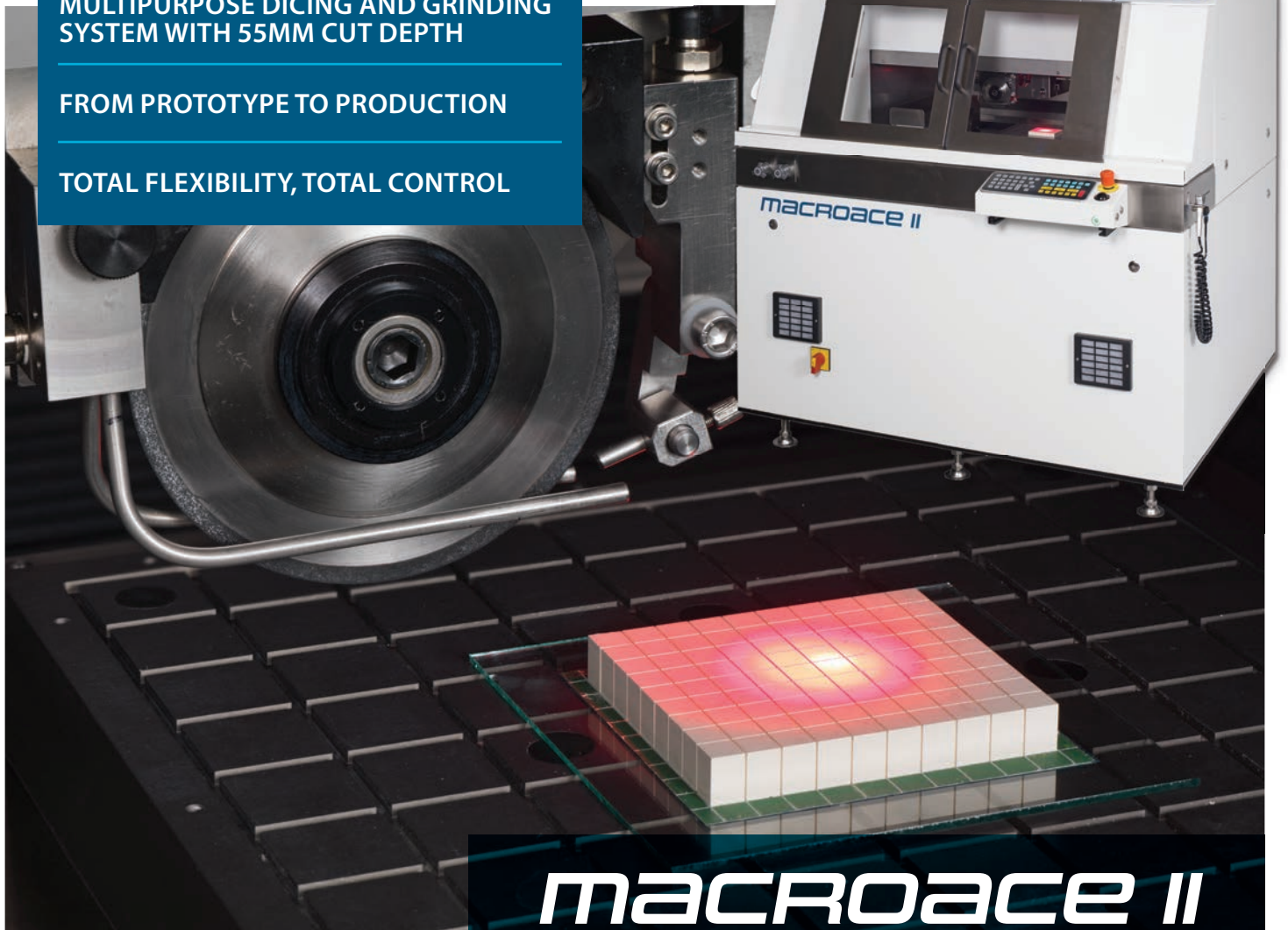


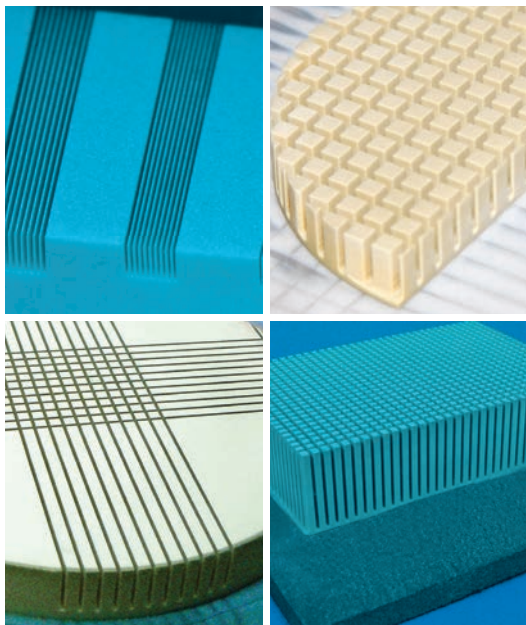
MULTIPURPOSE DICING AND GRINDING  
SYSTEM WITH 55MM CUT DEPTH

FROM PROTOTYPE TO PRODUCTION

TOTAL FLEXIBILITY, TOTAL CONTROL



## macroace II



### **THE MICROMACHINING CHOICE FOR COMPONENT DESIGN AND MANUFACTURE**

Industry leading 55mm cut depth giving widest range of options for diverse applications, such as; Ceramics, PZT, metals, glass, composites, electronic devices etc.

Improved capacity, capability and power within a smaller footprint.

New innovative design improving overall positional stability, accuracy and control.

### **THE ULTIMATE IN SYSTEM PRODUCTIVITY**

Short runs and prototyping.

24/7 full production.

Diverse workloads are easily handled with easy work loading, quick tool changes and fast program entry.

ENGINEERED TODAY FOR THE TECHNOLOGY OF TOMORROW

Chelworth Industrial Estate, Cricklade, Swindon, Wiltshire, UK, SN6 6HE Tel: +44 (0)1793 751160 Fax: +44 (0)1793 750155 [www.loadpoint.co.uk](http://www.loadpoint.co.uk)

# MACROACE II

The **MACROACE II** is an evolution of the original MacroAce, with more precision, control and smaller footprint to cut a wide range of materials from small precision components to heavy duty cutting with up to 100mm thick components using a range of blade sizes. The MacroAce II also utilises the excellent, tried and tested NanoControl system designed for ease of use and to maximise productivity.

The latest MacroAce technology allows for further flexibility in component height and cutting depth with up to 55mm depth of cut with a 200mm diameter blade achievable.

## Loadpoint Expertise

Every Loadpoint system incorporates a Loadpoint air bearing spindle that has been continuously developed over 40 years. Our customers trust Loadpoint to help them develop class-leading products. We have helped many of our customer develop solutions for ultrasound scanners, inkjet printers, SAW filters, MEMs devices and a whole range of silicon based products.

### Micromachining solutions for:

SEMICONDUCTORS	OPTICAL
ELECTRONICS	MEDICAL
FERRO-ELECTRONICS	SOLAR
OPTO-ELECTRONICS	SONAR

## STANDARD PACKAGE

The MacroAce II is offered in a standard package, however, bespoke packages are available with various options to suit a particular customer application.

### Loadpoint Air Bearing Spindle

- Very low vibration improves the cut quality and reduces chipping
- DC brushless drive 4kW giving full power profile across the entire speed range 1,000 to 10,000rpm
- Theta ( $\Theta$ ) axis bearing rotary table with high resolution direct drive

### Vision and alignment system

- Manual and automatic alignment modes:
- Monocular video alignment system with pattern recognition
- Automatic Pattern Recognition System (PRS)
- 2 point alignment with programmable off-set for off-cut alignment
- Manual and automatic (option) kerf and chipping measurement on machine
- Full 17inch monitor for alignment, data entry and machine monitoring.
- Continuous live display of X, Y, Z and theta co-ordinates
- Z autofocus set up of alignment image, with offset option for depth of cut

### Tooling

- Standard wheel carrier with 101.6 to 200mm diameter blade capacity
- Main blade coolant jet adjustable to suit all blade diameters
- Work holding manufactured bespoke for application
- Accelerometer based Z datum set, off-chuck height sensing system

### NanoControl

- Windows operating system with user-friendly, spreadsheet style data entry screens
- Password-controlled user access to all key machine functions and a 12 month rolling log of machine actions provide full process traceability
- Fitted with remote link to enable fast remote diagnostic access

### Z height sensing

Off-chuck height sensing system ensures constant depth of cut without having to use conductive blades, providing a wider choice of blade diameters and suppliers

### Work holding

There is flexibility in the work-holding options to suit any customer requirements. These include; a standard ceramic vacuum chuck or metal chuck, mechanical vice or magnetic chucks. A bespoke work-holding option can be developed alongside customers to suit their specific requirements.

## OPERATIONAL SPECIFICATION

Typical Applications	Cutting and dicing of materials such as PZT, ceramics, glass metals
Control System	Loadpoint NanoControl 2.0
Work Holding	Ceramic or Metal Vacuum Chuck, mechanical vice, magnetic chuck
Work Area	Rotational Capacity X, Y, Z 305 x 305 x 100mm Non-rotational Capacity X, Y, Z 420 x 305 x 100mm
Cut depth	55mm with 200mm blade diameter
Air-bearing Spindle	4kW
Spindle Increment	1,000 – 10,000 rpm
Blade Capacity	100-200mm diameter Typically resin bond on metal former. Large diameter blades can be used that allow for greater cut depths.
Y Index Range	0.001mm – 305mm
Y Index Resolution	0.0001mm
X Axis Range	500mm
X Axis Resolution	0.1um
X Axis Feed Rate	0.001 – 300 mm/s
Z Axis Range	200mm
Z Axis Resolution	0.0001mm
Theta Axis Range	360° (continuous)
Theta Axis Resolution	4 arc sec
Enclosure Containment	Fully Enclosed



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