

SECTIONING

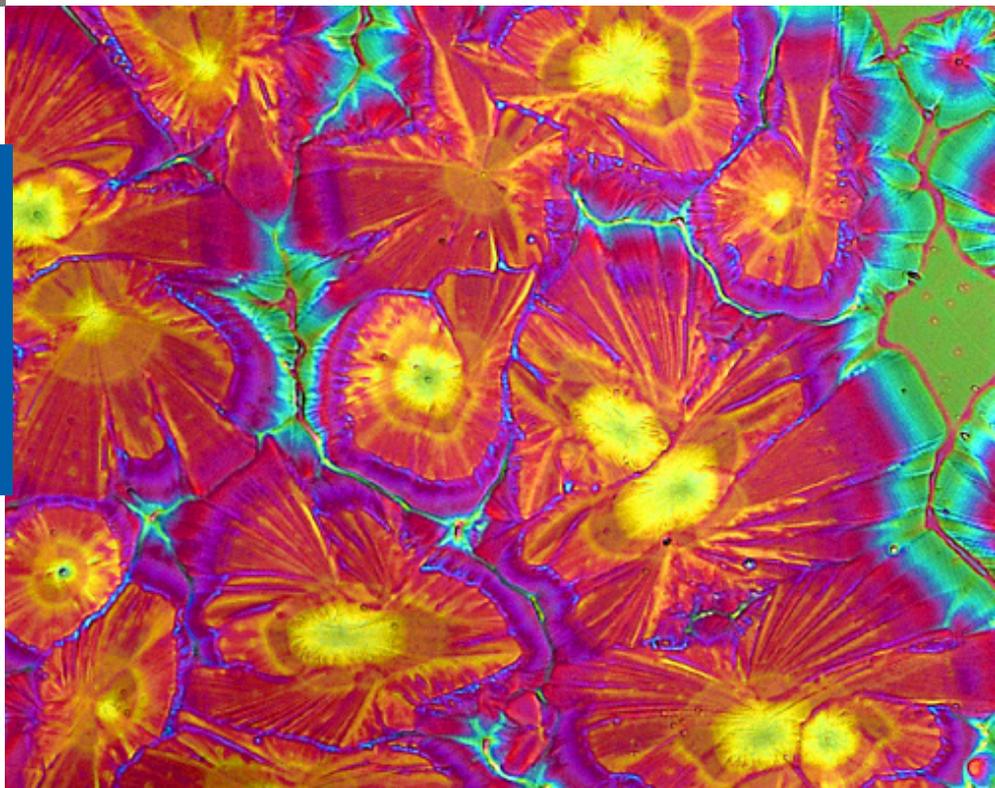
A full range of abrasive and precision saws, blades, and vises for cutting any material

Specimen preparation for microstructural examination starts with a quality cut. The proper equipment with firm and stable vising minimizes the depth of deformation on the sample surface. The abrasive and precision saws save time by limiting the number of steps needed to analyze samples after sectioning.

Featured Microstructure:

Surface of a 300nm BaTiO₃ thin film deposited by Molecular Beam Epitaxy on Silicon. The Fresnoite (Ba₂TiSi₂O₈) formed during deposition was imaged at 200x mag. under cross polarized light.

~ Angelika Bobrowski; Max-Planck Institut für Eisenforschung GmbH; Düsseldorf, Germany





Product Comparison

Abrasive Cutters

	AbrasiMet™ 250	AbrasiMatic™ 300	Delta Manual	Delta (Medium)	Delta (Large)
Wheel Diameter	10in [254mm]	12in [305mm]	14in [350mm]	12in [305mm] 14in [356mm]	16in [400mm] 18in [450mm]
Cut Types	Chop	Chop Y-Feed with Pulsing	Chop	Chop Orbital	Chop
Manual Movement	Z-axis	X-axis*, Y-axis, Z-axis	Z-axis		
Automated Movement		Y-axis		X-axis*, Z-axis	X-axis*, Z-axis
Maximum Part Size in Chamber	9 x 12 x 3.5in [229 x 305 x 89mm]	16 x 6 x 3.75in [406 x 152 x 95mm]	26 x 24 x 5in [660 x 610 x 127mm]	24 x 12 x 5.25in [609 x 305 x 133mm]	35 x 20 x 5.5in [889 x 508 x 140mm]
Cutting Capacity	3.5in** [89mm]	3.75in [95mm]	5.00in** [127mm]	5.25in [133mm]	5.5in [140mm]

*Optional Items

**Maximum cutting capacity assumes largest size blade with smallest flange.

Precision Cutters

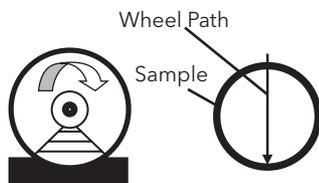
	IsoMet™ Low Speed	IsoMet™ 1000	IsoMet™ High Speed	IsoMet™ High Speed Pro	PetroThin™ Thin Sectioning System
Maximum Wheel Diameter	5in [127mm]	7in [178mm]	8in [203mm]	8in [203mm]	8in [203mm]
Cut Style	Gravity Fed	Gravity Fed	Y-Feed	Y-Feed	Manual
Sample Movement	X-axis, Z-axis	X-axis, Z-axis			X-axis, Z-axis
Wheel Movement			X-axis, Y-axis	X-axis, Y-axis and Z-axis	
Maximum Cutting Capacity**	1.77in [45mm]	2.5in [64mm]	2.8in [76mm]; 2 x 6.5 x 1in [51 x 165 x 25mm]	2.8in [76mm]; 2 x 6.5 x 1in [51 x 165 x 25mm]	Petrographic Glass Slides: 1.06 x 1.81in [27x46mm] or 3 x 1in [76.2 x 25.4mm]

**Maximum cutting capacity assumes largest size blade with smallest flange.

Cutting Style and Wheel Path

Chop Cutting

The traditional form of machine operation. Wheel contact arc is governed by sample size. Generally a struggle with large/difficult parts.



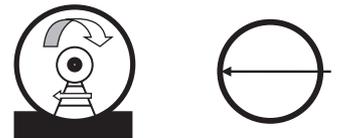
Chop Cutting with Pulsing

Wheel contact still governed by sample size. The pulsing action pauses the feed rate in short intervals enabling coolant to wash away swarf and dissipate heat.



Y-Feed Cut

The abrasive wheel is stationary and the cutting table moves forward completing a one time cut into the sample. Wheel contact arc is governed by sample size.



Y-Feed Cut with Pulsing

Wheel Contact arc is still governed by sample size. The pulsing action pauses the feed rate in short intervals enabling coolant to wash away swarf and dissipate heat.



Orbital

A chop cutting action with elliptical blade movement. Simpler and quicker in operation. Part size is irrelevant as the orbital action produces a minimum contact arc area during cutting.





Manual Abrasive Cutters

Controllable Cut Quality with Durable Machine Design

The manual feature provides user control of the cut quality. These durable machines are designed for both laboratory and industrial environments.

AbrasiMet™ 250

The AbrasiMet 250 is a bench top manual abrasive cutter. This cutter's simple design enables rapid sectioning of samples.



Allow for sectioning of parts with a 3.5in [88cm] diameter. (Varies based on part shape)

Part Number	Voltage
10-10106-260	200-240VAC, 60Hz
10-10106-460	440-480VAC, 60Hz
10-10106-250	200-240VAC, 50Hz
10-10106-400	380-400VAC, 50Hz

Dimensions: 28in [711mm]W x 29in [737mm]D x 32in [813mm]H open
22.5in [571mm]H closed

Weight: 300lb [136kg]

Delta Manual

The Delta Manual is a floor standing manual abrasive cutter. This cutter's large workspace and versatile viewing options enable simple, quick and easy positioning of samples for sectioning.

**Recirculation tank included*



Allow for sectioning of parts with a 5.25in [133mm] diameter. (Varies based on part shape)

Part Number	Voltage
10-2213EB-260	200-240VAC, 60Hz
10-2213EB-460	440-480VAC, 60Hz
10-2213EB-400	380-415VAC, 50Hz

Dimensions: 33in [838mm]W x 48in [1212mm]D x 81.5in [2070mm]H open
64in [1626mm]H closed

Weight: 800lb [365kg]

Accessories for Abrasive Manual Cutters

Delta Manual

10-2327 T-Slot Bed, 12mm, Y-axis Slots

See page 8 for vise with 12mm T-Nuts

See page 9 for compatible recirculating tanks



Automatic Abrasive Cutters

Highly Reproducible Results

Our Abrasive Automatic Cutters allow repeatable and consistent cuts with automatic cutting. They are able to cut samples quickly without compromising cut quality with minimal area contact methods.



AbrasiMatic™ 300

The AbrasiMatic 300 is a benchtop abrasive cutter that has both manual and automatic cutting capabilities. These capabilities provide versatility in sectioning to suit a wide variety of needs.

Flexibility for changing lab needs

- Best of both cutting methods with manual and automatic cutting
- Control and “feel” of the cut with the manual cutting in the Y and Z direction
- Allow for sectioning of parts with a 3.75in [95mm] diameter (varies based on part shape).

Two Axis Cutting

	Part Number	Voltage
Y & Z-axis	10-2190-260	200-240VAC, 60Hz
	10-2190-460	440-480VAC, 60Hz
	10-2190-250	200-240VAC, 50Hz
	10-2190-400	380-400VAC, 50Hz

Dimensions: 34in [864mm] x 27in [686mm] x 41in [1041mm] open
24in [610mm] closed
Weight: 350lb [165kg]

Simple setup for efficient cuts

- Quick vising and cut alignment with X-axis motion (optional)
- Simple user interface to program automatic cutting and set manual cutting
- Automatic cutting creates more time for critical activities
- Electric brake for user safety and quick part change

Three Axis Cutting

	Part Number	Voltage
X, Y & Z-axis	10-2193-260	200-240VAC, 60Hz
	10-2193-460	440-480VAC, 60Hz
	10-2193-250	200-240VAC, 50Hz
	10-2193-400	380-400VAC, 50Hz

Dimensions: 34in [864mm] x 27in [686mm] x 41in [1041mm] open
24in [610mm] closed
Weight: 350lb [165kg]

Simple Setup for Efficient Cuts

The Delta Orbital and Chop Cutters use automatic cutting that creates more time for critical activities. The cutter has an electrical brake for user safety and quick part change.

Delta Medium

The Delta Medium is a floor standing automatic chop and orbital cutter. This cutter increases productivity and reduces differences between operators with the selectable feed rate.



Allow for sectioning of parts with a 4.5in [114mm] diameter. (Varies based on part shape)

	Part Number	Voltage
Orbital	10-2219B-260	200-240VAC, 60Hz, 7.5Hp
	10-2219B-460	440-480VAC, 60Hz, 7.5Hp
	10-2219B-400	380-415VAC, 50Hz, 7.5Hp
Chop	10-2216B-260	200-240VAC, 60Hz, 7.5Hp
	10-2216B-460	440-480VAC, 60Hz, 7.5Hp
	10-2216B-400	380-415VAC, 50Hz, 7.5Hp

Dimensions: 29in [736mm]W x 31in [787mm]D x 73in [1854mm]H open
63in [1600mm]H closed

Weight: 800Lbs [365kg]

Delta Large

The Delta Large is a floor standing automatic chop and orbital cutter. This cutter reduces variability of sample quality with the programmable cuts.



Allow for sectioning of parts with a 5.25in [133mm] diameter. (Varies based on part shape)

	Part Number	Voltage
16in 10hp	10-2318B-260	200-240VAC, 60Hz
	10-2318B-460	440-480VAC, 60Hz
	10-2318B-400	380-415VAC, 50Hz

Dimensions: 46in [1168mm]W x 40in [1016mm]D x 73in [1854mm]H open
66in [1676mm]H closed

Weight: 880Lbs [400kg]

Accessories for Abrasive Automatic Cutters

AbrasiMatic 300

00-10096 Protective Film for
Touchscreen

See page 8 for vise with 12mm T-Nuts

See page 9 for compatible recirculating tanks

Delta Medium and Large Cutters

10-2227 T-Slot Bed, 12mm, Y-axis - Medium Only

10-2228 Base Cabinet, 1 door - Medium Only

10-2327 T-Slot Bed, 12mm, Y-axis - Large Only



Abrasive Cutter Vises Accessories

Single Piece Sliding Vises

Speed Clamping Vise



Size: Medium
Part Numbers: Left: 10-3544
 Right: 10-3545
Max Opening: 2.75" [70mm]
Clamping Plate: 3.2" x 1.4"
 [80 x 35mm]
T-Nuts: 12mm or 14mm



Size: Large
Part Numbers: Left: 10-3546
 Right: 10-3547
Max Opening: 7.3" [185mm]
Clamping Plate: 3.1" x 3.5"
 [78 x 89mm]
T-Nuts: 12mm or 14mm

MetKlamp VIII



Part Numbers: Left: 95-C1821
 Right: 95-C1822
Max Opening: 3.125" [80mm]
Clamping Plate: 1.75" x 2.25"
 [45 x 58mm]
T-Nuts: 12mm

Two Piece Sliding Vises

Sliding Vise Kit



Size: Medium
Part Numbers: Left: 10-3540
 Right: 10-3541
Clamping Plate: 2.36" x 3"
 [60 x 76 mm]
T-Nuts: 12mm*

Size: Large
Part Numbers: Left: 10-3542
 Right: 10-3543
Clamping Plate: 2.95" x 4.23"
 [74 x 107mm]
T-Nuts: 12mm*
 *14mm conversion kits are available
 (Medium: 10-3548 | Large: 10-3549)

MetKlamp VII



Part Numbers: Left: 10-2245
 Right: 10-2246
Clamping Plate: 2.3" x 3"
 [59 x 76mm]
T-Nuts: 14mm**
 **only for use on Delta cutters
 with 14mm T-slot bed

Vertical Clamping Vises

Vertical Clamping Kit



Size: Small
Part Numbers: 10-3531
Clamping Height: 2.3" [58mm]
Reach: 2.1" [54mm]
T-Nuts: 12mm

Size: Large
Part Numbers: 10-3523
Clamping Height: 4" [102mm]
Reach: 2.4" [61mm] + 3.5" [90mm]
 with extension (included)
T-Nuts: 12mm and 14mm

Riser Blocks

Small: 10-3532; 2.4" [60mm]
 Large: 10-3528; 2.9" [74mm]



Horizontal Clamp

T-Nuts: 12mm and 14mm
Part Number: 10-3526



Vee Block Clamp Kit

T-Nuts: 12mm and 14mm
Part Number: 10-3527



Adjustable Vee Blocks

T-Nuts: 12mm and 14mm
Part Number: 10-3525



Specialty Vises

Chain Clamping Kit



Application: For clamping very large or irregularly shaped samples
Part Number: 46-0030

Universal Clamping Kit



Application: For clamping very intricate samples
T-Nuts: 12mm
Part Number: 10-3570

PetroCut Vise Table & Rock Clamp Kit



Application: Converts the AbrasiMet 250 for petrographic cutting

Part Number: 10-10106-000
Description: PetroCut Vise Table & Rock Clamp Kit

Part Number: 10-10106-001
Description: Rock Clamp Kit

Fastener Vise



Application: For longitudinal sectioning of fasteners. Must be held by left hand sliding vise.

Max Opening: 1.6" [40.6mm]
Part Number: 95-C1702



See Vising Guide for More Information

Recirculating Systems



Recirculating System 7 gal [27L]

For AbrasiMet™ 250
20.25 W x 16.5 D x 16.75in H
515 W X 420 D X 426mm H

10-2165-260 [200-240VAC, 60Hz]
10-2165-460 [440-480VAC, 60Hz]
10-2165-250 [200-240VAC, 50Hz]
10-2165-400 [380-400VAC, 50Hz]



Recirculating System 22 gal [90L]

For AbrasiMatic 300 and Delta
Medium & Large cutters
26.5 W x 18.25 D x 26.5in H
674 W x 464 D x 674mm H
(22.5in [572mm]H w/o wheels)

10-2332-260 [200-240VAC, 60Hz]
10-2332-460 [440-480VAC, 60Hz]
10-2332-250 [200-240VAC, 50Hz]
10-2332-400 [380-400VAC, 50Hz]



Cool 3 Fluid

Water miscible fluid
concentrate. Dilute coolant to
1:25 to 2:25, with water.

10-6001 33.8oz [1L]
10-6004 1gal [4L]
10-6010 2.6gal [10L]



Base Cabinet

For AbrasiMet 250 and AbrasiMatic 300
36 W x 30 D x 36in H
[910 W x 760 D x 910mm H]

80-10001

Recirculating System

Part Numbers **Description**
560023 16 gal [60L] with filter for
AbrasiMet 250
24 W x 16 D x 22in H
610 W x 407 D x 559mm H
(18.5in [470mm]H w/o wheels)

Part Numbers **Description**
10-2431-400 42 gal [160L] with sloped
filter for AbrasiMatic 300
and Delta
30 W x 25.5 D x 24in H
762 W x 648 D x 610mm H



Diamond & CBN Blades for Abrasive Cutters

[Blade Thickness is listed under Part Number] 1.25in [32mm] Arbor (Qty 1)

Recommended Use	Blade Type	8in [200mm]	10in [250mm]	12in [300mm]	14in [350mm]	16in [400mm]
General Use	Diamond	114608E 0.047in [1.2mm]	114610E 0.051in [1.3mm]			
Hard Materials	Diamond	114808E 0.047in [1.2mm]	114810E 0.047in [1.2mm]	103056 0.055in [1.4mm]	114814E 0.059in [1.5mm]	104056 0.079in [2mm]
Ceramic and Petrographic samples	Diamond	114709E* 0.047in [1.2mm]	114710E 0.047in [1.2mm]	103053 0.087in [2.2mm]	114714E 0.059in [1.5mm]	
Plastics and Polymers	Diamond		102557 0.049in [1.25mm]			
General use, hardened steel, HRC55 and Up	CBN				103551 0.079in [2mm]	

* 230mm Ø

Visit www.buehler.com for ordering information.



Abrasive Cutter Consumables

Abrasive Blades



Buehler's Abrasive Blades are designed to provide high quality sectioning results with no burning and minimal surface deformation. This can reduce the amount of grinding & polishing required later in the preparation process.

Efficient Cutting with Extended Life

An abrasive blade wears down during cutting to expose new abrasive particles and maintain efficient cutting. However, too fast of a wear rate leads to shortened blade life. Buehler's blades have been designed to balance this wear rate to maintain efficient cutting while extending blade life.

Resin Bond vs Rubber Bond

Buehler's line of abrasive blades includes both rubber bonded and resin bonded blades. While both provide high quality cutting, there are some differences between them. Rubber bonded blades may be thinner for some applications, but emit a burnt rubber odor while cutting. Resin bonded blades offer similar performance with a reduced odor.

Abrasive Blades Selection, 1.25in [32mm] Arbor (Qty 10)

[Blade Thickness is listed under Part Number] **Rubber Bond = • Resin Bond = ***

Recommended Use	9in [230mm] Chop/Linear	10in [254mm] Chop/Linear	12in [305mm] Chop/Linear	12in [305mm] Orbital
Superalloys, General Steel, Non-Ferrous		12-4205-010• 0.055in [1.4mm]	12-4405-010• 0.055in [1.4mm]	12-4405-010• 0.055in [1.4mm]
Ferrous materials >HRC60	10-4110-010• 0.07in [1.8mm] 102309P* 0.06in [1.5mm]	10-4210-010• 0.07in [1.8mm] 102509P* 0.06in [1.5mm]	12-4110-010• 0.105in [2.7mm] 103009P* 0.079in [2mm]	12-4410-010• 0.105in [2.7mm]
Ferrous materials HRC50-60	10-4112-010• 0.07in [1.8mm] 102310P* 0.06in [1.5mm]	10-4212-010• 0.07in [1.8mm]	10-4412-010• 0.105in [2.7mm] 95B2302* 0.08in [2mm]	12-4410-010• 0.105in [2.7mm]
Ferrous materials HRC35-50	10-4116-010• 0.07in [1.8mm]	10-4216-010• 0.07in [1.8mm] 102510P* 0.06in [1.5mm]	12-4116-010• 0.105in [2.7mm] 103010P* 0.079in [2mm]	12-4416-010• 0.105in [2.7mm]
Ferrous materials HRC15-35	10-4120-010• 0.07in [1.8mm]	10-4220-010• 0.063in [1.6mm] 102511P* 0.06in [1.5mm]	12-4120-010• 0.105in [2.7mm] 103011P* 0.079in [2mm]	12-4420-010• 0.105in [2.7mm]
High Speed Steel, Stainless Steel, Carburized Steel	102308P* 0.06in [1.5mm]	102508P* 0.06in [1.5mm]	103008P* 0.079in [2mm]	
Delicate Cutting	10-4127-010• 0.032in [0.8mm]	10-4227-010• 0.032in [0.8mm]		
Titanium Alloys, Zirconium Alloys, Ductile Materials	10-4145-010• 0.063in [1.6mm] 102307P* 0.06in [1.5mm]	10-4245-010• 0.063in [1.6mm] 102507P* 0.06in [1.5mm]	12-4145-010• 0.055in [1.4mm] 103007P* 0.079in [2mm]	
Non-Ferrous Materials (Aluminum, Copper, Brass), Very Soft Ferrous Materials	10-4150-010• 0.063in [1.6mm]	10-4250-010• 0.063 in [1.6mm] 102512P* 0.06in [1.5mm]	103012P* 0.079in [2mm]	

AcuThin™ Blades



For certain applications, it is important to minimize the amount of damage done to the sample during sectioning. The AcuThin series offers thin blades that have been developed to minimize the area of cutting thus reducing the amount of damage to the sample. These blades utilize a rubber bond and allow for precise, delicate abrasive sectioning with minimal surface damage. [Blade Thickness is listed under Part Number]

Recommended Use	9in [230mm]	10in [254mm]	12in [305mm] Chop	14in [356mm] Chop
General Use <HRC45	102301 0.032in [0.8mm]	102501 0.04in [1mm]	10-4360-010 0.032in [0.8mm]	10-3501 0.063in [1.6mm]
Ferrous Materials >HRC45	10-4161-010 0.025in [0.635mm]	10-4261-010 0.025in [0.635mm]	10-4361-010 0.025in [0.635mm]	103502 0.105in [2.7mm]

Abrasive Blades Selection, 1.25in [32mm] Arbor (Qty 10)

[Blade Thickness is listed under Part Number] Rubber Bond = • Resin Bond = *

Recommended Use	14in [356mm] Chop/Linear	14in [356mm] Orbital	16in [406mm] Orbital	18in [455mm] Orbital
Superalloys, General Steel, Non-Ferrous	12-4305-010• 0.063in [1.6mm]	12-4305-010• 0.063in [1.6mm]	12-5605-010• 0.075in [1.9mm]	12-5805-010• 0.1in [2.5mm]
Ferrous materials >HRC60	10-4310-010• 0.075in [1.9mm] 103509P* 0.098in [2.5mm]	12-4310-010• 0.105in [2.7mm]	12-5610-010• 0.125in [3mm]	12-5810-010• 0.153in [3.8mm]
Ferrous materials HRC50-60	10-4312-010• 0.115in [2.9mm] 103509P* 0.098in [2.5mm]	12-4310-010• 0.105in [2.7mm]	12-5612-010• 0.125in [3mm]	12-5816-010• 0.153in [3.8mm]
Ferrous materials HRC35-50	12-4305-010• 0.063in [1.6mm] 103510P* 0.098in [2.5mm]	12-4316-010• 0.105in [2.7mm]	12-5616-010• 0.125in [3mm]	12-5816-010• 0.153in [3.8mm]
Ferrous materials HRC15-35	12-4305-010• 0.063in [1.6mm] 103511P* 0.098in [2.5mm]	12-4320-010• 0.105in [2.7mm]	12-5616-010• 0.125in [3mm]	12-5816-010• 0.153in [3.8mm]
High Speed Steel, Stainless Steel, Carburized Steel	103508P* 0.098in [2.5mm]			
Delicate Cutting				
Titanium Alloys, Zirconium Alloys, Ductile Materials	10-4345-010• 0.075in [1.9mm] 103507P* 0.098in [2.5mm]		12-5645-010• 0.075in [1.9mm]	12-5845-010• 0.1in [2.5mm]
Non-Ferrous Materials (Aluminum, Copper, Brass), Very Soft Ferrous Materials	10-4350-010• 0.105in [2.7mm] 103512P* 0.098in [2.5mm]			



See Blade Guide for More Information



Precision Cutters

Excellent Cut Quality for Delicate Samples

Sectioning tools capable of cutting virtually any material including metals, composites, cements, laminates, plastics, electronic devices and biomaterials.



IsoMet™ High Speed

The IsoMet High Speed and IsoMet High Speed Pro are benchtop precision cutters. These machines enable variety in sample preparation to best fit each sample process with automatic cutting capabilities. Quick sample placement or adjustments are achieved in seconds with the rapid rail and tool-less vising system. Sample capacity is 2.8in [71mm] diameter with blade speeds of 200-5000 RPM.

Additional IsoMet High Speed Pro Features

Automatic Dressing System

- Maintain consistent cut quality between and during cutting with the automatic dressing system.

Rapid Alignment Laser

- Minimize setup time by rapid visual alignment with the IsoMet High Speed Laser.

Precise Cut Alignment [Z-Axis]

- Align precise cuts quickly by using the 3 axis variable movement of the blade.

Model	Part Number	Voltage/Frequency
IsoMet™ High Speed Pro	11-2700	100 - 240VAC, 50-60Hz
IsoMet™ High Speed	11-2600	100 - 240VAC, 50-60Hz

Dimensions: 24in [609.6mm]W x 30in [762mm]D x 36in [914.4mm]H open
19in [482.6mm]H closed

Weight: 157lbs [71kg]

Precision with Flexibility

The IsoMet product family is capable of cutting with precision via a gravity fed or automatic movement. The IsoMet family provides great versatility in holding all types of sample shapes and configurations.

IsoMet™ 1000

The IsoMet 1000 is a precision sectioning saw is designed for cutting various types of materials with minimal deformation. Targeted for delicate parts by only using gravity fed force.

**6in diamond blade, 3in flanges, single saddle chuck and mount chuck included*



RPM ranges from 100-975 to provide cut quality for varied materials

Part Number	Voltage
11-2180	85-264VAC, 50/60Hz

Dimensions: 15.5in [394mm]W x 20.25in [514mm]D x 24.5in [622mm]H open
12in [305mm]H closed

Weight: 56lbs [25kg]

IsoMet™ Low Speed

The IsoMet Low Speed is a precision sectioning saw designed for cutting various types of materials with minimal deformation. Targeted for delicate parts by only using gravity fed force.

Includes 4in IsoMet Blade, assorted weights, dressing stick, IsoCut fluid, flanges and the following chucks: single saddle, irregular specimen and wafer



RPM ranges from 0-300 to provide cut quality for varied materials

Part Number	Voltage	Units
11-1280-160	115VAC, 50/60Hz	Inches
11-1280-170	115VAC, 50/60Hz	Millimeters
11-1280-250	230VAC, 50/60Hz	Millimeters

Dimensions: 10.5in [267mm]W x 12in [305mm]D x 25.5in [571mm]H

Weight: 25lbs [11.3kg]

Tips, Tricks & Techniques



For the best performance from your Precision Cutter System:

- Always tightly clamp your sample
- Use double saddle chucks for long parts such as rods
- Do not hand dress blades
- Mount spheres, unusual shapes and friable materials
- Use the largest flange for your blade and specimen
- Soft, gummy materials can build up on the blade during the cut and may require dressing while sectioning these materials.



Precision Cutter Accessories

IsoMet™ Low Speed Cutter Accessories

Goniometer



Positions specimen along 3 axis

[11-2381](#)

Manual Feed Control Dressing Chuck



Enables blade dressing without removing the sample fixture

[11-1196](#)

Splash Guard Kit



Prevents lubricant from splashing out of saw

[11-1199](#)

IsoMet™ Low Speed Cutter & 1000 Accessories

Swivel Arm Assembly



Swivels to position specimen cutting surface perpendicular to blade (replaces support arm provided with cutter)

[11-1181](#)

Bar & Tube Chuck



Securely holds end of a bar tube up to 2in [50mm] long and 0.5in [13mm] in diameter

[11-1184](#)

Wafer Chuck



Use mounting wax, 40-8150 or 40-8145 to glue specimens to wafer chuck
1.125 x 2in [29 x 51mm]

[11-1186](#)

Vacuum Chuck



Holds specimens mounted to glass slides to chuck with vacuum force

[11-1188](#)

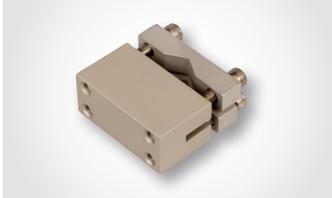
Small Bone Chuck



Ideal for clamping bone, plastics, or other semi-rigid solids up to 1.5in [32mm] in diameter

[11-1194](#)

Double Saddle Chuck



Small Double Saddle Chuck that securely holds specimen up to 0.875in [22mm] from 2 points

[11-1183](#)

Irregular Specimen Chuck



Adjusts to hold irregular shaped specimens up to 1in [25mm] in diameter

[11-1185](#)

Single Saddle Chuck



Holds specimens up to 0.75in [19mm] in diameter

[11-1187](#)

Mount Chuck



Aluminum chuck holds mounted samples
1-1.25in [25-32mm]

[11-1189](#)

IsoMet™ 1000 Accessories

Rotating Chuck Assembly



Rotates specimen chuck to increase the maximum cutting depth of the blade

[11-2181](#)

Table Saw Attachment



Transforms gravity fed IsoMet 1000 into convenient table saw

[11-2182](#)

800 gram Weight Set



Additional weights for gravity fed saws

[11-2183](#)

Goniometer



Positions specimen along 3 axis

[11-2185](#)

Table Saw Splash Guard



Catches splashing lubricant when used in conjunction with the Table Saw Attachment (11-2182)

[11-2186](#)

Fastener Chuck



Holds specimen from 0.96in [24.5mm] to 2in [50mm] for longitudinal sectioning

[11-2482](#)

Swivel Arm Accessory



Swivels to position specimen cutting surface perpendicular to blade *(replaces provided support arm)*

[11-2184](#)

Double Saddle Chuck



Large Double Saddle Chuck that securely holds specimen up to 1.5in [38mm] from 2 points

[11-2483](#)

Glass Slide Chuck



Holds 27 x 46mm, 1 x 2in, or 1 x 3in glass slides

[11-2484](#)

Wafer Chuck



Use mounting wax (40-8150) to glue specimens to wafer chuck 1.75 x 2.5in [44 x 64mm]

[11-2486](#)

Single Saddle Chuck



Medium Single Saddle Chuck holds up to 1in [25mm] specimen

[11-2487](#)

Glass Slide Chuck



Holds 2 x 3in glass slides

[11-2488](#)

Mount Chuck



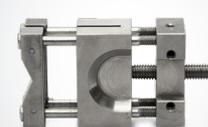
Holds mounted samples 1.5in [40mm]

[11-2489](#)



Precision Cutter Accessories

IsoMet™ High Speed Cutter Accessories

<p>Single Saddle Chuck</p>  <p>Large Single Saddle Chuck holds specimens up to 1.5in [38mm] from 2 point</p> <p>11-2661</p>	<p>Double Saddle Chuck</p>  <p>Securely holds specimens up to 1.5in [38mm] from 2 points</p> <p>11-2662</p>	<p>Mount Chuck</p>  <p>Stainless steel chuck holds mounted samples</p> <p>11-2666 1.25in [30mm] 11-2667 1.5in [40mm]</p>	<p>Fastener Chuck</p>  <p>Holds specimens from 0.04in [1mm] to 2in [50mm] for longitudinal sectioning</p> <p>11-2687</p>
<p>Large Bone Chuck</p>  <p>Ideal for clamping bone, plastics, or other semi-rigid specimens up to 2in [50mm] in diameter</p> <p>11-2494</p>	<p>T-Slot Bed</p>  <p>Additional T-slot for positioning vises</p> <p>11-2707</p>	<p>Sliding Vise</p>  <p>6in [152mm] maximum opening, use requires flange to be 2in [50mm] or less, requires T-slot bed</p> <p>11-2669</p>	<p>Rapid Rail Post</p>  <p>Use with Rapid Rail</p> <p>11-2660</p>
<p>Small Vertical Clamp</p>  <p>Clamps specimens up to 58mm in height</p> <p>460022</p>	<p>Irregular Specimen Chuck</p>  <p>Adjusts to hold irregular shaped specimens up to 1in [25mm] in diameter</p> <p>11-1185</p>	<p>Recirculating System 7gal [27L]</p>  <p>Increases cutting fluid capacity to 7gal [27L] at 1.25gal/min [4.7L/min] 16in [406mm]W x 20in [508mm]D x 15in [381mm]H</p> <p>11-2640</p>	

IsoMet™ Precision Cutter Flanges

	<p>Aluminum Flange Set</p> <p>11-1192 1.38in [35mm] 11-1191 1.75in [44mm] 11-2679 2.5in [64mm] 11-2282 3in [76mm] 11-2283 4in [102mm] 11-2284 5in [127mm]</p>		<p>Stainless Steel Flange Set</p> <p>11-2688* 3in [76mm] 11-2689* 4in [102mm]</p> <p><i>*Recommended for the IsoMet High Speed</i></p>
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Precision Cutter Consumables



Precision Sectioning Blades for IsoMet™ Cutters, 0.5in [12.7mm] Arbor (qty 1)

[Blade Thickness is listed under Part Number]

Use with Saws	3in [76mm]		4in [102mm]		5in [127mm]		6in [152mm]		7in [178mm]		8in [203mm]		Dressing Stick*
	All	All	All	All	All	All	1000 IsoMet High Speed Pro only						
IsoMet 30HC - Polymers Rubber, Soft Gummy Materials					11-4239 0.030in [0.76mm]				11-4241 0.03in [0.76mm]		11-4242 0.035in [0.9mm],		Blade should not be dressed
IsoMet 20HC - Aggressive Sectioning of Metals					11-4215 0.020in [0.5mm]				11-4237 0.025in [0.6mm]		11-4238 0.035in [0.9mm]		11-1190 11-2490
IsoMet 15HC - Metal Matrix Composite, PCBs, Bone, Ti, TSC	11-4243 0.006in [0.15mm]	11-4244 0.012in [0.3mm]	11-4245 0.015in [0.4mm]				11-4246 0.02in [0.5mm]		11-4247 0.025in [0.6mm]		11-4248 0.035in [0.9mm]		11-1190 11-2490
IsoMet 20LC - Hard tough Materials, Structural Ceramics					11-4225 0.02in [0.5mm]				11-4227 0.025in [0.6mm]		11-4228 0.035in [0.9mm]		11-1190 11-2490
IsoMet 15LC - Hard Brittle Materials, Glass, Al ₂ O ₃ , ZrO ₂ , Concrete	11-4253 0.006in [0.15mm]	11-4254 0.012in [0.3mm]	11-4255 0.015in [0.4mm]				11-4276 0.02in [0.5mm]		11-4277 0.025in [0.6mm]		11-4279 0.045in [1.1mm]		11-1190 11-2490
IsoMet 10LC - Medium to Soft Ceramics, Glass Fiber Reinforced Composites	11-4283 0.006in [0.15mm]		11-4285 0.015in [0.4mm]						11-4287 0.02in [0.5mm]		11-4288 0.045in [1.1mm]		11-1290
IsoMet 5LC - Soft, Friable Ceramics, Composites with Fine Reinforcing, CaF ₂ , MgF ₂ , Carbon Composites	11-4293 0.006in [0.15mm]		11-4295 0.015in [0.4mm]										11-1290
IsoCut™ CBN LC - Fe, Co, Ni based alloys and superalloys	11-4263 0.006in [0.15mm]	11-4264 0.012in [0.3mm]	11-4265 0.015in [0.4mm]				11-4266 0.02in [0.5mm]		11-4267 0.025in [0.6mm]		11-4268 0.035in [0.9mm]		11-1190 11-2490
IsoCut CBN HC - Fe, Co, Ni based alloys and superalloys		11-5264 0.012in [0.3mm]	11-5265 0.015in [0.4mm]				11-5266 0.02in [0.5mm]		11-5267 0.025in [0.6mm]		11-5268 0.035in [0.9mm]		11-1190 11-2490
Cup Grinder for Ceramic & Geological Materials (IsoMet 5000 only)													11-2740

* All Blades (Except 30HC) come with a Dressing Stick included. The Part Numbers shown in the table can be used for re-ordering the Dressing Sticks.



Precision Cutter Consumables



AcuThin™ Abrasive Blades for IsoMet™ Precision Cutters, 0.5in [12.7mm] Arbor (Qty 10)

[Blade Thickness is listed under Part Number]

Recommended Use	5in [127mm]	7in [178mm]	150mm	200mm
Use with Saws	IsoMet High Speed	IsoMet High Speed	IsoMet High Speed	IsoMet High Speed Pro Only
Tool Steel, hard steel, HRC45 & Up	10-4060-010 0.019in [0.48mm]			
Medium hard, soft steel, HRC45 & Below	10-4061-010 0.019in [0.48mm]			
Steel, Stainless Steel		11-4207-010 0.030in [0.76mm]		
Hard, soft non-ferrous materials		11-4217-010 0.030in [0.76mm]		
Soft materials			101520 0.50mm	102020 0.50mm
Tough materials and general use			1015998E 1mm	1020998E 1.5mm



IsoCut™ Fluid

Oil based coolant only for use with the IsoMet Low Speed Saw or any saw with a maximum speed of 500rpm

11-1193-032 1qt [0.95L]
11-1193-128 1gal [3.8L]



Glossy

Clear paste for keeping cutter windows clear

109003 2oz [60mL]



Reciclean™

Cleaner for recirculation systems

109004 1.25gal [4.75L]



Cool 3 Fluid

Water miscible fluid concentrate. Dilute coolant to 1:25 to 2:25, with water.

10-6001 33.8oz [1L]
10-6004 1gal [4L]
10-6010 2.6gal [10L]



Dressing Wheel

For IsoMet High Speed and High Speed Pro

11-2655 20 HC, 15HC, 20LC, 15LC, CBN HC, and CBN LC blades
11-2656 10 LC and 5LC blades



Dressing Sticks

11-1190 3 x 0.5 x 0.5in [76 x 13 x 13mm] for 20HC, 15HC, 20LC, 15LC, CBN LC and CBN HC precision blades

11-2490 3 x 1 x 1in [76 x 25 x 25mm] for 20HC, 15HC, 20LC, 15LC, CBN LC and CBN HC precision blades
11-1290 3 x 0.5 x 0.5in [76 x 13 x 13mm] for 10LC and 5LC precision blades



Petrography

Excellent cut quality for delicate samples

Buehler offers a complete solution for preparation of thin sections, bulk mounts, or as a powder such as mineral tailings. Each preparation method is dependent on the type of material and the examination method, and starts with proper sample sectioning and mounting.

PetroThin

The PetroThin Thin Sectioning System is a precise, easy-to-use instrument for re-sectioning and thinning a wide variety of samples, such as rocks and minerals, ceramics, concrete, bone, and teeth for performing materials characterization.



*8in diamond blade and an 8in diamond grinding cup included

Precise cut location control

- Two precision micrometers are used for controlling re-sectioning and thinning
- Precision of resections and grinds material within $\pm 5\mu\text{m}$

Increase accuracy and parallelism of samples

- To avoid the need to remove the glass slide between steps with a diamond cutting blade and a diamond grinding cup wheel
- Single spindle design ensures parallelism of sample by eliminating the need to remove the glass slide between steps

Part Number	Voltage/Frequency
38-1450-160	115VAC, 60Hz
38-1450-250	220VAC, 50Hz

Dimensions: 23.5in [597mm] x 19in [483mm] x 16in [406mm]

Weight: 94lbs [43kg]

PetroBond™ Thin Section Bonding Fixture



Assists in bonding specimens to glass slides, accurately controlling the thickness of the bonding media. Applies continuous pressure until sample has completely cured. Controls adhesive thickness by evenly distributing adhesive. Can hold up to 12 slides.

Part Number

38-1490

PetroVue™ Thin Section Viewer



Polarized light allows monitoring of thickness & uniformity of the specimen.

Part Number

30-8050-220

Voltage/Frequency

220VAC, 50/60Hz

PetroThin Consumables



Part Number	Description
11-4278	Continuous Rim Diamond Blade 8 x 0.045 x 1in [203 x 1 x 25mm]
40-4508	Diamond Cup Grinding Wheel 8 x 0.25 x 1in [203 x 6 x 25mm]
40-4510	Dressing Stick 0.5 x 0.5 x 4in [13 x 13 x 102mm]