

TWIN 860

Loroch
sharp solutions!

Revolutionary 2-in-1 SOLUTION for grinding of

- metal-cutting circular saw blades with CBN-abrasive grinding
- carbide tipped metal and wood circular saw blades



- + Space-saving concept
- + Two different grinding processes in ONE machine
- + High degree of automation
- + Excellent, uniform grinding quality
- + Complete machining with only one grinding wheel

TWIN 860 – Novelty

In addition to the usual metal-cutting circular saw blades, the additional CNC axes enable a wide range of carbide-tipped (TCT) saw blades to be processed on the same machine. Thus, in addition to the common metal cutting circular saw blades, carbide-tipped circular saws for cutting aluminum (triple chip tooth) or saw blades for the wood processing industry can also be ground on the new TWIN 860.

The machine is extremely easy to operate, the grinding process is reliable and stable, and the sharpening results are excellent.

Grinding process

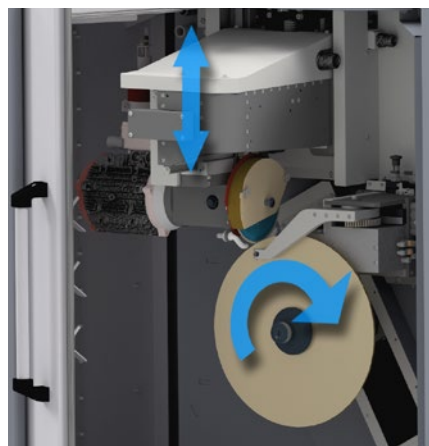
With its 5-axes, the machine can be operated with two different grinding processes.

As with all Loroach machines, the TWIN 860 grinds with the saw blade rotating. The grinding movement then consists of a precise, controlled movement of the grinding head and a rotation of the saw blade. Both axes are controlled simultaneously.

HSS circular saw blades from a diameter range of 60 to 860 mm can

be sharpened and re-toothed. Chamfering takes place automatically and is possible from a minimum diameter of 75 mm. The rake and clearance angles can be freely selected.

With this grinding process, solid carbide saw blades, friction saws and TK or TA saw blades (carbide or cermet-tipped thin kerf blades with chip guiding notches) can also be ground.

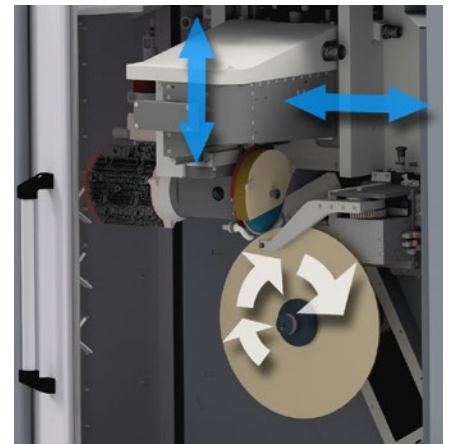


Grinding process with carbide-tipped circular saw blades

Using the second grinding process, the saw tooth to be ground will be in a pre-defined grinding position. Sharpening is performed exclusively by the grinding

head with the tooth firmly clamped in a 'stationary' position.

The tooth feed is carried out by the high-precision center drive. Production-related pitch differences in the saw blade are automatically detected and taken into account.



This grinding method is used for sharpening common carbide-tipped circular saws. The secure clamping of the body ensures accurate grinding and with this grinding process, saw blades with a diameter of 145 to 700 mm can be ground.

In both grinding processes, complete machining is performed with only one DIA or CBN peripheral grinding wheel (14F1) in each case.

Programming

Programming is carried out quickly and easily on the touchscreen using intuitive symbols in each case. Favorable machining data is automatically suggested by the machine.

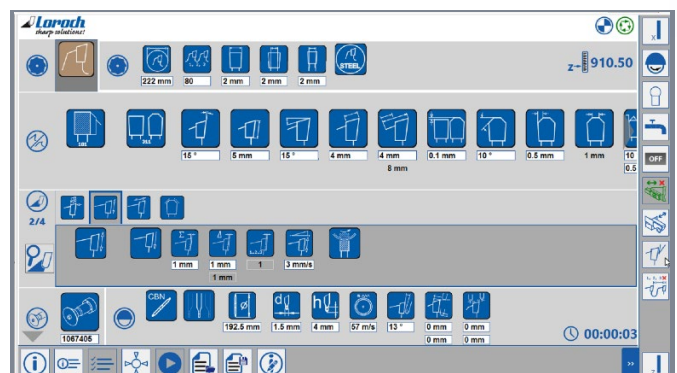
The grinding wheel insertion is an automatic process and this minimises setup times. The system keeps operating errors to an absolute minimum.

For machining HSS circular saws, it is possible to separate the machine

programmer from the machine operator. This means that the saw blades to be ground can be pre-programmed.

The operator only needs to clamp the respective saw blade, close the door and press START.

Economical grinding with consistent quality is guaranteed.



Advantages of the TWIN 860

- + Two different grinding processes in one machine, i.e. grinding rotating saw blades as well as processing in a stationary position, possible due to 5 servo axes
- + Production-related pitch differences on carbide-tipped saw blades are detected and taken into account during grinding, i.e. each carbide tooth is ground exactly the same
- + Complete machining with only one grinding wheel at a time (DIA or CBN)
- + High angular accuracy and excellent surface quality due to very stiff, low vibration machine with powerful saw blade clamping system
- + Ideal for multi-machine Operation.
- + High degree of automation, i.e. easy operation with short set-up times
- + Programming via touch screen with easy to understand symbols
- + Large saw blade diameters with low space requirements
- + Excellent accessibility – loading by crane possible

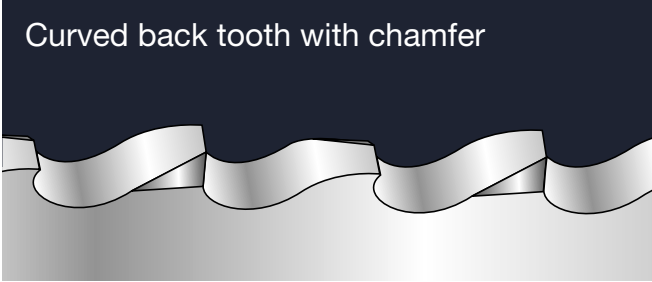
Switching from one grinding process to the next in just two simple steps:

- 1.** Change grinding wheel
e.g. from CBN to DIA

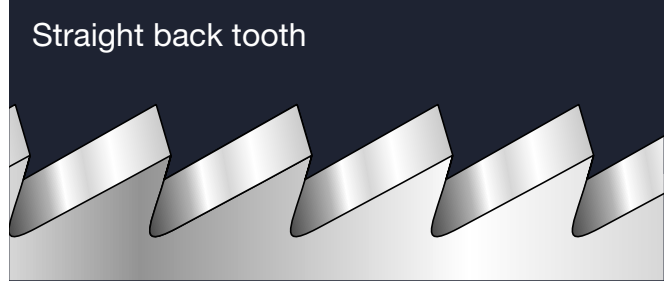


- 2.** Switch screen menu
e.g. from HSS to TCT

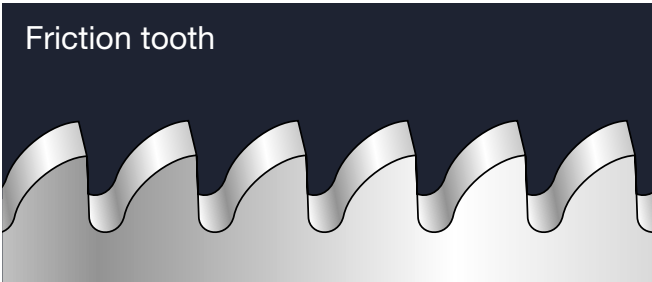
Curved back tooth with chamfer



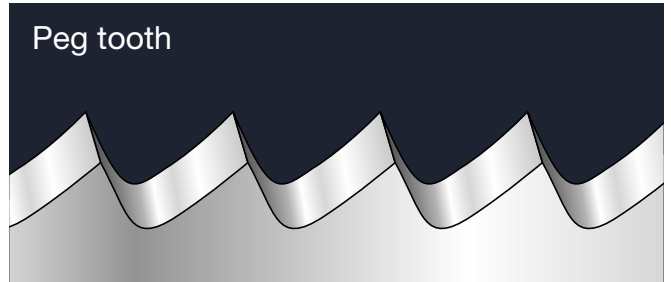
Straight back tooth



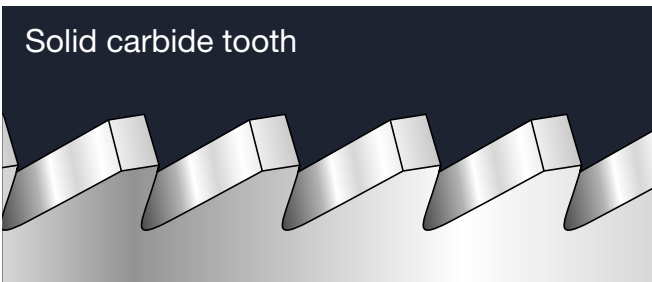
Friction tooth



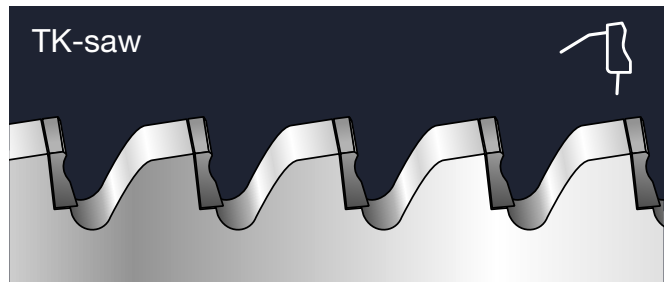
Peg tooth



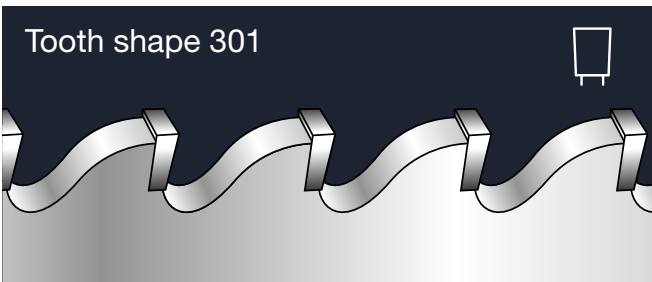
Solid carbide tooth



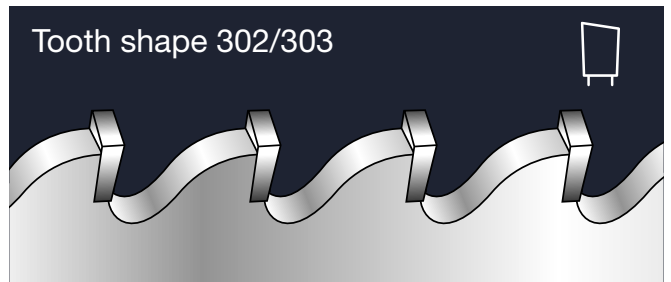
TK-saw



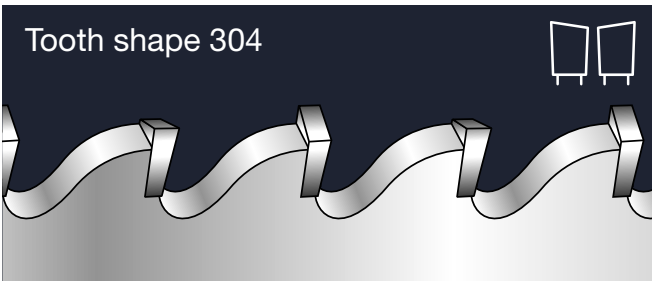
Tooth shape 301



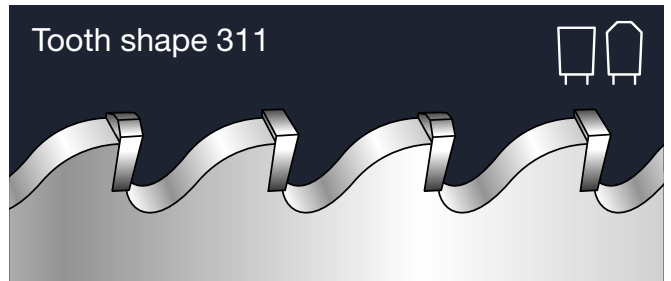
Tooth shape 302/303



Tooth shape 304



Tooth shape 311





TWIN 860

Ideally suited for:

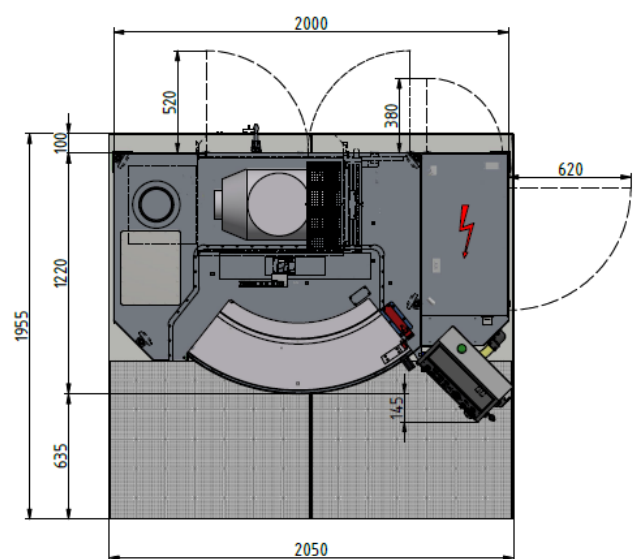
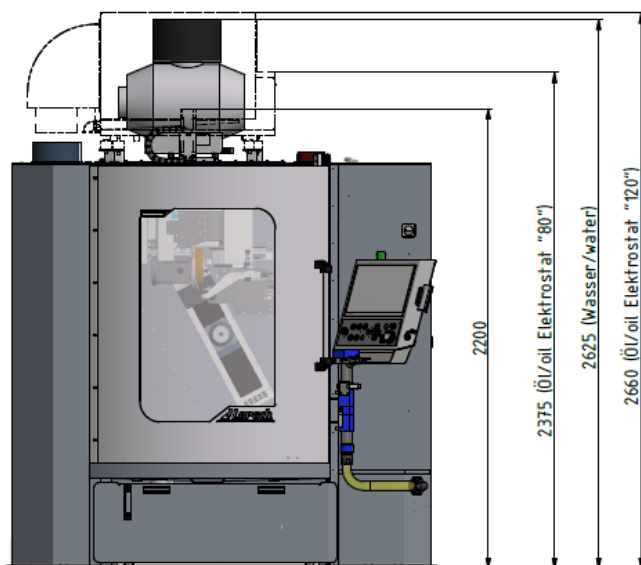
- + Sharpening services with a variety of metal and woodworking circular saws
- + Industrial companies with a diverse range of metal cutting circular saws
- + Multi-machine operation
- + Workshops with space constraints

VIDEO 



Technical Data

Working range for	HSS 	TK 	TCT 
Saw blade diameter	60 – 860 mm	200 – 700 mm	145 – 700 mm
Chamfering diameter	> 75 mm	> 200 mm	> 145 mm
Tooth pitch	1 – 40 mm	1 – 40 mm	6 – 60 mm
Cutting width	8 mm	5 mm	5 mm
Rake angles	0 – +27 degrees	-30 – +20 degrees	-10 – +25 degrees
Clearance angles	+4 – +16 degrees	+4 – +16 degrees	0 – +25 degrees
Chamfer / bevel angles	45 degrees	45 degrees	0 – +45 degrees
Saw blade holder			
Center hole diameter	16 – 100 mm	25.4 – 140 mm	13 – 100 mm
Grinding wheels			
CBN and DIA	Ø 200 mm (14F1)		
Bore size	Ø 32 mm		
Grinding spindle speed	<= 60 m/s (variable adjustable)		
Cooling			
Coolant pressure	approx. 6 bar		
Coolant type	Water emulsion/Oil		
Coolant quantity	300 l		
Electrical installation			
Grinding motor power	3 kW		
Machine input power	approx. 6.5 – 9 kVA		
Weight			
Machine	approx. 1600 kg		
Dimensions (W x D x H)			
2000 x 1320 x 2200 mm			



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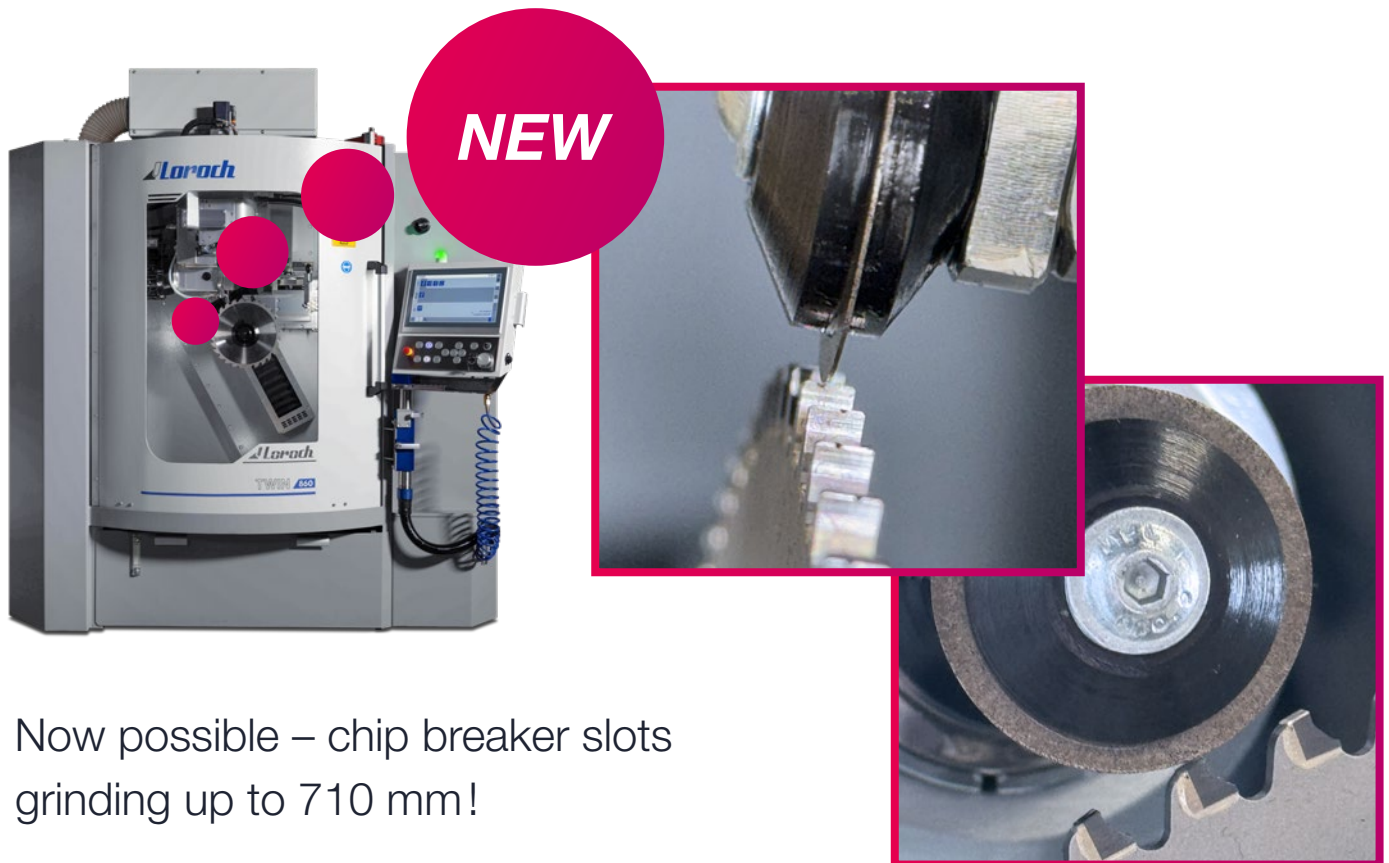
More Information
and product videos



TWIN 860 Chip Breaker Slots grinding



Semi-automatic grinding of chip breaker slots



Now possible – chip breaker slots
grinding up to 710 mm!

Device for automatic grinding of chip breaker slots in HSS and TK circular
saw blades \varnothing 100 – 710 mm and 1.6 – 6.0 mm width

Consisting of:

- + Grinding device with freely selectable adjustment of the desired edge distance by corresponding data input (adjustment range from 0 – 3 mm)

Highlights:

- + Chip breaker device stays in the machine, pivotable
- + Edge distance & chip breaker depth freely selectable
- + On the clamped tooth
- + Integrated cooling
- + Increased positioning accuracy through touching of the tooth

Technical data

Working range

Saw blade diameter 100 – 710 mm

Saw blade thickness 1.6 – 6.0 mm

Tooth pitch 3 – 60 mm

Tooth height max. 17 mm

Chip breaker slots width 0.3 mm

Chip breaker slots depth freely selectable

Edge distance freely selectable

Grinding wheels

DIA \varnothing 30 x 0.3 x 8 mm