

**X-RAY  
PROTECTION  
PRODUCTS**

**UniRay**





# THE UNIRAY PROMISE

## PROTECTION FOR THE PEOPLE WHO PROTECT LIFE

With over 3 decades of global experience in radiation protection, we understand your role as a medical professional along with the risks you take to fulfill it. We know that you deserve the greatest level of protection while enabling efficiency, comfort, and style.

### UNIRAY EQUALS SAFETY

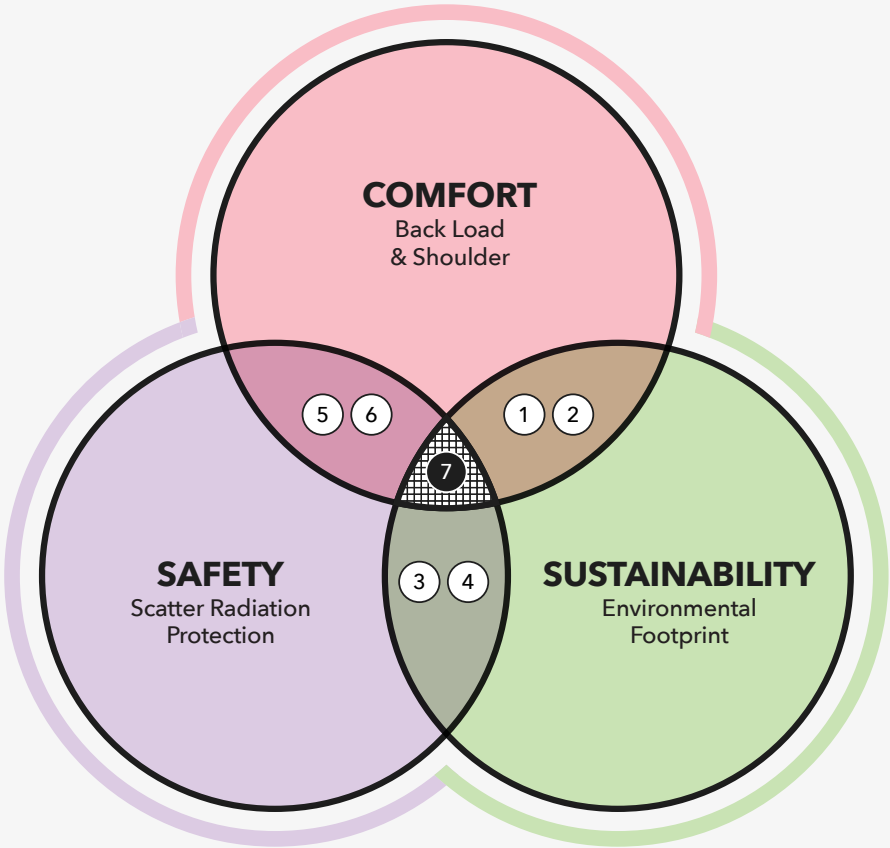
When you use UniRay products, you are guaranteed optimum protection against scattered radiation.

UniRay products fall under the EU Directive 2016/425/EEC for personal protective equipment (PPE). The products are designed in accordance to IEC /EN 61331-3:2014 and are tested according to IEC 61331-1:2014/ DIN EN 61331-1:2016, which establishes the protection of aprons across a specified range of tube voltages from 60 kV to 150 kV. The new standard IEC EN 61331- 1:2014/DIN EN 61331-1:2016, adopted a new testing methodology called "Broad Beam Geometry" (BBG) method to measure all Radiation Protection.

We carry out thorough research and testing to ensure our products create a safe and healthy environment for users, with minimal impact on people and the planet.

We achieve this by carefully choosing our lead, light weight lead composite and lead free materials as well as various other key ingredients by maintaining strict quality controls during production. We are ensuring responsible recycling at the end of the product's life cycle and using more than 95% recycled packaging.

# BALANCED APPROACH FOR APRON DESIGN



- 1

How sustainable is comfortable?
- 2

How comfortable is sustainable?
- 3

How sustainable is safe?
- 4

How safe is sustainable?
- 5

How comfortable is safe?
- 6

How safe is comfortable?
- 7

How acceptable is it to be outside the safe zone?

## Lead Equivalence

It is the equivalent amount of lead expressed in mm Pb

**0.35mm Pb:** Excellent protection with best balance of protection vs weight

**0.50mm Pb:** Maximum protection though heaviest weight

**0.25mm Pb:** Lower protection with lowest weight

UniRay provides a variety of protection options.

Each type is made with a uniform lead equivalence at all points of the sheeting. They are flexible and durable. All materials comply with IEC 61331-1:2014/ DIN EN 61331-1:2016 and ASTM F2547-18

# PROTECTION MATERIALS

Development of protection materials requires a balance of protection, comfort and sustainability.



## KryptoLite™ Lightweight Leadfree with a Bilayer

It is made using a patented technology with two separate layers of leadfree compounds. It is the lightest material in its class and is completely environmentally friendly. It performs perfectly in the range of 60kV to 150kV.



## LiteGreen™ Standard Leadfree

It completely eliminates use of lead and is environmentally friendly It is material of choice for users. It performs perfectly in the range of 60kV to 110 kV.



## MaxLite™ Lightweight Lead Composite

With our proprietary formulation, it is 15-30% lighter than most composite materials on the market. It performs perfectly in the range of 60kV to 150kV.



## LITELead™ Standard Lead

It is manufactured using proprietary advance binding systems resulting in lower weight than comparable materials in the market. It performs perfectly in the range of 60kV to 150kV.

# 01 SKIRT & VEST

ULTIMATE PROTECTION FOR USER



## Optixx™

### Designed for Optimal Protection

- Optimized weight distribution to reduce load on back and shoulder
- Frontal overlap in Vest
- Complete frontal coverage for Skirt
- Overlap of 10cm over the skirt to avoid accidental exposure



Aprons are available in S/M/L/XL/2XL and custom sizes



## BackSAVER

## Optixx™

### Up to 50% reduction in load on back

- Engineered to float above the shoulder with use of specially designed membrane
- Optimized weight distribution to reduce load on back and shoulder
- In built Lumbar support belt in Skirt for lower back support



Aprons are available in S/M/L/XL/2XL and custom sizes



# 01 SKIRT & VEST

ULTIMATE PROTECTION FOR USER



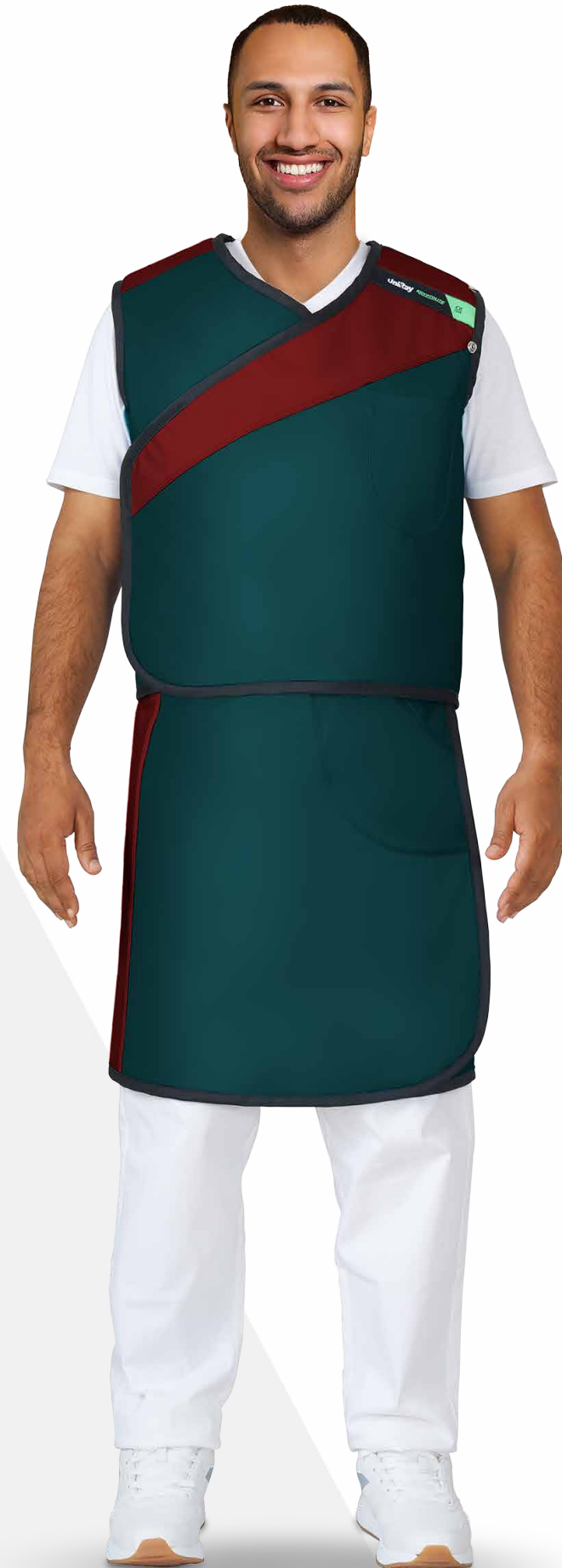
## LadyARMOUR

### Smartly Engineered for Women

- Safeguarding breast, underarm, thyroid, ovaries, and back
- Up to 50% reduction in weight on back and shoulders with integration with **BackSAVER** technology
- Sleeve design for easy arm movement



Aprons are available in S/M/L/XL/2XL and custom sizes



## Maxx™

### All round protection with optimum weight distribution

- Complete frontal overlap for maximum protection
- Complete overlap in both Skirt & Vest for maximum protection



Aprons are available in S/M/L/XL/2XL and custom sizes

CE  
0598

# 02 DOUBLE-SIDED APRON

ALL ROUND PROTECTION SOLUTION



**Optixx™**

## Designed for Optimal Protection

- Optimized weight distribution to reduce load on back and shoulder
- Frontal overlap with velcro closure
- Easy to wear and remove



Aprons are available in S/M/L/XL/2XL and custom sizes



## BackSAVER

**Optixx™**

## Up to 50% reduction in load on back

- Engineered to float above the shoulder with use of specially designed membrane
- Frontal overlap for optimized protection
- Wide adjustable In built Lumbar support belt for lower back support and for creating upward thrust
- Optimized weight distribution to reduce load on back and shoulder



Aprons are available in S/M/L/XL/2XL and custom sizes

CE  
0598

# 02 DOUBLE-SIDED APRON

ALL ROUND PROTECTION SOLUTION



## Maxx™

**All round protection with optimum weight distribution**

- Complete frontal overlap for maximum protection.
- Wide adjustable belt for lower back support.
- Designed for longer duration use.



Aprons are available in S/M/L/XL/2XL and custom sizes

# 03 THYROID SHIELDS & COLLARS

THE SENSITIVE GLAND PROTECTION

CE  
0598

All thyroid shields can be attached to the apron with the press buttons as provided



## BALANCE

Unique design to protect the thyroid & sternum



## ELEGANCE

For a snug fit enabling total protection



## UNIVERSAL

An all time favorite

- Magnetic closure



- Velcro closure



# 04 FRONTAL APRON

GOLD STANDARD FOR X-RAY ROOMS



## COAT APRON

### A must for x-ray rooms

- Complete frontal protection
- Smart and flexible insert with Velcro closure
- Built-in shoulder relief pads



Aprons are available in S/M/L/XL/2XL and custom sizes



## BackSAVER

### BACKSAVER COAT

#### Up to 50% reduction in load on back

- Engineered to float above the shoulder with use of specially designed membrane
- Optimized weight distribution to reduce load on back and shoulder



Aprons are available in S/M/L/XL/2XL and custom sizes

CE  
0598

# 05 EMBROIDERY - NAME & LOGO

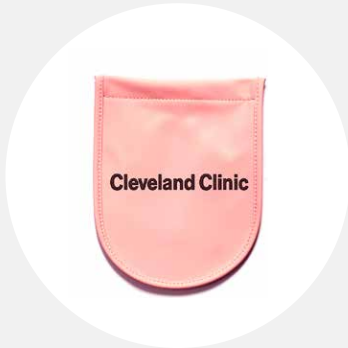
EXPRESS YOUR UNIQUE WAY

Identify with Names, Logos and Visuals.

## NAME ON POCKET



User Name



Hospital Name

## LOGO OR A VISUAL ON POCKET



Hospital Logo



Customized Visual

## NAME ON VELCRO TAG



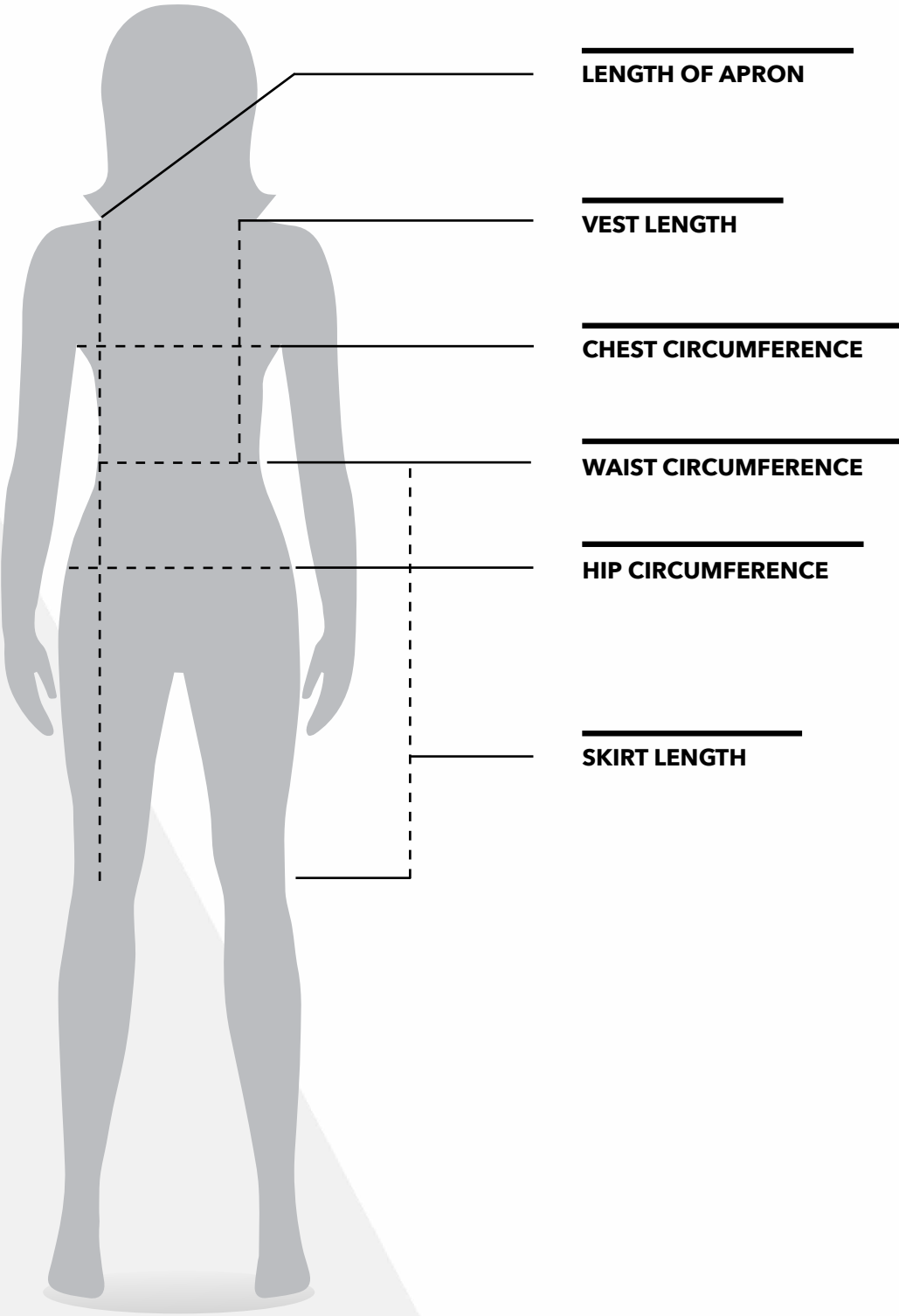
Name on Velcro Tag

# 06 MEASUREMENTS

PERSONAL X-RAY PROTECTION - HOW TO MEASURE

These are body measurements; apparel size can be determined based on these measurements.

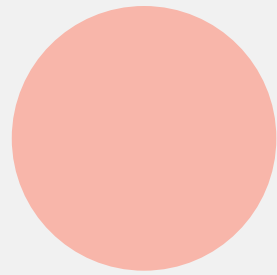
The length of the X-ray protection clothing should be selected in accordance with the International Standard IEC 61331-3:2014 with coverage to below the knee for complete protection.



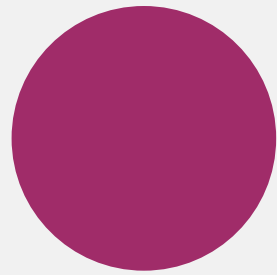
# 07 COVERING MATERIAL - SOLIDS

VIBRANT COLORS THAT LIFT MOODS

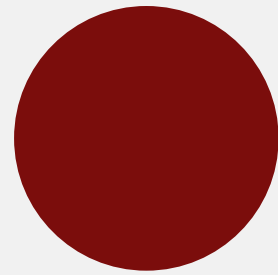
UNITEX™, our safest radiation protection fabric yet. Invented to resist contaminants and woven with cutting edge technology, this fabric makes our apparel some of the safest and most reliable in the world. Better still, it is soft on the skin and doesn't wrinkle easily.



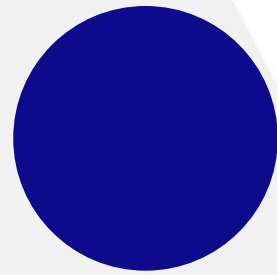
SAKURA PINK



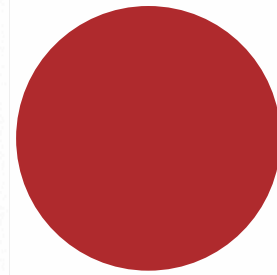
FUCHSIA



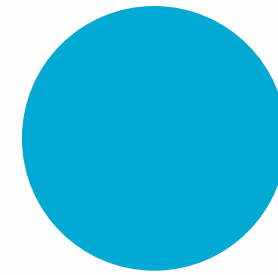
CHERRY



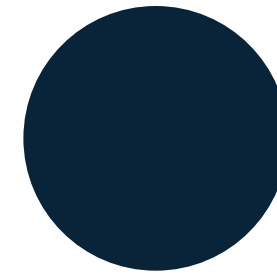
ROYAL BLUE



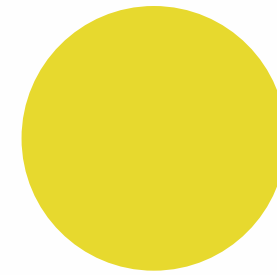
RED



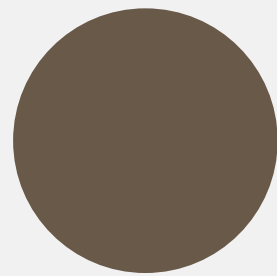
AZURE BLUE



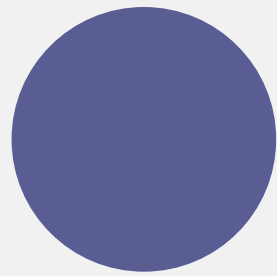
NAVY BLUE



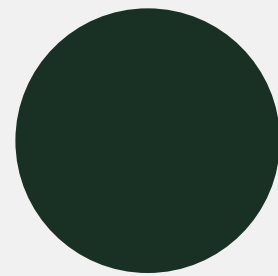
LEMON



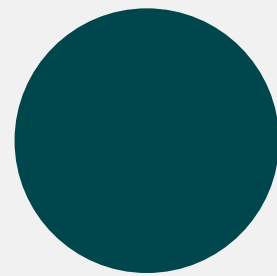
CAMEL



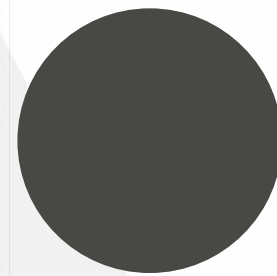
PURPLE



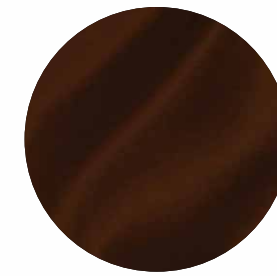
FOREST GREEN



AQUA GREEN



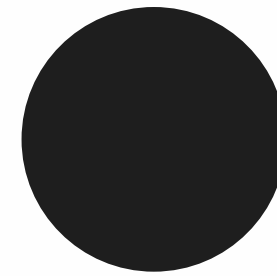
MOUNTAIN GREY



METALLIC BRONZE



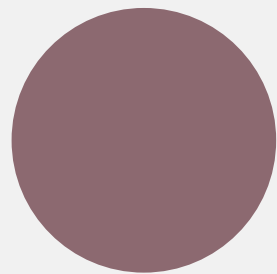
LUNAR SILVER



BLACK



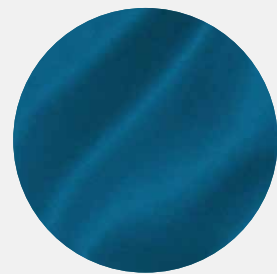
ORANGE



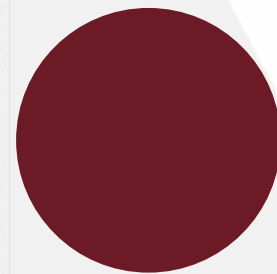
LAVENDER



METALLIC GREEN



ELECTRIC BLUE



BURGUNDY

# 08 COVERING MATERIAL- PRINTS

## EXPRESSION OF CREATIVITY

Prints enable an expression of creativity, individuality, and dynamic self-expression.



CAMOUFLAGE



BUTTERFLY



BLUE FLAMES



CAT



LEOPARD



PUPPIES



BLUE FLORAL



DIGITAL GREEN



BAMBINO



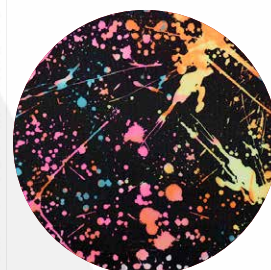
HOOP



GALAXY



FLORAL



RETRO



ORANGE FLAMES



PINK CAMO



BLUE CAMO



DIGITAL GREY



PLAID



FLYING SHEEP



ORANGE HIBISCUS



SKELETONS



DOGS



HAPPY HIPPO



KIDS SKETCH



PALMS

# 09 OTHER PRODUCTS



## COAT APRON SURGICAL

### Making surgeries easier

- Complete frontal protection
- Easy drop off from under a surgeon's scrubs when removing
- Optimized weight distribution



## PANORAMIC DENTAL APRON

Making Dental X-Rays Safe  
Perfect for use during standing exposure



## DENTAL APRON

Total protection for the patient in dentist's chair



## CHILDREN'S APRON

Effective Lightweight Protection  
Coat Apron & Double Sided Apron



## HEAD PROTECTION

### FEZ

- Protection to brain from radiation injuries
- Reduces hair fall



CE  
0598

# 10 LOWER BODY PROTECTION

## PATIENT APRON



### WITH SNAP BUCKLE OR VELCRO CLOSURE

LEV 0.5 mm Pb in set of 4 sizes



### WITH METALLIC RING CLOSURE

LEV 0.5 mm Pb in a set of 4 sizes



### GONAD SHIELD

LEV 1.0 mm Pb in set of 4 sizes



### GONAD/OVARIAN SHIELD

LEV 1.0 mm Pb in set of 3 sizes

# 11 SHOULDER PROTECTION

## SLEEVES

Shoulder sleeves significantly reduce radiation on the shoulder joint. Radiation through armholes is also reduced. UniRay's shoulder sleeves allow complete freedom of hand movement during procedures. Sleeves are available in both Sewn-on and Button-on versions in either only left, only right or both shoulders versions.



### SEWN-ON SLEEVE

- Factory attached
- Also available in full sleeves



### BUTTON-ON SLEEVE

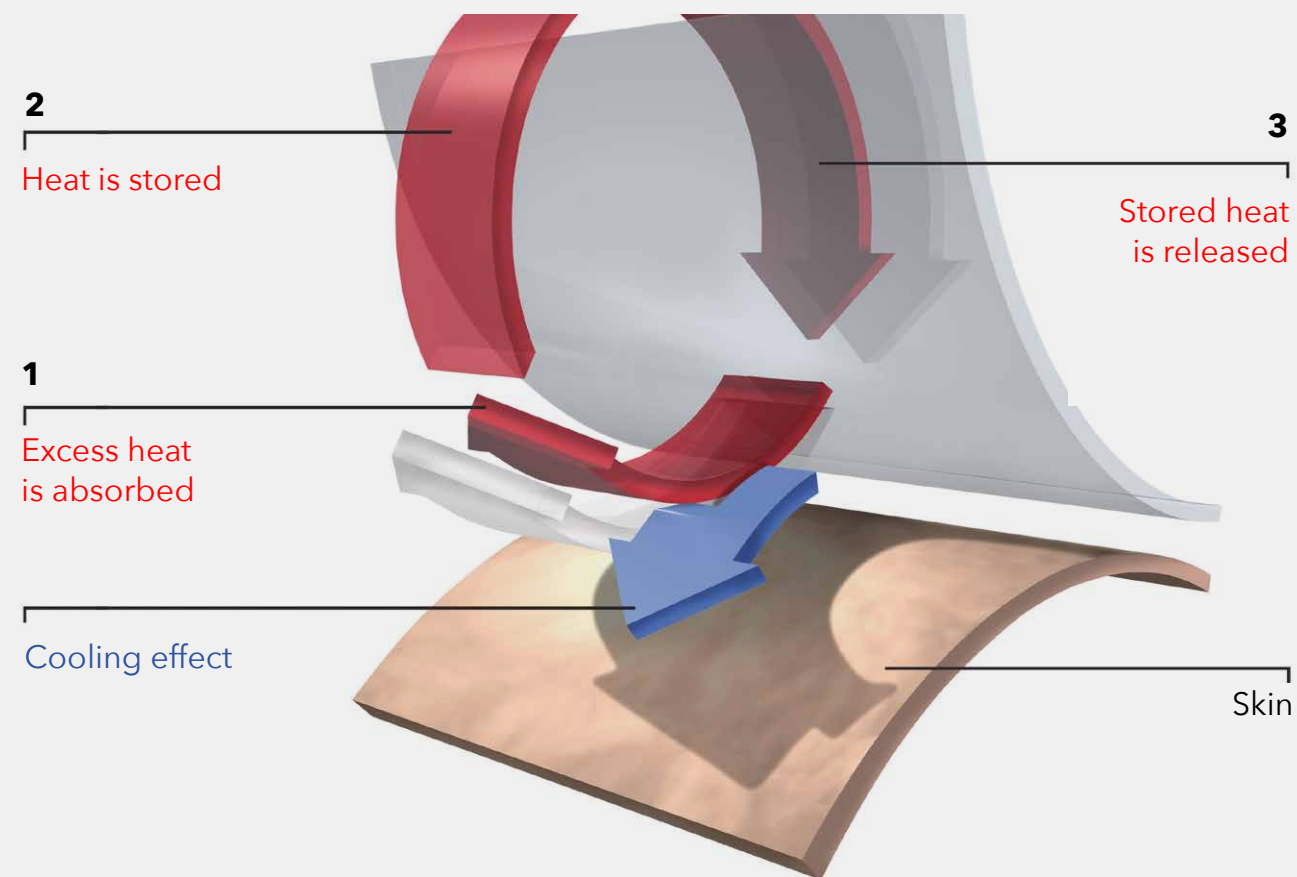
- Attaches easily to all models of Vests and Double-Sided Aprons
- Also available in full sleeves

CE  
0598

# 12 OUTLAST®-TEMPERATURE REGULATED FABRIC

## OUTLAST®- A UNIQUE TEMPERATURE REGULATED FABRIC

Outlast® technology uses phase change materials (PCM) to absorb, store and release heat to achieve an optimum heat and moisture management. This gives Outlast® technology the ability to continually regulate the skin's micro climate. As the skin gets hot, the heat is absorbed, and as it cools, that heat is released. Outlast® technology not only balances temperature fluctuations but reduces moisture.



© Outlast Technologies LLC

### THE EFFECT

- PCM changes from solid to liquid and back
- Absorbs body heat
- Stores body heat
- Releases body heat
- Maintains comfort zone

### THE BENEFITS

- Less overheating
- Less chilling
- Less perspiration
- More comfort
- Not too hot, not too cold, just right

Studies show that Outlast® products can reduce the sweat production average between 30% to 50%



CE  
0598

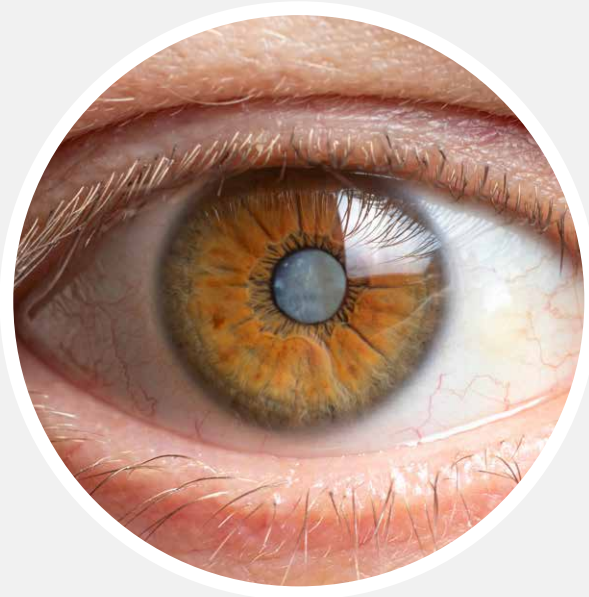
# 13 EYE PROTECTION

## SAFEGUARD SIGHT

European Standards 2013/59/Euratom has reduced the annual eye lens dose limit from 150 mSv/ year to **20 mSv/year** for medical staff.

Available with 0.75mm Pb frontal and 0.5mm Pb lateral protection.

**Prescription service is available in single vision, bifocal and progressive versions.**



**WITHOUT EYE PROTECTION**



**WITH EYE PROTECTION**



**FRONT & SIDE**

Protects user from frontal as well as lateral radiation



**FIT OVER**

A universal solution to fit over the user's eyewear with complete clarity and protection



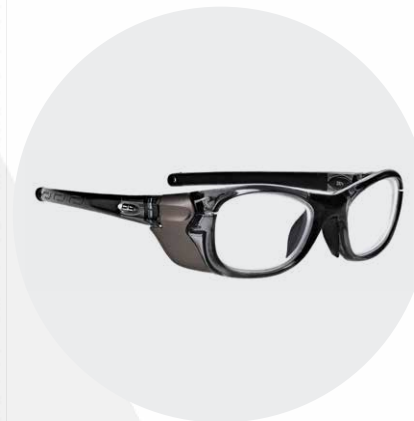
## NIKE EYE WEAR

Light | Comfortable | Stylish



**NIKE RABID**

Fitting frames with additional nose bridge for comfort



**TOKYO**

The eye-wear has been designed to protect the eyes from scattered radiation from all angles



**SPORTY**

Wraparound style helps protect the complete eye, with no danger of lateral radiation



**NIKE BRAZEN**

Frames designed to provide clarity and maximum protection



**HELSINKI**

Wraparound style and a lightweight design featuring removable side shields



**VIENNA**

Transparent design x-ray protective glass has special material offering lateral protection

CE  
0598



#### BERLIN

Sporty, light weight frame with integrated lateral protection



#### DUBAI - NEON GREEN

Transparent design has a special material giving lateral protection



#### LONDON

Wraparound style and a lightweight design featuring removable side shields



#### PARIS

The wraparound style with a rectangular shape and a durable and lightweight design



#### DUBAI - PINK

Transparent design has a special material giving lateral protection



#### ZURICH

A lightweight wrap-around frame with side shields in a yellow and black frame



#### ATHENS

Durable lightweight rectangular wraparound frame with rubberized nose pads and temple bars



#### FLORENCE

Durable lightweight rectangular wraparound frame with rubberized nose pads and temple bars



#### ROME

Rectangular style frame with high-quality permanent side shields



#### NEW YORK

Wraparound style, lightweight design, removable side shields with temple grip and nose pads

*Note: Color availability of the frame must be confirmed before placing the order.*

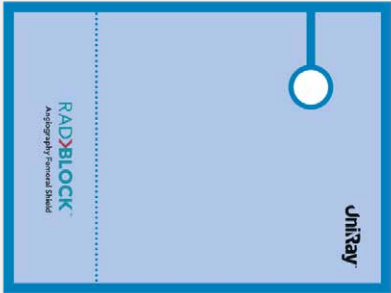
# 14 CONSUMABLES

## STERILE SHIELDS & DRAPES

Radiation protection at source

### RADBLOCK

It provides protection at source when placed on the patient by creating a shade around the surgeon. Protection ranges between 75% to 96% of different types. RadBlock is available in a variety of protection levels.



FEMORAL ENTRY SHIELD 5300



SUBCLAVIAN SHIELD 5400

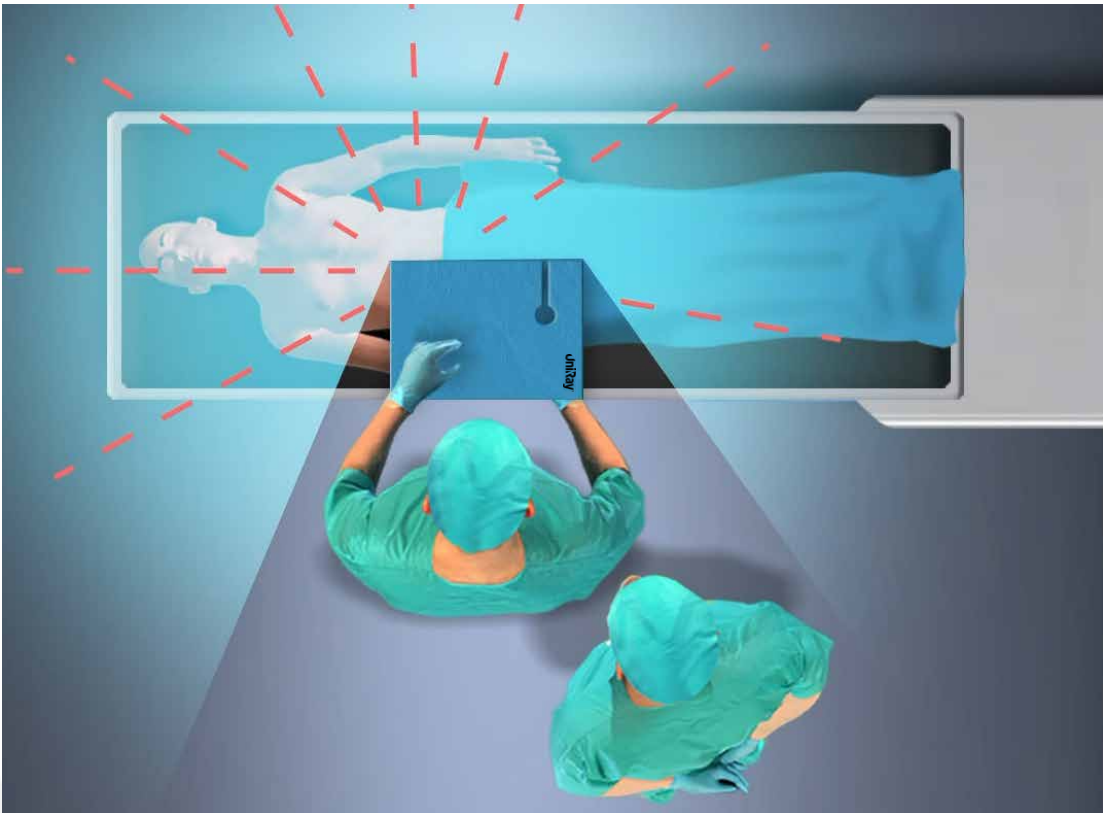


PERIPHERAL SHIELD 5110



MULTIPURPOSE SHIELD 5511

### SHADE WITH RADBLOCK DRAPES AND COVERS



| APPLICATION                | PROCEDURE                               |
|----------------------------|-----------------------------------------|
| INTERVENTIONAL RADIOLOGY   | Dialysis                                |
|                            | Liver Biopsy                            |
|                            | Chemo Immobilization                    |
| CARDIAC CATH LAB           | Biliary Drainage                        |
|                            | Vertebroplasty                          |
|                            | Balloon Angioplasty                     |
|                            | Cardiac Catheterization                 |
| ENDOVASCULAR SURGERY       | Rotational Atherectomy                  |
|                            | Trans catheter Aortic Valve Replacement |
|                            | Carotid angioplasty and Stenting        |
|                            | Endovascular Aneurysm Repair            |
| ELECTROPHYSIOLOGY (EP) LAB | Cardiac Mapping                         |
|                            | Cardiac Ablation                        |
|                            | Device Implantation                     |

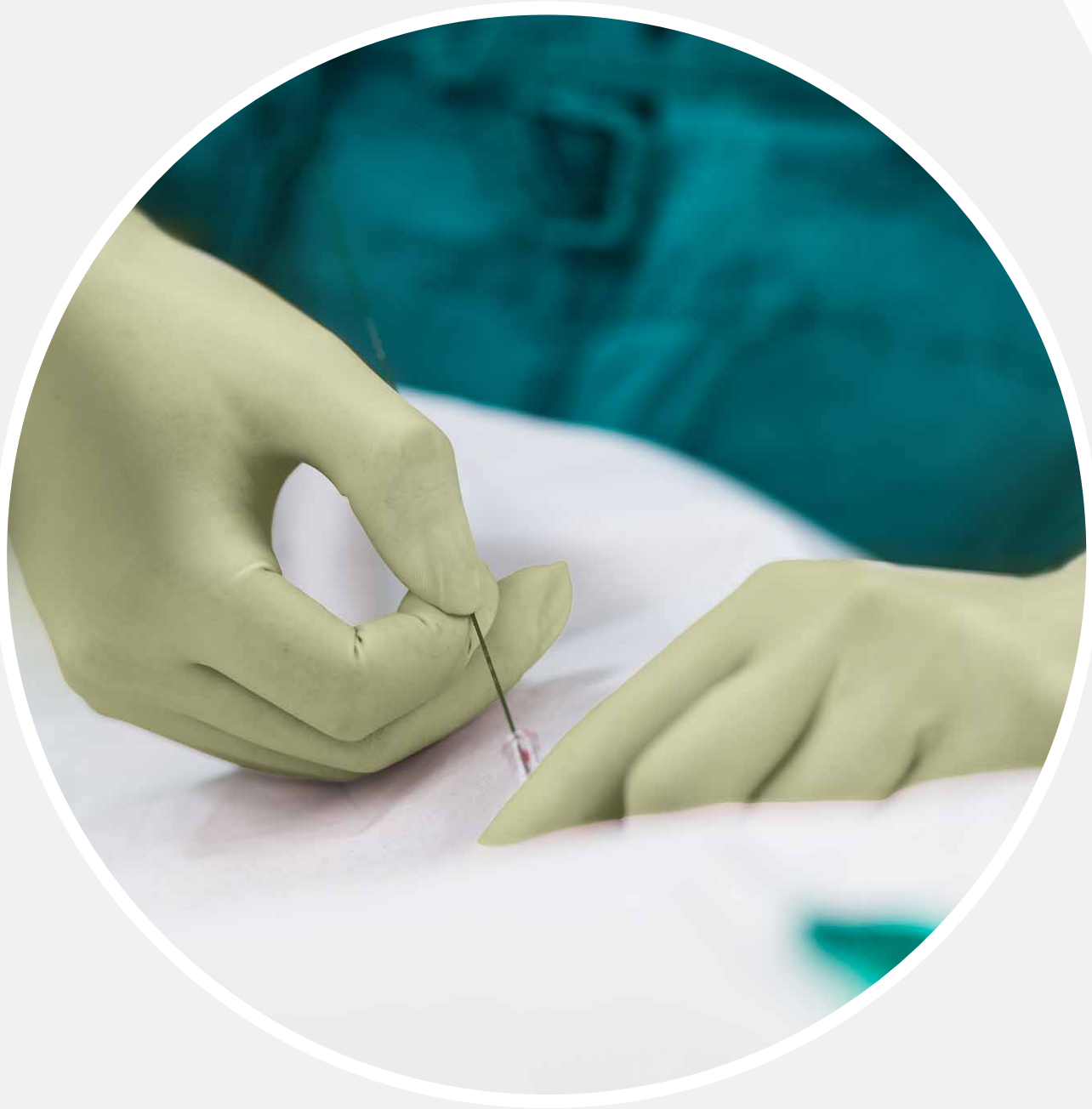
# 14 CONSUMABLES

## HAND PROTECTION

Sterile radiation protection gloves

### Protect hands from scattered radiation

These sterile disposable radiation protection gloves are manufactured in our bacteria-free, state of the art dipping facility.



### ALL OUR GLOVES ARE GAMMA STERILIZED AND FEATURE:

- A lead-free proprietary hypoallergenic formulation
- Maximum contact and tactile sensitivity
- Textured surface for perfect grip
- 100% sterile and powder-free
- Elimination of finger fatigue with a unique design
- Ease of wear and removal with rolled and beaded cuff
- Latex or Latex free

| RADIATION ATTENUATION - Tested as per IEC 61331-1:2014 - (BBG Method) |              |                   |
|-----------------------------------------------------------------------|--------------|-------------------|
| DIRECT BEAM ENERGY LEVEL                                              | LATEX GLOVES | LATEX FREE GLOVES |
| 60 kV                                                                 | 69.6%        | 63.1%             |
| 80 kV                                                                 | 60.9%        | 54.4%             |
| 100 kV                                                                | 53.8%        | 47.4%             |
| 120 kV                                                                | 48.2%        | 42.0%             |
| LE, mm Pb<br>60 to 120 kV                                             | 0.035        | 0.035             |

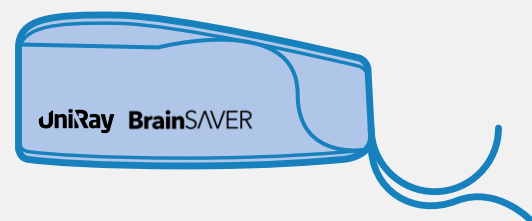
# 14 CONSUMABLES

## DISPOSABLE RADIATION PROTECTION CAP

Head protection at its best

### BrainSAVER

It is the only product in the market that protects the entire brain with a built-in cooling technology.



- Up to 95% protection against scattered radiation
- 93% cover of brain area
- Built-in cooling mechanism
- Environmentally friendly, lead-free, and easy disposal

BrainSAVER

CE  
0598

## CLEANING SOLUTIONS

Safety begins with hygiene

Formulated for radiology environments, this cleaning solution helps eliminate barium, blood, and other common medical stains from protective aprons.



# 15 ACCESSORIES

## STORAGE SYSTEMS

Prevent damage to aprons

Our perfectly crafted range of storage system are compact and efficient.

### MOBILE HANGERS

- Smart stainless steel system with brakes
- Detachable hooks for multiple uses

### MOUNTED WALL RACKS

- Stainless steel swivel hangers for ease of use
- Space saver racks in 1,3,5 or other types are available



**1 HANGER WALL SYSTEM**



**5 HANGER WALL SYSTEM**



**3 HANGER WALL SYSTEM**



**LOWER BODY METALLIC  
RING STORAGE**



**5 OR 10 HANGER MOBILE  
STORAGE RACK**



Detachable Hook

CE  
0598

# 16 TESTING & APPROVALS

CE  
0598

UniRay x-ray protective products conform to stringent quality norms of REGULATION (EU) 2016/425 on personal protective equipment (PPE).

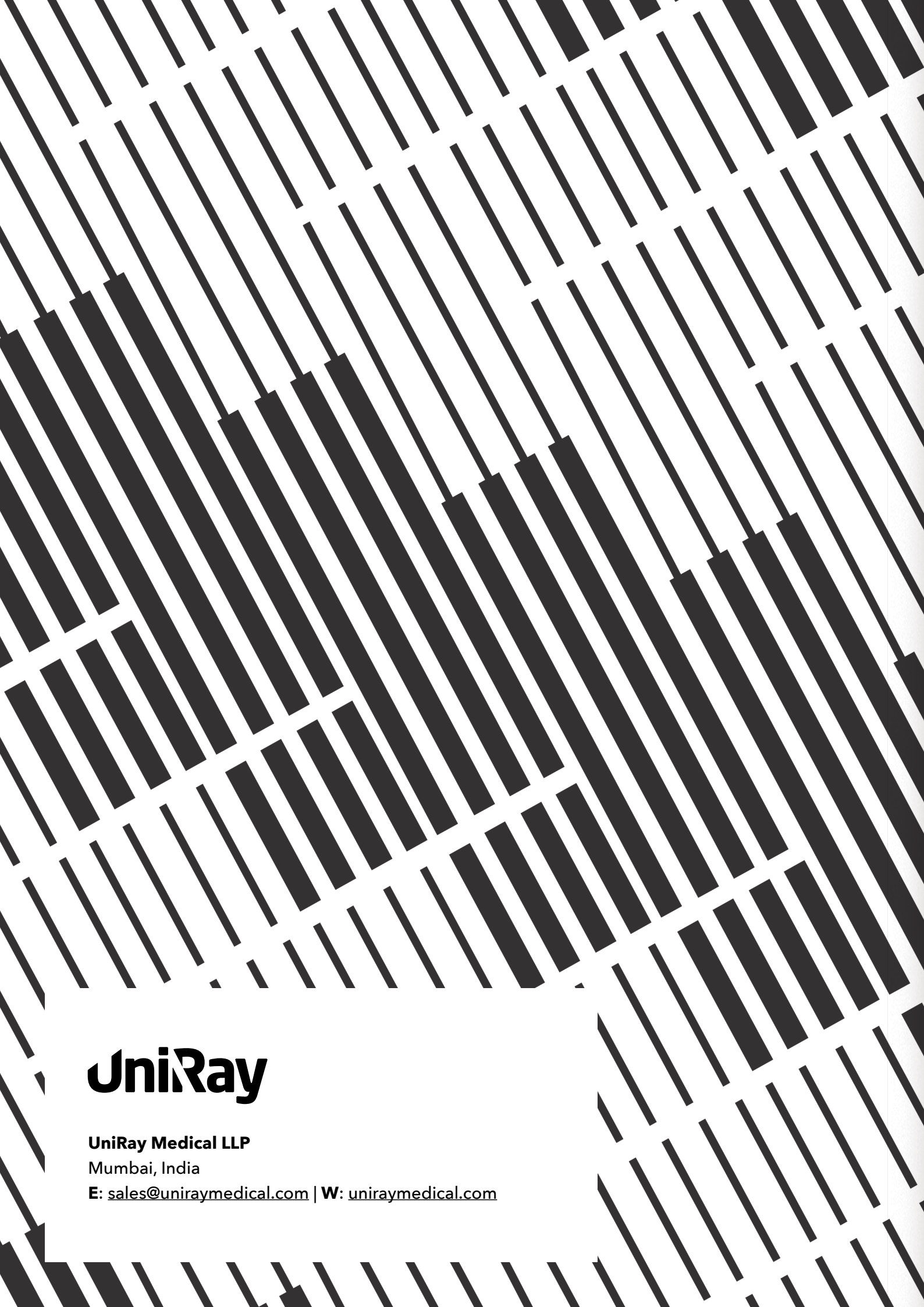
The quality systems at UniRay are assessed and certified as per the guidelines of EN ISO 13485:2016 and products are tested as per strict guidelines of IEC / EN61331-1:2014.

Every UniRay apron has a four-digit registration number issued by the authorized notified body SGS-Fimko (Finland).

## User checklist for compliance of the IEC guidelines:

- Testing done in any method other than BBG is invalid
- CE certificate (Module D) as per PPE Regulation (EU) 2016/425
- The product label should show the area weight "Ws" as mentioned in the test report
- The product label should mention compliance with tube voltage "60 kV - 150 kV"





# UniRay

**UniRay Medical LLP**

Mumbai, India

**E:** [sales@uniraymedical.com](mailto:sales@uniraymedical.com) | **W:** [uniraymedical.com](http://uniraymedical.com)