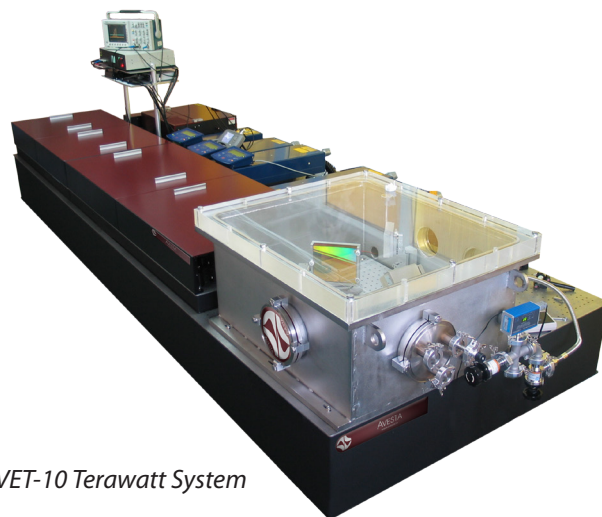




## AVET. Ti:Sapphire Femtosecond Terawatt Amplifier System

- Single-table design
- >15 TW commercial system
- <35 fs pulse duration
- High beam quality
- Excellent beam pointing and power stability
- Motorized vacuum-compatible compressor assembly for 10/15 TW
- Compressor vacuum chamber for 10/15 TW (optional)
- CEP-stabilized system (optional)



AVET-10 Terawatt System

### Product overview

Our company is proud to offer the pinnacle of our technology, the AVET terawatt-level femtosecond laser system. The system comprises rugged Ti:S seed oscillator, pulse stretcher, CPA-based amplifier stages with Nd:YAG pump lasers, vacuum compressor chamber with turbomolecular and vacuum pumps outlets (for 10 and 15 TW systems), synchronization and control electronics with computer interface. All components are integrated onto a single optical table ensuring stable operation. The additional Pockels cell pulse slicer offers enhanced nanosecond contrast ratio. Moreover, the AVET system may be equipped with a SH and TH generation units. As we also produce full line of diagnostic equipment including SPIDER, cross-correlator, single-shot and real-time autocorrelators and spectrometers, they may be also added to the system for a single-source supply, being fully compatible and tuned for operation.

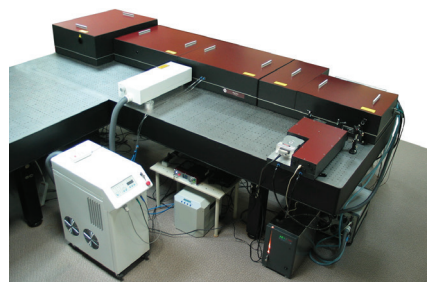
Applications of the system feature such fundamental areas as particle acceleration for general physics research and cancer treatment, research of relativistic conditions for fusion and plasma studies, generation of X-ray and attosecond pulses, seeding PW-class amplifier systems, as well as remote measurement of air pollution and lightning control via filament studies.

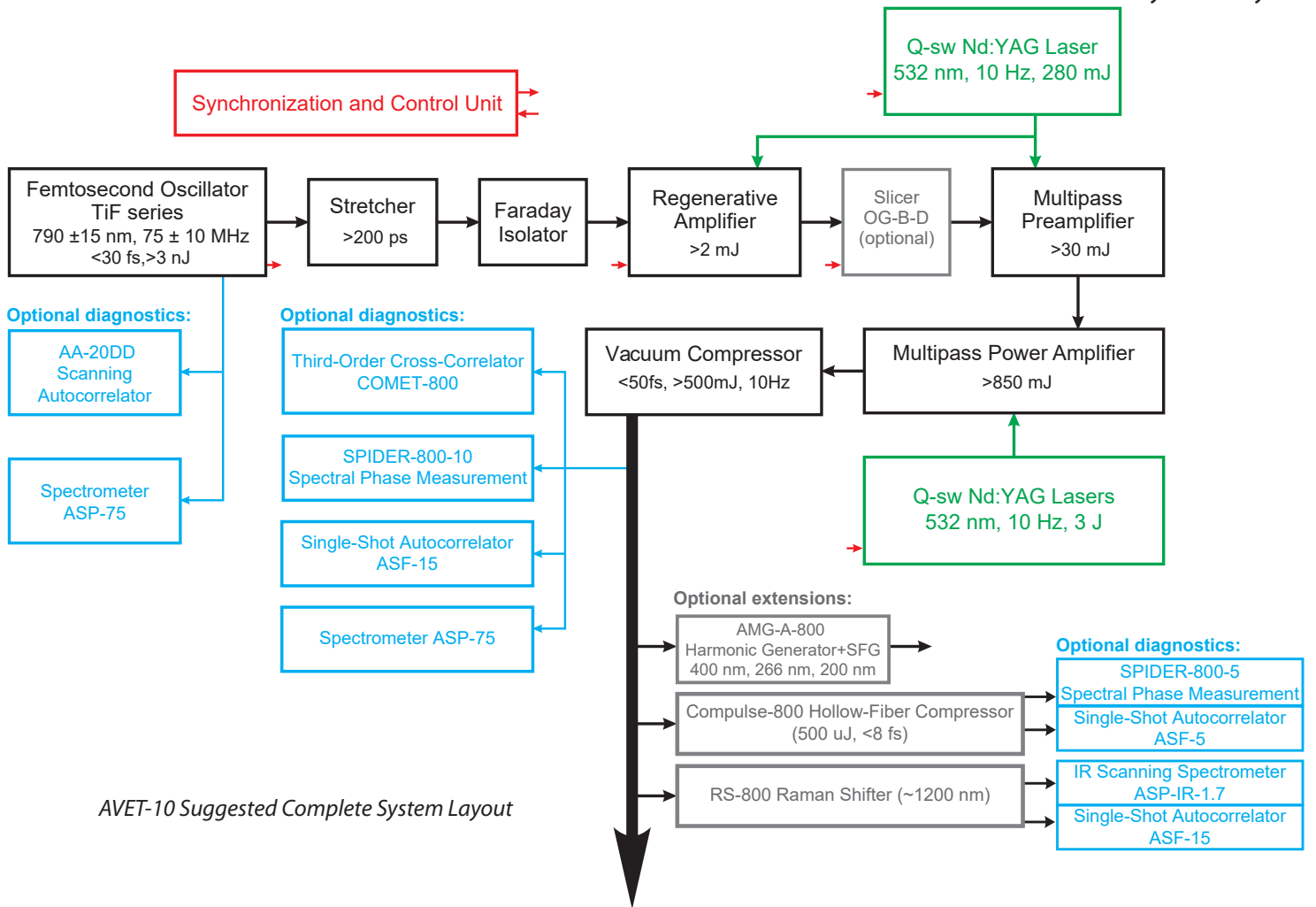
### AVET technical specifications

	AVET-2	AVET-10	AVET-15
<b>Peak pulse power</b>	>2 TW	>10 TW	>15 TW
<b>Pulse energy</b>	>100 mJ	>350 mJ	>550 mJ
<b>Pulse duration (FWHM)*</b>	<35 fs		
<b>Beam diameter (at 1/e<sup>2</sup>)</b>	30 mm	55 mm	70 mm
<b>M<sup>2</sup></b>	<1.3	<1.7	<1.7
<b>Wavelength (fixed)</b>	800±15 nm		
<b>Repetition rate</b>	10.0±0.5 Hz		
<b>Pulse energy stability (rms over 500 pulses)</b>	<2.5%		
<b>ns pre-pulse contrast</b>	>10 <sup>4</sup> :1		
<b>ps pre-pulse contrast</b>	>10 <sup>3</sup> :1 @ 1 ps >10 <sup>5</sup> :1 @ 5 ps >10 <sup>5</sup> :1 @ 10-20 ps >10 <sup>6</sup> :1 @ ASE (>20 ps)		
<b>Output polarization</b>	linear, horizontal, >100:1		
<b>Dimensions</b>	3200x1200x220 mm	4000x1200x220 mm	4000x1200x220 mm

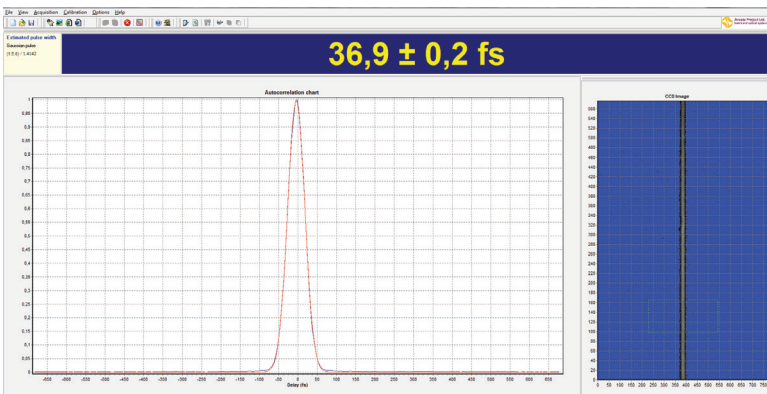
\* - sech<sup>2</sup> fit, measured by the ASF-15 Avesta single-shot autocorrelator.

AVET-2 Terawatt System

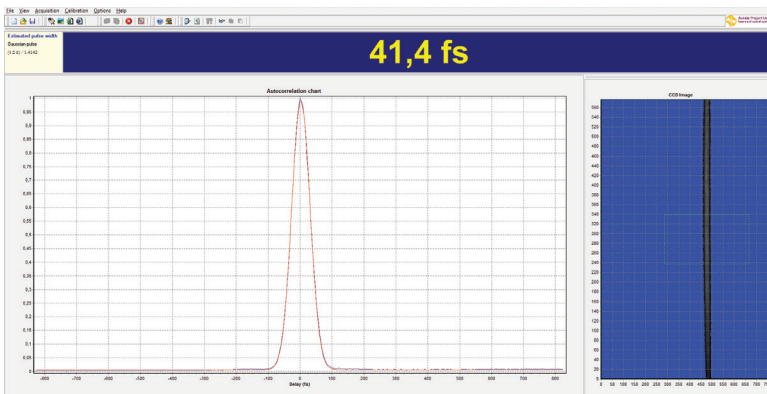




AVET-10 Suggested Complete System Layout



AVET-2 pulse duration measured by the ASF single-shot autocorrelator



AVET-10 pulse duration measured by the ASF single-shot autocorrelator