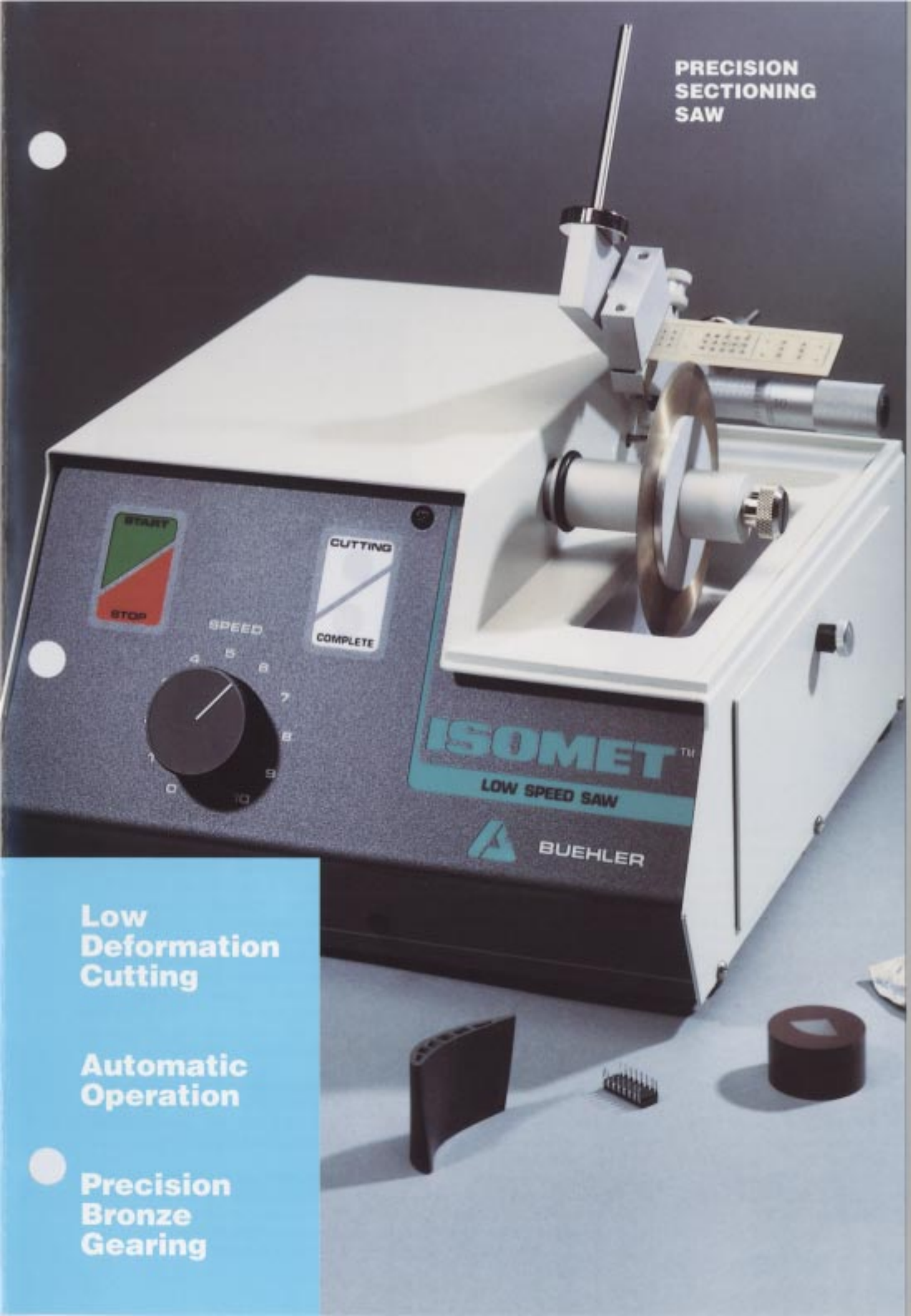


Low Deformation Cutting

Automatic Operation

Precision Bronze Gearing

BUEHLER® ISOMET™ LOW SPEED SAW

BUEHLER

High Precision, Full Featured, and Versatile.

ISOMET Low Speed Saw with optional 11-2381 Goniometer Accessory.

The ISOMET™ Low Speed Saw is a precision sectioning saw designed for cutting all types of materials with little or no 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, cermets, 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 will introduce excessive damage to the material you are cutting. 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 continuous rim diamond blades, the ISOMET achieves an "as cut" surface which is generally free of damage and distortion. This means reduced preparation times in the subsequent preparation steps.

Easy To Use

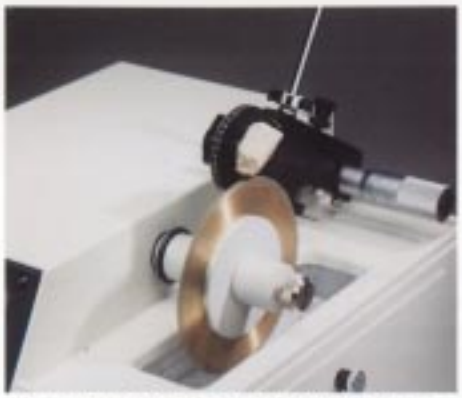
Proven low deformation sectioning techniques are incorporated in the ISOMET Saw design. These techniques include gravity specimen feed, dead weight load application, and drag feed lubrication. Cutting loads can be applied to the holding arm in increments of 25 grams and the sample weight can be tared 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. At the completion of the cut, the ISOMET will automatically turn itself off.

Precise and Versatile

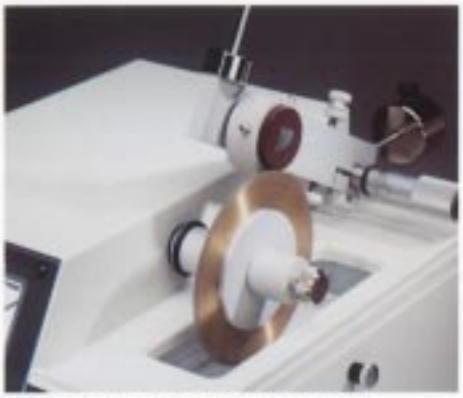
The sample holding arm incorporates a precise micrometer adjustment for alignment of your specimen prior to sectioning. A wide range of arms and chucks is available, allowing the ISOMET to accommodate any sample configuration. The standard lubricant tray can easily be removed for cleaning without prior removal of the wafering blade. A maximum diameter blade of 5" (12.7cm) can be fitted on the saw when sectioning requirements dictate a greater depth of cut.

Supplied as standard equipment is one 4" Series 15HC Diamond Wafering Blade, one dressing stick, four assorted chucks, and one bottle of ISOCUT® Fluid.

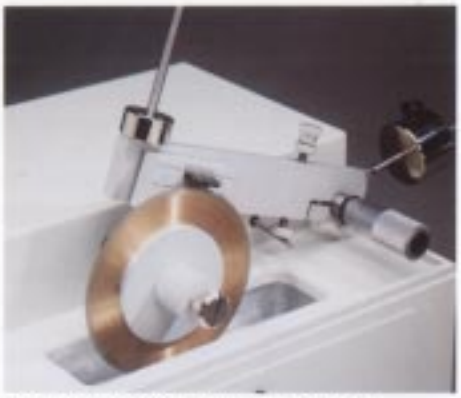
The ISOMET Low Speed Saw can be used in virtually any metallurgical, geological, biomedical, industrial, and electronic applications where minimal sample deformation is required.



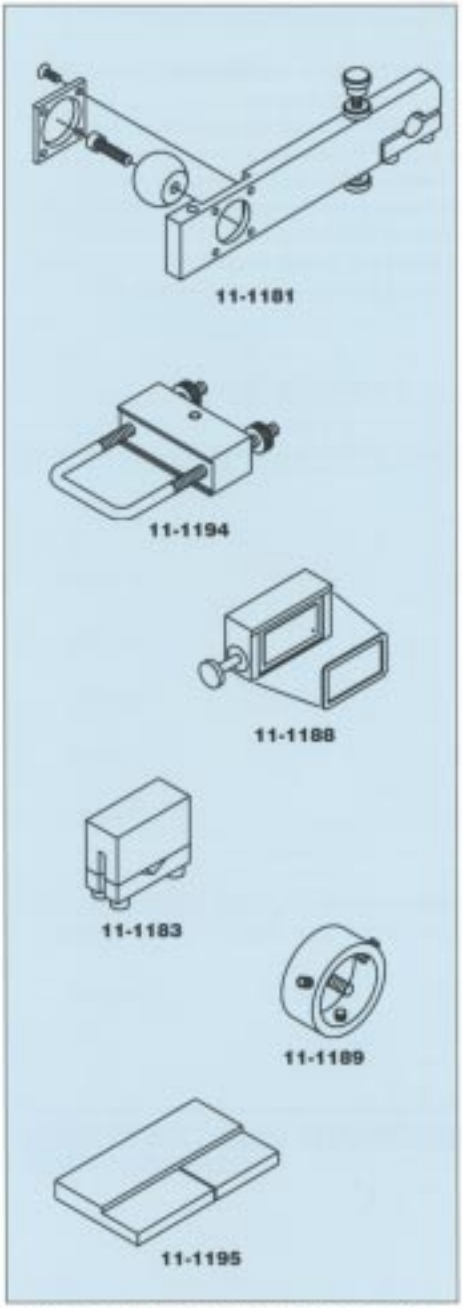
The goniometer accessory allows precise alignment of samples for specific angle or plane sectioning.



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

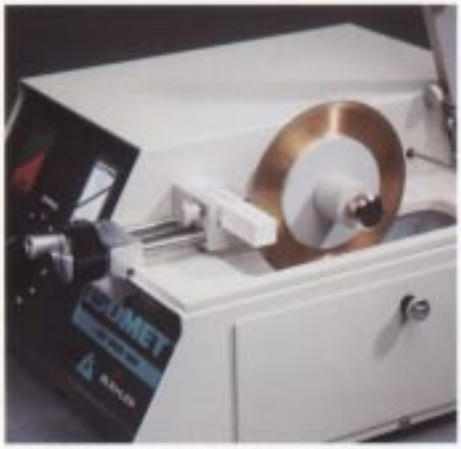


Accurate section through electronic components is possible with use of application specific diamond wafering blades.



A wide selection of chucks increases the versatility of the ISOMET Low Speed Saw.

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



The optional dressing chuck allows dressing of the wafering balde without interrupting the sectioning process.

The MINIMET® 1000 Grinder/Polisher is an ideal companion piece to the ISOMET Low Speed Saw when sectioned samples require additional preparation.

BUEHLER® ISOMET™ LOW SPEED SAW

Specifications

No. 11-1280 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, built-in coolant tray. 1/50 HP DC motor, continuously variable speed from 0-300 rpm. Incudes precision diamond wafering blade, 4" x 0.012 x ½" (10.2cm x 0.3mm x 12.7mm) chucks No. 11-1184, 11-1185, 11-1186 and 11-1187. Operating instructions. For worldwide operation on 115V/60Hz/1phase. Dimensions: 6¼" H x 10½" W x 10½" D (16cm x 27cm x 27cm. Shipping weight: 25 lbs. (11.3kg).

Accessories

No. 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.
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 ¾" (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 1¼" (32mm) diameter stock in 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, 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.
No. 11-1192 Flange, 1⅜" (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. 11-1193-032 ISOCUT® Cutting Fluid, one quart.
No. 11-1193-128 ISOCUT Cutting Fluid, one gallon.
No. 11-1194 ISOMET Bone Chuck, for holding biomedical samples.
No. 11-1195 Plastic Guide Plate, for guiding tissue samples to be sectioned by hand.
No. 11-1196 ISOMET Dressing Chuck, for dressing the blade without interruption of sample sectioning.
No. 11-1199 ISOMET Splash Guard Kit, for the catching of fluid spun off the rotating wheel.
No. 11-2381 Goniometer Accessory, for precise alignment of specimens at defined angles or specific planes.
No. 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.

Wafering Blades ½" (12.7mm) Arbor

Type and Use	Diameter and Thickness		
Blade Series	3" x 0.006" (7.6cm x 0.15mm)	4" x 0.012" (10.2cm x 0.3mm)	5" x 0.015" (12.7cm x 0.4mm)
Diamond Wafering Blades			
Series 20HC Diamond For aggressive general sectioning of ferrous and non-ferrous materials.			11-4215*
Series 15HC Diamond For routine use, metal matrix composites, PC boards, thermal spray coatings.	11-4243	11-4244	11-4245
Series 20LC Diamond For use with hard/tough materials, structural ceramics, boron carbide, boron nitride, silicon nitride.			11-4225*
Series 15LC Diamond For use with hard/brittle materials, structural ceramics, electronic substrates, alumina, zirconia, silicon carbide.	11-4253	11-4254	11-4255
Series 10LC Diamond For use with medium to soft ceramics, electronic packages, GaAs, AlN and glass fiber reinforced composites.	11-4283		11-4285
Series 5LC Diamond For use with soft friable ceramics, composites with fine reinforcing media, CaF_2, MgF_2, and carbon composites	11-4298		11-4295
ISOCUT Wafering Blades 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 Base Alloys, Nickel Base Alloys and Lead Base Alloys	11-4263	11-4264	11-4265

*Alternate blade thickness of 0.020" (0.5mm)

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