FEMTO LASERS
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# MOSAIC™ OS

## Octave spanning GDD module

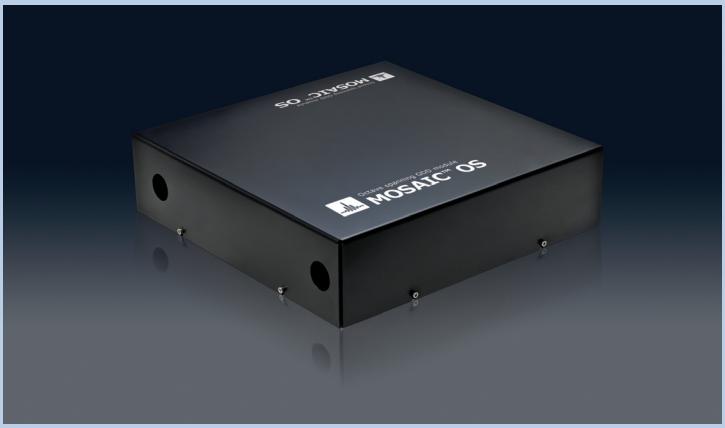
| pulse duration down to sub-4 fs | compact housing | bandwidth > 500 nm |

### Applications

Dispersion management

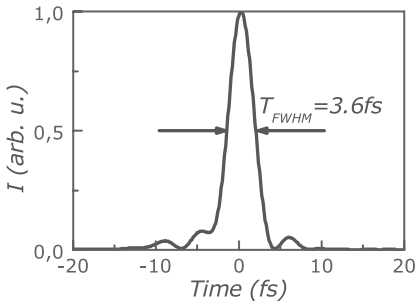
Few- & single-cycle pulse compression

Attosecond pulse generation




Minimum pre-ionization, enhanced coherent lengths and extreme temporal confinement of the high-order harmonic generation process are only a few of the benefits resulting from employing near-single-cycle driving pulses in attosecond science.

Octave spanning spectra can be reproducibly generated by coupling sub-30 fs pulses with energies in the mJ range into hollow fiber compressors (KALEIDOSCOPE™). These continua can now be compressed to sub-4 fs by employing the **MOSAIC™ OS**, a dispersion management module based on the most advanced dispersive mirror technology.




*Temporal intensity of pulses compressed with MOSAIC™ OS retrieved from a FROG measurement. Data C/O Dr. A. Cavalieri, Max-Planck Research Department for Structural Dynamics.*

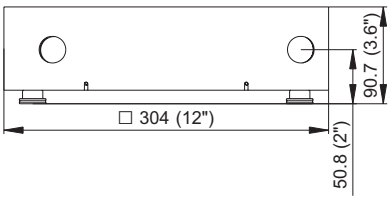
# MOSAIC™ OS

## Octave spanning GDD module

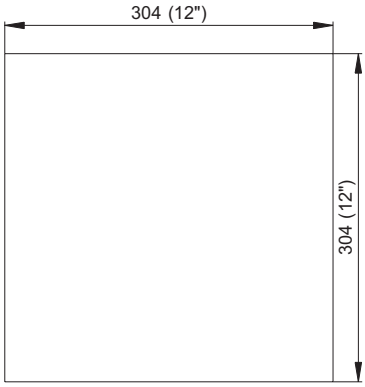
### Extraordinary Features

Octave spanning GDD management
High throughput
GDD matched to hollow fiber compressors
Compact prealigned housing

MOSAIC™ OS - FRONT VIEW, Dimensions in [mm] ([in])

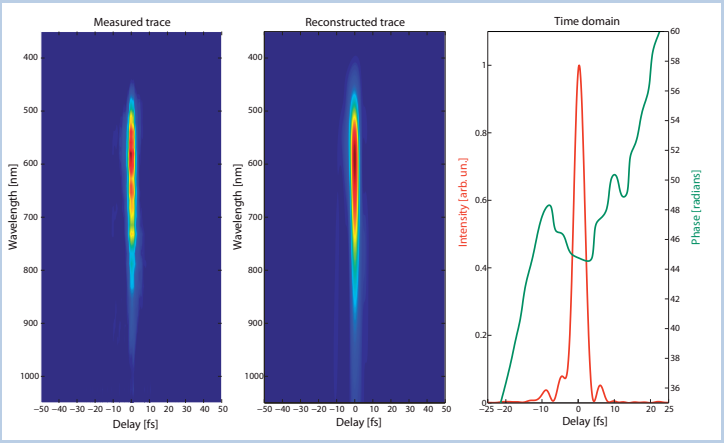



MOSAIC™ OS - TOP VIEW, Dimensions in [mm] ([in])




### Octave spanning dispersion management

MOSAIC™ OS can support pulse durations below 4 fs. The employed dispersive mirrors exhibit high reflectance over a bandwidth of 600 nm between 400 nm and 1000 nm and controlled group delay dispersion (GDD) over more than one optical octave, between 450 nm and 960 nm. The dispersion of the compressor is matched to the typical chirp of pulses generated from noble-gas-filled hollow fibers seeded with sub-30 fs, mJ-level pulses. All mirrors are pre-aligned in a compact, robust housing equipped with entrance and exit aperture. MOSAIC™ OS is the octave spanning upgrade to the current dispersive mirror set of your KALEIDOSCOPE™ hollow fiber compressor.




*Measured FROG trace (left), reconstructed FROG trace (middle) and retrieved temporal intensity and phase (right) of 3.6 fs pulses compressed with MOSAIC™ OS. Data C/O Dr. A. Cavalieri, Max-Planck Research Department for Structural Dynamics.*

| SPECIFICATIONS | MOSAIC™ OS |
|---|---|
| Wavelength range | throughput > 87 % in the wavelength range 400 nm - 1000 nm<br>controlled GDD in the wavelength range 450 nm - 960 nm |
| Compensated dispersion | GDD and TOD correspond to the typical hollow fiber compressor chirp<br>+ approx. 3 mm fused silica and 2 m of air |
| Number of mirrors | 11 |
| Polarization | P |
| Housing | black anodized housing consisting of base plate, cover and mirror mounts |
| Footprint | 30 cm x 30 cm |
| Input and output beam | Lateral shift between input and output beam: 23 cm<br>(the output beam is counter-propagating with respect to the input beam) |
| Mechanical setup | The compressor is supplied in a prealigned housing |
| | *All specifications are subject to change without notice* |


TÜV SÜD ISO 9001

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*FEMTOLASERS' laser products are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by Center of Devices and Radiological Health on all systems ordered for shipment after October 1, 2003.*