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September 11, 2008

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September 11, 2008

OPTICAL FILTERS

Catalog, Custom and OEM flexibility

CVI Melles Griot offers the broadest range of optical filters products in the photonics industry. Our reputation for optical filters is founded on our manufacturing capabilities and the performance demanded by a worldwide base of customers. Applications range from semiconductor manufacturing, industrial fabrication, biotech, fluorescence microscopy, environmental monitoring, and research. CVI Melles Griot is a leading supplier worldwide for both catalog and custom filters for unique wavelengths or sizes required for a variety of products. Our design and manufacturing flexibility is uniquely situated to offer solutions for high performance as well as economical solutions to best enable your technology to succeed. Whether you need a single filter, a prototype or OEM quantities we commit ourselves to your success.



March 26, 2009

Enhancing Infrared System Performance

CVI Melles Griot have been manufacturing a range of sophisticated and complex Infrared optical components providing enabling capability throughout the Defense, Safety and Security market segments for over three decades. Super-durable Infrared Windows and Domes define the industry standard for high survivability in the most severe environments experienced in Land based, Airborne and Naval applications. CVI Melles Griot routinely provide complex internal optical components with superior coatings adding enhancement to Thermal Systems performance. Elements include Diffractive, Aspheric and Spherical lens elements up to 300 mm diameter in Germanium, Silicon, Multi-spectral Zinc Sulphide, Zinc Selenide, Calcium Fluoride and Chalcogenides. As an example of internal enabling product Zinc Selenide de-rotation and Corner Cube prism sets are manufactured to the most exacting tolerances. CVI Melles Griot is a key strategic supplier to Thermal Systems Integrators, Thermal Camera OEM's and Thermal Detector OEM's Worldwide.



March 26, 2009

Rotor Drive Shutters

CVI Melles Griot has a long history of supplying electro-mechanical shutters for military and commercial applications. Now, our rugged rotor drive technology is incorporated into a new generation of shutters which may be customized for any application requiring a small space envelope and unprecedented reliability, even under severe operating conditions. This actuator technology has a design life of several million cycles, and its open architecture is easily configurable for custom packages and requirements. Rotor drive shutters are available in both single- and dual-blade formats. The dual-blade 04RDS002 is intended for large clear-aperture requirements; the single-blade 04RDS001 replaces traditional flag shutters in small space and small clear-aperture requirements.



January 21, 2009

Get Ready for the Only Catalog You'll Need

CVI Melles Griot is excited to be introducing 100s of new products this year!

-Pick up our Volume 1, Issue 1 of All Things Photonic's our New 2009 Catalog. -Learn about our new exciting filter and shutter products that will save you money, time and improve your system performance. -Learn about our new laser products. -Talk to us about your challenging requirements and see how our greatly expanded capabilities in diamond turning, CNC optical fabrication, and Build-Your-Own component manufacturing competencies will help you get to market quicker. Visit us at [cvimellesgriot.com](http://www.cvimellesgriot.com) to get the latest information on products and capabilities. What can we do to help make your projects a success?



September 11, 2008

High Precision Rapid Time to Market

Spherical Element Manufacturing Made Possible Due to Business Process Improvements

Globalization and new manufacturing technologies have transformed the optics industry allowing customers more choices, higher precision, better quality, and lower prices for the products they buy. However, lead time improvements for custom optical components have been slow to develop. Optics suppliers usually rationalize their long lead times by pointing to their limited glass availability, long manufacturing cycles, and queue times at different stages of the manufacturing process. In the meantime, time to market is increasingly becoming one of the most important metrics for a competitive manufacturing company's product development process. Often it means the difference between success and failure of the new product launch. Long lead times for obtaining optical components may affect end-user products success at all stages of a product's lifecycle. Despite best efforts of the buyer to plan component purchases in advance, any clerical mistake, MRP system output error, or sudden change in demand can create major disruptions in the production process and result in lost revenue and eroding customer confidence. Most optics suppliers, especially overseas suppliers, simply can't react fast enough to mitigate these risks. Market uncertainties make accurate long-term production planning a challenging if not impossible endeavor. In these cases, the inventory and possible cancellation costs associated with committing to blanket orders for components supply counter the benefits in cost reduction, and spot purchases become the most advantageous procurement option. Manufacturers who operate in this mode desperately need agile suppliers who can meet the demand for quick delivery without exorbitant fees and specification wavers. Advances in high-productivity optics fabrication equipment, particularly CNC systems, enabled significant reduction in the fabrication cycles for low-to-medium-precision optics. However, the ability to produce higher precision products still remains out of reach for the majority of merchant optics manufacturers due to the low productivity and yield of traditional manufacturing methods and business management systems. Also, in many cases the lead time for obtaining higher performance coatings remains long; most optics shops possess only rudimentary (if any) coating capabilities and most specialized coating houses capable of producing high-performance coatings are unable to respond quickly. Splitting the responsibility for quality between multiple suppliers always adds to the overall costs and risks of procuring precision optical elements and systems. As the leading supplier of optical components, CVI Melles Griot acutely understands the need to achieve higher agility to meet its customers' needs. In response, the Rochester Division of CVI Melles Griot, introduces its industry-leading Rapid Time to Market (RTTM™) manufacturing process for producing custom spherical optical elements, including those requiring the highest achievable optical tolerances. Over the last 30 years, the Rochester division of CVI Melles Griot has developed extensive technical capabilities for manufacturing high precision spherical optical elements and high-performance coatings to support its advanced optical system products. These capabilities include: •Fifteen state-of-the-art, high speed CNC lens generating, polishing, and centering systems •40 conventional pitch polishers •Magneto-Rheological Finishing (MRF™) •Eight digital phase-measuring interferometers, including a QED Sub-Aperture Stitching Interferometer (SSI™) featuring absolute spherical reference and automatic radius of curvature verification •Four 48-inch, planetary-type boxcoaters with ion assisted deposition (IAD), including 193nm optimized Leybold Syrus Prowith APS, the highest performance plasmasource available in the industry •

High-performance spectrophotometers including N2DUV purged systems • Veeco White Light Interferometer RMS Surface Roughness Measuring System • Class-100 component packaging Our mission was to develop business processes and manufacturing practices that would allow achieving 2-week lead time for expedited deliveries. We analyzed each step of the business process from quotation to final shipment in order to identify opportunities for cycle time reduction. As a result of this end-to-end manufacturing process analysis, we developed a streamlined process that allows us to achieve industry-leading cycle times for spherical optics manufacturing. The time it takes for a manufacturer to respond to a customer's request-for-proposal is an important element of the total procurement cycle. Through eliminating redundant and non-value-producing steps we have been able to develop a robust quotation process capable of responding to a customer inquiries, for custom spherical optical elements, within 2 business days. Similar improvements have been made to the order processing, planning, fabrication, and coating processes. As a result, a 2-4 week lead time for the complete manufacturing of custom, coated spherical optical elements became a reality. One of the most challenging issues in optic fabrication lead time reduction is glass material availability. This issue has been addressed by creating a stock for some commonly used materials and securing a commitment from multiple glass vendors to make their preferred glasses available within 24 hours. As a result of all these efforts, the Rochester division of CVI Melles Griot is now capable of providing expedited delivery for spherical optical elements with the following specifications: • Diameters: 6–265mm • Surface Figure Accuracy: to $\lambda/60$ PTV at 633nm • Surface Finish: to 2 angstrom, 4-5 angstrom typical • Cosmetic Quality: to 10-5 • Center Thickness Tolerance: to ± 0.5 micron • Concentration Tolerance (ETV): to 5 micron • Radius of Curvature Tolerance: to 2 fringes at 633nm • Diameter Tolerance: to ± 0.5 micron • Optical Coating Wavelengths: 193 to 1500nm These capabilities along with the industry-leading cycle time for spherical optics manufacturing allow CVI Melles Griot to meet the needs of its customers for high-precision rapid-time-to-market optical components. This enables them to gain competitive edge by reducing new product development cycles and achieving production planning flexibility required to react to end-user demand fluctuations.