CLEAR-Pb® Shielding and Mobile Barriers
Models 56-7, 56-8, and 56-9 Series

- CLEAR-Pb lead-plastic x-ray shielding modular control booths, windows, and mobile and overhead barriers
- See also, Diagnostic Radiology Shielding Calculation Software Program (Model 56-695) to calculate shielding thicknesses

Who you rely on for Radiation Protection is as important as the product you choose

Your patients have chosen you as their healthcare provider based on your years of experience, expertise, and reputation. It stands to reason then, that you should demand the same qualities from your radiation protection product supplier...after all, your health depends on it.

We take radiation protection seriously

For more than three decades, medical imaging professionals have relied on our exceptional product quality and selection, clinical experience, technical expertise, and professional service. Our outstanding reputation is the result of our ongoing commitment to maintaining the high standards you expect.

When it comes to your health and safety, consider us your radiation protection specialist

Only the safest, most effective, and durable products are incorporated into our product line. You can count on us to understand your individual radiation protection requirements and stand behind every product we sell...before, during, and after the sale.
How to order and assemble CLEAR-Pb Lead-Plastic X-Ray Shielding Window Panes and Modular Control Booths

(A) CLEAR-Pb Lead-Plastic X-Ray Shielding Window Pane
(See next page for ordering information.)

(B) Opaque Shielding Panels The High-Style panels are available in 16 colors of vinyl laminate. The Classic panels have a durable, polyurethane beige paint finish. Both are lead-lined to provide 1.5 mm lead protection.

(C,D,E) Vertical Coupling Channels The High-Style channels are made of brushed anodized aluminum. The Classic channels are made of steel. Both are lined with lead, facing the x-ray source, (except 56-831 end-channels). Minimum 1.5 mm (0.06 inch) lead-equivalent.

(G) Horizontal Coupling Channels Provide shielding overlap as well as structural connection between the CLEAR-Pb window pane and the opaque panel.

(H) Floor Channels High-Style is designed as a kick-plate and is 5.50 inch high. The Classic is 0.75 inch high. Both are predrilled for bolting to floor.

(J) Tie-Rods (Not needed for High-Style Mobile Control Booths.) Any 84 inch vertical channel or end-channel can be anchored to a wall or ceiling by means of an adjustable, two-piece tie-rod. One end of the rod fastens to the top of the vertical-channel; the other end attaches to the wall-mounting bracket that has been affixed to the wall. Tie-rods can also be connected to ceiling beams.

(K) Tie-Channels A tie-channel prevents separation of the end-channel from its window pane. It must be installed between the tops of each vertical end-channel and the nearest vertical coupling channel.

(L) Wall-Mounting Brackets (Not needed for High-Style barriers.) A 34 inch long, 16-gauge steel bracket is mounted horizontally on the wall.

(N) Channel Spacers For use when CLEAR-Pb window panes of 22, 18, or 12 mm thickness are installed. The spacers are installed along the rear edge of the vertical and/or horizontal bracket to prevent movement of the window pane.

Figure 1. This exploded view from behind the barrier shows the components required to assemble an 18 (w) x 84 inch (h) High-Style or Classic Opaque Shielding Panel with a 48 inch wide CLEAR-Pb window pane, both at right angles to a 36 inch barrier section

NOTE: Figure 3 depicts a Classic Mobile Modular Barrier. The components required to assemble our High-Style barriers are similar, but fewer (see J and L)
CLEAR-Pb Lead-Plastic X-Ray Shielding Standard Window Panes (key letter “A”)

Window size larger than 72 x 96 inches and custom-cut sizes are available on special order. Call or write for a quotation.

* Model 56-742 actual cut size is 24 x 29.9375 inch.

** Model 56-741 actual cut size is 24 x 35.9375 inch.

NOTE: 3.0 mm lead-equivalence is available on special order. Call for information.

Additional window pane stock sizes
(Available in 1.5 mm lead equivalence)

<table>
<thead>
<tr>
<th>Window size (inches) /LE Model</th>
<th>Window size (inches) /LE Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 x 12 x 1.5 mm LE 56-771-1012</td>
<td>18 x 36 x 1.5 mm LE 56-734-1836</td>
</tr>
<tr>
<td>12 x 16 x 1.5 mm LE 56-770-1216</td>
<td>16 x 24 x 1.5 mm LE 56-738-1624</td>
</tr>
<tr>
<td>12 x 18 x 1.5 mm LE 56-770-1218</td>
<td>30 x 36 x 1.5 mm LE 56-731-3036</td>
</tr>
<tr>
<td>12 x 36 x 1.5 mm LE 56-734-1236</td>
<td>36 x 36 x 1.5 mm LE 56-733-3636</td>
</tr>
<tr>
<td>18 x 18 x 1.5 mm LE 56-738-1818</td>
<td></td>
</tr>
</tbody>
</table>

Lead-Lined Steel Window Frames
For use with CLEAR-Pb Lead-Plastic X-Ray Shielding Window Panes

- 2-piece telescopic construction for easy, quick installation
- 1.5 mm lead-equivalent lining included
- Voice transmission feature permits communication between rooms
- Adjusts for walls of varying thickness
- Over 25 stock sizes available. Special sizes can be custom-ordered

Now you can get the beauty and protection of panoramic CLEAR-Pb Lead-Plastic Windows with the professional look of lead-lined steel frames. Designed to be installed in lead-lined walls between the operator and patient areas, our window frames allow for panoramic viewing and voice contact during radiographic procedures.

Made of 18-gauge steel and lined with 1.5 mm lead, they feature removable stops so they can be easily unassembled. The long dimension is horizontal (12 x 16 inch is the exception) and the voice transmission feature is centered on the horizontal. The frame can be used horizontally or vertically. Finished with an attractive, light grey baked enamel, the frame design allows for a greater range of vision, even when using smaller size windows.

<table>
<thead>
<tr>
<th>Model</th>
<th>Frame sizes (inches)</th>
<th>Model</th>
<th>Frame sizes (inches)</th>
<th>Model</th>
<th>Frame sizes (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>56-811-1008</td>
<td>8 x 10</td>
<td>56-811</td>
<td>24 x 30</td>
<td>56-814-4084</td>
<td>40 x 84</td>
</tr>
<tr>
<td>56-811-1012</td>
<td>10 x 12</td>
<td>56-804</td>
<td>24 x 36</td>
<td>56-803-4832</td>
<td>48 x 32</td>
</tr>
<tr>
<td>56-811</td>
<td>12 x 12</td>
<td>56-817</td>
<td>24 x 48</td>
<td>56-816</td>
<td>48 x 48</td>
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<tr>
<td>56-810-1216</td>
<td>12 x 16</td>
<td>56-801</td>
<td>32 x 40</td>
<td>56-815</td>
<td>48 x 60</td>
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<tr>
<td>56-810</td>
<td>12 x 24</td>
<td>56-803-3636</td>
<td>36 x 36</td>
<td>56-800</td>
<td>48 x 72</td>
</tr>
<tr>
<td>56-808-1418</td>
<td>14 x 18</td>
<td>56-803</td>
<td>36 x 48</td>
<td>56-814</td>
<td>48 x 84</td>
</tr>
<tr>
<td>56-808-1624</td>
<td>16 x 24</td>
<td>56-806</td>
<td>36 x 60</td>
<td>56-813</td>
<td>48 x 96</td>
</tr>
<tr>
<td>56-808</td>
<td>18 x 24</td>
<td>56-807</td>
<td>36 x 72</td>
<td>56-818</td>
<td>72 x 96</td>
</tr>
<tr>
<td>56-806</td>
<td>18 x 48</td>
<td>56-809</td>
<td>36 x 84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56-805</td>
<td>24 x 24</td>
<td>56-813-3696</td>
<td>36 x 96</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Classic Modular Barrier Lead-Lined Opaque Panels
(key letter “B”)
Classic Modular Barriers have opaque panels that consist of a formaldehyde free plastic honeycomb, sandwiched between two vinyl laminates. One side of the panel is lead-lined to provide 1.5 mm lead x-ray protection. Classic panels have a durable polyurethane beige finish.

Modular Control Booth assembly hardware components

<table>
<thead>
<tr>
<th>Key letter</th>
<th>Height (inches)</th>
<th>Angle</th>
<th>Component description</th>
<th>High-Style</th>
<th>Classic</th>
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<tbody>
<tr>
<td>(C)</td>
<td>84</td>
<td>—</td>
<td>Vertical End Channel</td>
<td>56-821</td>
<td>56-831</td>
</tr>
<tr>
<td>(C)</td>
<td>84</td>
<td>30°</td>
<td>Vertical End Channel*</td>
<td>56-826</td>
<td>NA</td>
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<tr>
<td>(D)</td>
<td>84</td>
<td>45°</td>
<td>Vertical Channel</td>
<td>56-820</td>
<td>56-830</td>
</tr>
<tr>
<td>(D)</td>
<td>84</td>
<td>60°</td>
<td>Vertical Channel</td>
<td>56-823</td>
<td>56-833</td>
</tr>
<tr>
<td>(D)</td>
<td>84</td>
<td>90°</td>
<td>Vertical Channel</td>
<td>56-824</td>
<td>56-834</td>
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<tr>
<td>(E)</td>
<td>84</td>
<td>180°</td>
<td>Vertical Channel</td>
<td>56-822</td>
<td>56-832</td>
</tr>
<tr>
<td>(J)</td>
<td>—</td>
<td>—</td>
<td>Adjustable 2 piece Tie-Rod, 4-6 ft</td>
<td>NA</td>
<td>56-841</td>
</tr>
<tr>
<td>(J)</td>
<td>—</td>
<td>—</td>
<td>Adjustable 2 piece Tie-Rod, 6-10 ft</td>
<td>NA</td>
<td>56-849</td>
</tr>
<tr>
<td>(L)</td>
<td>—</td>
<td>—</td>
<td>Wall-Mounting Bracket (34 inch)</td>
<td>NA</td>
<td>56-851</td>
</tr>
</tbody>
</table>

* Mounts to wall.

Viewing Pane width (inches)

| Key letter "G" | Key letter "H" | Key letter "K"
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Style Horizontal Coupling Channels</td>
<td>Classic Horizontal Coupling Channels</td>
<td>High-Style 5.50 inch high Kick-Plate Floor Channels</td>
</tr>
<tr>
<td>H x W (inches)</td>
<td>Model</td>
<td>H x W (inches)</td>
</tr>
<tr>
<td>96</td>
<td>56-878</td>
<td>56-848</td>
</tr>
<tr>
<td>84</td>
<td>56-877</td>
<td>56-847</td>
</tr>
<tr>
<td>72</td>
<td>56-876</td>
<td>56-846</td>
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<tr>
<td>60</td>
<td>56-875</td>
<td>56-845</td>
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<tr>
<td>48</td>
<td>56-874</td>
<td>56-844</td>
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<tr>
<td>36</td>
<td>56-873</td>
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<td>24</td>
<td>56-872</td>
<td>56-842</td>
</tr>
<tr>
<td>18</td>
<td>56-870</td>
<td>56-840</td>
</tr>
</tbody>
</table>

High-Style Modular Barrier Lead-Lined Opaque Panels
(key letter “B”)
Modular Barriers have opaque panels that consist of a formaldehyde free plastic honeycomb, sandwiched between two vinyl laminates. The panel is lead-lined to provide 1.5 mm lead x-ray protection.

High-Style panels are available in 16 decorator colors, making for a visually appealing installation. (Please mention color selection when ordering.)
Classic panels have a durable polyurethane painted beige finish. (See above for model numbers.)

Choose from these 16 decorator colors
(Please mention color selection when ordering)

NOTE: Every effort has been made to ensure accurate color representation. A color swatch is available upon request.
CLEAR-Pb Lead-Plastic Mobile X-Ray Barriers

Deluxe Barrier 56-616, 56-617. The large 48 inch wide, shatter-resistant CLEAR-Pb Lead-Plastic window provides unrestricted visibility and maximum protection for two or more people.

Regular Barrier 56-603. This rugged mobile barrier can easily fit into the most confining of spaces and provides exceptional visibility.

Available in 16 Decorator Colors!

Mobile Barriers are typically supplied with beige opaque panels and hardware. Now they are also available in a choice of 16 decorator colors (see previous page) for an additional charge. When ordering, include model number of barrier from specification matrix (on the next page) and model number 56-601-1212 plus your color selection from previous page. Please allow six to eight weeks for delivery.

Nuclear Medicine Barrier 56-602. Specifically designed shorter and wider for shielding nuclear medicine personnel from patient-emitted radiation.
CLEAR-Pb Lead-Plastic Mobile X-Ray Barriers (continued)

Ultra Barrier 56-618, 56-619. Provides full-body protection to groups of medical personnel assisting in or observing a procedure.

Jumbo Barrier 56-604. Large 60 x 30 inch shatter-resistant CLEAR-Pb Lead-Plastic window provides superb full-height visibility.

CLEAR-Pb Lead-Plastic Mobile Barrier specifications

<table>
<thead>
<tr>
<th></th>
<th>Regular</th>
<th>Nuclear Medicine</th>
<th>Deluxe</th>
<th>Ultra</th>
<th>Jumbo</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall size</strong></td>
<td>56-603</td>
<td>56-602</td>
<td>56-616</td>
<td>56-617</td>
<td>56-618</td>
</tr>
<tr>
<td><strong>Window pane lead equivalent</strong></td>
<td>75 (h) x 30 in (w)</td>
<td>61 (h) x 36 in (w)</td>
<td>75 (h) x 48 in (w)</td>
<td>75 (h) x 48 in (w)</td>
<td>75 (h) x 72 in (w)</td>
</tr>
<tr>
<td>24 (h) x 30 in (w)</td>
<td>0.5 mm</td>
<td>24 (h) x 36 in (w)</td>
<td>36 (h) x 48 in (w)</td>
<td>36 (h) x 48 in (w)</td>
<td>36 (h) x 72 in (w)</td>
</tr>
<tr>
<td>0.8 mm</td>
<td></td>
<td>0.8 mm</td>
<td>0.5 mm</td>
<td>1.0 mm</td>
<td>0.5 mm</td>
</tr>
<tr>
<td><strong>Opaque panel lead equivalent</strong></td>
<td>48 (h) x 30 in (w)</td>
<td>34 (h) x 36 in (w)</td>
<td>36 (h) x 48 in (w)</td>
<td>36 (h) x 48 in (w)</td>
<td>36 (h) x 72 in (w)</td>
</tr>
<tr>
<td>min. 0.03 in (0.8 mm)</td>
<td></td>
<td>min. 0.03 in (0.8 mm)</td>
<td>min. 0.03 in (1.5 mm)</td>
<td>min. 0.03 in (1.5 mm)</td>
<td>min. 0.03 in (0.8 mm)</td>
</tr>
<tr>
<td>0.06 in (1.5 mm)</td>
<td></td>
<td>0.06 in (1.5 mm)</td>
<td>0.06 in (1.5 mm)</td>
<td></td>
<td>0.06 in (1.5 mm)</td>
</tr>
<tr>
<td><strong>Shipping weight</strong></td>
<td>110 lb</td>
<td>170 lb</td>
<td>230 lb</td>
<td>312 lb</td>
<td>334 lb</td>
</tr>
<tr>
<td><em>Approximate.</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Approximate.
CLEAR-Pb Lead-Plastic Overhead X-Ray Barriers
Designed for cardiac catheterization and special procedures

The problem
Until now, protection of cath lab/special procedures personnel from radiation exposure has been less than ideal.
Existing lead-glass overhead barriers are usually much too small and inconvenient to use. Lead-glass barriers are so small (usually 16 x 12 inch or 20 x 16 inch) that when you move, you must also move the barrier to avoid exposure. They barely provide room to protect one person. And, in many cases, visibility is limited by the protective frame around the lead-glass shield.

The solution
CLEAR-Pb Lead-Plastic Overhead X-Ray Barriers
• Bigger shielding area and panoramic visibility: No need to reposition the barrier during the procedure; protects two people, if required. All CLEAR-Pb Window Panels supplied with the Overhead X-Ray Barriers have smooth, rounded corners
• Unsurpassed radiation protection: shatter-resistant, CLEAR-Pb lead-plastic (0.5 mm lead equivalent)
• State-of-the-art design provides reliable, safe performance
• Freedom of movement: easy-to-use, easy-to-adjust ceiling-suspended CLEAR-Pb Overhead Barriers give you fingertip, hands-on control -- a necessity during procedures
• Choice of four panoramic shield sizes (see next page)

Unlimited tilt and rotation. Unique design enables you to instantaneously tilt the shield at any convenient position
The CLEAR-Pb suspension system allows full 360° rotational movement of the barrier

Easy up, easy down. CLEAR-Pb Lead-Plastic Overhead Barriers have been designed to enable you to effortlessly position the barrier instantaneously during the procedure. The CLEAR-Pb spring-loaded suspension system allows smooth, quick, precise barrier positioning. Just pull it down to use and push it up and out of the way when the procedure is completed

See also, RadiaXon™ Radiation Attenuation Gloves (Model 57-965) used in interventional procedures.
CLEAR-Pb Lead-Plastic Overhead X-Ray Barriers (continued)

**Fixed-Mount or optional Easy-Glide Track System**

- CLEAR-Pb Lead-Plastic Overhead Barriers are available in your choice of a fixed ceiling-mounted or optional Easy-Glide Track System
- Both systems feature spring loaded suspension—just pull it down to use. Push it up and out of the way when the procedure is completed
- The generous size and panoramic visibility reduce the need to reposition the barrier during the procedure. (Remember, other barriers are so small that when you move, you must also move the barrier to avoid exposure)
- Larger shielding area allows greater mobility and freedom of positioning behind the barrier. Our barriers can protect two people, if required
- The comparison is easy and you come out the winner when you select any one of our four CLEAR-Pb Lead-Plastic Overhead X-Ray Barriers. For radiation protection with unrestricted visibility and maneuverability, our barriers can’t be beat
- Flexible Lead Shielding Drape (optional): For added radiation protection, you can order the optional lead-vinyl shielding drape. It can be easily attached with Velcro® to the lower portion of any CLEAR-Pb Overhead Barrier. The lead-vinyl drape (0.5 mm lead-equivalent) comes in an attractive beige-tone color

**Specifications**

CLEAR-Pb Shielding Panel: shatter-resistant, distortion-free lead-plastic. Optically clear with a light amber tint. Provides 0.5 mm lead-equivalent protection

**Optional accessories**

- Easy-Glide Track System (Model 56-628-8000)
- Lead Drape, 18 in (w) (Model 56-628-7018)
- Lead Drape, 24 in (w) (Model 56-628-7024)
- Lead Drape, 30 in (w) (Model 56-628-7030)
- Lead Drape, 36 in (w) (Model 56-628-7036)
- Disposable Sterile Drape. Fits 36 x 24 in shield only (Model 56-628-7000)

**Available model(s)**

- 56-628-1824 CLEAR-Pb Overhead Barrier, 18 (w) x 24 in (h)
- 56-628-2424 CLEAR-Pb Overhead Barrier, 24 (w) x 24 in (h)
- 56-628-3024 CLEAR-Pb Overhead Barrier, 30 (w) x 24 in (h)
- 56-628-3624 CLEAR-Pb Overhead Barrier, 36 (w) x 24 in (h)
CLEAR-Pb Lead-Plastic Special Procedures/
Anesthesiology/O.R. Personal X-Ray Protection Mobile Barriers

- Provides upper-body shielding and crystal-clear visibility during cardiac catheterization and special procedures
- Shatter-resistant lead-plastic window is easily positioned over table
- Compatible with rotary patient cradles
- Adaptable to sterile fields

Specifications
CLEAR-Pb viewing window Made of shatter-resistant, distortion-free lead-plastic, 24 in x 36 in x 12 mm thick (0.5 mm lead-equivalent). Optically clear with light amber tint. Bottom edge of shield can be adjusted from 36 to 54 inches above the floor
Floor stand Lightweight aluminum, 76 inches high, mounted on a 21 x 20 inch base with five casters. Counterbalanced vertical adjustment of x-ray shielding window pane. Knob-lock holds window securely at any level

Available model(s)
- **56-615** CLEAR-Pb Adjustable-Height Mobile X-Ray Barrier with special window pane design for rotary patient cradles. Net weight is 61 lb (28 kg)
- **56-614** CLEAR-Pb Adjustable-Height Mobile X-Ray Barrier with 36 x 24 inch shield. Net weight is 63 lb (29 kg)

The CLEAR-Pb lead-plastic personal radiation protection mobile barrier is the perfect way to protect anesthesia and other surgical personnel

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.
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RadiaXon™
Radiation Attenuation Gloves
Models 57-965-1000 to 57-990-2000

Examples of fluoroscopic application where the RadiaXon can partner with your surgical gloves:

- Percutaneous trans-luminal angioplasty (coronary and other vessels)
- Radio-frequency cardiac catheter ablation; vascular embolization
- Stent and filter placement
- Thrombolytic and fibrinolytic procedures; percutaneous transhepatic cholangiography
- Endoscopic retrograde cholangio-pancreatography; transjugular intrahepatic portosystemic shunt; percutaneous nephrostomy
- Biliary drainage
- Urinary/Biliary stone removal
- Beta radiation catheterization (* Y source); percutaneous trans-myocardial re-vascularization
- Percutaneous coronary interventions; radioactive seed implants
- Trans-myocardial re-vascularization
- Treatments of gynecologic and reproductive disorders; neuroradiology
- Embolectomy and thrombectomy; vascular embolization & occlusion

- Treatments of abdominal aortic aneurysms
- Rotational atherectomy; orthopedics
- Chemotherapy labs

 Radiation Safety

Main applications

- Diagnostic heart catheterization
- Coronary angioplasty
- Angiocardiology
- Gynecology
- Urology
- Pain management
- Orthopedic

Specifications

Size 6.5 to 9.0
Weight Minimum 22 g/glove
Thickness at fingertips Minimum 0.20 mm
Length Minimum 290 mm
Tensile strength (MPa) Minimum 14 (unaged)
Radiation attenuation data*

Attenuation measurements acc. to DIN 6845-1 / IEC 1331-1 and acc. to ICRP 60 / ICRU 51. Personal skin dose reduction Hp = 0.07 mm, at nominal glove thickness of 0.30 mm. See below

** Settings lead equivalence 80 kVp, 2.5 mm Al / 0.15 mm Cu filters, NARROW BEAM

Measured value 0.03 to 0.04 mm Pb

Product conformance In compliance with EN 420, EN 374-2, EN 388, and DIN 6845-1 / IEC 1331-1

Quality assurance Manufacturing process is in compliance with US FDA Quality System Regulation (QSR) and BS EN ISO 9001 Quality System. RadiaXon is certified by OSHA, Germany

Table: Radiation Attenuation Gloves

<table>
<thead>
<tr>
<th>Size</th>
<th>Mini-case 20 pair</th>
<th>Case 60 pair</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5</td>
<td>57-965-1000</td>
<td>57-965-2000</td>
</tr>
<tr>
<td>7.0</td>
<td>57-970-1000</td>
<td>57-970-2000</td>
</tr>
<tr>
<td>7.5</td>
<td>57-975-1000</td>
<td>57-975-2000</td>
</tr>
<tr>
<td>8.0</td>
<td>57-980-1000</td>
<td>57-980-2000</td>
</tr>
<tr>
<td>8.5</td>
<td>57-985-1000</td>
<td>57-985-2000</td>
</tr>
<tr>
<td>9.0</td>
<td>57-990-1000</td>
<td>57-990-2000</td>
</tr>
</tbody>
</table>

* Values may vary within permissible product specifications, depending on glove-size, mean-average thickness, glove weight, and length and accuracy of measurement (measuring arrangement of equipment according to ICRP 60 and ICRU 51).

** Settings lead equivalence 80 kVp, 2.5 mm Al / 0.15 mm Cu filters, NARROW BEAM

Caution

This glove is intended for procedural examination purposes. It is NOT intended for use in direct or on, or around latex sensitive individuals. This product contains natural rubber latex that may cause allergic reactions. Safe use of this product by, on, or around latex sensitive individuals has not been established.

Components used in making this product may cause allergic reactions. If a reaction occurs or is suspected, immediately discontinue use of this product and consult a physician.

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.

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57-965-ds rev 1 12 mar 03
Rad-Guard Radiation Protection Hand Shields*

Model 57-990

With Rad-Guard Radiation Protection Hand Shields, you can effectively minimize radiation exposure to your hands, thereby protecting yourself from the long-term effects of chronic radiation exposure. They fully eliminate the use of bulky, expensive, ineffective leaded gloves.

Lead-lined gloves offer limited protection.

A study published in the journal Radiology, published by the Radiological Society of North America, reported that leaded gloves “are relatively expensive, given their short life span. In addition, leaded gloves provide limited attenuation of x-rays, may decrease tactile sensation and fine motor control in the fingers, and may lead the wearer to place his or her hands in the beam more often, due to an increased sense of security.”

In a separate study also published in the journal Radiology, the authors found that “attenuating gloves provide a moderate to insubstantial reduction in dose to the hand, depending on the beam energy, direction of the beam, and type of glove. Additionally, the amount of protection may be perceptually exaggerated when viewed with a fluoroscope. The fluoroscope displays the hand inside two layers of attenuating glove, but the dose to the hand results after penetrating through only one layer, and the second layer detracts from protection by scattering x-rays back into the hand.”

Rad-Guard is the best protection.

Rad-Guard is secured to the palm of the hand with nonbinding Velcro straps, and can comfortably be worn under sterile surgical gloves. Soft fabric lines the palm-side, and durable vinyl lines the outer side. Rad-Guard contains a lead insert (0.5 mm lead equivalency) that can be easily removed through a Velcro closure, prior to laundering of the hand shields. Rad-Guard is low-cost and cost-effective, and can be used again and again!

Exposures were recorded by calibrated TLD chips on top and under a Rad-Guard Hand Shield worn on the hand during a clinical fluoroscopic examination (Neal Rosner, M.D., Martin Rozenfeld, Ph.D., 1996, personal communication).

| Doses and percent penetration @ 80 kVp |
|-------------------------------- ------- |
| At surface of Rad-Guard | Under Rad-Guard | Percent penetration |
| 224 ± 26 mrem | 83.5 ± 0.7 mrem | 37% |

Specifications

- **Lead-equivalence**: 0.5 mm
- **Dimensions**
  - Large: 4.25 (w) x 5.5 in (l)
  - Small: 3 (w) x 3.25 in (l)
- **Weight**
  - Large: 0.44 lb (0.2 kg)
  - Small: 0.3 lb (0.14 kg)

Available model(s)

- 57-990 Rad-Guard Radiation Protection Hand Shields, Large pair
- 57-991 Rad-Guard Radiation Protection Hand Shields, Small pair

References


* Developed by Neal H. Rosner, M.D., Medical Director, Department of Radiology, St. James Hospital and Health Centers, Chicago Heights, IL.

For additional information, please contact Cardinal Health, Radiation Management Services customer service at 440.246.9300, 800.850.4608, or fax: 440.349.2307; located at 6045 Cochran Road, Cleveland, Ohio 44139-3303, USA.

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57-990-ds rev 1 12 mar 03
GLASSERS™ Radiation Protection Eyewear
Models 56-501 to 56-545

Introduction

GLASSERS are optically clear and provide unimpaired peripheral vision. The extra-large lens area protects better because it reduces scatter radiation striking the eye-socket bone structure. GLASSERS lenses provide 0.50 mm lead-equivalent protection. For added comfort, GLASSERS have plastic-reinforced ear rests, and like regular eyeglasses, GLASSERS feature adjustable nose-bridge pads.

For proven protection you can rely on, nothing beats GLASSERS.

GLASSERS with Side-Shields

Certain procedures require the fluoroscopist to rotate their head up to 90 degrees, thus exposing their eyes to scatter radiation from the side. For these procedures, the optional CLEAR-Pb® Lead-Plastic Side-Shields offer added protection, without restricting peripheral vision. Side-Shields may be ordered separately and are easily attached to GLASSERS. Side-Shields come with a lifetime warranty.

GLASSERS Wrap-Arounds

These radiation protection eyeglasses feature a comfortable dark amber plastic frame. The specially-designed continuous frame incorporates side panels, of 0.50 mm lead-equivalent shielding. This design ensures that peripheral vision is never compromised.

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.

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Clinically proven to reduce radiation exposure to the surgeon by up to 98% at six inches from the perineum†

Significantly reduces scatter radiation exposure to the operating surgeon and staff during endourologic procedures

Compatible with all types of endourologic tables

Easy-to-use

Convenient to install

Allows full, easy access to the patient

Cost-effective

Optimized for procedures such as cystoscopy and ureteroscopy, in which fluoroscopy or x-ray will be used

Features

• Everything about the setup and use of this innovative protective shield is simple and efficient

• The unique design of the Urological Radiation Shield‡ allows all surgical instruments to safely remain in place if the shield must be installed or removed during the procedure

Specifications

Sterilization The shield and aperture panels must be gas-sterilized between each case. It is therefore recommended that several shields be kept in the department

Shield

Material Vinyl-coated lead

Thickness 2 mm

Lead-equivalence 0.5 mm

Dimensions 27 in (w) x 34.25 (l) (68.58 x 87 cm)

Weight 12.20 lb (5.54 kg)

Aperture panels

Dimensions 5.25 (w) x 9 in (l) (13.34 x 22.86 cm)

Weight 1.3 lb (0.58 kg)

Support rail components

Vertical box bar 34 in (h)

Horizontal box bar 18 in (l)

Horizontal round bar 32 in

Weight 10.5 lb (4.7 kg)

Optional accessories

Support Rails (Model 56-675-1000)

Urological Radiation Shield (Model 56-675-2000)

Available model(s)

56-675 Urological Radiation Shield, includes support rails

Free clinical study reprint available

Moti X-Ray Mask
Model 56-515

Introduction
Because fluoroscopy and special procedures examinations require personnel to be present at tableside for prolonged periods of time, they result in the highest exposure to diagnostic x-ray personnel. Wearing the Moti X-Ray Mask during in-room procedures will reduce exposure to the head and neck by up to 96.6%, without reducing visibility or restricting movement. Eyeglasses can be worn underneath the mask, without any interference.

The lightweight Moti X-Ray Mask consists of a curved, CLEAR-Pb® Lead-Plastic window mounted in a rugged plastic frame, for superb protection and visibility.

Applications
The mask is held in place by attaching its soft, Velcro®-surfaced base to mating Velcro applied to the shoulders of a lead apron. In our Model 56-516 Moti X-Ray Mask/Apron combination, the Velcro has been pre-sewn to the apron’s shoulder supports. Our Model 56-515 Moti X-Ray Mask (without apron) includes a kit for affixing the mating Velcro to your own lead apron. When combined with a lead-apron, this protective setup provides full-body coverage from scatter radiation. The mask is secured to the lead-apron with Velcro.

Specifications
Weight
- Mask 2 lb (0.91 kg)
- Mask/apron set 14 lb (6.36 kg)

Available model(s)
- 56-515 Moti X-Ray Mask, with Velcro attachment kit
- 56-516 Moti X-Ray Mask, with lead apron (0.50 mm lead-equivalence)

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.
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56-515-ds rev 1 12 mar 03

<table>
<thead>
<tr>
<th>KV setting</th>
<th>No filtration</th>
<th>Lead apron (0.50 mm)</th>
<th>Moti X-Ray Mask</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mR</td>
<td>% abs.</td>
<td>mR</td>
</tr>
<tr>
<td>60</td>
<td>170</td>
<td>0</td>
<td>1.64</td>
</tr>
<tr>
<td>80</td>
<td>319</td>
<td>0</td>
<td>6.70</td>
</tr>
<tr>
<td>100</td>
<td>495</td>
<td>0</td>
<td>20.6</td>
</tr>
<tr>
<td>126</td>
<td>800</td>
<td>0</td>
<td>44.7</td>
</tr>
<tr>
<td>150</td>
<td>970</td>
<td>0</td>
<td>70.5</td>
</tr>
</tbody>
</table>
Fixed-Height Rolling Radiation Shield
Model 67-741

- Extra-large 24 inch high x 36 inch wide shield
- Provides radiation protection at bedside, in the operating room and the recovery room

This rugged radiation shield features a 1 inch thick lead screen that reduces the dose from a cesium source by more than 90%. Four 5 inch diameter swivel casters provide maximum mobility. Wheel and swivel locks on each caster secure the shield in place.

Specifications

<table>
<thead>
<tr>
<th>Shield dimensions</th>
<th>Finish</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>36 (w) x 24 (h) x 1 in (t) lead (91.44 x 61 x 2.54 cm)</td>
<td>Durable polyurethane paint</td>
<td>350 lb (159.1 kg)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Available model(s)</td>
<td></td>
</tr>
<tr>
<td>25 (w) x 46.5 x 48 in (h) (63.5 x 118.11 x 121.92 cm)</td>
<td>67-741</td>
<td>Fixed-Height Rolling Radiation Shield</td>
</tr>
</tbody>
</table>

Adjustable-Height Rolling Radiation Shield
Model 67-747

- Easy-lift lead screen is raised using the foot-operated hydraulic jack
- Large 14 inch high x 36 inch wide shield
- Provides radiation protection at bedside, in the operating room and the recovery room

This convenient shield features an easy-to-adjust 1 inch thick lead screen that reduces the dose from a cesium source by more than 90%. The screen is set in a metal frame that is raised and lowered using a foot-pedal connected to a hydraulic jack. Four 5 inch diameter swivel casters provide maximum mobility. Wheel and swivel locks on each caster secure the shield in place.

Specifications

<table>
<thead>
<tr>
<th>Shield dimensions</th>
<th>Finish</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>36 (w) x 14 (h) x 1 in (t) lead (91.44 x 35.56 x 2.54 cm)</td>
<td>Durable polyurethane paint</td>
<td>250 lb (113.64 kg)</td>
</tr>
<tr>
<td>Shield height</td>
<td>Available model(s)</td>
<td></td>
</tr>
<tr>
<td>Adjustable from 36 to 42.50 above floor level</td>
<td>67-747</td>
<td>Adjustable-Height Rolling Radiation Shield</td>
</tr>
</tbody>
</table>

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.

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67-741-ds rev 1 12 mar 03
Lead Aprons
Models 57-940, 57-941, and 57-959

Available are three highly popular lead apron styles to meet your shielding and budget needs: the Thyro-Shield Lead Apron, the Tie-Closure Lead Apron, and the Belt-and-Buckle Lead Apron. All three styles feature shoulder and back supports for added comfort. They are fabricated from high-quality flexible materials that allow them to drape easily, so they don’t restrict body movement. All aprons are available in dark blue, light blue, and beige.

Thyro-Shield™ Lead Apron

<table>
<thead>
<tr>
<th>Model</th>
<th>Lead equiv.</th>
<th>Width (inches)</th>
<th>Length* (inches)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-959-3218</td>
<td>0.5 mm</td>
<td>18</td>
<td>32</td>
<td>10.5 lb (4.8 kg)</td>
</tr>
<tr>
<td>57-959-3200</td>
<td>0.5 mm</td>
<td>24</td>
<td>32</td>
<td>11.5 lb (5.2 kg)</td>
</tr>
<tr>
<td>57-959-3400</td>
<td>0.5 mm</td>
<td>24</td>
<td>34</td>
<td>11.7 lb (5.4 kg)</td>
</tr>
<tr>
<td>57-959-3600</td>
<td>0.5 mm</td>
<td>24</td>
<td>36</td>
<td>12.5 lb (5.7 kg)</td>
</tr>
<tr>
<td>57-959</td>
<td>0.5 mm</td>
<td>24</td>
<td>38</td>
<td>13.5 lb (6.2 kg)</td>
</tr>
</tbody>
</table>

Model numbers shown are for dark blue only.
To order light blue or beige, request model number.

* Length is from neckline to bottom of apron.

Tie-Closure Lead Apron

<table>
<thead>
<tr>
<th>Model</th>
<th>Lead equiv.</th>
<th>Width (inches)</th>
<th>Length* (inches)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-941-3218</td>
<td>0.5 mm</td>
<td>18</td>
<td>32</td>
<td>9.7 lb (4.4 kg)</td>
</tr>
<tr>
<td>57-941-3200</td>
<td>0.5 mm</td>
<td>24</td>
<td>32</td>
<td>10.2 lb (4.6 kg)</td>
</tr>
<tr>
<td>57-941-3400</td>
<td>0.5 mm</td>
<td>24</td>
<td>34</td>
<td>10.4 lb (4.7 kg)</td>
</tr>
<tr>
<td>57-941-3600</td>
<td>0.5 mm</td>
<td>24</td>
<td>36</td>
<td>11.1 lb (5 kg)</td>
</tr>
<tr>
<td>57-941</td>
<td>0.5 mm</td>
<td>24</td>
<td>38</td>
<td>12.2 lb (5.4 kg)</td>
</tr>
</tbody>
</table>

Model numbers shown are for dark blue only.
To order light blue or beige, request model number.

* Length is from neckline to bottom of apron.

Belt-and-Buckle Lead Apron

<table>
<thead>
<tr>
<th>Model</th>
<th>Lead equiv.</th>
<th>Width (inches)</th>
<th>Length* (inches)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-940-3218</td>
<td>0.5 mm</td>
<td>18</td>
<td>32</td>
<td>9.7 lb (4.4 kg)</td>
</tr>
<tr>
<td>57-940-3200</td>
<td>0.5 mm</td>
<td>24</td>
<td>32</td>
<td>10.2 lb (4.6 kg)</td>
</tr>
<tr>
<td>57-940-3400</td>
<td>0.5 mm</td>
<td>24</td>
<td>34</td>
<td>10.4 lb (4.7 kg)</td>
</tr>
<tr>
<td>57-940-3600</td>
<td>0.5 mm</td>
<td>24</td>
<td>36</td>
<td>11.1 lb (5 kg)</td>
</tr>
<tr>
<td>57-940</td>
<td>0.5 mm</td>
<td>24</td>
<td>38</td>
<td>12.2 lb (5.4 kg)</td>
</tr>
</tbody>
</table>

Model numbers shown are for dark blue only.
To order light blue or beige, request model number.

* Length is from neckline to bottom of apron.

Thyro-Shield™
Model 57-753
Reduce radiation exposure to the thyroid
- Lightweight, comfortable, easy to use
- Shields the thyroid area with 0.5 mm lead-equivalent protection

Dimensions 23 in (l), 2 to 4.75 in (w)
Weight 0.43 lb (0.2 kg)
Lead-Lined Vinyl Curtains
Model 57-905

- Designed to meet all of your temporary and permanent radiation shielding needs
- Versatile
- Custom sizes available up to 24 inches wide x 50 inches long
- Can be easily moved from room-to-room
- Durable and easy-to-clean
- 0.5 mm lead-equivalence
- Cost-effective

Lead-Lined Vinyl Curtains are designed to effectively protect personnel from scatter radiation. They can be conveniently installed in a wide-range of environments, including fluoroscopy departments, emergency rooms, hospitals, and industrial radiography sites. These attractive versatile panels are available in three standard sizes: 7 x 18, 7 x 24, and 7 x 36 inch.

Lead-Lined Vinyl Curtains are an extremely cost-effective choice for today’s budget-conscious facilities. Our custom-size curtains (fabricated to your specifications) are particularly cost-effective because they are sold by the foot, so you only pay for what you need.

Available Model(s)

57-905-7018 Lead-Lined Vinyl Curtain, 7 x 18 inch, 1.8 lb (0.81 kg), 0.5 mm LE
57-905-7024 Lead-Lined Vinyl Curtain, 7 x 24 inch, 2.3 lb (1.0 kg), 0.5 mm LE
57-905-7036 Lead-Lined Vinyl Curtain, 7 x 36 inch, 4.0 lb (1.8 kg), 0.5 mm LE
57-905 Custom Lead-Lined Vinyl Curtain. Customer-specified dimensions, 0.5 mm LE, price per square foot
57-905-1000 Grommets on Custom Curtain. Customer-specified quantity and location
57-905-2000 Velcro® on Custom Curtain, 2 inch thick. Customer-specified quantity and location, price per yard

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.
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57-905-ds rev 1 27 mar 03
Emergency Responder Kit
Model 03-101

Be prepared in the event of a radiation contamination emergency with this Emergency Responder Kit:

- **Promask full-face respirators** – provides maximum eye, face, and respiratory protection
- **Nuclear, biological and chemical protection filter** – designed to protect first responders against nuclear particulates, toxic or biological particulates, as well as chemical vapors and gases
- **Dosimeters** – for monitoring personal dose
- **Primalert® 35 area monitor** – reliable, continuous monitoring for ER entrance
- **Survey meters & probes** – high tech, easy-to-use for locating contamination
- **CAL/RAD Wiper™ Multi-channel Single-Well Wipe Test Counter** – full-featured multi-channel analyzer for isotope identification
- **Decontaminants** – Rad-Con™ surface cleaner, hand cleaner, and decontaminant
- **Protective clothing** – Tyvek coveralls, latex gloves, shoe covers, and hoods
- **Accessories** – respirators, mops, pails, wipes, swipes, baggies, and more
### Kit components (Model 03-101)

- **Promask full-face respirators (4) (Model 02-749-1000)**
  - Nuclear, biological and chemical protection filters. Protects first responders against nuclear particulates, toxic or biological particulates, as well as chemical vapors and gases. Includes 4 Cartridges (Model 02-749-2002) for respirators.

- **Direct reading pocket dosimeters (20) (Model 06-007)**
  - Measures background
  - Superior energy response: 20 keV to 2 MeV
  - Meets ANSI specifications
  - Highly resistant to shock and vibration

- **Dosimeter charger & storage case (2) (Model 06-907)**
  - Rugged leatherette-covered case
  - Holds up to 12 dosimeters

- **Primalert 35 Area Radiation Monitor (1) (Model 05-437)**
  - Assures reliable, continuous monitoring whenever radioactive materials are present
  - Radiation level displayed in bright color-coded lights
  - Emits audible and/or visible signals whenever the gamma radiation exceeds a user-preset alarm level

- **Microprocessor-based survey meters (2) (Model 190)**
  - Backlit analog/digital display
  - Interchangeable probe adapter module
  - Error-free visual indication
  - Auto-ranging
  - Multiple probe use
  - Available in SI units

- **Pancake probes (2) (Model 489-110D)**
  - Detects alpha, beta, gamma and x-rays

- **CAL/RAD Wiper Multi-Channel Analyzer Single-Well Wipe Test Counter (1) (Model 05-500)**
  - Integral-line NaI(Tl) well detector with heavy shielding for maximum sensitivity
  - Full-featured multi-channel analyzer for high resolution detail
  - Graphical display of isotope spectra and menu software

- **Check source (1) (Model 05-500-2000)**
  - NIST traceable $^{57}$Co check source for Wipe Test Counter

- **Signs (Model 02-900-2000)**
  - Labels (2) - “Caution: Radioactive Materials” (Model 09-435)
  - Signs (2) - “Caution: Radiation Area” (Model 09-547)
  - Warning Rope (50 ft) (Model 09-705)
  - Tags (2) - “Caution: Radioactive Material” (Model 09-874)

- **Protective clothing & accessories**
  - Tyvek Coveralls (4) (Model 02-163)
  - Reusable Latex Gloves (4) (Model 02-233)
  - PVC Shoe Covers, pair (2) (Model 02-525)
  - Tyvek Hoods (4) (Model 02-860)

- **Cleaners, decontaminants, and containers**
  - Metal Drum (2) (Model 02-999)
  - Rad-Con Surface Cleaner (2) (Model 03-301)
  - Rad-Con Hand Cleaner (2) (Model 03-302)
  - Radi-Clean™ Decontaminant - quart (2) (Model 03-333)
  - Niptongs - 12 inch (2) (Model 04-301)
  - Replacement Liners (20) (Model 14-186)

- **Emergency tools (Model 02-900-1000)**
  - Mop and Handle (Models 02-900-1200 and 02-900-1100)
  - Pail (Model 02-900-1300)
  - Scrub Brush (Model 02-900-1400)

- **Accessories (Model 02-900-3000)**
  - Test Wipes, 200 pack (2) (Model 03-202)
  - Decon Cloth Test Swipes, box of 500 (2) (Model 03-204)
  - Film Marker Pens (4) (Model 07-980)
  - Absorbent Paper, rolls (2) (Model 13-101)
  - Resealable Baggies (12) (Model 07-979)
  - RSO Spill Pro (2) (Model 02-900-3095)

- **Additional items**
  - Tyvek Coveralls (11) (Model 02-163)
  - Tyvek Hoods (56) (Model 02-860)
  - PVC Shoe Covers, pair (28) (Model 02-525)
  - Radi-Clean Decontaminant - gallon (Model 03-335)

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### Specifications

All of the products in the Emergency Responder Kit are available individually. For complete details, see their respective data sheets.

### Upgrade available

Substitute survey meters, pancake probes, Cal/Rad Wiper and check source with the IDENTIFIER Multi-Channel Analyzer (Model 07-109)

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* Included in Decontamination Kit (Model 02-900)

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.

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