



MR Products and Solutions



Quality without Compromise

www.wardray-premise.com

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WARDRAY PREMISE



**Quality without Compromise
from the UK's leading
Radiation Shielding
Specialists**

Wardray Premise Ltd is the UK's leading supplier of MRI products and the only UK manufacturer of RF Cages for MRI suites.

All products are labelled in accordance with ASTM standards and are CE marked. This catalogue demonstrates our wide range of activities within this specialised industry.

We have a dedicated Service Department covering the UK. Full details of all products and services can be viewed on our website: www.wardray-premise.com

**FOR THE SAFETY OF PATIENTS
& STAFF, ALL PRODUCTS ARE
CLEARLY LABELLED IN
ACCORDANCE WITH ASTM
STANDARDS**

INTRODUCTION

Wardray Premise has established themselves as the leading supplier of MR products to the medical industry.

The Company philosophy is **quality without compromise**. We are committed to supplying products and services that meet the needs of the customer in terms of safety and cost without compromising on quality.

This philosophy runs throughout the entire organisation from product design and manufacturing to sales and after sales service.

We have expanded our range of products and services from the construction of **RF cages** through to supplying **patient transportation, monitoring equipment, patient safety** systems, **relaxation** products and basic essential **accessories** such as instrument trolleys.

This has been achieved through listening carefully to the needs of our customers, developing and supplying high quality equipment.

If you have a specific need that is not met by the products in this catalogue, please contact us. We may be able to help.

SAFETY

The MRI suite is a hazardous environment. Ferromagnetic items can be attracted to the magnetic isocentre with such force, as to become dangerous projectiles that can cause serious injury to staff, patients and damage to equipment.

We take the responsibility of providing safe and reliable products very seriously. Our entire range is rigorously tested to a high standard. All products are clearly labelled.

With the aim of creating an environment that is as safe as possible we have introduced a number of products specifically related to patient and staff safety.

Our OxiQuant MC® room oxygen monitor gives early warning of oxygen depletion which could affect staff and patients alike. The fire extinguisher, an essential piece of equipment in this environment has been tested in the bore of a 4.7 Tesla magnet.

The SafeView CCTV system has been designed for the awkward shaped room where it is perhaps difficult or impossible to see the patient clearly from the control room.

Each product within our MR section is labelled in accordance with the standard defined by the **ASTM International (American Society for Testing and Materials)**:



MR SAFE is applied to an item that poses no known hazards in all MR environments.



MR CONDITIONAL is applied to an item that has been demonstrated to pose no known hazards in a specified MR environment with specified conditions of use. This label is used to alert the user that there are certain limitations to the usability of the item or the testing that was performed. Items bearing the **MR CONDITIONAL** icon should include additional information on the label as to the conditions of use.



MR UNSAFE is applied to any item that is a known threat or poses a hazard in all MR environments.

A more detailed definition of these standards is on page 27.

SERVICING

To maintain our products and to guarantee their MR safety, only Wardray Premise trained personnel should undertake any maintenance work.

Our team of engineers covering the whole of the UK are experts in all aspects of installations and maintenance in the MR environment.

A comprehensive range of service contracts are available including individual and multi product contracts designed to reduce costs and down time.

We also have a global network of agents covering over 40 countries.

APPLICATIONS

Our Technical Applications Manager will be pleased to offer free demonstrations of selected products.

In addition, we can provide after sales training programmes for our more technical equipment on request.



The Tesla 4Fusion® Drug Administration System (see page 14)

RF CAGES FOR MRI

GENERAL SPECIFICATION

An all British shielding structure built in modular form from high grade aluminium. It is designed to suit specific requirements of each equipment manufacturer and individual site conditions.

The rigid self supporting structure has the distinct advantage of allowing late changes to the room size and layouts with the inclusion of additional filters causing minimal disruption.

The cage is particularly suitable for modification when equipment is upgraded. An RF test is undertaken to confirm acceptable attenuation levels.

Sections are then easily removed to allow the equipment to be changed with alterations to filter panel frames and floor supports being easily accommodated.

Wardray Premise has successfully completed 200 installations in the last 15 years.

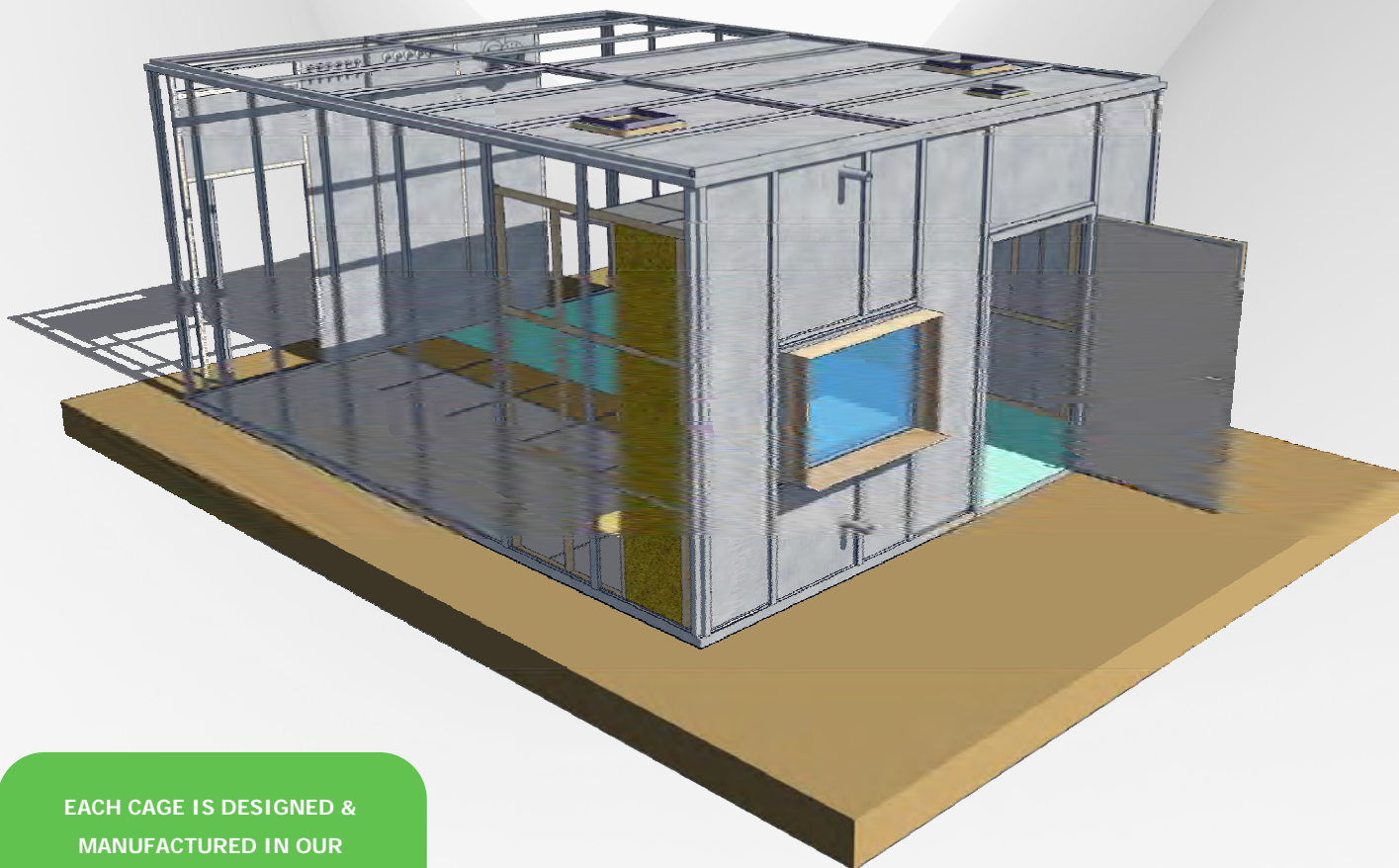
RF cages constructed from aluminium have a proven record on a worldwide basis and is often the preferred material for high field 3T scanners and mobile units.

The finished product exceeds the attenuation levels of all major equipment manufacturers with our designs being regularly updated as new scanners are introduced.

Using a construction, formed from one rigid material eliminates any problems with structural stressing and flexing through building movement. It also eliminates the inherent weakness of a timber framework, thinner shielding materials and problems associated with some clamping systems.

The framework will support an alternative galvanised steel lining which is required for some types of 'open' magnets, in place of the standard aluminium panels.

Brackets are fitted to the framework to take internal wall linings with a similar system for supporting suspended ceilings. The floor is prepared for a final vinyl finish.



EACH CAGE IS DESIGNED &
MANUFACTURED IN OUR
MODERN UK FACTORY TO SUIT
SITE CONDITIONS & SATISFY
THE REQUIREMENTS OF EACH
CONTRACT

RF CAGES FOR MRI

DOORSETS

They are constructed with an aluminium facing which can be finished in a choice of veneers. The standard size gives a clear opening 1200mm x 2100mm.

Adjustable 'lift off' hinges are provided and the locking mechanism consists of a single latching multipoint lock, complete with a Euro-cylinder lock. Lifting the handle engages two further retaining bolts.

Flexible plated beryllium copper finger strips are fitted to the head and jambs of the frame and to the bottom edge of the door.

In addition acoustic seals are incorporated into the jambs, head and bottom edge of the door with a continuous membrane within the door to increase the acoustic attenuation.



OBSERVATION WINDOWS

Two layers of glass containing a blackened copper mesh with an anti-reflective coating are assembled as a complete window unit. The space between each sheet provides enhanced RF and sound attenuation properties and is designed to eliminate moiré fringes.

The standard window is 1500mm x 900mm but sizes in single units up to a maximum of 1800mm x 900mm are also available.

EMERGENCY VENTING PANEL

This fits within an aperture 600mm x 600mm and has an inbuilt resistance to prevent the panel accidentally closing during an emergency venting procedure. Although normally 'factory fitted' into a door during the initial installation, a 'retro-fit' option is also available (on Wardray Premise sites).

FILTERS AND WAVE GUIDES

Service Panel Frames and Quench Pipe Filters are produced to suit individual manufacturers' specifications. Any special floor ducting, magnet supports etc. are also available.

Air Conditioning Filters are available in standard stock sizes 300mm x 300mm, 450mm x 450mm and 600mm x 600mm. The large size is included in all cages as an equalising vent filter to alleviate any vacuum effect within the room.

Electrical Filters for connection of supplementary electrical equipment which cannot be routed through the manufacturers' service panel. They are available with 5amp, 16amp or 25amp rating.

Open Wave Guides consisting of access tubes in various sizes can be fitted to protect the integrity of the shielding.

Medical Gas Filters engineered to meet medical gas standard HTM2022 have anti-static connections and are pressure tested for 1.5 hours at a maintained pressure of 150psi.



CONSTRUCTION, TECHNICAL
INFORMATION & SPECIFIC
SITE REQUIREMENTS ARE
DETAILED IN OUR MAIN
STRUCTURAL SHIELDING
BROCHURE.

TO RECEIVE A COPY, PLEASE
CONTACT OUR SALES OFFICE

TRANSPORTATION

ADJUSTABLE HEIGHT TROLLEY: MR5501



**FULL SERVICE CONTRACTS AVAILABLE ON
ALL TRANSPORTATION PRODUCTS
THROUGHOUT THE UK**

The Series III MR Safe Adjustable Height Trolley is fully tested at 7 Tesla. With Trendelenberg supplied as standard, the weight bearing capacity has significantly increased to 220kg (490lbs).

Key features include:

- ▶ hydraulic dual pedal pump for ease of elevation and patient comfort
- ▶ folding cot sides
- ▶ flame retardant, high density mattress in a wipe clean material with welded seams to prevent the spread of infection
- ▶ adjustable backrest
- ▶ trolley fitted with corner buffering for protection
- ▶ fitted with non marking, low rolling castors and foot operated brakes
- ▶ IV pole with four fixing points as standard
- ▶ finished in hardwearing epoxy powder coating
- ▶ optional extra: oxygen cylinder holder

**ALL TROLLEYS & PORTERING
CHAIRS TESTED TO 7 TESLA
ALL TRANSPORTATION
PRODUCTS ARE CE MARKED**

Dimensions:

Overall size of top section:

Length: 2150mm Width: 680mm

Overall size of base:

Length: 1475mm Width: 610mm

Maximum Height: 940mm

Minimum Height: 495mm

(to table top)

TRANSPORTATION

FIXED HEIGHT TROLLEY: MR1501

Manufactured with the same basic features as the Adjustable Height Trolley (see previous page). The Fixed Height Trolley is manufactured to a specified table height to suit individual customer requirements.

The maximum height stated is a guide. Dimensions outside of this range can be accommodated.

Dimensions:

Overall size of top section:

Length: 2150mm Width: 680mm

Overall size of base:

Length: 1475mm Width: 610mm

MR



Maximum Fixed Height: 1100mm
Minimum Fixed Height: 630mm (to table top)
Mattress Thickness: 50mm

PAEDIATRIC TROLLEYS: MR5501/P & MR1501/P

MR



Adjustable Height Paediatric Trolley: MR5501/P (illustrated without cot side bumpers)

This Trolley is specifically designed for the safe transportation of infants and young children to the MR suite.

The Paediatric Trolley has the same design features as our popular adult trolleys (see previous page and above) and is available as either fixed or adjustable height.

The cot sides drop down and are fitted with protective buffers for patient safety.

Dimensions:

Overall size of top section:

Length: 1710mm Width: 680mm

Overall size of base:

Length: 1475mm Width: 610mm

Mattress Thickness: 50mm

Cot Side:

Length: 1150mm Height: 225mm (above trolley top)

MR



Fixed Height Paediatric Trolley: MR1501/P

REPLACEMENT MATTRESSES
ARE AVAILABLE TO PROLONG
THE LIFE OF ALL TROLLEYS

ADJUSTABLE HEIGHT

Maximum Height: 940mm
Minimum Height: 540mm (to table top)

FIXED HEIGHT

Maximum Fixed Height: 1100mm
Minimum Fixed Height: 630mm (to table top)

Maximum heights given are a guide.
Dimensions outside of this range can be accommodated.

MEMORY FOAM & PRESSURE
RELIEF MATTRESSES ARE
AVAILABLE FOR AN EXTRA COST
ON NEW TROLLEYS OR AS
REPLACEMENTS ON USED
MODELS

TRANSPORTATION

MR



FOLDING PORTERING CHAIR: MR4500

Providing safe transfer to and from the MRI suite with the benefit of being able to fold neatly away for storage. This is achieved by simply lifting the seat.

Manufactured in aluminium with a powder coated finish and wipe clean ribbed vinyl. This chair has two 125mm swivel and braking castors fitted to the front with two 315mm wheels at the rear.

The MR4500 is **fully tested to 7 Tesla**.

Features include:

- ▶ welded seams to assist with infection control procedures
- ▶ adjustable flip up foot rests are removable. Raise and lower arm rests to ease patient transfer
- ▶ safely transports patients up to 128kg (280lb)

Dimensions:

Height:	965mm
Width:	675mm
Depth:	1130mm
Width (folded):	405mm

PORTERING CHAIR: MR4501

Our basic Portering Chair offers excellent value for money.

Manufactured in aluminium with a powder coated finish. The seat and back are finished in high density foam, covered in a flame retardant, wipe clean material with welded seams.

This product is **fully tested to 7 Tesla**.

Dimensions:

Height:	1063mm
Width:	646mm
Depth:	931mm

Features include:

- ▶ non marking, low rolling castors with foot operated brakes to the rear
- ▶ up and down (below seat level) armrests allowing easier access and patient transfer
- ▶ retractable footrests with anti-slip covering
- ▶ safely transports patients up to 220kg (490lb)

MR



FOLDING WHEELCHAIR: MR4000N

MR



The MR Folding Wheelchair has been specifically designed for use in and around the MR suite.

This product is MR conditional as specified by ASTM standards.

Dimensions:

Height:	875mm
Width:	650mm
Depth:	1100mm (with footrests)

Features include:

- ▶ optional IV pole and cylinder holder attachments
- ▶ swing away footrests and detachable armrests
- ▶ rear storage pocket on the back of the chair has "MR" prominently displayed reducing the possibility of it being confused with a standard wheelchair
- ▶ maximum weight capacity 113kg (250lbs)

PAEDIATRIC MONITORING

NEONATAL VENTILATOR: MR7300

We now supply an MR Conditional Ventilator suitable for use with 1.5T and 3.0T scanners (positioned at least 1 metre from the magnet bore).

A time cycled, pressure limited ventilator designed specifically for use with both pre and term newborns and infants up to 10Kg.

There is no need to change or disconnect the breathing circuit during transport or in the MRI room.

**ENSURES SAFE TRANSPORTATION
TO & FROM THE MRI SUITE
FOR BOTH PRE & TERM
NEWBORNS & INFANTS
UP TO 10KG**

Care of the infant is virtually uncompromised throughout transport or during the MRI procedure. This makes this ventilator ideal for safe transport and MRI use.

The Neonatal Ventilator with built in blender offers CMV (constant flow) or CPAP modes with FiO₂ from 21 – 100%, maximum flow rate of 20lpm at a rate of 2 – 130 breaths/min.

Unit supplied with pressure reducers (air/O₂) hoses, non magnetic tanks, breathing circuits and test lung.



**CAN BE CONNECTED TO ANY MR
SAFE AIR OR O₂ CYLINDER**

This product is covered by a one year warranty.



**WE ARE CURRENTLY
EXPANDING OUR RANGE OF
PRODUCTS DEDICATED TO
NEONATAL & PAEDIATRIC MR
IMAGING**

**PLEASE CONTACT OUR SALES
OFFICE FOR FURTHER
INFORMATION**

MINIMUFFS NEONATAL NOISE ATTENUATORS: MR7400



Designed specifically for premature babies, MiniMuffs neonatal noise attenuators protect sensitive ears.

Reducing sound by at least 10 Db, MiniMuffs can be used to reduce disruptive noise levels associated with the transfer of infants to different hospital units and in emergency vehicles.

When used in conjunction with ear plugs, noise levels are significantly reduced within an MRI scanner.

MiniMuffs fit comfortably around the baby's ears with a soft oval shaped design and gentle hydrogel adhesive.

Based on a single patient use design, MiniMuffs meet infection control standards.

PAEDIATRIC MONITORING

DEDICATED PAEDIATRIC COILS: MR7100 & MR7200

A new range of coils has been developed especially for Paediatrics. Through the use of advanced technology they provide an improved signal to noise ratio (SNR) and uniformity, which in turn permits higher resolution imaging.

These coils yield enhanced images that assist clinicians in their diagnosis. Higher resolution scans in shorter scan times reduce patient discomfort and also allows increased scanner throughput.

INFANT CARDIAC ARRAY: MR7200

The Infant Cardiac Array is designed to accommodate intubated patients (on a ventilator).

A 40 – 100% SNR improvement is seen with the Infant Cardiac Array over adult sized counterparts without significantly compromising uniformity.

Optimised design offers enhanced SNR over the newborn heart, torso (liver, abdomen, pelvis) and extremities.

The Infant Cardiac Array is compatible with 1.5T & 3T scanners from major OEMs.

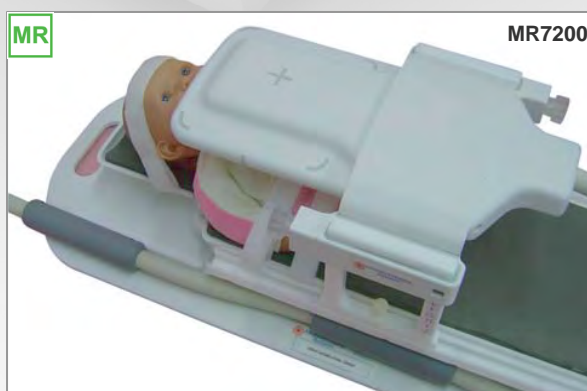
NEONATE HEAD COIL: MR7100

This coil has been designed to accommodate intubated patients (on a ventilator). A 40 – 100% SNR improvement is seen with this coil compared to a standard OEM coil, without compromising uniformity.

Due to its small size hi-resolution imaging is possible over the neonatal brain without running into SAR issues.

The enhanced SNR and uniformity makes the Neonate Head Coil ideal for volumetric imaging (such as MRI, MRA, DWI and MRS) of the brain and intracranial vasculature of premature and term newborns.

The Neonate Head Coils are compatible with 1.5T & 3.0T scanners from major OEM's.



**COILS ARE SUITABLE
FOR INFANTS UP TO
4.5KG
(APPROXIMATELY)
& ARE COVERED
BY A 2 YEAR
WARRANTY**

WARDRAY PREMISE
MANUFACTURE
TROLLEYS FOR THE SAFE
TRANSPORT & STORAGE
OF COILS
SEE PAGE 31

MONITORING

TESLA GUARD® PATIENT MONITOR: MR8800

Introducing our MR Conditional Patient Monitor.

This compact monitor has an extensive specification whilst being competitively priced.

A range of accessories make the Tesla Guard® suitable for use with adult, paediatric and neonates.

The basic unit will monitor ECG (3 lead) Pulse Oximetry (using Masimo SET technology), Non Invasive Blood Pressure and a single channel of Invasive Blood Pressure (second channel available as an option).

A full gas analysis package is also available along with a wireless data transfer package to an external screen.



Features include:

- ▶ fibre optic sensors for SpO₂
- ▶ battery and integrated battery charger
- ▶ for monitoring of neonates paediatric and adult patients
- ▶ clearly readable values even from long distance
- ▶ clearly arranged LCD colour display
- ▶ individually adjustable alarm parameters
- ▶ parameters: ECG, NIBP, SpO₂, IBP (max.2)
- ▶ rugged sensors for everyday clinical life
- ▶ trouble free vital parameters
- ▶ all magnet types up to 3 Tesla (ask for higher field strength)
- ▶ battery operating time 75 minutes
- ▶ measuring ranges: sats 0 – 100, pulse 15 – 300 beats/min

FULL SPECIFICATION IS
AVAILABLE TO VIEW ON
OUR WEBSITE:
www.wardray-premise.com



PACKAGE INCLUDES ONE
YEAR WARRANTY
(INCORPORATING
TWO SERVICE VISITS)

FULL SERVICE CONTRACT
AVAILABLE THROUGHOUT
THE UK

Options:

A Full Gas Analysis Package, Second Channel of Invasive Pressure and Observer Remote Display

MR MONITOR CONSUMABLES

Suitable for all systems (including non MR).

MR1680: ECG Electrodes (pack of 30)

MR1681: NuPrep Skin Preparation Gel (114gms)

MONITORING

TESLA one® PULSE OXIMETER: MR8100



Measuring Range:	SpO2 0 - 100%
Pulse Range:	20 – 300 BPM
Dimensions (mm):	(H)152 x (W)304 x (D)155
Weight:	3.3Kg
Optional:	gating for Siemens scanners available.

The latest in MR Conditional stand alone Pulse Oximeters, the Tesla one® is suitable for use up to and including 3.0T scanners.

The large 7" active colour touch screen can display wave form and small figures for both Sats and Rate or Large Figures only.

Features include:

- ▶ wireless sensor with finger adapters allows sensor to be used for adult, paediatric and neonatal patients
- ▶ supplied with dedicated IV pole
- ▶ mains or battery powered (approx 8 hours running on battery)

WARDRAY PREMISE
MANUFACTURE & SOURCE
EQUIPMENT & ACCESSORIES
SPECIFICALLY DESIGNED FOR
MRI SUITES

TESLA NIBP®: MR8200



Measuring ranges:	
Interval times:	1, 2, 5 or 10 minutes
Heart rate:	30-220BPM
Pressure range:	20-260mmHg
Mains input range:	85-265volts, 47-63Hz
Dimensions (mm):	(H)115 x (W)280 x (D)240
Weight:	3.3Kg

A compact, stand alone MR Conditional unit (up to and including 3T) for non invasive blood pressure.

Features include:

- ▶ large clear display for systolic, diastolic and mean arterial pressure as well as heart rate
- ▶ microprocessor controlled safety circuitry
- ▶ 4 metre length NIBP pressure hose supplied with cuffs for adults, children and neonates
- ▶ mains or battery operation allows for operation in all scan rooms
- ▶ battery life up to 8 hours
- ▶ manual or automatic modes

ALL PRODUCTS ARE FULLY
TESTED & LABELLED IN
ACCORDANCE WITH
ASTM STANDARDS
(SEE PAGE 27)

MONITORING

MANUAL BLOOD PRESSURE SET: MR132

A high quality yet economic set specifically designed for use in the magnet bore.

This set consists of the following items:

- ▶ non mercury (aneroid) MR safe sphygmomanometer
- ▶ extra long tubing for ease of use in the magnet bore
- ▶ three single tube cuffs, covering large adult to paediatric

A two year warranty is available on the Stethoscope against faulty materials and workmanship and five years for sensitivity and precision.

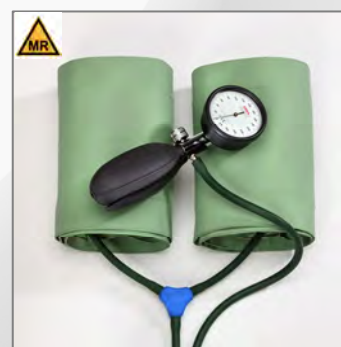


VENOUS COMPRESSION SET: MR133

A high quality yet economic set designed for use where MR angiography with midfemoral compression is required.

Venous Compression Set consists of:

- ▶ non mercury (aneroid) sphygmomanometer, with twin inflation tubes to allow both cuffs to be identically inflated
- ▶ two each of thigh size and large adult, single tube cuffs.



LARYNGOSCOPE (FULL SET): MR131

In a handy carry case, comprising of a handle, two Millar (sizes 0 and 1) blades and three Macintosh (sizes 2, 3 and 4) blades. Set also includes a pair of replaceable batteries.

LARYNGOSCOPE (COMPACT SET): MR131/S

This smaller set is also available, comprising of one handle, a choice of MAC 3 or 4 blade and one battery pack.



STETHOSCOPE: MR130/A & MR130/P

This product is MR Conditional with a 1.5m long tubing to allow examination inside the magnet bore.

Adult & Paediatric versions are available.



ALL PRODUCTS ARE SOLD WITH
A MINIMUM 12 MONTH
WARRANTY

WARDRAY PREMISE OFFER
A COMPREHENSIVE AFTER
SALES SERVICE

SAFETY

THE TESLA 4Fusion® DRUG ADMINISTRATION SYSTEM: MR8400



The Tesla 4Fusion® Drug Administration System uses the latest state of the art technology.

The ideal solution for ICU patients, this unit allows continuous infusion without interruption to, during and back from the MRI examination.

THE MRI INFUSION SOLUTION
OPTIMISES YOUR MRI
WORKFLOW

SPECIALIST INSTALLATION
SERVICE AVAILABLE

Other features include:

- ▶ maximum safety for infusion during MRI examination
- ▶ continuous monitoring of the magnetic field strength
- ▶ can be equipped with up to four infusion pumps
- ▶ compatible with volumetric and syringe pumps
- ▶ pumps comply with the latest infusion technology, e.g.
 - drug library
 - dose calculation
 - free flow protection
 - Keep Vein Open (KVO)
- ▶ pumps can be prepared at the ICU and used for patient transport to MRI

OXIQUANT MC® MR ROOM OXYGEN MONITOR: MR105C

Whilst the number of incidents involving the quench of a magnet is rare, the ability to be able to monitor any leakage of cryogen into the scan room can help to ensure the safety of all involved.

The OxiQuant MC® has been designed to give a warning of depleted oxygen levels in the scan room.

The unit is simple to fit either during the installation of the scanner or afterwards and does not require the scanner to be ramped down. It can be linked into an extraction system to allow automatic switch on if oxygen levels drop.

The normal oxygen concentration should be 21%. Any variation will be rapidly detected.



OxiQuant MC® has the following key features:

- ▶ installed in the control room, there are no serviceable parts inside the examination room
- ▶ no RF filtration required
- ▶ display panel with touch controls
- ▶ simple calibration to ensure consistently accurate readings within the room are achieved by drawing a steady flow of air across the oxygen fuel cell detector at a predetermined velocity

REPLACEMENT FUEL CELL & FILTER: MR106

SAFETY

SKI PAD EVACUATION MATTRESS: MR2011

The Ski Pad Evacuation Mattress is an essential piece of equipment in any department. In the event of an emergency, the patient is transferred onto the mattress and pulled to safety. The tough, slippery vinyl base allows movement over virtually any surface, indoors or outdoors, down staircases and along narrow corridors. The Ski Pad comes in a storage bag and is fixed on a wall when not in use. This product is fully MR Safe.



FIRE EXTINGUISHER: MR2010

The only product we sell that we hope you never use!

This compact 2Kg capacity system has a 30/40 second discharge capacity. It's gross weight is 4.5Kg and it can be supplied filled or empty for export markets to fill locally. Suitable for use up to 4.7 Tesla.



HAND HELD METAL DETECTOR: MR103

Can be used before an MRI examination to search for concealed metal objects and small foreign bodies under the skin surface. Two PP3 type batteries are provided. Please note: Hand Held Metal Detector must be used outside MR suite. Weight: 325g.



WARNING LIGHT: MR101

A surface mounted warning light fitted with a 180° PIR detector that reacts instantly to body heat and illuminates the sign. The detector can be adjusted to varying light levels and length of time the lamp remains alight. The detector can be fitted to the unit or mounted separately at a recommended height of 1800mm to 2000mm.



WARNING SIGN: MR107

A self adhesive vinyl warning sign indicating the presence of a strong magnetic field.



SAFEVIEW PATIENT CCTV SYSTEM: MR6500



This system has been specifically designed for use in the MR environment where it may be necessary, either due to room layout or for other operational reasons, to view the patient.

The shielded camera enclosure is designed to be mounted on the wall usually to the rear of the scanner. The 470 line colour camera unit comes fitted with a varifocal lens.

THE SYSTEM CAN BE RETRO-FITTED TO EXISTING SCANNERS WITHOUT THE NEED TO RAMP THE MAGNET DOWN

The full colour, 15" LCD display panel is sited in a convenient location in the scanner control room. Suitable for 1.5T and 3.0T scanners

The system utilises *fibre optic* technology so that there is no risk of artefacts on the scan.

The complete system consists of:

- ▶ shielded camera assembly
- ▶ 15" full colour LCD display panel
- ▶ fibre optic receiver unit
- ▶ fibre optic cable
- ▶ 2 x 12v power supplies for camera and fibre optic receiver
- ▶ pre terminated power supply cable & power filter unit

SAFETY

FERROGUARD® MRI ALARM SYSTEM

FerroGuard® is a patented ferromagnetic detector and alarm system specifically designed for use in MRI environments.

FerroGuard® constantly monitors the local ferromagnetic environment, remaining vigilant to the presence of moving ferrous objects.

A visual alert is initially given through an intuitive sequence of lights which responds only to moving ferrous objects.



An audible alarm sounds if individuals ignore the light sequence and pass between the two poles simultaneously.

FerroGuard® will allow staff to carry out their normal duties involving MRI Safe ferrous free metallic objects without alarming.

FERROGUARD® FREESTANDING SYSTEM

The FerroGuard® Freestanding System is highly flexible and can be quickly and easily deployed in front of the MRI door or in the interview / changing room area.

The freestanding construction is designed for rapid deployment, in a range of settings that fit precisely into the facilities workflow. Its position can easily be changed to adapt to changing workflows or as risks / requirements change.

The freestanding system can be deployed in either Entryway or Pre-screening modes.

Each pole has a built in battery supply for use away from mains power.

Sensitivity levels are easily adjusted to ensure FerroGuard detects a range of objects within the facilities risk profile.

FERROGUARD® WALL MOUNTED SYSTEM

The Wall Mounted System offers an elegant, unobtrusive installation as part of a new facility design, or for retrofitting within an existing facility.

Wall mounted systems are easily installed either side of an MRI doorway (with solutions for both inward and outward opening doors), or in the corridor leading to an MRI room.

180° rotating optical sensors ensure proper pole alignment in difficult or challenging locations where space may be a premium.

FerroGuard® is intended as an ancillary screening device and is not to be used as a replacement for traditional safety and primary screening methods.

FerroGuard® benefits:

- ▶ real time monitoring of the local ferromagnetic environment
- ▶ advance visual warning of the presence of dangerous ferromagnetic objects
- ▶ reduces incidences of artefacts bringing cost/time savings
- ▶ patient screening is instant with no time impact on the patient process
- ▶ strengthens the patient screening process where there is an unclear clinical history, or screening processes are subject to issues of communication and interpretation
- ▶ provides a “fail safe” insurance where procedures are subject to errors or violations from within the work place
- ▶ will reduce the chance of patient or staff injury
- ▶ will reduce the likelihood of damage, to both the scanner and ancillary equipment used in the MRI environment
- ▶ can be used to test objects and equipment suspected of containing ferromagnetic material



FUNCTIONAL RELAX & VIEW® SYSTEM fMRI: MR6300/fMRI

Our latest Functional Relax & View® System (fMRI) interfaces with any PC or Laptop (not provided) with a digital (DVI-D) output ensuring a high quality image.

The use of *fibre optic* technology for the delivery of the signal to the shielded screen enclosure guarantees an artefact free scan.

The displayed image can be inverted and or reversed, so that regardless of the mirror system in use, the patient will always view the displayed image in the correct orientation.

**MOBILE STAND & HI-RES
USB TO DVI – D ADAPTER ARE
ALSO AVAILABLE**

The new 24" widescreen features LED backlit technology. It has a high resolution 1920 x 1080 screen, which give a bright, clear view of the displayed image with exceptional depth of colour.

**fMRI SYSTEMS HAVE BEEN
INSTALLED THROUGHOUT
THE UK, EUROPE, BRAZIL,
AUSTRALIA & KOREA**



The unit is normally mounted on the wall at the rear of the scanner which alleviates the problem associated with some projection systems, where a screen is placed between patient and MRI operative.

**fMRI IS CE MARKED &
COMPATIBLE WITH
SYSTEMS UP TO &
INCLUDING 3 TESLA**

As the system is permanently mounted there is no setup required when functional imaging is taking place ensuring efficient patient throughput.

**SPECIALIST INSTALLATION
SERVICE AVAILABLE
THROUGHOUT THE UK**

VISION CORRECTION MEDIGOGGLES: MR6002

These MR Safe vision correction goggles, enable patients with vision impairments to see clearly inside the magnet bore.

This can help to reduce the feeling of claustrophobia and allow the patient to clearly view a DVD through our Relax & View® Video System (see page 18), either for relaxation or as part of functional imaging (see above).

Each set consists of: one pair of goggle frames, 13 pairs of interchangeable lenses covering +6 to -6 diopters in full increments including 0 plus black out lenses.

Lenses are all individually marked indicating strength. An eye chart, lens cleaner and cloth are also included, supplied in a protective storage case.

RELAXATION

RELAX & VIEW® VIDEO RELAXATION SYSTEM: MR6300



Reduced stress levels lead to:

- ▶ a relaxed and therefore co-operative patient
- ▶ in many cases no need for sedation
- ▶ faster throughput of patients
- ▶ in children the relief of boredom, with all its associated problems

This unit is:

- ▶ CE marked
- ▶ MR Conditional up to and including 3 Tesla

Screen dimensions:

Width: 625mm
Height: 375mm
Depth: 66mm

Various studies have confirmed that our environment can greatly contribute to our well being and that a positive state of mind can greatly enhance a patient's speed of healing.

The Relax & View® Video Relaxation System is a unique product and helps to relieve the claustrophobia, stress and boredom often associated with having an MRI scan.

Designed and built in the UK, this system provides a complete audio / visual experience.

This helps to relieve the problems associated with the MR environment and to enhance the patient's feeling of well being. This also has a beneficial effect on staff.

**THE RELAX & VIEW® SYSTEM
IS EASILY INSTALLED IN
EXISTING MRI FACILITIES
WITHOUT THE NEED TO RAMP
DOWN THE MAGNET**

The use of advanced *fibre optic* technology for the delivery of the signal to the shielded screen enclosure ensures an artefact free scan under all conditions.

The displayed image can be inverted and or reversed, so that no matter the orientation of the patient in the scanner, or the mirror configuration, the patient will always view the displayed image in its correct orientation.

INSTALLED BY OUR SPECIALIST INSTALLATION ENGINEERS THROUGHOUT THE UK

The audio side can be either connected through the scanner's audio system (if fitted) or through our PureSound Audio System.

It is also possible to supply a monitor with suitable mounting bracket to go in the patient waiting area which allows those waiting to watch the same DVD as being shown in the scan room.

VIDEO STAND: MR 6003

This MR Safe stand has been designed specifically for our Relax & View® Video System to be mounted to it. It offers a stable and secure, semi movable support for the mounting of the screen unit, where it is either not practical or possible to mount on the wall.



MIRROR DEVICE: MR6001



A universal freestanding mirror assembly, designed for use when a head coil is not being used.

The assembly is placed on the scanner bed in place of the head coil and a pillow is put over the base plate.

The mirror can then be adjusted to look either back over the head or down past the feet.

The large mirror (120mm x 75mm) gives a wide area of vision. This product is MR Safe and suitable for use in all scanners.

RELAXATION

PURESOUND AUDIO RELAXATION SYSTEM: MR108NRR

The provision of music during an MRI examination is acknowledged as a most useful relaxation aid for the sometimes apprehensive patient.

This system provides high quality stereo signal into the examination room without interfering with the scanner.

The system is designed to operate from a stereo signal received from the line or headset output of a standard CD player, i-Pod dock or radio tuner.

The amplifier and control unit has four phono inputs at the rear which are made active when the corresponding input switch is selected.

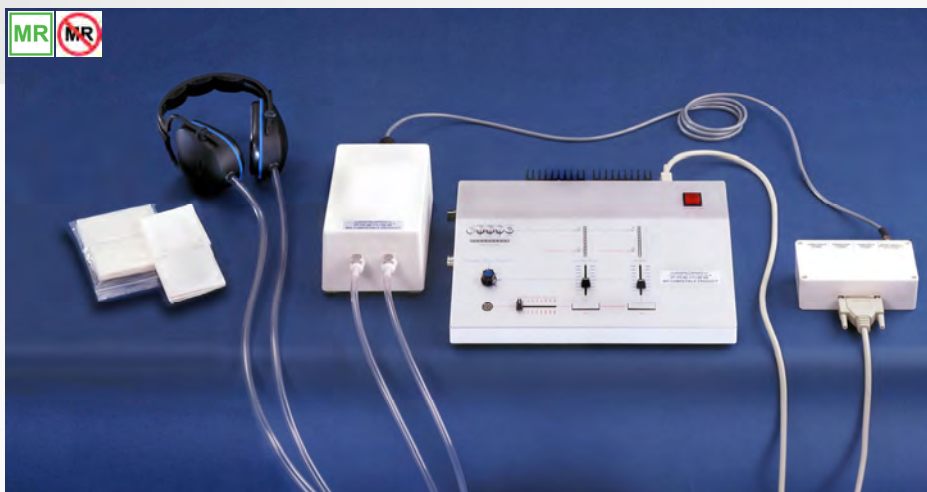
ALL PARTS INTENDED TO BE
IN THE SCAN ROOM
(HEADSETS, ACOUSTIC
CONVERTER & CABLES) ARE
MR SAFE

ALL OTHER ITEMS (CONTROL
UNIT, MICROPHONE, CD
PLAYER & TERMINATION
BOXES) ARE MR UNSAFE

A multi way socket links to a termination block which is located outside the examination room.

One cable carrying all signal and supply connections is fed into the examination room via four appropriate electrical filters and connected to the stereo acoustic converter. The airline from this is coupled to either a noise excluding headset or to a lightweight headset (both are included).

The termination box also allows connection to speakers in the examination room, waiting room or control area.



The standard system comprises of:

- ▶ amplifier/control unit with on/off mains switch and warning light
- ▶ termination box
- ▶ all relevant plugs, screened cables etc.
- ▶ microphone volume control and separate controls to headset and speakers
- ▶ control room volume adjustment
- ▶ integrated microphone plus separate external microphone allowing contact with examination/waiting room
- ▶ stereo acoustic converter
- ▶ in ear earphones with 50 sets of replaceable ear tips and headset with 100 sets of hygienic covers
- ▶ music on/off switch allowing selection of music before reproduction in other areas
- ▶ all serviceable parts sit outside the scan room

We are also able to supply CD players and i-Pod docks. These will be branded products covered by the manufacturer's guarantee.

SPECIALIST INSTALLATION
SERVICE AVAILABLE
THROUGHOUT THE UK

NOISE REDUCING HEADPHONES: MR125 & MR126

In recent years the new generation of head coils have reduced in size to improve image quality.

Many existing headphone sets are unable to fit into them.

With our two new headsets **MR125** and **MR126** we have not only been able to improve on noise reduction from external sources, but in the case of the **MR126** to be able to fit in all headcoils.



MR125

Primarily designed to go with our **MR108NRR** PureSound Audio System.

However, they can be adapted to connect to other manufacturers systems.

RELAXATION

NEW! LED RELAX & VIEW® IMAGE COLLECTION



Designed to flood light into windowless rooms the Relax & View® Image Collection is ideal for use in Therapy Treatment Rooms, X-ray Departments, MRI Suites and Patient Waiting Areas.

The transparent images provide a pleasant distraction for patients, reducing the effects of claustrophobia, patient stress and restlessness.

Our new LED panels have been developed from technology using 8mm LED sheet which is an acrylic lit panel containing LED's as its light source.

This new technology ensures that the light is evenly reflected throughout the entire panel.

When making an enquiry, please advise if location is an MR environment to ensure correct RF filters are included.

Features include:

- ▶ wall mounted in portrait form up to a total of four units
- ▶ single units are wall mounted in a landscape form to display scenic images
- ▶ ceiling mounted units create a feeling of openness and freedom
- ▶ LED panels only 8mm in depth (overall depth 40mm)
- ▶ long life of over 70,000 hours
- ▶ consumes 70% less power than a T5 fluorescent lamp
- ▶ environmentally friendly, containing no harmful mercury or other heavy metals



ALL RELAX & VIEW® UNITS ARE
MR CONDITIONAL TO 3 TESLA

OVER 100 IMAGES ARE
AVAILABLE

SPECIALIST INSTALLATION
SERVICE AVAILABLE
THROUGHOUT THE UK

Additional Transparencies

Additional transparencies for ceiling panels can be supplied.

RELAXATION

NEW! LED RELAX & VIEW® IMAGE COLLECTION

Wall Mounted Units

Portrait in multiple units. Landscape in single units.

Two standard panel sizes:

Medium Units:

One unit	1152mm x 778mm
Two units	1152mm x 1556mm
Three units	1152mm x 2334mm
Four units	1152mm x 3112mm

Large Units:

One unit	1532mm x 778mm
Two units	1532mm x 1556mm
Three units	1532mm x 2334mm
Four units	1532mm x 3112mm

Ceiling Mounted Units

Relax & View® ceiling mounted units are suitable for suspended ceilings with drop in ceiling tiles.

Overall size 595mm x 595mm, with side frame to fit within the framework of a standard suspended ceiling. Layout options comprising of single unit, two way, three way, four way, six way, nine way, twelve way and sixteen way are available.

If ordering multiple units, please send details of your proposed ceiling layout to enable our studio to produce the most suitable overall effect. Prices include images from our current collection.

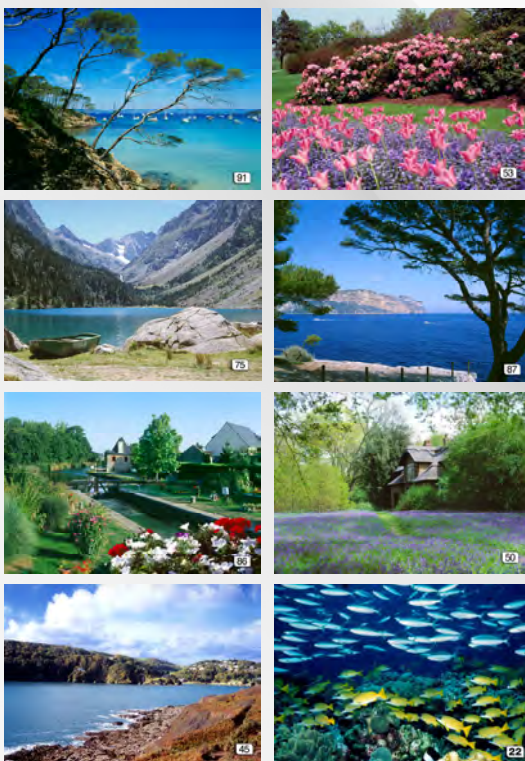
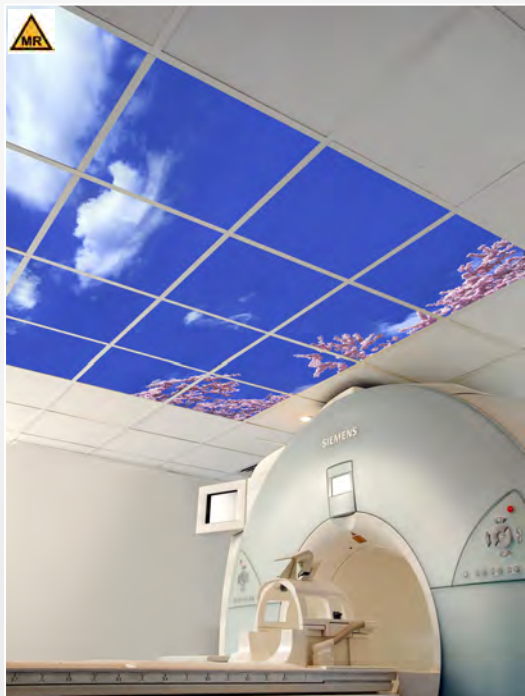
ALTHOUGH SUITABLE FOR MR
SUITES, RELAX & VIEW®
IMAGES CAN BE USED IN ANY
AREA THAT COULD BENEFIT
FROM EXTRA LIGHT & A
FEELING OF SPACE



Installation of Relax & View® in a CT scanning suite

RELAXATION

LED RELAX & VIEW® IMAGE COLLECTION: TECHNICAL INFORMATION



**SPECIALIST INSTALLATION
SERVICE AVAILABLE
THROUGHOUT THE UK**

New Slim line LED Relax and View® Panels have been developed from a new technology using an 8mm LED sheet which is a unified acrylic lit panel containing LED's as its light source. This creates a slim illuminated plate.

3D V-Cutting technology ensures that the light is evenly reflected throughout the sheet, in essence a clear acrylic panel is etched to create a uniformed chequered effect, this then acts as a vehicle to carry an even light across the whole surface of each panel.

The photo images are placed on to the LED panel, a Non Reflective Perspex sheet is then placed over the image and held in place by an aluminium frame assembly.

Wall units are fitted to the wall using slim hanging brackets. Ceiling images are held between LED panel and Non Reflective Perspex sheet secured by a side fixing frame.



Features

- ▶ slim line: 40mm depth
- ▶ long life: over 70,000 hours
- ▶ low power consumption: consuming 70% less power than a T5 fluorescent lamp
- ▶ environmentally friendly: containing no harmful mercury or other heavy metals



Electrical Specification

Panels are linked together inside a junction box powered by mains and switched spur.

If the units are being installed inside an MRI suite, power is filtered using 16 amp RF filters (supplied).

Powered by: 12 volt.dc / 12.5amp
AC adapter

Input: 90 – 240V – 2A,
50 – 60 Hz

RELAXATION

NEW! STARLIGHT CEILING SYSTEM: MR6109

Wardray have introduced a new starlight ceiling system.

The system consists of 180 tiny fibre optic lights that twinkle, change colour and are a pleasant distraction within a scanning environment. Both white and colour changing lights are supplied.

The lights can also be used in other imaging facilities or patient waiting areas.

**SPECIALIST INSTALLATION
SERVICE AVAILABLE
THROUGHOUT THE UK**



ACCESSORIES

EXAMINATION LAMPS

This range of lamps represents state of the art technology, bringing the performance of surgical lighting into the MRI suite.

PF SERIES MRI EXAM LAMP: MR28016

This unique examination lamp is made of durable material and is designed for use in any MR facility.

The adjustable jointed arm ensures easy positioning.

The five star castor base is weighted for stability and has easy glide wheels for great manoeuvrability.

- ▶ Power supply: 230-240V 50Hz
- ▶ Light intensity: 43,000 Lux
- ▶ Light source: 1 x 50W dichroic halogen lamp
- ▶ Weight: 18Kg
- ▶ Colour: white
- ▶ Colour temp: 4,000K



MR28016

CELESTIAL STAR LAMP

This unit has excellent flexibility and reach combined with high performance. This space saving design limits the obstruction of the work area around the scanner.

Celestial star lamps are available as:

- MR2050C:** single ceiling (one unit with 3 lamps)
- MR2050D:** dual ceiling (two of the 3 lamp units)
- MR2050M:** mobile unit (with 3 lamps)

- ▶ Power supply: 230-240V 50Hz
- ▶ Light intensity: 64,500 Lux
- ▶ Light source: 3 x 35W dichroic halogen lamps
- ▶ Weight: single ceiling unit: 24Kg
mobile unit: 25Kg
- ▶ Colour: white
- ▶ Colour temp: 4,100K

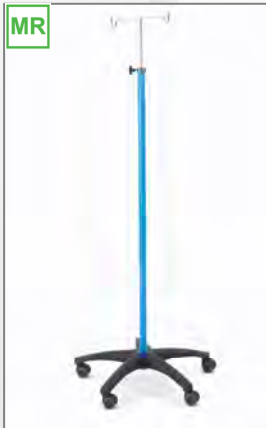


MR2050C

ACCESSORIES

The Wardray Premise range of general accessories are sturdily constructed and made from powder coated aluminium and stainless steel.

IV STAND ON A 5 STAR BASE: MR2500



This IV Stand sits on a five star base with 52mm castors and an adjustable twin hook.

Dimensions:

Low Height: 1412mm
High Height: 2512mm
Diameter: 640mm

SINGLE STEP STOOL: MR2504



The step stool top is manufactured from aluminium checker plate and finished in blue powder coating. Maximum weight 448lbs (203kg).

Dimensions:

Height: 175mm
Width: 600mm
Depth: 450mm

DOUBLE STEP STOOLS: MR2505 & MR2506



The step stool tops are manufactured from aluminium checker plate and finished in blue powder coating with an optional handrail. Maximum weight 448lbs (203kg).

Dimensions:

Height: 352mm
Width: 600mm
Depth: 550mm

MR2505: with handrail
MR2506: without handrail

Height with handrail:
1205mm

INSTRUMENT TROLLEY: MR2501 & MR2502



Available with a drawer (pictured left) or without.

Constructed in aluminium with four braked 76mm castors, two shelves and an optional drawer. The aluminium top / shelves are 2mm thick, finished in grey powder coating.

Dimensions:

Height: 935mm
Width: 450mm
Depth: 450mm

WASTE BOWL: MR2507



A stainless steel bowl sitting on an aluminium ring with three 52mm twin wheel castors.

Dimensions:

Height: 195mm
Diameter: 343mm

LINEN STAND: MR2508



Fitted with four 76mm castors. (Sack not included).

Dimensions:

Height: 750mm
Width: 450mm
Depth: 450mm

ACCESSORIES

SURGEONS STOOLS: MR4502, MR4503 & MR4504

This aluminium construction is height adjustable from 460mm to 600mm by rotating the seat.

The Surgeons Stool sits on a five star glass reinforced plastic base, fitted with five twin wheel 52mm castors and is available in three formats. These include armrests and back rest, back rest only, seat only.

Seat size 325mm in diameter.

Seat and back rest offered in either black or grey wipe clean material. All seams are welded to assist with infection control procedures.

MR4502: with armrests & backrest

MR4503: with backrest

MR4504: seat only



MR4502



MR4503

MR4504

WHEELED MR WASTE BIN: MR3005

Providing hands free operation to assist with infection control procedures, silent closing with a wipe clean grab bag and 65 litre capacity.

This product is fire retardant.

Dimensions:

Height: 785mm

Width: 400mm

Depth: 380mm



PRISMATIC SPECTACLES: MR104

Prismatic spectacles allow the patient to see outside the magnet bore.

Designed to give the illusion that the patient is in a less confined space.



Suitable for use up to 1.5 Tesla

UTILITY TROLLEY (with shelves): MR2521/3

Manufactured from aluminium and fitted with four 52mm swivel castors, two of which are braked. The shelves are manufactured in 2mm aluminium and finished in blue powder coating.

Standard units are available with the following dimensions and 3 shelves.

Dimensions:

Height: 1000mm

Width: 450mm

Depth: 450mm



UTILITY TROLLEY (with drawers): MR2520

Manufactured from aluminium with plastic drawers and a 2mm aluminium top. Trolleys are fitted with four 52mm swivel castors, two of which are braked.

Standard units are available with the following dimensions and 6 drawers:

Dimensions:

Height: 750mm

Width: 450mm

Depth: 450mm

Drawer depth: 75mm



Bespoke utility trolleys can be manufactured to any height with the option of drawer depths (75mm, 150mm, 225mm and 300mm) and shelves in any combination to suit customer requirements.

OVERCOUCH INSTRUMENT TROLLEY: MR2503

This trolley sits on four twin wheel 76mm castors with an adjustable satin finish aluminium tray.

Dimensions:

Adjustable in height from:
922mm to 1372mm

Removable tray:
370mm x 500mm



ACCESSORIES

MEDIMATTRESS

Wardray Premise are pleased to announce the addition of the MediMattress scanner mattress for the comfort and care of patients undergoing an MRI scan. These memory foam mattresses are available for GE, Siemens and Philips scanners.

This ergonomically designed system brings a new generation of comfort to diagnostic environments.

MR



Benefits for the Hospital:

- ▶ anti-static material
- ▶ reduces number of abandoned scans
- ▶ enhances the overall patient experience
- ▶ made from highest grade reflex foam to retain shape and support
- ▶ outer covering made from the highest quality vinyl for rigorous daily cleaning required for infection control procedures

Benefits for Patients:

- ▶ patients are able to remain still, improving image quality
- ▶ patients able to remain in comfort even with chronic or acute painful medical conditions
- ▶ reduces incidence of skin pressure injury in vulnerable patient groups
- ▶ reduction in the number of sedation scans as patient remains in a more comfortable position

PHILIPS MATTRESS:	MR5600P	1500mm x 470mm
GE MATTRESS:	MR5600G	1500mm x 390mm
SIEMENS MATTRESS:	MR5600S	1200mm x 490mm

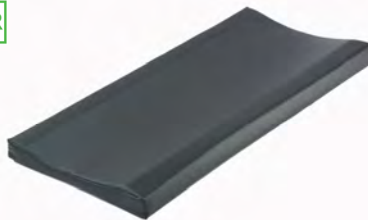
MEDIMATTRESS SPINAL

MediMattress Spinal's unique curved shape maintains a small distance of spine from RF receiver for optimal image quality, whilst also providing critical side support for the patient.

Suitable for use with all manufacturers' scanners.

Thickness varies between 20mm and 60mm.

MR



MR5600SP	1200mm x 500mm
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PURCHASE MEDIMATTRESS & MEDIMATTRESS SPINAL TOGETHER AT A REDUCED PRICE

**ALL MATTRESSES ARE
FLAME RETARDANT & HAVE
WELDED SEAMS TO AID
INFECTION CONTROL**

ALSO AVAILABLE:

**MR5800: STANDARD
REPLACEMENT
TROLLEY MATTRESS**

**MR5850: MEMORY FOAM
MATTRESS**

**MR5900: PRESSURE RELIEF
MATTRESS**

**PLEASE CONTACT OUR SALES
OFFICE FOR FURTHER
INFORMATION**

DRUG CABINET: MR2530

The MR Conditional Drug Cabinet is constructed in aluminium and has four lockable drawers. It is mobilised on four 75mm twin wheel braking castors with 125mm buffers.

Drawers can have locks fitted either one key fits all or separate keys.

This cabinet is powder coated and can be finished in any RAL Colour.

Cabinet dimensions:

Height:	900mm
Width:	760mm
Depth:	450mm

Drawer dimensions:

1 drawer	Depth: 75mm
3 drawers	Depth: 200mm



ACCESSORIES

LABELS: MRLAB30

To conform with (ASTM) standards for MRI marking, we now supply a new set of labels to correctly mark your existing magnetic and non-magnetic supplies and equipment.

Semi-permanent adhesive, split back for easy removal. All packs contain the following combination of **MR SAFE**, **MR CONDITIONAL** and **MR UNSAFE** labels:

Set includes small and medium labels as follows:

Small Labels (37mm x 37mm)

8 **MR SAFE**
8 **MR CONDITIONAL**
8 **MR UNSAFE**

Medium Labels (87.5mm x 87.5mm)

2 **MR SAFE**
2 **MR CONDITIONAL**
2 **MR UNSAFE**

Please see the (ASTM) terminology section (below) for definitions.



ASTM guidelines

MR / MRI

Magnetic Resonance Imaging is abbreviated to "MRI" or "MR". The terms are interchangeable.

MR Safe



As defined by the **ASTM International** (American Society for Testing and Materials) document, **MR SAFE** is applied to an item that poses no known hazards in all MR environments. **MR SAFE** items would include non-conducting, non-magnetic items such as a plastic Petri dish. The document further states that an item may be determined to be **MR SAFE** by providing a scientifically based rationale, rather than test data. Unlike the previous FDA's description of **MR SAFE**, the new **MR SAFE** may only be applied if the item is 100% safe, without exception, regardless of field strength or any environmental or extenuating circumstances.

The universal icon to be used for all **MR SAFE** products is a green square with white capital letters "MR", or, a white square with green border and green capital letters "MR". Items marked with the green **MR SAFE** icon may be taken into, used, or placed anywhere within any MR environment without risk or potential harm.

MR Conditional



This is defined by the **ASTM International** as an item that has been demonstrated to pose no known hazards in a specified MR environment with specified conditions of use. Conditions that may be used to define the specified MR environment include field strength, spatial gradient, RF fields, specific absorption rate (SAR) as well as the potential for additional conditions such as operational conditions for a device.

The **MR CONDITIONAL** label is used to alert the user that there are certain limitations to the usability of the item, or the testing that was performed. As an example, an item may have been tested for a 1.5 tesla system, but not a 3 tesla. Items bearing the **MR CONDITIONAL** icon should include additional information on the label, as to what the conditionality of use is, such as a gauss line restriction or SAR level limitation. The icon designated for **MR CONDITIONAL** marking is a yellow equilateral triangle with a black border and black capital letters "MR" inside.

MR Unsafe

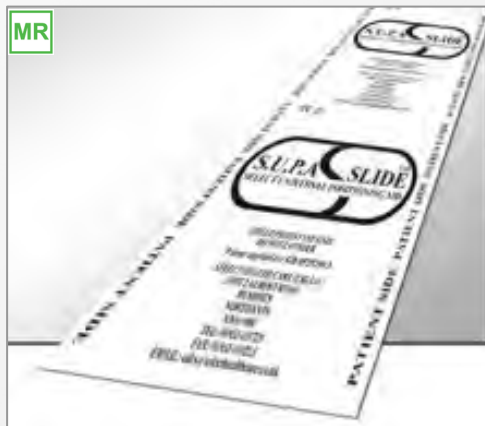


As defined by the **ASTM International** this is any item that is a known threat or poses a hazard in all MR environments. An example of an **MR UNSAFE** item would be a pair of ferromagnetic scissors, or any other item constructed of ferrous metals.

The **MR UNSAFE** icon consists of a white circle with red border and diagonal strike through and the black capital letters "MR" inside.

ACCESSORIES

S.U.P.A SLIDE SHEETS: MR5700



Dimensions:
Standard: 2000mm x 750mm
Wide: 2000mm x 1000mm

Over the last 10 years, slide sheets have become invaluable for repositioning a patient in bed without the need to lift. This significantly reduces the risk of back injuries in staff carrying out patient handling tasks.

With the increasing incidence of MRSA, CDIF, and emphasis on infection control, the S.U.P.A SLIDE is designed for multi-use with the same patient and to be disposed of when soiled or no longer required by that patient.

The S.U.P.A SLIDE is supplied on a roll of a hundred sheets in a box that acts as a dispenser. They are ready to use in pairs, one on top of the other, or singly by simply folding in half to form a tube.

Benefits include:

- ▶ extreme low friction surface gives high performance slide
- ▶ meets requirements of manual handling and health & safety at work regulations
- ▶ promotes infection control

TITANIUM SURGICAL INSTRUMENTS: MR050



We are able to offer a wide range of high quality Titanium Surgical Instruments. These include scalpels, forceps and scissors.

For further information, please contact our sales office.

FOR THE SAFETY OF
PATIENTS & STAFF, ALL
PRODUCTS ARE CLEARLY
LABELLED IN ACCORDANCE
WITH ASTM STANDARDS

TITANIUM HAND TOOLS: MR060



We are able to offer a wide range of high quality Titanium Hand Tools with a lifetime guarantee against manufacturing defects. They are 100% non magnetic, are 45% lighter than steel and are both rustproof and non sparking.

The range includes but is not limited to, pliers, allen keys, open ended, combination and ring spanners, as well as screwdrivers, socket spanners and ratchet handles. The selection is too large to list all items individually, so please contact us with your exact requirements for a quotation.

DISPOSABLE SURGICAL INSTRUMENTS: MR070

We are able to offer a range of disposable surgical instruments for use in MRI suites. These include plastic tube clamps, plastic utility forceps, plastic dress forceps, plastic sponge forceps, plastic towel clamps as well as both straight and curved plastic haemostat forceps.

All of these are available in both sterile and non sterile versions, and in packs of 10 or packs of 100.

We also supply non magnetic single use disposable scalpels.

SERVICING AND SUPPORT

TECHNICAL EXPERTISE

Based on a principal of outstanding customer care, Wardray Premise Engineers have gained an excellent reputation for efficiency and technical expertise. Our team of engineers cover the whole of the United Kingdom. Overseen by our Service Manager, they collectively have more than 100 years of experience in medical imaging and have gained an exemplary reputation throughout the industry.

Their wide range of complimentary disciplines includes Digital, Electro-Mechanical and Electronic systems. All of our Engineers are qualified Electricians to IEE Wiring Regulations 17th Edition and are fully conversant with MEIGaN requirements. Their knowledge of hospital-based medical equipment includes a large number of MR products.

Wardray Premise has gained a reputation for the fastest response times within the industry, with all calls responded to as a matter of urgency.



Our Engineers can be contacted directly by the customer via mobile phones and pagers. They are supported by an office-based co-ordinator to ensure good communication links with all our customers.

Equipment Servicing

Wardray Premise are able to offer service contracts on many essential items of medical equipment. Multi product service contracts are also available to save on cost and downtime.

We would also be pleased to quote for any other equipment within your department that requires servicing. The range of products that we install and service currently includes:

X-Ray Processing Equipment

Founded in 1983 our service division was established as an agent for Fuji UK to install, commission and service their full range of processing equipment. This was initially set up to cover the south east of England but has since expanded to encompass Fuji customers across England and Wales.

RF Testing

For over 15 years Wardray Premise has been involved in RF attenuation testing. Initially this was carried out on our manufactured Faraday cages. Over the years this service has expanded to encompass testing of other manufacturers' enclosures for confirmation of performance or as a diagnostic tool where problems have been found.

The actual test performed varies according to the manufacturer's requirements. However, all tests are carried out in accordance with the recognised **MIL-STD-285** using the latest state of the art test equipment.

If you have an artefact problem on your scanner, we are able to carry out an independent test and report on our findings.

Roller Viewers

We also service Breis and Radx motorised mammography film viewers.

Mammography

Our team of engineers have worked within the UK **National Health Service Breast Screening Programme (NHSBSP)** for 25 years, developing our skills as processing systems, chemistry and film screen technologies have evolved. We carry a full range of sensitometric equipment to complement all of our customers' QA requirements.

MR Products

MR equipment should always be serviced by qualified personnel in order to protect the warranty and ensure ongoing MR safety. Our experienced engineers are available to install and service the following products:

- ▶ **MRI patient monitors or monitoring equipment**
- ▶ **MR fixed / adjustable height trolleys**
- ▶ **MR music / video systems**
- ▶ **LED relax & view lightboxes**
- ▶ **Patient CCTV**

Other Equipment

We also provide installation and maintenance services for other electrical and electro-mechanical products. Such as:

- ▶ **X-ray viewers**
- ▶ **Power operated doors**
- ▶ **RF doors**

Third Party Product Support

Our Engineering team are also able to provide support for third-party products which you may wish to introduce into the UK market, providing pre- and post-sales support, customer demonstrations, training, servicing and repairs.

Your enquiries are invited. Please contact our sales office for further information.

BESPOKE ENGINEERING

MR



Monitor Stand

Our factory in Mytholmroyd, near Halifax was initially set up to sustain the continuing demand for new MR safe products and bespoke MR equipment.

However, we have been approached by suppliers of non MR products for bespoke equipment and are now regularly engineering items across a wide range of disciplines.

Our team of design and production managers have over 40 years experience in the medical equipment market. Through continuous dialogue with the customer we ensure all specified requirements are met in the early stages of the design process in order to keep costly, late alterations to a minimum.

Strict documented procedures during our final assembly ensure that we produce a high quality, thoroughly inspected and tested product. With a purpose built hydraulic test facility being incorporated into the testing of all elevating height equipment, we guarantee that customers receive 1st class results.

Please contact:

northernbranch@wardray-premise.com for any bespoke engineering enquiries.

STRICT DOCUMENTED
PROCEDURES DURING OUR
FINAL ASSEMBLY ENSURE THAT
WE PRODUCE A HIGH QUALITY,
THOROUGHLY INSPECTED &
TESTED PRODUCT

MR



Pneumatic Pump Stand

Encompassing the use of a high spec computer design package and modern fabrication and machining equipment, we are able to produce top quality products from 'one off' specials right through to large batch quantities.

OUR DESIGN AND PRODUCTION
MANAGERS HAVE OVER 40 YEARS
EXPERIENCE IN THE MEDICAL
EQUIPMENT MARKET

Our highly skilled CNC operatives have extensive knowledge of both vertical machining centres and high production lathes. This, coupled with rigorous checking procedures and regular calibration, combine to give accurate, fast and cost effective components.

Using the latest inverter welding technology our skilled craftsmen are able to produce high quality fabrications in most metallic materials. With a range of equipment able to cut, bend, fold, roll and join we can produce most fabrications without the need to outsource.

We detail some of the products developed in recent months for our clients:

MONITOR STAND

The stand was designed to hold a vital signs monitor manufactured by a leading equipment manufacturer.

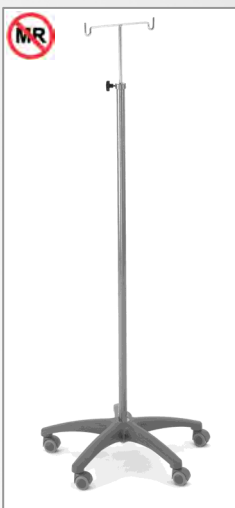
After detailed consultations the stand was constructed from aluminium, has 2 drawers and rails on either side to hang loose cables. The stand is protected by 2 impact rails around the polyethylene top.

PNEUMATIC PUMP STAND

We were approached by another major equipment manufacturer to design a stand to hold a pneumatic pump for use when the patient is in theatre.

I V STAND (NON MR)

A new addition to our range, this IV stand is manufactured with a chrome plated base and stainless steel pole. This product complies with infection control procedures.



BESPOKE ENGINEERING

COIL TRANSPORT TROLLEY

Another example of an enquiry received from one of our customers.

This Coil Transport Trolley was commissioned by a Hospital and is fully MR Safe. It has lockable rolling castors and can safely transport coils to and from an MRI suite.



PLEASE CONTACT:

northernbranch@wardray-premise.com

FOR ALL BESPOKE ENGINEERING
ENQUIRIES

OUR WARDRAY NORTH
FACILITY IS CURRENTLY
WORKING TO ISO13485
STANDARDS

PATIENT TROLLEYS

Wardray Premise has been a leading supplier of MR patient trolleys for 12 years. Recently we have expanded our range to include non MR Patient Trolleys.

Due to a specific customer enquiry, the XRT3000 Multi Imaging Table (bottom right) was specifically designed to bridge the gap between conventional and digital imaging.

Bespoke trolleys are manufactured to suit individual customer requirements and can be painted in any RAL colour.



FROM INITIAL DESIGN THROUGH
TO MANUFACTURE & FINAL
TESTING OUR IN-HOUSE DESIGN
TEAM HAVE AMASSED DECADES OF
EXPERIENCE WITHIN THE
DEVELOPMENT OF PRODUCTS
SPECIFIC TO THE MEDICAL
INDUSTRY

OTHER PRODUCTS & SERVICES

STRUCTURAL SHIELDING



Wardray Premise Limited has over 100 years trading experience, the last 75 specialising in radiation shielding and imaging accessories. Whilst the vast majority of the products are manufactured at our UK sites, others are sourced from specialist suppliers chosen for their manufacturing quality and control.

Full details of all products and services can be found on our website:

www.wardray-premise.com

Alongside RF Shielding (see pages 4 & 5), Wardray Premise specialises in the following:

- **Shielding for x-ray, nuclear medicine & radiotherapy facilities**

incorporating, hinged & sliding lead lined doorsets (including hinged, glazed 1 hour fire rated and power operated), x-ray protective observation windows, static & mobile screens, overhead suspension shields & protective curtain systems

- **Radiation shielding materials**

sheet lead, lead bricks, lead glass, lead PVC, aluminium, premac® lead acrylic, premadex® neutron shielding

- **Neutron shielding**

- **Shielding for non destructive testing (NDT)**

x-ray & gamma shielded rooms, power operated lead lined doors, inspection cabinets, source storage cabinets



OTHER PRODUCTS & SERVICES

PERSONNEL PROTECTION, X-RAY VIEWERS, STORAGE, FILING & OTHER ACCESSORIES

We offer a wide selection of imaging accessories including:

► X-ray protective clothing

classic double sided aprons, classic top & kilt, classic half-back aprons & personalised labelling service

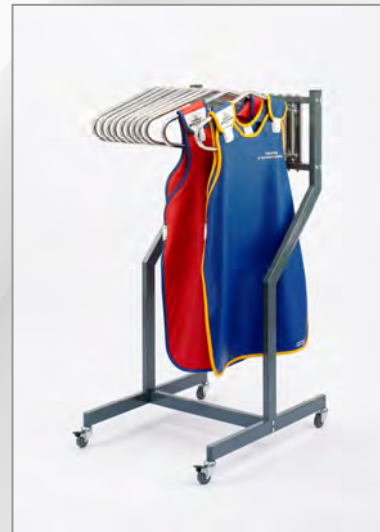
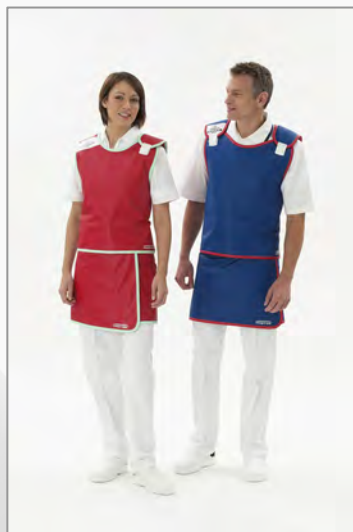


► X-ray protective accessories

ovaries shields, ultraflex® lower back shields, thyroid collars, x-ray protective eyewear, storage units for aprons, gloves & lower back shields

► X-ray protection for personnel

fixed screens, mobile screens, workstations, suspended shielding, fixed track & rotating curtain systems, adjustable mobile & over-table shields



► Imaging accessories

viewers, desktop processors, Fuji Hunt chemistry, warning lights & signs, labels & wallets for filing, trolleys, cupboards & wall racks for catheter storage

Full details are available on our website:

www.wardray-premise.com



GLOSSARY

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WARDRAY PREMISE

The family business of Wardray Premise Ltd has over 100 years of trading experience. For the last 75 years it has been involved in the design and manufacture of radiation shielding and related imaging products which are distributed throughout the UK and across the World.

2007 saw the opening of a new factory and office premises in Mytholmroyd, near Halifax. The Wardray North facility is responsible for manufacture of our MR products and undertaking bespoke engineering projects. It provides a useful base for the expansion of all our business activities.

SUSTAINABILITY POLICY

With the growing concern for the protection of the environment and depletion of the rainforests, Wardray Premise strives to promote the use of sustainable timber and timber-based products from well-managed forests. We offer a wide range of products under our Chain of Custody system (CoC); this allows traceability of timbers supplied under certified schemes.

We have achieved certification under BM Trada for FSC (Forest Stewardship Council), which is the most widely recognised (global) scheme, and also under PEFC (Programme for the Endorsement of Forest Certification schemes). We meet these by implementing and maintaining the following Chain of Custody standards:

- FSC: FSC-STD-40-004
- PEFC: Annex 4



Please ensure that our estimating department are advised of any timber procurement requirements. This will ensure that our quotations reflect customer specifications. Products supplied under our CoC are subject to special order and availability of timber and timber products.

ENVIRONMENTAL STATEMENT

We operate a programme of continual improvement in our environmental performance.

We are committed to environmental issues and will ensure that our company complies with relevant legislation. It is company policy to ensure that the business has the least harmful effect on the environment. The company strives to 'follow' the systems as stipulated in ISO14001.

Wardray Premise Limited are accredited and certificated by The Forestry Commission and committed to minimising, re-using and recycling waste where possible.

Employee involvement in all environmental matters is encouraged. We have a commitment to disseminate information regarding our Environmental Policy Statement to all staff.

QUALITY POLICY

The Company's philosophy is **Quality without Compromise**. We are committed to supplying products and services which consistently meet the needs of the customer in terms of quality, safety, cost and service. The company aims to be effective and consistent in providing the right quality of product and / or service and to do so efficiently and economically. This philosophy runs through the entire organisation from product design and manufacturing to sales and customer care.

Quality affects everything we do, from the first contact with potential customers to the dispatch and final installation of the finished product.

We aim to provide goods which do not come back to customers who do.

You can be assured that all our products comply with the relevant safety and legal standards. We have the following accreditations:

- ▶ ISO 9001:2008, together with formal certification under Personnel Protective Equipment Directive 89/686/EEC Article 11B, EC Type examination covering our X-ray Protective Clothing. SGS UK Ltd is the notified body
- ▶ Contractors Health & Safety Assessment Scheme (CHAS)
- ▶ SafeContractor

In order to provide quality products consistent with customer expectations we reserve the right to change specifications of our products without previous notification.

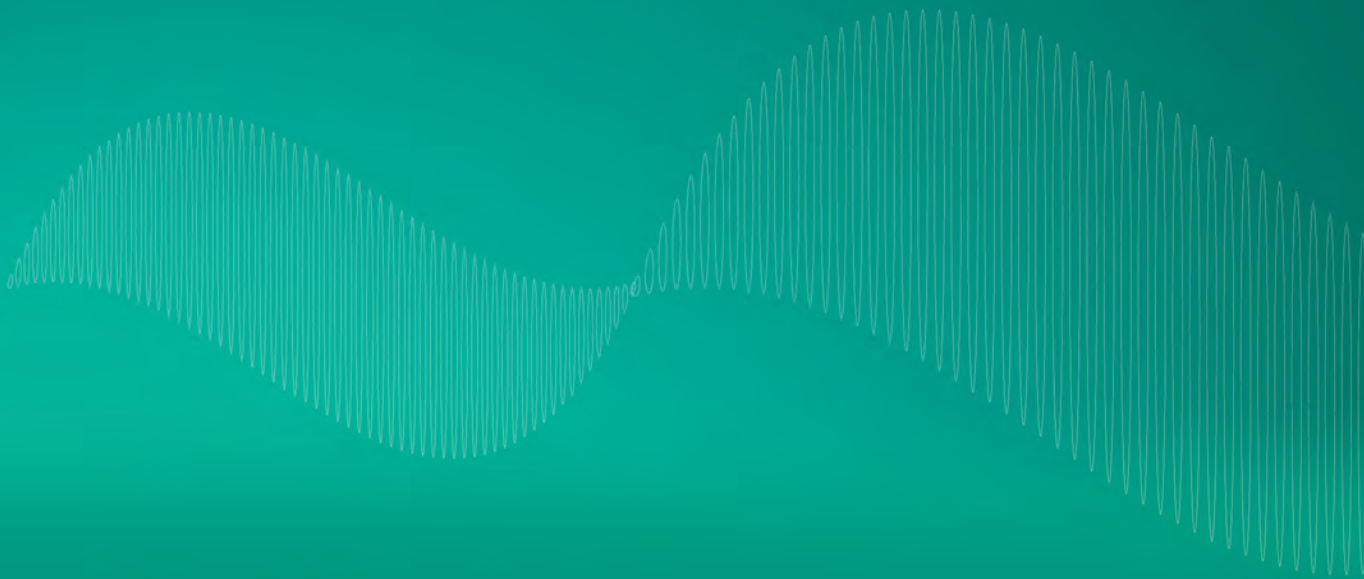
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COMPREHENSIVE INFORMATION AND FULL TERMS & CONDITIONS ARE AVAILABLE ON OUR WEBSITE:

www.wardray-premise.com

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Quality without Compromise

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