# pulseSlicer
## Controlled Narrowing of the Spectral Bandwidth of Ultrashort Laser Pulses

## Spectral Cutting with pulseSlicer

Despite an obvious need, few ultrashort lasers offer a widely variable bandwidth or pulse width. APE's pulseSlicer acts as spectrum slicer (or laser monochromator) and is a simple solution for narrowing broadband laser pulses by spectral cutting.

Inside pulseSlicer, an optical system disperses the spectral components of the pulse spatially and applies a filter in the plane where the spectral components are optimally separated. Afterwards, the components of the pulse are recombined.

A narrowing of the spectrum results in pulses with the desired, longer duration. Naturally, the input power has to be adjusted correspondingly since the spectral cutting reduces the pulses' power.



- Easily variable output bandwidth / pulse duration
- Simple solution for narrowing broadband laser pulses
- Automated and software controlled
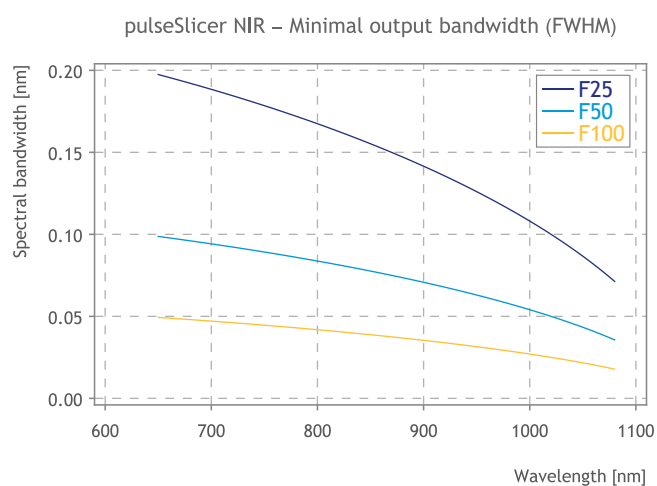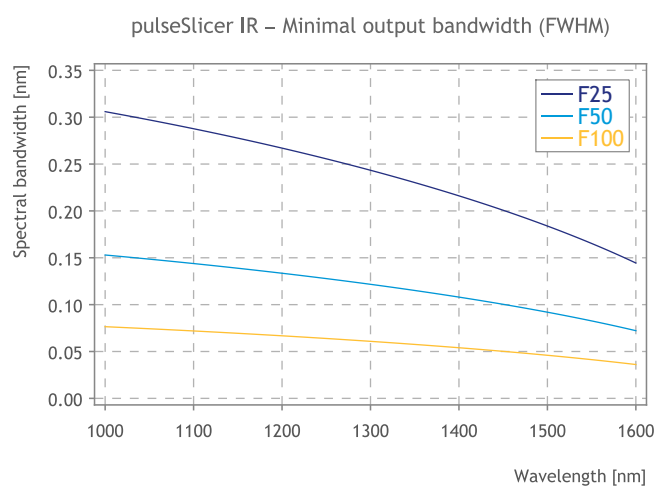- TCP/IP software interface for easy remote automation

# pulseSlicer
## Specifications

| pulseSlicer NIR | F25 | F50 | F100 |
|---|---|---|---|
| Wavelength range | 650 nm … 1080 nm (others on request) | | |
| Minimal bandwidth at 1000 nm | 0.11 nm | 0.06 nm | 0.03 nm |
| Static transmission | 50% … 70% between 700 nm … 1050 nm | | |
| Total transmission | Depending on slicing ratio* | | |

| pulseSlicer IR | F25 | F50 | F100 |
|---|---|---|---|
| Wavelength range | 1000 nm … 1600 nm (others on request) | | |
| Minimal bandwidth at 1550 nm | 0.17 nm | 0.08 nm | 0.04 nm |
| Static transmission | 50% … 70% between 1050 nm … 1600 nm | | |
| Total transmission | Depending on slicing ratio* | | |

## Features for all pulseSlicer models

| | |
|---|---|
| Input beam polarization | Linear, horizontal (polarization rotator optional) |
| Software and automation | Included |
| Remote control | Possible via TCP/IP interface |



pulseSlicer IR – Minimal output bandwidth (FWHM)



pulseSlicer NIR – Minimal output bandwidth (FWHM)

## pulseSlicer in Combination with Picosecond Pulsed Laser Sources by APE

- Automated, narrow-band laser source
- Wide wavelength tuning range
- User adjustable spectral bandwidth and output pulse durations
- High spectral power density compared to common lasers or OPOs
- High spectral power density compared to spectrally narrowed femtosecond lasers or OPOs
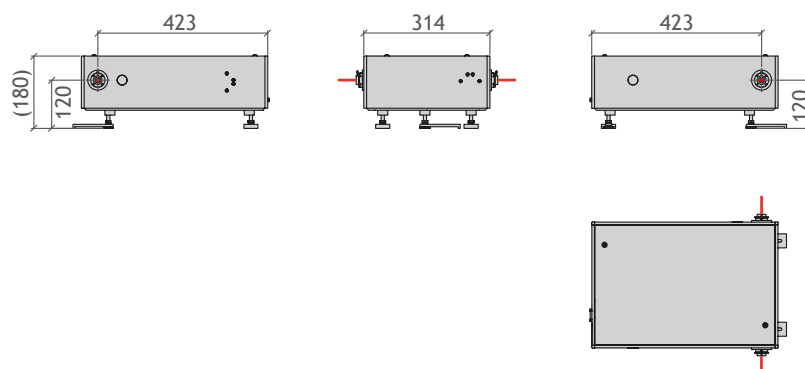
* The slicing ratio is defined as slicing ratio = $\dfrac{\text{output bandwidth x static transmission}}{\text{input bandwidth}}$

# *femtoControl NIR - Ti:Sapphire*

■ dispersion control



# *pulseSlicer 100*

■ spectral slicer
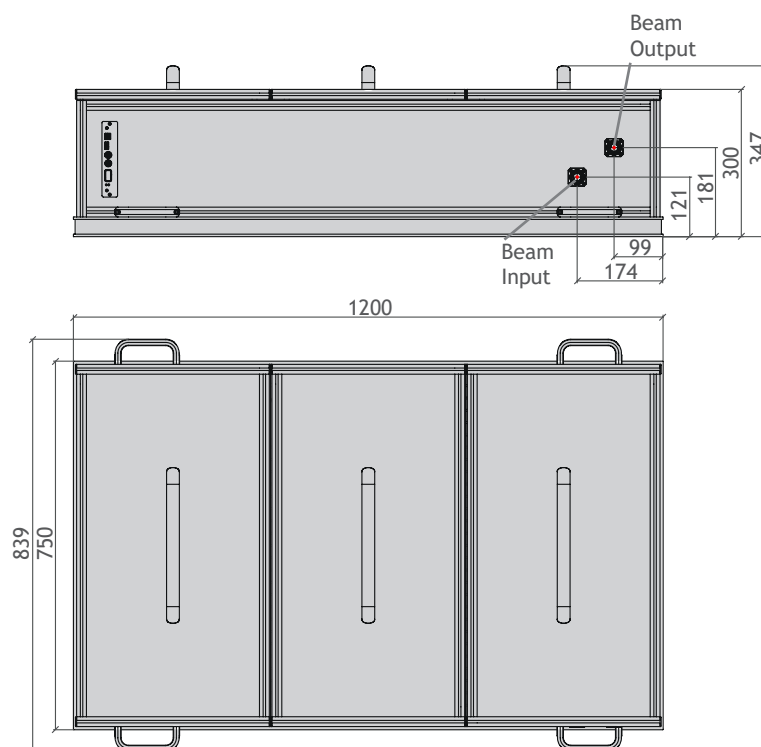
# *pulseSlicer 100*

■ spectral slicer
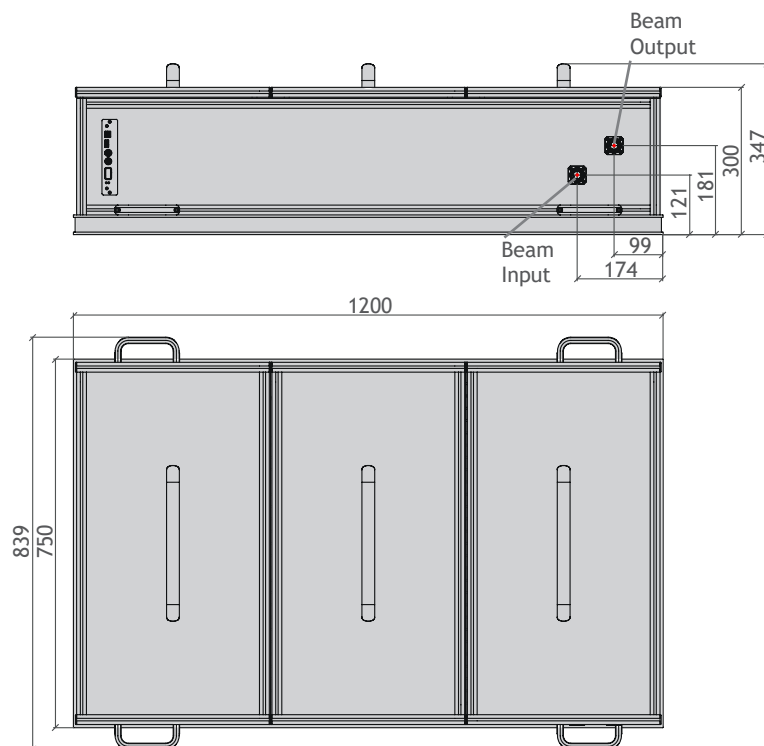


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APE follows a policy of continued product improvement.

Therefore, specifications are subject to change without notice.

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