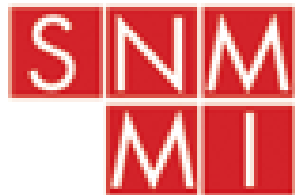


# Catalog 38

## 2023-2024



Chicago, IL  
June 2023  
Booth # 2019



SOCIETY OF  
NUCLEAR MEDICINE  
AND MOLECULAR IMAGING

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Specifications and pricing are subject to  
change without notice

## CRC® -55tR Dose Calibrator



### Color LCD Touch Screen

- Large easy to read display
- Menu-driven 8" VGA LCD color touch screen interface that is easy to learn and use

### Enhanced Software

- Supports dual chamber technology

### Versatility

- Entering data through the custom touch screen interface is fast
- 28 programmable keys, 80 nuclides

### Streamlined Quality Assurance

- Built-in dose calibration, quality control and self diagnostics
- Automated QC including constancy, geometry and linearity programs

### Two Year Warranty - US Only



### SPECIFICATIONS:

<p><b>Ionization Chamber:</b> Type: Thin wall, deep well, high pressure Fill Gas: 12 atm Ultra Pure Argon</p> <p><b>Measurement Range:</b> Type: Auto Ranging Activity: 250 GBq (6 Ci), max. Resolution: .001 MBq (.01 µCi), max.</p> <p><b>Display Screen:</b> Type: 8" VGA LCD color touch screen display Format: Direct reading in Bq or Ci Bq/Ci Reading: User selectable or fixed Values Displayed: Nuclide name (Atomic symbol, Mass number), calibration number</p> <p><b>Electrometer:</b> Accuracy: Better than ± 2% Linearity: Within ± 2% Response Time: Within 2 sec., 4 to 16 sec. for very low activity samples</p> <p><b>Repeatability:</b> Within ± 1% within 24 hours, during which time the calibrator is on all the time</p> <p><b>Tests:</b> Diagnostics: Full Test of program, system memories Daily: Auto Zero, Auto Background Adjust, Data Check, Accuracy and Constancy, Voltage Test Enhanced: Linearity, Geometry, Strip QC</p>	<p><b>Nuclear Data:</b> Nuclide Keys: 28 programmable keys System Memory: Over 80 nuclides (cal number and half-life)</p> <p><b>Standard Source Data:</b> System Memory: Co-57, Co-60, Ba-133, Cs-137 Standard Sources</p> <p><b>Molybdenum-99 Assay:</b> Methods: Canisters or CAPMAC® Measured Values: Mo-99 elution, Tc-99m, Tc-99m/Mo-99 Ratio</p> <p><b>PC Port:</b> Interface: RS-232 &amp; USB Compatibility: Standard Nuclear Medicine Management Systems</p> <p><b>Optional Printer:</b> Interface: RS-232 &amp; USB Type: Epson Roll, Epson Slip or Okidata full size dot matrix Printing Options: Full size test reports or measured results on tickets</p> <p><b>Power Requirements:</b> 100-240 VAC (50/60Hz) 90 MA</p> <p><b>Console Dims:</b> Height: 9.5 in Width: 9 in Depth: 10.5 in Weight: 7.5 lb</p> <p><b>Chamber Dims:</b> Height: 17.25 in Weight: 30 lb Diameter: 6.76 in Cable Length 12 ft (longer cables available) Well Dia.: 2.4 in Well Depth: 10 in</p> <p><b>Cables:</b> Power: 6 ft Printer: 6 ft</p>
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CRC-55tR

Dose Calibrator

Includes: Ionization chamber, display screen, PC port, chamber well insert & syringe dipper

### Optional Accessories:

086-241	Replacement Chamber Well Insert
086-240	Replacement Vial/Syringe Dipper
PTI-PS	Positron Shield for Dose Calibrator Chamber
34-210	Calicheck Linearity Kit
086-242	Vial / Syringe Dipper
086-2020	20cc Syringe Dipper
5130-0006	Moly Assay Shield, Vial, .3" Lead
5130-2046	CAP-MAC-S Moly Assay Canister for Syringes
5430-0058	Epson Roll Printer
5430-0100	Epson Ticket Printer
CRP-200	Dose Tickets & Labels, 250/pk
0670-0016	Test Tubes for Samples, 250/pk
0670-0022	Test Tube Rack
7900-0352	Screen Protector, 5/pk

Dose Calibrator Accessories, refer to page 5



## CRC®-55tW Dose Calibrator



### Best of Both Worlds

- An integration of the CRC-55tR Dose Calibrator and Well Counter with chamber plug-n-play capability

### Precision

- Ion chamber is capable of measuring a dose as high as 6 Ci (250 GBq) with high accuracy

### User-defined Counting Protocols

- Allows the user to define specific counting procedures (protocols) with trigger levels for work, patient, unrestricted areas and sealed source leak tests

### Detailed Spectrum Analysis

- The well counter includes a 256 channel MCA which provides a detailed spectrum for identification and analysis
- Manual and automatic ROI selection are available

### Two Year Warranty - US Only



#### SPECIFICATIONS:

Well Detector: Type: Sodium Iodide (NaI) drilled-well crystal detector  
 256 Channel MCA, manual and automatic ROI  
 Warning Trigger Levels: User-definable  
 Tests: Daily test, energy calibration, and reproducibility  
 Enhanced QC includes Chi-Square and MDA

Ionization Chamber: Fill Gas: 12 atm Ultra Pure Argon  
 Measurement: Auto ranging  
 Activity Range: Up to 6 Ci (250 GBq)  
 Resolution: .001 MBq (.01 µCi)  
 Response Time: Within 2 sec., for low activity sample, 4 to 16 sec. (user selectable)  
 Tests: Daily tests include Auto Zero, Background Adjustment, Voltage Test, Data Check, Accuracy and Constancy  
 Enhanced QC includes linearity, geometry, strip QC

Display Screen: Type: 8" VGA LCD color touch screen display  
 Bq/Ci Reading: User selectable or fixed  
 Activity Display: Selected radionuclide, calibration number, measured activity and display units (Bq/Ci)  
 Count Rate Values: Wipe and lab test results

Electrometer: Accuracy: Better than ± 2%.  
 Linearity: Within ± 2%

Repeatability:	Within ±1% within 24 hrs, during which time calibration is powered at all times	
Nuclide Data:	Nuclide Setting Keys: 28 programmable keys System Memory: Over 80 nuclides (cal number and half-life) A pre-set key measures up to 2.0 Ci (74.0 GBq) of F-18	
Standard Source Data:	System Memory: Co-57, Co-60, Ba-133, Cs-137	
Molybdenum-99 Assay:	Methods: CAPMAC® & canisters Measured Values: Mo-99 elution, Tc-99m, Tc-99m/Mo-99 Ratio	
PC Port:	Interface: RS-232 & USB Compatibility: Standard Nuclear Medicine Management Systems; Ethernet Interface	
Optional Printers:	RS-232 & USB Ports Epson Roll, Epson Slip or Okidata dot matrix	
Power Requirements:	100-240 VAC (50/60 Hz) 100 MA	
Tests:	Diagnostics: Full test of program, system memories	
Cable:	Power: 6 ft	Optional: Printer: 6ft
Console Dims:	Height: 9.5 in	Width: 9 in
	Length: 10.5 in	Weight: 7.5 lb
Chamber Dims:	Height: 17.25 in	Weight: 30 lb
	Diameter: 6.76 in	Cable Length 12 ft (longer cables available)
	Well Dia.: 2.4 in	Well Depth: 10 in
Well Counter Dims:	Height: 9.38 in	Dia: 6 in
	Weight: 15.2 lb	Well Dia: .67 in
	Well Depth: 1.5 in	Cable Length 9 ft

#### CRC-55tW

#### Dose Calibrator

Includes: Ionization chamber, display screen, well counter, PC port, chamber well insert & syringe dipper

#### Optional Accessories:

086-241	Replacement Chamber Well Insert
086-240	Replacement Vial/Syringe Dipper
PTI-PS	Positron Shield for Dose Calibrator Chamber
34-210	Calicheck Linearity Kit
086-242	Vial / Syringe Dipper
086-2020	20cc Syringe Dipper
5130-0006	Moly Assay Shield, Vial, .3" Lead
5130-2046	CAP-MAC-S Moly Assay Canister for Syringes
5430-0058	Epson Roll Printer
5430-0100	Epson Ticket Printer
CRP-200	Dose Tickets & Labels, 250/pk
0670-0016	Test Tubes for Samples, 250/pk
0670-0022	Test Tube Rack
5420-2072	Auxiliary Shield for Well Counter Chamber
5420-PET	PET Auxiliary Shield for Well Counter Chamber
0975-137R	Cs-137 0.5 µCi Rod Source for Well Counter
7900-0352	Screen Protector, 5/pk

Dose Calibrator Accessories, refer to page 5

Call Pinestar toll-free 1-800-682-2226, to place an order

## CRC® -55tPET Dose Calibrator

### For Cyclotron Facilities



#### Ultimate Features in the Industry's Finest Package

- 8" Color touch screen display
- Software upgraded via USB or Flash Drive
- Enhanced software supports dual chamber technology
- Capable of assaying up to 20 Ci of F-18

#### User-defined Hotkeys

- Touch technology provides rapid selection of isotopes
- 28 programmable keys, 80 nuclides

#### Enhanced Automated Software

- Automated quality control tests and self diagnostics
- Automatic zero and background subtraction
- Reference source data decay-corrected to current time/date



#### Two Year Warranty - US Only

#### SPECIFICATIONS:

<p><b>Ionization Chamber:</b> Type: Thin wall, deep well Fill Gas: 5 atm Ultra Pure Argon</p> <p><b>Measurement Range:</b> Type: Auto Ranging Activity: 20 Curies of F-18 Resolution: 0.1 µCi (0.01 MBq), max.</p> <p><b>Display Screen:</b> Type: 8" VGA LCD Color Touch Screen Display Format: Direct reading in Ci or Bq Bq/Ci Reading: User selectable or fixed Values Displayed: Nuclide name (Atomic symbol, Mass number), calibration number</p> <p><b>Electrometer:</b> Accuracy: Better than ± 2% Linearity: Within ± 2% Response Time: Within 2 sec., 4 to 16 sec. for very low activity samples Bias Voltage: +500V</p> <p><b>Repeatability:</b> Within ± 1% within 24 hours during which time the calibrator is continuously on all the time</p> <p><b>Overall Accuracy Determined By:</b> 1) Calibration for the specific nuclide and the sample configuration 2) Accuracies of standard sources used for calibration of electrometer</p> <p><b>Tests:</b> Diagnostics: Full test of program, system memories Daily: Auto Zero, Auto Background, Voltage Test, Data Check, Accuracy and Constancy Enhanced: Linearity, Geometry</p>	<p><b>Nuclear Data:</b> Nuclide Keys: 28 programmable keys System Memory: Over 80 nuclides (Calibration number and half life)</p> <p><b>Standard Source Data:</b> System Memory: Co-57, Co-60, Ba-133, Cs-137, Na-22 Standard Sources</p> <p><b>PC Port:</b> Interface: RS-232 &amp; USB Compatibility: Standard Nuclear Medicine Management Systems</p> <p><b>Printer:</b> Interface: RS-232 &amp; USB (Optional) Type: Epson Roll, Epson Slip or Okidata full size dot matrix Printing Options: Full size test reports or measured results on tickets</p> <p><b>Power Requirements:</b> 100-240 VAC (50/60 Hz) 100mA</p> <p><b>Console Dims:</b> Height: 9.5 in Width: 9.0 in Depth: 10.5 in Weight: 7.5 lb</p> <p><b>Chamber Dims:</b> Height: 17.25 in Weight: 30 lb Diameter: 6.76 in Cable Length 12 ft (longer cables available) Well Dia.: 2.4 in Well Depth: 10 in</p> <p><b>Cables:</b> Power: 6 ft Printer: 6 ft</p>
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#### CRC-55tPET

#### Dose Calibrator - For Cyclotron Facilities

Includes: Smart Display, ionization chamber, RS-232 port, vial/syringe dipper and well insert

#### Optional Accessories:

086-241	Replacement Chamber Well Insert
086-240	Replacement Vial/Syringe Dipper
PTI-PS	Positron Shield for Dose Calibrator Chamber
34-210	Calicheck Linearity Kit
5430-0058	Epson Roll Printer
5430-0100	Epson Ticket Printer
CRP-200	Dose Tickets & Labels, 250/pk
0670-0016	Test Tubes for Samples, 250/pk
0670-0022	Test Tube Rack
7900-0352	Screen Protector, 5/pk

Dose Calibrator Accessories, refer to page 5

Call Pinestar toll-free 1-800-682-2226, to place an order

# Dose Calibrator / Well Counter Accessories



086-240 Vial/Syringe Dipper



086-242 Vial / Syringe Dipper



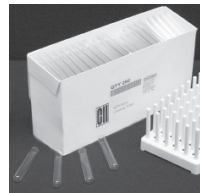
086-241 Well Insert



34-210 Calicheck™  
Linearity Kit



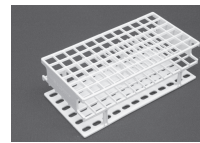
008-015 60 cc Syringe Dipper



Test Tubes  
12 x 75mm test tubes  
0670-0016 Test Tubes, 250/pk



086-2020 20cc Vial / Syringe Dipper



Uniwire Test Tube Rack  
Holds up to 40 tubes  
0670-0022 Test Tube Rack  
specify tube size when ordering



5130-0006 Moly Assay Shield  
Vial, .3" lead  
3.5" H x 2" dia



CAPRAC Well Liner  
5420-0121 Well Liner, 5/pk



Auxiliary Shield for Well Counter Chamber  
for CAPRAC-T, CRC-25W and CRC55tW

Specs: 4" Dia x 9 3/4" H with Handle  
0.5" thick lead walls and top  
Weight: 22 lbs

5420-2072 Auxiliary Shield



Positron Shield for  
Capintec Dose Calibrator Chamber

Specs: Lead Rings  
12" outside diameter  
19 3/4" overall height  
575 lbs  
2" x 4" cutout in bottom rings for cable  
**Includes a Stainless Steel Cover**  
(not shown)

PTI-PS Positron Shield



PET Auxiliary Shield  
CAPRAC-T, CRC-25W and CRC-55tW

Specs: 8" x 6 11/16" x 13 5/8"  
1" thick lead (shield fits snugly  
around the well chamber for a  
total of 2" of lead shielding.)  
Weight: 95 lbs

5420-PET Auxiliary Shield



Positron Stand  
**Supports a dose calibrator and positron shield!**  
Specs: 3-Legged Adjustable Stand  
Height ranges from 22 7/8" to 25 3/8"  
We can customize the design to meet your  
specifications

PS-STAND Positron Stand

## Printers for CRC25R & 55T Dose Calibrators and Caprac Wipe Test Counters



Epson Roll Printer is a sturdy, high-quality printer provides graphic output with wipe reports, showing the peak energy range of the nuclides on the wipe. The printer utilizes a black/red ribbon to report wipes that are higher than the trigger levels for contamination.

**Abnormal values are printed in red for easy/fast identification.**

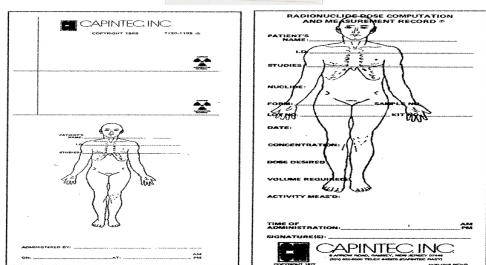


- 5430-0058 Epson Roll Printer
- 9282-0009 Paper Rolls, 12/pk
- 2001-0055 Printer Ribbon, Red/Black



Epson Ticket Printer allows individual tickets to be positioned easily for printing. The printer automatically aligns the ticket and after printing feeds it out the back. Although designed for tickets, standard paper can be used and is printed along one side.

- 5430-0100 Epson Ticket Printer
- 2001-0058 Printer Ribbon



CRP-200 Duplicate Tickets with Peel-off, Self Stick Labels, 250/pk

086-150(CRP-500) "Tickets with the Little Patient", 250/pk

CRP-200

086-150 (CRP-500)

## CAPRAC®-t

- 8" VGA-LCD color touch screen
- 256 Channel MCA manual and automatic ROI
- 1.5" Sodium Iodine (NaI) drilled-well crystal
- PC Port: Interface RS-232 and USB
- Readouts with spectrum display in cpm, dpm, Curies and Bequerels



### Specifications:

Console Dimensions:	Height: 9.5"	Width: 9"
	Length: 10.5"	Weight: 7.5 lb
Well Counter Dimensions:	Height: 9.38"	Diameter: 6"
	Weight: 15.2 lb	Cable Length: 9 ft
	Well Diameter: .67"	Well Depth: 1.5"
	Crystal Dims: 1.5" x 1.75"	
Shielding:	0.5" lead	
Cables:	Printer: 6 ft (longer cables are available)	
Power:	Standard: 100-240 VAC (50/60 Hz) 25W	



CAPRAC-t

Wipe Test/Well Counter

### Optional Accessories:

- 0975-137R Cs-137 0.5  $\mu$ Ci Rod Source
- 5430-0058 Epson Roll Printer
- 0670-0016 Test Tubes, 250/pk
- 7900-0352 Protective Screen Cover, 5 pk
- 5420-2072 Auxiliary Shield for Well Counter Chamber
- 5420-PET PET Auxiliary Shield for Well Counter Chamber
- 5420-0121 Well Liners/Counting Tubes, 5/pk



## Wiper and Multi-Wiper™



**Wiper Gold**

With or Without Printer



**Multi-Wiper**

With Printer  
(domestic only)

LTIW100-NP	Wiper Gold <i>Without Printer</i>
LTIW100-P	Wiper Gold <i>With thermal printer</i>
LTIW1002	2 Well Counter
LTIW1003	3 Well Counter
LTIW1004	4 Well Counter
LTIW1005	5 Well Counter
LTIW1006	6 Well Counter
LTIW1008	8 Well Counter
LTIW1010	10 Well Counter

Full size printer included with all Multi-Wipers  
(domestic only)

- Comprehensive wipe testing with concise report in DPM
- Available with 1, 2, 3, 4, 5, 6, 8 or 10 wells
- Automatically identifies isotope window where high counts fall
- Pass/Fail based on user-programmable trigger levels
- Heavy shielding for low background readings
- Automatically calculates and reports MDA on each wipe test report
- 4096 channel (12 bit) analyzer for precise isotope identification
- Automatic linearity correction
- Automatic DPM calculation with AutoSpect™ (No sources needed)
- Programmed for Schilling, Plasma Volume, GFR and Red Cell Volume
- Exceeds all NRC and Agreement State Regulations for patient access areas
- Tremendous labor savings
- Very compact (occupies less than 20 inches of benchspace)
- Very economical

Specifications:

Detectors:	NaI(Tl) drilled well crystal/PMT assembly
Analyzer:	4096 Channel MCA, automatic dead time correction
Well Liner:	Removable plastic well liners prevents detector contamination
Display:	LED Backlit 4.5" LCD
Shielding:	0.85" virgin lead shielding with E-lead to eliminate crosstalk with high energy isotopes
Dimensions:	20" W x 10.5" H x 13.5" D, less than 100 lb depending on model
Power:	110/120 50/60 hz or 220-240 50/60 hz

## Ludlum Model 2200 Scaler Ratemeter Ludlum Model 243 Well Counter

Model 2200 Specifications:



Detectors:	GM, proportional, scintillation	Threshold:	Adjustable from 1.0 to 10.0
Scaler:	Six-digit LED display providing a range of 0-999999 counts	Window:	Adjustable from 0 to 10.0 above the threshold setting (can be enabled or disabled)
Scaler Linearity:	reading within 2% of true value	Discriminator:	Adjustable from 2-100 mV at threshold setting of 1.00
Timer:	pushwheel adjustment from 0-999 minutes with selectable x0.1 and x1 multipliers	Data Output:	9-pin, RS-232 port for connection to PC (includes 1 M RS-232 to USB adapter cable)
Ratemeter:	0-500,000 cpm total range	Meter:	2.5" arc, 1 mA movement analog type
Meter Dial:	0-500 cpm, 0-2.5 kV, BAT TEST	Power:	95-250 Vac, 50-60 Hz or 4 "D" cell batteries
Multipliers:	x1, x10, x100, x1000	Battery Life:	Typically 120 hours with alkaline batteries (battery condition can be checked on meter)
Ratemeter Linearity:	reading within 10% of true value	Temperature Range:	-20 to 50 ° C (-4 to 122 ° F) May be certified to operate from -40 to 65 ° C (-40 to 150 ° F)
Response:	toggle switch for FAST (4 seconds) or SLOW (22 seconds), from 10% to 90% of final reading	Size:	8.5" H x 5" W x 8.5" L, excluding handle
Zero:	pushbutton to zero meter	Weight:	7.5 lb, including battery
High Voltage:	adjustable from 200-2500 volts (will support 60-MQ scintillation loads)		

Model 243 Specifications:



Well:	0.67" Dia x 1.6" L	Background:	≤ 1000 cpm in a 10 uR/hr field (optional 0.5" lead shielding Part No. 7379-004)
Detector:	1.8" Dia x 2" thick NaI(Tl) well scintillator	Operating Voltage:	500-1200 volts
Sensitivity:	Will detect 0.005 µCi gamma or 200 dpm removable contamination for Tc-99m, I-131, Tl-201, In-111, I-125, Cs-137, Ga-67	Photomultiplier Tube:	2" diameter
Efficiency:	80% for I-125, 90% for Tc-99m, 33% for Cs-137, 43% for Co-60	Lead Shielding:	0.5" painted lead wall and removable cap
		Size:	Base- 8" L x 8" W Body- 3.5" Dia x 11" H
		Weight:	30 lb Shipping Weight: 46 lb

051-220  
187-243

Model 2200 Scaler/Ratemeter  
Model 243 Well Counter, 1" lead

Dose Calibrator Accessories, refer to page 5

Call Pinestar toll-free 1-800-682-2226, to place an order

## NMIS - Serving The Nuclear Medicine Community

NMIS is the leading name in Radiopharmaceutical tracking software and record keeping in the Nuclear Medicine industry. NMIS is designed to simplify patient scheduling, patient dosing, inventory control, receiving and waste management.

For added convenience, customers can easily place and track their orders online. These features are combined with a comprehensive health physics suite, enabling our customers to remain compliant with their regulatory requirements. We stay up-to-date by listening to our users and implementing their ideas to make our software what it is today, **the industry gold standard!**

### Simplified Workflow

- Access everything from one main screen
- Shortcuts for day-to-day tasks
- Quickly view all patient information
- Customizable column size and order
- View satellite department data easily

### Injection Confirmation Scan

- **NEW** mobile application (iOS/Android)
- Confirm that the correct dose is administered to the right patient
- No ePHI data is stored on your device

### Streamlined Record Keeping

- Patient Dose
- Procedure
- Referring Physician
- Radioactive Waste Disposal

Automated To Daily and Monthly Record Keeping

### HL7 RIS/HIS Interface

The NMIS HL7 interface is a connector which allows your RIS or HIS to send and receive information from your department. This feature saves time, increases accuracy and can send exposure information back to a central storage location.

### DICOM Interface

The NMIS DICOM Worklist Interface allows you to pull patient information from your Worklist Server. This feature reduces transcription errors.

## Product Features

- Dosage tracking from arrival through disposition
- Scheduled monthly reports with digital signatures
- Unused dose reports to request credits from the pharmacy
- Online ordering enhances customer service
- Patient statistics documents productivity and staffing
- HL7/DICOM interface options reduce transcription errors
- Complete health physics suite to aid in regulatory compliance

## Inkjet/Laser Paper for NMIS

Inkjet/LaserPaper is sold by the box, there are 1000 (8.5" x 11") sheets per box.

You can print Draw Dose, Kit Preparation, Elution, Inventory and Schedule Records.

There are two small labels and one large label.


The print format for the Draw Dose large label and the printed slip below the label can be customized to only print the data you want. In addition, complete Organ Dosimetry can be printed on the form if desired.

- LP-100 Label Paper with Radioactive Signs, 4 Quadrants with adhesive labels
- LP-500 Pharmacy Label Paper with Radioactive signs, 4 Quadrants with adhesive labels
- LP-500L/1 Pharmacy Label Paper with Radioactive signs, 4 Quadrants with adhesive labels for use with Lexmark Printers


- For Canadian Customers, Rayonnement Danger Radiation Symbol
- LP-500L/1-RDR Pharmacy Label Paper with Radioactive signs, 4 Quadrants with adhesive labels for use with Lexmark Printers

## Dymo Labels for NMIS

Tc99m HDP Lot# 323-42  
 Cal: 98.00 mCi @ 14:00 on 05-19-00  
 Vol: 5.00 ml Exp: 05-19-00 @ 20:00 6Hrs Post  
 Inv#: 6538 Tech: CM  
 Conc: 16.98 mCi/ml Manuf: Mallinckrodt  
 Caution: Fed (USA) law prohibits dispensing w/o Rx



Tc-99m HDP  
 Lot# 323242  
 Cal: 98.00 mCi @ 14:00 on 05-19-00  
 Vol: 5.00 ml Exp: 05-19-00 @ 20:00  
 Inv# 6538 6 Hrs Post  
 Current: 98.00 mCi @ 14:00 on 05-19-00  
 Conc: 19.60 mCi/ml Tech: CM  
 Manuf: Mallinckrodt  
 Caution: Fed (USA) law prohibits dispensing without a prescription




- 1.10" x 3.5" 260 labels per roll
- SLP-260 NMIS Labels
- SLP-260S NMIS Labels w/Radioactive Symbol (shown)
- SLP-260S-RDR NMIS Labels w/Radioactive Symbol for Canadian Customers

- 2.125" x 2.75" 320 labels per roll
- SLP-320 NMIS Labels
- SLP-320S NMIS Labels w/Radioactive Symbol
- SLP-320S-RDR NMIS Labels w/Radioactive Symbol for Canadian Customers (shown)

My Pharmacy- Hospital Dept Phone: 201 201 5678  
 Nuclear Medicine  
 Somewhere, New Jersey  
 Patient Name: Test  
 Procedure: Test Exam 1  
 Radiopharmaceutical: Tc99m Cardiolid  
 Admin. Activity: 1.000 mCi  
 T 1/2: 6.02 Hrs 24 hr phone: 201 201 1234  
 Suggested time of detection: 3 Days  
 This patient had a Nuclear Medicine Procedure and may still have small amounts of radiation capable of being detected by radiation monitoring equipment. The amount of radiation poses no danger to the public and is allowed by NRC Medical use regulations

Tc99m TC KIT TEST  
 Manuf: Pinestar Pharmacy Tech: JS  
 -----  
 Lot#: 96325 Inv#131389  
 Tc Vial Lot# 16565 Sal Vol: 2.0ml  
 Conc: 50.27 mCi/ml Total Vol: 2.167ml  
 Cal: 110.00mCi@12-28-05 12:58  
 Exp: 12-29-05@ 00:58 12 Hrs Post  
 Current Act: 108.94 mCi @ 13:03 on 12-28-05



- 2" x 3.5" 300 non-adhesive labels per roll
- SLP-300 Patient Exposure Card

- 2.125" X 2.75" 320 labels per roll
- SLP-320RX NMIS Labels w/Radioactive Symbol
- SLP-320RX-RDR NMIS Labels w/Radioactive Symbol for Canadian Customers (shown)
- SLP-320IPA NMIS Labels



## Captus® 4000e Thyroid Uptake System

### New Features

- New and improved color touch screen user interface
- Large 20 inch All-In-One touch screen computer
- *Optional* fully integrated DICOM interface for patient data, QC and wipe tests
- Custom Protocol capabilities
- Ergonomically designed mobile stand
- 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

### Specifications:

#### Hardware Features:

##### Thyroid Uptake Stand:

- Adjustable height PC stand, left or right side mounting
- Articulating arm with 34" vertical range of travel and 220° collimator rotation
- Neck phantom storage
- QA source holder for reproducible geometry
- Protective cable management system
- Fully protected internally routed cables
- (4) Heavy duty locking casters that swivel 360°

##### Computer:

- 20" All In One Touch Screen Flat Panel Computer
- Windows® Operating System

##### Printer:

- Color Ink Jet

##### Collimator:

- 2" diameter 14 pin NaI (TI) detector with 1.55" deep and .66" diameter well

##### MCA Interface PC Board:

- Two detector input
- 1024 channels
- Maximum count rate: 200,000 cps at 5%
- Count Rate Linearity-Within 2% up to 150,000 cps
- ROIs - manual or automatic
- Differential Linearity <2% over the top 98% of channels
- Integral Linearity <1% over the top 98% of channels
- Presets: live time, real time, total counts
- Automatic peak finding
- Software controlled lower level discriminator

##### Power:

- Line Voltage: 120 VAC, 60Hz, 2.6 AMP; 230 VAC 50Hz, 1.1 AMP
- Isolation Transformer with hospital grade cord and plug

Includes: .5 µCi Cs-137 and .5 µCi Eu-152 Rod Sources

Warranty: Two Year - US Only



### Thyroid Uptake Stand Dimensions:

- Closed Storage Position: 56" Height x 28" Width x 32" Depth
- Arm able to extend 36" horizontally beyond shelf
- Vertical travel 25" to 63"
- Weight: 340 lbs
- Weight with optional 1" Shielded Well: 410 lbs
- Weight with optional 2" Shielded Well: 540 lbs

### Software Features:

#### Diagnostics and Tests:

- Fully automated Quality Assurance Section includes energy calibration, zero adjust, gain adjust, detector efficiency, detector resolution, chi-square, constancy and MDA
- Manual calibration available in MCA module

#### Thyroid Uptake:

- Provides four predefined protocols
- Supports both capsule and liquid dose formats
- Dose may be pre-counted before patient assignment
- Predose measurement option
- Normal range option

#### Wipe Tests:

- Setup for multiple groupings
- Isotope identification available;
- Spectrum is displayed for each wipe
- Activity exceeding trigger levels flagged in red

#### Bioassay:

- Monitors staff for I-123, I-125 and I-131 exposure
- Custom protocol and reports available

#### Optional DICOM Interface



5430-30151 Captus 4000e Thyroid Uptake System without Well Counter

Includes: Fully functional 1024 MCA which includes timed activity

20" all-in-one touch screen computer

Ink jet printer

Improved graphical touch screen user interface

Ergonomically designed stand

Fully articulating collimator arm for easy positioning

Medical grade Corian® countertop with convenient shelf for document storage

Cs-137 and Eu-152 rod sources and rod source holder

5430-30152 Captus 4000e, with 1" Lead Well Detector

5430-30154 Captus 4000e, with 2" Lead Well Detector

### Optional Accessories:

006-350 Wipe Test Kits, 1.75" dia, 500/pkg

5230-0038 Thyroid Uptake Neck Phantom

5420-0087 Test Tubes for Wipe Samples, 100/pk

5430-00007 Cap-DICOM Software

# NUCLEAR MEDICINE HOT LAB PACKAGE



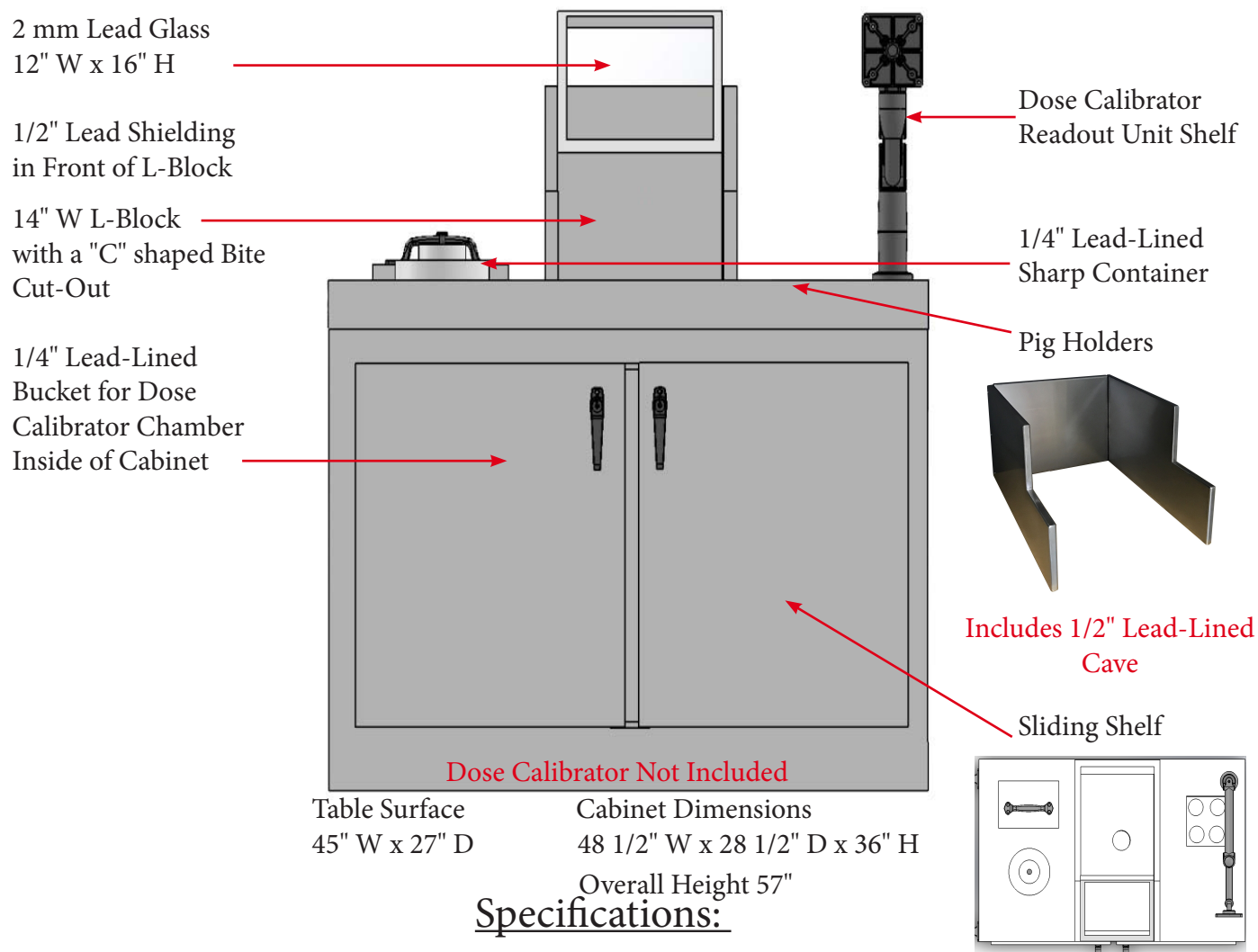
Pinestar Technology Inc. offers a comprehensive Nuclear Medicine Hot Lab Package. The list below is of the standard items you will need to set up your **NEW** Department.

Dose Calibrator  
3cc Syringe Shield  
5cc Syringe Shield  
Sharps Container Shield  
Red Sharps Containers  
L-Block  
Syringe Carrier  
Forceps  
Lead Lined Waste Container  
Lead Bricks  
Flood Source

Minor Emergency Spill Kit  
Co-57 Reference/Vial Source  
Cs-137 Reference/Vial Source  
Cs-137 Rod Source .5  $\mu$ Ci  
Contoured Leg Rest  
Cardboard & Plastic Signs  
Bind-It Decontaminant  
Ludlum 14C Survey Meter  
Pancake or End Window Probe  
Check Source  
Check Source Holder

**PET Hot Lab Package, see page 70**

## LLMOD-NUC or LLMOD-NUC-WC For Nuclear Medicine Stainless Steel 1/4" Lead-Lined Cabinet With 1/2" Lead-Lined Cave for Nuclear Medicine



- 4 Casters, 2 Doors, Key-Locked
- 2 Holes Cut Out on the Cabinet
  - 1 for Dose Calibrator Chamber
  - 1 for Lead-Lined Sharps Container
- **3rd Hole for Well Counter Chamber (LLMOD-NUC-WC Model)**
- Dose Calibrator Readout Unit Shelf
- Pig Holders (4 Pigs)

- 1/4" Lead-Lined Bucket for Dose Calibrator Chamber
- 1/4" Lead Built-in Sharps Container
- L-Block for Nuclear Medicine with Bite Cut-Out
  - 1/2" Lead Shielding in Front
  - 12" W x 16" H Viewing Panel 2 mm Lead Glass
- 1/2" Lead-Lined Cave
- Sliding Shelf
- Weight 1200 lbs

LLMOD-NUC      Lead-Lined Cabinet-Shielded Dose Calibrator Chamber & Sharp Shield.....Call For Pricing  
 LLMOD-NUC-WC    Above Cabinet with Optional Shielding for Well Counter Chamber.....Call For Pricing

Uses: 610R (8,16,32)Red Plastic Container,

Dimensions: 8 3/8" L x 4" D x 9 1/8" H

- 610R-8      Red Plastic Container, Quantity 8
- 610R-16    Red Plastic Container, Quantity 16
- 610R-32    Red Plastic Container, Quantity 32

## Bullet Syringe Shields



- Simply insert syringe and twist, it locks in place
- Available with or without Lead Glass Window
- No Screws
- No Springs
- 2.0 mm tungsten

Without Lead Glass Window

SSB3-2M Bullet Syringe Shield, 3 cc without glass  
 SSB5-2M Bullet Syringe Shield, 5 cc without glass  
 SSB10-2M Bullet Syringe Shield, 10 cc without glass



Shown with removable black protective rubber band

With Lead Glass Window

SSB3G-2M Bullet Syringe Shield, 3 cc with glass  
 SSB5G-2M Bullet Syringe Shield, 5 cc with glass  
 SSB20G-2M Bullet Syringe Shield, 20 cc with glass

Replacement Glass:

SSB-GLASS-1 Replacement Glass, 3 cc or 5 cc  
 SSB-GLASS-20 Replacement Glass, 20 cc

## Latchkey Syringe Shields

- Covers the entire length of the syringe barrel
- Securely attaches with a twist into the latchkey end
- 2.0 mm tungsten
- No Screws, Pins or Springs
- For BD Syringes only



Without Lead Glass Window

NMC-237-E Latchkey Syringe Shield, 3 cc without glass  
 NMC-238-E Latchkey Syringe Shield, 5 cc without glass

With Lead Glass Window

NMC-237G-12 Latchkey Syringe Shield, 3 cc with glass  
 NMC-238G-E Latchkey Syringe Shield, 5 cc with glass



Replacement Glass:

237GLASS Replacement glass for 3 cc  
 LKG-E Replacement Glass - fits newer style 3 cc and 5 cc

## Tungsten Syringe Shield



TU-1CC Tungsten Syringe Shield with Lead Glass, 1cc

## Pro-Tec™ II Syringe Shields

- The barrel of the shield is constructed of 2 mm thick tungsten that will reduce radiation exposure from Tc-99m by more than 99% attenuation for Tc-99 tested with TLD chips
- A 5.05 density lead glass window provides protection and visibility
- A white reflective surface on the shield interior improves viewing of the syringe's markings and fluid content
- Thumbscrew holds syringes firmly in place
- New Design means screws will not strip as easily (screws into black housing) and glass is easier to replace
- Available with or without lead glass window
- Easily sanitized with alcohol wipes



	With Lead Glass Window
007-800	Pro-Tec II Syringe Shield, 3 cc with glass
007-900	Pro-Tec II Syringe Shield, 5 cc with glass
	Without Lead Glass Window
PTI-800	Syringe Shield, 3 cc without glass
PTI-900	Syringe Shield, 5 cc without glass
	Replacement Glass for New Design:
127-735	Fits 3 cc and 5 cc Pro-Tec II
	Replacement Glass for Old Design:
127-700	Fits 1 cc Pro-Tec II
127-789	Fits 3 cc and 5 cc Pro-Tec II
127-999	Fits 10 cc and 12 cc Pro-Tec II
	Replacement Screw
000-000N	Replacement Screw for Pro-Tec II Syringe Shield

## Pro-Tec™ III Syringe Shields

- The barrel of the shield is constructed of 2 mm thick tungsten that reduces radiation exposure from Tc-99m by more than 99% attenuation for Tc-99 tested with TLD chips
- A 5.05 density lead glass window provides protection and visibility
- A white reflective surface on the shield interior improves viewing of the syringe's markings and fluid content
- Safe-T-Lock design grips and securely locks the syringe into place
- Press the quick release button and the syringe freely disengages
- Easily sanitized with alcohol wipes



007-734	Pro-Tec III Syringe Shield, 1 cc with lead glass
007-755	Pro-Tec III Syringe Shield, 2.5 cc with lead glass
007-735	Pro-Tec III Syringe Shield, 3 cc with lead glass
007-736	Pro-Tec III Syringe Shield, 5 cc with lead glass
007-738	Pro-Tec III Syringe Shield, 10 cc with lead glass
	Replacement Glass:
127-734	Fits 1 cc Pro-Tec III
127-735	Fits 3 cc and 5 cc Pro-Tec III
127-738	Fits 10 cc Pro-Tec III
	Suitable for HSW brand of syringes
007-755	Pro-Tec III Syringe Shield, 2.5 cc



*Color Coded Syringe Labels on page 17*



## Pro-Tec™ IV Syringe Shields



- High density (5.6) lead glass shielding significantly reduces radiation exposure from Tc-99m by more than 99% attenuation for Tc-99 tested with TLD chips
- 360° barrel view
- Safe-T-Lock design grips and secures the syringe upon insertion and releases at the press of a button
- End of the lead glass barrel is tapered so that the contents can be viewed
- Easily sanitized with alcohol wipes

Suitable for Quadramet®

Reduces exposure from Samarium 153 by 99%

007-670	Pro-Tec IV Syringe Shield, 1 cc
007-675	Pro-Tec IV Syringe Shield, 3 cc
007-680	Pro-Tec IV Syringe Shield, 5 cc
007-685	Pro-Tec IV Syringe Shield, 10 cc

## TommyBoy™ Syringe Shields



Quick-Turn Syringe Locking Mechanism

- Non-toxic, high density yet lightweight, composite radiation shielding material
- Ergonomic contoured grip
- Leaded acrylic viewing window
- Quick-Turn syringe locking mechanism secures syringe in place
- Lightweight
- No screws, or springs
- Weight: approximately 1.6 oz

PTI-03-1	TommyBoy3 Syringe Shield, 3 cc Blue
----------	-------------------------------------

## easySQUEEZE® Syringe Shields



- Can be fully disassembled
- Insertion by hand, Extraction via gravity
- 100% recyclable
- Maximum visibility
- Dose reduction > 99% at 140 KeV
- Includes: High Density beveled glass, tungsten shielding, colored grip



PTI-SQ3	easySqueeze Syringe Shield (yellow), 3 cc
PTI-SQ5	easySqueeze Syringe Shield (pink), 5 cc
SQ3-Glass	Replacement Glass fits 3 cc and 5 cc easySqueeze



Color Coded Syringe Labels on page 17

## Clip Style Syringe Shields



- Thumbscrew firmly holds syringe in place
- Lead glass window for easy viewing
- 2mm tungsten



- CS3            Clip Style 3cc Syringe Shield with Lead Glass
- CS5            Clip Style 5cc Syringe Shield with Lead Glass
- CSLG          Lead Glass for Clip Style 3/5cc Syringe Shield

## BETA Syringe Shield

Suitable for Ra-223 and ideal for Zevalin Y-90



See Page 61-63  
For additional Beta Products

- Lead and plastic shielding, designed for Beta
- Suitable for Ra-223 Xofigo® and ideal for Zevalin Y-90
- 007-956 Barrel is constructed of .422" plastic, .062" lead, .125" plastic
- 007-957 Barrel is constructed of .25" plastic, .062" lead, .125" plastic
- Easily sanitized with alcohol wipes

- 007-956        Beta Syringe Shield, 1 cc
- 007-957        Beta Syringe Shield, 10 cc
- 007-958        Beta Syringe Shield, 20 cc

## ClearView Beta Gamma Syringe Shield



- CVBG-1010    ClearView Syringe Shield, 10 cc
- CVBG-1020    ClearView Syringe Shield, 20 cc

## Tungsten Beta/Gamma Syringe Shields



- Tungsten & Plastic
- Lead Glass Viewing Window

- BG-10CC        Tungsten Beta/Gamma Syringe Shield with Lead Glass, 10cc
- BG-20CC        Tungsten Beta/Gamma Syringe Shield with Lead Glass, 20cc
- LG1020         Lead Glass Replacement for 10 & 20 cc Syringe Shields



## Dose Drawing Syringe Shields

- Reduce hand exposure
- Optically clear high density lead glass barrel
- Offers 360° visibility and reduces radiation exposure from Tc-99m by more than 99%
- Features quick and smooth syringe insertion with an O-ring seal and anti-roll cap
- Accommodates luer and non-luer lock syringes



### Dose Drawing Syringe Shields

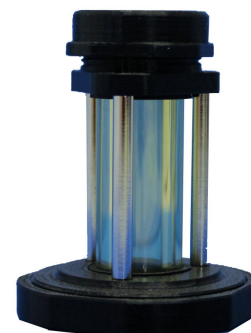
- 007-661 Syringe Shield, 3 cc
- 007-663 Syringe Shield, 5 cc and 6 cc
- 007-665 Syringe Shield, 10 cc and 12 cc

### Dose Drawing Syringe Shields with Replaceable Glass

- 007-691 Syringe Shield, 3 cc
- 007-693 Syringe Shield, 5 cc and 6 cc
- 007-695 Syringe Shield, 10 cc and 12 cc

### Replacement Glass

- 127-691 Fits 007-691, 3 cc
- 127-693 Fits 007-693, 5 cc and 6 cc
- 127-695 Fits 007-695, 10 cc and 12 cc



## High Density Lead Glass Syringe Shields

























- Optically clear high density (5.6) lead glass barrel
- Offers 360° visibility and reduces hand exposure from Tc-99m by more than 99%
- Accommodates luer and non-luer lock syringes

- 007-620 Syringe Shield, 1 cc
- 007-635 Syringe Shield, 3 cc
- 007-652 Syringe Shield, 5 cc and 6 cc
- 007-612 Syringe Shield, 10 cc and 12 cc



## Color-Coded Syringe Labels

- Designed to quickly identify radiopharmaceuticals
- 1/2" diameter color coded circles labeled with the pharmaceutical name
- Easily affixed to the plunger top of syringes
- The colors have been selected as a standard most representative of radiopharmaceutical manufacturer's packaging schemes

 212-001 Purple	 212-002 Light Orange	 212-003 Yellow	 212-004 Olive Green	 212-005 Red	 212-006 Pantone Purple	 212-007 Blue
 212-008 Orange	 212-009 Reflex Blue	 212-011 Unmarked White	 212-012 Brown	 212-013 Purple	 212-014 White	 212-015 Green
 212-016 Blue	 212-017 White	 212-019 Pink	 212-023 Orange	 212-026 White	 212-027 White	 212-028 White
 212-030 White	 212-031 White	 212-032 White				

Select item number

Roll of 500

Call Pinestar toll-free 1-800-682-2226, to place an order

## PET Bullet Syringe Shields



- Simply insert syringe and twist, it locks in place
- Available with or without High Density Lead Glass Window
- No Screws, No Springs, 9mm Tungsten
- Small anti-roll nodules keep them from rolling off the countertop

Without Lead Glass Window

BUPET3      PET Bullet Syringe Shield, 3 cc without glass  
 BUPET5      PET Bullet Syringe Shield, 5 cc without glass



With Lead High Density Lead Glass Window

BUPET3-G      PET Bullet Syringe Shield, 3 cc  
 BUPET5-G      PET Bullet Syringe Shield, 5 cc

Replacement Glass:

SSB-PG1      Replacement Glass, 3 cc or 5 cc

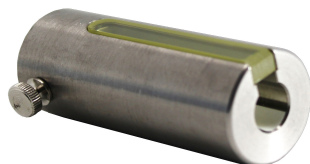
## Pro-Tec™ PET Syringe Shields

- Constructed of .34" thick (9 mm) tungsten, attenuates FDG F-18 by 88%
- Available with or without a high density (5.6) flush mounted lead glass window
- A thumbscrew holds the syringes firmly in place



Without Lead Glass Window

PTI-973      Syringe Shield, 3 cc without glass  
 PTI-975      Syringe Shield, 5 cc without glass  
 PTI-980      Syringe Shield, 10 cc without glass



With Lead Glass Window

007-973      Pro-Tec PET Syringe Shield, 3 cc  
 007-975      Pro-Tec PET Syringe Shield, 5 cc  
 007-980      Pro-Tec PET Syringe Shield, 10 cc

Replacement Glass

007-974      Pro-Tec PET Replacement Glass

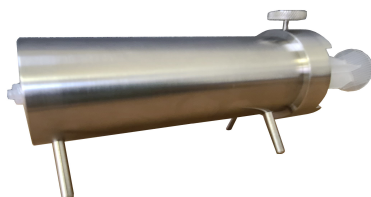
## Z-PET Syringe Shield



- Constructed of .55 thick (14 mm) tungsten, attenuates FDG F-18 by 97%
- Accommodates standard 3 and 5 cc syringes

PET14-3C      Syringe Shield, 3 cc  
 007-945      Syringe Shield, 5 cc  
 000-ZPET      Replacement Screws for 007-945

## 50 / 60 cc Syringe Shield

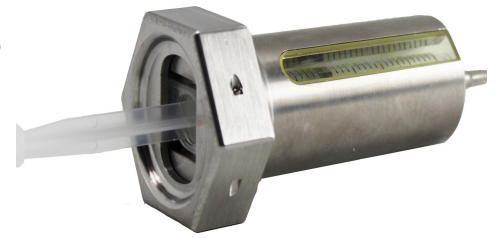


- 9mm Tungsten
- 4 Legs to prevent rolling
- Screw locks syringe in place
- 5.75" L x 1.875" D x 3.25" H (height to screw)
- Weight: 6.6 lb

60-09T      50/60 ml, 9mm Tungsten Syringe Shield

## Gaard Lock™ PET Syringe Shields

- Unique flange locking design reduces exposure with faster handling
- Constructed of .34" thick (9 mm) tungsten, attenuates FDG F-18 by 88%
- Available with or without a high density (5.6) flush mounted lead glass window
- Twist to lock syringe in place with one hand
- Easily sanitized with alcohol wipes



With Lead Glass Window

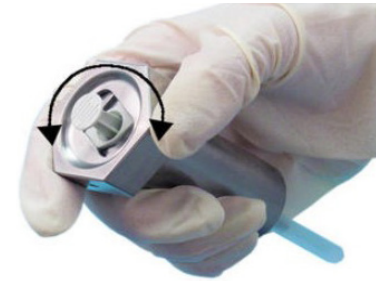
007-716 Gaard Lock PET Syringe Shield, 3 cc  
 007-717 Gaard Lock PET Syringe Shield, 5 cc  
 007-718 Gaard Lock PET Syringe Shield, 10 cc

Replacement Glass

007-974 Gaard Lock PET Replacement Glass

Without Lead Glass Window

007-711 Syringe Shield, 3 cc without glass  
 007-712 Syringe Shield, 5 cc without glass  
 007-713 Syringe Shield, 10 cc without glass



## MRI Compatible Syringe Shield for PET

MRI Compatible Syringe Shield for PET with Nylon Screw

9 mm Tungsten

The material has been certified as MRI-compatible

3-MRI/P 3 cc MRI Compatible Syringe Shield for PET  
 5-MRI/P 5 cc MRI Compatible Syringe Shield for PET  
 10-MRI/P 10 cc MRI Compatible Syringe Shield for PET  
 MRI-000 Replacement Screws for the above Syringe Shields



## PET/MRI Syringe Shield

- **MR Conditional for 3T**
- Constructed of **9 mm tungsten**
- 5.6 high density flush mounted lead glass window

007-961 PET/MR Syringe Shield, 3 cc  
 007-962 PET/MR Syringe Shield, 5 cc



## PET 20mL Syringe Shield

- 9mm Tungsten Shielding
- Weight: 3.25 lbs
- Length: 3.5 inches
- Feet to prevent rolling

20-09T PET 20mL Syringe Shield, 9mm Tungsten, without Glass



## Veinlite LED<sup>+</sup>®

The Veinlite LED<sup>+</sup> offers an optimum viewing area and the highest contrast for vein imaging. The wide C-shaped design stretches the skin for easy needle insertion and stops the vein from rolling during access.

- 28 bright light emitting diodes (LEDs)
- 22 Orange LEDs for superficial veins
- 6 Red LEDs for deeper veins, darker skin
- 27 mm area of illumination

**Dimensions:** 3.75" L x 2" W x 1" Thick

**Power:** Rechargeable lithium-ion battery

**Weight:** 3 oz

007-275-P

Veinlite LED Plus

*Includes: 50 disposable plastic covers, battery charger, light shield and pediatric adapter*

007-276-P

Replacement disposable plastic covers, 50/pkg  
**For Original Veinlite LED and Veinlite LED Plus**



## NeRD Needle Recapper

This innovative needle recapping device facilitates OSHA compliant one-handed needle recapping.

- Suction cup base provides stable positioning
- Accepts most needle brands, sizes and gauges
- Small size makes it easily transportable and won't clutter the work area
- Made of solid rubber in a highly visible color
- Easily cleaned and decontaminated

**Dimensions:** 1.5" W x 1.5" L x 1.25" H

NMC-600

NeRD Needle Recapper



## Syringe Recapper

Don't put yourself at risk with an accidental needle stick! The Syringe Recapper is a safe and inexpensive way to protect yourself when recapping a used syringe. Used either hand-held or placed on a flat surface, such as a procedure tray, the Recapper is made of lightweight plastic that is easily carried anywhere.

**Dimensions:** 3.25" L x 2.75" W

008-300

Syringe Recapper







009-205

## Shielded Syringe Holder

*Accommodates Shielded and Unshielded Syringes*

- Constructed of lead shielding, encased in steel
- Shielding tapers from .25" to .5" lead
- Large diameter base ensures stability
- Powder coated finish

Dimensions: 6.875" H x 4" Base Diameter  
Weight: 7.65 Lbs

Shielded Syringe Holder



NMC-BDT

Big Digit Timer

## Big Digit Timer

- Basic digital timer with extra-loud alarm and large display
- Counts 100-minute by minute/second
- Last count recall, stop and restart functions
- Made of food-safe ABS plastic

## Cast Iron Electric Hot Plate



PCR1

Cast Iron Electric Hot Plate

- 7 1/8" diameter heavy-duty cast iron element
- Solid element surface delivers heat evenly to pot or pan
- Handles up to 12-quart pots
- Infinite heat control keeps food simmering or boiling
- Non-skid feet for stability
- 3 prong commercial cordset

Dimensions: 11.5" W x 14" L x 3" H  
Weight: 7.2 lb  
Power Requirements: 120 volts  
1500 watts

## Syringe Shield Holder

*Don't let your syringe shields roll around on the counter!*



007-999

Syringe Shield Holder

- Protects your syringe shields from scratches or misplacement while freeing up extra work space
- Will support up to eight shields and is counterbalanced to prevent tipping

Dimensions: 7.5" W x 4" D x 6" H  
Weight: 5 lb

## Lead-Lined Syringe Carriers

*Two sizes, each offered in 1/8" and 1/4" lead shielding for added protection*

- 001-179 I.D. 8.25" L x 3" W x 2.9" H O.D. 9.5" L x 4.4" W x 3.5" H  
Lead Shielding: Sides, top, bottom 1/8" thick, Ends: 1/4" thick
- 001-180 I.D. 7.7" L x 2.6" W x 2.7" H O.D. 9.5" L x 4.4" W x 3.5" H  
Lead Shielding: Sides, top, bottom 1/4" thick, Ends: 1/2" thick
- 001-181 I.D. 8" L x 1.9" W x 1.97" H O.D. 9.25" L x 3.4" W x 2.6" H  
Lead Shielding: Sides, top, bottom 1/8" thick, Ends: 1/4" thick
- 001-182 I.D. 7.5" L x 1.7" W x 1.7" H O.D. 9.25" L x 3.4" W x 2.6" H  
Lead Shielding: Sides, top, bottom 1/4" thick, Ends: 1/2" thick

### Shielded Syringe Carrier, 1/8" Lead

- 001-181 Syringe Carrier, Small, Weight 7.5 lb  
001-179 Syringe Carrier, Large, Weight 11.3 lb

### Shielded Syringe Carrier, 1/4" Lead "IDEAL FOR PET"

- 001-182 Syringe Carrier, Small, Weight 11 lb  
001-180 Syringe Carrier, Large, Weight 17 lb



## Stainless Steel Syringe Carrier

- Constructed of stainless steel inside and out, completely enclosed lead, *Not painted*
- The lead walls are poured between the stainless steel so there is no exposed lead
- Used to store and transport syringes, vials or ampoules
- The lid is overlapping with a latch to prevent streaming and opens 180°
- 4 rubber feet are attached to the bottom of the carrier

- NMC-220R Stainless Steel Syringe Carrier, 1/8" Lead  
I.D. 9" L x 2" W x 2" H O.D. 10.15" L x 3.2" W x 2.75" H  
Lead Shielding: Sides, top, bottom 1/8" thick Ends: 1/4" thick  
Weight: 7.7 lb

- NMC-225-18 Stainless Steel Syringe Carrier, 1/8" Lead  
I.D. 12" L x 3" W x 2" H O.D. 13.5" L x 4" W x 3" H  
Lead Shielding: Sides, top, bottom 1/8" thick Ends: 1/4" thick  
Weight: 14 lb

- NMC-225-14 Stainless Steel Syringe Carrier, 1/4 Lead  
I.D. 12" L x 3" W x 2" H O.D. 13.75" L x 4.5" W x 3.5" H  
Lead Shielding: Sides, top, bottom 1/4" thick Ends: 1/2" thick  
Weight: 25 lb



## Lead-Lined Storage Container

Useful for storing used syringes, alcohol wipes, etc., that may be contaminated with low-energy gamma or beta radiation residue prior to disposal

- Constructed of stainless steel lined with 1/8" lead
- Exterior Dimensions: 7" H x 6" Dia
- Interior Dimensions: 6.25" H x 5.5" Dia
- Lead Shielding: 1/8" thick
- Weight: 10.4 lbs
- **Plastic Insert: PC-201**

- DJ-202 Lead-Lined Storage Container  
PC-201 Plastic Insert for DJ-202, 12/bx



## Lead Vial Shield With Magnetic Top With or Without Glass Window Color Coding - A Visual Indicator To Avoid Mix Up



- **Magnetic top** designed to facilitate minimal handling
- Bottom is not removable
- Accommodates most 10 ml vials
- .31" lead shielding
- Available with or without lead glass
- 4.2 lead density lead glass window
- Weight: 2.2 lb
- Outer Dimensions: 1.70" Diameter x 3.0" H
- Inner Dimensions: 1.05" Diameter x 2.24" H



### Without Glass

053-610-NG	Glucoscan (red)
053-611-NG	Osteolite (purple)
053-612-NG	Pulmolite (lt orange)
053-613-NG	Pyrolite (blue)
053-614-NG	Hepatolite (brown)
053-615-NG	Microlite (yellow)

### For MAA, DTPA and MDP

DTPA-1-NG	Green
MDP-1-NG	Silver
MAA-1-NG	Cyan

### With Glass Window

053-711-WG	Glucoscan (red)
053-712-WG	Osteolite (purple)
053-713-WG	Pulmolite (lt orange)
053-714-WG	Pyrolite (blue)
053-715-WG	Hepatolite (brown)
053-716-WG	Microlite (yellow)

### For MAA, DTPA and MDP

DTPA-1G-WG	Green
MDP-1G-WG	Silver
MAA-1G-WG	Cyan

## High Density Lead Glass Vial Shield

- High density (5.6) lead glass provides clear 360° visibility
- Automatic centering action positions vials within the shield and holds them securely for extra safety and convenience
- Suitable for low-energy radioisotopes
- Removable cap makes cleaning and needle insertion simple
- Lead equivalency: 0.12"
- HVL for 99m-Tc: 10
- Accommodates Vial Sizes: 5 thru 30 ml
- Weight: 3 lb



001-075 Vial Shield, .12" lead equiv

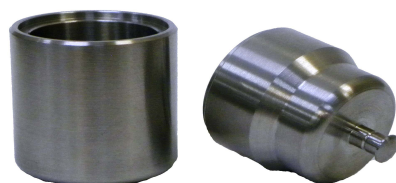


See page 131 for  
Forceps and Niptong  
Information





## Hamilton Vial Heating Shield



T251

Dimensions:  
 Tungsten Thickness: Wall/Bottom 4.25 mm  
 Top 3.3 mm  
 Inner Diameter: 26.5 mm  
 Inner Height: 5.57 mm  
 Weight: 1.05 lb  
 Hamilton Vial Heating Shield



## Tungsten Magnetic 10 ml Vial Shield

- Designed to hold a 10 ml vial
- Convenient **Magnetic Cap** is easy to remove and replace



T208

Dimensions:  
 Tungsten Thickness: 6 mm  
 Inner Size: 26.5 mm x 56.5 mm  
 Outer Size: 38.5 mm x 70 mm  
 Weight: 2.1 lb

Magnetic Cap Dimensions: 39 mm x 7 mm  
 Weight: .26 lb

**Magnetic Cap**



Tungsten Magnetic Vial Shield, 10 ml

## Tungsten Magnetic Vial Shield for Technelite® Eluate Vial

For use with the Technelite generator, this solid tungsten vial shield is designed to shield multi-curie elutions. The tungsten will retain its shape under the roughest handling and is virtually unbreakable. Features include a removable bottom and magnetic cap which stays in place even when inverted. Will hold a Technelite eluate vial.



T-206

Tungsten Thickness: 7 mm  
 Inner Size: 35.5 x 71 mm  
 Outer Size: 49.5 x 91.5 mm  
 Weight: 4 lb

Magnetic Cap Dims: 38 x 8 mm  
 Weight: .25 lb

**Magnetic Cap**

Removeable Bottom Dimensions:  
 Inner Size: 32.3 x 6.5 mm  
 Outer Size: 54 x 15 mm  
 Weight: .72 lb

**Removeable Bottom**



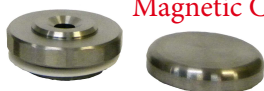
Tungsten Magnetic Vial Shield for Technelite® Eluate Vial

## Tungsten Magnetic 30 ml Vial Shield



This Tungsten Vial Shield will hold a 30 ml Myoview™ Vial (not included)

- Convenient easy to remove and replace magnetic cap
- Tungsten thickness of 6.6 mm
- Adapter available if using 10 ml



Magnetic Cap

Need a different thickness?  
Can be custom made to  
your specifications.

Dimensions:  
Total Height: 3.5"  
Tungsten Thickness: 6.6 mm  
Inside Diameter: 30 mm  
Weight: 3.1 lb



T205

Tungsten Vial Shield, 30 ml

## Tungsten Magnetic 30 ml Drax® Vial Shield



This Tungsten Vial Shield will hold a 30 ml Drax Vial (not included)

- Convenient easy to remove and replace Magnetic Cap
- Tungsten thickness of 7 mm

Dimensions:  
Total Height: 3.5"  
Tungsten Thickness: 7 mm  
Inside Diameter: 42.5 mm  
Weight: 3.8 lb

Magnetic Cap

T-D30

Tungsten Magnetic 30 ml Drax Vial Shield

## 1" Lead Vial Shield - 50 ml



This vial shield is designed to hold a 50 ml vial

- Constructed of 1" lead
- Distinct color acts as a visual indicator

Dimensions:  
Total Height: 6.3"  
Internal Height: 4"  
Lead Thickness: 1"  
Outer Diameter: 3.8"  
Inside Diameter: 1.8"  
Weight: 25 lbs



PTI-50-P

1" Lead Vial Shield, 50 ml, Pink

## Easy-Grip Tungsten Vial Shield



053-T10

- Unique grip mechanism improves handling
- Magnetic injection port lid is ergonomically designed to minimize exposure with single handed manipulations
- Available for 10 ml or 30 ml vials
- 95% Tungsten

Dimensions:	<u>10 ml</u>	<u>30 ml</u>
Total Weight:	2.46 lb	4.49 lb
Total Height:	2.9"	3.7"
Inner Size:	0.94" Diameter	1.5" Diameter
Shielding:	5 mm Tungsten	5 mm Tungsten



053-T30

053-T10 Easy-Grip Tungsten Vial Shield, 10 ml

053-T30 Easy-Grip Tungsten Vial Shield, 30 ml

## Vial Shield

Designed to aid in the preparation of pharmaceuticals that require boiling. Vents are located to minimize scatter leakage, boiling water can circulate freely around the vial, heating the solution rapidly and uniformly. The carrying handle makes it easy to lower and remove the vial from the boiling water bath.

- 5.6 density flush mounted lead glass window
- .25" lead shielding
- Accommodates vial sizes: up to 1.5" Dia x 3.125" H
- Dimensions: 2" Dia x 3.875" H
- Weight (including handle): 3 lb

001-236 Vial Shield, .25" lead



## PET Vial Shield with Handle

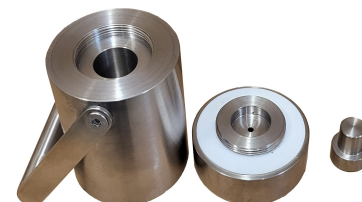


PVH

<b>Shielding:</b>	<b>20mm Tungsten</b>
Container Height:	6.3125" with Handle, 4.5625" handle down
Outer Diameter:	3.1875"
Inner Dimensions:	0.987" Diameter x 2.2" H
Weight:	18.1 Lbs

*For internal transport within a facility.  
It has not been approved for transport by road or air.*

PET Vial Shield with Handle



## Pro-Tec™ Unit Dose Pig

PET Unit Dose Pig  
001-785  
See Page 80

- Accommodates the following syringes:
  - BD: 3 cc, 5 cc, 10 cc
  - BD Safety-Lock: 3 cc
  - Monoject: 3 cc, 6 cc
  - Monoject Safety: 3 cc
- .25" lead shielding
- Overlapped lead eliminates streaming
- Lead is fully encapsulated in Lexan
- Durable and compatible with automatic washing equipment
- O-ring seal protects against leakage
- Dimensions: 8.5" H x 1.94" Diameter Weight: 3 lb
- Available Colors: Red, White, Blue

- 001-280 Pro-Tec Unit Dose Pig, Red
- 001-281 Pro-Tec Unit Dose Pig, White
- 001-282 Pro-Tec Unit Dose Pig, Blue

Note: Unit Dose Pigs are sold in lots of six



Unit Dose Pigs also available for Zevalin Y-90 and In-111 See Page 62

## Pro-Tec™ Pig Shipping Bag

- Durable, nylon, waterproof shipping bag designed to accommodate up to 11 Pro-Tec Pigs containing syringes
- Ensures safe, convenient handling of syringes from the pharmacy and back
- Meets DOT 7A Type A packaging requirements
- Meets IATA Dangerous Goods Regulations, 58th Edition Sections 5.0.4.3, 10.5, and 10.6.1 thru 10.6.3.5
- Dimensions: 10.5" H x 5.75" W x 11.5" D
- Material: Exterior: Nylon Interior: Polyester

- 001-754 Pro-Tec Pig Shipping Bag
- 001-756 Type I Placard, 100/pkg
- 001-757 Type II Placard, 100/pkg
- 001-758 Covers, hook & loop fasteners, plastic
  - Small, 90 x 130 mm, 50/pkg
- 001-759 Covers, hook & loop fasteners, plastic
  - Medium, 130 x 40 mm, 50/pkg
- 001-779 Covers, hook & loop fasteners, plastic
  - Large, 160 x 180 mm, 50/pkg



## PET Vial Pig

Vials containing PET or other high-energy radionuclides can be safely transported in this 10/30ml Vial Pig. The pig offers a minimum of 1" of lead shielding to accommodate the concentrated energy. The Vial Pig can be used independently or with the PET Shipping System 001-724 which meets DOT II Type A packaging requirements.

- Dimensions: Exterior: 6.63" H x 4.15" Dia Interior: 2.76" H x 1.151" Dia
- Lead Shielding: Sides & Bottom: 1" thick Top: 1.75"
- Weight: 21.3 lb

- 001-706 PET Vial Pig, 10/30 ml, 1" lead
  - For 30 ml vials. Includes: 001-707 Vial Pig Adapter, to accommodate 10 ml vials and three Absorbent Sheets
- 001-771 Pig Absorbent Sheets, 100/pkg
- 001-707 Vial Pig Adapter



Shipping Container for PET Vial Pig, see page 80-81

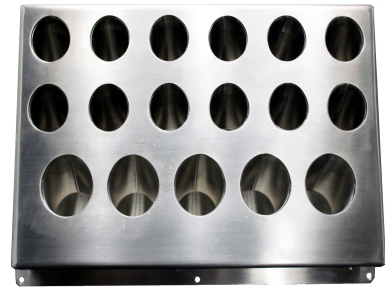
Call Pinestar toll-free 1-800-682-2226, to place an order



## Unit Dose Wall Rack for Biodex or GE Pigs



- Constructed of Stainless Steel
- 6 mounting holes to securely attach to your wall



NMC-BIOPIG or NMC-GEPIG  
Specifications:  
Dimensions: 26" W x 17.5" H x 3.5" D  
Weight: 22 lb  
Holds: 27 Biodex or GE pigs up to 2.5" diameter

NMC-MULTIPIG  
Specifications:  
Dimensions: 19.75" W x 12.75" H x 4.25" D  
Weight: 29 lb  
Holds: 12 Biodex pigs 2" diameter and 5 GE pigs 2.5" diameter

NMC-BIOPIG

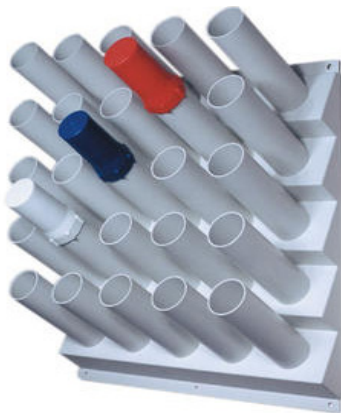
Unit Dose Pig Wall Rack for Biodex Pigs

NMC-GEPIG

Unit Dose Pig Wall Rack for GE Pigs

NMC-MULTIPIG

Unit Dose Pig Wall Rack for Biodex and GE Pigs



008-400

Unit Dose Pig Wall Rack

## Unit Dose Pig Wall Rack

- Holds up to 25 pigs up to 2.25" diameter
- Improves work space with its pigeonhole design and reduces unnecessary handling
- 17" W x 18" H

## Stainless Steel Unit Dose Pig Holder



NMC-PHSS

Stainless Steel Unit Dose Pig Holder

- Stainless Steel construction
- Holds up to 25 pigs up to 2" diameter
- Lightweight, only 6 lb
- 16.5" W x 16" L x 3.25" H

***Need a different size?***

***Our Pig Racks can be custom made to your specifications.***

## Universal Unit Dose Carrier

- Universal design facilitates convenient storage and the transport of up to 10 shielded syringes
- Integrated lift handles
- Constructed of durable ABS plastic
- Accepts 3-5-10 cc Unit Dose Pigs
- Specifications:
  - Color: White
  - Hole cutout size: 1.5" Diameter
  - Size: 14.75" L x 5.75" W x 4.75" H
  - Weight: 3.1 lb



PTI-SSH Universal Unit Dose Carrier

## PET Unit Dose Pig Rack

- Designed for countertop use
- Holds up to eight PET pigs
- Will accommodate PET, Zevalin Y-90 and Zevalin In-111 Pigs
- Bottom of the rack has hexagonal cutouts that match the bottom of the PET Pig
- Dimensions: 12" W X 1.75" H X 6" D
- Weight: 2.8 lb

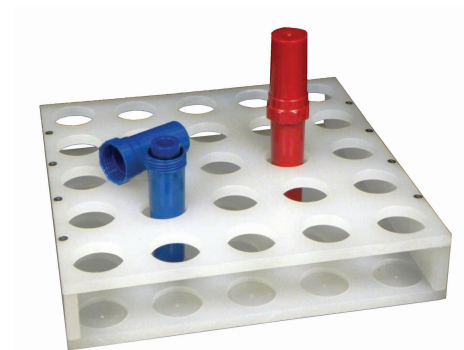


001-284 PET Unit Dose Pig Rack

## Polypropylene Unit Dose Pig Holder

- Polypropylene construction
- Holds up to 25 pigs up to 2" Dia
- Lightweight, only 6.5 lb
- Dimensions: 15" W x 15" L x 3" H

*Need a different size?  
Can be custom made to your specifications.*



NMC-PHPP Polypropylene Unit Dose Pig Holder

# Phlebotomy Chairs



## Phlebotomy Chairs

Weight Capacity: 300 lbs

Color: Blueridge Vinyl

Overall Height: 44.5"  
 Overall Width: 35"  
 Seat Height: 22.5"  
 Seat Width: 18.75"  
 Seat Depth: 18.5"  
 Adjustable Armrest: 28.25" - 34.25"



Includes Dual  
Pivot Arms

NMC-8573

Overall Height: 44.5"  
 Overall Width: 29"  
 Seat Height: 22.5"  
 Seat Width: 18.75"  
 Seat Depth: 18.5"  
 Dual Adjustable Armrests: 28.25" - 34.25"



## X-Large Phlebotomy Chairs

Weight Capacity: 450 lbs

Color: Blueridge Vinyl

Overall Height: 36.5"  
 Overall Width: 40.25"  
 Seat Height: 22.5"  
 Seat Width: 24.25"  
 Seat Depth: 18.5"  
 Adjustable Armrest: 28.25" - 34.25"

NMC-8574XL



Includes Dual  
Pivot Arms

NMC-8575XL

Overall Height: 36.5"  
 Overall Width: 34"  
 Seat Height: 22.5"  
 Seat Width: 24.25"  
 Seat Depth: 18.5"  
 Dual Adjustable Armrests: 28.25" - 34.25"



## XX-Large Phlebotomy Chair

Weight Capacity: 700 lbs

Color: Blueridge Vinyl

Overall Height: 33"  
 Overall Width: 53"  
 Seat Height: 20"  
 Seat Width: 35"  
 Seat Depth: 21"  
 Adjustable Armrests: 33" - 39"

NMC-6602RB

## Adjustable Height Phlebotomy Chair

Weight Capacity: 300 lbs

Color: Blueridge Vinyl



NMC-6320

Overall Width: 38"  
 Seat Height: 20.25" to 27.5"  
 Seat Width: 21"  
 Seat Depth: 19.5"  
 Adjustable Armrests: 7" Range

NMC-8572

Padded Phlebotomy Chair with drawer

NMC-8573

Padded Phlebotomy Chair, no drawer

NMC-8574XL

XL Padded Phlebotomy Chair with drawer

NMC-8575XL

XL Padded Phlebotomy Chair, no drawer

NMC-6602RB

XXL Padded Phlebotomy Chair with drawer

NMC-6320

Adjustable Height Phlebotomy Chair with draw



## Injection / Resting Chair



214-210

Comfortable resting spot for patients to wait between injection and imaging.

- Dual fold down side tables
- Trendelenburg release
- Total-lock & directional steel locking casters
- Removable side panels for easy cleaning
- **Ideal for PET**

Specifications:

Seat Height: 21"  
 Seat Width: 25"  
 Seat Depth: 20"  
 Overall Height: 49"  
 Overall Width: 36.25"  
 (Add 9.25" to overall width for each raised side table)  
 Seat Back Height: 31.5"  
 Upright Depth: 44"  
 Overall Length (reclined): 76.5"  
 Upholstery meets AB2998 flammability requirements

Weight: 111 lb  
**Weight capacity: 450 lb**  
 214-210 Injection/ Resting Chair

## Injection Stand



Convenient, adjustable and portable for safe injections; includes a shielded Multi-Syringe Holder for convenient radionuclide injections.

- Clear plastic armrest rotates 180°
- Cradle design holds the patient's arm firmly in place
- Adjacent utility tray for supplies and includes Multi-Syringe Holder, which accommodates up to four syringes
- Adjustable: Height: 29" H to 44" H
- Stand Base: 17.5" x 17.5"
- Construction: Stable, chrome plated tubular steel
- Shipping Weight: 21 lbs

135-022 Injection Stand  
 135-022-M039 Replacement Arm Cradle

## Treatment Recliner



NMC-6240

- **Swing arms eases patient transfer**
- Infinite position backrest
- 5" Casters with footplate
- Push Handle
- Easy to clean
- One side table included

Specifications:  
 Seat Depth: 20.75"  
 Seat Back Height: 28.5"  
 Armrest Height: 32.5"

Footprint Upright Length: 41.5"  
 Footprint Recline Length: 75.5"  
 Arm-Span (Swing Arms): 105.75"

Upholstery: Taupe  
 Meets AB2998 Requirement

Weight: 199 lb  
**Weight capacity: 500 lb**  
 NMC-6240 Treatment Recliner

## Imaging Chair



214-610

- 360° swivel range
- Lockable casters
- Adjustable height from 41" to 48"
- 2" foam with gray vinyl cover

Specifications:  
 Seat Dimensions: 17" x 11" deep  
 Seat Back Height: 19"  
 Seat Height Adjustable: 19" to 26"

Upholstery: Gray vinyl cover  
 Finish: Black baked enamel

Weight: 75 lb  
**Weight capacity: 350 lb**  
 214-610 Imaging Chair

## Model 3400 Graseby Syringe Pump



### Features:

- Wide infusion rate range: 0.1-1200 ml/hr
- Multiple unit selection: ml/hr, ug/hr, mg/hr, ug/kg/hr, mg/kg/hr, ug/kg/mn, mg/kg/mn
- Syringe size flexibility: 5 ml, 10 ml, 20 ml, 30 ml, 50/60 ml
- Simple operation: Menu driven display
- Cost effective: No dedicated disposables
- AC or battery operated (Internal rechargeable battery)
- Accurate:  $\pm 2\%$
- RS 232 Communications
- Open communications protocol to allow the pump to be remotely controlled and/or monitored

### Specifications:

AC Power Supply:	100-240 V, 50/60 Hz, 40 VA	
Battery Type:	Sealed Lead Acid (Cyclon)	
Battery Life:	10 hours (fully charged at 400 ml/hr)	
Syringe Types:	BD Plastipak 5, 10, 20, 30, 50/60 ml	Braun Omnifix 5, 10, 20, 30, 50/60 ml
	Braun Perfusor 50 ml (optional)	Sherwood Monoject 5, 10, 20, 30/35, 50/60 ml
	Terumo 5, 10, 20, 30/35, 50/60 ml	Fresenius Injectomat 50ml
	IMS Pumpjet 30 ml (prefilled)	
Flow Rate:	Maintenance infusion: 0.1- 400 ml/hr, in 0.1 ml increments	
Bolus infusion:	0.1-1200 ml/hr, in 0.1 ml increments	
	Mass unit programming	
	Volume infused counter	
	0-999.9 ml (in 0.1 ml increments)	
Weight:	Not exceeding 8 lb including batteries and pole clamp	
Dimensions:	12.8" x 7.7" x 4.5" with pole clamp fitted & plunger clamp closed	
Operating Temperature:	41° to 104° Fahrenheit	
Drive Accuracy:	$\pm 2\%$	

Model 3400 Graseby Pump

*Graseby 3400 Syringe Pump, Used - In Like-New condition with 1 Year warranty from factory trained technicians*

### Model 3400 Infusion Sets

MC6016T	60" Microbore Non-DEHP extension set with male luer lock, T-connector with pinch clamp. Approx. priming volume 1.6ml, latex/freon free. 50 sets/case
N0007	60" Microbore Non-DEHP extension set with male & female luer locks and pinch clamp. Approx. priming volume 1.2 ml, latex/freon free. 100 sets/case
MC0603	6" Microbore Non-DEHP extension set with rotating male luer lock, T-connector, pinch clamp. Approx. priming volume 0.3 ml, latex/freon free. 50 sets/case

## ClearView Infusion Pump Shield

### Specifications:

- 1" Thick ClearView
- Fits Medfusion, Graseby, Moog Pumps, and more
- 100 lbs
- Interior Dimensions: 19"W x 8.75"D x 7"H
- Exterior Dimensions: 26"W x 13.75"D x 9.2"H
- 0.3" Lead Equivalency



PTI-CVIPS ClearView Infusion Pump Shield

## Graseby Injection Pump Shield

Designed to reduce exposure during the injection of radionuclides that require an infusion protocol using [Graseby Injection Pumps](#)

*Stainless Steel Interior and Exterior*



- .5" Lead Shielding with Stainless Steel exterior
- Lead glass window with clear visibility of syringe
- Window Dimensions: 5 5/8" W x 1 3/8" H
- Overall Dimensions: 24" L x 8 1/4" D x 8 1/8"H
- Weight: 125 lbs
- Attenuation: greater than 99% for Y-90, I-131, F-18

007-GIPS

Injection Pump Shield

Note: Graseby Syringe Pump Sold Separately

## Graseby Pump Cart with Injection Pump Shield



Integrated L-Block

- .5" Lead Thickness in Front
- 12" W x 16" H
- (2) pieces 12" x 8" x .31" Leaded Glass
- (2) pieces 12" x 8" x .25" Polycarbonate

Stationary Box to Hold Syringe Pump

- .5" Lead Thickness on Front, Top and Bottom
- 1" Lead Thickness in Back
- 2" Lead Thickness on both Sides
- Pull-out Drawer located on side with push handle
- Heavy Duty Casters
- Dimensions: 20" W x 18" D x 39.4" H

GPC

Graseby Pump Cart with Injection Pump Shield  
With Non-Removable Injection Pump Shield  
Note: Graseby Syringe Pump sold separately

## Medfusion Injection Pump Shield

Designed to reduce exposure during the injection of radionuclides that require an infusion protocol using **Medfusion 4000 Syringe Injection Pump**

*Stainless Steel Interior and Exterior*

- .5" Lead Shielding with Stainless Steel exterior
- Lead glass window with clear visibility of syringe
- Window Dimensions: 10" W x 2.5" H x .31" Thick
- Overall Dimensions: 20" W x 9.5" H x 11" D
- Weight : 175 lb



007-MEDF Injection Pump Shield for Medfusion 4000  
*Note: Medfusion Syringe Pump Sold Separately*

## Medfusion Pump Cart with Injection Pump Shield



Pump Cart and Pump Shield

- .5" Lead Thickness on Front, Top and Bottom
- 1" Lead Thickness in Back
- 2" Lead Thickness on both Sides
- Pull-out Drawer located on side with push handle
- 6" Casters (2 Swivel, 2 Locking)
- Dimensions: 32.25" W x 43.5" H x 20" D



Sliding L-Block

- 12.5" W x 15.5" H
- (2) pieces 12" x 12" Leaded Glass

*Injection Pump Shield  
Is Removable*

MPC **Medfusion Pump Cart with Injection Pump Shield  
With Removable Injection Pump Shield**  
*Note: Medfusion Syringe Pump is sold separately*



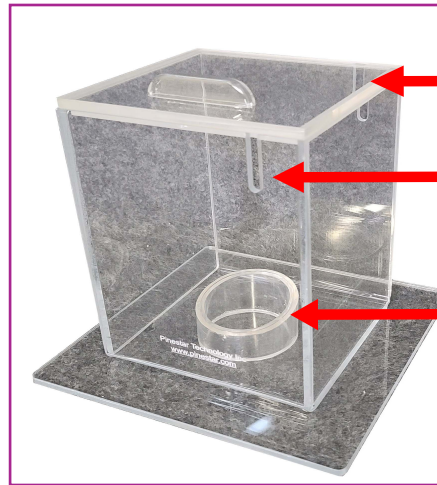
# Lu-177 Lutathera<sup>®</sup> Dose Delivery Box

**Box Dimensions**

- 6.5"L x 6.5"W x 8"H
- 9.5" x 9.5" Base
- 6 mm thick clear acrylic
- 1.5" x .25" Slots
- Weight: 2.85 lbs
- Effectively blocks Beta emissions

**Inner Well Dimensions**

- 1" Height
- Determined by your specifications

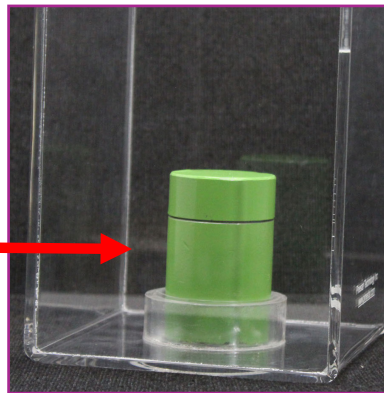


Removable Lid

Slot for IV Tubing

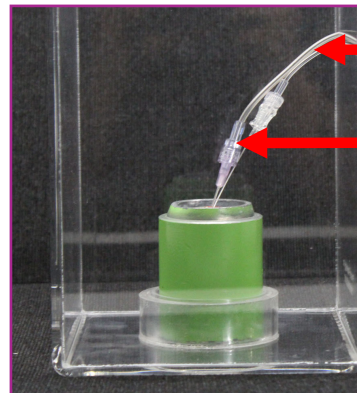
Fixed Well to Secure Lead Vial

Lead Vial Shield



IV Tubing From Bag

IV Tubing To Patient



Survey Meter Not Included

Optional: Cylinder Lead Shield  
Surrounds Lead Vial Shield

**Optional Shield Dimensions**

- Height: 4"
- Diameter: 4 1/2"
- Shielding: 1/4"



PTI-CAP

- PTI-LDDB Lutathera Dose Dispensing Box  
Includes Vial Riser
- PTI-CLS Cylinder Lead Shield
- PTI-CAP Vial Riser

Call Pinestar toll-free 1-800-682-2226, to place an order

## Lead-Lined Dual Box For Disposal of Radioactive Syringes and Needles



- Security lock on top and side
- Vertical disposal for smooth and natural disposal
- Steel clad lead-lined cabinet
- 20 1/2" H x 9 3/8" W x 5 1/4" D
- Easy removal of insert for disposal
- **Houses two containers for decay rotation**



88-N4C      Lead-Lined Box 1/8" lead, Wt 47 lb  
**610R (8,16,32) Red Plastic Container,**  
 Dimensions:    8 3/8" L x 4" D x 9 1/8" H  
 610R-8      Red Plastic Container, Quantity 8  
 610R-16     Red Plastic Container, Quantity 16  
 610R-32     Red Plastic Container, Quantity 32

## PET Container Shield



Safe and convenient solution for the disposal of syringes that have been contaminated with high energy radionuclides

- Stainless Steel lined with lead
- 1" lead
- Hinged top with handle and lock
- 3" drop hole with lead cover

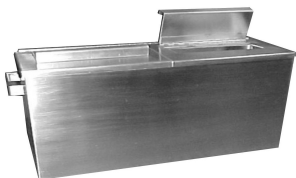
Dimensions:    10 1/2" W x 6 1/2" D x 13" H with lid  
 Weight:        195 lb

610-1PH      1" Lead PET Container Shield

**610R (8,16,32) Red Plastic Container,**  
 Dimensions:    8 3/8" L x 4" D x 9 1/8" H  
 610R-8      Red Plastic Container, Quantity 8  
 610R-16     Red Plastic Container, Quantity 16  
 610R-32     Red Plastic Container, Quantity 32



## Lead-Lined Dual Box



- Simple system allows for disposal of radioactive syringes and infectious waste
- Unique design allows for separation of Tc99m and Non-Tc99m products
- 1/8" lead lining
- Completely shielded
- Dimensions: 25.5" W x 8.25" D x 14" H
- Weight: 110 lb

NMC-8702      Lead-Lined Dual Box

**NMC-8704      Sharps Container** for NMC-8702, 24/case  
 Size: 8 qt, 9.5" H x 10" W x 7" D



## Sharps Container Shields

- A simple, safe and convenient way to dispose of used syringes that may contain low-energy gamma radiation residue
- Constructed of steel lined with .125" lead



SCS-125 Specifications:  
 Outer Dims: 13"D x 13 3/4"W x 14 3/4"H  
 Inner Dims with Plastic:  
 11 3/8"D x 7 5/8"W x 11 7/8"H  
 Inner Dims without Plastic:  
 12 1/2"D x 8 3/4"W x 12 3/8"H  
 Shielding: .125" Lead  
 Security: Key-locked  
 Finish: Powder coat  
 Weight: 74 lbs  
**Uses Sharps Containers:**  
 039-338, 039-388, 039-387



SCS-235 Dual Shield Specifications:  
 Outer Dims: 7.375" L x 12" W x 16.75" H  
 Inner Dims: 7" L x 11.5" W x 14.875" H  
 Shielding: .125" Lead  
 Finish: Powder coat  
 Weight: 60 lb  
**Sharps Containers:**  
 Uses two 039-338

SCS-225 Specifications:  
 Outer Dims: 13"D x 13 3/4"W x 14 3/4"H  
 Inner Dims with Plastic:  
 11 3/8"D x 7 5/8"W x 11 7/8"H  
 Inner Dims without Plastic:  
 12 1/2"D x 8 3/4"W x 12 3/8"H  
 Shielding: .125" Lead  
 Security: Key-locked  
 Finish: Powder coat  
 Weight: 74 lb  
**Uses Sharps Containers:**  
 NMC-182



SCS-245 Specifications:  
**For high-energy isotopes such as I-131**  
 Outer Dims: 9.19" L x 15.25" W x 13.31" H  
 Inner Dims: 7" L x 11.38" W x 11.25" H  
 Lead Shielding: .5" thick  
 Security: Key-locked  
 Finish: Powder coat  
 Weight: 200 lb

SCS-125 Sharps Container Shield, 1/8" lead  
 SCS-225 Sharps Container Shield, 1/8" lead  
 SCS-235 Dual Sharps Container Shield, 1/8" lead  
 SCS-245 Sharps Container Shield, 1/2" lead

039-338 **Monoject Container**, 4 qt, 10/pkg Fits SCS-125, SCS-245, SCS-235 and SCS-255  
 039-387 **Monoject Container**, 8 qt, 10/pkg  
 039-388 **Monoject Container**, 8 qt, 20/pkg Fits SCS-125, SCS-245, SCS-255 and SCS-235  
 NMC-182 **Sharps Container**, 6.2 qt, 12/pkg Fits SCS-225

## Sharps Container Shields

### For Beta and Gamma Radiation

- A simple way to dispose of used syringes that may be contaminated with low-energy gamma and beta radiation residue
- Constructed of steel lined with .125" lead and 0.5" Plastic which attenuates gamma radiation, beta radiation and errant bremsstrahlung

SCS-255 Specifications:  
 Outer Dims: 11" D x 14" W x 15" H  
 Inner Dims.: 7.125" D x 12" W x 12" H  
 Shielding: .125" lead, 0.5" Plastic  
 Security: Key-locked  
 Finish: Powder coat  
 Weight: 78 lbs  
**Sharps Container: 039-338, 039-387, 039-388**



SCS-255 Sharps Container Shield, Beta/Gamma

039-338 **Monoject Container**, 4 qt, 10/pkg  
 Fits SCS-125, SCS-245, SCS-235 and SCS-255  
 039-387 **Monoject Container**, 8 qt, 10/pkg  
 039-388 **Monoject Container**, 8 qt, 20/pkg  
 Fits SCS-125, SCS-245 and SCS-255

We also carry PET Sharps Containers See page 78  
 Call Pinestar toll-free 1-800-682-2226, to place an order

## Shielded Decay Drums with Dolly



- Outer Dimensions: 22 1/2" Diameter x 27" H  
(31 1/2" H w/ dolly)
- Lid: 19" Diameter  
Includes two heavy-duty handles
- Drop Port: 4.5" Diameter  
Includes cap with handle

NMC-12DB 30 Gallon, 1/2" Lead Decay Drum w/ Dolly, 450 lbs  
 NMC-34DB 30 Gallon, 3/4" Lead Decay Drum w/ Dolly, 600 lbs  
 NMC-1DB 30 Gallon, 1" Lead Decay Drum w/ Dolly, 1000 lbs

## Shielded Decay Drum with Dolly



- Outer Dimensions: 14" Diameter x 20.5" H
- Inside Dimensions: 12.75" Diameter x 17" H
- Powder Coat Exterior
- Lead shielding: 1/2" thick
- Lid: 17" Diameter  
7" x 7" Opening  
Includes two heavy-duty handles
- Capacity: 10 gal

PTI-1012 Decay Drum, 10 Gallon, 1/2" lead w/Dolly, 325 lbs

## Waste Container Drums with Dolly



PTI-1018 10 Gallon, 1/8" Lead, 17.5" Dia x 18" H (22.5" H w/ dolly), 81 lbs  
 PTI-1014 10 Gallon, 1/4" Lead, 17.5" Dia x 18" H (22.5" H w/ dolly), 147 lbs  
 PTI-1518 15 Gallon, 1/8" Lead, 17.5" Dia x 29" H (33.5" H w/ dolly), 95 lbs  
 PTI-1514 15 Gallon, 1/4" Lead, 17.5" Dia x 29" H (33.5" H w/ dolly), 190 lbs  
 PTI-3018 30 Gallon, 1/8" Lead, 19" Dia x 32" H (36.5" H w/ dolly), 145 lbs  
 PTI-3014 30 Gallon, 1/4" Lead, 19" Dia x 32" H (36.5" H w/ dolly), 290 lbs  
 PTI-5518 55 Gallon, 1/8" Lead, 22.5" Dia x 35" H (39.5" H w/ dolly), 200 lbs  
 PTI-5514 55 Gallon, 1/4" Lead, 22.5" Dia x 35" H (39.5" H w/ dolly), 400 lbs

## Low-Energy Shielded Decay Drum with Dolly



- Dimensions: 30" H x 19.5" Dia
- Lead shielding: .125", .25" or .5"
- Top Sliding Port: 6.5" x 8.5"
- Capacity: 30 gal

PTI-039-287 Decay Drum, 30 Gallon, 1/8" lead weight 160 lbs, shipping weight 238 lbs  
 PTI-039-288 Decay Drum, 30 Gallon, 1/4" lead weight 280 lbs, shipping weight 358 lbs  
 PTI-039-289 Decay Drum, 30 Gallon, 1/2" lead weight 480 lbs, shipping weight 558 lbs

039-286 30-gal capacity Plastic Liner



## Lead-Lined Waste Container For Low-Energy Gamma Waste



- A must-have item for any facility that generates low-energy gamma radiation waste
- 20 quart container constructed entirely of stainless steel lined with .125" lead
- Can be placed on floor or counter
- Plastic liners make it easy to transfer waste to a decay or disposal site

### Specifications:

Outer Dimensions: 11.9" W x 9.9" D x 15.25" H  
Shielding: .125" Lead  
Finish: Stainless Steel  
Capacity: 20 quart  
Shipping Weight: 51 lb

- 039-106 Lead-Lined Waste Container, .125" lead  
Includes 1 pkg of 20 Poly Liners  
040-108 Poly Liner, 20/pkg



## Waste Container with Foot Pedal

- Foot pedal operation
- Adjustable pressure valve to reduce or increase lid closure speed
- Reduce the possibility of handle contamination
- Includes all of the features of 039-106

### Specifications:

Outer Dimensions: 13.5" W x 12.5" D x 16.5" H  
Shielding: .125" Lead  
Finish: Stainless Steel  
Capacity: 20 quart



- FP-039 Waste Container with Foot Pedal, .125" lead  
Includes 1 pkg of 20 Poly Liners  
040-108 Poly Liner, 20/pkg

## Lead-Lined Waste Container For Low-Energy Beta and Gamma Waste



- Interior is constructed of .063" aluminum and .25" lead. This combination attenuates gamma radiation, beta radiation and errant bremsstrahlung
- Specially designed hatch door protects the user from container contents while open
- Container top is easily removed with side handles

### Specifications:

Outer Dimensions: 12" W x 22" H x 9" D  
Inner Dimensions: 10.5" W x 14.5" H x 8.5" D  
Shielding: .25" Lead, .063" Aluminum  
Finish: Powder coat  
Shipping Weight: 120 lb

- 039-110 Lead-Lined Waste Container, .25" lead  
Includes 1 pkg of 20 Poly Liners  
040-108 Poly Liner, 20/pkg

---

# Lead Lined Cabinets



All Lead Lined Cabinet options include:

- 1/8", 1/4", 1/2", 3/4", 1", and 2" Lead Shielding
- Powder Coat or Stainless Steel
- Lockable Doors
- Adjustable Shelves
- Stainless Steel Marine Edge Countertop
- Backsplash

Custom cabinets are built to your exact needs and specifications.  
For a quote and to discuss your needs,  
give us a call to get your lead lined cabinet started!



## Radioisotope Storage Cabinet



- Designed for safely storing radioactive materials
- It features 12 key-locked drawers
- Each drawer is easily removed for cleaning or decontamination
- A card slot identifies contents

### Specifications:

Dimensions: 30.5" W x 24" D x 36.5" H  
 Lead Shielding: 1/4", 1/2" or 1" thick on all 6 sides  
 Drawer Dimensions: I.D. 6" W x 11.88" D x 4.5" H  
 Drawers: Key-locked  
 Countertop: Stainless steel with 4" backsplash and 1/2" spillproof lip  
 Finish: Powder coat  
 Weight: 244-110: 1069 lb  
 244-111: 1415 lb  
 244-112: 2558 lb

## Unit Dose Cabinet



- Designed for hot labs with limited space
- Upper left compartment holds two sharps containers
- Small chute with removable shielded lid allows syringe disposal into front container
- Large rear port allows safe removal of second decayed container
- Store unit dose ammo boxes in the upper right compartment
- Phantoms and flood sources can be stored in the bottom drawer which runs the full width of the cabinet

### Specifications:

Dimensions: 30.5" W x 24" D x 36.5" H  
 Lead Shielding: 1/4", 1/2" or 1" thick on all 6 sides  
 Drawer Dimensions:  
 Bottom Drawer: I.D.: 23.5" W x 21.8" D x 4.5" H  
 Left/Right Drawers: I.D.: 9.38" W x 17.88" D x 4.5" H  
 Upper Doors: I.D.: 11.5" W x 17.62" D x 11" H  
 Doors & Drawers: Key-locked  
 Countertop: Stainless steel with 4" backsplash and 1/2" spillproof lip  
 Finish: Powder coat  
 Sharps Containers: 039-338 or 039-387  
 Weight: 244-120: 1156 lb  
 244-121: 1614 lb  
 244-122: 2328 lb

***A unified countertop is available with multiple cabinets as an option.  
 Call For Pricing***

244-110 Radioisotope Storage Cabinet 1/4" lead  
 244-111 Radioisotope Storage Cabinet 1/2" lead  
 244-112 Radioisotope Storage Cabinet 1" lead

244-120 Unit Dose Cabinet 1/4" lead  
 244-121 Unit Dose Cabinet 1/2" lead  
 244-122 Unit Dose Cabinet 1" lead

**039-338 Monoject Container, 4 qt, 10/pkg**  
**039-387 Monoject Container, 8 qt, 10/pkg**

## Sink and Waste Cabinet



- Performs three functions
- Stainless steel sink allows convenience of running water in the hot lab
- Space under the sink can be used for cold storage
- Waste section is separated from the sink by a lead barrier
- Shielded port allows waste to be dropped into a polyethylene container for storage until decayed

### Specifications:

Dimensions: 30.5" W x 24" D x 36.5" H  
 Lead Shielding: 1/4", 1/2" or 1" thick on all 6 sides  
 Sink Section: 10" W x 14" D x 10" H  
 Integral stainless steel sink with gooseneck faucet and wrist blades; suitable for cold storage  
 Waste Section:  
 Chute: 6.5" diameter with 1/2" thick lead shielded cover  
 Container: I.D.: 20.5" H x 11.25" Diameter polyethylene, 7 gal capacity  
 Door: Key-locked  
 Countertop: Stainless steel with 4" backsplash and 1/2" spillproof lip  
 Finish: Powder coat  
 Weight: 244-130: 849 lb  
 244-131: 1253 lb  
 244-132: 2260 lb

## Decay Cabinet



- Designed for long and short term storage of decaying radioactive material
- Two adjustable shelves support 100 lb each
- Will accommodate sharps containers and other boxed waste prior to disposal
- Can be used to store flood sources
- Key-locked to prevent unauthorized access

### Specifications:

Dimensions: 30.5" W x 24" D x 36.5" H  
 Lead Shielding: 1/4", 1/2" or 1" thick on all 6 sides  
 Shelf Dimensions: 24.25" W x 18" D, 100 lb capacity, adjustable height  
 Door: Key-locked  
 Countertop: Stainless steel with 4" backsplash and 1/2" spillproof lip  
 Finish: Powder coat  
 Weight: 244-140: 1010 lb  
 244-141: 1267 lb  
 244-142: 2125 lb

*A unified countertop is available with multiple cabinets as an option.*

*Call For Pricing*

244-130 Sink & Waste Cabinet 1/4" lead

244-131 Sink & Waste Cabinet 1/2" lead

244-132 Sink & Waste Cabinet 1" lead

244-140 Decay Cabinet 1/4" lead

244-141 Decay Cabinet 1/2" lead

244-142 Decay Cabinet 1" lead



## Waste Cabinet



- Designed for storing "non-sharps" radioactive waste
- Spacious chute with shielded cover allows waste to be dropped directly into a polyethylene container prior to decay and disposal

## Decay and Storage Cabinet



- Performs two functions
- Radioisotopes can be safely stored in drawers
- Cupboard section is for the storage of decaying material
- Drawers are easily removed for cleaning and decontamination
- Decay section includes two heavy duty adjustable shelves

### Specifications:

Dimensions: 30.5" W x 24" D x 36.5" H  
Lead Shielding: 1/4", 1/2" or 1" thick on all 6 sides  
Chute: 6.5" diameter with 1/2" thick lead shielded cover  
Container: 22" H x 17" diameter polyethylene, 16 gal capacity  
Door: Key-locked  
Countertop: Stainless steel with 4" backsplash and 1/2" spillproof lip  
Finish: Powder coat  
Weight: 244-150: 913 lb  
244-151: 1282 lb  
244-152: 2290 lb

### Specifications:

Dimensions: 36.5" W x 24" D x 36.5" H  
Lead Shielding: 1/4", 1/2" or 1" thick on all 6 sides  
Drawer Dimensions: I.D.: 6" W x 11.88" D x 4.5" H  
Shelf Dimensions: 22" W x 18" D  
Door & Drawers: Key-locked  
Countertop: Stainless steel with 4" backsplash and 1/2" spillproof lip  
Finish: Powder coat  
Weight: 244-160: 1103 lb  
244-161: 1421 lb  
244-162: 2500 lb

*A unified countertop is available with multiple cabinets as an option.*

*Call For Pricing*

244-150 Waste Cabinet 1/4" lead  
244-151 Waste Cabinet 1/2" lead  
244-152 Waste Cabinet 1" lead

244-160 Decay & Storage Cabinet 1/4" lead  
244-161 Decay & Storage Cabinet 1/2" lead  
244-162 Decay & Storage Cabinet 1" lead

# Lead-Lined Laboratory Furniture

## Waste and Storage Cabinet



- Performs two functions
- Radioisotopes can be safely stored in drawers
- Cupboard section is for the storage of "non-sharps" radioactive waste
- Drawers are easily removed for decontamination
- Cupboard section includes a shielded port and 16 gallon polyethylene container

### Specifications:

Dimensions: 36.5" W x 24" D x 36.5" H  
Lead Shielding: 1/4", 1/2" or 1" thick on all 6 sides  
Drawer Dimensions: I.D.: 6" W x 11.88" D x 4.5" H  
Waste Section:  
Chute: 6.5" diameter with  
1/2" thick lead shielded cover  
Container: I.D.: 22" H x 17" Diameter  
polyethylene, 16 gal capacity  
Door & Drawers: Key-locked  
Countertop: Stainless steel with 4" backsplash  
and 1/2" spillproof lip  
Finish: Powder coat  
Weight: 244-170: 863 lb  
244-171: 1439 lb  
244-172: 2462 lb

## Generator and Storage Cabinet



- Provides hot lab radiation protection without hampering the elution process
- Left drawer accommodates top or side loading generators
- Drawer has 1/4" lead shielding on the 3 sides and bottom, front is shielded with 1/2" or 1" lead
- Removable drawer top allows generator replacement
- Trap doors on the top and sides of this drawer provide safe access to the generator
- Two shielded compartments on the right side for storing decaying generators prior to disposal

### Specifications:

Dimensions: 36.5" W x 24" D x 36.5" H  
Lead Shielding:  
Cabinet: 1/2" or 1" thick on all six sides  
Drawer: 1/4" thick on five sides  
Dividers: 1/2" thick  
Drawer Dimensions: I.D.: 15.5" W x 11.9" D x 18.2" H  
Doors & Drawer: Key-locked  
Countertop: Stainless steel with 4" backsplash  
and 1/2" spillproof lip  
Finish: Powder coat  
Weight: 244-181: 1917 lb  
244-182: 2815 lb

*A unified countertop is available with multiple cabinets as an option.*

*Call For Pricing*

244-170 Waste & Storage Cabinet 1/4" lead  
244-171 Waste & Storage Cabinet 1/2" lead  
244-172 Waste & Storage Cabinet 1" lead

244-181 Generator & Storage Cabinet,  
1/2" lead  
244-182 Generator & Storage Cabinet,  
1" lead

## Preparation Enclosure Base Cabinet



- Designed to support the Lead-Lined Preparation Enclosure (244-007)
- Full height, overlapping double doors with key locks open to an adjustable shelf with a 100 lb capacity
- May be used for decay and storage

### Specifications:

Dimensions: 36.5" W x 24" D x 36.5" H  
 Lead Shielding: 1/4", 1/2" or 1" thick on all 6 sides  
 Shelf Dimensions: 30" W x 18" D, 100 lb capacity, adjustable height  
 Doors: Key-locked  
 Countertop: Stainless steel with 4" backsplash and 1/2" spillproof lip  
 Finish: Powder coat  
 Weight: 244-190: 1063 lb  
 244-191: 1540 lb  
 244-192: 2433 lb

## Preparation Enclosure



- Designed for applications that require handling gaseous radioactive materials
- Interior provides ample floor space
- Large lead glass window and halogen light allow safe and unobstructed viewing
- Adjustable shield creates access ports. Swing down shield covers the ports when not in use
- Gaseous materials are directed by a baffle (eliminating dead space) through a stainless steel chimney
- Chimney is connected to external blowers (not supplied) and ductwork (not supplied).
- Blowers create a negative pressure preventing gas leaks

### Specifications:

Dimensions: 36" W x 24" D x 30.5" H  
 Interior Floor Space: 31" W x 19" D  
 Lead Shielding: 1/4" thick  
 Adjustable Shield: 12" W x 10" H x 1/2" thick  
 Exhaust: 6" diameter chimney, fixed upper and adjustable lower baffles. Blower and filter not included  
 Lighting: Halogen lamp with two 25 watt bulbs, UL listed  
 Lead Glass Window:  
 Dimensions: 34.5" W x 11.8" H x 3/4" thick  
 Density: 5.05 g/cm<sup>3</sup>  
 Finish: # 3 brushed, stainless steel  
 Weight: 733 lb

*A unified countertop is available with multiple cabinets as an option.*

*Call For Pricing*

- 244-190 Preparation Enclosure Base Cabinet, 1/4" lead
- 244-191 Preparation Enclosure Base Cabinet, 1/2" lead
- 244-192 Preparation Enclosure Base Cabinet, 1" lead

- 244-007 Preparation Enclosure, 1/4" lead, 110V

# Lead-Lined Laboratory Furniture

## Phantom Cabinet



**Must be ordered as part of a multiple cabinet configuration.**

**Cannot be ordered individually**

- Used to store flood sources and phantoms on their ends (*does not accommodate 24" circular phantoms*)
- Interior is sectioned by an adjustable divider
- Does not come with a countertop. A unified countertop is configured with a multiple cabinet order

### Specifications:

Dimensions: 11.62" W x 24" D x 36" H

Lead Shielding: 1/4" thick

Door: Key-locked

Finish: Powder coat

Weight: 319 lb

***A unified countertop is available with multiple cabinets as an option.***

***Call For Pricing***

244-009 Phantom Cabinet, 1/4" lead

## Lead-Lined Storage Safe



- Conveniently loaded from the front
- Ideal for storing large quantities of high-activity radioisotopes
- Shielded with 2" lead and encased in a powder-coated steel jacket
- Features an adjustable shelf
- Lead-lined door is hung with heavy duty non-sagging hinges and is key-locked to prevent unauthorized access
- Built-in lifting handles make it easy to use a hoist or other means to transport this half-ton safe

### Specifications:

Dimensions: 17.4" W x 17" D x 19" H

I.D.: 12" W x 12" D x 12" H

Lead Shielding: 2" thick

Door: Key-locked

Finish: Powder coat

Weight: 1050 lb

244-006 Storage Safe, 2" lead

## Lead-Lined Refrigerator

### Specifications:

Dimensions: 24.18" W x 25.5" D x 34.25" H

Lead Shielding: 1/8" thick

Capacity: 5.3 cu ft

Door: Key-locked

Finish: Powder coat

Power: 120V/ 60 Hz, 1.1 amps

Weight: 340 lb

Shipping

Weight: 390 lb



- Freestanding or under-the-counter unit
- 5.3 cubic foot capacity
- Automatic defrost
- Energy Star qualified- saves energy, money and natural resources
- Two adjustable stainless steel shelves

244-004 Lead Lined Refrigerator, 1/8" lead, 120V



## Lead-Lined Modular Cabinet



- Flat surface countertop with 4" backsplash
- Drop port with shielded cover
- Two adjustable shelves hold up to 100 lb
- 3" Removable kickplate on all sides
- 304 Stainless steel hinges and shelf rails
- Continuous Countertop

### Cabinet Specifications:

Outside Dimensions:	62" W x 30" D x 36" H (height does not include backsplash)
Lead Shielding:	1/2" thick on all 6 sides
Doors:	Three (key-locked chrome)
Left and Center Cabinets Adjustable Shelves:	15 1/4" W x 28 1/4" D
Finish:	Powder coat or Stainless steel
Weight:	2900 lb
Shipping Note:	Ships in 3 pieces (3 pallets)

### Drop Port Specifications:

Drop Port Opening:	3" Diameter
Chute Length:	7 1/2"
Drop Port Cap:	8" Diameter
Lead Shielding:	.375" Thick



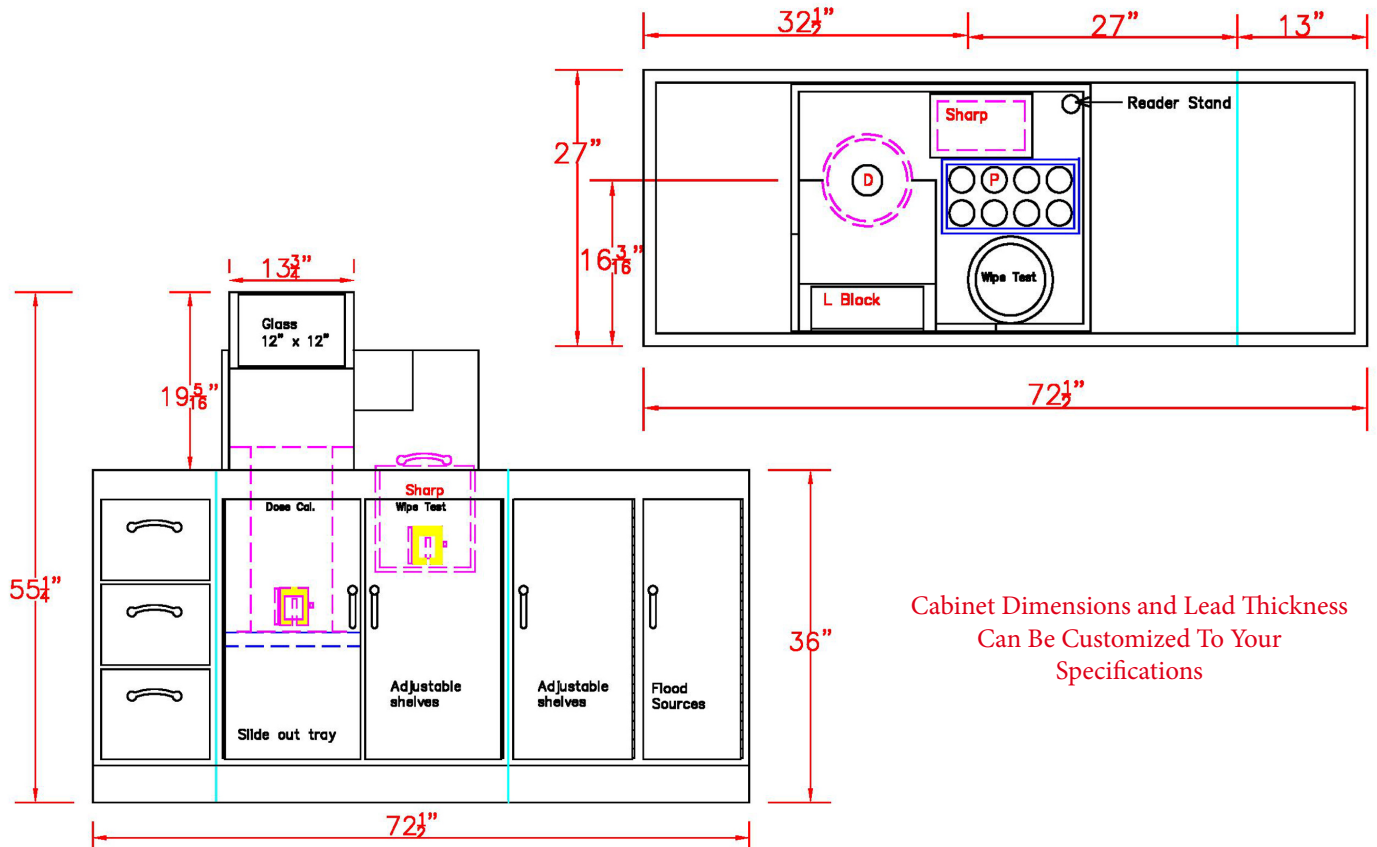
Drop Port



MC-6050 Lead-lined Modular Cabinet

Call Pinestar toll-free 1-800-682-2226, to place an order

## Lead-Lined Cabinet For Nuclear Medicine



Cabinet Dimensions and Lead Thickness  
Can Be Customized To Your  
Specifications

- 1/4" lead lining on front, back, top, sides, doors and drawers
  - Non-spill lip (marine edge on top surface with 4" backsplash)
  - L-Block with 1/2" lead lining in front with 12" x 12" lead glass (2mm lead equivalent)
  - Cave with 1/2" lead lining with arm slots
- **Three Drawer Compartment:** Drawer inside dimensions: 10.5" W x 24" D x 7.5" H
  - **Left side Compartment:** 13.5" W x 25" D x 26 11/16" H  
1/4" Lead inside and slide out tray
  - **Second Compartment from left:** 13.5" W x 25" D x 26 11/16" H  
1/2" lead-lined Wipe Test Counter Chamber shield  
1/4" lead-lined Sharps Container shield  
Pig Holder  
with adjustable shelves
  - **Third Compartment from left:** 13 3/8" W x 25" D x 26 11/16" H  
with adjustable shelves
  - **Right Compartment:** 7.5" W x 25" D x 26 11/16" H  
Designed for Flood Sources

## I-131 Fume Hood



*Front door hinges are placed forward for easy opening for cleaning*

- Used during the preparation of I-131 and other radiopharmaceuticals
- Designed to be used with an L-Block shield that slides under the front of the Fume Hood (L-Block not included)
- Constructed of stainless steel and rugged polycarbonate
- Provides a spacious work area with ample arm ports that allow easy access to the work area
- Hinged front door allows easy placement and retrieval of items
- Fan and air baffle assure even flow of air out of the hood
- Fan motor is 120 VAC, 60 Hz
- Two 12" x 12" x 1" disposable charcoal filters included
- Draws 115 CFM

Specifications:

Dimensions: O.D.: 24" W x 20" D x 36" H

Weight: 110 lb

I-131FH Fume Hood  
FH-CF Charcoal Filter

I-131 LB L-Block to fit under the Hood  
Dimensions: L-Block 12.5" W x 23" H  
Glass: 12" x 16" x 5/8" (4 mm lead equivalency)

Are you looking for a standard or custom cabinet?  
Contact Pinestar with your specifications



- Lead thickness to meet your needs
- Available in stainless steel or powder coat finish
- Drawers and door swing to fit your work environment
- Customized placement of your dose calibrator chamber, well counter chamber and sharps container

## Lead-Lined Phantom Cabinet Great For Storing Fillable or Co-57 Sheet Sources



PC-SS

- Stainless Steel or Powder Coat Finish
- Lockable front hinged door

### Specifications:

OD: 11.6" W x 24" D x 36" H

ID: 9.8" W x 23.375" D x 28.875" H

Weight: 350 lbs



Lead-Lined Phantom Cabinet, 1/4" Lead

## Stainless Steel or Powder Coat Decay Cabinet

- Features two heavy-duty adjustable shelves
- Ideal for long term storage of decaying material
- Shelves can support up to 100 lb each and measure 26" W x 18" D
- Door is key-locked to prevent unauthorized access
- Appropriate storage for decay of sharps containers and other boxed waste prior to disposal
- Can be used to store flood sources

Dimensions: 28 1/2" W x 36 1/2" H x 30" D

Finish: Stainless Steel or Powder Coat

Lead Shielding: 1/4"

Door: Key-locked

Weight: 900 lbs



*Can also be customized to your specifications!*

234-204

Stainless Steel Decay Cabinet, 1/4" Lead



PET Cabinet  
With Options



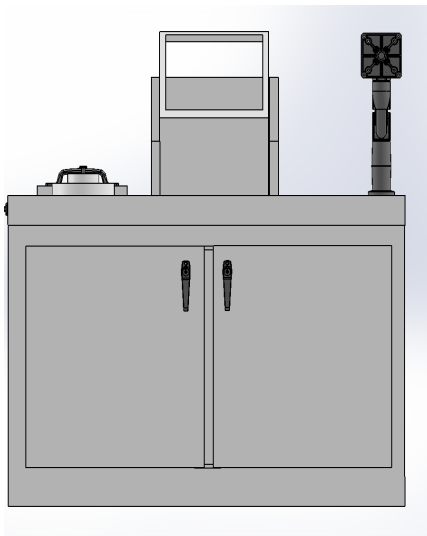
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PET Cabinet



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Nuclear Medicine Cabinet



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PET Table



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## Four Drawer Storage Cabinet

- Four Drawer Radioisotope Storage Cabinet
- 1/4" Lead, 1/2" Lead, or 1" Lead
- Epoxy Powder Coat Finish
- Exterior Dimensions: 12" W x 28.5" H x 22" D
- Custom Configurations are Available



PTI-SC14

Four Drawer Storage Cabinet, 1/4" Lead, 300 Lbs

PTI-SC12

Four Drawer Storage Cabinet, 1/2" Lead, 525 Lbs

PTI-SC1

Four Drawer Storage Cabinet, 1" Lead, 975 Lbs

## Lead-Lined Storage Safe



- Stainless steel 2" lead-lined safe
- Key locked door
- This unit can be moved with a pallet jack
- Adjustable heavy duty shelf

### Specifications:

Outer Dimensions: 17 1/2" W x 17 1/2" D x 22" H

Inner Dimensions: 13.5" W x 14" D x 14.5" H

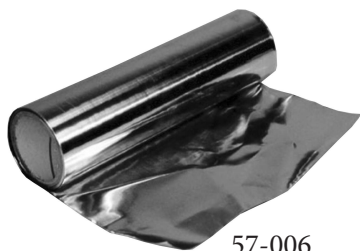
Shielding: 2" lead on all 6 sides

Door latch: Key-locked

Weight: 1,435 lbs

PTI-006

Lead-Lined Storage Safe, 2" lead



## Lead Foil

- Easily cut and formed into almost any shape with scissors or utility knife
- 14" wide rolls in 3 thicknesses
- Chemical content is 95.75% lead, 2.5% antimony, 1.75% tin
- Weight: 10 lb

57-006

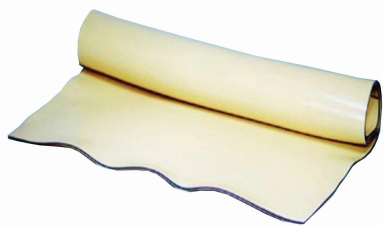
Lead Foil, 14" W x 22' L x .006" thick

57-015

Lead Foil, 14" W x 9' L x .015" thick

57-030

Lead Foil, 14" W x 4.5' L x .030 thick



## Lead Vinyl Sheets

- Smooth, easy to clean material
- Non-absorbent, abrasion-resistant surface
- Very pliable and easy to drape
- 24" wide rolls in 3 thicknesses
- Color: Beige

57-901

Lead Vinyl Sheet, .25 mm lead equiv  
24" W x 6' L x 1/16" thick, Weight: 9 lb

57-902

Lead Vinyl Sheet, .5 mm lead equiv  
24" W x 4' L x 1/10" thick, Weight: 12 lb

57-904

Lead Vinyl Sheet, 1 mm lead equiv  
24" W x 3' L x 3/16" thick, Weight: 18 lb

## Lead Sheets

Lead Sheets are available in the following sizes and thicknesses:

LS-16	4 ft x 8 ft x 1/16"	Weight: 128 lb
LS-18	4 ft x 8 ft x 1/8"	Weight: 256 lb
LS-14	4 ft x 8 ft x 1/4"	Weight: 512 lb

## Enamel Painted Colored Lead Bricks

- Available in two sizes:  
2" x 4" x 6"  
2" x 4" x 8"
- Available Colors: Painted Stainless Steel - Grey - Off-White - Black



Call For Pricing

## Rectangular Lead Bricks

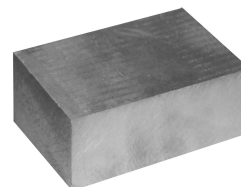
- Convenient solution to temporary or permanent shielding/storage situations
- Easy to stack, unstack and relocate; they provide maximum protection wherever needed
- Standard hardness with a flat, smooth surface

002-246      2" x 4" x 6" Rectangular Brick, 21 lb

002-248      2" x 4" x 8" Rectangular Brick, 27 lb

002-146      1" x 4" x 6" Rectangular Brick, 10 lb

002-148      1" x 4" x 8" Rectangular Brick, 13 lb



## Clear Lead Plastic Mobile X-Ray Barrier



- Sleek design is easy to clean
- 0.5" to 2.0 mm lead equivalency window
- Durable and shatter resistant protection
- Variety of sizes available
- Large Lead-plastic windows are crystal clear and shatter resistant
- Effortless maneuverability

	Overall Size Leg Depth	Window Panel Lead Equiv	Opaque Panel Lead Equiv	Shipping Weight	
042-580	75" H x 30" W Leg Depth 10.5"	24" H x 30" W 0.5 mm	48" H x 30" W 0.8 mm	175 lb	
042-582	75" H x 30" W Leg Depth 10.5"	54.5" H x 30" W 0.5 mm	17.5" H x 30" W 0.8 mm	175 lb	
042-585	61.25" H x 51" W Leg Depth 10.5"	19.5" H x 48" W 1.0 mm	36.5" H x 48" W 1.0 mm	225 lb	

## X-Ray Mobile Lead Barrier



56-25391

X-Ray Mobile Lead Barrier with 24"x30" Window

Dimensions: 75"H x 30"W, Lead Opaque Panel: 48"H x 30"W

56-25395

X-Ray Mobile Lead Barrier with 48"x 30" Window

Dimensions: 75"H x 33.5"W, Lead Opaque Panel: 23"H x 30"W



- X-Ray Mobile Lead Barrier provides personnel protection against scatter radiation and its four stainless steel casters make it easy to maneuver between the cath lab & operating room
- Mobile Lead Barrier offers 2.0 mm lead equivalent glass & opaque panels

## Compact Adjustable Radiation Shield

- Shield can be used to protect technologists from sitting or lying "hot" patients
- Fold down shelf can be used to hold syringe shields, carriers and injectors
- Wheel and swivel locks on each caster



042-522

Compact Adjustable Radiation Shield

Specifications:

Dimensions: 24" W x 24.25" D x 32.5" H

Shield: 22" W x 19" H

Folding Shelf: 24" W x 5" D

Height Adjustable: 35" to 45"

Shielding: 1" lead

Finish: Powder coat

Weight: 230 lb

Shipping Weight: 366 lb





## Adjustable Height Mobile Radiation Shield

- Easy to place where shielding is needed
- Wheel and swivel locks on each caster provide secure placement
- Adjustable height



Specifications:

Dimensions: 37.75" W x 29" D x 40.5" H  
 Shield: 36" W x 19" H  
 Height Adjustable: 36" to 40.5"  
 Shielding: 1" Lead  
 Finish: Powder coat  
 Weight: 446 lb  
 Shipping Weight: 560 lb

042-519

Adjustable Height Mobile Radiation Shield

## Soft Adjustable Mobile Shield



- Designed to protect against scatter radiation
- Constructed of easy to maintain lead vinyl
- Durable chrome finish frame
- Easy to roll on 4 casters

Specifications:

Dimensions: 24" W x 33"- 48" H x 18" D  
 Shielding: Lead vinyl (.5 mm lead equivalency)  
 Weight: 30 lb

042-111

Soft Adjustable Mobile Shield

## PET Mobile Radiation Shield



- Designed specifically for PET
- Four 5" swivel casters, two are lockable
- **2" thick lead-shielding**
- 8" x 8" x 4" thick lead glass viewing window
- Constructed of Stainless Steel

Specifications:

Dimensions: 17 1/2"W x 56"H x 27 1/2"D  
 Weight: 700 lb



NMC-PMRS

PET Mobile Radiation Shield

## Mini Tabletop Shield



PTI-016

PTI-016 Mini Shield, 1/2" lead, 2.0 mm lead equiv. glass

Dimensions: 10.875" W x 10.75" D x 15" H  
 Weight: 24 lbs  
 Viewing Panel: Lead Equivalency: 2 mm (an optional 2nd panel of lead glass (Model #PTI-017) can be paired to achieve 4 mm lead equivalency)



Optional Shielding:

PTI-017	Mini Lead Glass Plate, 2.0 mm lead equiv. glass, 8" x 10"	6 lbs
PTI-018	Bottom Shield, 1/4" lead	8 lbs
PTI-019	Side Shield, 1/4" lead	22 lbs

Dimensions: 12.25" W x 12" D x 10" H Back - 6" H Front



BG-TS Standard Beta/Gamma Shield  
 1/2" lead inside front  
 1/2" High density polypropylene  
 With 2.0 mm lead equiv. glass

Dimensions: 14 1/2" W x 16 11/16" D x 20" H  
 12" x 12" Lead Glass

Weight: 63 lbs without Bottom Lead Shielding  
 100 lbs with Bottom Lead Shielding

Viewing Panel: Lead Equivalency: 2 mm (an optional 2nd panel of lead glass can be paired to achieve 4 mm lead equivalency)



BG-TS

Optional Shielding:

BG-226	Bottom Shield, 1/4" lead	40 lbs
BG-227	Side Shield, 1/4" lead	42 lbs
BG-228	Lead Glass Plate, 2 mm lead eq., 12" x 12"	10 lbs

## 15° Lead Glass Tabletop Shields

- Lead equivalency of 2.0 mm



16A-129-LG	Mini Clear Lead Glass Tabletop Shield 12" H x 9" W X 7.5" D, 15 lb
16A-1812-LG	Standard Clear Lead Glass Tabletop Shield 18" H x 12" W x 7.5" D, 25 lb
16A-2415-LG	Jumbo Clear Lead Glass Tabletop Shield 24" H x 15" W x 10" D, 39.5 lb



- The Class 5 Dose Dispensing Hood is designed to economically assist nuclear medicine departments with compliance of USP Pharmaceutical Compounding-Sterile Preparations.
- This ultra-compact table-top hood provides an **ISO Class 5 (old Class 100) environment** and is designed around the Mini Table Top L-Block (PTI-016) and the Beta Gamma Table Top L-Block (042-224). (Page 74)
- (Note: L-Block shields are not included)



## CLASS5-MT

## CLASS5-BG

The hood is constructed of stainless steel with clear polycarbonate sides. Each side has an ample hole for easy hand insertion. The sides are hinged on the bottom and fold down to allow easy cleaning of the hood. A top-mounted HEPA filter and fan assembly is included to provide the ISO Class 5 environment. Air is exhausted via openings in the front, back and sides.

### Class 5 Hood for the [Mini Table Top L-Block](#)

CLASS5-MT	Class 5 Dose Dispensing Hood for Mini L-Block 13.75" W x 19.25" D x 23.25" H, Weight: 33 lb
PTI-016	Mini Shield, 1/2" lead, 2.0 mm lead equiv. glass

### Class 5 Hood for [Beta Gamma Table Top L-Block](#)

CLASS5-BG	Class 5 Dose Dispensing Hood for Beta Gamma L-Block 15.5" W x 24" D x 28" H, Weight: 37 lb
BG-TS	Standard Beta/Gamma Shield, 1/2" lead

C5-AW66	6" x 6" Sterile 70% Alcohol Wipes, 100/case
C5-HP	Replacement Class 5 HEPA Filter

*Note: Table Top L-Block Shields are not included, please refer to page 56*

*Specifications are subject to change without notice*

Call Pinestar toll-free 1-800-682-2226, to place an order

## Class 5 Dose Dispensing Hood with Lead and Built-in L-Block 2 Sizes Available - Mini or Standard



CLASS5-LB-MT and CLASS5-LB-BG

- 1/2" lead lining on the front
- 1/8" lead lining on the sides, back and bottom
- Rear mounted light is included
- Constructed of stainless steel with the encased lead
- Ample hole in each side for easy hand insertion
- Bottom hinged sides fold down to allow easy cleaning of the hood
- Top-mounted HEPA filter and fan assembly to provide the **ISO Class 5 environment**. Air is exhausted via openings in the front, back and sides

### Mini

#### CLASS5-LB-MT Dimensions:

**Glass:** 8" x 10" viewing area with 4 mm lead glass

**Dimensions:** 24.75" H x 14" W x 21.75" D

**Weight:** 100 lb

### Standard

#### CLASS5-LB-BG Dimensions:

**Glass:** 12" x 12" viewing area with 4 mm lead glass

**Dimensions:** 32.25" H x 15.5" W x 28" D

**Weight:** 150 lb

CLASS5-LB-MT **Mini** Class 5 Dose Dispensing  
Hood w/ Built-in L-Block

CLASS5-LB-BG **Standard** Class 5 Dose Dispensing  
Hood w/ Built-in L-Block

Class 5 Dose Dispensing Hood with Built-in L-Block  
**For PET**  
See Next Page



## PET - Class 5 Dose Dispensing Hood Features a 1 1/2" Lead-Lined L-Block

**Includes Top Mounted  
HEPA Filter and Fan Assembly**



### CLASS5-LB-MT-PET

- 1 1/2" lead lining on the front
- 3/8" lead lining sides and back
- 1 1/2" lead lining on the bottom
- Rear mounted light is included
- Constructed of stainless steel with the encased lead
- Ample hole in each side for easy hand insertion
- Bottom hinged sides fold down to allow easy cleaning of the hood
- Top-mounted HEPA filter and fan assembly to provide the **ISO Class 5 environment**. Air is exhausted via openings in the front, back and sides

**Combines a 1 1/2" Lead-Lined L-Block  
and a Lead-Lined Class 5 Dose Dispensing Hood  
into One Convenient Unit**

### CLASS5-LB-MT-PET Dimensions:

**Glass:** 8" x 8 x 4" lead glass viewing area

**Dimensions:** 15" W x 24" D x 27" H

**Weight:** 600 lbs

CLASS5-LB-MT-PET

PET Class 5 Dose Dispensing Hood w/ Built-in L-Block

## MRI Compatible Syringe Shield for PET

9 mm Tungsten MRI Compatible Syringe Shield for PET with Nylon Screw



3-MRI/P	3 cc	MRI Compatible Syringe Shield for PET
5-MRI/P	5 cc	MRI Compatible Syringe Shield for PET
10-MRI/P	10 cc	MRI Compatible Syringe Shield for PET
MRI-000		Replacement Screws for the above Syringe Shields

## PET/MRI Syringe Shield

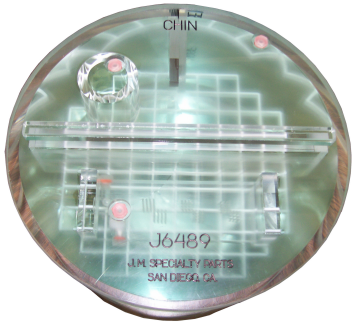


- MR Conditional for 3T
- Constructed of 9 mm tungsten (attenuated F-18 by 88%)
- 5.6 high density flush mounted lead glass window
- Easily sanitized with alcohol wipes

007-961  
007-962

PET/MR Syringe Shield, 3 cc  
PET/MR Syringe Shield, 5 cc

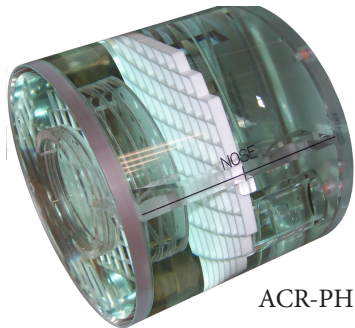
## Large MRI Phantom™



- The ACR-MRI phantom is an 8" (203.2mm) diameter cylinder, 6.82" (173.40mm) tall with various fixtures inside including a dinosaur, grid, membrane stack, ramp, resolution block and S-N chamber
- The measured volume of one, version 2 phantom is 3627 ml (+/- 10 ml, maybe more, but likely less)
- The salt solution inside the phantom contains <11 grams nickel chloride hexahydrate and 17 grams of sodium chloride in 3.8 liters of water
- Inside the resolution block is hydrogenated vegetable oil
- This unit may break open if subjected to extremes of temperature. Keep temperature between 60-80°F (15-27°C)

MRI phantoms contain none of the following:

Lead (Pb)      Mercury (Hg)  
Cadmium (Cd)    Hexavalent Chromium (Cr VI)  
Polybrominated Biphenyls (PBB)  
Polybrominated Diphenyl Ethers (PBDE)



ACR-PH1

Large MRI Phantom

## ACR Medium MRI Phantom



ACR-PHM

ACR Medium MRI Phantom

The ACR-PHM MRI phantom is a 7" (177.8mm) diameter cylinder, 6.125" (155.575mm) cylinder length, with various fixtures inside including a dinosaur, drilled plate, membrane stack, ramp, resolution block, and S-N chamber.

The level bar is 6.375" (161.93mm) length, .375" (9.53mm) width, .375" (9.53mm) height.

Inside the resolution block is ~1 ml hydrogenated vegetable oil. (brand name – Crisco)

The plate has nine holes, each hole is 1.5mm. Holes are spaced 45mm center to center.

The measured volume of one medium phantom is 2.7 liters.

The volumes could be +/- 10 ml, maybe more, but likely less.

The salt solution inside the phantom contains <8 grams nickel chloride hexahydrate and 12 grams of sodium chloride in 2.7 liters of water.

## Dual Angle Beta Radiation Shield

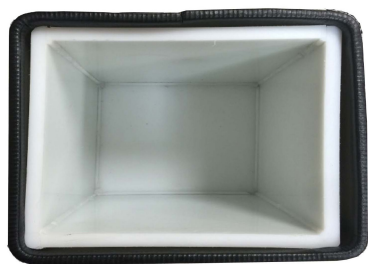
- 12 mm thick clear acrylic
- Beta emissions are effectively blocked by 10 mm or thicker clear acrylic
- 12" W x 17.75" H x 12" D

Please consult your Radiation Safety Officer for your institutional guidelines

RIP-3400 Dual Angle Beta Radiation Shield



## Lead-Lined Waste Container - Beta/Gamma



Inside View  
1/2" plastic shielding

- Designed for Beta isotopes
- Suitable for Ra-223 and Zevalin Y-90
- .5" plastic and .125" lead designed to shield Beta and Bremsstrahlung radiation
- Adequate for shielding low energy Gamma
- Stainless steel exterior

Specifications:

Dimensions:

Outer: 12" W x 10" D x 15 1/2" H

Inner: 9" W x 7 1/2" D x 12" H

Shielding: 1/2" plastic  
1/8" lead on all 6 sides



PTI-039-106BG Lead-Lined Waste Container-Beta/Gamma

## Beta Box / Waste Container



RIP-BB Beta Box /Waste Container

- Designed for Beta isotopes
- Suitable for Ra-223 and Zevalin Y-90
- Hinged lid with handle
- 4 casters

Specifications:

Dimensions: 16" W x 16" D x 29" H

Shielding: 12 mm clear acrylic

## Ear Plugs

- Convenient, noise-attenuating ear plugs
- Ideal for those high-decibel procedures
- Self-adjusting, expandable foam make the ear plugs comfortable for prolonged usage
- Latex free
- Easy-access dispenser box of 200 pairs

240-382 Ear Plugs, 200 pairs/box



Call Pinestar toll-free 1-800-682-2226, to place an order

## Beta/Gamma Container Shield



- Designed for Beta/Gamma waste  
1/4" lead  
1/2" plastic liner
- Stainless steel exterior
- Hinged lid

Dimensions:  
Exterior: 11" W x 15" H x 8.25" D  
Interior: 8.88" W x 9.75" H x 5" D  
Weight: 79 lb



610-1PH-BG Beta/Gamma Container Shield

- 610R-8 Red Plastic Container, Quantity 8
- 610R-16 Red Plastic Container, Quantity 16
- 610R-32 Red Plastic Container, Quantity 32



## Y-90 Vial Shield

- Modular design optimizes radiation safety
- Grip mechanism facilitates radiation safety during hot lab manipulations
- Fully transparent design
- 100% polished Lexan™
- Accommodates all standard 10 ml evacuated vials including Zevalin

Dimensions:  
Height (including lid): 3.3"  
Inner Diameter: 0.93"  
Shielding: 0.43" Lexan  
Weight: < 1 lb



Y90-VS Y-90 Vial Shield

## Y-90 or In-111 Unit Dose Pigs



- Designed to reduce exposure from Beta emitting radiopharmaceuticals such as the Y-90 component of Zevalin™ treatment
- Accommodates a 10 ml B-D syringe filled to 9 ml with or without needle
- The lead and acrylic are encased in a durable Lexan

Dimensions: 10.3" L x 2.3" Diameter  
Lead Shielding: 0.09"  
Acrylic Shielding: 0.36"  
Weight: 3 lb



- Designed to reduce exposure from Gamma emitting radiopharmaceuticals such as the In-111 component of Zevalin™ treatment
- Accommodates a 10 ml B-D syringe filled to 10 ml with or without needle
- The lead is encased in a durable Lexan

Dimensions: 10.3" L x 2.3" Diameter  
Lead Shielding: 0.5"  
Weight: 8.2 lb

- 001-788 Unit Dose Pig, Zevalin Y-90-Red
- 001-789 Unit dose Pig, Zevalin In-111-Blue



## ClearView Beta / Gamma Syringe Shields

CVBG-1010 ClearView Beta Gamma Syringe Shield

CVBG-1020 ClearView Beta Gamma Syringe Shield



## Tungsten Beta/Gamma Syringe Shields

- Tungsten & Plastic
- Lead Glass Viewing Window

BG-10CC Tungsten Beta/Gamma Syringe Shield with Lead Glass

BG-20CC Tungsten Beta/Gamma Syringe Shield with Lead Glass

LG-1020 Lead Glass Replacement for 10 & 20cc Syringe Shields



## BETA Syringe Shield

Suitable for Xofigo<sup>®</sup> Ra-223 and ideal for Zevalin<sup>®</sup> Y-90



- Lead and plastic shielding, designed for Beta
- Barrell is constructed of clear plastic and 0.62" thick lead
- Clear plastic window
- Suitable for Alpha emitting therapy agents
- Easily sanitized with alcohol wipes

007-956 Beta Syringe Shield, 1 cc

007-957 Beta Syringe Shield, 10 cc

007-958 Beta Syringe Shield, 20 cc

## 60 cc Beta / Gamma Syringe Carrier

- 1/8" Lead & 1/2" Polyethylene Shielding
- Stainless Steel Exterior
- Single Front latch
- Exterior Dimensions: 14" L x 6.5" W x 8.25" H (Including Handle)

BGSC-60 60cc Beta / Gamma Syringe Carrier



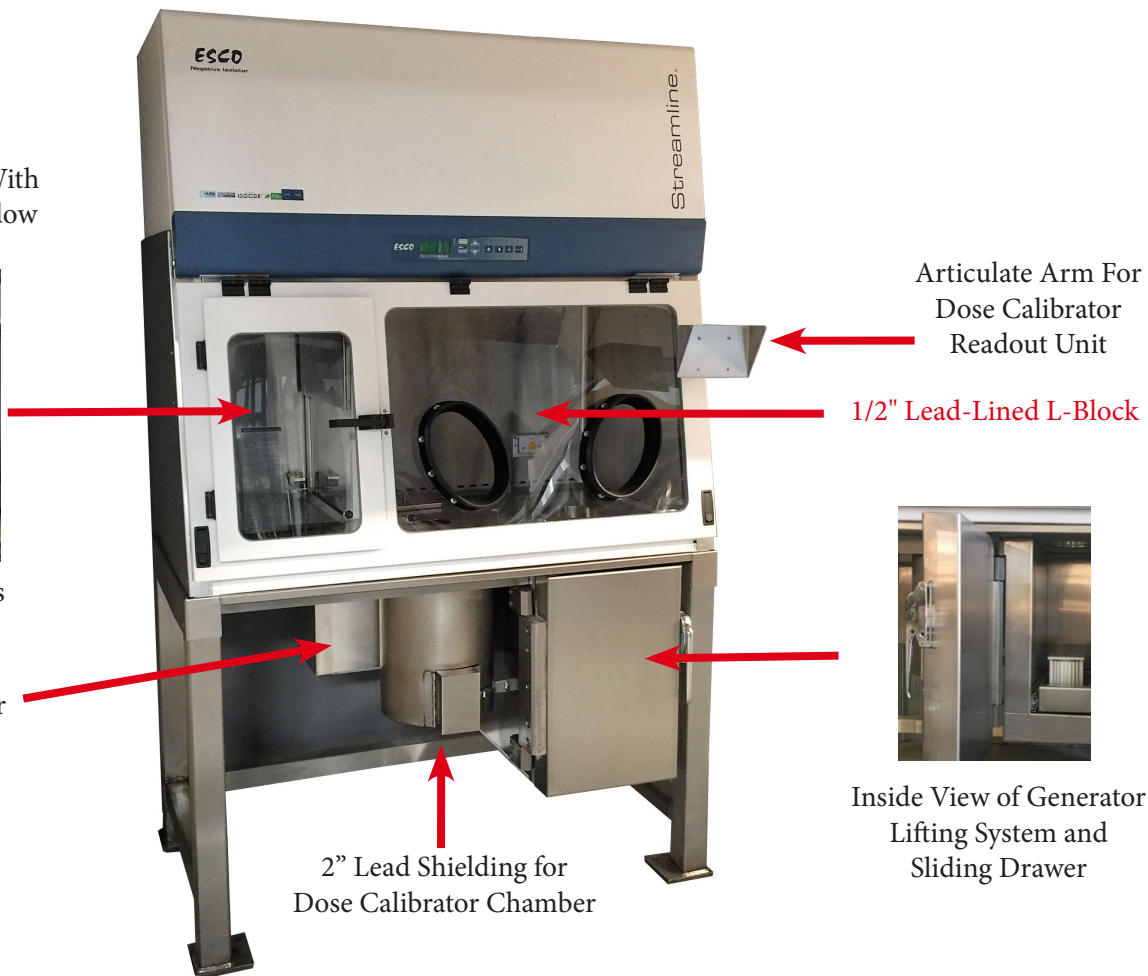
## Generator Elution - Kit Preparation - Dose Drawing Pharmacy Isolator

Pass Through Area With  
1/2" Lead Glass Window



Inside View of Pass  
Through Area

2" Lead Shielding for  
Sharps Container



Articulate Arm For  
Dose Calibrator  
Readout Unit

1/2" Lead-Lined L-Block



Inside View of Generator  
Lifting System and  
Sliding Drawer

2" Lead Shielding for  
Dose Calibrator Chamber

### Specifications

External Dimensions With Stand:	57" W x 36" D x 88" - 90" H
Internal Dimensions: Work Area:	33.1" W x 24" D x 26.4" H
Pass-thru:	13.9" W x 24" D x 26.4" H

- 1/2" Lead Lined L-Block
- 1/4" Lead Shielding on back, bottom and sides of Isolator
- 2" Lead Shielding for Dose Calibrator Chamber
- 2" Lead Shielding for Sharps Container
- Articulate Arm for Dose Calibrator Readout Unit
- 1/2" Thick Pass Through Lead Glass Window
- Lead-Lined Elution Vial with Adjustable Holder on Stand
- 3" Lead Shielding Generator Shield with Lift
- Slide drawer to remove existing generator and install a new generator

**\*\*Note: Does Not Include Dose Calibrator - Specifications Are Subject To Change\*\***

- Pharmacy Isolator is designed to assist Nuclear Medicine Departments and Radiopharmacies with compliance of *USP 797 Pharmaceuticals Compounding Sterile Preparations*
- ULPA Filters with a typical efficiency of 99.999% at 0.1 to 0.3 microns provide ISO Class 3 air cleanliness
- Sentinel Gold™ Microprocessor controller supervises all functions and monitors airflow and pressures in real-time
- Work zone and pass-thru interchange are under negative pressure to the room in order to maintain operator protection in the event of a breach in the barrier isolation system
- Ergonomically angled front and oval gloveports improve reach and comfort
- Safe-change cuff rings permit glove changes with zero risk of contaminating the work zone
- ISOCIDE™ antimicrobial coating on exterior surfaces protects against surface contamination and inhibits bacterial growth
- Front panel is fully hinged for easy cleaning
- Vertical sliding door between pass-thru and work zone area
- Airlock pass-thru ensures work zone remains sterile



### General Specification for Pharmacy Isolator, 4 ft model

External Dimensions with Stand:	59.9" W x 32.3" D x 88.6" H
Internal Dimensions:	Main: 33.1" W x 24.0" D x 26.4" H
	Pass-thru: 13.9" W x 24.0" D x 26.4" H
Electrical:	110 - 120V, 60 Hz

### Features:

- ISO Class 3- Negative Pressure Recirculating Airflow
- Lead Glass Window 12" x 16" x 1" thick
- Body Shielding lead encased in stainless steel, 1/8", 1/4" or 1/2" lead
- Dose Calibrator drop in shield with 1/8", 1/4" or 1/2" lead
- Sharps Container mounted under table, 1/8", 1/4" or 1/2" lead
- IV Bar Kit with 6 hooks
- Articulate Arm for Dose Calibrator Readout Unit

### Options:

- Exhaust Carbon Filter
- Thimble Kit for External Exhaust
- Permanent Adjustable Stand 26" to 36"

**\*\*Specifications Are Subject To Change\*\***

## Labconco Logic® + Biological Safety Cabinets Class II, Type A2 Recirculating Exhaust Hood

Labconco Logic®+ Class II, Type A2 Biosafety Cabinets (BSCs) provide maximum safety for technicians preparing compounded sterile products. Logic+ Type A2 models include a line-of-sight display and superior ergonomic features that improve safety and comfort while working. When customized with precision lead shielding, Logic+ BSCs provide a safer place to prepare radiopharmaceuticals.

- Supply and Exhaust HEPA filters (99.99+% @ 0.3 um) maintain ISO 5, or better, air
- Superior Ergonomics: 10° angled sash, curved armrest, line-of-sight display screen
- MyLogic OS simplifies BSC operation
- Intelligent ECM Blower with CAP™ technology maintains precise airflow with long filter life
- Optional accessory package: UV Light, Cable Passthrough, and right-side service fixture

### Logic+ Class II Biosafety Cabinets - Standard Features (All Models)

- Compliant with USP <797> and USP <825>
- Supply and Exhaust HEPA Filters (99.99+% @ 0.3 um)
- Recirculating Airflow
- ISO 5 laminar airflow within BSC
- Unitized Type 304 stainless steel construction
- Intrinsically safe negative pressure design
- Removable, crevice-free worksurface design
- Interior Line-of-Sight Display with MyLogic™ OS
- LED Lighting
- 10" Sash opening
- 3', 4', 5', & 6' Widths
- 115V, 60Hz (3'-4' 15A, 5'-6' 20A)
- Permanent Adjustable Stand (26" - 36")

### Options for Class II Biosafety Cabinets

- Lead shielding (1/4", 1/2", 1" or 2")
  - Sides, Bottom and Back
  - Dose calibrator chamber
  - Sharps container
- Dose Calibrator Chamber flushed to work surface
- Sharps Container flushed to work surface
- Mounted Readout Unit (Inside or Outside)
- Sliding L-Block for Nuclear Medicine, Stationary L-Block for PET



Note: 3' Model pictured with lead shielding, dose calibrator readout unit, flush-mount sharps container, dose calibrator chamber, and sliding L-block

### Nuclear Medicine:

*Sliding L-Block*                      1/2" or 1" Lead in Front  
 12" x 16" 2mm or 4mm lead equiv glass

PET:                                      2" Lead in Front  
*Stationary L-Block*                      8" x 8" x 4" Lead Glass

Type A2 Dimensions	3'	4'	5'	6'
Internal (W x D* x H)	36.5" x 17.6" x 25.7"	48.5" x 17.6" x 25.7"	60.5" x 17.6" x 25.7"	72.5" x 17.6" x 25.7"
External (W x D x H)	42.3" x 32.0" x 61.8"	54.3" x 32.0" x 61.8"	66.3" x 32.0" x 61.8"	78.3" x 32.0" x 61.8"

\*17.6" Indicates working depth of BSC. Total depth of BSC interior is 25.6" Note: Dimensions will vary with width and lead shielding  
 See page 68 for Logic+ A2 drawings



## Labconco Logic®+ Biological Safety Cabinets Class II, Type B2 Total Exhaust Hood

Labconco Logic®+ Class II, Type B2 Biosafety Cabinets (BSCs) provide maximum safety for technicians when preparing compounded sterile products. Logic+ Type B2 models are 100% externally vented, and include a line-of-sight display and superior ergonomic features that improve safety and comfort while working.

When customized with precision lead shielding, Logic+ BSCs provide a safer place to prepare radiopharmaceuticals.

- 100% Total Exhaust design for applications involving volatile chemicals, such as I-131 or Xenon
- Supply and Exhaust HEPA filters (99.99+% @ 0.3 um) maintain ISO 5, or better, air
- Superior Ergonomics: 10° angled sash, curved armrest, line-of-sight display screen
- MyLogic OS simplifies BSC operation
- Intelligent ECM Blower with CAP™ technology maintains precise airflow with long filter life
- Optional accessory package: UV Light, Cable Passthrough, and right-side service fixture

### Logic+ Class II, Type B2 Biosafety Cabinets - Standard Features (All Models)

- Compliant with USP <797> and USP <825>
- Supply and Exhaust HEPA Filters (99.99+% @ 0.3 um)
- 100% Exhausted design: 10" round duct collar
- ISO 5 laminar airflow within BSC
- Unitized Type 304 stainless steel construction
- Intrinsically safe negative pressure design
- Removable, crevice-free worksurface design
- Interior Line-of-Sight Display with MyLogic™ OS
- LED Lighting
- 8" sash opening
- 4' and 6' Widths
- 115V, 60Hz (15A)
- Permanent Adjustable Stand (26" - 36")

### Options for Class II Biosafety Cabinets

- Lead shielding (1/4", 1/2", 1" or 2")
  - Sides, Bottom and Back
  - Dose calibrator chamber
  - Sharps container
- Dose Calibrator Chamber flushed to work surface
- Sharps Container flushed to work surface
- Adjustable mounted Readout Unit (Inside or Outside)
- Sliding L-Block for Nuclear Medicine, Stationary L-Block for PET



Note: 4' Model pictured with lead shielding, dose calibrator readout unit, flush-mount sharps container, dose calibrator chamber, and sliding L-block

Nuclear Medicine                      1/2" or 1" Lead in Front  
Sliding L-Block                        12" x 16" 2mm or 4mm lead equiv glass

PET:                                        2" Lead in Front  
Stationary L-Block                    8" x 8" x 4" Lead Glass

Type B2 Dimensions	4'	6'	Exhaust Requirements**
Internal (W x D* x H)	48.5" x 17.6" x 25.7"	72.5" x 17.6" x 25.7"	852 CFM @ 1.8" w.g.
External (W x D x H)	54.3" x 32.0" 72.7"	78.3" x 32.0" x 72.7"	1265 CFM @ 2.2" w.g.

\*17.6" Indicates working depth of BSC. Total depth of BSC interior is 25.6" \*\*Add 2.0" for additional filter loading  
Note: Dimensions will vary with width and lead shielding

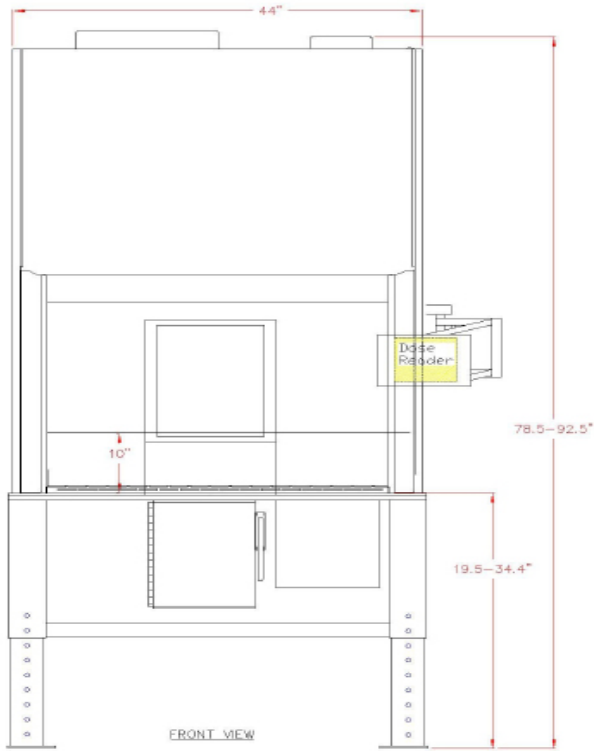
See page 69 for Logic+ B2 drawings



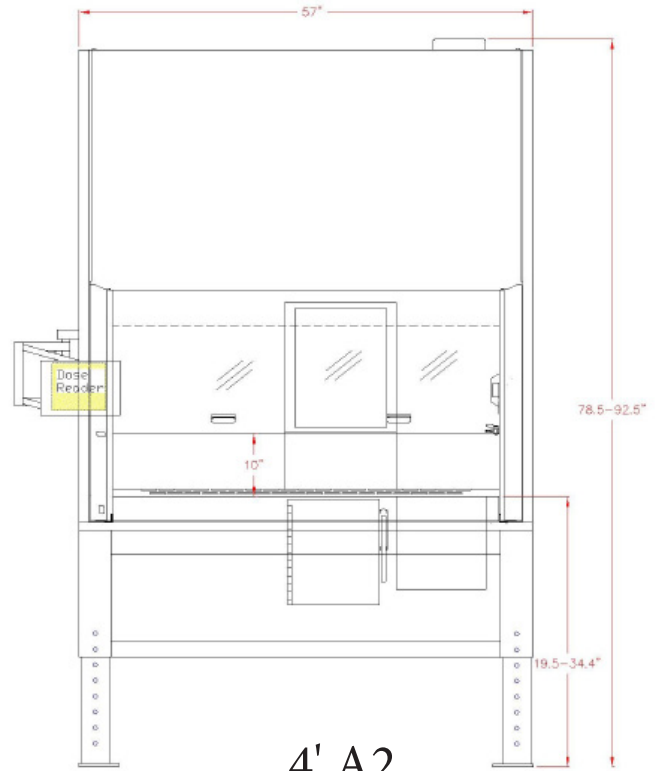
# Labconco Logic®+ Biological Safety Cabinets

## Class II, Type A2 Recirculating Exhaust Hood

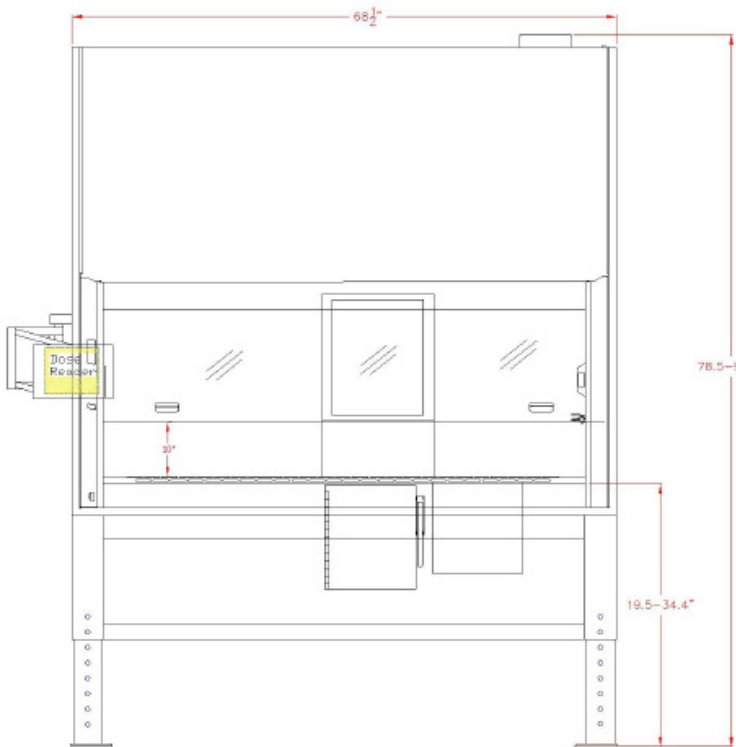
*Note: Specs are subject to change*



3' A2

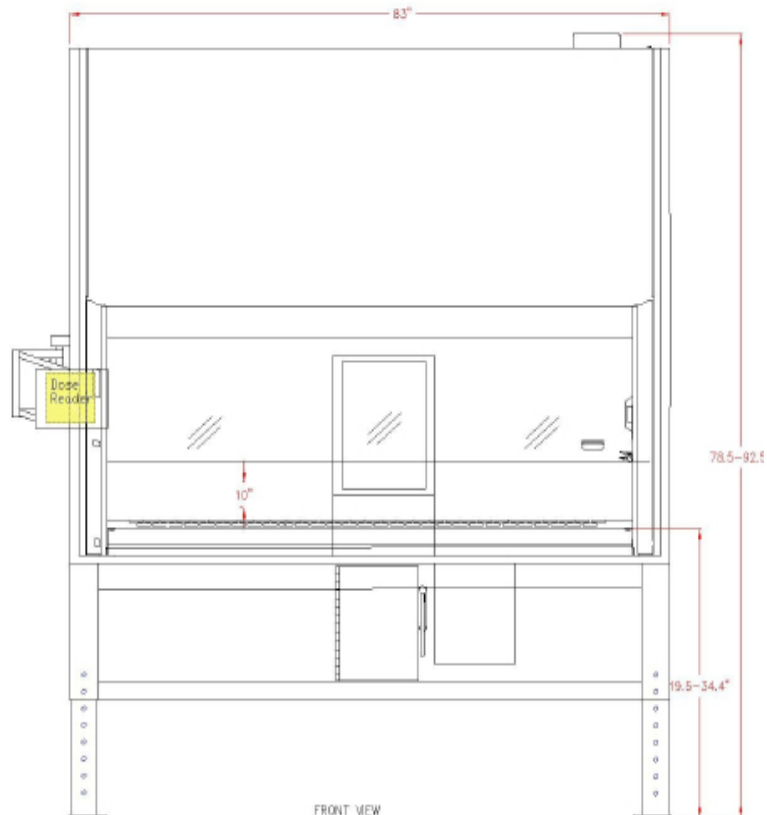


4' A2



FRONT VIEW

5' A2



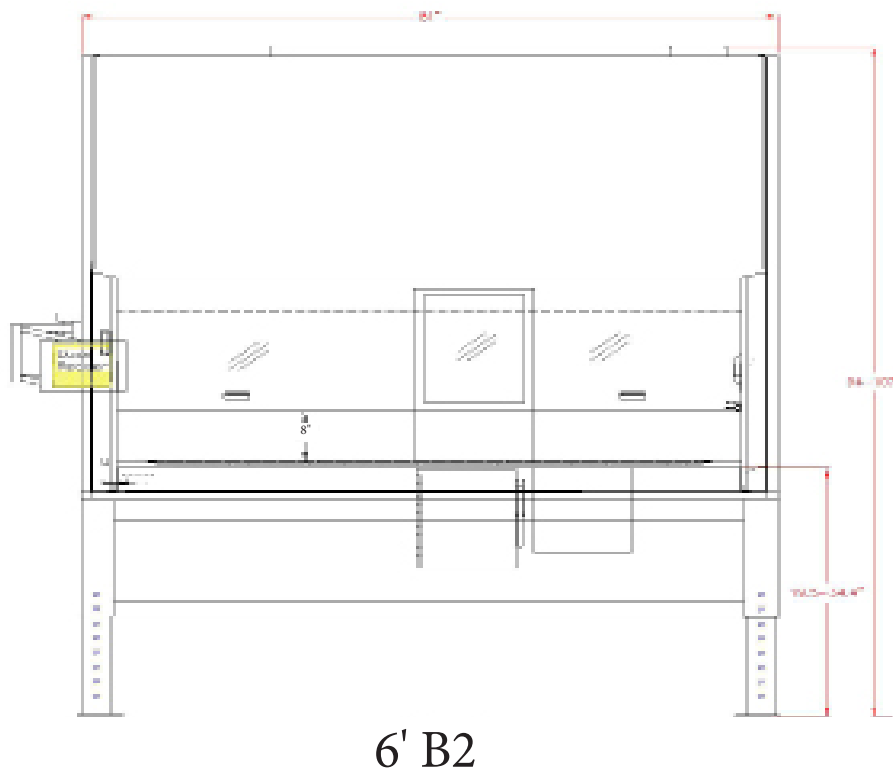
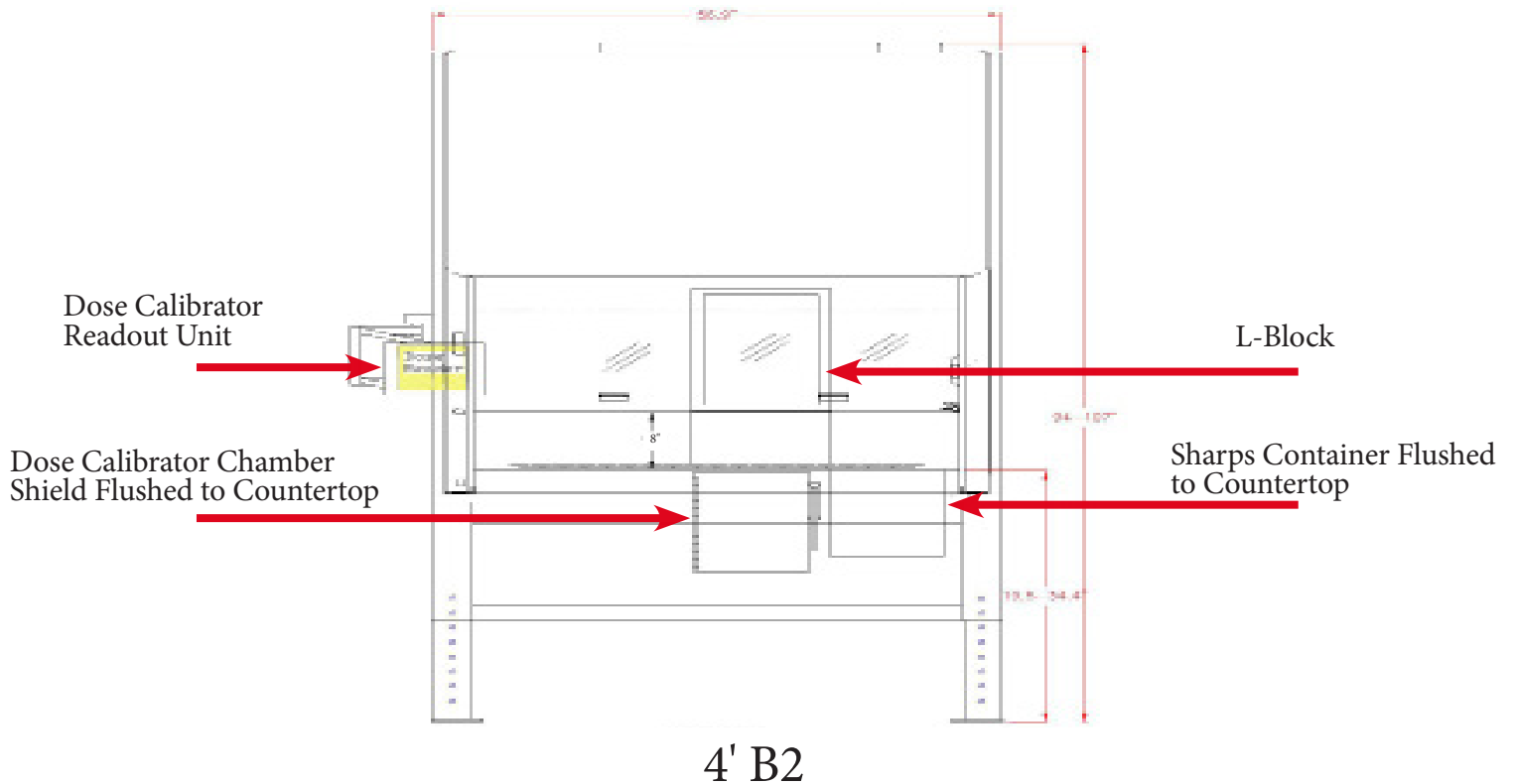
FRONT VIEW

6' A2

# Labconco Logic®+ Biological Safety Cabinets

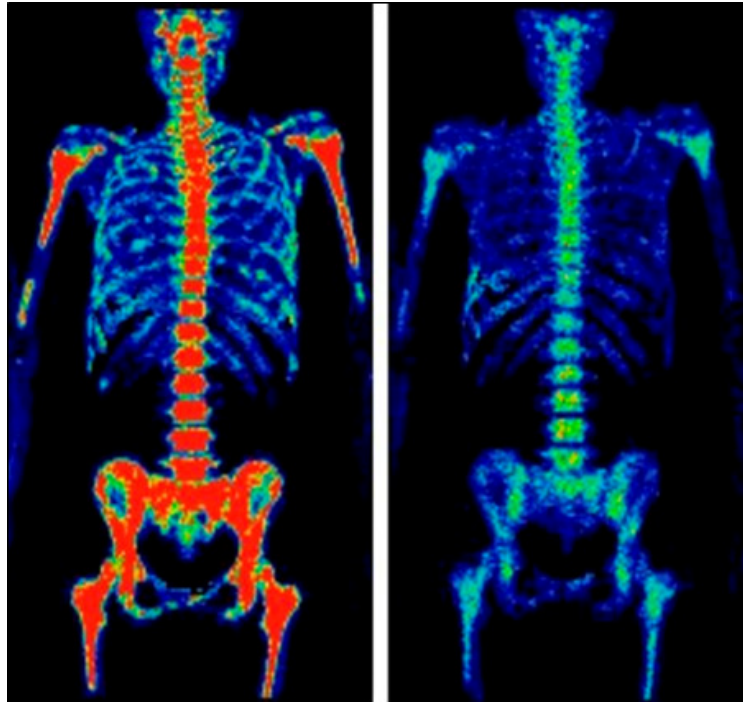
## Class II, Type B2 Total Exhaust Hood

*Note: Specs are subject to change*



# PET

## HOT LAB PACKAGE

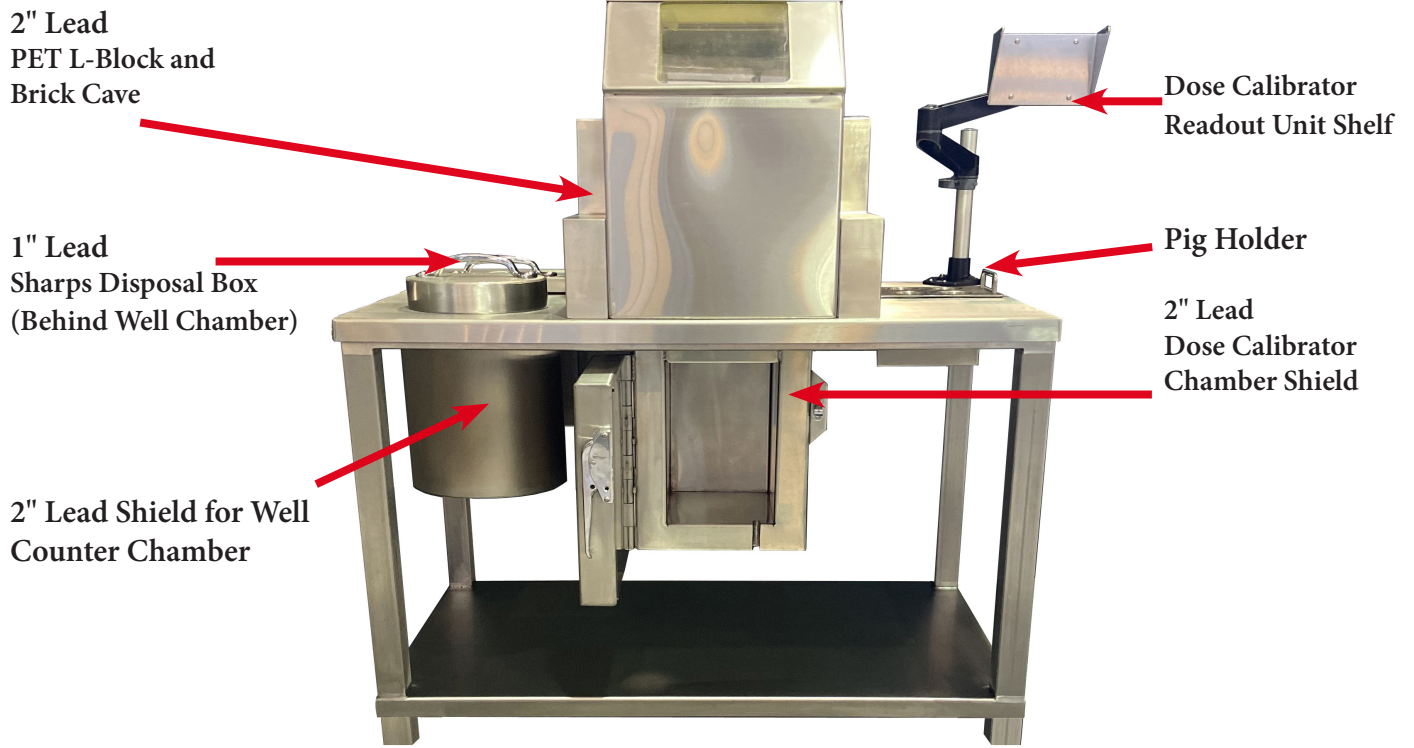


Pinestar Technology Inc. offers a comprehensive  
PET Hot Lab Package

Below is a standard list of items you will need for a  
**New** PET Department

Dose Calibrator	Lead Lined Waste Container
Positron Shield	Minor Emergency Spill Kit
Auxiliary Shield	Co-57 Reference Source
PET Syringe Shield, 3 cc	Cs-137 Reference Source
PET Syringe Shield, 5 cc	Cs-137 Rod Source .5 $\mu$ Ci
PET Sharps Container Shield	Contoured Leg Rest
Sharps Container	Cardboard & Plastic Signs
PET L-Block	Radiacwash/Bind-It
Interlocking Lead Brick Cave	Ludlum 14 C Survey Meter
Syringe Carrier	Probe
Forceps	Check Source
	Check Source Holder

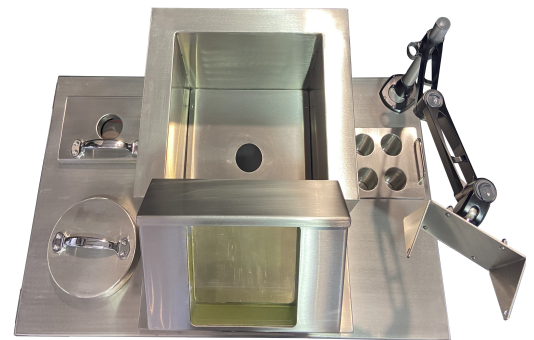
## PETSST-W1C PET Stainless Steel Table



**Dose Calibrator Not Included**

Dimensions: 48 1/2" W x 27" D x 52 1/2" H  
(Width does not include handle. Height is to top of L-Block.)

- Shielded box for 610R container, 1" lead
- Shielded dose calibrator chamber, 2" lead
- Shielded well counter chamber, 2" lead
- Pig holder that accommodates 4 pigs
- PET L-Block 1.5" Lead in Front and 1" lead base with 8" x 8" x 4" lead glass
- Overlapping Lead brick cave, 2" lead
- Weight 2042 lbs



Top View

\*\*Specifications Are Subject To Change\*\*

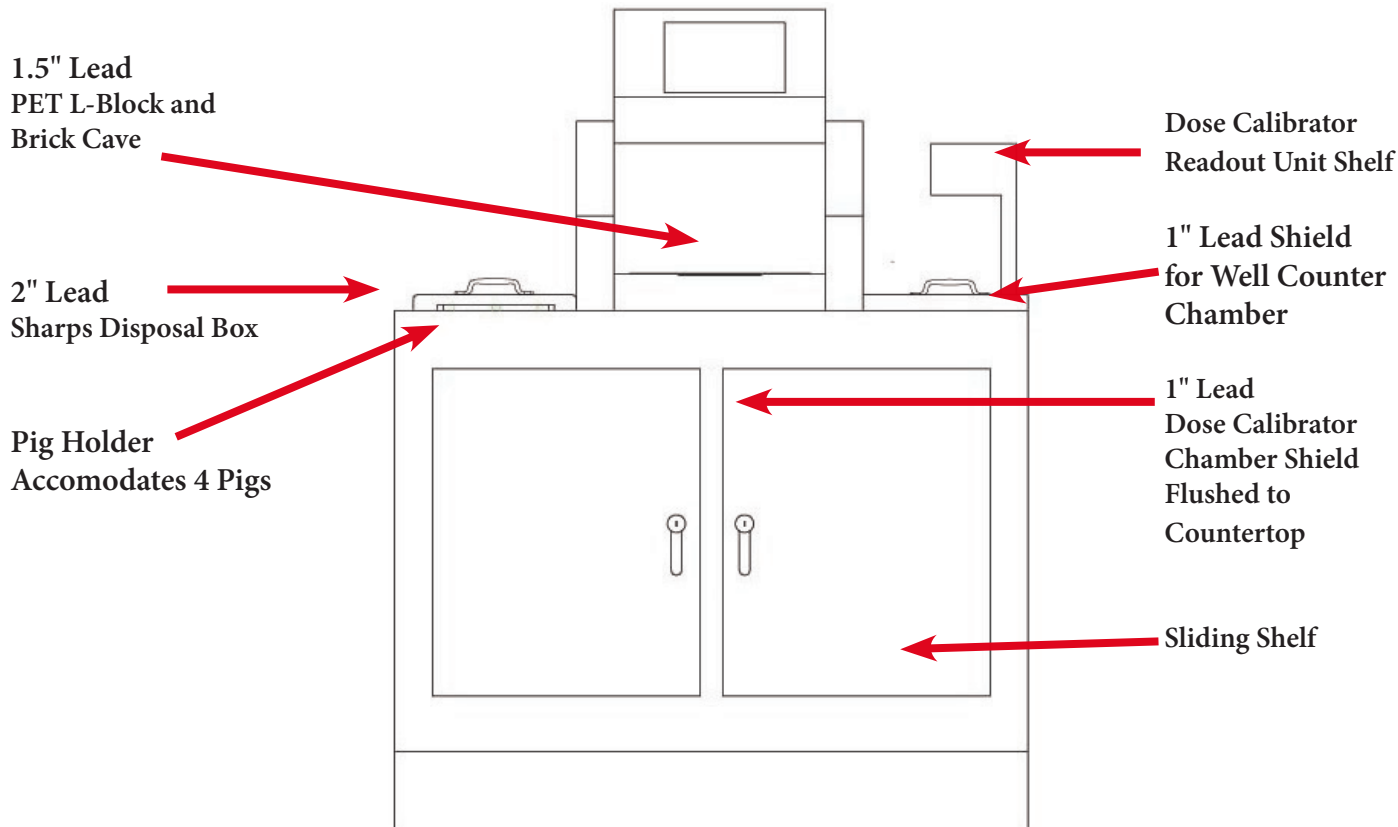
PETSST-W1C    PET Stainless Steel Table with Well Counter Shield  
 PETSST-1C     PET Stainless Steel Table without Well Counter Shield

**Uses: 610R (8,16,32) Red Plastic Container,**

Dimensions: 8 3/8" L x 4" D x 9 1/8" H

- 610R-8        Red Plastic Container, Quantity 8
- 610R-16     Red Plastic Container, Quantity 16
- 610R-32     Red Plastic Container, Quantity 32

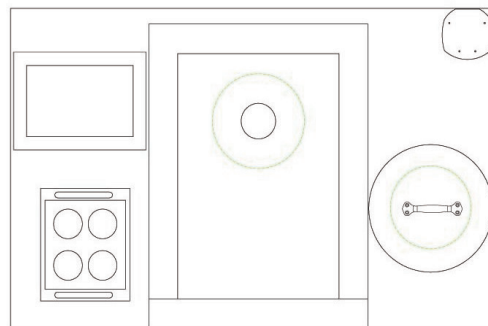
**PETSSC-WCP-1**  
**PET Stainless Steel Cabinet, 1/4" lead**



**Dose Calibrator Not Included**

**Dimensions: 42" W x 27" D x 52 1/2" H (Height is to top of L-Block.)**

- Also available in 1/2" and 1" lead shielding
- Lockable front doors
- Shielded box for 610R container, 1" lead
- Shielded dose calibrator chamber, 1" lead
- Shielded well counter chamber, 1" lead
- Pig holder that accommodates 4 pigs
- PET L-Block 1.5" Lead in Front and 1" lead base with 8" x 8" x 4" lead glass
- Overlapping Lead brick cave, 2" lead
- Weight: 3392 lbs



Top View

**\*\*Specifications Are Subject To Change\*\***

**PETSSC-WCP-1 PET Stainless Steel Cabinet, 1/4" Lead, Well Chamber**

Uses: 610R (8,16,32) Red Plastic Container,

Dimensions: 8 3/8" L x 4" D x 9 1/8" H

610R-8 Red Plastic Container, Quantity 8

610R-16 Red Plastic Container, Quantity 16

610R-32 Red Plastic Container, Quantity 32

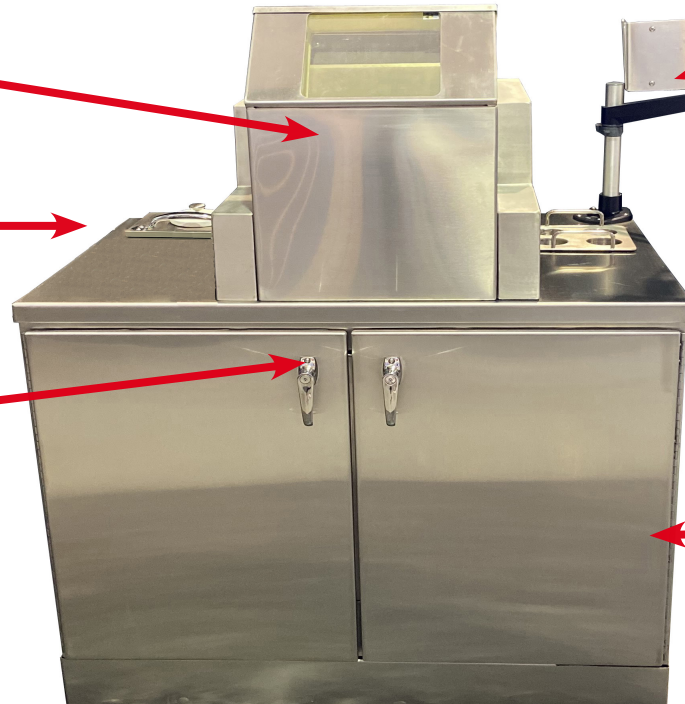


## PETSSC-1 PET Stainless Steel Cabinet, 1/4" lead

1.5" Lead  
PET L-Block and  
2" Lead Brick Cave

1" Lead  
Sharps Disposal Box

2" Lead  
Dose Calibrator  
Chamber Shield  
(Inside)



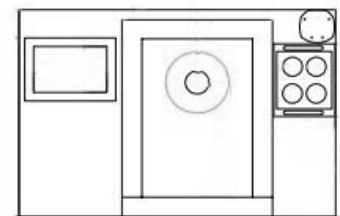
Dose Calibrator  
Readout Unit Shelf

Sliding Shelf  
(Inside)

### Dose Calibrator Not Included

Dimensions: 42" W x 27" D x 52 1/2" H (Height is to top of L-Block.)

- Also available in 1/2" and 1" lead shielding
- Lockable front doors
- Shielded box for 610R container, 1" lead
- Shielded dose calibrator chamber, 1" lead
- Pig holder that accommodates 4 pigs
- PET L-Block 1.5" Lead in Front and 1" lead base with 8" x 8" x 4" lead glass
- Overlapping Lead brick cave, 2" lead
- Weight: 3192 lbs



Top View

**\*\*Specifications Are Subject To Change\*\***

PETSSC-1

PET Stainless Steel Cabinet, 1/4" Lead

**Uses: 610R (8,16,32) Red Plastic Container,**

Dimensions: 8 3/8" L x 4" D x 9 1/8" H

610R-8 Red Plastic Container, Quantity 8

610R-16 Red Plastic Container, Quantity 16

610R-32 Red Plastic Container, Quantity 32

# Lead Lined PET Unit Dose Cabinet / Table



- Designed for PET hot labs with limited space
- Accommodates:
  - Compact L-Block with Built-in Dose Calibrator Shield (042-433)
  - PET Sharps Container Shield (039-412)
  - Lead Brick Cave (042-434)
  - Atomlab Dose Calibrators and most others
- Sliding shelves for:
  - PET shipping containers
  - Small items
- Lead shielded on all six sides
- Key-locked doors



- Designed for PET hot labs with limited space
- Lead shielding under calibration chamber
- Ships Completely Assembled:
  - Compact L-Block Shield with Built-in Dose Calibrator Shield (042-433)
  - PET Sharps Container Shield (039-412)
- Shelf space for:
  - PET shipping containers
  - Small items

Upon request, the manufacturer will factory mount the L-Block and Sharps Shield in place, eliminating the need for on-site lifting equipment. A simple pallet jack is all that is required to move the unit.

Ships completely assembled, the Unit Dose Table eliminates the need for on-site lifting equipment. A simple pallet jack is all that is required to move the unit.

### Specifications:

Dimensions: 36.5" W x 24" D x 36.5" H  
 Lead Shielding: 1/4" thick  
 Finish: Powder coat  
 Doors: Key-locked  
 Countertop: Stainless steel with 4" backplash and 1/2" spillproof lip  
 Weight Capacity: 1550 lb  
 Weight: 1240 lb

### Specifications:

042-448 PET Unit Dose Table:  
 Dimensions: 36.75" W x 24" D x 36" H  
 Front legs incorporate adjustable levelers  
 Lead Shielding: 1" thick (enclosed in chamber mounting shelf)  
 Finish: Powder coat  
 Weight Capacity: 1550 lb  
 Weight: 294 lb

### Accommodates lead brick cave 042-434

- 244-205 PET Unit Dose Cabinet, 1/4" lead
- 244-206 PET Unit Dose Cabinet, 1/2" lead
- 244-207 PET Unit Dose Cabinet, 1" lead

### Does not accommodate lead brick cave

- 244-200 PET Unit Dose Cabinet, 1/4" lead
- 244-201 PET Unit Dose Cabinet, 1/2" Lead
- 244-202 PET Unit Dose Cabinet, 1" Lead

### 042-433 Compact L-Block with Dose Calibrator Shield:

Dimensions: 18" W x 21.5" D x 26" H  
 Lead Shielding: Front: 1.5" thick  
 Base: 1" thick  
 Calibrator Shield: 1" thick  
 Calibrator Shield: I.D.: 6.85" I.D. x 10.25" H  
 Lead Glass Window:  
 Dimensions: 8" W x 8" H x 4" thick  
 Density: 5.2 g/cm<sup>3</sup>  
 Finish: Powder coat  
 Weight: 590 lb

5730-2271 PET Sharps Container Shield:  
 Dimensions: 13.5" H x 10.6" Diameter  
 Lead Shielding: Sides and Bottom: 1" thick  
 Security: Key-locked  
 Weight: 160 lb

### Detailed Specifications on page 78

### Standard Configuration:

- 042-433 Compact L-Block Shield, 1.5" lead  
 With built-in Dose Calibrator Shield
- 042-434 3-wall Lead Brick Cave, 2" lead  
 Fits: 042-433 L-Block Shield
- 042-435 Lead Brick Cave Cover for 042-434
- 5730-2271 PET Sharps Container Shield, 1" lead  
 Uses one NMC-416 Sharps Container
- NMC-416 3.2 quart Sharps Container, 12/pkg

- 042-448 PET Unit Dose Table  
 Includes: 042-433 Compact L-Block with Dose Calibrator Shield and 039-412 Sharps Container Shield
- 042-434 3-wall Lead Brick Cave, 2" lead  
 Fits: 042-433 L-Block Shield
- 042-435 Lead Brick Cave Cover for 042-434
- 5730-2271 PET Sharps Container Shield, 1" lead  
 Uses one NMC-416 Sharps Container
- NMC-416 3.2 quart Sharps Container, 12/pkg

## PET L-Block Overlapping Lead Brick Cave



Stainless Steel covered PET L-Block

Dimensions:

L-Block with 8" x 8" x 4" lead glass: 14" W x 16" D x 20 3/4" H

Choice of Lead Thickness:

2" in Front and 2" in Base or  
1.5" in Front and 1" in Base

Overlapping Lead Brick Cave Dimensions:

19 1/4" W x 18 1/2" D x 13" H

Installs easily, assembly instructions provided

LBM-101	PET L-Block	2" lead front	2" lead base	8" x 8" x 4" lead glass	Weight 460 lb
LBM-160	PET L-Block	1.5" lead front	1" lead base	8" x 8" x 4" lead glass	Weight 290 lb
INLB-100	Overlapping Lead Brick Cave for above L-Blocks with 3-Piece Stainless Steel cover, 2" Lead				Weight 550 lb

## PET L-Block with Dose Calibrator Chamber Hole



- Dose Calibrator Chamber can be placed on the countertop or recessed into the cabinet
- 2" lead shielded front and base
- 8" x 8" x 4" lead glass, density of 5.2 g/cm<sup>3</sup>
- 12.25" Chamber Hole

Specifications:

Dimensions: 14" W x 20.25" H x 21.25" D, with hole for Dose Calibrator

Shielding: 2" lead in front and base

Lead Glass: 8" x 8" x 4" 5.2 g/cm<sup>3</sup> density

Finish: Stainless Steel

Weight: 525 lb

PET-PRH  
INLB-PETPRH

PET L-Block with Dose Calibrator Chamber Hole  
Overlapping Lead Brick Cave for PET-PRH, 2" Lead

\*\*Specifications are subject to change\*\*

## PET Bullet Syringe Shields



- Simply insert syringe and twist, it locks in place
- Available with or without High Density Lead Glass Window
- No Screws, No Springs, 9mm Tungsten
- Small anti-roll nodules keep them from rolling off the countertop

Without Lead Glass Window

BUPET3      PET Bullet Syringe Shield, 3 cc without glass  
 BUPET5      PET Bullet Syringe Shield, 5 cc without glass



With Lead High Density Lead Glass Window

BUPET3-G      PET Bullet Syringe Shield, 3 cc  
 BUPET5-G      PET Bullet Syringe Shield, 5 cc

Replacement Glass:

SSB-PG1      Replacement Glass, 3 cc or 5 cc

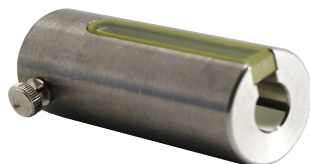
## Pro-Tec™ PET Syringe Shields

- Constructed of .34" thick (9 mm) tungsten, attenuates FDG F-18 by 88%
- Available with or without a high density (5.6) flush mounted lead glass window
- A thumbscrew holds the syringes firmly in place



Without Lead Glass Window

PTI-973      Syringe Shield, 3 cc without glass  
 PTI-975      Syringe Shield, 5 cc without glass  
 PTI-980      Syringe Shield, 10 cc without glass



With Lead Glass Window

007-973      Pro-Tec PET Syringe Shield, 3 cc  
 007-975      Pro-Tec PET Syringe Shield, 5 cc  
 007-980      Pro-Tec PET Syringe Shield, 10 cc

Replacement Glass

007-974      Pro-Tec PET Replacement Glass

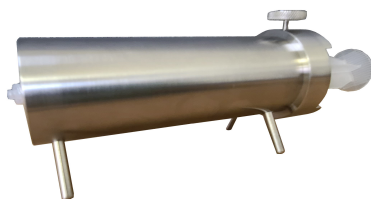
## Z-PET Syringe Shield



- Constructed of .55 thick (14 mm) tungsten, attenuates FDG F-18 by 97%
- Accommodates standard 3 and 5 cc syringes

PET14-3C      Syringe Shield, 3 cc  
 007-945      Syringe Shield, 5 cc  
 000-ZPET      Replacement Z-PET Syringe Shield Screw

## 50 / 60 cc Syringe Shield



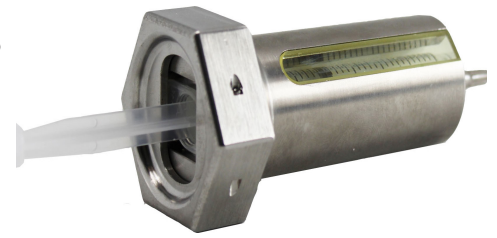
- 9mm Tungsten
- 4 Legs to prevent rolling
- Screw locks syringe in place
- 5.75" L x 1.875" D x 3.25" H (height to screw)
- Weight: 6.6 lb

60-09T      50/60 ml, 9mm Tungsten Syringe Shield



## Gaard Lock™ PET Syringe Shields

- Unique flange locking design reduces exposure with faster handling
- Constructed of .34" thick (9 mm) tungsten, attenuates FDG F-18 by 88%
- Available with or without a high density (5.6) flush mounted lead glass window
- Twist to lock syringe in place with one hand
- Easily sanitized with alcohol wipes



With Lead Glass Window

007-716 Gaard Lock PET Syringe Shield, 3 cc  
 007-717 Gaard Lock PET Syringe Shield, 5 cc  
 007-718 Gaard Lock PET Syringe Shield, 10 cc

Replacement Glass

007-974 Gaard Lock PET Replacement Glass

Without Lead Glass Window

PTI-711 Syringe Shield, 3 cc without glass  
 PTI-712 Syringe Shield, 5 cc without glass  
 PTI-713 Syringe Shield, 10 cc without glass



## MRI Compatible Syringe Shield for PET

MRI Compatible Syringe Shield for PET with Nylon Screw

9 mm Tungsten

The material has been certified as MRI-compatible

3-MRI/P 3 cc MRI Compatible Syringe Shield for PET  
 5-MRI/P 5 cc MRI Compatible Syringe Shield for PET  
 10-MRI/P 10 cc MRI Compatible Syringe Shield for PET  
 MRI-000 Replacement Screws for the above Syringe Shields



## PET/MRI Syringe Shield

- **MR Conditional for 3T**
- Constructed of **9 mm tungsten**
- 5.6 high density flush mounted lead glass window

007-961 PET/MR Syringe Shield, 3 cc  
 007-962 PET/MR Syringe Shield, 5 cc



## PET 20 ml Syringe Shield

- 9mm Tungsten
- 4 Legs to prevent rolling

20-09T PET 20 mL Syringe Shield





## PET Container Shield



Safe and convenient solution for the disposal of syringes that have been contaminated with high energy radionuclides

- Stainless Steel lined with lead
- 1" lead
- Hinged top with handle and lock
- 3" drop hole with lead cover

Dimensions: 10 1/2" W x 6 1/2" D x 13" H with lid  
Weight: 195 lb

610-1PH 1" Lead PET Container Shield

**610R (8,16,32) Red Plastic Container,**

Dimensions: 8 3/8" L x 4" D x 9 1/8" H

610R-8 Red Plastic Container, Quantity 8

610R-16 Red Plastic Container, Quantity 16

610R-32 Red Plastic Container, Quantity 32



## PET Sharps Container Shield

Simple, safe and convenient solution for the disposal of syringes that have been contaminated with high-energy radionuclides



- Constructed of steel and lined with 1" thick lead
- Lockable sliding cover for container removal
- Hinged top door for syringe disposal
- Can stand independently or be recessed into a cabinet or countertop

Dimensions: 13.5" H x 10.6" Diameter  
Lead Shielding: 1" thick  
Security: Key-locked  
Weight: 160 lb

5730-2271 PET Sharps Container Shield, 1" Lead

**NMC-416 3.2 quart Sharps Container, 12/pkg**

**039-413 3.2 quart Sharps Container, 30/pkg**

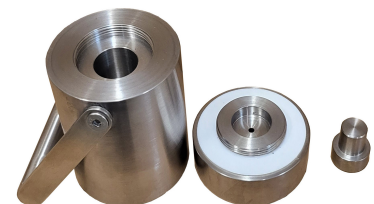


## PET Vial Shield with Handle



**Shielding: 20mm Tungsten**  
Container Height: 6.3125" with Handle, 4.5625" handle down  
Outer Diameter: 3.1875"  
Inner Dimensions: 0.987" Diameter x 2.2" H  
Weight: 18.1 Lbs

*For internal transport within a facility.  
It has not been approved for transport by road or air.*



PVH PET Vial Shield with Handle

## Lead-Lined Syringe Carriers

*Two sizes, each offered in 1/8" and 1/4" lead shielding for added protection*

001-179	I.D. 8.25" L x 3" W x 2.9" H    O.D. 9.5" L x 4.4" W x 3.5" H Lead Shielding: Sides, top, bottom 1/8" thick, Ends: 1/4" thick
001-180	I.D. 7.7" L x 2.6" W x 2.7" H    O.D. 9.5" L x 4.4" W x 3.5" H Lead Shielding: Sides, top, bottom 1/4" thick, Ends: 1/2" thick
001-181	I.D. 8" L x 1.9" W x 1.97" H    O.D. 9.25" L x 3.4" W x 2.6" H Lead Shielding: Sides, top, bottom 1/8" thick, Ends: 1/4" thick
001-182	I.D. 7.5" L x 1.7" W x 1.7" H    O.D. 9.25" L x 3.4" W x 2.6" H Lead Shielding: Sides, top, bottom 1/4" thick, Ends: 1/2" thick



### Shielded Syringe Carrier, 1/8" Lead

001-181	Syringe Carrier, Small, Weight 7.5 lb
001-179	Syringe Carrier, Large, Weight 11.3 lb

### Shielded Syringe Carrier, 1/4" Lead

001-182	Syringe Carrier, Small, Weight 11 lb
001-180	Syringe Carrier, Large, Weight 17 lb

## Stainless Steel Syringe Carrier

- Constructed of stainless steel inside and out, completely enclosed lead, *Not painted*
- The lead walls are poured between the stainless steel so there is no exposed lead
- The lid is overlapping with a latch to prevent streaming and opens 180°
- Used to store and transport syringes, vials or ampoules
- 4 rubber feet are attached to the bottom of the carrier

NMC-220R	I.D. 9" L x 2" W x 2" H            O.D. 10.15" L x 3.2" W x 2.75" H Lead Shielding: Sides, top, bottom 1/8" thick Ends: 1/2" thick Weight: 7.7 lb
----------	---



NMC-225-18	I.D. 12" L x 3" W x 2" H            O.D. 13.5" L x 4" W x 3" H Lead Shielding: Sides, top, bottom 1/8" thick Ends: 1/4" thick Weight: 14 lb
------------	---

NMC-225-14	I.D. 12" L x 3" W x 2" H            O.D. 13.75" L x 4.5" W x 3.5" H Lead Shielding: Sides, top, bottom 1/4" thick Ends: 1/2" thick Weight: 25 lb
------------	--



NMC-220R	Stainless Steel Syringe Carrier, 1/8" Lead
NMC-225-18	Stainless Steel Syringe Carrier, 1/8" Lead
NMC-225-14	Stainless Steel Syringe Carrier, 1/4" Lead

## PET Unit Dose Pig Compact PET Shipping Systems

- The PET Unit Dose Pig 3/5 cc, is encapsulated in high-impact Lexan and polypropylene making it durable, easy to clean and compatible with automatic washing systems
- 3 Compact PET Shipping Systems to choose from; Single, Double or Triple
- Transport 3 cc or 5 cc syringes containing high-energy radionuclides such as FDG F-18
- Syringes with or without attached needles fit in the pig
- Designed to conserve space and minimize weight
- Meets IATA Dangerous Goods Regulations, 58<sup>th</sup> Edition Sections 5.0.4.3, 10.5, and 10.6.1 thru 10.6.3.5



001-785 PET Unit Dose Pig  
Dimensions: 10.2" H x 2.4" Diameter  
Lead Shielding:  
Body: 1/2" thick  
Ends: 1.2" thick, bottom  
1.44" thick top  
Weight: 8.7 lb

**Note: PET Pig Rack on page 28**



001-786

PET Single Shipping System  
Container Dimension:  
11.75" L x 11.75" W x 12.5" H  
Cubic Feet: ~ 1 cu ft  
Weight (Combined): 38.3 lb

Single System meets DOT Yellow II Type A packaging requirements when shipping up to 500 mCi (18.5 GBq) of FDG F-18



001-787

PET Double Shipping System  
Container Dimension:  
11.75" L x 11.75" W x 12.5" H  
Cubic Feet: ~ 1 cu ft  
Weight (Combined): 55.2 lb

Double System meets DOT Yellow II Type A packaging requirements when shipping up to 160 mCi (5.92 GBq) in one pig and 235 mCi (8.70 GBq) in the other, totalling 395 mCi (14.62 GBq) of FDG F-18



001-739

PET Triple Shipping System  
Container Dimension:  
11.75" L x 11.75" W x 12.5" H  
Cubic Feet: ~ 1 cu ft  
Weight (Combined): 95 lb

Triple System meets DOT Yellow II Type A packaging requirements when shipping up to 235 mCi (8.70 GBq) in one pig and 160 mCi (5.92 GBq) in the second pig and 140 mCi (5.18 GBq) in the third pig, totalling 535 mCi (19.80 GBq) of FDG F-18

- 001-785 PET Pig Unit Dose, 3/5 cc, 1/2" lead - Note - Sold in Lots of 3
- 001-798 PET Pig Unit Dose, 10 cc, 1/2" lead - Note - Sold in Lots of 3, No Plastic Insert  
*\*Note: sold in lots of 3 Accommodates syringes with or without needle*
- 001-786 PET Single Shipping System  
*Includes: One 001-785 Unit Dose Pig, absorbent sheets and shipping container with lead shielding*
- 001-787 PET Double Shipping System  
*Includes: Two 001-785 Unit Dose Pigs, absorbent sheets and shipping container with lead shielding*
- 001-739 PET Triple Shipping System  
*Includes: Three 001-785 Unit Dose Pigs, absorbent sheets and shipping container with lead shielding*
- 001-771 Absorbent Sheets, 100/pkg
- 001-726 Wire Security Tags, 25/pkg  
*Used to identify unauthorized access*
- 001-721 Document Protector

## PET Vial Pig

Vials containing PET or other high-energy radionuclides can be safely transported in this 10/30 ml Vial Pig. The pig offers a minimum of 1" of lead shielding to accommodate the concentrated energy. Can be used independently or with the PET Shipping System 001-724



**Specifications:**

Exterior Dimensions: 6.63" H x 4.15" Diameter  
 Interior Dimensions: 2.76" H x 1.151" Diameter  
 Lead Shielding:  
 Sides & Bottom: 1" thick  
 Top: 1.75"  
 Weight: 21.3 lb

- 001-706      PET Vial Pig for 30 ml vial, 10/30 ml, 1" lead  
*Includes: 001-707 Vial Pig Adapter, to accommodate 10 ml vials and three Absorbent Sheets*
- 001-771      Pig Absorbent Sheets, 100/pkg
- 001-707      Vial Pig Adapter

## Compact PET Shipping System for Vial Pig

- The PET Shipping System for Vial Pigs is designed to transport a 10 ml or 30 ml vial containing high-energy radionuclides
- Designed to conserve space and minimize weight, the entire system weighs only 50 lb
- An important feature is that the shipping container can be placed at a convenient height while the pig is easily removed from the shipping case
- **The system meets DOT Yellow II Type A packing requirements when shipping up to 1.5 Ci (55.5 GBq) of FDG F-18**
- **Meets IATA Dangerous Goods Regulations, 58<sup>th</sup> Edition Sections 5.0.4.3, 10.5, and 10.6.1 thru 10.6.3.5**



- 001-724      PET Shipping System, Vial Pig  
*Includes: 001-706 Vial Pig and Shipping Container with lead shielding*
- 001-726      Wire Security Tags, 25/pkg  
 Used to identify unauthorized access
- 001-771      Absorbent Sheets, 100/pkg
- 001-721      Document Protector, 100/pkg

## PET Shipping System for Double-Ended Pig

- The PET Shipping System for Vial Pigs is designed to transport a 5 cc syringe containing high-energy radionuclides
- Designed to conserve space and minimize weight, the entire system weighs only 36 lbs
- **The system meets DOT Yellow II Type A packing requirements when shipping up to 475 mCi (17.58 GBq) of FDG F-18**
- **Meets IATA Dangerous Goods Regulations, 60<sup>th</sup> Edition Sections 5.0.4.3, 10.5, and 10.6.1 thru 10.6.3.5**



- 001-793      Double-Ended PET Pig  
*Dimensions: 9.5" H x 2.3" Dia Weight: 9 lbs*
- 001-794      PET Shipping System, Double-Ended Pig  
*Dimensions: 11.75" L x 11.75" W x 12.5" H Weight: 36 lbs*
- 001-797      Pig Cradle  
*Accommodates 001-793*



## Heavy Duty Transport Carts

- Constructed of 1/8" stainless steel
- Lockable push handle
- 3 fixed shelves

Specifications:

Dimensions: 20" W x 30" L x 36" H

Weight capacity: 400 lb per shelf

Shipping weight: 185 lb



PTI-HDTC Heavy Duty Transport Cart

## Stainless Steel Transport Cart

- Stainless steel construction
- Ideal for transporting heavy L-blocks and caves

Specifications:

Dimensions: 18" W x 27" D x 31.5" H

Weight: 120 lbs

Weight capacity: 1000 lbs

Shipping weight: 155 lbs



PTI-TC Stainless Steel Transport Cart

## Standard Stainless Steel Lab Cart

- Polished stainless steel construction
- Resistance-welded frame
- 3" ball-bearing swivel casters
- Counterweighted base for smoother rolling
- Mostly assembled (thread in casters only)
- Includes bolt-on push handle (adds 4" to width)

Specifications:

Dimensions: 24" W x 16" D x 30" H  
(handle adds 4" to width)

Weight Capacity: 300 lb

Shipping Weight: 38 lb



041-311 Standard Stainless Steel Lab Cart

## PPG-PET Pig Transport Cart - Clamshell



- Constructed of stainless steel inside and outside
- No exposed lead
- Ideal for transporting a dose in a syringe shield
- Locking casters for easy maneuverability and secure placement
- Convenient drawer to store supplies

Specifications:

External Dimensions: 18" W x 20" D x 36" H

Clam Shell Inside Dimensions: 2 7/8" D x 10 15/16" W

Shielding:

Clam Shell Cover: 1.5" lead

Weight: 225 lb

PPG

PET Pig Transport Cart, Clamshell



## Blanket Warming Cabinets



**PTI-BW-250**

- Capacity : 4-6 blankets
- Interior: 2.5 cu/ft
- Weight: 67 lbs

Outer Dimensions:  
22" H x 18.5" W x 23" D

These units are designed to elevate blanket temperatures to a level that will increase patient comfort.

**Control:**

- Adjustable temperature range of (90° - 160°F)
- Operates in Celsius or Fahrenheit
- Four digit L.E.D. display
- On/off button
- Up and down adjustment buttons
- Actual temperature button
- Interior light button
- Built-in speaker for audible feedback
- Integrated button lock-out feature

**Additional Features:**

- L.E.D. interior lighting casts a comforting blue glow with two different intensity settings and off mode
- Safety: In the event of a power failure the cabinet will remember its programming and begins to operate as before when power is restored
- Safety: A warming shut-off system, separate from the electronic control, prevents overheating
- Convenience: Access point and removable cover have been added to the back panel that allows the addition of data logging or temperature management hardware



**PTI-BW-350**

- Capacity : 10-12 blankets
- Interior: 3.5 cu/ft
- Weight: 91 lbs

Outer Dimensions:  
28" H x 18.5" W x 23" D

**PTI-BW-250** Blanket Warming Cabinet, 4-6 blankets

**PTI-BW-350** Blanket Warming Cabinet, 10-12 blankets



**PTI-750**

- Capacity : 20-25 blankets
- Interior: 7.5 cu/ft
- Weight: 134 lbs

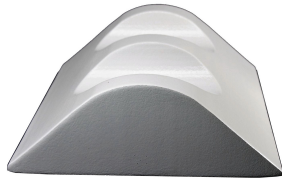
Outer Dimensions:  
35.5" H x 24" W x 25.75" D

## PTI-750 Holds Up To 25 Blankets!

- Stainless steel exterior and white epoxy-coated interior insert
- Door is fully gasketed with a magnetic closure
- The heating system incorporates multiple zone warming that heats where and when it is needed
- All chamber surface temperatures are monitored, providing an efficient balance of heat, low energy consumption and minimal heat loss
- The heated center shelf optimizes heat distribution throughout the cavity
- 7.5 ft cubic feet interior accommodates 20-25 blankets
- Right hinged or left hinged windowed door with manual door lock

**PTI-750** Blanket Warming Cabinet, 20-25 blankets

## Contoured Leg Rests



NMC-71718

- 3 heights allow for positioning of patients of various heights
- Created to prevent the cycle of low back stress and pain that commonly occur during supine imaging and treatment
- Unique recesses create additional lateral support, thereby minimizing both rotational and translational body motion
- Ideal for any prolonged supine imaging study
- Ivory vinyl coating (NMC-71718 has Black vinyl coating)

NMC-805 5" H x 14.5" D x 18" W, Ivory  
*Ideal for Patients 5 ft tall and under*

NMC-807 7" H x 17" D x 13" W, Ivory  
*Ideal for Patients 5 ft to 6 ft tall*

NMC-810 10" H x 24" D x 18" W, Ivory  
*Ideal for Patients 6 ft and taller*

NMC-811 Set of 3 sizes  
*1 each of NMC-805, NMC-807, NMC-810*

NMC-71718 7" H x 17" D x 18" W, Black  
*Ideal for Patients 5 ft to 6 ft tall*

*Care-Cleaning: Spray & wipe clean with any water based medical grade germicidal*



Comfort Leg Rest  
CLR-807



Contour Leg Rest 7"  
NMC-807



Tapered Leg Rest  
TAP-807

**Be prepared for all your  
patient positioning needs!**

- Comfortable Patient Support
- Fits all patients
- Tough & Durable
- Reduces Motion Artifact
- Reduces Back Pain
- Technologist Inspired
- Easy to clean
- Anatomically Correct

LEGREST SET Includes one each: CLR-807, NMC-807 and TAP-807

## Comfort Leg Rests

- 3 heights allow for positioning of patients of various heights
- 20" wide leg rest designed to deliver total support under the knees
- Integrated handle makes it easy to carry from place to place
- Antimicrobial fabric cover

CLR-805      5" H x 14" D x 20" W  
*Ideal for Patients 5 ft tall and under*

CLR-807      7" H x 16" D x 20" W  
*Ideal for Patients 5 ft to 6 ft tall*

CLR-810      10" H x 23" D x 20" W  
*Ideal for Patients 6 ft and taller*



## Tapered Leg Rest

- Provides comfortable and complete support for patients lower extremities during supine procedures
- Consists of an anatomically correct, open cell foam support device covered in a medical grade fabric with an integrated carry handle
- Royal Blue Antimicrobial fabric cover with black carry handle

TAP-807      7" H x 24" D x 18" W  
*Ideal for Patients 5 ft to 6 ft tall*



*Care-Cleaning: Spray & wipe clean with any water based medical grade germicidal*

**Patients can order Leg Rests directly from Pinestar**



Comfort Leg Rest  
CLR-807



Contour Leg Rest 7"  
NMC-807



Tapered Leg Rest  
TAP-807

**LEG REST SPECIAL OFFER  
 PLEASE POST FOR YOUR PATIENTS**

Call Pinestar toll-free 1-800-682-2226, to place an order

## Thyroid/Parathyroid Imaging Support



Dimensions: 14.5" W x 17.5" D x 4.5" H

- Provides optimal exposure of the neck
- Comfortable head rest
- **Chin is tilted back for parathyroid and thyroid imaging**
- Flat base will contour to fit most imaging tables
- Constructed of molded foam
- Seamless bacteriostatic coated surface is tough and fluid proof
- Wipes clean with standard germicides
- Meets CAL 117 flammability standards

NMC-601U Thyroid/Parathyroid Imaging Support

## Adjustable Neck/Head Support System

**Ideal For Supine Imaging**  
Thyroid Salivary  
Parathyroid Lymph Nodes



Total Dimensions: 14.25" W x 21" D x 9.5" H

- Technologist inspired to provide support of the head and shoulders while facilitating extension and exposure of the anterior neck
- **Uniquely shaped base creates cervical extension while the adjustable/removable head holder provides lateral head support minimizing rotational/translational motion**
- Easy to separate, the base and head support can be used independently
- Blue covering is fluid proof with a bacteriostatic additive, wipes clean with standard germicides
- Meets Joint Commission and Flame Retardant Standards (CAL 177)



PTI-STP Adjustable Neck/Head Support System

## Ankle/Feet/Leg Immobilizer

- Technologist inspired to provide support of the lower extremities, feet and ankles during medical imaging
- **Ideal for SPECT/CT of the feet and ankles, bone scans, white blood cell imaging**
- Closed end design facilitates fixed 90 degree positioning of the feet which minimizes motion and provides for repeatability of positioning
- Integrated divider wall separates extremities while providing lateral support
- Meets Joint Commission and Flame Retardant Standards (CAL 177)



Dimensions: 14" W x 18" D x 10" H

PTI-402-AFL Ankle/Feet/Leg Immobilizer



## Arm Support II

- Comfortably supports a patient's arms during various diagnostic and therapeutic medical procedures
- Easily Cleaned
- Velcro Mounting
- Safety Designed
- Use in Nuclear, MRI, CT, Cath Lab, Interventional Radiology
- Ivory coating



Dimensions: 20" W x 18" D x 9" H  
Flat Base

NMC-700      Arm Support II, Ivory  
*Includes two disposable pillows with cases*

## Arm Support II-Narrow

- Suited for PET applications or imaging systems that demand narrow supports
- A smaller version of our NMC-700 Arm Support II
- Hand strap included for patient comfort
- Black coating



Dimensions: 18.5" W x 15" D x 8" H  
Flat Base

NMC-800      Arm Support II-Narrow, Black  
*Includes two disposable pillows with cases*

## Arm Support III

- Ideal for PET and narrow closed gantry imaging systems
- Created to prevent arm and shoulder pain during supine medical imaging and treatments that mandate prolonged arm hyperextension and abduction (or elevation)
- Provides total arm support and passive restraining
- Designed to fit today's more narrow and streamlined imaging systems
- Unique closed head support aids in the prevention of long hair entanglement in any imaging system components
- Fits virtually all patients
- Beige coating



Dimensions: 16.5" W x 22" D x 10" H  
Flat Base

NMC-401U      Arm Support III, Beige  
*Includes two disposable pillows with cases*

## Patient Arm Support 5

- Designed to fully support a patient's arms, head and shoulders
- Utilizes a patented, ergonomically correct design, it allows each individual patient to position themselves on the supporting surface, while settling into a final position of comfort and compliance on the imaging surface
- Royal Blue with built-in Velcro hand straps
- Removable head cushion



Dimensions: 17" W x 12" D x 7" H  
Flat Base

NMC-5      Patient Arm Support 5

## Radial Arm Support



Dimensions:

Arm Support: 21" W x 12.25" D x 9.4" H

Head Support: 8.8" W x 10" D x 2.5" H

Curved Base

- Curved support base provides stable positioning and enables use on radius style imaging surfaces
- Prevents arm & shoulder discomfort during prolonged imaging
- Patient comfort is assured via the soft coated foam surfaces
- Maintains shape during use and does not drag during table movement
- Provides total head, arm and shoulder support
- Includes reusable head support
- Seamless & liquid proof design
- Fast and easy to clean
- MRI Compliant

NMC-850 Radial Arm Support

## Patient Arm Support



Dimensions: 21" W x 13" D x 9" H  
Flat Base

- Recommended for Single Head Imaging Systems
- Technologist designed, patient tested
- Comfortably supports a patient's arms during various diagnostic and therapeutic medical procedures
- Engineered with maximum flexibility to fit most imaging tables
- Improves productivity
- Increases technician efficiency
- Two disposable pillows, two mounting straps and one hand held strap are included

NMC-201U Patient Arm Support

## Patient Arm Holder



Dimensions: 19" W x 17" D x 9.5" H  
Flat Base

- Created to prevent arm & shoulder pain during supine medical imaging and treatments
- Provides total arm support and passive restraining
- Fits virtually all patients
- Royal Blue Antimicrobial fabric cover

NMC-501U Patient Arm Holder

*Includes two disposable pillows with cases*

## Disposable Patient Pillows & Cases



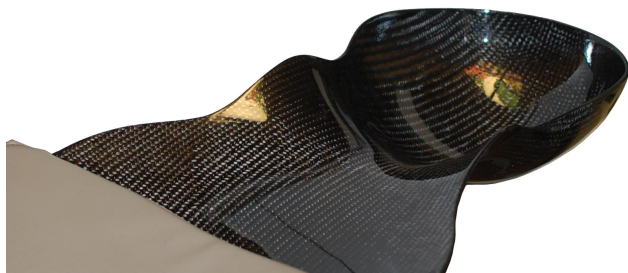
Dimensions: Pillows: 11" x 15"  
Cases: 12" x 16"

- Soft, comfortable disposable patient pillows suitable for daily hospital, clinic and patient positioning applications
- Contain Trevira® polyester for superior quality and comfort
- Used daily at hundreds of clinics and hospitals, they provide comfortable positioning at reasonable prices
- Meet federal flammability standards

NMC-PIL Disposable Patient Pillows, 20/case

NMC-CASE Disposable Pillow Cases, 20/case

## DAT Imaging Head Support



Dimensions: 29.5" L x 12" W x 3.5" H

The DAT-HH Imaging Head Support was created to address the need for a high quality, versatile, generic support product for use during head/brain nuclear imaging studies on systems that were not originally supplied with a head support.

### Compatible with:

- Imaging systems that have contoured, cantilevered imaging surfaces.

### Provides:

- Stable head positioning and close positioning of imaging detectors.
- An acquisition radius not possible with many other head holders. While 14-15 cm radiuses are common with other head holders, acquisition radiuses near 12 cm have been achieved with the Imaging Head Support during clinical certification studies (pic 3)
- Reduced distance and attenuation
- Helps to facilitate higher quality

### Durable:

- Constructed of high strength carbon fiber, the Imaging Head Rest is strong, durable and will provide years of service.

### Included Accessories:

- One set of chin cup/forehead straps
- One head height pad
- Two table surface wedges
- Three peel and stick hook/loop surface mounting strips
- Carry/storage bag

Care-Cleaning: Spray and wipe clean with any water based medical grade germicidal.

DAT-HH  
*Patent Pending*

Imaging Head Support  
Black High Quality clear Carbon Fiber Finish

## Integrated Head and Arm Support



- Supports patients arms while facilitating simultaneous AP head positioning
- Head positioning flaps maintain stable AP head positioning while preventing head rotation and drift
- Arm support can be used independent from the AP head positioning feature
- Velcro mounting

Dimensions: 20" W x 18" D x 9" H  
Flat Base

PTI-HAS      Integrated Head and Arm Support  
*Includes two disposable pillows with cases & two universal head / chin straps*

## Imaging Body Wrap

- Compatible with Siemens Brand Body Imaging Tables already fitted with a body wrap
- Provides direct replacement of original patient restrain/body wrap set
- Totally wraps around patient and secures upper extremities, stable, comfortable positioning
- Constructed of bacterial & fluid resistant durable 210 denier nylon black fabric
- How to use: Remove old straps, secure new straps to table surface via the integrated loop style fasteners, position patient and wrap one strap over the other and secure the closure with integrated hook and loop closures, carefully monitor patient during use
- Care-Cleaning: Spray & wipe clean with any water based medical grade germicidal



Includes one set of  
24" W x 34" L Straps

NMC-2434H Imaging Body Wrap with Hook on Wrap  
*(Loop (soft) side of Velcro is on your table)*

NMC-2434L Imaging Body Wrap with Loop on Wrap  
*(Hook (hard) side of Velcro is on your table)*



## Arm Support Strap



- Designed to reduce patient fatigue by immobilizing and supporting the arms at the patient's side
- Constructed of comfortable cotton with Velcro brand hook and loop fasteners that wrap around both the table and the patient
- No attenuation to the image
- Yellow color makes it easy to identify and find within the department

Dimensions: 71" L x 8.5" W

NMC-SSY Arm Support Strap

## Multi-purpose Support Straps



- Universal application straps; useful for arm support, breast compression and general patient restraint
- Unique design allows the strap to fasten all the way around the imaging table, patient or both simultaneously
- Velcro brand closures allow for fast, easy attachment of the strap onto itself
- Constructed of Black 200 Denier Rip-Stop Nylon Material
- Meets UL 94 Flammability Standards
- Bacteriostatic



NMC-265	2" x 60"
NMC-560	5" x 60"
NMC-872	8" x 72"
NMC-1560	15" x 60"
NMC-2560	25" x 60"
NMC-1272	12" x 72"
NMC-2072	20" x 72"
NMC-2096	20" x 96"

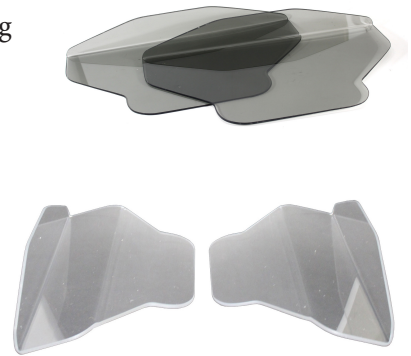


## Side Arm Holders

- Fits under the mattress and is held in place via patient weight
- Versatile support aid that permits comfortable "at the side" arm positioning
- A proven addition to narrow imaging tables
- Universal design is compatible with most imaging tables
- Resilient Lexan construction
- Available in Clear or Smoke color

Patient Platform area: 18" long, 3" tall support edge  
 Overall Dimensions: 18" x 10 1/2"

- NMC-3017 Side Arm Holder, Smoke color, 1 pair  
 5200-3563 Side Arm Holder, Clear color, 1 pair



## Arm & Leg Guard

- Securely holds patients arms and legs during any long procedure
- Sold by the pair
- 3/16" clear acrylic (Small, Large, XL), 1/4" clear acrylic (XXL)
- For use on tables 22" or wider
- Clean with a mild detergent

- PTI-7459SM Arm & Leg Guard, Small, 1 pair  
 11.5" W x 6.5" H x 11" D, Wt 8 lb
- PTI-7459LG Arm & Leg Guard, Large, 1 pair  
 11.5" W x 8" H x 11" D, Wt 8 lb
- PTI-7459XL Arm & Leg Guard, X-Large, 1 pair  
 28.5" W x 6.5" H x 11" D, Wt 14 lb
- PTI-7459XXL Arm & Leg Guard, XX-Large, 1 pair  
 28.5" W x 10" H x 16" D, Wt 16 lb

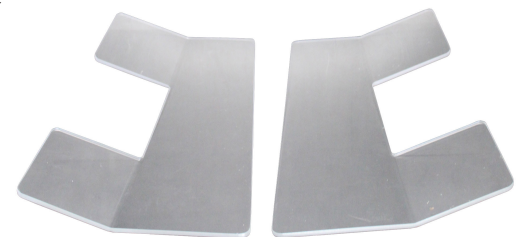


## SPECT Arm Boards

- Designed to fit on all SPECT tables
- They are solid under the patient while lying on the table to effectively widen the surface
- The patient's arms can be held comfortably next to the body while imaging the head
- The amount of overhang on the side of the table is adjusted by sliding the arm board further under the patient or pulling them further out for a wider surface
- Built with a convenient bend in them to aid in patient comfort and positioning
- Clear Plexiglass, they ship with a removable black film to protect from scratches

Dimensions: Length: 20"  
 Width: Tapered 13.75" to 10.75"  
 Thickness: 1/4" Plexiglass

- NMC-SAB SPECT Arm Boards, 1 pair



## Table Pads



Contact Pinestar  
For Cardio-MD  
Table Pads

- Low Attenuation
- Custom Sizes available to fit any imaging system
- Meets or Exceeds Universal Precautions Requirements
- Standard 1" or 1/2" thickness
- OEM Quality
- **Custom table pads are made to any design specifications**
- Adaptable to a wide range of imaging and treatment table applications including SPECT
- Soft closed cell cushioning material is covered with a tough, smooth vinyl coated finish
- Durable and easy to clean
- If the outer surface is ever compromised, the inner pad will not absorb liquid

2149-2710	Rectangular Table Pad, Ivory, 70" x 15" x 1"
2155-2710	Rectangular Table Pad, Ivory, 79" x 15" x 1"
2155-9215	Rectangular Table Pad, Ivory, 92" x 15" x 1"
CMDL-107161	Cardio-MD Table Pad, Ivory, 107" x 16" x 1" with Cutouts
CMDL-78161	Cardio-MD Table Pad, Ivory, 78" x 16" x 1" with Cutouts
NMC-300U	Custom Pad - Rectangular Color: Black

## Scintimammography Pad Set



Set includes:

- 1 Upper Body Support Pad: 20" L x 15" W x 7" H
- 1 Lower Body Support Pad: 46" L x 15" W x 7" H
- 2 Breast Compression Pads: 1 Small & 1 Large
- 1 Ankle Support Pad: 12" L x 4" W x 4" H
- 8 Velcro Mounting Strips
- NMC-2096 Support Strap ( See Page 90)

- Facilitates prone breast imaging on virtually any imaging system
- Consists of four specialized pads which allow comfortable anatomically correct prone patient positioning
- Unique design of the pads makes right, left or bilateral breast image acquisition easy
- Compatible with flat or concave imaging tables
- Held in place with Velcro brand fasteners
- Constructed of durable seamless Ivory coated foam

PBI-3	Scintimammography Positioning Pad Set
PBI-L	Separation Pad with 1 mm of lead for bilateral imaging



## Anti-Static Patient Transfer Board

- Move your patients easily and effectively without lifting
- Designed to facilitate horizontal patient transfer from gurney to table with minimum effort
- Highly durable polypropylene plastic material is entirely radiolucent, allowing it to be left under the patient during radiography

Dimensions: 72" L x 22" W x 3/16" thick

NMC-533	Anti-Static Patient Transfer Board
533-HNGR	Wall Hanger for Anti-Static Patient Transfer Board

## Table Pad with Fabric Cover

- RF/Sonic Welded Seams
- Meets or Exceeds Universal Precautions Requirements
- OEM Quality
- Easy clean with any hospital grade germicide
- Custom sizes available

## Spectrum Dynamics Table Pad



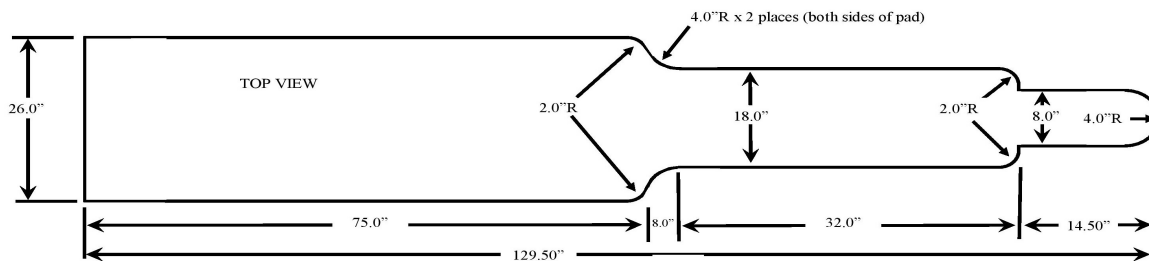
- Table Pad with Dartex Cover
- Fluid Proof Sonic Welded Seams
- Open cell inner foam material
- Includes 2" wide Velcro® to fasten pad to table
- Standard 1" thickness

Dimensions: 110" L x 17.1" W x 1" Thick

SD43-GREY

Spectrum Dynamics Table Pad

## Sample Custom Table Pad



NMC-300-J

Custom Table Pad With Fabric Cover

## Phlebotomy Wedge

Improve patient venous and IV access with our phlebotomy wedge. This uniquely shaped positioning aid facilitates stable arm elevation and extension while maintaining comfort and compliance.

- Cal 117 fire rated high density support foam
- Fluid proof, durable, soft polyurethane coated surfaces
- Wipe to clean using standard healthcare germicidal cleaners
- Can be used with a majority of patient extremity/hand sizes
- Color: charcoal grey

Dimensions: 10.5" L x 6" W x 2" to 5" Thick

Weight: 0.5 lbs



PW-1

Phlebotomy Wedge

## Extremity & Specialty

### Positioners - Blocks



PTI-203B

#### Cross-Table Lateral Leg Block

Used for comparative studies of legs  
10" H x 14" W x 16" L

Scan Coated- Black



PTI-401B

#### Leg Immobilizer

Positions and immobilizes lower extremities  
6" H x 14" W x 16" L

Scan Coated- Black



NMC-144B

#### Spinal Wedge 45°

Oblique spine support  
7" H x 7" W x 14" L

Scan Coated- Black



NMC-145B

#### Spinal Wedge 45°

Oblique spine support  
7" H x 7" W x 21" L

Scan Coated- Black



NMC-141B

#### Spinal Wedge 45°

Oblique spine support  
9" H x 9" W x 30" L

Scan Coated- Black



## Head & Neck

### Positioners - Immobilizers - Blocks Specialty Applications Products

#### AP Head Immobilizer with Velcro Restraining Strap

Nuclear, MRI, CT  
5" H x 9.75" W x 16" L

NMC-409B Scan Coated- Black



#### Adult Head Holder AP PA

Head Positioning  
6.75" H x 11.75" W x 10" L

NMC-102B Scan Coated- Black



#### Pressure Block

Special Procedure- Skull work  
5.5" H x 7.3" W x 10" L

NMC-104B Scan Coated- Black



#### AP PA Adult Head Immobilizer

Head Immobilization in trauma, ER  
7" H x 11" W x 9.25" L

PTI-408FPC Blue, Fluid Proof Cover



#### CT Head Holder

Head Support during supine imaging  
5.5" H x 9" W x 10.5" L

CT-HH Scan Coated- Black



**If you do not see the positioner you are looking for,  
give us a call and we can help you find the right  
product to position your patient.**

*Scan Coated Items Subject To Availability*

Call Pinestar toll-free 1-800-682-2226, to place an order

## The Hugger®

Immobilizer for Infants **or** Children



- Provides womb-like warmth and security during immobilization
- The Hugger® complete unit includes one of each item: Foam Insert, Plexiglas Base, Head Restraint, Body Wrap with Arm Straps, Leg Straps

**Sold as Complete Unit Only  
Individual Parts Are No Longer Available**

### Infant Hugger

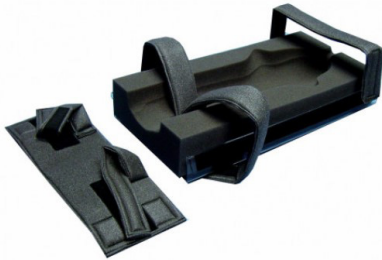
NMC-425 Infant Hugger Complete Unit

Infant- Premature born and newborn infants up to age three (3) month

Dimension: 19" L x 9" W x 3" H

Includes: Foam Insert, Plexiglas Base, Head Restraint, Body Wrap with Arm Straps and Leg Straps

### Child Hugger



NMC-426 Child Hugger Complete Unit

Child- Children four (4) months to three (3) years

Dimension: 30" L x 17.7" W x 5" H

Includes: Foam Insert, Table Adapter, Head Restraint, Body Wrap with Arm Straps and Leg Straps

### Scan Coat Child Hugger



NMC-427SC Child Hugger Complete Unit - Scan Coat

Child- Children four (4) months to three (3) years

Dimension: 30" L x 17.7" W x 5" H

Includes: Foam Insert, Base, Straps, and Table Adapter

## The CT Hugger®

Immobilizer for Infants **and** Children



- The CT Hugger's radiused base prevents artifacts
- Aluminum equivalency below 1.5 mm
- Complete unit includes one of each item: Foam Insert (**Child and Infant**), CT Plexiglas Base, CT Head Restraint, CT Body Wrap with Arm Straps, CT Leg Straps

Complete Unit

Dimensions: 34"L x 10.5"W x 6"H

Includes: Foam Insert (**Child and Infant**),

CT Plexiglas Base, CT Head Restraint,

CT Body Wrap with Arm Straps, CT Leg Straps

**Individual parts no longer available.**

NMC-200

The CT Hugger Complete Unit

## Pulmonex™ II Xenon System

### *Double the breathing capacity of other systems*

- Resistance-free breathing with 25-liter capacity
- Complete 1/8" lead shielding in upper cabinet for patient and operator safety
- Easy access to replace Drierite and Soda-Lime cartridges
- Effortless mobility for easy patient positioning
- Stylish steel cabinet
- Convenient built-in stainless steel tray for holding disposables, xenon gun, syringe etc.

### *Resistance-Free Breathing*

- The injected bolus of xenon will reach the patient exactly when desired
- Oxygen may be added to the system any time during the study with the press of a button
- An in-line cartridge containing Soda-Lime absorbs CO<sup>2</sup>, preventing acidosis.
- Large breathing passages, two 10-liter breathing bags (air-in and air-out) and motor-assisted airflow combine to provide resistance-free breathing

### *Simple to Operate*

- All three steps of a Pulmonex II study (start up, equilibrium imaging and washout) are controlled by a single valve handle on the front panel
- The valve directs the motor-assisted flow of gases throughout the system
- A manually adjusted 15-minute timer initiates all functions, then automatically shuts down the system to complete the study after patient and system washout
- With controls conveniently located on the front panel, the user can operate the system and observe the patient and gamma camera from one position
- Panel controls are clearly marked for each mode of the procedure with large viewing windows to make it easy to monitor the patient's breathing
- A trim, clean design, large handles and total mobility permit easy positioning of the system for studies in both seated and supine positions

### *Designed for Safety*

- Internal systems of the Pulmonex II are shielded for patient and operator safety
- The system features two built-in gas traps that operate with a blower fan
- Exhaled xenon is pulled through activated charcoal housed within two 1/8" lead shielded "U"-shaped traps
- The double traps extend the life of your charcoal and provide a lengthy migration path for xenon effluent, allowing greater decay and absorption before exhaustion
- A cartridge containing Drierite serves as a moisture absorber for air passing into the trap; the charcoal trap can then more effectively remove xenon effluent after each study
- Airflow regulation of the trap blowers assures complete patient and system washout
- Averaging 30-50 studies per month, the charcoal trap will last approximately one year; charcoal traps are easily replaced
- A disposable bacteriostatic filter, used in conjunction with a disposable mask or mouthpiece, prevents system contamination



Convenient Fold-Down Tray



Easy access to Soda-Lime and Drierite cartridges, supplied with the system. Xenon Convenience kits, including pre-filled Soda-Lime and Drierite cartridges for single use only, are also available on page 100

*\*Specifications are subject to change\**

## Pulmonex™ II Xenon System *continued*

Dimensions:	48.5" H x 22" D x 20.5" W	Shipping Weight:	375 lb
Motor:	UL approved. 12 volt DC	Certifications:	ETL
Electrical Requirements:	115 VAC, 1 amp, 50/60 Hz	Warranty:	One year



132-503 Pulmonex II Xenon System  
Double-Trap, 115 VAC

Related:  
136-755 Xenon Trap Monitor  
150-315 Automatic Xenon Dispenser  
132-319 Replacement Charcoal Trap  
132-555 Refillable Cartridge, Soda-Lime or Drierite  
130-900 Free Breathing Hose Kit

### Automatic Xenon Dispenser

- Attaches to the front of the Pulmonex System without tools
- Simply load the xenon vial into the supplied plunger assembly and at the precise moment you want the delivery of xenon, simply press the dispense button
- Xenon is automatically delivered to the patient



150-315 Automatic Xenon Dispenser  
*Includes 72" Flexible Tubing with Luer-Lock Adaptor*  
150-317 Tubing, 72" Luer-lock adapter, 5/Pkg

### Xenon Trap Monitor

- Continuously monitors trap effluent during a xenon study, meeting compliance requirements in most states
- An exhaust hose connects from the Pulmonex II exhaust port to the Xenon Trap Monitor's intake port, making it the perfect complement to the Pulmonex II Xenon System to ensure a safe environment
- Simple to operate; all controls are located on the front panel
- Counting results are displayed with both audible and visual signals to indicate when the xenon trap exhaust port exceeds the threshold of 99 pCi/mL
- The unit can also check background levels and perform a self-test for proper operation using a check source (a 10 µCi Cs-137 Check source is required to calibrate the monitor- not included)
- Includes all the hardware necessary to mount the unit directly to the Pulmonex II Xenon System

Dimensions: 6" W x 7" L x 4" H  
Lead Shielding: 1/2" thick  
Input: 22 mm Hose Adaptor  
Detector: Halogen Quenched GM Tube, 1.1 cm diameter, 2 mg/cm<sup>2</sup> mica window  
Voltage: 500 volts regulated  
Buttons: On/ Off, Next/ Mute  
Display: 4 Digit LED, 4 RGB Function LEDs (Self Test, Background, Check Source or Count)  
Readings: pCi/ml or counts  
Speaker: Internal, beeps in alarm mode  
Background Count Time: 1 minute  
Power: 18 volts, UL approved, external; 115 VAC power adapter  
Weight: 5.25 lb  
Warranty: One year



136-755 Xenon Trap Monitor  
*Mounts to Pulmonex II Xenon Systems*

101-103 Check Source, Cs-137, 10 µCi  
*Uncalibrated, 1" Dia x .25" thick*

Mounts directly to the 132-503 for continuous monitoring



NMC-503



## Xenon Convenience Kits™

Air-Cushioned™ Face Mask

\*NMC-503

Face Mask Convenience Kit

*Includes: Bacteria filter and ultra-flex tubing (shown)*

\*132-781

Face Mask Convenience Kit

*Includes: Bacteria filter, ultra-flex tubing,*

*Drierite and Soda-Lime cartridges*

PTI-504



## Xenon Convenience Kits™

Air-Cushioned™ Face Mask **with Direct Dose Administration**

\*132-699

Face Mask Convenience Kit with Direct Dose

*Includes: Bacteria filter*

\*PTI-504

Face Mask Convenience Kit with Direct Dose

*Includes: Bacteria filter and ultra-flex tubing (shown)*

\*132-793

Face Mask Convenience Kit with Direct Dose

*Includes: Bacteria filter, ultra-flex tubing,*

*Drierite and Soda-Lime cartridges*

PTI-505



## Xenon Convenience Kits™

Air-Cushioned™ Face Mask **with Injection Port**

\*PTI-505

Face Mask Convenience Kit with Injection Port

*Includes: Bacteria filter and ultra-flex tubing*

\*132-784

Face Mask Convenience Kit with Injection Port

*Includes: Bacteria filter, ultra-flex tubing,*

*Drierite and Soda-Lime cartridges*

132-774



## Xenon Convenience Kits™

**With Mouthpiece and Direct Dose Administration Adapter**

\*132-770

Convenience Kit, Mouthpiece

*Includes: Bacteria filter and nose clip*

\*132-774

Convenience Kit, Mouthpiece

*Includes: Bacteria filter, nose clip and ultra-flex tubing (shown)*

\*132-771

Convenience Kit, Mouthpiece & Admin Adaptor

*Includes: Bacteria filter, nose clip, ultra-flex tubing,*

*Drierite and Soda-Lime cartridges*

134-772



## Xenon Convenience Kits™

Air-Cushioned™ Face Mask

\*134-772

Face Mask Convenience Kit w/ Admin Adapter

*Includes: Bacteria filter and ultra-flex tubing*

\*132-684

Face Mask Convenience Kit w/ Luer-Lock Inj Port

*Includes: Bacteria filter, ultra-flex tubing,*

*and 90° luer-lock injection port*

132-684



**\* Sold in multiples of (25)**

Call Pinestar toll-free 1-800-682-2226, to place an order

# Lung Ventilation Accessories

NMC-309



LATEX FREE

## Disposable Ventilation Circuit

NMC-309 Face Mask with Injection Adapter, 20/Box  
Includes: 24" Tube & Bacteria filter

PTI-1695



LATEX FREE

\*PTI-1695 Air-Cushioned™ Face Mask w/ Injection Port, Adult

\*PTI-5070 Air-Cushioned™ Face Mask w/o Injection Port, Adult

\*PTI-1698 Direct Dose Sealflex™, Mask, Lg Adult



LATEX FREE

PTI-5070

PTI-1698



LATEX FREE

## Disposable Masks

## Accessories

### Drierite Moisture Absorber- Blue & White Blend

NMC-0027 Drierite, 1 lb

NMC-0039 Drierite, 4.5 lb

132-772 Drierite, Disposable Cartridge

### Soda-Lime CO<sub>2</sub> Absorber

130-019 Soda-Lime, 1 lb

130-020 Soda-Lime, 4.5 lb

132-773 Soda-Lime, Disposable Cartridge

130-019



LATEX FREE

139-677



LATEX FREE

139-677 Face Mask Harness, Adult

\*130-551 Tru-fit Disposable Mouthpiece



LATEX FREE

130-551



LATEX FREE

130-100

130-100 Disposable Nose Clip, 100/box

139-680 Corrugated Tubing, 100 ft roll



LATEX FREE

139-680



LATEX FREE

130-639

130-639 Tubing Splice, 22 mm male, 10/pkg

185-302 "Y" Connector, luer plug, 22 mm

139-102 "Y" Connector, solid plug, 22 mm



LATEX FREE

185-302

139-102



LATEX FREE

132-750

\*132-750 Bacteria/ Viral Disposable Filter Single Use

**\* Sold in multiples of (25)**

## Free Breathing Pulmonex™ Hose Kit



- The Pulmonex Xenon System has negligible internal breathing resistance, yet excess breathing resistance can be due to improper hose apparatus to the patient, particularly if long, small diameter corrugated hoses are used
- Contains two 130-901, two 130-904 hose clamps, and a 130-902 non-rebreathing anesthesia valve

130-900	Free Breathing Pulmonex Hose Kit
130-901	"Clean-Bore" Hose, 36" L
130-902	Anesthesia Valve (Hans Rudolph, non-rebreathing)
130-903	Hose Adapter, 7/8" x 1 1/8" Dia
130-904	Hose Clamp

## Xenon-133 Rebreathing System



- 35 liter bag provides ample volume for patient maintenance and collects expired Xenon-133.
- This disposable system is constructed of a non-permeable plastic, thereby precluding xenon absorption or transfer through the device's components. The system is designed to accept any xenon syringe/gun administration system.

*060-133	Xenon-133 Rebreathing System, Mouthpiece <i>Includes: Mouthpiece</i>
*060-137	Xenon-133 Rebreathing System, Adult <i>Includes: Air-Cushioned Face Mask with Direct Dose Administration (132-698)</i>

**\* Minimum order of 10, then sold in multiples of (5)**

## Insta/Vent™ Aero/Vent™ Radioaerosol System



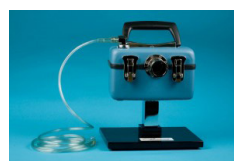
Insta/Vent Shield



Insta/Vent Single



Insta/Vent Plus



Aero/Vent Plus



Aero/Vent Jr (Pole Mount)

<b>IV-600</b>	Insta/Vent System, single tube, (24/case)
<b>IV-600M</b>	Insta/Vent System, with Mask, single tube (24/case)
<b>IV-600P</b>	Insta/Vent Plus System, two tube (24/case)
<b>IV-601-A</b>	Insta/Vent or Insta/Vent Plus Portable Shield
<b>AV-400+</b>	Aero/Vent Plus System, single tube (24/case)
<b>AV-400+M</b>	Aero/Vent Plus System, with Mask, single tube (24/case)
<b>AV-501A</b>	Aero/Vent Plus or Aero/Vent Max Portable Shield
<b>AV-100H</b>	Aero/Vent Jr System, two tube (24/case)
<b>AV-101</b>	Aero/Vent Jr Portable Shield (Pole Mount)

## Venti-Scan™ IV Radioaerosol Delivery System

*The Venti-Scan IV provides greater protection and uses a special disposable Radioaerosol Convenience kit for greater trapping efficiency and unrestricted breathing.*

- System design reduces set-up time:
  - kit automatically locks into position
  - one step oxygen connection to dedicated external port
  - precise injection port alignment
  - push button disposal of used kit
- Fully enclosed lead shielding from top to bottom
- Contour filter for increased trapping efficiency and resistance-free breathing
- Trapping efficiency greater than 99.9%
- Small baffle design ensures homogeneous distribution
- Mean particle size = 0.50 microns
- Lightweight and portable, weighs only 8 lb

### Sharp Clear Images- Easy Breathing

- The Venti-Scan IV Radioaerosol Delivery System features a small baffle within the nebulizer to produce an optimal particle size, resulting in a sharp image, quickly.
- The kit includes a pleated hydrophilic filter which traps moisture making it ideal for radioaerosol studies by impeding the exhaled radioaerosol particles from passing through. The pleated contour increases surface area to decrease breathing resistance, making it virtually resistance-free with exceptional trapping efficiency.

### Full Technologist Protection

- The Venti-Scan IV shield is an enclosure providing lead-shielded protection from top to bottom.
- The Venti-Scan IV Disposable Kit includes everything needed for a single study including a comfortable, natural contour mouthpiece, filter, nose clip and disposable bag.
- The top of the canister has a shielded sliding port to accommodate the Venti-Pak Accessory Kit for ventilator-assisted patients. An IV pole mount is included with the shield for convenient positioning and administration.




1 Insert Venti-Scan IV Kit in canister



2 Inject Tc-99m DTPA



3 Connect to O<sub>2</sub> supply; position patient comfortably for resistance-free breathing

- 177-090 Venti-Scan IV Canister  
*Includes: Shielded canister with IV pole mount*
- 177-091 Venti-Scan IV Disposable Radioaerosol Kit  
*(Minimum order of 15, then sold in increments of 5)*  
*Includes: 12" tubing, small particle delivery system with mouthpiece, filter, nose clip and disposable bag*
-  177-092 Venti-Scan IV Disposable Radioaerosol Kit  
*(Minimum order of 15, then sold in increments of 5)*  
*Includes: 24" tubing, small particle delivery system with mouthpiece, filter, nose clip and disposable bag*
- 177-075 Venti-Pak Disposable Radioaerosol Kit *(Sold in increments of 5)*  
*(adapter kit for ventilator assisted patients)*



## AeroTech™ I Radioaerosol System

### *The original Cadema Radioaerosol System*

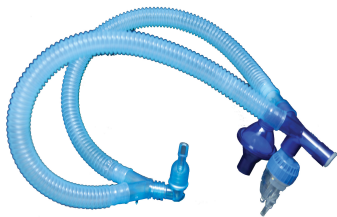
*Aerosol inhalation for radioimaging studies is an important tool for use in the localization and diagnosis of lung disease. AeroTech I puts information in the hands of the user to assist in diagnosis of a variety of lung diseases.*



- Enhanced Imaging
- Multiple views from one diagnostic study
- Completely portable and respirator compatible
- Completely Shielded

#### *Enhanced Imaging*

- Delivers an even distribution of radioaerosol throughout the lungs, reaching the respiratory bronchioles and alveolar ducts and sacs.
- Excellent aerosol deposition allows the acquisition of multiple views from each diagnostic study.
- The end result is high quality imaging for confidence in patient diagnosis.



#### *Respirator Compatible*

- Easily adapted to fit on line using a single accessory tube

#### *Designed for Patient Comfort*

- Aerosol inhalation studies allow the patient to breathe normally throughout the procedure, minimizing the likelihood of patient non-compliance.



LATEX FREE

177-325

#### *Superior Safety*

- Shield construction, disposable components and rapid aerosol delivery time combine to minimize radiation exposure to the patient and technologist. AeroTech I helps meet ALARA radiation protection objectives.

#### *Flexibility*

- Available with a choice of designs
  - The CA-1324 Delivery System generates a smaller MMAD particle than the standard CA-1124 Delivery System
  - Use the CA-1324 model for procedures where delivery time is not significantly restricted

CA-1124

LATEX FREE

AeroTech I Disposable Radioaerosol Kit (*Must order in increments of 10*)

*Includes: 24" tubing, standard nebulizer delivery system with mouthpiece, bacteria filter, nose clip and disposable bag*

CA-1324

LATEX FREE

AeroTech I Disposable Radioaerosol Kit (*Must order in increments of 10*)

*Includes: 24" tubing, small particle nebulizer delivery system with mouthpiece, bacteria filter, nose clip and disposable bag*

CA-107

AeroTech I Shield

177-325

Venti-Pak, 5/pkg

*(adapter kit for ventilator assisted patients)*

## Accusync® 72 ECG Trigger Monitor



- Automatic R Wave Detection
- 3 or 5 Selectable ECG Leads
- Programmable R Trigger Delay
- External ECG Interface
- Universal Voltage

### Specifications:

#### ECG Isolation Amplifier

Patient Leakage Current: less than 10  $\mu$ A with 230 V~, 60 Hz applied to the patient leads. Patient related circuitry is isolated from ground by more than 4000 V, 5500V peak.

Defibrillator Protection: 5000 V, 10ms duration

Common Mode Rejection Ratio: 90db with 51 kOhm imbalance

Input Impedance: 100 MOhm

Bandwidth: Diagnostic: 0.05 to 100Hz

LCD TFT Display: 0.5 to 50Hz

Printer: 0.5 to 100Hz

Patient Cable: a) 3 lead system; RA, LA and LL with 6 pin connector  
b) 5 lead system; RA, LA, RL, LL and C with 6 pin connector

Input Bias Current: 50 nA DC

Electrodeoffset Potential:  $\pm$  0.5V

Sensitivity: 100mV peak

#### Display

**Display Area:** Height = 98 mm; Width= 132.48 mm

**Display indicates:** heart rate, R-R interval, ECG size, ECG lead selection, audio, freeze and print indicator, R trigger event marker. Menu driven selection of parameters displayed on 16 color TFT Active Matrix Display

#### Outputs

1) The R trigger is a 5V TTL/CMOS (or 12V) compatible square wave for the computer trigger; independent of ECG signal polarity. R Wave detection and trigger to computer is indicated by audio signal and by presence of a superimposed dot on the R Wave which appears on display. The output can deliver 35 mA of current or drive up to 150 feet long RGU 174/U cable. R trigger is compatible with all computers including Digirad, GE, Hitachi, MDS, Philips, Siemens and Toshiba.

2) RS232 interface available to transmit and receive information via an IBM or compatible computer. In transmit mode, the interface will send the ECG data to the computer while in receiver mode the computer will control the parameters of the instrument.

3) ECG Output: Variable gain analog ECG signal up to x 2000 available on a BNC connector

Dimensions: 6" H x 9" W x 7" D

Construction: Aluminum

Power: 100-240 V - 60/50 Hz .30/.15A

#### Thermal Chart Recorder:

Paper Speed: 25 mm per sec. When FREEZE is selected, recorder prints last 8 seconds of data.

Printing Method: Thermal line dot system

Resolution: Horizontal-8 dots per mm. Vertical-16 lines per mm.

Event Marker: When R Wave is detected, a mark is superimposed on the R Wave to indicate the presence of an R trigger signal triggering the computer.

- 189-079 AccuSync 72, 3-Lead System
- 189-080 AccuSync 72, 3-Lead System w/printer
- 189-083 Lead Wires,3/set for 189-079 and 189-080
- 189-085 Patient Cable for 189-079 and 189-080

## Model 7600 Cardiac Trigger Monitor

- Used in applications requiring precision ECG R-wave synchronization
- Easy to use; menu driven, touch screen interface



Specifications:

**ECG:**

**Lead Selection**

Trigger Lead: LI, LII, LIII and Auto

Second Lead: LI, LII and LIII

**Patient Cable**

4 lead patient cable with 6 Pin AAMI standard connector.

Isolated from ground related circuits by > 4 kV rms,

5.5 kV peak

**Electrode Impedance Measurement**

Technique: 10Hz ac signal < 10 uA rms

Range: 200 kO per lead

Accuracy : ±3% ±1kO

Recommended Electrode: 10% Chloride sponge type (590436)

**Cardiotach**

Range : 10-350 BPM (Pediatric/Neonate)  
10-300 BPM (Adult)

Accuracy: ±1% ±1 BPM

Resolution: 1 BPM

Sensitivity: 300 µV peak

Tall T Wave Rejection: Rejects T waves = 1.2 \* R-wave

**Pacer Pulse Rejection**

Width: 0.1-2 ms at ±2 to ±700 mV

**Alarms**

High Rate: 15 to 250 BPM in 5 BPM increments

Low Rate: 10 to 245 BPM in 5 BPM increments

Asystole: R to R interval >6 seconds

**Model 7600**

**Cardiac Trigger Monitor**

7600-C Optional Chart Recorder

590478 Patient Cable- use with 4 leads, 10' long

590433 Patient Leads- 4 lead set-grabber style, 24" long

**Accessories for Model 3100/3150**

590476 Patient Cable- use with 3 leads, 10' long

590483 Patient Leads-3 lead set-grabber style, 24" long

**Accessories for Model 3000**

590476 Patient Cable- use with 3 leads, 10' long

590407 Patient Leads- 3 lead set-grabber style, 24" long

**Most Commonly used with Siemens integrated module SPECT systems**

590481 Patient Cable- AHA trunk cable use with 3 leads, 40" long

590413 Patient Leads- AHA ECG 3 lead set, 40" long

**Dimensions**

Height 7.49"

Width 7.94"

Depth 5.18"

Weight 3.9 lb

**Power Requirements**

Voltage Input: 100-120V ~; 200-230V~

Line Frequency: 50/60 Hz

Fuses Type and Rating: T.5A, 250V

Maximum ac Power

Consumption: 45VA

Power Recovery: Automatic, if power is restored within 30 sec.

**Optional Recorder:**

Writing Method: Direct Thermal

**Synchronized Output (Trigger)**

Test input signal at ECG Leads

Conditions: ½ sine wave, 60ms width,

1mV amplitude, 1 pulse/second

Output Trigger Delay: < 10 ms

R to R Trigger Accuracy: ±75 µs typical  
@ 1 mV input

Pulse Width: 100 ms

Pulse Amplitude: 0 to +5V

Output Impedance: <100 O

## Model 14C Survey Meter



The Model 14C General Purpose Survey Meter features a 5-range analog ratemeter and operates two detectors; a built-in internal GM Detector (0-2000 mR/hr) and an external GM or Scintillation Detector. The cast aluminum housing, with its separate battery compartment and accompanying metal handle, offer an industrial robustness and quality that promotes long-lasting protection and instrument life. The front panel controls include a rotary switch for selecting the five-decade range and instrument shut-off, an audio on/off switch, a fast/slow response switch, a high-voltage display button and a battery test button. A 39" straight type detector cable with "C" style connector is included.

**Application:** Alpha, Beta and Gamma surveying  
 Energy compensated GM (used with x 1000 scale only)  
**Internal Detector:** Range 0-20 mSv/hr (0-2000 mR/hr)  
 Sensitivity 200 cpm per mR/hr  
**Compatible External Detectors:** Any GM or Scintillation operating on 900 VDC

### Detector Channels:

**External:** x0.1 through x100 range settings  
**Internal GM:** x1000 setting

**Energy Response:** within 15% of true value between 60 keV-3 MeV (internal detector only)

**Linearity:** reading within 10% of true value with detector connected

**Meter Dial:** 0-2 mR/hr, 0-5 kcpm, BAT TEST (others available)

**Meter:** 6.4 cm (2.5 in) arc, 1 mA analog type

**Rotary Selector Switch:** Switches between Off,

**Response Switch:** Ranges: x0.1, x1, x10, x100, x1000  
 Toggles between FAST (4 sec) or SLOW (22 sec) from 10% to 90% of final reading

### Controls:

**Reset Push Button:** Zeroes meter

**Battery Push Button:** Checks battery status

**Audio Switch:** Audio on/off, built-in unimorph speaker, greater than 60 dB at 0.6 meters (2 ft) 900 Vdc

**High Voltage:** -40 mV to 10 mV

**Threshold:** -20 to 50° C (-4 to 122° F)

**Temperature Range:** -20 to 50° C (-4 to 122° F)

**Relative Humidity:** < 95%

**Power:** 2 each "D" cell batteries

**Battery Life:** Typically greater than 2000 hours

**Construction:** Cast and drawn aluminum with beige powder coat

**Connector:** Series "C" (others available)

**Size:** 6.5" H x 3.5" W x 8.5" L

**Weight:** 3.5 lb (including batteries)

- 051-016 Model 14C Survey Meter, only  
*Probe not included, see page 131*
- 051-013 Model 14C + 44-9 Pancake Probe  
*(check source & holder not included)*
- 051-014 Model 14C + 44-7 End Window Probe  
*(check source & holder not included)*
- 051-4438 Model 14C + 44-38 Energy Comp Probe  
*(check source & holder not included)*
- 051-196 Check Source Cs-137 1.0 µCi
- 051-197 Check Source With Stick On Holder  
Cs-137 0.25 µCi
- 051-166 Check Source Holder

## Model 3 Survey Meter



The Model 3 General Purpose Survey Meter features a 4-range analog ratemeter and supports GM & Scintillation Type Detectors. Known for its accuracy and long-lasting dependability, it comes in a variety of measurement ranges and units to support the external radiation detector selected. The cast aluminum instrument housing, with its separate battery compartment and accompanying metal handle, offer an industrial robustness and quality that promote long-lasting protection and instrument life. The front-panel controls include a rotary switch for selecting the four-decade range, instrument shut-off, and battery test, an audio on/off switch, a fast/slow response switch, and a count reset button. A 39" straight type detector cable with "C" style connector is included.

**Application:** Alpha, Beta and Gamma surveying

**Compatible Detectors:** GM, Scintillation

**Linearity:** reading within 10% of true value with detector connected

**Meter Dial:** 0-2 mR/hr, or 0-500 kcpm, BAT TEST (others available)

**Meter:** 6.4 cm (2.5 in) arc, 1 mA analog type

**Controls:**

**Rotary Selector Switch:** Switches between instrument Off, Battery check, Range: x0.1, x1, x10, x100

**Response Switch:** Toggles between FAST (4 sec) or SLOW (22 sec) from 10% to 90% of final reading

**Reset: Push Button:** Zeroes meter

**Audio Switch:** Audio on/off, built-in unimorph speaker, 60 dB at 0.6 meters

**Calibration Controls:** Accessible from front of instrument (protective cover provided)

**High Voltage:** Adjustable from 400 to 1500 Vdc

**Threshold:** Fixed at -35 mV ± 10 mV

**Temperature Range:** -20 to 50° C (-4 to 122° F)

**Power:** 2 each "D" cell batteries

**Battery Life:** Typically greater than 2000 hours

**Construction:** Cast and drawn aluminum with beige powder coat

**Connector:** Series "C" (others available)

**Size:** 6.5" H x 3.5" W x 8.5" D

**Weight:** 3.5 lb (including batteries)

- 051-003 Model 3 Survey Meter, only  
*Probe not included, see page 111*
- 051-196 Check Source Cs-137 1.0 µCi
- 051-197 Check Source With Stick On Holder  
Cs-137 0.25 µCi
- 051-166 Check Source Holder

**Select Probe from page 111**



## Model 14C Survey Meter

Pancake GM Probe / Dose Compensation Filter



Ideal for RA-223

The Model 14C Survey Meter meets the essential monitoring and surveying needs of most nuclear medicine facilities. This meter is capable of reading Alpha, Beta and Gamma emissions. The Pancake GM Probe with removable Energy Compensation Filter facilitates measuring Ambient Equivalent Dose (Sieverts).

Application: Alpha, Beta and Gamma surveying  
Energy compensated GM (used with x 1000 scale only)  
Internal Detector: Range 0-20 mSv/hr (0-2000 mR/hr)  
Sensitivity 200 cpm per mR/hr  
Compatible External Detectors: Any GM or Scintillation  
operating on 900 VDC

#### Detector Channels:

External: x0.1 through x100 range settings

Internal GM: x1000 setting

Energy Response: within 15% of true value between 60 keV-3 MeV  
(internal detector only)

Linearity: reading within 10% of true value with detector connected

Meter Dial: 0-2 mR/hr, 0-5 kcpm, BAT TEST (others available)

Meter: 6.4 cm (2.5 in) arc, 1 mA analog type

Rotary Selector Switch: Switches between Off,  
Ranges: x0.1, x1, x10, x100, x1000

Response Switch: Toggles between FAST (4 sec) or SLOW (22 sec)  
from 10% to 90% of final reading

#### Controls:

Reset Push Button: Zeroes meter

Battery Push Button: Checks battery status

Audio Switch: Audio on/off, built-in unimorph speaker,  
greater than 60 dB at 0.6 meters (2 ft)

051-045 Model 14C Survey Meter with Pancake GM Detector  
with Dose Compensation Filter

*Includes: Internal Energy-Compensated GM Detector,*

*External Pancake GM Probe with*

*Dose Compensation Filter, Cable*

051-196 Check Source Cs-137 1.0  $\mu$ Ci

051-197 Check Source With Stick On Holder, Cs-137 0.25  $\mu$ Ci

051-166 Check Source Holder

High Voltage: 900 Vdc  
Threshold: -40 mV to 10 mV  
Temperature Range: -20 to 50°C (-4 to 122° F)  
Relative Humidity: < 95%  
Power: 2 each "D" cell batteries  
Battery Life: Typically greater than 2000 hours  
Construction: Cast and drawn aluminum with beige powder coat  
Connector: Series "C" (others available)  
Size: 6.5" H x 3.5" W x 8.5" L  
Weight: 3.5 lb (including batteries)

Specifications: Pancake GM Probe w/ Dose Compensation Filter

Indicated Use: Alpha, Beta, and Gamma surveying; sample counting

Detector: Pancake-type halogen quenched GM

Window: 1.7  $\pm$ 0.3 mg/cm<sup>2</sup> mica, protected by a stainless steel screen

Window Area: 15.5 cm<sup>2</sup> Active, 12.3 cm<sup>2</sup> Open

Efficiency (4pi): 5% - C-14, 22% - Sr-90/Y-90, 19% - Tc-99, 32% - P-32,  
15% - Pu-239, 0.2% - I-125,  $\leq$  1% - 99mTc

Dimensions: 1.8" H x 2.7" W x 10.7" L

Weight: 1 lb

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*Your quote request will be sent to you during normal business hours.*

**Request  
a Quote**

## Model 3000 Digital Survey Meter

### Features

- Large backlit LCD for Ease of reading
- Auto ranging
- Rate, max and count modes of operations
- Splash-resistant construction for outdoor use
- 4-Button intuitive interface for easy operation
- All-digital calibration
- USB port
- Lighter weight and ruggedly built



Select Probe  
from page 111

The DMS-3000 is a versatile, lightweight, ergonomically-designed instrument used with an external detector for Alpha, Beta, or Gamma radiation survey. Three modes of operation – RATE, MAX, and COUNT – are available for the user. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, Bq, dpm, mR/hr, or  $\mu\text{Sv/h}$  units. The user can switch between two sets of chosen units by simply pressing the Units button.

An internal switch is used to enable or disable the front-panel setup feature to protect desired settings from inadvertent modification. Setup is also available via software available from Ludlum Measurements. User-adjustable settings include calibration constant, dead time correction, efficiency, high voltage, pulse threshold, response time (fast or slow), count time, operational modes, HV current overload level, operational mode (Rate, Max, or Count), and minimum and maximum display levels. The user may also set Primary and Secondary units, unit alarm levels, count units, count alarm levels, and zero pulse protection time limit.

This instrument features a large, easily-readable LCD (liquid crystal display), a piercing audio warning tone, and easy, intuitive, user-friendly design. Splash-resistant construction allows the Model 3000 to be used outdoors. The unit body is made of lightweight, durable, high-impact plastic. The Model 3000 is shipped ready to use with batteries and calibration certificate.

Compatible Detectors:	GM, Scintillator or Proportional
LCD Display:	3 digit LCD with large 20 mm (0.8 in.) digits, low-battery indicator, MAX, ALARM, AUDIO
Units:	(k)cps, (k)cpm, (k)Bq, (k)dpm, ( $\mu$ )(m)R/h, ( $\mu$ )(m)Sv/h)
Display Range:	0.0 cps to 99.9 kcps; 0.00 cpm to 999 kcpm; 0.00 Bq to 99.9 kBq; 0.00 dpm to 999 kdpm; 0.00 $\mu\text{R/h}$ to 999 R/h; 0.00 $\mu\text{Sv/h}$ to 999 Sv/h Max Display can be set to limit display to calibrated range
Backlight:	Built-in ambient light sensor automatically activates low-power LED backlight, unless internal dipswitch is set to continuous-On (will reduce battery life)
On/Off/ACK:	Press to turn ON, Tap to acknowledge alarms and silence alarm tone, Press to reset Sigma Audio alarm, Hold for OFF
Mode:	Alternates between Normal (count rate), Max (captures peak rate) and Count (user-selectable preset count time from 0 to 10 minutes) Number of modes can be reduced in setup.
Controls:	
Audio :	Turn “click” audio On/Off, Turn Sigma Audio beep On/Off
Units :	Changes the units between count rate (cpm, cps), dose/exposure ( $\mu\text{Sv/h}$ , mR/h) or disintegration (dpm, Bq)
Response Time:	User-selectable from 1 to 60 seconds, or Auto-Response Rate Fast or Slow
Alarms:	Count rate, Exposure/Dose and Sclaer alarm setpoints adjustable over the display range
Loss of Count	
Alarm Protection:	After preselected time interval (default 60 seconds) of no pulses from detector, audible and visual alarms will be activated
High Voltage:	400 to 1500 Vdc
Overload:	High count rate saturation protection prevents false display of lower count rates
Audio:	< 75 dB at 0.6 (2 ft), approximately 4.5 kHz
Temperature Range:	-20 to 50 °C (-5 to 122 °F), may be certified for operation from -40 to 65 °C (-40 to 150 °F)
Environmental Rating:	NEMA (National Electrical Manufacturers Association) rating of 4x or IP (Ingress Protection) rating of 53
Power:	Four alkaline or four rechargeable “AA” batteries (instrument does not support in-device charging)
Battery Life:	Approximately 750 hours of operation (as low as 100 hours with backlight configured for continuous-on), 16-hour low battery warning
Construction:	High-impact plastic with water-resistant rubber seals and separate battery compartment
Size:	6.5" H x 4.5" W x 8.5" L
Weight:	2.0 lb

DSM-3000  
051-198

Digital Survey Meter

Check Source With Stick On Source Holder, 1.0 uCi Cs-137

**Probe Not Included. See page 111**

## Model 9 DP Pressurized Ion Chamber

### Features

- 0 to 50 mSv/h (0 to 5 R/hr) Range with  $\mu$ R/hr Sensitivity
- Sunlight Readable Color Display
- Auto Zeroing & Ranging
- Rechargeable Batteries
- Alarms
- Rate, Integrate & Peak Hold Readouts
- Data Logging
- USB Connectivity
- Free Firmware Updates through Internet



The Model 9DP pressurized ion chamber meter provides highly sensitive measurements of exposure and exposure rate. It can simultaneously display the exposure rate and integrated value or the highest rate seen by the instrument. The stunning 256-color bit-mapped display provides an optimized presentation of the data and is accompanied with icons informing the user of the active functions and instrument status. All logged data are written in csv format to a plugged-in, industry standard USB thumb drive for convenient retrieval by a PC spreadsheet or database program. Alarms are manifested using color changes on the display and an audio output.

The state-of-the-art technology of the Model 9DP delivers tremendous capability, user friendliness and convenient PC connectivity. The built-in USB port facilitates password-protected access to parameter settings via direct connection to a standard USB keyboard, thus foregoing any need to install PC application software or dealing with operating system compatibility issues.

Radiation Detected:	Gamma & X-rays above 25 keV Beta above 1 MeV
Detection Range:	R/hr units: 0 - 500 $\mu$ R/hr, 0 - 5 mR/hr, 0 - 50 mR/hr, 0 - 500 mR/hr, 0 - 5 R/hr Sv/h units: 0 - 5 $\mu$ Sv/h, 0 - 50 $\mu$ Sv/h, 0 - 500 $\mu$ Sv/h, 0 - 5 mSv/h, 0 - 50 mSv/h
Chamber Volume:	230 cm <sup>3</sup> (14 in <sup>3</sup> ) volume pressurized to 9 atm (122 psig)
Accuracy:	$\pm$ 10%
LCD Display:	8.9 cm (3.5 in.) diagonal; 240 x 320 (H x W) pixels; TFT active matrix; 262,000 colors; 220 cd/m <sup>2</sup>
Measurement Readouts:	Simultaneous display of rate, integrated reading, and highest rate (peak hold)
User Controls:	4 Pushbuttons: * Instrument On / Off * Peak rate / Integrate mode * Audio On / Off * Alarm acknowledge / Meter reset / Clearing integrated dose or peak rate
Automatic Functions:	Auto ranging, Auto zeroing, Auto LCD backlighting
Response Time:	5 s in lowest range, 2 s in all other ranges, when measuring from 10% to 90% of final value
Alarms:	Two levels of radiation alarms available, each are user programmable throughout entire readout range and set through a PC interface program. Other alarms include low battery and various detector failures.
Audio Outputs:	Built-in unimorph speaker, > 60 dB at 0.6 meters (2 ft.) An optional audio jack can be installed for connecting to an external headset.
Temperature Range:	-20 to 40 °C (-4 to 104 °F)
Power:	Eight rechargeable "AA" NiMH batteries, supplied with wall charger for direct connection to instrument
Battery Life:	12 to 30 hours between charges, depending upon use of backlighting
USB Interface:	Single USB port, may be used to: * Connect a USB keyboard * Connect a USB thumbdrive for storing logged data * Connect to a PC with the optional interface kit for parameter editing and calibration
Data Logging:	Data is stored to detachable USB thumb drive in CSV format for easy retrieval by PC spreadsheet/database programs. Data points include real-time clock generated date and time with rate, integrated reading, and instrument status. Logging time intervals are set by PC interface program or standard USB keyboard.
Construction:	Durable molded plastic with internal metal support
Size:	8.6" H x 4.6" W x 9.6" L
Weight:	3.3 lb

Model 9 DP	Pressurized Ion Chamber
Model 9-DP1	Low Pressure Ion Chamber, Non-Hazmat

## Model 2241 Digital Ratemeter/Scaler



### Features

- Digital Ratemeter with Built-In Scaler
- Auto-Ranging
- Adjustable Alarms
- Wide Range HV
- Overrange & Overload Protection

Model 2241 is a general purpose, digital ratemeter with a built-in scaler that facilitates timed counts over a user specified period. The LCD presents readings in a 4-digit moving decimal format together with one of a wide range of available units of measure and is accompanied by several operational and alert icons. The LCD backlight can be activated and remains lit for a user-adjustable interval. This instrument features adjustable Alert and Alarm setpoints for both the Ratemeter and Scaler modes. Front panel controls include a rotary switch for selecting between Off, Ratemeter Mode and Scaler Mode; switches for audio on/off and fast/slow response time; and push-buttons for activating the LCD backlight and for either resetting the counts or acknowledging alarms.

### Specifications:

Indicated Use:	General purpose survey, gross counting
Compatible Detectors:	GM, Proportional, Scintillation
Linearity:	Reading within 10% of true value with detector connected
Display:	4-digit LCD display with 1.3 cm (0.5 in.) high digits, separate annunciators for display units, alert, alarm, low battery, detector overload, counting overflow, and scaler counting
Display Range:	Auto ranging from: 0.0 $\mu$ R/hr to 9999 R/hr, 0.000 $\mu$ Sv/h to 9999 Sv/h 0 cpm to 999 kcpm, 0 cps to 100 kcps
Backlight:	Pushbutton to activate
Ratemeter:	Can display in R/hr, Sv/h, cpm, or cps when selector switch is in RATE position
Scaler:	Adjustable from 1 to 9999 s (in 1 s intervals)
Alert/Alarm:	Indicated by annunciation on display and audible tone
High Voltage:	400 to 2400 V
Discriminator:	Adjustable from 2 to 100 mV
Temperature Range:	-20 to 50 °C (-4 to 122 °F)
RS-232 Port:	Available in two output formats: binary output or ASCII output. The ASCII output format option requires a firmware change (PN 4408-192).
Power:	2 "D" cell batteries housed in an externally accessible, sealed compartment
Battery Life:	Typically 200 hours with alkaline batteries (low battery warning on LCD)
Size:	6.5" H x 3.5" W x 8.5" L
Weight:	3.5 lb

***Probe not included,  
Select Probe from page 111***

Model 2241	Digital Ratemeter/Scaler
051-196	Check Source Cs-137 1.0 $\mu$ Ci
051-166	Check Source Holder
051-197	Check Source With Stick On Holder Cs-137 0.25 $\mu$ Ci



## Model 44-9 Pancake GM Probe



Indicated Use: Alpha, Beta, & Gamma survey; sample counting  
 Detector: Pancake-type, halogen-quenched GM  
 Window:  $1.7 \pm 0.3 \text{ mg/cm}^2$  mica  
 Window Area:  $15.5 \text{ cm}^2$  (2.4 in<sup>2</sup>) Active;  $12.3 \text{ cm}^2$  (1.9 in<sup>2</sup>) Open  
 Efficiency (4II) : 5% - <sup>14</sup>C, 22% - <sup>90</sup>Sr/<sup>90</sup>Y; 19% - <sup>99</sup>Tc; 32% - <sup>32</sup>P;  
 15% - <sup>239</sup>Pu,  $\leq 1\%$  - <sup>99m</sup>Tc; 0.2% - <sup>125</sup>I  
 Sensitivity: Typically 3300 cpm/mR/hr  
 Energy Response: Energy dependent  
 Background: 60 cpm  
 Dead Time: 80 us  
 Operating Voltage: 900 Vdc  
 Connector: Series "C" (others available)  
 Construction: Aluminum housing with beige powder-coat finish and stainless steel protective screen (79% open)  
 Input Sensitivity:  $\geq -30 \text{ mV}$   
 Size: 1.8" H x 2.7" W x 10.7" L  
 Weight: 1 lb

44-9 Probe with Exposure Filter or Dose Filter also available

- 051-449 Pancake GM Probe
- 051-230 Optional 39" "C" Series Connecting Cable

## Model 44-38 Energy Compensated Beta Gamma Probe



Indicated Use: Beta-Gamma survey  
 Detector: Halogen quenched GM, 30-45 mg/cm<sup>2</sup> stainless steel wall  
 Detection Range:  $\pm 10\%$  up to 50 mR/hr without DTC  
 $\pm 10\%$  up to 500 mR/hr with DTC  
 Sensitivity: 1200 cpm per mR/hr with window closed  
 Energy Response: (60 keV-1-3 MeV): within 20% of <sup>137</sup>Cs (662 keV)  
 Beta Cutoff: Approximately 200 keV (window open)  
 Background: 20 cpm Closed; 25 cpm Open  
 Dead Time: 95 microseconds (typical)  
 Operating Voltage: 900 volts  
 Construction: Anodized aluminum housing  
 Window Construction:  
 Low Energy Blocking Shield: tin shields mounted on aluminum (1353 mg/cm<sup>2</sup>) with solid aluminum section in the middle  
 Low Energy Pass Through Window: solid aluminum (610 mg/cm<sup>2</sup>)  
 Connector: Series "C"  
 Size: 1.3" Diameter x 6.5" L  
 Weight: 1 lb

- 051-278 Model 44-38 Energy Comp. Probe
- 051-230 Optional 39" "C" Series Connecting Cable

## Model 44-7 End Window GM Probe



Indicated Use: Alpha, Beta, Gamma survey; Sample counting  
 Detector: End window, halogen-quenched GM  
 Window:  $1.7 \pm 0.3 \text{ mg/cm}^2$  mica  
 Window Area:  $6 \text{ cm}^2$  (0.93 in<sup>2</sup>) Active;  $5 \text{ cm}^2$  (0.78 in<sup>2</sup>) Open  
 Efficiency (4II) : 2% - <sup>14</sup>C, 10% - <sup>90</sup>Sr/<sup>90</sup>Y; 7% - <sup>99</sup>Tc; 7% - <sup>239</sup>Pu, 0.1% - <sup>125</sup>I  
 Sensitivity(<sup>137</sup>Cs gamma): 2100 cpm/mR/hr  
 Energy Response: Energy dependent  
 Background: 40 cpm  
 Dead Time: 200 microseconds (typical)  
 Operating Volume: 900 volts  
 Connector: Series "C" (others available)  
 Construction: Anodized aluminum housing  
 Size: 1.8" Diameter x 5.8" L  
 Weight: 1 lb

- 051-447 End Window GM Probe
- 051-230 Optional 39" "C" Series Connecting Cable

## Model 44-3 Low Energy Gamma Scintillator Probe



Indicated Use: <sup>125</sup>I and low energy gamma survey  
 Detector Type: NaI(Tl) scintillator, 1" Diameter x 1 mm thick  
 Window:  $18.4 \text{ mg/cm}^2$   
 Window Area:  $5 \text{ cm}^2$  (0.8 in<sup>2</sup>) Active and Open  
 Efficiency (4II): 33.5% - <sup>125</sup>I (based on <sup>129</sup>I efficiency of 18%)  
 Sensitivity: 675 cpm/ $\mu$ R/hr (<sup>125</sup>I)  
 Background (10  $\mu$ R/hr): 300 cpm  
 Recommended Energy Range: 10-60 keV  
 Energy Response: Energy dependant  
 Photomultiplier Tube: 1.5" Diameter  
 Operating Voltage: 500-1200 V (typical)  
 Connector: Series "C"  
 Construction: Aluminum with beige powder coat  
 Size: 2" Diameter x 7" L  
 Weight: 1 lb

- 051-443 Model 44-3 Low Energy Gamma Scintillator
- 051-230 Optional 39" "C" Series Connecting Cable

## Model 44-2 Gamma Scintillator Probe



- 44-2 Model 44-2 Gamma Scintillator Probe
- 051-230 Optional 39" "C" Series Connecting Cable

Indicated Use: Low-level, wide-energy gamma survey  
 Detector Type: NaI(Tl) scintillator, 1" Diameter x 1" L thick  
 Efficiency: <sup>125</sup>I - 7%, <sup>57</sup>Co - 10%, <sup>137</sup>Cs - 3%, <sup>60</sup>Co - 3%  
 Sensitivity (<sup>137</sup>Cs gamma): 175 cpm/ $\mu$ R/hr  
 Recommended Energy Range: 20 KeV - 1.5 MeV  
 Energy Response: Energy dependant  
 Background: 1800 cpm  
 Photomultiplier Tube: 1.123" Diameter, magnetically shielded  
 Operating Voltage: 500-1200 V  
 Temperature Range: 5 to 122° F, may be certified for -40 to 150°F  
 Connector: Series "C"  
 Construction: Aluminum with beige powder coat  
 Size: 2" Diameter x 7.3" L  
 Weight: 1 lb

## Digital Handheld Dose Rate Meter



The RDS-30 is a Digital Handheld Dose Rate Meter designed for a wide range of applications involving a possibility for abnormal radiation levels.

### Features:

- Measurement and display in  $\mu\text{Sv/hr}$  or  $\text{mRem/hr}$
- Dose measurement indication
- High battery life time (>1 year)
- Compliant to IEC 60846
- Dose rate follow-up by audible signal with frequency proportional to dose rate
- Visual and audible alarm: user settable for dose and dose rate over the whole measurement range
- Histogram capability of up to 480 dose rate values with user settable logging interval
- Backlit display with six large digits
- Built-in self-diagnostics complies with ANSI N42.33 and IEC 60846 standards

### Radiological Characteristics:

- Radiation detected: Gamma and X-ray from 48 keV to 3 MeV
- Detector: energy compensated GM tube compliant to H\*(10)
- Dose rate measurement range: from 0.01  $\mu\text{Sv/hr}$  to 100  $\text{mSv/hr}$  or from 1  $\mu\text{rem/hr}$  to 10  $\text{rem/hr}$
- Dose rate linearity:  $\pm 10\% \pm 1$  digit within the range of 0.1  $\mu\text{Sv/h}$  to 100  $\text{mSv/h}$  or 10  $\mu\text{rem/h}$  to 10  $\text{rem/h}$
- Calibration accuracy:  $\pm 5\%$  of the reading in  $^{137}\text{Cs}$  exposure, at 3  $\text{mSv/h}$ ,  $\pm 20^\circ\text{C}$  ( $68^\circ\text{F}$ )
- Energy response:  $\pm 30\%$  over the range of 48 keV - 3 MeV
- Angular response:  $\pm 25\%$  within  $\pm 45\%$  from the calibration direction at 48 keV
- Dose measurement range: from 0.01  $\mu\text{Sv}$  to 1 Sv or from 1  $\mu\text{rem}$  to 100 rem
- Dose Rate: Follow-up by audible signal with frequency proportional to dose rate
- Dose Measurement: ( $\mu\text{Sv} / \text{mRem}$ )
- Built-in Infrared port (IrDA)

### Mechanical Characteristics:

- Case : rugged plastic, easy to decontaminate
- Dimensions: 3" W x 5" L x 1.25" D
- Weight: .5 lb with batteries

### Electrical Characteristics:

- Power supply: 2 alkaline batteries IEC LR6/AA size (recommended)
- Battery Life Time: at least 2000 hours at normal background with alkaline cells (more than 1 year under normal operation)
- Battery Alarm: two-step alarm for low battery voltage
- Electromagnetic Compatibility: CE compliant

### Environmental Characteristics:

- Temperature range:  $-13^\circ\text{... } 131^\circ\text{F}$  operational  
 $-40^\circ\text{... } 158^\circ\text{F}$  storage
- Protection level: IP67 (temporary immersion/floating device)

RDS-30/MR Digital Handheld Dose Rate Meter (mRem/h)

## Integrated Frisker



Dimensions: 10.7" L x 2.7" W x 1.8" H  
Weight: 1 lb

### Features

- Integrated, Lightweight Design Simplifies Frisking
- High-Impact Plastic with Water-Resistant Rubber Seals
- Employs Standard 15.51 cm<sup>2</sup> GM Pancake Detector
- Displays in mR/hr,  $\mu$ Sv/h, dpm, Bq, cpm, or cps
- Dead-Time Correction (DTC) Allows Gamma Measurements Up to 500 mR/hr or Up to 1999  $\mu$ Sv/h
- Simple Three-Button Operation
- Count Rate, Dose/Exposure, and Counting Alarms
- Automatic Display Backlight
- Bright **Red Flashing ALARM** LED
- Includes Wrist Strap, Clear Pancake Cover & Ludlum Lanyard

### Specifications:

Detector:	Pancake GM detector, stainless steel screen (79% open)
Window Area:	Active 15.51 cm <sup>2</sup> (2.4 in <sup>2</sup> ) Open - 12.26 cm <sup>2</sup> (1.9 in <sup>2</sup> )
Efficiency:	Alpha 239Pu : 11%, 99Tc : 18%, 32P : 32% Beta 14C : 2%, 90Sr/Y : 22%, 125I : 0.2% Gamma 137Cs : 5.5 cps per $\mu$ Sv/hr (3300 cpm per mR/hr), 99mTc : $\leq$ 1%
LCD Display:	3½ digit LCD with large 12.7 mm (0.5 in.) digits, low-battery indicator, MAX, ALARM Units: (k)cps, (k)cpm, (k)dpm, (k)Bq, mR/hr, $\mu$ Sv/h, Bq, and dpm
Range:	0.1 cps to 19.9 kcps, 1 cpm to 999 kcpm, 0.0 to 500 mR/hr, 0.01 to 1999 $\mu$ Sv/h, 0.1 to 19.9 kBq
Backlight:	Built-in ambient light sensor automatically activates low-power LED backlight, or may be configured for 'Continuous On' operations (will reduce battery life)
Controls:	ON / OFF / Quiet Mode: Alternates between: NORMAL : count rate MAX : captures peak rate COUNT : user-selectable preset count time from 0 to 20 min. Units: Changes units between: Count rate (cpm, cps), Dose/Exposure ( $\mu$ Sv/h, mR/hr), Activity (dpm/Bq)
Response Time:	User-selectable from 1 to 60 s, or automatic FAST or SLOW
Resolving Time:	Approximately 110 $\mu$ s as defined by IEC 60325
Alarms :	Count rate and scaler alarm setpoints adjustable over the display range
Zero Protection:	After 60 s of no pulses from detector, unit will flash a zero reading and the alarm audio will be triggered
Overload:	High rate saturation protection, indicated by flashing display and audio alarm, prevents false display of lower count rates
Click Audio:	Greater than 60 dB at 0.6 m (2 ft)
Temperature Range:	-20 to 50 °C (-4 to 122 °F) May be certified for operation from -40 to 65 °C (-40 to 150 °F)
Power:	Two "AA" batteries
Battery Life:	Approximately 1000 hours of operations (16-hour low battery warning) (as low as 500 hours with backlight configured for 'Continuous On')

## Monitor 4 Survey Meter



- Monitors Alpha, Beta, Gamma and X-ray radiation
- Dual-scale analog meter (CPM and mR/hr)
- Operating range: 0-50 mR/hr, 0-50,000 cpm
- Multiplier selections: x1, x10, x100
- Red LED flashes with counts
- Audible beep indicates rising radiation level
- Operates up to 2,000 hours on 9V battery
- Weighs less than 9 ounces (including battery)

### Specifications:

**Detector:** Halogen-quenched uncompensated GM tube with thin mica window 1.5- 2.0 mg/cm<sup>2</sup> thick

**Energy Sensitivity:** Detects alpha down to 2.5 MeV; typical detection efficiency at 3.6 MeV is greater than 80%  
 Detects beta at 50 keV with typical 35% efficiency  
 Detects beta at 150 keV with typical 75% efficiency  
 Detects gamma and x-rays down to 10 keV typical through the end window, 40 keV minimum through the case

**Accuracy:** ±15% of full scale (referenced to Cs-137)

**Visual Indicators:** .875" x 1.75" dual scale analog meter, marked 0-500 cpm and 0-0.5 mR/hr; LED count light

**Audio Indicator:** Internally mounted beeper (can be switched off for silent operation.)

**Range Switch:** x1, x10, x100, battery check

**Ranges:** 0-500, 0-5,000, 0-50,000 cpm  
 0-0.5, 0-5, 0-50 mR/hr

**Current Drain:** Typically 190µA at background radiation levels

**Operating Voltage:** Range: 7-11 Volts DC

**Voltage Regulation:** High and low voltage fully regulated

**Power Requirement:** One 9-volt alkaline battery NEDA #1604A, or equivalent

**Battery Life:** Up to 2000 hrs at normal background radiation levels

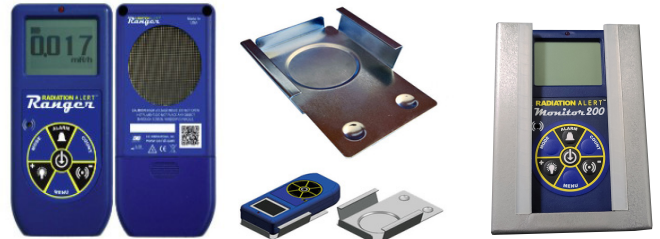
**Temperature Range:** -4°F to +131°F

**Dimensions:** 8.25" L x 2.75" W x 1.87" D

**Weight:** 9.7 oz including battery  
 7.2 oz without battery

078-400 Monitor 4 Survey Meter  
*Includes: Protective case (battery not included)*

## Ranger Survey Meter



078-510

078-513

078-514

- Count range: 1 to 9,999,000 counts
- Range: 0-350,000 cpm
- Red LED count light
- Audible beeper (can be switched off)
- External calibration controls
- Adjustable timer from 1 to 24 hours; default is 10 minutes
- User selectable display for mR/hr, uSv/hr, CPM and CPS
- Internal Memory
- Observer USB Software - can be downloaded
- Includes case
- Wipe Test Plate positions wipe directly in front of detector at 1 cm distance; protects GM from damage/contamination when meter is not in use

### Specifications:

**Detector:** Halogen-quenched uncompensated GM tube with thin mica window, 1.4- 2.0 mg/cm<sup>2</sup> area density

**Window:** 1.77" effective diameter

**Display:** Backlit graphic LCD with backlight

**Averaging Periods:** Display will update every 3 seconds; at low background levels, the update is the moving average for the past 30-second time period. Time period for moving average decreases as radiation level increases

**Gamma Sensitivity:** 3340 cpm/mR/hr (referenced to Cs-137); smallest detectable level for I-125 is .02 µCi at contact

**Operating Range:** mR/hr- .001 (1µR) to 100; CPM- 0 to 350,000  
 µSv/hr- .01 to 1000; CPS- 0 to 5000

**Energy Sensitivity:** Detects Alpha down to 2 MeV. Detects Beta down to .16 MeV; typical detection efficiency at 1 MeV is approx. 25%. Detects Gamma down to 10 KeV through the end window.

**Accuracy (Referenced to Cs-137):** Typically ±15% from factory

**Timer:** One minute to 24 hours, default is 10 minutes

**Count Light:** Red LED flashes with each radiation event

**Audio Indicator:** Internally mounted beeper (can be switched off for silent operation)

**Outputs:** USB

**Menu:** Options accessed by holding down menu button. Pressing the menu button toggles you through functions. Select "+" or "-" to change setting.

**Built-In Efficiencies:** <sup>35</sup>Sulfur(S35), <sup>90</sup>Strontium (Sr/y90), <sup>137</sup>Cesium (Cs137), <sup>32</sup>Phosphorus (P32), <sup>14</sup>Carbon (C14), <sup>131</sup>Iodine (I131), <sup>60</sup>Cobalt (Co60), and Alpha

**Power Requirements:** (2) AA alkaline batteries, included

**Dimensions:** 2.7" W x 1.3" D x 5.5" H

**Weight:** 8 oz without battery

078-514 Shield Dimensions: 10.3" L x 4.8" W x 1.5" H, Weight 7.8 lb  
 Construction: Steel with 0.5" thick lead lining in left and right side walls

078-510 Ranger Survey Meter  
*Includes: Case, boot, stand, mini USB cable, Observer USB software download and certificate of compliance*

078-513 Ranger Survey Meter  
*Includes: 078-510, wipe test plate*

078-514 Ranger Survey Meter Shield  
*For 078-513*



## Model 177 Alarm Ratemeter



The Model 177 is a rugged benchtop ratemeter with alarming capability. They are very popular for frisking operations at stations where line power is available but can also be used in portable applications for up to 50 hours using the internal rechargeable battery.

The 177 supports GM and scintillation type detectors and displays the results on a linear readout analog meter. The audio alarm is adjustable from 0 through 150% of full scale, and is factory set to latching. Reconfiguration to non-latching can be accommodated via a minor internal change.

Front-panel controls include a 4-position rotary switch for selecting each detector decade, an alarm set control, an audio volume adjust, fast/slow response switch, power on/off switch and push buttons for count reset, battery test, high-voltage test and alarm test. The back panel contains the power cord connection and a 9-pin type "D" plug, power output, alarm output, pulse output, and a recorder output.

### Specifications:

Application: Multi-purpose radiation monitoring, surveying; frisking

Compatible Detectors: GM, scintillation

Linearity: Within 5% of full scale

Meter Dial: 0-500 cpm, 0-1.5 kV, BAT TEST

Meter: 6.4 x 6.4 cm (2.5 x 2.5 in) 1 mA, DC movement

Multipliers: x1, x10, x100, x1k

Response: Toggle switch control selects FAST (2.2 sec) or SLOW (22 sec) response, for 90% of full scale reading

Alarm Set: Front-panel locking control allowing alarm to be set at any point on the meter (can be read on meter)

Reset: Push-button to zero meter and/or reset alarm

Calibration Controls: Accessible from back of instrument (protective cover provided)

Alarm: Indicated by red lamp and audible tone (greater than 60 dB at 61 cm (2 ft))

High Voltage: Adjustable from 400 to 1500 volts

Input Sensitivity: Adjustable from -10 to -100 mV

Audio: Built-in unimorph speaker, with volume control, to provide click-per-event audio or audible alarm indicator

Data Out: 9-pin series "D" connector allowing for external connections of the following items: battery, unregulated supply, instrument common ground, alarm signal (current sink), pulse out, external background subtract, and recorder output.

Recorder Output: Correlated to meter reading (adjustable to 0 to 1.25 volt at 1 mA)

Power: 95-250 Vac and 6-volt sealed lead-acid rechargeable battery (built-in)

Battery Life: Typically 50 hours in non-alarm condition (battery condition can be checked on meter)

Battery Charger: Battery is continuously trickle-charged when instrument is connected to line power and turned on

Size: 5" H x 8" W x 6" L  
Weight: 4.2 lb

051-177 Model 177 Alarm Ratemeter  
*Probe not included*

**Select Probe from page 111**

## Model 177 Alarm Ratemeter with Pancake GM Probe and Foot Monitor



- Monitors Alpha, Beta, and Gamma radiation
- Audible alarm with red indicator light for continuous area monitoring
- Portable surveying with Pancake GM Probe (cable included)
- 0-500K cpm range
- Operates on wall current or rechargeable battery
- Equipped for simultaneous hand and shoe contamination monitoring
- Includes:
  - Model 177 Alarm Rate Meter (051-177)
  - Model 44-9 Pancake GM Probe (051-449)
  - Model 44-26 Pancake GM Foot Frisker
  - Tee Connector
  - 39" Cable (2)

Model 177 (051-177) specs are listed to the left of this page

Model 44-9 (051-449) specs are listed on page 131

### Model 44-26 Pancake GM Foot Frisker Specifications:

Indicted Use: alpha, beta, gamma foot monitor

Detector Type: 3 pancake-type, halogen quenched GMs

Window: 1.7 + 0.3 mg/cm<sup>2</sup> mica

Window Area: Active 46 cm<sup>2</sup>, Open 27 cm<sup>2</sup>

Efficiency: <sup>14</sup>C-5%, <sup>90</sup>Sr/<sup>90</sup>Y-22%, <sup>99</sup>Tc-19%, <sup>32</sup>P-32%, <sup>239</sup>PU-15% (4pi geometry)

Energy Response: Energy dependent

Sensitivity: 9900 cpm/mR/hr

Background: 180 cpm

Operating Voltage: 900V

Construction: Aluminum housing

Dimensions: 10.8" H x 7" W x 9" L

Weight: 4.4 lb

Cable: 60"

Connectors: Type "C"  
(\*Type "C" connector included for simultaneous use with Pancake Probe)

051-027 Alarm Ratemeter  
*Includes: Model's 177, 44-9, 44-26, Tee Connector and Cable*

## Digital Area Monitor

Available in mR/hr or  $\mu$ Sv/hr



### Features:

- Affordable Area Monitor
- $1\mu\text{Sv/h}$  to  $10\text{ mSv/h}$  ( $0.1\text{ mR/hr}$  to  $1\text{ R/hr}$ )
- Integrated Design
- Battery Backup
- Networkable
- Audio & Visual Alarms

Designed for visibility and ease of use. This monitor incorporates an internally housed energy compensated GM detector with a range from  $1\mu\text{Sv/h}$  to  $10\text{ mSv/h}$  ( $0.1\text{ mR/hr}$  to  $1\text{ R/hr}$ ). It features a wall-mount chassis and a four-digit LED display that is readable from 9 meters (30 ft) away. Backlit indicators warn of low radiation (yellow), high radiation (red), instrument failure (red), and low battery (yellow), along with an alarm. A green status light is a positive indication of instrument operation.

Parameters are protected under a calibration cover. Calibration is easily accomplished by moving the cal dipswitch to the right, and using the pushbuttons to increment or decrement the calibration constant, dead time correction, and alarm point parameters. Parameters are stored in non-volatile memory (retained even with power disconnected). A five-decade logarithmic analog output is provided. A battery backup provides 48 hours of additional use after the primary power is removed.

### Specifications:

Application: Gamma monitoring  
 Detector: Energy compensated GM  
 Operating Range:  $1\mu\text{Sv/h}$  to  $10\text{ mSv/h}$  ( $0.1\text{ mR/hr}$  to  $1\text{ R/hr}$ )  
 Display: 4-digit LED display with 2 cm character height  
 Display Range: 000.0- 9999 (Series One: 00.00 to 9999)  
 Display Units:  $\mu\text{R/hr}$ ,  $\text{mR/hr}$ ,  $\text{R/hr}$ ,  $\mu\text{Sv/h}$ ,  $\text{mSv/h}$ ,  $\text{Sv/h}$ ,  $\mu\text{rem/hr}$ ,  $\text{mrem/hr}$ ,  $\text{rem/hr}$ ,  $\text{cpm}$ ,  $\text{cps}$ , and others  
 Linearity: Reading within  $\pm 10\%$  of true value with detector connected

Response: Typically three seconds (10%- 90% of final reading)  
 Instrument Status: Green Light instrument functioning properly  
 Low Alarm: Yellow Light and Slow Beep (one per second) audible tone (can be set at any point from 0.0- 9999)  
 High Alarm: Red Light and fast beep (4 per second) audible tone (can be set at any point from 0.0- 9999)  
 Low Battery: Yellow Light indicates less than two hours of battery power remaining  
 Overload: Senses detector saturation (indicated by display reading "- OL -")  
 Overrange: Indicates radiation field being measured has exceeded counting range of instrument  
 Calibration Controls: Accessible from front of instrument (protective cover provided)  
 High Voltage: User-adjustable from 450- 2500 volts  
 Dead Time: User-adjustable to compensate for dead time of detector and electronics (can be read on display)  
 Audio: Can vary from approximately 68 dB through operation of the external rotary baffle and the internal voltage connection  
 RS-232 Output: A 2-second dump for computer data logging  
 Remote Display: Optional relay output available for connecting remote displays  
 Ethernet: Optional 10 Base-T connection for use with Ludlum Model 375 software  
 Temperature Range:  $-15$  to  $50^\circ\text{ C}$  ( $5$ - $122^\circ\text{ F}$ ) May be certified for operation from  $-40$  to  $65^\circ\text{ C}$  ( $-40$  to  $150^\circ\text{ F}$ )  
 Power: 9 Vdc wall-mount adapter with four sets of prongs for almost any style wall receptacle  
 Battery Life: 48 hours in non-alarm condition (typical)  
 Battery Life: 12 hours in alarm condition (typical)  
 Battery Charger: Battery is continuously trickle charged when instrument is connected to line power and turned on  
 Construction: Aluminum housing with ivory powder coat finish  
 Dimensions: 7.4" H x 9.7" W x 2.5" D  
 Weight: 4.7 lb

051-275 Digital Area Monitor, 90-260 Vdc  
 Includes: Built-in GM Gamma Detector  
 Display is in mR/hr

051-273 Digital Area Monitor, 90-260 Vdc  
 Includes: Built-in GM Gamma Detector  
 Display is in  $\mu\text{Sv/hr}$

## Surface / Waste Contamination Monitor



- Excellent Surface Contamination Screening Tool for:
  - Small articles
  - Baggage
  - Packages
  - Medical Waste
- Affordable Digital Controller
- Dual Large Plastic Scintillator Detectors
- Programmable Alarms
- Networkable
- Battery Backup



- The Model 375P-336 is a Digital Model 375 Controller coupled to two 2753 cm<sup>3</sup> (168 in<sup>3</sup>) plastic scintillation detectors
- These components are indoor units that are typically wall-mounted
- This simple and cost-effective solution offers a system that is easy to operate and maintain
- The controller supplies local alarms, but can also be connected to external alarms or even put onto an Ethernet network if desired
- It additionally has a 24-hour battery backup to keep the system operational in the event power is lost

**Medical Application:** This instrument is ideal for monitoring personnel or laundry for possible contamination in the nuclear medicine department. The monitor may also be used as a radiation contamination triage device to alert emergency department personnel of potentially contaminated patients or equipment coming into the emergency room.

**Surface Contamination Inspection:** Inspecting items using hand held instruments can be too time consuming in many cases. The Model 375P-336 allows a more rapid and uniform inspection by placing two relatively large sized scintillation detectors in close proximity to the incoming or outgoing articles undergoing inspection. Both detectors are continuously monitored by the digital controller so any offending item can immediately trigger an alarm. Alarm conditions can be set up to automatically halt production conveyance devices, notify the central office and even alert key personnel to initiate an immediate response.

### Specifications:

**Detector:** 2 ea. 2753 cm<sup>3</sup> (168 in<sup>3</sup>) plastic scintillation detectors  
Each detector is supplied with a 15.2m (50 ft) coaxial cable

**Display:** 4-digit LED display with 2 cm (0.8 in.) digits

**Display Units:** Can be made to display in uR/hr, mR/hr, R/hr, uSv/h, mSv/h, Sv/h, cpm, cps, and others

**Range:** 0.0 to 9999 kcps

**Linearity:** Reading within 10% of true value

**Response:** Typically 3 seconds from 10% to 90% of final reading

**Status:** **Green Light**, instrument functionally properly

**Sigma Alarm:** **Red ALARM** light and adjustable audible tone  
(can be set at any point from 0.0 to 999 sigma)

**Sum Alarm:** (for 2 detector system) indicated by **Red ALARM** light and audible tone

(can be set at any point from 0.0 to 9999 kcps)

**DET Fail:** **Red Light** and audible tone: greater than 68 dB at 61 cm (2 ft) indicates no counts from detector or instrument failure

**Low BAT:** **Yellow Light** indicates less than 2 hours of battery power remaining (when AC power is off)

**Overrange:** Indicates measured radiation field has exceeded counting range of instrument  
(indicated by display reading "--")

**Relay Output:** Mains (120 or 240 Vac) output on alarm, 9-pin connector providing RS-232 output, signal ground connection, FAIL and ALARM signals (current sink) and direct connection to battery and ground

**Calibration Controls:** Accessible from front of instrument  
(protective cover provided)

**Temperature Range:** 5° to 122 °F

**Power:** 95-135 Vac (178-240 Vac available), 50-60 Hz,  
6 V sealed lead-acid rechargeable battery (built-in)

**Battery Life:** Typically 24 hours in non-alarm condition

**Battery Charger:** Battery is continuously trickle-charged when connected to line power and turned on

**Construction:** Aluminum housing with ivory powder-coat

**Size:** Electronics: 10.3" H x 9.7" W x 3.3" L

Detectors (ea): 41" H x 6.75" W x 2.125" L

**Weight:** Electronics: 9.3 lb

Detectors (ea) 23.5 lb

375P-336 Surface/Waste Monitor  
N21R-LED Horn/ Strobe LED Light  
APC-336 Aluminum Protection for Detector

## Electronic Personal Dosimeter

- Light Weight and Slim Design  
2 oz. 4.3" L x 1.2" W x .5" D
- X-ray and Gamma Radiation Monitoring
- Audible Alarm



### Specifications:

Radiation Detected:	Gamma and X-ray (35 keV to 3 MeV)
Detector:	Silicon semiconductor
Measurement and Display Range:	0.1 mrem to 99.99 rem ( <i>automatically deleted when switched 'On'</i> )
Accumulated Dose:	0.001 mSv to 999.9 mSv
Dose Rate*:	0.1 mrem/hr to 99.99 rem/hr 0.001 mSv/h to 999.9 mSv/h
Display:	4-digit OLED with indicators for dose, dose rate, operating time and alarm
Accuracy:	$\leq \pm 10\%$ (0.01 to 999.9 mSv (1.0 mrem to 99.99 rem), 137Cs)
Energy Response:	$\leq \pm 20\%$ (60 keV to 1.5 MeV, 137Cs)
Angular Response:	$\leq \pm 20\%$ (Up to $\pm 60$ degree vertical and horizontal, 137Cs)
Dose Rate Linearity*:	$\leq \pm 10\%$ (137Cs)
Alarm Volume:	Approximately 60 dB (at 20 cm)
Environment:	-10 to 40 °C (14 to 104 °F) $\leq 90\%$ relative humidity (non-condensing)
Power:	One each coin-type lithium battery (CR2450, P/N 21-8639)
Battery Life:	720 hours (without alarm / communication)

\*Note: The instrument indicates rough value for dose rate measurements in low radiation fields, such as less than 1 mSv/h (100 mrem/h), so it should only be used for reference.

PTI-EPDR            Electronic Personal Dosimeter, mR

PTI-EPDS            Electronic Personal Dosimeter, mSv

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*Your quote request will be sent to you during normal business hours.*

**Request  
a Quote**



## Direct Reading Dosimeters

The Direct-Reading Dosimeter is a pocket-size, carbon-fiber electroscopes with an ion chamber for detecting and indication of integrated exposure to Gamma and X-Ray radiation. It has a thin wall which permits the penetration and detection of radiation. This model comes with a hardened sapphire window that won't scratch even in the toughest of conditions.

**Specifications:**

- Radiation Detected: Gamma and X-Ray from 16 keV to 6 MeV
- Detector: Fiber-Electrometer mounted in an Electrically Conductive Plastic Ion Chamber
- Detector Housing: Very low permeability plastics - Hermetically-Sealed
- Accuracy: +/- 10% of true exposure
- Rate Response: Dose rate independent for Gamma and X-Ray
- Electrical Leakage: Less than 1.0% of full scale for 24 hours at 50 C
- Temperature Range: -20°C to +50°C
- Relative Humidity: Up to 90%
- Dimensions: 4.5" (12.4 cm) Length X .6" (1.5 cm) Diameter
- Weight: 1.0 oz.
- Finish: Natural Matte Black with a Metal Clip
- 019-201 Direct Reading Dosimeter, 0-200 mR
- 019-500 Direct Reading Dosimeter, 0-500 mR
- 019-010 Direct Reading Dosimeter, 0-2 R



## Dosimeter Charger

- Used to "zero" all Direct-Reading Dosimeters
- For use with Direct Reading Dosimeters only

- 020-001 Dosimeter Charger (battery included)
- 066-350 Replacement Battery



## Personal Radiation Monitor

**Features**

- Dose Rate Range: 0 to 999 R/hr
- Accumulated Dose Range: 0 to 999 R
- Loud Alarms
- Easy to Use
- Backlit LCD Display

**Specifications:**

- Display Range: 0.01 mR/hr to 999 R/hr
- Detector: Internal energy-compensated GM
- Gamma Response: Typically 18 cpm per mR/hr (1800 cpm per mSv/h)
- Energy Range: 60 keV to 2 MeV
- Display: 3½ digit backlit LCD display with a total range from 0.01 mR/hr (or mR) to 999 R/hr (or R), also displays time remaining from 19:59 to 00:01 (in hh:mm format)

**Alarms:** Radiation alarms adjustable over entire range (Dose rate alert, Dose rate (hi), Accumulated dose alert, Accumulated dose (hi), Time remaining to allowed dose (hi), Detector failure alert, Low-battery)

**Alarm Indications:** Distinct alerts and alarms for exposure and accumulated dose

**Loss of Count:** Detector failure results in a visual and audible warning

**Audio:** Built-in speaker (typically 95 dB at 30.5 cm [1 ft])

**Calibration:** Requires no tools or software when exposed to a traceable radiation field

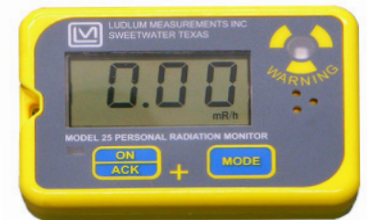
**Calibrated Range:** Normally calibrated from 2 mR/hr (0.02 mSv/h) to 999 R/hr (9.99 Sv/h)

**Temperature Range:** -40 to 65 °C (-40 to 150 °F)

**Power:** 2 each lithium coin cell batteries

**Battery Life:** Typically 6000 hours (Provides 8 hours warning of low battery)

**Construction:** Injection-molded plastic housing with sub-surface printed membrane front panel, completely gasketed for water resistance, supplied with rubber boot with built-in belt feed-through



Dimensions: 3" L x 2.1" W x .69" H  
Weight: 5.1 oz

- PTI-PRM Personal Radiation Monitor, mR
- PTI-PRMV Personal Radiation Monitor, mSv

Call Pinestar toll-free 1-800-682-2226, to place an order

## Personal Electronic Dosimeter



The RAD-60 Personal Alarm Dosimeter is a precise radiation measuring instrument for reliable detection and registration of radiation in order to ensure the personal safety of the user. It is suitable for a broad range of everyday radiation monitoring purposes in stand alone conditions.

- Reader Communication: By infrared through bottom part; By using ADR-1 Reader Head in combination with Mirion PC software
- Radiation Detected: Gamma and X-rays
- Detectors: Energy compensated Si-Diode
- Measurement Range:
  - Dose: 1  $\mu\text{Sv}$  - 9.99 Sv or 0.1 mRem - 999 Rem
  - Dose Rate: 5  $\mu\text{Sv/h}$  - 3 Sv/h or 0.5 mRem/h - 300 Rem/h
- Calibration Accuracy: Better than  $\pm 5\%$  (Cs-137, 662 keV at 2 mSv/h), Hp(10)
- Energy Response:
  - Hp(10), 60 keV - 3 MeV
  - Better than  $\pm 25\%$ , up to 6 MeV
  - Better than  $\pm 35\%$
- Dose Rate Linearity:
  - Better than  $\pm 15\%$ , up to 3 Sv/h (300 Rem/h)
  - Better than  $\pm 10\%$  for 0.005 mSv/h - 1 Sv/h (1 mRem/h-100 Rem/h)
- Audible Alarms: Eight separate alarms, sound level typically better than 85 dBA at 30 cm, integrated dose, dose rate, dose overflow, dose rate over flow at 3 Sv/h or 300 Rem/h, low battery 1 and 2, defect
- 
- Dimensions: 3.1" L x 2.6" W x 0.8" H (7.8 x 6.7 x 2.2 cm)
- Weight: .175 lb (.08 kg) including battery
- Power Supply: One AAA alkaline cell, life typically 1800 h in background field (dose mode)

RAD-60R	Personal Electronic Dosimeter (Rem/h)
RAD-60S	Personal Electronic Dosimeter (Sv/h)

## DMC-3000 Personal Electronic Dosimeter

- Loud alarm, 85 dB (A) typical, (> 90dB (C) peak)
- Vibrating alarm
- Highly visible backlit display
- Optional telemetry module
- Simple 2-button navigation
- Extended dose rate alarms
- Dual ultrabright LED alarm
- Superior X-ray and gamma energy response
- Meets or exceeds applicable IEC and ANSI standards
- Designed for ruggedness and durability



### Physical Characteristics:

- Compliant with IEC 61526Ed. 3, ANSI 42.20 (\*)/
- (\*) *isotropy  $^{241}\text{Am}$  and  $^{137}\text{Cs}$  with  $\pm 75^\circ$  angle*
- **Measurement and display:** X and gamma energy range: 15 keV to 7 MeV; Energy response better than  $\pm 20\%$  (typically  $\pm 10\%$ ) from 16 keV to 7MeV
- **Accuracy Hp(10):**  $\leq \pm 10\%$  \* ( $^{137}\text{Cs}$ ,  $\sim 24$  mSv/h);  $\leq \pm 15\%$ \*, ( $^{241}\text{Am}$ ,  $\sim 23$  mSv/h);  $\leq \pm 19\%$ \*\*X-ray 16 keV (*\*including  $\pm 5\%$  extended uncertainty  $k=2$* ); (\*\* *including  $\pm 9\%$  extended uncertainty  $k=2$* )
- **Display units:** mSv,  $\mu\text{Sv}$ , or mRem
- **Display dose:** 1  $\mu\text{Sv}$  to 10 Sv (0.1 mRem to 1000 Rem)
- **Display rate:** 10  $\mu\text{Sv/h}$  to 10 Sv/h (1 mRem/h to 1000 Rem/h) or 1  $\mu\text{Sv/h}$  to 10 Sv/h (0.1 mRem/h to 1000 Rem/h) extended option
- **Measurement range:** 1  $\mu\text{Sv}$  to 10 Sv (0.1 mRem to 1000 Rem) 0.1  $\mu\text{Sv/h}$  to 20 Sv/h (0.01 mRem/h to 2000 Rem/h); Saturation indication above 10 Sv (1000 Rem) or 10 Sv/h (1000 Rem/h)
- **Dose Rate Linearity:**  $< \pm 20\%$  up to 10 Sv/h (1000 Rem/h) (Co and X H30 20 keV)  
 $< \pm 20\%$  up to 6 Sv/h (600 Rem/h) (Pulsed X-rays 20 ms width, 1, 10 & 20 pps)

### Electrical Characteristics:

- Standard AAA (LR03) 1.5 V Alkaline battery
- 9 calendar month battery life (typically, 8 h per day, 5 days per week in run mode, without excessive alarms)
- 2500 h battery life in continuous run, without excessive alarm\* (*\*0.2% of the time in alarm*)

### Mechanical Characteristics:

- Rugged, high impact polycarbonate- ABS case
- Dimensions: 3.4" L x 2.2" W x .08" D without clip
- Weight with alkaline battery and clip: 3.1 oz
- Worn by replaceable clips (2 different style back clips or one front-facing clip for DMC worn inside the pocket)

### Alarm Features and Communication

- Alarming speaker with level of 85 dB (A) typical (>90 dB (C) peak) at 30 cm (11.8 in), frequency <4800 Hz
- Vibrating alarm
- High efficiency red flash LED on front
- 3 Top LED's and display indicators
- Dose/rate alarms, adjustable over the display range
- Dose/rate warnings, adjustable over the display range and acknowledgeable
- Remaining time before alarm and run time alarms
- Hands-free communication, frequency: 125 kHz
- Backward compatibility with existing readers (LDM 2000, LDC 220/210)
- Range of communication with LDM 220: 10 cm (3.9 in)

DMC-3000 Personal Electronic Dosimeter

## Radiopharmaceutical Tec-Control Chromatography System



### Chromatography Strips

- 150-001 Red Strips, 50/pkg
- 150-005 Black Strips, 50/pkg
- 150-025 Yellow Strips, 50/pkg
- 150-122 Orange Strips, 50/pkg
- 150-125 Light Blue Strips, 50/pkg
- 150-126 Brown Strips, 50/pkg
- 150-127 Green Strips, 50/pkg
- 150-130 Gold Strips, 50/pkg
- 150-771 Dark Green Strips, 50/pkg
- 150-772 Blue Strips, 50/pkg
- 150-782 Aluminum Strips, 50/pkg
- 150-951 Lime Strips, 50/pkg
- 150-952 Peach Strips, 50/pkg
- 150-971 Teal Strips, 50/pkg
- 150-991 Pink Strips, 50/pkg

### Chromatography Solvents

- 150-160 20% Sodium Chloride, Solvent 30 ml
- 150-773 DTPA Solvent, 5 ml
- 150-781 Aluminum Standard, 5 ml 10 µg/ml
- 150-783 Aluminum Standard, 5 ml 5 µg/ml

### Related Items:

- 150-960 Developing Vials, 10 ml, 288 case (used for all Tec-Control testing)
- 150-961 Developing Vials, 5 ml, 144/case (used for Sestamibi & Tetrofosmin)
- 066-533 Curved Locking Forceps, 9.5" L
- 066-535 Straight Locking Forceps, 9.5" L
- NMC-536 Curved Non-Locking Forceps, 12.5" L

RADIOPHARMACEUTICAL	SOLVENT(S) REQUIRED*	STRIPS REQUIRED
Aluminum Breakthru	150-781 10 µg/ml	150-782
Aluminum Breakthru	150-783 5 µg/ml	150-782
Bicisate (Neurolite™)	Ethyl Acetate 99.%	150-130
Diphosphonate	Acetone (HPLC Grade), Distilled H2O	150-001 & 150-005
Disofenin (Hepatolite™)	150-160, Distilled H2O	150-122 & 150-125
DMSA	Acetone (HPLC Grade),	150-025
DTPA	Acetone (HPLC Grade), Distilled H2O	150-001 & 150-005
Exametazine (Ceretek™)	Ethyl Acetate 99.%	150-130
Fluorodeoxyglucose (FDG)	Acetone (HPLC Grade)	150-127
Glucoheptonate	Acetone (HPLC Grade), Distilled H2O	150-001 & 150-005
HDP	Acetone (HPLC Grade), Distilled H2O	150-001 & 150-005
MAA	Acetone (HPLC Grade),	150-001
MAG3 (Mertiatide™)	Acetone, (HPLC Grade), Chloroform 99.8% Tetrahydrofuran 99+%	150-951 & 150-952
MDP	Acetone (HPLC Grade), Distilled H2O	150-001 & 150-005
Mebrofenin (Cholotec™)	150-160, Distilled H2O	150-122 & 150-125
Pyrophosphate	Acetone (HPLC Grade), Distilled H2O	150-001 & 150-005
Sestamibi (Cardiolite™ and Miraluma™)	Ethyl Acetate 99.%	150-991
Sulphur Colloid	Acetone (HPLC Grade)	150-001
Tc-99m (reduced)	Acetone (HPLC Grade),	150-001
Tc-99m Monoclonal Antibodies	0.9% Saline	150-771
Tetrofosmin (Myoview™)	Ethyl Acetate 99.%	150-971
In-111 Octreotide (Octreoscan™)	150-773 & 0.9% Saline	150-771 **
In-111 Monoclonal Antibodies	150-773 & 0.9% Saline	150-771 **
In-111/Y-90 Zevalin™	0.9% Saline	150-772
I-131 Monoclonal Antibodies and Neutrospec™	0.9% Saline	150-771
* See Sigma-Aldrich product matrix for solvents		
** Note: A Well Plate is suggested to perform QC on these radiopharmaceutical. Contact Fisher Scientific Corp. 800-766-7000/ www.fishersci.com/ Item# 14-245-71		

**Tec-Control Solvent Vendor:** Sigma-Aldrich Chemical Company  
800-558-9160/ www.sigmaaldrich.com

*Note: Customers outside the US should visit the website to locate a regional office.*

Solvent Description	Vendor Part#
Acetone HPLC Grade	27072-5
Ethyl Acetate 99.5% ACS Reagent	31990-2
Chloroform 99.8% ACS Reagent	31998-8
Tetrahydrofuran 99+% ACS Reagent	36058-9



## Aluminum Breakthru Kit

150-780 Aluminum Breakthru Kit  
Includes: Aluminum Standard, 5 ml, 10 µg/ml, 50 indicator strips and manual

150-785 Aluminum Breakthru Kit  
Includes: Aluminum Standard, 5 ml, 5 µg/ml, 50 indicator strips and manual



## CAP-TLC

The CAP-TLC Scanner is an automated quality assurance tool to rapidly and accurately perform strip QC for any SPECT radiopharmaceutical kit. Dual detector design assures a wide activity range for kits reconstituted any time of the day. The scanner has an optional feeder attachment which holds up to 30 samples. Short scan times assure rapid processing.

The system is compatible with most nuclear pharmacy management systems. Report includes activity distribution graph and Pass/Fail results based on user defined acceptance limits. Automated transfer of data eliminates manual record keeping.

### SPECIFICATIONS:

#### Minimum Computer Requirements

- Minimum Display Resolution: 1280 x 720 (720 p)
- CPU: x64 processor, 2 GHz or faster
- Operating System: Windows 10
- Minimum Memory: 4 GB
- Minimum Hard Drive: 40 GB
- Microsoft Office or LibreOffice

#### Console Dimensions (H x W x L)

- 6.7 x 8.1 x 9.6 in. (168 x 206 x 245 mm) 21.6 lb (9.8 kg)

#### Feeder Dimensions (Optional) (H x W x L)

- 9.9 x 5.1 x 12.1 in. (251 x 130 x 308 mm) 9.0 lb (4.1 kg)

#### Tray Dimensions (Optional) (H x W x L)

- 11.75 x 8.25 x 1.5 in. ( 292 x 209 x 38 mm)

#### Working Environment

- 0 to 60 °C, 0 to 90% humidity, non-condensing

#### Power Requirements

- 110-240 V ac 50/60 Hz 50 W



### FEATURES:

#### Software

- Windows 10 based application software
- Multiple password security levels
- Manual or bar code assisted job creation
- Daily QC test module
- User definable scan protocols
- Define scan by total counts or time
- Automatically rescans to achieve total counts
- User definable Pass/Fail limits
- Failed results printed in RED
- Includes one strip and two strip protocols
- Supports two or three user defined cut points
- Automatic background subtract
- Excel Report format for easy export
- PC Communication Protocol
- Compatible with most printers

#### Hardware

- Two collimated GM detectors
- Scanning range 4 µCi – 2 mCi
- Scan times typically 1-2 minutes
- Single axis step motor
- Adjustable step points
- Includes QC cartridge
- Custom strip holder cartridge
- Maximum strip length 11.5 cm
- Maximum strip width 2 cm
- Hinged cover provides easy access for cleaning
- USB interface



### CAP-TLC Scanner

Includes:

#### Accessories:

CAP-BCR  
CAP-MCF  
CAP-CT  
0975-0137  
CAP-CART

### Automated TLC Strip QC Scanner

Console, 1QC Cartridge, and 3 Strip Cartridges

Bar Code Reader  
Multi Cartridge Feeder  
Collection Tray  
Co-57 100 uCi Spot Marker  
Cartridges, Set of 10

## Plastic Warning Signs



10" x 7"  
024-900



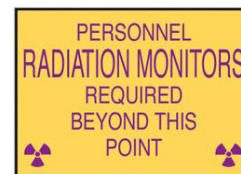
10" x 7"  
024-923



10" x 7"  
024-999



14" x 10"  
024-914



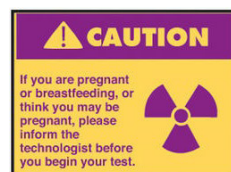
14" x 10"  
024-957



14" x 10"  
024-910



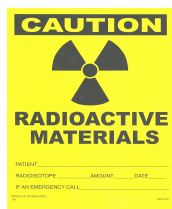
14" x 10"  
024-911



14" x 10"  
024-916

## Cardboard Warning Signs

*Black on Yellow*



8" x 10", 10/pkg  
025-001



8" x 10", 10/pkg  
025-002



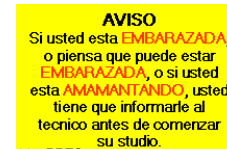
8" x 10", 10/pkg  
025-003



8" x 10", 10/pkg  
025-004



024-PBFE



024-PBFS

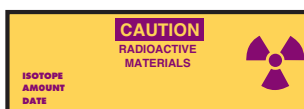
8" x 10", 4/pkg  
024-PBFE English  
024-PBFS Spanish

## Perforated Warning Tapes

*Pressure Sensitive adhesive plastic tape*



026-013



026-012



026-005

- 026-013 Radioactive Material, 1" x 3", 180 ft roll
- 026-012 Caution Radioactive Materials, 1" x 2", 180 ft roll
- 026-005 Caution Radioactive Materials, 1/2" x 1.38", 180 ft roll  
*Suitable for test tubes, bottle necks etc.*

## Pressure Sensitive Warning Labels



028-002



026-015



026-014

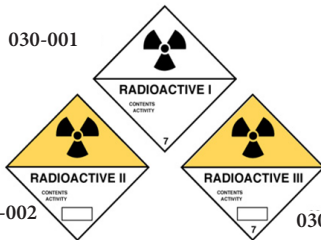
Pressure Sensitive with Peel-off Backing

028-002 Caution Radioactive Material, 5" x 6", 20/pkg

026-015 Radioactive Material, 1" x 3", 500/roll

026-014 Caution Radioactive Material, 1" x 2", 500/roll

## Pressure Sensitive Shipping Labels



030-001

030-002

030-003

- Pressure Sensitive
- Peel-off backing
- Package of 20
- 4.25" W x 4.25" H

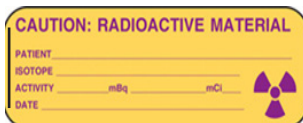
Comply with Federal Regulations, Title 49- Transportation of Hazardous Materials Regulations, Dept. of Transportation, 49CFR, Part 173 as to wording, symbols, size and colors.

030-001 Radioactive I, White, 20/pkg

030-002 Radioactive II, Yellow, 20/pkg

030-003 Radioactive III, Yellow, 20/pkg

## Radioactive Warning Labels



026-106



026-108

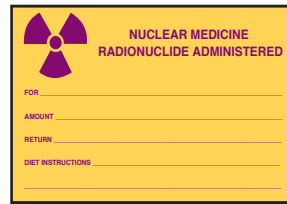


026-109

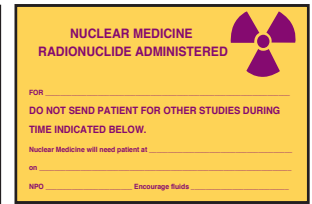
- 026-106 Caution Radioactive Material  
3" W x .875" H, 320 labels per roll
- 026-108 Radioactive Waste Label  
2" W x 3" H, 320 labels per roll
- 026-109 Radioactive Waste Label  
4" W x 2.63" H, 240 labels per roll

## Nuclear Medicine Labels

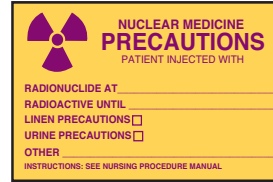
Magenta ink on yellow background



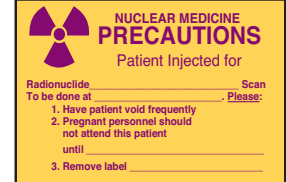
026-100



026-101



129-160



129-161

- 026-100 Radionuclide Administered Label  
200 labels per roll, 4" W x 2.63" H
- 026-101 Radionuclide Administered Label  
200 labels per roll, 4" W x 2.63" H
- 129-160 Patient Injected With Label  
320 labels per roll, 3" W x 2" H
- 129-161 Patient Injected For Label  
320 labels per roll, 3" W x 2" H

## Pre-Strung Tags



029-001 Pre-Strung Container Tags, 100/pkg

- Extra strength cardboard
- Reinforced string hole
- Package of 100
- 2.63" W x 5.25" H

## Warning Rope & Hazard Tape



- Brightly colored- Magenta & Yellow
- 121-073 Warning Rope, 100 ft /pkg  
Triple Strand polypropylene, .31" Dia
- 026-020 Hazard Tape, 2" W x 54' L  
Constructed of 6 mil. vinyl

## High Handle Foot Stool

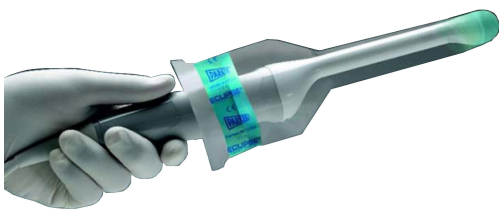


- Lightweight, yet durable foot stool is the safe and easy way for patients to get on or off examination tables
- Steel construction assures a long life
- Rubber caps on the legs & a non-slip surface further assure stability and patient safety

214-728 High Handle Foot Stool, 1 step  
350lb Weight Capacity

214-729G High Handle Foot Stool, 2 step  
500lb Weight Capacity

## Eclipse® Probe Cover Latex Free



- Soft, latex-free, disposable probe cover for medical ultrasound probes/transducers
- Pre-gelled inside with Aquasonic® 100 Ultrasound Transmission Gel
- Fits most endocavity ultrasound probes
- Size: 1.75" W x 9.5" L
- Latex-free, non-irritating, non-sensitizing, non-sterile
- 100 per box

128-160 Eclipse Probe Cover, 100/bx

## Plastic Utility Cart



- Ergonomically designed handle
- 2 deep-pocket shelves for easy and secure loads
- 5" thermoplastic casters (2 fixed, 2 swivel)
- Easy to assemble
- Total holding capacity 500 lb
- Dimensions: 17 7/8" W x 39" L x 33 1/4" H
- Color- Beige
- Shipping weight: 30.6 lb

240-500 Plastic Utility Cart

## Sterile Aquasonic® 100 Ultrasound Transmission Gel



- 20g overwrapped, sterilized pouches, 48 per box
- Acoustically correct for the broad range of frequencies used in medical ultrasound
- Non-irritating, hypoallergenic
- Completely aqueous, will not stain clothing or damage equipment

123-010 Sterile Aquasonic 100 Gel  
In Foil Pack, 48 packs/box



## Gas Lift Lab Stool

*Comfortable · Adjustable · Solid Construction*



- Backrest & footring included (footring not shown)
- Adjustable seat height
- 5 star wheel base
- 2" casters
- Weight capacity: 250 lb

214-115 Gas Lift Lab Stool  
214-115-WB Gas Lift Lab Stool Without Back

## Tall Gas Lift Lab Stool

*Comfortable · Adjustable to 33.75" · Solid Construction*



- Backrest & footring included
- Adjustable seat height
- 5 star wheel base
- 2" casters
- Weight capacity: 250 lb

NMC-438 Tall Gas Lift Lab Stool

## IV Stand

2 or 4 Hook, 5 Leg



- Adjustable from 52 1/2" to 93 1/2"
- 24" Diameter polished die cast aluminum base
- Tru-Loc® friction knob
- 2 1/2" twin wheel hooded casters
- 5 leg base

1315-4 Chrome IV Stand, 4 hook, 5 leg  
1315 Chrome IV Stand, 2 hook, 5 leg

## IV Stand

2 Hook, 4 Leg



- Adjustable from 51 1/2" to 93"
- 22" Diameter chrome plated base
- Tru-Loc® friction locking knob
- 2" twin wheel hooded casters
- 4 leg base

214-403 IV Stand, 2 hook, 4 leg

## Mayo/Instrument Stand

Removable Stainless Steel Tray



- 1" chrome plated steel tubing
- Adjustable height: 32" to 50"
- Removable Stainless Steel Tray 19.25" L x 12.62" W x .75" D
- U-shaped base minimizes interference
- Two rubber wheel, ball-bearing casters
- Base: 19" W

214-601 Mayo/Instrument Stand  
214-601-T Replacement Tray

## Mayo/Instrument Stand

Stainless Steel Tray



- Stainless Steel Tray 12 5/8" L x 19 1/8" W
- Tru-Loc® friction locking knob
- 2" single wheel casters
- Adjustable height: 37 1/4" to 64"

1520 Mayo/Instrument Stand

## Wrap-Around Apron



- Designed for front & back protection
- Features extra wide shoulders, distributing weight over a greater area to reduce fatigue
- Nylon fabric
- Three panel hook & loop fastener
- Shoulder pads included
- Standard Protection: 0.5 mm Pb Equiv. Front (1.0 mm overlap), 0.3 mm Pb Back
- Chest Size: 42" - 45"
- Waist Size: 35" - 39"
- Hips up to: 47"
- Front Length: 34"
- Includes: TL Lite Ply 20% lighter than regular lead

103-336

Wrap-Around Apron, Unisex

## Standard Coat Apron



- Nylon fabric
- Features open back with choice of closure
- 3 Closure Options: Quick Release Buckle, Hook & Loop, 1" Tie Straps
- Shoulder pads included
- Standard Protection: 0.5 mm Pb Equiv.
- Chest Size: 42" - 46"
- Front Length: 36"
- Includes: TL Lite Ply
- 20% lighter than regular lead



PTI-701

Standard Coat Apron, Unisex

## Vest/Skirt Combo



- Vest features all around protection with overlap in the front, shoulder pads and three panel hook and loop closure
- Skirt wraps around and overlaps in the front offering extra protection
- Skirt fits securely on hips with extra wide hook and loop fastener and quick release buckle for added support
- Standard Protection:
  - Vest: 0.5 mm Pb Front (overlaps to 1.0 mm)/ 0.3 mm Pb Equiv. Back
  - Skirt: 0.3 mm Pb Front (overlaps to 0.6 mm)/ 0.3 mm Pb Equiv. Back
- Will adapt for Pregnancy, call for details
- Includes: TL Lite Ply 20% lighter than regular lead

### Vest/Skirt Combo

103-800

Unisex, Small

*Chest 34" - 37", Waist 27" - 31", Hips 39"*

103-801

Unisex, Medium

*Chest 38" - 41", Waist 31" - 35", Hips 43"*

103-802

Unisex, Large

*Chest 42" - 45", Waist 35" - 39", Hips 47"*

103-803

Unisex, X-Large

*Chest 46" - 49", Waist 39" - 43", Hips 51"*



## Half Aprons

- Nylon fabric
- Designed for front or back protection
- 3 Closure Options: Quick Release Buckle, Hook & Loop, 1" Tie Straps
- Standard Protection: 0.5 mm Pb Equiv.
- Available in Child and Adult sizes
- Includes: TL Lite Ply 20% lighter than regular lead

801

Adult Large, 24" W x 24" L

802

Adult Medium, 24" W x 20" L

803

Adult Small, 18" W x 16" L

804

Child, 10" W x 10" L

## Portable Shield



- Ideal for patient protection during diagnostic procedures
- Adjustable height form 36" to 60"
- Sturdy five leg base for stable mobility
- Royal blue nylon
- Standard Protection: 0.5 mm Pb Equiv.

1001

Porta-Shield, 24" W x 24" L



## Thyroid Collars

- Nylon fabric
- Soft and flexible while offering the best of comfort without binding
- Rear hook & loop closure
- Standard Protection: 0.5 mm Pb Equiv.
- Includes TL Lite Ply

621US

Thyroid Collar, 24" L

621UL

Thyroid Collar, 26.5" L

## Gonadal & Ovarian Shielding

Standard Protection: 0.5 mm Pb Equivalency

Color is subject to change

Gonad shields are available with or without optional Ties, Hook & Loop closure or Quick Release Buckle. Includes: TL Lite Ply 20% lighter than regular lead Set of 3 includes one of each: 3" L x 5" W, 6" L x 7" W, 7" L x 9" W



Not available in red  
Actual Color: Royal Blue

Features four attachable gonad shields in assorted sizes that interchange to one hook and loop belt.

Includes: TL Lite Ply 20% lighter than regular lead Set of 4 includes one of each: 6" x 7", 7" x 9" and two 3" x 5"



PTI-GS Gonadal Shields

PTI-GOSS Gonadal Ovarian Belt System

- Powder coated steel
- Holds 1-4 Aprons
- 24" L x 4" W
- Weight 3 lb

Model 813

## Peg Apron Rack

Peg Apron Rack



## Porta-Rak

- Holds up to 8 aprons
- Designed for where space is at a premium
- Sturdy aluminum five leg base
- Nylon Casters
- Uses only 24" of floor space
- 24" W x 50" H
- Weight 29 lb



Model 817 Porta-Rak

## Radiation Resistant Gloves



- Lead free
- Non latex
- Excellent Flexibility, Dexterity and Touch Sensitivity
- .23 mm thickness

ASG6.5 Size 6 1/2  
ASG7 Size 7  
ASG7.5 Size 7 1/2  
ASG8 Size 8  
ASG8.5 Size 8 1/2  
ASG9 Size 9

## Shielded Eyeglasses

Protect your eyes with quality craftsmanship

### Wrap Around



- Features comfortable molded wrap styling in durable tortoise nylon frame
- Uni-fit bridge with leaded side shields
- 0.75 mm Pb Equiv. Optical Lead Glass
- Color: Tortoise

Model 53 Non prescription

### Ultra Flex



- Advanced nylon composite frame
- Uni-fit ear and nose pieces
- 0.75 mm Pb Equiv. Optical Lead Glass
- Side shields included
- Color: Silver

Model 98UFS Non prescription

## Bind-It™

### Designed for Nuclear Medicine

#### The Next Generation of Radioactive Decontaminants



Reasons to use Bind-It Decontaminant Hand Soap every time you wash your hands:

- Will not dry your hands like ordinary lab soap
- Fresh, clean scent
- Economical & convenient
- Touch-free wall mount dispenser
- Meets the intent of ALARA
- Removes contamination every time you wash

When you use Bind-It Decontaminant Spray the difference is clear:

- **Will NOT cloud lead glass**
- Safely decontaminate Syringe Shields & L-Blocks
- Removes dirt, dust, oils and grease as well as Radioactive Contamination
- Used regularly it provides a protective barrier that aids in subsequent cleanup
- Very mild, pleasant scent

LTI051	Bind-It Decontamination Introductory Kit (1) Touch-free dispenser (1) Bind-It Hand Soap- 32 oz bottle (1) Bind-It Decontaminant Spray - 32 oz bottle
LTI046	Bind-It Decontaminant Hand Soap - <b>8 oz bottles</b> , Case of 12
LTI047	Bind-It Decontaminant Hand Soap - <b>32 oz bottles</b> , Case of 12 Qty 6-11 Qty 1-5
LTI030	Bind-It Decontaminant Spray Cleaner - <b>32 oz bottles</b> , Case of 12 Qty 6-11 Qty 1-5



Bind-It Patient Care Packs allow patients to safely and effectively minimize and remove contamination from their isolation areas.

- The 8oz Hand Soap will accommodate many hand washings over the course of the patient's post treatment period and can be used in the shower
- The Ready-To-Use Spray is ready to use on the bathroom sink, bathtub/shower and floor
- The Concentrate is ideal for cleaning the sink, bathtub/shower and toilet bowl (the largest typical point of contamination)

LTIHCP	Bind-It Patient Care Pack Includes: (2) 8oz bottle of Hand Soap (1) 32oz bottle of Ready-To-Use Spray (1) 8 oz bottle of Concentrate
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## Forceps

- Forceps are made of surgical grade steel
- Forceps are excellent for handling small items in the hot lab
- No need to physically touch vials, ampules, etc.

066-533 Curved Locking Forceps, 9.5" L  
066-535 Straight Locking Forceps, 9.5" L  
NMC-536 Curved Non-locking Forceps 12.5"

## Niptongs



- Niptongs are made of chrome-plated high carbon steel with hardwood handles
- Niptongs are excellent for handling small items in the hot lab
- No need to physically touch vials, ampules, etc.

011-012 Niptongs, 12"  
011-036 Niptongs, 36"

## Absorbent Paper



- Highly absorbent with plastic lining for fast, safe clean up
- Available by the roll (shown) or in pre-cut sheets

033-304 Absorbent Paper Roll  
2 Rolls - 300' L x 20" W  
033-013 Absorbent Sheets, 50/bx  
13" W x 17" L  
046-275 Wall Mount Dispenser  
for 033-304

## Wipe Test Smears

- Sample any surface contaminated with radioactivity
- Convenient, easy-to-use cloth discs with individual record folders

006-350 Wipe Test Smears, 500/bx  
Includes 500 wipes & 500 record folders



## Syringe Covers



- Avoid a lengthy cleaning process of dose calibrator and dipper
- Designed to assist in compliance to USP Chapter 825 guidelines
- Fits up to one 10cc Syringe

SC-100 Syringe Covers (100 per package)



## Sterile 70% USP Isopropyl Alcohol

- 16 oz spray bottle
- Ships continental US only

S70-16 Sterile 70% USP Isopropyl Alcohol, Spray Bottle



## Syringe Cover Container

- Easy access container to keep your syringe covers from being misplaced
- Fits up to one package of SC-100 Syringe Covers (100 per package)

SC-101 Syringe Cover Container

## Humidity and Temperature Indicator



- Precalibrated to NIST-Traceable standards
- Displays Humidity levels, Temperature, and Time
- Reads in Fahrenheit and Celsius

HTI Humidity and Temperature Indicator

USP 825 requires technologists to clean their dose calibrator well insert and dipper when used for measuring radiolabeled blood products or residual activity post administration.

Our new disposable syringe cover with integrated seal (Model SC-100) will keep you compliant! Simply place the syringe inside a disposable syringe cover, seal it, spray the exterior with sterile 70% USP isopropyl alcohol (Model S70-16), and proceed with the assay. It's that easy, the cleaned sealed cover keeps the assaying of your syringes USP 825 compliant.



## 825 Starter Pack

Be prepared for USP Chapter 825 with all of the above products!

- Two packages model SC-100 Syringe Covers (100 per package)
- Model SC-101 Syringe Cover Container
- Model S70-16 Sterile 70% Isopropyl Alcohol Spray, 16 oz

SC-102 825 Product Starter Pack

## ISO Class 3-5 Absorbent Sheets

PTI-MSL is a highly absorbent ultrasonically sealed, cleanroom laundered wipe recommended for critical environments rated ISO Class 3 and above. With two-ply, 100% continuous filament polyester knit fabric, the wipe is ultrasonically bonded together. World class fiber and particle performance make it suitable for the most critical spill control and cleanroom cleaning applications.

- Lightweight, high absorbency material design
- Designed for use in ISO Class 3 and higher environments
- Excellent for spill control in processing areas



12" x 12" Sheets

PTI-MSL

ISO Class 3-5 Absorbent Sheets, 50 per package

## ISO Class 5-8 Absorbent Sheets

PTI-VCP is a rayon / polyester nonwoven wipe recommended for ISO Class 5 and above environments. ISO Class 5-8 absorbent sheets offer exceptional absorbency, durability and cleanliness. Due to 50% rayon content, it has best-in-class absorbency, reducing the actual wipe usage in spill removal applications. Its soft hand and low fiber shedding performance make it a great option in critical cleaning applications.

- High absorbency compared to typical cellulose / polyester
- Designed for use in ISO Class 5 and higher environments
- Excellent for use in component prep, compounding, and wash areas



12" x 12" Sheets

PTI-VCP

ISO Class 5-8 Absorbent Sheets, 150 per package

## Vial Covers

- Avoid a lengthy cleaning process of dose calibrator and dipper
- Designed to assist in compliance to USP Chapter 825 guidelines



VC-50

Vial Covers (50 per package)

### Preparation Mats

- Latex free, no additional exposure to latex to help reduce possibility of latex allergies
- Provides additional safety when compounding
- Non-linting and highly absorbent
- 125 mats per package
- 17" x 19"



PTI-PM1719

Prep Mat 17" x 19"

- Latex-free, no additional exposure to latex to help reduce possibility of latex allergies
- Non-linting and highly absorbent
- Provides additional safety when compounding
- Economical method to help control spilled fluids and non-linting design helps limit particulates in laminar flow hoods and barrier isolators
- 250 Mats per package
- 16" x 22"



PTI-PM1622

Prep Mat 16" x 22"



## Decontamination Kit



- 1- 14 Gal Open Head Poly Drum W/Plastic Leverlock Closure. Un/Dot Rating: 1h2/X65/S 1h2/Y100/S, Yellow
- 2- Tyvek Disposable Coverall with Hood
- 2- Pairs, Pvc Booties, Yellow, 6 Mil
- 2- Half Mask Respirator, 5500 Series, Equipped with 7580p100 Filters
- 2- Pairs, Latex Gloves
- 1- Decon Hand And Instrument Cleaner
- 5- Polyethylene Printed Bags, 18"X 24", .004 Mil. Yellow with Magenta Lettering, "Caution Radioactive Material"
- 1- Roll Yellow Tape with Magenta Lettering, "Radioactive Material;" With Trefoil
- 1- Sponge Mop, Pail, Dustpan and Brush
- 2- Yellow Warning Signs with Magenta Lettering, "Caution Contaminated Area"
- 1- Rad Rope, 3/16"X50', Yellow/Magenta
- 1- Pack Of 50 Sampling Swipes
- 1- 12" Disposable Plastic Niptongs

0601-0019 Decontamination Kit  
Shipping Weight: 40 lb

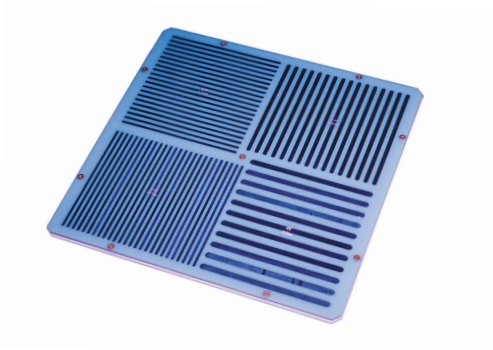
## Minor Emergency Spill Kit



- 5 pr Disposable Gloves
- 1 pr Housekeeping Gloves
- 3 ea Disposable Isolation Gowns
- 2 ea Disposable Headcovers
- 5 pr Disposable Shoe Covers
- 5 ea Plastic Backed Absorbent Paper
- 1 roll Masking Tape
- 5 ea Plastic Trash Bags with Twist Ties
- 1 roll Tape, "Caution Radioactive Material"
- 1 ea Pencil
- 1 ea Marking Pen
- 5 ea Pre-strung Tags, "Caution Radioactive Material"
- 1 pkg Contamination Wipe Sample Supplies
- 1 ea Emergency Procedure Instructions
- 1 ea Clipboard and Radioactive Spill Report Form
- 1 ea 32 oz. bottle Bind-It™ Decontaminant Hand Soap
- 1 ea 32 oz. bottle Bind-It™ Decontaminant Spray Cleaner

MESK Minor Emergency Spill Kit  
Shipping Weight: 7 lb \*Specs are Subject to change\*

## Bar Phantoms



Four-quadrant bar phantoms offer precise determination of camera intrinsic resolution, collimator spatial resolution, field size and linearity.

### Rectangular Bar Phantom

Dimensions: 22.25" L x 17" W x .5" H  
Lead Bar Widths: .079", .098", .118" and .138" (2, 2.5, 3 and 3.5 mm)  
Field Across Bar Configuration: 21" L x 15.9" W  
Shipping Weight: 21 lb

243-935 Rectangular Bar Phantom

### Standard High Resolution Bar Phantom

Dimensions: 16.875" L x 16.875" W x .5" H  
Lead Bar Widths: .25", .187", .156" and .125" (6.4, 4.8, 4 and 3.2 mm)  
Field Across Bar Configuration: 15.875" L x 15.875" W  
Shipping Weight: 14 lb

243-800 Standard High Resolution Bar Phantom

### Symbia and E-CAM Bar Phantom

Includes two removable screw knobs for insertion/removal of phantom from camera head.

Dimensions: 16" L x 21" W x .5" H  
Lead Bar Widths: .079", .098", .118" and .138" (2, 2.5, 3 and 3.5 mm)  
Field Across Bar Configuration: 20.3" L x 14.875" W  
Shipping Weight: 19 lb

243-987 Symbia and E-CAM Bar Phantom

### Cardiac Bar Phantom

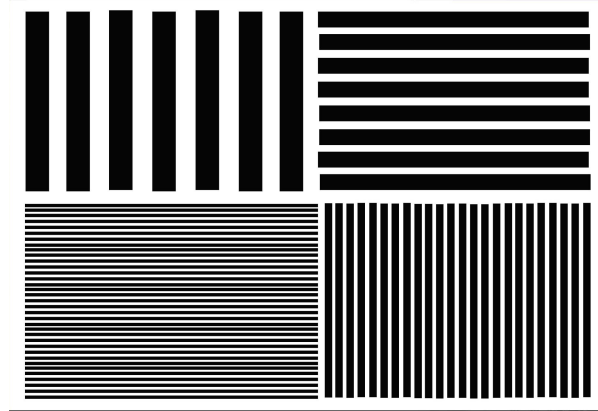
Dimensions: 15.5" L x 9.25" W x .5" H  
Lead Bar Widths: .079", .098", .118" and .138" (2, 2.5, 3 and 3.5 mm)  
Field Across Bar Configuration: 14.5" L x 8.25" W  
Shipping Weight: 15 lb

243-955 Cardiac High Resolution Bar Phantom

## Bar Phantom

The PTI-820L Bar Phantom is ideal for daily/weekly QA checks of scintillation camera performance. Can be used to measure intrinsic and collimator spatial resolution and spatial linearity, confirming the gamma camera's overall ability to identify and properly display small anatomic objects.

Specifications:  
 Dimensions: 27" x 19" x 0.5"  
 Cerrobend Bar Widths: .1", .125", .187", .25"  
 (2.54, 3.18, 4.76 and 6.35 mm)



PTI-820L Large Bar Phantom

## Pro-NM Slit Phantom

The Pro-NM Slit Phantom is used for the evaluation of Intrinsic Spatial Resolution (Quantitative Technique) according to NEMA Standards Publication NU-1-2012.

Specifications:  
 Dimensions: 620 x 520 x 15 mm  
 Lead Size: 600 x 500 x 3 mm  
 Parallel 1 mm thick slits with 30 mm spacing  
 Cover made of PMMA  
 Uniform PMMA part of the phantom



PTI-302 Pro-NM Slit Phantom

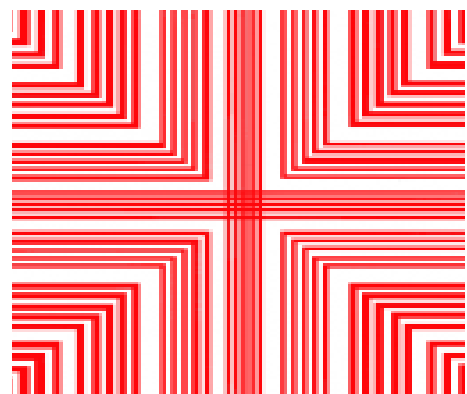
## Quad Gamma Test Pattern Phantom

The PTI-890 Quad Gamma Test Pattern Phantom consists of four frequencies of parallel-line equally spaced bars arranged in an L-Shaped configuration in each of its quadrants. This type of bar configuration allows the user to measure spatial resolution and spatial linearity in all four quadrants of a gamma camera with one image.

There is no need to turn the phantom and take multiple images to ensure that each camera quadrant is tested with each bar width.

Specifications:  
 Dimensions: 20" x 20"  
 Cerrobend Bar Widths: 1", .16", .19", .25"  
 (2.54, 4.06, 4.8 and 6.35 mm)

Weight 24 lb

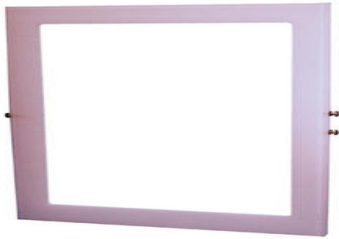


PTI-890 Quad Test Pattern Phantom

Call Pinestar toll-free 1-800-682-2226, to place an order

## Fillable Rectangular Flood Phantom

Our fillable flood phantoms feature extra strength side walls and clear Lucite for easy positioning. Easy to fill and easy to drain, the phantoms are leak proof and are excellent for transmission imaging.



76-801

Rectangular Flood Phantom

Dimensions: 18" x 23" x 1"

Cavity: 16" x 21" x .5"

Weight: 10 lb

Filled lying flat



NMC-76801

Jumbo Flood Phantom

Dimensions: 20.5" x 28" x 1.25"

Cavity: 18.5" x 26" x .5"

Weight: 18 lb

Filled lying flat



## Flood Phantom Funnel

Screws directly into the flood phantom for safe, easy, fast filling

131-010

Flood Phantom Funnel

## Thyroid Uptake Neck Phantom



Designed to simulate a patient's neck. The phantom is constructed of lucite. It has a two part insert that allows counting from a bottle, vial or capsule. The phantom's cylinder and carrier have scribelines for accurate alignment. A flat surface on the cylinder allows either vertical or horizontal positioning.

*Proposed by the International Atomic Energy Agency (I.A.E.A.) and the American National Standards Institute*

Outer Dimensions: 5" H x 5" Diameter

Inner Dimensions: 4" H x 2" Diameter

5230-0038

Thyroid Uptake Neck Phantom



## PTI-PC Phantom Cradle

The ACR SPECT QC phantom cradle supports the Data Spectrum Flangeless SPECT phantom. Constructed with a low density foam which supports a phantom 20 cm diameter by 25 cm long. Simplifies positioning, transporting and storing phantoms. Enables minimal scanning radius with non-circular orbits for SPECT QC testing.

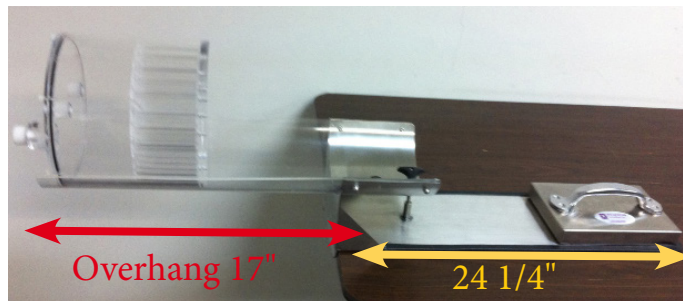
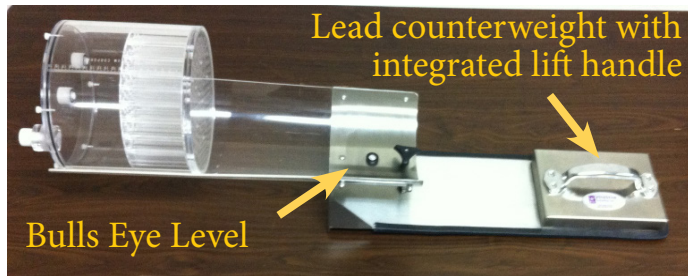


Color Subject To Change

PTI-PC Cradle for ECT/PET Phantom

### Cradle for ECT/PET Flangeless Phantom

- Unique foam cradle design
- For carry and setup purposes
- Tape no longer necessary
- Phantom supported just millimeters off the table
- Ideal for non-circular orbits
- Quick phantom setup and positioning
- Lower personnel exposure with quick setups



## QC Phantom Holder

- Durable stainless steel construction
- Adjustable phantom support platform with bulls eye level ensure fast easy leveling
- Integrated table stop ensures the holder and the phantom are square to the imaging table
- The end position of the phantom provides necessary clearance for imaging detector rotation
- Easy to clean and totally non-absorbent
- Compatible with the ACR Flangeless Deluxe Jaszczak Phantom or phantoms with a similar radius design
- Includes built-in lead counterweight for secure cantilevered style positioning of the phantom

Specifications: 41 1/4" L x 8" W x 6.5" H  
 Weight: 34 lb

PH-1 Single/Dual Head QC Phantom Holder

## Jaszczak Flangeless Deluxe SPECT Phantom™ Esser Flangeless Deluxe PET Phantom™



043-765



043-772 Designed for PET



2nd Deluxe Flangeless Lid

The Flangeless SPECT Phantom and the Flangeless PET Phantom meet the requirements set by ACR. The appropriate phantoms provide consistent performance information for any SPECT or PET system. The small SPECT Phantom is an ACR recommended phantom for small field of view dedicated cardiac SPECT systems. Multiple performance characteristics of camera-based SPECT systems are evaluated from a single scan of the phantom.

On-axis and off-axis transverse line spread function may be easily measured without removing the cover plate. Measurements of full-width-half (or tenth) maximum can be readily determined, either in air or in water.

The Flangeless SPECT Phantom is used for high resolution cameras, complying to the ACR requirements.

### 043-765 Flangeless Deluxe Phantom:

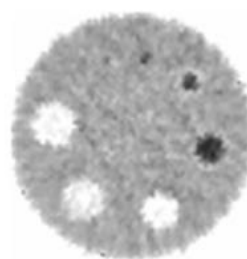
Cylinder Interior Dim.: 8.0" Dia x 7.3" H  
Cylinder wall thickness: 6.4 mm  
Cold Rod Insert Height: 3.46" H  
Cold Rod Dia: 4.8, 6.4, 7.9, 9.5, 11.1, 12.7 mm  
Height of Spheres from Base Plate: 5" H  
Solid Sphere Dia: 9.5, 12.7, 15.9, 19.1, 25.4, 31.8 mm

### 043-759 Flangeless SPECT Phantom, Small

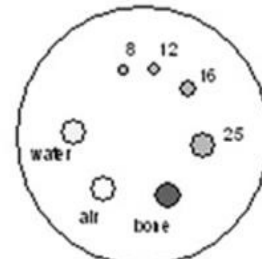
Cylinder Interior Dim.: 5.5" Dia x 5.9" H  
Cylinder wall thickness: .64 cm  
Cold Rod Insert Height: 1.57" H  
Cold Rod Dia: 4.8, 6.4, 7.9, 9.5, 11.1, 12.7 mm  
Height of Spheres from Base Plate: 3.1" H  
Solid Sphere Dia: 6.4, 9.5, 12.7, 15.9, 19.1, 25.4 mm

### 043-772 Esser Flangeless PET Phantom:

Cylinder Interior Dim.: 8.0" Dia x 7.3" H  
Cylinder wall thickness: 6.4 mm  
Cold Rod Insert Height: 3.46" H  
Cold Rod Dia: 4.8, 6.4, 7.9, 9.5, 11.1, 12.7 mm  
Height of Spheres from Base Plate: 5" H  
Solid Sphere Dia: 9.5, 12.7, 15.9, 19.1, 25.4, 31.8 mm



Pet Phantom Lid Image



Pet Phantom Lid Diagram

### Specifications of PET Phantom Lid™

Refillable thin-walled cylinders: 8, 12, 16, 25 (x3) mm  
Solid cylinder (Teflon®): 25 mm  
Cylinder height: 1.5"  
Lid Closure: Bayonet-Style with Lock Screw

- 043-765 Flangeless Deluxe SPECT Phantom, ACR
- 043-759 Flangeless SPECT Phantom, **Small**, ACR
- 043-772 Esser Flangeless PET Phantom, ACR
- 043-772-2 Esser Flangeless PET Phantom, with 2nd Deluxe Flangeless Lid for SPECT, ACR

- 043-777 Cardiac Phantom Insert  
(See Page 142)



043-777

## PET-CT Phantom™

The PET-CT Phantom™ includes internal structures (3 rods and 6 spheres) which, when imaged with both modalities, can demonstrate how accurately the two image sets are aligned.

Main Cylinder: Interior length of phantom: 18 cm  
 Fillable spheres (5) inner dia: 10, 13, 17, 22, 28 mm  
 Distance from sphere plane to inside wall: 7 cm  
 Volume of empty cylinder: ~9.7 liters

Main Cylindrical insert dims: O.D.: 5.1 cm  
 Length: 18 cm  
 Top Cylinder: O.D. ~ 5.1 cm I.D.: ~ 4 cm  
 I.D.: ~ 4 cm

Inside Height: ~ 8.2 cm  
 Outside Height: ~ 12 cm  
 Volume of empty cylinder: 408 mL

Three Aluminum Tubes:  
 One 5 inch long: ~ 1.7 mL  
 Two 7 inch (ea): ~ 2.5 mL

Stepped Bone Ring:  
 Pre-filled with liquid bone composition, not to be opened.

The volumes for bone ring are:  
 Outer volume: ~ 256 mL  
 Inner volume: ~ 110 mL



043-771 PET-CT Phantom

## NEMA IEC PET Body Phantom Set™

The NEMA IEC Body Phantom Set consists of a body phantom, a lung insert and an insert with six spheres of various sizes. Recommended for use in the evaluation of reconstructed image quality in whole body PET imaging.

Specifications:

Interior Length of Phantom: 180 mm

Fillable Spheres (6) Inner Dia: 10, 13, 17, 22, 28, 37 mm

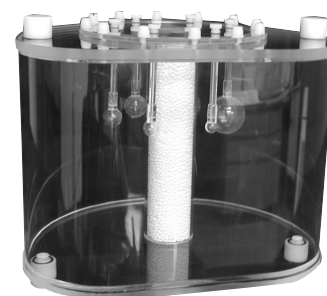
Distance from Sphere Plane to Inside Wall: 70 mm

Volume of empty cylinder: 9.7 L

Cylindrical Insert Dimension:

O.D.: 51 mm Length: 180 mm

043-767 NEMA IEC PET Body Phantom Set



## NEMA PET Scatter Phantom™

The NEMA Scatter Phantom is designed to standardize the measurement of count rate performance of a scintillation camera in the presence of scatter. The high density polyethylene cylinder has a fillable line source holder parallel to the center axis of the cylinder and offset a distance of O.D. 4.5 cm.

Specifications:

Outside Diameter: 203 cm

Length: 70 cm

Cylinder Hole Size: 6.4 mm

Cylinder Hole Offset: 4.5 cm

Line Source Dims:

Length: 80 cm

I.D.: 3.2 mm O.D.: 5 mm

043-768 NEMA PET Scatter Phantom



## NEMA PET Sensitivity Phantom™

The NEMA Sensitivity Phantom consists of 6 concentric aluminum tubes used to detect camera sensitivity in PET.

Five internally stacked concentric aluminum tubes - all 700 mm in length

1st Tube Inside Dia: 3.9 mm Outside Dia: 6.4 mm

2nd Tube Inside Dia: 7.0 mm Outside Dia: 9.5 mm

3rd Tube Inside Dia: 10.2 mm Outside Dia: 12.7 mm

4th Tube Inside Dia: 13.4 mm Outside Dia: 15.9 mm

5th Tube Inside Dia: 16.6 mm Outside Dia: 19.1 mm

6th Innermost Tube (Fillable Polyethylene Tubing)

Inside Dia: 1 mm Outside Dia: 3 mm

043-769 NEMA 2007 PET Sensitivity Phantom



## Anthropomorphic Torso Phantom™



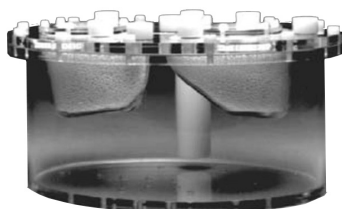
- Includes large, body-shaped cylinder lung, liver and spine inserts
- Lung inserts can be filled with Styrofoam® beads and water to simulate lung and tissue density
- Optional Cardiac Insert available (043-777)
- Simulates upper torso of average to large male/female patients (38 x 26 cm)
- Simulates anatomical structures and radioactivity distributions
- Optional Fillable Spine Insert available

Specifications:

Lateral outside dimension:	38 cm
Lateral inside dimension:	36 cm
Anterior-posterior outside dimension:	26 cm
Anterior-posterior inside dimension:	24 cm
Wall thickness:	9.5 mm
Volumes:	
Left lung (w/o Styrofoam® beads):	~ 0.9 liter
Right lung (w/o Styrofoam® beads):	~ 1.1 liter
Left lung (w/ Styrofoam® beads):	~ 0.36 liter
Right lung (w/ Styrofoam® beads):	~ 0.44 liter
Liver:	~ 1.2 liter
Background:	~ 10.3 liter
Cylinder with lung-spine insert:	~ 7.4 liter

043-795 Anthropomorphic Torso Phantom

## Elliptical Lung-Spine Body Phantom™



- Includes spine and fillable lung inserts
- Lung inserts can be filled with Styrofoam® beads and water to simulate lung tissue density
- Optional Cardiac Insert available (043-777)
- Simulates anatomical structures and radioactivity distributions in upper torso of human
- Optional body contour rings may be purchased separately

Specifications:

All clear material:	PMMA
Cylinder inside diameter:	21.6 cm
Cylinder inside diameter along major axis:	30.5 cm
Cylinder inside diameter along minor axis:	22.1 cm
Cylinder inside height:	18.6 cm
Cylinder wall thickness:	6.4 mm

Volumes:

Empty cylinder:	~ 9.5 liters
Left lung (w/o Styrofoam® beads):	~ 0.9 liter
Right lung (w/o Styrofoam® beads):	~ 1.1 liter
Left lung (w/ Styrofoam® beads):	~ 0.36 liter
Right lung (w/ Styrofoam® beads):	~ 0.44 liter
Volume of cylinder with Lungs:	~ 7.4 liter

043-740 Elliptical Lung-Spine Body Phantom

## Cardiac Phantom Insert™



- Designed to be used with the various Data Spectrum circular and elliptical cylinders, Elliptical Lung-Spine Body Phantom™ and the Anthropomorphic Torso Phantom™
- Simulates normal and abnormal myocardial uptake and radioactivity in left ventricular chamber
- Solid inserts simulate transmural and non-transmural cold abnormalities
- Fillable inserts can be used to simulate transmural and non-transmural cold or hot abnormalities

Specifications:

Cardiac Insert	
“Ventricle” overall length:	9.3 cm
“Ventricle” overall diameter:	6.1 cm
“Myocardium” thickness:	1.0 cm
“Myocardium” volume:	~ 110 ml
“Ventricle” volume:	~ 60 ml

Solid Defect Set

1. 60° x 2 cm
2. 45° x 1.5 cm
3. 60° x 2 cm, with 5 mm wall thickness (non-transmural defect)

Fillable Defect Set

1. 180° x 2 cm..... ~ 13 ml
2. 90° x 2 cm ..... ~ 5.4 ml
3. 45° x 2 cm ..... ~ 3.8 ml
4. 45° x 2 cm, with 5 mm thick chamber\*..... ~ 1.4 ml

043-777 Cardiac Phantom Insert



## Hoffman 3-D Brain Phantom™

- Anatomically accurate simulation of radioactivity distribution for brain SPECT and brain PET studies and distribution of proton density and relaxation parameters for brain MRI studies
- Simulates 4:1 uptake ratio (by partial volume effect) seen for normal gray and white matter in flow and metabolic studies
- Single fillable chamber eliminates the necessity of preparing different concentrations of radioactivity
- Fillable and solid defects for basil ganglia region available



Specifications:  
 Cylinder inside diameter: 20.8 cm  
 Cylinder inside height: 17.5 cm  
 Fillable volume: ~ 1.2 liter  
 Hoffman 3-D Brain Phantom

043-790

## NEMA 94 PET Phantom

The NEMA 94 PET Phantom consists of 1 large outer cylinder, 2 smaller fillable cylinders, 1 solid PTFE cylinder, and 3 stainless steel line sources. According to the standard, they can be used in various configurations to measure spatial resolution, scatter, sensitivity, count losses and randoms, uniformity, scatter correction, count rate correction, and attenuation correction.

- All clear material: PMMA
- Cylinder outside height with lid: 229 mm
- Cylinder outside height without lid: 216 mm
- Cylinder outside diameter: 203 mm
- Cylinder inside diameter: 197 mm
- Wall thickness: 3 mm
- Teflon® Insert diameter: 51 mm
- Fillable Insert outside height: ~ 203 mm
- Fillable Insert inside height: ~ 185 mm
- Fillable Insert outside diameter: ~ 51 mm
- Fillable Insert Inside diameter: ~ 45 mm
- Line Source diameter: ~ 1 mm
- Line Source height: ~ 184 mm

043-755

NEMA 94 PET Phantom



## NEMA SPECT Triple Line Source Phantom



- The NEMA SPECT Triple Line Source Phantom is designed in accordance with the recommendations by the National Electrical Manufacturers Association (NEMA) to standardize the measurement of reconstructed spatial resolution of SPECT
- Acceptance testing with NEMA standard
- Center-of-rotation error evaluation
- Evaluation of changes of radius-of-rotation on spatial resolution
- Quantitative evaluation of reconstruction filters and scatter compensation methods

Specifications:

Clear material is PMMA  
 Cylinder Outside Diameter: 222 mm  
 Cylinder Inside Diameter: 202 mm  
 Cylinder Outside Height: 238 mm  
 Cylinder Inside Height: 200 mm  
 Diameter of Line Sources: 1 mm  
 Spacing of Line Sources: 75 mm  
 Useful Height of Line Sources: 184 mm

043-758

NEMA SPECT Triple Line Source Phantom

## Triple Line Insert™

- Designed for use with nearly all of the cylinders supplied with Data Spectrum phantoms
- Center-of Rotation error evaluation
- Evaluation of changes of radius-of rotation on spatial resolution
- Spatial Resolution measurement in air and in water if mounted in cylinder
- Quantitative evaluation of reconstruction filters and scatter compensation method

Specifications:  
 Diameter of insert: 18.6 cm  
 Diameter of line sources: ~ 1 mm  
 Spacing of line sources: 7.5 cm  
 Useful height of line sources: 7 cm



043-730

Triple Line Insert

## Hollow Sphere Set (6)<sup>TM</sup>



043-763

- Designed for use in all circular and elliptical ECT cylinders
- Simulates hot or cold spherical "lesions"
- Quantitative evaluation of spatial resolution/object size, attenuation and scatter effects
- Evaluation of quantitative ECT reconstruction methods

Set consists of six hollow spheres, each individually removable and fillable.

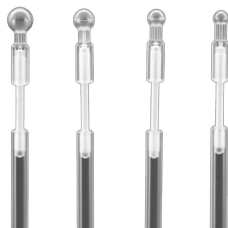
Specifications:

Outer Diameter: ~11.89, ~14.43, ~17.69, ~21.79, ~26.82, ~33.27 mm

Volume of Spheres: ~0.5, ~1.0, ~2.0, ~4.0, ~8.0 and ~16.0 ml

Hollow Sphere Set(6)

## Micro Hollow Sphere Set (4)<sup>TM</sup>



043-764

- Simulates small hot or cold spherical "lesions"
- Quantitative evaluation of spatial resolution/small object size effects
- Evaluation of quantitative ECT reconstruction methods

Set consists of 4 hollow spheres, each individually removable and fillable.

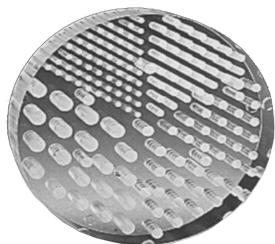
Specifications:

Outer Diameter: ~5.94, ~6.95, ~8.23, ~9.86 mm

Volume of Spheres: ~31, ~63, ~125, ~250 ul

Micro Hollow Spheres Phantom Insert

## Hot Spot Insert<sup>TM</sup>



043-766

- For use with high spatial resolution SPECT and PET Systems
- System resolution test for high contrast structures
- Acceptance testing
- Routine quality, assurance and control
- System performance evaluation

Specifications:

Diameter of Insert: 20.3 cm

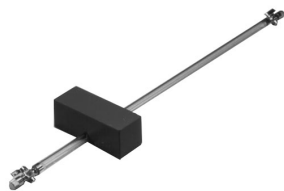
Inside Height: 6.6 cm

Diameters of Hollow Channels: 4.8, 6.4, 7.9, 9.5, 11.1 and 12.7 mm

Center-to Center Spacing of Channels: Two Times the Diameter

Hot Spot Insert (for 043-765)

## Capillary Line Fixture<sup>TM</sup>



043-718

- Center-of-rotation(COR) error measurement for systems that have axially dependent COR correction
- Evaluation of changes of radius-of-rotation on spatial resolution
- Planar and SPECT spatial resolution measurements in air
- Quantitative evaluation of reconstruction filters

Specifications:

Overall Length of Line Fixture: 55.9 cm

Usable Length: 43.2 cm

Outer Support Tubing: Polycarbonate

Inner Diameter of Tubing: 1.2 mm

Capillary Line Fixture

# Radioactive Sources

## Flood Sources



## PET/Spect Sources



## Accessory Sources



Vials

Reference

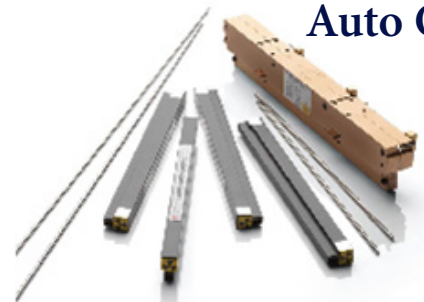
## Line Sources

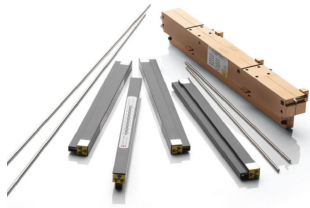


Auto QC

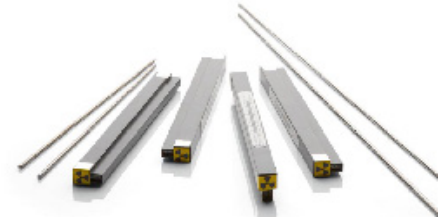


Spot Markers





# Sources for SPECT



We supply a wide range of Attenuation Correction line sources for Single Photon Emission Computed Tomography (SPECT) studies. A SPECT image is developed by measuring a collimated radiation beam emitted from a patient's body. The radiation beam is produced by injecting a known radiopharmaceutical into the patient.

SPECT image quality can suffer from unquantified attenuation effects caused as the beam passes through tissue of varying density and thickness. A line source is utilized to produce a "control beam" that is measured concurrently with the "radiopharmaceutical beam." The two beams are integrated and patient specific attenuation is calculated.

The resulting image is of higher quality than an image produced without attenuation correction. The typical nuclides used in Attenuation Sources for SPECT studies are Gd-153, Co-57 and Ba-133. Sources are singly or doubly encapsulated in both line and point geometries. The nuclides, activities and dimensions are manufactured in accordance to OEM Camera manufacturer specifications.

Camera Manufacturer	Camera Model	Item#	Nuclide	Nominal Activity	Sold As	System Requires	Recommended Replacement
Siemens Medical	E-Cam	NES-8426-28	Gd-153	192 mCi	Set/ 28	1 set	N/A
		NES-8426-4	Gd-153	80 mCi	Set/ 4	1 set	6 months
	Symbia	HEGL-0133	Gd-153	10 mCi	Each	1	2 years
		PHI-0124	Co-57	50 µCi	Each	1	1 year
GE Healthcare	Millenium Myosite	NES-8429-SET	Gd-153	450 mCi	Set/ 2	1	12-18 months
		NES-8429-SET	Gd-153	450 mCi	Set/ 2	1	12-18 months
Philips/ADAC	MDC Vertex	HEGL-0109	Ge-68	500 µCi	Each	1	1 year
	Forte Skylight Cardio 60	NES-8412 78410	Gd-153	250 mCi	Each	2	1 year
			Lead Pig		Each	3	12-18 months
	Cardio MD	NES-8497	Gd-153	240 mCi	Each	2	12-18 months
	Precedence	MMS07-153-100U	Gd-153	100 µCi	Each	6	12-18 months
	Brightview XCT	MMS07-153-100U	Gd-153	100 µCi	Each	6	12-18 months
Spectrum Dynamics	D-SPECT	MED3614	Co-57	12 mCi	Each	1	1 year

## Ge-68 Phantom for GE Discovery IQ



CE Mark 1: Ge-68, 1.49 mCi (55 mBq), PET Annulus DQA Imaging Phantom For the following systems:

- Discovery IQ 2 Ring Scanner / 10 cm PET/CT
- Discovery IQ 3 Ring Scanner / 15 cm PET/CT
- Discovery IQ 4 Ring Scanner / 20 cm PET/CT
- Discovery IQ 5 Ring Scanner / 25 cm PET/CT
- Discovery MI PET/CT
- Discovery MI DR (Digital Ready)

EG-0320

Ge-68 Phantom for GE Discovery IQ 1.49 mCi



# Sources for PET

EZIP is the leader in source manufacturing for Positron Emission Tomography (PET) studies. EZIP manufactures dedicated Ge-68 Transmission Sources and Quality Assurance Sources for major PET camera makers such as GE Healthcare, Siemens Medical Solutions, Positron Corporation, and others. In addition, EZIP manufactures dedicated Cs-137 and Na-22 sources for dedicated PET cameras.



For Initial Set Up of Ge-68 sources for your PET Camera, please call Pinestar Technology for pricing.



Camera Manufacturer	Camera Model	Item#	Nuclide	Nominal Activity	Sold As	System Requires	Recommended Replacement
Siemens Medical	ECAT Accel	HEGL-0080-5M	Ge-68	5 mCi	Each	3	1 year
		EG-0317-3.3M	Ge-68	3.3 mCi	Each	1	1 year
	ECAT EXACT HR+	HEGL-0080-4M	Ge-68	4 mCi	Each	3	1 year
		EG-0317-3.3M	Ge-68	3.3 mCi	Each	1	1 year
	ECAT EXACT 47	HEGL-0080-3M	Ge-68	3 mCi	Each	3	1 year
		EG-0317-3.3M	Ge-68	3.3 mCi	Each	1	1 year
	ECAT ART	HEGL-0080-1M	Ge-68	1 mCi	Each	1	1 year
		EG-0317-1.2M	Ge-68	3.3 mCi	Each	1	1 year
		PHI-0089	Cs-137	15 mCi	Each	2	N/A
	Biograph Non Pico	HEGL-0080-1M	Ge-68	1 mCi	Each	2	1 year
		EG-0317-1.2M	Ge-68	2 mCi	Each	1	1 year
	Biograph Pico	HEGL-0080-1M	Ge-68	1 mCi	Each	2	1 year
		EG-0317-2M	Ge-68	2 mCi	Each	1	1 year
	Biograph True V	HEGL-0080-1M	Ge-68	1-1.2 mCi	Each	2	1 year
		EG-0318-2M	Ge-68	2-2.5 mCi	Each	1	1 year
<b>GE Healthcare</b>	Discovery ST	HEGL-0132	Ge-68	1.49 mCi	Each	1	1 year
	Discovery 690	HEGL-0139	Ge-68	500 µCi	Each	1	1 year
		VQC-068	Ge-68	9.5 µCi	Each	1	1 year
	Discovery 600	HEGL-0140	Ge-68	270 µCi	Each	1	1 year
		VQC-068	Ge-68	9.5 µCi	Each	1	1 year
	Discovery LS	HEGL-0020	Ge-68	1.62 mCi	Each	1	2 years
		HEGL-0019	Ge-68	10.8 mCi	Each	2	6-9 months
	Discovery IQ	EG-0320	Ge-68	1.49 mCi	Each	1	1 year
<b>Philips Healthcare</b>	CPET	GF-0227	Na-22	100 µCi	Each	1	2 years
	Allegro	HEG-0111	Cs-137	20 mCi	Each	1	2 years
	Gemini GXL	GF-0227	Na-22	100 µCi	Each	1	2 years
		MMS05-022-10U	Na-22	10 µCi	Each	6	2 years
	Gemini TF/2XL	HEGL-0136	Na-22	100 µCi	Each	1	2 years
		MMS05-022-10U	Na-22	10 µCi	Each	6	2 years
<b>Positron</b>	HZL, HZLR HZ, Auricle	HEGL-0110	Ge-68	1-6 mCi	Each	1	1 year
		HEGL-0130	Ge-68	1-6 mCi	Each	1	1 year

## Ge-68 Rectangular Flood Source

Naviscan	Solo II	FL08R-068-30U (8.66" L x 3.94" W x .5")	Ge-68	30 µCi	Each	1	1 year
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## FeatherLite™ Flood Source



- FeatherLite Co-57 flood sources consist of cobalt chloride uniformly dispersed onto a thin substrate which is then placed in an ABS encapsulation and ultrasonically welded
- FeatherLite is even easier to handle, saving strain on your back
- Manufactured according to the following specifications: CV ≤ 1.0% INU ≤ 3.6%
- Many circular and rectangular flood sources are in stock and ready for fast delivery
- Each source is carefully measured for activity and analyzed to ensure a homogenous distribution with a standard deviation of less than 1%
- All sources are shipped with a certificate of calibration that highlights specifications of the flood source
- Flood Sources are available with or without a Lead Lined Case
- Lead Lined Case is sold separately
- "Large Field of View" Sources marked with an \* are shipped with the new ProKase or Pb Shipper, see page 151 & 152 for more information

Model#                      Active Dimensions                      Activity

\*For Millenium MPR, VG & MG, GE Hawkeye, Infinia, Myosite, Philips Argus, Forte, Skylight, Symbia & Siemens E-Cam, Optima NM/CT 640

NMC-44-NC	16.5" X 24" rectangle	5 mCi
NMC-45-NC	16.5" X 24" rectangle	10 mCi
NMC-4515-NC	16.5" X 24" rectangle	15 mCi
NMC-46-NC	16.5" X 24" rectangle	20 mCi
ProKase		

\*For SMV-DST, Multispect 3, Millenium MPS & DSTi/Dsi

NMC-47-NC	14" X 18" rectangle	5 mCi
NMC-48-NC	14" X 18" rectangle	10 mCi
NMC-49-NC	14" X 18" rectangle	15 mCi
NMC-50-NC	14" X 18" rectangle	20 mCi
ProKase		

For CardioMD, Siemens C-Cam, GE Ventri & GE Optima

MED-3727-5-NC	10" X 16" rectangle	5 mCi
MED-3727-7.5-NC	10" X 16" rectangle	7.5 mCi
MED-3727-10-NC	10" X 16" rectangle	10 mCi

Digirad Cardius, Dilon & GVI Clear Vision

MED-3744-5-NC	10" X 10" square	5 mCi
MED-3744-10-NC	10" X 10" square	10 mCi

\*For Digirad Ergo

MED-3745-10-NC	16.6" X 13.2" rectangle	10 mCi
ProKase		

\*For GE Starcam XCT, ACT, Adac ARC 3000, Cirrus, Siemens Orbiter

NMC-29-NC	18.5" round	5 mCi
NMC-30-NC	18.5" round	10 mCi
ProKase		

For GE Discovery GE530c, NM/CT570

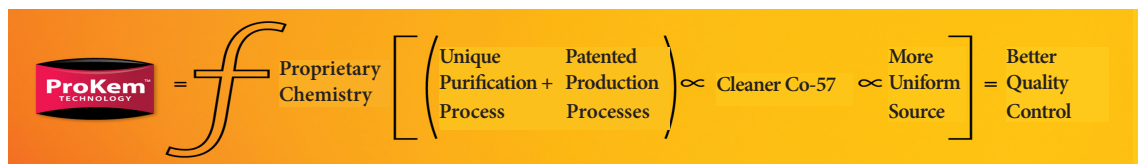
MED-3743-20-NC	10" X 10" square	20 mCi
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**Return kits are provided at No Charge for your spent source "One for One"  
US and Canada Only**

# Perflexion™

## Flexible Co-57 Flood Source

- Perflexion flood source eliminates bulk and weight with its unique flexible design and tungsten composite WolfGuard™ shield
- Perflexion has superior source uniformity, low impurities, and excellent durability
- Perflexion is the world's only flexible flood source
- Perflexion lays flat for calibration use, but rolls into a compact cylinder for storage
- Perflexion provides the most convenient, ergonomic flood source and case with optimum shielding protection
- Perflexion can be folded, bent, crushed and pulled without the material deforming, damaging, creasing, cracking, flaking or tearing over time
- Perflexion polymer “memory” ensures that the source will return to flatness even after being stored in a rolled configuration
- Light weight—weighs less than 29 lbs including the tungsten shield and hard case
- Smallest form factor—source rolls to fit in a 6” x 6” x 22” tube for convenient storage
- Best shielding—5-10x better than lead cases
- **Lead Lined Case is sold separately**



Model#                      Active Dimensions                      Activity

Co-57 Flood Source for GVI Clear Vision

PF09R-057-10M-NC      9" X 9" square                      10 mCi

Co-57 Flood Source for CardioMD, Siemens C-Cam, GE Ventri & GE Optima

PF16R-057-5M-NC      10.5" X 16" rectangle                      5 mCi  
 PF16R-057-7.5M-NC      10.5" X 16" rectangle                      7.5 mCi  
 PF16R-057-10M-NC      10.5" X 16" rectangle                      10 mCi

Co-57 Flood Source for Millenium MPR, VG & MG, GE Hawkeye, Infinia, Myosite, Philips Argus, Forte, Skylight, Symbia & Siemens E-Cam

PF24R-057-5M-NC      16.5" X 24" rectangle                      5 mCi  
 PF24R-057-10M-NC      16.5" X 24" rectangle                      10 mCi  
 PF24R-057-15M-NC      16.5" X 24" rectangle                      15 mCi  
 PF24R-057-20M-NC      16.5" X 24" rectangle                      20 mCi

Co-57 Flood Source for GE Starcam XCT, ACT, Adac ARC 3000, Cirrus, Siemens Orbiter

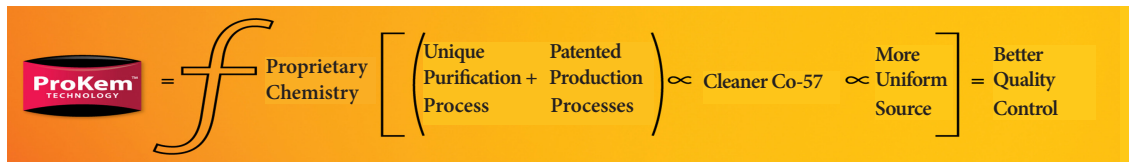
PF18C-057-5M-NC      18.5" round                      5 mCi  
 PF18C-057-10M-NC      18.5" round                      10 mCi  
 PF18C-057-15M-NC      18.5" round                      15 mCi  
 PF18C-057-20M-NC      18.5" round                      20 mCi

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## C-Thru™ Flood Source



- C-Thru source holder is made of transparent, durable plastic
- The radioactive area is clearly visible, enabling the C-Thru source to be easily positioned on the camera head
- The manufacturing process ensures that Nuclear Medicine customers will receive the highest quality flood source available to perform quality control on gamma cameras
- Flood sources are scanned using a gamma camera. The camera images each flood source for parameters including differential and integral non-uniformity in accordance with ANSI N42.27
- Visual checks are performed to detect any distortions of the active element and the outside capsule. A leak test is performed on all sources prior to shipment
- Flood Sources are available with or without a Lead Lined Case
- Lead Lined Case is sold separately
- "Large Field of View" Sources marked with an \* are shipped with the new ProKase or Pb Shipper, see page 153 & 154 for more information



Model#	Active Dimensions	Activity
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For Digirad Cardius, Dilon & GVI Clear Vision

CTRF-10012-NC	8.9" X 8.9" square	10 mCi
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For CardioCam, CardioSpect D90, NeuroSpect Quad

CTRF-13770A-NC	15.2" X 9.1" rectangle	10 mCi
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\*For CardioMD, Siemens C-Cam, GE Ventri & GE Optima

CTRF-10017-NC	10" X 16" rectangle	10 mCi
CTRF-10018-NC	10" X 16" rectangle	15 mCi
CTRF-10019-NC	10" X 16" rectangle	20 mCi

ProKase

\*For Millenium MPR, VG & MG, GE Hawkeye, Infinia, Myosite, Philips Argus, Forte, Skylight, Symbia & Siemens E-Cam

CTRF-10001-NC	16.5" X 24.4" rectangle	5 mCi
CTRF-10000-NC	16.5" X 24.4" rectangle	10 mCi
CTRF-10002-NC	16.5" X 24.4" rectangle	15 mCi
CTRF-10003-NC	16.5" X 24.4" rectangle	20 mCi

ProKase

\*For GE Starcam XCT, ACT, Adac ARC 3000, Cirrus, Siemens Orbiter

CTRF-10051-NC	18.5" round	5 mCi
CTRF-10050-NC	18.5" round	10 mCi
CTRF-10052-NC	18.5" round	15 mCi
CTRF-10053-NC	18.5" round	20 mCi

ProKase

Return kits are provided at No Charge for your spent source "One for One"  
US and Canada Only

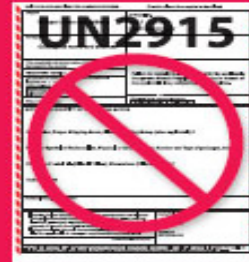


## Pb Shipper Available For All Featherlite™ And C-Thru™ Flood Sources

Save time and money with our "hassle-free" Pb Shipper.

With a lead-lined sleeve covering all 6 sides, our Pb Shipper is designed to qualify as an UN2910 "Excepted Package" when the surface reading for your Co-57 flood source is  $\leq 0.5\text{mRem/hr}$ .

**NO MORE  
UN2915**



## Co-57 Flood Source Shield



Item # C0000868

- A great choice for storing Small Field of View Featherlite™ and C-Thru™ flood sources
- Smaller case (17.5" W x 18.5" H x 4.5" D ) requires less storage space

# ProKase™ - Highly Portable Flood Source Storage and Handling



- Wide Clamshell Opening for easier access to your Flood Source
- Unique Flared Base for improved stability
- Ergonomic Top Handle for easier rolling
- 4 Swivel Wheels for greater mobility
- Wheel Brake for added safety

**For Large Field of View**

Featherlite® and C-Thru® Flood Sources

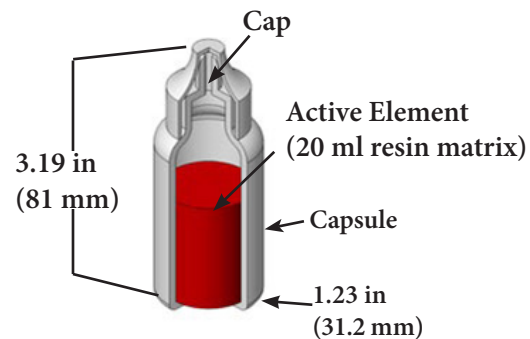
**Be a ProKase Pro!**

Auto Quality Control Sources  
for  
SIEMENS SYMBIA CAMERA  
HEGL-0133 & PHI-0124

We also have Quality Control Sources for  
SPECT and PET

Page 146-147

# Reference/ Vial Sources



- Dose Calibrator Reference Sources provide a safe and convenient method of calibrating instruments for measuring the accuracy of imaging solutions most commonly utilized by medical technicians
- The Dose Calibrator is manufactured by uniformly distributing the active element in 20 mL of epoxy, comprising a density of approximately 1.0 g/cm<sup>3</sup>
- Each standard is supplied in a 27 mL polyethylene vial. Calibration is in terms of activity contained in an aqueous solution
- NIST traceable within  $\pm 5\%$  at the 99% confidence level
- Each source is supplied in a lead shield and is accompanied by a certificate of calibration and leak test report

Model#	Isotope	Activity
NMC-206	Cobalt-57	5 mCi
NMC-207	Cobalt-57	10 mCi
NMC-358	Barium-133	250 $\mu$ Ci
NMC-354	Cobalt-60	50 $\mu$ Ci
NMC-350	Cesium-137	200 $\mu$ Ci
NMC-356	Cesium-137	250 $\mu$ Ci

Model#	Isotope	Activity
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### Reference Source Sets:

NMC-362	Source Set includes:	
	Cobalt-57	5 mCi
	Cobalt-60	50 $\mu$ Ci
	Cesium-137	200 $\mu$ Ci

NMC-367	Source Set includes:	
	Cobalt-57	5 mCi
	Cobalt-60	50 $\mu$ Ci
	Cesium-137	200 $\mu$ Ci
	Barium-133	250 $\mu$ Ci

NMC-369	Source Set includes:	
	Cobalt-57	5 mCi
	Cesium-137	200 $\mu$ Ci
	Barium-133	250 $\mu$ Ci



Model#	Isotope	Activity
BM06V-6805	Germanium-68	0.5 mCi
BM06V-681	Germanium-68	1 mCi

Return kits are provided at No Charge for your spent source "One for One"  
US and Canada Only

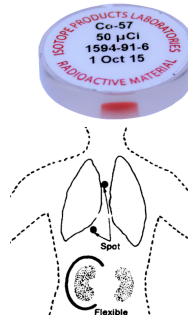
Call Pinestar toll-free 1-800-682-2226, to place an order

## Rod Sources



- Each source consists of a lucite rod measuring 5" x 0.5" (127 mm x 12.7 mm) or can be custom ordered as 2.95" x 0.5" (74.9 mm x 12.7 mm)
- The activity is located in a 0.187" x 0.187" (4.75 mm x 4.75 mm) well, positioned approximately 0.250" (6.35 mm) from the top of the rod
- Rod sources are calibrated and NIST traceable with an accuracy of  $\pm 5\%$  at the 99% level

## Spot Marker Source



- Used for patient orientation during the performance of a camera study
- 0.136" (3.45 mm) diameter active area is marked with purple epoxy and centered in a 1" x 0.250" (25.4 mm x 6.35 mm) clear acrylic disc
- Contained activity is supplied as a nominal value  $\pm 15\%$

Model#	Isotope	Activity
BM08-57-5	Co-57	0.1 $\mu$ Ci
BM08-571-5	Co-57	1.0 $\mu$ Ci
BM08-33-5	Ba-133	0.1 $\mu$ Ci
BM08-37-5	Cs-137	0.1 $\mu$ Ci
GF-0322	Co-57	10 $\mu$ Ci
063-100	Rod Source Set, 3" x 0.5" 0.1 $\mu$ Ci	
	Includes: Co-57, Na-22, Cs-137, Mn-54, Co-60, Ba-133, Cd-109	
063-101	Rod Source Set, 3" x 0.5" 1.0 $\mu$ Ci	
	Includes: Co-57, Na-22, Cs-137, Mn-54, Co-60, Ba-133, Cd-109	

Model#	Isotope	Activity
67-289	Co-57	50 $\mu$ Ci*
NMC-8200	Co-57	100 $\mu$ Ci*
4121	Co-57	200 $\mu$ Ci*
4129	Co-57	300 $\mu$ Ci*
CAL-2600-100	Ge-68	100 $\mu$ Ci*
CAL-2600-10	Ge-68	10 $\mu$ Ci*
CAL-2600-1	Ge-68	1 $\mu$ Ci*
CAL-2600-0.1	Ge-68	0.1 $\mu$ Ci

We require documentation authorizing the use of Co-57 and Ge-68 in your state. Please send a photocopy of the current license.

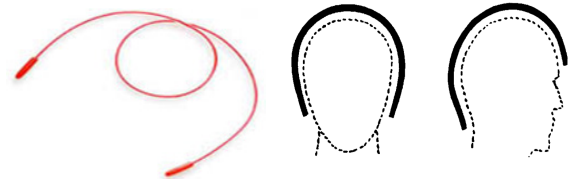
## Na-22 Point Source



- Activity: 100  $\mu$ Ci
- Overall Dimension: 1" Dia x 0.25" H (25.4 mm x 6.35 mm)
- Active Dimension: .40" (1 mm)
- Nuclide Purity: >99%

GF-0227 Na-22 100  $\mu$ Ci

## Flexible Marker Source



- Co-57 uniformly dispersed in an epoxy matrix is injected into a 0.094" (2.4 mm) outer diameter flexible plastic tube having an inner diameter of 0.02" (0.508 mm)
- Overall length and active length of the ruler is 19.7" (50 cm)
- Contained activity is supplied as a nominal value  $\pm 15\%$

## Right & Left Marker

- Consists of two 50.4 mm diameter discs containing a total amount of 100  $\mu$ Ci of Co-57
- Each disc has a "R" or "L" milled out and filled with epoxy containing the Co-57
- A storage case is provided with each set

BM03-57 Co-57 Total 100  $\mu$ Ci

BM83-10 Co-57 (150  $\mu$ Ci) 3  $\mu$ Ci/cm

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US and Canada Only



## Radioactive Rulers



The Rigid Ruler is a plastic tube 0.197" (5 mm) in diameter containing 17 alternating 0.394" (10 mm) sections of Co-57 and inactive lead  
Overall length of the ruler is 6.7" (17 cm) with an active length of 5.91" (15 cm)  
Contained activity is supplied as a nominal value  $\pm 15\%$   
BM83-30 Co-57 Rigid Radioactive Ruler (160  $\mu\text{Ci}$ )

Radioactive rulers and markers are used to define anatomical locations and/or organ size during a camera study.  
The Flexible Ruler is a plastic tube 0.19" (4.8 mm) in diameter containing 47 alternating 0.394" (10 mm) sections of Co-57 and inactive lead  
Overall length of the ruler is 18.5" (47 cm) with an active length of 17.7" (45 cm)



BM83-20 Co-57 Flexible Radioactive Ruler (460  $\mu\text{Ci}$ )

## Penpoint Marker Source



Pen Point marker is used to mark a point of interest during a camera study. The Pen Point Marker contains Co-57 in a ceramic matrix at the end of a 5.0" (12.7 cm) anodized aluminum rod. The pen-shaped rod screws into a brass cap which shields the active point. The Pen Point Marker is used in tracing the outlines of anatomical features on a patient. The trace appears almost instantly on the camera display. Contained activity is supplied as a nominal value  $\pm 15\%$ .

Dimensions: Length-5" / Diameter-0.375"

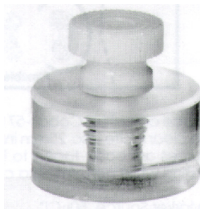
4123 Penpoint Marker, 250  $\mu\text{Ci}$   
4123-200 Penpoint Marker, 200  $\mu\text{Ci}$   
4123-100 Penpoint Marker, 100  $\mu\text{Ci}$

*\*We require documentation authorizing the use of Cobalt-57 in your state. Please send photocopy of the complete current license.*

## Fillable Point Source Marker

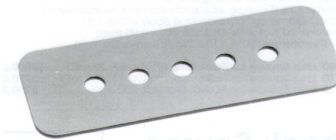
SAVE TIME FOR CAMERA-TO-PATIENT ALIGNMENT

Point Source Marker is easily filled with the same radionuclide to be used in imaging procedure. Small clear plastic receptacle, 1" diameter x 1/2" thick, has a centered channel to contain the nuclide. A nylon screw-plug tightens against an o-ring completing a tight, safe seal. Marker is re-usable or nuclide can be decayed or removed. Available in sets of 4.



043-274 Fillable Point Source Marker, set 4

## Liver Marker/Ruler



The Liver Marker/Ruler is designed to mark, outline, and measure the liver while performing routine studies. When placed over the area of interest, a measurement is taken by counting the space between holes. The marker is made of vinyl-coated leaded rubber for flexibility and easy cleaning. Each unit is 5 1/2" long and 2" wide with holes 1 cm apart. Two units are supplied as a kit.

Lead Equivalency: 1 mm Hole Size: 9 mm  
Size: 5 1/2" L x 2" W (14 x 5 cm)

123-500 Liver Marker/Ruler

## Check Source & Holder



The 1.0 microcurie Cs-137 Check Source will comply with recent changes in the NRC regulations. An optional holder is available to permanently mount the Check Source on the side of your instrument.

051-196 Check Source, Cs-137 1.0  $\mu\text{Ci}$   
051-166 Check Source Holder

## Gamma Check Source

This disc type is preferable with standard flat faced crystals (no license necessary)

101-103 Uncalibrated Cs-137 Disc Source, 10  $\mu\text{Ci}$ , 1" D x 1/4" thick

# Multimodal Spot Markers

Multimodal Spot Markers and Fiducial Markers  
Available in Co-57 for CT-SPECT and Ge-68 or Na-22 for CT-PET fusion imaging, these markers help increase the accuracy of your image registration. Activities up to 100  $\mu$ Ci nominal available.

Model MMS01

### Specifications

Capsule: 1" x 0.25" (D x H)

white Delrin

**Active dimensions:**

1 mm x 1 mm cylinder

**Suggested usage:**

high-resolution PET point source or fiducial marker.



Model MMS02

### Specifications

Capsule: 1" x 0.25" (D x H)  
clear cast acrylic

**Active dimensions:**

1.5 mm x 1.5 mm cylinder

CT target: 1/4" OD

bone-equivalent ring

(surrounds active element)

**Suggested usage:**

multimodal fiducial marker for image co-registration.

Model MMS03

### Specifications

Capsule: 1" x 0.25" (D x H)

clear cast acrylic with etched crosshairs for laser alignment

**Active dimensions:**

1 mm diameter sphere

CT target: 2 mm OD

bone-equivalent ring

(surrounds active element)

**Suggested usage:**

multimodal fiducial marker for image co-registration.

Model MMS04

### Specifications

Capsule: 3 x 3 x 8 mm

clear acrylic with Delrin plug

**Active dimensions:**

1 x 0.5 mm (D x H) cylinder

CT target: active element

is CT-visible

**Suggested usage:**

multimodal fiducial marker for image co-registration, recommended for small animal studies or other situations where a small source capsule is needed.

Model MMS06

### Specifications

Capsule: 1" x 0.25" (D x H)

clear cast acrylic

**Active dimensions:**

0.25 mm diameter sphere

**Suggested usage:**

high-resolution point source or spot marker for use with scanners with resolution better than 3 mm.

Multimodal Spot Markers



## Radioactive Source Reclamation

Do you have Spent Flood, Reference, Rods, Spot Markers, etc.,  
that you would like to dispose of?

- Give us a call and we can get you a quote for Return Kits
- We will need the Original Calibration Date and Original Activity when you call
- We are offering Special Pricing for the Return Kits

