



# Circular Saw Machines

**CMB Circular Saw Machine Series for Bar Material**



# CMB 75/100/150 CNC

Circular saw machines for use of carbide tools

The ideal solution for sawing bar material with highest precision and minimized idle times



## FEATURES

### High-performance precision sawing

The robust inclined guide of the saw head ensures a perfect rake angle and guarantees high cutting accuracy with maximum performance.

### AMADA MACHINE TOOLS circular saw blades

The use of very narrow carbide saw blades with low cutting width guarantees minimum offcut at maximum cutting performance. Thanks to the special tooth geometry, it is possible to produce optimum cutting surfaces with virtually mirror-like surfaces and the lowest surface roughness.

### Wide cutting range

The CMB circular saws allow processing of a large number of materials and shapes: solid material, tubes, square material and profiles.

### Clean and dry sawing process

The proven minimum lubrication system ensures clean and almost adhesion-free cuts. The combination of proven AMADA technologies makes reworking unnecessary in most cases.

### Easy operation

The AMADA CNC technology allows easy operation without the need for machining or programming knowledge.

### Maximum tool life

To reduce saw blade vibration, the machine is equipped with special saw blade plate guides that move the blade near to the teeth on both sides. This enables maximum cutting precision and the best saw blade life at low unit cost.



### Robust and torsion-resistant

A robust saw head with special backlash free gearbox and a ball screw drive in a torsion-free machine bed are the basis for maximum cutting precision.



### High-precision feeder

The material feed via a servo-controlled precision gripper with ball screw and linear guiding guarantees the most accurate cutting lengths and a maximum repeatability of under 0.1 mm. Compared to other feeder systems, AMADA is setting particular standards here.



### Easy operation

The data for cutting lengths and numbers can be easily entered step-by-step via the colour "touch screen" display. By entering the workpiece shape and material type, CNC-controlled monitoring and setting of the cutting values ensures optimum cutting values.



### Electromagnetic braking system

The unique electromagnetic braking system effectively prevents the gearbox from overloading when the saw blade makes contact with the material to be cut.



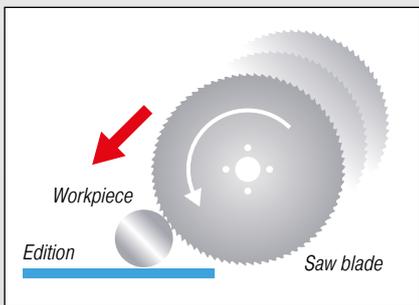
### High-speed feed gripper

The CMB circular saw is equipped with a high-speed grip feed that reduces idle times considerably. Thanks to a free lifting function, the surface of the material is protected against damage. The intelligent control always ensures the optimum position of the grip feed as well as high repeatability.



### Automatic cutting and remnant sorting

The trim cut length is set via the CNC controller and can be freely selected between 15 and 40 mm. During automatic operation, trim cuts and remnants are discharged to the left side while saw cuts are fed into a container made available on the other side.



### 45° inclined guiding

The shortened saw head movement results in a reduce cycle time.

## STANDARD EQUIPMENT

### Automatic bar feed

Automatic material feeding via an inclined loading magazine allows unmanned sawing operation even for material lengths in excess of 6 m. This is supported by the automatic, optical detection of the workpiece starting point for trim cutting and the automatic, electromagnetic detection of the material in the rear vice.



# CMB 180/230

Large circular saw machines for use of carbide tools

The CMB 180 and CMB 230 large circular saws from AMADA now make it possible to cut materials with diameters up to 230 mm with high performance. Short cycle times and high cutting accuracy guarantee profitability.



## POWERFUL

Increasing material diameters lead to considerably increased loads on the sawing machine and because of the high kinetic energy, the CMB 180/CMB 230 was completely redesigned while still maintaining the advantages of the smaller models. The design allows smooth and unmanned round-the-clock operation even with maximum utilization of machine capacity.



**Robust and easily accessible saw head (CMB 230)**



**Loading magazine with 10,000 kg capacity (CMB 230)**



**Robust feeding system (CMB 230)**

## TECHNICAL DIFFERENCES

### CMB 180



#### Automatic cut and remnant sorting

The trim cut length is set via the CNC controller and can be freely selected between 15 and 40 mm. During automatic operation, trim cuts and remnants are discharged to the left side while saw cuts are fed into a container made available on the other side.

### CMB 230



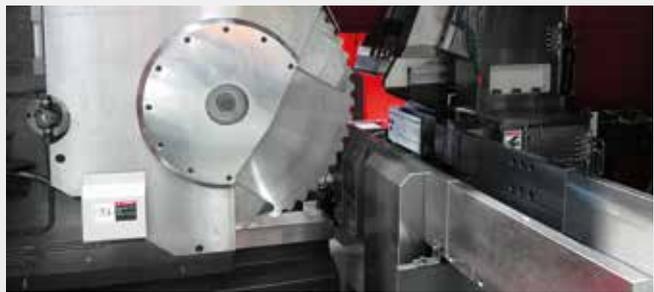
#### Material tray

Due to the high weights of the cutted pieces a stable material tray is mounted to the CMB 230. Remnants can be sorted by an optional slat conveyer.



#### 45° inclined guide

Reduced cycle time, thanks to the shortened saw head movement.



#### 0° horizontal guiding

The massive saw head of the CMB 230 is mounted on linear guides in order to ensure high cutting precision at a high feed rate.

## CMB 230

#### Automatic material raise function

To prevent damage to the saw blade and the material, the sawed material is moved forward slightly after each cut before the saw blade moves back into the start position.



## CUSTOMIZED SOLUTIONS

Although the machines of the CMB series with standard accessories are perfectly equipped for economic production, it is still possible to increase efficiency with customized solutions. AMADA offers a variety for loading and unloading sides. The solutions are based on practice-proven components which make it possible to ensure short-term availability and maximum process security.



**Bundle loader** (example)



**Slat conveyor with sorting channels**  
(example)



**Long-cut sorter** (example)

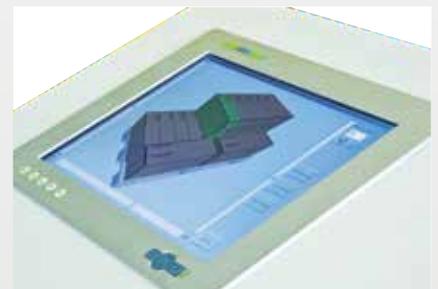
In conjunction with additional machine processing, predefined positioning of saw cuts on palettes is often required. The robot system from AMADA provides an affordable and easy-to-operate solution. The graphic programming interface allows even semi-skilled staff to create the desired set-down patterns.



**Fast and robust robot system**



**Any placing patterns**



**Graphical programming system**

## OPTIONS

In addition to customized solutions, AMADA also offers useful options for CMB circular saw machines.



**AMADA lubrication oil and other operating fluids**



**Chip conveyor**  
(shown for CMB 230)



**Air filter**

# Blades for the CMB circular saws

AMADA provides the appropriate blade for every application.

Just like the machines, the circular saw blades are continuously improved and developed.

Optimum cutting results are always guaranteed by using AMADA blades on AMADA machines.



## PRODUCT OVERVIEW

### TCB-CB

- Teeth made of carbide
- Universal tool for a wide range of materials

### TCB-CR

- Teeth made of cermet
- Blade for non-alloyed steels with a carbon content between 0.15 – 0.45 %

### TCB-TI

- Teeth made of carbide + TiN coating
- Blade for alloyed steels with a carbon content of > 0.45 %, but not for stainless or heat-resistant steels

### TCB-SU

- Teeth made of carbide
- Blade for stainless steel and high-grade steel

### TCB-PT

- Teeth made of carbide
- Blade especially for tubes and profiles

### TCB-TISU

- Teeth made of carbide + TiN coating
- Blade with particularly high tool life for stainless steels

Available toothings						
Diameter [mm]						
285	60 teeth ,80 teeth, 90 teeth, 120 teeth and 140 teeth					
360	60 teeth ,80 teeth, 100 teeth, 120 teeth and 160 teeth					
460	40 teeth, 60 teeth, 80 teeth and 100 teeth					
510	40 teeth ,50 teeth, 60 teeth, 80 teeth and 100 teeth					
750	50 teeth, 80 teeth and 100 teeth					

# SPECIFICATION

Model		CMB 75 CNC	CMB 100 CNC	CMB 150 CNC	CMB 180	CMB 230	
Material	Automatic operation	Round material diameter [mm]	10 - 76.3	25 - 100	75 - 150	40 - 180	80 - 230
		Rectangular material edge length [mm]	10 ~ 60	25 ~ 75	75 - 100	40 - 110	80 - 160
	Cut-off length [mm]		10 ~ 6000	10 ~ 6000	20 ~ 6000	15 ~ 6000	20 ~ 5000
Saw blade	Design		Single-use carbide saw blades				
	Dimensions [mm]		285 x 40 x 2	360 x 40 x 2.5 or 2,6	460 x 50 x 2.7	510 x 50 x 2.7	750 x 80 x 3.8
	Number of teeth		60, 80	60, 80, 100	40, 60, 80, 100	60, 80, 100	60, 80, 100
Saw	Parameters	Cutting speed [m/min]	automatic material-dependent control				
		Revolutions [rpm]	56 ~ 225 (inverter-regulated speed control)	56 ~ 210 (inverter-regulated speed control)	50 ~ 115 (inverter-regulated speed control)	32 ~ 115 (inverter-regulated speed control)	25 ~ 100 (inverter-regulated speed control)
		Feed rate [mm/sec]	0 ~ 30 (drive by AC servo motor)			0 ~ 33 (drive by servo motor)	
	Drive power		7.5 kW x 4P	11 kW x 4P	11 kW x 4P	18.5 kW x 4P	37 kW x 4P
	Drive system		AC servo motor + ball screw-guided inclined slider				AC servo motor + linear guide
	Clamping pressure	Horizontal [kN]	15.2 (can be reduced)				
		Vertical [kN]	3.9 (can be reduced)				
	Hydraulic pump performance [kW]		1.5 kW x 4P			2.2 kW x 4P	3.7 kW x 4P
Feed system	Drive system		AC servo motor + ball screw				
	Feed length [mm]		715	715	755	600	500
	Feed rate [m/min]		24	24	18	8	6
Dimensions	Machine dimensions* (W x L x H) [mm]		1742 x 2035 x 1612	2016 x 2035 x 1872	2100 x 2105 x 1982	2230 x 1860 x 2250	3410 x 2100 x 2500
	Machine weight [kg]		2200	2500	3300	6800	8500
	Bar magazine weight (6m) [kg]		490	810	1080	4200	5500
Accessories	Bar loading magazine		Ø 76.3 mm x 10 pieces x 6.0 m	Ø 100 mm x 6 pieces x 6.0 m	Ø 150 mm x 3 pieces x 6.0 m	Ø 180 mm x 6 pieces x 6.0 m	Ø 230 mm x 5 pieces x 6.0 m
	Chip conveyer		Scraper conveyer				

\* dimensions without bar magazine



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