



Anniversary Catalogue 2021/2022
X-Ray Protective Clothing & Accessories
in the Field of Medical Radiation



SAFETY SINCE 1921

MADE IN GERMANY

Index

Tradition and Innovation – 100 Years of MAVIG	04–05
Norms and Standards, Size Overview	06–07

Radiation Protection – Inlay Material	08–09
ComforTex® – Outer Material and Colours	10–11
Comfort Line and Premium Line	12–13

X-Ray Protection for Healthcare Staff 14–39

All-round Protection Models (RA631 and RA632)	14–17
Frontal Protection Models (RA660, RA650, RA641 and RA640)	18–25
Accessory Clothing: BRYGGA, Bolero, Sleeves	26–29
Embroidery, Pocket	30–31
Accessories for X-Ray Protection: Sternum Protection, Head Protection, Gloves, Eye Protection	32–39
Radiation-proof Gloves	40–41

X-Ray Protection for the Patient 42–51

Dental X-Ray Protection	52–54
Thyroid and Sternum Protection for Patients	55

Storage for X-Ray Protective Clothing	56–59
Lead Rubber Rolls and Anti-scatter Grids	60–61

Dimension Sheet for X-Ray Protective Clothing	63
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DISTRIBUTION
WORLDWIDE



MAVIG looks back on a long history.

100 years of quality, service and innovation, through three family generations that upheld these principles and led motivated employees who subscribed to our vision of: right through to the present and into the future. In Germany. In Europe. Worldwide.

We all strive not just to satisfy our customers and partners, but to inspire them. With outstanding service, technical innovations and ongoing developments.

With craftsmanship, know-how, state-of-the-art technology and above all – with enthusiasm.

In this spirit, here's to the next 100 years!



For over **100 years**, MAVIG has specialised in personal protection at workplaces where people are exposed to risk.



1921



1960



1972



1985



What began in Leipzig in 1921 with the production of protective products for X-ray and welding has now become an internationally successful company with an excellent reputation in the field of radiation protection and medical support systems for hospitals and medical practices.

Production grew steadily in the decades that followed the founding of the company. Protective products for X-ray and welding were successfully marketed all over the world under the MAVIG® trademark. In the post-war years, the company's headquarters and production facilities were relocated to Munich.

The family-run company "MAVIG" has always maintained the principles of a modern company:

"The customer and customer satisfaction are the top priority".

MAVIG is 100% independent and owner-managed.

Quality management

MAVIG products are designed, manufactured and distributed in strict observance of all laws, regulations and standards.

Every product is tested for its safety and reliability, in some cases applying higher and stricter requirements than are prescribed by law.

Certifications

The intended use of our products requires the maximum reliability and quality.

To ensure the highest level of quality, MAVIG applies a consistent quality management system in accordance with

DIN EN ISO 13485:2016

for medical devices. Our top priority is to provide our customers with high-quality products that are free from defects and delivered on time.

MAVIG is certified in accordance with DIN EN ISO 13485:2016. The majority of MAVIG products are CE certified: Regulation (EU) 2016/425 for personal protective equipment and (EU) 2017/745 for medical devices. In addition, we have numerous international certificates.



DIN EN 61331-1:2016

DIN EN 61331-1: 2016 (IEC 61331-1: 2014) describes the correct determination of the shielding properties of materials used in protection against radiation.

Of importance here, among other things, is the consideration of inverse broad beam geometry, which detects any fluorescent radiation that may arise using measurement technology. This may occur more frequently in the case of lead-reduced or lead-free radiation protection material. As this low-energy type of radiation type is biologically very active and can pose a risk to the user, the current standard is therefore of great importance.

Furthermore, it is obligatory for every manufacturer to prove the protective effect of the apron over the entire X-ray tube voltage range of 50 kV to 110 kV and/or 150 kV.

This is necessary because the protective effect shows a clear decrease at the lower and upper end of the X-ray tube voltage range, especially in the case of lead-reduced or lead-free protective material.

In the manufacture of X-ray protective clothing, MAVIG uses only radiation protective materials that are classified in accordance with this standard.

CE marking of personal protective equipment

X-ray protective clothing for healthcare staff and for patients falls under the legally binding EU Directive 2016/425/EEC for personal protective equipment (PPE).



So be absolutely sure to check whether the product that you want to use is marked correctly!

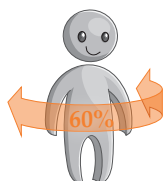
The familiar CE symbol alone is not sufficient here; the four-digit registration number issued by the authorised certification agency (notified body) must also be stated.

Naturally, all MAVIG products are correctly certified. With us, you "play it safe" in every respect.

CE 0302

In accordance with the standard

The current DIN EN 61331-3:2016 (IEC 61331-3:2014) deals with the design of X-ray protective clothing. In order to meet these requirements, MAVIG X-ray protective clothing has been further developed and additionally optimised to cater to the user.

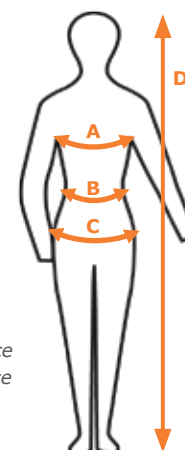


To protect the sides of the body as well, the front area of the protective clothing must cover **60% of the user's girth at its widest point**. Sophisticated weight-distributing mechanisms are extremely important, as the aprons will consequently have an altered overall weight.

Furthermore, the third part of the series of standards calls for more **transparency regarding the properties of the radiation protection material used**. The **weight per unit area** must be indicated on the apron to make it easier for the user to compare the protective clothing.



The aprons have to be **assigned to the body measurements**, so that it is easier to select the appropriate apron without the need to try them on. (see table)



- A Chest circumference
- B Waist circumference
- C Hip circumference
- D Body height

Sizing according to the standard

The person's height, as well as either circumference of the **chest, waist or hip**, depending on which of the three dimensions is the greatest, is used for this purpose.

All-round Protection BALANCE RA631	All-round Protection SYNERGY RA632	Front Protection BASIC RA640	Front Protection EXTENDED RA641	Front Protection ERGONOMIC RA650	Front Protection COMFORT RA660
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Overview of the size allocations of the PPE model series from MAVIG

RA631 sizes	XS	S	M	L	XL	XXL	3XL
Chest circumference (for vest)	≤ 84 cm	85 - 95 cm	96 - 106 cm	107 - 117 cm	118 - 128 cm	129 - 139 cm	140 - 150 cm
Waist/hip circumference (for skirt)	≤ 86 cm	87 - 97 cm	98 - 107 cm	108 - 118 cm	119 - 129 cm	130 - 140 cm	141 - 151 cm
Lengths (skirt)	65 cm	70 cm	75 cm	80 cm			
for a body height of	150 - 170 cm	170 - 180 cm	180 - 190 cm	190 - 200 cm			
RA632 sizes	XS	S	M	L	XL	XXL	3XL
Chest circumference	≤ 84 cm	85 - 95 cm	96 - 106 cm	107 - 117 cm	118 - 128 cm	129 - 139 cm	140 - 150 cm
Waist/hip circumference	≤ 98 cm	99 - 108 cm	109 - 119 cm	120 - 130 cm	131 - 141 cm	142 - 152 cm	153 - 163 cm
Lengths (coat)	90 cm	100 cm	110 cm	120 cm	130 cm	140 cm	
for a body height of	150 - 160 cm	160 - 170 cm	170 - 180 cm	175 - 190 cm	185 - 195 cm	195 cm - 205 cm	
RA640/RA641/RA650/RA660	XS	S	M	L	XL	XXL	3XL
Chest circumference	≤ 84 cm	85 - 95 cm	96 - 106 cm	107 - 117 cm	118 - 128 cm	129 - 139 cm	140 - 150 cm
Waist/hip circumference	≤ 91 cm	92 - 102 cm	103 - 112 cm	113 - 123 cm	124 - 134 cm	135 - 145 cm	146 - 156 cm
Lengths (apron)	90 cm	100 cm	110 cm	120 cm	130 cm	140 cm	
for a body height of	150 - 160 cm	160 - 170 cm	170 - 180 cm	175 - 190 cm	185 - 195 cm	195 cm - 205 cm	

High Performance Radiation Protection

The quality demands on X-ray protective clothing are now greater than ever. Wearing times of the protective clothing are extended by modern, radiologically supported procedures in diagnostics and treatment. The protection requirement differs widely depending on the intended use.

MAVIG, as the international market leader for radiation protection, offers you a well thought-out variant policy and a sophisticated and wide range of models.

Three different protective materials are used to attenuate X-ray radiation. These are optimally adapted to the required radiation protection with minimal empty weight.

Harmlessness & control

Through extensive research and testing, we ensure a healthy work environment for the users of our products, which are largely harmless in environmental and toxicological terms.

This is achieved by the careful selection of the materials, as well as our suppliers and strict controls in the production process and the final recycling of the materials.



**Standard Lead
Radiation Protection Material
50 – 150 kV**

- ✓ Standard lead protection material
- ✓ High quality, flexible
- ✓ Tested radiation protection in the X-ray tube voltage range of 50 – 150 kV
- ✓ For applications in the upper X-ray tube voltage range, e.g. CT applications
- ✓ Compliant with standards: IEC 61331-1:2014 / DIN EN 61331-1:2016

**NovaLite®
Radiation Protection Material
50 – 110 kV**

- ✓ Lead-reduced protective material
- ✓ Outstanding rating with regard to weight and radiation protection
- ✓ Fulfilment of basic work-related physiological requirements
- ✓ For workplaces with long wearing times for protective clothing
- ✓ Tested radiation protection in the X-ray tube voltage range of 50 – 110 kV
- ✓ Compliant with standards: IEC 61331-1:2014 / DIN EN 61331-1:2016

**NEW: Leadfree
Radiation Protection Material
50 – 110 kV**

- ✓ Lead-free protective material
- ✓ Outstanding rating with regard to weight and radiation protection
- ✓ Fulfilment of basic work-related physiological requirements
- ✓ For workplaces with long wearing times for protective clothing
- ✓ Tested radiation protection in the X-ray tube voltage range of 50 – 110 kV
- ✓ Compliant with standards: IEC 61331-1:2014 / DIN EN 61331-1:2016

Degrees of protection and weights per unit of area of MAVIG radiation protection inner materials

Protective material	Weight/area	Lead equivalent	50 kV	70 kV	90 kV	110 kV	150 kV
Standard lead	3.30 kg/m ²	0.25 mmPb	99%	96%	91%	87%	80%
Standard lead	4.60 kg/m ²	0.35 mmPb	> 99%	98%	95%	92%	87%
Standard lead	6.60 kg/m ²	0.50 mmPb	> 99%	99%	97%	95%	92%
NovaLite 0.25	3.00 kg/m ²	0.25 mmPb	99%	96%	92%	87%	-
NovaLite 0.35	4.30 kg/m ²	0.35 mmPb	> 99%	98%	95%	91%	-
NovaLite 0.50	6.00 kg/m ²	0.50 mmPb	> 99%	99%	97%	95%	-
Leadfree	2.95 kg/m ²	0.25 mmPb	99%	96%	91%	85%	-
Leadfree	4.18 kg/m ²	0.35 mmPb	>99%	98%	94%	91%	-
Leadfree	5.89 kg/m ²	0.50 mmPb	>99%	99%	97%	95%	-

Flexible wearing comfort and the best processing

Smoothness and flexibility are special quality features of MAVIG X-ray protective clothing.

In order to further optimise wear comfort for the user, special emphasis is placed in our factory on selective tailoring and top workmanship.

ComforTex® HPMF robust, protective, safe

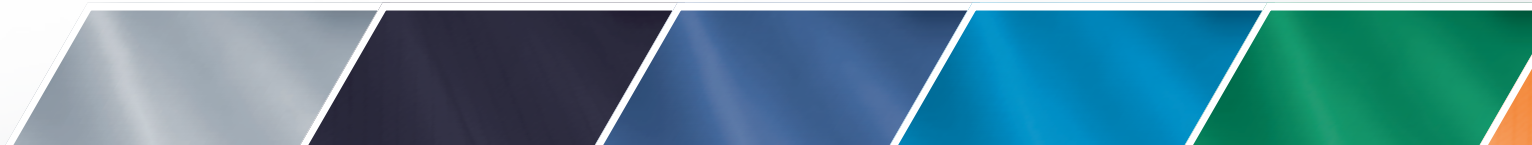
Whether as a body-hugging material for our Hybrid or Plus variant or as the entire surface for your X-ray protective clothing, our proven ComforTex® HPMF offers you the highest level of wearing comfort in everyday working life.

Like our basic material ComforTex® HPMF, the two innovative textiles ComforTex® HPMF Hybrid and Plus offer safety and protection against electrostatic charge, which could affect the proper functioning of sensitive medical devices.

MAVIG's innovative textiles were developed in accordance with the relevant requirements of DIN EN 13795-1:2019. This series of standards sets vital, reasonable safety requirements for the necessary quality of surgical textiles for the protection of patients and staff from infections. The following requirements were used as a basis for performance capability:



- **Protection for the staff and the patients**
- **High barrier function**
- **Absolute purity**
- **Low particle release**
- **Material strength**



Titan

Blue Admiral

Regatta

Curacao

Lagoon

ComforTex® HPMF Hybrid and ComforTex® HPMF Plus

To best meet your needs in everyday working life, you can choose from several variants of our ComforTex® HPMF outer material.

With our ComforTex® HPMF variant hybrid and Plus, we combine maximum comfort for the wearer with optimum hygiene and cleaning properties.

In the Hybrid and Plus material, the side in contact with the body is still manufactured with ComforTex® HPMF, so the usual level of wearer comfort is maintained. At the same time, the surface on the outside of the protective clothing shows significantly improved hygiene and cleaning properties thanks to the special coatings.

For this reason, our hybrid material is particularly suitable in areas with high fluid volumes.

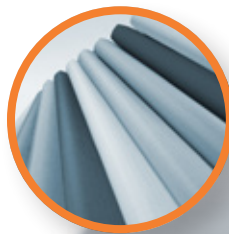
Colour selection and special designs

A fresh look, a pleasant feel and comfort for the wearer are the first impressions of the current X-ray protection collection by MAVIG.

These demands are also reflected in the constantly evolving colour palette of our collection.

The new range includes a total of eight colours for the outer materials of ComforTex® HPMF and ComforTex® HPMF Hybrid.

Our new children's design "Happy" as well as the design pattern "Nautilus" are both exclusively available in the outer material variant of ComforTex® HPMF Plus.



Mandarin

Orchidee

Baccara

"Happy"

(ComforTex® HPMF Plus only)

"Nautilus"

(ComforTex® HPMF Plus only)

Please note that for printing reasons, the colours in the photos may differ from the original product colours.

The New MAVIG Comfort and Premium Lines

Always the right protection at the right price

To make it easier for you to choose the right protective equipment, we have divided our new PPE collection into two categories.

Premium Line – The Full Range

Includes everything that makes your everyday work comfortable and safe. All you have to do is choose the colour. With the particularly high-quality NovaLite protective material inside and ComforTex® HPMF Hybrid outside. Features include embroidery and a breast pocket, as well as a wider belt on the RA632 model for even more comfort.



Comfort Line – The Economical Alternative

If you want to choose price-consciously, you can't go wrong with our Comfort Line.

Choose between our proven standard lead material or the new lead-free protective material "Leadfree". The outer material is our ComforTex® HPMF. Equipment features that do not affect the x-ray protection can be selected at your own discretion for an additional charge. No compromise on radiation protection! The aprons differ only in terms of features.



All-round protection costume

RA631



All-round protection coat

RA632



Front protection apron

RA660

In Comparison

Comfort Line

Premium Line

<p>Standard lead or leadfree ComforTex® HPMF <i>(ComforTex® HPMF Plus for design patterns)</i> 0.00 mmPb</p>	<p>inner material outer material Back (Pb) <i>Frontal protection models only</i></p>	<p>NovaLite ComforTex® HPMF Hybrid <i>(ComforTex® HPMF Plus for design patterns)</i> 0.25 mmPb</p>
<p>Optional with surcharge 10 cm wide belt included</p>	<p>Belt RA631 RA632</p>	<p>Optional with surcharge 16 cm wide belt included</p>
<p>Optional with surcharge Optional with surcharge</p>	<p>Embroidery Chest pocket</p>	<p>Included Included (optional use)</p>



Front protection apron – Surgical apron

RA650



Front protection apron

RA641



Front protection apron

RA640



All-round Protection: Vest & Skirt **BALANCE RA631**

The two-part design optimally counteracts any stress on the body caused by heat or weight.

- Completely overlapping front parts for lead equivalent values of 0.25 mmPb, 0.35 mmPb or 0.50 mmPb on the front
- Ideal fit and amazing wearing comfort
- Suitable for long wearing times
- Clearly reduced weight on the spine
- Standard equipment includes shoulder pads and preparation for adaptable embroidery
- In the lower area, the skirt is also secured with a snap closure
- Type testing and certification in accordance with (EU) 2016/425, IEC 61331-1:2014 / DIN EN 61331-1:2016 and IEC 61331-3:2014 / DIN EN 61331-3:2016

Optionally, the vest can be fitted with a button-on stretch belt. This provides even more weight relief for the shoulders.

Alternatively, the costume can be combined with our shoulder relief system BRYGGA (see p. 26).

An elastic insert in the rear of the skirt makes it easy for the user to hold their posture and this can be easily replaced if necessary, thanks to a zip.

High-quality hook-and-loop fasteners to close the vest and skirt are, of course, standard.



Protection/lead equivalent

NovoLite, Leadfree or standard lead



Front, optional:
0.25 mmPb, 0.35 mmPb or 0.50 mmPb
Back generally:
0.25 mmPb

Outer material

Colours/designs (pages 10/11)



Optional:
ComforTex® HPMF, ComforTex® HPMF Hybrid, ComforTex® HPMF Plus (Nautilus design only)

Sizes

from XS to 3XL (Page 7)



Skirt lengths:
from 65 - 80 cm (Page 7)

Optional

(pages 26-31)



On request:
BRYGGA
Sleeves
Stretch belt (external)
Breast pocket
Embroidery
Made-to-measure protection

Accessories/Replacement

Bolero
Thyroid/sternum protection



Stretch insert:
(Adjustment via zip)
Stretch belt:
(Adjustment via press studs)

Back relief

The elastic insert in the back of the skirt makes it easier for users to maintain their posture in daily routines.



Overlapping area

In order to ensure protection during movement (e.g when bending over), the vest has sufficient length and it overlaps the skirt.



Free movement

For greater freedom of movement, the skirt has a cut-out at the back.

Of course, the knees are still optimally protected at the front and sides.



Patented safety

Ideal radiation protection is provided by colour-contrasting (Titan) safety zones on the sides and in the shoulder area. These are equipped with the full lead equivalent value of the front part and give you the certainty of being optimally protected in all situations.

If the front wing is within this clearly recognisable zone when the protective clothing is fastened, you are covering the full 60% of the girth with the selected protective value.



All-round Protection: Coat SYNERGY RA632

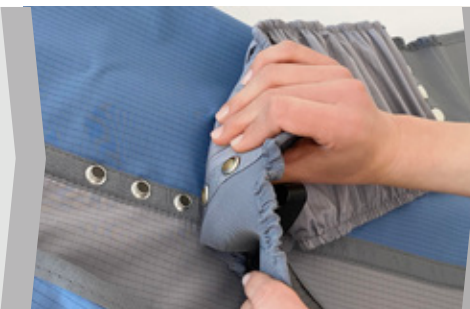
The simple, convenient way of putting it on adds to the comfort. The coat is simply closed with a hook-and-loop fastener at chest level and sits correctly right away.

- Completely overlapping front parts for lead equivalent values of 0.25 mmPb, 0.35 mmPb or 0.50 mmPb on the front
- Ideal fit, maximum comfort for the wearer
- Continuous support thanks to the wide elastic stretch belt (included)
- Standard equipment includes shoulder pads and preparation for adaptable embroidery
- In the bottom area, the coat is also secured with a snap closure.
- Type testing and certification in accordance with (EU) 2016/425, IEC 61331-1:2014 / DIN EN 61331-1:2016 and IEC 61331-3:2014 / DIN EN 61331-3:2016

For additional shoulder relief, the coat can be combined with our BRYGGA shoulder relief system (see p. 26).

Optimal adjustment to your waist height is ensured by a variable press-stud fastening of the belt.

This allows it to be attached variably in height and it can also be buttoned to the coat on one or both sides.



Protection/lead equivalent

NovoLite, Leadfree or Standard lead



Front, optional:
0.25 mmPb, 0.35 mmPb or 0.50 mmPb
Back generally:
0.25 mmPb

Outer material

Colours/designs (pages 10/11)



Optional:
ComforTex® HPMF, ComforTex® HPMF Hybrid, ComforTex® HPMF Plus (Nautilus design only)

Sizes

from XS to 3XL (Page 7)



Coat lengths:
from 90 - 140 cm (Page 7)

Optional

(pages 26-31)



On request:
BRYGGA Sleeves
Breast pocket
Embroidery
Made-to-measure protection

Accessories/replacement

Bolero
Thyroid/sternum protection



Stretch belt:
(Adjustment via press studs)

A safe fit

Colour-coded (Titan) contrasting safety zones give you the certainty, of being optimally protected in all situations.

If the front wing is within this clearly recognisable zone when the protective clothing is fastened, then you are covering the full 60% of the girth with the maximum protective value.



Back relief

The elastic stretch belt makes it easier for you to keep your posture in daily routines.

Free movement

For greater freedom of movement, the coat has a cut-out at the back.

Of course, the knees are still optimally protected at the front and sides.





Front Protection Apron COMFORT RA660

Our RA660 range offers up-to-date radiation protection clothing which accompanies your active working day and provides outstanding service. The extraordinarily good wearing comfort is supported by the wide stretch insert on the back wings.

- Suitable for a wide range of applications with only frontal radiation exposure
- Ideal fit, maximum comfort for the wearer
- Suitable for long wearing times
- Optional "without protection" in the back, for reduced weight of the apron
- Standard equipment includes shoulder pads and preparation for adaptable embroidery
- Type testing and certification in accordance with (EU) 2016/425, IEC 61331-1:2014 / DIN EN 61331-1:2016 and IEC 61331-3:2014 / DIN EN 61331-3:2016

Our customers report that this model is their favourite front apron. This is because it can be taken on and off easily, fits the body well, stays in place well and provides shoulder relief.

The stretch insert running across the entire width of the back ensures a good fit and shoulder relief even when the X-ray protective clothing is worn for long periods.



Protection/lead equivalent

NovoLite, Leadfree or Standard lead



Front, optional:
0.25 mmPb, 0.35 mmPb or 0.50 mmPb

Back, optional:
0.25 mmPb or without protection

Outer material

Colours/designs (pages 10/11)



Optional:
ComforTex® HPMF, ComforTex® HPMF Hybrid, ComforTex® HPMF Plus (Nautilus design only)

Sizes

from XS to 3XL (Page 7)



Lengths:
from 90 - 140 cm (Page 7)

Optional

(pages 28-31)



On request:
Sleeves
Breast pocket
Embroidery
Made-to-measure protection

Accessories

Bolero
Thyroid/sternum protection





Special feature

The stretch insert, ideal relief especially for long periods of wear.



Closure system

MAVIG uses only top quality, low-wear hook-and-loop fasteners.



Front Protection Apron ERGONOMIC RA650

Frontal protection in its pure form in the RA650 includes full-body protection over the entire front section with the required 60% of the girth.

- Suitable for a wide range of applications with only frontal radiation exposure
- Ideal fit, maximum comfort for the wearer
- Possible to slip the apron off
- Optional "without protection" in the back, for reduced weight of the apron
- Standard equipment includes shoulder pads and preparation for adaptable embroidery
- Type testing and certification in accordance with (EU) 2016/425, IEC 61331-1:2014 / DIN EN 61331-1:2016 and IEC 61331-3:2014 / DIN EN 61331-3:2016

Comfortable, wide crossbands allow the apron to be slid off easily by opening the hook-and-loop fasteners in the front area, through the sterile surgical gown as well.



Protection/lead equivalent

NovoLite, Leadfree or Standard lead

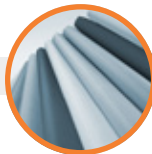


Front, optional:
0.25 mmPb, 0.35 mmPb or 0.50 mmPb

Back, optional:
0.25 mmPb or without protection

Outer material

Colours/Designs (pages 10/11)



Optional:
ComforTex® HPMF, ComforTex® HPMF Hybrid, ComforTex® HPMF Plus (Nautilus design only)

Sizes

from XS to 3XL (Page 7)



Lengths:
from 90 - 140 cm (Page 7)

Optional

(pages 28-31)



On request:
Sleeves
Breast pocket
Embroidery
Made-to-measure protection

Accessories

Bolero
Thyroid/sternum protection



Fast, simple and comfortable

The apron can be slid off by simply opening the hook-and-loop fasteners in the front area, even through the sterile surgical gown.



Closure system

MAVIG uses only top quality, low-wear hook-and-loop fasteners.

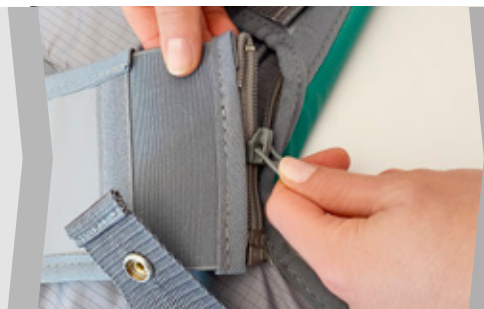


Front Protection Apron EXTENDED RA641

Radiation protection aprons are already part of the standard equipment in various specialities, such as urology, anaesthesiology, etc. Currently used protective aprons are designed for use in a standing position. However, especially in the examples mentioned, interventions are often carried out in a seated position.

- Suitable for diverse, seated applications with only frontal radiation exposure
- Integrated gonad protection for the sitting position
- Ideal fit, maximum comfort for the wearer
- Soft shoulder pads as standard equipment as well as preparation for adaptable embroidery
- Type testing and certification in accordance with (EU) 2016/425, IEC 61331-1:2014 / DIN EN 61331-1:2016 and IEC 61331-3:2014 / DIN EN 61331-3:2016

Well thought-out relief, interchangeable – the innovative, elastic, located on the inside in front, supports most of the apron's weight against the hips. This relieves stress on the back and shoulders.



Protection/lead equivalent

NovaLite, Leadfree or Standard lead



Front, optional:
0.25 mmPb, 0.35 mmPb or 0.50 mmPb

Back, optional:
0.25 mmPb or without protection

Outer material

Colours/designs (pages 10/11)



Optional:
ComforTex® HPMF Hybrid
ComforTex® HPMF Plus (Nautilus design only)

Sizes

from XS to 3XL (Page 7)



Lengths:
from 90 - 140 cm (Page 7)

Optional

(pages 28-31)



On request:
Sleeves
Breast pocket
Embroidery
Made-to-measure protection

Accessories/Replacement

Bolero
Thyroid/sternum protection



Inner belt
(Adjustment via zip)
Gonad protection
(Adjustment via hook-and-loop fastener)

Removable gonad protection

The gonad protection adjusted with hook-and-loop fasteners can be simply removed for weight reduction while standing.



Correct length!

For seated work, the apron should be chosen 10 cm longer than your body height, so that the knees are also covered. (see here: "Lengths, recommended height of user")



Especially for work in a seated position

In order to ensure sufficient protection even when sitting, a gonad guard has been attached to the inside of the apron. This hangs protectively in front of the gonads, while the apron rests on the legs.

The new design effectively prevents the apron slipping down the legs and exposing them. The larger side pieces in the lower part also keep the apron in position during movement.

When you are standing, the RA641 also guarantees complete X-ray protection from neck to knees. Here, the side flaps of the lower part of the apron can simply be fastened together at the back, so that they do not interfere with movement and you can work unrestrictedly.



Front Protection Apron BASIC RA640

The basic RA640 model has proved effective for years and is used as a front protection usually for short and rare wearing times in conventional X-ray situations without fluoroscopy.

- High-quality, flexible standard lead material with lead equivalent values of 0.25 mmPb, 0.35 mmPb or 0.50 mmPb
- Ideal fit, maximum comfort for the wearer
- Ideal for short and infrequent wear
- Shoulder pads and preparation for adaptable embroidery as standard equipment
- Type testing and certification in accordance with (EU) 2016/425, IEC 61331-1:2014 / DIN EN 61331-1:2016 and IEC 61331-3:2014 / DIN EN 61331-3:2016

For model RA640 it is also possible to choose whether protection of 0.25 mmPb should be maintained in the back wings or dispensed with to reduce the weight of the apron.



Protection/lead equivalent

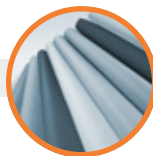
NovaLite, Leadfree or Standard lead



Front, optional:
0.25 mmPb, 0.35 mmPb or 0.50 mmPb
Back, optional:
0.25 mmPb or without protection

Outer material

Colours/designs (pages 10/11)



Optional:
ComforTex® HPMF, ComforTex® HPMF Hybrid, ComforTex® HPMF Plus (Nautilus design only)

Sizes

from XS to 3XL (Page 7)



Lengths:
from 90 - 140 cm (Page 7)

Optional

(pages 28-31)



On request:
Sleeves
Breast pocket
Embroidery
Made-to-measure protection

Accessories/replacement

Bolero
Thyroid/sternum protection



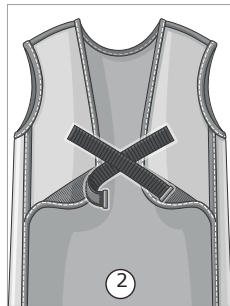
Crossband closure
(Adjustment via press studs)

Different closure types – You can choose ...

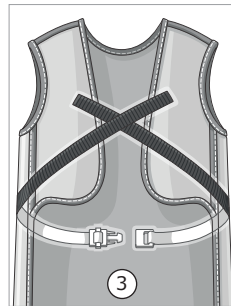
We offer different closure systems for this series of aprons. Choose your favourite:



Press-stud closure
Elastic band with press stud for closing at the back.



Crossband closure
Crossbands with hook-and-loop fastening at the back.



Strap closure
Straps with snap buckle closure for closing at the front.



Snap buckle closure
Two webbing straps with snap buckle closures for closing at the back.





NEW

Shoulder Brace **BRYGGA®**

For individual weight relief

Wearing a BRYGGA shoulder brace under the protective X-ray apron is an easy-to-use and efficient way to reduce the weight load on the shoulders and prevent muscle fatigue.

In this unique way, the patented invention from Sweden reduces the pressure on the shoulder area that is normally caused by the weight of the apron worn.

- Patented solution – Made in Sweden
- For MAVIG apron models RA631 and RA632
- No impairment for the user, ideal for long wearing times
- Promotes an ergonomically correct posture
- Significantly reduces the risk of tension and numbness in the arms
- Full freedom of movement for neck and arms
- Easy cleaning

Web video

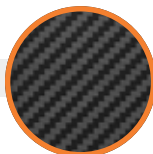
Scan QR code
to view:



MAVIG website:
www.mavig.com/product/ra-brygga/

Material

Robust,
100% carbon fibre



Foam padding:
Exterior: Evazote
Interior: Polyethylene

Sizes

S/M and L
Individually adjustable



Structure:
5-piece

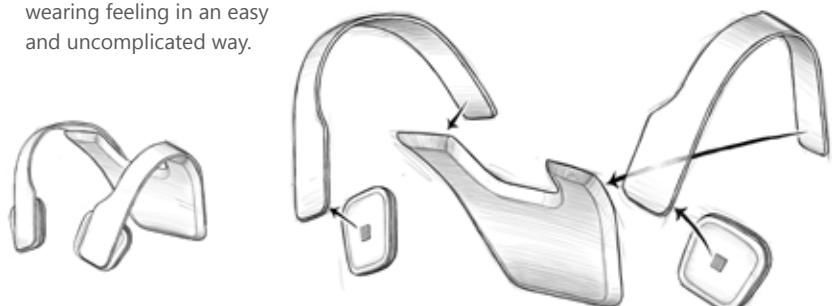


Optimum weight distribution

BRYGGA distributes the weight more evenly and relies primarily on the bone structure rather than the muscles and nerve cords. This proves to be particularly advantageous for long periods of wear.

Modular structure

The multi-part construction allows for a quick adjustment to the respective user and ensures a pleasant and comfortable wearing feeling in an easy and uncomplicated way.



NEW

Shoulder protection **Bolero**



Shoulder protector – Bolero

Thanks to the newly developed Bolero as an alternative to the sleeve, the radiation exposure due to scattered radiation for the shoulder joint can be significantly reduced. Freedom of movement is maintained to the greatest extent possible with the design, which is open underneath the arm.

At the same time, the design considerably reduces the scattered radiation coming in from the sides via the armholes.

The "Bolero" shoulder protector is available for all models and is therefore ideal for combination with MAVIG all-round protection or front protection aprons.

It is worn directly under the X-ray protection and is simply closed with a hook-and-loop fastener at the front.

The standard lead value is 0.25 mm Pb. This ensures good mobility during the daily working routine.

The shoulder protector is always manufactured in the colour "Titan". The correct size as well as the protective material depend on the chosen X-ray protective clothing.

Protection/lead equivalent

Novalite, Leadfree
or Standard Lead



As standard:
0.25 mmPb

On request:
0.35 mmPb
or 0.50 mmPb

Outer material

Titan colour only
(pages 10/11)



Optional:
ComforTex® HPMF,
ComforTex® HPMF Hybrid

Size

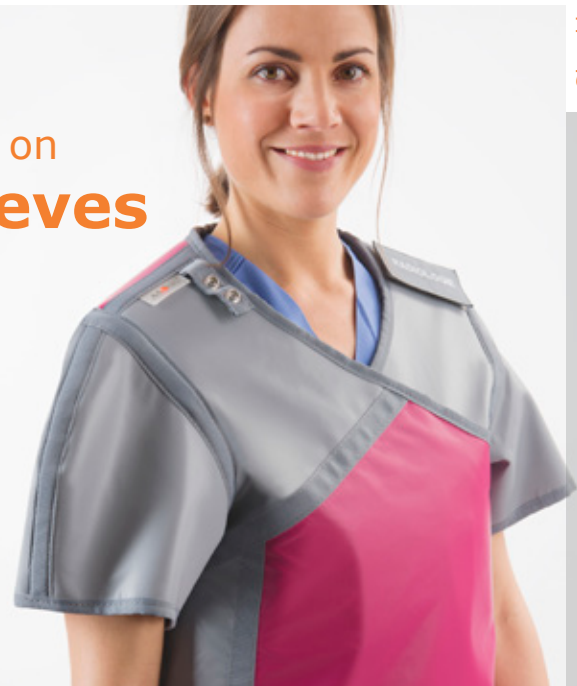
from XS to 3XL
(matching the PSA)





Buttoned Sleeves

Sewn on Sleeves



Shoulder protection – sleeves

For all model ranges (except RA650), you can optionally choose sleeves in order to extend the radiation protection*.

The radiation on the shoulder joint is significantly reduced by the sleeves. Likewise, incident radiation on the side via the armholes is considerably reduced.

The standard lead value is 0.25 mmPb.

This ensures good mobility during the daily working routine.

The shoulder protector is always manufactured in the colour "Titan".

The correct size as well as the protective material depend on the chosen X-ray protective clothing.

MAVIG offers the sleeves both as a button-on solution and firmly sewn-on. You can also choose whether you want only one sleeve, on the right or left, or pairs.

**Please note: The protective surface of the front (surface without pinholes) ends at the seams. This also applies to the sewn-on sleeves. With the button-on sleeves, a continuous protective surface is ensured by the overlap.*

Protection/lead equivalent

NovaLite, Leadfree or Standard Lead



As standard:
0.25 mmPb

On request:
0.35 mmPb
or 0.50 mmPb

Outer material

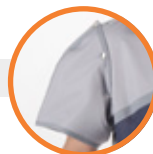
Titan colour only
(pages 10/11)



Optional:
ComforTex® HPMF,
ComforTex® HPMF Hybrid

Size

from XS to 3XL
(matching the PSA)



Personalise Your Protective Equipment

Embroidery

In many cases, it is useful to assign X-ray protection clothing to an individual or a department using embroidery. To this end, each of our aprons is equipped with an adaptable border on the left shoulder.

In the Premium collection, the standard embroidery (white printed letters) is also included on the thyroid protector RA614, the Bolero RA637 and the head cover RA611/RA612. Apron: embroidery on adaptable border; accessories: embroidery on fabric

With the Comfort collection, you can, of course, upgrade your apron at any time – even at a later date.

The accessories can also be embroidered on request when ordered.

- ① On an adaptable area approx. 5 x 10 cm below the left shoulder seam
- ② In deviation from the standard, this area can also be firmly sewn in
- ③ Line of text or logo on an optional breast pocket
- ④ Line of text on a skirt border
- ⑤ Text or logo on the bib of the thyroid and sternum protector
- ⑥ Text on the collar of the thyroid and sternum protector
- ⑦ Text on the sleeve hem of the Bolero
- ⑧ Text on the left hand side of the head cover

Whatever you decide, you give us the text and we will produce top quality embroidery. Due to their good readability, block letters are used as standard. The font height is determined by the length of the text and the number of lines.

We are happy to offer logo embroidery in all colours as a special solution.

Pocket

The breast pocket (9a/b) is designed as a standard insertion pocket away from the body. For all-round protection (9a) the position is on the right, for front protection (9b) on the left, both from the user's point of view.

The skirt pocket is designed as a standard insertion pocket on the right side away from the body.







Thyroid and Sternum Protection **RA614**

Protection/lead equivalent

Novalite, Leadfree
or Standard lead



As standard:
0.50 mmPb

Outer material

Colours/designs
(pages 10/11)



Optional:
ComforTex® HPMF,
ComforTex® HPMF Hybrid,
ComforTex® HPMF Plus
(Nautilus design only)

Neck sizes

Uniform
Depending on the model



Optional

(pages 30/31)



On request:
Embroidery
Made-to-measure protection

Accessories/replacement

Hygienic cover
(RA614HF)



Hook-and-loop fastener
(R614AKV,
adjustment via
push buttons)

Thyroid and sternum protection

The thyroid is a radiation-sensitive organ of the human body and therefore in particular need of protection.

Wearing an appropriate shield should therefore be a matter of course.

Our thyroid and sternum protector variants are characterised by a first-class cut and the best fit, taking into account all aspects of radiation protection.

The press-stud connection allows secure adjustment of the thyroid and sternum protector on MAVIG X-ray protective clothing.



Model variants RA614

The thyroid and sternum protector with press-stud connection to the vest/coat/apron is suitable for all model series.

As standard, it is manufactured with a firmly sewn-on hook-and-loop fastener. The other closure types, magnetic closure and interchangeable hook-and-loop fastener, are available as options.

All variants provide enough room for adjustment.



Closure type – via magnet

The thyroid and sternum protection is also available with a practical magnetic closure (variant RA614MA).



Closure type – interchangeable

As a third alternative, an interchangeable closure can be chosen (RA614AK). Please note the different neck sizes here.



Accessories: Hygienic cover
To meet the hygienic requirements in everyday life, we recommend using our washable hygienic cover in the colour Titan made of the special ComforTex® MF material.

- ▶ **Neck widths**, depending on model:
 - Hook-and-loop fastener (RA614KL)**
Standard size fits neck sizes of 32 - 45 cm.
 - Magnetic closure (RA614MA)**
Standard size fits neck sizes of 32 - 45 cm.
 - Interchangeable hook-and-loop fastener (RA614AK)**
Standard size fits neck sizes of 37 - 50 cm.



Radiation Protection Caps **RA611 & RA612**

Protection/lead Equivalent

Novalite, Leadfree
or Standard lead



Optional:
0.25 mmPb, 0.35 mmPb
or 0.50 mmPb

Outer material

Colours/designs
(pages 10/11)



Optional:
ComforTex® HPMF
ComforTex® HPMF Plus

Size

Suitable for head
circumferences from 54 - 63 cm



Optional

(pages 30/31)



On request:
Embroidery

Radiation protection – caps

Working in interventional radiology can entail risks. Currently, the likelihood of medical personnel being exposed to radiation and developing a brain tumour is the subject of lively debate among experts.

Without effective on-site upper table scatter radiation protection, the cranium may well be exposed to high levels of radiation, depending on the procedure and fluoroscopy time.

MAVIG, therefore, has developed two different radiation protective head coverings to meet the individual needs of the user. The respective models differ in the matching of the desired protection area and heat elimination.

- Effective protection for the cranium
- Corresponds to work-related physiological aspects
- Perfect balance of radiation protection, weight and comfort
- Design-protected, universal-size cuts
- Optimal adjustment to the respective head circumference and head shape

Size

► Suitable for head circumferences from 54 - 63 cm

RA611 with breathable insert

A breathable insert is incorporated into the top of the cap, ensuring very good heat dissipation.



RA612 – closed cap

With a closed cap, the cranium is shielded frontally, on the sides and completely from above.

However, this limits heat dissipation via the top of the skull.



The idea of optimisation in radiation protection dictates that every possible measure should be taken to minimise the dose from radiation exposure.

Outstanding usage properties and an optimised fit now make it easy to protect yourself better in comfort.

Radiation-proof Gloves

- ✓ Lead equivalent: 0.03 - 0.04 mmPb
- ✓ Powder-free
- ✓ Low-protein natural rubber
- ✓ Without lead additive
- ✓ Non-toxic
- ✓ Sterile
- ✓ Impressive grip and tactile sensitivity
- ✓ High elasticity and extreme tear resistance
- ✓ Available in many sizes



**Legal regulation
within the EU**

Sterile protective gloves with shielding effect against stray X-ray radiation are classified as personal protective equipment and as a medical device. Therefore, this product is CE compliant with Regulation (EU) 2016/425 (PPE) and Directive MDD 93/42/EEC for medical devices.

Sterile gloves with protection against X-rays

Significantly reducing the equivalent dose for occupationally exposed medical staff is a must, not only because of the lowered limits for the effective dose.

Sterile protective gloves from MAVIG with shielding effect against scattered X-rays enable optimisation of the radiation protection measures for the medical staff.

With the development of these gloves, MAVIG has succeeded in synthesising traditionally opposing features:

- High shielding effect, dose reduction >50% = protection factor of 2 in the scattered radiation range (X-ray tube voltage 60 – 80 kV)
- Metal oxides – no lead as protective material
- Above-average elasticity
- High touch sensitivity
- Efficient protection against scattered X-rays
- Low protein latex gloves

The special quality features of the MAVIG HS100 gloves are due to the use of elastic natural rubber in their manufacture, among other things.

The production process ensures that the protein concentration is kept at the lowest possible level.

Water-soluble, allergenic proteins are largely removed from the latex.

With the HS100 X-ray absorbing sterile gloves, MAVIG offers an efficient way to reduce dose levels for scattered radiation exposure.

Properties

The product is available as a powder-free sterile glove which, in addition to the basic properties relating to material composition, impermeability, dimensions and protection against chemicals and microorganisms, has X-ray absorbing properties.

A high degree of elasticity combined with a very good, anatomical fit ensures optimal working conditions and approaches the level of high-quality surgical gloves with simultaneous efficient protection against secondary X-ray radiation.

The gloves allow a high level of tactile sensitivity. Microtextured surfaces support a sure grip even in a wet environment. The soft and elastic material and the anatomically well-contoured fit prevent fatigue and ensure optimal ergonomic qualities.

The gloves are comfortable to put on. The product's high elasticity offers exceptional tensile strength. In addition, the rolled edge counteracts tearing when pulled over.

Using the gloves

The gloves are intended for protection against secondary radiation, where they have an efficient protective effect.

When used in the primary radiation area, the automatic dose rate control must be switched off. As a sterile product, they are intended for single use.

Sizes/order numbers

Size 6.5 = HS10065	Size 7.0 = HS10070
Size 7.5 = HS10075	Size 8.0 = HS10080
Size 8.5 = HS10085	Size 9.0 = HS10090

The sales unit is a practical dispenser box and each one contains five pairs of gloves of one size. Each pair is sterile and securely packed in a peel pack with an additional inlay. Use under sterile conditions is guaranteed.

Average measured values for the attenuation of the X-ray tube voltage

X-ray scatter radiation	60 kV / 55%
(skin dose reduction)	80 kV / 45%
	100 kV / 39%
	120 kV / 35%

The attenuation properties were determined in the broad X-ray beam in accordance with ASTM F 2547-18 (measurement uncertainty +/- 4%). The skin dose reduction values refer to a nominal lead equivalent of 0.04 mmPb.

Eye Protection for Medical Use of Radiation

Our individual product range with various fit types for optimal seating is shown in our separate catalogue.





X-Ray Protective Glasses and Visors in Separate Catalogue

The sensitivity of the human eye to radiation exposure is classified as very high. X-ray protective glasses for the radiation user provide protection from scattered radiation.

This is secondary radiation, primarily emitted by the irradiated patient volume.

The correct fit is especially important in the case of safety glasses. Therefore, the differing facial geometries from person to person require a corresponding diversity of models.

Virtual Fitting on our website:

www.mavig.com/virtual-mirror/

Cataract Risk and Lens Opacity

It has been known for years that radiation-induced lens opacity can occur due to exposure to ionising radiation in the workplace.



According to current knowledge, the initial stages can already occur from a radiation exposure of only 0.5 Gy. Regardless of whether the dose is acute or protracted, the effect is cumulative, i.e. individual doses are added up.





Reusable Radiation Protection Shield Drapes

The optimally adapted size of our economic, reusable drapes ensures constant excellent protection for the examiner and maximum comfort for the patient.

The special shape of the drapes is designed in each case for the corresponding purpose:

- ST-FS5AMM with cut-out for femoral puncture
- ST-RZ5AMM without cut-out for radial puncture

At the same time the unique cuts of the drapes prevent their protrusion into the area to be imaged when the X-ray source is angled.

Sterile disposable drapes can be placed above the sterile patient cover. They ensure fast placement and easy removal in an emergency situation as well as continuous position monitoring.

Protection/lead Equivalent

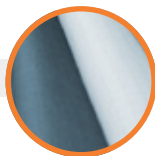
Standard lead



As standard:
0.50 mmPb

Outer material

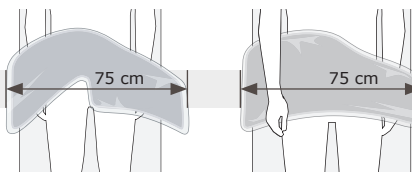
Colour – Two-sided
Mandarin/Titan



Standard:
ComforTex® HPMF

Size

Width approx. 75 cm each



Femoral drape

Radial drape

Optional

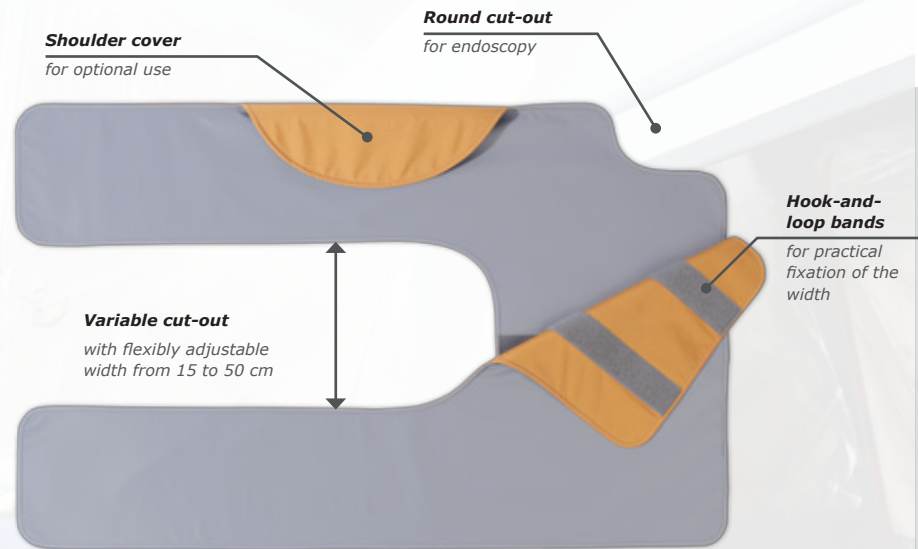
Sterile disposable covers
(50 pieces each)



Available:
STEA-FSAM – for femoral drape
STEA-RZAM – for radial drape

ERCP Drape ST-ER

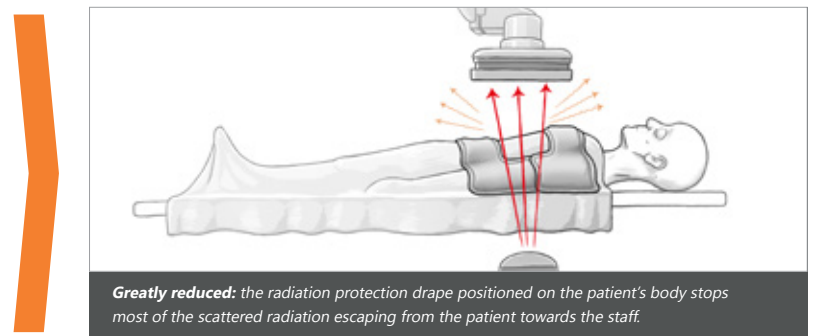
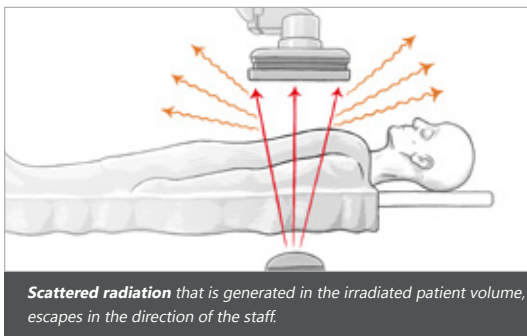
- ✓ Minimisation of scattered radiation by up to 90%
- ✓ Can be used in prone and lateral position
- ✓ Secure positioning due to individual adjustment options
- ✓ Adaptable to the type of examination
- ✓ Cut-outs for endoscopes
- ✓ Optionally usable cover to protect the shoulder joint
- ✓ Sustainable, as it is reusable



Radiation Protection Cover (Drape) with Variable Cut-out ST-ER

The MAVIG ST-ER drape is designed to minimise stray radiation from the patient's body, thus protecting staff.

The variable opening of the drape, which can be placed on the patient exactly in line with the useful radiation zone, significantly reduces the scattered radiation. A classic example of application is ERCP* but, in principle, a large number of other areas of application in which work is carried out with a fixed beam direction are possible.



Protection/lead equivalent

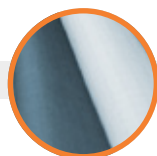
Standard lead



As standard:
0.50 mmPb

Outer material

Colour – Two-sided



User side:
ComforTex® HPMF Hybrid / Titan
Patient side:
ComforTex® HPMF / Mandarin

Size/application possibilities

105 x 103 cm (L x W, max. external dimensions)



Supine / prone position:
(e.g. ERCP) with shoulder cover

Lateral position:
(e.g. ERCP) with shoulder cover

Optional

Embroidery on the drape



* ERCP (Endoscopic retrograde cholangiopancreaticography)



Protection during CT examinations

Reduction of radiation exposure for:

- ✓ Thyroid gland by about 65%
- ✓ Sternum by about 80%
- ✓ Chest and shoulder joints by about 90%



TIP: Don't be too "well-meaning" when choosing the size of your patient drape. Bear in mind that the drape also has to be moved by you and the size is directly related to the weight.

RP648 – Patient Guards for CT Examinations

Patient guards for CT examinations from MAVIG provide the ideal X-ray protection. The patient can put the guards on quickly and they remain securely in the desired position.

Optimally implemented in the RP648 patient CT drape: the patient guard is easy to use and position without any further aids or closure systems.

An additional thyroid protector can be folded into position if required.

RP689 – Patient Drape

This versatile patient drape is a must in radiology practice. It provides targeted protection for your patients, combined with uncomplicated handling.

You can choose the format freely, depending on your intended use.

Additional equipment with hook-and-loop straps or an individual cut according to your ideas are also possible at any time.

Effective radiation protection for your patients concerns the areas of the body adjacent to the diagnostic field; so in most cases you should rather have a stock of several, somewhat smaller drapes, which you can, of course, also use in combination.

Protection/lead equivalent

Standard lead

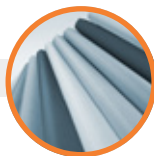


RP648 as standard:
0.35 mmPb

RP689 optional:
0.50 mmPb or 1.00 mmPb

Outer material

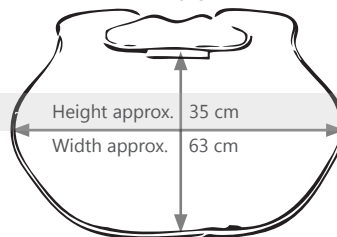
Colours/designs
(pages 10/11)



Accordingly:
ComforTex® HPMF,
ComforTex® HPMF Plus

Size

RP648



Dimensions

RP689

Our standard material widths are 60 and 90 cm, and you determine the length.

Of course, you can also define a cut that deviates from the standard widths of 60 and 90 cm.

It goes without saying that our patient protection products comply with Regulation (EU) 2016/425 for personal protective equipment and (EU) 2017/745 for medical devices.



RP643 – Gonad Apron

An article for daily use makes special demands on material quality and workmanship but the functionality for user-friendly use must also be allowed for.

The MAVIG RP643 series gonad aprons offer you this and more.

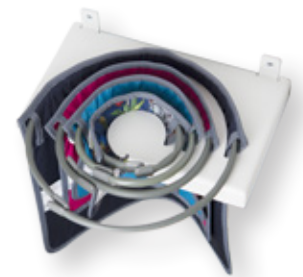
Even with the high patient flow in today's radiology practices, the RP643 is ideally suited, as the X-ray protection is quick and practical to put on and take off.

It couldn't be easier than with the flexible clamping mechanism of our RP643 series. The radiation protection for your patients is perfect and the fit is just right.

In producing our gonad aprons, we use only high-quality, flexible standard lead material. The best radiation protection properties are, of course, a basic requirement.

For gentle and proper storage of your gonad aprons, we recommend the use of the specially designed wall hanging bracket AW417.

With everything clearly arranged, you can determine the right size for your patient at a glance and take the matching apron out of the wall system with a flick of the wrist, without having to remove the one in front or behind.



Protection/lead equivalent

Standard lead



As standard:
0.50 mmPb

Outer material

Colours/designs
(pages 10/11)



Accordingly:
ComforTex® HPMF,
ComforTex® HPMF Plus

Sizes

recommended for:

- S** Toddlers,
apron size 20 x 25 cm (H x W)
- M** Children,
apron size 30 x 30 cm (H x W)
- L** Adult,
apron size 37 x 40 cm (H x W)
- XL** adult,
apron size 45 x 50 cm (H x W)

Optional

Wall hanging bracket AW417





NEW IN DESIGN "HAPPY"

Children's Apron RP664



Protection/lead equivalent

Novalite



Front generally:
0.50 mmPb

Back generally:
0.25 mmPb

Outer material

Colours/designs
(pages 10/11)



Accordingly:
ComforTex® HPMF,
ComforTex® HPMF Plus

Sizes

SMALL, MEDIUM
and LARGE



Accessories/replacement

Thyroid/sternum protection
for small patients (page 55)



It goes without saying that our patient protection products comply with Regulation (EU) 2016/425 for personal protective equipment and (EU) 2017/745 for medical devices.

Children's Front Protection Apron

This children's apron is especially designed for universal use and therefore the optimal front protection for your little patients.

The generously cut, overlapping back wings provide a balanced fit.



It should be easy to put on and remove, particularly for children's X-ray protection.

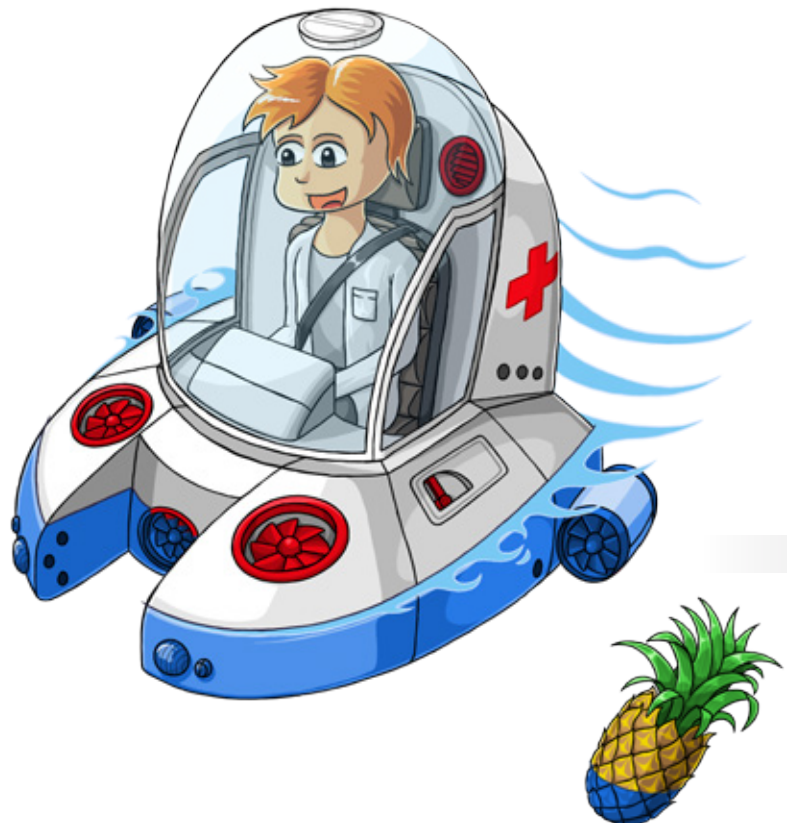
The model RP664 can be easily closed at the front with a variable snap buckle closure and gives enough leeway for the exact fit.

Children's X-ray protection is manufactured by MAVIG with the innovative NovaLite radiation protection material to achieve the best possible weight ratio and thus impose only the most necessary physical strain on the children.



▶ **Available sizes, recommended for:**

- SMALL** Length: 59 cm, width: 35 cm
for children aged approx. 3 - 5 years
- MEDIUM** Length: 67 cm, width: 43 cm
for children aged approx. 6 - 8 years
- LARGE** Length: 84 cm, width: 45 cm
for children aged approx. 9 - 12 years





NEW IN DESIGN "HAPPY"

Children's Coat RP668



Protection/lead equivalent

Novalite



Front generally:
0.50 mmPb

Back generally:
0.25 mmPb

Outer material

Colours/designs
(pages 10/11)



Accordingly:
ComforTex® HPMF,
ComforTex® HPMF Plus

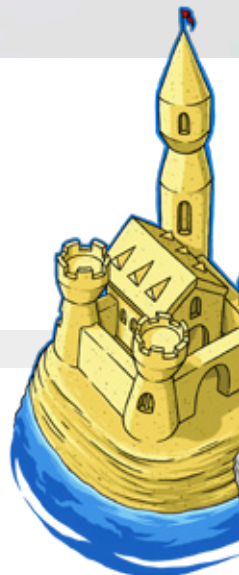
Sizes

SMALL, MEDIUM
and LARGE



Accessories/replacement

Thyroid/sternum protection
for small patients (page 55)



It goes without saying that our patient protection products comply with Regulation (EU) 2016/425 for personal protective equipment and (EU) 2017/745 for medical devices.

Children's All-round Protective Coat

This model provides practical all-round protection for your little patients.

The cut combines ideal radiation protection with variable fit and high wearing comfort. The flexible material and generous width adjustment allow for a comfortable fit.

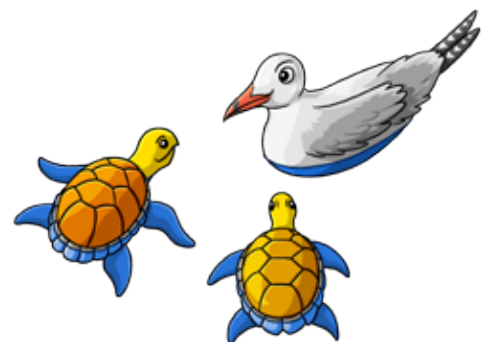
Children's X-ray protection, in particular, must be easy to put on and take off. Patients rarely have enough patience for long actions. So, you can adjust the RP668 children's coat quickly and securely using the hook-and-loop fasteners at the front.

Children's X-ray protection is manufactured by MAVIG with the innovative NovaLite radiation protection material to achieve the best possible weight ratio and thus impose only the most necessary physical strain on the children.



▶ **Available sizes, recommended for:**

- SMALL** Length: 60 cm
Hip circumference: 68 - 75 cm
for children aged approx. 3 - 5 years
- MEDIUM** Length: 80 cm
Hip circumference: 76 - 83 cm
for children aged approx. 6 - 8 years
- LARGE** Length: 84 cm
Hip circumference: 84 - 95 cm
for children aged approx. 9 - 12 years





Ovary Protection with Elastic Belt – RP679

The patient shield RP679 protects the ovaries during X-rays of standing patients.

It is also ideally suited for children as patient protection in the appropriate size set for paediatrics and for X-rays in medical diagnostics.

The stretch belt* with snap buckle closure makes it easy to put on and off and ensures convenient size adjustment.

* For patients with a circumference over 128 cm, a special-sized belt is available as an option.

- ✓ Easy and quick to put on
- ✓ Convenient size adjustment via the stretch belt with snap buckle closure and hygienic cover
- ✓ Set consisting of the belt and one protector each in the size: Small, Medium, Large
- ✓ Protectors adaptable to the belt by means of hook-and-loop fastener



Protection/lead equivalent

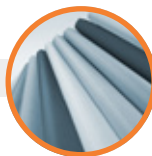
Standard lead



As standard:
1.00 mmPb

Outer material

Colours are size dependent



Standard:
ComforTex® HPMF

Sizes/Colours

recommended for:

Adult	S	16 x 11 cm	Blue Admiral
	M	18 x 13 cm	Mandarin
	L	20 x 19 cm	Regatta
Children	S	7 x 6 cm	Orchidee
	M	9 x 8 cm	Lagoon
	L	10 x 10 cm	Curacao

Size sets

The ovary protector is available as a set with protectors in three sizes and a variably adjustable stretch belt.



Extensive research provided the basis for the size and position relationship between the fixation point "Spinae iliacae anteriores" and the ovarian protection used. The two radiolucent control marks ensure correct and uncomplicated fixation.



RP278 – Ovary Protection

The concept of this MAVIG ovarian shield is unsurpassed and meets all the requirements of radiological practice. Radiation exposure of the female gonads is significantly reduced without compromising the diagnostic technique.

For optimal fine adjustment, each model can be varied again by means of the modular principle. The RP278 is, of course, easy to clean and disinfect.

A complete set offers you the best possible protection for all your supine patients.

RP276 – Testes Protection

This male gonad protection model covers the penis and scrotum all around with a lead equivalent of 1.00 mmPb.

Of course, MAVIG has made sure that there is no risk of injury to the patient when using the protection.

The hook-and-loop fastener provides a good hold when adjusted correctly. For cleaning and disinfection, this model series can be unfolded using the press-studs.

We also have suitable disposable hygiene bags in our range.

RP280 – Testes Protection

The penis and scrotum are protected with a lead equivalent of 1.00 mmPb.

The padded, elastic pouch closure provides gentle pressure for a secure and correct fit throughout the examination. The rounded design poses no risk of injury to the patient.

It is easy to put on and the skin-friendly coating of the MAVIG RP280 testicle capsules offers seamless hygiene inside and out.

Cleaning and disinfection are easy.

Protection/lead equivalent

Standard lead (RP278, RP276)
Lead rubber single layer (RP280)



As standard:
1.00 mmPb

Outer material

RP278 and RP276
Soft PVC cover
in light grey

RP280

Skin-friendly
coating in medico-white

Sizes

recommended for:

RP2781L	Large	Height 12 cm
RP2781M	Medium	Height 9 cm
RP2781S	Small	Height 7 cm
RP2761E	For men	Dimensions 155 x 120 x 90 mm
RP2761K	For boys	Dimensions 110 x 90 x 65 mm
RP2801E	For men	Dimensions 135 x 105 x 60 mm
RP2801K	For boys	Dimensions 105 x 85 x 55 mm

Hygiene bag testes protection

RP-HYG-CE
Set of 100 in men's size

RP-HYG-CK
Set of 100 in boys' size

RP-HYG-CEK

Set of 100 each in men's size and 100 each in boys' size



RP276-S – Testes Protection as a Set of 3 for Children

The model is intended to protect the male gonads of young patients in paediatrics during X-rays for medical diagnostics.

The design was made to avoid any risk of injury to the patient. For cleaning and disinfecting, the shield can be unfolded via press-studs.

The complete size set includes one test shield each for infants, toddlers and children from 1 to approx. 10 years of age.

RP274 – Gonad Protection Pants Set

The gonad protection pants comfortably ensure complete protection of the gonads of your smallest patients.

The practical hook-and-loop fastening makes them quick and easy to put on and remove and enable convenient size adjustment.

The complete size set includes one pair of pants each for babies, toddlers and children from 1 to approx. 6 years of age.

Protection/lead equivalent

Standard lead



As standard:
1.00 mmPb

Outer material

“Happy” design
(pages 10/11)



Standard:
ComforTex® HPMF Plus

Sizes/sets

Recommended for:

The 3-piece complete set RP2761G6212 includes one testes shield each for infants, toddlers and children from 1 to 10 years of age.

The 3-piece complete set RP2741G6212 is suitable for infants, toddlers and children from 1 to 6 years of age.

The respective sizes of each set are variably adjustable by means of hook-and-loop fastener.

Note

Both the testes protection for children and the gonad protection pants are only available as a set:

RP2761G6212 3 sizes for children

RP2741G6212 3 sizes for children



RP271 – Mammary Gland Protection for Paediatrics

The patient protection product for paediatrics reliably protects the mammary glands of your little patients during X-rays in medical diagnostics.

The children's chest protector can be conveniently adjusted to the respective size required.

- ✓ Reduction of radiation exposure in the area of the mammary glands by about 80%
- ✓ Hygienically clean, skin-friendly outer cover
- ✓ Reusable, not a disposable product
- ✓ Comfortable, non-pressing neoprene stoppers
- ✓ Practical adjustment

RP270 – Mammary Gland Protection for Women

The mammary gland shield efficiently protects your patients during mammograms.

The shield consists of two equal parts, each 18 x 40 cm (W x H), connected by a length-adjustable hook-and-loop fastener for comfortable donning and easy adjustment.

Protection/lead equivalent

Novalite



As standard:
0.50 mmPb

Outer material

RP271 in "Happy" design
(pages 10/11)



Standard:
ComforTex® HPMF Plus

Outer material

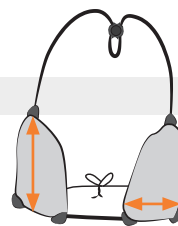
RP270 in colours/designs
(pages 10/11)



Accordingly:
ComforTex® HPMF,
ComforTex® HPMF Plus

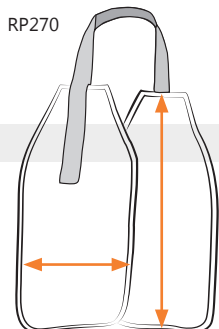
Dimensions

RP271



Height each approx. 11 cm
Width each approx. 10 cm

RP270



Height each approx. 40 cm
Width each approx. 18 cm

It goes without saying that our patient protection products comply with Regulation (EU) 2016/425 for personal protective equipment and (EU) 2017/745 for medical devices.



RD635 – Patient X-Ray Apron for Panorama Shots While Standing

The RD635 protective apron for patients offers optimum radiation protection for standing X-ray exposures on panoramic or teleradiographic units and for digital volume tomography (DVT).

The protective clothing is particularly convenient to put on because it can be individually adjusted to the girth of the respective patient with a flick of the wrist.

The front-mounted fastening system prevents parts of the protective clothing from entering the image-relevant area due to it being closed inaccurately. The back lies smooth and flat against the body.



Protection/lead equivalent

Standard lead
Leadfree



As standard:
0.50 mmPb

Outer material

Colours/designs
(pages 10/11)



Accordingly:
ComforTex® HPMF,
ComforTex® HPMF Plus

Sizes/Dimensions

Recommended for:

Adult
Front: 90.0 x 60.0 cm (H x W)

Children
Front: 70.0 x 45.0 cm (H x W)

Accessories

Thyroid/sternum protection
for patients (page 55)





RD642 – Patient X-Ray Apron for X-Rays in a Seated Position

The MAVIG patient protective apron RD642, which is used for dental X-rays in a seated position, is flexible and comfortable to wear.

The high-quality hook-and-loop fasteners are conveniently placed in the shoulder area, making it precise, secure and quick to put on and remove.



Protection/lead equivalent

Standard lead
Leadfree



As standard:
0.50 mmPb

Outer material

Colours/designs
(pages 10/11)



Accordingly:
ComforTex® HPMF,
ComforTex® HPMF Plus

Sizes

Recommended for:

Adult
Front: 90.0 x 60.0 cm (H x W)

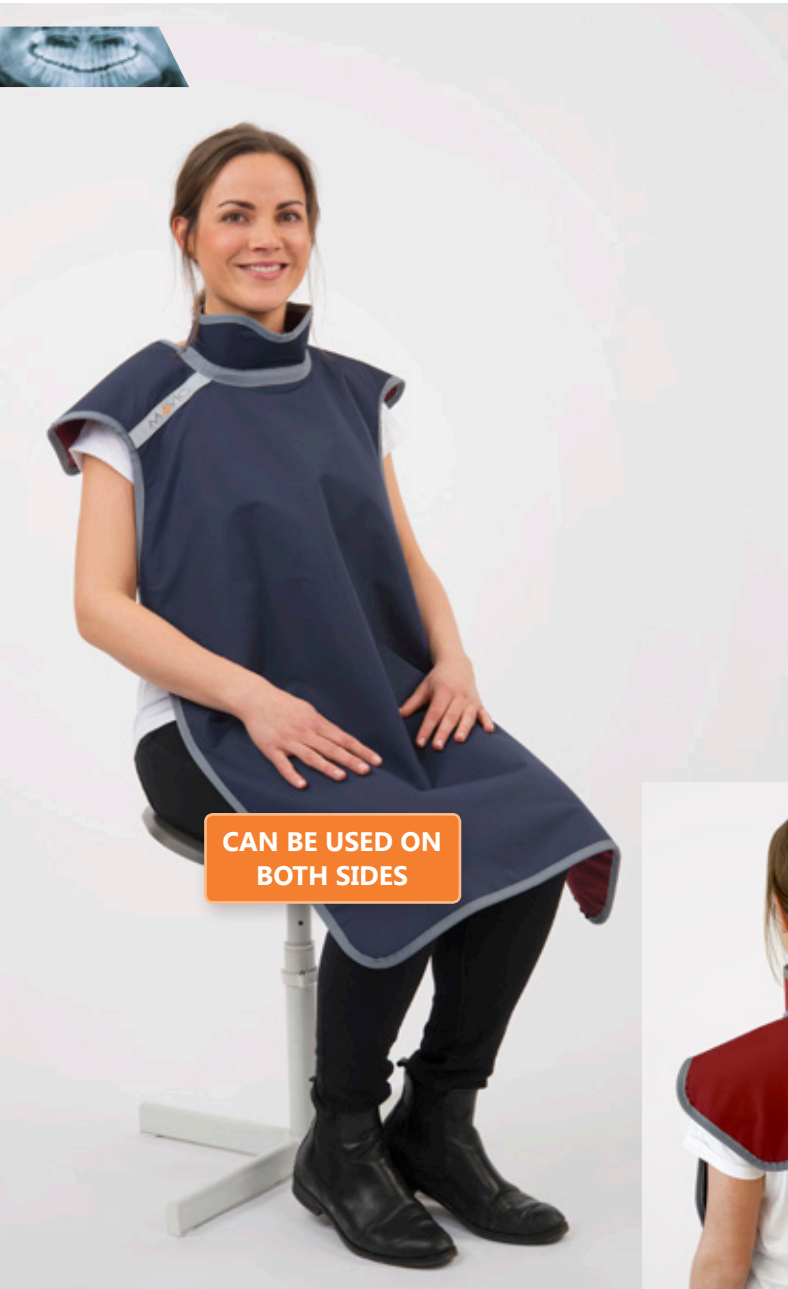
Children
Front: 70.0 x 45.0 cm (H x W)

Accessories

Thyroid/sternum protection
for patients (page 55)



It goes without saying that our patient protection products comply with Regulation (EU) 2016/425 for personal protective equipment and (EU) 2017/745 for medical devices.



RD644 – Patient X-Ray Apron with Thyroid Protection, for X-Rays in a Seated Position

Just like the classic dental apron (RD642), this model offers high flexibility and wearing comfort.

In addition to the large-area protection up to the gonads, the thyroid gland is also covered when taking X-rays of the seated patient.

The practical hook-and-loop fastener at the back of the neck on the thyroid protection collar ensures a snug, secure and quick fit.

Loops on the back allow easy attachment to the dentist's chair.



Model RD644 is designed as a reversible X-ray apron for patients.

The design thus allows you to choose between a one-colour or two-colour model. Two-colour combinations are available in "Curacao with Orchidee" and "Blue Admiral with Baccara".

Protection/lead equivalent

Standard lead
Leadfree



As standard:
0.50 mmPb

Outer material

Colours/designs
(pages 10/11)



Accordingly:
ComforTex® HPMF,
ComforTex® HPMF Plus

Sizes/dimensions

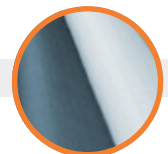
Recommended for:

Adult
Front: 90.0 x 60.0 cm (H x W)

Children
Front: 70.0 x 45.0 cm (H x W)

Optional

Also available in
two-colour design



Optional:
Curacao with Orchidee or
Blue Admiral with Baccara

It goes without saying that our patient protection products comply with Regulation (EU) 2016/425 for personal protective equipment and (EU) 2017/745 for medical devices.



RD614 – Thyroid and Sternum Protection for Patients

The thyroid is a radiation-sensitive organ of the human body and therefore in particular need of protection.

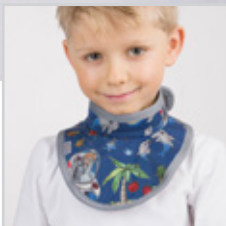
The MAVIG thyroid sternum protection for patients is optimally cut and has the best fit, and, of course, it also takes all radiation protection aspects into account.

An uncomplicated magnetic or hook-and-loop fastener, which can also be replaced as an option, provides sufficient scope for adjustment.

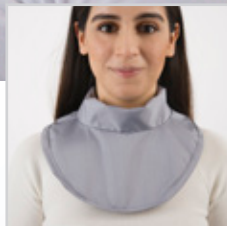
Note: In order to meet hygiene requirements, we recommend that you use our washable hygienic cover made from special ComforTex® MF material "Titan" colour.



With interchangeable hook-and-loop fastener



Children's size in Happy design



Available optional hygienic cover

Protection/lead Equivalent

Standard lead
Leadfree



As standard:
0.50 mmPb

Outer material

Colours/designs
(pages 10/11)



Accordingly:
ComforTex® HPMF,
ComforTex® HPMF Plus

Sizes according to fastener type

Recommended for:

Magnetic/hook-and-loop fastener:	
Adult	Standard size fits neck sizes of 32 - 45 cm
Child	Standard size fits neck sizes of 28 - 36 cm
Interchangeable hook-and-loop fastener:	
Adult	Standard size fits neck sizes of 37 - 50 cm
Child	Standard size fits neck sizes of 28 - 36 cm

Accessories

Hygienic cover



It goes without saying that our patient protection products comply with Regulation (EU) 2016/425 for personal protective equipment and (EU) 2017/745 for medical devices.

Storage Systems for X-Ray Protection Clothing – A Daily Helper

This type of aid must fulfil a number of basic criteria to be of use to you in your daily work practice.

- ✓ Convenient & uncomplicated access
- ✓ Low space requirement
- ✓ Easy to assemble
- ✓ Clear arrangement
- ✓ Proper and protective storage

With these aspects in mind, we have designed the MAVIG storage systems for you. Functional, partly modular technology that offers you the greatest possible scope in spatial planning.



Wall System AW412

In this practical wall system, your radiation protection product is always at hand, stored carefully and in a space-saving manner. Especially recommended for the following items:

RP648 and RD642
ST-FS, ST-RZ and ST-ER

- ✓ Functional metal construction
- ✓ For a radiation protection product
- 140 x 500 x 160 mm (H x W x T)
- Lacquered in the colour medico-white (RAL 9002)
- Max. 10.0 kg weight capacity
- Empty weight: 1.5 kg



Wall System AW417

The right solution for storing your RP643 gonad aprons.

With them clearly arranged, you can determine the right apron size for your patient at a glance and take the right apron out of the wall system in one go, without having to remove any hanging in front of or behind it.

- ✓ Heavy duty metal construction
- ✓ For a set of gonad aprons (4 sizes)
- 80 x 365 x 215 mm (H x W x T)
- In the colour "cool white" (RAL 9016)
- Max. 5.0 kg weight capacity
- Empty weight: 1.3 kg



Special Hanger AW106

The MAVIG hanger made of heavy-duty and 100% recycled material with a special shape is ideal for storing individual aprons, coats or costumes.

A special hanger is included with every apron/coat/costume from MAVIG.

- ✓ Heavy duty, 100% recycled
- ✓ For X-ray protection clothing (1 pc.)

- 90 x 520 mm (H x W)
- Colour: black
- Max. 9.0 kg weight capacity
- Empty weight: 0.2 kg



Mobile System AW423

The AW423 mobile system is smooth, comfortable and moves securely. It has brakes for stabilisation.

It is available in two versions for the safe storage of 5 (AW423/5) or 10 (AW423/10) garments.

- ✓ Functional metal construction
- ✓ For X-ray protection clothing (5 or 10 pcs.)

- AW423/5: 1540 x 550 x 610 mm (H x W x T)
- AW423/10: 1540 x 900 x 610 mm (H x W x D)
- Lacquered in colour medico-white (RAL 9002)
- Chrome-plated swivel bracket (630 mm projection)
- Max. weight capacity: 45.0 kg (AW423/5)
90.0 kg (AW423/10)
- Empty weight: 20.0 kg (AW423/5)
25.0 kg (AW423/10)

Tip

Increase the life of your X-ray protective clothing by making sure it is stored correctly from the start:



Clothes must never be folded, laid over edges or hung on unsuitable hook strips! They must not be in the direct proximity of heat sources. The use of damaged radiation protective clothing is dangerous! This is particularly critical because damage to the internal radiation protection material is usually not noticed or is noticed very late.

So make sure to check that the protective effect is intact at regular intervals!



Wall System AW421/1

If you want to store a garment with the smallest projection, this system is recommended.

- ✓ Functional metal construction
- ✓ For X-ray protection clothing (1 pc.)

- Base plate: 205 x 85 mm (H x W)
- Lacquered in colour medico-white (RAL 9002)
- Chrome-plated swivel hanger (630 mm projection)
- Max. 12.0 kg weight capacity
- Empty weight: 1.2 kg



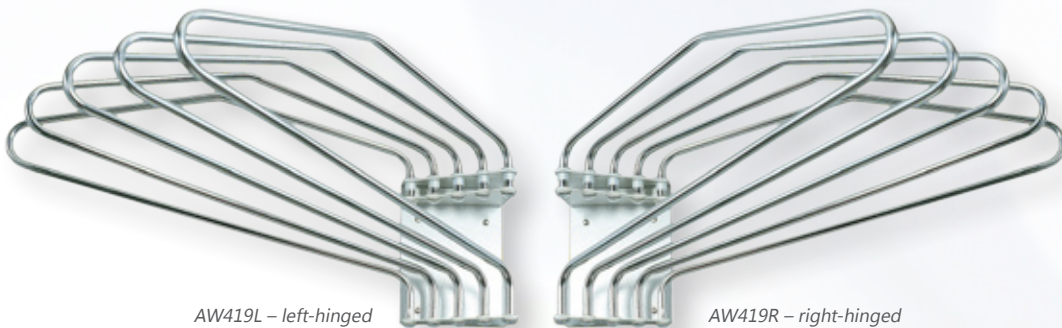
Wall System AW421/2 & AW421/3

Depending on the version, a wall system for the proper storage of two or three garments.

You can fan the hangers apart up to 180° and fold a maximum of two hangers flat to one side against the wall.

- ✓ Functional metal construction
- ✓ For X-ray protection clothing (2 or 3 pcs.)
- ✓ Available with a the right- or left-side hinge

- Base plate: 205 x 85 mm (H x W)
- Lacquered in colour medico-white (RAL 9002)
- Chrome-plated swivel bracket (630 mm projection)
- Max. weight capacity: 24,0 kg (AW421/2)
36.0 kg (AW421/3)
- Empty weight: 1.7 kg (AW421/2)
2.2 kg (AW421/3)



AW419L – left-hinged

AW419R – right-hinged



Wall System AW419

The wall system with top marks for user-friendliness and storage space. The five swivelling chrome hangers offer you a radius of action of 180°. Folded parallel to each other against the wall, the hangers create space in the room again.

Do you need a wall system for up to 10 garments and this with optimal space utilisation and best user comfort? Then the combination of the AW419-R and AW419-L systems is just the right thing for you. The base plate shape allows seamless mounting of the two systems side by side.

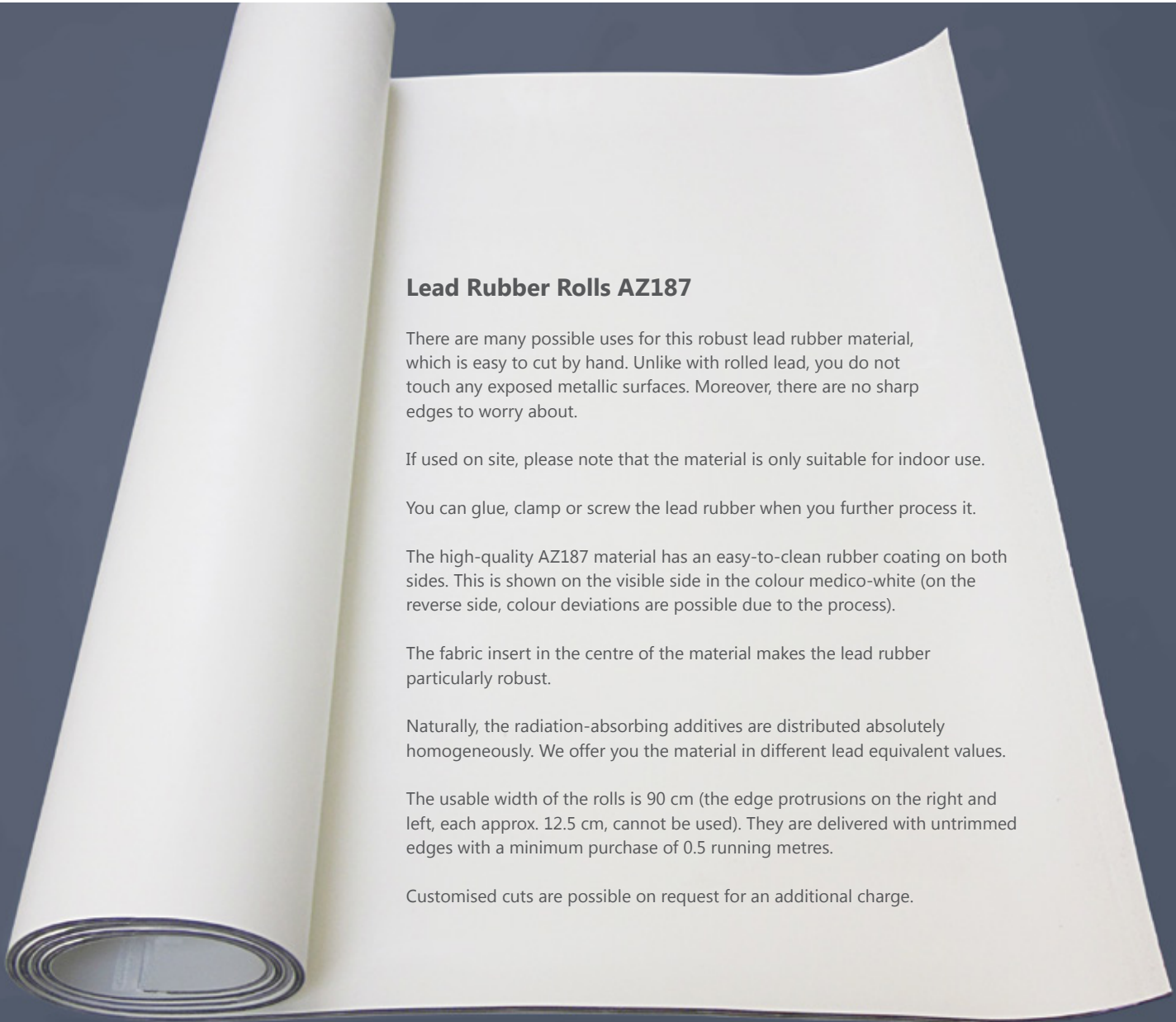
- ✓ Functional metal construction
 - ✓ For X-ray protection clothing (5 pcs.)
 - ✓ Available with a the right- or left-side hinge
- Base plate: 205 x 148 mm (H x W)
 - Lacquered in colour medico-white (RAL 9002)
 - Chrome-plated swivel bracket (670 mm projection)
 - Max. 60.0 kg weight capacity
 - Empty weight: 4.3 kg

Skirt Hook AW427

To store costume skirts, please add our MAVIG special hooks to systems AW419, AW421 and AW423.

These can be easily fitted to the chrome hangers, even retrospectively.

However, please check first whether your costume skirt is also equipped with loops. Unfortunately, this is not the case with all manufacturers.



Lead Rubber Rolls AZ187

There are many possible uses for this robust lead rubber material, which is easy to cut by hand. Unlike with rolled lead, you do not touch any exposed metallic surfaces. Moreover, there are no sharp edges to worry about.

If used on site, please note that the material is only suitable for indoor use.

You can glue, clamp or screw the lead rubber when you further process it.

The high-quality AZ187 material has an easy-to-clean rubber coating on both sides. This is shown on the visible side in the colour medico-white (on the reverse side, colour deviations are possible due to the process).

The fabric insert in the centre of the material makes the lead rubber particularly robust.

Naturally, the radiation-absorbing additives are distributed absolutely homogeneously. We offer you the material in different lead equivalent values.

The usable width of the rolls is 90 cm (the edge protrusions on the right and left, each approx. 12.5 cm, cannot be used). They are delivered with untrimmed edges with a minimum purchase of 0.5 running metres.

Customised cuts are possible on request for an additional charge.

Protection/lead equivalent

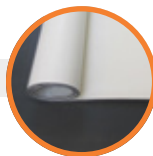
Lead rubber



Optional:
0.50 mmPb, 1.00 mmPb,
1.50 mmPb or 2.00 mmPb

Outer material

Medico-white



Coating:
on both sides

Sizes/dimensions

Available as rolls
with a usable width of 90 cm,
edges untrimmed

Technical specifications

Lead equivalent	Thickness	Weight
0.50 mmPb	2.90 - 3.30 mm	7.5 kg/m ²
1.00 mmPb	4.56 - 5.16 mm	13.5 kg/m ²
1.50 mmPb	6.00 - 6.80 mm	19.5 kg/m ²
2.00 mmPb	7.90 - 8.90 mm	27.0 kg/m ²

Anti-scatter Grids

Anti-scatter grids support you in meeting the high requirements for image quality of X-ray images in medical diagnostics as well as the guideline of the German Medical Association for quality assurance in X-ray diagnostics and the European guidelines on quality criteria for X-ray images.

Anti-scatter grids are used in both analogue and digital imaging and increase image sharpness, overall contrast and detail resolution.

Radiation-absorbing strips integrated into the grid reduce the scattered radiation generated in the patient's body during fluoroscopy. If, on the other hand, high stray ray components were to hit the image receptor area, this would result in a considerable loss of contrast or "fog". Hence, the use of anti-scatter grids really helps to ensure the required image quality.

Parallel grids

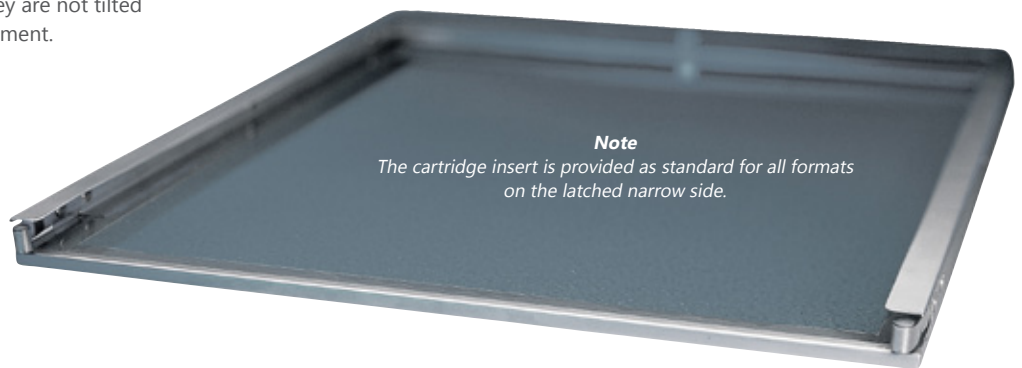
In our portfolio you can find parallel anti-scatter grids, which are particularly recommended for images on the ward, e.g. for X-rays of the lungs in intensive care. In contrast to focussed grids, which require a specific distance between tube and screen, parallel grids have lower demands on centring and focussing. With a parallel grid, the absorber strips are not aligned to a focal point, i.e. they are not tilted but there is a parallel strip arrangement.

Tunnel grid (grid bridge)

In a so-called grid bridge or tunnel grid, the anti-scatter grid is inserted into a frame construction. In the case of the MAVIG tunnel grids, the sophisticated design is particularly noteworthy. User-friendliness, resilience and the associated long service life of the anti-scatter grid are key. The anti-scatter grid is located in a robust housing and is additionally supported by radiopaque plastic plates.

Characteristics of the MAVIG Anti-scatter Grid

- The number of lines describes the number of strips per cm of grid area (s/cm). We offer you our anti-scatter grids with 70 s/cm.
- The line defines the alignment of the strips either parallel to the longitudinal side of the grid or to the narrow side of the grid.
- The shaft ratio describes the relationship between the strip height and the distance between the strips (r). You have the choice of a ratio of 6:1 and a ratio of 8:1 for our anti-scatter grids.
- The formats 35.6 x 43.2 cm and 24 x 30 cm are available.
- For a parallel grid, there is no need for grid focusing (angle of inclination of the grid strips) as the strips are arranged in parallel.
- The cartridge insert is located on the narrow side of the grid bridge.



Shaft ratio/number of lines

A anti-scatter grid has the following characteristic variables:

- Lead strip height
- Lead strip thickness
- Thickness of the shaft medium
- Number of lines per cm

This gives rise to the following key figures Ratio (shaft ratio) and lines/cm (number of lines per cm), which define the final grid design.

Line course

The line course is aligned parallel to the grid long side (in the standard).

Number of lines per cm	Parallel grid	
	shaft ratio 6:1	shaft ratio 8:1
70	x	x

Film formats

Tunnel grid (parallel)
24.0 cm x 30.0 cm
35.6 cm x 43.2 cm

On request, "cross-stripped" grids can also be produced, i.e. with the line running parallel to the narrow side of the grid.

NOTES

With the help of this data sheet and a standard tape measure, you can easily determine your body measurements. Based on the measurements, a clothing size will be determined for you or, if necessary, a made-to-measure item will be suggested. Before you use the measuring tape, please note the following:

The table data are to be understood as body measurements, measured **without additions** but also without being constricting. You **cannot** determine the correct values if you measure yourself. The measurements must thus always be taken by another person. The person being measured should stand straight with arms outstretched.

The length of the X-ray protection clothing should be selected in accordance with the German Radiation Protection Ordinance (R6V) and DIN EN 61331-3:2016 so that the front of the body is covered from the base of the neck to at least the kneecaps (MAVIG recommends coverage to below the knee for complete protection).

Please fill in the following points completely.

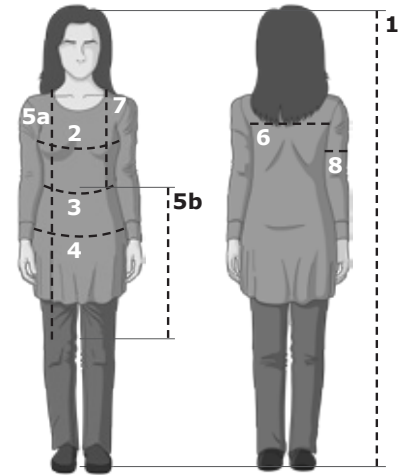
Measurements for: Mr / Ms _____
(First name and surname)

1 _____ cm **Total height**

2 _____ cm **Chest circumference**
Across the broadest part of the chest (bust) horizontally around the body

3 _____ cm **Waist circumference**
Measure around the waist without making it tight (for women measure at the narrowest part of the waist, for men measure around the body slightly below the navel)

4 _____ cm **Hip/buttock circumference**
Place the measuring tape horizontally around the broadest part of the hips/buttocks



Points 5 – 8 only for custom-made products:

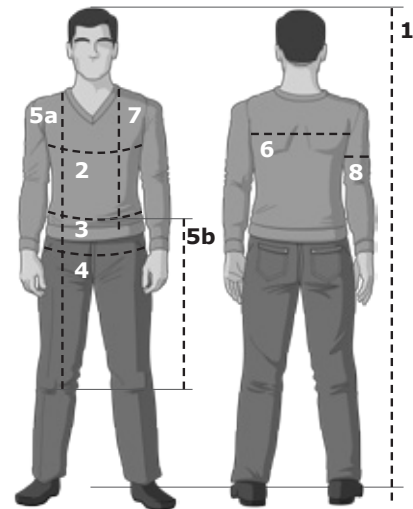
5a _____ cm **Apron/coat length**
Measure from the middle of the shoulder, down the chest to the desired height of the lower edge of the apron/coat

5b _____ cm **Costume skirt length**
Measure from the waist down to the desired height of the bottom edge of the skirt

6 _____ cm **Back width**
Measure at the back, from armpit to armpit, with arms at the sides

7 _____ cm **Front length of the costume vest**
Measure from the middle of the shoulder over the chest down to the narrowest part of the waist (for women) or to slightly below the navel (for men)

8 _____ cm **Upper arm circumference (sleeve)**
Horizontal circumference at the middle of the upper arm



I Model RA _____ NovaLite
 Leadfree
 Standard lead

Pb: Front _____ mm **Back** _____ mm
(Standard: 0.25 mmPb)

III Sleeves Right / Left / Both sides
(Optional) Sewn-on / Buttoned-on

Pb: _____ mm
(Standard: 0.25 mmPb)

II Outer material ComforTex® HPMF Hybrid
 ComforTex® HPMF
 ComforTex® HPMF Plus (Nautilus design only)

Colour: _____
(Colour indication or colour code)

IV Embroidery/border Sewn-in
(Optional) Adjustable

Text: _____

(Please write legibly, in capital letters)

Measured by: _____ **on:** _____
(Name) (Date)

From/by: Hospital / Supplier / MAVIG employee



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