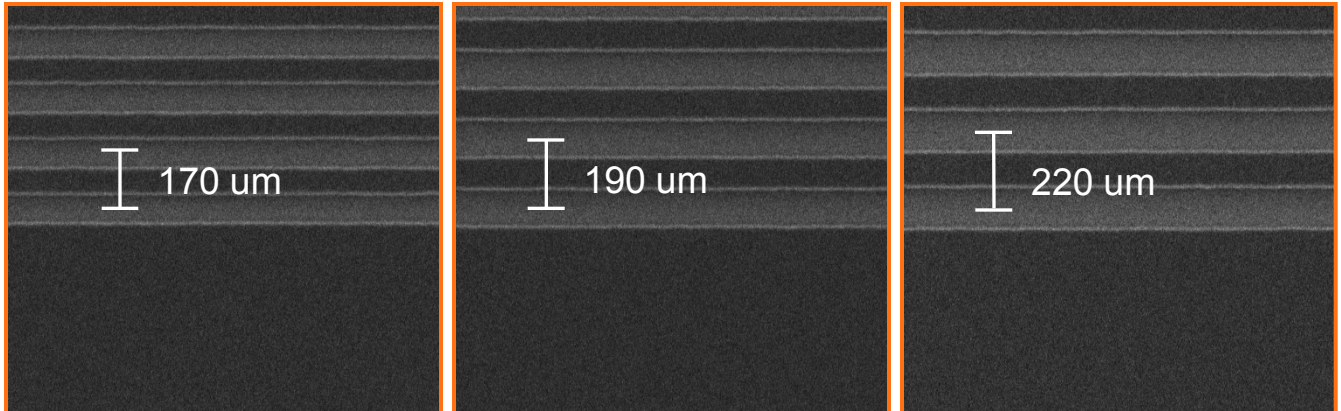


## Custom Chirped Gratings



*Cost-Effective Laser Pulse Shaping Components!*

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**Your single source for chirped grating design,  
prototyping and replication.**

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***The Holographix Advantage:***

- ▣ ***Optical Design:*** Custom-designed gratings with linear or non-linear chirped profiles for optical pulse modification.
- ▣ ***Development Flexibility:*** Unique replication technology allows for state-of-the-art chirped grating solutions.
- ▣ ***Manufacturing Excellence:*** High quality, custom chirped gratings with repeatable performance!

# Capabilities and Resources

## Chirped Grating Applications

Chirped gratings are used in numerous applications for optical pulse modification. Systems that use chirped gratings include:

### Optical Communications:

- Dispersion Compensation
- Dispersion Cancellation

### Ultra-Short Pulsed Lasers:

- Pulse Stretching
- Pulse Compression

## Chirped Grating Mastering

Holographix works closely with **Benchmark Technologies** to design and produce state-of-the-art chirped grating masters for the manufacture of our replicated chirped gratings.

## Chirped Grating Manufacturing

Holographix has the experience and capability to take your chirped grating design from specification to production. Holographix is a leader in the development and manufacture of complex, high quality, custom diffraction gratings. As a result, we have developed numerous creative solutions to meet or exceed our customers' expectations. Let our quality driven team help turn your next design into a state-of-the-art product!

## Quality Assurance

With a company-wide emphasis on quality, Holographix maintains a rigorous ISO 9001:2008 certified Quality Assurance program.

### Custom Chirped Grating Properties

Grating Size:	up to 130 mm x 130 mm
Minimum Pitch:	280 nm
Max Groove to Depth Ratio:	1:3
Max Groove Depth:	650 nm
Pitch Resolution:	0.1 nm
Optical Transmission:	400 nm to 2.2 $\mu$ m
Temperature Range:	-50° C to 260° C
Chemical Resistance:	most common solvents
Damage Threshold:	>1 MW/cm <sup>2</sup>

## Replication Benefits

Our proprietary replication process provides a cost-effective alternative to competing manufacturing processes. The inherent repeatability of the replication process also eliminates inconsistencies associated with other forms of production.

## Replication Facilities

Production of replicated components and assemblies requires a significant investment in capital equipment. Our 15,000 square foot facility in Marlborough, MA is equipped with:

- ADE and Zygo 4 phase-shift interferometers (Qty 4)
- ADT 7100 Dicing System
- AFM Workshop TT- Atomic Force Microscope (AFM)
- Amray 3600 Scanning Electron Microscope (SEM)
- Cary 500 UV-Vis-NIR Spectrophotometer
- Custom fully automated UV curing stations
- Denton DESK II sputtering systems (Qty 2)
- Denton Infinity 22 thin-film box coater
- Keyence VK-X260K Violet Laser Confocal Microscope
- March Plasma AP-1000 plasma treatment system
- Mitutoyo Vision Systems (Qty 2)

## Production Capabilities

Holographix specializes in the manufacture of custom replicated components and assemblies in production quantities. The inherent speed of our cold-forming replication process allows us to offer economical volume pricing without the associated high tooling costs. Whether your production requirements call for 100 individual components or 100,000 wafers, we can offer you a cost-effective solution.

Please contact us via phone, e-mail, or fax with any inquiries you may have regarding our services. We will be happy to assist you!

For a more comprehensive overview of Holographix and our technology, please visit our website below.

[Return to Gratings Page](#)

