ISELI – PRECISION FOR A PERFECT CUT

ISELI develops and manufactures grinding machines, complex processing machines and automation for a perfect saw shop at manufacturers of tools, service providers as well as for sawmills in the field of sharpening technology for band, gang and circular saw blades in the area of wood, aluminum, plastic and metal. Convince yourself of our expertise and experience for a perfect cut !

Swiss quality by tradition

As a traditional family business, today already managed by the third generation, ISELI is developing sharpening machines with the latest technologies and excellent engineering – made in Switzerland.

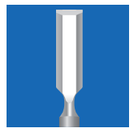
ISELI system technology is convincing thanks to its maximum operating convenience, flexibility in the applications as well as to adaptation to customer requirements. Its outstanding quality makes ISELI sharpening machines a future-proof investment.

Together ahead of the competition

As a customer, you benefit on one hand from our fair, partnership-based cooperation and on the other from our continuous development of the machining and sharpening processes. An additional advantage is the intelligent optimization in process and product handling.

Sharpening solutions for band and gang saws

Sharpening solutions for circular saws



Sharpening solutions for hand tools

Sharpening solutions for industrial blades

Sharpening solutions for chain saws

Service

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Subject to technical modifications

KHB 200

FULLY AUTOMATIC SHARPENING MACHINE WITH 8 CNC AXES FOR PROCESSING TOP AND FACE OF CARBIDE TIPPED CIRCULAR SAW BLADES

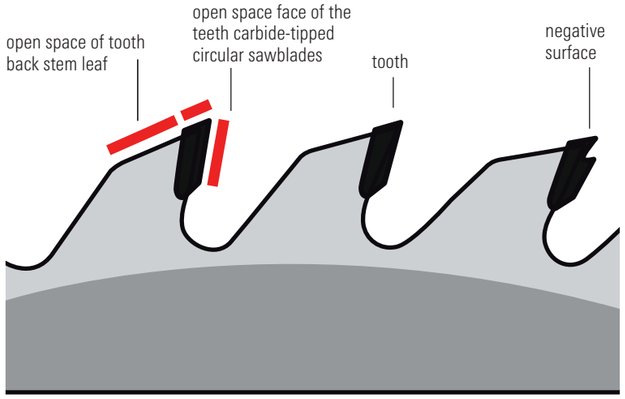
Technical data

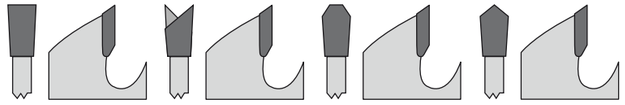
Tooth geometry:	freely programmable
Tooth pitch:	8* - 120* mm (*depending on tooth geometry)
Tooth height:	up to 40 mm
Saw blade thickness:	up to 8 mm
Tooth face rake angle:	from -25° to +30°
Tooth face grinding:	straight
	bevel from 0° to 30°
Tooth top grinding:	straight
	bevel / chamfering from 0° to 45°
Tooth height difference:	from 0 to 1.0 mm
Circular saw outer Ø:	Ø 180 - 860 mm
Circular saw bore Ø:	Ø 22 - 200 mm
Grinding wheel outer Ø:	Ø 200 - 250 mm
Grinding wheel bore Ø:	Ø 32 mm
Grinding motor power:	0,75 kW
Power requirements:	400V 3Ph 50Hz, 6 kVA
Compressed air requirements:	6 bar

CNC axes KHB 200

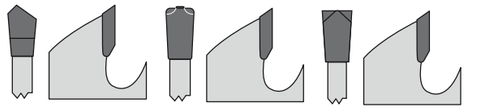
X-axis:	Horizontal tooth feed carriage
R-axis:	Radius tracking for tooth feed carriage
Y-axis:	Lifting carriage for grinding head
W-axis:	Horizontal grinding head carriage
U-axis:	Carriage for bevel and chamfer of the tooth top
S-axis:	Swivel axis for rake angle
F-axis:	Carriage for bevel and chamfer of the tooth face
H-axis:	Blade height carriage (automatic blade positioning)
Option:	
B-axis:	Automatic extention of the saw blade

Top and face grinding





FZ Flat tooth **WZ** Alternating tooth **TZ** Trapeziod tooth **DZ** Tooth roof



WZ Alternate top bevel tooth **FZ/TR** Tripple-chip flat tooth Bevel grinding tooth face

Grinding programmes

Tooth face:

- Straight grinding
- Bevel grinding up to 30°
- Group toothing up to 8 teeth

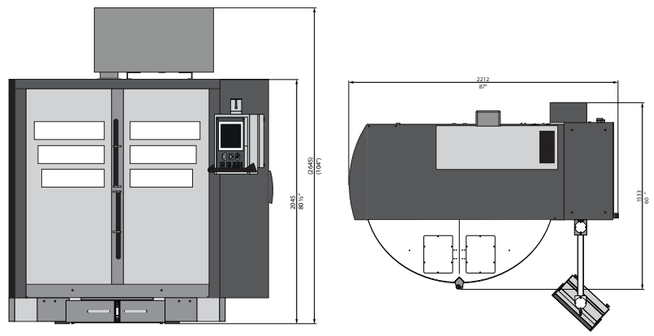
Tooth top:

- Straight grinding
- Bevel grinding up to 45°
- Chamfering
- Tooth height difference / triple-chip
- Group toothing up to 8 teeth

Measuring:

- Width of saw blade body and cutting kerf
- Side clearance back and front
- Centricity offset
- Height difference
- Group toothing up to 8 teeth
- Saw blade diameter
- Tooth top clearance (overlap)
- Tooth top clearance angle
- Tooth top angle (alternating bevel teeth)
- Tooth face angle

Space requirement



Highlights

- Conseived and designed for fully automatic machining of carbide tipped circular saw blades
- Tooth face and tooth top are ground against the cutting edge
- Blade feed from right to left, including radius tracking
- The space-saving machine concept enables for high ergonomics and excellent operability
- Easy access for maintenance work on the control cabinet, coolant pump, pneumatic and extinguishing device
- Unlimited storage capability for the circular saw parameters
- Optimal, fast and safe programming and setting of the circular saw parameters
- Programming of the complete sequence of operations by 8 CNC-axes control unit
- The positioned saw tooth can be finish-ground in one or several passes by automatic down feed
- Grinding of all tooth geometries, incl. bevel and chamfering, in only one setting
- The bevel and chamfering grinding angles can be selected individually
- Highly efficient grinding process with minimal idle time
- Identification of teeth to be repaired by means of a measuring probe

- DIN EN ISO 12100:2013-08; Safety of machinery, general principles for design
- DIN EN 60204-1:2014-10; Safety of machinery, electrical equipment of machines
- DIN EN 13857:2008-06; Safety of machinery, safety distances
- DIN EN ISO 16089:2015; Tooling machines, safety for stationary grinding machines

Technical components

- Ergonomically positioned control unit with colored display
- Touch-screen with Windows-based interface
- All axes are equipped with stable and strong roller linear guides to ensure high stability
- Safe servo drives according to EN 62061 SIL3 / EN ISO 13849-1 PLe
- Electronic cabinet with integrated ventilation
- Low-vibration grinding head by means of decoupled drive
- Grinding head with integrated rotation speed monitoring
- Measuring system for compensation of grinding wheel wear
- Automatic probing and scanning of the carbide tooth with the grinding wheel by means of sound sensor
- 3-D sensor unit for fully automatic measuring of the saw tooth and the saw blade body
- System for the detection and positioning of variable teeth groups, with integrated sensor cleaning
- Additional axis for bevel grinding at the tooth face (F-axis)
- Monitored automatic doors
- Optical signaling device (lamp) for process status recognition
- Intensive coolant system
- Extremely strong precision blade clamping
- Pressure-monitored pneumatic system
- Automatic central lubrication
- Equipped with cleaning-kit and generous tool-set

Options

- Grinding mist dust exhaust
- Equipment for oil cooling, including CO2 fire protection
- Automatic blade positioning (pneumatic)
- Automatic probing/touching on the carbide saw tooth
- Equipment for variable tooth pitches
- Equipment for grinding wheel compensation
- Optical signaling device for process status recognition (signal lamp)
- Air conditioning of the electronic cabinet
- Automatic central lubrication
- Connections and preparation for an external coolant purifier
- Centering rings for circular saw blades