

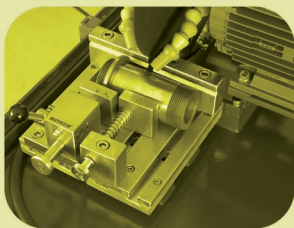
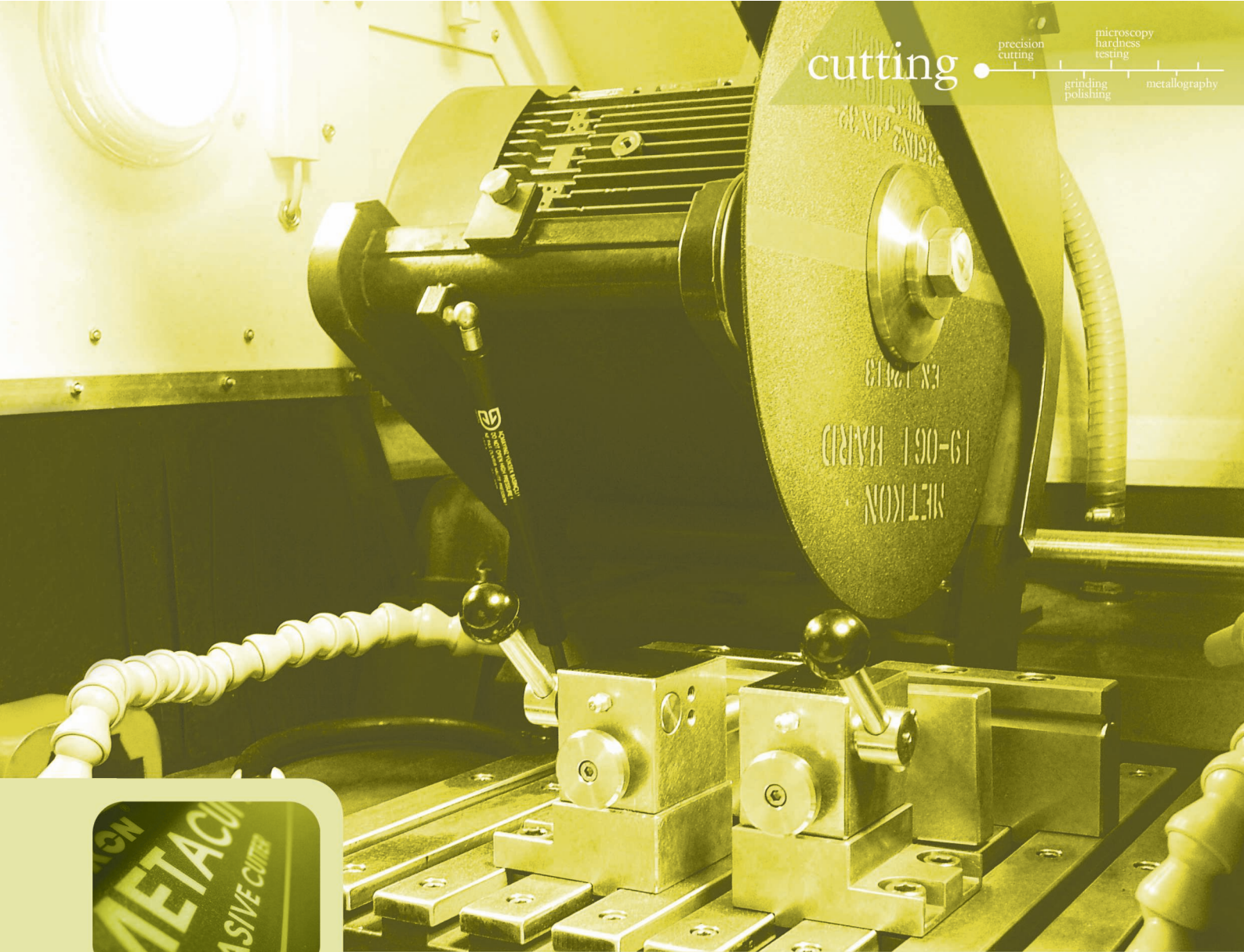
cutting

precision  
cutting

microscopy  
hardness  
testing

grinding  
polishing

metallography



# METACUT METACUT



**metkon**  
METALLOGRAPHY

# METACUT<sup>®</sup>

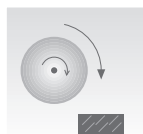
## 250/350



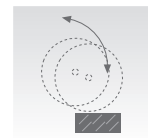
METACUT-A350 Fully Automatic Cutting Machine

**METKON chop cutting machines METACUT 250 and METACUT 350 are the ideal abrasive cut-off machines for metallographic samples, offering perfect solutions for efficient, versatile and reproducible high-quality cutting.**

- \* Compact and powerful...
- \* Fully automatic operation...
- \* Microprocessor controlled...
- \* Pulse cutting technique...



Chop-Cutting



Chop-Cutting, pulsed



## Design

METKON chop cutting machines METACUT 250 and METACUT<sup>®</sup> 350 are designed for wet cutting of large and small, regularly or irregularly shaped workpieces of metallic, ceramic or composite materials. METACUT 250 has the capacity to cut solid sections up to 90 mm in diameter. The cutting capacity of METACUT 350 is 130 mm. The side access port permits the sectioning of extra-long workpieces, as well.

METACUT cutting machines are available in Automatic(A) and Manual(M) versions.

The machine is equipped with a powerful motor, driving the cut-off wheel towards the workpiece. The bottom part of the machine is a large robust alloy base casting. The cutting table is provided with T-Slots increasing the versatility so that different clamping sets can be mounted. The quick-clamping devices are removable to permit the installation of conventional clamping tools to hold larger or more intricate workpieces.

The complete system is enclosed in a protective hood with a large shatter proof window to observe the cutting process. The cutting chamber inside is illuminated with a 12-Volt sealed lamp.

METACUT 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 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.

A closed loop recirculating cooling unit is a standard part of the machine. The cutting surface is cooled by spray nozzles whose water jets hit both the cutting wheel and the specimen. This provides an efficient cooling of the sample and prevents the overheating of the surface structure.



METACUT-M350 Manual Cutter



Large Cutting Chamber



Touch-pad front panel



METACUT-M250 Manual Cutter



METACUT-A250 Automatic Cutter



METACUT-M250 with Floor Cabinet



Stainless steel clamping devices and T-slotted table

METACUT automatic models METACUT-A250 and METACUT-A350 both have a sophisticated hydro-pneumatic system and microprocessor technology controlling the automatic operation. Clamp the sample in the vices, set the recommended cutting force and feed rate, then press the "Auto-cut" button. The motor starts, coolant flows, the cutting wheel advances and cuts through the section then returns to its initial position and stops.

Controlling cutting force and the cutter feed creates reproducible cutting conditions which results in superior surfaces consistently. When sectioning complex specimens, the controlled cutting force allows the cutting rate to vary according to the thickness being cut, resulting in evenly cut surfaces. The motor current is monitored with an "Overload Display" (LED bar graph) on the front panel.

Pulse cutting technique, in principle, makes a series of uniform small cuts. This action reduces the surface contact friction rate and eliminates the risk of overheating. Pulse cutting mode, selectable from the front panel is specially designed to section "Hard to Cut" materials.

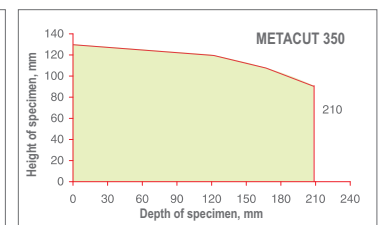
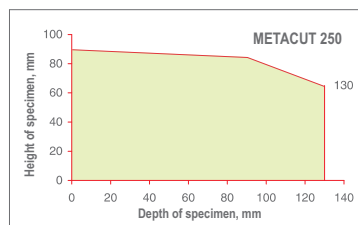
Automatic operation reduces the labour costs. The time required to operate the machine is considerably lower. Controlled cutting force and automatic feed and the pulse cutting technique minimize wheel wear and consequently reduce operating costs.

## Clamping Devices

Many sample preparation 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.

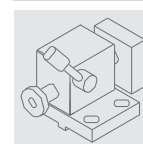
To overcome these difficulties, METKON offers a number of special clamping devices for use with METACUT® abrasive cutters which are equipped with stainless T-slot clamping tables. All clamping devices are made of stainless steel and can be attached to the cutters T-Slot beds in seconds for fast, positive clamping of parts having virtually any configuration.

### Cutting Capacity

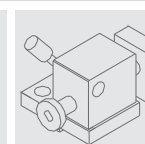


### Clamping Systems for METACUT Cut-off Machines

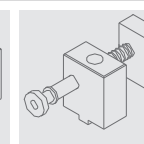
| Cut-off Machines | Quick Acting Clamping Vise Assembly, Right | Quick Acting Clamping Vise Assembly, Left | Compact Vise Assembly Spring loaded | Vertical Clamping Device | Adjustable Mechanical Stop |
|------------------|--|---|-------------------------------------|--------------------------|----------------------------|
| METACUT 350      | GR 0029                                    | GR 0030                                   | GR 0154                             | 15 02                    | GR 0150                    |
| METACUT 250      | GR 0012                                    | GR 0013                                   | GR 0151                             | 15 01                    | GR 0150                    |



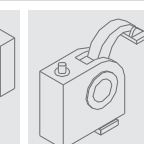
GR 0029  
GR 0012



GR 0030  
GR 0013



GR 0154  
GR 0151



15 02  
15 01



GR 0150

## METACUT®-M250

Abrasive Cutting Machine, 4 HP compact motor, electronic brake system, cutting capacity up to 90 mm solid stock, for cut-off wheels up to • 250 mm, twin T-slotted table, bottom part as rugged alloy base casting, GRP protective hood, 80 lt. recirculating cooling unit with connection hoses and ready for operation. Without clamping devices.

380 V, 3 phase, 50 Hz.

Order No: 10 01

## METACUT®-A250

Automatic Abrasive Cutting Machine, microprocessor controlled, hydro-pneumatic drive system, adjustable feed rate, adjustable cutting force, pulse cutting mode, LED bar graph overload display, 4 HP compact motor, electronic brake system, cutting capacity up to 90 mm solid stock, for cut-off wheels up to • 250 mm, twin T-slotted table, bottom part as rugged alloy base casting, GRP protective hood, 80 lt. recirculating cooling unit with connection hoses and ready for operation. Without clamping devices.

380 V, 3 phase, 50 Hz.

Order No: 11 01

### Accessories for METACUT 250:

Cabinet for floor model.

Order No: 10 11

## METACUT®-M350

Abrasive Cutting Machine, 7,5 HP compact motor, electronic brake system, cutting capacity up to 130 mm solid stock, for cut-off wheels upto • 350/400 mm, twin T-slotted table, bottom part as rugged alloy base casting, protective hood, 120 lt. recirculating cooling unit with connection hoses, integrated base cabinet and ready for operation. Without clamping devices.

380 V, 3 phase, 50 Hz.

Order No: 12 01

## METACUT®-A350

Automatic Abrasive Cutting Machine, Microprocessor controlled, hydro-pneumatic drive system, adjustable feed rate, adjustable cutting force, pulse cutting mode, LED bar graph overload display, 7,5 HP compact motor, electronic brake system, cutting capacity upto 130 mm solid stock, for cut-off wheels upto • 350/400 mm, twin T-slotted table, bottom part as rugged alloy base casting, protective hood, 120 lt. recirculating cooling unit with connection hoses, integrated base cabinet and ready for operation. Without clamping devices.

380 V, 3 phase, 50 Hz.

Order No: 12 02





### Accessories for METACUT 350:

Manual Cutting Table for X-axis, 90 mm travel

Order No: GR 0207

Fume Condenser

Order No: GR 0124

| METACUT CUTTING MACHINES |   |   |   |   |
|--------------------------|---|---|---|---|
|                          |  |  |  |  |
| Machine                  | METACUT-M250  | METACUT-A250  | METACUT-M350  | METACUT-A350  |
| Order No.                | 10 01   | 11 01   | 12 03   | 12 04   |
| Cutting Capacity, mm     | 90  | 90  | 130   | 130   |
| Cutting Capacity, mm     | 65 X 130  | 65 X 130  | 85 X 190  | 85 X 190  |
| Motor Power, HP          | 4   | 4   | 7.5   | 7.5   |
| Wheel Diameter, mm       | 250   | 250   | 350 / 400   | 350 / 400   |
| Wheel Speed              | 2800  | 2800  | 2200  | 2200  |
| T-Slotted Table, mm      | 210 X 210   | 210 X 210   | 360 X 360   | 360 X 360   |
| Operation                | Manual  | Automatic   | Manual  | Automatic   |
| Cooling Unit, lt.        | 80  | 80  | 120   | 120   |
| Air Supply, bar          | -   | 6   | -   | 6   |
| Chop Cutting             | Yes   | Yes   | Yes   | Yes   |
| Pulse Cutting            | -   | Yes   | -   | Yes   |
| Size W x D x H cm        | 74 X 68 X 52  | 74 X 68 X 52  | 110 X 113 X 146   | 110 X 113 X 146   |
| Weight, kg.              | 77  | 90  | 345   | 365   |
| Mains                    | 3ph, 380V, 50Hz AC  | 3ph, 380V, 50Hz AC  | 3ph, 380V, 50Hz AC  | 3ph, 380V, 50Hz AC  |

All specifications are subject to change without notice.



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