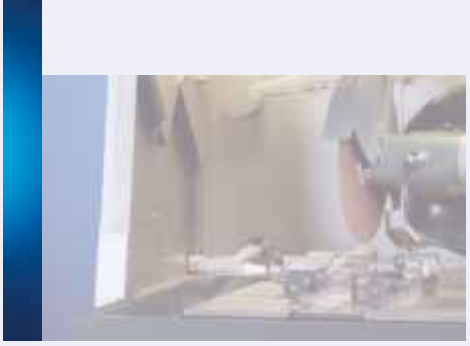
Axitom

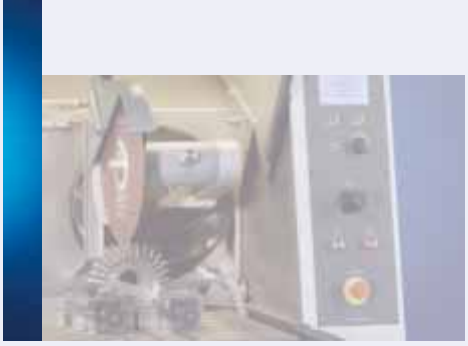
Struers

Axitom - a fully automatic cut-off machine, designed for maximum user-friendliness

Axitom is designed for 350 mm / 14" dia. cut-off wheels, equipped with a powerful motor, 2 automatic cutting tables and the advanced ExciCut feature. All functions are controlled by only two keys, making operation extremely user-friendly.

- **Spacious cutting chamber**
- **2 automatic cutting tables**
- **User-friendly operation** with 3-axes joystick and multi-function knob
- **ExciCut,** for faster cutting or cutting of harder materials without heat damage
- **AxioCut,** for cutting of extra deep workpieces
- **MultiCut,** for automatic serial cutting of parallel sections
- **OptiFeed,** optimised feed for fastest cutting without damage to sample or wheel
- **AxioWash,** automatic cleaning program to clean the inside of the machine (patent pending)



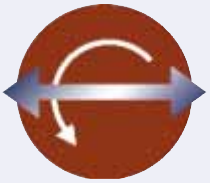


Axitom cutting modes

Direct Cut
-the classic cutting mode

Direct Cut is the classic cutting mode, where the cut-off wheel moves straight down into the workpiece using the pre-set feed speed.

ExciCut
-for cutting of the hardest materials



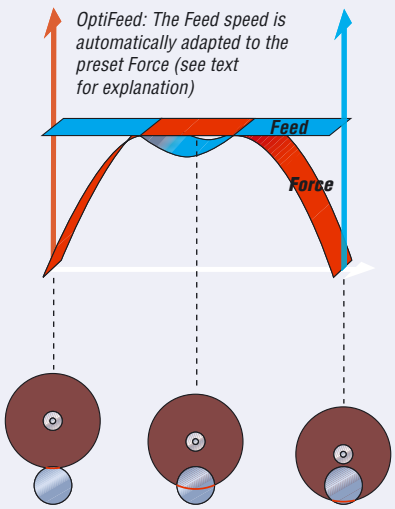
ExciCut uses an oscillating movement of the cut-off wheel to reduce the contact area between cut-off wheel and workpiece.

This enables cutting of very hard materials in very large sizes, and also the use of harder cut-off wheels, which increases the lifetime of the wheels, thus reducing costs. The ExciCut technology was invented by Struers more than 20 years ago, and appears on Axitom in a highly refined version.

AxioCut Step
-for sectioning of extra large workpieces

Axitom uses a movement of the automatic y-table to enhance the cutting capacity. The table has a movement of 150 mm (5.9"), and the possible sample size to be cut is such increased by the same amount. We have implemented the AxioCut Step mode on the Axitom, offering a fast cutting mode of large workpieces.

OptiFeed
-for protection and speed



OptiFeed: The Feed speed is automatically adapted to the preset Force (see text for explanation)

Struers has developed OptiFeed to eliminate the risk of damage to workpiece or cut-off wheel when cutting materials with varying cross-sections or composition. OptiFeed is designed to optimise the feed speed without sacrificing the quality of the cut or good wheel economy.

During cutting, Axitom continuously measures the load on the cutting arm. The pre-set Feed and Force values are interpreted as maximum values. As soon as the set force limit is reached, the feed speed will be reduced to avoid damage. What is unique about OptiFeed is that it will increase the Feed rate again as soon as the Force is decreasing.

OptiFeed is ideal for cutting of workpieces with varying cross-sections or heterogeneous composition. Variations in such workpieces might otherwise require frequent changes in the feed speed setting and as such pose a problem to many operators.

Maximum size cutting chamber

The cutting table of Axitom has a size of 591 x 492 mm (23.3 x 19.4"). With the automatic tables a movement of 100 mm (4") in x-direction and 150 mm (5.9") in y-direction can be added. This allows for very large workpieces to be positioned and clamped on the cutting table of the Axitom.

Also the space underneath the cut-off wheel is very large. Workpieces up to 200 mm (8") high can be placed underneath a new cut-off wheel.

The available space below the cut-off wheel not only allows for clamping of very high samples, it also makes possible to place additional clamping tools in the cutting chamber and still allow to cut the maximum size of workpiece that the cut-off wheel can handle.

The Cutting Diagram under Technical Data shows the maximum possible sample size that can be cut without and with the automatic y-table.

MultiCut -for demanding customers

With the new automatic x-table we open up for unseen possibilities. A total of 4 MultiCut modes are available on Axitom machines equipped with the automatic table.

MultiCut-1 is the standard cutting mode where slices of equal thickness can be programmed. Additionally the thickness of the cut-off wheel is saved so no calculations are necessary. Simply enter the thickness and the number of slices and

Perfect user-friendliness. The cut-off wheel and the two automatic cutting tables are positioned through an easy to use 3-axial joystick.

press Start. Because of the AutoStop function Axitom will stop after the workpiece has been cut through and continue to the next cut automatically.
The display will indicate how many slices of the pre-set number are cut, and of course it will not be possible to program thicker slices or higher numbers than the actual travel of the x-table allows.

MultiCut-2 is the same as above, apart from the possibility of programming slices of different thickness. When testing demands slices of different thickness then that is the perfect solution.

MultiCut-3 is something completely new. Instead of programming the thickness of a slice, a certain position is programmed. This is used for the cutting of manufactured items that have to be examined in certain fixed positions. Instead of calculating the distance between one cut and the next, simply enter the positions on the workpiece from a technical drawing starting from a common 0-point.

MultiCut-4 is the most intuitive and user-friendly MultiCut mode. Simply clamp the workpiece on the cutting table, use the joystick to position the workpiece correctly under the wheel and press Enter to record the cutting position. Go to the next position, press Enter, and continue doing so for the other positions as well. Then simply press Start and all cuts are carried out in their correct succession. This mode is also called: Learning Mode.

The above-mentioned cutting modes enable all different kinds of multiple cuts, satisfying even the most demanding customers.

User-friendly controls

Two well-proven controls are used on the Axitom:

- **The joystick** is very robust, designed for production environments. It can be moved in 3 different axes, controlling the cut-off wheel and both the x- and y-table. Positioning the cut-off wheel and the cutting tables is very easy and controlled by one single control.
- **The Multi-function** knob is used for setting all cutting parameters, and can be operated even with working gloves.

Large graphical display

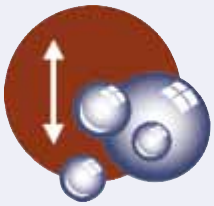
On Axitom we introduce a new, large graphical display with a resolution of 640 x 480 pixels. This allows us to display even more information in an easy to read manner, making sure that all necessary data is right where it should be.

All the cutting parameters can be seen on the display at one glance, and are easily accessible through the multi-function knob.

The graphic display of the cutting conditions during the cutting process makes it possible even from a distance to see if everything is working correctly.

All cutting parameters can be seen on the display. Here showing the unique MultiCut-4, also called the Learning Mode

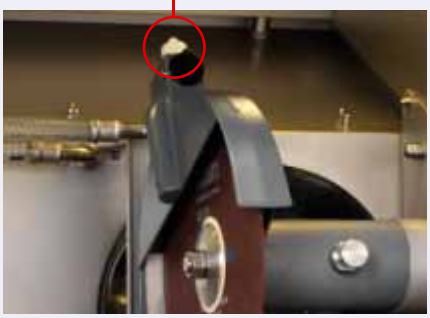
AxioWash



We know from experience that maintenance and cleaning are two of the most difficult issues for the users of our equipment. Therefore we have now built an automatic cleaning function into Axitom. This pioneering cleaning function is called AxioWash (pat. pend.).

After the automatic cleaning is finished the user only has to clean the horizontal surfaces inside the chamber and the machine is ready for the following day. When AxioWash is used every day, only a minimum of effort is needed to keep the machine in perfect shape.

Simply select AxioWash, set the required time and leave the machine to clean itself. In this way AxioWash releases operator time.



Maintenance monitoring

Axitom is equipped with software offering monitoring functions to inform the user about the status of the machine. At every power-up of the Axitom the total operation time, the time since and until the next service are displayed. This is valuable information for the operator. Regular service extends the total lifetime and ensures the uptime of the machine.

Bandfilter unit

With Axitom an advanced bandfilter unit is offered that can communicate with the Axitom. This allows for optimum control of the bandfilter unit.

With the automatic band filter unit all debris is automatically collected and disposed of. The automatic band filter can be equipped with additional sensors to monitor flow, level and temperature of the cooling water and also with a magnetic filter to collect all magnetic particles that are too fine to be collected by the band filter. Even an UV filter for cleaning the water from algae and bacteria is available.

All these measures extend the possible lifetime of the cooling water, and equipped with an automatic water filling unit only occasional change of filter paper and removal of debris is required.

Please see separate brochure for more information.

Clamping tools

Struers designs solid and easy to use clamping tools to meet any purpose.

We offer an extensive programme of clamping tools to fit regularly as well as irregularly shaped workpieces:

- Quick-clamping tools
- Jaw blocks
- T-slot turntable
- Vertical clamping tools
- Chain spanners
- Adjustable support blocks
- Parallel cutting table

Please see separate brochure for more information.

Turnable T-slot table for angular cutting, and jaw blocks for round workpieces.

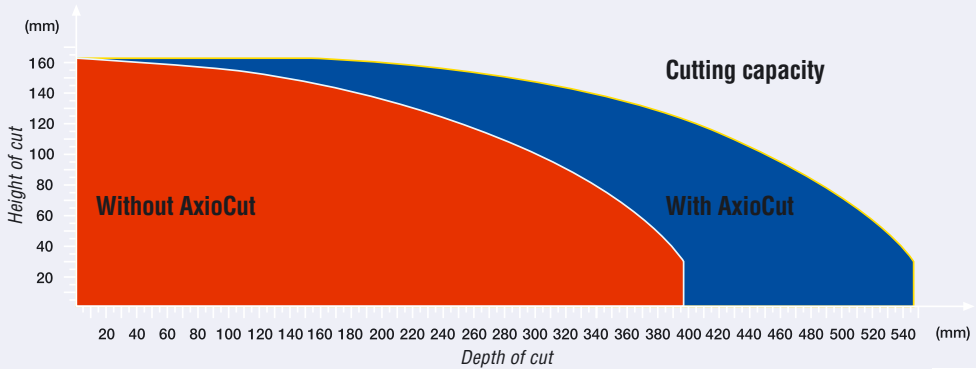
Axitom contains software offering valuable information to the user about the status of the machine.

Cooling unit for Axitom, equipped with 100 l tank, band filter and Cooli-5 control unit.

Adjustable support blocks (turnable, horizontally and vertically adjustable), and vertical clamping tools (optional Arm Extension).

Technical Data

NB: Please note that the actual cutting capacity depends on the material type and the cut-off wheel wear. It is also important to mention that the cutting capacity cannot be fully utilized when using the quick clamping devices. More flexible clamping tools have to be used to utilize the maximum cutting capacity.



Subject		Specification
CUTTING SPECIFICATIONS		**Metric / Imperial**
Workpiece Dim. (max)	Height	200 mm / 7.9"
	Width	650 mm / 25.6"
	Depth	440 mm / 17.3"
	Workpiece protruding cutting Chamber*	
	Height	120 mm / 4.7"
	Depth	170 mm / 6.7"
	*requires extension box (accessory)	
Cutting Capacity (max)	Max. workpiece diameter	ø125 mm / 4.9"
	Max. size of cut for irregular workpieces	*Please refer to above Cutting Diagram*
PHYSICAL SPECIFICATIONS		
Cutting Motor	Cutting power S1	5.5 – 6.5 kW
	Cutting power S3	7.7 – 9.2 kW
	Maximum power	11 - 13 kW
Cut-off Wheel	Diameter x Thickness x Centre-hole	350 x 2.5 x 32 mm / 14 x 0.12 x 1.26"
	Rotational speed (at rated load)	1950 rpm
Positioning & Feed	Positioning range (of cut-off wheel)	0-300 mm
	Max. height of sample underneath cut-off wheel	200 mm
	Max. positioning speed	50 mm/sec
	Feed Speed range	0.05 – 5 mm/s / 0.002 – 0.2"/s
	(adjustable in steps of)	(0.05 mm/s) / (0.002"/s)
	Cutting force	50-700 N / 10-150 lbf
Cutting table	Width x Depth	591 x 492 mm / 23.3 x 19.4"
	T-slots	12 mm
Dimensions and Weight	Height	1745 mm / 5' 9"
	Width	1155 mm / 3' 9"
	Depth	1305 mm / 4' 4"
	Weight	758 kg / 1670 lbs
ENVIRONMENT		
Noise level	Approx. 65 dB(A) running idle, at a distance of 1.0 m / 39.4" from the machine.	

ELECTRICAL DATA	**Specification**				
	Cutting Power at constant duty, S1	Cutting Power at intermittent duty, S3 15%	Max. Power	Nom. Load	Max. Load
Voltage / frequency:					
3 x 200 V / 50 Hz	5.5 kW	7.7 kW	11 kW	24.0 A	59.0 A
3 x 200-210 V / 60 Hz	5.5 kW	7.7 kW	11 kW	22.4 A	56.5 A
3 x 220-230 V / 50 Hz	5.5 kW	7.7 kW	11 kW	20.0 A	50.3 A
3 x 220-240 V / 60 Hz	5.5 kW	7.7 kW	11 kW	19.4 A	45.8 A
3 x 380-415 V / 50 Hz	5.5 kW	7.7 kW	11 kW	11.3 A	28.6 A
3 x 380-415 V / 60 Hz	5.5 kW	7.7 kW	11 kW	11.0 A	26.0 A
3 x 460-480 V / 60 Hz	6.5 kW	9.2 kW	13 kW	11.3 A	26.6 A

Specifications

Axitom
Automatic cut-off machine with ExciCut, AxioCut Step, MultiCut, Direct Cut and OptiFeed.
With automatic x-table and automatic y-table. 5.5 - 6.5 kW Motor. For 350 mm dia. cut-off wheels. Bandfilter unit and clamping tools have to be ordered separately.

Code:	AXITT
Cat. no:	Voltage
05486129	3 x 200 V / 50 Hz
05486130	3 x 200 – 210 V / 60 Hz
05486135	3 x 220 – 230 V / 50 Hz
05486136	3 x 220 – 240 V / 60 Hz
05486146	3 x 380 – 415 V / 50 Hz
05486147	3 x 380 – 415 V / 60 Hz
05486154	3 x 460 – 480 V / 60 Hz

Axitom
Automatic cut-off machine with ExciCut, AxioCut Step, Direct Cut and OptiFeed. With automatic y-table. 5.5 - 6.5 kW Motor. For 350 mm dia. cut-off wheels. Bandfilter unit and clamping tools have to be ordered separately.

Code:	AXIYT
Cat. no:	Voltage
05486229	3 x 200 V / 50 Hz
05486230	3 x 200 – 210 V / 60 Hz
05486235	3 x 220 – 230 V / 50 Hz
05486236	3 x 220 – 240 V / 60 Hz
05486246	3 x 380 – 415 V / 50 Hz
05486247	3 x 380 – 415 V / 60 Hz
05486254	3 x 460 – 480 V / 60 Hz

Axitom
Automatic cut-off machine with ExciCut, MultiCut, Direct Cut and OptiFeed. With automatic x-table. 5.5 - 6.5 kW Motor. For 350 mm dia. cut-off wheels. Bandfilter unit and clamping tools have to be ordered separately.

Code:	AXIXT
Cat. no:	Voltage
05486329	3 x 200 V / 50 Hz
05486330	3 x 200 – 210 V / 60 Hz
05486335	3 x 220 – 230 V / 50 Hz
05486336	3 x 220 – 240 V / 60 Hz
05486346	3 x 380 – 415 V / 50 Hz
05486347	3 x 380 – 415 V / 60 Hz
05486354	3 x 460 – 480 V / 60 Hz

Axitom
Automatic cut-off machine with ExciCut, Direct Cut and OptiFeed. 5.5 - 6.5 kW Motor. For 350 mm dia. cut-off wheels. Bandfilter unit and clamping tools have to be ordered separately.

Code:	AXIFT
Cat. no:	Voltage
05486429	3 x 200 V / 50 Hz
05486430	3 x 200 – 210 V / 60 Hz
05486435	3 x 220 – 230 V / 50 Hz
05486436	3 x 220 – 240 V / 60 Hz
05486446	3 x 380 – 415 V / 50 Hz
05486447	3 x 380 – 415 V / 60 Hz
05486454	3 x 460 – 480 V / 60 Hz

Axitom
Automatic cut-off machine with MultiCut, Direct Cut and OptiFeed. With automatic x-table. 5.5 - 6.5 kW Motor. For 350 mm dia. cut-off wheels. Bandfilter unit and clamping tools have to be ordered separately.

Code:	AXUXT
Cat. no:	Voltage
05487329	3 x 200 V / 50 Hz
05487330	3 x 200 – 210 V / 60 Hz
05487335	3 x 220 – 230 V / 50 Hz
05487336	3 x 220 – 240 V / 60 Hz
05487346	3 x 380 – 415 V / 50 Hz
05487347	3 x 380 – 415 V / 60 Hz
05487354	3 x 460 – 480 V / 60 Hz

Axitom
Automatic cut-off machine with Direct Cut and OptiFeed. 5.5 - 6.5 kW Motor. For 350 mm dia. cut-off wheels. Bandfilter unit and clamping tools have to be ordered separately.

Code:	AXUFT
Cat. no:	Voltage
05487429	3 x 200 V / 50 Hz
05487430	3 x 200 – 210 V / 60 Hz
05487435	3 x 220 – 230 V / 50 Hz
05487436	3 x 220 – 240 V / 60 Hz
05487446	3 x 380 – 415 V / 50 Hz
05487447	3 x 380 – 415 V / 60 Hz
05487454	3 x 460 – 480 V / 60 Hz

Replacement Stainless Steel Bands for Axitom
60 x 220 mm. Set of 2

Code:	AXIBS
Cat. no:	05486905

60 x 493 mm. Set of 2

Code:	AXIBL
Cat. no:	05486906

Struers' products are subject to constant product development.
Therefore, we reserve the right to introduce changes in our products without notice.

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