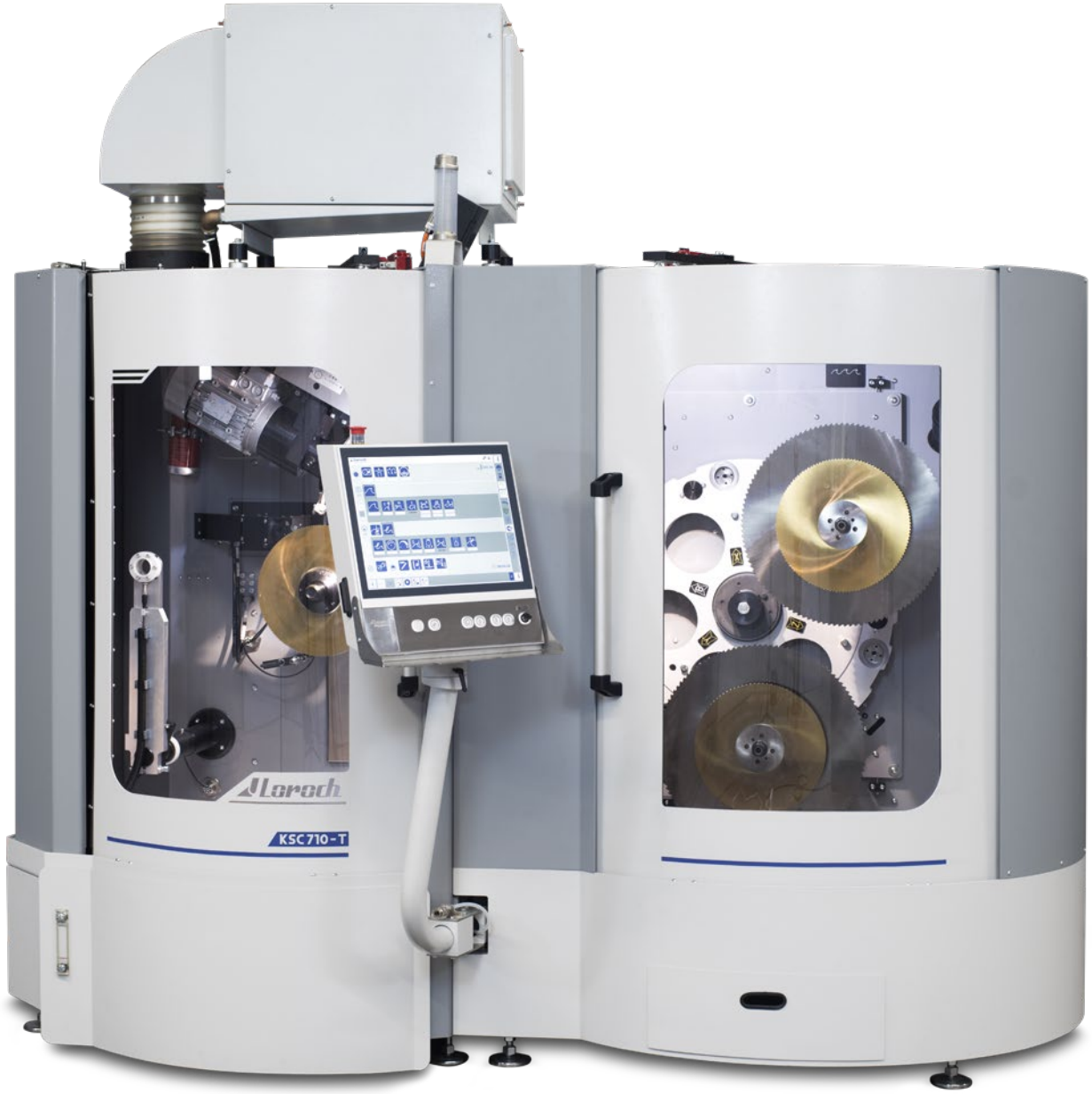
KSC 710-T

Powerful Service-Center for metal cutting circular saw blades



+ Fully automatic grinding including chamfering and cutting in of chip breaker grooves
+ High capacity due to extra shifts and a large saw blade magazine with three or six blade stacks
+ Consistent grinding quality with tight cost control
+ Ideal High-Tech solution for service and production

In comparison to the previous KSC 710 the maximum saw blade diameter within a stack has been increased to 560 mm. The newly developed chip breaker grinding attachment will handle saw blade thicknesses from 1.6 mm. The processing time to cut chip breaker grooves was reduced by approximately 30%. Handling and grinding times have been further optimized.

This was achieved using existing and well proven LOROCH solutions including 2 separate handling systems, one for the sawblade and one for the flange handling.

The machine grinds HSS, segmental, friction and solid carbide saw blades.

The machine is also prepared for re-sharpening of thin kerf metal cutting saw blades with chip guide notches (carbide-tipped and CERMET type saw blades – including grinding of the spoon face). Although produced as a disposable tool, these saw blades may be re-sharpened.

After sharpening or recutting, the saw blade teeth can be chamfered and / or ground with chip breaker grooves automatically. Several different operations can be preprogrammed successively. E.g. removing (trapanning) the old teeth, recutting new teeth and chamfering.

Just as with all new LOROCH CNC-machine models, the KSC 710-T has a direct drive of the grinding wheel in order to reduce power loss and undesired vibrations.

An additional saw support device at the grinding point ensures symmetrical chamfering even on saw blades that are not perfectly flat.

A new innovative machine control with a 19” color touchscreen enables intuitive programming, which avoids faulty inputs and reduced set-up time. The saw blades to be sharpened are programmed in only a few minutes. Data entry is done directly at the machine control panel on a large 19” color touch screen with clear symbols, inspired by modern smartphones.

Using an optional laser measuring system the machine independently determines the respective saw blade diameter, the saw blade thickness and the number of teeth, eliminating operator programming.

The operator loads the saw blade directly on the arbor in the magazine. Saw blades from 130 – 560 mm (75 – 250 mm) can be loaded into the magazine in any order.

To accommodate different bore size reducing rings, which are easily pressed in and out, are used to create a common bore size. Acting as a mechanical spring, the reducing rings ensure optimal concentricity of the saw blade at all times.

Sorting by saw blade diameters and bores is not necessary. The saw blades can be sharpened by automatic loading without being in any specific order.

Next, close the magazine door and start the machine – from then on everything runs automatically.

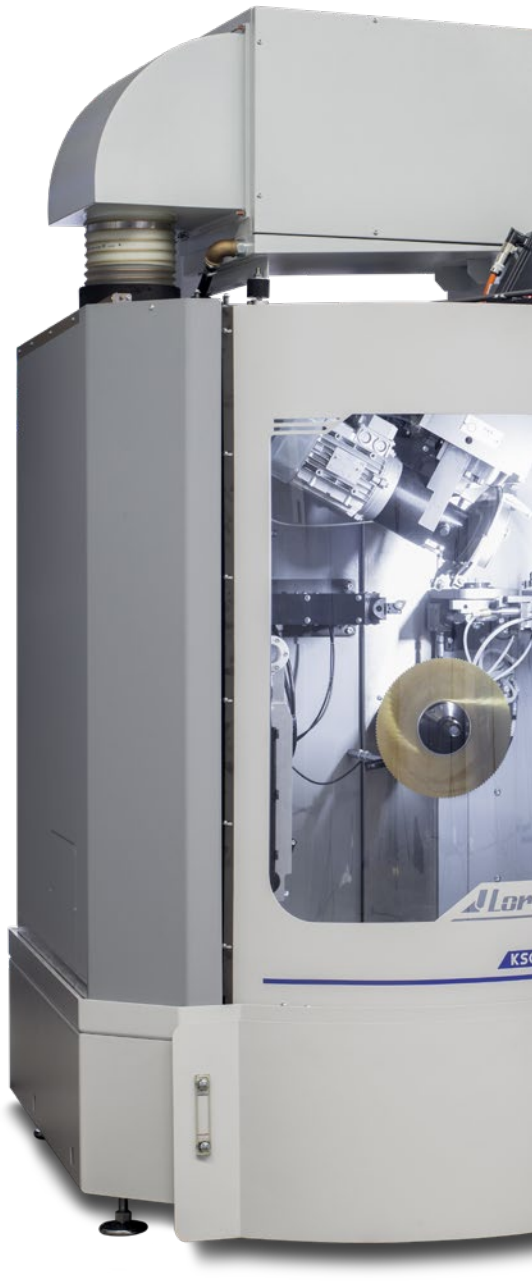
If saw blade data, such as diameter or number of teeth, has been entered incorrectly, the machine recognizes the error. The saw blade will be put back into the magazine without being ground and a corresponding report will be created. The next saw blade will be handled without interruption to the automatic operation.

The magazine can be loaded and unloaded during operation. In combination with the turntable magazine, a production without interruption is possible, especially for small batch sizes. The operator will be informed by email through an optional alarm function as soon as the machine is finished with all saw blades or if an error occurs.

The standard machine includes capabilities for remote diagnostics, new software installation, new tooth shapes, as well as online training through an internet connection.

The saw blades are loaded vertically, in a hanging position. This saves space and at the same time the excess coolant can drip from the saw blades.

Due to this the saw blade does not need to be wiped dry or this inconvenient process is at least reduced to a minimum. The displaced coolant is fed back to the grinding machine.



„Our main goal was an enhancement of the performance of the successful and well known KSC 710 model to meet the growing market requirements.“

Advantages of the KSC 710-T

Fully automatic grinding

+ Sharpening, cutting off existing teeth, re-toothing, chamfering and cutting in of chip breaker grooves

High capacity

+ Three saw blade stacks with 230 mm length, providing two stacks with up to approximately 40 raw saw blades each. Extendable to six stacks with option.

+ Even small batches can be ground in automatic operation because the next stack can be loaded during grinding.

Short non-productive and grinding times

+ Magazine loading without requiring sorting

+ Easy programming - can be done during grinding

+ Recognition of saw blade diameter

+ Saw blade thickness and number of teeth by the optional laser measuring system

+ Desired hook and clearance angles adjusted quickly and easily

+ No need to wipe dry the finished saw blades due to vertical loading plus no waste of oil.

+ Additional tooth shapes and tooth geometries available which can be installed over the internet or designed with an optional CAD program

High reliability and excellent grinding quality

+ Easy and proven construction principles

+ Rigid machine, low-vibration direct drive grinding spindle, CBN-abrasive grinding and optimal cooling and coolant filtration

+ Optimally matched peripheral units and consumables (from one source!)

+ Integrated internet connection for remote Diagnostics with optional alarm management

The machine is available for use with water-based emulsion or oil

Advantageous price-performance ratio

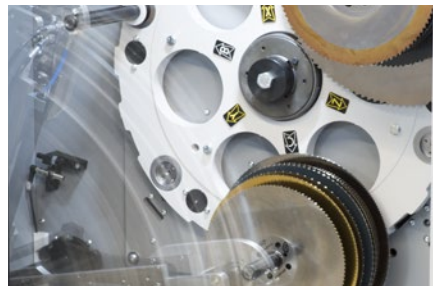
+ Reduced and predictable grinding cost due to automation

+ Low space requirement

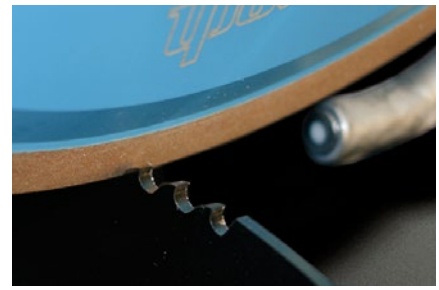
+ Free time for other important tasks

Features and accessories

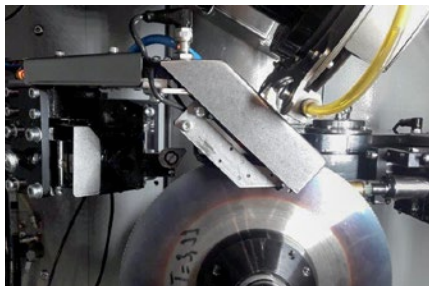
User-friendly stack programming



Automatic handling 1



Re-toothing 2



Laser measurement system

HM- und HSS-filter

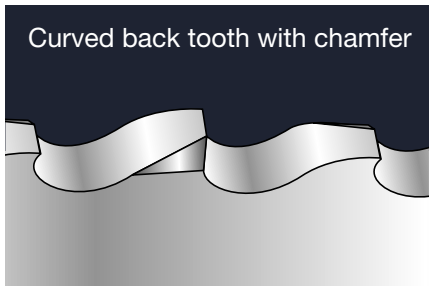
Polar chiller with filter

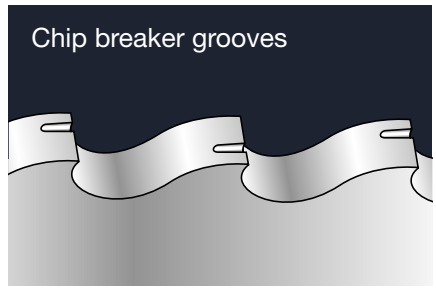
Recommendation: Appliance to determine the saw blade diameter and saw blade thickness.

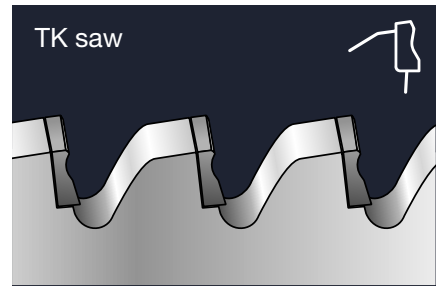
VIDEO 1

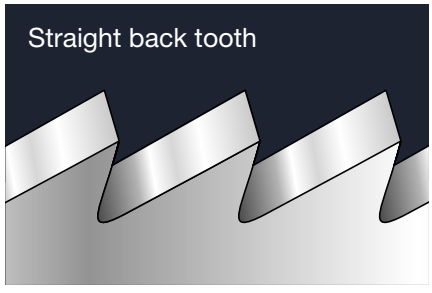
VIDEO 2

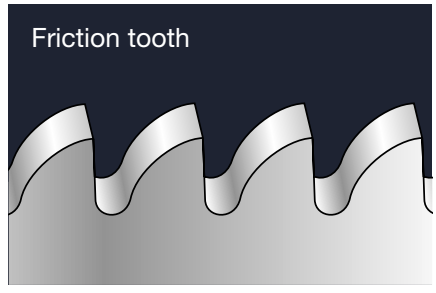
Examples of tooth shapes

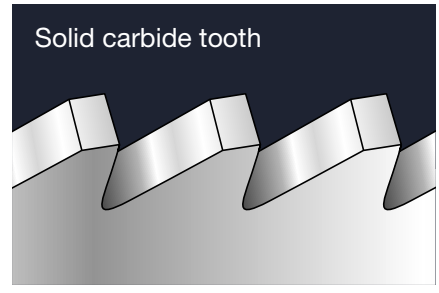












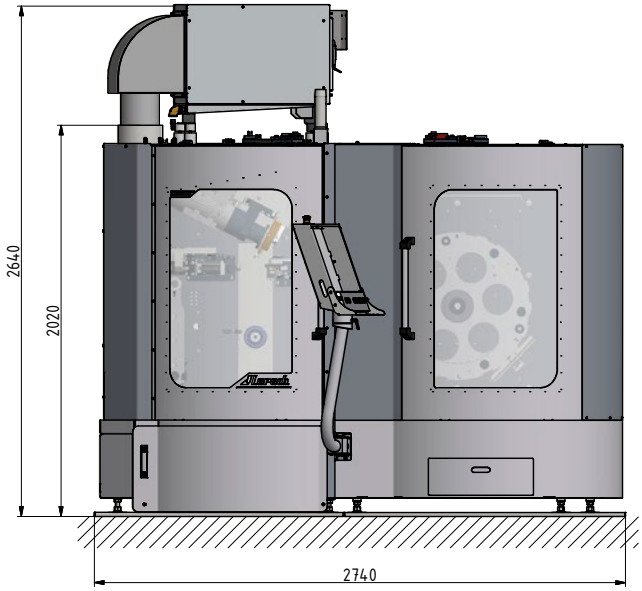
VIDEO

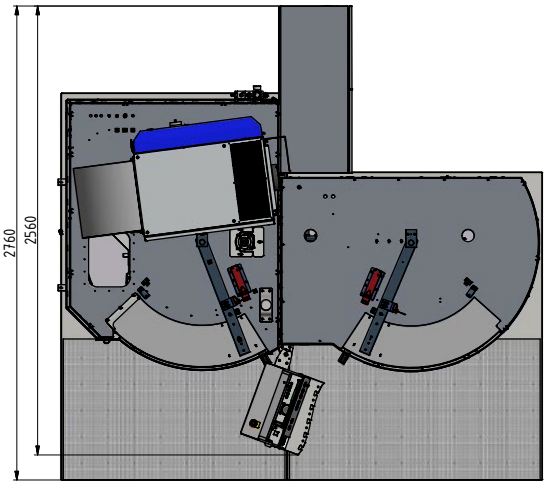
KSC 710-T

Fully automatic cutting in of chip breaker grooves

Technical data

Working range	
Saw Blade Grinding	Ø (40) 130 – 710 mm
Saw Blade Grinding automatic	Ø (75) 130 – 560 mm
Saw Blade Chamfering	Ø (105) 145 – 710 mm
Cutting in chip breaker grooves	Ø (120) 185 – 560 mm, thickness >= 1.6 mm
Tooth pitch	1 – 55 mm
Tooth height	max. 17 mm
Number of teeth	2 – 998
Saw blade thickness	up to 8 mm
Magazine loading capacity	max. 80 (160) saw blades
Grinding wheels	
CBN or DIA	Ø 200 mm (14F1)
Bore size	Ø 32 mm
Cooling	
Coolant pressure	approx. 8 bar
Coolant type	Water emulsion / Oil
Coolant quantity	350 l
Electrical installation	
Grinding motor power	3 kW
Machine input power	10 kVA
Weight	
net	approx. 3200 kg
Dimensions (W x D x H)	
Machine	2740 x 2560 x 2020 mm
Height with air extractor (oil)	2640 mm
Height with air extractor (water)	2610 mm
Required door opening size for transportation (W x H)	1750 x 2100 mm





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More Information
and product videos

Loroch
sharp solutions!

Economical repair of TK-saw blades

Loroch sharp solutions!

Carbide or cermet-tipped thin kerf saw blades with a chip guiding notch

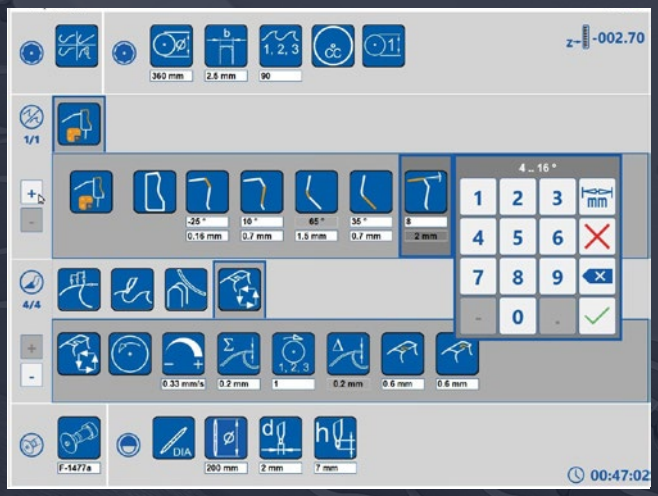
Complete machining in one clamping operation:

Contour, chamfer and chip breaker grinding

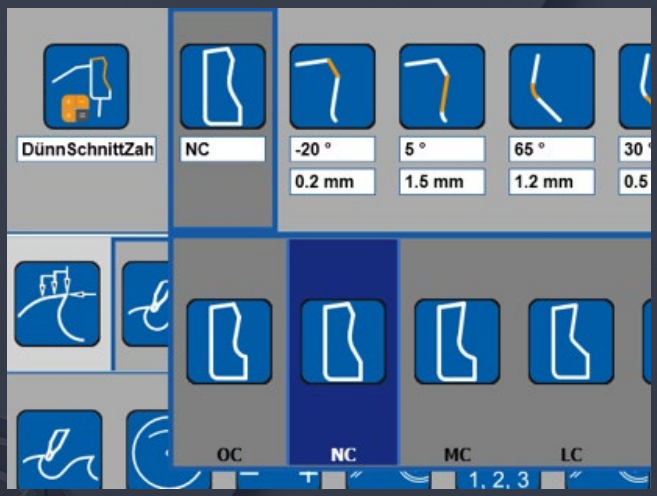
KSC 560-B

KSC 710-T

With the Loroch KSC machine concept, TK-saw blades can be resharpened economically. The advantages of touch control and contour move are noticeable in the shorter process time compared to other technologies.



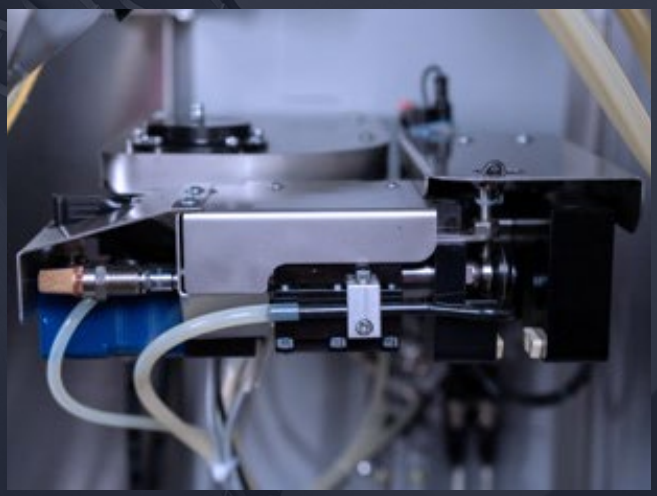
The operator enters all the data required for the process on the clear input screen.



The Loroch geometries for TK-saw blades cover almost all tooth shapes available on the market.

The starting point for processing is determined reliably and precisely with the aid of a structure-borne sound sensor.

A measuring probe is not necessary. If required, the pitch difference between the individual cutting edges can be determined.



The automatic chip breaker device ensures cost-effective complete machining in a single clamping operation, rounding off the automated process.

1. Determine wear mark

The thin-cutting saw was designed for mass cutting systems and is also designed for harsh operating conditions. Nevertheless, it is important to determine the wear mark of the saw before repairing it in order to achieve a maximum economical sharpening process.

With the Loroch TC 720 measuring device, the individual teeth of a TK-saw blade can be measured and examined. →

2. Select grinding wheel

Choosing the right grinding wheel ensures process reliability. The Loroch TurboGrind grinding wheel impresses with its dimensional stability. The radius is precisely determined with the Loroch TC 720 and entered in the User Interface.

← TurboGrind diamond grinding wheel 200 x 2.0 x 32 mm. Control of the grinding wheel radius with the Loroch TC 720 measuring device.

3. Post-treatment

The right choice of post-treatment is important for the effectiveness of the re-sharpened cutting edge. Different methods of cutting edge rounding in combination with a suitable wear protection coating can achieve economical service life times in the sawing process.

TK-saw blade sharpened, rounded and coated. →

It is also possible to process TK-saw blades with following Loroch machines:

solution K850-T

TWIN 860

Machine overview – Technical data

		solution K850-T		KSC 560-B		KSC 710-T		TWIN 860	
		850	920	Manual	Magazine	Manual	Magazine	Metal	Wood
Saw blade data	Recutting / sharpening Ø mm	(40)130 – 850	(40)130 – 920	130 – 560		(40)130 – 710	(75)130 – 540(560)	(60)130 – 860	(145)200 – 700
	Chamfering Ø mm	(105)145 – 850	(105)145 – 920	145 – 560		(105)145 – 710	(105)145 – 540(560)	(75)145 – 860	(145)200 – 700
	Chip breaker manual Ø mm	(115) 180 – 710		—		—		—	
	Chip breaker semi auto Ø mm	—		—		—		(115)130 – 860	
	Chip breaker auto pneum. Ø mm	—		—		185 – 540 (560)		—	
	Chip breaker auto motor. Ø mm	—		200 – 560		200 – 540 (560)		—	
	Thickness mm	max. 8		max. 8		max. 8		max. 8	max. 5
	Tooth pitch mm	1 – 40		1 – 55		1 – 55		1 – 40	6 – 60
	Number of teeth	2 – 998		2 – 998		2 – 998		2 – 998	2 – 998
	Tooth height mm	max. 17		max. 17		max. 17		max. 17	max. 10
Tooth shapes metal	Curved back tooth	✓		✓		✓		✓	—
	Straight back tooth	✓		✓		✓		✓	—
	Vario tooth	✓		✓		✓		✓	—
	SkipTooth	✓		—		✓		✓	—
	TK	✓		✓		✓		✓	—
	TK Material	HM / CER		HM / CER		HM / CER		HM / CER	—
	TK Ø mm	200 – 500		200 – 560		200 – 560		200 – 700	—
	Pocket seat	✓		—		✓		✓	—
	Micro toothing	—		—		—		✓	—
	Circular knifes	—		—		—		✓	—

✓ Standard ✓ Optional

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VIDEO

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