



Secotom Cutting Machine **Proven Precision**

For you who want a cutting machine that has proven its worth

For You Who Prefer Proven Precision

The very first Secotom precision cutting machine was launched in 2001 and became an immediate success. Since then, thousands of Secotoms have left our production facility to serve especially laboratories around the world.

So why is it that this, at first glance, modest cutting machine has become such a front runner? Perhaps it is because it is so easy to handle that hardly any

training is required. Probably it is because it is extremely versatile and is able to section such a wide range of materials. And definitely it is because of the high degree of flexibility provided by the wide spectrum of clamping tools, along with the option for the X-table.

For you who prefer proven precision, welcome to the world of Secotom.







Struers
High Quality Cut-off Wheel
30A20
Max 5000 rpm - 50mm

5

Precise Details

Secotom is full of details to support your precision sectioning. Here, we have selected five of the most interesting details to spotlight. All details in this brochure are present on the full featured model. View features on all three models at the end of this brochure.

Scarcely any training required

due to easy settings with intuitive control panel

A simple control panel and color display make for ultra-easy operation with no complex menus. Set parameters with a multi-function knob and use the joystick for fast positioning of the workpiece, as well as automatic height adjustment of the cut-off wheel. That's it.

Section a wide range of sizes and shapes with ultra-flexible and movable T-slot table

The cutting table in Secotom provides you with both precision and flexibility for a wide range of sizes and shapes. You are able to section large workpieces (up to 70 mm / 2.8" diameter or 165 x 50 mm / 6.5"x2). The table has 8.0 mm T-slots, and you can choose between a wide range of clamping tools to find just the right fit for your cut along with the highest degree of precision.

Repositioning of workpieces is superseded by automatic X-movement

Make a series of cuts without wasting time on repositioning your workpiece, with the optional X-movement. The cutting table has 40 mm movement, and you can choose up to four slides of different thickness.

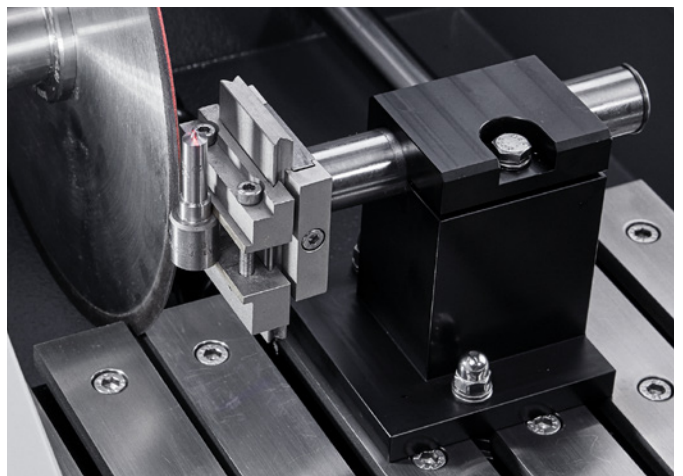
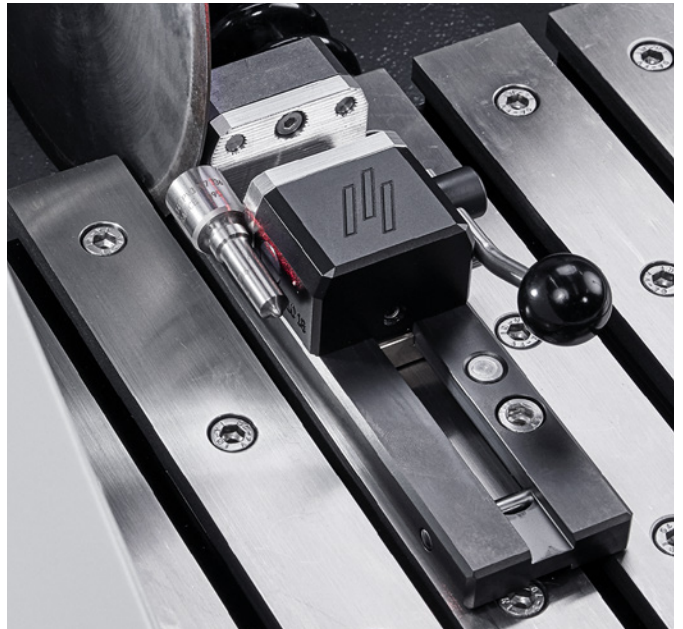
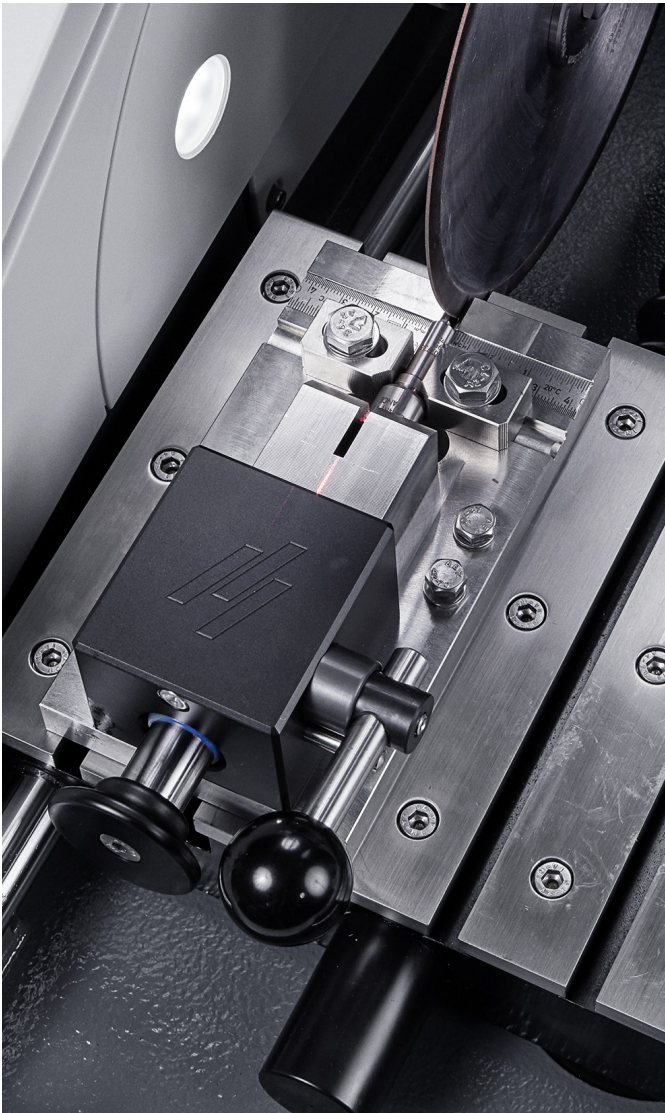
Achieve the right position on first attempt with a little help from positioning laser light

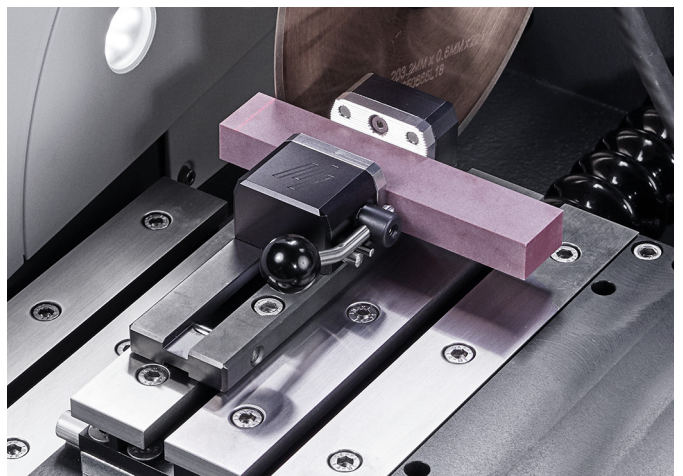
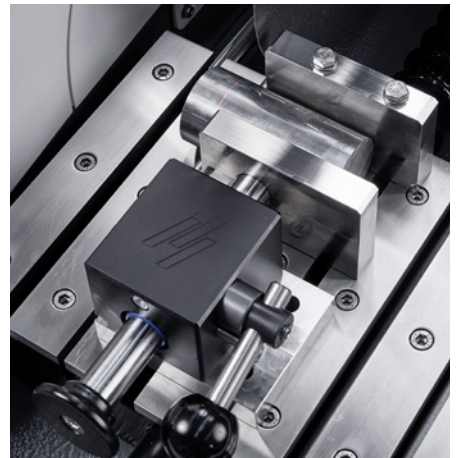
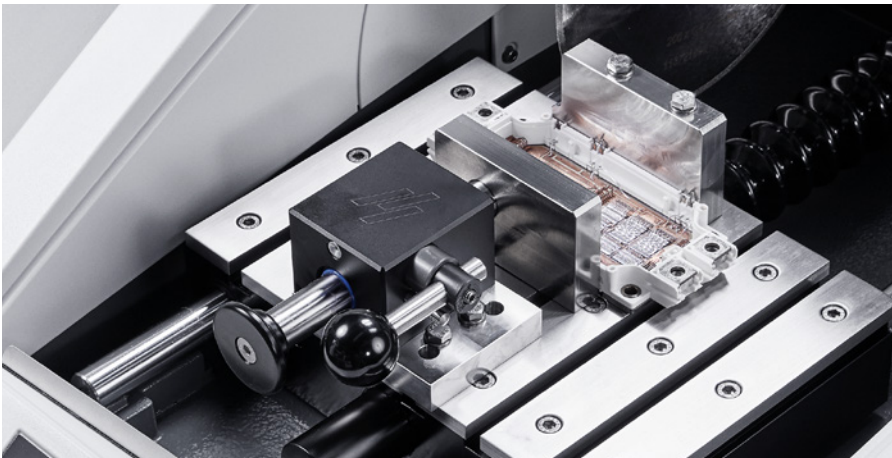
Positioning can be time-consuming, but the positioning laser light on Secotom makes for a much easier job by pointing out the position for your cut. Use the laser light in combination with the joystick for easy positioning.

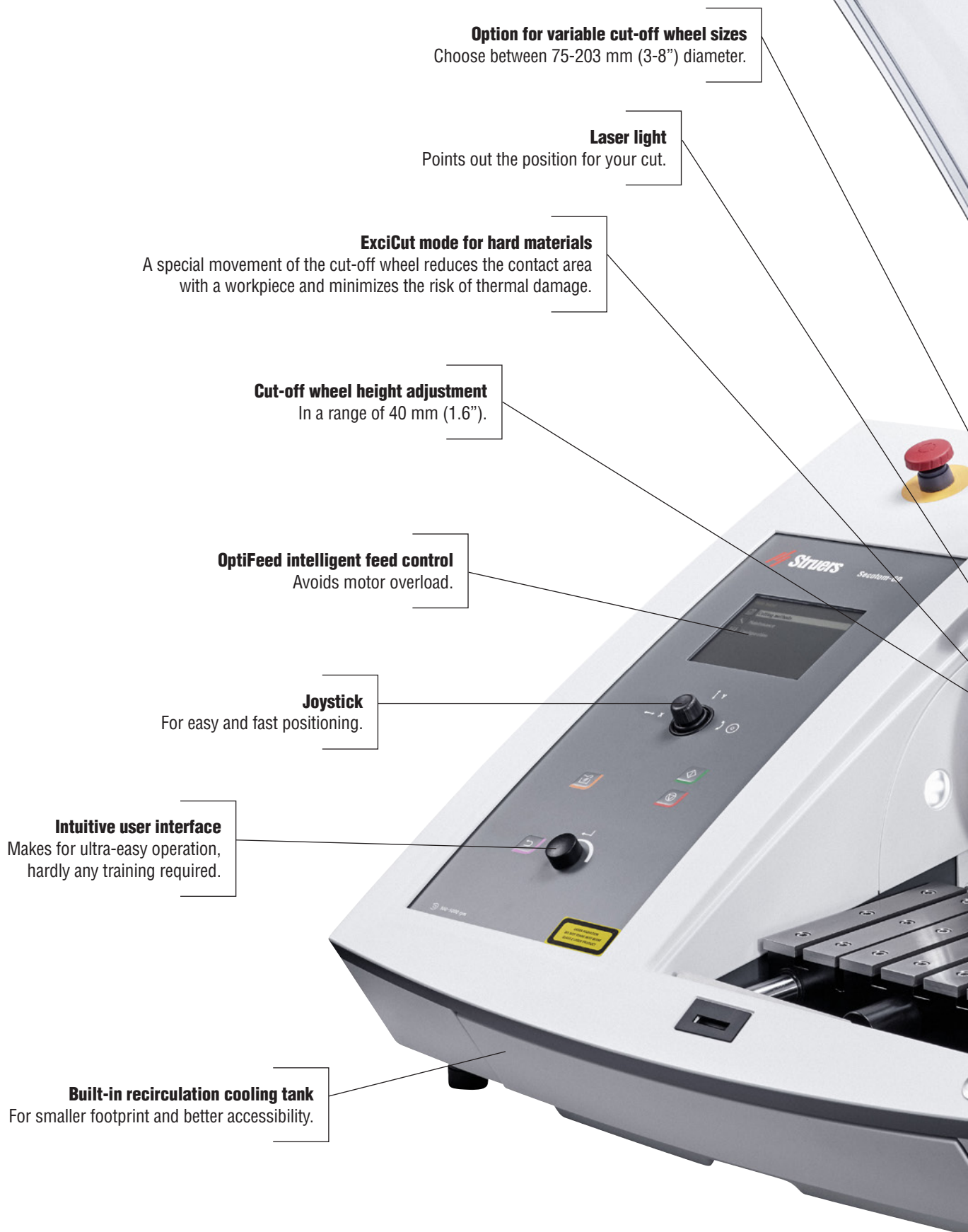
You need just one precision cutting machine for most materials

Secotom performs precise cuts of all materials stable enough to undergo materialographic inspection, such as metals, ceramics, composites, sintered carbides, electronic components, crystals, minerals, etc.

Reliable clamping of any workpiece







Option for variable cut-off wheel sizes
Choose between 75-203 mm (3-8") diameter.

Laser light
Points out the position for your cut.

ExciCut mode for hard materials
A special movement of the cut-off wheel reduces the contact area with a workpiece and minimizes the risk of thermal damage.

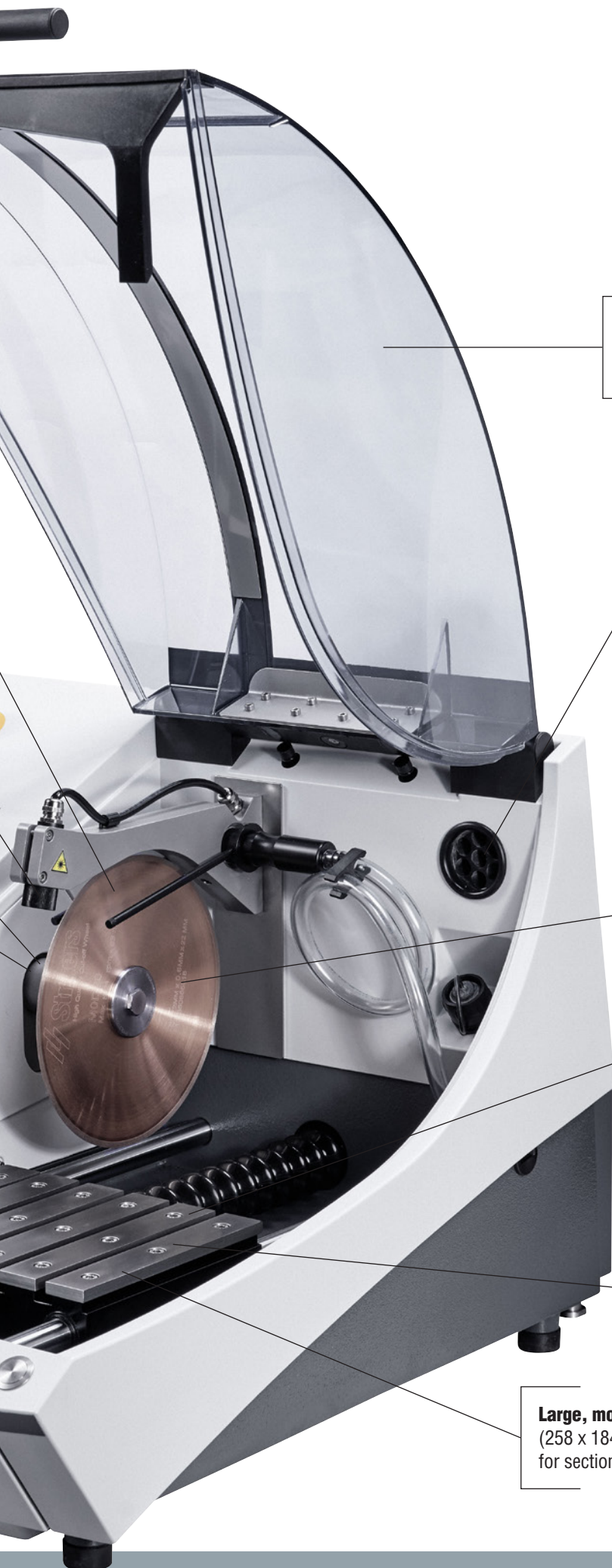
Cut-off wheel height adjustment
In a range of 40 mm (1.6").

OptiFeed intelligent feed control
Avoids motor overload.

Joystick
For easy and fast positioning.

Intuitive user interface
Makes for ultra-easy operation, hardly any training required.

Built-in recirculation cooling tank
For smaller footprint and better accessibility.

**Transparent safety guard**

There can be no sectioning unless the cover is closed.

Direct connection to external exhaust system

For a healthier environment.

Optional manual dresser

For easy dressing of diamond and CBN cut-off wheel to improve your result.

Variable wheel speed

For optimal sectioning with different cut-off wheel types and sizes.

8.0 mm T-slots

Provide maximum clamping flexibility.

Automatic X-movement

Optional X-table allows for serial sectioning without repositioning.

Predefine your cutting length for automatic stop

Allows you to attend other tasks while the machine is sectioning.

Large, movable table

(258 x 184 mm / 10.2" x 7.2")
for sectioning large workpieces.

Key Features for the Optimal Precision Cut

Laser light points out the position for your cut

The laser light is a great help when clamping, as it points out the position for your cut. This makes positioning easy and fast.

Intuitive user interface makes for ultra-easy operation

The Secotom requires no programming, and there is no risk of your getting lost in complex menus. It is designed with a large color display for easy operation. The navigation and change of parameters works quickly and easily by a turn/push knob.

Large, movable table for sectioning large and deep workpieces

The cutting table measures 258 x 184 mm / 12.2" x 7.2" and is ideal for sectioning large and deep workpieces. The flexibility of this large cutting table makes it optimal for clamping.

Automatic X-movement for serial cutting without re-positioning

An optional X-table allows for serial cutting without re-positioning which make the cutting sequence much faster.

Cut-off wheel height adjustment

The cut-off wheel in Secotom can be height adjusted to a range of 40 mm (1.6") which makes it possible to use a variety of clamping tools and stands for dovetail specimen holders. In addition, it enables the use of a large variety of cut-off wheel sizes, and makes it easy to compensate for wheel wear.

Build-in recirculation cooling tank for a smaller footprint

The build-in recirculation tank grants you a smaller footprint and better accessibility. The tank has a barrier inside to catch the largest cutting debris which reduces blockage of the cooling nozzles.

ExciCut mode for hard materials minimizes the risk of thermal damage

ExciCut is used when sectioning extremely hard materials that cannot be sectioned directly, minimizing the risk of thermal damage of the workpiece. ExciCut works by moving the cut-off wheel up and down as the cutting table moves forward. This ensures that a small contact area between the cut-off wheel and the workpiece and provides better access for the coolant.

OptiFeed intelligent feed control to avoid motor overload

Sectioning irregular sized workpieces can be difficult, as the risk of damage to the workpiece or the cut-off wheel is high. As the contact area between the workpiece and wheel gets larger, the force increases to maintain the preset feed speed, and this may overload the cut-off machine. But thanks to OptiFeed, the feed speed is automatically reduced in this situation, and when the contact area gets smaller again, the feed speed is automatically increased to the preset maximum.



Direct connection to external exhaust system

Sectioning certain materials may produce both harmful and unpleasant fumes. For a healthier environment, Secotom is prepared for direct connection to an external exhaust system, in line with our general recommendation to install an exhaust from the cutting chamber.

Optional Manual Dresser

The manual dresser makes it easy to dress diamond and CBN cut-off wheels. The cutting ability gradually reduces when sectioning, and the cut-off wheel rim will appear shiny because of the workpiece's material deposits on the wheel surface and wear on the abrasive. The cutting ability can be restored by dressing, and the manual dresser makes it easy. You can even dress while sectioning to ensure the best result.

More Than 140 Years of Fine-Tuned Service

Don't hesitate to use it.



When you choose any equipment from Struers, you also choose some of the top specialists in the world along with a wide range of support at your fingertips. This includes:

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- All critical spare parts available for immediate shipping
- An annual service review
- Online manuals

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Application assessment

Let's discover your optimization opportunities.

A Struers Application Specialist visits your facility to perform an in-depth assessment of your use of Struers equipment, materialographic processes, and workflows. The specialist identifies quality and optimization opportunities and provides you with practical tips.

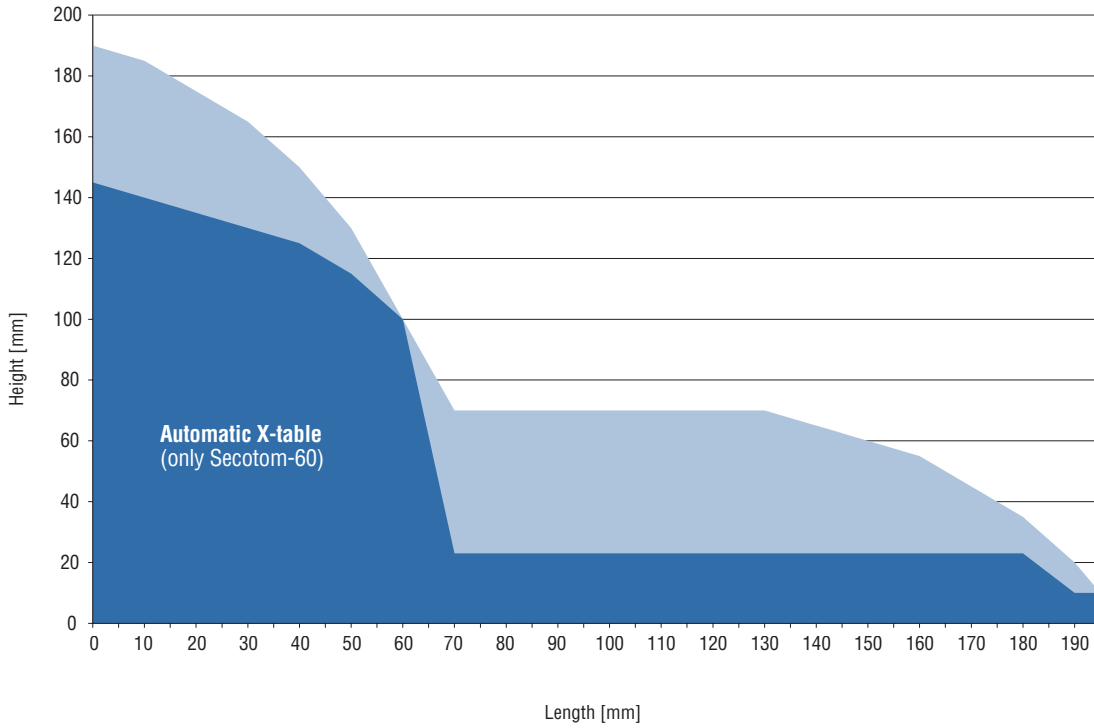
Go to [struers.com/secotom](https://www.struers.com/secotom)

Technical Data

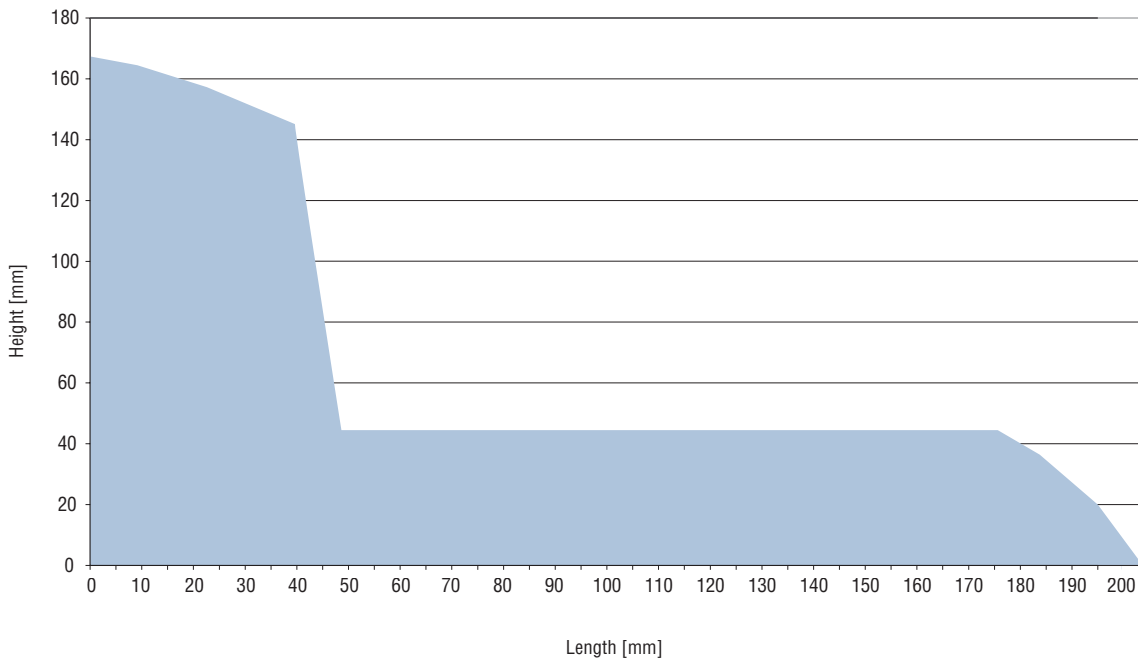
Models

	Secotom-60	Secotom-20	Secotom-6
Cutting table			
Feed speed	0.005 - 3.0 mm/s / 0.3 - 7"/min. (in steps of 0.005 mm)		
Width	258 mm / 10.2"		253 mm / 10"
Length	184 mm / 7.2 "		180 mm / 7,1"
Cutting length	0 - 200 mm / 0 - 7.9" (in steps of 0.1 mm)		
Cutting table	8.0 mm T-slot with exchangeable T-slot plates (7 pcs.)		8.0 mm T-slot table unit
Cut-off wheel			
Size	75 - 203 mm / 3 - 8" dia.		
Abor size	12.7 mm / 0.5" and 22 mm / 0.86"		
Rotational speed	300 - 5,000 rpm (in steps of 100 rpm)		1,000 - 3,000 rpm (in steps of 100 rpm)
Cutting capacity	70 mm dia. (2.8" dia.), 165 x 50 mm (6.5"x2")		42 mm dia. (1.7" dia.) 42 x 170 mm (1.7" x 6.7")
Height adjustment	40 mm / 1.6" automatic	40 mm / 1.6" manual	None
Optional stands			
X-table, automatic	Yes, optional	No	No
X-Stand, manual	Yes, optional		No
Rotary Stand	Yes, optional		No
Functions			
OptiFeed	Yes		No
Methods	10	3	1
Database	Yes	No	No
Laser	Yes		No
Motor power	1.1 kW	0.8 kW	
Controls	Touchpad, joystick and turn/push knob		Touchpad and turn/push knob
Recirculation cooling tank	4.7 l / 1.25 gallon		
LC Display	TFT-color 320x240 dots with LED back light		
Noise level	LPA = 66 dB(A)		
Surrounding temperature	5 - 40° C / -13 -131° F		
Humidity	> 85% relative humidity		
Supply			
Voltage / frequency	200 - 240 V / 50 - 60 Hz		
Power, idle	13 W		
Current, max.	14.8 A	11.7 A	
Safety	In compliance with all relevant EU directives		
Exhaust	50 mm / 2" dia.		
Dimensions			
Height	Guard closed	44 cm / 17.3"	
	Guard open	105.5 cm / 41.5"	
Width	64 cm / 25.4"		
Depth	With plug		78 cm / 27.6"
Weight	77 kg / 170 lbs.	73 kg / 161 lbs.	67 kg / 148 lbs.

Secotom-20/-60 cutting capacity



Secotom-6 cutting capacity



Accessories and Consumables

A wide range of clamping tools and specimen holders for all shapes and sizes is available.



Cat. no.:
05996911

Automatic X-table

For automatic positioning and serial sectioning on Secotom-60/-50. Maximum movement 40 mm / 1.2" with 20 µm accuracy. With two 8.0 mm T-slots. To be placed on the standard cutting table.



Cat. no.:
05996913

Fixed stand

Stand for specimen holders with dovetail clamp. Designed for small delicate workpieces. Manual positioning. For 8.0 mm T-slot. For all Secotom models.



Cat. no.:
05996914

Manual X-stand

Stand for specimen holders with dovetail clamp. Manual positioning with digital readout. The positioning accuracy is 5 µm. Enables the sectioning of plane-parallel slices in a well-defined thickness. The total lateral movement of the X-stand is 30 mm / 1.2". For Secotom-15/-50/-20/-60.



Cat. no.:
05996912

Rotary stand with digital readout of the X-position.

The optional rotating stand increases capacity even further. Workpiece rotation reduces the contact area between the cut-off wheel and the workpiece to a minimum. This decreases frictional heat and allows for fast cutting of extremely hard materials. In addition, it increases the machine's capacity by enabling you to section larger workpieces – up to 100 mm / 3.9" diameter. It is used along with specimen holders with dovetail plates. The positioning accuracy is 5 µm, and the total lateral movement is 30 mm / 1.2". For Secotom-15/-50/-20/-60.



Cat. no.:
05996918

Kit for an external recirculation tank

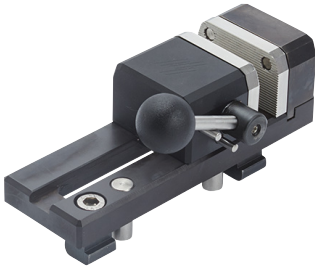
To be used if you do not want to clean the included tank, or where 4.75 liter cooling fluid is not enough. Can also be used if you want to filter the fluid to ensure that the fluid is as clean as possible. Includes 2 x 2 m hoses and a frontplate to be placed instead of the recirculation tank front. For all Secotom models.



Cat. no.:
05996915

Manual dresser

For easy dressing of diamond and CBN cut-off wheels while Secotom-6/-15/-20/-50/-60 is running.



Cat. no.:
06316907

Base plate clamping tool 8.0 mm, right

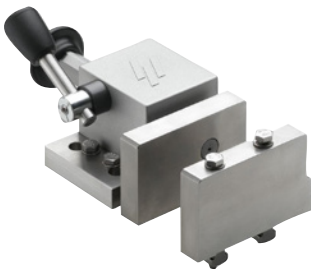
Designed to clamp small or odd-sized workpieces close to the cut-off wheel. Complete with tools for installation in T-slots and grooved jaws. For all Secotom models.



Cat. no.:
06316911

Rubber jaws for base plate clamping tools

Set of two jaw blocks for optimum clamping of specimens. For use with base plate clamping tools for 8.0 mm T-slots (06316907).



Cat. no.:
06316913

Quick clamping tool for 8.0 mm T-slots, right

For securing the workpiece on the right side of the cut-off wheel. Complete with backstop. Jaw movement: 50 mm. Jaw height: 55 mm. For all Secotom models.



Cat. no.:
05036915

Vertical clamping tool for 8.0 mm T-slots

For clamping irregularly shaped workpieces on the cutting table. Clamping height is adjustable up to 58 mm. Complete with operating key and one flat clamping shoe. For all Secotom models.



Cat. no.:
05996916

Spring clamp for 8.0 mm T-slots, left

For retaining the workpiece on the left side of the cut-off wheel. Complete with backstop and spanner. For Secotom-15/-50/-20/-60.



Cat. no.:
05116911

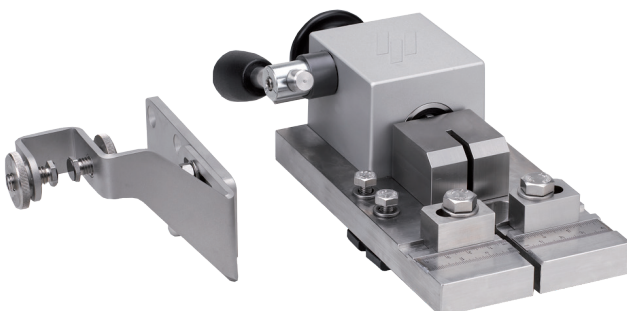
Cat. no.:
05046906

Swivel shoes for vertical clamping tool

Set of four multi-shaped swivel shoes for vertical clamping tool.

Arm extension for vertical clamping tool


For extending clamping arm of vertical clamping tool.



Cat. no.:
06316926

Bolt clamping device for 8.0 mm T-slots

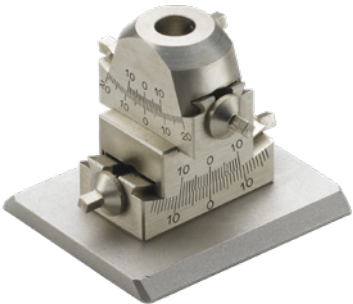
For longitudinal sectioning of bolts and fasteners. With a ruler for easy positioning of the workpiece. Clamping range: 4.0 - 22 mm dia. / 0.15 - 0.47" dia. A tungsten carbide guide prevents the cut-off wheel from moving to either side. For Secotom-15/-50/-20/-60.



Flange set
Different flanges can be used to achieve the highest precision or the biggest cutting capacity.


- 42 mm dia. flange set (max. 168 mm / 6.6" cut-off wheel) **Cat. no.: 05036901**
- 65 mm dia. flange set **Cat. no.: 05996919**
- 110 mm dia. flange set **Cat. no.: 05036902**

For all Secotom models.



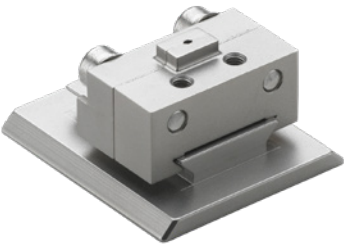
Cat. no.: 04276911

Specimen holder CATNI, with goniometer
To be used with a fixed stand, manual X-stand, or a rotary stand.



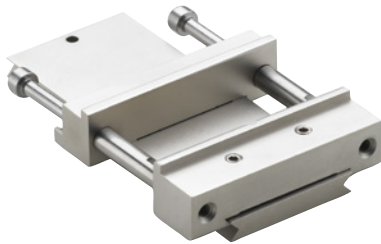
Cat. no.: 04276912

Specimen holder CATPE, for adhering workpiece
To be used with a fixed stand, manual X-stand, or a rotary stand.



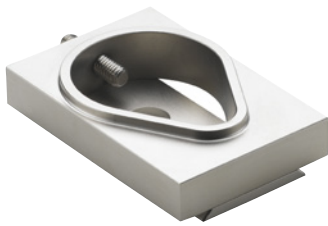
Cat. no.: 04276915

Specimen holder CATAN, for small workpieces
Max. opening: 10 mm. To be used with a fixed stand, manual X-stand, or a rotary stand.




Cat. no.: 04946903

Specimen holder CATSI, for general use
Max. opening: 60 mm. To be used with a fixed stand, manual X-stand, or a rotary stand. For all Secotom models.



Cat. no.: 04946904

Specimen holder CATFF, teardrop type with opening
For workpieces 15 - 40 mm dia. To be used with a fixed stand, manual X-stand, or a rotary stand.



Cat. no.: 04946905

Specimen holder CATTY, with seven screws for irregular workpieces
Max. 40 mm width. To be used with a fixed stand, manual X-stand, or a rotary stand.



Cat. no.:
04946909

Specimen holder CATAL, for long workpieces

With a double parallel vice.

To be used with a fixed stand, manual X-stand, or a rotary stand.

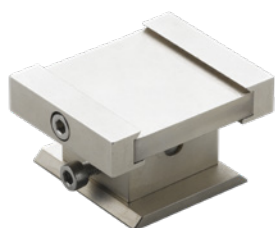


Cat. no.:
05036919

Three-jaw chuck

For centering and clamping cylindrical workpieces up to 65 mm dia.

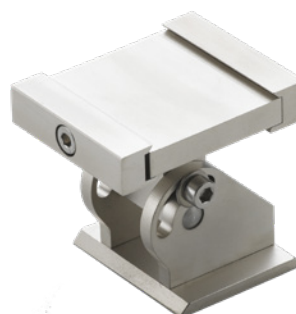
To be used with a fixed stand, manual X-stand, or a rotary stand.



Cat. no.:
04946906

Tilting joint CATJO, to be mounted between the dovetail and the specimen holder.

The specimen holder can then be angled $\pm 10^\circ$. To be used with a fixed stand, manual X-stand, or a rotary stand.



Cat. no.:
04946908

Angling joint CATJA, to be mounted between the dovetail and the specimen holder.

The specimen holder can then be angled 30° to one side and 90° to the other side. To be used with a fixed stand, manual X-stand, or a rotary stand.



Cut-off wheels

All types of cut-off wheels from the size of 76-203 mm / 3-8", including abrasive cut-off wheels, can be used on Secotom. Struers offers a large variety of diamond, CBN, Al_2O_3 , and SiC cut-off wheels, covering all possible applications.



Cat. no.:
04946907

Specimen holder CATRE, for cylindrical workpieces

Max. opening 40 mm dia. To be used with a fixed stand, manual X-stand, or a rotary stand.

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