Custom inspection systems

UNDERSTANDING YOUR APPLICATION

Our experts analyse and understand your application to its physical limits and create innovative solutions.

- Feasibility study and concept development
- System analyses and consulting
- Fast project launch times

CREATING YOUR INSPECTION

Inspection systems at limits of physics, exclusive for your application

- Optical and geometrical alignment
- Form and surface inspection
- Imaging quality, MTF measurement
- Spectrum and wave front analyses

Products and Prototypes

- Design and development of functional prototypes
- Setup and analyses

Standalone Systems

- Turn-key systems with CE conformity
- Software implementation and algorithm testing

Inline systems

- PLC connectivity
- Automatization
- Active optical alignment

IMPROVING YOUR PRODUCT

Our qualified optical inspection systems improve the quality and the yield of your product.

- Minimizing the rejection rate
- Improved quality management
- Speed up inspection processes
- Reducing manufacturing tolerances
Your application in focus

Feasibility study
- Physical system analyses
- Innovative concepts
- Comprehensive solutions
- Consulting

Prototype, Software
- Software development
- Deep learning
- CAD design
- Sensor implementation

Custom inspection system
- Automatic sample handling
- PLC connectivity
- Single source service
- Evaluation measurement (MSA)

YOUR ADVANTAGE WITH DIOPTIC
- We are experts in the field of optical technologies
- We offer knowledge of a wide range of optical measurement technology
- Your task is at the center of our work
- You are the owner of all IP rights from our work
- Creative solutions resulting from our interdisciplinary experience
- Testing and characterisation based on ISO standards
- Certification to your needs, FAT, SAT

EXPERTISE IN VARIOUS INDUSTRY SECTORS
- Automotive
- Medical Technology
- Optical Industry
- Metrology
- Engineering
- Research Institutes
Custom Solutions

SURFACE AND SHAPE QUALITY INSPECTION
- Decorative surfaces, functional surfaces, optical surfaces
- Complex mechanical components, form deviation, scratches, digs and splints
- Testing based on ISO10110-7 and ISO16232-7

LIGHT DETECTION AND RANGING (LIDAR)
- Test and alignment of optical components: quality control, orientation of optical axis
- Testing sensor characteristics: field of view, temperature range, eye safety

CONTAMINATION INSPECTION OF OPTICAL COMPONENTS
- Contact free optical testing
- Surface stack testing of assembled lenses
- Improving your product quality

AUGMENTED REALITY (AR) CHARACTERIZATION
- Head-up displays, head-mounted displays, AR and VR glasses
- MTF characterization according to ISO12233
- „Slanted edge“ active optical alignment
- Testing of imaging lens specification (distortion, illumination, eye-box size)
Know-how of our expert team

- Solutions on a high scientific level
- Patentable results
- Efficient and professional project handling

Inspection techniques

- High precision optical measurement
- Form deviation, contamination inspection
- Machine vision, laser triangulation
- Wave front analyses
- Optical lens characterization (MTF, alignment, light forming)

Illumination

- Wave length selectivity: RGB, UV, IR
- Different light sources: thermal light, laser, LED
- Various designs: darkfield, brightfield, transmitting, coaxial

Software

- Image processing
- Data base connectivity
- PLC programming
- Machine learning
- Deep learning

Automation

- Component alignment
- Inline, stand-alone systems
- Actuator technology
- Automated sample handling

Our Quality

- Single source solutions
- Quality standard ISO 9001
- CE conformity