

Printing Industry



- Application specific optics for high quality printing and scanning
- Development, prototyping and volume production
- Technical support services

LINOS History

A company with a comprehensive past and a bright future

LINOS, a member of the Qioptiq Group, can look back on a company history of pioneering innovations in precision optics, optomechanics and optoelectronics. Based on the systematic and worldwide development of these competencies, with its 800 specialized employees LINOS is today a global leader in the supply of high-precision optical components and systems.



The requirements of our customers set the benchmark

Whatever your optical challenge, whatever your optical material, LINOS can provide the appropriate solution – anywhere in the world.

Customer liaison and support right from the start

LINOS offers you a comprehensive partnership. This means, your local LINOS engineer will guide you through the entire process of planning, designing, developing and manufacturing a sophisticated optical system.

Experts for each specific application

The LINOS profit centre structure enables us to act quickly and flexibly according to our broad range of customer-specific applications. The strong LINOS network consists of nine different LINOS business units as well as our external partners and top-level research institutions. These powerful teams stand for streamlined processes, exchange of know-how, flexibility and inspiration.



Business Unit Photo & Printing

BU Systems Technology
BU Semiconductor Technology
BU Laser Technology
BU Photonic Industries



BU Photo & Printing

BU Medical Technology
BU Biophotonics
BU Dental Technology
BU Catalog

The Photo & Printing Business Unit is an integral part of the LINOS network. It combines two market segments in one common base: sophisticated lens optics.

High-quality optical lens systems for professional photography are covered by the "Photo" market segment. They are marketed under our well-established brand name Rodenstock.



The LINOS "Printing" market segment supplies the printing industry with comprehensive knowledge. We have an in-depth understanding of integrated solutions for any customer-specific application. LINOS is your reliable partner for meeting any challenge to boost the performance of your printing system.

Highly innovative, close partnership, on-time, conforming to budget. LINOS.

Optics for the Printing Industry

Solutions according to customer requirements: advanced optics, optomechanics, fully integrated assemblies



LINOS' solution for large format high speed imaging (precisely adjustable aspect ratio)

Advanced optics

The LINOS optical design team has achieved worldwide recognition for excellence in advanced optical solutions. Whether it is a single optical component or the most complex lens system, you may rest assured that an optical design prepared by LINOS will achieve the best results.

Our customers' requirements:

- High fluence and laser power optics
- Optics for scanning and projection
- Precise and stable dot shape
- High, homogeneous imaging quality
- Accurate print registration (prevents banding effects)



LINOS' solution for optimised (high fluence and homogeneous) UV illumination of an DLP device (integrated lens array)

Sophisticated optomechanics

A balance of both optics and mechanics is essential in any optomechanical solution. LINOS' well-experienced optical experts and mechanical designers come from diverse backgrounds. Its key to your success is the close cooperation of specialists aimed at creating the perfect module fit.

Our customers' requirements:

- Customised interface and limited installation space
- Durability in harsh production environments (shock resistance, temperature, acceleration, radiation, vibration,...)
- Weight optimisation
- Easy installation, adjustment and maintenance



LINOS' solution for adaptable imaging (including motorized zoom lens and image stepper) for various printing plate formats.

Fully integrated assemblies

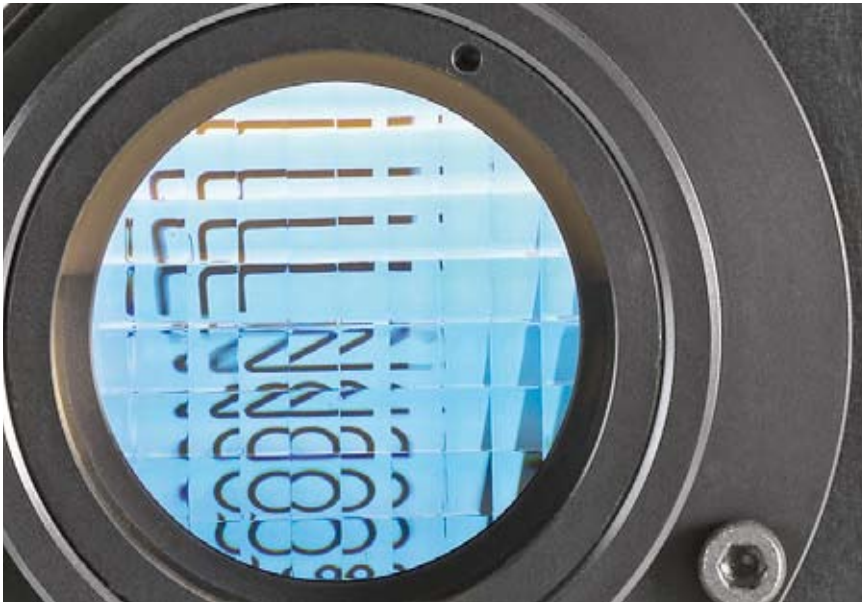
Increasingly, electronic integration is the crucial part of the overall optomechanical solution for a customised system. From the integration of an imaging device embedded in an optical module to the electronic interface of an optoelectronic module including software, LINOS will help you to solve the most complex tasks.

Our customers' requirements:

- Zoom and autofocus function
- Image stabiliser
- Beam scanner
- Optimised design of optical, mechanical, thermal and electrical performance
- "Plug and play"
- Assembly and testing at LINOS



Our Experience – Your Advantage



For solutions which inspire your creativity:

- **Long term experience** in optics for the printing industry, from the first full field reproduction camera to latest trend CTP setters and digital printing systems.
- **Diversified knowledge** on printing technology requirements, from precise image reproduction to high power laser optics for printing plate exposure and engraving.
- **Wide range of succeeding modules,** from compact and lightweight optics for exposure systems to high complex optoelectronic image capture and image reproduction applications.

The LINOS Printing Industry Team – at your personal disposal:

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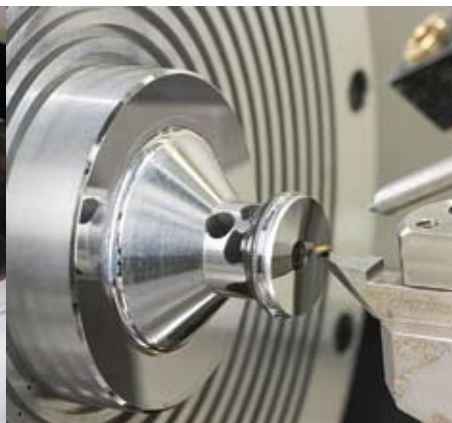
Innovation and Quality

At the pulse of time

LINOS continuously develops and invests in leading-edge processes at its in-house glass technology laboratory. Each year over 10% of its turnover is dedicated to research and development.

LINOS questions traditional approaches in pursuit of new, superior solutions. Together with its customers it is proud to consistently demonstrate the highest levels of skill and expertise that keep it at the forefront of high-technology optics.

Interaction with well-known research institutions and the scientific community inspires and supports LINOS in delivering the latest trend technology:



Guarantee for excellence

LINOS' customers set challenging targets. A strong focus on the highest levels of quality is evident in all its activities. LINOS is committed to on-going refinement and enhancement of its processes to guarantee time-to-market delivery of superior, cost-conscious products.

The raw materials and finished components and systems of LINOS are subjected to strict quality control tests and procedures at LINOS' own in-house test laboratories. Upon receipt, each raw material is thoroughly inspected. An on-line quality check is performed at every stage of manufacture and each product is tested again before

final shipment. These stringent and numerous quality tests guarantee high fluence optics with superior imaging quality and long-time stability.

LINOS product performance and quality is certified and documented in compliance with DIN EN ISO 9001:2000 and DIN EN ISO 13485:2003.

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