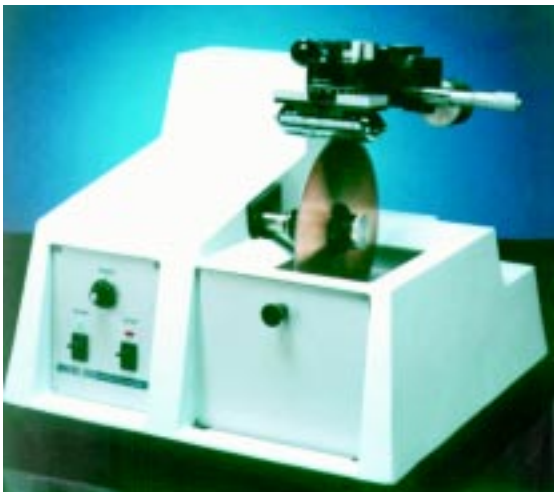
Model 660

Low Speed Diamond Wheel Saw

Cutting and Sectioning



The Model 660
Low Speed Diamond Wheel Saw

The Model 660 is designed to be a multipurpose precision saw using diamond wheels up to 7" in diameter. It's low speed allows it to cut all materials traditionally cut with a high speed diamond wheel while also cutting very fragile and soft materials with minimal subsurface damage. A variety of sample holders provides a means to mount any shape sample while goniometer adaptability simplifies the cutting of orienting crystals.

Operation

A sample is mounted to a sample holder and attached to the arm. An appropriate load is applied by adjusting the counterbalancing weight and the automatic stop switch is set. Using a coarse adjustment the sample is positioned in any starting position relative to the diamond wheel and then a micrometer is used for precise sample positioning. With the diamond wheel rotating slowly and coolant in the reservoir, the arm is gently lowered until the sample touches the diamond wheel. Cutting will continue until the automatic cutoff switch is triggered.

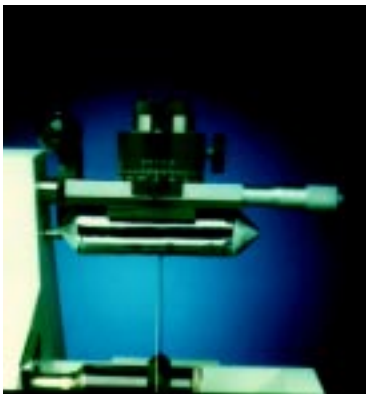
Cutting Wheels

The Model 660 is designed to cut with diamond, CBN and abrasive wheels. Diamond wheels are used for most applications while CBN wheels are primarily used for cutting ferrous based materials. Abrasive wheels (Al_2O_3 and SiC) can be used for cutting both ferrous and nonferrous based materials and have also been used for dry cutting of superconductor materials. SBT provides a wide selection of cutting wheels and the separate consumables catalog provides details on selecting the proper cutting wheel for your application.

Special Features

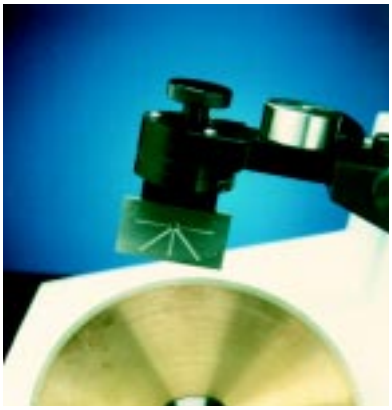
- An internal optic sensor and belt drive system eliminate broken gears and sample damage by terminating the cutting process when wheel rotation is impeded.
- Coolant reservoir is lowered and easily removed by opening an access door located on the front panel.
- Both coarse and fine sample position adjustments allow rapid and accurate sample positioning.
- Polyethylene coolant reservoir enables the use of both water soluble and oil based coolants.
- Automatic termination of the cutting process is controlled by an electromechanical downstop which minimizes supervision.
- Cutting arm pivots on a set of precision bearings rather than on the micrometer shaft which ensures accurate and repeatable sample positioning.
- Multiple diamond wheels can be used to gang slice materials up to 2" in length.
- Sturdy aluminum casting provides durability in the lab and stability during specimen preparation.

ACCESSORIES



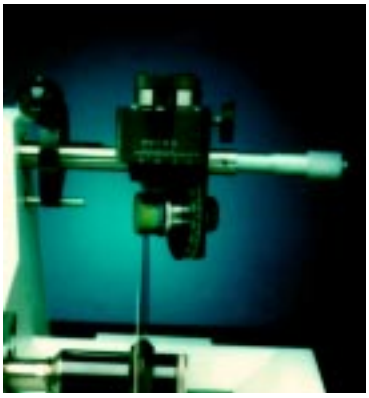
Model 66001
Single Axis Goniometer

The Model 66001 has a graduated scale with a 0.2° vernier and can be rotated 360°. This rotational capability makes it ideal for precisely slicing single crystals. The sample is mounted to a block using a low melting point wax and the block is subsequently clamped into the Model 66001. Wax mounting of the sample ensures that the cut piece will remain attached to the holder and will not be damaged by falling after being cut.



Model 66004
Petrographic Sample Holder

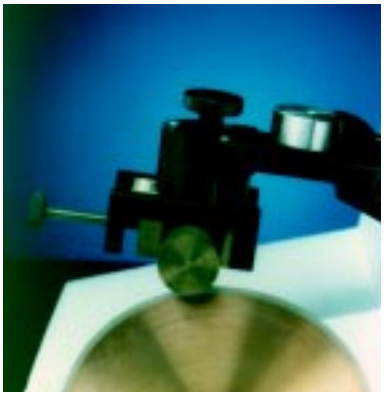
The Model 66004 is designed to hold 2.5cm x 5.0cm glass plates, onto which petrographic or other samples are waxed, while making saw cuts parallel to the glass plate. The glass plate is held against a stainless steel support plate with vacuum and is placed firmly against 3 locating pins to maintain its position.



Model 66005
2-Axis Goniometer

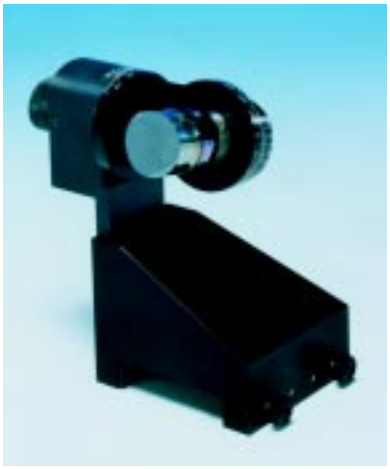
Model 66005 is a 2-Axis goniometer used for orienting and cutting single crystals. The Model 66005 can be mounted on an x-ray track for orientation using the Model 66011 Track Mount and then transferred to the Model 660 for cutting. With the sample mounted to the goniometer, the vertical axis can be rotated 360° within 0.2° while the horizontal axis can be rotated ±50° from the 0.2° vernier on the arm.

ACCESSORIES



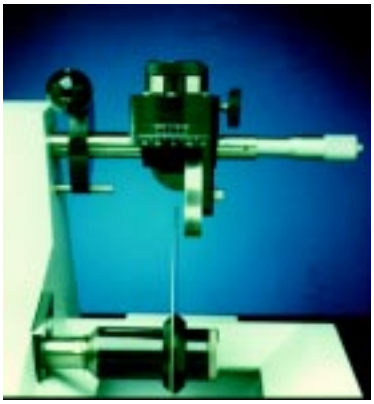
Model 66006
Vise

The Model 66006 Vise is designed to hold flat, round and irregularly shaped samples without the need for a mounting wax. The entire vise can rotate 360° in the horizontal plane. An extended v-notch jaw enables the mounting of cylindrical samples up to 2" in diameter.



Model 66011 Track Mount

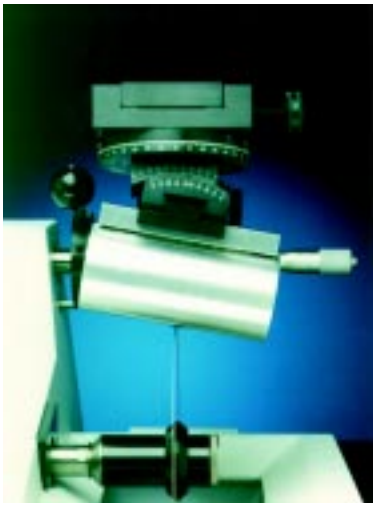
The Model 66011 Track Mount is designed to mount the Model 66005 2-Axis Goniometer onto a 1.99" or 2.19" wide x-ray or optical track for crystal orientation.



Model 66007
Right Angle Holder

The Model 66007 Right Angle Holder is designed to hold mounting blocks parallel to the saw blade. The Model 66007 accommodates stainless steel mounting blocks up to 2" in diameter which are directly transferable to the South Bay Technology series of lapping and polishing fixtures.

ACCESSORIES



Model 260
3-Axis Goniometer

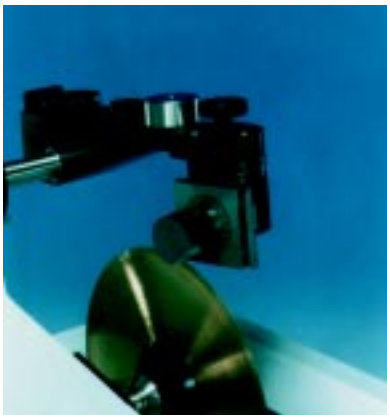
The Model 260 3-Axis Goniometer can be adapted to the Model 660 by using the P/N 01 - 03689-01 Adapter.

Model 66013
Reservoir Adapter (optional)

This adapter allows 3" and 4" diameter wheels to be used with the Model 660.

Model 66099 Starter Kit for Model 660 (optional)

Includes a supply of commonly used consumable items and spare parts.



Model 250
2-Axis Goniometer

The Model 250 2-Axis Goniometer can be adapted to the Model 660 by using the Model 66007 Right Angle Holder and the P/N 01 - 03696 Adapter. The advantage of using the Model 250 rather than the Model 66005 is that the Model 250 can subsequently be transferred to the Model 25010 Oriented Crystal Lapping & Polishing Fixture or the Models 451/460 Electrolytic Crystal Polisher and it is also compatible with other SBT saws.

Specifications

Dimensions:	15" W x 13" H x 15" D
Net Weight:	39 Lbs.
Wheel Rotation:	0-250 RPM
Wheel Diameter:	3" (75mm), 4" (100mm), 5" (125mm) 6" (150mm), & 7" (175mm)
Max Sample Diameter:	2.8" (71mm)
Specimen Load:	0 - 2000 grams
Spindle Diameter:	0.5" (12.7mm)
Micrometer Feed:	0 - 1.000", .001" increments or 0 - 25mm, 0.01mm increments
Reservoir Capacity:	1200ml
Electrical Input:	100 VAC 50/60 Hz 115 VAC 50/60 Hz 220 VAC 50/60 Hz

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