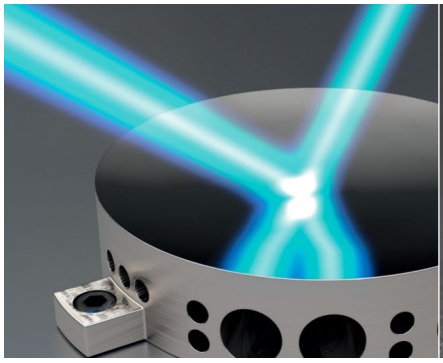
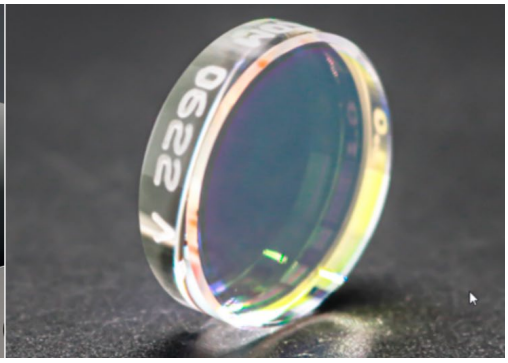
Cavity Ring-Down – CRD
Reflectance characterization of ultra low loss mirrors

Description:

LD-PD' Ultra low loss mirrors with reflectance of more than 99.9% are impossible to characterize by standard reflectance measurements such as spectrophotometry because of measurement uncertainties in the range of 0.5%.This can be overcome with the help of the cavity ring-down (CRD) technique, which enables reflectance measurements of 99.99% or even 99.999%.

Features:

- Reflectance values > 99.995%
- Angles of incidence: 0°or 45°
- s and p polarization, separately
- Easy and reproducible alignment for up to Ø=2 inch optics
- Wavelength range: 355nm-15um
- Customized setups and measurement service

Application:

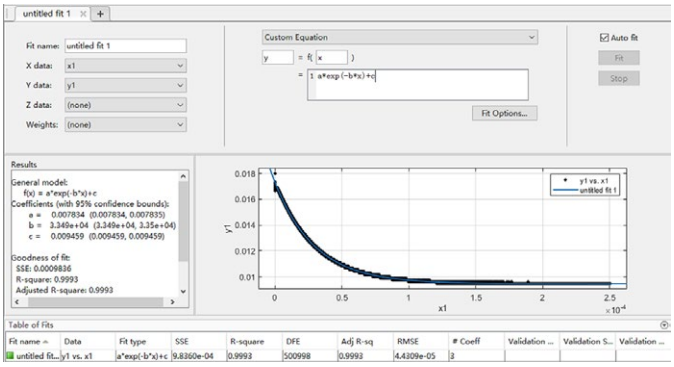
- CRDS
- Ring laser Gyro
- TDLAS Cell

Specifications:

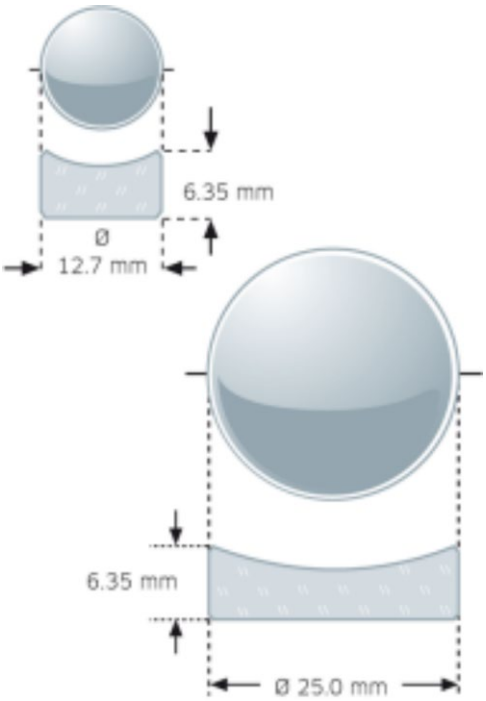
Parameter	unit	Index
Dimension	Inch	0.5/1/2inch
Thickness	mm	6.35
Wavelength	nm	CWL±50nm
Reflectance values	%	≥ 99.99
Operating temperature	℃	-5 to 70
Storage temperature	℃	-40 to 85

Tolerances	
Diameter Ø:	+0.0/-0.1 mm
Thickness t:	±0.1 mm
Flatness:	3/0.1 (0.1/0.05) compares to λ/20
Radius of curvature:	±1%
Centering/Wedge:	< 5 min. of arc
Chamfer:	0.1–0.3 mm x 45°
Clear aperture:	> 80%
Surface imperf. tol.: 5/3 x 0.025	

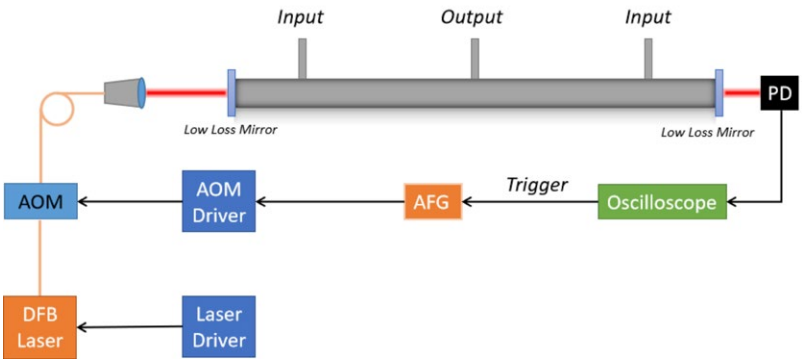
Cavity ring down curve:



Dimension:

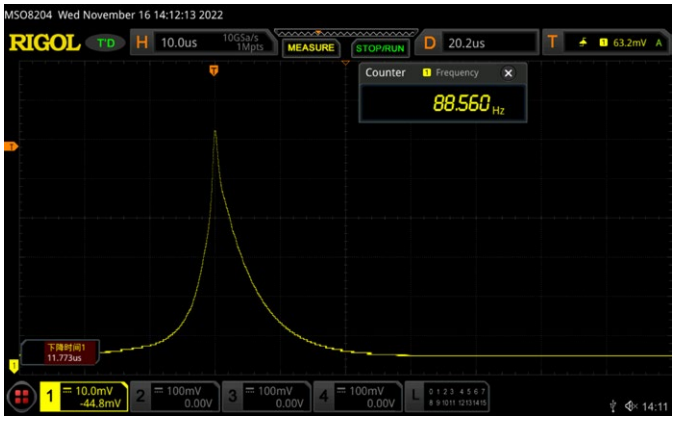


Working Theory:



Measurement signal of a dielectric mirror with

Measurement principle. a reflectance of > 99.98%



Ordering Information:

①: Size	126:0.5inch, 246:1inch, 508:2inch
②: Reflectance values	39:99.9%, 49:＞99.99%, 59:＞99.999%
③: Wavelength	1392-1392nm, 1512- 1512 nm, 1572:1572nm, 1600:1600nm, 1653:1653nm, 1742:1742nm SS - Specify
④:Radius of curvature	1000:1000mm 500:500mm 0:Flat Mirror
⑤Angles of incidence	0: 0°, 45:45°

PN#CRD-246-49-1742-1000-0 1742nm 1inch CRD ultra low loss mirrors

(Radius of curvature:1000mm,＞99.99%)

PN#CRD-508-49-1650-1000-0 1650nm 2inch CRD ultra low loss mirrors

(2inch Radius of curvature:1000mm,＞99.99%)

PN#CRD-246-49-1580-1000 -0 1580nm 1inch CRD ultra low loss mirrors

(Radius of curvature:1000mm,＞99.99%)

PN#CRD-126-49-1572-1000 -45 1572nm 1inch CRD ultra low loss mirrors

(Radius of curvature:1000mm,＞99.99%,45deg AOI)