topDRILL G8

Drilling | Countersinking | Waterjet cutting

SCHRAML

member of the LiSEC group

topDRILL the history of vertical glass processing

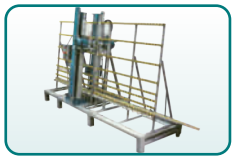
The history of vertical drilling machines is inextricably linked with the topDRILL brand. Double-sided glass drilling machines were offered and installed as early as 1996.
In light of this background, topDRILL devices are still labelled „first in vertical drilling“.

The product family has been continuously expanded, improved and optimised in line with customer and market requirements. Since then, hundreds of machines have been installed and used around the world.

topDRILL devices have been divided into generations since the outset. This helps all parties involved to gain a quick overview and to keep spare parts and necessary software readily available. All spare and wearing parts within a single product generation are identical and updates can also be retrofitted at any time.

The current devices comply with the latest machine construction standards, exhibit maximum compatibility with the leading-edge CNC controls and the latest available programming technology, and are future-proof.

Overview of the previous topDRILL generations:



G1 from 1996

Simple series exclusively in height of 1300mm, open top, double-sided drilling, Still „the original“ for all vertical glass drilling machines

G2 from 1998

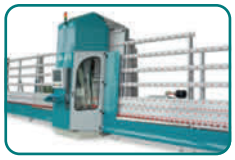
Substantially reinforced, already available in overall height 2400mm, Introduction of the automatic NC machines and the CMX quick changer

G3 from 2004

Completely new development and consistent modular design for the first time, Development of the RX turret drill head and automatic data interfaces

G4 from 2011

Technical revision and optimisation according to CE specifications, Introduction of the 10x head and prototypes with laser processing

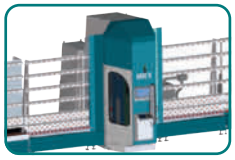


G5 from 2012

Completely new development of the M-RX drilling and milling machine for maximum flexibility, Dynamic vacuum belts and tool change with turret or linear

G6 from 2018

The MRX was further developed with the integration into the LiSEC Group, Adaptation to the LiSEC modular system and optimisation of hardware and software



G7 from 2020

Further optimisation of the M-RX series and integration of new CNC controls, Implementation of various customer requests and significant simplification of maintenance

G8 from 2022

New introduction of the further optimised drilling and countersinking machine on G4 basis, Integration of the water jet unit and reinforcement in essential details

Intended use

topDRILL machines are optimised for the extremely quick, simple and straightforward drilling and countersinking of individual glass lites sheets. With the water jet cutting option, edge and surface cut-outs of any shape can also be cut.

Tools

We recommend the INNODIA diamond tools

- Perfectly suited for vertical glass processing
- Drills and countersinks are slotted as standard
- Enhanced diamond quantity - fast feed
- Reasonable price and quickly available from stock

INNODIA.COM
INNOVATIVE DIAMOND TOOLS

Combination options

With the experience of several decades and strengthened by integration into the LiSEC Group, new and additional installation and combination options are available for the use of the topDRILL units.

topDRILL as a stand-alone machine:

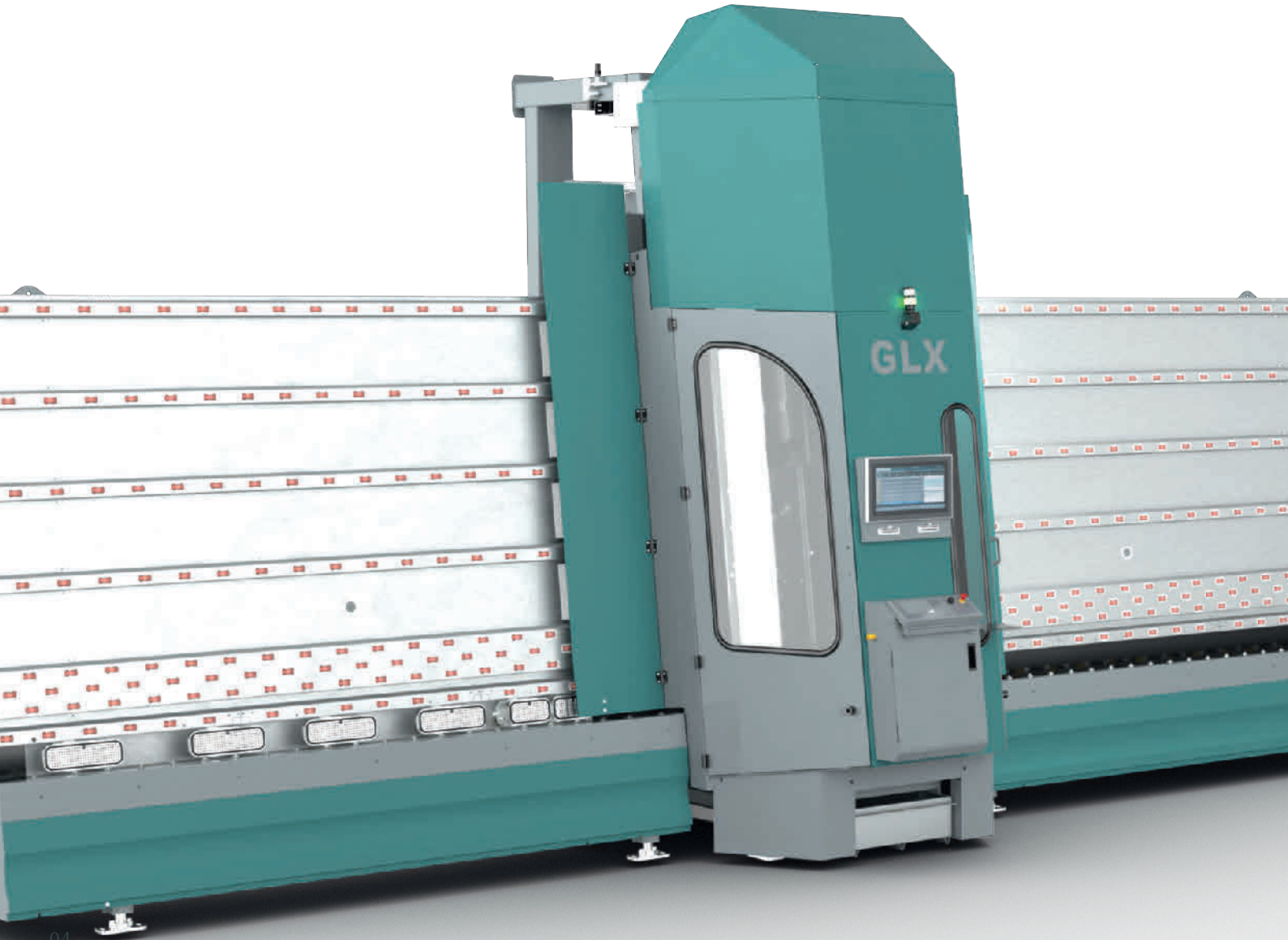
- Favourable acquisition costs
- Minimal space requirement
- Uncomplicated operation
- Expandability at any time

topDRILL in combination with topCLEAR washing machine:

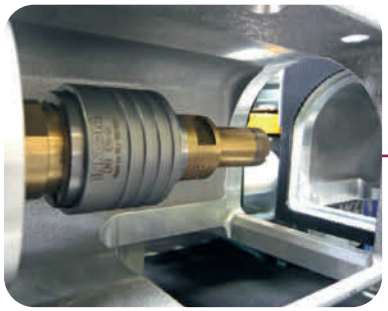
- The most economical combination, compact and automatic
- Interface between the devices integrated as standard

topDRILL with GLX extended to the combiFIN line:

- Grinding and polishing outer edges with the GLX
- Drilling and countersinking or water jetting with the topDRILL
- Optionally expandable with washing machine at any time



Drilling head technology of your choice

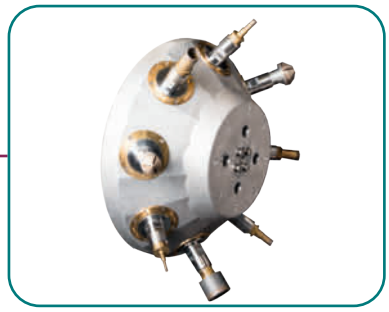


NC single drilling head

With manual CMX quick change

NC single drilling head

With additional water jet head



RX turret drill head

8-speed changer front and rear

RX turret drill head

With additional water jet head

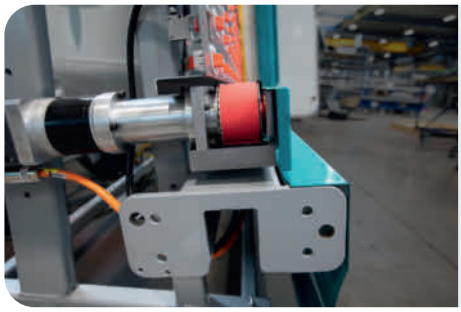
WITH WATER JET TECHNOLOGY
on request

Our water jet advantages:

- No piercing, no soiling
- No continuous pressure changes necessary
- Efficient electric direct drive
- Perfectly integrated into the complete system

The highlights of the topDRILL G8 series

The unique topDRILL system concept enables simple and straightforward use, while also offering stability and many advantages for industrial use:



Modular construction:

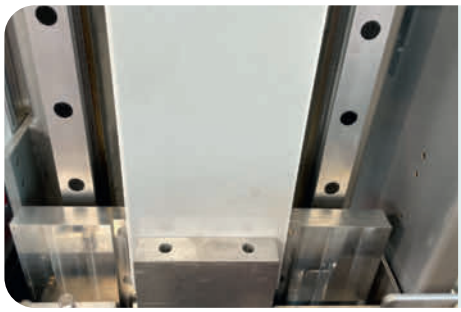
The systems can be equipped with extension modules at any time. Combination with other devices is also possible.

Extensions can also be installed at a later time.

Glass transport with belt drive:

The belt drive is still the most uncomplicated and simplest way of performing glass transport, whilst also delivering very high precision.

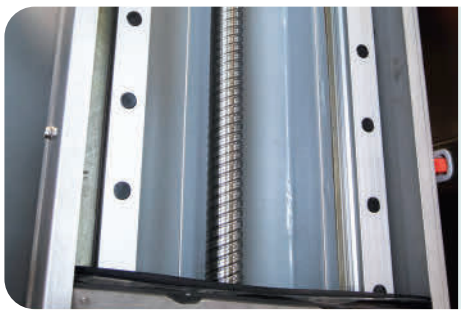
In combination with the modular design, the belt lengths are very compact and each individual belt module - depending on the pulley size - is either commonly controlled or used as an inlet or storing station module.



Lifting axis (Y-axis) with belt:

Depending on the model, you can choose between the uncomplicated belt drive (now in an even stronger version) or the high-precision recirculating ball screw.

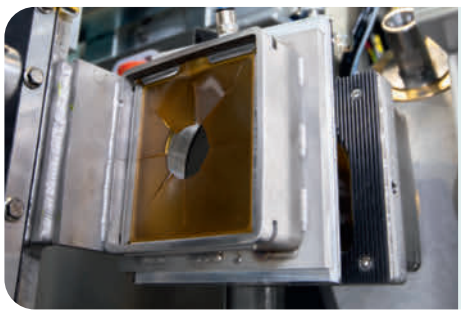
The guide rails are extremely solid and once again reinforced compared to the previous versions.



Lifting axis (Y-axis) with spindle drive (option):

In conjunction with the recirculating ball screws for the Y-axis, two separate drive motors are now also in use, and of course central lubrication is also used.

All settings and movements are thus even more dynamic and uncomplicated.



Water splash protection is significantly improved:

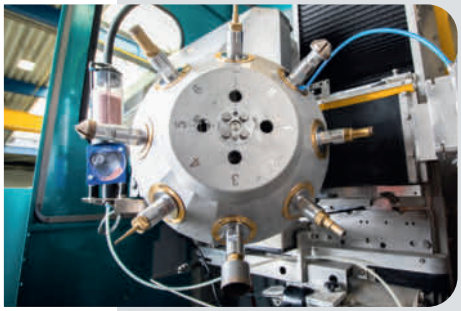
The water splash protection has been further enhanced on both the drill heads and the Z-axes. Even in continuous operation, the system and the individual technical parts are afforded maximum protection against contamination.

Turret drill head now 8-fold front and rear:

The machining capabilities have been further extended and 8 drilling and countersinking tools can be mounted at both the front and the rear according to free configuration.

The turrets are controlled by servo drive and the guide system has been significantly reinforced.

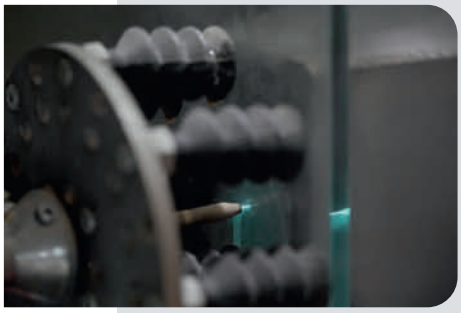
The special turret type allows changing one side while the opposite head is still working, thereby enabling an incredible cycle time for hole drilling and counterboring.



Water jet system now optionally available:

The patented water jet head is optionally available on both the single-head and turret machines.

With this system, the drilling machine is expanded to form a processing centre with outstanding flexibility and speed.



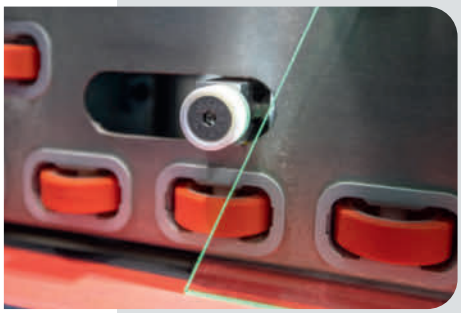
Glass thickness sensing integrated:

A contemporary additional feature is the automatic measurement and checking of the glass thickness, which reduces the risk of operating errors and incorrect occupancy to an absolute minimum.

Mechanical measurement of the glass sheets:

Precise and rapid measurement of the start position is fundamental to the machine function. Our system allows measurement of the glass edge during movement - also for shapes.

topDRILL devices can process all shapes with a straight cut-out edge.



Probing and sharpening tools - integrated:

The tedious measurement and sharpening of your drilling tools is a thing of the past. topDRILL does this work automatically and always as required.

The tools are sharpened and dressed cyclically and automatically - or at the operator‘s request.

Technical data

topDRILL G8 Type	NC-14	NC-25	RX-14	RX-25
Construction	Top open	Top closed	Top open	Top closed
Maximum processing height (drilling, countersinking)	1,400 mm	2,500 mm	1,400 mm	2,500 mm
Maximum processing height (water jet cut)	1,050 mm	2,150 mm	1,050 mm	2,150 mm
Maximum glass height	2,000 mm*	2,700 mm	2,000 mm*	2,700 mm
Maximum glass length	Depends on the number of extension modules			
Glass thickness	3 – 30 mm**			
Maximum glass weight (drilling, countersinking)	80 kg/lfm	100 kg/lfm	80 kg/lfm	100 kg/lfm
Maximum glass weight (precision cut water jet)	50 kg/lfm			
Minimum size of the glass lites sheets	600 x 150 mm			
Minimum weight (water jet cut)	2.0 kg			
Glass feed speed	0 – 30 m/min (dynamically adjustable)			
Drill speeds	0 – 5000 U/min stepless		0 – 6000 U/min stepless	
Bore diameter	4 – 100 mm		4 – 80 mm	
Tool holder Tool length	R = ½“ GAS. Length 75 mm			
Number of tool heads	1 in the front + 1 in the back		8 in the front + 8 in the back	
Installed performance	9.0 kW	9.5 kW	19.0 kW	19.5 kW
Total weight ready for operation	1,900 kg	2,300 kg	2,400 kg	2,800 kg

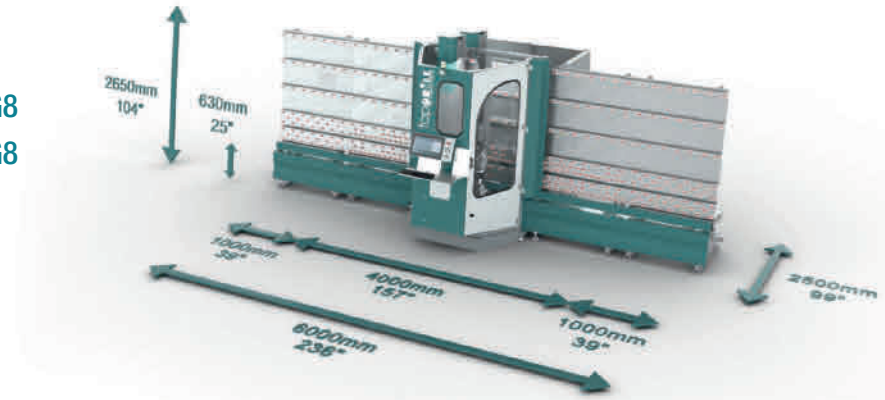
Additional data for water jet system option ***

Water jet system operating principle	Electric, frequency-controlled, directly driven, no hydraulics, no measurable pulsation
Water jet pump Additional performance	22 kW additional
Water jet pump Maximum cutting pressure	Cutting pressure = 3200 bar, max. system pressure = 3800 bar (400 MPa)
Water flow rate	max. 2.0 l/min
Nozzle diameter	0.25 mm

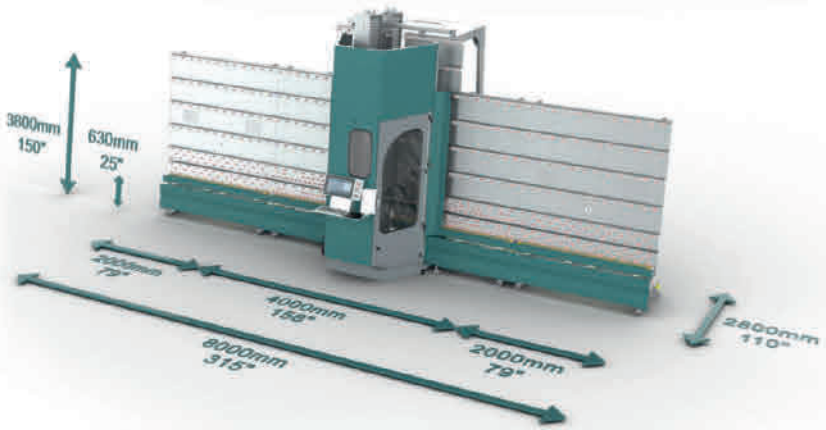
* Maximum glass height as recommendation for open-top construction
** Taking into account the maximum running metre weight
*** Water jet equipment available as an option for the machine

Designs and layout examples

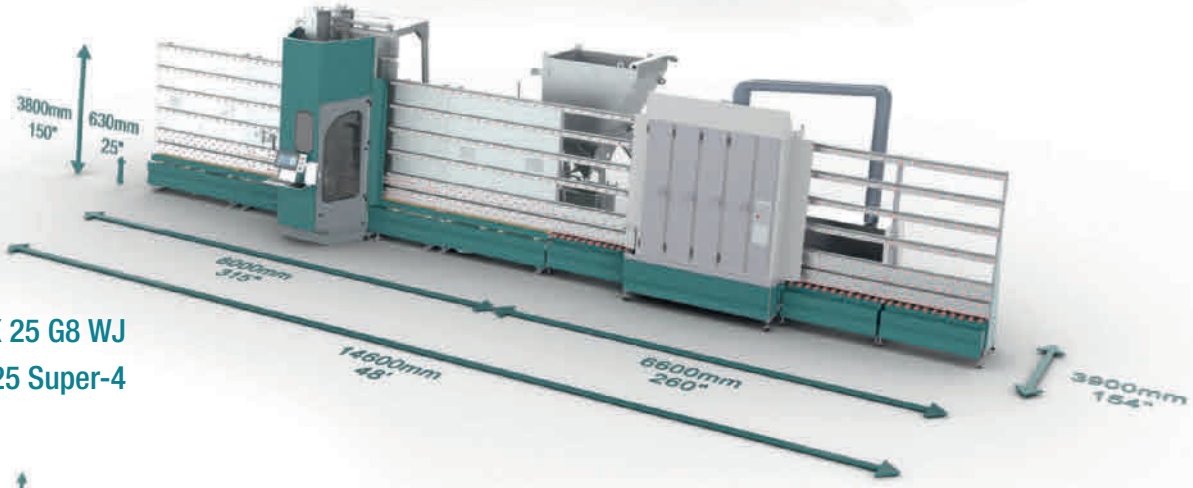
NC 14 G8
RX 14 G8



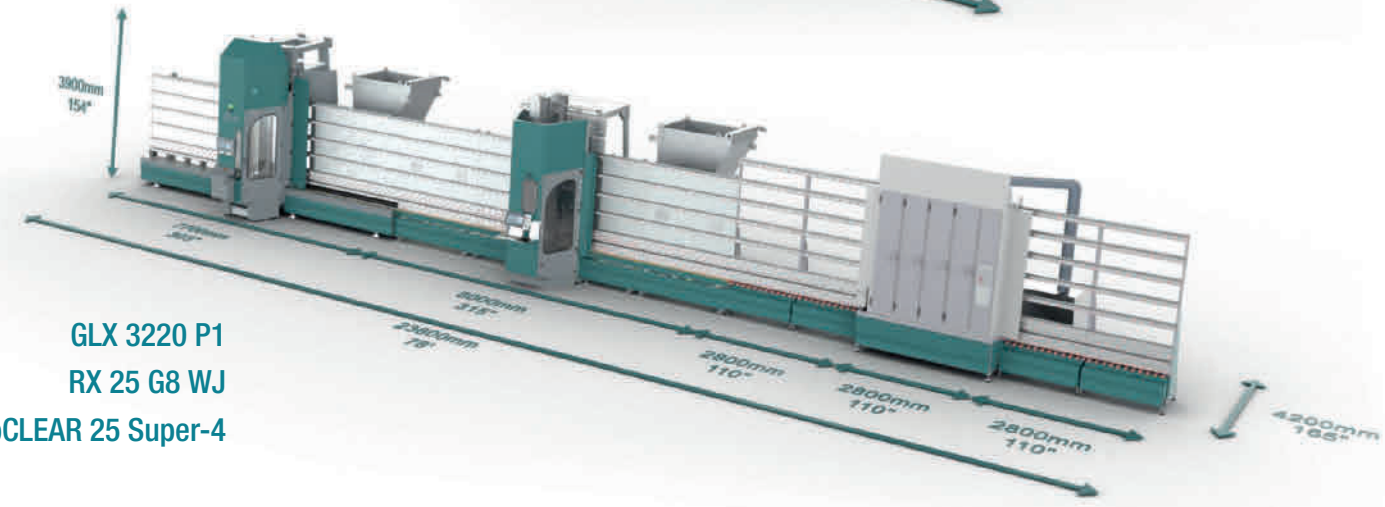
NC 25 G8
RX 25 G8



RX 25 G8 WJ
topCLEAR 25 Super-4



GLX 3220 P1
RX 25 G8 WJ
topCLEAR 25 Super-4

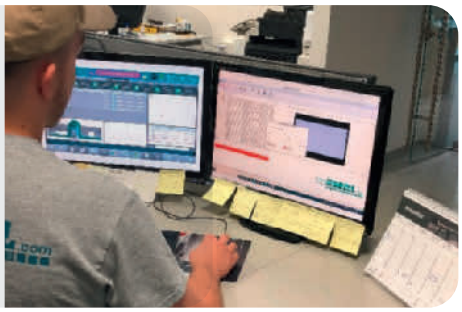


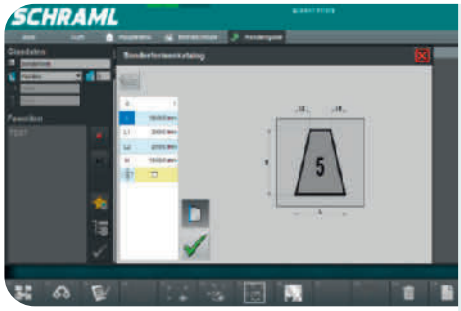
Illustrations partly show optional equipment

Options for operating your processing machine

Programming your Schraml processing machine is simple and flexible. All the detailed programs you require are integrated in a single interface. The concept is modular and open to the outside. Various options are available for importing data or for interfaces with other systems.

Data entry takes place directly on the device or on an office workstation, and it is easy to make subsequent changes.



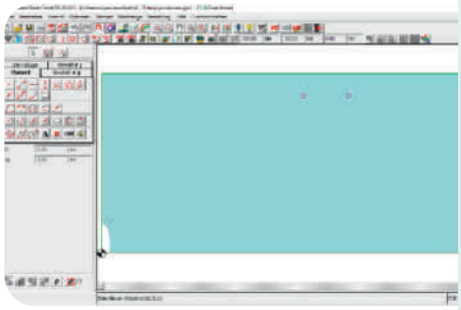


Programming directly on the machine:

All desired machining operations for rectangles and shapes can be entered directly at the machine via user-friendly menu guidance as standard. It is possible to import .dxf drawings if they comply with the specifications.

Programming in the office with PC-Link software:

A small step in operation, a big step for the operational process: Using the optional PC-Link software, you can create the necessary programs in the office. The operator‘s workload is eased and they are able to concentrate on loading the system. Errors are avoided and speed is increased.



CAD program with glass-specific interface:

A comprehensive CAD solution is available as an advanced option. The interface and the operating buttons are already prepared for processing, importing and defining processed glass lites sheets and cut-outs. Numerous macros are available for countersunk holes or edge qualities.

The CAD program can be used directly on the machine or in the office on the PC-Link platform.

LiSEC A+W FeneTech A 2020 COMPANY HANIC Intelligent Glass Software VERA Software für Glas

CAM data interface to external ERP programm:

If you already use an ERP system, you can take full advantage of digitalisation: Control the processing machine via interface and a simple scan of your product label.

All the operator has to do is position the glass correctly, the „Scan-and-Go“ functionality takes care of the rest!

Our interface is bi-directional, the systems also send status messages back to your system.

Services

We offer you worldwide service and the fastest possible supply of spare parts.

We understand that straightforward operation and the long-term reliability of your system are your top priorities. Our service and our company philosophy are precisely aligned with this focus. We support and assist you right from the outset and throughout the entire life cycle of your system.
Supported by the global network of LiSEC support points, we offer start-up, training, online support, on-site service and the rapid dispatch of spare parts!

Facts and figures:

- More than 140 service technicians worldwide
- Global network with local partners around the world
- Spare parts deliveries around the world within the shortest possible time
- Rapid problem solving via remote maintenance
- Competent technical advice

Service products

- Online Support
- Hotline
- Inspection& maintenance
- Training
- LONGLiFE
- Spare parts
- Installation
- Repairs

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