



**MetPrep 4™**  
GRINDING / POLISHING SYSTEMS

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

Quality Products for Metallographic Sample Preparation & Analysis

The **MetPrep 4™** grinding and polishing machines, with PH™ power heads, are powerful systems for semiautomatic operation, ideal for low to high volume sample preparation requirements. Two combinations provide ideal solutions that accommodate any lab, application or material.

A "Procedure Development" mode allows in-process adjustments to platen speed, sample force and sample rotation speed to determine optimum parameters. Jog mode enables convenient variable speed platen rotation without activating the power head to allow initial charging of cloths or manual grinding/polishing.

Either standard or magnetic 10"/254 mm or 12"/305 mm platens may be used with any plain/adhesive backed or magnetic system disc.

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




MetPrep 4™ / PH-4™ System

Item	Description
5-6500	MetPrep 4™ / PH-4™, 115 V
5-6600	MetPrep 4™ / PH-6™, 115 V
5-6500-230	MetPrep 4™ / PH-4™, 230 V
5-6600-230	MetPrep 4™ / PH-6™, 230 V

## Intuitive Menu Navigation

### Features:

- Touchpad switches to control all functions
- Backlit 4-line LCD
- Sturdy aluminum and stainless steel construction
- Variable platen and jog speed in 10 RPM increments
- Powerful 3 phase AC motors
- Variable cycle time: 0-120 minutes (15 second increments)
- Seamless integration with optional AD-5™ Fluid Dispenser for automatic operation
- Overflow diversion to protect internal components
- Quick-change platen design, anodized to resist wear and corrosion
- Electronic coolant control with adjustable flow control valve
- Bowl flush to prevent debris buildup
- Emergency shut-off switch
- **CE** compliant for EU
- Two (2) year warranty
- Designed and manufactured by Allied in the USA 



Intuitive menu navigation with user-friendly touchpad interface and backlit LCD make the machines easy to use and program. The microprocessor based system allows up to 25 programmable steps, including parameters for platen speed, comp/contra rotation (sample holder/platen), cycle time, fluid selection, sample force (LbF or N), sample rotation speed, water rinse and force reduction (on/off, %).

## PH-4™ / PH-6™ Power Heads

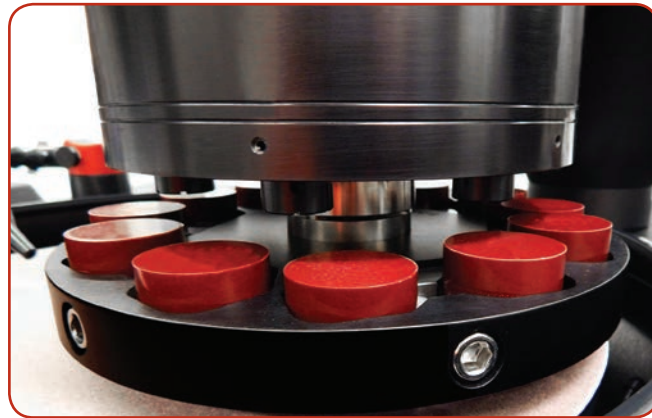


*Unique tilt-up feature allows easy access to platen and holder.*

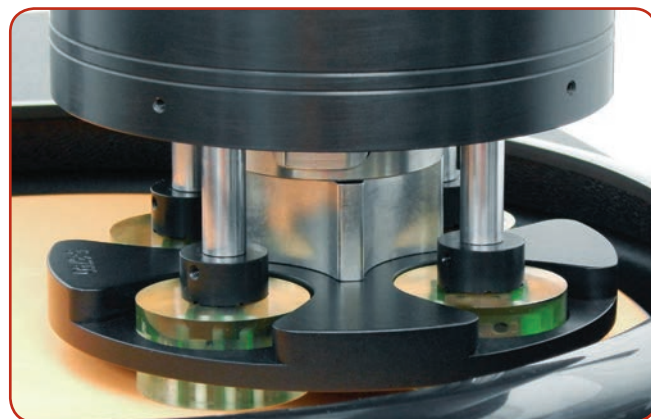
The **PH-4™** and **PH-6™** power heads offer maximum versatility for low to high volume semiautomatic sample preparation, using either central or individual sample force modes. The pneumatic-electric systems provide controlled sample force and allow up to twelve (12) samples to be prepared simultaneously, depending on power head, mount diameter and holder size. The unique tilt-up design allows easy, unhindered access to the sample holder and platen, and eliminates the need to reposition the head during the preparation procedure.

### **Features:**

- Soft-start/stop force control
- 0.25 HP (190 W) motor with durable reduction gearbox for constant high torque output
- Variable rotation speed: 0-150 RPM (10 RPM increments)
- Unique tilt-up feature for easy access to platen and holder
- Safety sensor that stops operation if power head is tilted up
- Simple push-button attachment and removal of sample holders
- Quick-lock system to allow sample holder positioning across entire platen surface
- Comp and contra rotation



*PH-6™ central force configuration: one (1) central piston applies force to up to twelve (12) mounts (1.25" mounts shown).*



*PH-4™ 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-4™ (4 position)	PH-6™ (6 position)
1" / 25 mm	5-3735	5-3935
30 mm	5-3740	5-3940
1.25"	5-3745	5-3945
1.5"	5-3750	5-3950
40 mm	5-3755	5-3955
50 mm	5-3760	5-3960
2"	5-3765	5-3965

### Variable Diameter Mount

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

The four (4) and six (6) position holders are used with the PH-4™ and PH-6™ power heads, respectively, both featuring 50 mm openings. **Rings are sold separately.**



	PH-4™ (4 position)	PH-6™ (6 position)
<b>Holder</b>	<b>5-3700</b>	<b>5-3900</b>
1" / 25 mm Ring	5-3X35-50	5-3X35-50
30 mm Ring	5-3X40-50	5-3X40-50
1.25" Ring	5-3X45-50	5-3X45-50
1.5" Ring	5-3X50-50	5-3X50-50
40 mm Ring	5-3X55-50	5-3X55-50

## Central Force Holders

Central force holders secure mounts/samples on a common plane. A minimum of three (3) samples must be prepared at once for balance. **Custom shapes and sizes available.**

**Teardrop holders** allow flexibility in the shape and size of the sample that can be held. A setscrew secures each sample.

**Dual-cavity holders** feature a single tightening point, which is useful for rapid insertion and removal of either one or two round or irregular shaped specimens per cavity.



Teardrop

Sample Loading/Unloading Fixture  
(shown with 5-3461 sample holder)

Dual-Cavity

### 140 mm Diameter, for 8", 10" or 12" Platens

Item	Description
5-3301	Continuous Surface, for Wax or Tape, w/ Heating Stage
5-3330	(6) 25 mm - 1.25" Samples, Teardrop
5-3340	(5) 25 - 40 mm Samples, Teardrop
5-3345	(3) 25 - 40 mm Samples, Teardrop
5-3361	(6) 25 mm - 1.25" Samples, Dual-Cavity
5-3380	Sample Loading/Unloading Fixture, for 5-33XX Series

### 160 mm Diameter, for 10" or 12" Platens

Item	Description
5-3401	Continuous Surface, for Wax or Tape, w/ Heating Stage
5-3435	(6) 25 mm - 1.5" Samples, Teardrop
5-3440	(3) 25 mm - 2" Samples, Teardrop
5-3445	(9) 25 - 1.25" Samples, Teardrop
5-3460	(8) 25 mm - 1.25" Samples, Dual-Cavity
5-3461	(6) 30 - 40 mm Samples, Dual-Cavity
5-3466	(3) 1.25" x 2" (32 x 51 mm) Capacity, Clamp Style
5-3490	(5) 1.2" x 2.1" (30 x 53 mm) Rectangles
5-3491	(3) 1.6" x 2.7" (40 x 68 mm) Rectangles
5-3494	(3) 2" x 2" (51 x 51 mm) Squares
5-3480	Sample Loading/Unloading Fixture, for 5-34XX Series

### 200 mm Diameter, for 12" Platens

Item	Description
5-3601	Continuous Surface, for Wax or Tape, w/ Heating Stage
5-3605	(12) 25 mm - 1.25" Samples, Dual-Cavity
5-3635	(6) 25 mm - 2" Samples, Teardrop
5-3650	(3) 2.1" - 3.7" (53 x 94 mm) Rectangles
5-3661	(8) 30 mm - 40 mm Samples, Dual-Cavity
5-3662	(6) 1.5" - 2" Samples, Dual-Cavity
5-3680	Sample Loading/Unloading Fixture, for 5-36XX Series

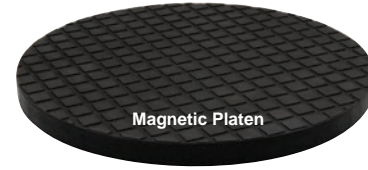
## Standard Platens



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
5-6010	10" (254 mm)
5-6005	12" (305 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
5-6010M	10" (254 mm)
5-6005M	12" (305mm)

## Platen Storage Cabinet



*Both cabinets shown with doors removed for visual clarity*

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
	Dims: 14" W x 14" D x 14" H (355 x 355 x 355 mm) Weight: 35 lb. (16 kg)

Item	Description
5-8105	Aluminum Tray / Shelf

## Mount Storage Cabinet



This cabinet provides storage for polished mounts to prevent corrosion and dust contamination. The 10 cloth-lined drawers absorb moisture and hold mount dividers for easy organization. The locking door provides a sealed environment. A rechargeable desiccant canister is included. **Dividers are sold separately.**

Item	Description
30-8000	Mount Storage Cabinet
	Dims: 19" W x 19" D x 19" H (483 x 483 x 483 mm) Weight: 85 lb. (39 kg)

Item	Description
30-8005	Mount Divider, (144) 1" or 25 mm diameter
30-8010	Mount Divider, (100) 1.25" or 30 mm diameter
30-8015	Mount Divider, (61) 1.5" or 40 mm diameter
30-8020	Mount Divider, (36) 2" or 50 mm diameter


## AD-5™ Fluid Dispenser

The **AD-5™** fluid dispenser provides automatic, unattended application of abrasive polishing suspensions and lubricants. Its functions are controlled through Allied's MetPrep 3™, MetPrep 4™, DualPrep 3™ or MultiPrep™ systems, and can also be used with **ANY** brand polishing machine as a standalone system.

Timed, volume-controlled, variable frequency dispensing delivers reproducible results by eliminating inconsistencies between operators. This increases productivity and efficiency, while reducing consumables usage. Intuitive menu navigation and simple logic programming make the dispenser easy to use.

The AD-5™ features five (5) dispensing positions, two of which include a flush cycle to prevent clogging when using colloidal suspensions. Peristaltic pump technology offers mist-free drip delivery to the polishing surface.

### Features:

- Five (5) dispensing positions, 16 oz. (500 mL) capacity; 128 oz. (3.8 L) adapter kit available
- User-defined menu labeling (abrasive type & size, lubricant, cloth, material, and menu name)
- Pump reverse after cycle to prevent dripping/contamination
- Remote function enabling seamless integration and automatic activation with Allied's grinding and polishing systems
- Local function to allow standalone operation with any grinder/polisher
- 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 



*MetPrep 4™/PH-4™ System with AD-5™ Fluid Dispenser*

Item	Description
5-7100	AD-5™, 100-240 V
	Dims: 8" W x 25" D x 9" H (203 x 635 x 228 mm)
	Weight: 28 lb. (13 kg)

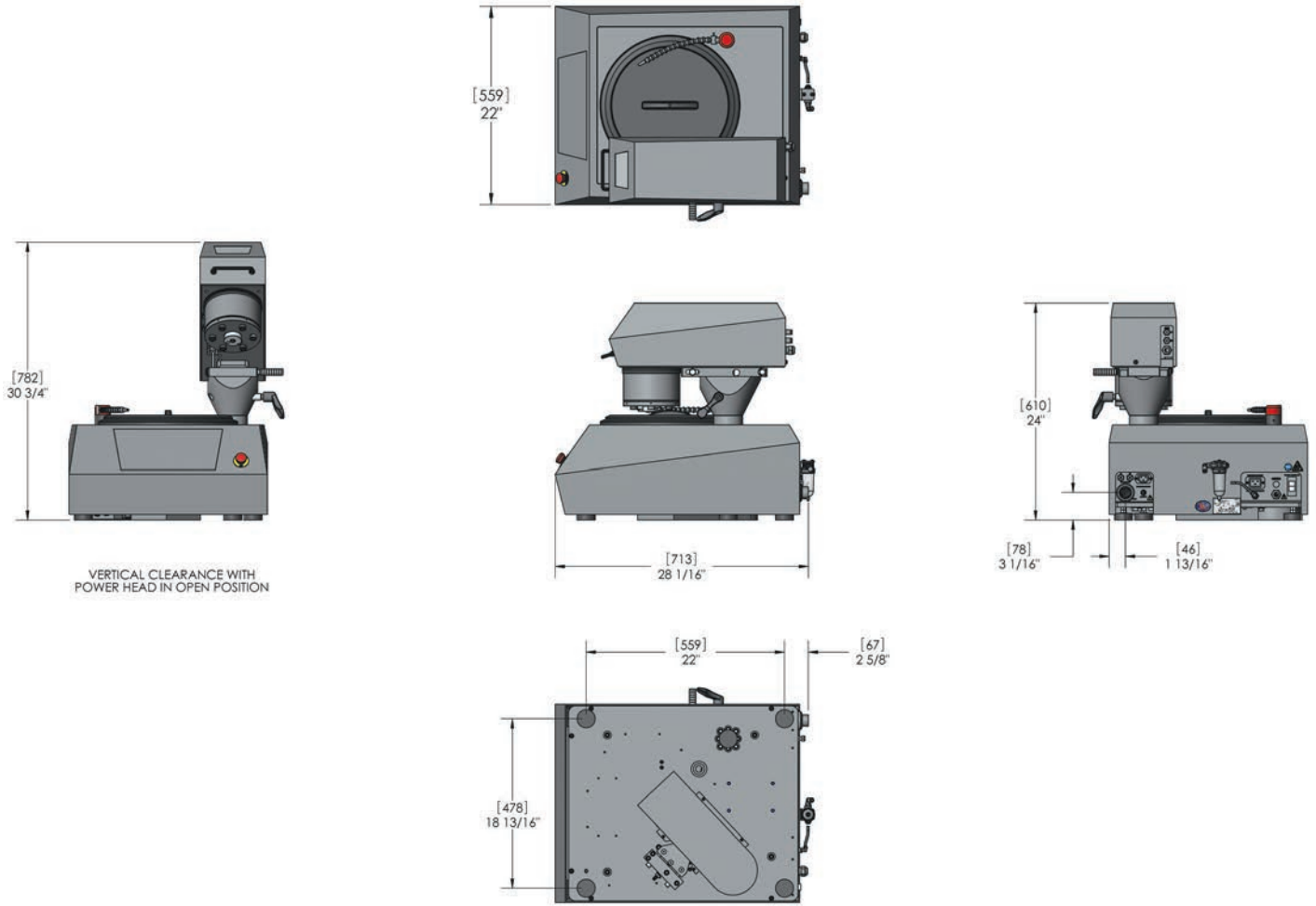


*25 programmable menus*



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

# Dimensions



VERTICAL CLEARANCE WITH POWER HEAD IN OPEN POSITION

## Grinder/Polisher Specifications

	115 V	230 V
<b>Voltage</b>	115 V	230 V
<b>Platen/Jog RPM</b>	50-400	40-600
<b>Power (HP)</b>	1.5	2
<b>Power (W)</b>	1100	1500

## Power Head Specifications

	PH-4™	PH-6™
<b>RPM</b>	0-150	
<b>Power (HP)</b>	0.25	
<b>Power (W)</b>	190	
	Individual Force	
<b>No. of Samples</b>	1-4	1-6
<b>Force (LbF)</b>	0-22	0-22
<b>Force (N)</b>	0-96	0-96
<b>Mount Size Capacity</b>	2" (51 mm)	2" (51 mm)
	Central Force	
<b>No. of Samples</b>	3-12	3-12
<b>Force (LbF)</b>	5-90	5-90
<b>Force (N)</b>	22-394	22-394

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



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