

PRECISION CUTTING

# MICRACUT

151/201

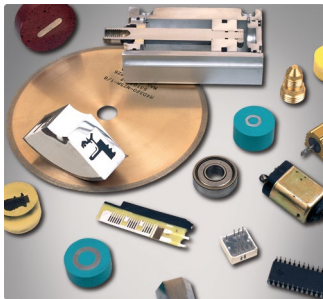


**metkon®**  
Technology behind Specimen

**20**  
YEARS

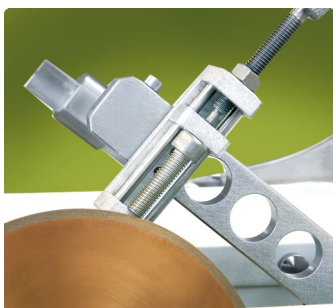
# MICRACUT®

151/201



MICRACUT precision cutters are used for precise and deformation-free cutting of “Metals, Ceramics, Electronic Components, Crystals, Composites, Biomaterials, Sintered Carbides, Minerals, etc.” MICRACUT has its place in virtually any metallurgical, geological, electronics, research, biomedical or industrial laboratory. The applications are endless.

## DESING



MICRACUT series are capable of cutting most materials such as, brittle or ductile metals, hard or soft metals, composites, ceramics, rocks, biomaterials, laminates, etc. They are designed for cutting all types of materials with minimal structural deformation. The structural integrity of the sample is maintained through MICRACUT's design and operation. Additionally, low kerf-loss and sample holding versatility makes the MICRACUT an essential part of the modern day laboratory. The cut surface is ready for microscopic examination with minimal polishing.

## MICRACUT 151



MICRACUT 151 accommodates diamond and abrasive wheels up to 150 mm (6") diameter and the speed range is between 0 and 1000 rpm. The gravity feed loading design minimizes sample deformation. The sliding weight arm with counterweight allows precise force application. The digital micrometer enables the operator to set the cutting width with a resolution of 1 micron. The digital micrometer is interchangeable and the customer can mount other types of micrometers if and whenever required. The coolant tray is removable from the front of the instrument for easy cleaning.

MICRACUT 151's cutting chamber is fully enclosed by a transparent hood. Blade dresser is optionally available. At the end of the cut, an audible signal notifies the operator.

Optional Cutting Table Attachment is available for manual cutting of extra flat large specimens and PCB's.



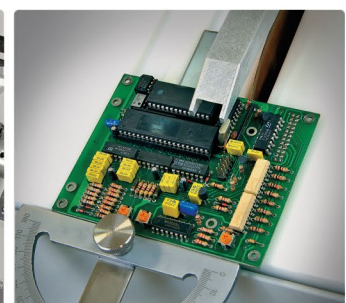
MICRACUT 151 digital display



Sliding weight arm conveniently placed



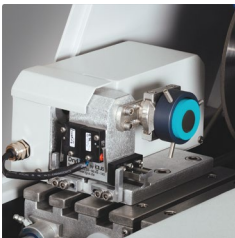
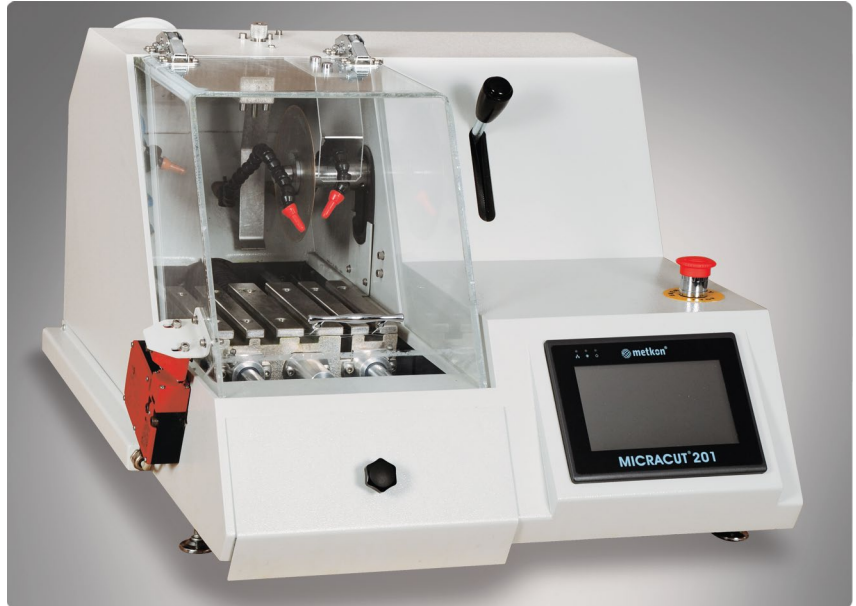
A variety of specimen vises are available for different applications



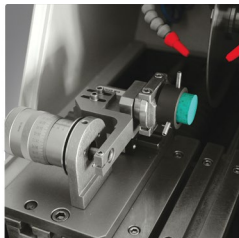
Cutting table attachment to cut flat specimens and PCB's

## MICRACUT 201

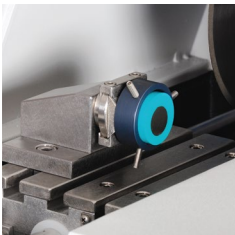
MICRACUT 201 is built on precisely manufactured heavy duty aluminium frame providing stable and vibration resistant base for precision components and linear bearings. The cutting compartment is fully enclosed. The transparent hood is equipped with interlocking safety switch. Powerful cutting motor has variable cut-off wheel speeds from 500 up to 5000 rpm allowing both high speed and low speed cutting. By moving the cutting table, MICRACUT 201 can cut larger and deeper samples. Wide range of clamping tools can be used on the T-slotted moving table. Optional X - axis table with motorized drive mechanism positions the specimen with 5 microns positioning accuracy. Optional Vacuum sample holder provides precision grinding on MICRACUT 201 with pre-defined amount of material removal can be carried out by using diamond cup wheel. Optional stand can accommodate all MICRACUT specimen vises with dovetail plates. The height of the cut-off wheel (Z-axis) can be adjusted up to 45 mm. Diamond, CBN and abrasive cut-off wheels up to 200 mm diameter can be used. By height adjustment (Z-axis), the wheel wear is easily compensated. Different flange sets are available which can be selected according to the requirement of maximum cutting capacity or max. wheel support. Various clamping tools and accessories are available for different specimen geometry and applications. For details of the specimen vises, please see the back page



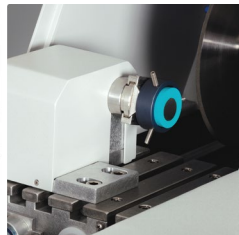
Automatic X-axis positioning unit



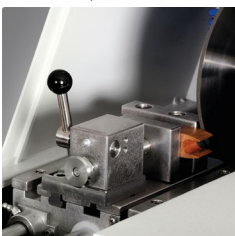
Manual X-axis positioning unit



Stand for specimen vises



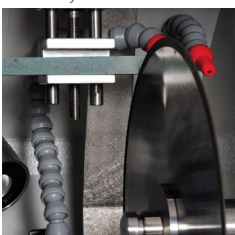
Stand with rotation



Quick acting clamping vise assembly



Vertical clamping device



Blade dresser available for dressing even during cutting



Recirculating coolant tank with 4,5 lt capacity

MICRACUT 201 has advanced techniques and software with programmable HMI touch screen controls increasing the productivity, sample consistency and operator comfort.

### Cutting Parameters:

The preselection of the cutting force level as well as the setting of cutting feed rate (0,020 - 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.

### 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.

### Programmable Return Positions

MICRACUT 201 has 3 different stop modes:

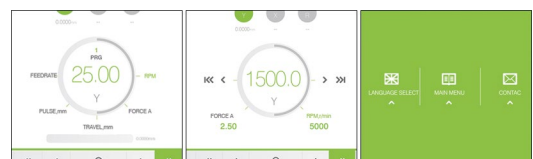
Auto stop: Stops when the specimen has been cut through.

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 25 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.



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



# Specifications

## 16 04 MICRACUT 151

MICRACUT 151 Precision cutter,with digital display 100 W powerful DC cutting motor, variable speed 0-1000 rpm, with digital micrometer cross feed for specimen positioning, counterbalanced sliding weight system,removable cooling unit, automatic cut-off switch, for cutting discs of upto 150 mm diameter and ready for operation. / Without specimen vises. Includes a standard set of cutting consumables composed of; \*1 pc. Diamond cutting Disc 150 mm dia. \*1 lt. of Metcool II Cooling Fluid Order No: 16 03

### Accessories:

- GR 0212** Cutting Table Attachment for manual cutting of extra flat large specimens and PCB's on MICRACUT 151
- GR 0409** Dressing Unit for MICRACUT 151

## 17 06 MICRACUT 1201

Automatic High Speed Precision Cut-off Machine, Programmable with 7" HMI touch screen control, with Siemens PLC control unit, coloured LCD display of cutting parameter moving table feed system, compact cutting motor, automatic feeding with adjustable feed speed, motorised positioning system with digital readout on the LCD, library of cutting programs for different materials, ability to mount diamond cup grinding wheel for thin section applications with built-in recirculation cooling unit, complete and ready for operation. Without clamping tools and specimen vises. 230 V, 50 Hz, AC. Includes a standard set of cutting consumables composed of; \*1 pc. Diamond cutting Disc 200 mm dia. \*An assortment of 10 abrasive thin cut-off wheels 200 mm di \*1 lt. of Micracool cooling fluid.



MICRACUT 151

MICRACUT 201

Order No	16 04	17 06
Wheel diameter, (mm)	Ø 150	Ø 200
Cutting Capacity Ø, (mm)	Ø 50	Ø 75
Cutting Capacity #, (mm)	-	40 X 150
Positioning range X-axis, (mm)	25	30
Positioning range Y-axis, (mm)	-	165
Positioning range Z-axis, (mm)	-	45
T-Slot table dimension, (mm)	-	196 X 190
T-Slot dimension, (mm)	-	12
Cutting Power kW (S1)	0,1	0,75
Cutting Power kW (S3)	-	1
Wheel speed, (rpm)	0-1000	500-5000
Parallel Cutting X-axis	Yes	Optional
Positioning Accuracy X-axis, (µ)	-	5
Feedrate y-axis, (µ/s)	-	20-1500
Cutting Method	Chop	Table feed
HMI Touch Screen controller, (inch)	-	7"
Rotational Cutting	-	Optional
Pulse Cutting	-	Yes
Cup grinding	-	Yes
Size WxDxH, (mm)	510 X 430 X 340	660 X 750 X 450
Weight, (kg)	28	100
Cooling unit, (lt)	1	5.5 lt.
Mains, (V)	1 phase, 230V, 50Hz. AC	1 phase, 230V 50Hz.AC

### Accessories and Clamping Tools for MICRACUT 201:

- GR 0824** Automatic X-axis positioning unit for programmable positioning in the X-axis with serial plane parallel cutting capability.(0-30 mm)
- GR 0825** Manual X-axis positioning unit for specimen vises with dovetail plates.(0-20 mm)
- GR 0547** Stand for specimen vises with dovetail plates.
- GR 0826** Stand with rotation for specimen vises with dovetail plates
- GR 0548** Quick acting clamping vise assembly
- GR 0201** Jaw set for cutting extra short and small workpieces with X-axis table
- 15 05** KKP 040 Vertical Clamping Device, with clamp.shoe,MCR 201/Geocut
- GR 0551** Quick Clamping Vise for longitudinal sectioning of bolts and fasteners
- GR 0579** Vacuum Sample holder for thin sectioning (To be ordered simultaneously together with the machine order)
- GR 0938** Cabinet for floor model, MTC 351/MCR 201/FORCIPOL 2V

## Specimen Vises & Flanges

GR 0410  
FLANGE SET Ø 75 mm  
(for arbor dia Ø 12.7 - Ø 25.4 )



GR 0411  
FLANGE SET Ø 100 mm  
(for arbor dia Ø 12.7 - Ø 25.4 )



GR 0400  
UNIVERSAL SPECIMEN VISE



GR 0401  
SPECIMEN VISE FOR LONG SPECIMENS



GR 0402  
SPECIMEN VISE FOR AROUND AND MOUNTED SPECIMENS Ø 32 mm



GR 0403  
SPECIMEN VISE FOR IRREGULARLY SHAPED SPECIMENS



GR 0404  
SPECIMEN VISE FOR ADHERING SPECIMENS



GR 0405  
SPECIMEN VISE FOR BIOMEDICAL SAMPLES



GR 0406  
SWIVEL ARM UNIT FOR ANGULAR CUTTING FOR MICRACUT 151



GR 0210  
UNIVERSAL SPECIMEN VISE FOR MICRACUT 201



GR 430  
SPECIMEN VISE ( TEARDROP SHAPE ) FOR SPECIMENS Ø 18-40 mm



GR 0431  
SPECIMEN VISE ( TEARDROP SHAPE ) FOR SPECIMENS Ø 5-20 mm



GR 0434  
SPECIMEN VISE FOR ROUND AND MOUNTED SPECIMENS UPTO Ø 40 mm



GR 0453  
FASTENER VISE FOR LONGITUDINAL SECTIONING OF SCREWS, FASTENERS TUBES, ETC. FROM 12 to 45 mm. IN LENGTH



\* Other voltages and frequencies avaiable upon request. Please state when ordering. All specifications are subject to change without notice.