VOLLMER

////////// Biberach, June 2022

CS 860 -
PRODUCT PRESENTATION

CS 860 - CONTENT

- // Technical data
- // Machine concept
- // Software
- // Sawmill sawblades
- // Center brake
- // Hollow face
- // Chip breaker

- // Grinding wheels
- // Cooling medium / Cleaning
- // IoT
- // Differences CHD270 at a glance
- // Automation
- // Dimension
- // Service

CS 860 – TECHNICAL DATA

// Circular saw blades

Outside Ø	80-860 mm
Bore Ø	≥ 10 mm
Body thickness	≤ 14 mm
Tooth pitch	≤ 180 mm
Tool weight	< 70 kg

Hook angle	-35° to +40°
Hook angle hollow face	-10° to +25°
Clearance angle	+5° to +45°
Tooth height difference	≤ 3 mm
Bevel top	≤ 60°
Bevel face	≤ 30°

CS 860 – TECHNICAL DATA

// Grinding wheel

Outside Ø top	125 mm
Outside Ø face	200 mm
Bore Ø	32 mm
Speed main spindle	1200-5500 min-1
Speed hollow face spindle	35000-60000 min-1
Speed chip breaker spindle	8000-20000 min-1
Main grinding motor power	4.7 kW

// Loading system

Type	ND2xx / ND3xx
Number of stacks	max. 13 (ND270)
Stack height	< 300 mm
Saw weight	≤ 20 kg

CS 860 – TECHNICAL DATA

// General

Connected load	3.5 kVA
Compressed air supply	6 bar
Air consumption	approx. 20 L/min.
Suction performance	860 m³/h
Weight CS860	approx. 3000 kg

CS 860 – MACHINE CONCEPT

// Latest drive and control technology

// Highest flexibility for all carbide-tipped circular saws from 80-860 mm diameter

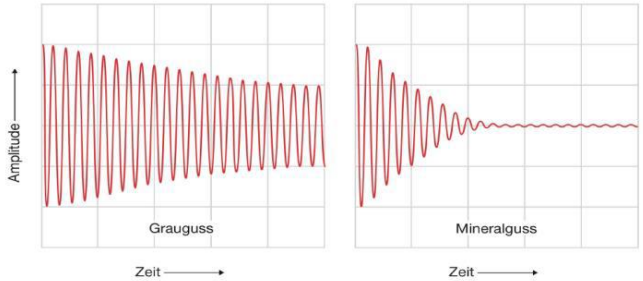
// Maximum process stability

// Many new software solutions

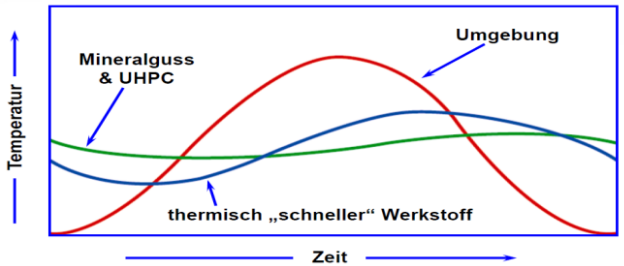
CS 860 – MACHINE CONCEPT

// Polymer concrete with 2,100 kg, total machine ~ 4,900 kg

Faster damping of the vibrations compared to gray cast iron



Lower thermal conductivity, thus lower expansion due to temperature fluctuations



CS 860 – MACHINE CONCEPT

// R-Axis = saw carrier axis

// R2-Axis = saw carrier cross adjustment

// V + W-Axis = indexing system

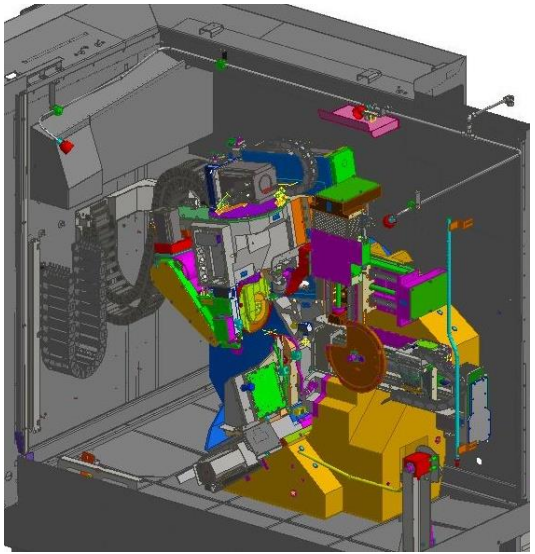
// A-Axis = hook and clearance angle

// B-Axis = bevel grinding clearance

// X-Axis = infeed clearance and grinding length face

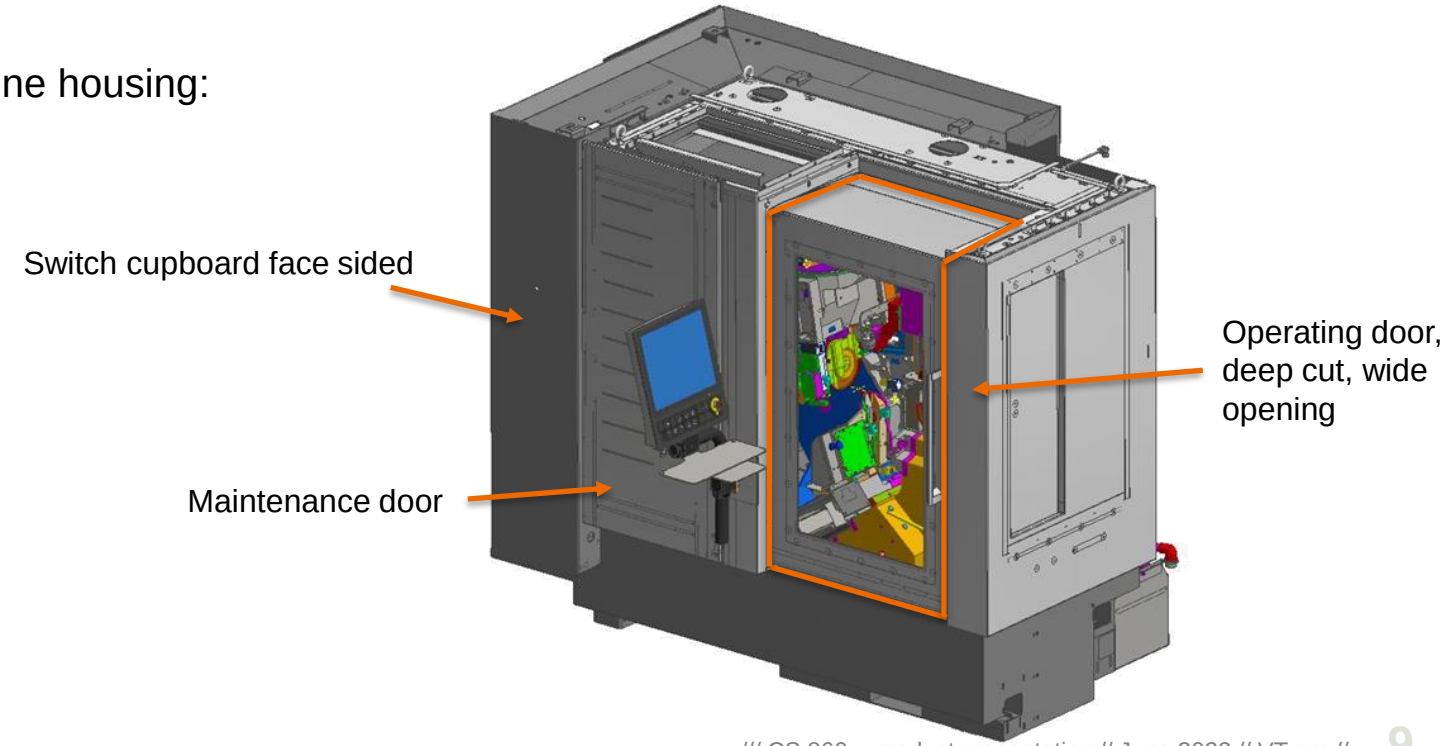
// Y-Axis = cross adjustment grinding aggregate

// Z-Axis = infeed face and grinding length clearance



CS 860 – MACHINE CONCEPT

// New machine housing:



CS 860 – MACHINE CONCEPT

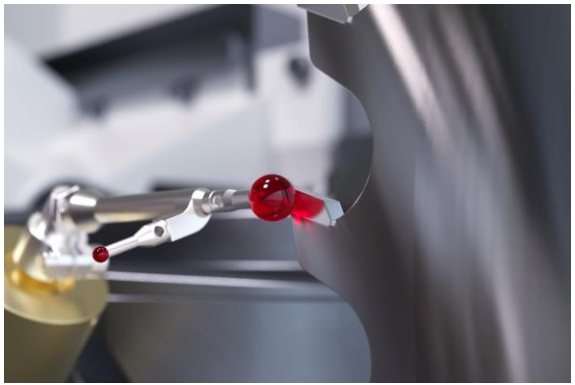
- Modern control panel
  - Touch operation
  - Familiar workshop orientated user interface
  - Override functionality
  - Ergonomic operating concept
- Hand wheel box

CS 860 – MACHINE CONCEPT

- Measuring cube
  - Grinding wheel compensation measurement on measuring cube leads to increased process reliability
  - Frequency of compensation measurement can be freely programmed by the operator

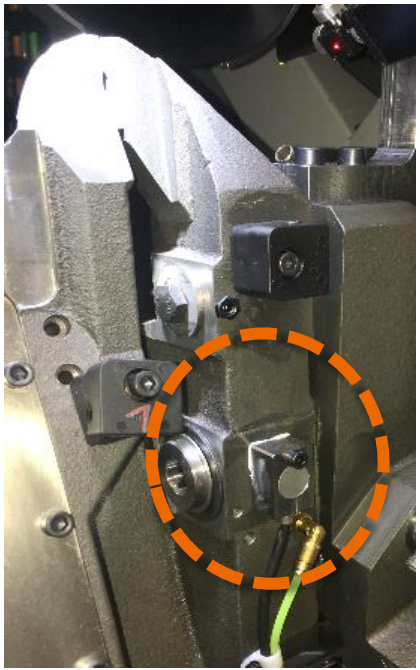
CS 860 – MACHINE CONCEPT

- Measuring probe MP 250 for best possible measurement results
  - 3 Dimensional deflection during measurement
  - More sensitive detection of the deflection



CS 860 – MACHINE CONCEPT

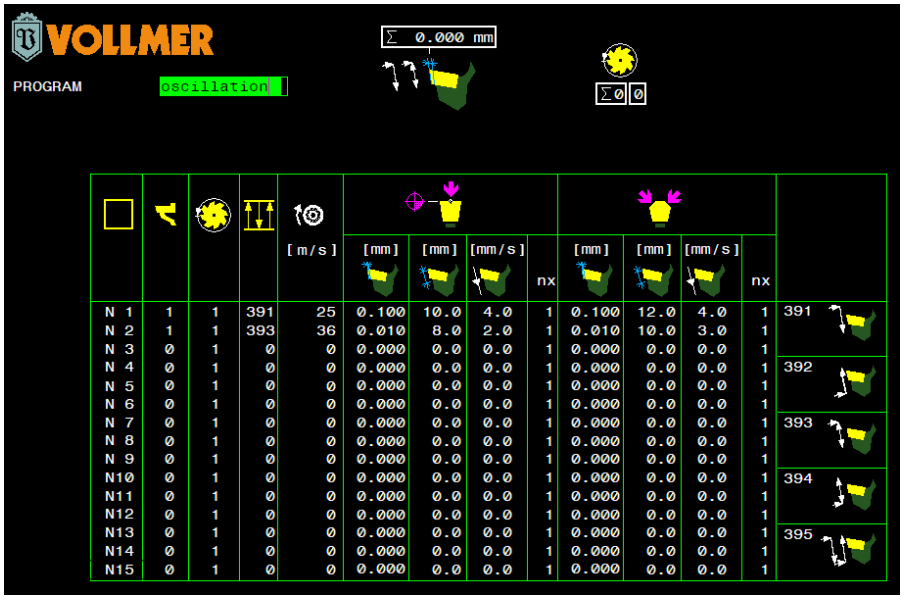
- New accustic noice measurement system
  - Optimized, fast and reliable setup processes
  - Automatic zero point detection on face and clearance
  - Automatic detection of the grinding path length on face and clearance



CS 860 – SOFTWARE

- // Software package **oscillation**
- // New flexible oscillation programs
  - // More flexibility
  - // Higher productivity
  - // Quality optimization

- // For each line / surface different:
  - // Cutting speed
  - // Grinding speed
  - // Travel length
  - // Infeed



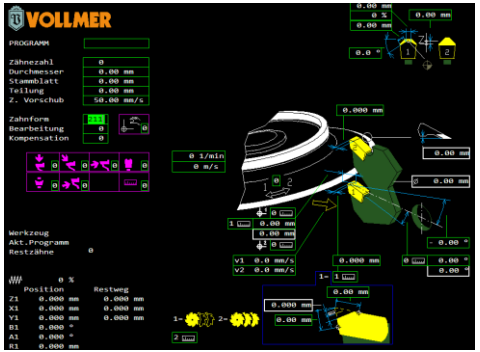
CS 860 – SOFTWARE

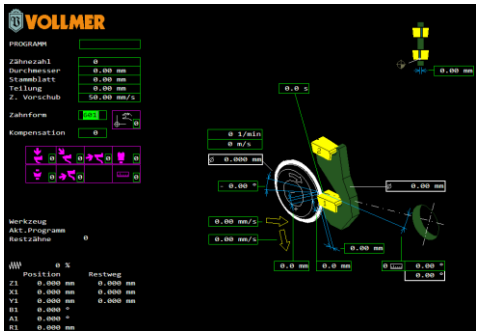
- Software package **multi-surface** for up to 15 different lines
- Contains the following tooth shapes
  - Face 121
  - Face negative 221, 223
  - Top 321, 323
  - Hollow face 163
  - Chip breaker 621
- Extension to 30 lines - sample function see picture

		[°]	[°]		[mm]	[%]	[mm]	[mm]	[mm]	[mm/s]	[°]
N16	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N17	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N18	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N19	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N20	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N21	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N22	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N23	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N24	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N25	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N26	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N27	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N28	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N29	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0
N30	0	0.0	0.0	0	0.00	0	0.00	0.00	0.00	0.0	0.0

CS 860 – SOFTWARE

- // Software package **metal**
- // Contains the following tooth shapes
  - // Face negative
  - // 201, 205, 206, 209, 210, 211, 219, 231
  - // Chip breaker
  - // 601, 602, 619



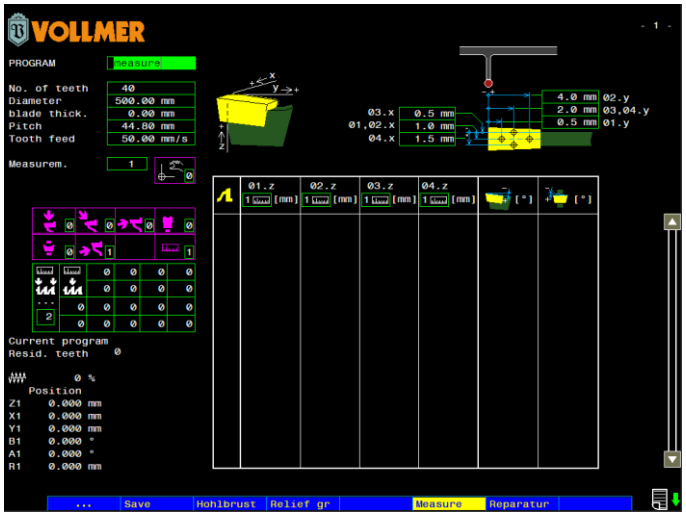


CS 860 – SOFTWARE

// Software package **measuring program** – Measuring after grinding for quality assurance, coordinate output via XML file

// Optional partial or complete measurement (up to 4 measuring points per surface) of one or more cutting edges (teeth) after machining and data output via IoT gateway

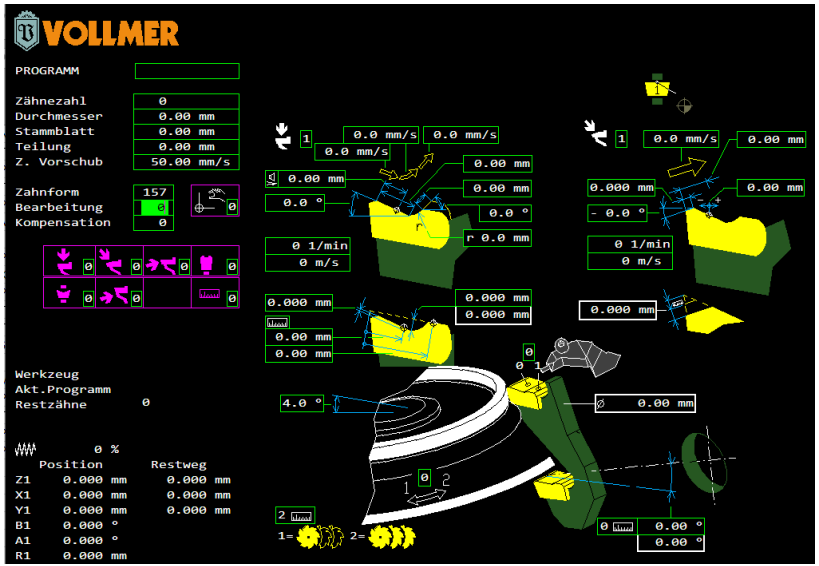
// Output of the coordinates of all measuring points



CS 860 – SOFTWARE

// Software package **chip guide noth**
(Requires metal software)

// Contains the following tooth shapes
  // Face 157

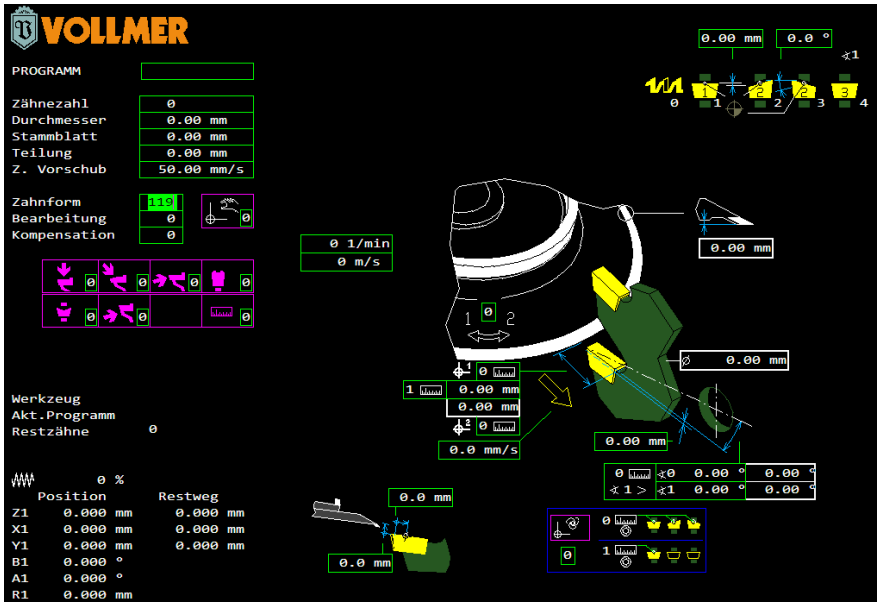


CS 860 – SOFTWARE

// Software package **axis angle on the face**

// Contains the following tooth shapes

  // 102, 103, 104, 105, 106, 119



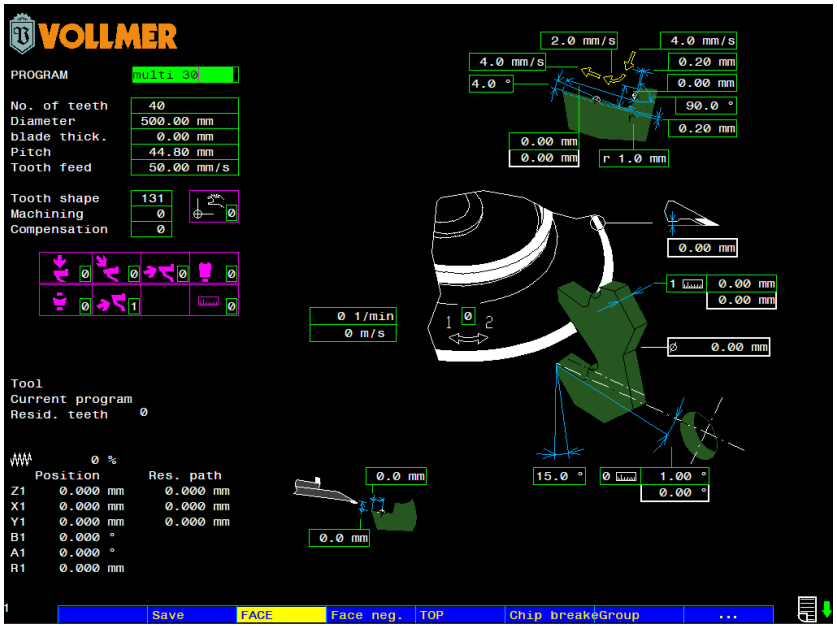
CS 860 – SOFTWARE

// Software package **pocket seat grinding**

// Interpolating machining for constant contour and high process stability

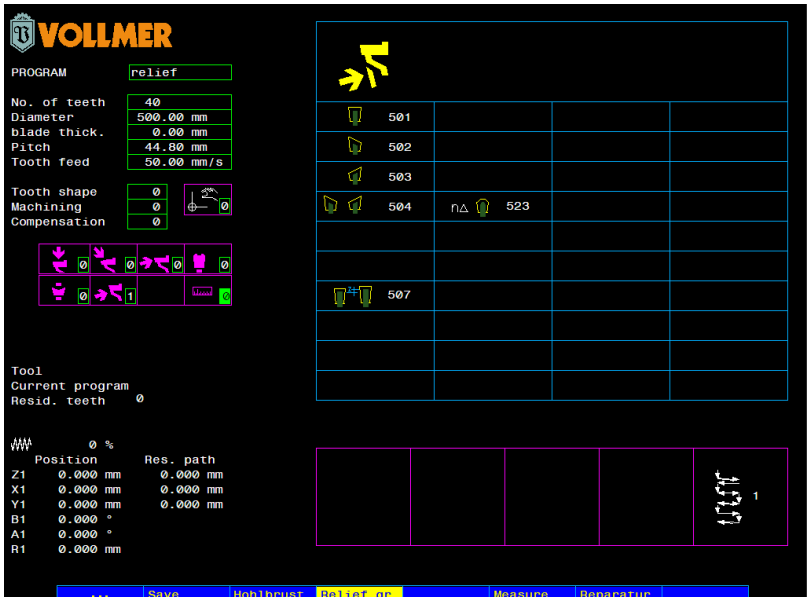
// Working with infeed or absolute dimensions

// Automatic setup / scanning



CS 860 – SOFTWARE

- Software Paket **body blade processing**
  - Straight
  - Left
  - Right
  - Alternating tooth
  - Flat (low/high)
  - Multi-surface



CS 860 – SOFTWARE

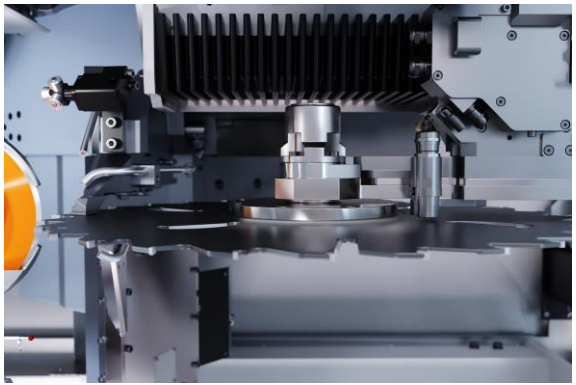
// Software package **„time-optimized machining“** for automatic grinding path detection

- // Reduced processing time
- // Increased process stability
- // Less programming effort

CS 860 – SAWMILL SAWBLADES

// Optional R2 axis for cross adjustment of the saw carriage. Enables automatic machining of saws with reinforced body in mixed operation.

// No magnetic plates or magnetic reducing rings required (comparison CHD270)



CS 860 – CENTER BRAKE

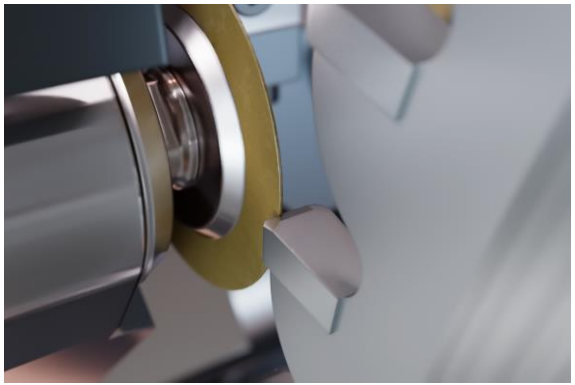
- New center brake
  - For machining with open blade clamping
  - For machining of coated saws - coating is not damaged during feed.
  - For machining strobe saw. Rakers are not pushed over magnets of the saw holder during feed and are therefore not damaged.

CS 860 – HOLLOW FACE

- Hollow face aggregate
  - High frequency spindle with speed from 35,000 to 60,000 U/min
  - Infinitely adjustable
  - Diamond grinding pins with shank Ø 6 mm

CS 860 – CHIP BREAKER

- Chip breaker grinding unit
  - For grinding wheels Ø 26 to 50 mm
  - Spindle rotation speed 8,000 – 20,000 U/min



CS 860 – GRINDING WHEEL

// DIA – grinding wheel for face Ø 200mm

// DIA - grinding wheel for clearance Ø 125mm

// CBN - grinding wheel for pocket seat Ø 200mm

// CBN - grinding wheel for relief grinding Ø 125mm

CS 860 – COOLING MEDIUM / CLEANING

// Equipment for central coolant supply (oil or emulsion) with pump 160 l/min, coolant is pumped off (connection Ø 1 ¼")

// The connection fittings can be rotated to allow supply from above.

CS 860 – IOT

- IoT gateway included in basic machine
  - BDE and MDE export via IoT gateway (after completion)
  - OPC UA or MT Connect - Standard (Umati after completion)
  - Machine dashboard
  - Messenger service (notification of error, job end, warning, ...)
  - Node Red as graphical web-based (open-source) programming environment in IoT gateway

CS 860 – DIFFERENCES CHD270

// Measuring cube for absolute measurement of the grinding wheels

// Automatic grinding path detection

// Optional transverse axis R2 for sawmill saws and coated saws

// All drives with servo motors - more torque and reduced energy consumption

// New center brake – also for large saws

// New and more flexible machining programs

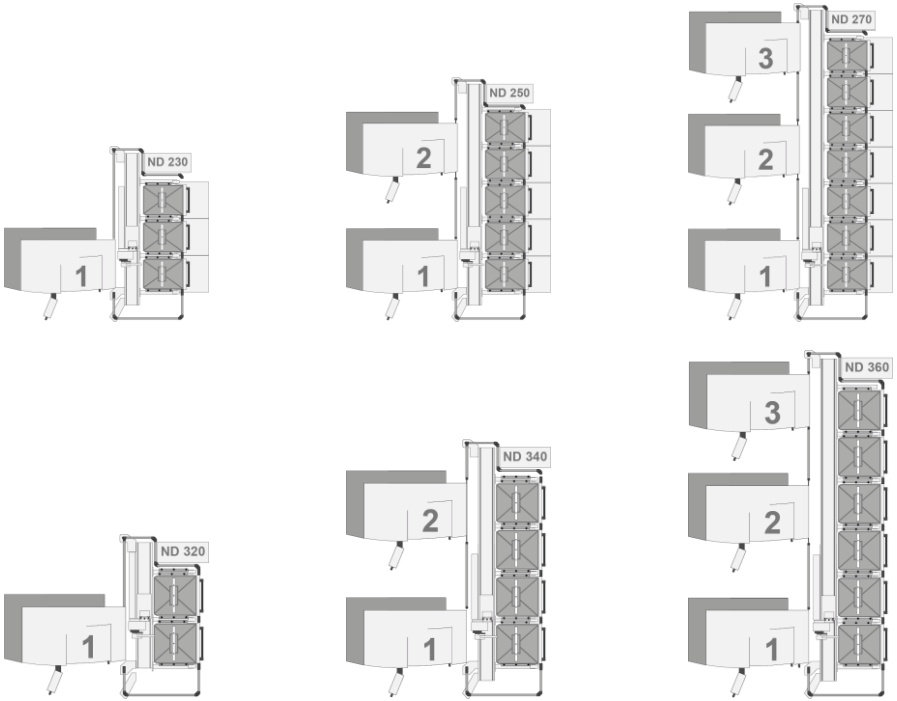
// New control system (Beckhoff)

// Modern and ergonomic control panel

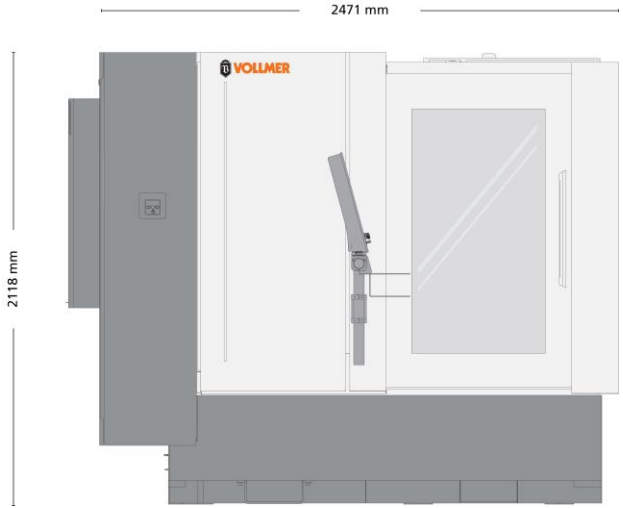
// Software for measuring the saw (quality assurance)

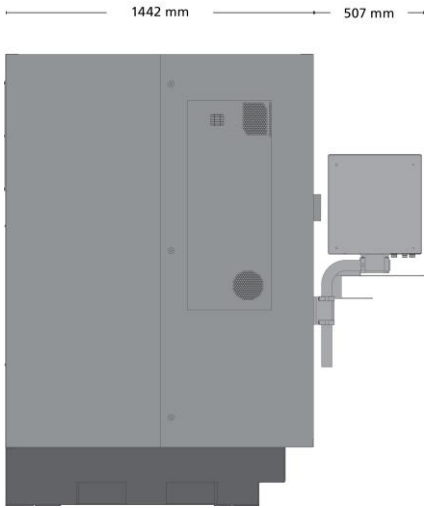
CS 860 – AUTOMATION

// Overview ND



CS 860 – DIMENSIONS





CS 860 – CUSTOMISED SERVICE

// At a glance:


PROJECTION


FINANCING

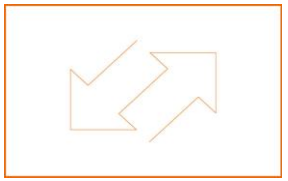

TRAINING


SERVICE


SPARE PARTS


SOFTWARE


USED MACHINES


DIGITALISATION

CS 860 – SERVICE

// Service contracts at a glance

/// CHECK

- // Inspection of machine
- // Labour, journey time and travel expenses
- // Software updates
- // Special discount on spare parts*

* 10% special discount on all spare parts resulting from the inspection.

/// PLUS

- // Inspection of machine
- // Labour, journey time and travel expenses
- // Software updates
- // Special discount on spare parts*

+

- // Annual replacement of defined wearing parts

/// MAX

- // Inspection of machine
- // Labour, journey time and travel expenses
- // Software updates
- // Special discount on spare parts*

+

- // Annual replacement of defined wearing parts

+

- // Replacement of other parts at defined intervals

All service contracts including optional maintenance of fire-extinguishing systems and dielectric fluid cleaning.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