

## MICRO-PRECISE BACK-SIDE GRINDING SYSTEM

Sample Mounting Unit



Grinding Unit



The MPC™ 3000 offers the micro-electronic analyst a better means of backside thinning flip chip devices for thermal emission studies. Automated leveling features simplify alignment between die and abrasive surfaces to eliminate the tilt adjustment necessary with other systems. Other 'ease of use' features include digital micrometer adjustment to control sample height for a positioning accuracy of  $\pm 2.5\mu\text{m}$ ; diamond downstops which ensure removal of only the desired quantity of material; vacuum mounting of the specimen to facilitate easy sample inspection; and a corrosion resistant, precision lapped, stainless grinding wheel.

### Sample Mounting Unit

The MPC 3000 Sample Mounting Unit automatically brings the die surface into

alignment with the abrasive wheel, eliminating the effects of die-package misalignment. A temporary adhesive then attaches the device to a vacuum plate for subsequent grinding and polishing. Once mounted, alignment within  $\pm 2.5\mu\text{m}$  across a  $13\text{mm}^2$  die is carried throughout the grinding and polishing process. Parallelism is maintained during all stages of material removal. The integral vacuum system, which is used to firmly hold the sample assembly during preparation, allows the assembly to be removed for inspection at any point during the grinding or polishing process without fear of alignment loss.

### Grinding Unit

The Grinding Unit has a variable speed grinding wheel (10-500 RPM) and a grinding

fixture with digital micrometer to adjust sample height. Diamond stops terminate grinding precisely where desired. A variable speed oscillating motor assures full use of abrasive surfaces while the integral sink makes clean up easy.

### Contact Information

- Contact your BUEHLER representative today and ask for Part Number 49-3003-160
- In the USA call 1-800-BUEHLER
- International - call your local representative or fax BUEHLER at 847-295-7929

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

# MPC™ 3000

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## Technical Data

### System Configuration:

8" (203mm) Precision Grinder/Polisher base with optional mounting system

### Operation:

Semi-automatic

### Mains Power:

100-115V/60Hz/1 phase

### Water:

¼" (6.4mm) O.D. Nylon supply tube from 40 - 100 psi (275 - 690kPa) water

### Base Motor:

1HP (746 watts)

### Platen Speeds:

10 - 500 rpm

### Head Oscillation:

22 cycles/minute

### Weight:

Grinding Unit: 200 lbs. (91kg)

Mounting Unit: 35 lbs. (15kg)

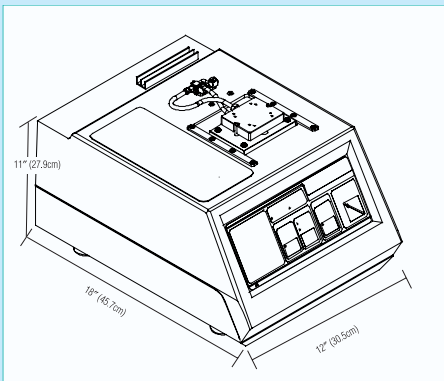
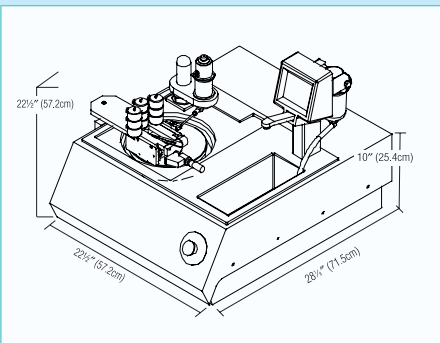
### Dimensions:

Grinding Unit:

22½" W x 28⅞" D x 22½" H  
(57.2cm x 71.5cm x 57.2cm)

Mounting Unit:

12" W x 18" D x 11" H  
(30.5cm x 45.7cm x 27.9cm)



## System Specifications

49-3003-160 MPC 3000 Integrated Circuit Backside Grinding System, includes the following:

Sample Mounting Unit, table top unit, includes MPC 3000 Sample Preparation Unit complete with integral vacuum system for both mounting and grinding, sample mounting station with automated heating/cooling unit, upper vacuum block with 0.2" (5.08mm) square vacuum orifice and 0.19" (4.83mm) spacer pins and precision sample mounting plates (quantity: 3), for 115V/60Hz/1 phase operation.

Grinding Unit, table top unit, includes MPC 3000 Grinding Unit complete with 8" (203mm) ECOMET® Grinder/Polisher with 10-500 rpm variable speed range, oscillating motor, oscillating motor post and bracket, precision grinding fixture with micrometer adjustment, aluminum alloy base casting with integral bowl and rinsing sink, flexible hose water supply, steel cabinet, precision polymer bearing support drive system, integral drive system lubrication, plumbed for DI water, precision lapped stainless-steel platen, abrasive film applicator roller, hex wrench set, and operating instructions, for 115V/60Hz/1 phase operation.

## Accessories

40-4064 Precision Lapped Stainless-Steel Platen, corrosion resistant and hardened to resist marring

## Additional Accessories for the MPC 3000 System

Part No.	MPC 3000 IC Backside Grinding System
60-3035	Sample Mounting Plate
60-3036	Upper Vacuum Block Assembly User adjusted spacing pins
60-3036-200-190	Upper Vacuum Block Assembly Maximum sample thickness of 0.1" (2.54mm)
60-3045	Weight Kit, MPC 3000 System
40-8100	Mounting Wax, Lakeside 70
60-6075	Abrasive Film Applicator, 4" roller



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