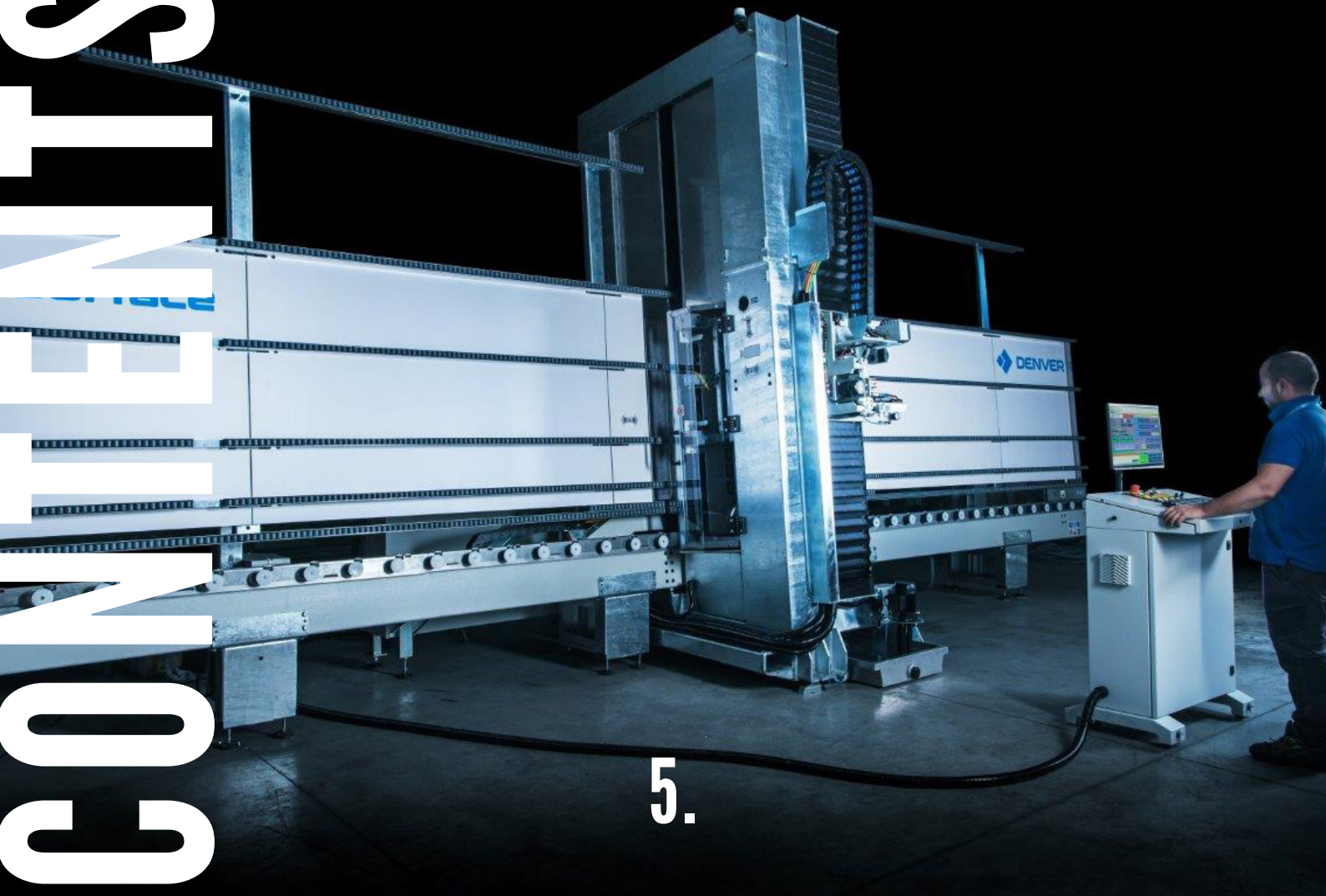


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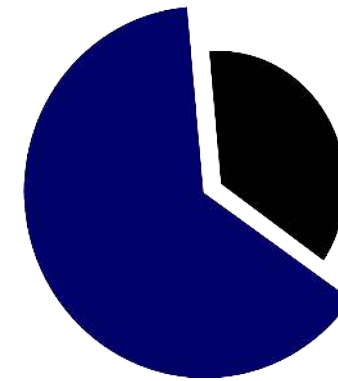
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# VETRO TOOLING



Vetro Tooling has a successful background in the glass trade, not only providing tooling but having its own state-of-the-art workshop and engineering team at its premises, so we can produce bespoke solutions to the specifications of our customers.

Taking our strengths and hard-working ethos we have gained from many years in the glass industry we ventured into the Stone trade a few years ago and have gone from strength to strength. Even against the unstable economy the UK has faced in the last few years, this increase has only shown true that our customer-comes-first mentality works. We continually work closely with our suppliers providing quality tooling to exceed our customers' needs and wants, creating solutions to customers' problems and providing methods to save both time and money.

We know that investing in CNC machinery is a big investment in your company's future and that peace of mind with quality and assistance is of the up most importance.

What sets us apart from other suppliers is that we have our own workshop, which enables us to manufacture our own wheels made from highest grade Italian diamond. With our vast knowledge in the trade, we aren't just a reseller, we know our stuff!

Over the years we have worked closely with our partners in Italy and produced quality, bespoke tooling which has solved many of the everyday problems our customers face.

We also offer a re-grind or re-spark service to prolong the life of your tools, saving your company money.

Our experienced sales team works closely with our customers and all of them are always on the end of the phone and available to pop into factories to provide solutions for an easier life in the hectic work environment many of us face every day.

**DAVID  
LITHAUER**  
MANAGING DIRECTOR

"OUR AIM IS TO ALWAYS OFFER OUR CUSTOMERS OUTSTANDING QUALITY AND SERVICE TO RIVAL ANYTHING CURRENTLY ON THE MARKET AND WE CONTINUE TO STRIVE FOR THIS."

WELCOME TO THE WORLD OF  
DENVER  
BE CLEVER



## HISTORY

Established in 1984 in the Republic of San Marino, today Denver offers the largest range of stone and glass processing machines, including: bridge-saws with 3 / 4 and 5axis, CNC router machines with 3, 4 and 5 interpolated axis, 5 Axes CNC working centres, universal vertical CNC machines, waterjet and Automatic polishing slab machine. The best price-quality rate, a friendly interface, top quality components and absolute respect for human relationships, are the basis on which Denver builds their business and successful experience.

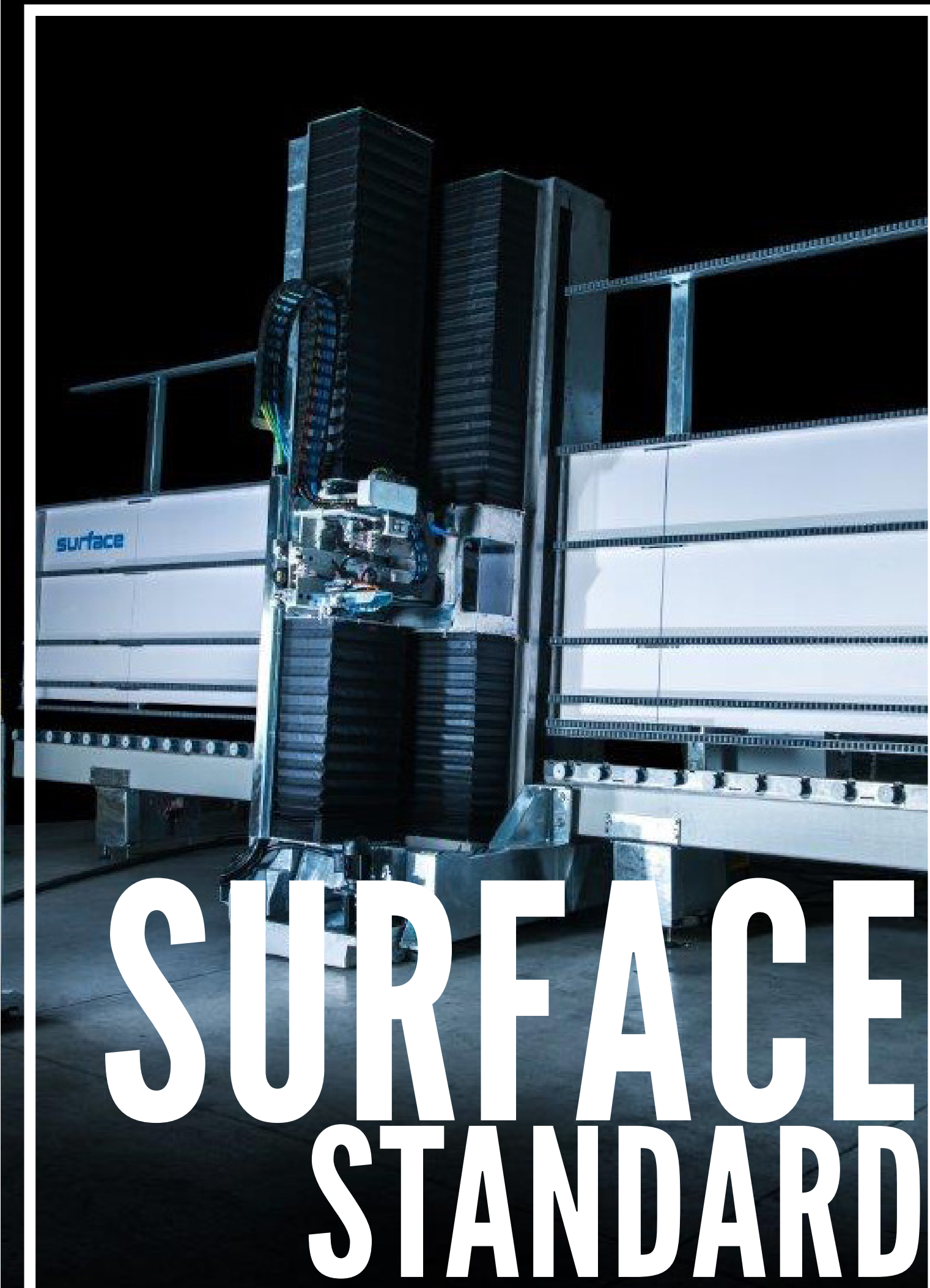
## VISION

DENVER is a company that produces machines for the stone and glass industries.

DENVER is the centre of technological excellence that wants to drive the development of San Marino Tech Valley, inspired by a mentality that has always pursued an excellence deeply rooted in their corporate culture. DENVER is a lifestyle aimed at excellence and constant curiosity, which means growth, progress and solutions that make the history of their market.

We want to convey this sense of excellence to the customer who, by choosing us, becomes part of Denver World, and this for him means to make the difference on the market revolutionizing his way of conceiving the working system and the business. DENVER is the centre of excellence of San Marino Tech Valley not contaminated by the laws of the global mainstream.

DENVER





## ABOUT

**SURFACE** is the new vertical machining center for fast accurate drilling, milling and countersinking on already edged glass. The standard version features double servo-ventilated electrospindle with ISO 40 MAS-ARC connection Kw7.8 (S6) RPM 10.000 and double linear automatic tool magazine, front 12 positions, rear 10 positions. The machine is equipped with a numerical control OSAI Open SMART series for 6 axes management.

The **SURFACE** excels in accurate, high speed production of:

- Frameless doors
- Shower boxes
- Balustrades
- Staircases
- Partitions
- Splashbacks
- Facades and fins for facades
- Internal furniture for kitchen & bathrooms
- Shop displays/Mirrors
- Home appliances
- Laminated glass
- Automotive Components

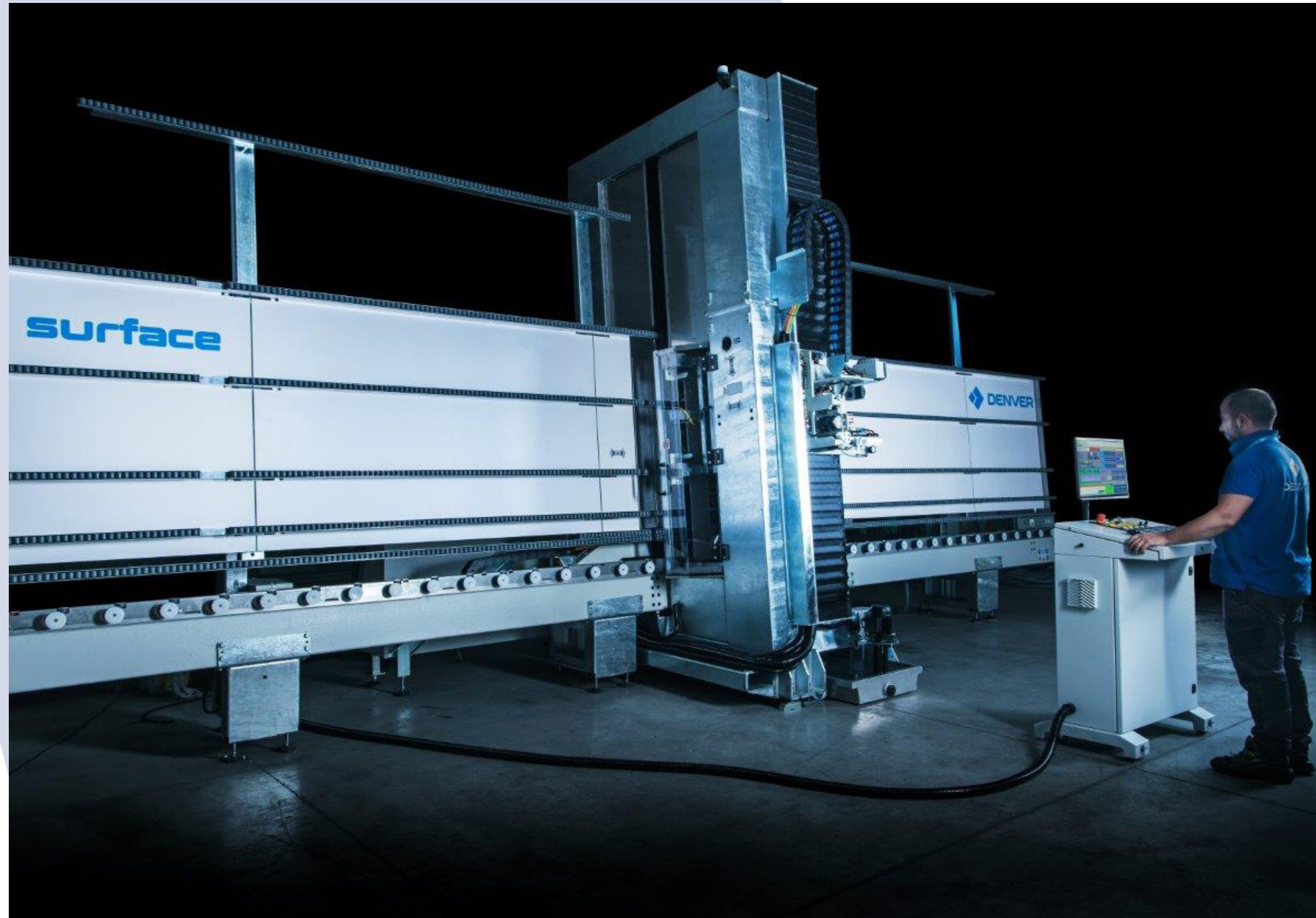
## WHY THE SURFACE?

- Solid hot zinc coated structure and ceramic painted
- Compact foot print LxWxH 8500 x 2900 x 3700mm
- Universal glass feeding direction from R/L
- Easy to use by non expert operator
- Zero set-up time and machine/operator downtime
- Useful for each glass factory worldwide
- Free to drill, mill almost anywhere on each glass
- Perfect mix of flexibility and productivity for serial or non serial production



# SURFACE

## STANDARD





# PROCESSINGS & BASIC CONFIGURATION

# PROCESSINGS

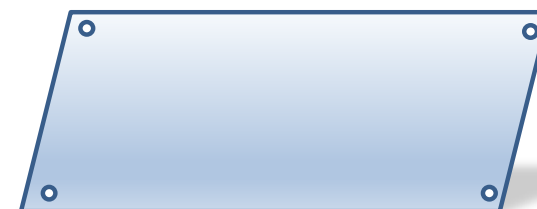
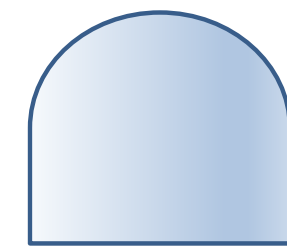


MILLING



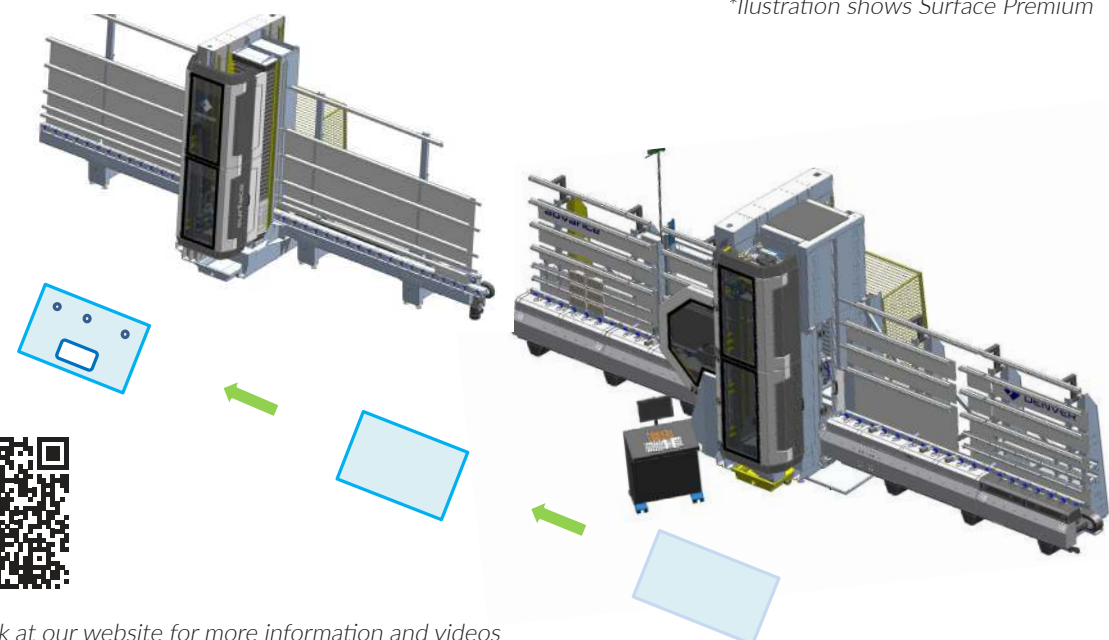
DRILLING & COUNTERSINKING WITH  
TWIN COUNTER-HEADS

NEARLY ANY SHAPE CAN BE PROCESSED AS LONG AS ONE EDGE IS STRAIGHT



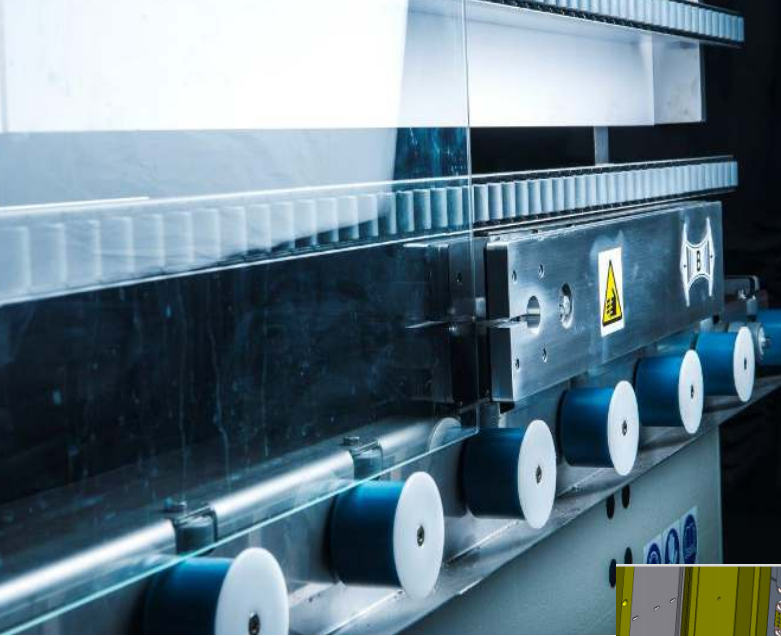
SURFACE CAN ALSO OPERATE IN LINE WITH THE DENVER ADVANCE VERTICAL CNC

*\*Illustration shows Surface Premium*



Take a look at our website for more information and videos





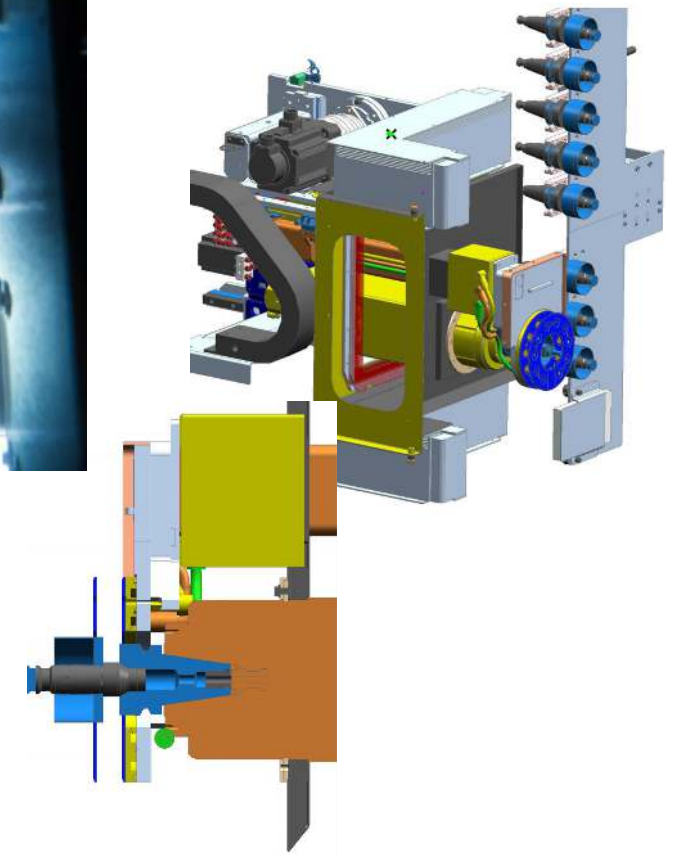
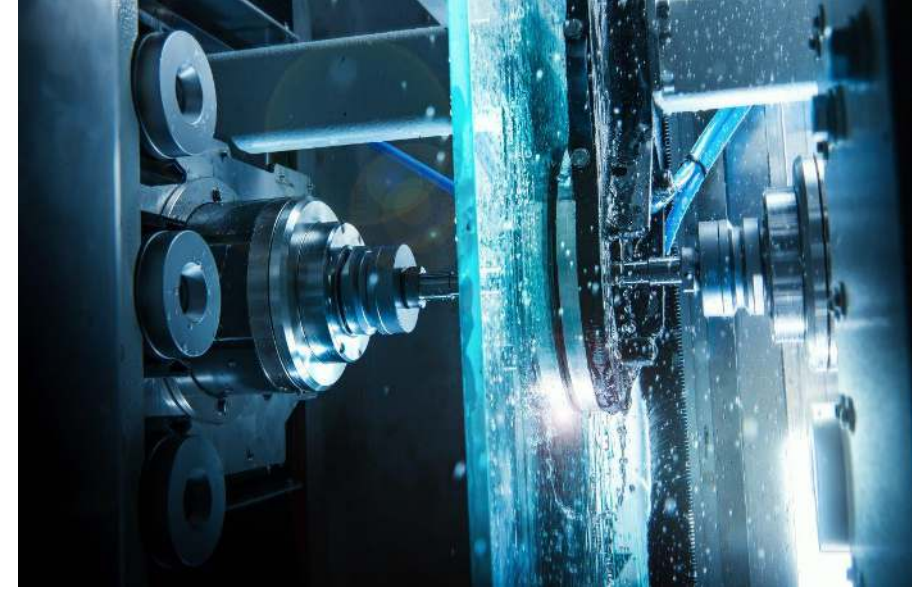
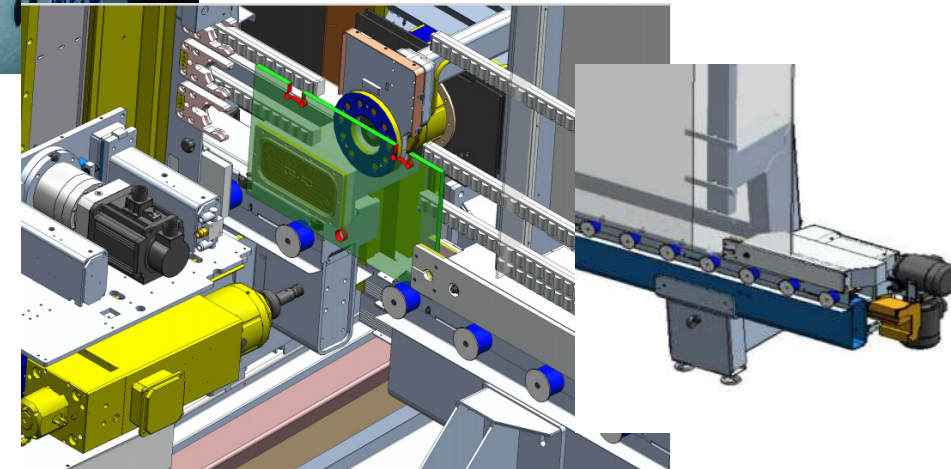
## CLAMP HANDLING

STANDARD clip handling for glass from 45° to 135° angle till 3000mm length.

OPTIONAL retractable clip for glass up to 3300mm length.

INTELLIGENT vacuum cup for glass holding during milling processing.

Zero downtime for operator.



## OPERATING GROUPS

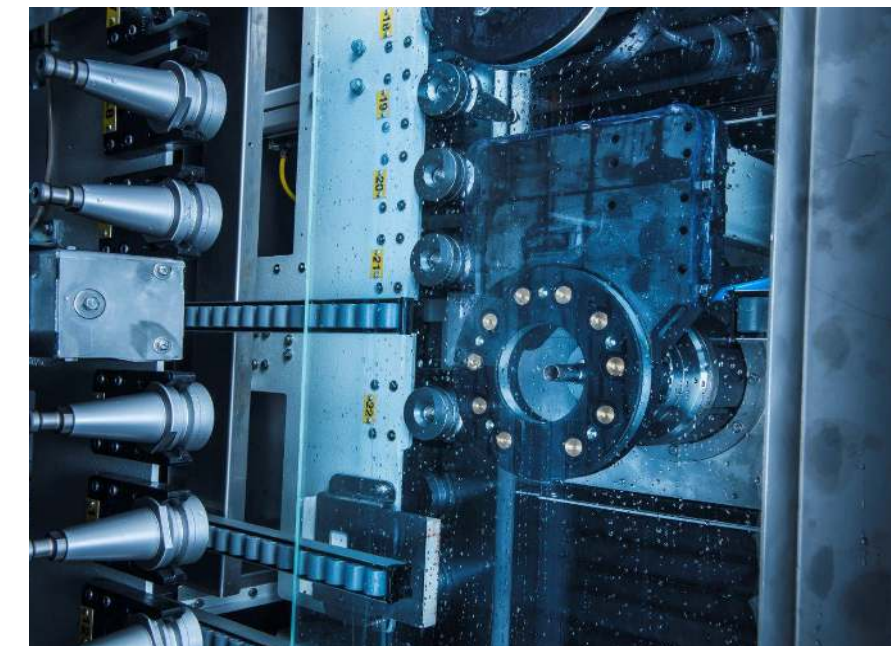
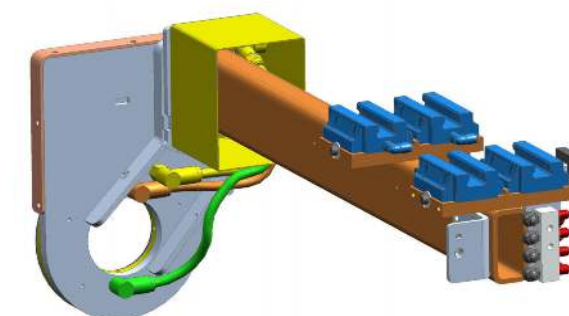
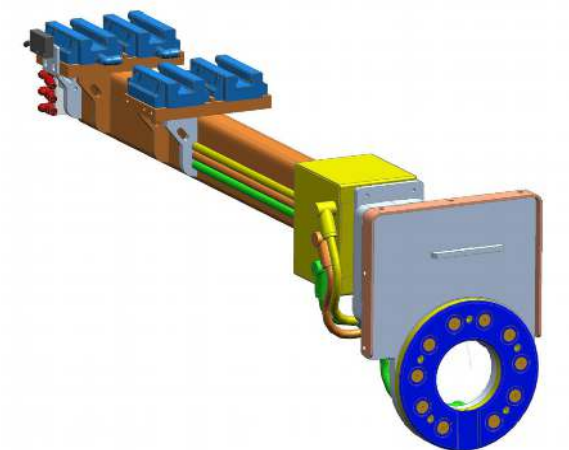
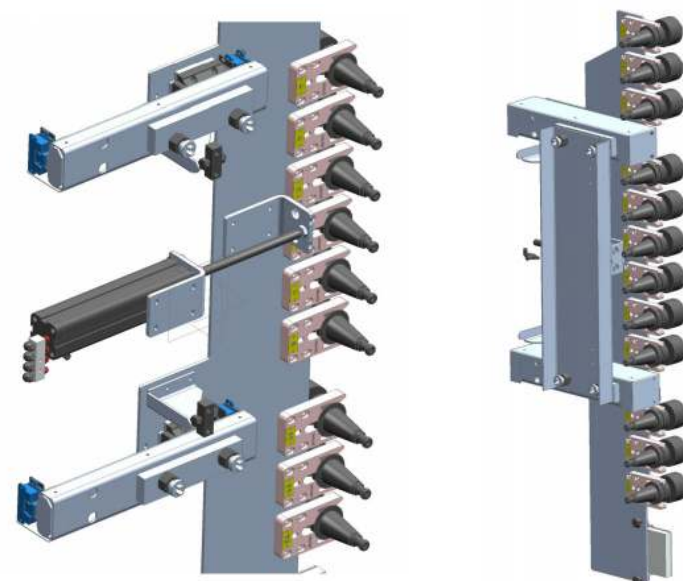
Double powered servo-ventilated electrospindle with ISO 40 MAS-ARC connection Kw 7.8 (S6) RPM 10,000.

Tool change without sensors, fast orientation, reliable over time.

With coaxial fan cooling system.

## DOUBLE AUTOMATIC TOOL STORE (12+10)

- ISO 40 tool holders to increase reliability
- Twin linear racks
- Easy access optimized position, close to electrospindles but out from processing area
- Synchronized front and rear tool changer - for quick set up
- Front rack 12 positions
- Rear rack 10 positions

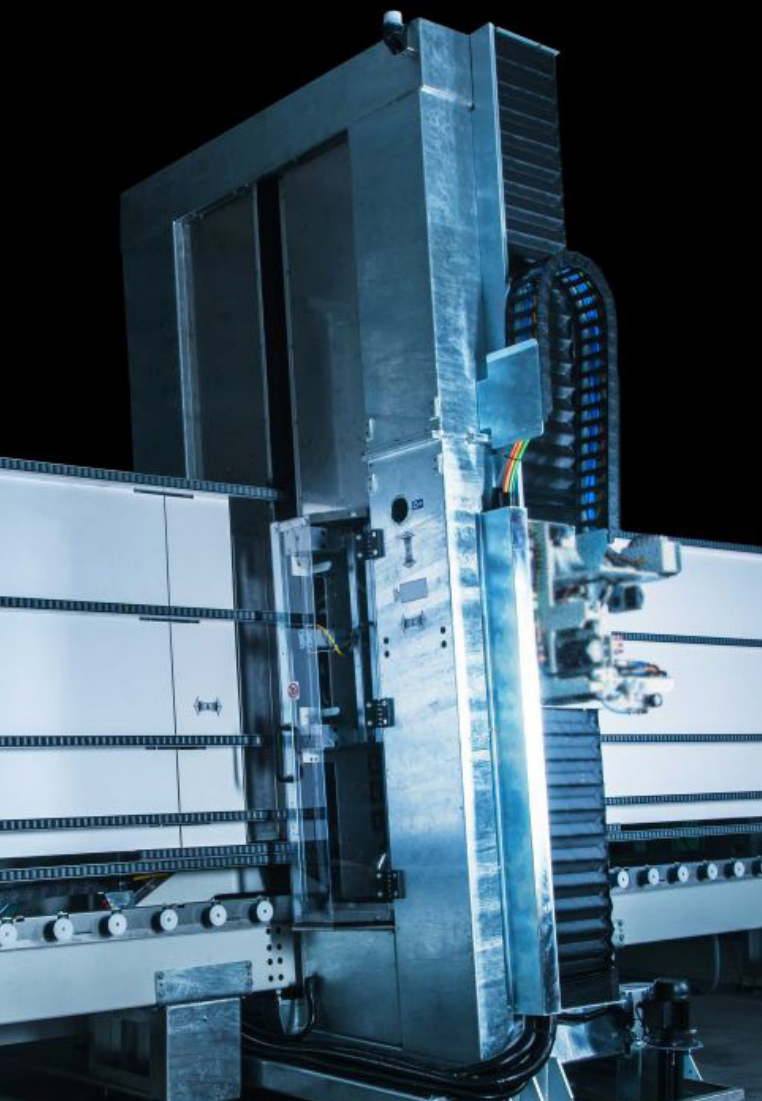


## WORKABLE DIAMETERS

MINIMUM drilling - 4mm  
MAXIMUM drilling - 75mm

Front and rear holders with optimised cooling system for quick drilling even with thin glass.





## HOT ZINC-COATED VERTICAL STRUCTURE

Hot zinc-coated vertical structure, specifically engineered to deliver long lasting sturdiness and reliability in most challenging working conditions.

## AXES MOVEMENT

X and Y axes movement with helical toothed rack and pinion system, brushless motors in ethercat bus.



## STANDARD VERSION WITH BELLOWS

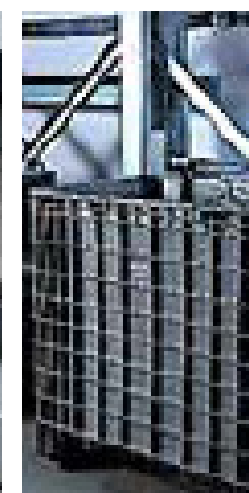
Hot Zinc-Coated Vertical Structure, based with special corrosion-proof treatment. Guideways and mechanical parts protected by covers.



## DMV VACUUM CUP (PATENTED AIR-OPERATED UP ON-OFF SYSTEM)

For glass holding during milling processing and glass holding/handling (within 650mm/25,5" travel) when the clip is not engaged.

Freedom to mill and drill almost everywhere on the glass, under high finishing quality and fast execution. Intelligent combined system (patented) for piece holding and handling with clamp (which can be excluded in order not to limit some processes and performances) and rear automatic vacuum cup (they engage automatically and when needed).



## PUMP TO FEED WATER OUT FROM LOWER MACHINE TANK

Equipped with draining pipe of 5mt. (197").

## REAR TANK

Water tank with overflow adjustment system and recycling pump.

## AUTOMATIC LUBRICATION PUMP

Automatic centralized lubrication at programmable interval.

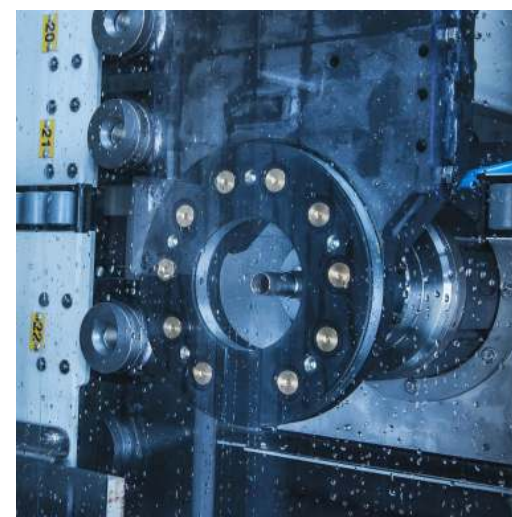
## ELECTRIC CABINET AND CONSOLE PANEL

Electric cabinet integrated in machine's frame. Mobile console panel in the front part of the machine to optimize workshop spaces.

The machine features OSAI NC unit with Ethercat system and axes digital management technology. PC interface with 64 bit, Windows 10 operative system with USB port, network board, mouse, keyboard. 21" TFT flat screen for axes display, set-up and programming with colour icons.

Removable performing platform with Teleservice connection.

- VIBRATION-FREE VS THE INCORPORATED ONES, OPERATOR IS FREE TO POSITION IT WHERE PREFERRED
- ALLOWS PROGRAMMING WHILE THE MACHINE IS PROCESSING IN TOTAL SAFETY



## VIBRATION-FREE PROCESSING

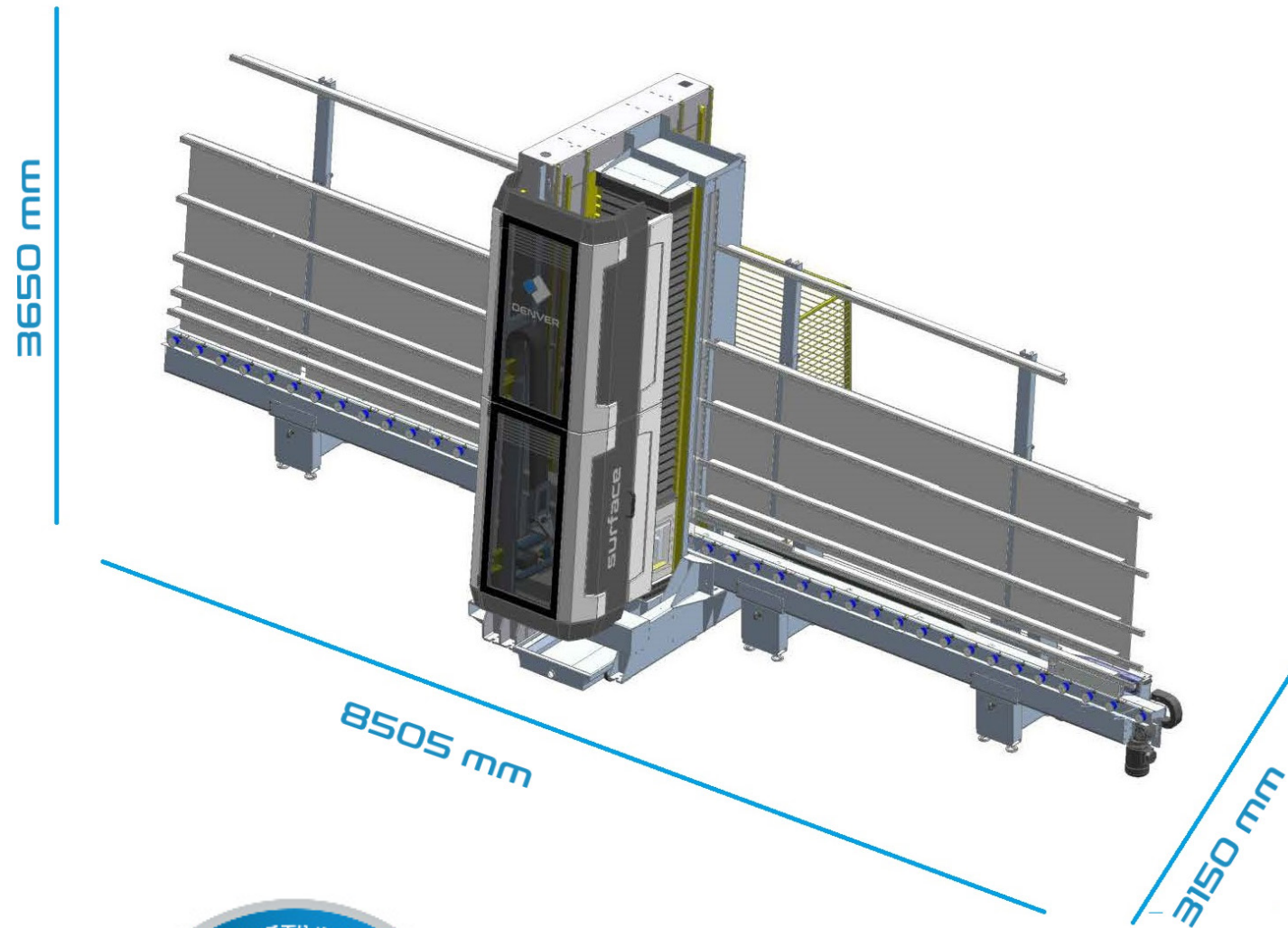
Through water cushion pushers dynamically operated across each step of the cycle.





# FLOOR PLAN SURFACE (STANDARD)

\*Optional extras may change floorplan.



## BASIC MACHINE DATA SURFACE (STANDARD MODEL)

	Machine Weight and dimensions (LxPxH)	4050 Kg - 8928,7 Lbs 8505x3150x3650mm - 335x124x143"
	Installed power	kW 15
	Max working dimensions base side corners	3000x1600mm -(118x59") Min 45° Max 135°
	Max loading dimension in height	2500mm - (98.4")
	Glass Max weight	Capacity of glass support rollers 130kg/mt (87lbs per linear ft)
	Working Thickness	Min 4mm (0,16") / Max 21mm (0,83") (in compliance with glass max. weight mentioned above)
	Min working dimension	For milling and drilling 525x150mm. (20.6"x5.90") For processing like routing and drilling min. dimensions change depending on processing's holes and notches position.
	Height above ground to load a piece on the roller conveyor	700mm (27,5")
	Spindles power (N.2)	Double powered servo-ventilated electrospindle with ISO 40 MAS-ARC connection Kw7.8 (S6) RPM 10,000.
	Software	Operator interface with parametric database of geometric and customizable shapes. Ability to import projects in DXF format
	Tool magazine positions in the frontal spindle	12 positions
	Tool magazine positions in the rear spindle	10 positions
	Internal water	15 lt/min cleaned water (4 gal/min)
	External cooling water consumption	40 lt/min. (10 gal/min)

\*Options may affect basic machine's configuration and characteristics





# DDX SOFTWARE



“CONFIDENCE IN SOFTWARE IS KEY”

## DENVER PILOT SOFTWARE POWERED BY DDX

Advanced programming assistance software. DXF import, programming is extremely simple, fast, intuitive and flexible programming. From the original idea to the finished product in very few steps;

- Select the glass shape from the Parametric library
- Choose patch fitting / notch pattern
- Tick tools to be used

It is always possible to quickly and simply change the parameters for customizable shapes. It can be totally connected to external programming via .dxf files.

- Simplified interface
- Import single and multi layer.dxf files
- Milling and drilling operations with opposing spindles, import and creation of basic symbol libraries and modification of machining macro parameters
- Import, creation from the basic symbols library and preliminary layout modification
- Automatic management of the piece change between suction cup and gripper
- Advanced drilling and milling techniques with management of shaded areas
- Automtic CAM (association of layers technologies)
- Simulation of processing times



## OPERATOR TRAINING

Confidence in software is key to getting the most from your CNC. Training for operators will take place at our in-house training rooms at Vetro a week prior to delivery. Our aim is to make your machine work for you as quickly as possible after installation. Our engineers will make sure you are as prepared as possible



# IN HOUSE TRAINING

# MYDENVER SOFTWARE

**\* OPTIONAL**

## IMPORTANT NOTICE

\*Offered by Denver as an optional extra at an extra charge Vetro believe's that this is a must have piece of software for all of our customers. In turn we have taken the decision to offer it for free alongside any new machine purchased!

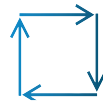


**“A PRODUCTION CONTROL TOOL FOR YOUR COMPANY”**



### MACHINE WORKING HOURS

Graphical information about machine usage history.



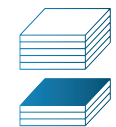
### AUTOMATIC CYCLE TIME

Machine hours ratio on automatic cycle vs. total machine hours. Indicates the efficiency and effectiveness of the machine.



### MATERIALS /M<sup>2</sup>

Total production and different processes performed listed by type of raw material.



### PRODUCT/PIECES PROCESSED

Total number of pieces made and listed by type of work.



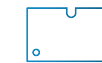
### PRODUCT/WORK TIME

Machine operating times for the various types of work carried out.



### TOOLS

Number of holes drilled or linear length processed according to the tools set up on the machine.



### PROCESSING

Graph of total work performed and split between work times. Duration of machining and working time divided by the different components machined.



### MAINTENANCE

Immediate overview of routine maintenance to be performed on the machine for swiftly controlled periodic maintenance interventions.



### SEARCH AND FILTERS

Selection of specific time periods, orders and monitoring of individual production runs' process data and worked pieces.



MyDenver is a fantastic piece of software that allows you to graphically view the performance of your machine in terms of time of use, amount of material used and the processes performed.

Available on the machine PC and can be accessed remotely by mobile or tablet.





# SERVICE & REPAIRS

# ENGINEERING SERVICE & REPAIRS

## HOW WE DO SUPPORT

Vetro Tooling offers a warranty and support package for all machines sold that far exceeds anyone else's that is currently available. We have a name to uphold of quality and customer satisfaction and we don't plan on losing that. We know what machine down-time can cost a running factory and brake down's are a top priority for us to get you back up and running.

As well as warranty packages on new machine sales our engineers are always on call to carry out services or repairs to CNC machines, Stone or Glass. With years of experience in machines, software and tooling we have every aspect covered.

After speaking to our customers we realised that the time for the engineer at there factory is more than valuable but paying hidden costs is not making anyone happy. We set out to give the customer a black and white charge so there are no nasty

surprises when the invoice lands on your desk.

As we carry an extensive stock of tooling and spare parts this also helps on lead times to have your CNC machines back up and running.

If you are looking at any service or repair work being carried out, just give us a call and we will be more than happy to run through the problems you are facing and get you back up to speed in no time!

