



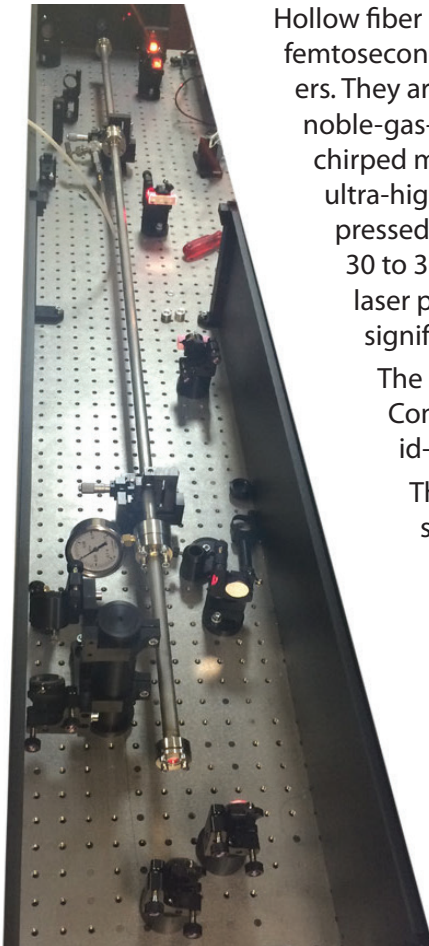
Compulse. Hollow Fiber Pulse Compressor

- 800 nm and 1030 nm standard models
- Energy efficiency up to 50%
- Input pulse energy up to 2 mJ
- Up to 15:1 compression ratio
- Output pulse duration as short as 6 fs
- Optional SPIDER or single-shot AC bundled diagnostics



Compulse-1030 system

Product overview



Compulse-800 system

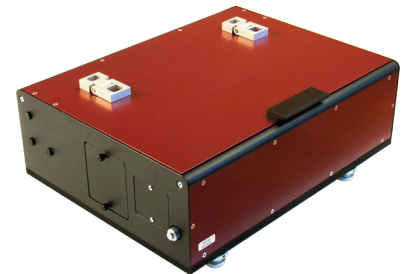
Hollow fiber compressors are employed for further shortening of near transform-limited femtosecond laser pulses from commercial Ti:Sapphire or Yb-doped ultrafast amplifiers. They are based on spectral broadening (chirping) of femtosecond laser pulse in a noble-gas-filled hollow fiber (capillary) with subsequent pulse compression by grating, chirped mirror or prism compressor resulting in few-cycle femtosecond pulses with ultra-high intensity. The pulse compression (ratio of initial pulse duration to the compressed pulse duration) varies from 5 to 15 for input laser pulses with duration from 30 to 300 fs. The energy conversion efficiency reaches 50% for 0.01...2 mJ input laser pulses. The typical compressor size is 130x50x15 cm (LxWxH), but this varies significantly with exact input parameters to be converted.

The Compulse compressor family includes two standard models, namely the Compulse-800 (for Ti:S amplifiers) and the Compulse-1030 (for Yb-doped solid-state and fiber amplifiers). Customized requests are also welcome.

The system may be equipped with a SPIDER system for pulse duration and spectral phase measurements or with the ASF-5 few-cycle single-shot autocorrelator unit.



The ASF-5 single-shot autocorrelator

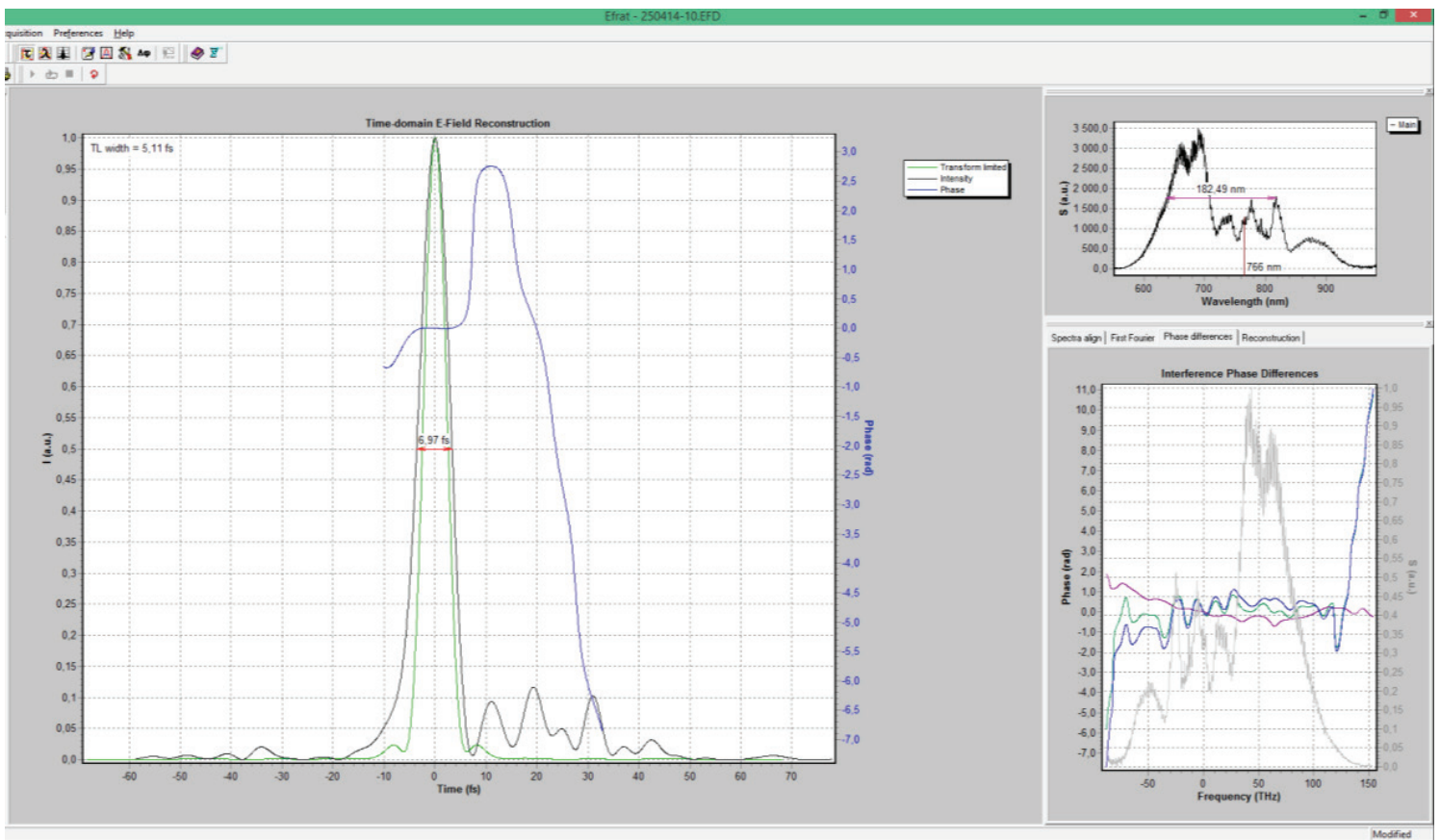


The SPIDER SP-800-5 system

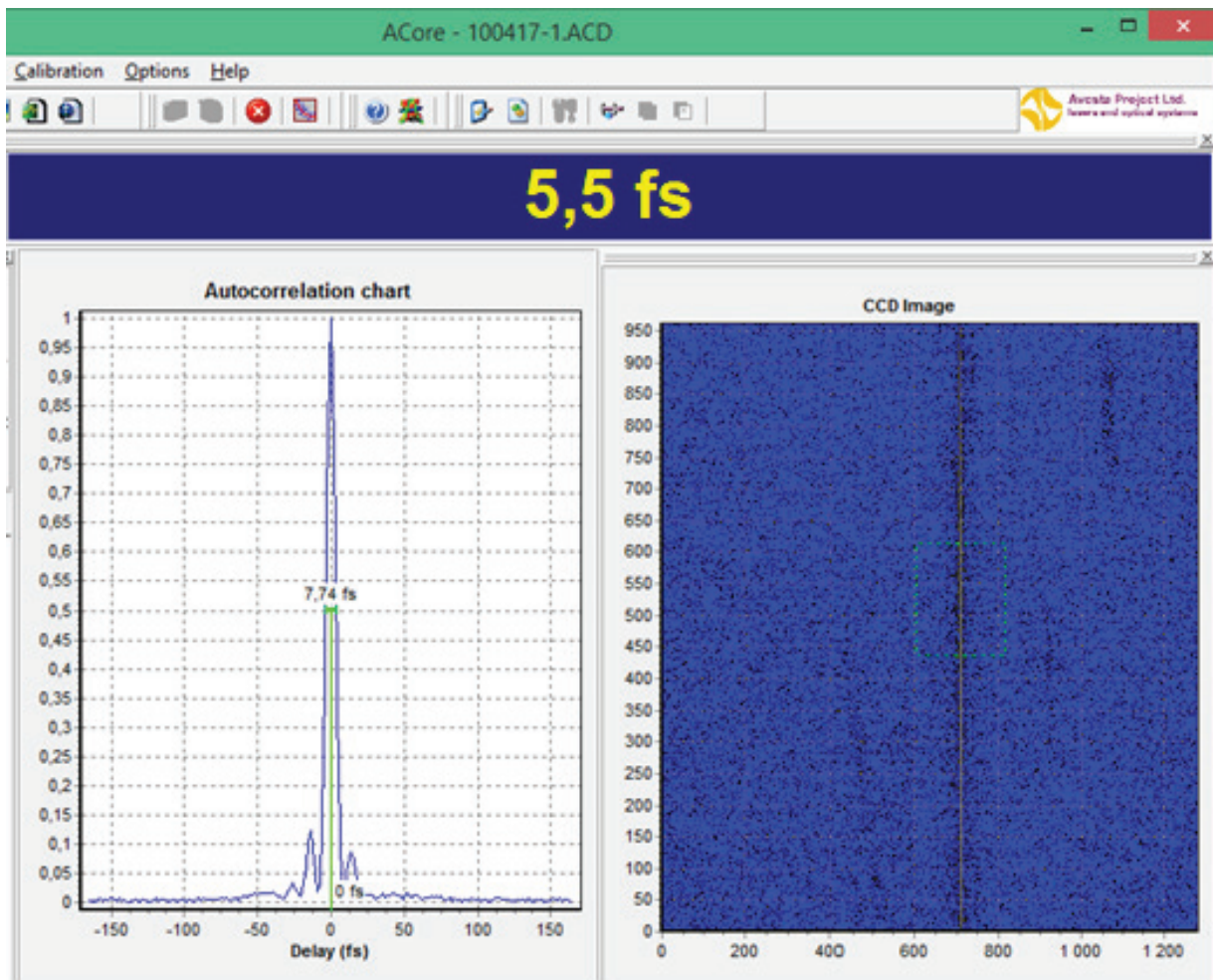
Technical specifications

Compulse-800 (input: 800 nm, 30-40 fs, <2 W)			
Input pulse energy	Compression ratio	Conversion efficiency	Setup footprint
1-2 mJ	up to 7	25%	200 x 25 cm
0.1 – 0.3 mJ	up to 7	40%	150 x 25 cm
Compulse-1030 (input: 1030 nm, 250-300 fs, <10 W)			
Input pulse energy	Compression ratio	Conversion efficiency	Setup footprint
50-200 uJ	up to 10	40%	90 x 25 cm
50-200 uJ	up to 15	30%	120 x 25 cm
200-400 uJ	up to 10	40%	120 x 25 cm





Typical SPIDER measurement of the Compulse-800 output ~7 fs pulse (taken by the SPIDER-800-5 unit)



Typical single-shot AC measurement of the Compulse-800 output (taken by the ASF-5 single-shot unit)