

CONTOUR 20MM SCAN HEAD WITH HIGH-SPEED FOCUSER

CONTOUR:

VERY HIGH DYNAMICS – CONTINUOUS OPERATION @ 50G PEAK SINE
LARGE FIELDS, SMALL SPOTS AND REPLACES F-THETA LENSES
FRICTIONLESS, NON-CONTACT AIR BEARING/VOICE COIL DESIGN (PATENT-PENDING)
> 500 HZ SERVO BANDWIDTH
13MM CLEAR APERTURE AND 13MM STROKE
ULTRA-LOW REACTIVE FORCES

Nutfield Technology's Contour Scan Head is a scanning solution designed to offer 3-axis capabilities in a compact package for small to medium field sizes. It includes a high bandwidth Z axis mechanism for marking on highly contoured surfaces. The fully packaged design allows for easy integration into workstations and assembly lines. The integrated design incorporates Nutfield Technology's advanced galvanometer technology to offer superior bandwidth, accuracy, and flexibility in 3-axis technology.

All of Nutfield Technology's 3-Axis Scan Heads are designed to operate seamlessly with our WaveRunner Laser Scan Control Software and Pipeline or SurfBoard Scan Controller Hardware.

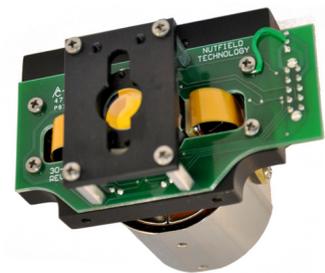
The natural focal surface of an XY galvo pair is a shallow sphere. One solution to operate on planar samples is an f-theta lens, but these limit your field size, bloat your laser spots, and are expensive. Nutfield Technology's BLINK High-Speed Focuser is a far better solution. When used as the focusing element of a post-objective scanning system, BLINK dynamically maps a focal correction onto the laser beam as a function of its XY position, allowing high speed processing of large planar samples, with very small spot sizes. BLINK also supports the processing of 3D samples. BLINK combines an air bearing guideway with direct voice-coil drive, resulting in a very compact, high-performance focuser. BLINK is capable of continuous operation with a 50G peak sine wave, and its ultra low moving mass minimizes reaction forces. With only one moving part, BLINK offers exceptional reliability and service life when compared to traditional taut band actuators.

When used in combination with our Contour 3-Axis Scan Head, it provides an impressive 170 mm Focus Depth @ 64 μ m spot size over a 450mm field! (Nd-YAG)

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 Technology today for solutions to all laser applications.



CONTOUR
3-AXIS SCAN HEAD



BLINK
HIGH-SPEED FOCUSER



SPECIFICATIONS*

*Specifications are subject to change without notice.

CONTOUR 3-AXIS SCAN HEAD

Field Size (mm) and Spot Ø*	20 Nd: YAG (µm)
150	32
300	64
450	96

* 1/e² spot @ center

The above charts assumes TEM 00 and M² = 1.2

BLINK HIGH-SPEED FOCUSER

“BLINK and you’ll miss it... 30 times!”

Lens size	12.5mm	
Lens mass	2 g	with 1064 nm optics; 10.6 µm also available
Moving mass	28 g	with 1064 nm optics installed
Unit mass	540 g	
Stroke	13mm	
Servo bandwidth	> 500 Hz	
Force constant (Kf)	6.1 N/Amp	
Coil resistance	4.5 Ohm	
Position detector resolution	0.2 nm	3-Sigma, DC-5kHz
System resolution	200 nm	typical 16-bit decoding on XY2-100
System repeatability	800 nm	typical 16-bit decoding on XY2-100
Air Supply Requirements:		
Cleanliness	ISO8573-1:2010	Class 3 or better
Flow rate	< 2.5 LPM	@ 80 PSI
Pressure range	60 - 90 PSI	

DYNAMIC PERFORMANCE FOR A 1.0 MM STROKE REFERENCE MOVE:

Frequency	Peak acceleration	Peak current	Average Power
100 Hz	197m/s ² (20 G's)	1.0 Amps	2.3 Watts
125 Hz	308m/s ² (31 G's)	1.4 Amps	4.4 Watts
141 Hz	392m/s ² (40 G's)	1.8 Amps	7.3 Watts
157 Hz	487m/s ² (50 G's)	2.2 Amps	11.1 Watts