

COMPETENCE IN MICRO OPTICS



MARKETS & APPLICATIONS

- Endoscopy
- Surgical Robotics
- Clinical Diagnostics
- Dental Imaging
- Ophthalmology
- Machine Vision
- Metrology
- Laser Collimation

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How to find us:



HD Micro Objectives

FALCON series for 1/10" sensors:

- Low vignetting: <1%
- High resolution: 135 lp/mm
- Focal length: 0.86 - 1.17 mm
- Image circle: 1.84 mm
- FOV: 90°/ 110°/ 140°

EAGLE for 1/6" sensors:

- Focal length: 1.40 mm
- Image circle: 2.70 mm
- FOV: 140°



LED Coupler

- To increase coupling efficiency into glass fiber bundles
- Wavelength: 400 – 650 nm
- Transmission: $\geq 96\%$
- Captured beam angle of LED: $\pm 45^\circ$
- Coupling efficiency: $\geq 60\%$
- LED diameter: 3 mm
- Fiber diameter: 5 mm

Fisheye Objective FOV 190

- For 1/3" or 1/4" sensor
- Focal length: 1.35 mm
- F#: 2.8
- Fixed aperture
- Thread available in M16 x 0.5 mm or M12 x 0.5 mm (length 6 mm)



Machine Vision Objectives

- Focal length: 9.2 - 90 mm
- F#: 2.8 - 6.5
- Diameter: 16 - 25 mm
- Fixed aperture
- C-Mount adapter available



OUR CAPABILITIES

Single Lens Production or CNC Grinding and Polishing

- Diameter: 0.3 - 20 mm
- Surface quality: ≥ 0.5 fringes
- Irregularity: ≥ 0.2 fringes
- Centering error: $\geq 1'$
- Center thickness: up to ± 0.01 mm
- Diameter tolerance: ≥ 0.005 mm



Centering

Coating

- Single layer for all wavelengths
- Double layer (V-coating)
- Multi layer for UV to near IR
- Anti-reflective coating (e.g. MgF2)
- Beamsplitter for specific wavelengths
- Back- and frontside mirrors with Al or Ag
- Filters (e.g. IR-cut)



Cementing

- Diameter ≥ 0.5 mm (smaller diameters on request)
- Doublets, triplets, compact objectives and rod lens systems
- All typical UV and epoxy glues



Assembling / Inspection

Customized optical components

- Spherical lenses, doublets, triplets
- Rod lenses and compact objectives for rigid endoscopes
- Plano optics e.g. cover glasses
- Optical glasses and fused silica
- Built-to-print according to customer drawing or specification
- Prototypes to serial production



Customized opto-mechanical assemblies

- Development of optical systems according to customer-specific requirements
- Mechanical design
- Coating design
- Prototypes, pre-serial production and serial production
- Testing and documentation
- Narrow tolerances for high end applications, e.g. 3D
- Wide range of Qioptiq test plates available in Zemax OpticStudio TPL
- Specific test equipment

Customized Micro Objectives

- FOV: up to 170°
- Diameter: ≥ 0.8 mm
- Pinhole diameter: ≥ 0.1 mm ± 0.005 mm
- High precision field stop with chromium layer within the glued surface of the optical component, decentering ± 0.01 mm



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