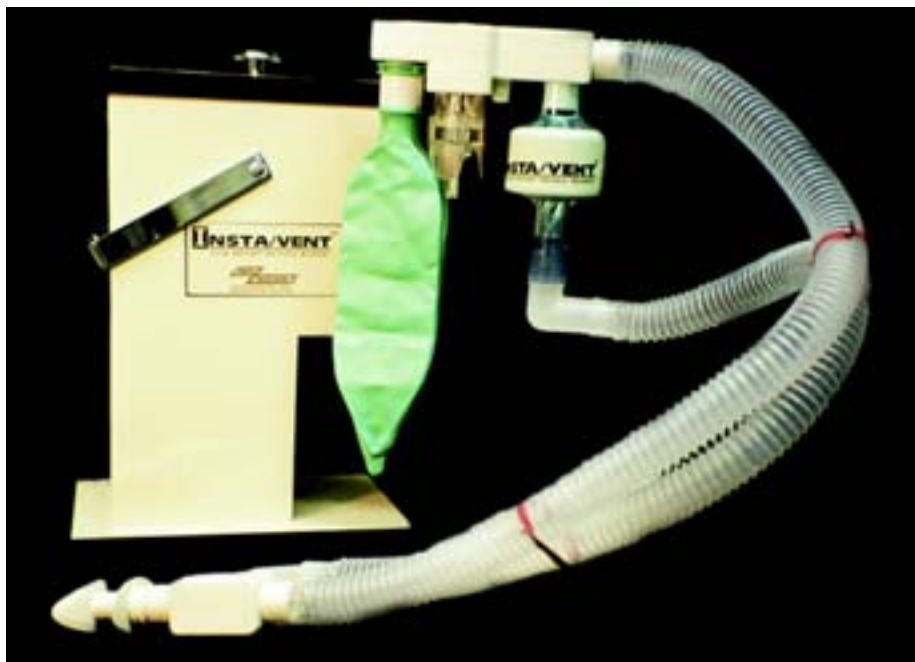


Insta/Vent™

Model 36-600

- Lung Aerosol Imaging
- Insta/Vent provides excellent images with breathing times as low as 1.5 minutes
- For unsurpassed images:
In two independent reviews of 43 consecutive patients, overall image quality was rated an average of 3.6 out of 4.0
- At unheard of speeds...typical results:
 - 1.5 minutes to deposit 1 mCi in patient lungs (20 mCi/mL concentration)
 - Imaging times of about 1 minute per view (100,000 counts)



Unsurpassed images...

With over 97% of its particles under 1 micron and a patented nebulizer advance, Insta/Vent successfully reduces the problem of central airway deposition and “hot spots”, while maximizing peripheral penetration for the sharpest, clearest images you’ll find anywhere.

Unheard of speeds...

Take a look at traditional radioaerosol systems and you’ll see one glaring problem: half of the medication gets wasted. Nebulizers produce a constant mist, so radioactivity goes directly to the exhaust filter while a patient is holding his breath or exhaling. The Insta/Vent simply retains and uses the material that would have been lost, doubling the DTPA delivery rate and effectively cutting breathing time in half.



Engineered with you and your patient in mind...

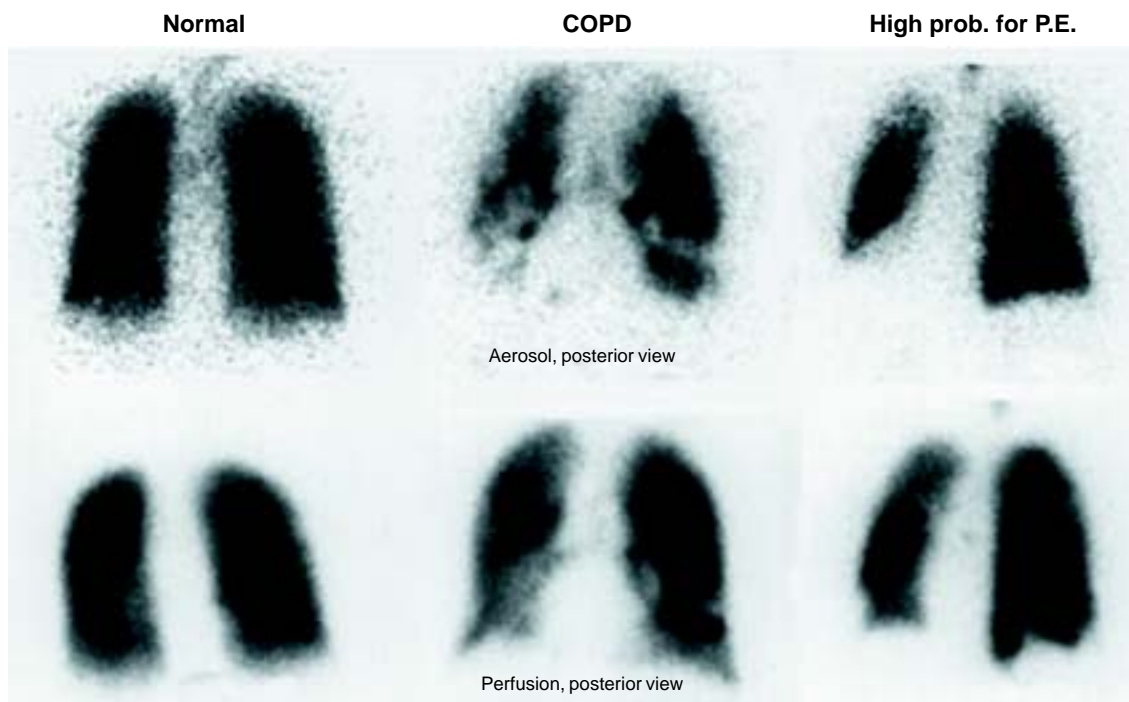
Safety Shielding exceeds the highest safety standards. Plus our SAFETY/SHIELD™ mouthpiece seals immediately after patient use, minimizing potential radiation spread and contamination.

Comfort No-valve design for unrestricted breathing, plus our expandable 6 to 24 inch flexitube for easy positioning, whether upright or supine.

Portability Can be carried by hand. Insta/Vent also offers an optional mobile cabinet with convenient decay storage.

Versatility Suitable for any patient, including ventilator-dependent. The Model 600P is available for use with pediatric patients and shallow breathing adults. The Model 600M is for patients that need a mask for their study.

Because image is everything...



Images courtesy of Alan Waxman, M.D. Cedars-Sinai Medical Center Los Angeles

For the Nuclear Medicine physician, image is everything. In critical diagnostic decisions, nothing compares to the quality and multi-view versatility of aerosol ^{99m}Tc DTPA lung imaging. And, when it comes to speed and image sensitivity, nothing compares to the revolutionary new Insta/Vent lung ventilation system.

Optional accessories

Insta/Vent Shield 601 (Model 36-601). Weight: 17.5 lb (8 kg)

Insta/Vent Cabinet 603 (Model 36-603). Weight: 135 lb (61 kg)

Insta/Vent Shield and Cabinet 602 (Model 36-602). Weight: 152 lb (69 kg)

Available model(s)

36-600 Insta/Vent 600. Weight: 1 lb (0.45 kg)

36-605 Insta/Vent 600M. Weight: 1 lb (0.45 kg)

36-610 Insta/Vent 600P. Weight: 1 lb (0.45 kg)

Quantity discounts available

For additional information, please contact Cardinal Health, Radiation Management Services customer service at 440.248.9300, 800.850.4608, or fax: 440.349.2307; located at 6045 Cochran Road, Cleveland, Ohio 44139-3303, USA.

Specifications are subject to change without notice.

Insta/Vent and SAFETY/SHIELD are trademarks of Medi/Nuclear Corporation, Inc.

© Copyright 2003 Cardinal Health, Inc. or one of its subsidiaries. All rights reserved.

36-600-ds rev 1 13 mar 03

Aero/Vent™ Plus

Model 36-400

- Lung aerosol imaging
- Over 97% of the particles produced by the Aero/Vent Plus fall below 1 micron
- Safety and convenience
- Lightweight combined with its one-handle design makes it a breeze to transport
- Optional mobile cabinet
- Features a SAFETY/SHIELD™ Mouthpiece



For the physician...

For the Nuclear Medicine physician, image is everything. Traditionally, ^{133}Xe gas imaging has been the method of choice, despite its inability to obtain multiple views. Acceptance of aerosol $^{99\text{m}}\text{Tc}$ DTPA imaging has been growing, despite problems of excessive tracheal deposition and “hot spots.”

Now, the Aero/Vent Plus virtually eliminates these problems and produces images of unsurpassed quality. The nebulizer utilizes a revolutionary new design which not only produces the small particles needed to obtain good peripheral penetration, but eliminates nearly all particles which are the cause of unwanted tracheal deposits and “hot spots.” In fact, over 97% of the particles produced by the Aero/Vent Plus fall below 1 micron.

For the technologist...safety and convenience

Safety Any time you're dealing with radioactive material, safety comes first. That's why the Aero/Vent Plus shield gives us the highest safety standard of any radioaerosol inhalation system available.

Portability Aero/Vent Plus weighs only 12 pounds. That, combined with its one-handle design, makes the Aero/Vent Plus a breeze to transport.

Optional cabinet A popular accessory for the Aero/Vent Plus is a mobile cabinet which contains an adjustable arm to position the shield (for both upright and supine positions), a leaded decay bin, and an oxygen tank holder, as needed.

The safety/shield Only the Aero/Vent Plus features the SAFETY/SHIELD™ Mouthpiece – which incorporates a cover that seals the mouthpiece before and after patient use. This minimizes potential radiation spread and contamination for both the patient and the technologist.

Easy patient breathing The Aero/Vent Plus unique “no valve” design allows virtually unrestricted patient breathing.

Images With 97% of particles less than 1 micron in size, the system provides improved peripheral penetration and decreased central deposition, yielding superior images.

Optional accessories

Aero/Vent Shield (Model 36-401).
Weight: 12 lb (5.45 kg)

Aero/Vent Cabinet (Model 36-403).
Weight: 105 lb (47 kg)

Aero/Vent Shield and Cabinet (Model 36-402). Weight: 117 lb (53 kg)

Available model(s)

36-400 Aero/Vent Plus. Weight: 1 lb (0.45 kg)

36-405 Aero/Vent 400 Plus M. Weight: 1 lb (0.45 kg)

For additional information, please contact Cardinal Health, Radiation Management Services customer service at 440.248.9300, 800.850.4608, or fax: 440.349.2307; located at 6045 Cochran Road, Cleveland, Ohio 44139-3303, USA.

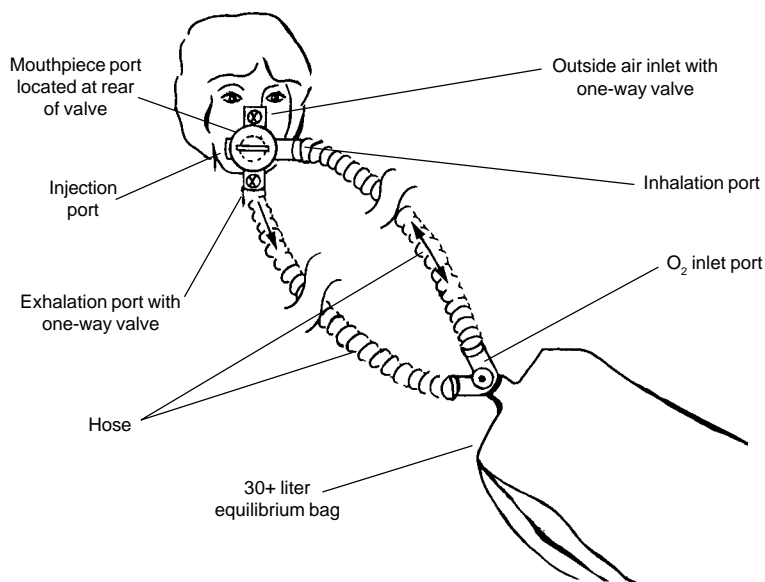
Specifications are subject to change without notice. Aero/Vent and SAFETY are trademarks of Medi/Nuclear Corporation, Inc.
© Copyright 2003 Cardinal Health, Inc. or one of its subsidiaries. All rights reserved.

36-400-ds rev 1 13 mar 03

E-Xe-Breathe Disposable ^{133}Xe Re-Breathing System Model 36-204



Nuclear Medicine



- An economical approach to perfusion and ventilation studies
- Completely self-contained; lightweight
- Large reservoir (30+ liters, neutral volume) for equilibrium and washout
- Simple to operate, economical to use
- Special, reusable two-way rotary valve control

E-Xe-Breathe provides a safe, low-cost method of performing perfusion and ventilation studies using any radioactive gas. It is ideal for the budget-conscious nuclear medicine department when the use of more expensive equipment is unwarranted.

The system is lightweight, self-contained and easy to operate. It comes complete with a disposable 30+ liter equilibrium bag, flexible intake and exhaust tubing, a ^{133}Xe injection port and a mouthpiece. A specially designed, two-way rotary valve assembly for controlling the gas mixture and patient breath flow completes the system.

The reusable, two-way rotary valve allows the patient to breathe either on a closed-loop equilibrium cycle or in a washout mode. In the latter, the patient breathes outside air only, exhaling into the equilibrium bag. The exhaust lines provide a convenient drain for the effluent xenon-air mixture. A xenon injection port accepts any commercial xenon delivery system currently available.

E-Xe-Breathe is shipped in a compact, space-saving package. The unit can be quickly fitted to the rotary valve assembly, prior to use, to form the complete system. E-Xe-Breathe is available with or without the rotary valve assembly.

Specifications

Weight 0.25 lb (0.11 kg)

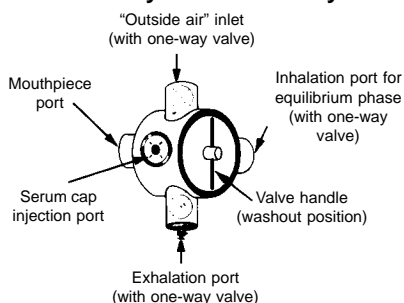
Available model(s)

36-204 E-Xe-Breathe Disposable ^{133}Xe Re-Breathing System with rotary valve

36-200 E-Xe-Breathe Disposable ^{133}Xe Re-Breathing System without rotary valve

Quantity discounts available

Rotary valve assembly



For additional information, please contact Cardinal Health, Radiation Management Services customer service at 440.248.9300, 800.850.4608, or fax: 440.349.2307; located at 6045 Cochran Road, Cleveland, Ohio 44139-3303, USA.

Specifications are subject to change without notice.

© Copyright 2003 Cardinal Health, Inc. or one of its subsidiaries. All rights reserved.

36-204-ds rev 1 13 mar 03

XENON MASTER™

Model 36-102

- Patient delivery system with integrated XENON gas trap
- One knob control
- Complete shielding
- Gas delivered near mouthpiece from shielded reservoir
- Easy monitoring of trap exhaust with survey meter



Introduction

The XENON MASTER is designed to provide the nuclear medicine technologist with an easily used device for administering radioactive xenon gas to a patient and trapping all of the expired gases. Cumbersome methods of injecting a dose of gas at the patient mouthpiece is completely eliminated in that a holding reservoir is provided in the XENON MASTER which is preloaded with the patient dose. This dose is introduced to the patient breathing tube at the mouthpiece exactly at the right moment determined by the technologist, requiring only by two quick squeezes of a rubber bulb.

Control panel

- **Oxygen input** Panel mounted one-way valve allows oxygen to be added to rebreathe bag at any time
- **Xenon input** Panel mounted one-way valve into holding reservoir allows dose to be preloaded before patient is positioned
- **Function knob** A large three-position knob provides for: Setup/Washout, System, Purge, Equilibrium
- **Pump switch** On/Off – Controls pump motor in XENON trap system

Rebreath bag compartment

A hinged-lid lead shielded compartment is provided to allow easy technologist access to those components which occasionally must be checked or changed. This compartment contains plug-in containers for CO₂ absorbent material, moisture absorber (Drierite), and the five liter Rebreath bag.

XENON trap

- **Trapping medium** Activated charcoal
- **Expansion bag** 30 liters
- **Pump** High performance diaphragm compressor with ball bearing construction, stainless steel valves and overload protection
- **Monitor port** A convenient access port is provided for monitoring the exhaust air from the charcoal column with a standard low level GM survey meter
- **Control** Front panel control by On/Off switch

Specifications

Dimensions 19.5 x 21 x 40.5 in (h) (49.5 x 53.3 x 103 cm)

Shielding Lead – 0.06 in – 0.13 in surrounding trap

Wheels 4 inch full-swivel casters

Finish Wood-grain formica

Voltage 115 V

Current 1.5 A

Weight 200 lb (90 kg)

Optional accessories

Bacteria Filters, sims (Model 36-030)

Bacteria Filters, vital signs (Model 36-031)

Safety Shield Mouthpiece, semi-rigid (Model 36-032)

Soft Flange Mouthpiece (Model 36-033)

Hard Mouthpiece (Model 36-034)

Face Mask Air Filled (Model 36-035)

Face Mask Harness (Model 36-038)

Noise Clip, disposable (Model 36-039)

Baralyme, 3 lb CO₂ absorbent granules (Model 36-040)

Drierite, 5 lb moisture absorbent granules (Model 36-042)

Corrugate Tubing, 6 inch scored, 100 per case (Model 36-043)

Oxygen Tank Holder (Model 36-044)

CO₂ Absorber Canister (Model 36-045)

Moisture Absorber Canister (Model 36-046)

Interface Bag, 80 L (Model 36-047)

Equilibrium Bag, 5 L (Model 36-048)

XENON MASTER Delivery Bulb (Model 36-049)

XENON MASTER Charcoal Trap (exchange) (Model 36-104)

Hans Rudolph Valve (Model 36-150)

Available model(s)

36-102 XENON MASTER Patient Delivery System with integrated gas trap

36-112 XENON MASTER Patient Delivery System with integrated gas trap and auxiliary trap

For additional information, please contact Cardinal Health, Radiation Management Services customer service at 440.248.9300, 800.850.4608, or fax: 440.349.2307; located at 6045 Cochran Road, Cleveland, Ohio 44139-3303, USA.

Specifications are subject to change without notice. XENON MASTER is a trademark of Medi/Nuclear Corporation, Inc. © Copyright 2003 Cardinal Health, Inc. or one of its subsidiaries. All rights reserved.

36-102-ds rev 1 13 mar 03

XenoGard™ ¹³³Xe Monitor*

Model 36-751



Nuclear Medicine

Introduction

Now, ¹³³Xe concentrations in room air and gas trap effluent can be quantitatively monitored continuously and accurately with the unique XenoGard Monitor. Unlike preset, non-integrating devices, XenoGard eliminates tedious, complex calculations by automatically computing total exposure (in DAC-hours units) and exposure rate (in fractions of DAC). Xenon monitoring has never been easier.

Applications

Room air monitoring XenoGard is placed near the xenon administration system. Room air is drawn into the counting chamber and counted while the air is exchanged. An analog meter continuously displays DAC units while two digital registers display integrated DAC-hours and total hours (running time) respectively. When the ¹³³Xe concentration exceeds full-scale, the digital registers flash on and off as a warning. An audible alarm can also be activated.

At the end of each work day, XenoGard should be switched to "Stand-By." Data acquisition is suspended, but accumulated data is retained. Whenever a xenon study is to be performed, XenoGard should be reactivated, and data accumulation resumes. At the start of each work week, the monitor is reset to zero and the process repeated. The monitor allows for the connection of a chart recorder for a permanent record of room air xenon concentration.

Gas trap monitoring XenoGard greatly simplifies the monitoring of effluent air from any xenon trap. Setting the analog meter multiplier to x10 or x100 displays 10⁻³ μCi/ml or 10⁻² μCi/ml full scale. The monitor may be used to verify trap performance.



- Monitors exposure rate, continuously integrates, and displays the xenon concentration of room air
- Monitors the effluent from xenon gas traps
- All in easy-to-understand multiples of the derived air concentration (DAC)

Features

- **Background subtract circuit** Permits subtraction of background radiation to assure maximum accuracy
- **Total hours register** Displays total hours of xenon data accumulation
- **Power indicator** Light-emitting diode flashes once-per-second to indicate data accumulation
- **Integration disable circuit** Suspends DAC-hours and hours data accumulation during gas trap monitoring

Specifications

Detector Pancake thin-window GM tube

Accuracy ± 20%

Reproducibility ± 5%

Calibration factors X0.1 = 10⁻⁵ μCi/ml;
X1 = 10⁻⁴ μCi/ml; X10 = 10⁻³ μCi/ml;
X100 = 10⁻² μCi/ml

Counting chamber Shielded with 0.375 inch (9.5 mm) lead

Air intake port 1 inch (2.5 cm) diameter front-panel port with particulate-matter filter

DAC meter Analog with ranges of 0.1, 10, 10 and 100 DAC, full scale

Time constants 40 sec on x0.1, 4 sec on x1, 0.4 sec on x10, and 0.04 sec on x100

DAC-hours register 0 to 99; 2-digit light-emitting diode (LED)

Hours register 0 to 80; 2-digit light-emitting diode

Visual alarm LED registers flash at 1/sec rate at full-scale meter reading in x 0.1 or x1 ranges

Audio alarm Intermittent tone; user-selectable

Emergency audio alarm Continuous tone on reaching 8 DAC-hours (integration and data accumulation continue to 9 hours)

Background subtract circuit Activated by moving range switch to "Test" position. Allows meter display of background count rate or internal subtracted background count rate. Enables user to adjust subtracted background

Standby function Switch terminates data accumulation. Prior data remains stored in memory

Memory storage circuit Retains accumulated data during momentary power losses

Power requirements 115 V, 60 Hz, 25 W (230 V, 50 Hz on special order)

Dimensions 12.2 (w) x 10.6 (d) x 6.7 in (h) (31 x 27 x 17 cm)

Weight 50 lb (23 kg)

Optional accessories

Particulate-Matter Replacement Filters, package of 25 (Model 36-753)

Hose for Gas Trap Monitoring, 6 ft (Model 36-754)

Available model(s)

36-751 XenoGard ¹³³Xe Monitor

***Note:** The code of Federal Regulation (10CFR, Part 20, Section 20, 1003) limits the permissible ¹³³Xe exposure to 2000 DAC-hours per year. The DAC-hours are continuously updated and displayed by the monitor*

For additional information, please contact Cardinal Health, Radiation Management Services customer service at 440.248.9300, 800.850.4608, or fax: 440.349.2307; located at 6045 Cochran Road, Cleveland, Ohio 44139-3303, USA.

Specifications are subject to change without notice. XenoGard is a trademark of Cardinal Health, Inc. or one of its subsidiaries.
© Copyright 2003 Cardinal Health, Inc. or one of its subsidiaries. All rights reserved.
36-751-ds rev 1 13 mar 03

* US Patent No. 4,286,155.