



Your partner for optical components



> Precision is the key element.

Expertise comes from experience.

About us.

As per our motto "Everything from a single source!", we provide you with development, design and manufacture of your optical system from samples through to series production. The tempering of all optical elements is specially adapted to your requirements.

Our products can be found in the following sectors:

- ▶ Engineering
- ▶ Measurement and control technology
- ▶ Projection tasks
- ▶ Laser technology
- ▶ Control technology

We can supply your product in a quick and uncomplicated way due to our large manufacturing range and flexibility.

The main features of our company are:

- ▶ Construction of optical systems
- ▶ Spherical lenses
- ▶ Aspherical lenses
- ▶ Fine mechanical components
- ▶ Tempering
- ▶ Assembly of complete systems





Management

from left to right:

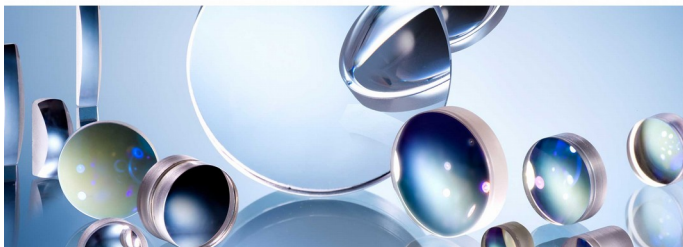
Carsten Meuser
Dipl.-Wirtsch.-Ing. (FH)
Managing Director
Commercial Manager

Torsten Meuser
Dipl.-Ing. (FH)
Managing Director
Technical Manager

Horst Meuser
Managing Director
Master precision optician

Half a century of precision work. Milestones.

- 1962 ▶ Company is founded by Richard Meuser in Blessenbach
- 1969 ▶ Start of production in the building in Blessenbach
- 1980 ▶ Founding of Meuser Optik GmbH
- 1991 ▶ Plant extension to 600 m² of production space
- 1997 ▶ Investment in high-precision polishing processes (radii 2 – 20 mm)
- 1998 ▶ Investment in optical CNC milling technology
- 2000 ▶ Extension to our own raw part manufacturing
- 2004 ▶ Setting up of our own mechanical systems with the purchase of a CNC lathe
▶ Setting up a tempering department
- 2005 ▶ Purchase of a new production building in Aumenau with approx. 3500 m² of hall space
- 2006 ▶ Moved from Blessenbach to Aumenau into the new production building
- 2007 ▶ Addition of another high vacuum system to the tempering department
- 2008 ▶ Initial use of the adjusting-aligning-centering procedure for high-end lenses
- 2009 ▶ Purchase of the first CNC milling machines for the mechanical systems department
- 2010 ▶ Purchase of new CNC lathe machines for the mechanical systems department
- 2011 ▶ Renewed expansion of the tempering department
▶ Purchase of 5-axis fully simultaneous milling machine for the mechanical systems department
- 2012 ▶ Purchase of a second 5-axis fully simultaneous milling machine for the mechanical systems department
▶ Major fire on the 2nd February completely destroys the company building
▶ February: Resumption of total production in the old company building in Blessenbach
▶ Reconstruction of the production halls at the old location in Aumenau
- 2013 ▶ Moved into the newly built 3600 m² production and administration building in Aumenau
▶ Replacement investment in an ultra precise adjusting-aligning-centering lathe
▶ Another rotation center for machining large diameters for the mechanical systems department
- 2014 ▶ Purchase of a 5-axis fully simultaneous milling machine with the highest stiffness for reaching the highest precision
- 2015 ▶ Fully automatic charging station with a moving robot in 6 axes for the highly flexible production demands for the purchased 5-axis fully simultaneous milling machine
- 2016 ▶ First time in-house products were sold: 180° ultra wide-angle-lens for 2/3", HD high speed lens (k = 1.0) with F-mount, super-apochromatic corrected measuring lens, 4x and 6x precision magnifying lenses



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Connect four. Our areas of expertise.

- > Development
- > Manufacturing
- > Opto-systems
- > Precision lenses

From idea to product in a very short time. Development.

We develop total optical solutions for and with our customers.

We develop solutions quickly and effectively due to the close collaboration of the individual development departments as well as with our customers.



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Everything from a single source. Manufacturing.

In order to provide you with all of this, our manufacturing consists of optical and mechanical production as well as state-of-the-art tempering technology. Furthermore, our assembly department makes it possible to install complete optic and opto-electronic components under cleanroom conditions. For this purpose, the latest and state-of-the-art measuring and control devices are available for our production and assembly departments for intermediate and final inspections.

Lens production

In order to be able to offer you the best price-performance ratio, we manufacture on both conventional and CNC-optics-machines. Through this, a wide range of production for spherical and flat lens is available to us. Radii measurements of up to $R = 1000\text{ mm}$ are possible on our interferometers. Our own raw part manufacturing and our well equipped glass warehouse make it possible for us to respond to your desires at short notice.

Mechanical system production

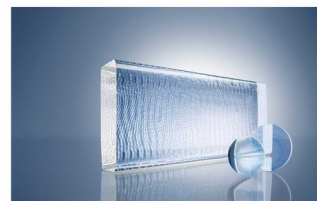
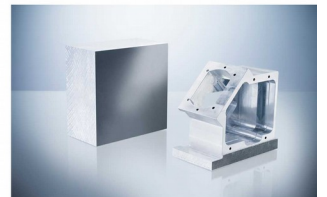
We manufacture from 3 to 5-axis milled parts through to all turned parts on our CNC lathe and milling machines, all according to your wishes and requirements.

Tempering

Thanks to many years of experience of our coating designer and two of the latest tempering systems, we are in a position to offer you a wide range of coatings for all optical lenses. Be it anti-reflective, mirroring, filtering or dielectric coatings in the wavelength range of 195 nm to 3000 nm , none of this is a problem for us.

Assembly

Highly complex optical and opto-electronic systems are assembled under cleanroom conditions at our assembly department.



Tailor-made solutions for your requirements. Opto-systems.

Everything from us is developed together with our customers and is specially designed and manufactured to their needs. Our systems are used in the areas of measurement and projection task, illumination and imaging optics. Our high-performance HD lenses for film and television are a special area of imaging optics.

We are able to offer a good price-performance ratio even for difficult tasks due to years of experience in developing optical systems and our wide range of products.



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Diversity altogether. Precision accuracy in detail. Precision optics.

Our production range for precision optics includes spherical and aspherical optics. Furthermore, we are also represented in the area of flat optics and the manufacturing of diverse prisms. Of course, we can also manufacture cemented elements (achromatic and triple lenses). All these lenses can be manufactured from any well-known optical glasses.

Aspherical lenses

We can manufacture aspherical lenses in ground and polished form with extremely high quality in accordance to customer specifications up to a diameter of 200 mm for imaging systems. Here, the aspherical lenses are produced using state-of-the-art measurement machines and the latest generation of manufacturing machines. Furthermore, we also provide aspherical illumination lenses in which the aspherical side is pressed on.

Achromatic lenses

Of course, we offer achromatic lenses in all customer specific forms. These can be coated with any of the most popular tempering methods.

Triple lenses

Due to many years of experience, we can also manufacture triple lenses of any kind without problems.

Spherical optics

We manufacture and deliver spherical lenses:

- ▶ Plano-convex lenses
- ▶ Plano-concave lenses
- ▶ Biconvex lenses
- ▶ Biconcave lenses
- ▶ Menisci

Prisms

We manufacture deflection prisms, reflection prisms and polarizing prisms according to your desires. The edge length is 5-20 mm. The accuracy is 1 angular minute.

All lenses are manufactured according to your desires. Tempering is selected and applied to the lenses or to the desired system according to requirements.



Good partners are a good prerequisite. CSM.

CSM Coating Systems Meuser GmbH is an independent department of Meuser Optik GmbH. It is a small and therefore flexible company with state-of-the-art systems and the expertise of an experienced coating designer.

Amongst other things, our product range consists of:

- ▶ Single coating
- ▶ Dual coating
- ▶ Broadband antireflection
- ▶ Duo-coating
- ▶ YAG-Laser protective coating
- ▶ Short and long pass filter
- ▶ Heat protective filter

As an experienced contractor, we will be happy to offer you a coating service for your lenses.

Our in-house product line

▶ No development costs ◀

▶ Short-term availability ◀

Simply see more. 180° Ultra wide angle lens.

Technical data:

▶ Angle of aperture	$2\omega = 180^\circ$
▶ Image circle diameter	$2\gamma = 11,0 \text{ mm}$
▶ Focal length	$f = 3,5 \text{ mm}$
▶ Aperture	$k = 2,2 - 16,0$
▶ Correct colour illustration (maximal lateral colour)	$< 2,7 \mu\text{m}$
▶ Frontal diameter	62,0 mm
▶ Corpus diameter	34,0 mm
▶ Length from C-Mount-connection	72,5 mm

Combination:

- ▶ Used for camera: HD 2/3"
- ▶ C-Mount-connection

The raw data can be deblurred by a defined logarithm. The deviation from specifications is $< 0,15 \%$ of distortion.

Type: Equidistant projection mode

Item number: MO.E-10180
Price on request



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Our in-house product line

▶ No development costs ◀ ▶ Short-term availability already for 1 unit ◀

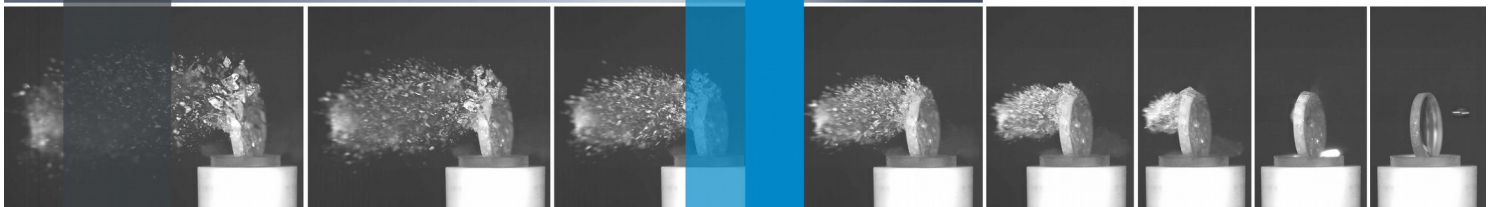
Capturing moments of speed.

HD High speed lens k = 1.0

Technical data:

▶ Focal lens diameter	f' = 75.0 mm
▶ Image circle diameter	2y' = 32.0 mm
▶ Aperture	k = 1.0 - 5.6
▶ Angel of aperture	2w = 24°
▶ Minimum object distance (M.O.D.)	0.5 m
▶ Frontal diameter	118.0 mm
▶ Frontal lens diameter	85.0 mm
▶ Length from F-Mount-connection	72.0 - 91.0 mm
▶ Weight	600 g

Item number: MO.E-20100
Price on request



Our in-house product line

▶ No development costs ◀

▶ Short-term availability ◀

Attention to detail. Precision magnifiers.

The magnifying systems feature the highest possible transparency, with perfect achromasia and orthoscopy, they deliver undistorted pictures with true colours.

Relaxed geometry due to highly refractive optics, which - in comparison to customary Steinheil designs - leads to a significantly better correction and larger diameters at the same magnification.

An additional feature is the preservation of the high imaging performance, independent of the positioning of the eyes with respect to the lens; this cannot be achieved with any other magnifying system.

The magnifying glasses are very user-friendly, even at high magnification.



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Technical data:

- ▶ Apochromatically corrected Steinheil-Triplets
- ▶ broadband antireflection

6x magnifier

- ▶ Optic diameter 29.0 mm
- ▶ Eye relief 36.0 mm
- ▶ Object distance 36.5 mm
- ▶ Object field diameter 22.0 mm
- ▶ Weight 42 g

4x magnifier

- ▶ Optic diameter 44.0 mm
- ▶ Eye relief 54.0 mm
- ▶ Object distance 55.0 mm
- ▶ Object field diameter 32.0 mm
- ▶ Weight 128 g

Available colour combinations:

- ▶ Anthracite / black
- ▶ Bronze / black

Item number: MO.E-30601 (6x magnifier anthracite/black)
MO.E-30602 (6x magnifier bronze/black)
MO.E-30401 (4x magnifier anthracite/black)
MO.E-30402 (4x magnifier bronze/black)

Price on request





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Our in-house product line

▶ No development costs ◀

▶ Short-term availability ◀

With the focus
on detection.

Super apochromatically
measuring lens $f=50$.

Technical data:

- ▶ Spectral range (corrected) 350 - 1000 nm
- ▶ MTF: Corrected for 500 lp/mm spatial frequency; contrast > 0,6!
- ▶ Aperture $k = 5,2$
- ▶ Focal length $f = 50$ mm
- ▶ Image circle diameter $2y' = 20,0$ mm
- ▶ Angle of aperture $2w = 22^\circ$
- ▶ Min. adjustable object distance 300 mm
- ▶ Object diameter with min. distance 111 mm
- ▶ Length from C-Mount-connection 45,0 - 60,0 mm
- ▶ Max. lens diameter 33,0 mm
- ▶ Weight 100 g

The measuring lens is designed for ambient temperature between -10°C and $+50^\circ\text{C}$.

Item number: MO.E.40050
Price on request





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