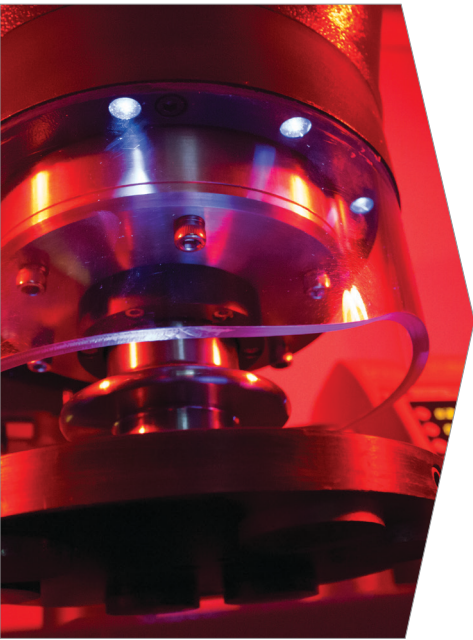
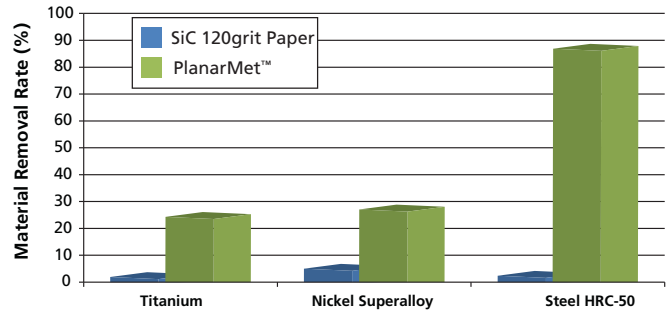


# PlanarMet™ 300

Planar Grinder

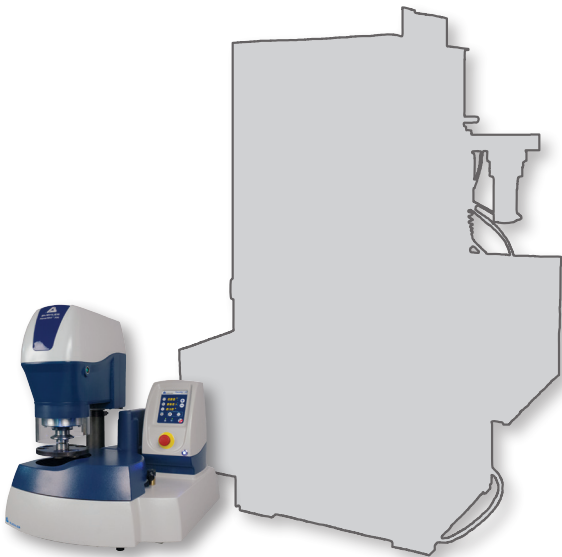
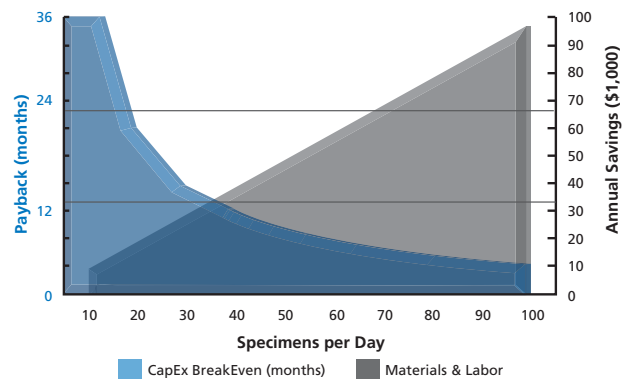


**Fast...**  
 Up to **10x faster** than grinding with  
 SiC paper



**Accurate...**  
 Programmable grinding depth in  
 increments of **0.1mm**

**Convenient...**  
 Three grinding steps to a **single step**  
 without changing paper!



**Compact...**  
 All the power of a large, floor-standing  
 model in a space-saving, bench top design

# PlanarMet™ 300 Planar Grinder

The PlanarMet 300 bench top planar grinder utilizes a fixed, 12in [305mm] abrasive stone for rapid sample grinding and accommodates up to 10 specimens at a time. With direct integration with the EcoMet™/AutoMet™ Grinder-Polisher, this stone grinder features a high torque, continuous duty motor with integrated auto wheel dressing, compact interlocking safety cover, and built-in cooling.

## Accurate Material Removal

- Two operational modes: timed cycle or material depth (Z-axis)
- Variable force and head rotation

## Consistent Results

- Auto dressing system ensures a fresh grinding surface
- Adjustable frequency and dressing depth

## Robust Cooling

- High water flow with unique manifold
- Keeps specimens cool to minimize sub-surface damage

## Convenient Set-up

- Change the grinding stone in minutes with the single-bolt design and auto homing
- No air or water connections required

## Safety

- Durable cast cover
- Magnetic interlock shuts off motors if cover is removed

## Compact & Powerful

- 5.7Hp motor allows aggressive material removal
- Space-saving bench top design
- Direct integration to grinder-polishers



## At a Glance

- Fast and efficient grinding with high flatness and maximum edge retention
- Creates a high-quality, plane surface to move directly to polishing steps with ease
- Designed for convenience with a self-calibrating auto-dressing system and easy stone change
- Side-by-side use with EcoMet/AutoMet for direct specimen holder integration
- All of these benefits in a compact bench top design

# PlanarMet™ 300 Application Advantages

## Direct integration with EcoMet™/AutoMet™

Compact bench top design enables the PlanarMet 300 to sit side-by-side with the EcoMet/AutoMet Grinder-Polisher.

The PlanarMet 300 uses the same central force specimen holders as the EcoMet/AutoMet Grinder-Polisher, allowing additional preparation steps to be completed without transferring to a new holder.

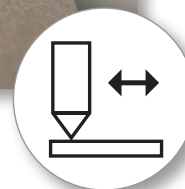
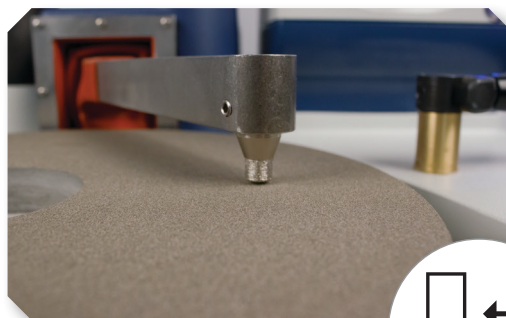


## Auto Dressing

The built-in dressing system ensures consistent grinding by providing a fresh, flat grinding surface.

A metal-matrix diamond dressing stick moves across the stone while it is grinding to remove embedded material, and provide a new abrasive surface. Self calibrates when changing stones using the auto homing feature.

Once programmed, the dressing system will automatically dress the stone during each grinding cycle, and thereafter at an adjustable frequency and depth.



## Versatile Programmability

A simple control panel displays all input parameters. Quickly choose between a timed cycle (10 seconds - 5 minutes) or the Z-axis mode for controlled material removal (0.1 - 3.0mm), set your head speed and direction, select your force and begin your grinding cycle.

The powerhead rotation speed and direction can be changed in order to fine tune the surface finish.

Force applied should be adjusted based on the number of specimens such that each specimen gets approximately (5-10 lbs [22-44N] per sample).

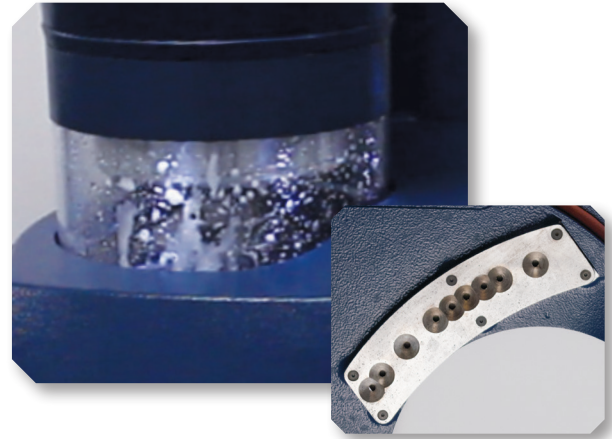


## Cooling System

Integrated cooling is accomplished by using either a recirculation tank or direct plumbing.

The PlanarMet™ 300 has a unique water manifold that directs water flow to ensure specimens stay cool throughout even the most aggressive grinding and minimize sub-surface damage.

When using a recirculation system, use a coolant that contains a rust inhibitor to prevent corrosion of grinding product.

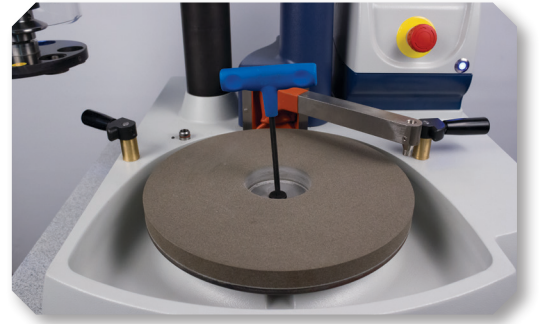


Water Manifold

## Quick Stone Change

The single-bolt design allows for quick and easy changing of the grinding stone. Simply remove the cover, use the provided allen key, and unscrew the center bolt.

Alignment pins on the drive plate ensure that the stone is centered and can be removed and replaced in the exact location.



## Stone Selection

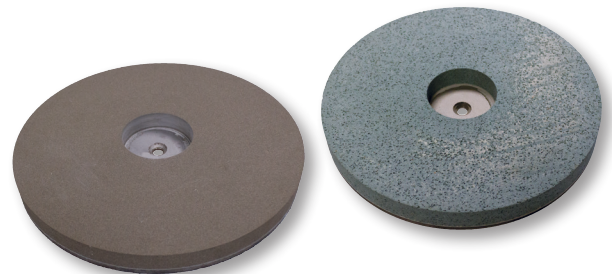
Select the fixed abrasive wheel that best suits the application.

### Aluminum Oxide Abrasive

Versatile abrasive recommended for both hard and soft materials and for extended wheel life. For grinding or cutting carbon steel, high speed steel, tool and die steel and other high alloy, high tensile strength materials.

### Silicon Carbide Abrasive

A very hard, sharp abrasive grain. Used in grinding of cast iron, aluminum, copper, bronze and non-metallic materials such as plastic and glass.



# Technical Specifications

## PlanarMet™ 300

- No compressed air or water hook-up needed
- Includes: Dressing Stick, Bowl Cover, Power Cord and Operating Instructions

(Does not include Recirculation Tank, Grinding Stone, Specimen Holders or Drive Adapters)

Part Number	Voltage/Frequency/Phase
49-10000-250	208-240VAC, 50Hz, 3-phase
49-10000-260	208-240VAC, 60Hz, 3-phase
49-10000-450	380-480VAC, 50Hz, 3-phase*
49-10000-460	380-480VAC, 60Hz, 3-phase*

\*High voltage must have Neutral connected.



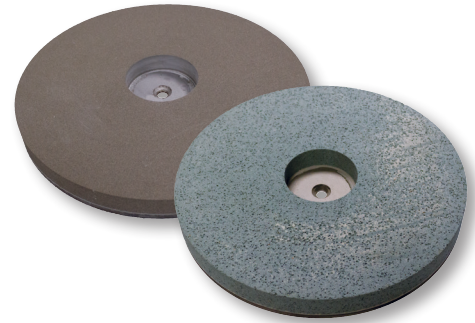
Specifications	PlanarMet™ 300
Grinding Stone Diameter	12in [305mm]
Grinding Stone Attachment	Center bolt - M8 thread, 5mm allen key
Maximum Specimen Holder Diameter	7.25in [184mm]
Control Interface	Membrane control
Dressing Stick	Metal matrix diamond
Amperage	7.6-13.2 amps
Wattage	5600W [5.6kW]
Motor Power for stone	Stone: 5.7Hp; Power Head: 0.75Hp
Sound rating	71dB
Operational Modes	Timed cycle or material depth (Z-axis) removal
Specimen Force Range	10-100 lbs [40-445N] in 5 lbs [20N] increments
Grinding Stone Rotation	Counter Clockwise (CCW)
Grinding Stone Rotation Speed	1600rpm
Power Head Rotation	Counter Clockwise (CCW) or Clockwise (CW)
Power Head Rotation Speed	60-150rpm in 10rpm increments
Material Removal Gauge (Z-axis)	0.1-3mm in 0.1mm increments
Dressing System	Automatic dressing
Dressing Frequency Range	10 seconds to 10 minute increments
Dressing Depth Range	10 - 50µm, 5 minute increments
Recirculation System	Recirculation pump - 12 or 22gal [45 or 83ℓ] tank options
Electrical Connection	Integrated 10 pin
Storage	Temperature ranges 41-104°F [5-40°C] and non-condensing humidity ranges (30-90%)

## Accessories & Consumables

### Grinding Stones

- 12in [305mm], 1in [25mm] thickness
- Used for ferrous and non-ferrous materials
- Multi-use disc with high removal
- 120grit [P120] Alumina or SiC

Part Number	Description
49-7280	Alumina Grinding Stone
49-7281	SiC Grinding Stone
49-100	Replacement Dressing Stick, Metal-Matrix Diamond



### Recirculation System


Recirculation tank on wheels for use with PlanarMet™ 300. Available in several power options and tank capacities.

Part Number	Capacity	Voltage/Frequency
56-0026	12gal [45ℓ]	200-240VAC, 50/60Hz
56-0027	12gal [45ℓ]	380-400VAC, 50/60Hz



## Central Force Specimen Holders

- Use with 60-9000 Drive Adapter
- Recommended use on PlanarMet 300 with minimum three, equally spaced specimens

Part Number	Style	Size	Capacity	Recommended Force	Loading Plate
60-5289	○	2in	3	15 - 30 lbs [66 - 133N]	 60-2412 60-2413 60-2414
60-5298	□	70 x 40mm	3		
60-5299	○	2in	5	30 - 60 lbs [133 - 266N]	
60-5296	△	2in or 50mm	5		
60-5245	□	2 x 1.38in [50 x 35mm]	5		
60-5297	□	55 x 30mm	5		
60-5283	○	1.5in	6		
60-5253	△	1.5in or 40mm	6		
60-5288	○	40mm	6	40 - 80 lbs [177 - 355N]	
60-5252	△	1.25in or 30mm	9		
60-5281	○	1in	10		
60-5282	○	1.25in	10		
60-5287	○	30mm	10		



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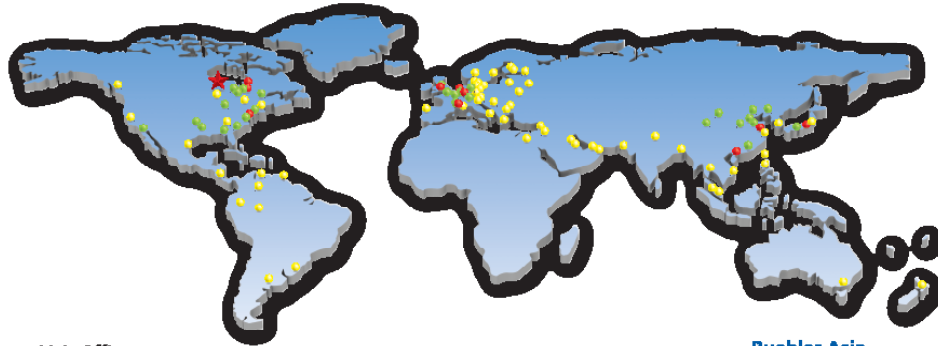
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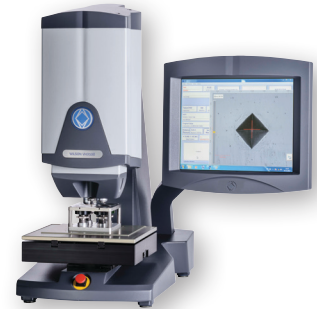
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Sample preparation equipment for sectioning, mounting, and grinding & polishing specimen material (usually cross sectioning) prior to microstructural inspection.



Metallographic consumables for sample preparation equipment including; abrasive wheels, precision blades, compression and castable mounting compounds, grinding surfaces like silicon carbide abrasive papers and diamond grinding discs, polishing cloths and polishing suspensions.



Imaging & analysis and hardness testing equipment including microscopes, digital imaging equipment and software, and hardness testers



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