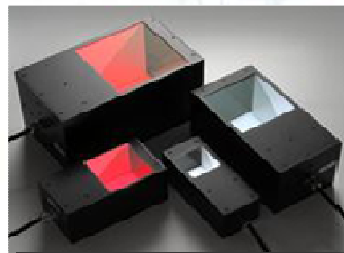


GHOLOGRAPHIC COMPANY



Benefits

- High Quality Product
- Guarantee for quality
- Best price
- Save your time & cost in getting best product from us.



Company Profile

Gholographic Company , headquartered in India, has its own facilities for R&D, Manufacturing, Sales and Marketing. It has Excellent Customer Support. Our management team is comprised of highly qualified and experienced individuals with diverse but coherent background; from business administration to cutting edge technology. All strategic decisions are taken collectively under the dynamic leadership of our Managing Director.

It is a Business-to-Business company that specializes in Optics, Mechanical Mounts, Optical Software (Trace Pro, OSLO, Optiwave, PCGrate, LASCAD, TFCal) and supply of different kind of holograms. We have evolved from the basic of R&D to marketing with progressive units of manufacturing and exports making us,,a complete global provider.

We Provides Training and Consultancy on the design of Optical Systems, suggest best optical components for Research and Industry.

We are your one-stop total solution for Science and Technology



Products

Software	Light Measurements	Laser Optics	Infrared Optics	Machine Vision
TracePro : Opto-Mechanical Design & Illumination Software	Goniometer	Beam Expander (ZOOM, Fixed, manual & Motorized)	SWIR (Optec , Italy)	Lenses (High Resolution & Large Format) (Qioptiq, Germany)
OSLO : Optical Design Software	Spectroradiometer	Scan Lens/ Telecentric Lens (UV-Visible)	MWIR	Camera (High End)
Opti-wave : OptiFD TD, OptiFiber, OptiSystem, OptiGrating, OptiBPM and many other	Integrating Sphere Colorimeter LUX Meter UV Radiometer	Scanning Mirror, Scan Head, IR Cut Filter, Band Pass Filter, Focusing CO2 Optics	LWIR	Lightning (Ring/ Dome/ Coaxial/Line/ Spot/ Uniform Light)



GHOLOGRAPHIC COMPANY

PHOTONICS SOFTWARE

TracePro/ OSLO/ Optiwave / PcGrate / Coating

Benefits

- **Easy to Use**
- **Product Quality is Improved**
- **Save Development Time**
- **Save Prototype Cost**
- **Use Unlimited No. of Years**
- **Buy / Lease Option**

SOFTWARE



TracePro® OSLO

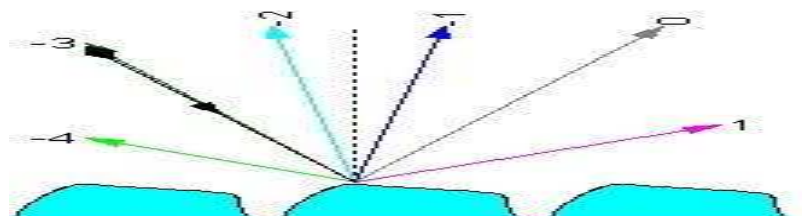




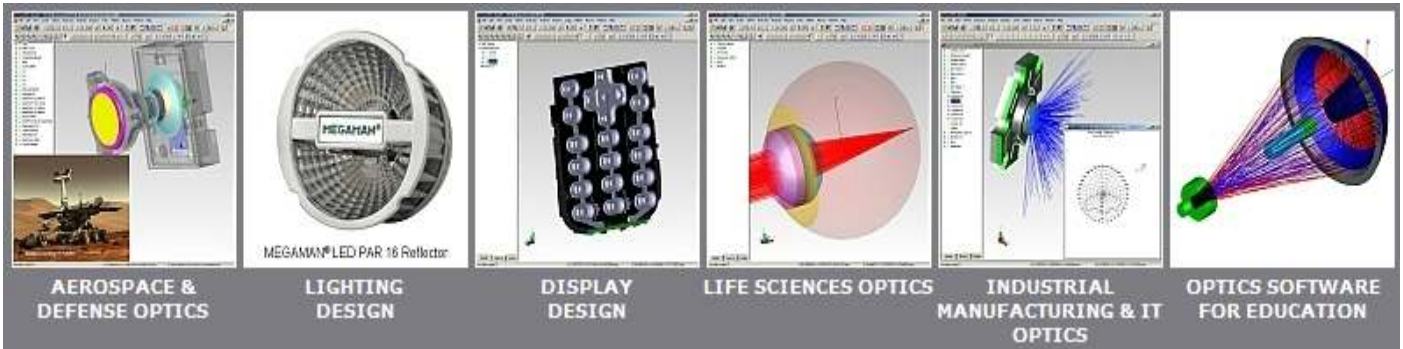
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OSLO : Optical Design Software
University Education Program
ELTA : Software for Induction Heating
LED Design Software
General Lighting Design Software
Automotive Lighting Design Software
Bio-Medical Optics & Illumination Software

TracePro : Opto-Mechanical Design Software



TracePro is the award-winning software of Lambda Research Corporation, USA for illumination design, illumination analysis, LCD backlight design, Display, OLED, Scattering analysis, optical system analysis, stray light analysis, baffle design for stray light suppression in telescopes and other optical systems, and analysis of many other types of optical systems and illumination systems.



Lambda Research Corporation offers a **Solidworks Add-in** called the **TracePro Bridge** to add optical properties to your Solidworks model. The TracePro Bridge is very useful for medium and large companies who keep all of their information in one place in their Solidworks assembly.

<http://www.lambdares.com/>

Application Industry:

- Optics
- Solar Simulation
- LED / General Lighting
- Lighting Illumination
- Automobile lighting
- Life Science / Bio-Medical
- Display systems(OLED, Head Up Display)
- And many more.



Application Area :

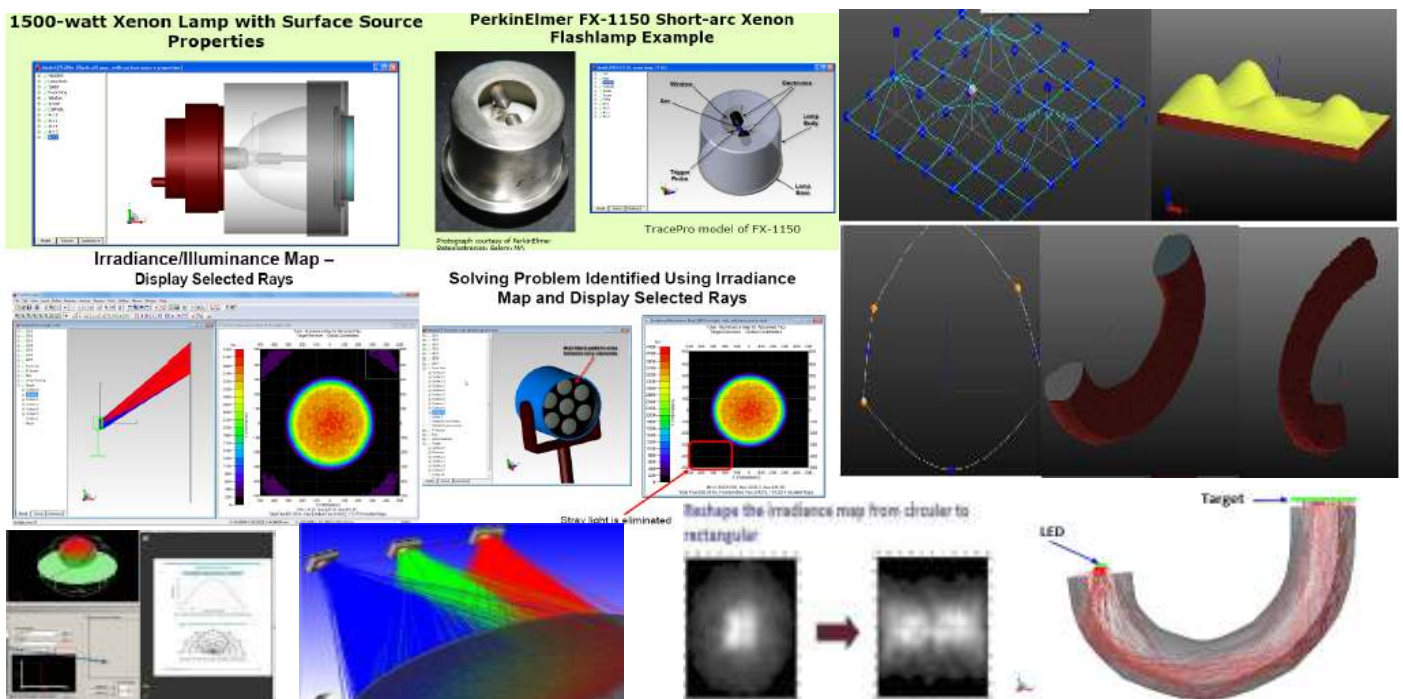
Arc Lamps	Fiber Optic Design
Lightpipes	Unusual Optics and Lenslet Arrays
Ghost Analysis	Beam Splitter and Prism Systems
Narcissus Analysis	Illumination and Display Systems
LED Systems	Projection Systems
Laser Diode Systems	Life Sciences
IR Imaging	LCD Projection
IR Detection Systems	Stray Light Analysis
Lithography	Conventional Optics
Medical Applications	

Email Us : gholographics@gmail.com ; www.genuineholographics.com



Top 10 Reasons to Buy TracePro ONLY

1. Easiest-to-use opto-mechanical software with full CAD integration. Theoretical & Experimental Data similar (Accurate Modeling) .
2. Simple Interactive Optimizer: sketch geometry, set variables, digitize targets, optimize
3. 3D Optimization to design any FREE FORM Surface, Light Pipe, LED, Plastic Optics, Secondary Optics & many others
4. Lowest entry price for a permanent license
5. Multiple editions to fit your needs with upgrade path to help you with more complex problems
6. Our TracePro Bridge SolidWorks® add-in easily defines optical properties in your SolidWorks model.
7. Multiple utility apps to digitize source, fluorescence, and surface scatter data
8. Multiple lens design and CAD import and export options with full CAD healing functionality. RepTile algorithms to define millions of repetitive surfaces, lenses, and textures
9. Outstanding visualization capabilities with interactive ray sorting and tables for incident rays, ray histories, and flux report
10. Trace billions of rays with 64-bit support and unlimited multi-threading





OSLO : Optical Design Software

OSLO

OSLO is a powerful optics design program. In addition to classical lens design features, OSLO combines advanced ray tracing, analysis, and optimization methods with a high speed macro language to solve a wide variety of new problems in optics design.

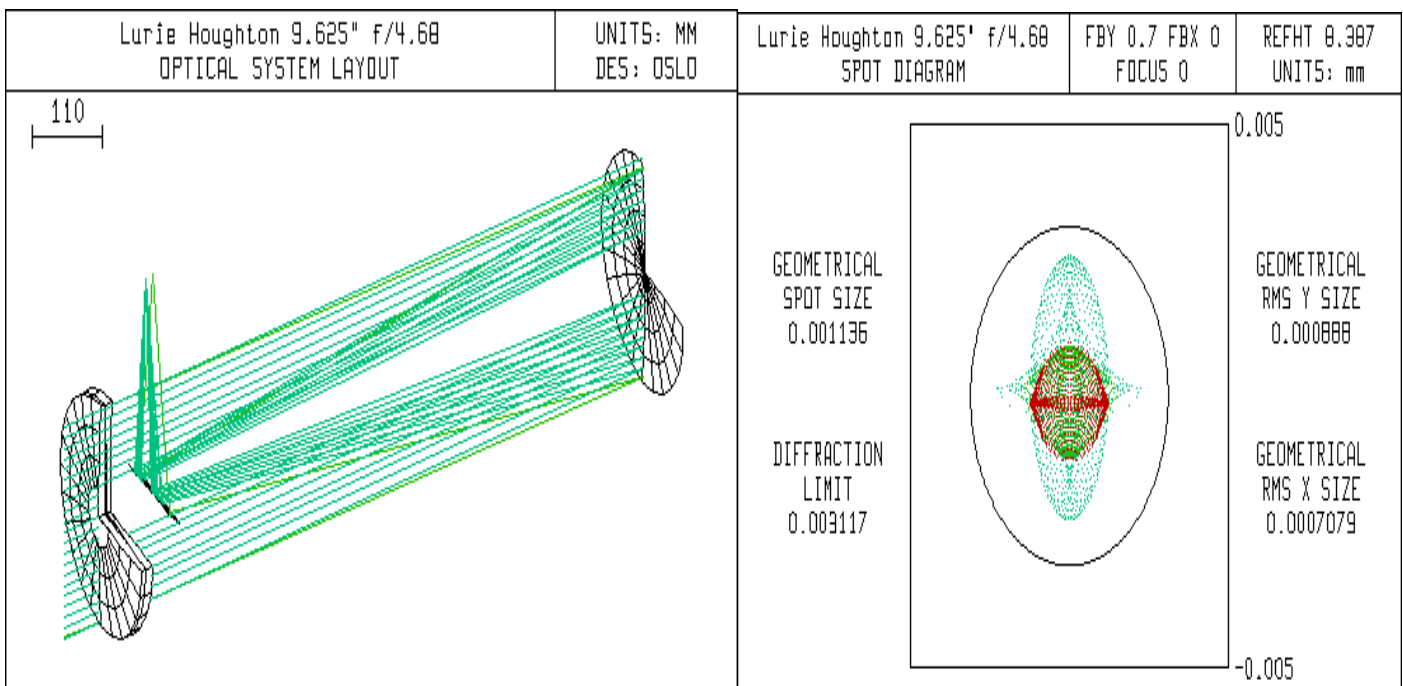
Different Editions of OSLO

OSLO lens design software is available in three levels called **OSLO Premium** , **OSLO Standard** and **OSLO Light** . The features in each edition is a subset of the features found in the next highest edition. Each edition is a full-featured program that can help you design superior systems. A free edition (OSLO-EDU) is available limited to 10 surfaces.

Permanent License Price

Permanent license With One year Support	Fixed license	Network license
OSLO Premium Edition	\$3,500	\$4,000
OSLO Standard Edition	\$2,500	\$3,000
OSLO Light Edition	\$1,250	

IMAGING SYSTEMS	LASER SYSTEMS	NONIMAGING OPTICS	VISUAL SYSTEMS
Photolithography Optical Metrology Laboratory Instruments Optical Testing Spectrographs Astronomical Telescopes	LASER SYSTEMS Fiber Couplers Laser Focusing Collimators Scanners Cavity Design Beam Delivery	Illumination Systems Interferometers Solar Collectors Faceted Reflectors Condensors Light Concentrator	Microscopes Telescopes Refractometers Low Vision Aids Endoscopes Virtual Reality Night Vision





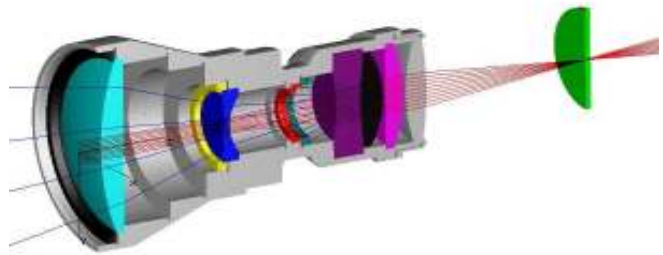
OSLO : Optical Design Software

OSLO

What types of optical systems can I design using OSLO?

OSLO can be used to design almost any optical system that involves propagating light waves. The following are some typical examples of systems that can be designed using OSLO:

- Conventional Lenses
- Zoom Lenses
- Gaussian Beam/Laser Cavities
- Fiber Coupling Optics
- Illumination Systems
- Non-Sequential Propagation Systems
- Polarization-Sensitive Optics
- High-Resolution Imaging Systems



Also, systems with gradient index surfaces, aspherics, diffractive surfaces and holograms, lens arrays, interferometric deformations etc.

OSLO's major features include:

Lens and Material Databases
Special Surface Data
Zoom and Multiconfiguration Systems
Arrays and Non-Sequential Groups
Special Apertures
Tolerance and Element Data
Polarization and Thin Film Coatings
Ray tracing
Diffraction and Partial Coherence
Optimization Methods
Tolerance Analysis
Lasers, Fibers, and Gaussian Beams
Illumination Analysis
Perfect Lenses and Eikonals
Vignetting Analysis
Footprint Analysis
Spot Diagram
Wavefront Analysis
Point Spread Function
Modulation Transfer Function
Energy Distribution
Monte Carlo Analysis

Ghost Images
Narcissus Analysis
Polarization Ray Trace
Non-Sequential Ray Trace
Gaussian Beam Analysis
Partial Coherence Analysis
Fiber Coupling
OSLO imports files from the following programs: CodeV, GENII, Sigma, Zemax
OSLO files export to CAD programs
Append data files from commercial interferometers to any surface for advanced simulation and tolerancing.
Support for Radiant Imaging data files
Fast Optimization
Standard Surface
Cylindrical Surface
Lenslet Array
Diffractive Surfaces
User Defined Surfaces
Interferogram Files
Aspheric Surfaces
Gradient Index Surfaces



University Education Program

TracePro University Program

We are pleased that you are considering using TracePro as a teaching tool in your classroom environment. We have created a TracePro Educational Program with the goal of promoting optics education. We have officially named our program the TracePro University Program because we have found that our software appeals primarily to educators at the university level. However anyone teaching an advanced science class is welcomed to join.

TracePro Bridge University Program

We are pleased that you are considering using TracePro Bridge as a teaching tool in your classroom environment. We have created a TracePro Bridge Educational Program with the goal of promoting optics education. We have officially named our program the TracePro Bridge University Program because we have found that our software appeals primarily to educators at the university level. However anyone teaching an advanced science class is welcomed to join.

OSLO University Program

We are pleased that you are considering using OSLO as a teaching tool in your classroom environment. We have created a low cost program with the goal of promoting optics education. We have officially named our program the OSLO University Program because we have found that our software appeals primarily to educators at the university level. However anyone teaching an advanced science class is welcomed to join.

QUALIFICATION:

To qualify for our University Program, you will be asked to:

1. **Provide a copy of your course syllabus** or course description for the courses where OSLO /TracePro/ Tracepro Bridge will be used. This could be a printed brochure or official description printed on university or department letterhead. Electronic files will also be accepted, as will HTML pages from the university web site.
2. **Return filled out and signed University Licensing and Policy statement.** The policy portion of this statement identifies the responsible party that will be using Software in the classroom and outlines our program guidelines. The licensing portion gives us an indication of how many licenses you need for the duration of the course. We offer both network and USB hardware keys under this program.
3. **At the end of the course,** submit a short report indicating how OSLO /TracePro/ Tracepro Bridge was used, suggestions for future updates and reports of bugs that were encountered. Reports typically range in length from a few paragraphs to several pages. Longer submissions are helpful to us to refine the OSLO /TracePro/ Tracepro Bridge University Program in the future. Final reports must be filed before OSLO /TracePro/ Tracepro Bridge can be renewed for any subsequent courses in the university.

If you have any questions or wish to discuss your educational situation in more detail, please contact us.

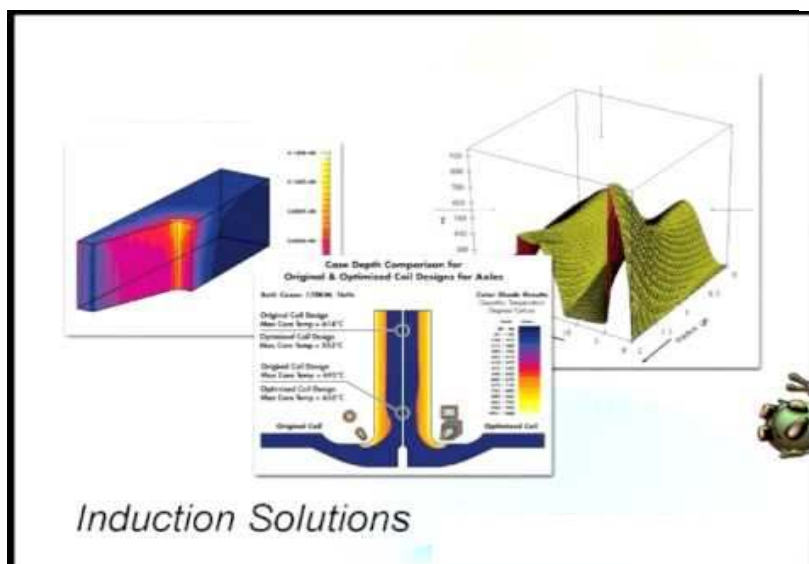
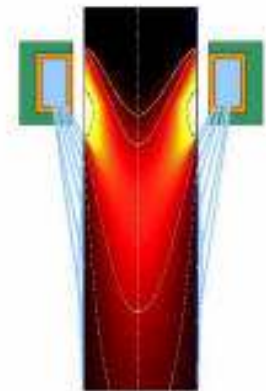
ELTA : Software for Induction Heating

ELTA is a program for ELeCTroThermal Analysis of induction systems

- Calculations in ELTA are based on a combination of 1D Finite Element Method for closely coupled electromagnetic and thermal problems inside the work piece and analytical method for account of finite lengths of the part and induction coil. Special 2D numerical method is used for calculation of parameters inside parts with rectangular cross-section.

ELTA Software Features

- User friendly interface with very fast solver
- Electromagnetic + Thermal
- Axisymmetrical (OD & ID) & plane-parallel geometries
- Module for simulating single- and multi-turn internal coils
- Possibility to simulate power supplying circuit (busswork, parallel or series capacitors, matching transformer)
- Possibility to simulate multi-stage processes such as part hardening and tempering in different positions
- Database with non-linear properties of materials and quenching media
- Option of automatic frequency variation during the process of heating
- Multiple graphs and color map for presentation of the results
- Automatic report generation according to selected or created by user templates



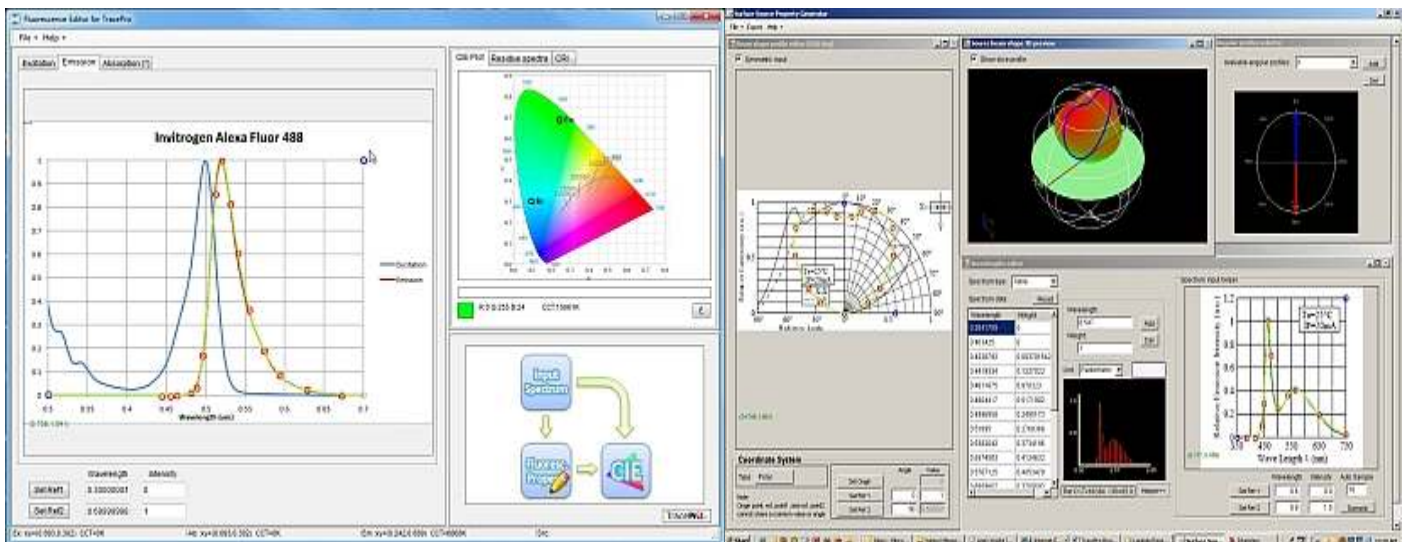
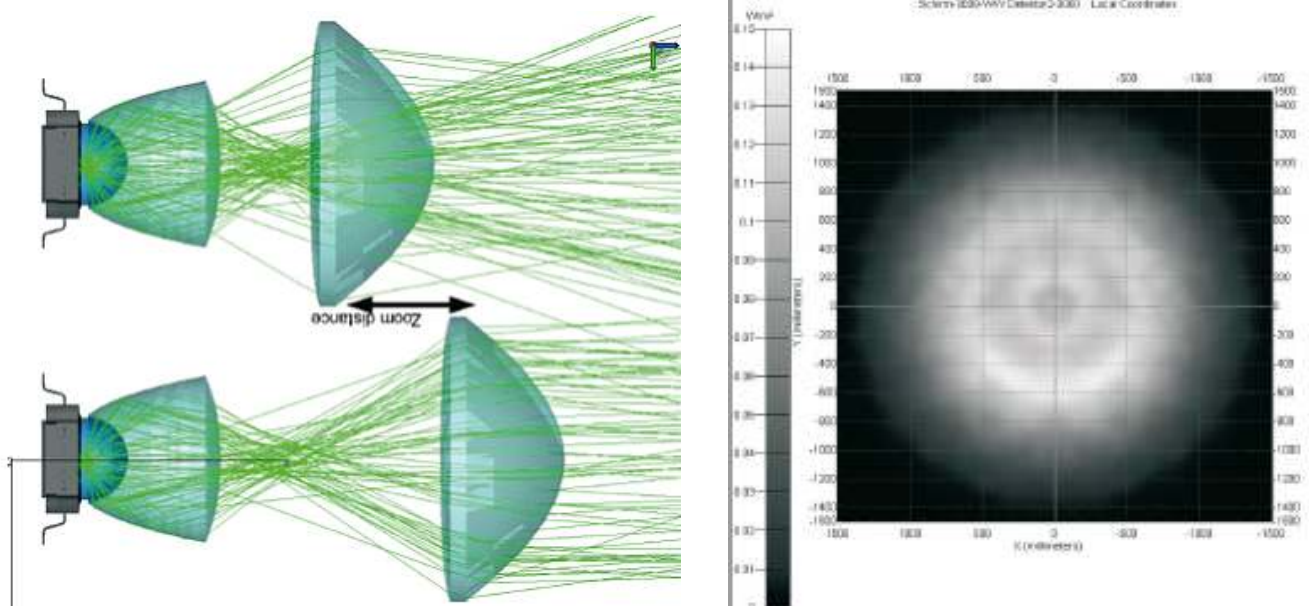
LED System Design Software



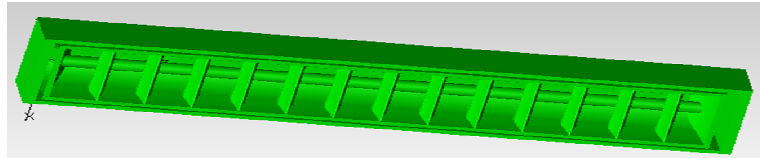
TracePro 7.2 is the latest release of Lambda's award-winning illumination and optical analysis software.

This release features the **first fully interactive 3D optimizer** specifically designed to increase productivity by giving the user complete control of the optimization process. The new 3D optimizer features a sketch utility to quickly create any 3D symmetric or asymmetric CAD geometry, interactive ray tracing for design verification, and digitization of target functions. This new optimizer drastically reduces design time, increases productivity, while at the same time giving the user complete control of the optimization process.

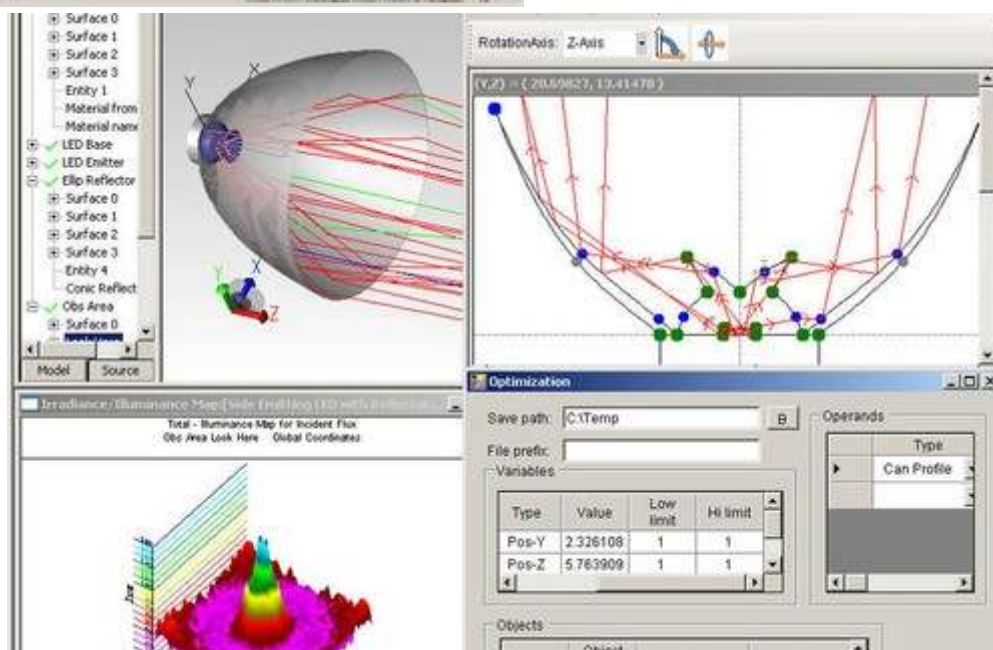
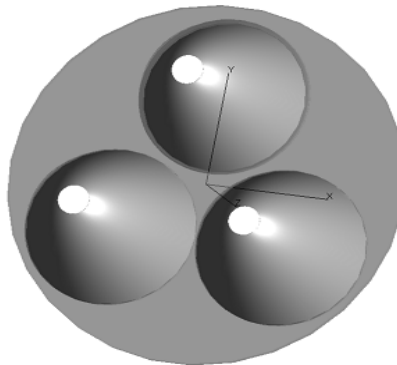
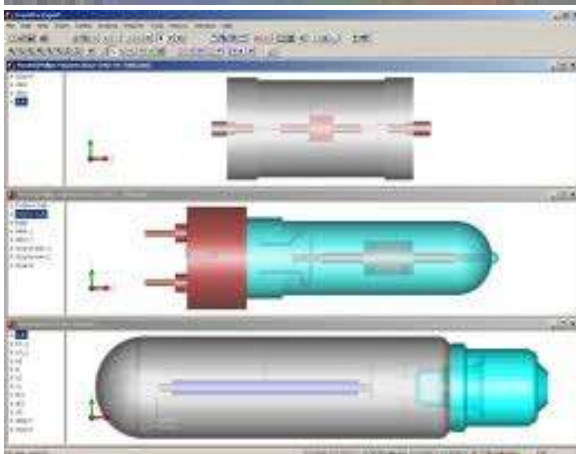
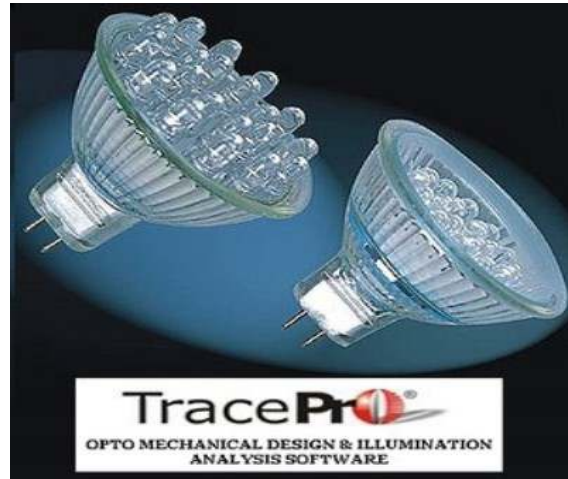
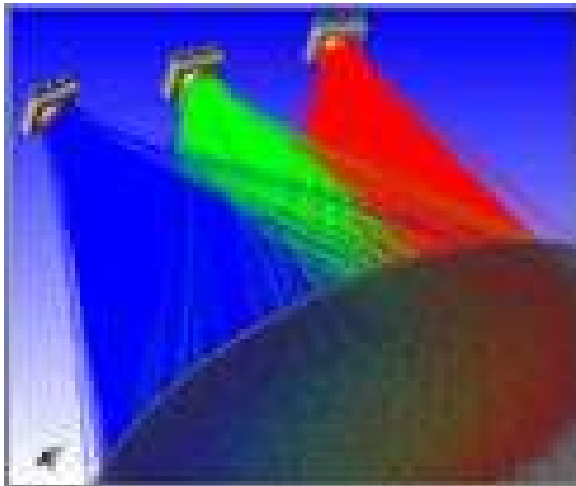
TracePro 7.0 uses multi-threaded algorithms to raytrace on all the cores in Intel or AMD multi-core CPUs. Simulations done on a Dual Quad core computer show raytracing improvement of up to 10 times over previous releases when simulating LED, lighting, display, biomedical and aerospace systems.



General Lighting Design Software



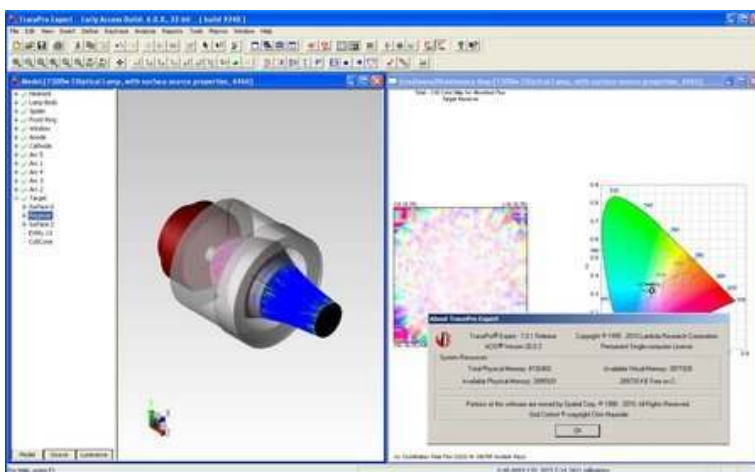
Lambda Research provides world-class Opto-Mechanical design software TracePro for luminaries design and engineering. Applications include architectural, residential and industrial lighting and specialty illumination. TracePro allows users to define and manage spectral data for each unique source and to combine different source types in a single ray trace.



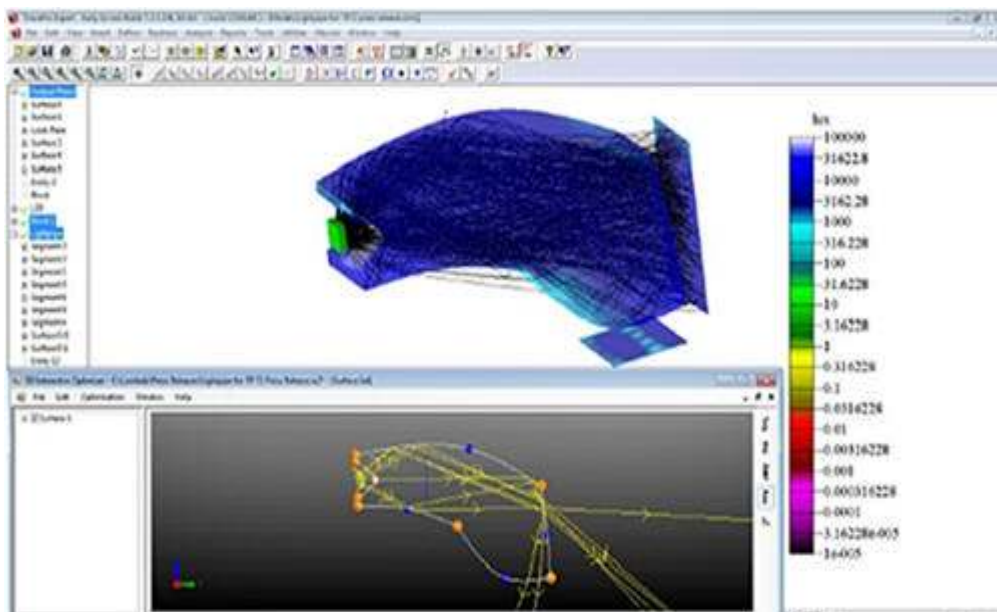
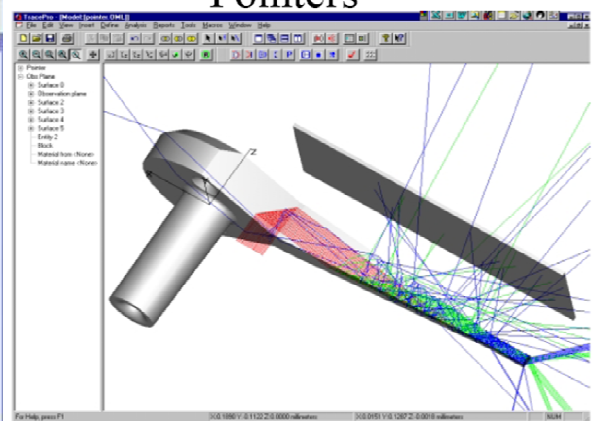
Automotive Lighting Design Software

TracePro is used in a variety of analysis applications including: Automotive, Aerospace, Display, Lighting, Medical, Laser Component, Machine Vision and Consumer Electronics.

Design of application-specific lighting systems involves adherence to various system performance criteria including spatial and angular light output distribution, uniformity, intensity, and spectral characteristics - as well as aesthetic factors such as lit and unlit appearance. Achieving these criteria quickly with a manufacturable and cost effective design requires **lighting design software** that is powerful, easy-to-use and accurate. **TracePro, optical design software**, renowned in the scientific community for the accuracy of its simulations, offers lighting designers the confidence that the performance and aesthetics of finished products will concur with the simulated lighting design without costly prototype iterations.



Pointers

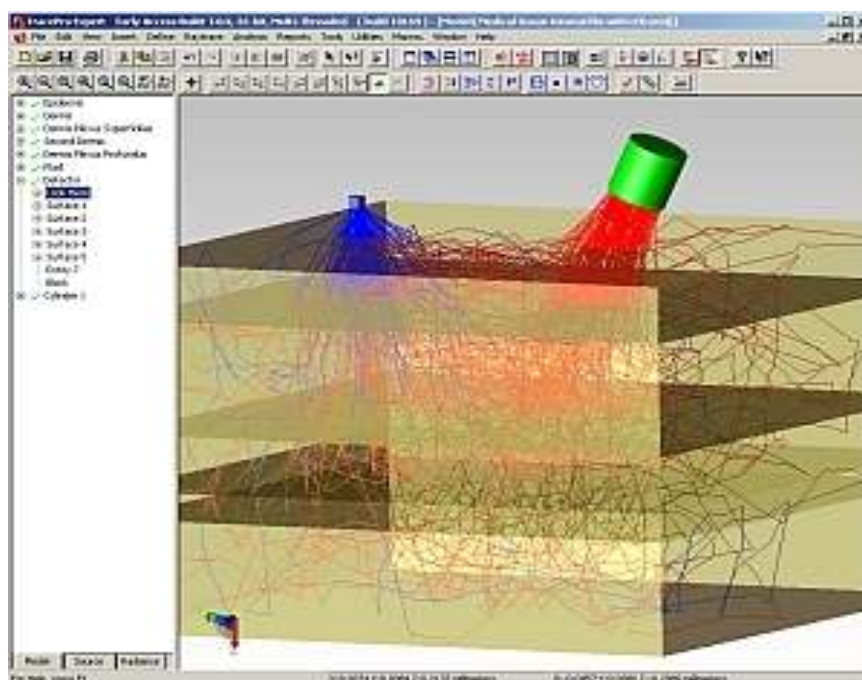
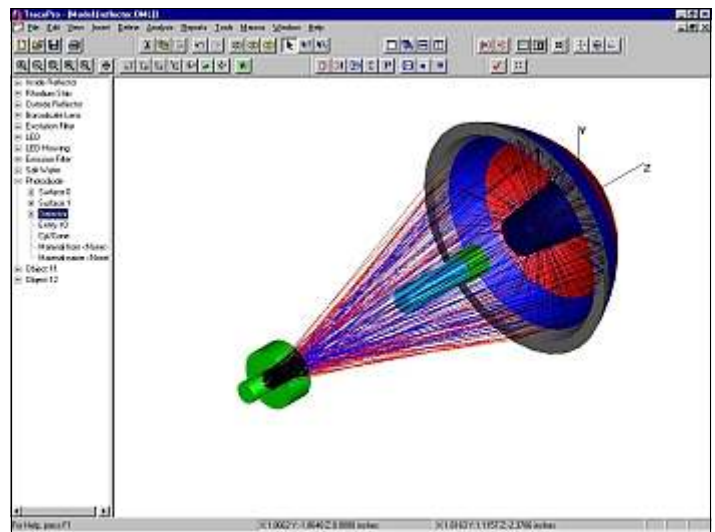


Bio-Medical Optics & Illumination Software

TracePro is a comprehensive, versatile software tool for modeling the propagation of light in imaging and non-imaging opto-mechanical systems. Models are created by importing from a lens design program or a CAD program or by directly creating the solid geometry in TracePro. Source rays propagate through the model with portions of the flux of each ray allocated for absorption, specular reflection and transmission, fluorescence and scattering.

Applications

- Fluorescence Spectroscopy
- Raman Spectroscopy
- UV, VIS, NIR, IR Spectroscopy
- Flow Cytometry
- Micro Arrays & Plate Readers
- Nucleic Acid Amplification
- Assay, Cell & Tissue Based Imaging
- Confocal Laser Scanning & Fluorescence Microscopy
- Medical Imaging & Endoscopy
- In-Vitro Diagnostics
- In-Vivo Diagnostics
- Biosensors
- Molecular Detection: Quantum Dots & Nanocrystals
- Molecular Detection: Luminescent Reporters
- Laser and LED Surgical Devices
- Laser Beam Delivery Systems for Surgical Instrumentation
- Laser Induced Fluorescence Detection (LIF)
- Fluorescence Resonance Energy Transfer (FRET)





GHOLOGRAPHIC COMPANY

TECHNICAL SUPPORT & SERVICES

Technical Support 24 X 7 / Design Consultancy

Design Support / Knowledge Base

ONLINE, Public & Customized Training

Benefits

- **Prompt Reply**
- **24 X 7 Support**
- **Technical Support from Highly Experienced Professional**
- **Support as per End User Availablity**

SERVICES

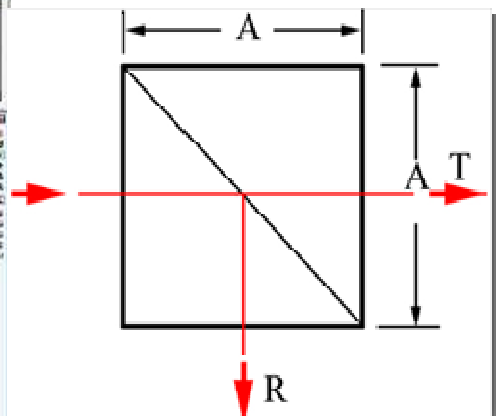
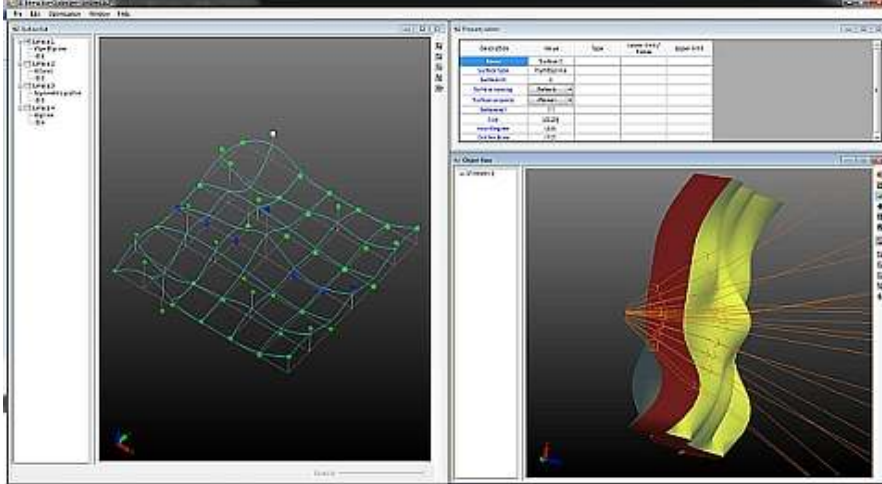
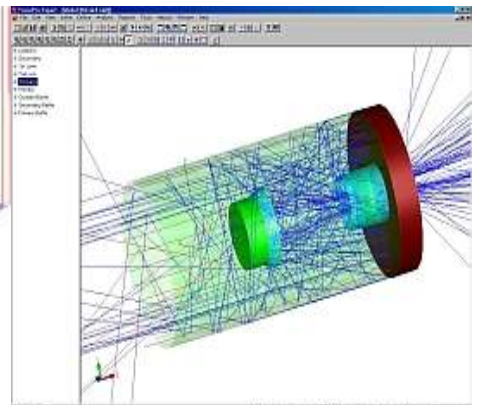
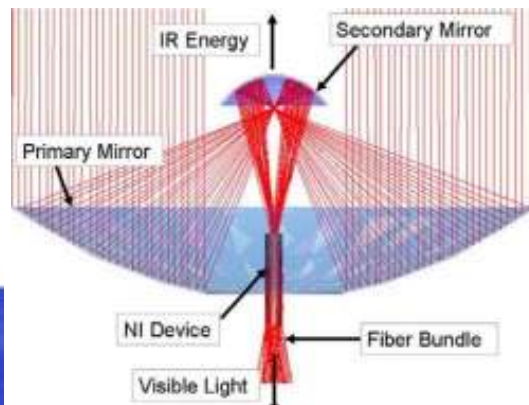




Table of Contents

Training
Consultancy
Knowledge Base

ONLINE & Customized Training

Gholographic Company offer Online Training, Public Training and Customized Training.

Online Training :

we can organize ONLINE Training. ONLINE Training save your travelling time and accommodation cost.

Time is per your convenience and Trainer availability. we can arrange on weekends also, so that your office work also not suffer.

You can do Hand On Training same time with Trainee, and clear your doubts.

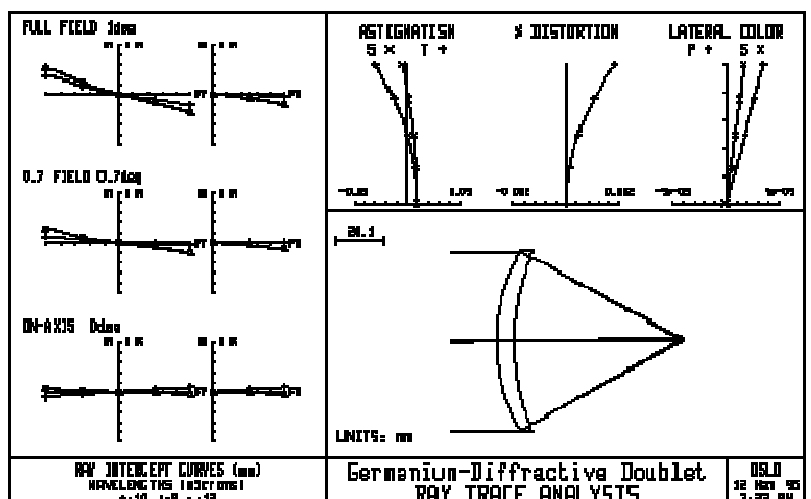
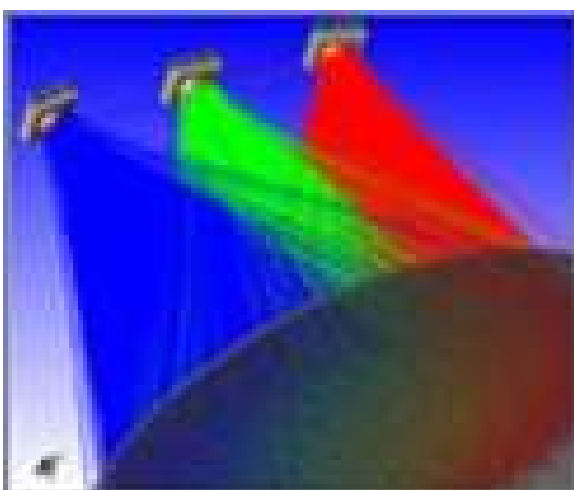


Customized Training

NO LIMIT on Number of Participant

Training Content As per END USER APPLICATION

Save your travelling time and accommodation cost.





Public Training

Gholographic Company organize training four times a year in field of optics, laser, LEDs, Projector, illumination system such as traffic light, LCD back lightning, image simulation, laser marking/cutting system, ocular lenses, telescope design etc.

we already conducted many public Training at Delhi, Bangalore, Pune, Kota and Ahmedabad as well as at IIT Delhi.

FAQ's

This course is for new user who only knows little about Optics/Illumination System Designing. We like to answer some general question which everyone likes to know.

Software is only for lens design?

No it is not only for lens design. It is very well used in designing of Illumination & Imaging System.

TracePro is the award-winning software of Lambda Research Corporation, USA for Optics Design & illumination Analysis, illumination analysis, LCD backlight design, Display, OLED, Scattering analysis, optical system analysis, stray light analysis, baffle design for stray light suppression in telescopes and other optical systems, and analysis of many other types of optical systems and illumination systems.

Is Computer provided during training?

No. Participant need to bring there own Laptop. By this they can collect training material & discussion point during training in there own computer.

In term of Knowledge benefit; what attendee gets in last?

Having Hand-On Experience on Designing Optical Component for machinery and Research Application. Optical Design Software use all three days to analyze system performance.

Who can attend course?

Student, Researcher, Technician, Engineer and person who is interested to learn more on designing system by using software which save effort, time and cost.

Basic Knowledge of Optics needed?

No, Even mechanical & Electrical Engineer also uses Optical Design Software very easily.

How long is this course?

Its Three day course to make familiar and explain easiest approach to do design. If need deep detail; we also offer 5 days course.

What is Benefit by this course?

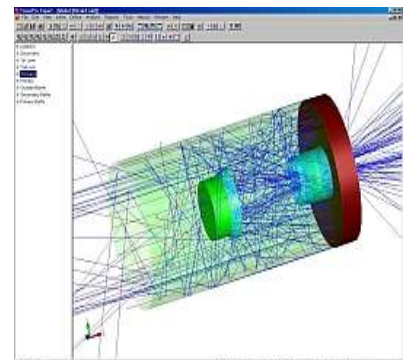
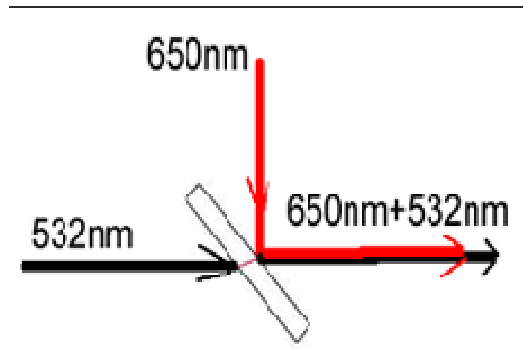
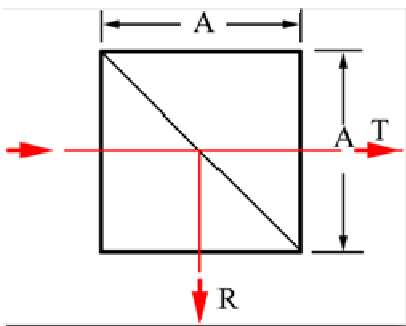
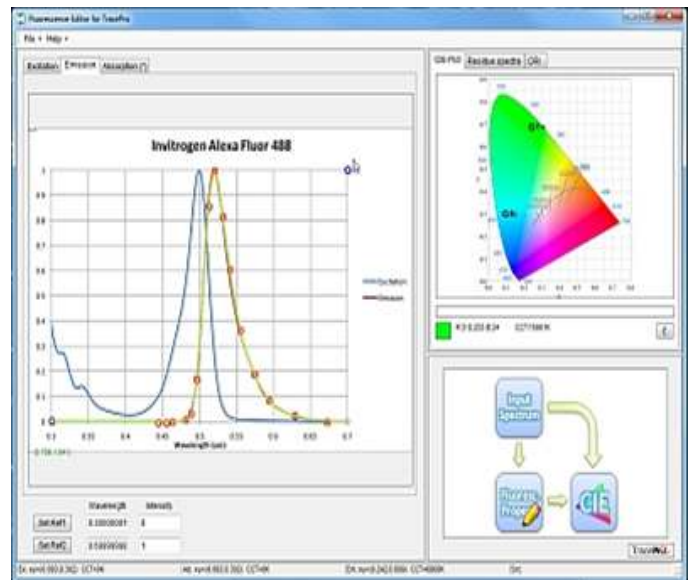
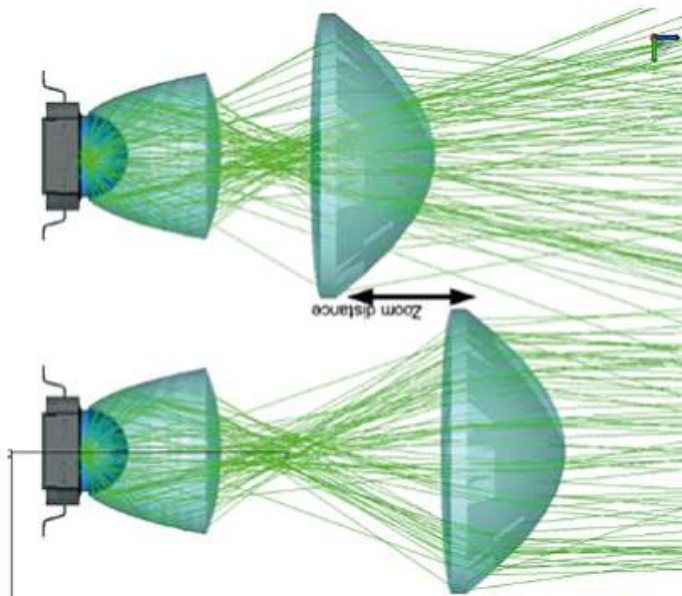
This course will cover topic related to latest emerging technology such as LED, SOLAR, Infrared Imaging (Camera used to detect H1N1), Micro Lens Design, Laser Industry (Marking and Cutting) and Ophthalmic Industry.

Consultancy Services

Gholographic Company has extensive experience with nearly every kind of optical system, including instrumentation, astronomical, illumination, night-vision, infrared, eyepieces, Architectural Lighting, Automotive, medical, solar industry and more. Let our expertise solve your design needs quickly and efficiently.

- Prototype development
- Detailed optical system design
- Tolerance budgeting
- Performance analysis, including Polarization, diffraction, scattering.
- Generate user Defined surface and Macros.
- Provide manufacturing facility for final design.

Think of us as part of your Optical Design team.



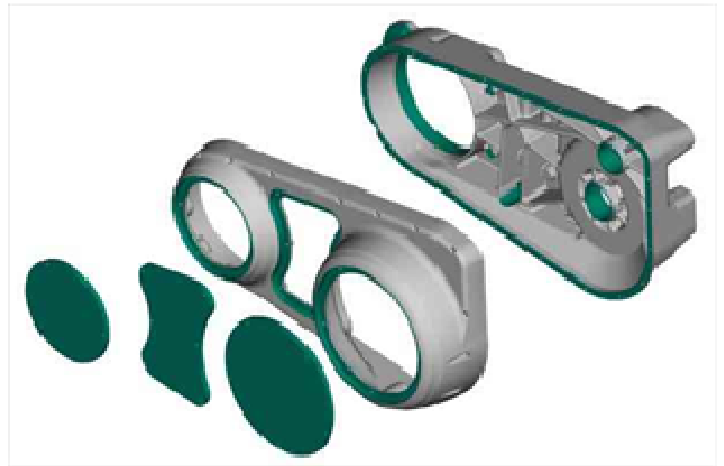
Mechanical Design Consultancy

Gholographic Company, is a professional company having extensive knowledge of many manufacturing processes, understanding their strengths, weaknesses and limitations we can suggest the most cost effective process to suit your company needs.

- Perform mechanical design calculations as well as assembly and detailed drawings for all types of column internals.
- Generating detailed mechanical drawings and bill of material.
- Look for improvements regarding all aspects of Mechanical Design Engineering.

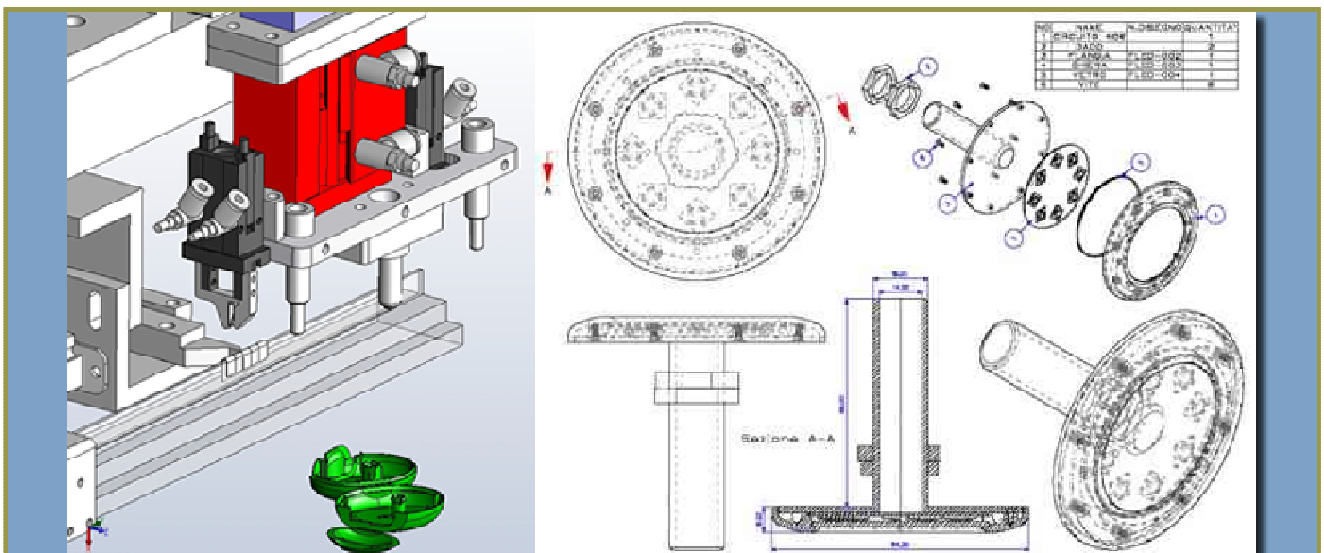
Our services include...

- Concept and detail design
- Drafting 2D & 3D
- 3D modelling
- Industrial design & product styling
- Full documentation for manufacturing
- Rapid prototyping
- CAD/CAM



We have expertise in...

- Sheet metal and plastic moulded enclosures
- Plastic injection and rubber moulded components
- Precision machining
- Light mechanical special purpose equipment





KNOWLEDGE BASE

TracePro is the award-winning software of Lambda Research Corporation, USA for illumination design, illumination analysis, LED Lens Design, LCD backlight design, Display, OLED, Scattering analysis, optical system analysis, stray light analysis, baffle design for stray light suppression in telescopes and other optical systems, and analysis of many other types of optical systems and illumination systems.

we wish to inform you that Trace is best software for LED based Illumination/Lightning Design and Analysis. we are open for any type of discussion related to software capabilities.

LATEST FEATURE : 3 D Optimization (Any FREE FORM, Symmetric & Asymmetric Optics/ Lens with plastic or Glass can design & analysis very easily)

Knowledge Base Link :

http://www.youtube.com/results?search_query=trace++pro+LED&aq=f

<http://www.lambdares.com/webinars/>

<http://www.lambdares.com/videos/>

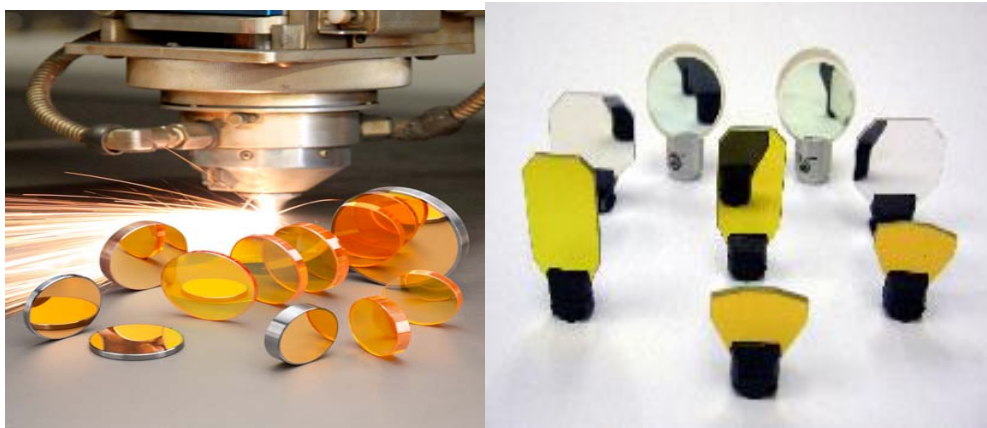
<http://www.genuineholographics.com/tracepro.html>

<http://www.genuineholographics.com/database.html>

<http://www.genuineholographics.com/oslo.html>

The TracePro logo consists of the word "TracePro" in a bold, black, sans-serif font. To the right of the text is a red, three-dimensional, spherical object with a grid of lines, resembling a lens or a light source.The OSLO logo features the word "OSLO" in a large, bold, blue, sans-serif font. The letters are slightly shadowed, giving them a three-dimensional appearance.

GHOLOGRAPHIC COMPANY



LASER OPTICS

Scan Lens / Beam Expander / Scanning Mirror



Benefits

- **High Quality Product**
- **Guarantee for quality**
- **Best price**
- **Save your time & cost in getting best product from us.**



Laser Marking / Cutting System

Gholographic Company will provide optics and Optics Components for all laser industry & its application.

We have wide range of product in good price & good quality.

Industry Uses Our Products:

- Printing
- Marking and Engraving
- Scribing
- Dicing
- Drilling
- Flow Cytometry
- Material micromachining
- Sintering
- Microwelding
- Laser ablation

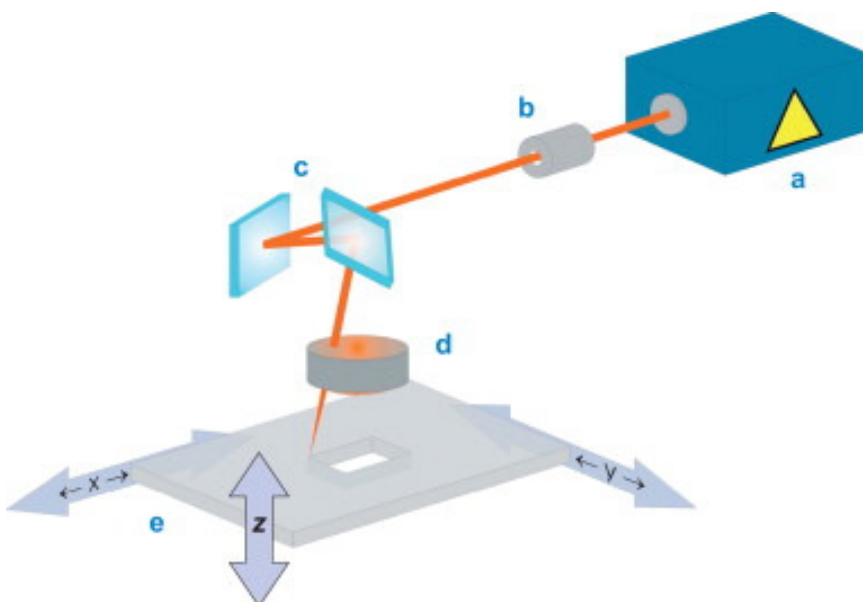




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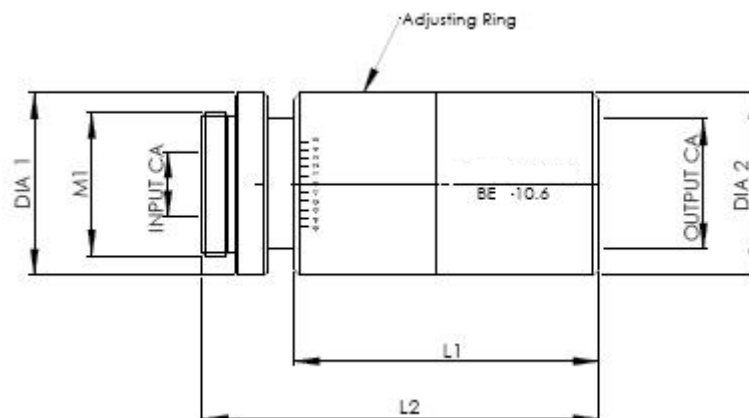
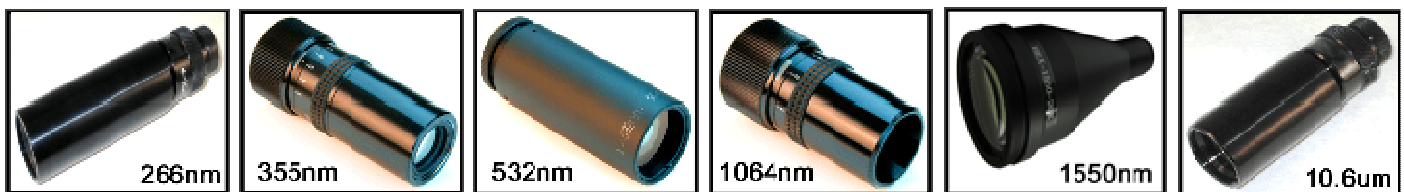
Beam Expander

Beam Expander

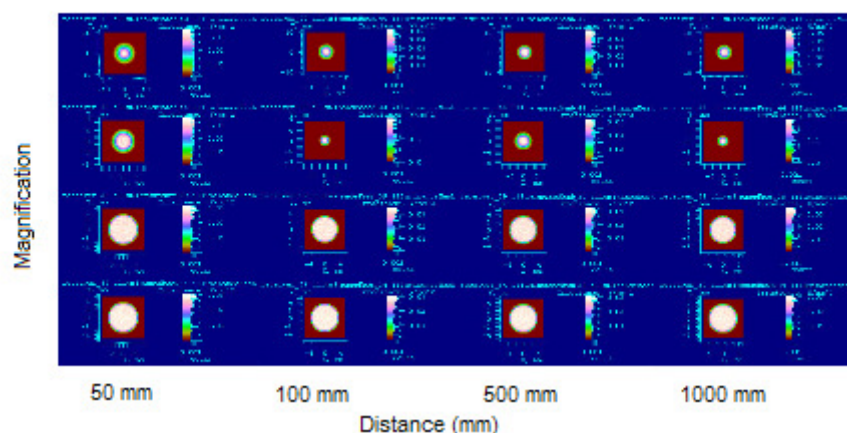
Beam Expander is an Optical Component used in laser industry for expansion of beam. It is used for various applications such as laser scanning, interferometry, and remote sensing. We are able to provide expansion from 1 X to 50 X fixed magnification. We have newly developed Motorized Zoom Beam Expander; having expansion from 1 X to 8 X. we have beam expander from 266 nm to 10600 nm wavelength.

Advantage:

Input Beam is collimated or diverging; output from our beam expander is collimated with bigger beam diameter.



Laser Energy Profile At Different Distance



Beam Expander — 1064 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-1064-1X	1.0	15.5	23.0
EXPANDER-1064-1.2X	1.2	16.0	23.0
EXPANDER-1064-1.5X	1.5	15.0	22.0
EXPANDER-1064-1.5X1	1.5	15.5	23.0
BET2X/1064	2.0	3.0	4.0
EXPANDER-1064-2X	2.0	10.0	20.0
EXPANDER-1064-2X1	2.0	15.0	23.0
EXPANDER-1064-2.5X1	2.5	10.0	23.0
EXPANDER-1064-2.5X	2.5	10.0	23.0
EXPANDER-1064-3X1	3.0	10.0	33.0
EXPANDER-1064-3X3	3.0	10.0	23.0
EXPANDER-1064-3X	3.0	10.0	20.0
BET3X/1064	3.0	10.0	17.0
EXPANDER-1064-4X	4.0	10.0	22.0
EXPANDER-1064-5X	5.0	10.0	23.0
EXPANDER-1064-5Z	5.0	10.0	32.0
EXPANDER-1064-5Z1	5.0	10.0	32.0
BET5X/1064	5.0	10.0	23.0
EXPANDER-1064-5X1	5.0	10.0	16.0
EXPANDER-1064-6X	6.0	10.0	22.0
EXPANDER-1064-6X1	6.0	10.5	26.0
EXPANDER-1064-6X2	6.0	6.0	16.0
EXPANDER-1064-6A	6.0	6.0	13.0
EXPANDER-1064-6Z1	6.0	10.0	26.0
EXPANDER-1064-7X	7.0	6.0	23.0
EXPANDER-1064-8X	8.0	10.0	22.0
EXPANDER-1064-8Z	8.0	10.0	34.0
EXPANDER-1064-10X1	10.0	11.0	34.0
EXPANDER-1064-10X	10.0	8.0	22.0
EXPANDER-1064-12A	12.0	6.0	13.0
EXPANDER-1064-15X	15.0	7.5	28.0
EXPANDER-1064-20X	20.0	8.0	28.0
EXPANDER-1064-30X-100OP	30.0	10.0	100.0
EXPANDER-1064-30X	30.0	6.0	38.0
EXPANDER-1064-40X	40.0	1.2	50.0
EXPANDER-1064-40X-120OP	40.0	8.0	128.0

Beam Expander — 10.6 um

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-9.4-2X	2.0	16.5	23.0
EXPANDER-9.4-3X	3.0	10.0	20.0
EXPANDER-9.4-5X	5.0	13.0	23.0
EXPANDER-10.6-1X	1.0	16.0	18.0
EXPANDER-10.6-1.5Z	1.5	12.0	14.0
EXPANDER-10.6-2Z1	2.0	10.0	22.0
EXPANDER-10.6-2Z3	2.0	15.0	28.0
EXPANDER-10.6-2Z4	2.0	10.0	15.0
BET2.5X/10.6	2.5	3.0	4.0
EXPANDER-10.6-2.5A	2.5	14.0	23.0
EXPANDER-10.6-2.5Z	2.5	10.0	15.0
EXPANDER-10.6-2.5Z1	2.5	10.0	16.0
EXPANDER-10.6-2.5Z2	2.5	10.0	20.0
EXPANDER-10.6-3Z1	3.0	10.0	16.0
EXPANDER-10.6-3Z2	3.0	10.0	20.0
EXPANDER-10.6-3Z3	3.0	10.0	16.0
EXPANDER-10.6-3Z4	3.0	10.0	25.0
EXPANDER-10.6-3Z5	3.0	15.0	35.0
EXPANDER-10.6-3Z6	3.0	15.0	28.0
EXPANDER-10.6-3.3Z1	3.3	10.0	15.0
BET4X/10.6	4.0	11.0	17.0
EXPANDER-10.6-4Z	4.0	10.0	16.0
EXPANDER-10.6-4Z1	4.0	10.0	20.0
EXPANDER-10.6-4Z2	4.0	15.0	28.0
EXPANDER-10.6-4Z3	4.0	10.0	20.0
BET5X/10.6	5.0	12.0	23.0
EXPANDER-10.6-5X-S	5.0	10.5	36.0
EXPANDER-10.6-5Z	5.0	10.0	16.0
EXPANDER-10.6-5Z1	5.0	13.0	23.0
EXPANDER-10.6-5Z1i	5.0	13.0	23.0
EXPANDER-10.6-6Z	6.0	11.0	26.0
EXPANDER-10.6-6Z1	6.0	10.0	36.0
EXPANDER-10.6-6Z2	6.0	10.0	15.0
EXPANDER-10.6-7X	7.0	37.0	68.0
EXPANDER-10.6-8Z1	8.0	13.0	33.0
EXPANDER-10.6-8Z2	8.0	10.5	23.4
EXPANDER-10.6-10X	10.0	12.0	50.0
EXPANDER-10.6-10Z1	10.0	10.0	36.0

Beam Expander — 532 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-532-2X2	2.0	8.0	23.0
EXPANDER-532-2XA	2.0	13.0	23.0
EXPANDER-532-3X	3.0	6.0	23.0
EXPANDER-532-4X	4.0	6.0	23.0
EXPANDER-532-5X	5.0	8.0	24.0
EXPANDER-532-6X	6.0	6.0	23.6
EXPANDER-532-8X1	8.0	6.0	16.0
EXPANDER-532-10X2	10.0	4.0	30.0
EXPANDER-532-10X	10.0	6.0	23.0
EXPANDER-532-12X	12.0	7.0	24.0
EXPANDER-532-15X	15.0	6.0	32.0
EXPANDER-532-15V	15.0	6.0	32.0
EXPANDER-532-18X	18.0	5.0	40.0
EXPANDER-532-20X-Q	20.0	8.0	32.0
EXPANDER-532-30X	30.0	5.0	38.0





Beam Expander — 633 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-633-3X	3.0	10.0	23.0
EXPANDER-633-5X	5.0	8.0	23.0
EXPANDER-633-8X	8.0	11.0	23.5
EXPANDER-633-10X	10.0	8.0	23.0
EXPANDER-633-20X	20.0	8.0	76.0
EXPANDER-633-40X	40.0	8.0	100.0
EXPANDER-633-50X	50.0	10.0	81.0

Beam Expander — 355 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-355-1.5X	1.5	7.0	24.0
EXPANDER-355-2X2	2.0	6.0	23.0
EXPANDER-355-2X	2.0	7.0	24.0
EXPANDER-355-3X	3.0	7.0	24.0
EXPANDER-355-4X	4.0	8.0	28.0
EXPANDER-355-4XA	4.0	8.0	28.0
EXPANDER-355-5X	5.0	8.0	28.0
EXPANDER-355-7X	7.0	8.0	28.0
EXPANDER-355-8X	8.0	8.0	28.0
EXPANDER-355-10X	10.0	6.0	28.0
EXPANDER-355-15X	15.0	6.0	28.0
EXPANDER-355-20X	20.0	6.0	28.0



Beam Expander — 266 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-266-1.5X	1.5	8.0	24.0
EXPANDER-266-2X	2.0	8.0	24.0
EXPANDER-266-3X	3.0	10.0	23.0
EXPANDER-266-5X	5.0	10.0	23.0
EXPANDER-266-8X1	8.0	10.0	66.0
EXPANDER-266-10X	10.0	6.0	23.0
EXPANDER-266-20X	20.0	5.0	30.0

Beam Expander — 1550 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-1550-2.5X	2.5	8.0	23.0
EXPANDER-1550-3X	3.0	8.0	23.0
EXPANDER-1550-7X	7.0	10.0	25.0
EXPANDER-1550-8X	8.0	10.0	30.0
EXPANDER-1550-10X	10.0	10.0	58.0
EXPANDER-1550-20X	20.0	-	-

Beam Expander — 405 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-405-1.5X	1.5	6.0	30.0
EXPANDER-405-2X	2.0	6.0	30.0
EXPANDER-405-3X	3.0	6.0	30.0
EXPANDER-405-5X	5.0	6.0	30.0
EXPANDER-405-7X	7.0	4.2	30.0
EXPANDER-405-10X	10.0	3.0	30.0
EXPANDER-405-20X	20.0	1.5	30.0



Beam Expander — Various

680nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-680-4A	4.0	5.0	17.0

904nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-904-10X	10.0	8.0	28.0

1053nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-1053-5X	5.0	8.0	25.0
EXPANDER-1053-10X	10.0	10.0	73.0

1090nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-1090-2.8X	2.8	9.0	24.0
EXPANDER-1090-3.7X	3.7	9.0	19.0
EXPANDER-1090-4X	4.0	9.0	30.0

2250nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-2.25-3X	3.0	10.0	18.0
EXPANDER-2.25-6X	6.0	10.0	18.0

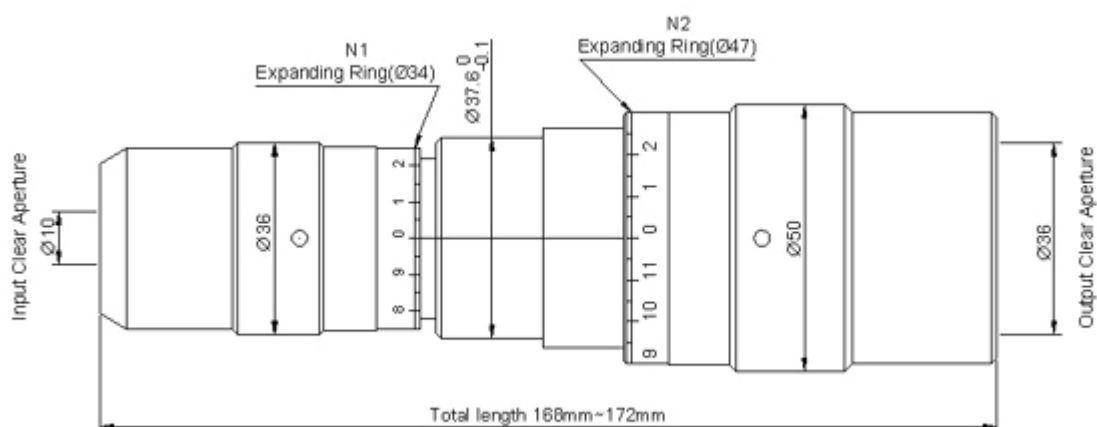
2790nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-2790-6X	6.0	13.0	30.0

Motorized Zoom Beam Expander

Motorized Zoom Beam Expander is controlled by micro-motor drive system, in order to control the divergence of laser beam and to achieve continuous adjustment. This motorized system is composed of electro-mechanical components and a pair of meshing gear. Controlled board is another separated unit. This motorized beam expander will be connected with a PC, so as to remotely control. In addition, as the controllability on its motor revolutions, focusing adjustment becomes more accurate.

Our Motorized beam expander for 10.6um / 1064nm / 633nm/ 532nm / 355nm and customized expander from 1-8 X Magnification.



Model No.	Wavelength (nm)	Input CA (mm)	Output CA(mm)	MagnificationX
BE-10.6-2-8X	10600	10	36	2X to 8 X
BE-1064-1-8X	1064	12	32	1X to 8X
BE-633-1-8X	532	12	32	1X to 8X
BE-532-1-8X	532	12	32	1X to 8X
BE-355-1-8X	355	12	32	1X to 8X
BE-266-1-8X	266	12	32	1X to 8X

Beam Expander—Water Cooled

BET-WC *water cool beam expander* series is developed for even higher power CO₂ laser >500W with consistence in outer dimension and water pipe connection.



Part No.	Magnification	Input CA (mm)	Output CA (mm)	Length (mm)	Max. OD (mm)
BET0101.5-WC	1.5	20.0	28.0	80.0	66.0
BET0102-WC	2.0	20.0	28.0	80.0	66.0
BET0103-WC	3.0	20.0	28.0	80.0	66.0
BET0104-WC	4.0	20.0	28.0	80.0	66.0
BET0105-WC	5.0	20.0	28.0	80.0	66.0
BET0106-WC	6.0	22.0	28.0	80.0	66.0
BET0107-WC	7.0	20.0	28.0	80.0	66.0
BET0108-WC	8.0	20.0	28.0	80.0	66.0
BET0110-WC	10.0	20.0	28.0	80.0	66.0

F—theta Scan Lens : 1064 nm

F-theta lenses

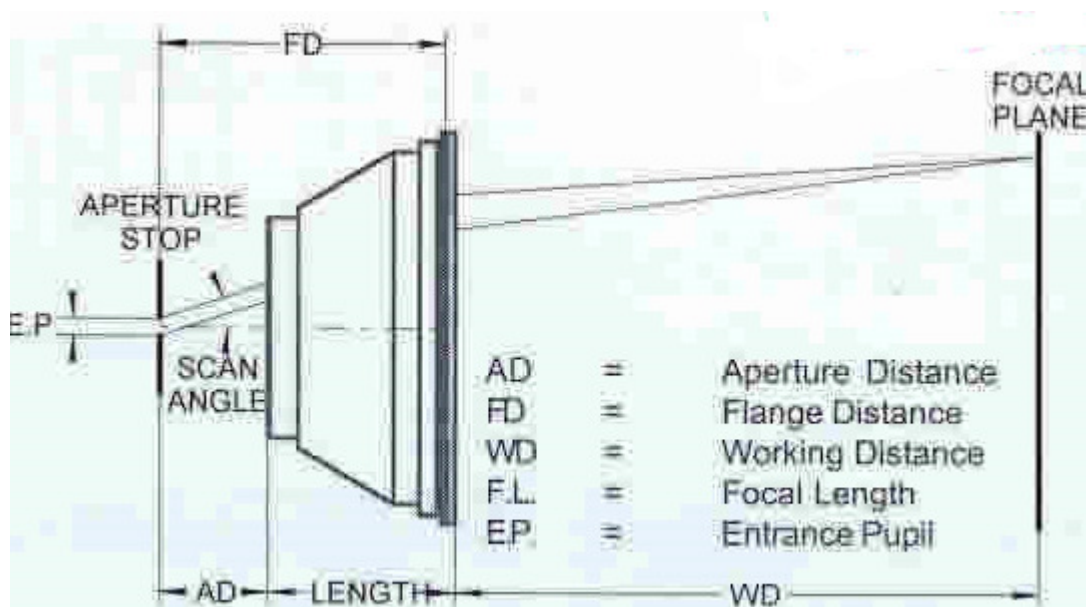
F-theta lenses used for laser marking/scanning/ engraving application. scanning area is linear relationship between the input scan angle and the focal position on a flat plane. We have scanning lens from 266 to 10600 nm wavelength.



Model No.	EFL (mm)	Scan Area (mm)	Input Beam(mm)	WD(mm)
FTHETA-1064-45-80	80.0	45*45	10.0	91.4
FTHETA-1064-70-100	100.0	70*70	14.0	100.0
FTHETA-1064-65-125	125.0	65*65	15.0	146.6
FTHETA-1064-105-152	152.0	105*105	14.0	175.0
FTHETA-1064-F160-30	160.0	90*90	30.0	171.6
FTHETA-1064-50-160	160.0	50*50	8.0	182.3
FTHETA-1064-100-160A	160.0	100*100	10.0	178.6
FTHETA-1064-110-160B	160.0	110*110	12.0	187.1
FTHETA-1064-107-163	163.0	107*107	12.0	181.2
FTHETA-1064-114-163R1	163.0	114*114	15.0	184.0
FTHETA-1064-112-163	163.0	112*112	14.0	184.0
FTHETA-1064-112-163A	163.0	112*112	10.0	181.7
FTHETA-1064-F165-25	165.0	100*100	25.0	197.1
FTHETA-1064-152-192	192.0	152*152	15.0	221.8
FTHETA-1064-F201-30	201.0	30*30	30.0	243.0
FTHETA-1064-140-210	210.0	140*140	14.0	238.4
FTHETA-1064-F254-30	254.0	100*100	30.0	303.3
FTHETA-1064-F254B	254.0	175*175	10.0	280.0
FTHETA-1064-175-254	254.0	175*175	16.0	288.0
FTHETA-1064-180-260	260.0	180*180	10.0	297.0
FTHETA-1064-F310-25	310.0	200*200	25.0	352.3
FTHETA-1064-205-330	330.0	205*205	14.0	385.0
FTHETA-1064-305-338	338.0	305*305	15.0	362.8
FTHETA-1064-300-420	420.0	300*300	14.0	495.5
FTHETA-1064-330-580	580.0	330*330	10.0	709.5
FTHETA-1064-500-815	815.0	500*500	24.0	962.0

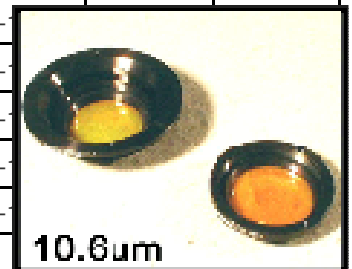
F—theta Scan Lens : 532 nm

Model No.	EFL (mm)	Scan area (mm)	Input Beam(mm)	WD(mm)
FTHETA-532-70-100	100.0	70*70	14.0	100.9
FTHETA-532-90-120A	120.0	80*80	8.0	134.0
FTHETA-532-115-165	165.0	115*115	10.0	188.5
FTHETA-532-180-254	254.0	180*180	10.0	303.3
FTHETA-532-150-254B	254.0	150*150	10.0	294.0
FTHETA-532-150-254	254.0	150*150	10.0	280.0
FTHETA-532-225-410	410.0	225*225	15.0	443.7
FTHETA-532-335-520	520.0	355*355	16.0	599.2
FTHETA-532-510-740	740.0	510*510	16.0	896.5
FTHETA-532-500-750	750.0	500*500	16.0	911.2



F—theta Scan Lens : 355 nm

Model No.	EFL (mm)	Scan area (mm)	Input Beam(mm)	WD(mm)				
FTHETA-355-60-100Q	100.0	60*60	6.0	133.4				
FTHETA-355-105-170Q	170.0	105*105	6.0	216.1				
FTHETA-355-155-250	250.0	155*155	10.0	299.8				
FTHETA-355-F290-20	290.0	180*180	20.0	332.5				
FTHETA-355-180-295A	295.0	180*180	10.0	359.0				
FTHETA-355-180-295	295.0	180*180	10.0	362.8				
FTHETA-355-212-300	300.0	212*212	10.0	364.0				
FTHETA-355-210-328	328.0	210*210	10.0	406.4				
FTHETA-355-250-410	407.5	250*250	10.0	488.2				
FTHETA-355-350-580	580.0	350*350	10.0	684.8				
FTHETA-355-500-815	815.0	500*500	10.0	976.4				
FTHETA-355-650-1000	1000.0	650*650	10.0	1200.1				
Part No.	Reference	(mm)	number	size	minimum focus distance (m)	F-number range	Length (mm)	Weight (g)



F—theta Scan Lens : 266 nm

Model No.	EFL (mm)	Scan area (mm)	Input Beam(mm)	WD(mm)
FTHETA-266-70-100	101.5	70*70	5.0	129.4
FTHETA-266-100-160	162.3	100*100	5.0	198.8
FTHETA-266-90-254	254.0	90*90	4.0	253.0



Achromatic Ftheta Scan Lens

1064/532 Series

Model No.	EFL (mm)	Scan Area	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-1064-532-60-100	100.0	60*60	10.0	68.7
ACHROMATIC FTHETA-1064-532-100-163	163.0	100*100	12.0	159.7
ACHROMATIC FTHETA-1064-532-175-254	254.0	175*175	15.0	262.8

1064/635 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-1064-635-60-100	100.0	60*60	10.0	79.5
ACHROMATIC FTHETA-1064-635-100-163	163.0	100*100	12.0	157.6
ACHROMATIC FTHETA-1064-635-180-260	260.0	180*180	15.0	261.4

355/532 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-355-532-90-170	170.0	90*90	10.0	125.6

355/635 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-355-635-90-170	170.0	90*90	10.0	116.1
ACHROMATIC FTHETA-355-635-110-220	220.0	110*110	10.0	166.3
ACHROMATIC FTHETA-355-635-212-328	328.0	212*212	6.0	265.2

Achromatic Ftheta Scan Lens

532/635 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-532-635-100-163	163.0	100*100	10.0	121.0

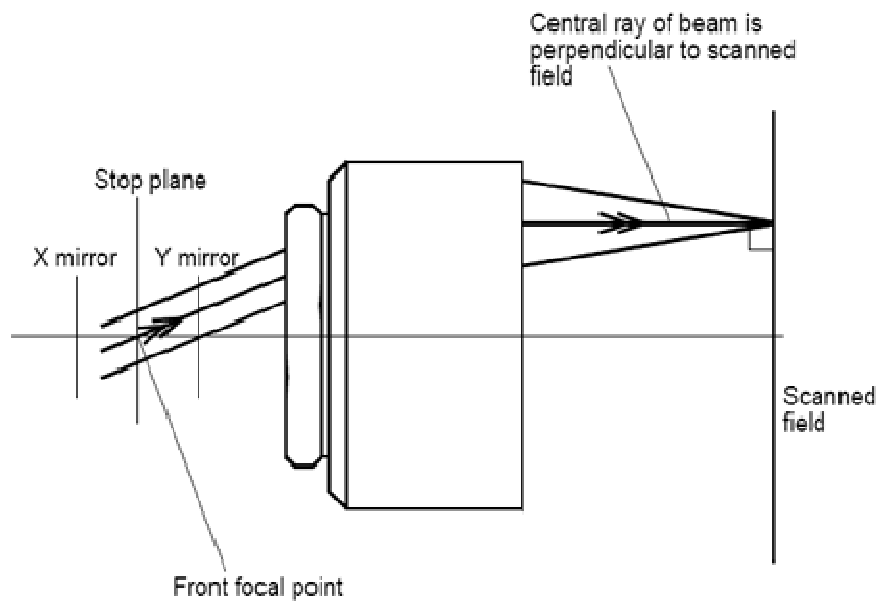
940/808 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-940-808-102-163	163.0	102*102	20.0	153.6



Telecentric Scan Lenses

Telecentric scanning lenses, similar to Ftheta Lens only difference is that Telecentric maintain normal incidence angle of the beam to the work piece. This ensures that position errors and image distortions are minimized over the entire scan range. Telecentric scanning lenses offer greater depth of field and smaller spot sizes when marking objects for laser material processing. Having a greater depth of field and smaller spot size are important for precision laser micro-machining processes where there is a need to produce fine spot sizes so as to control the width of a laser mark, scribe or drilled hole while maintaining precise placement over a relatively large field. The ability to accomplish this is sometimes affected by just minimal warping of a wafer or solar panel.



Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)
TELECENTRIC LENS-9.4-50-75	75.0	50*50	20.0
TELECENTRIC LENS-9.4-50-75+Win	75.0	50*50	20.0
TELECENTRIC LENS-9.4-70-120	120.0	70*70	20.0
TELECENTRIC LENS-9.6-50-100Z	100.0	50*50	15.0
TELECENTRIC LENS-9.6-70-140Z	140.0	70*70	15.0
TELECENTRIC LENS-10.6-50-100G	100.0	50*50	25.0



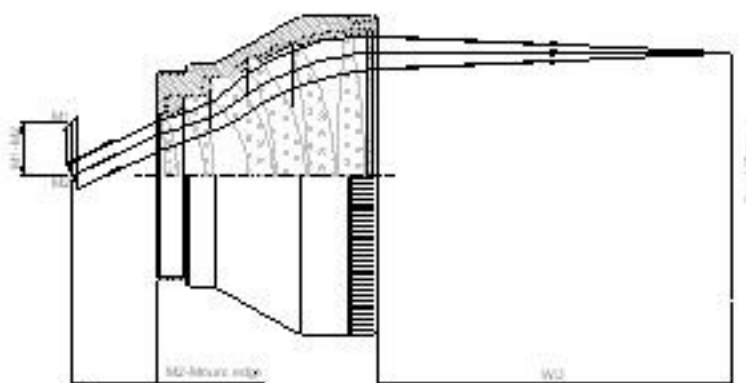
Telecentric Scan Lenses

Telecentric Scanning Lens --- 1550/1064/1030/670/633/532/405/355/266nm

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)
TELECENRIC LENS-1550-25-80	80.0	25*25	10.0
TELECENRIC LENS-1550-15-80	80.0	15*15	12.0
TELECENRIC LENS-1550-80-195	195.0	80*80	15.0
TELECENRIC LENS-1064-18-56	56.0	18*18	10.0
TELECENRIC LENS-1064-20-56	56.0	20*20	10.0
TELECENRIC LENS-1064-F100-25	100.0	40*40	25.0
TELECENRIC LENS-1064-65-115	115.0	65*65	12.0
TELECENRIC LENS-1064-73-163B	163.0	73*73	10.0
TELECENRIC LENS-1064-73-163A	163.0	73*73	15.0
TELECENRIC LENS-532-73-163B	163.0	73*73	10.0
TELECENRIC LENS-1064-90-190	190.0	90*90	18.0
TELECENRIC LENS-1064-50-210	210.0	50*50	25.0
TELECENRIC LENS-1064-140-220	220.0	140*140	15.0
TELECENRIC LENS-1030-10-50	50.0	10*10	8.0
TELECENRIC LENS-808-14-56	56.3	14*14	10.0
TELECENRIC LENS-808-19-77	76.8	19*19	10.0
TELECENRIC LENS-808-39-80	79.5	39*39	25.0
TELECENRIC LENS-808-68-106	105.6	68*68	12.0
TELECENRIC LENS-670-34-88	88.0	34*34	7.0
TELECENRIC LENS-670-77-157	157.3	77*77	10.0
TELECENRIC LENS-633-19-75	74.8	19*19	10.0
TELECENRIC LENS-633-34-87	87.5	34*34	7.0
TELECENRIC LENS-633-30-100	100.6	30*30	10.0
TELECENRIC LENS-633-77-156	156.1	77*77	10.0
TELECENRIC LENS-633-75-160	160.0	75*75	10.0
TELECENRIC LENS-633-75-200	200.0	75*75	20.0

Telcentric Scan Lens

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)
TELECENRIC LENS-532-15-58	58.0	15x15	10.0
TELECENRIC LENS-532-45-80	80.0	45*45	12.0
TELECENRIC LENS-532-36-90	90.0	36*36	20.0
TELECENRIC LENS-532-60-105	105.0	60x60	10.0
TELECENRIC LENS-532-36-100	110.0	36*36	16.0
TELECENRIC LENS-532-50-120	120.0	50*50	15.0
TELECENRIC LENS-532-78-163	163.0	78*78	10.0
TELECENRIC LENS-532-75-163A	163.0	75*75	10.0
TELECENRIC LENS-532-140-200	200.0	140*140	10.0
TELECENRIC LENS-532-70-200	200.0	70*70	20.0
TELECENRIC LENS-405-29-55	55.0	30*30	6.0
TELECENRIC LENS-355-8-32	32.0	8*8	10.0
TELECENRIC LENS-355-18-56	56.0	18*18	6.0
TELECENRIC LENS-355-18-60	60.0	18*18	6.0
TELECENRIC LENS-355-60-100Q	100.0	60x60	6.0
TELECENRIC LENS-355-63-109	109.0	63*63	6.0
TELECENRIC LENS-355-60-115Q	115.0	60*60	6.0
TELECENRIC LENS-355-60-167A	167.0	60*60	10.0
TELECENRIC LENS-355-85-254	254.0	85*85	6.0
TELECENRIC LENS-266-10-30	30.1	10*10	6.0
TELECENRIC LENS-266-20-55	55.0	20*20	6.0
TELECENRIC LENS-266-50-100	100.0	50*50	5.0
TELECENRIC LENS-266-55-158	158.0	55*55	10.0
TELECENRIC LENS-266-80-200	200.0	80*80	8.0



Achromatic Telcentric Scan Lens

The focal length, working distance and focus spot are identially for both laser working wavelength and visible wavelength, it will help CCD to capture the actual image through F theta scan lens, generally low dispersion crown glass and high dispersion flint glass are jointly used to correct the chromatic aberration.

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	Wavelength (nm)
TELECENRIC LENS-1064-660-60-163	163.0	60*60	15.0	1064/660
TELECENRIC LENS-532-635-50-120A	120.0	50*50	15.0	532/635
TELECENRIC LENS-532-635-60-150A	150.0	60x60	15.0	532/635



Scanning Mirror

Scanning mirrors are used for high speed two-axis laser scanner system. The dimension of each mirror have been calculated to allow for scanning of a laser beam at up to 25 degrees off-axis. The mirrors have high reflectivity and so may be safe at high powers.

Specification:

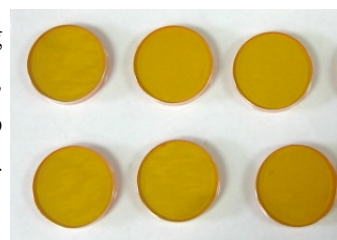
- Flatness: $\lambda/4$ @633nm, Scratch/Dig: 40/20, Reflective coating:1-sided
- Silicon, Gold or Silver coating for CO₂ Laser (10.6um)
- Si/BK7/FS, Dielectric or Silver coating for Nd:YAG Laser (1064nm/650nm/532nm)
- Si/BK7/FS, Dielectric coating for Green & Visible Laser (650nm/355nm)
- Mounted scanning mirror are available upon request.



Part No.	Dimension L*W*T (mm)	Substrate	Beam Size	X/Y
SCM-8.4x11.5x1.05	8.4x11.5x1.05	Si/BK7/FS	5	X1
SCM-60x80x4	60x80x(1.5-4)	Si/BK7/FS	40	Y23
SCM-47x76x5	47x76x5	Si/BK7/FS	30	Y22
SCM-46.7x70.1x4	46.7x70.1x4	Si/BK7/FS	30Y	Y21
SCM-45x70x4	45x70x(1.5-4)	Si/BK7/FS	30	X23
SCM-43x63x4	43x63x4	Si/BK7/FS	30	Y19
SCM-42x65x2	42x65x2	Si/BK7/FS	30	Y20
SCM-40x64x5	40x64x5	Si/BK7/FS	30	X22
SCM-40.1x54.9x4	40.1x54.9x4	Si/BK7/FS	30	X21
SCM-45x35x2	35x45x2	Si/BK7/FS	30	-
SCM-35x45x2	35x45x2	Si/BK7/FS	25	Y16/X20
SCM-34x55x4	34x55x4	Si/BK7/FS	25	X19
SCM-32x39x2	32x39x2	Si/BK7/FS	20	Y17
SCM-31x49x2.5	31x49x2.5	Si/BK7	25	Y24
SCM-30x42x4	30x42x4	Si/BK7/FS	20	Y13
SCM-30x35x2	30x35x2	Si/BK7/FS	20	Y15
SCM-27x32x2	27x32x2	Si/BK7/FS	20	X18
SCM-25x38x2	25x38x2	Si/BK7/FS	15	-
SCM-25x35x2	25x35x2	Si/BK7/FS	15	X15/X16/X17
SCM-25x30x2	25x30x2	Si/BK7/FS	20	X14
SCM-24x37x4	24x37x4	Si/BK7/FS	15	X13
SCM-24x37x2.5	24x37x2.5	Si/BK7	25	X24
SCM-24.8x39.4x3.2	24.8x39.4x3.2	Si/BK7/FS	15	Y12
SCM-23x34x2	23x34x2	Si/BK7/FS	15	Y10
SCM-23x30x2	23x30x2	Si/BK7/FS	15	Y11
SCM-22.1x28.8x3.2	22.1x28.8x3.2	Si/BK7/FS	15	X12
SCM-21x30x2	21x30x2	Si/BK7/FS	15	Y18
SCM-21.3x38.9x3.2	21.3x38.9x3.2	Si/BK7/FS	12	Y9
SCM-17.2x22.5x1.2	17.2x22.5x1.2	Si/BK7/FS	12	X8

Protective Window

Windows are applied to isolate different physical environments while allowing light to pass through. When selecting windows, please consider the material, transmission, scattering, wave front distortion, parallelism and resistance to certain environment. We offer all kinds of windows, which are made from different materials.



Ge window

Part No.	Material	Diameter (mm)	Thickness (mm)	Wavelength(nm)
WGE-70-3	Ge	70.0	3.0	10600
WGE-75-2.5	Ge	75.0	2.5	10600

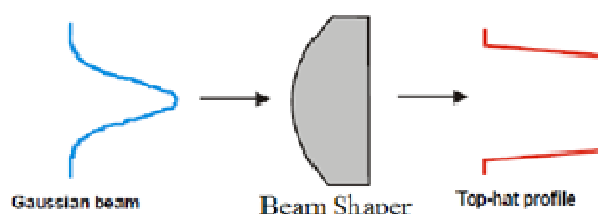
Protection Window for 9.4/10.6 um			
Model No.	Material	?(mm/inch)	Thk. (mm)
WGE-75-2.5	Ge	75	2.5
WGE-90-2.5	Ge	90	2.5
WZ-0.5-2	ZnSe	0.5?/td>	2.0
WZ-0.75-3	ZnSe	0.75?/td>	3.0
WZ-1-3	ZnSe	1.0?/td>	3.0
WZ-1.1-3	ZnSe	1.1?/td>	3.0
WZ-1.5-3	ZnSe	1.5?/td>	3.0
WZ-1.5-5	ZnSe	1.5?/td>	5.0
WGA-60-1	GaAs	60	1.0
WGA-109.5-4	GaAs	109.5	4.0

Protection Window for 1064/532 nm			
Model No.	Material	?(mm/inch)	Thk. (mm)
WFS-1-3	Fused Silicon	1?/td>	3
WFS-1.5-5	Fused Silicon	1.5?/td>	5
WFS-15-2	Fused Silicon	15	2
WFS-18-3	Fused Silicon	18	3
WFS-20-2	Fused Silicon	20	2
WFS-36-2	Fused Silicon	36	2

Beam Shaper

Beam shaping is used in a number of sectors of scientific, engineering, and industrial research and development and has become an important component of laser-based applications such as:

- lithography
- materials processing
- isotope separation
- medical applications
- laser printing
- optical data storage
- laboratory research
- Optical character recognition (OCR)
- Night vision
- Bio-detection
- Flow cytometry
- Micromachining



Beam Shaper with shorter working distance up to 200mm

Part No.	Wavelength	Applicable Input Beam Size (mm)	Output Beam Size (mm)	Max. outer Dia (mm)	Total Length (mm)	Working Distance (mm)
BS	1064/532/355/266	4.6-5	6	27	170.7	25-200

BS-W600 Series Beam Shaper

BS-W600 series of beam shaper is developed for longer working distance up to 600mm

Part No.	Wavelength	Applicable Input Beam Size (mm)	Output Beam Size (mm)	Max. outer Dia (mm)	Total Length (mm)	Working Distance (mm)
BS- W600	1064/532/355	5.8-6	5-5.5	30	175.53	100-600

BS-10.6

Part No.	Wavelength	Applicable Input Beam Size (mm)	Output Beam Size (mm)	Max. outer Dia (mm)	Total Length (mm)	Working Distance (mm)
BS-10.6-3	9.4/10.6/11	3-4	3-4	28	109	25-100
BS-10.6-12	9.4/10.6/11	12	12	38	270	25-200

High Power CO2 Laser Optics



Part No.	Type	Diameter (mm)	FL(inch)	Dia ET(mm)
LZM-1-5-ET2.5	Meniscus	25.4	5.0	2.5
LZM-1.1-1.5-ET5	Meniscus	27.9	1.5	5.0
LZM-1.1-2.5-ET2.3	Meniscus	27.9	2.5	2.3
LZM-1.1-7.5-ET6	Meniscus	27.9	7.5	6.0
LZM-1.1-10-ET2.9	Meniscus	27.9	10.0	2.9
LZM-1.5-2.5-ET3	Meniscus	38.1	2.5	3.0
LZM-1.5-2.5-ET6	Meniscus	38.1	2.5	6.0
LZM-1.5-7.5-ET7.4	Meniscus	38.1	7.5	7.4
LZM-1.5-7.5-ET7.9	Meniscus	38.1	7.5	7.9
LZM-1.5-7.5-ET9	Meniscus	38.1	7.5	9.0
LZM-1.5-7.5-ET10	Meniscus	38.1	7.5	10.0
LZM-1.5-8.85-ET7.4	Meniscus	38.1	8.8	7.4
LZM-1.5-10-ET7.36	Meniscus	38.1	10.0	7.4
LZM-1.5-10-ET9	Meniscus	38.1	10.0	9.0
LZM-2-3.75-ET9.6	Meniscus	50.8	3.7	9.6
LZM-2-5-ET7.8	Meniscus	50.8	5.0	7.8
LZM-2-5-ET8	Meniscus	50.8	5.0	8.0
LZM-2-5-ET9.6	Meniscus	50.8	5.0	9.6
LZM-2-5-ET11	Meniscus	50.8	5.0	11.0
LZM-2-7.5-ET3.5	Meniscus	50.8	7.5	3.5
LZM-2-7.5-ET8	Meniscus	50.8	7.5	8.0
LZM-2-7.5-ET9.6	Meniscus	50.8	7.5	9.6
LZM-2-10-ET9.6	Meniscus	50.8	10.0	9.6
LZM-2-12.5-ET9.65	Meniscus	50.8	12.5	9.7
LZM-2.5-7.5-ET11	Meniscus	63.5	7.5	11.0
LZ-1-1.5-ET3	PO/CX	25.4	1.5	3.0
LZ-1-2-ET3	PO/CX	25.4	2.0	3.0
LZ-1.1-5-ET3	PO/CX	27.9	5.0	3.0
LZ-1.1-5-ET4	PO/CX	27.9	5.0	4.0
LZ-1.1-5-ET6	PO/CX	27.9	5.0	5.0
LZ-1.1-7.5-ET4	PO/CX	27.9	7.5	4.0
LZ-1.1-7.5-ET6	PO/CX	27.9	7.5	6.0
LZ-1.5-2.5-ET7.4	PO/CX	38.1	2.5	7.4
LZ-1.5-3.5-ET3	PO/CX	38.1	3.5	3.0
LZ-1.5-3.63-ET7.2	PO/CX	38.1	3.6	7.2
LZ-1.5-3.75-ET3	PO/CX	38.1	3.7	3.0
LZ-1.5-5-ET7.6	PO/CX	38.1	5.0	7.6
LZ-1.5-5-ET7.8	PO/CX	38.1	5.0	7.8
LZ-1.5-5-ET8	PO/CX	38.1	5.0	8.0
LZ-1.5-5.13-ET7.1	PO/CX	38.1	5.1	7.1
LZ-1.5-7.5-ET2.5	PO/CX	38.1	7.5	2.5
LZ-1.5-7.5-ET4	PO/CX	38.1	7.5	4.0
LZ-1.5-7.5-ET6	PO/CX	38.1	7.5	6.0
LZ-1.5-7.5-ET7.4	PO/CX	38.1	7.5	7.4
LZ-1.5-7.5-ET7.6	PO/CX	38.1	7.5	7.6
LZ-1.5-7.5-ET7.8	PO/CX	38.1	7.5	7.8
LZ-1.5-7.5-ET8	PO/CX	38.1	7.5	8.0
LZ-1.5-7.63-ET8	PO/CX	38.1	7.6	8.0
LZ-1.5-15-ET8	PO/CX	38.1	15.0	8.0
LZ-2-5-ET7.9	PO/CX	50.8	5.0	7.9

GHOLOGRAPHIC COMPANY



Machine Vision

Lenses / Camera



Benefits

- **High Quality Product**
- **Guarantee for quality**
- **Best price**
- **Save your time & cost in getting best product from us.**



Machine Vision

With more than 100 years of history and experience in optical design and manufacturing, **Qioptiq** is renowned for its standardized high end products and customized premium solutions for machine vision.

Basler is a leading global manufacturer of digital cameras for industrial applications, medical devices, traffic systems, and the video surveillance market. Our products offer easy integration, compact size, and a very strong price/performance ratio. These characteristics are the decisive factors allowing Basler to hold a leading position in the GigE Vision arena.

Applications :

Inspection & Metrology

Projection and Prepress

Semiconductors and Microelectronics

Biotech Lab Instruments



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High Resolution/ High Speed Cameras

Area Scan Camera
Line Scan Camera
Accessories

Machine Vision Lenses

With the trend towards smaller pixels and larger image sensors, it is literally impossible to utilize standard economy CCTV lenses without sacrificing imaging performance.

Qioptiq offers the highest-performance optics to fully leverage the resolution and sensor size potential of today's premium cameras.

OUR MACHINE VISION LENSES:

- Rodagon Lenses
- MeVis-C Lenses
- inspec.x-UV/M/L Lenses
- Macro CCD Lenses
- Telecentric Lenses
- Fetura Advanced Programmable Zoom Lenses
- Optem Precision Micro Inspection Lenses
- Optem Long-Working Distance Objectives



Rodagon Lenses

The high resolution of the Apo-Rodagon-D lenses make them an optimum solution for cameras with a pixel size down to 5µm. The high resolution is accompanied by ultra low distortions and neglectable color fringing. The lenses are optimized for magnification range from 1:2 to 1:1. All lenses have the “Leica-thread“ M39x1.26“ lens mount in common

You may choose out of various lens types for different requirements:

- **Rogonar-S:**

Inexpensive lens with good imaging performance. Optimum price/performance ratio

- **Rodagon:**

High performance lens featuring a highly consistent imaging quality and broad magnification range

- **Rodagon-WA:**

High performance lens with extended viewing angle-shorter focal length for the same image field possible

- **Apo-Rodagon-N:**

Apochromatically corrected lens designed to meet the highest requirements in an especially broad magnification range



Rogonar Lenses

The Rogonar is available with the standard focal length of 50 mm. It has a click-stop diaphragm and an illuminated f-number scale.

The large image field allows use with large format line-scan and area-scan cameras. The lenses are compatible with

Nearly any common mount through the use of our broad range of mechanical accessories.

Lens	film size	scale (optimal)	Filter thread	Flange focal length	Overall length	lens diameter	Screw thread
50 mm f/2,8	24x36mm	2-8x (4x)	-	38,0	32,0	42,0	39,0
75 mm f/4,5	6x6cm	2-6x (4x)	-	63,1	32,0	42,0	39,0
25 mm f/4,0	13x17mm	10-30x (20x)	30,5	23,0	28,0	40,5	32,5
35 mm f/4,0	18x24mm	10-30x (20x)	30,5	34,0	28,0	40,5	32,5
50 mm f/2,8	24x36mm	2-10x (4x)	40,5	47,0	37,5	50,0	39
60 mm f/4,5	40x40mm	2-10x (4x)	40,5	52,5	36,5	50,0	39
75 mm f/4,5	6x6cm	2-10x (4x)	40,5	65,5	36,5	50,0	39
90 mm f/4,5	6x7cm	2-8x (4x)	40,5	80,0	36,5	50,0	39
105 mm f/4,5	6x9cm	2-8x (4x)	40,5	95,0	36,5	50,0	39
135 mm f/4,5	9x12cm/4x5"	2-6x (4x)	52	129,5	38,0	60,0	50
150 mm f/4,5	9x12cm/4x5"	2-6x (4x)	52	138,0	36,8	60,0	50



Rodagon Lenses

The lens type Rodagon, with brilliant reproduction over the whole scale range of conventional enlargers, with focal lengths up to 135 mm have proven to be excellent macro lenses for SLR cameras and to be high-resolution taking lenses for CCD cameras in combination with the Rodenstock focusing device Modular-Focus.

Lens	film size	scale (optimal)	Filter thread	Flange focal length	Overall length	lens diameter	Screw thread
35 mm f/4,0	24x24mm	5-30x (20x)	30,5	35,6	32,5	40,5	32,5
50 mm f/2,8	24x36mm	2-15x (10x)	40,5	43,5	43,5	50,0	39,0
60 mm f/4,0	40x40mm	2-10x (10x)	40,5	56,0	41,0	50,0	39,0
80 mm f/4,0	6x7cm	2-10x (6x)	40,5	74,7	44,5	50,0	39,0
105 mm f/5,6	6x9cm	2-10x (6x)	40,5	99,5	41,0	50,0	39,0
135 mm f/5,6	9x12cm/4x5"	2-10x (6x)	40,5	128,0	45,5	50,0	39,0
150 mm f/5,6	9x12cm/4x5"	2-10x (6x)	52,0	146,0	49,8	60,0	50,0
180 mm f/5,6	13x18cm/5x7"	2-8x (5x)	58,0	177,0	59,8	60,0	50,0
210 mm f/5,6	13x18cm/5x7"	2-8x (4x)	67,0	201,0	67,2	70,0	58,0
240 mm f/5,6	18x24/8x10"	2-8x (4x)	77,0	230,0	77,0	80,0	72,0
300 mm f/5,6	18x24/8x10"	2-8x (4x)	86,0	283,0	93,0	90,0	72,0
360 mm f/6,3	24x30/10x12"	2-8x (2,5x)	95,0	300,0	110,6	100,0	90,0

Lens	film size	scale (optimal)	Filter thread	Flange focal length	Overall length	lens diameter	Screw thread
50 mm f/2,8	24x36mm	15-50x (25x)	40,5	47,0	45,0	50,0	39,0
105 mm f/5,6	6x9cm	10-40x (20x)	40,5	100,3	38,0	60,0	50,0
150 mm f/5,6	9x12cm/4x5"	10-40x (20x)	49,0	141,8	50,6	60,0	50,0
210 mm f/5,6	13x18cm/5x7"	8-30x (20x)	67,0	179,5	65,9	74,5	72,0
240 mm f/5,6	13x18cm/5x7"	8-30x (20x)	77,0	230,6	76,9	80,0	72,0
300 mm f/5,6	18x24/8x10"	8-30x (20x)	86,0	253,3	93,5	93,5	90,0
360 mm f/6,8	18x24/8x10"	8-30x (20x)	105,0	304,2	116,5	110,0	90,0
480 mm f/8,4	24x30/10x12"	8-30x (20x)	112,0	412,0	146,8	115,0	110,0



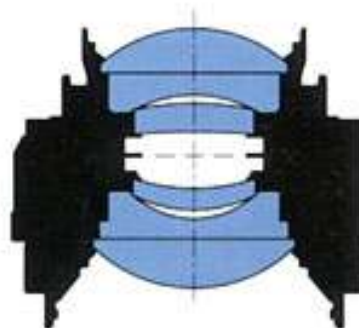
Rodagon -WA Lenses

The Rodagon-WA has a shorter focal length and a large angle of view and achieves a 70% larger projection area than conventional enlarging lenses with standard focal lengths. It is therefore eminently suitable for section enlargements on units with short columns. Clumsy wall or floor projections can so be avoided.

Thanks to the shorter projection distance the negative carrier and the filter adjustment controls can still be operated easily when high enlargements are required.

The 6 element Rodagon-WA provides the same reproduction performance as the Rodagon lens type.

Lens	film size	scale (optimal)	Filter thread	Flange focal length	Overall length	lens diameter	Screw thread
40 mm f/4,0	24x36mm	4-20x (10x)	40,5	36,5	37,2	50,0	39,0
60 mm f/4,0	6x7cm	4-15x (8x)	40,5	55,5	41,0	50,0	39,0
80 mm f/4,0	6x9cm	4-15x (8x)	40,5	77,0	44,0	50,0	39,0
120 mm f/5,6	9x12cm/4x5"	4-15x (6x)	52,0	116,4	59,0	60,0	50,0



Apo - Rodagon N Lenses

The apochromatically corrected high-performance lenses of the Apo-Rodagon-N series guarantee perfect results which will satisfy the highest demands.

The correction of the 7 element lenses (6 elements for focal length 50 mm) was given highest priority and so ensures the full elimination of irritating visible colour fringes on high-contrast borders. All monochromatic imaging errors have also been greatly reduced to give this lens type its unsurpassed image reproduction performance.

Lens	film size	scale (optimal)	Filter thread	Flange focal length	Overall length	lens diameter	Screw thread
50 mm f/2,8	24x36mm	2-20x (10x)	40,5	46,0	46,5	50,0	39,0
80 mm f/4,0	6x7cm	2-15x (10x)	40,5	77,0	43,0	50,0	39,0
105 mm f/4,0	6x9cm	2-15x (6x)	40,5	99,1	54,3	50,0	39,0
150 mm f/4,0	9x12cm/4x5"	2-15x (6x)	67,0	144,5	78,2	70,0	50,0

Lens	film size	scale (optimal)	Filter thread	Flange focal length	Overall length	lens diameter	Screw thread
75 mm f/4,0	6x6cm	0,9-1,2 (1x)	40,5	136,7 (1:1)	53 0	50,0	39,0
	24x36mm	0,7-1,5x (1x)					
120 mm f/5,6		0,5-3x (2x)					



Rodagon –F Lenses

Precision Optics for F-Mount

The Rodagon F is available in different versions with fixed apertures from F/2.8 to F/5.6 and with focal lengths of 40, 50, and 60mm. The fixed aperture prevents accidental changes of the iris or slowly shifting aperture values through vibrations effectively.

The image circle of the lens is 44mm and is therefore large enough for sensors with 35mm format and the popular 41-mm line sensors.

No moving parts. Suitable for 35mm sensors and 41mm line sensors

Features:

- Proven imaging performance
- Rugged and compact design
- Excellent cost-performance ratio
- General Specifications:
- Max. Lens Ø: 59 mm
- Flange focal distance for ∞ : 46.5 mm
- Image circle Ø at 1: ∞ and fully open diaphragm: 44 mm

Part No.	Reference	Focal length (mm)	Aperture ratio	Surface-focal plane distance to the rear (mm)	Lens name
0703-090-000-25	280.0040.001.025	40	1:04	24.5	Rodagon-F 40
0703-090-000-26	280.0040.001.026	40	01:05.6	24.5	Rodagon-F 40
0703-089-000-24	280.0050.001.024	50	01:02.8	24.2	Rodagon-F 50
0703-089-000-25	280.0050.001.025	50	1:04	24.2	Rodagon-F 50
0703-089-000-26	280.0050.001.026	50	01:05.6	24.2	Rodagon-F 50
0703-087-000-25	280.0060.001.025	60	1:04	30.1	Rodagon-F 60
0703-087-000-26	280.0060.001.026	60	01:05.6	30.1	Rodagon-F 60



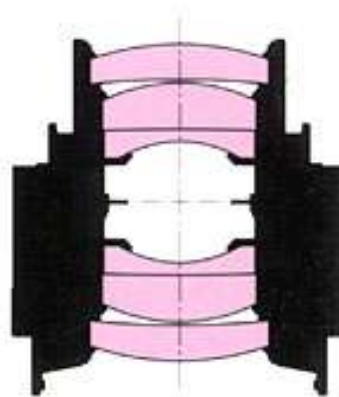
Apo - Rodagon D Lenses

High performance lenses for large imaging sensors and Line-Scan applications

All lenses can also be used in retro position to achieve the inverse magnification. Features:

- Specially designed for scanning applications and large image sensors
- Optimized for 1:2 to 2:1 imaging
- Suitable for cameras with a pixel size down to 7 μm
- General Specifications:
- Max. Lens $\varnothing$ without flange d: 502)
- Thread e: M39x1/26“
- Filter thread a: M40.5x0.5

Reference	Part No.	Aperture ratio	Focal length (mm)	Support dimensions for ∞ b (mm)	Lens length c (mm)	Surface-focal plane distance to the rear g (mm)	Image circle $\varnothing$ at 1: ∞ and fully open diaphragm (mm)	Lens name
273.0075.001.040	0703-005-000-40	1:4.0	75	136.7 at $\beta = -1$	53	18.7	80 (at 1:1) ¹⁾	Apo-Rodagon-D 1x
273.0075.002.040	0703-028-000-21	1:4.5	75	109.4 at $\beta = 0.5$	43	12.5	80 (at 1:2) ¹⁾	Apo-Rodagon-D 2x
273.0120.001.040	0703-043-000-20	1:5.6	120	232.8 at $\beta = 1$ x	43	12.7	80 (at 1:2) ¹⁾	Apo-Rodagon-D 120





Apo - Rodagon HR Lenses

High performance lenses in compact and robust housing

Combines the best features of popular inspec.x L and Apo Rodagon D lens series

Features:

- High resolution at an attractive price
- No moving parts
- Suitable for cameras with a pixel size down to 5 μm
- Excellent for 12k/5 μm line scan cameras.
- May be used to replace Apo Rodagon D2x75mm if higher resolution is needed.

Part No.	Focal length (mm)	F-number	Image circle $\varnothing$ (mm)	Lens name
0703-109-000-20	75	5.6	62	Apo-Rodagon-HR 0.5X 5.6/75
0703-109-000-21	75	8	62	Apo-Rodagon-HR 0.5X 8/75
0703-109-000-22	75	11	62	Apo-Rodagon-HR 0.5X 11/75



NIR Lenses

Specially designed for the spectral range of 800 – 1400nm

Features:

- Highest transmission of up to 985 in NIR wavelength range
- Optimized for applications in e.g. solar cell testing, food inspection, pharmaceutical applications

Part No.	Focal length (mm)	Aperture	Maximum image circle (mm)	Camera Mount	Magnification range	Lens name
0020-004-000-42	16	1.6	11	C-Mount	-0.1 ... ∞	MeVis-C 1.6/16
0020-002-000-42	25	1.6	16	C-Mount	-0.1 ... ∞	MeVis-C 1.6/25m
0020-001-000-42	35	1.6	16	C-Mount	-0.1 ... ∞	MeVis-C 1.6/35m
0020-003-000-42	50	1.8	16	C-Mount	-0.075 ... ∞	MeVis-C 1.8/50m
0009-243-000-42	50	1.4	29	F-Mount	0.07 ... ∞	inspec.x M 1.4/50
0701-028-000-24	75	4.5	80	Universal	0.03 ... -0.8	Apo Rodagon D 1x



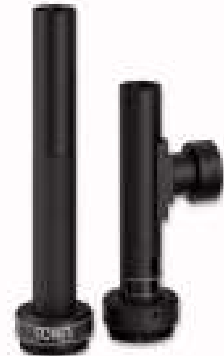
Macro CCD

Designed for C mount CCD cameras

Highest resolution, excellent contrast, color neutrality, distortion free

Features:

- Huge range of magnifications available
- Designed for 1/2" and 2/3" sensors
- Outstanding performance
- 2X to 8X available with or without coaxial illumination



Macro Lenses for Magnifications 0.14x to 1x

Part No.	Reference	Lens designation	Lens focal length (mm)	Available fixed diaphragm apertures (geometric value, in relation to 1: ∞)	Magnification on CCD
0009-189-000-40	260-0014-001-020	Macro CCD Lens 0.14x	15	4	0.14x (1:7.1)
0009-189-000-41	260-0014-001-021	Macro CCD Lens 0.14x	15	5.6	0.14x (1:7.1)
0009-189-000-42	260-0014-001-022	Macro CCD Lens 0.14x	15	8	0.14x (1:7.1)
0009-190-000-40	260-0030-001-020	Macro CCD Lens 0.3x	24	3.5	0.3x (1:3.3)
0009-190-000-41	260-0030-001-021	Macro CCD Lens 0.3x	24	5.6	0.3x (1:3.3)
0009-190-000-42	260-0030-001-022	Macro CCD Lens 0.3x	24	8	0.3x (1:3.3)
0009-191-000-40	260-0050-001-020	Macro CCD Lens 0.5x	35	5.6	0.5x (1:2)
0009-191-000-41	260-0050-001-021	Macro CCD Lens 0.5x	35	8	0.5 x (1:2)
0009-192-000-41	260-0100-001-020	Macro CCD Lens 1x	50	4	1x (1:1)
0009-192-000-42	260-0100-001-021	Macro CCD Lens 1x	50	5.6	1x (1:1)
0009-192-000-43	260-0100-001-022	Macro CCD Lens 1x	50	8	1 x (1:1)

Macro Lenses for Magnifications 2x to 8x

Part No.	Reference	Lens designation	Lens focal length (mm)	With vertical epi-illuminator	Without epi-illuminator
0009-193-000-40	261-0200-001-020	Macro CCD Lens 2x	26		x
0009-205-000-40	261-0200-002-020	Macro CCD Lens 2x	26	x	
0009-194-000-40	261-0400-001-020	Macro CCD Lens 4x	20		x
0009-206-000-40	261-0400-002-020	Macro CCD Lens 4x	20	x	
0009-195-000-40	261-0600-001-020	Macro CCD Lens 6x	13		x
0009-199-000-40	261-0600-002-020	Macro CCD Lens 6x	13	x	
0009-196-000-40	261-0800-001-020	Macro CCD Lens 8x	9		x
0009-200-000-40	261-0800-002-020	Macro CCD Lens 8x	9	x	

Machine Vision C Mount Lenses

Machine Vision lenses for Multi-Megapixel cameras

Features:

- Large image field up to 1 inch
- For pixel size even below 2 μm
- High numerical aperture
- General Specifications
- Transmission range: 450 – 1000 nm
- Camera Mount: C-Mount
- Depth of thread: 3.5 mm
- Focusing: manual, lockable
- Iris diaphragm: manual, lockable
- Filter thread: M35.5 $\times$ 0.5
- Diameter: 42 mm

Part No.	Reference	Focal length (mm)	F-number	Max. sensor size	Minimum focus distance (m)	F-number range	Length L (mm)	Weight (g)
0020-005-000-40	266.0012.001.040	12	1.8	2/3"	0.03	1.8-11	63.9	240
0020-004-000-40	266.0016.001.040	16	1.6	2/3"	0.22	1.6-16	51.5	170
0020-002-000-40	266.0025.001.040	25	1.6	1"	0.32	1.6-16	44.1	156
0020-001-000-40	266.0035.001.040	35	1.6	1"	0.45	1.6-16	59.4	210
0020-003-000-40	266.0050.001.040	50	1.8	1"	0.76	1.8-16	67.5	240



Machine Vision Compact C Mount Lenses

With optical performance equal to Me-Vis lenses but improved in a compact, robust lens package with a fixed aperture.

Features:

- Highest Optical performance
- Compact and robust mechanics
- C-Mount
- Up to 1" sensors

Part No.	Focal length (mm)	Aperture	Maximum image circle (mm)	Magnification range	Lens name
0020-007-000-20	25	1.6	16	-0.1 ... ∞	MeVis-CF 1.6/25
0020-007-000-22	25	2.8	16	-0.1 ... ∞	MeVis-CF 2.8/25
0020-007-000-21	25	1	16	-0.1 ... ∞	MeVis-CF 4/25



Machine Vision Motorized C Mount Lenses

Motorization of the MeVis-Cm lenses enables automated adjustment of the focus and diaphragm

Features:

- Motorized diaphragm and focus
- User configurable connections
- Rugged and industry-compatible version
- General Specifications
- Transmission range: 450 – 1000 nm
- Camera Mount: C-Mount
- Depth of thread: 3.5 mm
- Focusing Iris diaphragm: Single, motorized
- Length: 66mm
- Filter thread: M39 x0.5
- Diameter: 69 mm

Part No.	Focal length (mm)	F-number	Max. sensor size	Minimum focus distance (m)	F-number range	Length L (mm)	Weight (g)
G038414000	16	1.6	2/3"	0.22	1.6-16	370	240
G038415000	25	1.6	1"	0.32	1.6-16	356	170
G038416000	35	1.6	1"	0.45	1.6-16	410	156
G038417000	50	1.8	1"	0.76	1.8-16	440	210



UV Camera Lenses

Suitable for high resolution imaging with UV cameras in the wavelength range of 240 – 700 nm. Excellent for surface inspection and quality control of semiconductor materials. Other UV applications include forensic, pharmaceutical and biomedical imaging. Also, oil contamination and leakage can be detected.

Features:

- For applications down to 240nm
- Designed for high-resolution megapixel cameras
- Minimized focal shift over the complete wavelength range
- Precision manual focus with durable, full metal construction
- General Specifications:
- Max. CCD Format: 2/3" (optimized for 1/2")
- Angular FOV at working distance 10.5° (at 400 mm object distance in diagonal) calculated for 2/3"
- FOV at Min. Working distance 80 mm (at 400 mm object distance in diagonal) calculated for 2/3"
- Temperature: -20 °C to +50 °C

Part No.	Working Distance (m)	Lens name
G033550000	0.4 – 0.8	inspec.x 2.8/50 UV-VIS APO
G033551000	0.7 – 1.5	inspec.x 2.8/50 UV-VIS APO
G033552000	1.5 – ∞	inspec.x 2.8/50 UV-VIS APO



Inspec.X M Lenses

Lenses for high resolution 35mm linescan and areascan applications

Equipped with lockable manual focus and manual iris

Features:

- Outstanding MTF performance
- Large magnification range
- Rugged mechanical design
- F-mount, flexible for other camera mounts

Part No.	Reference	Focal length (mm)	Maximum image circle (mm)	Magnification range	Lens name
0703-073-000-23	269.0100.001.000	100	43.3 (35mm format)	$\infty - 0.5$	inspec.x M 2.8/100
0009-243-000-40	269.0050.001.040	50	28	$\infty - 0.15$	inspec.x M 1.4/50





Inspec.X L Lenses

Premium High Resolution Lenses for Line Scan sensors up to 66mm

Equipped with lockable manual focus and manual iris

Diffraction limited performance lenses

Features:

- For line sensors up to 66mm
- Designed for high contrast imaging with 12k/5 μ m sensors
- Focus and aperture lockable
- To preserved diffraction limited performance while using coaxial illumination at high magnifications, lenses with 3X, 3.5X and 5X magnification now also come in a new prism version.

Part No.	Reference	Focal length (mm)	Maximum image circle (mm)	Magnification range	Lens name
0019-002-000-49	268.0060.001.049	60	66	$\infty - 0.2$	inspec.x L 4/60
0019-003-000-49	268.0100.001.049	100	66	$\infty - 0.2$	inspec.x L 4/100
0703-085-000-20	268.0105.001.085	105	66	-0.25 – -0.45	inspec.x L 5.6/105
0703-084-000-20	268.0105.001.084	105	66	-0.4 – -0.65	inspec.x L 5.6/105
0703-083-000-20	268.0105.001.083	105	66	-0.6 – -0.9	inspec.x L 5.6/105
0703-082-000-20	268.0105.001.082	105	66	-0.85 – -1.2	inspec.x L 5.6/105
0703-104-000-20		105	66	-2.8 – -3.2	inspec.x L 4/105 3X
0703-105-000-20		105	66	-2.8 – -3.2	inspec.x L 4/105 3X prism
0703-095-000-21	268.0105.001.095	105	66	-3.3 – -3.7	inspec.x L 4/105 3.5X
0703-107-000-20		105	66	-3.3 – -3.7	inspec.x L 4/105 3.5X prism
0703-102-000-20	268.0105.001.102	105	66	-4.8 – -5.2	inspec.x L 3.5/105 5X
0703-108-000-20		105	66	-4.8 – -5.2	inspec.x L 3.5/105 5X prism

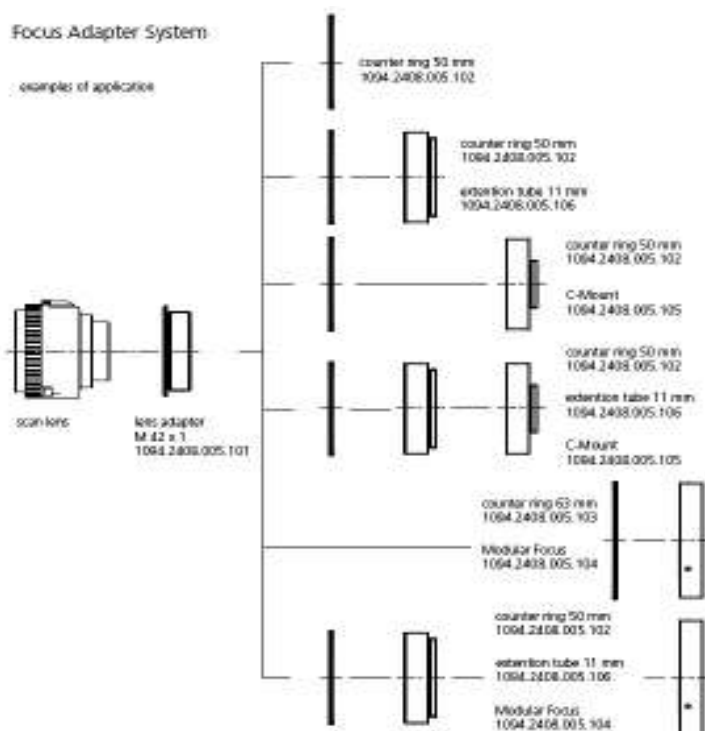


Focus Adapter System

Part no.	Reference	Mechanical accessories
2408-005-101-00	1094-2408-005-101	Lens adapter from M39 (Leica) to M42x1
2408-005-102-00	1094-2408-005-102	Retaining ring 50 mm
2408-005-103-00	1094-2408-005-103	Retaining ring 63 mm
2408-005-104-00		Adapter for connection to existing camera adapter Modular Focus
2408-005-105-00	1094-2408-005-105	Camera adapter C-mount
2408-005-106-00	1094-2408-005-106	Extension tube 11 mm

Part no.	Reference	Mechanical accessories
2408-012-000-30	1094-2408-012-030	Focus tube for lenses 268.0105.001.082 and .083
2408-012-000-31	1094-2408-012-031	Focus tube for lenses 268.0105.001.084 and .085
2408-012-000-32	1094-2408-012-032	Focus tube for lens 268.0105.001.095
2408-012-000-33		Focus tube for lens 0703-102-000-20

Part no.	Reference	Mechanical accessories
2408-012-000-23	1094-2408-012-023	Focus Unit f'=80mm
2408-012-000-28	1094-2408-012-028	Focus Unit f'=105mm
2408-012-000-29	1094-2408-012-029	Focus Unit f'=135mm
2408-012-000-35	1094-2408-012-035	Focus Unit II f'=80mm *
2408-012-000-36	1094-2408-012-036	Focus Unit II f'=105mm *
2408-012-000-37	1094-2408-012-037	Focus Unit II f'=135mm *



Basler Cameras



Basler ace family offers a unique combination of extremely high performance and low cost in a small 42 mm x 29 mm x 29 mm housing. With a starting price of only 299 € and a design targeted for industrial, medical, and traffic applications,

Basler Scout family is based on a selection of the best Sony CCD sensors, offers a wide variety of resolutions and speeds, and produces outstanding image quality. We also offer models with a high performance CMOS sensor by Aptina. The cameras are available in a variety of housing options and therefore provide maximum flexibility with respect to cost and space requirements.

pylon Driver Package

You can download a free driver and software development kit (DSDK) from below link, Basler pylon. The pylon driver package operates with our GigE, IEEE 1394 and Camera Link cameras and offers reliable and flexible image data exchange between your Basler cameras and the PC, at a low CPU load.

<http://www.baslerweb.com/pylon>



Basler Pylon Driver Package

The pylon driver package operates with all Basler line scan and area scan cameras. It offers stable, reliable and flexible data exchange between Basler cameras and PCs, at a very low CPU load.

The internal architecture of the pylon driver package is based on GenICam Technology, which offers you easy access to the newest camera models and the latest features. Changes to an existing camera device in your application essentially become a plug-and-play process.

The pylon package contains the following main modules. Each one can be individually selected/unselected during the installation process, preventing the installation of unneeded modules on your system.

GigE Vision Filter Driver

GigE Vision Performance Driver

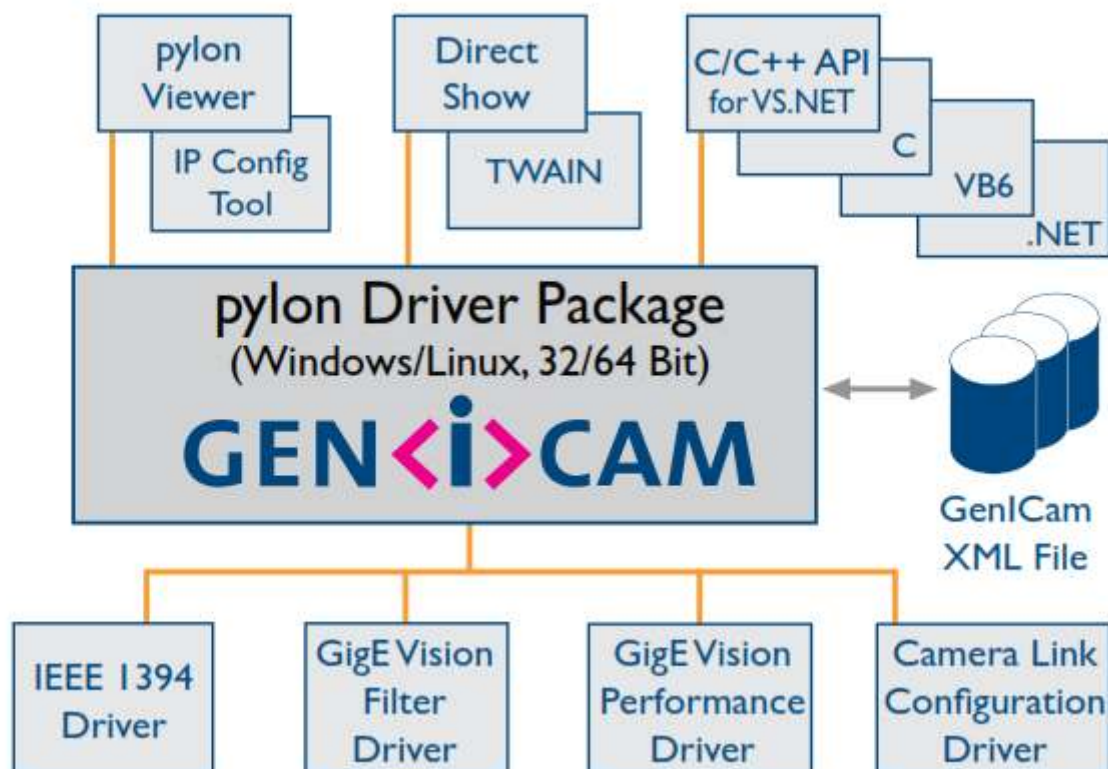
IEEE 1394 Driver

Camera Link Serial Communication Driver

pylon Viewer

IP Configuration Tool

pylon SDK for all cameras; C, C++, C# and VB6 (the 'pylon for Linux' version only supports the GigE interface via a C++ API)





Semiconductor Industry Camera

Basler cameras are designed to meet the needs of all mainstream semiconductor applications. Among their many other features, they offer:

- High speed
- High resolution
- An outstanding price/performance ratio
- Cable lengths up to 100 meters

Typical applications include:

- Automated Optical Inspection (AOI)
- Quality control of semiconductor wafers
- Inspection in dicing and bonding systems
- Process control

Devices such as computers, cell phones, and TVs all use circuits that contain many electronic components. The active electronic components used in these devices are produced on semiconductor wafers. The density and complexity of today's wafers is growing from year to year. This increases the requirements for quality control and for the camera systems used to inspect the materials. Optical inspection systems are required at different steps in the semiconductor production process, from inspection of the unstructured wafer material to inspection of the final circuits.

Area Scan Camera : ACE Series



Camera model	Resolution horizontal/ vertical	Frame Rate	Mono/Color	Interface
acA640-90gc	658 pixels x 492 pixels	90 fps	Color	Gigabit Ethernet
acA640-90gm	659 pixels x 494 pixels	90 fps	Mono	Gigabit Ethernet
acA640-100gc	658 pixels x 492 pixels	100 fps	Color	Gigabit Ethernet
acA640-100gm	659 pixels x 494 pixels	100 fps	Mono	Gigabit Ethernet
acA645-100gc	658 pixels x 492 pixels	100 fps	Color	Gigabit Ethernet
acA645-100gm	659 pixels x 494 pixels	100 fps	Mono	Gigabit Ethernet
acA750-30gc	748 pixels x 576 pixels	30 fps	Color	Gigabit Ethernet
acA750-30gm	752 pixels x 580 pixels	30 fps	Mono	Gigabit Ethernet
acA780-75gc	782 pixels x 582 pixels	75 fps	Color	Gigabit Ethernet
acA780-75gm	782 pixels x 582 pixels	75 fps	Mono	Gigabit Ethernet
acA1300-30gc	1294 pixels x 964 pixels	30 fps	Color	Gigabit Ethernet
acA1300-30gm	1296 pixels x 966 pixels	30 fps	Mono	Gigabit Ethernet
acA1600-20gc	1624 pixels x 1234 pixels	20 fps	Color	Gigabit Ethernet
acA1600-20gm	1628 pixels x 1236 pixels	20 fps	Mono	Gigabit Ethernet
acA2000-50gc	2048 pixels x 1088 pixels	50 fps	Color	Gigabit Ethernet
acA2000-50gm	2048 pixels x 1088 pixels	50 fps	Mono	Gigabit Ethernet
acA2000-50gm NIR	2048 pixels x 1088 pixels	50 fps	Mono	Gigabit Ethernet
acA2040-25gc	2048 pixels x 2048 pixels	25 fps	Color	Gigabit Ethernet
acA2040-25gm	2048 pixels x 2048 pixels	25 fps	Mono	Gigabit Ethernet
acA2040-25gm NIR	2048 pixels x 2048 pixels	25 fps	Mono	Gigabit Ethernet
acA2500-14gc	2590 pixels x 1942 pixels	14 fps	Color	Gigabit Ethernet
acA2500-14gm	2592 pixels x 1944 pixels	14 fps	Mono	Gigabit Ethernet



Email Us : gholographics@gmail.com ; www.genuineholographics.com

Area Scan Camera : Aviator Series



High performance, exceptional image quality, outstanding price/performance ratio

The Basler aviator series includes state-of-the-art high speed cameras with either a Camera Link or a Gigabit Ethernet interface. They deliver excellent image quality, even at high capture rates. Basler aviator cameras are equipped with Kodak's latest CCD sensor generation with four data outputs (4 taps). These sensors are up to four times faster than standard CCD sensors with the same resolution.

Basler aviator cameras employ all of the tap balancing know-how that Basler developers acquired during the integration of 2 tap Kodak sensors into our highly successful pilot series.

The advantages of the Basler aviator family include:

- Resolutions of 1, 2 (4:3 and HDTV), and 4 MP
- Max. capture rate of 120 fps
- Standardized GigE and Camera Link interface
- Excellent linearity, high dynamic range, and low noise level
- Extremely attractive price/performance ratio
- Fully quality tested and calibrated for consistently high performance and reliability

Camera model	Resolution horizontal/vertical	Frame Rate	Mono/Color	Interface
avA1000-100gc	1024 pixels x 1024 pixels	101 fps	Color	Gigabit Ethernet
avA1000-100gm	1024 pixels x 1024 pixels	101 fps	Mono	Gigabit Ethernet
avA1600-50gc	1600 pixels x 1200 pixels	55 fps	Color	Gigabit Ethernet
avA1600-50gm	1600 pixels x 1200 pixels	55 fps	Mono	Gigabit Ethernet
avA1900-50gc	1920 pixels x 1080 pixels	51 fps	Color	Gigabit Ethernet
avA1900-50gm	1920 pixels x 1080 pixels	51 fps	Mono	Gigabit Ethernet
avA2300-25gc	2330 pixels x 1750 pixels	26 fps	Color	Gigabit Ethernet
avA2300-25gm	2330 pixels x 1750 pixels	26 fps	Mono	Gigabit Ethernet



Area Scan Camera : Pilot Series



Excellent image quality, slim design, easily integrated

The high performance Basler pilot camera family includes GigE camera models with a variety of Kodak CCD sensors and one Sony CCD sensor. These cameras take maximum advantage of Kodak sensor technology and provide exceptionally good image quality. Basler pilot cameras can often substitute for more costly Camera Link cameras and frame grabbers.

The advantages of the Basler pilot family include:

- Resolutions from VGA to 5 MP
- Max. capture rate of 210 fps
- Standardized GigE interface
- Outstanding image quality
- Small, rugged housing for easy integration
- Fully quality tested and calibrated for consistently high performance and reliability

Camera model	Resolution horizontal/ vertical	Frame Rate	Mono/Color	Interface
piA640-210gc	648 pixels x 488 pixels	210 fps	Color	Gigabit Ethernet
piA640-210gm	648 pixels x 488 pixels	210 fps	Mono	Gigabit Ethernet
piA1000-48gc	1000 pixels x 1000 pixels	48 fps	Color	Gigabit Ethernet
piA1000-48gm	1004 pixels x 1004 pixels	48 fps	Mono	Gigabit Ethernet
piA1000-60gc	1000 pixels x 1000 pixels	60 fps	Color	Gigabit Ethernet
piA1000-60gm	1004 pixels x 1004 pixels	60 fps	Mono	Gigabit Ethernet
piA1600-35gc	1608 pixels x 1208 pixels	35 fps	Color	Gigabit Ethernet
piA1600-35gm	1608 pixels x 1208 pixels	35 fps	Mono	Gigabit Ethernet
piA1900-32gc	1926 pixels x 1082 pixels	32 fps	Color	Gigabit Ethernet
piA1900-32gm	1928 pixels x 1084 pixels	32 fps	Mono	Gigabit Ethernet
piA2400-17gc	2454 pixels x 2056 pixels	17 fps	Color	Gigabit Ethernet
piA2400-17gm	2456 pixels x 2058 pixels	17 fps	Mono	Gigabit Ethernet



Area Scan Camera : Scout Series



More than 60 models, proven worldwide, versatile

The cameras are available in a variety of housing options and therefore provide maximum flexibility with respect to cost and space requirements.

The advantages of the Basler scout family include:

- Resolutions from VGA to 2 MP
- Max. capture rate of 120 fps
- Standardized GigE and FireWire-b interface
- Available with a C-mount or a CS-mount lens adapter and a 90° offset head
- Small, rugged housing for easy integration
- Fully quality tested and calibrated for consistently high performance and reliability





Area Scan Camera : Scout Series



Camera model	Resolution horizontal/vertical	Frame Rate	Mono/Color	Interface
scA640-70gc	658 pixels x 492 pixels	70 fps	Color	Gigabit Ethernet
scA640-70gm	659 pixels x 494 pixels	70 fps	Mono	Gigabit Ethernet
scA640-74gc	658 pixels x 492 pixels	79 fps	Color	Gigabit Ethernet
scA640-74gm	659 pixels x 494 pixels	79 fps	Mono	Gigabit Ethernet
scA640-120gc	658 pixels x 492 pixels	122 fps	Color	Gigabit Ethernet
scA640-120gm	659 pixels x 494 pixels	122 fps	Mono	Gigabit Ethernet
scA750-60gc	750 pixels x 480 pixels	64 fps	Color	Gigabit Ethernet
scA750-60gm	752 pixels x 480 pixels	64 fps	Mono	Gigabit Ethernet
scA780-54gc	780 pixels x 580 pixels	55 fps	Color	Gigabit Ethernet
scA780-54gm	782 pixels x 582 pixels	55 fps	Mono	Gigabit Ethernet
scA1000-30gc	1032 pixels x 778 pixels	31 fps	Color	Gigabit Ethernet
scA1000-30gm	1034 pixels x 779 pixels	31 fps	Mono	Gigabit Ethernet
scA1300-32gc	1294 pixels x 964 pixels	32 fps	Color	Gigabit Ethernet
scA1300-32gm	1296 pixels x 966 pixels	32 fps	Mono	Gigabit Ethernet
scA1390-17gc	1390 pixels x 1038 pixels	17 fps	Color	Gigabit Ethernet
scA1390-17gm	1392 pixels x 1040 pixels	17 fps	Mono	Gigabit Ethernet
scA1400-17gc	1390 pixels x 1038 pixels	17 fps	Color	Gigabit Ethernet
scA1400-17gm	1392 pixels x 1040 pixels	17 fps	Mono	Gigabit Ethernet
scA1400-30gc	1390 pixels x 1038 pixels	30 fps	Color	Gigabit Ethernet
scA1400-30gm	1392 pixels x 1040 pixels	30 fps	Mono	Gigabit Ethernet
scA1600-14gc	1624 pixels x 1234 pixels	14 fps	Color	Gigabit Ethernet
scA1600-14gm	1626 pixels x 1236 pixels	14 fps	Mono	Gigabit Ethernet
scA1600-28gc	1624 pixels x 1234 pixels	28 fps	Color	Gigabit Ethernet
scA1600-28gm	1626 pixels x 1236 pixels	28 fps	Mono	Gigabit Ethernet



Area Scan Camera



Camera model	Resolution horizontal/vertical	Frame Rate	Mono/Color	Interface
scA640-70fc	658 pixels x 492 pixels	71 fps	Color	FireWire-b
scA640-70fm	659 pixels x 494 pixels	71 fps	Mono	FireWire-b
scA640-74fc	658 pixels x 492 pixels	74 fps	Color	FireWire-b
scA640-74fm	659 pixels x 494 pixels	74 fps	Mono	FireWire-b
scA640-120fc	658 pixels x 492 pixels	120 fps	Color	FireWire-b
scA640-120fm	659 pixels x 494 pixels	122 fps	Mono	FireWire-b
scA750-60fc	750 pixels x 480 pixels	64 fps	Color	FireWire-b
scA750-60fm	752 pixels x 480 pixels	64 fps	Mono	FireWire-b
scA780-54fc	780 pixels x 580 pixels	54 fps	Color	FireWire-b
scA780-54fm	782 pixels x 582 pixels	58 fps	Mono	FireWire-b
scA1000-30fc	1032 pixels x 778 pixels	30 fps	Color	FireWire-b
scA1000-30fm	1034 pixels x 779 pixels	30 fps	Mono	FireWire-b
scA1300-32fc	1294 pixels x 964 pixels	32 fps	Color	FireWire-b
scA1300-32fm	1296 pixels x 966 pixels	32 fps	Mono	FireWire-b
scA1390-17fc	1390 pixels x 1038 pixels	17 fps	Color	FireWire-b
scA1390-17fm	1392 pixels x 1040 pixels	17 fps	Mono	FireWire-b
scA1400-17fc	1390 pixels x 1038 pixels	17 fps	Color	FireWire-b
scA1400-17fm	1392 pixels x 1040 pixels	17 fps	Mono	FireWire-b
scA1400-30fc	1390 pixels x 1038 pixels	30 fps	Color	FireWire-b
scA1400-30fm	1392 pixels x 1040 pixels	30 fps	Mono	FireWire-b
scA1600-14fc	1624 pixels x 1234 pixels	14 fps	Color	FireWire-b
scA1600-14fm	1628 pixels x 1236 pixels	14 fps	Mono	FireWire-b
scA1600-28fc	1624 pixels x 1230 pixels	28 fps	Color	FireWire-b
scA1600-28fm	1628 pixels x 1236 pixels	28 fps	Mono	FireWire-b

Area Scan Camera



Camera model	Resolution horizontal/vertical	Frame Rate	Mono/Color	Interface
slA750-60fm	752 pixels x 480 pixels	64 fps	Mono	FireWire-b
slA1000-30fm	1034 pixels x 779 pixels	30 fps	Mono	FireWire-b
slA1390-17fm	1392 pixels x 1040 pixels	17 fps	Mono	FireWire-b
slA1600-14fm	1628 pixels x 1236 pixels	14 fps	Mono	FireWire-b
A102f	1392 pixels x 1040 pixels	15 fps	Mono	FireWire-a
A102fc	1388 pixels x 1038 pixels	15 fps	Color	FireWire-a
A311f	659 pixels x 494 pixels	73 fps	Mono	FireWire-a
A311fc	658 pixels x 492 pixels	73 fps	Color	FireWire-a
A312f	782 pixels x 582 pixels	53 fps	Mono	FireWire-a
A312fc	780 pixels x 580 pixels	53 fps	Color	FireWire-a
A601f	656 pixels x 491 pixels	60 fps	Mono	FireWire-a
A601fc	656 pixels x 490 pixels	60 fps	Color	FireWire-a
A602f	656 pixels x 491 pixels	100 fps	Mono	FireWire-a
A602fc	656 pixels x 490 pixels	100 fps	Color	FireWire-a
A622f	1280 pixels x 1024 pixels	25 fps	Mono	FireWire-a
A631f	1392 pixels x 1040 pixels	18.7 fps	Mono	FireWire-a
A631fc	1388 pixels x 1038 pixels	18.7 fps	Color	FireWire-a
A641f	1624 pixels x 1236 pixels	14 fps	Mono	FireWire-a
A641fc	1624 pixels x 1236 pixels	14 fps	Color	FireWire-a





Area Scan Camera



Camera model	Resolution horizontal/vertical	Frame Rate	Mono/Color	Interface
A402k	2352 pixels x 1726 pixels	24 fps	Mono	Camera Link
A403k	2352 pixels x 1726 pixels	48 fps	Mono	Camera Link
A404k	2352 pixels x 1726 pixels	96 fps	Mono	Camera Link
A405k	2320 pixels x 1726 pixels	167 fps	Mono	Camera Link
A406k	2320 pixels x 1726 pixels	209 fps	Mono	Camera Link
A501k	1280 pixels x 1024 pixels	74 fps	Mono	Camera Link
A503k	1280 pixels x 1024 pixels	402 fps	Mono	Camera Link
A504k	1280 pixels x 1024 pixels	500 fps	Mono	Camera Link
acA2000-340kc	2048 pixels x 1088 pixels	340 fps	Color	Camera Link
acA2000-340km	2048 pixels x 1088 pixels	340 fps	Mono	Camera Link
acA2040-180kc	2046 pixels x 2046 pixels	180 fps	Color	Camera Link
acA2040-180km	2048 pixels x 2048 pixels	180 fps	Mono	Camera Link
avA1000-120kc	1024 pixels x 1024 pixels	120 fps	Color	Camera Link
avA1000-120km	1024 pixels x 1024 pixels	120 fps	Mono	Camera Link
avA1600-65kc	1600 pixels x 1200 pixels	67 fps	Color	Camera Link
avA1600-65km	1600 pixels x 1200 pixels	67 fps	Mono	Camera Link
avA1900-60kc	1920 pixels x 1080 pixels	62 fps	Color	Camera Link
avA1900-60km	1920 pixels x 1080 pixels	62 fps	Mono	Camera Link
avA2300-30kc	2330 pixels x 1750 pixels	31 fps	Color	Camera Link
avA2300-30km	2330 pixels x 1750 pixels	31 fps	Mono	Camera Link

Line Scan Camera



Outstanding price/performance ratio, high speeds, ideal housing design

The racer series offers line scan cameras with an exceptional price/performance ratio. The cameras are available with a variety of resolutions and with a GigE or a Camera Link interface.

They provide high performance thanks to the newest CMOS technology. racer cameras have a compact, slim industrial housing ideally suited for multi-camera systems with many line scan cameras installed next to each other.

The advantages of the Basler racer series include:

- Resolutions: 2k, 4k first – 6k, 8k, 12k before the end of 2012
- Max. line rate of 80 kHz via Camera Link
- Max. line rate of 48 kHz via GigE
- PoCL (Power over Camera Link) functionality
- Mini camera link plugs permit the use of low priced cables
- Outstanding price/performance ratio
- Fully quality tested and calibrated for consistently high performance and reliability

Camera model	Resolution	Linerate	Mono/Color	Interface
raL2048-48gm	2048 pixels	48.00 kHz	Mono	Gigabit Ethernet
raL4096-24gm	4096 pixels	24.00 kHz	Mono	Gigabit Ethernet
ruL1024-19gm	1024 pixels	18.70 kHz	Mono	Gigabit Ethernet
ruL1024-36gm	1024 pixels	35.70 kHz	Mono	Gigabit Ethernet
ruL1024-57gm	1024 pixels	56.10 kHz	Mono	Gigabit Ethernet
ruL2048-10gm	2048 pixels	9.70 kHz	Mono	Gigabit Ethernet
ruL2048-19gm	2048 pixels	18.70 kHz	Mono	Gigabit Ethernet
ruL2048-30gm	2048 pixels	29.20 kHz	Mono	Gigabit Ethernet
ruL2098-10gc	3 x 2098 pixels	9.20 kHz	Color	Gigabit Ethernet





Line Scan Camera



Camera model	Resolution	Linerate	Mono/Color	Interface
spl2048-39kc	2 x 2048 pixels	38.60 kHz	Color	Camera Link
spl2048-70kc	2 x 2048 pixels	70.00 kHz	Color	Camera Link
spl2048-70km	2 x 2048 pixels	70.00 kHz	Mono	Camera Link
spl2048-140km	2 x 2048 pixels	140.00 kHz	Mono	Camera Link
spl4096-39kc	2 x 4096 pixels	38.60 kHz	Color	Camera Link
spl4096-39km	2 x 4096 pixels	38.60 kHz	Mono	Camera Link
spl4096-70kc	2 x 4096 pixels	70.00 kHz	Color	Camera Link
spl4096-70km	2 x 4096 pixels	70.00 kHz	Mono	Camera Link
spl4096-140km	2 x 4096 pixels	140.00 kHz	Mono	Camera Link
spl8192-39kc	2 x 8192 pixels	38.60 kHz	Color	Camera Link
spl8192-70km	2 x 8192 pixels	70.00 kHz	Mono	Camera Link
L301k	3 x 2098 pixels	9.20 kHz	Mono	Camera Link
L301kc	3 x 2098 pixels	9.20 kHz	Color	Camera Link
L304k	3 x 4080 pixels	7.20 kHz	Mono	Camera Link
L304kc	3 x 4080 pixels	7.20 kHz	Color	Camera Link
L401k	4080 pixels	7.10 kHz	Mono	Camera Link
L402k	4080 pixels	14.10 kHz	Mono	Camera Link
L801k	8160 pixels	4.70 kHz	Mono	Camera Link
L802k	8160 pixels	9.40 kHz	Mono	Camera Link
L803k	8160 pixels	14.10 kHz	Mono	Camera Link
L101k-1k	1024 pixels	19.00 kHz	Mono	Camera Link
L101k-2k	2048 pixels	9.50 kHz	Mono	Camera Link
L103k-1k	1024 pixels	35.70 kHz	Mono	Camera Link
L103k-2k	2048 pixels	18.70 kHz	Mono	Camera Link
L104k-1k	1024 pixels	58.50 kHz	Mono	Camera Link
L104k-2k	2048 pixels	29.20 kHz	Mono	Camera Link

Camera Accessories

we offer a wide variety of accessories designed to help you get the most out of your camera. To ensure full compatibility, all accessories are tested with our cameras. Cables and power supplies are all EMC proven for industrial conditions by our support team.

Our portfolio includes several accessories in each of the following categories:

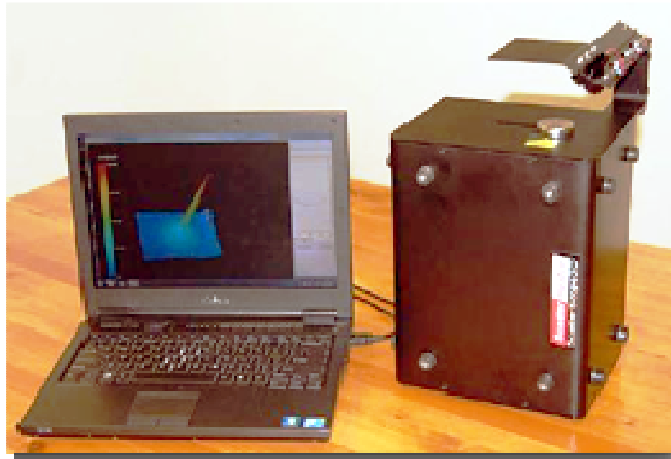
- Cables
- Connectors
- Frame Grabbers and Cards
- Lens Mounts
- Optics
- Power Supplies
- Tripod Mounts
- Others



GHOLOGRAPHIC COMPANY

Measurement System (Metrology)

Think of us as part of your Measurement Team.



Benefits

- **Easy to Use**
- **University/Industry Kit**
- **24 X 7 Support**
- **Technical Support from Highly Experienced Professional**

Products

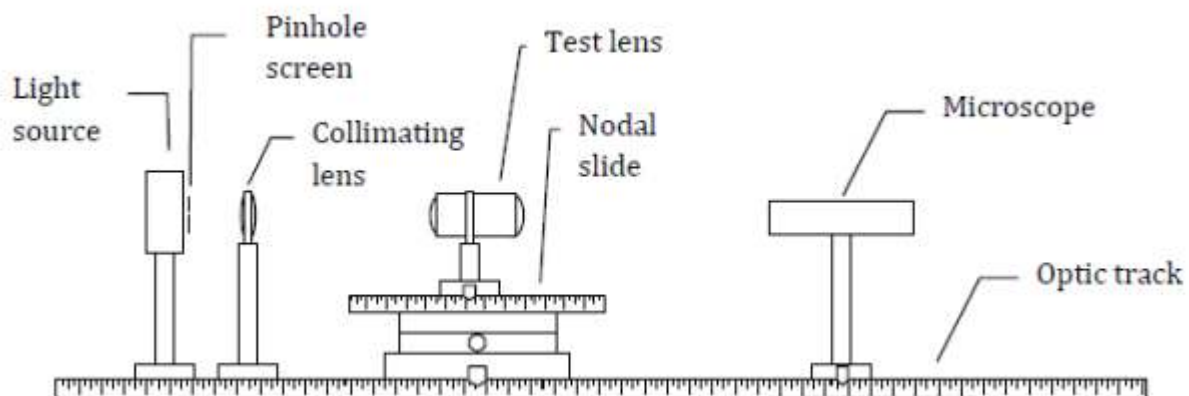
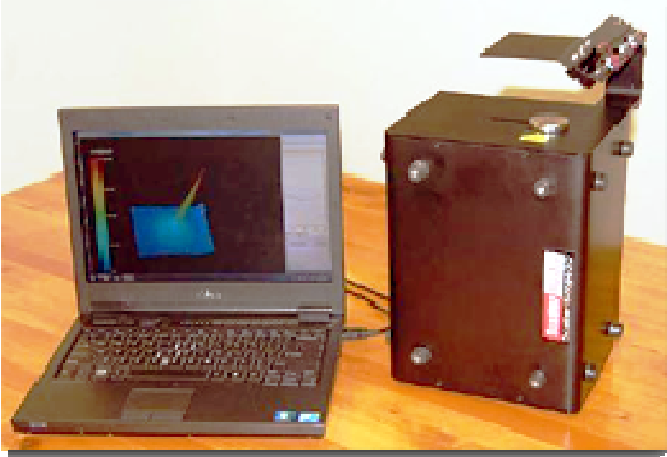


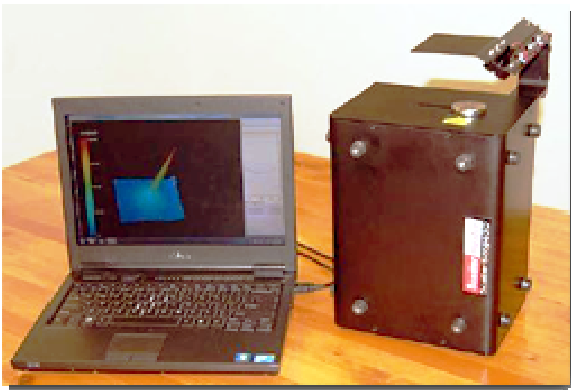


Table of Contents

Scattering Measurement System
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SCATTERSCOPE 3D

The ScatterScope3D™ is a revolutionary new instrument for real time process control and quality control testing of surface texture and roughness, degradation, and for testing surfaces for water and environmental contamination. The ScatterScope3D is the first scatterometer portable enough to use directly on the assembly line. The unit is accurate and offers extremely fast results, offering a complete test in under a minute for both transmissive and reflective measurements. This allows you the ability to test multiple samples instead of just one for better quality control. The ScatterScope's ease of use combined with the portability of the unit is a great alternative to other methods of surface testing.



ScatterScope3D Specifications

Mechanical

Weight 10 lbs

Dimensions w/o computer 11" L, 8.25" W, 6" H

Electrical Requirements

Computer 120 to 240 VAC typical

System USB port to computer

Optical

Measurement Lasers 635 nm wavelength, less than 1.0 mW power

Viewing LED Allows reflective sample area to be viewed.

Software

ScatterMaster Compatible with XP, Vista and Windows 7.

Measurement and Analysis

Illuminated Area 4.5 mm diameter circle.

Measurement Time 16 to 28 seconds – depending on dark level setting

Dynamic Range 106/1

Noise Varies from 10-2/sr to 10-3/sr by angle

Uncertainty +/-10% for diffuse reflectors

Repeatability +/-5% when 10X or more above the noise floor

Analysis HTML reports are generated automatically.

Data Storage

Numerical Results Stored in CSV text files (compatible with Excel)

Pictures Stored in jpg, tif format

Lens Testing System

Lens quality is more important now than ever, due to the ever-increasing number of megapixels found in today's digital cameras. Frequently, the resolution of your digital photos is actually limited by the camera's lens — and not by the resolution of the camera itself. However, deciphering MTF charts and comparing the resolution of different lenses can be a science unto itself. we provide fundamental concepts and terms used for assessing lens quality.

Measurement parameter

Resolution

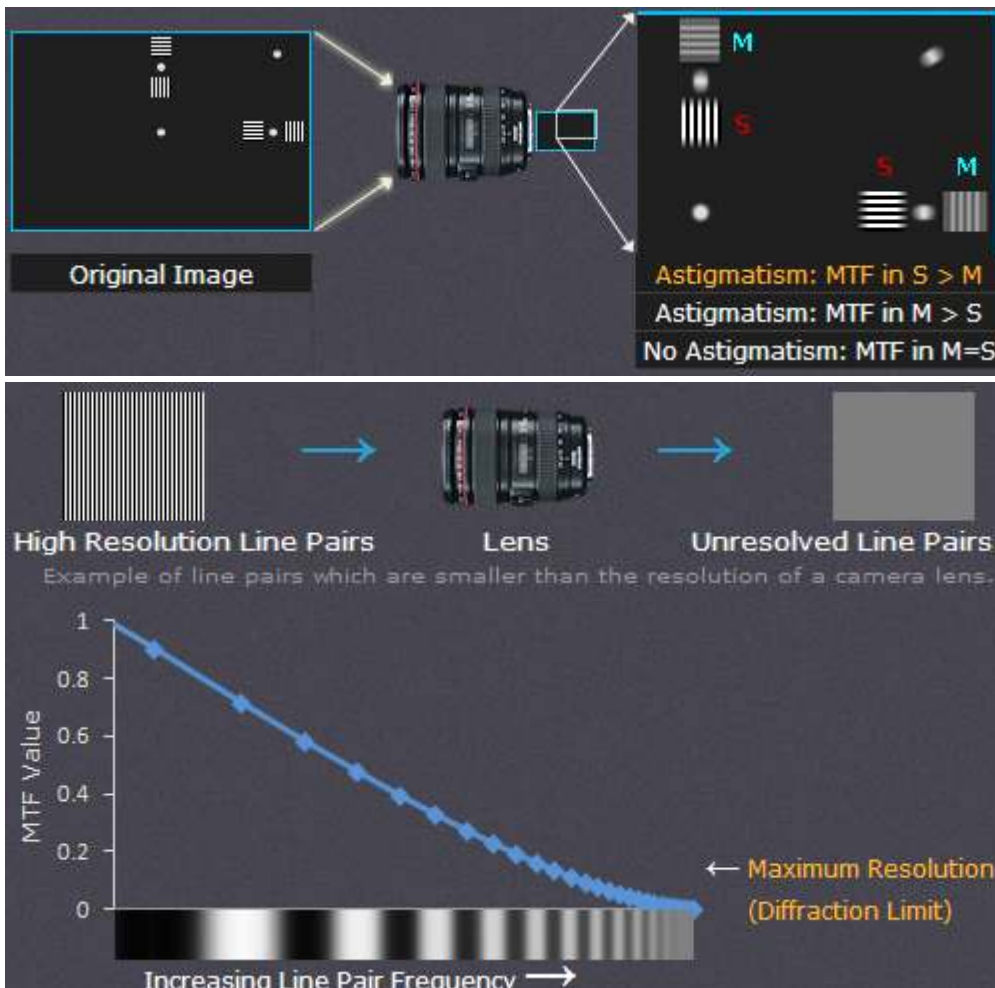
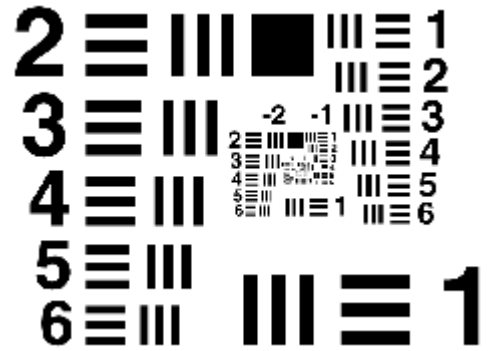
Sharpness

MTF

FOV

Distortion

Astigmatism



Focal Length Measurement

You want to know the exact focal length of a lens because if you pay for a 400mm lens, it's nice to know you have a 400mm lens, not a 370mm lens. In fact most lens makers will tell you that the focal length marked on a lens is $\pm 5\%$. That means your 400mm could be as short as 380mm and still be within spec.

lens is surrounded by air or vacuum (refractive index 1.0), the focal length is the distance from the principal point to the focal point of a lens.

Measurement parameter

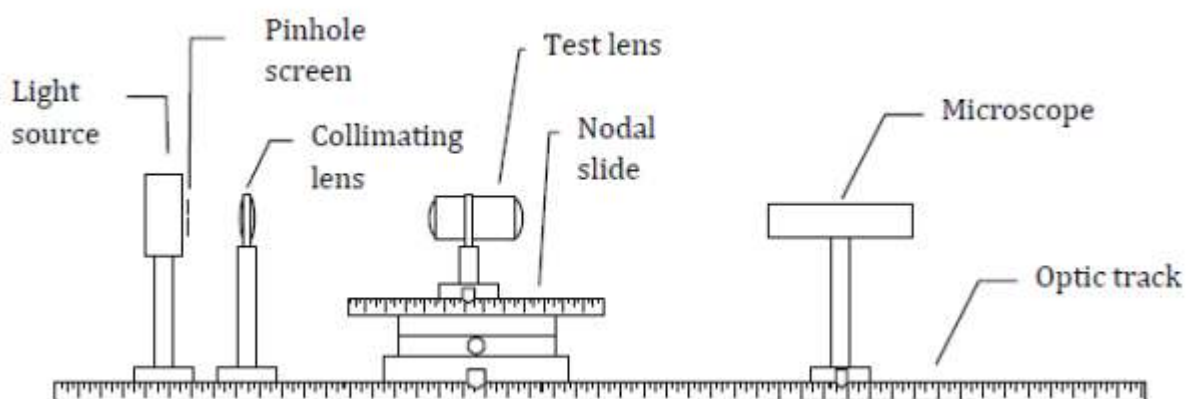
Focal Length

F- Number

Diameter

Edge Thickness

Centre Thickness



AutoCollimator

Autocollimator is a sensitive, highly accurate Optical Instrument with a combination of a Telescope and collimator for precision alignment, detection of angular displacements & verification of angle standards.



Micro-optic Autocollimators use a micrometer arrangement for the measurement of the image cross line position with reference to the reticule eyepiece cross line. These are meant for fine and accurate measurements within few arc seconds.

Electronic Autocollimator use a CCD camera to detect the position of the image and eyepiece cross lines. These are for highly precise angular deviation measurements or for calibration.

Precision autocollimators are used in industrial and manufacturing environments for precision alignment of mechanical components, the detection of angular movement and angular monitoring over time and to ensure there is no angular error in a system and to ensure compliance with angle specifications and standards.

Model	GHACT-01	GHACT-03	GHACT-04	GHEACT
Resolution	3 Secs	1 Sec	0.5 Secs	0.10 Secs
Accuracy over 1 Minute Range	6 Secs	2 Secs	1 Sec	0.5 Secs
Accuracy over full Range	30 Secs	10 Secs	5 Secs	2 Secs
Measurement Axis	Single	Dual	Dual	Dual
Range of Measurement	30 Minutes	20 Minutes	10 Minutes	10 Minutes
Readout	Micrometer	Micrometer	Micrometer	Software
Magnification	16X	24X	48X	16X
Field of View	60 Minutes	40 Minutes	20 Minutes	20 Minutes
Clear Aperture	26 mm	36 mm	56 mm	26 mm
Max working Distance @ half field of view	3.0 Mts	4.5 Mts	9.0 Mts	9.0 Mts
Power	220 V, 50 Hz	220 V, 50 Hz	220 V, 50 Hz	220 V, 50 Hz

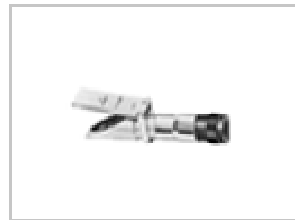
Michelson Interferometer

It is Lab Experiment instrument for college and universities. To Determine and observe optical Interference & Determine the wavelength of light source.



Refractometer

Gholographic Company, is a professional company which sells all kinds of refractometers, mainly including Hand Held Refractometers, Digital refractometers, Abbe refractometers, Gem refractometers and Digital Gem Refractometers. Our Products are not only facing to domestic market, but also to overseas market, especially Europe, Australia and America. Through several years of exporting refractometers to many countries, we have earned good reputation in this line. We insist on developing new type of refractometers to meet the satisfaction of our customers.



Digital Refractomete...

Digital Refractomete...

Digital Refractomete...

Digital Refractomete...



Gem refractometer RI...

Gem refractometer

Digital Gem Refracto...

Tracitional Gem Refr...



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