

Product Lines Presentation within the Gratings and OEM Division

Steve Slutter

Abstract

The Gratings and OEM Division sells to both OEM customers, meaning that our customers resell our products that have been integrated into their products, and retail customers. The core expertise of the division is diffraction grating design, manufacture and application. The products manufactured within the division can be split into six categories, namely: Custom Gratings, VUV Monochromators and beamlines, OEM Gratings, OEM Spectros, OEM CCD Detectors, and Contract Manufacturing for optical instrumentation.

1 Custom Gratings

Custom Gratings is the only retail product line listed above. Jobin Yvon (JY) is recognized as the world leader in the design and manufacture of diffraction gratings for use in applications like VUV spectroscopy, Space Flight optics, Astronomy and High Energy laser applications. The design, manufacture and testing of Custom Grating products is done at JY S.A.S. Capabilities include, but not limited to, linear line spacing, aberration corrected plane, concave and convex diffraction gratings incorporating gratings with variable line spacing (VLS), sinusoidal, laminar or sawtooth groove profiles, and photoresist etched in glass or on multilayer dielectric coatings (MDL) gratings.

The JY team lead by Dr. G. Pieuchard, Dr. J. Flamand as well as Dr. Labeyrie, produced the first holographically recorded concave diffraction grating in 1967. This product line has been and remains at the forefront of grating technology since then.

Successes include the supply of the NASA's Cosmic Origin Spectrograph (NASA-COS) mission gratings for which JY received a Commitment to Excellence in Technology achievement Award "in recognition of" the "holographic gratings for the COS instrument that will enable a new generation of scientific exploration for the Hubble Telescope", gratings that were delivered "above specifications, on time and within costs".

2 Vacuum UV Monochromators and Beamline

This product line stems from our synchrotron grating experience backed by our spectroscopic instrument manufacturing capability. The main target of this product line has traditionally been Vacuum UV spectroscopy equipment geared for synchrotron facilities - from individual components to complete monochromator beamlines. Through this activity, JY has been able to provide Vacuum UV instrumentation to the wider scientific community as the whole by proposing smaller vacuum compatible tabletop monochromators and spectrographs. Applications for such instruments range from plasma analysis, X-ray lasers, surface analysis, UV ellipsometry to semiconductor characterisation. This product line is based at JY S.A.S.

3 OEM Gratings

OEM gratings are manufactured in both JY Inc. in Edison, New Jersey, USA and JY S.A.S in Longjumeau, France. The expertise that JY brings to the spectroscopy market is the same offered in the Custom Grating area. JY replicates diffraction gratings using a proprietary manufacturing technique that allows the manufacture of tens of thousands of products to be replicated from a single master grating without product performance degradation. Fig. 1 illustrates OEM gratings.

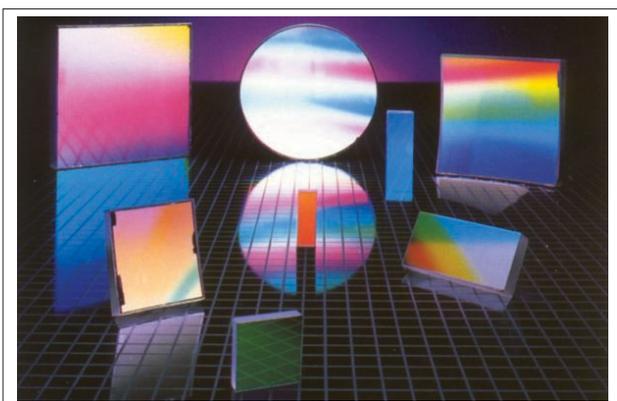


Fig. 1 OEM Gratings

Our grating products are used in instrumentation for measurement of fluorescence, absorbance, reflectance and emission to name a few. Applications include DNA measurements, water analysis, colorimetry, laser beam pulse shaping, semiconductor end point and UV-VIS absorbance instrumentation.

4 OEM Spectros

In the OEM Spectros category, we sell a number of custom spectrometers and spectrographs ranging in size from a 20 mm focal length spectrograph, used to look at a single fiber input, to a 250 mm focal length spectrograph able to look at 100 separate inputs. Fig. 2 illustrates CP 20 Spectrograph .

Each design is customized for the customer application performance needs and form factor. Most of our designs utilize concave aberration corrected concave diffraction gratings. OEM Spectros are manufactured in both JY Inc. and JY S.A.S.

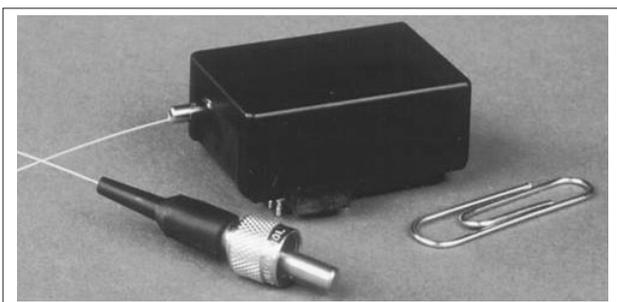


Fig. 2 CP 20 Spectrograph

5 OEM CCD Detectors

A relatively new product category is the OEM CCD detector category. In this product category, the OEM division took advantage of the CCD device expertise within JY Corporation to customize devices using low cost CCD arrays. We are slowly breaking into the lower

cost (<\$2,000) spectroscopic CCD camera market. The majority of CCD camera manufacturers in the market today do not understand their products from a spectroscopy point of view as JY does today.

We have the expertise to customize the customers CCD camera to match the customers needs. Today, using a “low end” CCD device does not have to mean “low end” performance. The use of new technology in OEM camera devices can offer excellent performance at a very reasonable price. This technology and the lessons learned from our OEM projects have proved beneficial to the Retail camera products offered by JY.

6 Contract Manufacturing

The contract manufacturing product category uses, and leverages, the Division’s spectroscopy knowledge and company strength, in the manufacturing process of scientific instrumentation, to manufacture products for companies where optical instrumentation is not their core strength. We have produced filter modules, fiber multiplexers and spectrographs incorporating detection electronics for other instrument companies. Contract manufacturing is a competitive field where the strongest competitor is often the customer themselves.

7 Conclusion

Of course, many companies could have the same product categories and sell into the same markets as we do but there is more to getting the orders than just selling the products. Working with OEM customers requires a different approach to the sale and much more commitment to the relationship than retail sales. Our goal, and we say it up front with the customer, is to become an extension of our customers engineering group. We enter into a partnership with the customers where trust is critical for a long relationship. Flexibility in how we do business and support, support, support are more important in the OEM business than the retail business.



Steve Slutter
Jobin Yvon Inc.
Executive Vice-President