

# **BUEHLER**<sup>®</sup>

## **Isomet<sup>®</sup> 1000**

### **PRECISION SECTIONING SAW**

- *Large Cutting Capacity with Optional 7' Blade*
- *Variable Speed up to 975 RPM*
- *Dual Triple-Digit LED Displays*
- *Digital Micrometer for Sample Positioning*
- *Inch or Millimeter Selectable*
- *Membrane Key Pad is Easily Wiped Down and Cleaned*
- *Built-In Circuit Protection*
- *CE Approved*
- *2-Year Warranty*



**BUEHLER**

  
**EMERSON**  
Industrial Automation

# Precision Sectioning Made Easy



*IsoMet 1000 Precision Saw with optional fixturing accessories.*

The first step to quality sample preparation is selecting the proper cutting method, one that will not introduce structural damage or defects to the area under analysis. The IsoMet® 1000 Precision Saw was designed for today's material analyst who demands sample integrity and rapid sectioning capabilities. This saw quickly sections a broad range of materials including:

- metals
- plastics
- biomaterials
- minerals
- ceramics
- composites
- rocks
- electronic components

### **Quality Sections**

A wide selection of chucks, fixtures, goniometers and rotating vises guarantee the proper fixturing of samples. The gravity feed loading design will not "force feed" the sample into the diamond wafering blade, minimizing sample deformation.

This design allows the IsoMet 1000 to achieve an as-cut surface which is as free as possible of damage and distortion.

The IsoMet 1000 can be set to turn itself off at a predetermined cutting depth or at the completion of the section.

### **Accessories Increase Versatility**

The IsoMet 1000 can be equipped with an optional rotating chuck which effectively reduces the blade-sample contact area and frictional heat for quickly sectioning hard materials. This accessory will dramatically reduce sectioning time.

When sample size prohibits the use of standard chucks, the optional cutting table can be installed for manually sectioning or trimming biomaterials or electronic components.

Improved cutting performance is achieved by selecting the proper wafering blade for the material. Buehler's

application-specific wafering blade match the material cutting needs to provide both minimal sectioning time and sample deformation.

### **Fully Enclosed Cutting**

The IsoMet 1000's cutting compartment is fully enclosed. The transparent cutting hood can be removed and replaced with the accessory Table Saw Attachment when sectioning larger samples that require a greater clearance.

The removable coolant tray is accessible from the front of the machine for fast cleaning and easy retrieval of cut samples. The coolant tray also incorporates the blade dressing device which rapidly dresses the diamond wheel while sample sectioning continues.

The IsoMet 1000 Precision Sectioning Saw offers increased versatility and power for sectioning today's advanced materials.



The 11-2181 Rotating/Oscillating Chuck Accessory is available for sectioning difficult materials.



The 11-2482 Fastener Chuck makes longitudinal bolt sections easy.



11-2484 Glass Slide Chuck holds petrographic samples for resectioning.



Weight arm and micrometer controls are conveniently located outside the cutting compartment.



Membrane touch-pad control panel and LED display allow operators to quickly set cutting parameters.



Dressing chuck is conveniently located within the coolant tray.



The 11-2182 Table Saw Attachment effectively sections or trims printed circuit boards or larger samples.

## Specifications

**No. 11-2180 IsoMet 1000 Precision Saw**, with automatic cut-off switch, counterbalanced sliding load weight system, 0-500gm, (0-800gm with accessory weight kit), built-in inch or metric digital micrometer cross-feed for sample location, removable coolant tray with built-in dressing device, 1/8 HP (90W) DC motor with variable arbor speed 0-975 rpm. Includes one No. 11-4276 Series 15LC diamond wafering blade 6" x 0.020" x 1/2" (152mm x 0.5mm x 12.7mm), 11-2282 3" (76mm) flanges, chucks No. 11-1184, 11-1185, 11-1186, 11-1187. Operating instructions. For worldwide operation on 85-264V/50-60Hz/single phase. Shipping weight: 75 lbs. (34kg). Dimensions: 15 1/2" W x 12" H x 21" D (394mm x 305mm x 533mm).

## Accessories

**No. 11-2181 Rotating/Oscillating Chuck**, for holding and rotating (5 rpm) samples up to 2" (50mm) in diameter  
**No. 11-1183 Chuck**, double hold-down saddle type. Prevents possible damage to specimen by holding section portion firmly after cutting is completed. Useful for larger samples and sheet stock.  
**No. 11-1184 Chuck**, for bar and tube stock up to 3/8" (10mm) in diameter  
**No. 11-1185 Chuck**, for irregular shaped samples  
**No. 11-1186 Chuck**, for wafers single crystals and thin sections  
**No. 11-1187 Chuck**, for long samples, saddle type  
**No. 11-1188 Chuck**, for petrographic and ceramographic thin-sections, vacuum type, to hold glass slide  
**No. 11-1189 Chuck**, for 1" (25mm) or 1 1/4" (32mm) diameter stock or mounted samples. This chuck requires use of one set of two No. 11-1192 Recessed Flanges.  
**No. 11-1190 Dressing Stick**, for dressing Series 15 and 20 wafering blades  
**No. 11-1290 Dressing Stick**, for dressing Series 5 and 10 wafering blades  
**No. 11-1191 Flange**, 1 3/4" (44mm) diameter, recessed, set of two for larger specimens and where greater depth of cut is required  
**No. 11-1192 Flange**, 1 3/8" (35mm) diameter, recessed, set of two for use with No. 11-1188 Chuck, with No. 11-1189 Chuck and where maximum depth of cut is required

**No. 11-2293-016 IsoCut® PLUS Cutting Fluid**, 1 pt. (0.48l)  
**No. 11-2182 Table Saw Attachment**, for hand-cutting stuffed PC boards, glass slides or bio-materials  
**No. 11-2183 Accessory Weight Set**, for increasing cutting load to 800gm  
**No. 11-2185 IsoMet 1000 Goniometer**  
**No. 11-2282 Flanges**, 3" (76mm) diameter, for greater depth of cut with larger diameter blades, set of 2  
**No. 11-2283 Flanges**, 4" (102mm) diameter, for additional blade support at higher speeds, set of 2  
**No. 11-2284 Flanges**, 5" (127mm) diameter, for additional blade support at higher speeds, set of 2  
**No. 11-2489 Specimen Chuck**, for 1 1/2" and 40mm mounted samples  
**No. 11-2482 Fastener Chuck**, for longitudinal sectioning of fasteners, tubes and solid cylinders from 1 1/8" to 2" (29mm - 50mm) in length  
**No. 11-2483 Double Saddle Chuck**, 1" (25mm) diameter capacity, prevents damage to specimen by holding sectioned portion firmly after cutting is completed  
**No. 11-2484 Glass Slide Chuck**, holds 27mm x 46mm standard glass slides for thin sections  
**No. 11-2488 Glass Slide Chuck**, holds 2" x 3" (51mm x 76mm) standard glass slides for thin sections  
**No. 11-2496 Chuck Padding**, applied to chucks for holding brittle or friable specimens, strips of 1" x 6" (25mm x 152mm) with adhesive backing resistant to cutting fluids

## Diamond Wafering Blades 1/2" (12.7mm) Arbor Type and Use

Blade Series	Diameter and Thickness				
	3" x 0.006" (75 x 0.2mm)	4" x 0.012" (100 x 0.3mm)	5" x 0.015" (125 x 0.4mm)	6" x 0.020" (150 x 0.5mm)	7" x 0.025" (180 x 0.6mm)
<b>Series 30HC Diamond</b> , for use with polymers, rubber, and other soft, gummy materials			11-4239**		11-4241**
<b>Series 20HC Diamond</b> , for aggressive general sectioning of ferrous and non-ferrous materials			11-4215*		11-4237*
<b>Series 15HC Diamond</b> , for routine use, metal matrix composites, PC boards, thermal spray coatings and titanium	11-4243	11-4244	11-4245	11-4246	11-4247
<b>Series 20LC Diamond</b> , for use with hard/tough materials, structural ceramics, boron carbide, boron nitride and silicon nitride			11-4225*		11-4227
<b>Series 15LC Diamond</b> , for use with hard/brittle materials, structural ceramics, electronic substrates, alumina, zirconia and silicon carbide	11-4253	11-4254	11-4255	11-4276	11-4277
<b>Series 10LC Diamond</b> , for use with medium to soft ceramics, electronic packages, GaAs, AlN and glass fiber reinforced composites	11-4283		11-4285		11-4287*
<b>Series 5LC Diamond</b> , for use with soft friable ceramics, composites with fine reinforcing media, CaF2, MgF2, and carbon composites	11-4298		11-4295		
<b>IsoCut Wafering Blades</b> A cubic boron nitride abrasive. IsoCut Wafering Blades work well for many materials, giving significantly shorter cutting times. For iron and cobalt base alloys, nickel base super alloys and lead base alloys	11-4263	11-4264	11-4265	11-4266	11-4267
<i>*Alternate blade thickness of 0.020" (0.5mm)</i>					<i>**Alternate blade thickness of 0.030" (0.8mm)</i>

For a complete listing of consumables, please refer to our Consumables Buyer's Guide. Buehler continuously makes product improvements; therefore, technical specifications are subject to change without notice.



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