

# HIGH SPEED PULSED YAG Laser Model D-YAG-HS

*The D-YAG-HS laser is the high speed pulsed laser designed for time-resolved measurement*



### Features

- High repetition rate from 1 kHz to 20 kHz
- Output of 532 nm
- Pulse energy up to 14 mJ per pulse
- Dual laser head to offer flexible time-between-pulses
- Integrated beam-combination optics
- Designed for time-resolved PIV and PLIF measurements
- Applicable for flow velocity values up to supersonic speeds

### High Speed YAG Laser

The Model D-YAG-HS is a high repetition rate Nd:YAG dual laser with 532 nm wavelength and 14 mJ energy output at 1 kHz. The laser is lamp-pumped with two laser heads, integrated beam-combination optics, and it comes equipped with a separate power supply. The laser is used with one of the TSI time-resolved imaging systems available to address a wide range of application needs.

### Applications

Time-resolved PIV and PLIF measurements provide global information about velocity, scalar properties, and their interdependence, as a function of time. The output frequency of the laser varies from 1 kHz up to 20 kHz, which allows high sampling rates to capture the flow field; consequently the temporal information is obtained. The dual laser head arrangement, allows the time between the two laser pulses to be set as any desired value. Thus, the laser can be used to diagnose supersonic flows as well as low speed flows. Similarly, the multiple pulse feature can be used for PLIF measurements to achieve in-camera integration.

## Time-Resolved Imaging Systems from TSI

TSI offers a wide variety of systems and components for time-resolved measurements. In addition to the D-YAG-HS laser, there is the YLF-HS laser which is a compact high pulse-rate YLF laser. TSI also offers the Powerview HS series of high speed cameras. Included in this series are the Powerview HS-200, HS-650, HS-2000 and HS-3000 offering various frame rates and pixel resolutions to meet the widest array of application needs.

## INSIGHT 3G™ Global Imaging, Analysis, and Display Software Platform

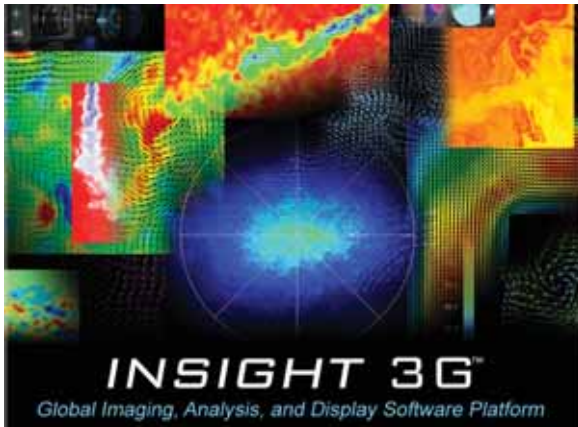
The **INSIGHT 3G** package features all of the tools needed for even the most advanced global imaging measurements, from our patented processing algorithms to the most elaborate data analysis features available. And now, equipped with the *HyperStreaming* Module, the power of the **INSIGHT 3G** Platform can be unleashed on enormous amounts of data, using features such as the POD Analysis Toolbox and distributed processing capability over a network of computers to quantify the flow properties of interest with the desired detail.

## Specifications

### Dual YAG Laser arrangement

Wavelength	532 nm
Transverse mode	multimode
Beam Diameter	3.0 mm
Beam Divergence	4.0 mr
Polarization	Linear, horizontal
Q-switch Performance at 1 kHz	
Average Power	14 W
Pulse Energy	14 mJ
Pulse Width	160 ns
Peak Pulse Power	87 kW
Average Power	
5 kHz	32 Watts
10 kHz	40 Watts
20 kHz	35 Watts
Mechanical	
Optical Assembly	131L x 30W x 21H cm
Power Station Dimension	91H x 62W x 98D cm
Direct Cooling Water	20 l/min at 20°C max temp (35 psi pressure) (Chiller is NOT included but optional)
Electrical Power	220 +/- 10% VAC, 3 -phase, 50/60 Hz, 30A (or 380 +/- 10% VAC, 3 phase, 50/60 Hz, 20A)

Specifications subject to change without notice.



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