



EN

Veterinary Products

for Safety and Comfort

X-Ray Protection in Veterinary Medicine

MAVIG

„MADE IN GERMANY“ – SINCE 1921



1921



1960



1972



1985



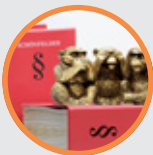
For over 100 years, MAVIG has specialised in personal protection at workplaces where people are exposed to risk.

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

Production grew steadily in the decades. Protective products for X-rays 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.



Product Responsibility

- ✓ Optimized for practical handling
- ✓ Up-to-date X-ray protection
- ✓ Proven in the professional field
- ✓ High-grade workmanship
- ✓ Highest quality standards
- ✓ Designed and manufactured in Germany

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.

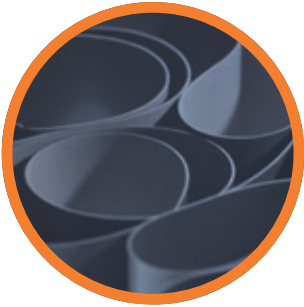


Quality Management

- ✓ Consistent quality management system
- ✓ Meeting all applicable legal requirements
- ✓ **DIN EN ISO 13485:2016** (medical devices)
- ✓ Accurate and on schedule

Certifications

- ✓ IEC 61331-1:2014 / DIN EN 61331-1:2016 (PPE models)
- ✓ IEC 61331-3:2014 / DIN EN 61331-3:2016 (PPE models)
- ✓ Type testing and certification in accordance with (EU) 2016/425
- ✓ Engineered and produced according to regulations/norms
- ✓ Tested for safety and reliability
- ✓ Radiation protection of the highest quality



High Performance Radiation Protection Inlay Material

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.

Standard Lead

- ✓ 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®

- ✓ 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

- ✓ 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

MAVIG ComforTex® Outer Material for Protective Clothing



ComforTex® HPMF Hybrid and Plus with Special Coatings & ComforTex® HPMF (Standard)

- ✓ Medical fabric
- ✓ Outstanding performance
- ✓ High barrier function
- ✓ Low particle release
- ✓ Material strength
- ✓ Wearing comfort
- ✓ Optimal cleaning characteristics

MAVIG uses a medical fabric of the highest performance class as an outer cover for X-ray protective clothing, which is based on DIN EN 13795:2013.

The special material composition creates a highly effective protective barrier which prevents any penetration of pathogens and their carrier media, such as fluids and solid particles.

Additionally, the material structure repels liquids and counteracts any growth of microorganisms on the surface. The special microfibre fabric also provides maximum freedom from the release of textile particles.

Next to the safety issues for the inner protective material, ComforTex® is pleasing to touch and combine maximum comfort for the wearer with optimum hygiene and cleaning properties.



Titan

Blue Admiral

Regatta

Curacao

Lagoon

Mandarin

Orchidee

Baccara

"Happy"

"Nautilus"

(ComforTex® HPMF Plus only)

(ComforTex® HPMF Plus only)

Sizes and Lengths of MAVIG X-Ray Protective Clothing



Front Protective Apron – COMFORT RA660



Front Protective Apron– EXTENDED RA641



Front Protective Apron – BASIC RA640

The size depends on the girth of the chest, waist, or hip, depending on which of the three measurements is the largest !

Sizes, recommended for:

XS	Chest girth ≤ 84 cm,	Waist/hip girth ≤ 91 cm
S	Chest girth approx. 85 - 95 cm,	Waist/hip girth approx. 92 - 102 cm
M	Chest girth approx. 96 - 106 cm,	Waist/hip girth approx. 103 - 112 cm
L	Chest girth approx. 107 - 117 cm,	Waist/hip girth approx. 113 - 123 cm
XL	Chest girth approx. 118 - 128 cm,	Waist/hip girth approx. 124 - 134 cm
XXL	Chest girth approx. 129 - 139 cm,	Waist/hip girth approx. 135 - 145 cm
3XL	Chest girth approx. 140 - 150 cm,	Waist/hip girth approx. 146 - 156 cm

Lengths, recommended height:

90 cm	for approx. 150 - 160 cm	120 cm	for approx. 175 - 190 cm
100 cm	for approx. 160 - 170 cm	130 cm	for approx. 185 - 195 cm
110 cm	for approx. 170 - 180 cm	140 cm	for approx. 195 - 205 cm

X-ray protective clothing from MAVIG gives you the security of knowing that you comply with all applicable legal requirements.

These models comply with IEC 61331-1:2014 / DIN EN 61331-1:2016 and IEC 61331-3:2014 / DIN EN 61331-3:2016.

Naturally, MAVIG X-ray protective clothing also underwent the required type examination and certification according to PPE directive (EU) 2016/425.



Front Protective Apron – COMFORT RA660

For long wearing periods

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

Special Features – Wide Stretch Inserts with Hook & Burr Fasteners

The wide stretch inserts in the back wings ensures individual adjustment, a good fit and shoulder relief, even when the X-ray protective clothing is worn for a long time.

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.

Protection/Lead Equivalent

NovaLite, Leadfree
or Standard lead

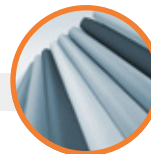


Front side, optionally:
0.25 mmPb, 0.35 mmPb
or 0.50 mmPb

Back, optionally:
0.25 mmPb
or without protection

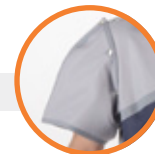
Outer Material

Colours/designs

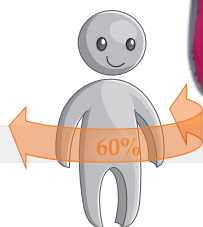


Selection:
ComforTex® HPMF,
ComforTex® HPMF Hybrid,
ComforTex® HPMF Plus
(Nautilus design only)

Optional



On Request:
Sleeves
Breast Pocket
Embroidery
Made-to-Measure





Front Protective Apron – EXTENDED RA641

Especially for sitting/crouching activities

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



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 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.

Protection/Lead Equivalent

NovaLite, Leadfree
or Standard lead

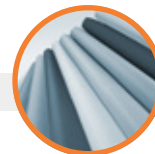


Front side, optionally:
0.25 mmPb, 0.35 mmPb
or 0.50 mmPb

Back, optionally:
0.25 mmPb
or without protection

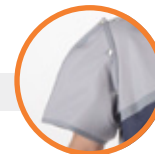
Outer Material

Colours/designs



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

Optional



On Request:
Sleeves
Breast Pocket
Embroidery
Made-to-Measure



Front Protective Apron – BASIC RA640

For standard procedures / basic product

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

We offer different closure systems for this series of aprons:



(1) Snap Fasteners



(2) Crossbands



(3) Straps & Snap Buckle



(4) Snap Buckles

Protection/Lead Equivalent

NovaLite, Leadfree
or Standard lead



Front side, optionally:
0.25 mmPb, 0.35 mmPb
or 0.50 mmPb

Back, optionally:
0.25 mmPb
or without protection

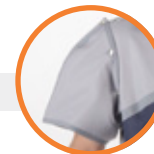
Outer Material

Colours/designs

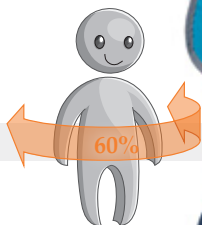


Selection:
ComforTex® HPMF,
ComforTex® HPMF Hybrid,
ComforTex® HPMF Plus
(Nautilus design only)

Optional



On Request:
Sleeves
Breast Pocket
Embroidery
Made-to-Measure





Costume BALANCE – RA631

Allround protection as a two-piece – vest and skirt

- ✓ Optimal weight distribution
- ✓ Up-to-date cuts according to IEC 61331-3:2014 / DIN EN 61331-3:2016
- ✓ Great flexibility

Allround optimum protection! Fully overlapping front panels achieve lead equivalent values of 0.25 mmPb, 0.35 mmPb, or 0.50 mmPb for the front and create the basis for the incredible wearing comfort of the Balance series RA631.

The skirt has a wide belt strap in addition to the high-quality hook & burr fastener. The belt strap supports without constriction and ensures an optimum, secure fit.

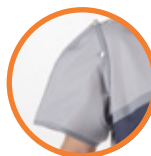
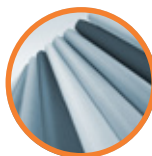
- ✓ Optimal weight distribution
- ✓ Up-to-date cuts according to IEC 61331-3:2014 / DIN EN 61331-3:2016
- ✓ Great flexibility

Coat SYNERGY – RA632

Allround protection

This special user comfort also includes being able to put on the apron comfortably and easily. The coat is simply closed at the chest with a hook & burr fastener and fits properly without any fuss.

The necessary front protection is provided from side seam to side seam by overlapping front panels. The RA632 series creates the required safety zones by a double-layer structure in the sensitive areas. An elastic belt (included) provides shoulder relief without any uncomfortable restriction.



Thyroid/Sternum Protection – RA614

Suitable for all apron models

- ✓ Optimized fit
- ✓ Seamless tailoring in protection area
- ✓ Easy handling

The thyroid is a radiation-sensitive organ of the human body and therefore in particular need of protection. Wearing appropriate protection during doseintensive examinations should therefore always be a matter of course.

With a permanently sewn-on hook & burr closure (KL) in the neck as standard, our thyroid and sternum protection is optionally also available with exchangeable hook & burr closure (AK), or with a comfortable magnetic closure (MA).



Exchangeable Closure (AK)

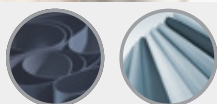


Magnetic Closure (MA)

Protection / Lead Equivalent	NovaLite, Leadfree or Standard lead / 0.50 mmPb
Outer Material	ComforTex® HPMF, ComforTex® HPMF Hybrid, ComforTex® HPMF Plus (Nautilus design only)
Neck Sizes	Standard size fits all common neck sizes RA614KL & RA614MA: 32 - 45 cm / RA614AK: 37 - 50 cm

* In order to meet hygiene requirements, we recommend that you use our washable hygienic cover made of the special ComforTex® MF material („Titan“ colour).

X-RAY PROTECTIVE ACCESSORIES IN VETERINARY MEDICINE



X-Ray Protection for the Skull

Without effective on-site over-table anti-scatter protection, the skull might be at risk of high exposure to radiation.

MAVIG has therefore developed two different radiation protective head coverings to meet the users' individual needs.

- The RA611 with breathable insert incorporated into the top of the cap
- The RA612 for gapless radiation protection
- In conformity with IEC 61331-1:2014 / DIN EN 61331-1:2016

Protection / Lead Equivalent	NovaLite, Leadfree or Standard lead / 0.25 mmPb, 0.35 mmPb, or 0.50 mmPb
Outer Material	ComforTex® HPMF, ComforTex® HPMF Plus
Head Circumference	Suitable for head circumferences of 54 - 63 cm



Colour Design BR126 Sandstone/Orange



Colour Design BR126 Cocoa/Light Blue

X-Ray Protection for the Eye-Lenses

The use of X-ray protection glasses is an important tool for meeting the legal requirement for reducing the organ equivalent dose.

Efficient radiation protection for the lens of the eye also requires protection from secondary radiation hitting the lens from the side and also from below.

The first generation BR126 protection glasses were already equipped with adequate side protection. After the facelift, second-generation BR126 glasses have optimized side radiation protection.

Protection / Lead Equivalent	Front 0.50 mmPb or 0.75 mmPb, sides 0.50 mmPb (always 50 - 150 kV)
Weight	approx. 80 g (0.50 mmPb) / approx. 85 g (0.75 mmPb)
Sizes	"small-medium" and "large"

- ✓ Shielding against scatter radiation laterally / from below
- ✓ Wide area protection of the eye-lenses
- ✓ Optimized fit
- ✓ Included: Anti-reflective coating, glasses strap, glasses case
- ✓ Sight-correction lenses for single-vision and progressive lenses
- ✓ Conformity: IEC 61331-1:2014 / DIN EN 61331-1:2016



- ✓ Powder-free
- ✓ Lead free
- ✓ Sterile
- ✓ High elasticity
- ✓ Great touch sensitivity
- ✓ Extreme tear-resistant
- ✓ Available in multiple sizes
- ✓ In conformity with 93/42/EEC, PPE directive (EU) 2016/425, and IEC 61331-1:2014 / DIN EN 61331-1:2016

Sterile X-ray Protective Gloves – HS100

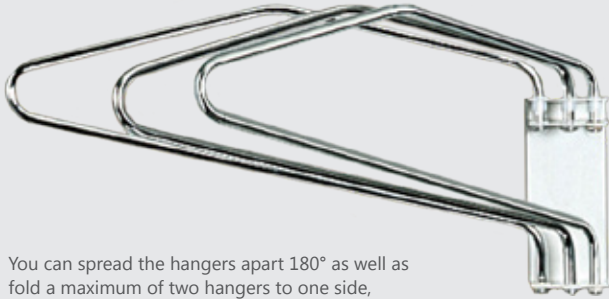
MAVIG offers with HS100 - X-ray-absorbing, sterile gloves - an efficient way for the reduction of scattered radiation exposure.

When the gloves are worn in the scattered radiation zone (X-ray tube voltage 60 - 80 kV) a dose reduction of > 50% is obtained and effectively helps to minimize health risks.

Protection / Lead Equivalent	0.03 - 0.04 mmPb
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Wall System AW421 /1 /2 /3

For optimal storage of up to 3 aprons



You can spread the hangers apart 180° as well as fold a maximum of two hangers to one side, flat against the wall.

- ✓ Apron capacity varies depending on the version: 1x (AW4211), 2x (AW4212R and AW4212L), or 3x (AW4213)
- ✓ Robust metall construction
- ✓ 'Medico-white' colour finish (RAL9002)

Mobile System AW423 /5 /10

Stores up to 5 or 10 aprons (depending on version)



The system is easy, convenient, and safe to move.

- ✓ Functional, sturdy metal construction, with brakes
- ✓ 'Medico-white' colour finish (RAL9002)
- ✓ with 5 resp. 10 chrome-plated swivel bars

Protective Walls for Flexible Use

For different applications or positioning in the room



MAVIG manufactures mobile shields from the most modern protective materials in a variety of options. Of course, we also welcome specific needs of our clients in addition to our standard offerings.

The following are two examples of our portfolio. - We are happy to help.

Model WD257

Height adjustable, mobile



- ✓ Robust steel body (1.00 mmPb, WxH: 78 x 95 cm)
- ✓ Transparent lead acrylic panel
- ✓ Adjustable in height: 115 - 188 cm
- ✓ Electroconductive casters
- ✓ Optional accessory rail

Model WD204

Modular, mobile



- ✓ Lead equivalent optionally 0.50 mmPb or 2.00 mmPb
- ✓ Various widths, 70 - 170 cm
- ✓ Lead glass window in different sizes (2.00 mmPb, starting WxH: 36 x 46 cm)
- ✓ Aluminum construction



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