weather, shock and drop proof housings each PED features a smooth clean design and simple to use DoseVision<sup>®</sup> software.

- Detects X-rays and gamma rays from 48 Kev 3 MeV.
- One button operation.
- Easy to read large Amoled display screen displaying dose rate, accumulated dose and animated silhouette indicating dose received.
- Multiple languages.
- Multiple users.
- Waterproof up to 1 m.

#### PED-IS

This intrinsically safe PED is perfect for both radiation specialists and those who do not work with radiation every day. Robust and reliable, it is safe to use in potentially explosive areas, making it ideal for challenging environments.

#### DMC 3000 / DMC 3000 Personal Electronic Radiation Dosimeter

The DMC 3000 Personal Electronic Radiation Dosimeter features superior gamma and X-ray energy response, programmable alarms with visual LED, audible, and vibrating alarm indicators, simple 2-button navigation, and the ability to be fitted with external modules for expanded capabilities.

The DMC 3000 has a complete line of attachable modules that expand the detection and communications capabilities of the dosimeter these are: DMC 3000 Beta Module, DMC 3000 Neutron Module and DMC 3000 Telemetry Module.

- Designed for ruggedness and durability.
- Loud audible alarms, coupled with ultrabright LEDs and vibration capability.
- Simple 2-button operation and navigation of display options.
- Meets or exceeds applicable IEC and ANSI standards.
- Operates for up to 9 months on a single standard AAA battery.

The add-on PRD Module attaches to the DMC 3000 dosimeter and provides radiation counting information for source and hot spot location assessment, while providing dosimetry protection to the operator. It is powered by the DMC 3000 for over 1000 hours of use.

#### **Radiation Safety**

#### **PED-Blue**

This is the non-intrinsically safe version of the PED-IS. Lighter, it retains the same high quality design and features a direct micro USB connection.

#### PED+

An advanced version of the PED-Blue, it can be used as both a PED and a hand held dose rate survey meter. The PED+ has a number of added features, such as Bluetooth, GPS and pop-up message alarms.

#### PED-ER

The PED-ER's extended dose rate range of 1 Sv/h (100 R/h) provides perfect radiation dosimetry for nuclear medicine environments.

#### PED ER+

Featuring an extended dose rate range of 1 Sv/h (100 R/h), the PED-ER+ allows the user to measure radioisotopes which could not have been measured previously. Lightweight, waterproof and compact, the PED-ER+ provides the perfect radiation monitoring solution for those working in challenging environments.

<complex-block>







### **Radiation Safety**

### Handhound Voice Activated Monitor

Designed for use in 'wet-chemistry' radio-isotope handling situations where hands could be contaminated, the mains-operated Handhound voice activated monitor is an ideal solution.

A touchscreen interface is also incorporated to allow configuration and manual triggering if needed.

- Entirely voice operated to avoid instrument contamination.
- Sensitive scintillation counter for gamma emitters.
- Automatic background updates.
- Fixed or dynamic alarm thresholds.
- Alternative detector options covering wide range of nuclides.

Name

Petra Mahutov

Laeticia Ah Alex Eggs

Deborah Pe Jim Stirrup

Continue Cancel Monito

Rate

Background

6 cps

3 cps

HANDHOUND

V.

Hand Monitor Scientific

- Stainless steel housing for ease of cleaning and decontamination.
- Automatic record keeping against user names, to aid with HSE compliance.
- Touch-screen compatibility included as an alternative to voice operation.

lason AG1278

• Data can be downloaded onto USB.

**Scientific** 

#### **Ceiling Monitor**

Typically the monitoring detector(s) is mounted in the ceiling (generally behind the ceiling tiles). A lead shield is used to collimate the detector to improve measurement response.

The systems are available with a range of optional detector configurations, the sele ction of which are dependent on the application, i.e. the isotope of interest, the expected activity range to be measured and the distance to the patient bed.

The system has two key advantages:

- 1. To follow ALARA regarding unnecessary exposure to staff.
- 2. Improve security and safety with assurance that the patient is resident in the therapy ward.



#### Hand, Foot and Clothes Monitors

The Tema Sinergie hand, foot and clothes monitors are designed to measure gamma radiation and contamination levels. They are ideal for use in nuclear medicine, radiopharmacy and radiochemistry labs or any other area with the possibility of beta and gamma radioisotope contamination.

There are two models available, the CMS60D and CMS60XD.

#### CMS60D

The CMS60D systems are equipped with five identical GM tubes detectors, one for each of the hands and feet plus one that is removable, for monitoring of the clothing.

#### CMS60XD

The CMS60XD comes with two RXD 1000T detectors for hands and feet and one RXD 270 detector for clothing. The RXD 1000T detector includes two independent channels, for independent measurements of the right hand, left hand, right foot and left foot.

Both systems perform in sequence the measurements of hands (front and back), feet and clothes with automatic background subtraction. At the end of the cycle, a report is shown on the monitor and automatically saved to the archive.

- Graphic LCD with digital indication of the measure for each channel. Measure unit can be set in cps or Bq/cm<sup>2</sup> (with isotope selection from keyboard).
- Automatic measure cycle: operator selection, isotope selection, hands and feet measure, clothes measure.
- Operator database. Each operator is privately profiled, allowing the system to work with individual magnetic cards (optional).
- Measures archive. Each measure record contains the following information: operator, measure date and time, alarm status for each detector, measure value and error for each detector, selected isotope. The archive can be downloaded via Ethernet or RS232 connection.
- Automatic background subtraction: the system measures the background with configurable period and duration. The measure algorithm excludes incidental peaks not related to background activity such as radioactive syringe passages.
- Automatic detector power off after every measure.
- Isotopes database (default isotopes are: <sup>201</sup>Tl, <sup>99m</sup>Tc, <sup>67</sup>Ga, <sup>60</sup>Co, <sup>131</sup>l, <sup>125</sup>l, <sup>18</sup>F, <sup>57</sup>Co, <sup>111</sup>ln, <sup>123</sup>l).
- Alarm thresholds are configurable for each isotope.

#### Waste Bin Monitor

High throughput portal design with barrier to prevent the incorrect disposal of radioactive waste.

- Monitors the entire contents of waste bins for gamma contamination.
- Excellent sensitivity with large volume plastic scintillation detectors.
- Alarms with raising barrier for release.
- Satisfies the demands of the Environment Agency.

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### **Radiation Safety**





#### Bind-It<sup>™</sup> Decontaminant

**Bind-It** 

**Bind-I** 

Bind-It<sup>™</sup> Decontamination Fluid has a unique affinity for <sup>123</sup>I / <sup>125</sup>I/ <sup>131</sup>I. The strong attraction binds the radioiodine and suspends it in solution so that when combined with water it becomes a subsidising cleaner. This 'lifts' dirt and residual radioiodine off surfaces so it can be easily wiped away.

- Safe for use on delicate well counter detectors, thyroid probes, survey meters and gamma camera heads.
- Available as a concentrated cleaner, ready-to-use spray and a hand soap, all in convenient 237 ml and 946 ml sizes.

#### **Decontamination Gel**

A range of easily peelable decontamination gels to suit all applications. Effective on a vast range of smooth and porous surfaces, encapsulating and removing up to 99% of loose and fixed contamination.

- In addition to industrial decontamination, the gels can be used to fix contamination or to form a protective barrier.
- Extensively used to recommission contaminated instruments and glove boxes.
- Film can be analysed in a laboratory afterwards by HPGe or LSC.
- Cleaner, more effective and safer than alternative decontamination methods.
- Minimises contaminated waste output.



### Lead Glass Syringe Shield

The Hoy Scandinavian Lead Glass Syringe Shield is designed to offer the best mix of personal protection and a high functionality, whilst providing the perfect fit for the syringe. They are most suitable for nuclear medicine imaging departments.

Available with two different types of locks: Spring Lock and Twist Lock.

Spring Lock – encloses the syringe by pushing a button to release a small raised point that attaches the syringe into the sleeve.

**Twist Lock** – encloses the syringe by twisting the syringe into the two flanges that attaches the syringe into the sleeve.

The Lead Glass Syringe Shield is designed for all types of syringes and for the following sizes: 1 ml, 2 ml, 2.5 ml, 3 ml, 5 ml, 10 ml, 30 ml and 50 ml.

- Lead Glass High Density: 5.2 g/cm<sup>3</sup>
- Thickness: 5.5 mm

### **Magnetic Sliding** Syringe Shield

The Hoy Scandinavian Magnetic Sliding Syringe Shield is separated by simply pushing the sides apart, and closed with strong magnets. This means that it is now possible to use safety glide needles together with Hoy syringe shielding.

Available in a range of size options for various syringe types. For other types of syringes please contact our office.

### **Tungsten Syringe Shield**

Suitable for use in both nuclear medicine imaging and radiopharmacy, the Hoy Scandinavian Tungsten Syringe Shield has a window to provide the user the possibility of seeing the syringe inside the shielding.

Available with two different types of locks: Spring Lock and Twist Lock.

**Spring Lock** – encloses the syringe by pushing a button to release a small raised point that attaches the syringe into the sleeve.

Twist Lock – encloses the syringe by twisting the syringe into the two flanges that attaches the syringe into the sleeve.

The Tungsten Syringe Shield is designed for all types of syringes and for the following sizes: 1 ml, 2 ml, 2.5 ml, 3 ml, 5 ml and 10 ml.





#### **Radiation Safety**















### **Radiation Safety**

### **PET Syringe Shield**

The Hoy Scandinavian PET Syringe Shield provides the user with optimal radiation shielding during PET / MR or PET / CT procedures.

Magnetic / non-magnetic with two different types of locks: Spring Lock and Twist Lock.

**Spring Lock** – encloses the syringe by pushing a button to release a small raised point that attaches the syringe into the sleeve.

**Twist Lock** – encloses the syringe by twisting the syringe into the two flanges that attaches the syringe into the sleeve.

Available for the following syringe sizes: 1 ml, 3 ml, 5 ml, and 10 ml.

- Shielding: 10 mm tungsten.
- Weight: 750 g (1 ml)

#### **Easyview HE Syringe Shields**

The Easyview HE range is a user-friendly range of syringe shields offering the highest radiation protection level.

Made of tungesten, the Easyview range offers an optimised radiation protection for operators in nuclear medicine departments handling high energy radiopharmaceuticals like FDG, FDopa, NaF, FCholine, Ga 68.

Measurement of the dose is easy thanks to a large viewing window with zoom effect. Syringe release is fast due to its very simple and smart withdrawal system.

- Easyview is amagnetic which makes it compatible with PET-MRI examinations.
- Offers the highest security conditions for the operators with radiation exposure reduced to the minimum.

#### **Mediclic Tungsten Syringe Shields**

These syringe shields (lead glass and tungsten shielding) are designed for easy and quick insertion and withdrawal of the syringe.

- Available in low, medium, and high energy.
- Ready for safe handling with just one click.
- Can be fully dismantled and decontaminated.
- Shock resistant.
- Compatibile with all syringes of the market.
- Lead glass window with zoom effect and white lining for optimum viewing.



### Shielded Syringe Tray

The Shielded Syringe Tray offers extra protection for syringe doses awaiting patient injection. It is stackable and holds 6 syringes at one time.

- Dimensions: 250 (W) x 250 (L) x 75 (H) mm
- Weight: 5 kg
- Shielding: 3 mm Pb

### **Hoy Acrylic Shield**

Protective BETA Shielding from Hoy Scandinavian provides the user with optimal radiation shielding within all work phases with the use of acrylic.

Accommodates 1, 2, 5 and 10 ml BD. Most makes of syringes can be accommodated.

• Thickness: 10 mm.

#### **Easysqueeze Syringe Carriers**

Cast in one piece from flexible resin, this syringe carrier gives users an excellent grip on the Easysqueeze and makes the product virtually unbreakable. Furthermore, the innovative locking system enables quick and flexible insertion of the syringe, whilst keeping it firmly in position, whatever the desired insertion depth.

- Fully protected lead glass.
- Comprises a tungsten structure to provide the operator with optimum protection.
- Colour-coded to identify the syringe capacity or the type of examination.
- Its optimised design and patented system allow complete disassembly and 100 % recycling of its components.
- Due to the gluless design, all parts of the syringe shield can be changed in situ in just a few seconds (high-density bevelled glass, tungsten protection or resin envelope).
- Tungsten thickness: min. 2 mm
- Lead glass thickness: • 8 mm (density 5,2)





### **Radiation Safety**



Order Code

101.050.000.000 Shielded Syringe Tray



#### Low Activity Lead **Glass Vial Shield**

The Low Activity Lead Glass Vial Shield protects the user from hand and eye exposure, when inspecting vials before aspiration.

- Developed for low activity whilst offering complete 360° visibility at all times.
- Vial glass is shielded for low-energy isotopes.
- Tungsten components within the vial shield allow for the small physical dimensions and light weight.
- Designed to give the optimum balance of protection and visibility, these Low Activity Glass Vial Shields are easy to use and offer ample protection from lower energy isotopes.
- Quick-release magnetic top allows needle access to the vial septum, vials are changed using a secure screw-top.
- Shields accommodate most vials using a selection of plastic inserts (included).
- Available in 4 mm Pb equivalent.
- Standard colours: Red, Aluminium (other colours available at extra cost).
- Lead glass (thickness 12.5 mm) equivalent to 4 mm Pb.
- Outer dimensions: 60 (dia.) x 90 (H) mm.
- Inner dimensions: 30 (dia.) x 61 (H) mm.
- Standard hole: 5 (dia.) mm
- Oval hole: 5 x 13 mm on demand.
- Weight: 1033 g



| Order Code      | Product                             |
|-----------------|-------------------------------------|
| 101.000.101.000 | Vial Glass, Low Activity, Red       |
| 101.000.102.000 | Vial Glass, Low Activity, Blue      |
| 101.000.103.000 | Vial Glass, Low Activity, Green     |
| 101.000.104.000 | Vial Glass, Low Activity, Aluminium |
| 101.000.105.000 | Vial Glass. Low Activity. Black     |

### Medium/High Activity Lead Glass Vial Shield

The High/Medium Activity Lead Glass Vial Shield protects the user from hand and eye exposure, when inspecting vials before aspiration.

- The lead glass has a unique magnetic lift-off top for needle injection.
- Enclosed vial adapters ensure that the vial is always correctly positioned and aligned.
- Lead glass (thickness 20 mm) equivalent to 6.4 mm Pb.
- Outer dimensions: 75 (dia.) x 90 (H) mm.
- Inner dimensions: 31 (dia.) x 60 (H) mm.
- Standard hole: 5 (dia.) mm
- Sleeve: 5 x 13 mm on demand. •
- Weight: 1600 g

#### **Eluat Vial Shield**

Designed for Mallinckrodt and GE vials.

- Lead Glass Thickness: 26 mm equal to 8 mm Pb.
- Outer Dimensions: 86 (dia.) x 155 (H) mm
- Inner Dimensions: 50.7 (dia.) x 115.4 (H) mm
- Weight: 3.5 kg



Order Code

101.000.201.000

101.000.202.000

#### **Radiation Safety**



Product Vial Glass, Med/High Low Activity, Aluminium Vial Glass, Med/High Low Activity, Red

Order Code

101.000.601.000 Eluat Vial Shield

Product



### **Beta Vial Shield**

The Hoy Scandinavian Beta Vial Shield provides the user with optimal radiation shielding within all work phases with the use of acrylic and lead glass.

- Lead Glass Thickness: 26 mm equal to 8 mm Pb.
- Outer Dimensions: 94 (dia.) x 120 (H) mm
- Inner Dimensions: 37 (dia.) x 72 (H) mm
- Weight: 2.9 kg



| Order Code      | Product                                |
|-----------------|----------------------------------------|
| 101.000.301.000 | Beta Vial Shield                       |
| 109.000.401.000 | Acrylic Shield for Zevalin Y-90, Small |
| 109.000.402.000 | Acrylic Shield for Zevalin Y-90, Large |



#### **Angled Tongs**

Hoy Scandinavian Tongs are available in different lengths, angles and with different claw types.

The two claws provide an excellent grip of the vial. These are operated by pushing the white disc against the handle to open the claws. The spring locking mechanism then automatically holds the vial until the white disc is pushed back again.

### **Straight Tongs**

Straight Tongs are produced with either short claws (30 mm) or long claws (60 mm).



### **Stabilised Vial Tongs**

The Stabilised Vial Tongs feature a single axis gimbal to stabilise the vial. This ensures a stabilised vial throughout any motion. The gimbal will stop the vial from tilting, even when the tongs are tilted.

Ideal for use with Hoy Scandinavian glass vials; the tongs are easier to align with the slot in the vial glass enabling simple and easy insertion.

These tongs currently only accomodate 10 ml vials, however other volumes can be supported on request.

- Length of handle: 125 mm
- Length from handle to claw: 260 mm
- Length of claw: 70 mm
- Total length: 405 mm

#### **Radiation Safety**

| Order Code      | Product                                                                   |
|-----------------|---------------------------------------------------------------------------|
| 101.060.401.000 | Tongs for Vials, w/Spring Grip, Angled<br>Model, Right Hand w/Short Claws |
| 101.060.402.000 | Tongs for Vials, w/Spring Grip, Angled<br>Model, RightHand w/Long Claws   |
| 101.060.501.000 | Tongs for Vials, w/Spring Grip, Angled<br>Model, Left Hand w/Short Claws  |
| 101.060.502.000 | Tongs for Vials, w/Spring Grip, Angled<br>Model, Left Hand w/Long Claws   |
| 101.060.502.000 | Tongs for Vials, w/Spring Grip<br>Angled Model w/Short Claws              |
| 101.060.302.000 | Tongs for Vials, w/Spring Grip<br>Angled Model w/Long Claws               |

| Order Code      | Product                                                     |
|-----------------|-------------------------------------------------------------|
| 101.060.101.000 | Tongs for Vials, w/Spring Grip<br>Short Model w/Short Claws |
| 101.060.102.000 | Tongs for Vials, w/Spring Grip<br>Short Model w/Long Claws  |
| 101.060.201.000 | Tongs for Vials, w/Spring Grip<br>Long Model w/Short Claws  |
| 101.060.202.000 | Tongs for Vials, w/Spring Grip<br>Long Model w/Long Claws   |
| 101.060.601.000 | Tongs for Vials, w/Spring Grip<br>for 100 ml Vials          |
| 101.060.701.000 | Tongs for Vials, w/Spring Grip<br>for 11.5 ml Vials         |

Order Code

Product 101.060.801.000 Stabilsed Vial Tongs

#### **Service and Support**

Southern Scientific has a team of fully qualified service engineers, who support customers spanning the length and breadth of the UK. We can provide factory or on-site service as required, based on single visits, planned maintenance or full support under contract. We maintain a high level of spare parts, ensuring lifetime support capability.

Our systems group can offer its service for the larger installed equipment, from initial planning to installation, completion and training. We can provide expert knowledge and experience, gained through involvement in a number of large-scale projects throughout the years.

#### **ISO Certified**

Southern Scientific Ltd is certified to ISO 9001 and ISO 13485 representing the high level of quality assurance and management that we provide at every stage of the supply process, whether a product is distributed on behalf of our trusted manufacturers or constructed in our UK workshop. This accreditation means that our customers can place an order knowing that the delivered product will be suitable for its intended use, fully compliant with EU legislation and in full working order.

All our products are CE marked.

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