



Cut-off machines for cutting of large workpieces, offering superior quality, extreme durability and maximum user-friendliness.

The Cutting Edge

Struers are committed to making your cutting process as simple, fast and precise as possible. Our cut-off machines are equipped with the newest technologies for fast cutting and deformation-free specimen surfaces.

Struers' series of cut-off machines meets the most stringent demands and offers premium performance with any cut-off task presented:

- › Superior quality
- › Extreme durability
- › Maximum user friendliness
- › High operator safety
- › Lowest cost per specimen

Our R&D encompass both equipment and consumables – your guarantee of consistent quality. We maintain a close dialogue and co-operation with users of our machines and consumables, ensuring that our products continuously meet the market demands.

Reduce your preparation time and costs by making the optimum cut with the winning combination of Struers cut-off machines and cut-off wheels.

Unique quality solutions

Struers offers manual and automatic machines for laboratories of any size within industrial quality inspection and research. Struers cut-off machines cover the entire materialographic spectrum - from delicate precision cutting to the cutting of large objects. This brochure focuses on cut-off machines for the cutting of larger workpieces.



Cut-off machines for large specimens

Magnutom-400/-500

High capacity automatic cut-off machine in a small space

Powerful automatic cut-off machines designed for 24/7 quality cutting. Simple design, robust frame, and unique direct-drive motor mechanism ensure maximum efficiency and operation. Extremely compact - with a footprint of just 2.5 m² - Magnutom has the largest stationary cutting table in its class (827x781 mm / 32.5"x30.7"). Exceptional accessibility from three sides.

Cutting capacity:

Magnutom-400

ø 151 mm/5.9" with ø 432 mm/17" cut-off wheel

Magnutom-500

ø 189 mm/7.4" with ø 508 mm/20" cut-off wheel

Exotom-150

Powerful, high capacity cut-off machine

High cutting power and a spacious and accessible cutting chamber makes the automatic Exotom-150 ideal for cutting large workpieces or large volume cutting. Easy to operate through two simple controls.

Cutting capacity:

ø 160 mm/6.3" with ø 432 mm/17" cut-off wheel

Axitom-5

Automatic cut-off machine, designed for maximum user-friendliness

With its very large cutting table and easy to use controls, Axitom is ideal for large volume cutting. The spacious cutting chamber is equipped with two automatic cutting tables. The X-table is for serial cutting of parallel sections and the Y-table is used for cutting of extra deep workpieces.

Cutting capacity:

ø 125 mm/4.9" with ø 350 mm/14" cut-off wheel

Discotom-100/-10

Spacious, versatile and easy-to-use automatic and manual cut-off machines

Versatile table top cut-off machines designed to give you a cost-efficient way to expand your cutting capabilities and streamline your cutting processes. Discotom-100/-10 deliver exceptional cutting flexibility and more cutting options so you can clamp and cut all types of workpieces efficiently, with less effort and minimum deformation.

Cutting capacity:

Discotom-100:

ø 119 mm/4.68" with ø 300 mm/12" cut-off wheel

Discotom-10:

ø 94 mm/3.7" with ø 250 mm/10" cut-off wheel

Labotom-5/-15

Robust, easy-to-use manual table top machines

Robust and powerful design, large cutting table and straightforward features make these cut-off machines the ideal choice when you need fast and easy quality cutting. Simple control panel, ergonomic handle as well as safety lock and emergency stop make the Labotom-5/-15 machines not only extremely user-friendly - they also provide optimal protection of the users.

Cutting capacity:

Labotom-15:

ø 120 mm/4.7" with ø 350 mm/14" cut-off wheel

Labotom-5:

ø 90 mm/3.5 with ø 250 mm/10" cut-off wheel



Magnutom-400/-500

Exotom-150



Axitom-5



Discotom-100/-10



Labotom-15



Labotom-5



For further information, please refer to the individual brochure on each machine.

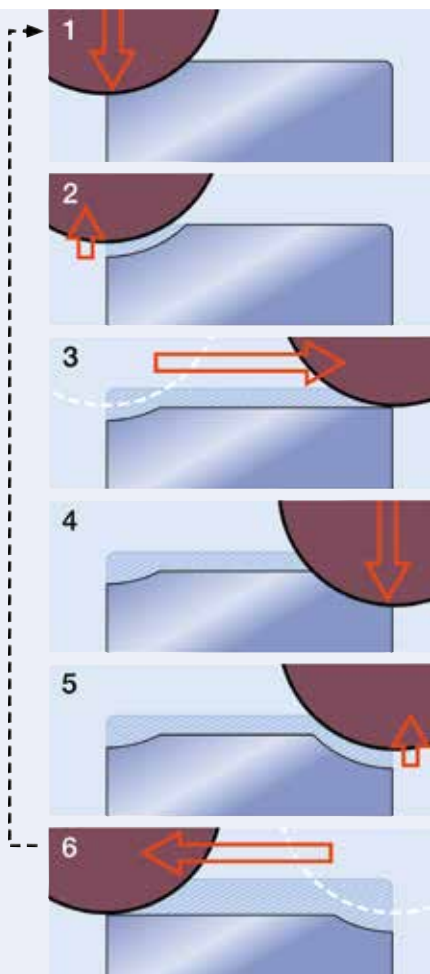
Unique features

ExciCut

For faster cutting or cutting of harder materials without heat damage

- Easy and faster cutting of even the hardest materials.
- Excellent access for coolant in the cutting area.
- Reduced risk of damage to workpiece and motor overheating.

ExciCut uses an oscillating movement of the cut-off wheel to reduce the contact area between the cut-off wheel and the workpiece. This enables cutting of workpieces in very hard materials and in very large sizes. At the same time, it is possible to use harder cut-off wheels, which have a longer lifetime, thus reducing costs.



AxioCutSweep

AxioCut

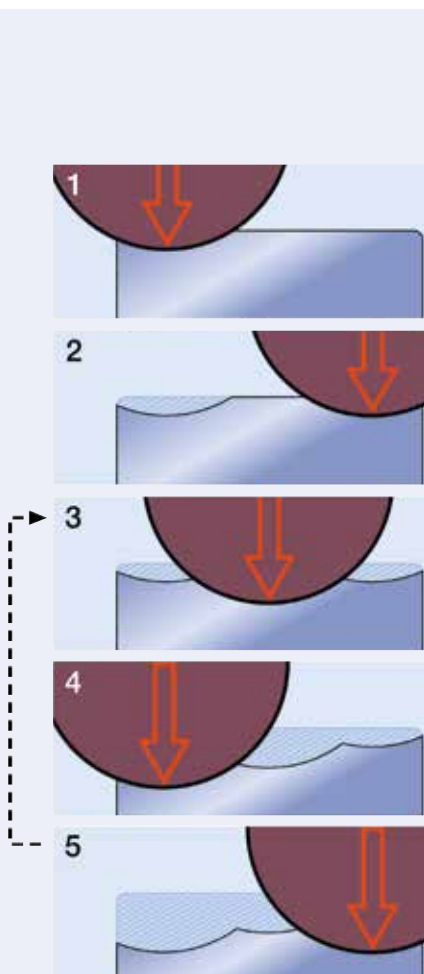
For cutting of extra deep workpieces

Two unique, pre-programmed cutting modes of cutting capacity: AxioCut Sweep for fast cutting and optimum wheel economy, and AxioCut Step for very fast cutting.

MultiCut

For automatic serial cutting of parallel sections

Struers machines equipped with the automatic x-table offer several possibilities. Totally 4 MultiCut modes are available to make cutting even easier.



AxioCutStep

Variable Cutting Offset

Flexible wheel positioning

- Manual, horizontal positioning of cut-off wheel.
- Maximum flexibility when cutting difficult workpieces (e.g. turbine blades).
- Move cut-off wheel instead of clamping device.

Constant Feed Speed

Ensuring high and uniform cutting quality

- Unique, patented cut-off wheel movement on **all** Struers machines.
- Feed speed is held constant throughout the cutting process.
- Prevents excessive load on the workpiece at wheel entry and exit.

VarioSpeed

Use one wheel for different materials

By adjusting the spindle speed, the user is in control of the cutting properties of the cut-off wheel as well as the wheel wear. In effect, one cut-off wheel can be used for a wide range of materials, wasting no time changing cut-off wheels.



OptiFeed

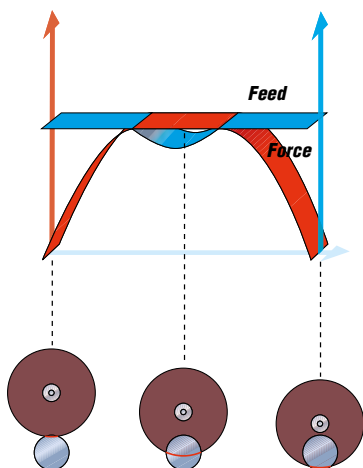
Ensuring the best economy and protection

- Optimised feed speed based on force limit.
- Fastest cutting without damaging workpiece or cut-off wheel.
- Force and feed speed are preset.
- Ideal for workpieces with uneven cross-section or composition.

Cutting of workpieces with uneven cross section or composition, poses a great challenge to the operator. The risk of damage to the workpiece or cut-off wheel is high. The OptiFeed principle is based on a preset maximum force limit. As the contact area (between workpiece and cut-off wheel) is getting larger, the force increases to maintain the feed speed. If the preset force limit is reached, the feed speed is automatically reduced to avoid damage. When the cut-off wheel has passed the centre of the workpiece, the contact area is getting smaller again, and with it the resulting force. In turn, the feed speed is automatically increased to the preset maximum.

OptiFeed

The Feed speed is automatically adapted to the preset Force. Thanks to OptiFeed you will always cut through the workpiece at the fastest possible speed, within the set parameters - and without overloading the workpiece and the cut-off wheel.



Intelligent Speed Adjustment

Automatically finds the correct wheel speed

On Discotom-100, after selecting the cut-off wheel, the "Intelligent selection" option allows you to select the material hardness. The machine then automatically adjusts the cut-off wheel speed, making it possible to use the same wheel for different materials without sacrificing the quality of the cut.

QuickPosition

Time saving, fast positioning of cut-off wheel

- Use before cutting.
- Automatic force reduction on contact with workpiece.

Programmable Return Position

Time saving, automatic positioning of cut-off wheel

- Use after cutting to move cut-off wheel.
- Choose between 3 different positions.
- For convenient access to workpiece.
- Fast turnaround with many uniform cuts.

AutoStop

For unattended operation

- Automatic detection of when workpiece has been cut.
- Automatic retraction of cut-off wheel.
- Press "Start", and no more attention is required.
- Time saving and convenient.

AxioWash

Easy cleaning

Magnutom-400/-500, Exotom-150, Axitom-5 and Discotom-100/-10 come standard with the automatic cleaning function 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.



OptiFeed ensures fastest cutting without damaging workpiece or cut-off wheel.

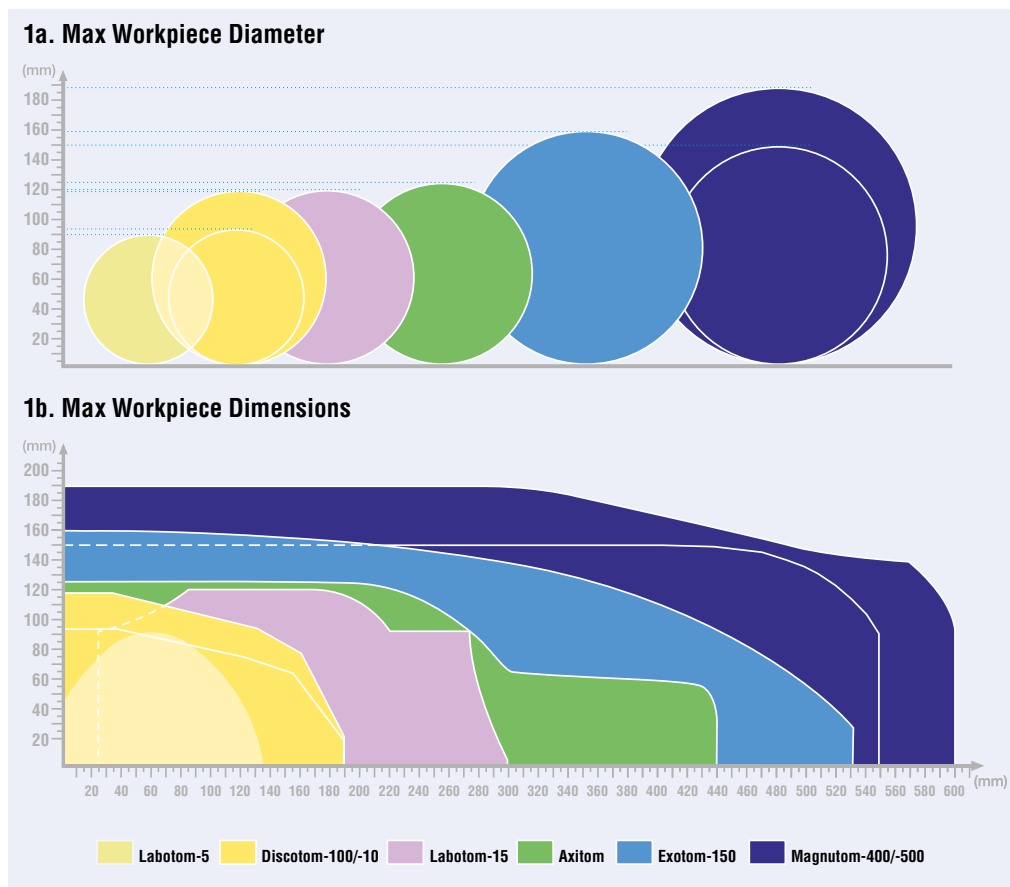


Simply select AxioWash, set the required time and leave the machine to clean itself. In this way AxioWash releases operator time.

Choosing the right model

Three factors usually determine your choice of cut-off machine: the size and the composition of the workpiece, as well as the number of specimens to be cut. The tables on this page will guide you towards the right model.

If you are cutting mainly round workpieces, figure 1a will help you select a suitable machine. Figure 1b lets you choose the right machine based on the overall dimensions of your workpiece.



2. Functionality

	Operation		ExciCut	AxioCut	VarioSpeed	OptiFeed	AutoStop	Quick Position	AxioWash	Cut-off wheel database	Cutting method database
	Manual	Automatic									
Magnumtom-400/500		X	X	X	X	X	X	X	X	X	X
Axitom-5		X	X	X ¹		X	X		X		
Exotom-150		X	X	X ¹		X	X	X	X		
Discotom-100	X	X	X		X	X	X		X	X	X
Discotom-10	X	X	X			X	X		X	X	X
Labotom-15	X										
Labotom-5	X										

3. Technical Data

	Cutting motor ² (kW/HP)	Maximum cut-off wheel diameter (mm/inch)	Cut-off wheel speed (rpm)	Feed speed (mm/s)	Dimensions WxHxD (mm/inch)
Magnumtom-400	11 / 14.7	432 / 17	1000-1950	0.1 - 10	1758 x 1882 x 1463 / 67.4 x 72.1 x 56
Magnumtom-500		508 / 20	1000-1850		
Axitom	7.7 - 9.2 / 10.3 - 12.3	350 / 14	1950	0.05 - 5	1155 x 1745 x 1305 / 44.2 x 66.8 x 50
Exotom-150	10.9 - 13 / 14 - 17	432 / 17	1950	0.05 - 5	1350 x 2300 x 1500 / 51.7 x 88.1 x 57.5
Discotom-100	4.7 / 6.4	300 / 12	1500-3000	0.05-2.5	920 x 685 x 890 / 36 x 27 x 35
Discotom-10	3.2 - 3.8 / 4.3 - 5.1	250 / 10	2850	0.05-2.5	920 x 685 x 890 / 36 x 27 x 35
Labotom-15	7.5 - 8.5 / 10 - 11.4	350 / 14	2350	manual	870 x 660 x 877 / 34.3 x 26 x 34.5
Labotom-5	3.2 / 4.3	250 / 10	2845/3450 @ 50/60 Hz	manual	860 x 520 x 808 / 32.9 x 19.9 x 30.9

¹ Optional

² Intermittent cutting power (S3 15%)

Clamping tools

Exceptional flexibility in clamping

Struers designs solid and easy-to-use clamping tools to fit regular as well as irregular shaped workpieces. Choose the type and number of clamping tools which meets specific requirements.

Clamping of regular shaped workpieces

- Quick-clamping tools
- Jaw blocks
- T-slot turntable
- Parallel cutting table

Clamping of irregular shaped workpieces

- Vertical clamping tool
- Chain spanner
- Adjustable support blocks
- Sliding Rail Kit with 12 mm vertical clamping tool
- Clamping tool for bolts and fasteners

For further information, please refer to the individual brochure on Clamping Tools.



Table unit with room compartment for recirculation unit, shelves for cut-off wheels and drawer for tools.

Cooling Systems

Advanced systems for the supply of cooling water

Struers offers a complete line of cooling recirculation systems, in order to meet the needs of all machine sizes and cutting intensities. The line is tailored for cut-off machines generating low to medium amounts of swarf. It is a compact unit available with a 50 or 100 l tank, which can fit underneath larger cut-off machines. With its static filter and stainless steel parts it is both simple to operate and robust.

Coolimat-200 is an external band filter unit intended for use with cut-off machines with high specimen volumes. With the Coolimat-200, all debris is automatically disposed off. It comes with a large 200 l tank and 500 metres paper roll, ensuring long uninterrupted use. An additional pump can be added to serve a second cut-off machine. The unit also comes with unmatched safety features, water level indicator and optional magnetic filter.

For high volume cutting on the smallest possible footprint, we offer 150 l tanks for Exotom-150 and Magnutom.

For further information, please refer to the individual brochures on Cooling Systems and Coolimat-200.



Coolimat-200 with 200 l tank.

Cut-off wheels

Covering the entire materialographic spectrum

Struers cut-off wheels are specially developed for materialographic specimen preparation. We have a complete product programme covering all materials and materialographic applications and offer superior preparation quality, faster results and better cost-efficiency.

Intelligent cut-off wheels

With cut-off wheels from Struers the abrasive density varies across the wheel radius – with increasing density towards the centre of the wheel. This means that the cutting performance of the wheel remains constant even as it wears to a smaller diameter.

3D cut-off wheels*

Cut-off wheels with a hexagonal surface pattern are an addition to our standard line of cut-off wheels. With the 3D wheels, cooling of the workpiece is much more efficient meaning less heat damage. In addition, the 3D surface means less cutting debris and easier cleaning of the equipment.

For further information, please refer to the individual brochure on Cut-off Wheels.



* United States Design Patent granted, patent no. US D560,991 S

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Ensuring Certainty

With offices and affiliates in 24 countries and a presence in more than 50 countries worldwide, Struers is the world's leading materialographic solution supplier. We are dedicated to enabling our customers to ensure certainty in all aspects of materialographic preparation and testing as well as material hardness testing - wherever they are in the world. Struers offers a complete range of equipment, consumables, service and training programmes – all supported by the most comprehensive knowledge base, global applications support and a certified global service set-up.

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