

# LASER & SCANNING CONTROL CO<sub>2</sub> LASER KITS

STREAMLINES A CO<sub>2</sub> GALVO-BASED MARKING SYSTEM WITH FAST INTEGRATION  
 MIX-AND-MATCH SCAN HEADS, F-THETA LENSES, AND OTHER COMPONENTS  
 EASILY MOUNTS TO A 80/20-STYLE ALUMINUM EXTRUSION

EACH KIT INCLUDES:  
 LASER MOUNTING PLATFORM  
 SCAN HEAD  
 BEAM EXPANDER  
 LENS ASSEMBLY

## The Laser Kit Concept

Nutfield Technology kits form a powerful and sophisticated bridge between your laser, target and your computer screen. Each laser scanning kit gives you tremendous flexibility with less cost and effort than any other. Industry standard XY2100 interface allows you to easily connect to our controller and software or many other third party control platforms. This approach in developing your own laser scanning system or application is a great way to perform laser scanning functions without a large investment in time and expense.

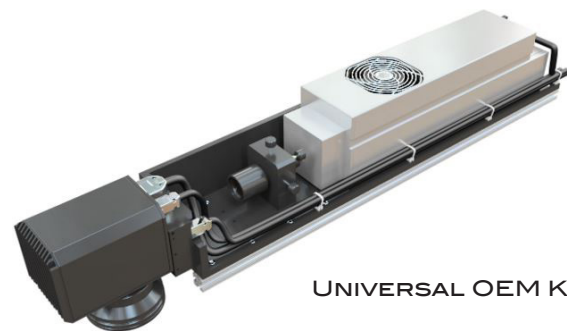
## What We Provide

Nutfield Technology kits are pre-configured, lab-ready laser beam positioning systems that offer optional hardware and optical upgrades. Each kit contains a precision XY scan head, complete with mirrors, servo control electronics, and optics. Kits may be ordered with our Pipeline Controller and WaveRunner Software which will include a control cable for the laser of choice. Kits also contain a mounting platform to align and mount the laser to provide an integrated package. We also provide application engineering backup when required.

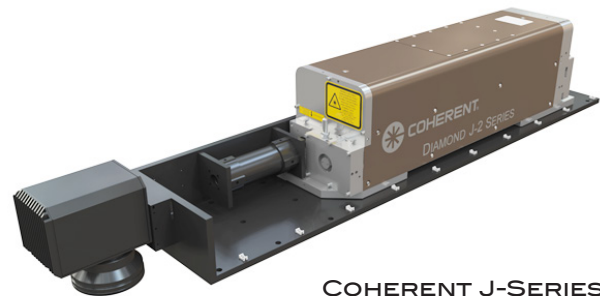
## What You Provide

You provide the laser. We have found that most kit users already have a laser preference. Our kits are designed to accommodate a wide range of laser powers within each application platform. You also provide a personal computer. Additionally, you provide safety enclosures and interlocks to ensure safe operation. If you want to move parts through the kit's working field, you must also provide material transport.

Since 1997, Nutfield Technology has been designing and manufacturing the most advanced galvanometer-based optical scanners, scan heads, and laser controllers/software products available. As the galvo experts, Nutfield Tech offers complete laser scanning solutions. Contact Nutfield Tech today for solutions to all laser applications.



UNIVERSAL OEM KIT



COHERENT J-SERIES KIT



CO<sub>2</sub> LASER CODER KIT

## APPLICATIONS:

- MARKING
- MICROMACHINING
- SURFACE TREATMENT
- INDUSTRIAL PROCESSING
- PLASTIC WELDING



**SPECIFICATIONS\***  
\*Specifications are subject to change without notice.

**SPECS FOR UNIVERSAL OEM AND COHERENT J-SERIES LASER KITS**

	UNIVERSAL 25 WATTS	UNIVERSAL 40 WATTS	UNIVERSAL 75 WATTS	J-SERIES 150 WATTS	J-SERIES 250 WATTS	J-SERIES 400 WATTS	J-SERIES 150 WATTS	J-SERIES 150 WATTS
Scan Head Aperture	15mm	15mm	15mm	15mm	15mm	15mm	20mm	20mm
Field Size: f-Theta Lens	50mm x 50mm	120mm x 120mm	210mm x 210mm	50mm x 50mm	120mm x 120mm	210mm x 210mm	85mm x 85mm	90mm x 90mm
Beam Expander (max)				1.75X	1.75X	1.75X	2X	2X
Telecentric Angle (deg)				n/a	n/a	n/a	9.4X by 6.7Y	5.1X by 2.3Y
Scan Radius	74mm	177mm	303mm	74mm	177mm	303mm	163mm	169mm
Optical Resolution	86 µm	200 µm	341 µm	86 µm	200 µm	341 µm	245 µm	235 µm
Speed Vector <sup>1</sup>	1300mm/s	3100mm/s	5300mm/s	1300mm/s	3100mm/s	5300mm/s	2200mm/s	2300mm/s
Resolution Step Size <sup>2</sup>	.76 µm	1.8 µm	3.2 µm	.76 µm	1.8 µm	3.2 µm	2.3 µm	2.5 µm
Repeatability <sup>3</sup> (±)	.76 µm	1.8 µm	3.2 µm	.76 µm	1.8 µm	3.2 µm	2.9 µm	3.1 µm
Accuracy <sup>4</sup> (±)	51 µm	120 µm	210 µm	51 µm	120 µm	210 µm	100 µm	110 µm

<sup>1</sup> Vector speed is defined on the work surface based on galvo aperture. Actual performance subject to material processing limits.

<sup>2</sup> Step size is defined as the smallest movement the scan head can make within the mark field on the surface regardless of optical resolution.

<sup>3</sup> Repeatability is defined as moving from one spot to another spot and back to same spot on work surface regardless of optical resolution and laser characteristics.

<sup>4</sup> Accuracy is defined after 10 minutes warm-up and pointing to known location regardless of optical resolution and laser characteristics without field correction. Use field mapping for optimal system accuracy.

**SPECS FOR DPI OEM BLADE SERIES LASER CODER KITS**

DIRECTED PHOTONICS INC. OEM BLADE SERIES	LENS A	LENS B
Field Size	70mm x 70mm	105mm x 105mm
Spot Size	211 µm	217 µm
Focal Length	100mm	150mm
Line Speed <sup>1</sup>	2600mm/s	3700mm/s
Print Speed <sup>2</sup>	261 char/sec	322 char/sec

<sup>1</sup> Line Speed is defined on work surface based on galvo aperture regardless of material processing limits.

<sup>2</sup> Print Speed is defined on work surface based on galvo aperture regardless of material processing limits; character height is 2mm, "good quality."