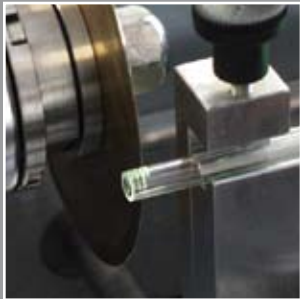
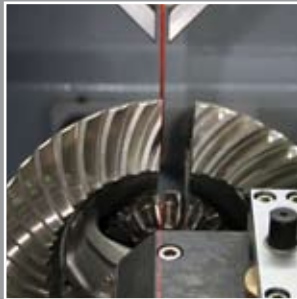


WET ABRASIVE CUT-OFF MACHINES



PRECISE



Always a step ahead.

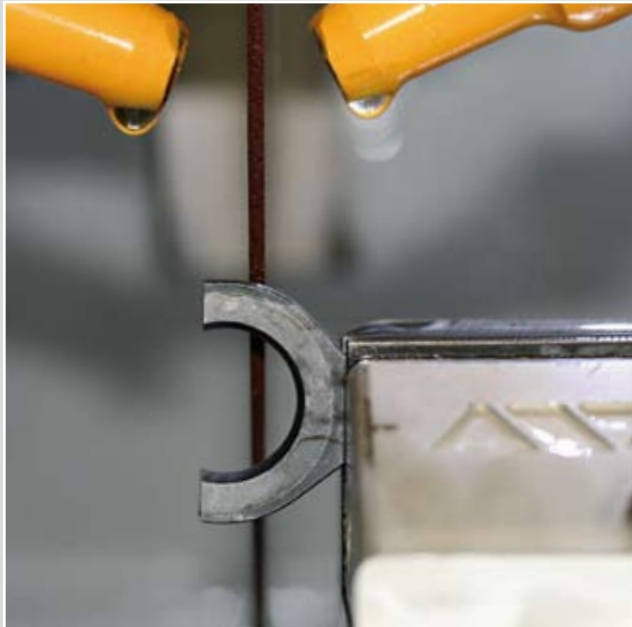
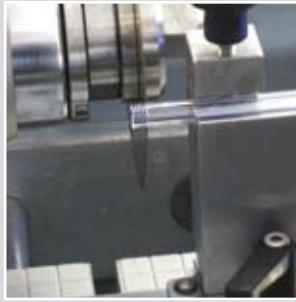


*THE BRILLIANT
(german: BRILLANT)*

In 1910, a new technique to prepare diamonds with multiple reflecting facets was developed. The brilliant cut, with its many facets, shows off the diamonds' extraordinary splendid and shiny appearance. Cutting and polishing of diamonds results in a dramatic loss of weight; rarely it is less than 50%. This makes a diamond so precious and rateable by carat.



PRECISE SECTIONING

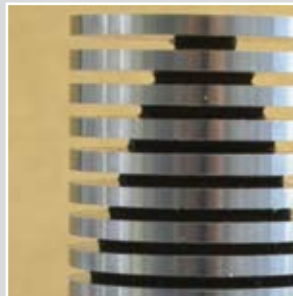
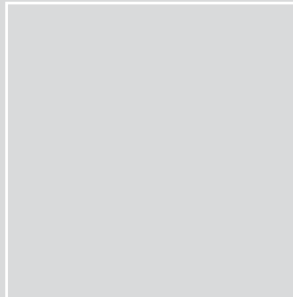


CUTTING AT TEST CENTER

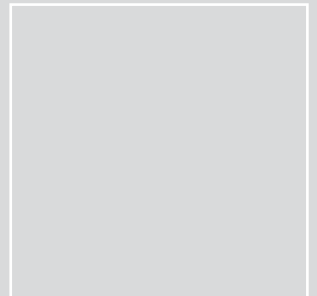
CLAMPING MATERIAL



EXTRACTION OF SAMPLE



SERIAL CUTS



WET ABRASIVE SECTIONING

The size and geometry of a work piece often requires sectioning into smaller pieces for examination. Successful sample preparation starts with accurate, low deformation sectioning. For best results, choose a cut-off wheel suitable for the material type. The part should be oriented and securely clamped on the table. In terms of cut-off machine operation, selecting the proper feed speed, angle of approach and cutting mode will minimize sample deformation. Wet abrasive sectioning employs the use of a recirculation system to supply a stream of coolant to the sample during the cut. This helps prevent heat damage and removes cutting debris from the wheel and specimen.



**MADE IN
GERMANY**

All components used by us, as well as the constructive design correspond to the normal device requirements for industry in Germany and the EC Safety Regulations. The units are finished in service friendly modular construction.



BRILLANT 201



BRILLANT 210



BRILLANT 221



BRILLANT 250



BRILLANT 230



BRILLANT 265



BRILLANT 270



BRILLANT 255



BRILLANT 280



BRILLANT 290

WET ABRASIVE CUT-OFF MACHINES

BRILLANT sectioning machines are designed to cut a wide variety of materials fast and efficiently. Whether your need is for precision sectioning on small parts or massive cuts on large parts, our cut-off machines will meet the challenge. In addition, our wide range of clamping tools will secure and position your part for the best possible cut.

The BRILLANT wet abrasive cut-off machines are available in many sizes with manual or automatic cutting modes.

All machines use welded steel and powder coated aluminum plate construction, making them sturdy and rugged for the cutting environment.



CUTTING MODES

By combining horizontal and vertical movement, BRILLANT cut-off machines can provide low contact cutting. Several models have unique wheel movements for difficult to cut parts, geometries and materials.





LASER ALIGNMENT



PULSED CUTTING



CUTTING DIRECTION

AUTOMATIC PULSED CUTTING

When working with large sections and tough materials, the pulsed cutting system has distinct advantages. Variable pulse cutting helps the wheel stay sharp and allows coolant to flush the point of contact, clearing debris and keeping the material cool.

SAW CUT

A combination of horizontal table movement and vertical spindle movement can produce a "saw tooth" wheel travel that reduces contact area.

SEGMENT CUT

Intermittent vertical feed in combination with horizontal movement for cutting large parts.

STEP CUT

Step cutting in both the horizontal and vertical direction is excellent for large parts and bulk materials.

PENDULUM CUT

Long travel with incremental wheel advance for long cuts on large parts.

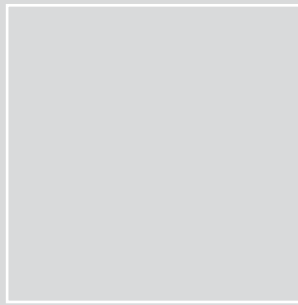


Z-AXIS PRECISION

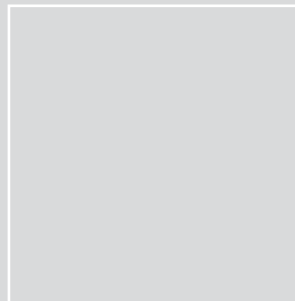
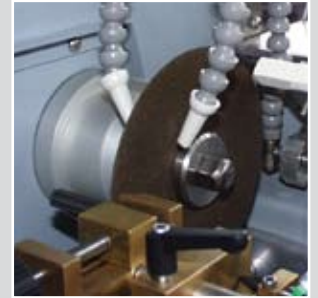
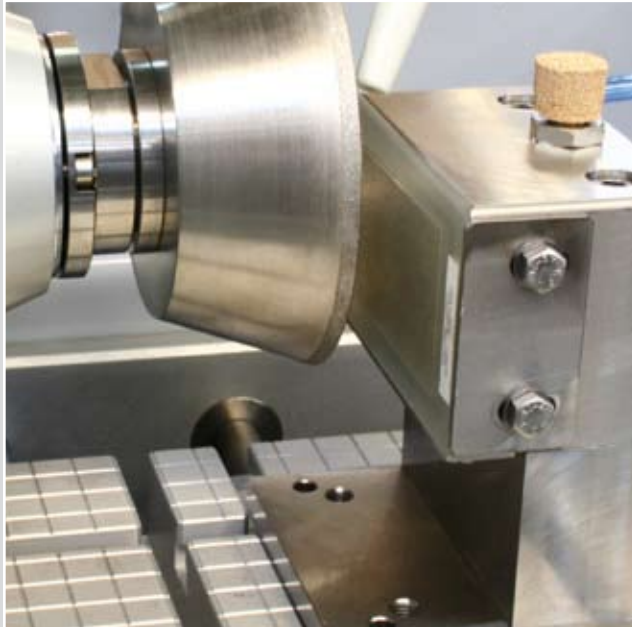
Sample movement along the arbor shaft axis, expands the capability and usefulness of the BRILLANT 210 and BRILLANT 221.

With an accuracy of 1 micron, the Z-Axis feed can be used for accurate cut locations, thin section cutting and precise serial sectioning with parallel multiple cut programming.





BRILLANT 221



PRECISE GRINDING
WITH Z-AXIS



CLAMPING SYSTEMS BRILLANT 210

PRECISION WET ABRASIVE
CUT-OFF MACHINES

For small parts and precision cuts, ATM offers the manual feed BRILLANT 210 and the automatic feed BRILLANT 221.

The BRILLANT 210 applies cutting force by a sliding weight mounted to the cutting arm. The removable sample holder can be quickly attached to the cutting arm within the easily accessible cutting chamber. A wide variety of clamping vises can accommodate any small part.

The fully automatic BRILLANT 221 uses a high speed cutting wheel for exact cutting of small parts and delicate materials.

A dressing device for keeping diamond blades sharp and several specialized clamping tools are available.

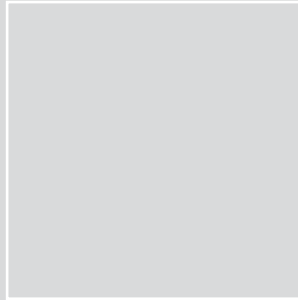
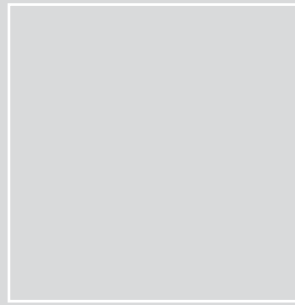
A vacuum fixture can be added for mineralogical thin section work.



FINE FEED MANUAL CUTTING

Several BRILLANT models have a cutting arm linkage that provides a mechanical advantage, producing vibration free cuts.





BRILLANT 255



BRILLANT 201



BRILLANT 230

MANUAL OPERATION –
THE SIMPLE SOLUTION

The BRILLANT 201, 230 and 255 manual operation wet abrasive cut-off machines cover a wide range of applications.

These models share the same high quality construction, spacious cutting chambers and clamping options found in the automated machines. With manual feed operation, these machines offer a perfect alternative for lower sample volumes.



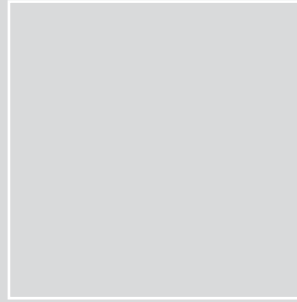
E-LAB

E-Lab ready machines can be networked with your lab PC for maintaining and downloading cutting programs.

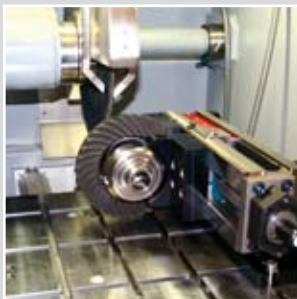
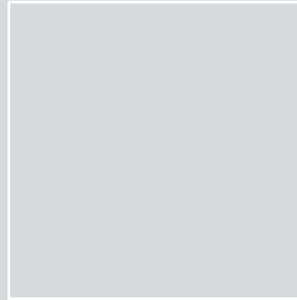
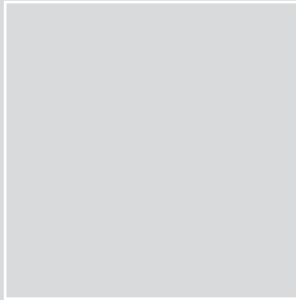
A centralized internal network can save data and download support information from ATM Lab data transfer.



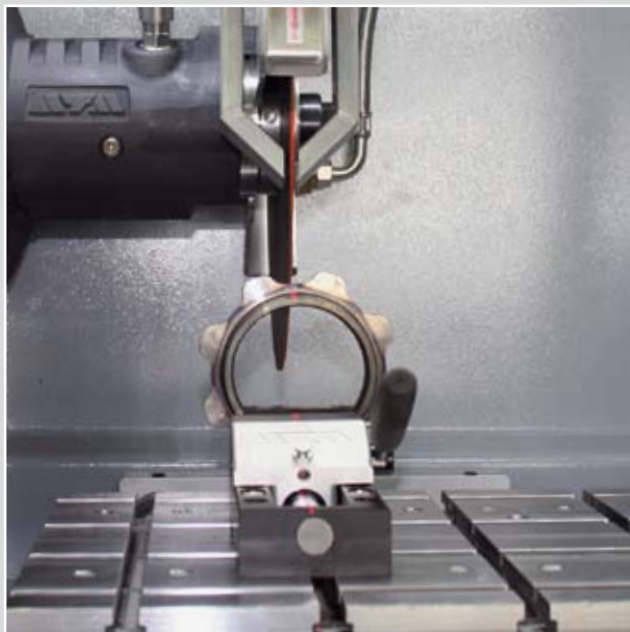
BRILLANT 290



BRILLANT 250



BRILLANT 280



BRILLANT 265



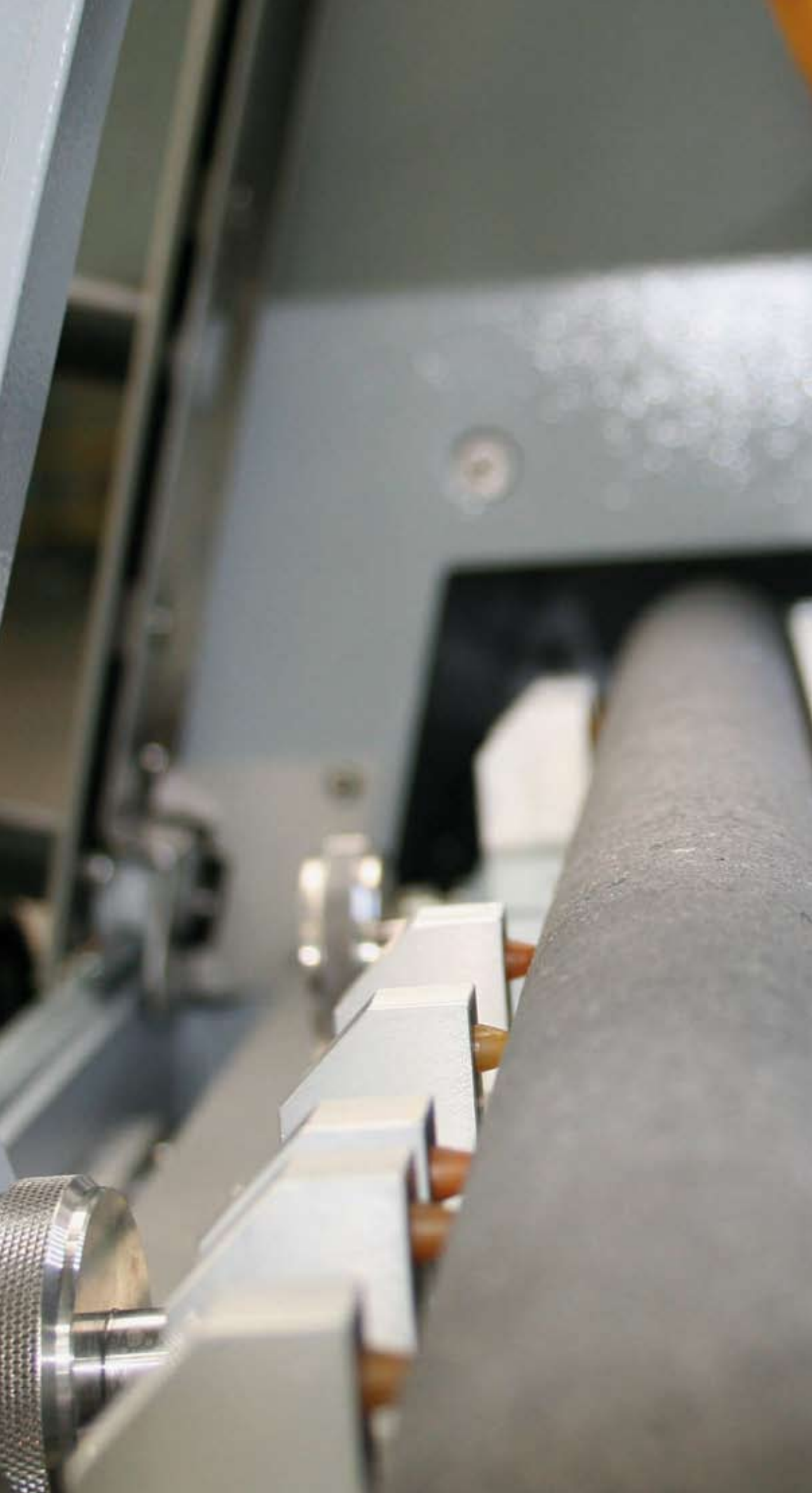
CUSTOM BUILT CLAMPING TOOL

ELECTRONIC CONTROL

The cutting parameters on electronically controlled BRILLANT cut-off machines can be stored as programs and recalled for use.

Each cutting axis path is programmed and the progress of the cut can be monitored during the cutting cycle.

If a pre-set feed load is exceeded, the feed speed is automatically reduced. This protects the machine and part from damage due to overloading.

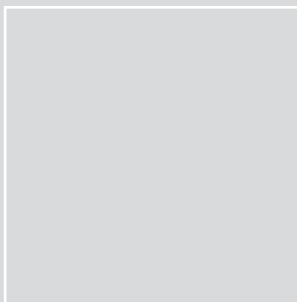


CUSTOM BUILT CLAMPING TOOLS

We are able to design and manufacture custom-made solutions for special dimensions and unique clamping applications, cutting cast iron dies and continuous long parts like drill cores.

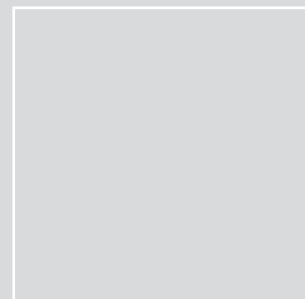


CENTRAL GREASING



EASY-NUT

WEAR-RING



LCD-CONTROL



TOUCH-SCREEN

ORDER OPTIONS

The BRILLANT wet abrasive cut-off machines are custom built to your requirements with various technical and user friendly features.

The built in electronic control, with its simple and clearly defined touch screen display, enables easy programming, storage and loading of sectioning procedures.

Central lubrication systems that supply grease to critical lubrication points are standard on some models.

Effortless cut-off wheel changes for every operator are possible due to the unique Easy-Nut arbor mechanism.

The T-slot cutting tables are stainless steel for long life in harsh environments.

Openings on both sides of cutting chambers allow sectioning of long or continuous parts.

CUSTOM BUILT SYSTEMS

Since all ATM machines are engineered and manufactured by ATM, we welcome the opportunity to build a machine for your specific application.

From custom clamping to special cutting chambers, bring your unique part or material applications to us for a solution.

ATM GMBH

Emil-Reinert-Str. 2

D - 57636 Mammelzen



The consumables were tested in our central lab and specifically selected for our machines.

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» MATERIALOGRAPHY