

HI-Q® Whispering Gallery Mode (WGM) Resonator is being offered as a stand alone high-Q and high finesse optical cavity product for use in diverse applications requiring high performance lasers and optical filters.



Based on a variety of crystalline and amorphous materials, WGM micro-resonators feature greater than 10^8 optical quality factor. They can operate as Fabry Perot cavities suitable laser stabilization and optical filtering applications. Just millimeters in diameter, the stand-alone WGM micro-resonator offers a free spectral range (FSR) that can be specified from 10 – 90 GHz with resonance contrast greater than 50%. The cavity is compatible with a range of wavelengths from UV to IR.



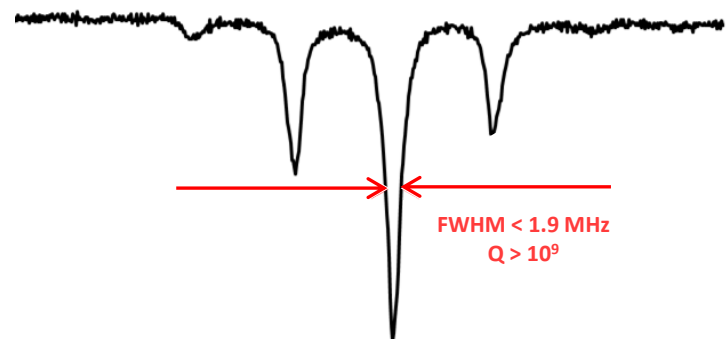
FEATURES

- Ultra-High Unloaded Quality Factor
- Wide FSR Capability
- UV-IR Capability
- Ultra-High Finesse
- High Contrast
- CaF₂ and MgF₂ Materials

APPLICATIONS

- Laser Locking
- Optical Comb Generation
- Laser Noise Discrimination
- Optical Filters
- Non-linear Optics
- Quantum Optics

HI-Q® WGM Optical Cavity Quality Factor Measured at 1550 nm



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HI-Q® WGM RESONATOR SPECIFICATIONS

OE0200

Wavelength	1500 – 1600 nm	Other band options available
Optical Quality Factor	> 10 ⁸	Unloaded; Higher Q options available
Resonator Material	MgF ₂	CaF ₂ , SLT, SLN, Quartz options
Free Spectral Range	10 – 90 GHz	Customer specified, +/- 0.25 GHz standard
Bandwidth**	< 2 MHz	At 1550nm
Finesse**	> 17500	At 1550nm, 35 GHz FSR
Resonance Contrast	50%	

OPTIONS

Special Operating Band*	370nm – 4500nm	Availability dependent on material selection
High Quality Factor	Up to 10 ¹⁰	

***Tech Notes:** Resonator performance will be measured at 1550 nm with extrapolation to other bands by analysis

** Dependent on operating wavelength, FSR, and Q

Note: These specifications are subject to change without notice due to OEwaves ongoing development cycles. Unless otherwise noted, all specification in this document are to be treated as “typical.” is covered by one or more of the following U.S. patents: 6,389,197; 6,488,861; 6,795,481; 6,798,947; 6,879,752; 7,248,763; 7,356,214; 7,440,651; 7,801,189; 7,929,589; 8,094,359; 8,102,597; 8,289,616; 8,311,376; 8,442,088. Other patents pending..



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