

# BUEHLER® MPC™ 2000

## MICRO-PRECISE INTEGRATED CROSS-SECTIONING SYSTEM

- Cross-sectioning Grinding System for Micro-Electronic and Micro-Component Analysis
- Positioning accuracy of  $\pm 1$  micron
- Variable Speed Platen 1-50 rpm in 1 rpm increments
- $1\mu\text{m}$  Digital Micrometer Adjustment
- Precision Lapped Stainless Steel Platen for Increased Accuracy
- Tri-Point Platen Support System for Increased Precision
- Variable Speed Oscillating Head
- Integrated Sink



# When Microns Matter



The MPC™ 2000 Integrated Circuit Cross-Sectioning Semi Automated System is designed to accurately remove a pre-specified amount of material from microelectronic devices, and micro-components. Accurate cross-sectioning within  $\pm 1\mu\text{m}$  of a target feature is possible due to a combination of the precision power head, the low run-out tri-point drive plate, and the lapped, stainless-steel precision platen. This high accuracy reduces the possibility of grinding beyond the target plane which would be detrimental in failure analysis work.

## Benefits of the MPC 2000

The benefits of such accuracy include

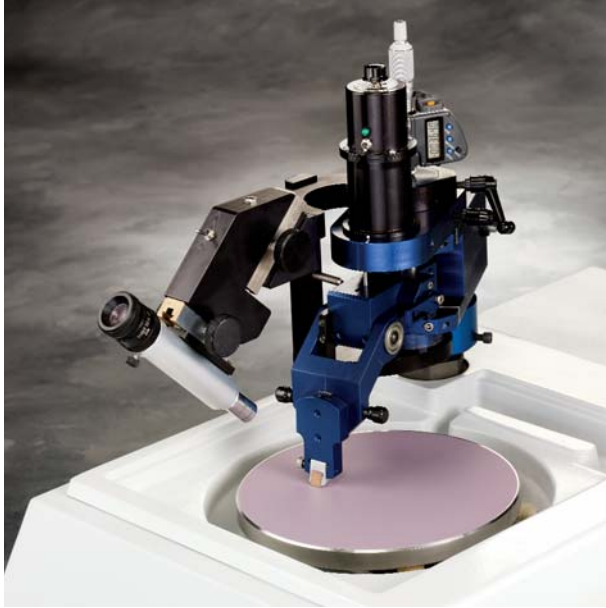
a reduced number of grinding steps, resulting in greater sample throughput. A rough grind is used to bring the plane of polish to within a few microns of the target, and a fine grind is then used to section into the targeted feature.

Subsequent polishing can then be performed to remove any remaining scratches. Another feature, unattended operation, saves time by allowing the user to walk away and perform other tasks.

## Accurate Sample Positioning & Time Saving Features

The MPC 2000 System incorporates a

digital micrometer for sample positioning. Its accessory, Remote Digital Display, provides the freedom to position the micrometer readout in a convenient place, while enlarging the display or enhanced readability. The 200x microscope accessory No. 60-5152 is invaluable for determining the exact plane to be targeted. It comes with an alignment cross hair and its own light source, providing a real time saver in not having to check your progress on another microscope.



MPC 2000 head contains a bare die grinding on 1 micron Diamond Lapping Film.



Bare die sample is easily aligned with the Tilt Alignment Microscope Accessory.



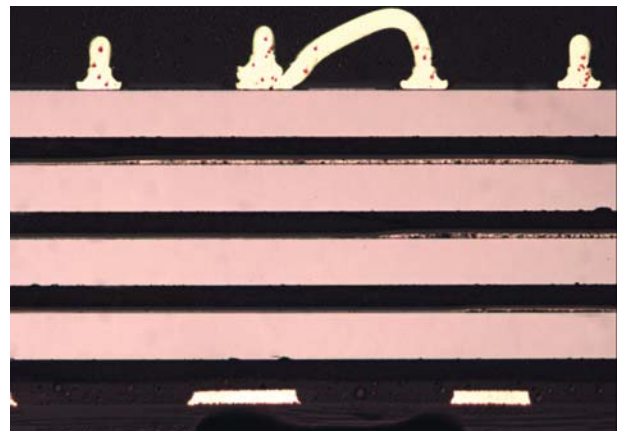
The precision lapped stainless steel platen (not shown) rests on a tri-point support which increase accuracy. This platen is water lubricated.



MPC 2000 control panel features illuminated touch-pad switches for power on/off, 1-50 rpm platen speed, water on/off and platen on/off.



Remote optional micrometer digital display accessory.



Cross section of a 4GB SD Drive ~ 100x.

## System Specifications

**49-3001 MPC™ 2000 Integrated Circuit Cross-Sectioning System**, tabletop unit, includes MPC 2000 Power Head complete with digital micrometer and oscillating motor mounting post with adjustable floating mount, 8" (203mm) slow speed EcoMet® Grinder-Polisher with 1-50 rpm in 1 rpm increments, variable speed range, aluminum alloy base casting with integral bowl and rinsing sink, bowl wash, flexible hose water supply, steel cabinet, precision ground drive plate, plumbed for DI water, dial indicator and mounting jig, precision lapped stainless-steel platen, 4 SEM cross-sectioning paddles, No. 40-8150 mounting wax, abrasive film applicator roller, hex wrench set, and operating instructions, for 84-264V,50/60Hz/1 phase operation. CE marked.

## Accessories

**40-4064 Precision Lapped Stainless-Steel Platen**, Corrosion resistant and hardened to prevent marring and warping but also increases the system accuracy.

**60-5152 Tilt Alignment Microscope Assembly**, includes a 200x focusing microscope with an alignment cross-hair, light source with power adapter, and locking swing-in/swing-out position mount. 12V power supplied by MPC 2000.

**60-5153 Remote Digital Display**, includes digital display console with 3 ft. adapter cord for connecting to digital micrometer. Includes power supply. Compatible with both 115V and 230V systems.

## Additional Accessories

**40-8150 Mounting Wax**, Crystal Bond 509, 1 stick 7" x 7/8" (178mm x 22mm)

**60-5313 SEM Cross-Sectioning Paddle**, 8" (3.2mm) Arbor

**60-6075 Abrasive Film Applicator**, 4" (102mm) Roller

**R8716 Micrometer Battery**, for Grinding Fixture

## Technical Data

### System Configuration:

8" (203mm) Precision Grinder/Polisher base with electricity driven head

### Operation:

Semi-Automatic

### Main Power:

84-264V,50/60Hz/1 phase

### Water:

1/4" (6.4mm) O.D. Nylon supply tube from 40-100 psi (275-690kPa) water source

### Base Motor:

1 Hp (746 watts)

### Platen Speeds:

1-50 rpm in 1 rpm increments

### Head Oscillation:

22 cycles/minute

### Weight:

Tabletop unit:  
200 lbs. (91kg)

### Dimensions:

Tabletop unit:  
22 1/2" W x 2 1/8" D x 22 1/2" H  
(57.2cm x 71.5cm x 57.2cm)

*Buehler continuously makes product improvements; therefore, technical specifications are subject to change without notice.*

© 2008 BUEHLER LTD. Printed in U.S.A. XM0X0X FN0XXXX

\*For metallurgical equipment produced by BUEHLER LTD. USA



## BUEHLER

**BUEHLER LTD. – Worldwide Headquarters**  
41 Waukegan Road • P.O. Box 1  
Lake Bluff, Illinois 60044-1699 USA  
Tel: 847/295-6500 • Fax: 847/295-7979  
Sales: 1/800/BUEHLER • 1/800/283-4537  
Web Site: <http://www.buehler.com>  
Email: [info@buehler.com](mailto:info@buehler.com)

### BUEHLER GMBH - European and MESA Headquarters

In der Steele 2 • 40599 Düsseldorf  
Postfach 16 03 55 • 40566 Düsseldorf  
Telefon: (49) 211 974100 • Telefax: (49) 211 9741079  
Web Site: <http://www.buehler-met.de>  
Email: [info@buehler-met.de](mailto:info@buehler-met.de)

### BUEHLER FRANCE

Téléphone: 0800 89 73 71  
Télécopie: 0800 88 05 27  
Web Site: <http://www.buehler.fr>  
Email: [info@buehler.fr](mailto:info@buehler.fr)

### BUEHLER UNITED KINGDOM

Telephone: 0800 707 6273  
Fax: 0800 707 6274  
Web Site: <http://www.buehler.co.uk>  
Email: [sales@buehler.co.uk](mailto:sales@buehler.co.uk)

### BUEHLER CANADA

10 Carlow Court, Unit #2  
Whitby, Ontario L1N 9T7  
Telephone: (905) 430-4684 • Fax: (905) 430-4647  
Sales Telephone: 1-800-268-3593  
Email: [info@buehler.ca](mailto:info@buehler.ca)

### BUEHLER ASIA

5/F Vogue Centre  
696 Castle Peak Road  
Lai Chi Kok, Kowloon  
Hong Kong, SAR, China  
Telephone: (852) 2307 0909  
Fax: (852) 2307 0233