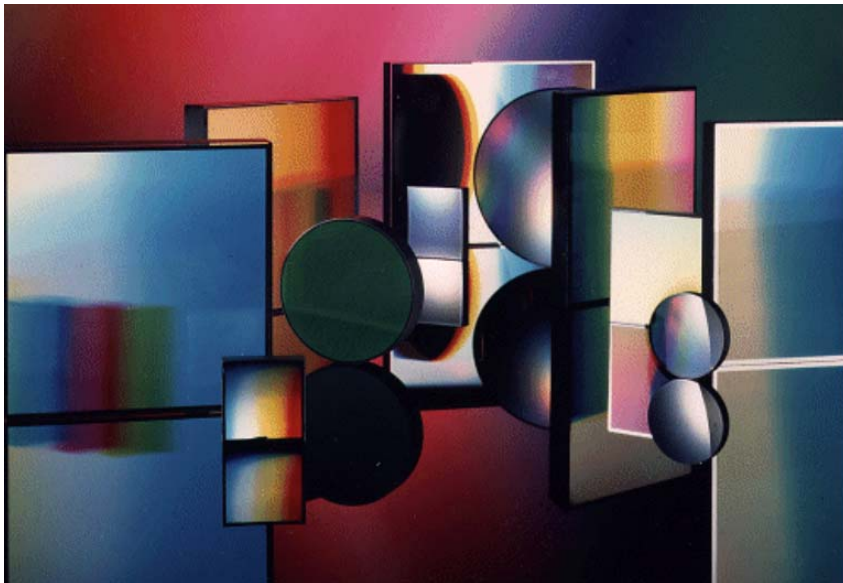


Custom Grating Design and Manufacture

HORIBA Jobin Yvon is one of the world's leading suppliers of reflection and transmission diffraction gratings in both OEM and custom configurations. The Custom Grating Division excels in designing and manufacturing specialised diffraction gratings for applications including: space flight, astronomy, high energy pulsed laser and synchrotron applications. Our capabilities extend to produce any diffraction grating that is technically and commercially feasible.

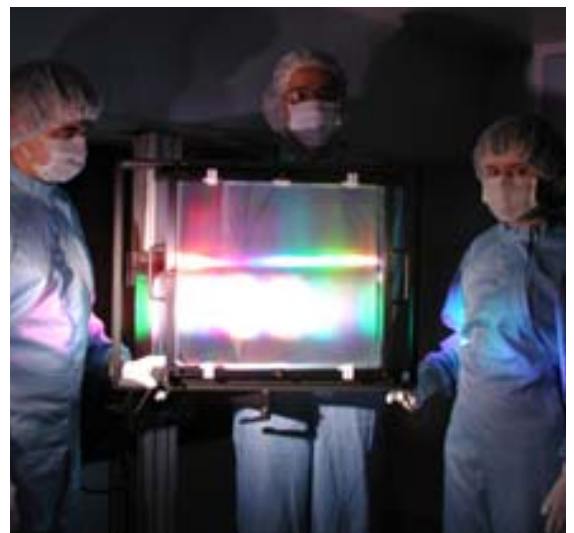


HORIBA Jobin Yvon capabilities include:

- ☐ Design concept and proposal
- ☐ Full optical and grating design
- ☐ Mechanical design
- ☐ Thermal design
- ☐ Manufacture
- ☐ Testing
- ☐ Installation, and
- ☐ After sales support

For over 40 years, HORIBA Jobin Yvon has taken a leading position in the design, development and manufacture of master and replica diffraction gratings. Some commercial firsts for HORIBA Jobin Yvon include:

- ☐ First diffraction grating manufacturer in Europe
- ☐ First holographic diffraction grating manufacturer
- ☐ Aberration corrected gratings
- ☐ Concave gratings
- ☐ Ion etched gratings
- ☐ Space flight qualification
- ☐ Gold coated pulse compression gratings
- ☐ Multi-layer dielectric pulse compression gratings



Gratings & OEM Division

Examples of HORIBA Jobin Yvon Capabilities:

Dimension:to 600 mm dia.
please contact us for larger requirements that we are always ready to consider

Shape:Plane, concave and convex, toroidal, cylindrical, spherical

Micro-roughness:to 2Å

Wavefront Flatness: . . .to $\lambda/20$

Groove density:to 6 000 g/mm

Groove distribution: . .equal line spacing / Variable line spacing

Grooves profiles:classical Saw-Tooth, sinusoidal, triangular, laminar.

Aberration corrected: .yes

Techniques:mechanical ruling, holographic, ion-etching.

Design:ray tracing, imaging, efficiency, optimisation

Blank materials:glass, ULE^R, fused silica, monolithic silicon, CVD silicon carbide, multi-layer dielectric

Coatings:Al, MgF₂, Au, Pt, Ni, Graphite (diamond like carbon-DLC).

Metrology Capabilities

Simply grinding, lapping and polishing a surface is often insufficient to guarantee strict adherence to required specifications. HORIBA Jobin Yvon places considerable emphasis on testing of components at every stage of the manufacturing process. Thus, HORIBA Jobin Yvon can analyse errors and apply appropriate corrective action to the subsequent manufacturing stages.

Our metrology capabilities encompass, for example: slope error measurements using interferometry and long trace profilometry, micro-roughness using Normarski microscopes and MicroMap interferential microscopes, groove profile analysis using Atomic Force Microscopes and Scanning Electron Microscopes, reflectometry and efficiency measurements and grating mapping from the EUV to the IR.

HORIBA Jobin Yvon: your resource for Diffraction Gratings

Since our formation in 1819 by JB Soleil, Jobin Yvon has been at the forefront of optical and spectroscopic instrumentation. The company is committed to the design and manufacture of high quality optics and diffraction gratings. If you cannot find a suitable grating in our catalogue that matches your requirements, then we would be pleased to review with you the possibility of making a custom grating to your

specifications. On a case-by-case basis, we are prepared to review and develop with you the appropriate manufacturing process in order to deliver the gratings of your choice.

Please contact one of the HORIBA Jobin Yvon offices for further information on our products and/or for a consultation with our optical engineers.

We are pleased to work with you to find a suitable solution to your requirements.

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