

**MATERION**

// BALZERS OPTICS

Laser Cavity Mirrors

High reflective mirrors for gas laser tubes

The stabilized laser beam nature makes the HeNe- and Argon-Laser well suited for metrology and interferometric applications. A pair of laser cavity mirrors, a High-Reflective (HR) mirror and an Out-Coupling (OC) mirror, are an essential part of all gas laser tubes.

Materion Balzers Optics is specialised in designing and manufacturing high-performance laser cavity mirrors with different sizes and different curvatures. Beside the ultra-accurate surface polishing in the range of 1.5\AA , the coating designs offer side line suppression and a spectral accuracy in the transmission band of $<0.05\%$. But the key feature is the mode hopping control by finding of the dominated polarization. For this, these mirrors have to be designed and coated as a customized pair. Please ask for your own specialised configuration.



Benefits

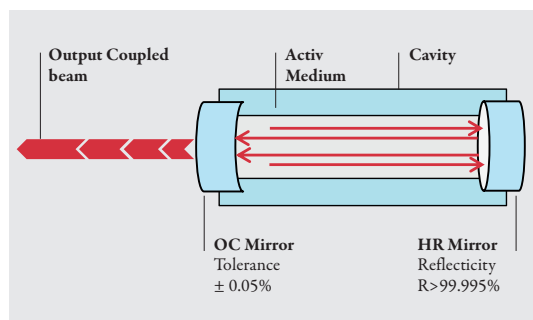
- Low loss Cavity-Mirrors
- Ultra-High reflective mirrors (HR)
- Output-Coupler (OC) with defined transmittance
- Mode-Hopping suppression*
- Convex/Concave substrate curvature
- Side-Line suppression

*valid for customized pairs of cavity mirrors

Applications

- Stabilized Laser Systems
- Laser Interferometers
- Test & Measurement
- Metrology
- Spectroscopy

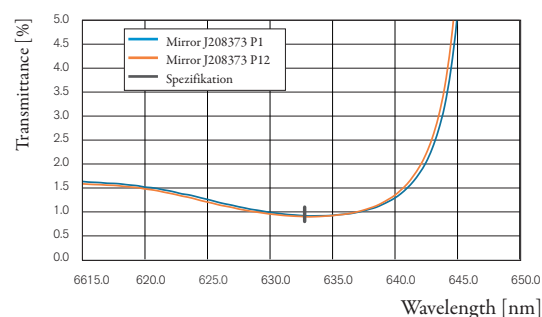
System schematic – LED projector system with Lightgate™



Technical Data

Wavelength range	250 nm – 2000 nm
Reflectance	R > 99.995 %
Outcoupler transmittance accuracy	± 0.05 %
Losses	< 50 ppm @ 633 nm
Substrate dimensions	Ø6 x 4 mm or Ø7.75 x 4 mm
Surface roughness	RMS < 0.15 nm
Surface accuracy	$\lambda / 10$
Curvature accuracy	± 1 %
Wedge	< 15'

Mirror OC633 T=0.8-1.1%



Mirror OC450-530nm T=0.8-1.2%

