

CUTTING

# SERVOCUT

501



**metken**<sup>®</sup>  
Technology behind Specimen

**20**  
YEARS

# SERVOCUT®

## 501



**SERVOCUT 501 is an advanced universal metallographic cutting machine used to cut a very wide range of materials.**

- Powerful, with spacious cutting chamber
- Fully automatic
- Programmable with coloured HMI touch screen controls
- X-Y-Z three axes cutting capability
- Automatic control of cutting parameters
- Chop cutting and Table-feed cutting combined with pulse cutting
- Optional cutting methods for hard and difficult workpieces; StepCut, SegmentCut, DiagonalCut
- Multi-slice automatic serial cutting of plane parallel sections

## DESIGN

Specimen integrity begins with high quality cutting. Perfectly cut surfaces reduce the number of subsequent preparation stages and shorten the total sample preparation time to the minimum.

SERVOCUT 501 offers the advantage of combining different cutting techniques and methods into the same machine to obtain superior cut surfaces for a broad range of heavy duty cutting applications.

SERVOCUT 501 has X-Y-Z triple axes cutting capability:

**Z-axis Chop cutting:** The specimen is clamped and the cut-off wheel approaches the specimen.

**Y-axis Table-feed cutting:** Feeding the clamped specimen into a rotating cut-off wheel using a T-slotted feed table.

**X-axis Parallel Cutting (optional):** Parallel serial sectioning in the x-axis with optional movable x-bed.

SERVOCUT 501 consists of a cast aluminium base on which the motor and the working space are provided in the form of two separate housings. A large window of Lexan and a sealed LED lamp in the cutting chamber allow precise observation of the cutting process at an optimum degree of safety. A standard 80 mm dia. outlet for fume extraction is at the back of the hood.

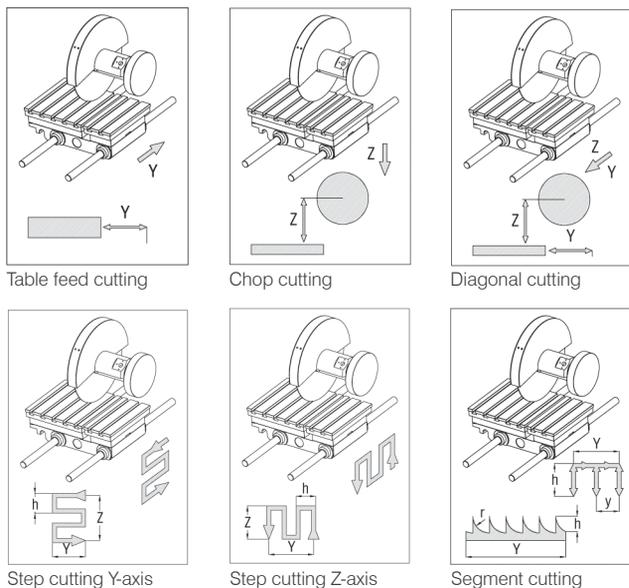
A large, T-slotted feed table located in the cutter's generous work area can accommodate a variety of different clamping devices which need to be selected. The feed table provides a long travel depth making the SERVOCUT 501 ideal for cutting long or deep samples in a single pass. Side access port makes it possible to make transverse sections on long specimens. Stainless small parts tray to catch small specimens is supplied with the cutting table as standard.

SERVOCUT 501 cutting machine has the highest safety standards. The interlocking safety device does not allow the motor to be started unless the hood is closed. The hood can not be opened before the cutting motor is stopped. The electronic brake system, which is a standard feature, brings the cutter to a quick full stop in seconds after it has been switched off.



Extra large cutting chamber with optional movable X-bed

## Automatic Operation



### Cutting Parameters:

The preselection of the cutting force level as well as the setting of cutting feed rate (0,1-5mm/sec) is possible from the touch screen LCD. The feed rate is automatically adjusted, if needed reduced, resulting in perfect cuts and eliminating sample and machine damage. Pulse cutting mode is a standard feature in all automatic models for cutting extra hard specimens. Optional speed regulating unit is available to adjust the cut-off wheel speed between 600-2400 rpm.

### Programmable Return Positions

SERVOCUT 501 has 3 different stop modes:

Auto stop: Stops when the specimen has been cut through.

Relative Stop: Stops when it has returned to its starting point.

Absolute Stop: Stops when the ultimate reset point in all axes has been reached.

### Database

A library of 99 different cutting programs with related specimen name or number can be saved with all cutting parameters which can be recalled at anytime. Data with Metkon cutting consumables is also listed for easy selection.

SERVOCUT 501 automatic models have advanced techniques and software with programmable HMI touch screen controls increasing the productivity, sample consistency and operator comfort.

### Cutting Methods

Chop cutting ( Z-axis ) and Table feed cutting ( Y-axis ) combined with pulse cutting in automatic models is standard.

Optional Cutting Methods:

Diagonal Cut - for increased cutting capacity.

Step Cut - for extra hard materials

Segment Cut - for difficult workpieces

are available which make SERVOCUT 501 the perfect choice for a broad range of heavy duty cutting applications.

### Multi-Slice Cutting:

The optional automatic x-table allows programmable plane parallel sectioning. Slices of equal thickness with number of slices as well as programming slices of different thickness is possible.



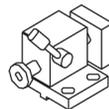
HMI touch screen controls with various cutting methods and database with cutting programs and maintenance monitoring



## Clamping Devices

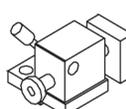
Many sample preparations applications require the sectioning of a specimen from a small or irregularly shaped sample or component part. The small size or irregular sample shape can create positioning and clamping difficulties for the operator. To overcome these difficulties, METKON offers a number of special clamping devices for use with SERVOCUT abrasive cutters. METKON cut-off machines are equipped with stainless T - slot clamping tables. All clamping devices are made of stainless steel and can be attached to the cutters T - slot beds in seconds for fast and positive clamping of parts having virtually any configuration.

Quick Acting Clamping Vise Assembly,Right



GR 0121

Quick Acting Clamping Vise Assembly,Left



GR 0122

Vertical Clamping Spring loaded



15 02

Height Block



15 04

