

# **BUEHLER®**

## **EcoMet® 250 Grinder-Polisher & AutoMet® 250 Power Head**

- Choice of 8" (203mm) or 10" (254mm) Diameter Platens
- Variable Speed Base Platen and Power Head
- Sealed Membrane Keypad with User-Friendly Controls
- Durable Cast Aluminum Construction
- Stain, Chip and Corrosion Resistant Finish
- Unique LED Lighting Illuminates Platen, Bowl, Specimens and Working Area
- High Torque Motors for Large and Multiple Specimen Preparation
- Retractable Water Hose and 360° Bowl Rinse System
- EcoMet® 250 Grinder-Polisher Base Only for Manual Preparation
- Upgrade to Semi-Automatic Preparation with AutoMet® 250 Power Head
- Single or Central Force Power Head
- Repeatable Sample Preparation Every Time



# *The Future of Sample Preparation is Here!*

## *Consistent and Repeatable Results*



### **EcoMet® 250/AutoMet® 250 Family**

The EcoMet® 250 family of Grinder-Polishers and AutoMet® 250 family of Power Heads have been designed to meet the needs of the materials analyst requiring the versatility of manual or automatic sample preparation. The EcoMet 250 Grinder-Polisher can be used alone for manual grinding applications, or it can be combined with the AutoMet 250 Power Head for semi-automatic applications. Both are powered using 85-264 VAC, 50/60 Hz, single-phase power supply.

### **EcoMet® 250 Grinder-Polisher Base**

#### **Features**

The EcoMet 250 accommodates either an 8" (203mm) or 10" (254mm) diameter platen and features variable platen speed control from 10 to 500 RPM. The unique "D" style bowl design provides ample hand room for easy platen changing. The removable splash guard keeps water and consumables in the bowl and away from the operator.

Designed with platen cooling to help minimize platen heat build-up and reduce sample deformation. The adjustable water flow control nozzle can be positioned over the platen. The retractable and stowable water hose allows the operator freedom to spray water where chosen. The unique 360 degree bowl rinse system helps clean the entire bowl during the grinding/polishing step(s). Base can be upgraded to a semi-automatic sample preparation system with the addition of an AutoMet 250 Power Head.

#### **Construction**

A high torque, 1 hp (750 Watt) continuous-duty motor prevents platen stalling, even under the most extreme grinding conditions. This Universal D/C motor ensures constant platen speed and torque, regardless of applied load. A belt-driven platen design and variable speed cooling fan for whisper quiet operation.

The durable base casting is constructed of thick heavy-duty aluminum and is coated with an excellent

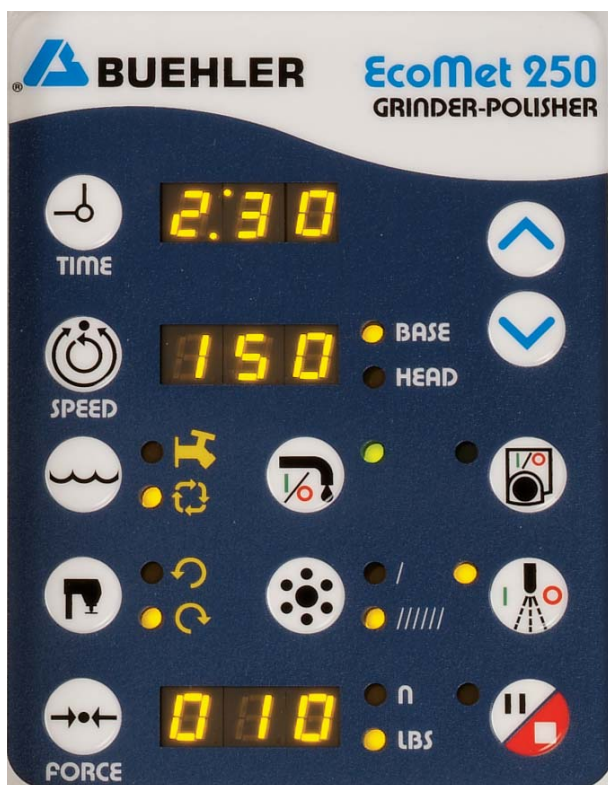
stain and chip resistant finish for a long lasting, like-new appearance.



EcoMet® base for manual grinding.



Retractable water hose reaches over entire bowl.



Membrane keypad control panel with tactile feed back buttons, bright LED's and easy-to-read icons.



Large, red and easily accessible mushroom style emergency-stop button for operator safety.



Blue flashing iridescent Power Standby button is easy to view.

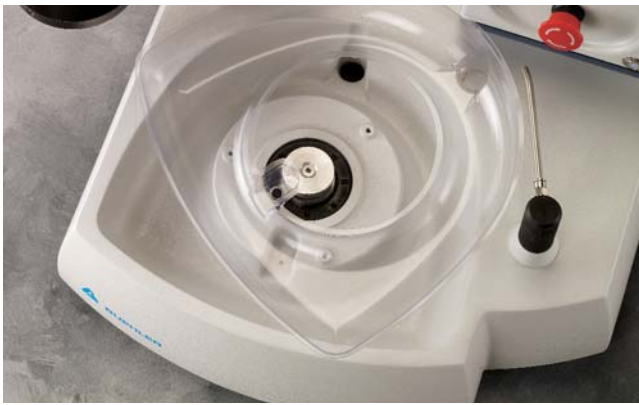




**D-style bowl for easy platen changing.**



**Removable splash guard.**



**Bowl liner in machine.**



**Water control knob.**

### **AutoMet® 250 Power Head**

The AutoMet 250 Power Head upgrades the EcoMet 250 Grinder-Polisher from manual operation into semi-automatic sample preparation operation, increasing productivity and specimen consistency.

#### **Single or Central Force**

The AutoMet 250 Power Head is designed for Single or Central Force applications. Six Single Force fingers prepare one to six samples at the same time. The finger tips are engineered to provide optimally flat sample preparation. Single force is selectable from 1-10 lbs (5-45 N).

Use Central Force for multiple simultaneous sample preparation. A soft start or stop motor function prevents sample damage. Central force is selectable from 5-60 lbs (20-260 N). The vertical drive allows head pressure without the need for compressed air in Central Force operation.

#### **Features**

The variable speed head is adjustable from 30-60 rpm, and can be adjusted for complimentary or contra (clockwise or counter-clockwise) rotation. Nine bright LED's illuminate the platen, bowl, specimen holder,

and working area. A simple clamping chuck design allows the operator to quickly attach and remove the specimen holder with a single pull of the clamping ring. The two-button start is designed to ensure operator safety. The head locking handle secures the power head into stationary position. A head location stop lever sets the exact location of the power head over the platen surface every time for correct sample positioning and repeatable results.

#### **Control Panel**

The EcoMet/AutoMet family is designed with a separate control panel housing constructed of a heavy-duty aluminum protective shell. The sealed waterproof membrane keypad allows easy cleaning. Tactile feedback buttons with an audible "click" ensures the operator that their control commands have been entered. The control panel consists of time, speed, fresh/recirc, water on/off, platen on/off, auxilliary dispensing on/off, single/central force mode, head rotation, force and pause/stop buttons.

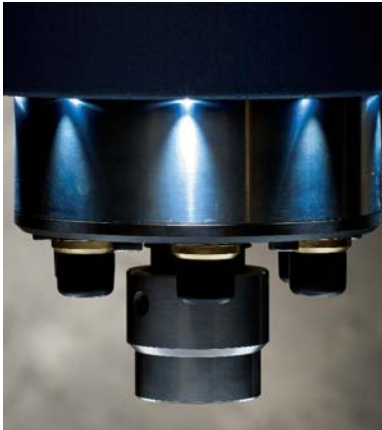
Operating parameters, such as speed and force, are adjustable during the preparation sequence. The pause function allows the operator to stop operation during a step and complete that step at a later time. A loud and audible "beep" alerts operator to the end of cycle. The



**EcoMet® Grinder-Polisher and AutoMet® Power Head for semi-automatic preparation.**



**Quick release lift lock chuck provides quick connection and removal of specimen holders.**



**Unique LED lighting illuminates platen and working area.**



**Head locking handle secures head firmly.**



**Head position Locator Stop Handle allows specimens to be located at the same position over the platen every time.**



**Central force application.**



**Single force application.**



built in memory retains last parameters setting. The time-up clock tracks manual grinding operations and the time-down clock tracks semi-automatic sample preparation methods.

The unit of measure is selectable between imperial or metric. Three-digit LED's display the time, speed and force while 15 yellow LED's highlight indicator status. The power on/off button is equipped with a blue flashing LED indicator. A large emergency off switch, built-in circuit protection and low voltage controls ensure operator safety.

### Accessories

#### ***PriMet® 3000 Modular Dispensing System and PriMet® Modular Dispensing Satellite***

Connect the EcoMet/AutoMet family to the optional PriMet® 3000 Modular Dispensing System for automatic fluid suspension dispensing during preparation steps. The PriMet® 3000 Modular Dispensing System and PriMet® Modular Dispensing Satellite use peristaltic pumps, no mist technology, to distribute lubricant, diamond and colloidal polishing suspensions. Controlled dispensing offers repeatable results regardless of operator.



**PriMet® 3000 Modular Dispensing System and PriMet® Modular Dispensing Satellites.**

#### ***Recirculating System***

Connect the EcoMet/AutoMet family to the optional recirculating system. This system prevents contaminants from being released into local water drain lines. It has a 24 gallon (91ℓ) reservoir and sits on a roller cart. Baffles in the reservoir form contamination free compartments and minimize the abrasives entering the grinder-polisher intake supply. The remaining abrasives and contaminants can then be disposed or recycled.



**Recirculating system with baffles.**

#### ***EnvironMet® Systems***

Connect the EcoMet/AutoMet family to the optional EnvironMet® Filter System. This system is ideal for laboratories concerned with water regulations, conservation requirements and environmental issues. The filter system captures contaminants down to 1 micron. It is available with a 1-micron filtering system with a 6 gallon (23ℓ) recirculating reservoir or a 100-micron filtering system for use with fresh water. Compressed air is required.



**EnvironMet® Filtering System.**



**Tapered drive adapter provides easy specimen holder connection and removal.**



**Variety of single and central force specimen holders available.**

## Specifications

### Machine Power

*Voltage*

85-264 VAC

*Frequency*

50/60 Hz

*Phase*

Single

### EcoMet® Grinder-Polisher

*Motor Power*

1 Hp (750 W)

*Platen Wheel Speed*

10-500 rpm, in 10 rpm increments

*Wheel Direction*

Clockwise or counter-clockwise

*Water Supply Hose*

¼" (6mm) OD tube

*Water Supply Pressure*

40-100 psi (2.8-6.9 bar)

*Water Return Hose*

1" (25mm) ID tube

### AutoMet® Power Head

*Motor Power*

0.156 Hp (116 W)

*Rotation Direction*

Complementary or contra  
(Clockwise or counterclockwise)

*Speed*

30-60 rpm, in 10 rpm increments

*Central Specimen Force*

5-60 lbs (20-260 N)

*Single Specimen Force*

1-10 lbs (5-45 N)

*Air Supply Hose*

0.23" (6mm) OD tube

*Air Supply Pressure*

35 psi (2.4 bar)-60 psi (4 bar)

### Specimen Capacity

*Central Mode*

1", 1¼", 1½", 25mm, 30mm and  
40mm

Large and irregular specimens

*Single Mode*

1", 1¼", 1½", 25mm, 30mm and  
40mm

### Power Usage

*Base Only*

1000 W, 8.6/4.3 A @ 115/230 VAC

*Head Only*

630 W, 5.6/2.8 A @ 115/230 VAC

*Base and Head*

1.63 kW, 14/7 A @ 115/230 VAC

### Control Panel

*Display*

Three 3-digit LED displays,  
14 status LED's

*Time*

20 seconds to 99 minutes

*Unit of Measure*

Imperial or Metric

### Sound Rating\*

*Base Only*

59.5 dB @ 100 rpm

*Base and Head*

61.5 dB @ 100/30 rpm

*\* Taken from 1.5' (0.5 m) distance under no-load*

### Shipping Weight

*Base Only*

100 lbs (45 kg)

*Head Only*

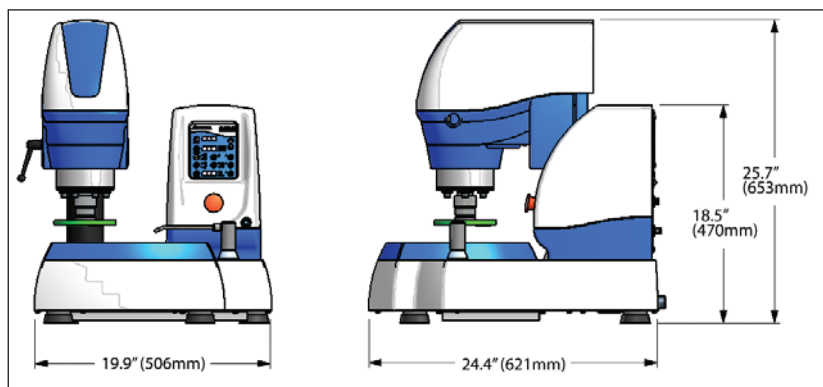
70 lbs (32 kg)

*Base and Head:* 170 lbs (77 kg)

### Regulatory Standards

CE marked

EC applicable directives



**Dimensions**

## Ordering Information

The EcoMet® 250 Grinder-Polisher includes a splash guard, removable bowl cover, water filter kit, electrical power cord, a selection of grinding paper and polishing cloths, bowl liner and instruction manual. Platens, paper holding bands and cloth clamps sold separately.

### 49-7200 EcoMet® base only, membrane keypad control

The AutoMet® 250 Power Head includes a mounting post, air filter/regulator kit, lift-lock chuck and operating instructions. Specimen holders and drive adapters sold separately. AutoMet 250 must be installed by authorized Buehler service personnel or at factory.

### 60-7230 AutoMet® 250 Power Head

### 49-7250 EcoMet® base with AutoMet® Power Head, membrane keypad control

## Specimen Holders for Central Force

Part No.	Description
60-9000	Drive adapter for central force holders (Required)
60-2422	Specimen Holder, Teardrop, 1 1/4" (32mm) x 6
60-2482	Specimen Holder, Barrel, 1" (25mm) x 6
60-2483	Specimen Holder, Barrel, 1 1/4" (32mm) x 6
60-2484	Specimen Holder, Barrel, 1 1/4" (32mm) x 3
60-2485	Specimen Holder, Barrel, 1 1/2" (38mm) x 3
60-2486	Specimen Holder, Barrel, 30mm x 6
60-2487	Specimen Holder, Barrel, 40mm x 3
60-2408	Specimen Holder, Blank
60-2409	Specimen Holder, Rectangular, 1" x 1 1/4" (25.4mm x 32mm) x 4

## Specimen Holders for Single Force

Part No.	Description
60-9005	Drive adapter for single force holders (Required)
60-9010	Specimen Holder, single force, 1" x 6
60-9011	Specimen Holder, single force, 1 1/4" x 6
60-9012	Specimen Holder, single force, 1 1/2" x 6
60-9020	Specimen Holder, single force, 25mm x 6
60-9021	Specimen Holder, single force, 30mm x 6
60-9022	Specimen Holder, single force, 40mm x 6
60-9030	Specimen Holder, single force, stainless steel, for use with distance rings
60-9031	Distance rings, 1", pk 6
60-9032	Distance rings, 1 1/4", pk 6
60-9033	Distance rings, 25mm, pk 6

## Specimen Holders for Single Force (cont.)

Part No.	Description
60-9034	Distance rings, 30mm, pk 6
60-9050	Specimen Holder, single force, 27mm x 46mm glass slide for use with 60-9010 specimen holder

## Accessories

Part No.	Description
30-2008	Paper Holding Band, for 8" (203mm) diameter platens
40-0500	10" (254mm) Aluminum Platen
40-2058	Cloth Clamp, for 8" (203mm) Platen
40-2800	PriMet® 3000 Modular Dispensing System
40-2810	PriMet® Modular Dispensing Satellite
40-4061	8" (203mm) Aluminum Platen
49-2500	EnvironMet™ Recirculating Filter System
49-2501	EnvironMet™ Filter System
49-6111	Recirculating System with cart, 24 gallon (91ℓ) Reservoir, 230 VAC
60-2410	Specimen Loading Fixture
60-2411	Specimen Loading Plate for 8" (203mm) and 10" (254mm) Specimen Holders
60-9080	Disposable Liner, pk 5 (replacement)
60-9090	Air Filter/Regulator (replacement)
60-9091	Water Filter, 25mm (replacement)
95-2825	Paper Holding Band, for 10" (254mm) diameter platens
95-2826	Cloth Clamp, for 10" (254mm) Platen

For additional selections of specimen holders, consumables and other accessories, refer to the Buehler Equipment Buyers Guide or Consumables Buyers Guide, or contact your local Buehler Sales Engineer.

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

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