

## pulseSlicer

# Controlled Narrowing of the Spectral Bandwidth of Ultrashort Laser Pulses

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### 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

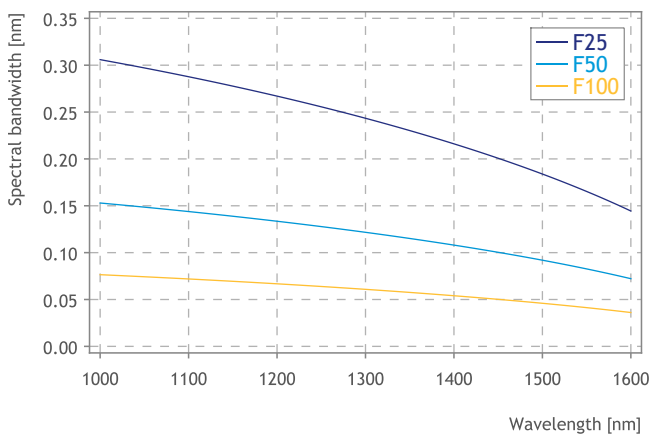
pulseSlicer NIR	F25	F50	F100
Wavelength range	650 nm ... 1080 nm (others on request)		
Minimal bandwidth at 1000 nm	0.11 nm	0.06 nm	0.03 nm
Static transmission	50% ... 70% between 700 nm ... 1050 nm		
Total transmission	proportional to slicing ratio*		

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	proportional to slicing ratio*		

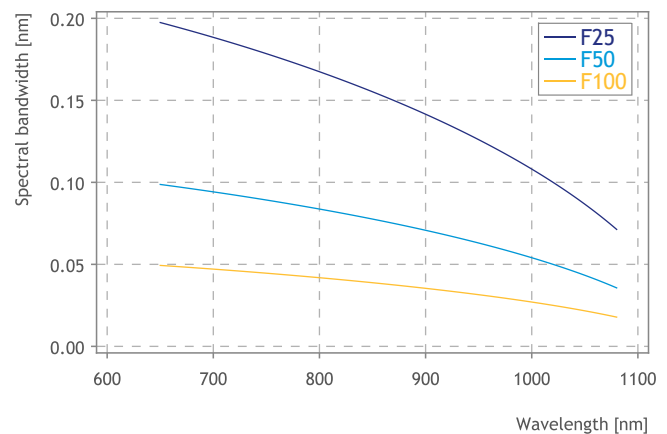
## Features for all pulseSlicer models

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 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

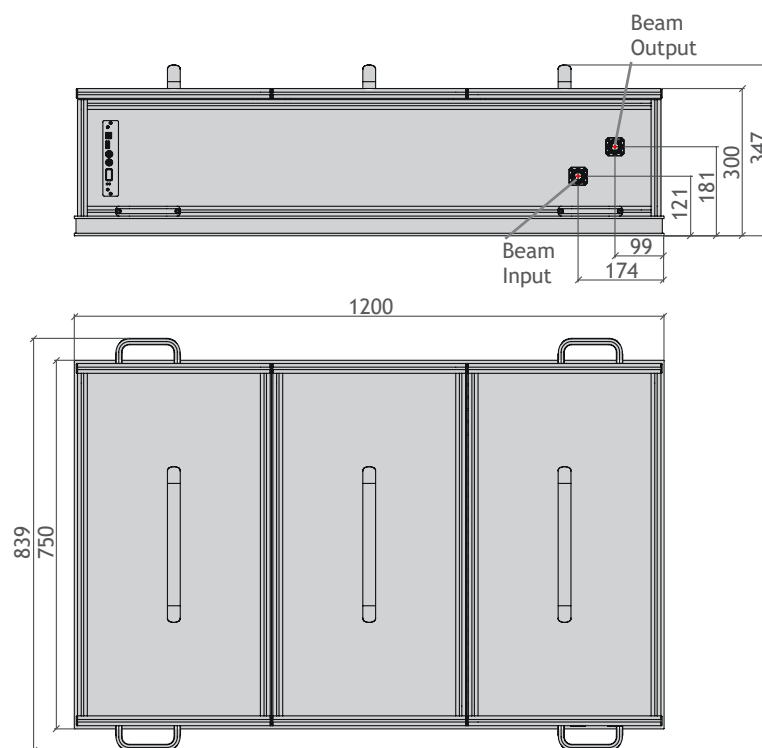
\* The slicing ratio is defined as =  $\frac{\text{output bandwidth}}{\text{input bandwidth}}$

# Appendix Technical Drawings

All dimensions in mm

## pulseSlicer 100

- spectral slicer

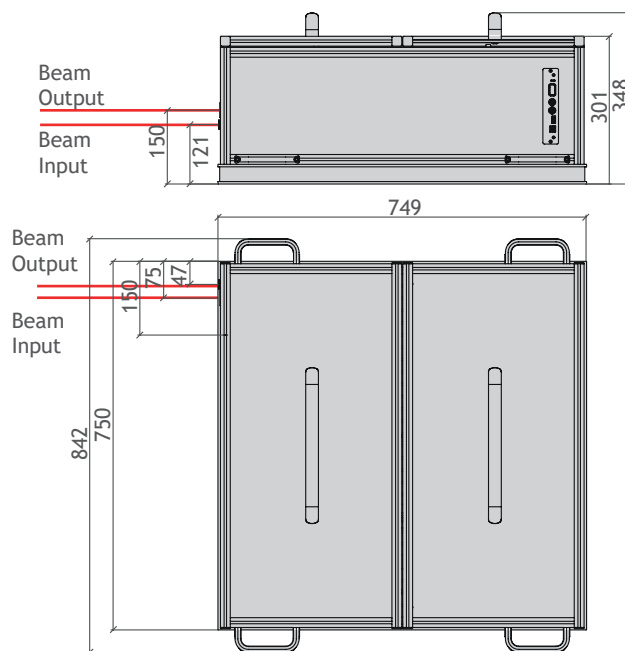


# Appendix Technical Drawings

All dimensions in mm

## pulseSlicer 50

■ spectral slicer



## pulseSlicer 25

■ spectral slicer

