



**E-Prep 4x™**  
GRINDING / POLISHING SYSTEM

*INTUITIVE, POWERFUL & RELIABLE  
SYSTEM FOR SEMIAUTOMATIC  
SAMPLE PREPARATION*

Quality Products for Metallographic Sample Preparation & Analysis

The **E-Prep 4x™** grinding and polishing machine, with the **PH-4i™** power head, is a simple yet powerful system for semiautomatic operation, ideal for low to medium volume sample preparation requirements. The user-friendly microprocessor-based system makes it easy to enter parameters and operate, and allows quick changes to sample force, cycle time, platen speed and sample speed.

Either standard or magnetic 8"/203 mm or 10"/254 mm platens may be used with any adhesive, non-adhesive or magnetic system disc.

**Durable:** Engineered and constructed using precision machined, hard-anodized aluminum and stainless steel components to provide maximum longevity.

**Easy to Use:** Straightforward controls and user-friendly functions allow quick, easy, repeatable operation.

**Standard/magnetic platens, sample holders and accessories are sold separately.**



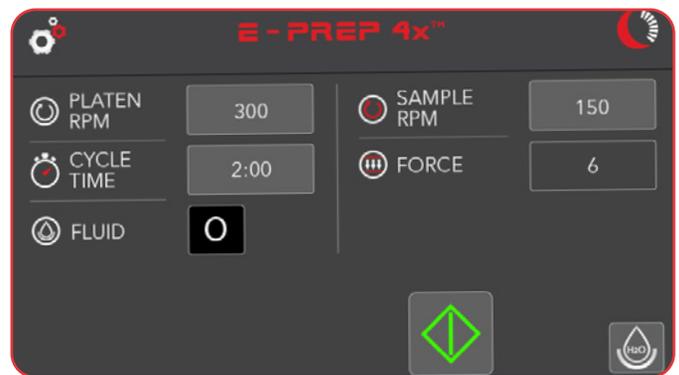
E-Prep 4x™ / PH-4i™ System (shown w/ 10" platen)

Item	Description
5-2450	E-Prep 4x™ / PH-4i™, 100-240 V

### Grinder/Polisher Features:

- 7" (178 mm) color LCD touchscreen with intuitive interface to display platen speed, cycle time, sample force (lbf/N), sample rotation speed and fluid
- Powerful, quiet 0.6 HP (440 W) brushless DC motor that provides constant high torque output throughout the speed range
- Variable platen speed: 50-500 RPM (10 RPM increments)
- Variable cycle time: 0:05 seconds - 10:00 minutes (1 second increments)
- Adjustable dial to set sample force
- Electronic coolant control with adjustable flow control valve
- Retractable coolant nozzle allows quick and easy sample/bowl cleaning
- Constructed with components precision machined from solid billet aluminum and stainless steel
- Molded one-piece corrosion resistant enclosure with overflow diversion to protect internal components
- Compatible with #100-40020 Recirculation Filtration System
- Emergency shut-off switch
- Two (2) year warranty
- Designed and manufactured by Allied in the USA 

### Intuitive User Interface



An intuitive user interface makes the E-Prep 4x™ system easy to use and program. The microprocessor based system allows platen speed, sample rotation speed, cycle time and water to be controlled.



*Retractable coolant nozzle allows quick and easy sample/bowl cleaning.*

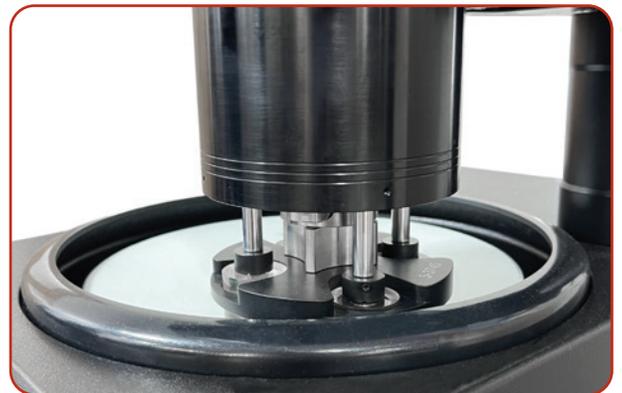


*Unique tilt-up feature allows easy access to platen and holder.*

The **PH-4i™** power head offers excellent versatility for low to medium volume semiautomatic sample preparation, using individual force mode. The pneumatic-electric system provides controlled sample force and allows between one and four samples up to 2" (51 mm) diameter to be prepared simultaneously. The unique tilt-up design provides easy, unhindered access to the sample holder and platen, and eliminates the need to reposition the head during the preparation procedure.

### **Power Head Features:**

- Pneumatic system to control sample force
- Unique tilt-up feature for easy access to platen and holder
- Individual force sample preparation of up to four (4) samples
- Variable individual sample force: 0-12 lb. in 1 lb. increments (0-55 N in 1 N increments)
- 0.33 HP (250 W) motor with durable reduction gearbox for constant high-torque output
- Variable sample rotation speed: 0-150 RPM (10 RPM increments) with complementary rotation
- Simple push-button attachment and removal of sample holders
- Quick-lock system to allow sample holder positioning across platen radius
- Compatible with #5-37XX series sample holders



*PH-4i™ individual force configuration: four (4) individual pistons apply force to each mount (1.5" mounts shown).*



*Simple push-button allows easy attachment and removal of sample holders.*

## Individual Force Holders

Individual force holders allow one or more samples to be prepared simultaneously. The advantage of individual preparation is that it allows removal of any number of samples from the grinding/polishing operation without affecting balance of the system. It is also ideal for applications where small geometry and site-specific cross-section requirements make alignment of more than three (3) samples to a common plane extremely challenging.

### Single Diameter Mount



Mount Diameter	PH-4i™ (4 position)
1" / 25 mm	5-3735
30 mm	5-3740
1.25"	5-3745
1.5"	5-3750
40 mm	5-3755
50 mm	5-3760
2"	5-3765

### Variable Diameter Mount

This individual force holder utilizes spacer rings for specific diameter mounts. Rings can be mixed or matched for maximum versatility. **Rings are sold separately.**



Holder	PH-4i™ (4 position)
<b>Holder</b>	<b>5-3700</b>
1" / 25 mm Ring	5-3X35-50
30 mm Ring	5-3X40-50
1.25" Ring	5-3X45-50
1.5" Ring	5-3X50-50
40 mm Ring	5-3X55-50

## Platen Storage Cabinet



This durable aluminum cabinet accommodates up to 10 aluminum trays/shelves (reversible) for storage of platens, discs or cloths up to 12" (305 mm) diameter. The hinged, clear plastic door with magnetic lock prevents dust contamination. Five (5) trays are included.

Item	Description
5-8100	Platen Storage Cabinet
5-8105	Aluminum Tray / Shelf

## Recirculating System



The recirculating filtration system allows up to 3-stage filtering down to 2 microns and is mounted in a durable cabinet that supports Allied grinding/polishing machines. The environmentally friendly filtration system saves up to 1/2 gallon of water per minute with quick-change filters. System includes cabinet/stand, roll-out reservoir with 7-gallon (26.5 L) capacity and pull-out storage drawer.

Item	Description
100-40020	Recirculating Filtration System, with Grinder/Polisher Control

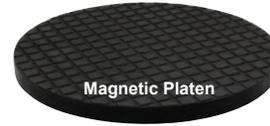
## Standard Platens



Standard aluminum platens are precision lapped parallel, then hard anodized for maximum wear resistance. They are used with adhesive backed discs, double sided adhesive discs and paper holding bands, or when converting to a magnetic platen using magnetic bases.

Item	Description
5-2005	8" (203 mm)
5-6010	10" (254 mm)

## Magnetic Platens



Magnetic platens combine a standard aluminum platen with a cross-hatched magnetic surface for maximum flatness and adherence. Only one platen is needed throughout the grinding and polishing process, allowing all magnetic system cloths/abrasive discs or ferromagnetic discs to be utilized.

Item	Description
5-2005M	8" (203 mm)
5-6010M	10" (254 mm)

## Disc Holding Bands



Disc holding bands are made of anodized aluminum and secure plain back discs to a standard platen. A protrusion around the top of the band allows variable sized discs ( $\pm 3$  mm) to be secured.

Item	Description
125-10011	8" (203 mm)
125-10012	10" (254 mm)

## Ferromagnetic Support Discs



These reusable ferromagnetic stainless steel discs feature a nonslip backing and allow adhesive backed cloths/abrasive discs to be changed quickly and easily when using magnetic platens.

Item	Description
55-51000	8" (203 mm)
55-51002	10" (254 mm)

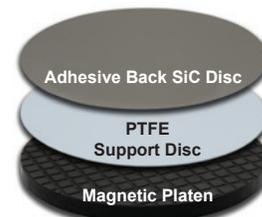
## Double Sided Adhesive Discs (Pk/10)



Double sided adhesive discs are adhered to a standard platen and used to secure plain back silicon carbide abrasive discs. Each provides 25-75 disc pulls depending on grit size, cycle time and force.

Item	Description
52-10005	8" (203 mm)
52-10003	10" (254 mm)

## PTFE Ferromagnetic Support Discs



These reusable, durable discs combine a PTFE surface with a ferromagnetic stainless steel substrate. This allows adhesive backed abrasive discs/polishing cloths to be easily removed after use without any adhesive transfer. The nonslip backing keeps the disc in place even for coarse grinding applications.

Item	Description
55-52000	8" (203 mm)
55-52002	10" (254 mm)

## AD-5™ Fluid Dispenser

The **AD-5™** fluid dispenser provides automatic, unattended application of abrasive polishing solutions and lubricants. All functions are programmed using the touchpad switches on its faceplate. Intuitive menu navigation and simple logic programming make the dispenser easy to use.

Timed, volume-controlled, variable frequency dispensing delivers reproducible results by eliminating inconsistencies between operators. This increases productivity and efficiency, while reducing consumables usage.

The AD-5™ features five (5) dispensing positions, two of which include high speed pumps with a flush cycle to prevent clogging when using colloidal suspensions.

**The AD-5™ is used with the E-Prep 4x™ as a standalone system.**

### Features:

- Five (5) dispensing positions, 16 oz. (500 mL) capacity
- User-defined menu labeling (abrasive type & size, lubricant, cloth, material, and menu name)
- Pump reverse after cycle to prevent dripping/contamination
- Pulse duration: 0.5-6 seconds (0.5 second increments)
- Pulse frequency: 1-10 per minute
- In-cycle priming that allows temporary “full rate” dispensing onto polishing surface
- One-touch priming function for quick, initial charging of new cloths
- One-touch activation independent of menu for simple operation
- Pre-start charging of new/dry polishing cloths
- Allows dispensing of colloidal suspensions (silica, silica/alumina and alumina) with rinse flush function to avoid clogging
- Two (2) positions with high-speed pumps for oxide polishing
- 25 programmable menus
- Touchpad switches to control all functions
- Backlit 4-line LCD
- **CE** compliant for EU
- Two (2) year warranty
- Designed & manufactured by Allied in the USA

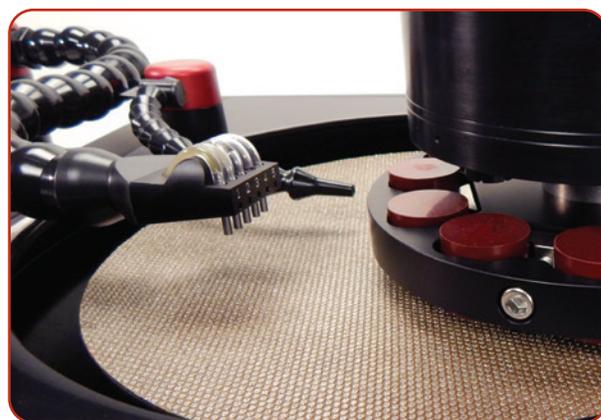


*E-Prep 4x™ / PH-4i™ System with AD-5™ Fluid Dispenser*

Item	Description
5-7100	AD-5™, 100-240 V



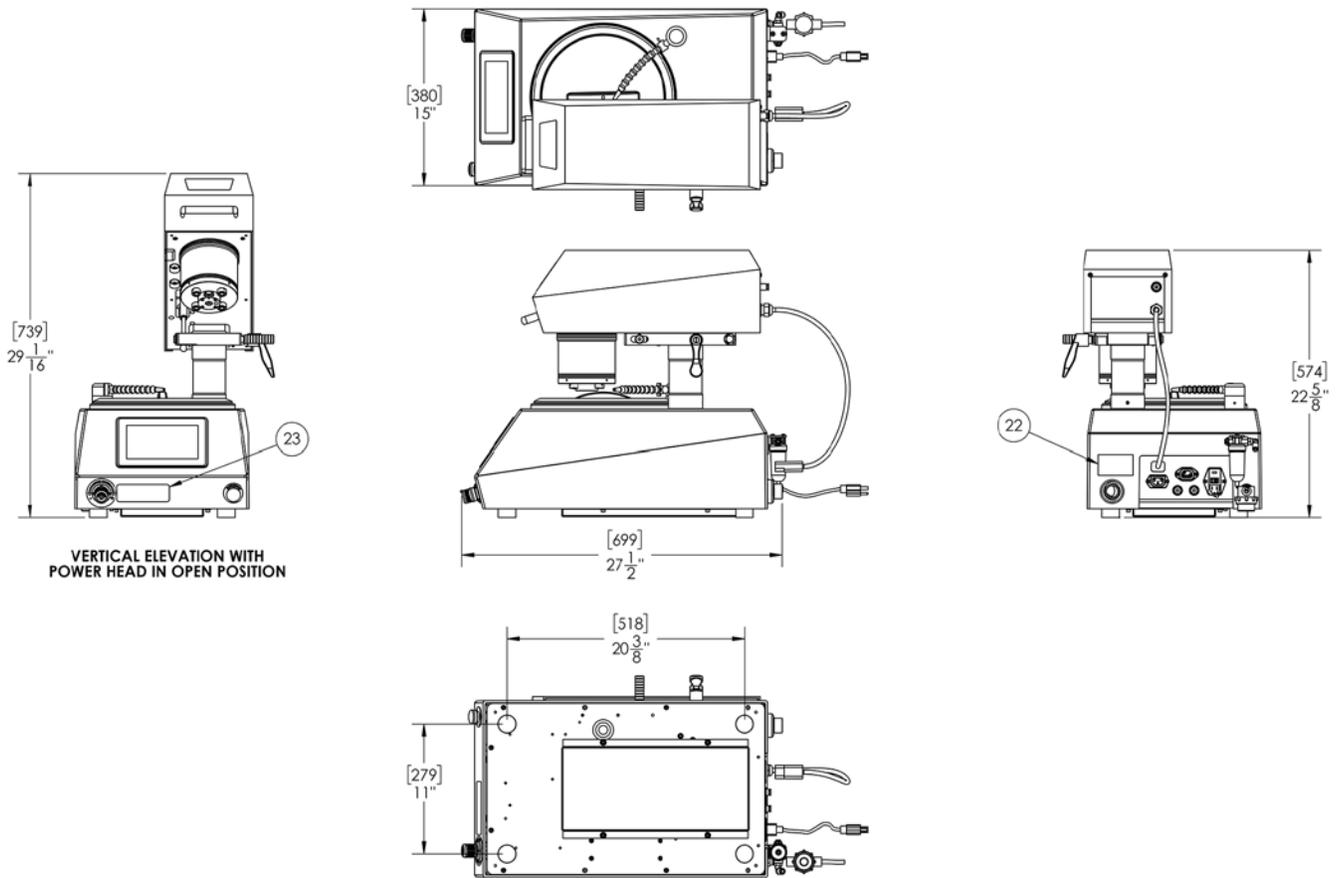
*25 programmable menus*



*Convenient pivoting arm with nozzle design featuring stainless steel tips that are easily removed for cleaning.*



# Dimensions



## Grinder/Polisher Specifications

<b>Voltage</b>	100 – 240
<b>Platen RPM</b>	50 – 500
<b>Power (HP)</b>	0.6
<b>Power (W)</b>	470
<b>Cycle Time</b>	0:05 seconds – 10 minutes
<b>Electronics</b>	Microprocessor-based
<b>Display</b>	7" LCD touchscreen - imperial or metric units
<b>Safety</b>	Emergency stop on polisher
<b>Weight</b>	125 lbs. (57 kg)

## Power Head Specifications

<b>RPM</b>	0-150
<b>Power (HP)</b>	0.33
<b>Power (W)</b>	250
<b>No. of Samples</b>	1-4
<b>Force (LbF)</b>	0-12
<b>Force (N)</b>	0-55
<b>Mount Size Capacity</b>	2" (51 mm)

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Brochure #: EP4x-V2.0

Equipment is subject to change due to innovations/improvements at any time.



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