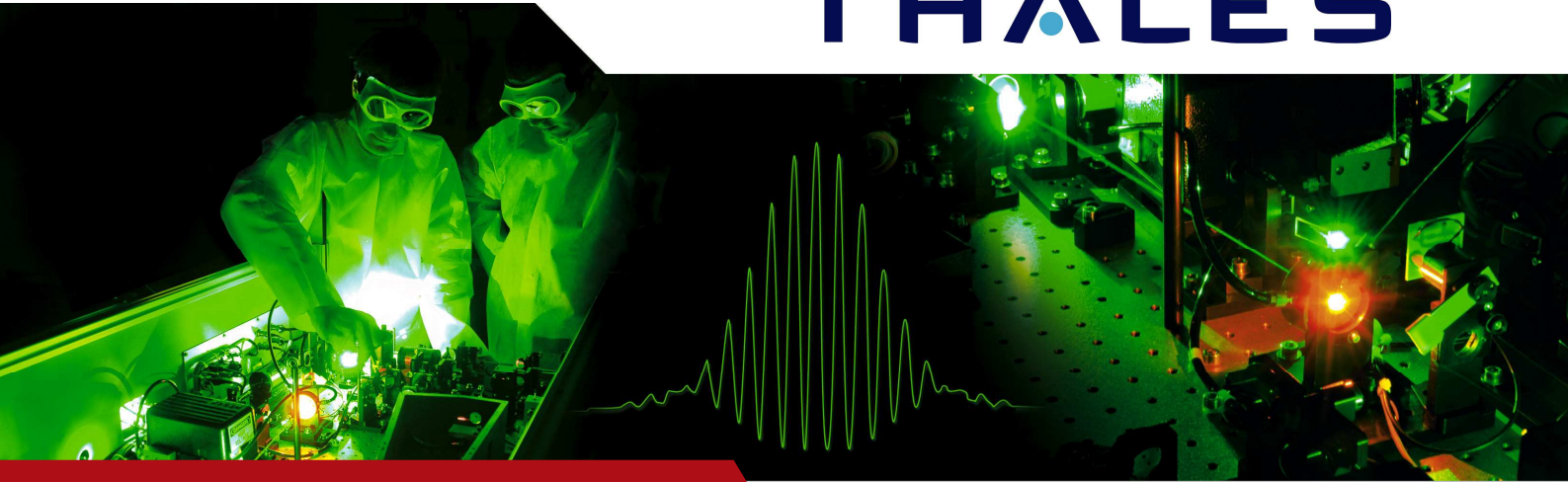


# THALES



## ALPHA 10/XS 45 TW

Ultrafast Ti:Sa Series

### FEATURES

- Broadband, high contrast using XPW filter
- High beam quality with high energy pumping lasers
- Industrial reliability with water cooling
- Compact footprint
- User friendly Supervision software with integrated diagnostics
- Front End for PW upgrade

### SPECIFICATIONS

- 45 TW at 10 Hz
- Energy  $\geq 1.2$  J at 25 fs
- Contrast  $1:10^{10}$  at 100 ps
- Strehl ratio  $\geq 0.85$
- Energy stability  $\leq 1\%$

### APPLICATIONS

- Wake field acceleration
- Plasma Physics
- VUV-Xray generation
- High order harmonic generation
- Time resolved spectroscopy



The world reference of compact and reliable 45 TW Ti:Sa laser with proven specifications and demonstrated upgrade scalability to PW level.

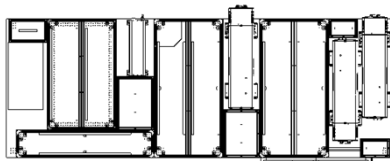
# ALPHA 10/XS 45 TW Ultrafast Ti:Sa Series

## Specifications

Repetition rate	10 Hz
Peak Power	> 45 TW
Central Wavelength	~ 800 nm
Energy per pulse (After compression)	> 1.2 J
Pulse duration	Down to 25 fs
Pulse to pulse energy stability	≤ 1% rms
Contrast ratio	1 : 10 <sup>5</sup> under 5 ps 1 : 10 <sup>8</sup> under 30 ps 1 : 10 <sup>10</sup> under 100 ps
Strehl ratio	≈ 0.85 (with deformable mirror)
Pump lasers	JADE 2, SAGA HP

### ALPHA 10/XS 45 TW Typical layout

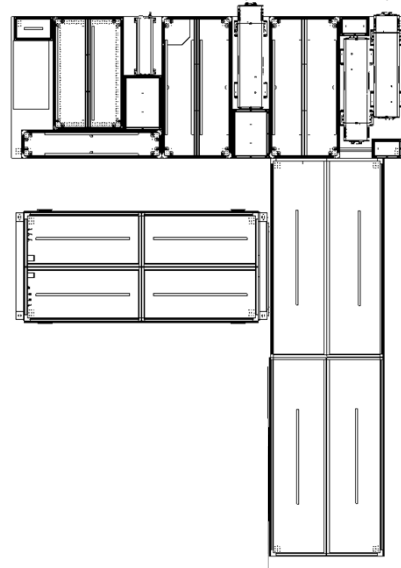
Table size: 1.5 x 4.2 m<sup>2</sup> (4.9 x 13.8 ft<sup>2</sup>)



### Focus on laser upgradeability:

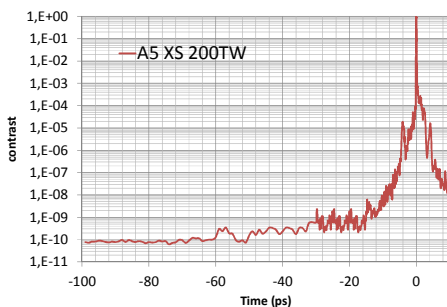
1 PW - 1 shot/min<sup>(\*)</sup>

Table size : 5.6 x 4.2 m<sup>2</sup> (18.4 x 13.8 ft<sup>2</sup>)

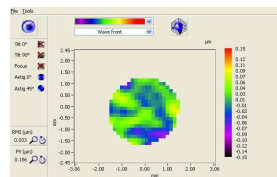


(\*) Other configurations are available on request. Specifications are dependent on the chosen configuration and options.

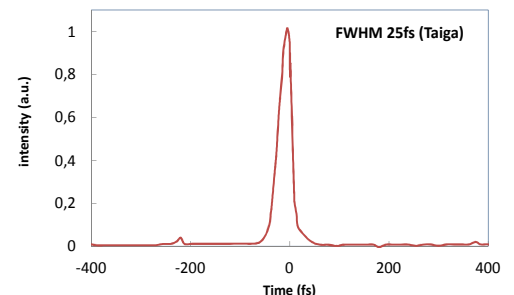
## Typical measurements



Contrast measurement with XPW



Strehl ratio > 0.9 and far field



Pulse duration

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