

SHBC

NEW

Second Harmonic Bandwidth Compressor

FEATURES

- 515 nm output
- Picosecond pulses from femtosecond pump
- $< 10 \text{ cm}^{-1}$ or $< 2 \text{ cm}^{-1}$ spectral bandwidth
- Compact footprint



SHBC is a second harmonic bandwidth compressor dedicated to the generation of narrow-bandwidth picosecond pulses from a broad-bandwidth output of PHAROS and CARBIDE femtosecond lasers.

SHBC and SHBC-NB models enable the creation of versatile optical setups with narrow-bandwidth picosecond pulses

in combination with tunable-wavelength broadband femtosecond pulses. In particular, such setups are of interest in sum-frequency generation (SFG) spectroscopy and femtosecond stimulated Raman spectroscopy (FSRS).

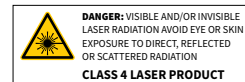
The standard SHBC model is also used to pump ORPHEUS-PS for tunable picosecond output.

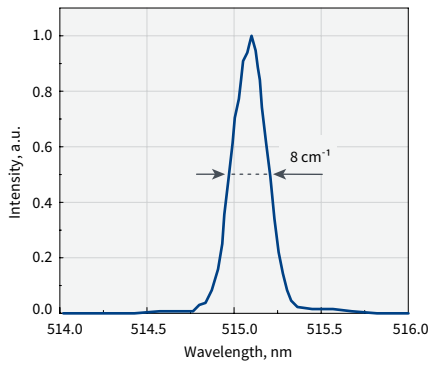
SPECIFICATIONS

Model	SHBC	SHBC-NB
NEW		
OUTPUT CHARACTERISTICS		
Output wavelength ¹⁾	515 nm \pm 5 nm	
Conversion efficiency	> 30%	> 6% @ 3 – 6 μ J pump > 10% @ 6 – 30 μ J pump > 15% @ 30 – 200 μ J pump
Spectral bandwidth	$< 10 \text{ cm}^{-1}$	$< 2 \text{ cm}^{-1}$
Pulse duration	2 – 4 ps ²⁾	50 – 100 ps
PUMP LASER REQUIREMENTS		
Pump source	PHAROS or CARBIDE with uncompressed output	PHAROS or CARBIDE
Repetition rate	Single-shot – 1 MHz	
Pump pulse energy	40 μ J – 4 mJ	3 – 200 μ J
Maximum pump power	40 W	10 W
DIMENSIONS		
Housing (L \times W \times H)	426 \times 351 \times 119 mm	400 \times 195 \times 187 mm

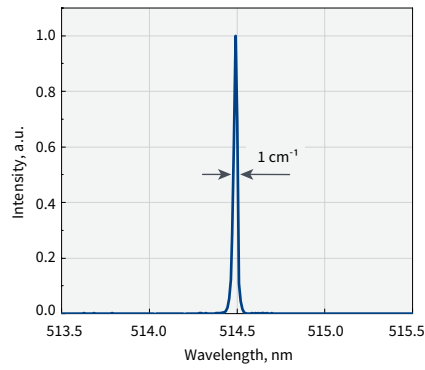
¹⁾ Depends on pump laser model.

²⁾ SHBC can be adjusted to shorter pulse durations at the expense of narrow spectral bandwidth.



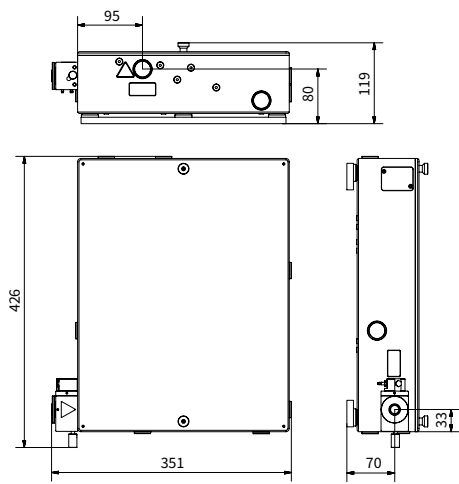


Typical spectrum of SHBC output

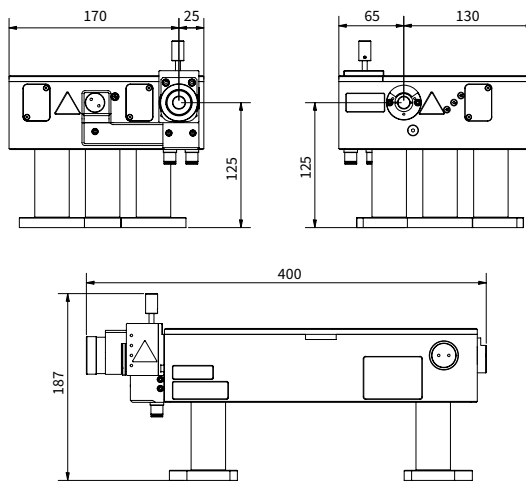


Typical spectrum of SHBC-NB output

DRAWINGS



Drawing of SHBC



Drawing of SHBC-NB