

# BUEHLER®

## IroMet® Low Speed Saw PRECISION SECTIONING SAW

- *Low Deformation Cutting*
- *Automatic Operation*
- *5' (127mm) Blade Capacity*
- *Built-in Micrometer for Precision Sectioning*
- *Colored LED's Indicate Cutting or Complete Status*
- *Heavy-Duty Steel Housing Construction*
- *Large Front Dial Easily Adjusts Cutting Speeds*
- *Positive-Action Start/Stop Buttons with Audible Clicks*
- *Flat Front Panel is Easily Wiped Down and Cleaned*
- *5 Amp Re-settable Circuit Protection*
- *CE Approved*
- *2 Year Warranty*



**BUEHLER**



  
**EMERSON**  
Industrial Automation

# High Precision, Full Featured and Versatile



The IsoMet® Low Speed Saw is a precision sectioning saw designed for cutting various types of materials with minimal deformation. Its low kerf loss capability and great versatility in holding all types of sample shapes and configurations, gives today's laboratory a precision sectioning tool capable of cutting virtually any material including brittle or ductile metals, composites, cements, laminates, plastics, electronic devices, and biomaterials.

### **Minimal Sample Deformation**

The first step in many material preparation methods is the initial sectioning of the sample. During this step, it is important to avoid using methods or techniques that introduce excessive damage to the material being sectioned. The IsoMet Low Speed Saw minimizes the amount of induced sectioning damage through its design and operation.

Using relatively low speeds, (0-300 rpm), coupled with application specific continu-

ous rim diamond wafering blades, the IsoMet achieves an "as cut" surface which is generally free of damage and distortion. This means reduced preparation time in completing subsequent preparation steps.

### **Easy to Use**

Proven techniques that allow low deformation sectioning are incorporated into the IsoMet® Low Speed Saw design. These techniques include gravity specimen feed, dead weight load application, and drag feed lubrication. Cutting loads can be applied to the holding arm in increments of 25 grams and the specimen weight can be tared through the use of a counter balance. Intermediate weight adjustments can be achieved by sliding the counter weight at the rear of the arm. This design allows reproducible cutting parameters, from sample to sample. When the cut is completed, the IsoMet® Low Speed Saw will shut off automatically.

### **Precise and Versatile**

The sample holding arm incorporates a precise micrometer adjustment for alignment of your specimen prior to sectioning. A wide range of chucks are available, allowing the IsoMet to accommodate various sample configurations. The standard lubricant tray can easily be removed for cleaning without removal of the wafering blade. For greater depth of cut, a 5" (127mm) blade can be used.

One 4" (102mm) Series 15HC Diamond Wafering Blade, one dressing stick, four assorted chucks, and one bottle of IsoCut® Fluid are supplied standard.

The IsoMet Low Speed Saw can be used in virtually any metallurgical, geological, biomedical, industrial, and/or electronic applications where minimal sample deformation is required.



*Accurate sectioning is possible with the use of application specific diamond wafering blades and a precision micrometer.*



*Mounted samples can be sectioned effectively with proper selection of chucks and flanges.*



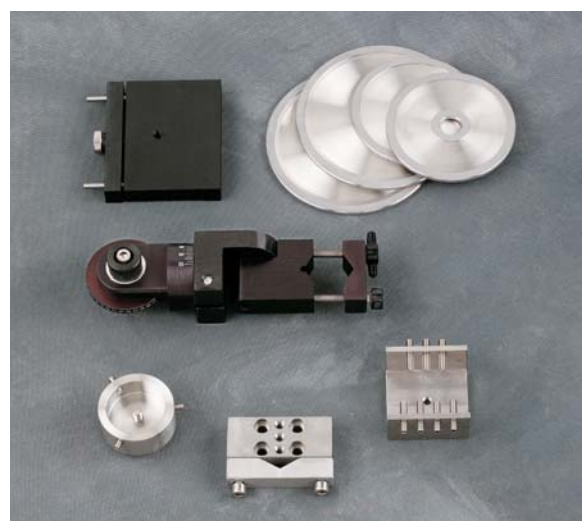
*Sectioned samples are easily retrieved through the side coolant tray door and basket.*



*The optional dressing chuck (No. 11-1196) allows dressing of the wafering blade without interrupting the sectioning process.*



*The optional Splash Guard Kit (No. 11-1199) prevents coolant from spraying.*



*A wide selection of chucks and flanges accommodate almost any sample configuration.*

## Specifications

**11-1280-160 IsoMet® Low Speed Saw**, with automatic cut-off switch, counterbalanced down-feed with assorted weights, precision cross-feed and blade spindles, built-in micrometer for cross-feed adjustment, and built-in coolant tray. 1/50 (15W) HP DC motor, continuously variable speed from 0-300 rpm. Includes 4" (102mm) precision diamond wafering blade (No. 11-4244), bar and tube chuck (No. 11-1184), irregular specimens chuck (No. 11-1185), wafer chuck (No. 11-1186), single saddle chuck (No. 11-1187), cord with plug, and operating instructions. For worldwide operation on 115V,50/60Hz, 1phase. Dimensions: 10½" W x 6¼" H x 10½" D (27cm x 16cm x 27cm). Shipping weight: 25 lbs. (11.3kg).

**11-1281-160 IsoMet® Low Speed Saw**, same as No. 11-1280-160 but without accessories.

## Accessories

**11-1181 Swivel Arm Assembly**, adjustable spherical bushing permits positioning of chuck to allow angular sectioning of sample. May be used with any IsoMet chuck; permits maximum flexibility of Low Speed Saw and allows operator multiple sample orientation.

**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.

**11-1184 Chuck** for bar and tube stock up to 3/8" (10mm) in diameter

**11-1185 Chuck** for irregular shaped samples

**11-1186 Chuck** for wafers, single crystals and thin sections

**11-1187 Chuck** for long samples, saddle type

**11-1188 Chuck** for petrographic and ceramographic thin-sections, vacuum type, to hold glass slide

**11-1189 Chuck** for 1" (25mm) or 1¼" (32mm) diameter stock in mounted samples. This chuck requires use of one set of two 11-1192 Recessed Flanges.

**11-1194 IsoMet Bone Chuck**, for holding biomedical samples

**11-1196 IsoMet Dressing Chuck**, for dressing the blade without interruption of sample sectioning

**11-1190 Dressing Stick**, for dressing Series 15 and 20 wafering blades

**11-1290 Dressing Stick**, for dressing Series 5 and 10 wafering blades

**11-1191 Flange**, 1¾" (44mm) diameter, recessed, set of two for use with the swivel arm assembly for larger specimens and where greater depth of cut is required.

**11-1192 Flange**, 1¾" (35mm) diameter, recessed, set of two for use with 11-1188 Chuck, with 11-1189 Chuck and where maximum depth cut is required.

**11-1193-032 IsoCut® Cutting Fluid**, one quart

**11-1193-128 IsoCut® Cutting Fluid**, one gallon

**11-1195 Plastic Guide Plate**, for guiding tissue samples to be sectioned by hand

**11-1199 IsoMet Splash Guard Kit**, for the catching of fluid spun off the rotating wheel

**11-2496 Chuck Padding**, applied to chucks for holding brittle or friable specimens, strips of 1" x 6" (25mm x 15.2cm) with adhesive backing resistant to cutting fluids

## Diamond Wafering Blades ½" (12.7mm) Arbor

### Type and Use

Blade Series	Diameter and Thickness		
	3" x 0.006" (76 x 0.2mm)	4" x 0.012" (102 x 0.3mm)	5" x 0.015" (127 x 0.4mm)
<b>Series 20HC Diamond</b> , for aggressive general sectioning of ferrous and non-ferrous materials	—	—	11-4215*
<b>Series 15HC Diamond</b> , for routine use, metal matrix composites, PC boards, thermal spray coatings	11-4243	11-4244	11-4245
<b>Series 20LC Diamond</b> , for use with hard/tough materials, structural ceramics, boron carbide, boron nitride, silicon nitride	—	—	11-4225*
<b>Series 15LC Diamond</b> , for use with hard/brittle materials, structural ceramics, electronic substrates, alumina, zirconia, silicon carbide	11-4253	11-4254	11-4255
<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
<b>Series 5LC Diamond</b> , for use with soft friable ceramics, composites with fine reinforcing media, CaF <sub>2</sub> , MgF <sub>2</sub> , and carbon composites	11-4298	—	11-4295
<b>IsoCut Wafering Blades</b> Some materials can be cut at a faster rate using a synthetic alloy abrasive rather than a diamond wafering blade. IsoCut Wafering Blades work well for many materials and give significantly shorter cutting times with iron and cobalt base alloys, nickel base super alloys and lead base alloys. For iron and cobalt alloys, nickel base super alloys and lead alloys	11-4263	11-4264	11-4265

\*Alternate blade thickness of 0.020" (0.5mm)

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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\*For metallurgical equipment produced by BUEHLER LTD. USA

**BUEHLER ANALYST®**  
**SECTION**

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