systron
GLASS TECHNOLOGIES

ALL-IN-ONE External and Internal Processing

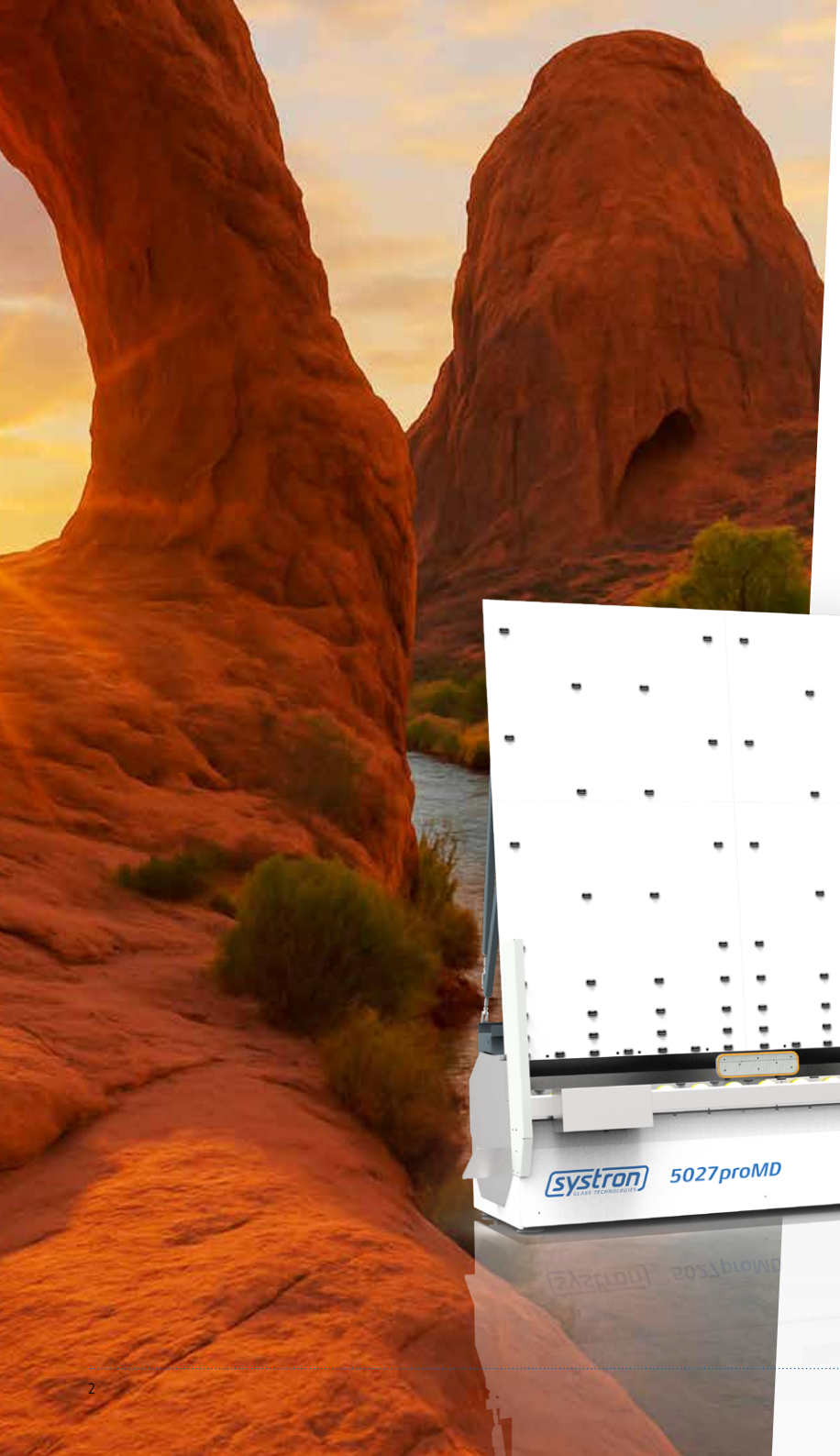
- Edge Processing
- Milling and Drilling
- Optional with Waterjet

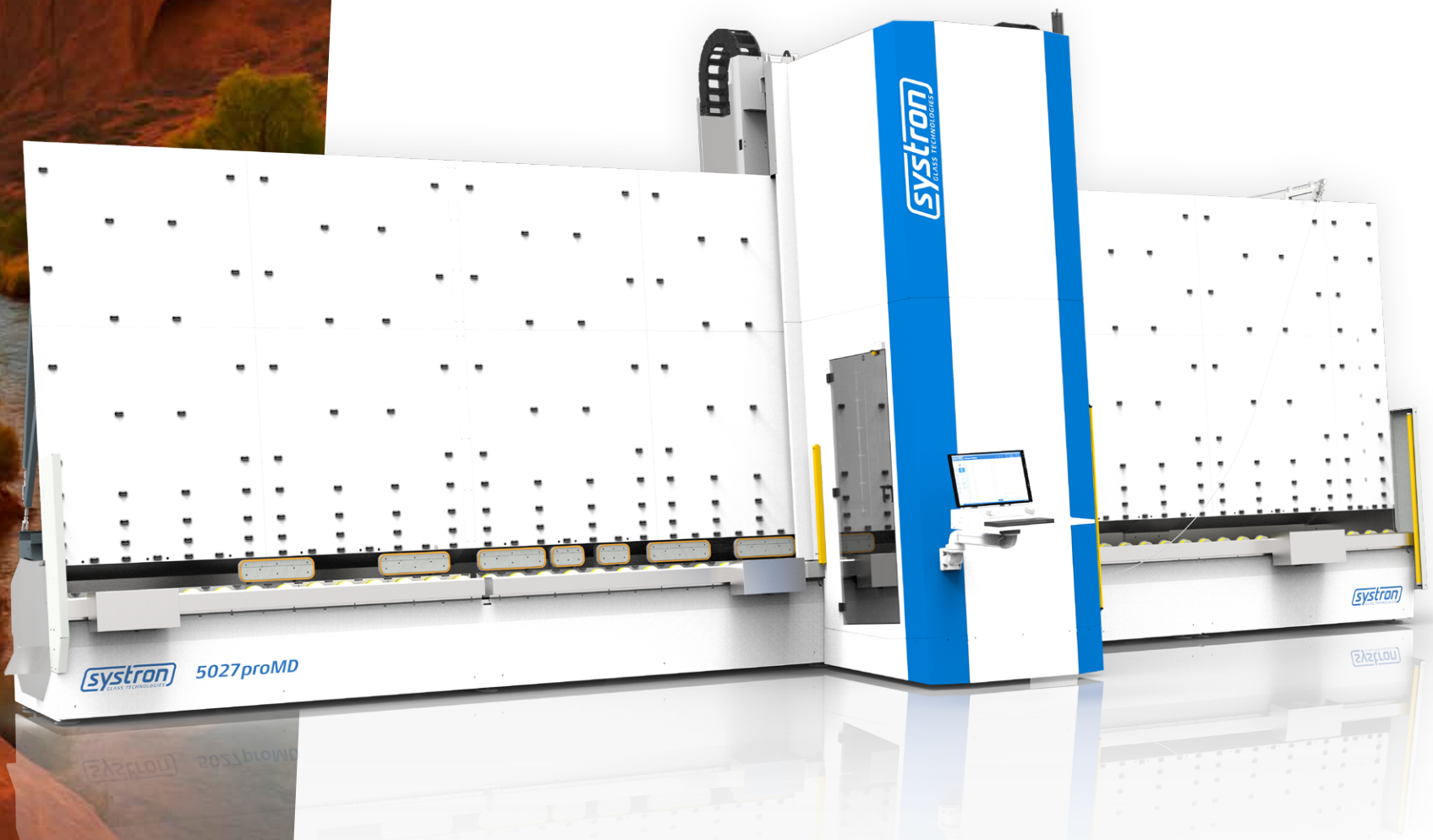
systron proMD

3525 / 5027 / 6033

EN

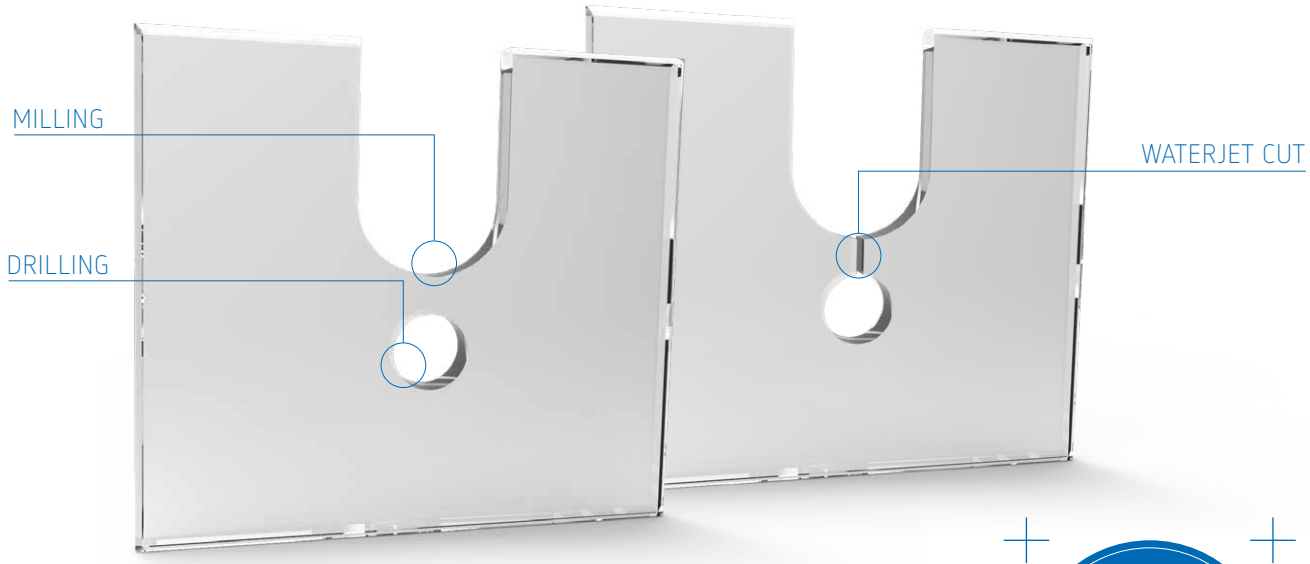
systron proMD is a vertical ALL-IN-ONE processing centre. Milling, drilling, seaming, grinding and polishing of contours can be done with the **highest precision** and **short cycle times** due to the solid construction and use of our patented systems.
The barrier-free design ensures an ergonomically optimal working position for the operator and easy access to all machine components.





Vertical Glass Processing

in Perfection!



- **Seaming** (RAW EDGE), **grinding and polishing of internal and external contours**
- **Double-sided drilling and countersinking**
- **Milling of cut-outs**
- **Optional: Waterjet technology**

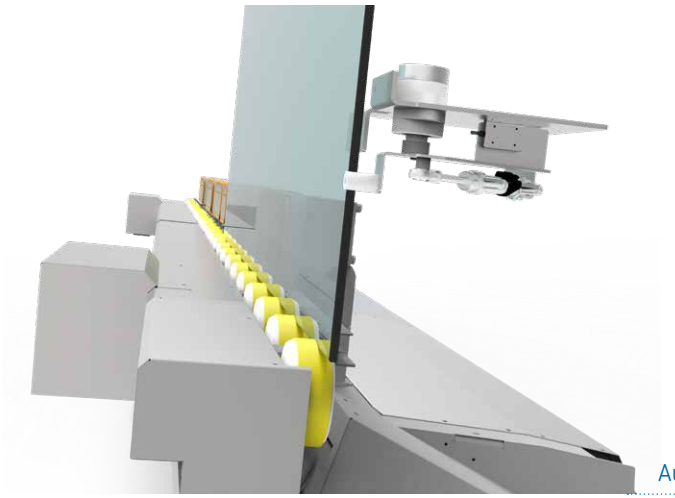
HIGHEST PRECISION

systron sets new standards

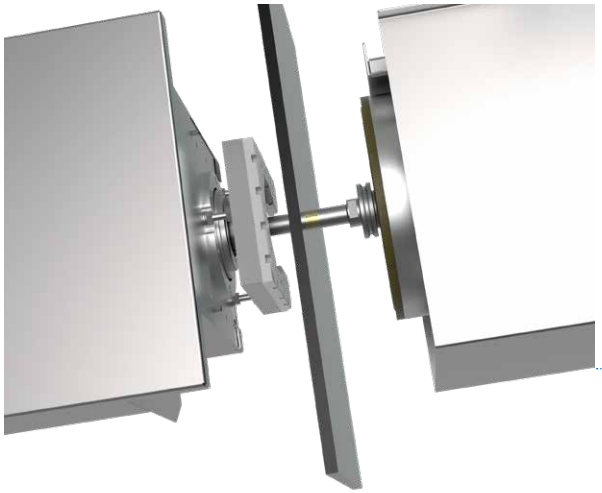
- Minimal machining tolerances, max. +/- 0.2 mm on the entire **product size**
- Hardly any machining restrictions on contours and **special shapes**
- No set-up times between different glass thicknesses and types (only tool change)
- Very rigid, vibration-free construction allows highest processing quality also at oblique edges or radii
- Open spare parts policy; components from premium manufacturers
- No mechanical touch during processing coated glass, therefore perfect for low-E glass
- With the waterjet option: Redundancy ensured by combining conventional drilling and milling with waterjet technology

Highlights

- **Constant polishing quality** thanks to precisely controlled polishing pressure
- Vibration-free processing **prevents chipping**
- Arris parallelism guaranteed by **patented water cushion** guidance
- **High-pressure tool cooling** across the entire tool circumference
- **Automatic positioning of the glass sheets,** even for custom shapes
- **Continuously protected suction cups**
- **No mechanical contact** with coated glass surfaces
- **Easy operation** through an intuitive graphical machine interface



Automatic glass measurement



Double-sided drilling

Processing Spindle

Optimal grinding and polishing image

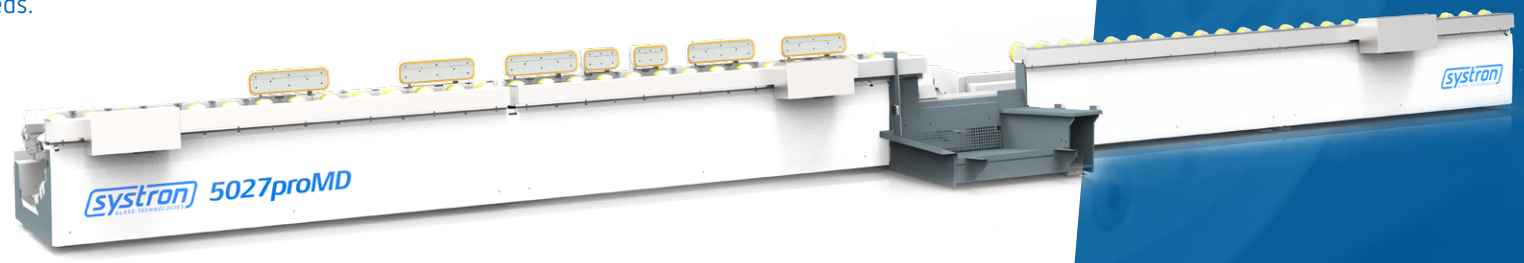
- 2 tools per tool holder
  (depending on glass thickness)
- with ample power reserves for all kinds of processing
- 100 diameter tools

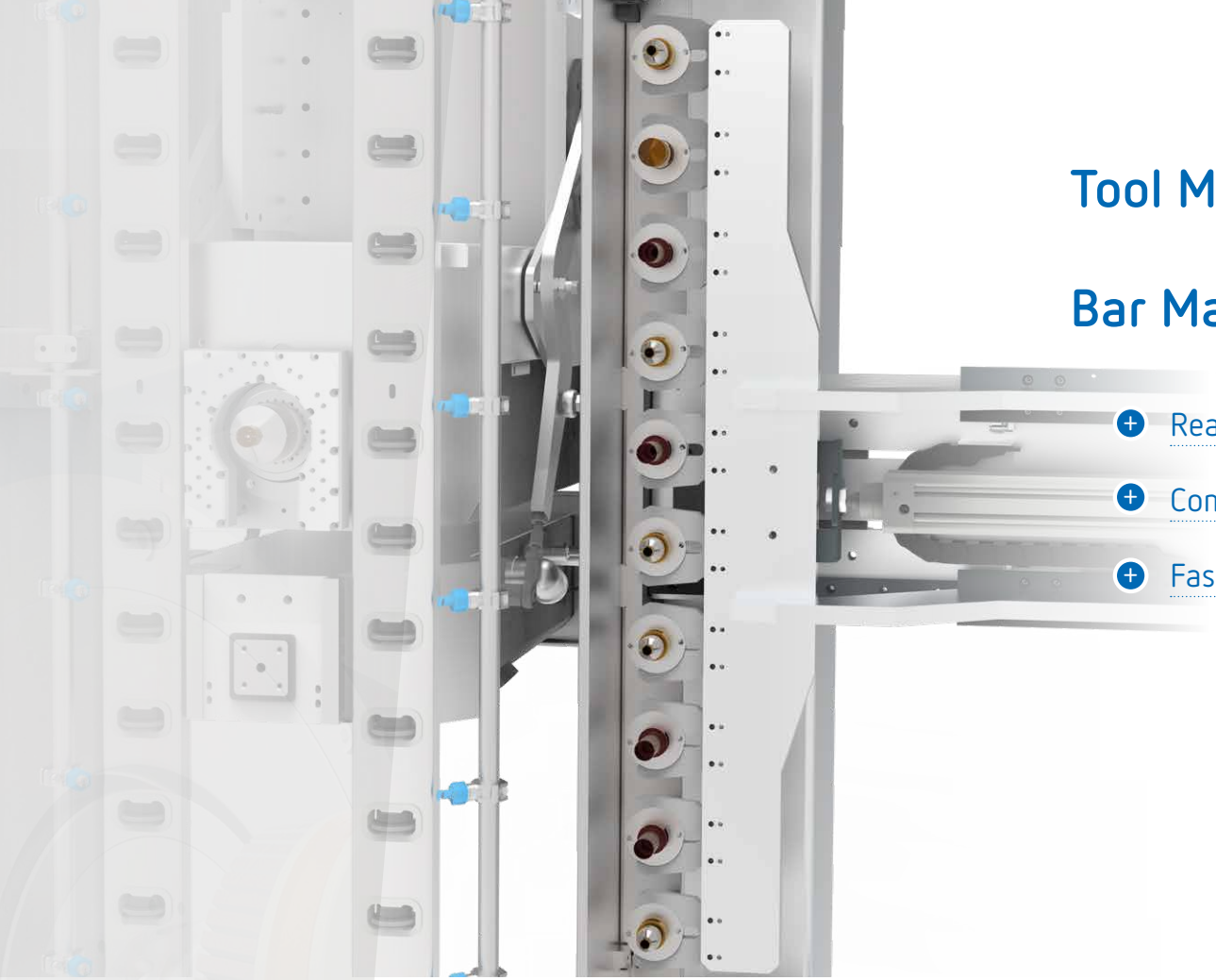
Water Cushion

- Patented process
- Follows the glass surface

Massive Vibration-Free Machine Construction

A **massive machine base frame** and high-resolution servo axes are the basis for **a very high-quality machining and polishing quality**, which is guaranteed even after years of shift production. The **modular design of the machine bed** enables adaptation of the system for all production needs.





Tool Magazine – Rear Side

Bar Magazine for 10 Tool Holders

- Rear-integrated bar magazine
- Compatible with all standard drilling and countersinking tools
- Fast tool changes for efficient processing

Water Cushion – Rear Side

- Serves as a counterholder during drilling & countersinking
- No mechanical contact with the glass
- Safe, clean glass processing through regulated counterpressure

Optional Tool Magazines – Front Side

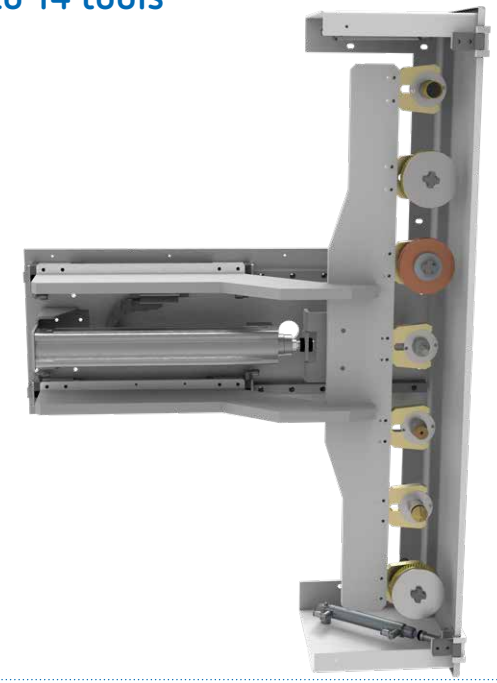
Two tool changers can be mounted on the Y-axis

MAXIMUM

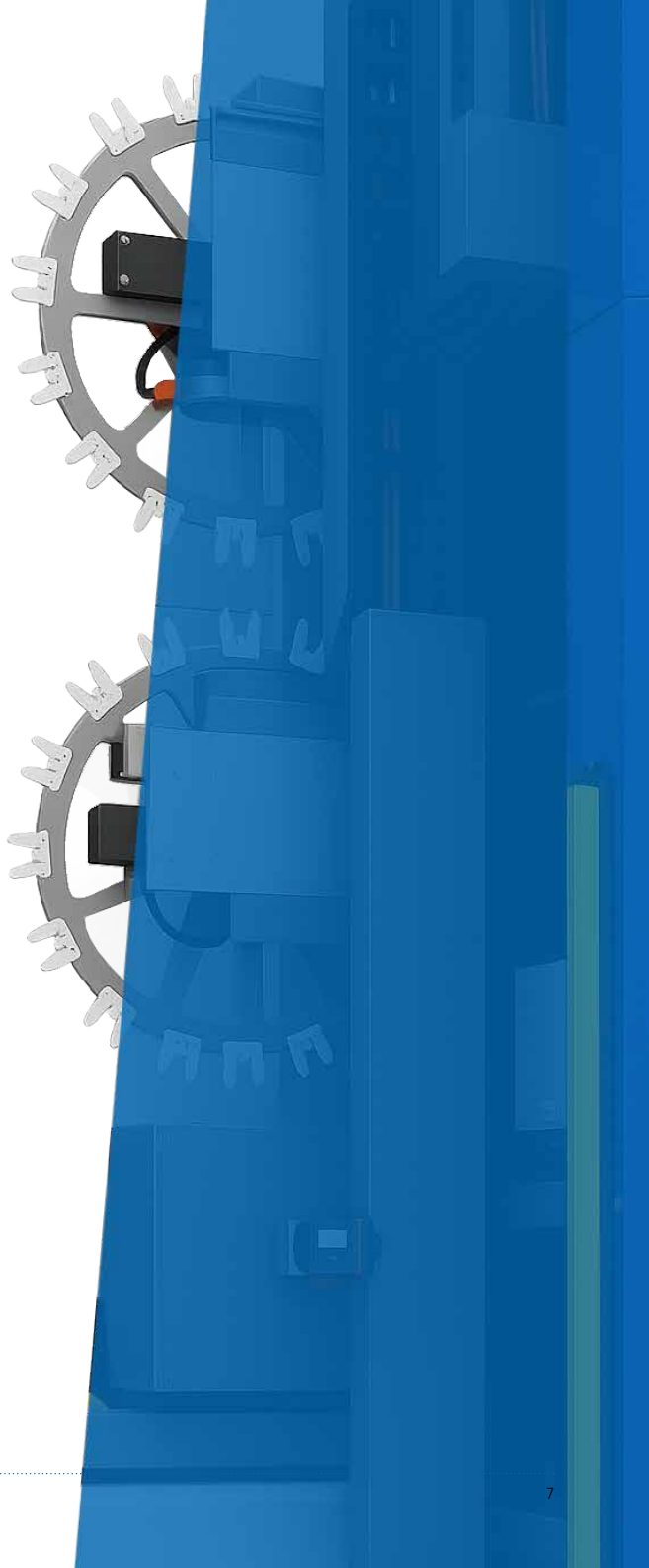
< 80 >

- Storage of the tools **outside the wet area**
- Fast exchange times
- Tool package width up to 62 mm (max. 2 tools / position)
- Separation of the tool magazine and wet area via pneumatically controlled slide

Bar magazine for 7 tool holders - up to 14 tools



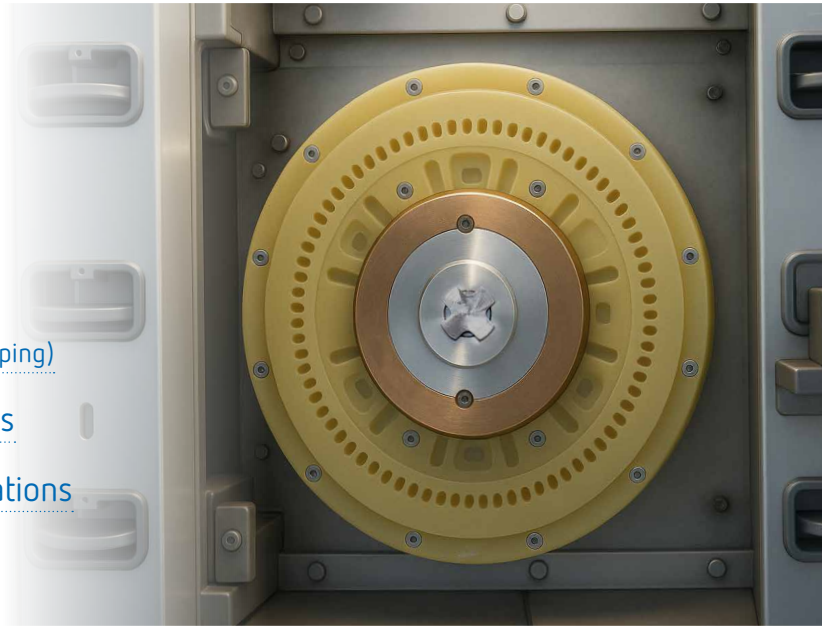
Tool magazine for 20 tool holders - up to 40 tools

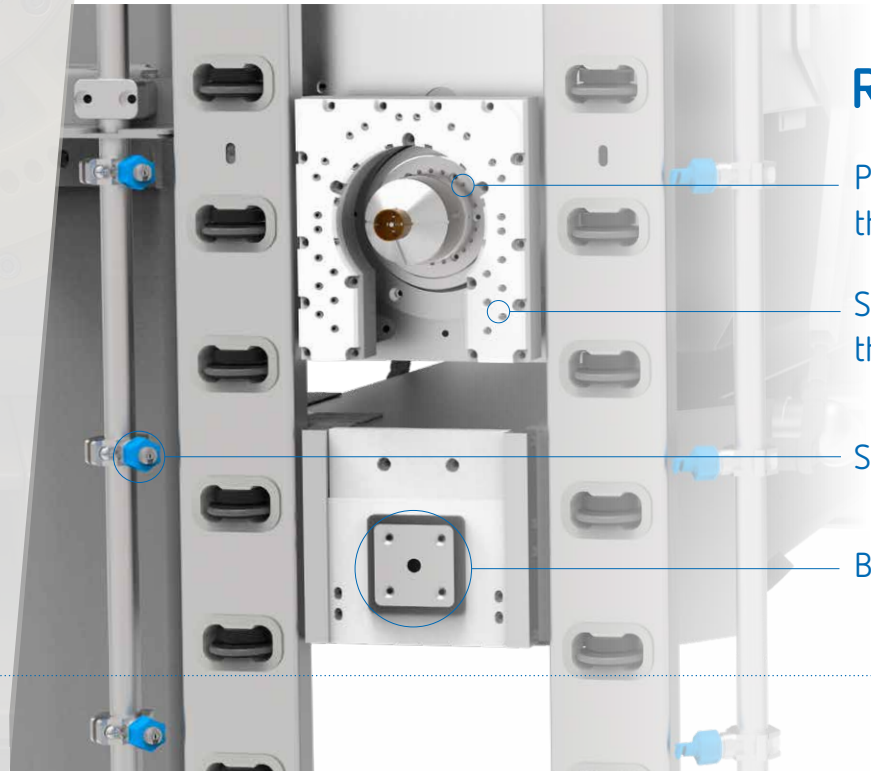


Highlights

Patented Water Cushion

- Continuous edge parallelism
- Consistent tool cooling across the entire processing zone
- Low-vibration glass processing for superior edge quality
- Glass is pressed against the roller wall (absorbs vibrations, prevents chipping)
- No mechanical contact with the glass – protects sensitive surfaces
- Adaptation to the glass surface, even with tolerances & shape deviations
- Reduced tool wear





Rear Processing Area

Processing spindle for precise drilling and countersinking from the back side

Second (rear) water cushion acts as a counterholder – stabilizes the glass during drilling and countersinking

Spray bar for continuous grinding dust removal

Beam absorber for waterjet operations

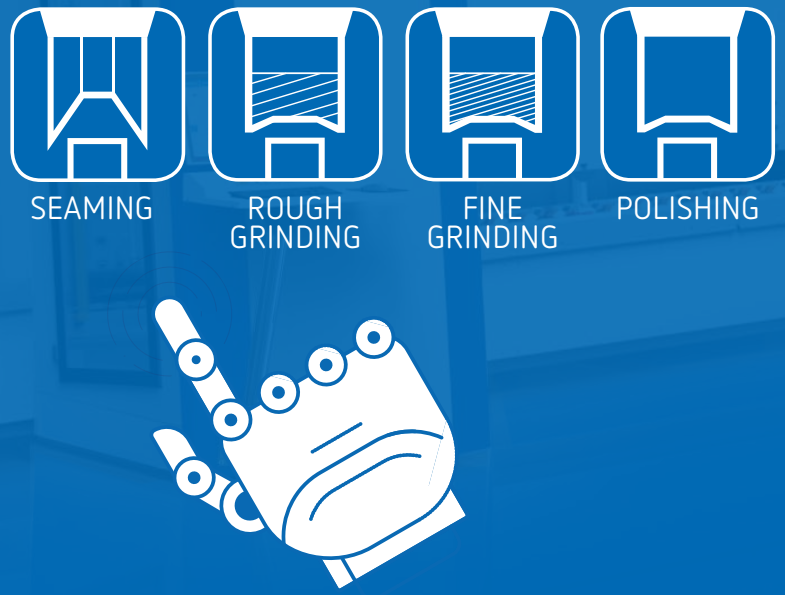
Clamping Beam Equipped with Suction Cups

The X-axis is equipped with integrated tiltable suction cups. Only the required ones will be tilted out of the protected area.

Easy Mode (OPTION)

There is a separate operating mode where **rectangular** glass can be easily processed. With this EASY MODE, the length, height and thickness of the glass is **measured and processed fully automatically.**

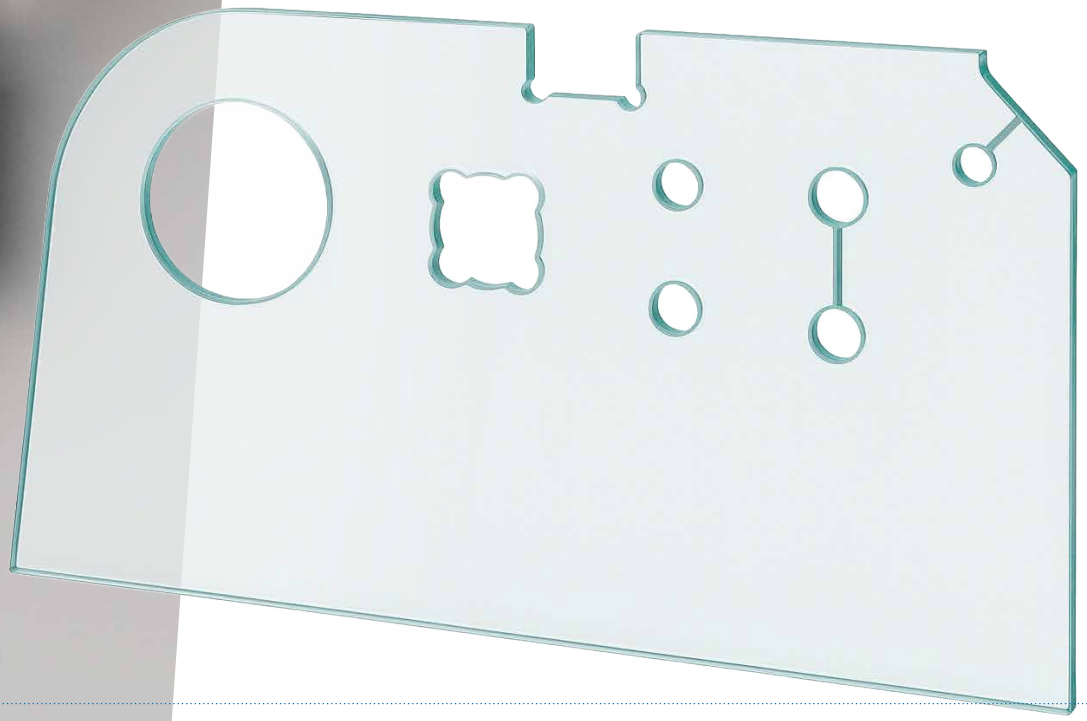
The removals for Seaming, Grinding and Polishing must be defined once in the system. After measuring the glass, a dxf file with the respective processing data is automatically generated and the glass is processed according to the settings without operator influence.



OPTIONAL: Patented Waterjet Cutting Technology

Up to **4000 bar pressure** waterjet allows extremely **fast cutting of all inner- and outer contours** with **even complex geometries** with highest precision. The waterjet technology enables **shortest cycle times.** High quality waterjet cut contours can be toughened **without post-processing.** A **reduction** of production time **up to 50%** is possible.

- Cutting of complex internal & external contours in a single processing step
- Processing without thermal or mechanical stress
- High precision for custom-defined geometries
- Suitable for glass thicknesses of 3–25 mm

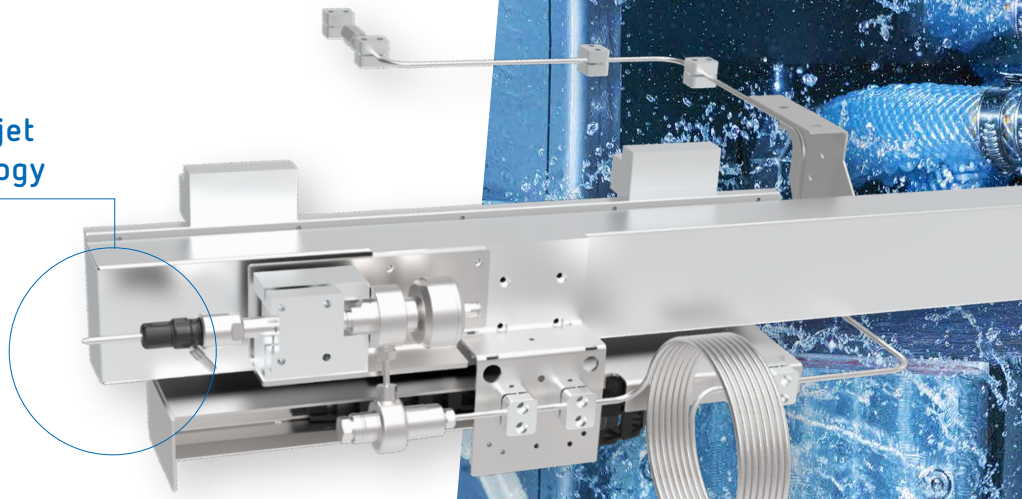


HIGHEST PRECISION

Two piercing methods for precise cuts

Piercing can be performed either directly with the **waterjet** or via a **pilot hole**. In the latter case, a defined breakthrough is created by drilling from both sides, serving as the start point for the waterjet cut.

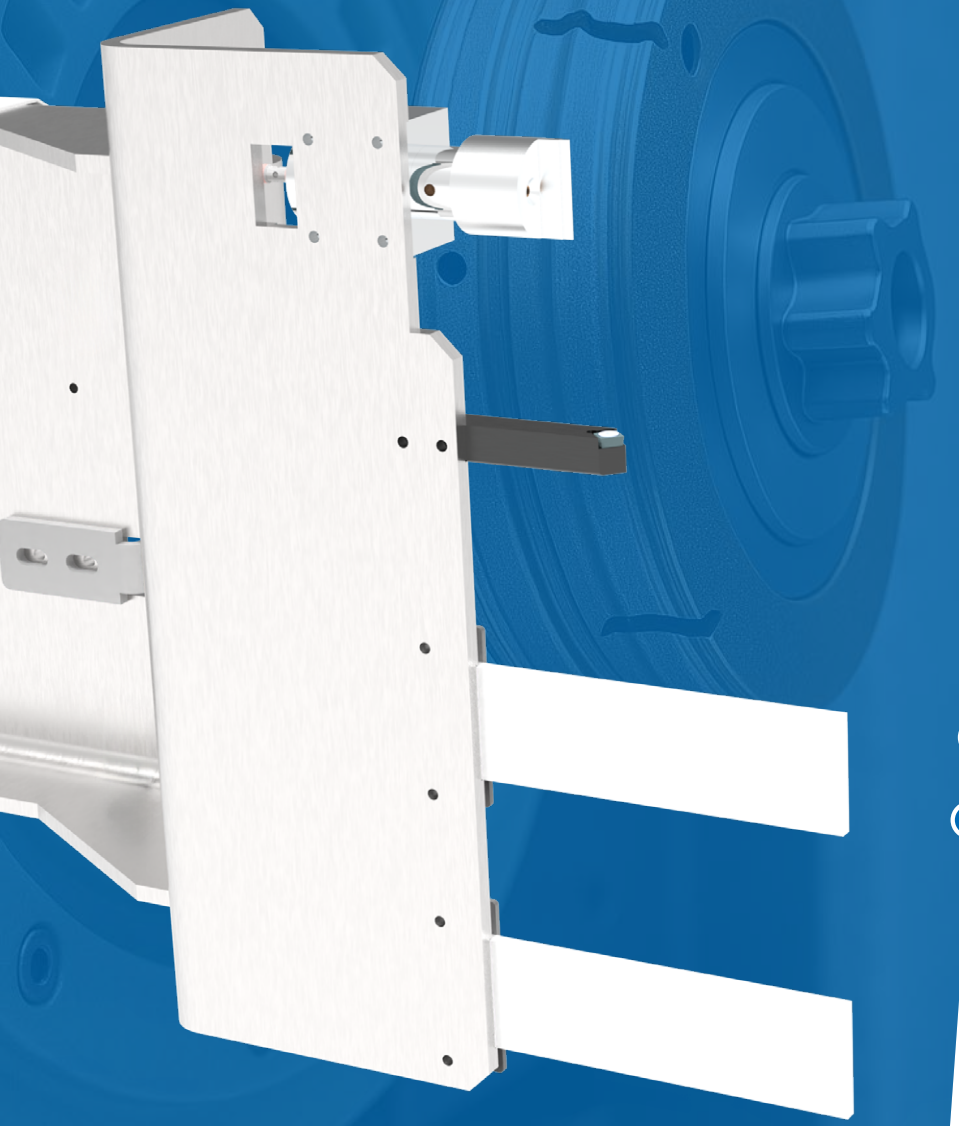
Patented waterjet cutting technology



High-Pressure Pump
for optional waterjet operation

- Consistent cutting quality thanks to stable operating pressure up to 4000 bar
- Low pressure pulsation for stable processing results
- Modern and intuitive touch panel with customizable functions
- Robust and particularly maintenance-friendly design

Standard Features



Tool Measurement and Sharpening System

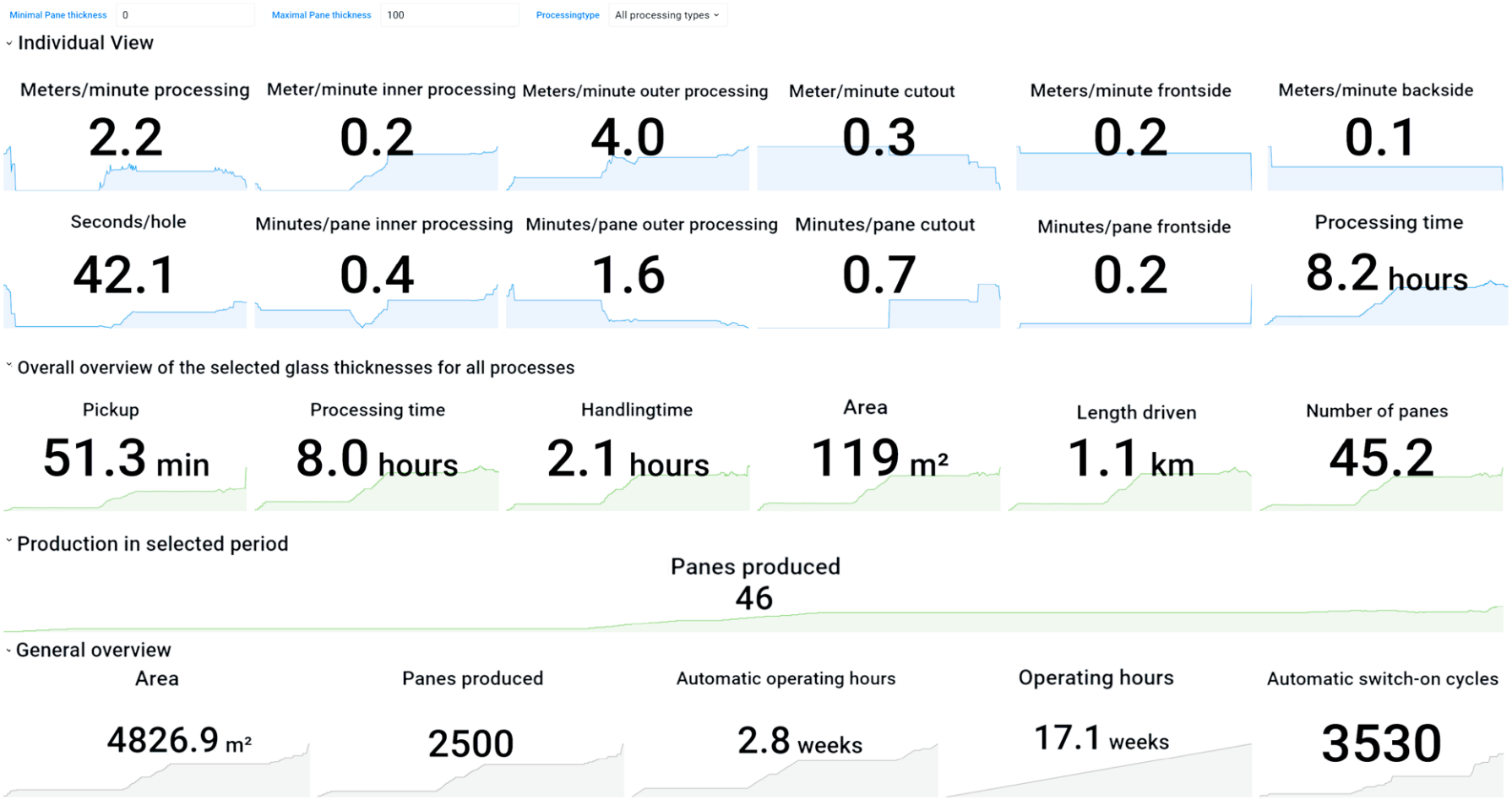
- Each tool is automatically measured at specific intervals defined by the operator.
- The tool diameter is automatically corrected.
- To ensure consistent material removal performance, tools are sharpened (rectified) at predefined intervals.

Profiling and Dressing Device for Polishing Tools

- It allows the use of a single type of raw polishing wheel for multiple glass thicknesses, thereby reducing inventory costs.
- The profile is automatically grooved according to the glass thickness.
- Profile remainders will be removed automatically by the dressing device.

Sharpening/profiling of the tools with almost **NO loss of cycle time** (during pick-up & move-out of the glass pane)

Software Option: Statstics Presentation and Evaluation of Production Data



This software option includes the installation and configuration of the software for the statistics of the production data per time unit.

The dashboard contains a general overview as well as statistics per glass thickness with a variety of parameters, as for example:

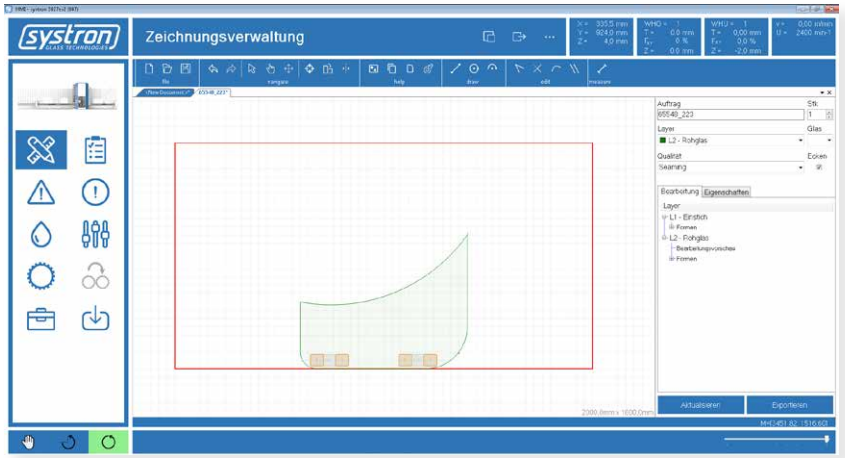
- » Produced glass (m^2)
- » Number of units produced
- » Time allocation
- » Produced grinding metres divided to
  - Rough grinding
  - Fine grinding
  - Polishing

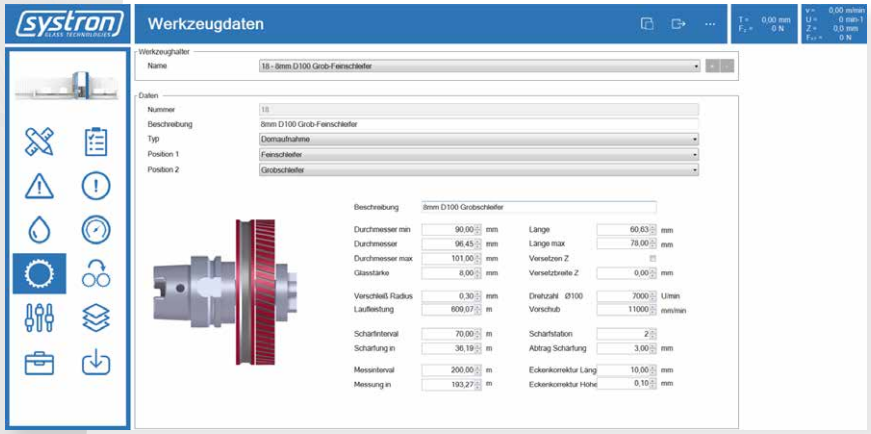
Control & Software

CAD-Software

The shape catalogue integrated in the CAD-Program allows you to **quickly create production drawings**, complex shapes can be transferred directly v**ia DXF import**.

In order to better **control the position of the vacuum cups** and the orbits of the individual processing steps, those are displayed in advance.





Machine Control System

The **intuitive machine software** is clearly displayed on a **multi-touch panel**. A new **operating concept** allows **fast and accurate axis positioning** in manual mode.

Example tool data: After entering the data of the tool holder, the build-up of the tool cone will be displayed graphically. The associated adjustment parameters are **displayed clearly in one screen**.

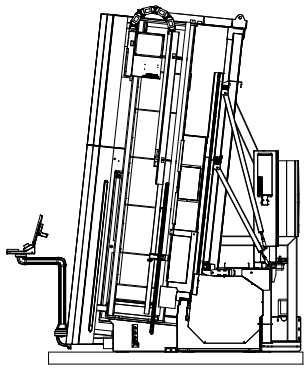
Technical Data

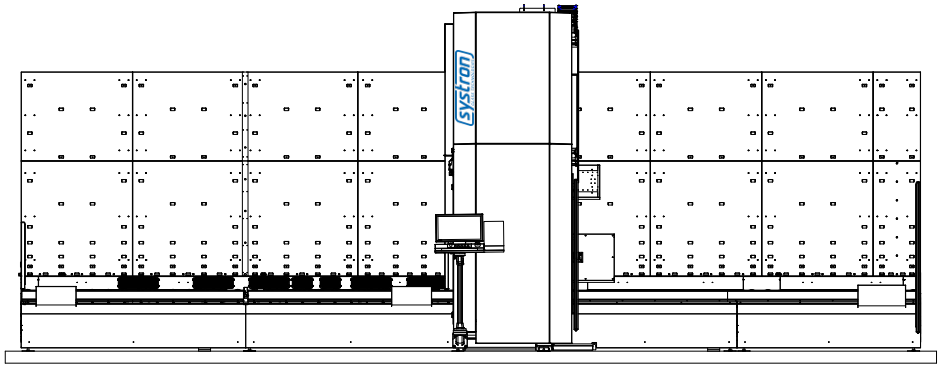
		3525 proMD	5027 proMD	6033 proMD
General technical data				
Max. glass size	mm	3500 x 2500	5000 x 2700	6000 x 3300
Min. glass size	mm	600 x 200	600 x 200	600 x 200
Max. sheet weight (for glass transport)	kg/m	125	125	125
Glass thickness	mm	4 – 25	4 – 25	4 – 25
Glass transport height	mm	780	780	780
Sheet inclination	degrees	6°	6°	6°
Max. grinding speed	m/min.	25	25	25
Automatic central lubrication		☑	☑	☑
Automatic tool measurement		☑	☑	☑
Automatic tool dressing device		☑	☑	☑
Automatic profiling device for polishing wheels		☑	☑	☑
Dimensions				
Machine length	mm	9180	11320	13320
Machine height	mm	4200 (4550*)	4500 (4750*)	5000 (*5250)

☑ standard ○ option

Bigger sizes on request

* With optional waterjet





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