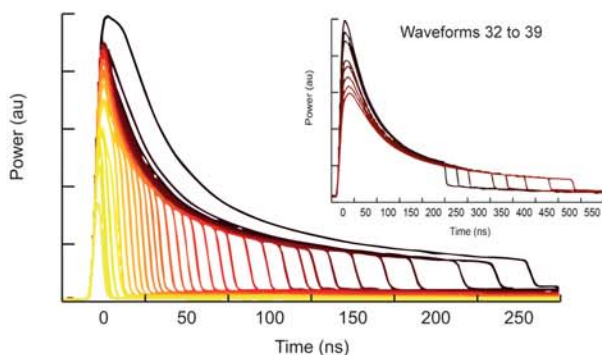




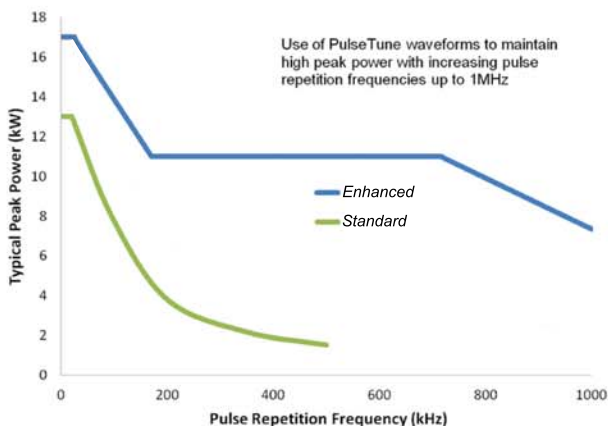
### PulseTune Technology

Our PulseTune technology provides the ability to select waveforms, offering up to 40 pulse widths from 3 ns up to 500 ns. Each pulse waveform is designed for maximum peak power and pulse energy at an optimised pulse repetition frequency. This gives users greater control of pulse conditions over the full pulse repetition range.

Pulse Shapes for Waveforms 0 to 31



The graph shows typical waveforms from the 20W enhanced with the option to select from 40 PulseTune characteristics.



### Feature Combinations

At a glance		Functionality <sup>(2)</sup>	
		Enhanced	Standard
Beam Quality <sup>(1)</sup>	Enhanced	20W, 50W, 70W, 100W	20W, 30W, 50W, 70W
	Standard	20W	

### Applications - More than just marking.



✓✓ = Optimal for ✓ = Good for

Type	Enhanced	Standard
<b>Key Applications</b>		
Ablation	✓✓	✓✓
Cleaning		✓
Drilling	✓✓	✓
Engraving, deep	✓✓	✓
Engraving, fine	✓✓	✓
Marking, anodised & painted materials	✓	✓
Marking, general	✓✓	✓✓
Marking, metal	✓	✓✓
Marking, plastic (night & day)	✓	✓✓
Micro-machining	✓	
Precision cutting	✓✓	
Scribing	✓✓	✓
Solar cell processing	✓	
Thin film patterning	✓✓	✓✓
Thin foil cutting	✓✓	✓✓

<p>WARNING: LASER RADIATION ABOVE THE CLASS 2 LIMITS. LASER CLASSIFICATION: CLASS 4 LASER PRODUCT.</p>	<p>10-wattage ESD - 1000V Output power - 100W CW</p> <p>VISIBLE LASER RADIATION AVOID DIRECT EYE EXPOSURE CLASS 3B LASER PRODUCT</p>	<p>COMPONENT FOR INCORPORATION</p> <p>This product is a component and is not intended for use as a stand-alone product. It is not intended for use as a stand-alone product. It is not intended for use as a stand-alone product.</p>
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### Terms and Conditions

All product information is believed to be accurate and subject to change without notice. A complete product specification will be issued on request and also at time of order acknowledgement. The user assumes all risks and liability whatsoever in connection with the use of the product and its application. These lasers are designed as products for incorporation or integration into other equipment.

20W - 100W  
Pulsed Fiber Lasers

PULSETUNE

GREATER FLEXIBILITY

SUPERIOR QUALITY

INCREASED PRODUCTIVITY

IMPROVED PROFITABILITY



### Product selection parameters

Wavelength	1060 nm										
Beam quality options <sup>(1)</sup>	<b>Enhanced</b>								<b>Standard</b>		
M <sup>2</sup>	<1.6								1.6 - 2.0		
Average power (W)	>20	>20	>30	>50	>50	>70	>70	100	>20		
Beam delivery cable length (m)	2/ 3		3						2/ 3	3	
<b>Pulse parameters</b>											
Peak power (kW) <sup>(3)</sup>	>10						>8		>12		
Pulse energy (mJ) <sup>(3)</sup>	>1								>0.8	>1	
Operating repetition frequency range (kHz)	1-500	1-1000	1-500	1-500	1-1000	1-500	1-1000		1-1000		
PulseTune waveforms	2	40	2	2	38	2	37	32	25	40	
Pulse width range (ns)	35/250	3-500	35-250	40-250	7-500	35-250	10-500	12-500	11-220	3-500	
CW mode with modulation	No	Yes	No	No	Yes	No	Yes		Yes		
Modulation range in CW (kHz)	N/A	1-100	N/A	N/A	1-100	N/A	1-100	1-100	1-100		
Output power stability %p-p <sup>(3)</sup>	<5								<8		
<b>Cooling options</b>											
Air cooled or Water Cooled	Air	Air	Air	Air	Air	Air	Air	Air	Water	Air	Air
<b>Electrical</b>											
Power supply voltage (V)	24										
Power supply current (A)	<10				<20				<10		
<b>Mechanical</b>											
Weight (kg)	10			13			10	10			
Laser module length (mm)	347.5			377.2			400	347.5			
Laser module width (mm)	201			248			249	201			
Laser module height (mm)	95			63			95				
<b>Environmental</b>											
Ambient temperature range (°C)	0 - 40				15 - 35			0 - 45			
Relative humidity	5 - 95% RH (non condensing)										

Notes: 3. As measured at rated average power, waveform 0, optimised pulse repetition frequency and over full ambient temperature range.

### Beam quality options

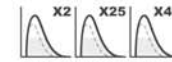
#### Enhanced Type - M<sup>2</sup> <1.6

Offering higher peak power and pulse energy with only minor increase in spot size with good depth of focus.

#### Standard Type - Low mode M<sup>2</sup> 1.6 - 2.0

General marking applications giving slightly larger spots and features that are more appropriate to making marks visible to the naked eye.

### PulseTune Functionality



PulseTune waveforms available.



#### Standard Series

- Entry level products with limited pulse options
- Basic software and hardware interfaces
- Models benefit from 2 PulseTune waveforms and pulse repetition frequency up to 500 kHz



#### Enhanced Series

- Benefits from PulseTune technology
- Pulse width variable (25 pre-set waveforms)
- Enhanced control and modulated CW functionality
- Up to 1 MHz pulse repetition frequency
- Up to 40 optimised PulseTune waveforms
- Most versatile Fiber Laser source
- Enhanced control and modulated CW functionality
- Increased pulse energy and peak power performance
- Pulse width range of 3-500 ns



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