

MULTIPURPOSE DICING AND GRINDING
SYSTEM WITH 50MM CUT DEPTH

GET MORE OUT OF YOUR COMPONENT
MANUFACTURING PROCESS

GAIN THE LEADING EDGE OVER YOUR
COMPETITORS



macroace

THE MICROMACHINING CHOICE FOR COMPONENT DESIGN AND MANUFACTURE

Component precision and consistency.

Industry leading 50mm cut depth giving you the widest range of options
for diverse applications.

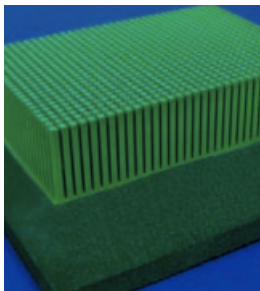
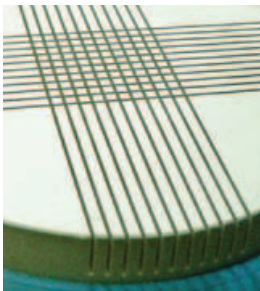
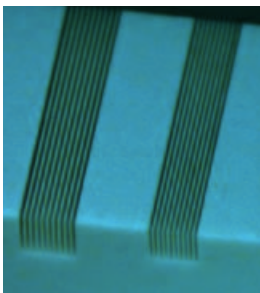
Ceramics, metals, composites, electronic devices, etc.

THE ULTIMATE IN SYSTEM PRODUCTIVITY

Short run work and prototyping.

24/7 full production.

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



MACROACE

The **MACROACE** is a multi-purpose machine designed to cut various substrates from small tiles/wafers up to 80mm thick components using a range of blade sizes. It utilises our tried and tested NanoControl system for maximum productivity.

There are various work-holding options available including our own theta rotary table enabling pattern recognition, along with conventional vice, vacuum chuck and magnetic chuck to suit. The vice and magnetic chuck can be fitted without the rotary table.

The Z axis movement allows large components to be machined and auxiliary work-holding such as angle plates to be used.

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 customers develop task orientated 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

Loadpoint Air Bearing Spindle

- Very low vibration improves the cut quality and reduces chipping
- DC brushless drive 3kW giving full power profile across entire speed range 1,000 to 30,000rpm
- Theta (θ) 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
- 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 15" / 430mm 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



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Tooling

- Standard wheel carrier with 76.2 to 180mm 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 XP 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 modem link to enable remote machine access
- Please contact Loadpoint for more details on NanoControl, now used across our range of dicing systems.*

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

Standard packages include porous ceramic vacuum chucks, adjustable work holding vices and magnetic chucks. Loadpoint manufacture chucks for all tape rings and film frames, mechanical vices, and designs to customer requirements, including precision ground ceramic inserts for improved vacuum and component.

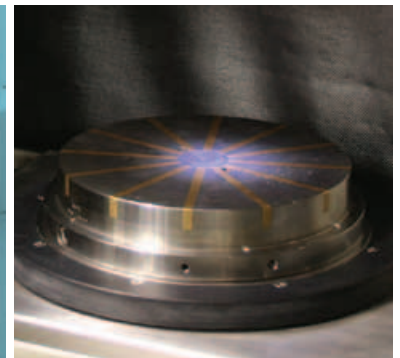
OPERATIONAL SPECIFICATION

Resolution	X 0.10mm (0.001mm lead screw option) Y 0.0001mm by linear encoder Z 0.0001mm by linear encoder Theta 0.0001 degrees by rotary encoder
Visual	Videoscope alignment with optional PRS
Pattern Recognition System	Available only with theta table fitted
Blade Capacity	76.2mm to 180mm
Spindle Type	Loadpoint brushless air bearing
Speed Range	1,000 to 30,000 rev/min
Spindle Drive	DC brushless
Theta Bearing	Loadpoint air bearing, direct drive torque motor and rotary encoder

Preliminary specification subject to change without notice.



User friendly control interface, ideal for production environments.



Large access area for easy work loading.