

# DONATONI ZENIT

CNC SINGLE-HEAD  
POLISHER / CALIBRATOR

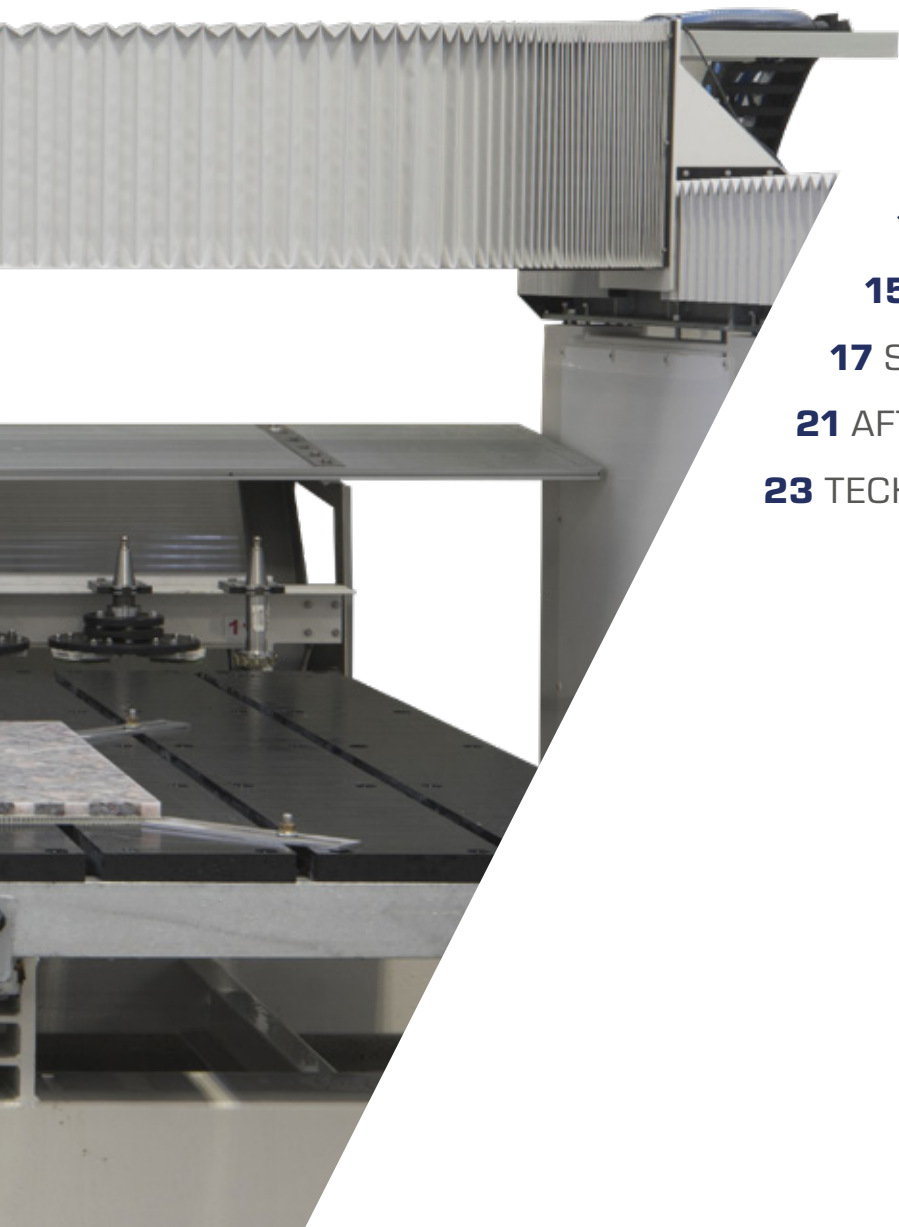
**DONATONI**



**DONATONI**  
Stone Tech Creators

To highlight a machine and its potential often means to open the doors to new opportunities and markets





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# COMPLETE SURFACE TREATMENT

CNC SINGLE-HEAD  
POLISHER / CALIBRATOR



# **EXTREME PRECISION FOR EXCELLENT RESULTS**

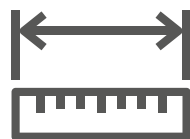
**DONATONI ZENIT** is the a **3 interpolated axes** CNC polishing / calibrating machine with automatic tools change, for the treatment of marble, granite and agglomerate surfaces. It allows to calibrate, polish, smooth, brush and also drill, to perform engravings, straight and curvilinear cuts with incremental passes by means of diamond milling tools. It is an extremely flexible machine, ideal for those

who need a complete equipment to treat even particularly delicate surfaces or to finish mosaics or inlays.

Its strength lies in the dual-control system of pneumatic and mechanical handling of the polishing and calibrating tool; the result is an extreme precision with excellent performances on any material.



**2 IN 1  
CALIBRATING AND POLISHING  
IN A SINGLE MACHINE**



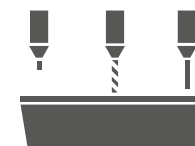
**CNC TECHNOLOGY FOR THE  
MAXIMUM PRECISION AND  
PRODUCTIVITY**



**AUTOMATIC SYSTEM THAT  
FOLLOWS THE IRREGULAR  
EDGES**



**SIMPLE  
AND QUICK  
TO PROGRAM**



**TOOL HOLDER  
WITH  
9 WORKSTATIONS**





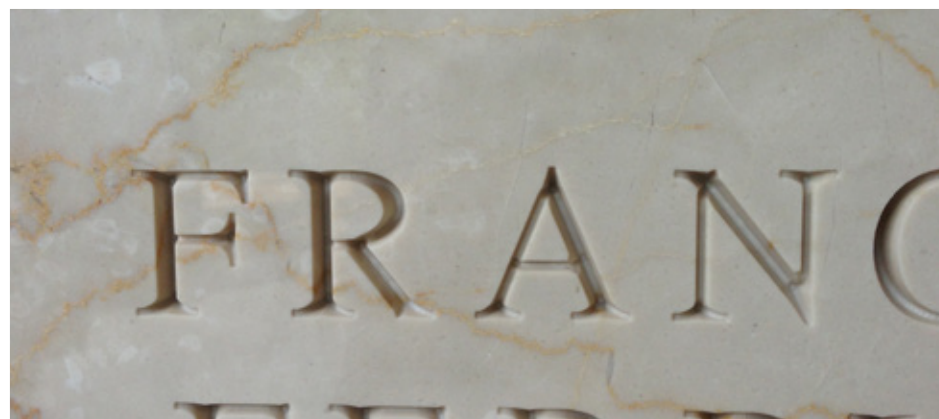
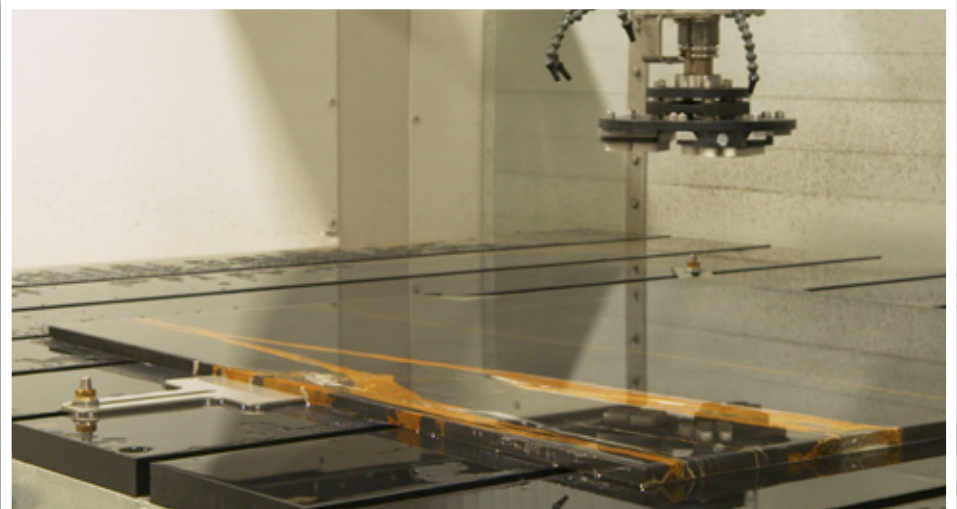
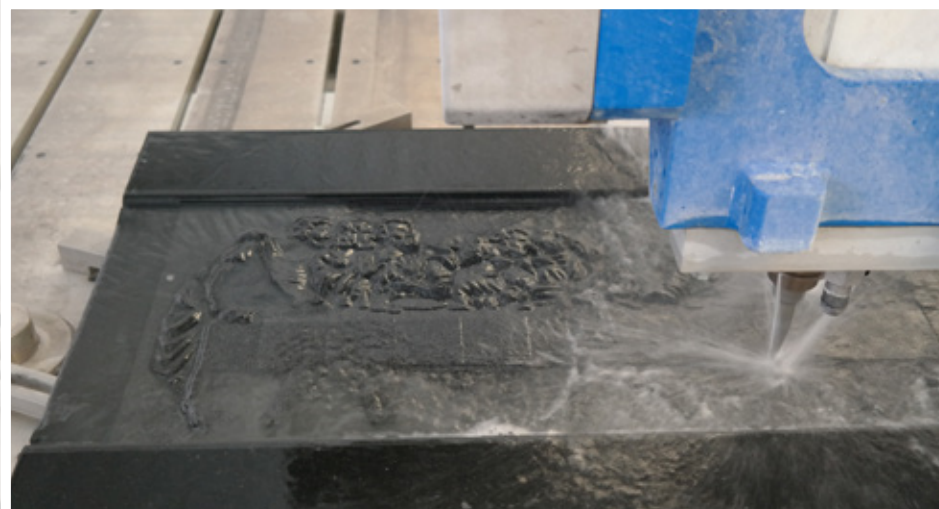
# PROCESSING WITHOUT LIMITS

VERSATILE REALIZATIONS



# PROCESSING

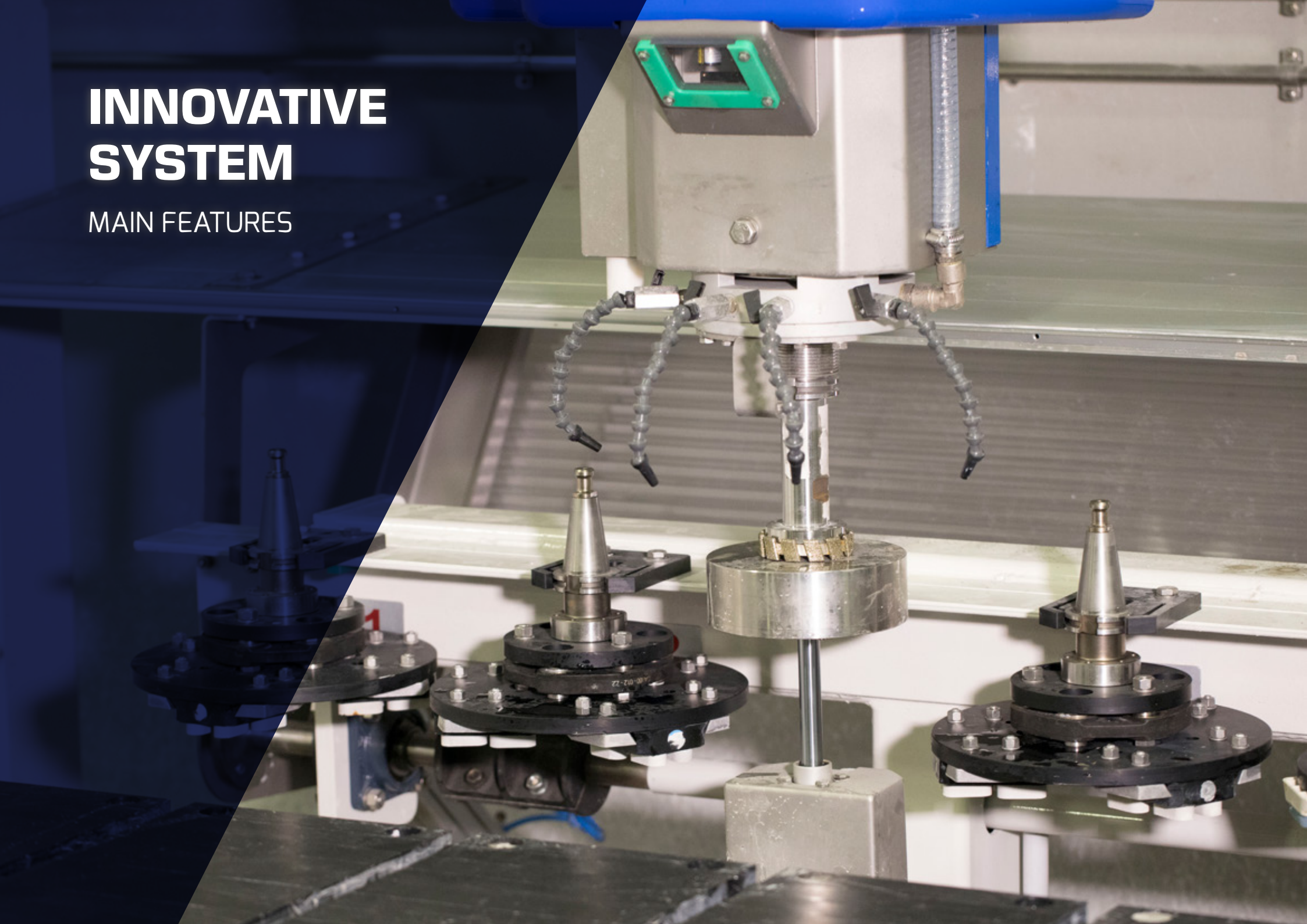
Inlays, mosaics, marble slabs, bas-reliefs, engravings.





# INNOVATIVE SYSTEM

MAIN FEATURES





- / 3 INTERPOLATED AXES X-Y-Z
- / Z-AXIS STROKE UP TO 370 MM
- / MATERIAL MAX THICKNESS FOR POLISHING: 260 MM
- / PNEUMATIC PRESSURE SYSTEM FOR POLISHING
- / MECHANICAL POSITIONING BY MEANS OF RECIRCULATING BALL SCREWS FOR CALIBRATION
- / SINGLE-HEAD MACHINE WITH ATC ISO 40 BRUSHLESS MOTOR AND HIGH PRECISION GEARBOX
- / PNEUMATIC SYSTEM FOR LOCKING AND RELEASING THE ISO 40 CONE
- / NORMALIZED, SANDBLASTED AND PAINTED STEEL STRUCTURE WITH TRIPLE-LAYER
- / AVAILABLE IN MONOBLOCK VERSION, ON STEEL OR CONCRETE WALLS

## TYPE OF PROCESSING



CALIBRATING



DRILLING

NECESSARY  
CAD-CAM  
SOFTWARE



POLISHING



STRAIGHT AND  
CURVILINEAR  
CUTS

NECESSARY  
CAD-CAM  
SOFTWARE



SMOOTHING



ENGRAVINGS

NECESSARY  
CAD-CAM  
SOFTWARE



BRUSHING

# INNOVATION IS STANDARD

MAIN COMPONENTS





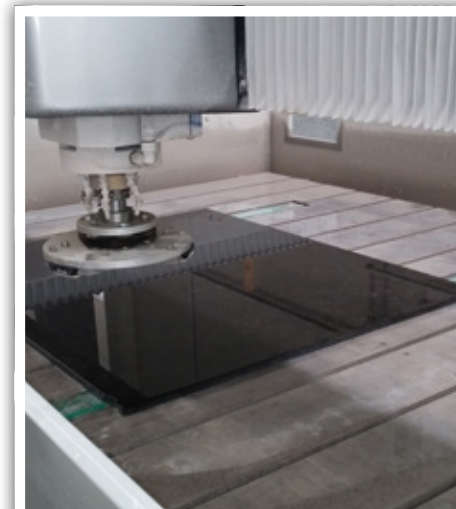
**Bridge:** structure normalized and sandblasted in painted steel, equipped with a brushless motor and a gearbox to move on the lateral guides.



**Electro-spindle and carriage unit:** made up of 17.6 kW ISO 40 electro-spindle with automatic tool changer, mounted on a normalized, sandblasted and painted triple-layer steel carriage.



**Bench:** bench with manual locking system, of different types and versions, fixed or tilting, in aluminum or plastic.



**Tool holder + ISO 40 tools:** equipped with 9 ISO 40 cone holders, nr. 8 plates with a diameter of 370 mm with 5 Frankfurt abrasives and one with a calibrating tool.



**Tool presetting:** measuring unit detecting the thickness of the tools ensuring greater precision during processing.



**Laser to detect slab thickness:** system to detect the slab perimeter using a laser pointer that generates the working area on machine board, speeding up the programming proceedings.



**Slab thickness detector:** system for automatic detection of slab thickness.





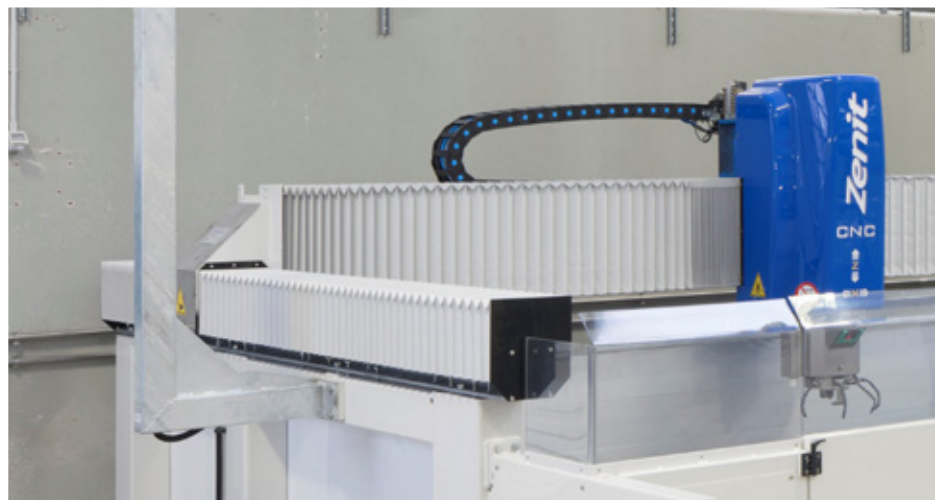
**Front and rear access guards:** front doors equipped with safety lock complying with current safety regulations.



**Single-piece frame:** in hot galvanized steel, painted, normalized and sandblasted.



**Side crosspieces:** in hot galvanized steel, where the sliding guides are greased automatically and protected by bellows.



**Control panel:** consisting of double-jointed carrying arm, manual controls, video 21" color touch-screen, keyboard and usb port for importing files.



# ACCESSORIES

OPTIONAL





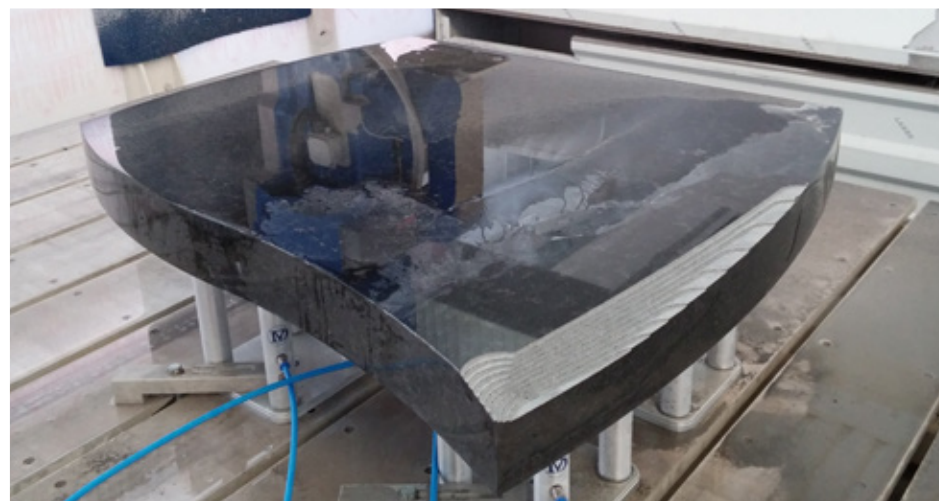
**Piece fastening system** with suction cups integrated on the plastic top



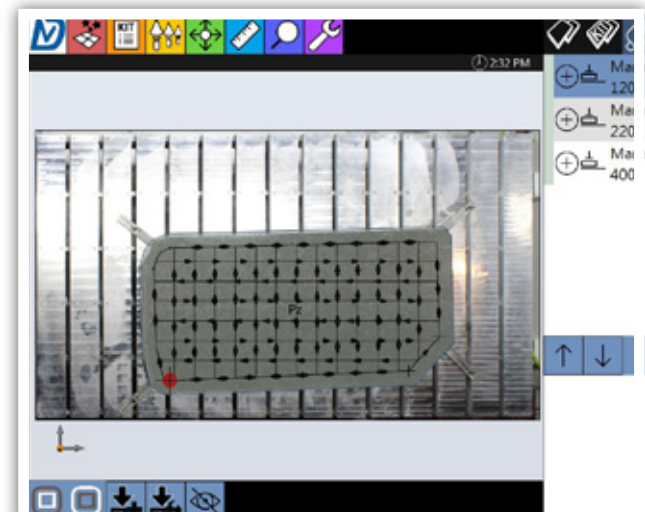
**Support walls** painted, normalized and sandblasted.



**Suction Cup Kit** (needs aluminum bench): piece clamping system for processings such as engraving, millings, bas-reliefs. Complete with suction cups, vacuum pump with tank and distributor with taps.



**Camera for slabs:** slab detection system, with camera placed above the workbench and software for image record. The application allows to speed up the machine programming.



# AN INTELLIGENT SYSTEM TO MAKE YOUR WORK EASIER

LET US GUIDE YOU TOWARDS  
THE FUTURE OF INTELLIGENT  
MACHINES





# D-INSIDE:

EQUIP YOURSELVES WITH  
A SUPERIOR FORM OF INTELLIGENCE



Perfect machining can only be achieved through multiple movements that need to be perfect coordinated. Just as all the movements in the human body are managed through brain impulses, similarly, the movements of our machines are managed by **integrating the machine with the programming software.**

Every Donatoni machine is born with an intelligent work management system, integrated with all the parts that manage its movements; we call this system **D-Inside**, the real brain of the machine. It is an advanced interface that is simple to use, even for inexperienced operators, which allows the machine-software system to be coordinated.

**The D-Inside system** offers many programming options and can be interfaced with the different types of Donatoni software, such as Parametrix and all the additional modules, or with CAD-CAM DDX EasySTONE, so as to customise the machine to meet the customer's requirements.



OPERATOR  
INTERFACE WITH  
PC AND 21" TOUCH  
SCREEN MONITOR

HIGH PERFORMANCE  
THANKS TO THE  
NEW POWERFUL PC

USB  
PORTS FOR  
TRANSFERRING  
FILES

CONTROLS FOR  
THE MANUAL  
MOVEMENTS  
OF EACH AXIS

MOBILE, STIFF ARM  
THAT ALLOWS  
THE OPERATOR TO  
PROGRAM WITH 1  
HAND

# ZENITLUX

ZENITLUX is the specific software for the Zenith single-head polisher. This software was created by Donatoni and allows polishing, calibrating and smoothing processing on slabs of marble, granite and stone in general.

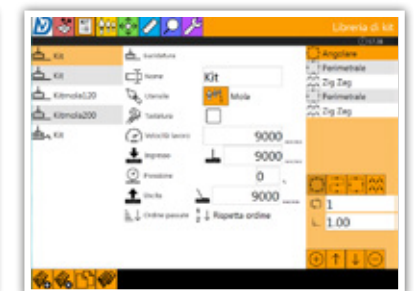
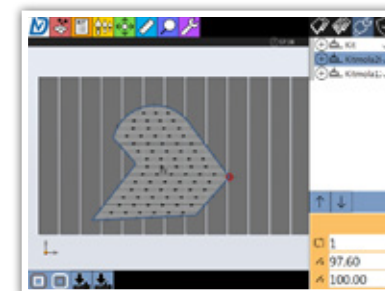
Thanks to the slabs camera on board, the software allows to perfectly follow the slab edges, even the irregular ones, based on the desired type of cut.

During the processing it is possible to preview the passes; the operator can also adjust the pressure according to the type of abrasive mounted and to his own experience.

Type of passes:

- Peripheral: pass along the perimeter of the slab.
- Longitudinal
- Transversal
- Zig Zag
- Oblique

The software controls the pressure system used by the machine for polishing or calibrating processings. If the calibration is selected, the ZENITLUX software disable the pneumatic pressure system by enabling the mechanical pressure system. This system allows to get an higher quality controlled result even on soft processing such as mosaics and onix or semi-precious inlays.





# CAD-CAM

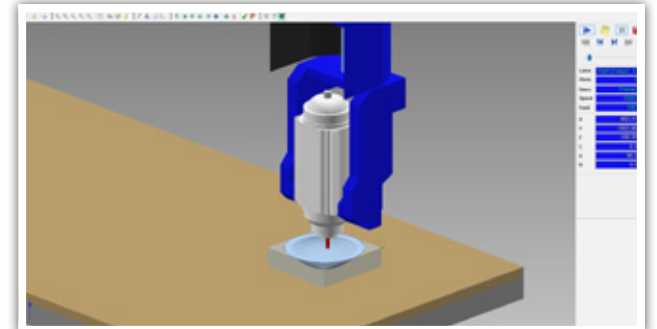
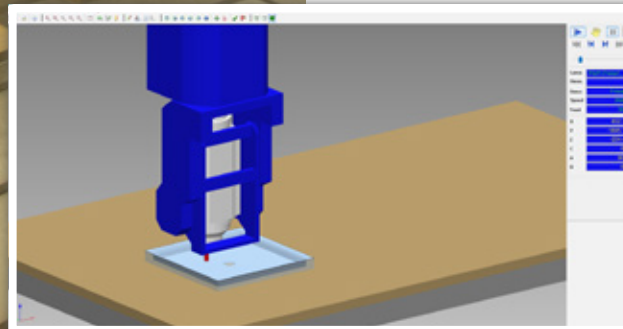
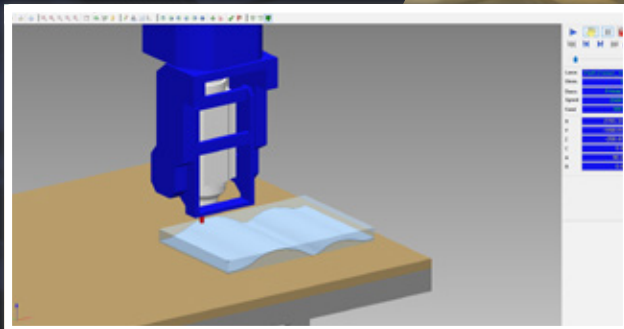
## OPTIONAL

The CAD-CAM software designs, imports and executes 2D and 3D files in DXF, IGES, STL, PNT, STEP and RHINO formats, and also defines surfaces and shapes using laser scanning. Multiple work processes can be set: roughing, drilling, profiling, emptying and polishing, which can be carried out, thereby optimising the execution process.

After having been imported, the software optimises the work process sequence, performs the roughing / finishing process, taking into account the raw material left over after processing.

With CAD-CAM it is possible to display the 3D image of the work process with virtual milling and to modify it, if required. The 3D simulation of the work process, including empty movements, is realistic because it is based on the Customer's machine model and shows the three-dimensional model of the work centre, the bench, the motors, the tools, the sub-pieces and the pieces.

Once the design phase has been completed, CAD-CAM generates the piece-programs and sends them directly to the Customer's work centre. Finally, it calculates the processing times and costs, supplying an accurate report of the work performed.



# WITH DONATONI YOU ARE NEVER ALONE

AFTERSALES  
SERVICE AND ASSISTANCE

The relationship with the customer does not end with the supply of the product but continues and is strengthened through a reciprocal collaboration which creates value for both customer and supplier.





# **DIRECT CONNECTION WITH OUR TECHNICIANS**

Donatoni Service is the company department that is totally devoted to our customers and their needs; it provides a wide range of **services aimed at meeting our customers' all-round requirements**, before, during and after the delivery and installation of the machine and throughout its useful life.

Our highly-qualified personnel have sound experience and are capable of responding to any question or request. We use an open approach that is attentive to specific individual needs since our objective is

to cooperate with and support the customer in its production activities, not only through assistance but also with **technical services and advice** which allow operators to improve their know-how and enhance their production. Speed, reliability and professionalism are the strengths that allow us to ensure an efficient response to your requests; our Service uses the latest generation communication tools and **a global network of partners** so as to provide prompt answers and solutions.

## **WORLDWIDE ASSISTANCE STRUCTURE**

**Donatoni is present in many countries worldwide** thanks to a structure of reliable and competent partners and agents, among which the Biesse group Intermac branches.

## **MACHINE INSTALLATION**

Our machine are installed by highly specialized technicians granting extraordinary levels of professional work. Installation includes a careful installation service, commissioning of the machine and training of operators according to the model of machine installed.

## **ON SITE ASSISTANCE**

We provide on site assistance at the clients premises if not possible to use the Tele Assistance by modem.

## **DIRECT CONNECTION - ON-LINE ASSISTANCE**

Each machine is supplied with a system that enables it to be connected by Tele-Assistance to our After-sale service (we require connection to the network via a cable). This service enables our technical staff to virtually access the customer machine and to carry out checks, updates and to provide technical assistance as if they were there at the machine location in person.

## **PARTS AND REPLACEMENTS SERVICE**

We handle requests for parts and replacements in any part of the world, in short time frames in order to minimise machine down-time.

## **CAD-CAM TECHNICAL ADVICE**

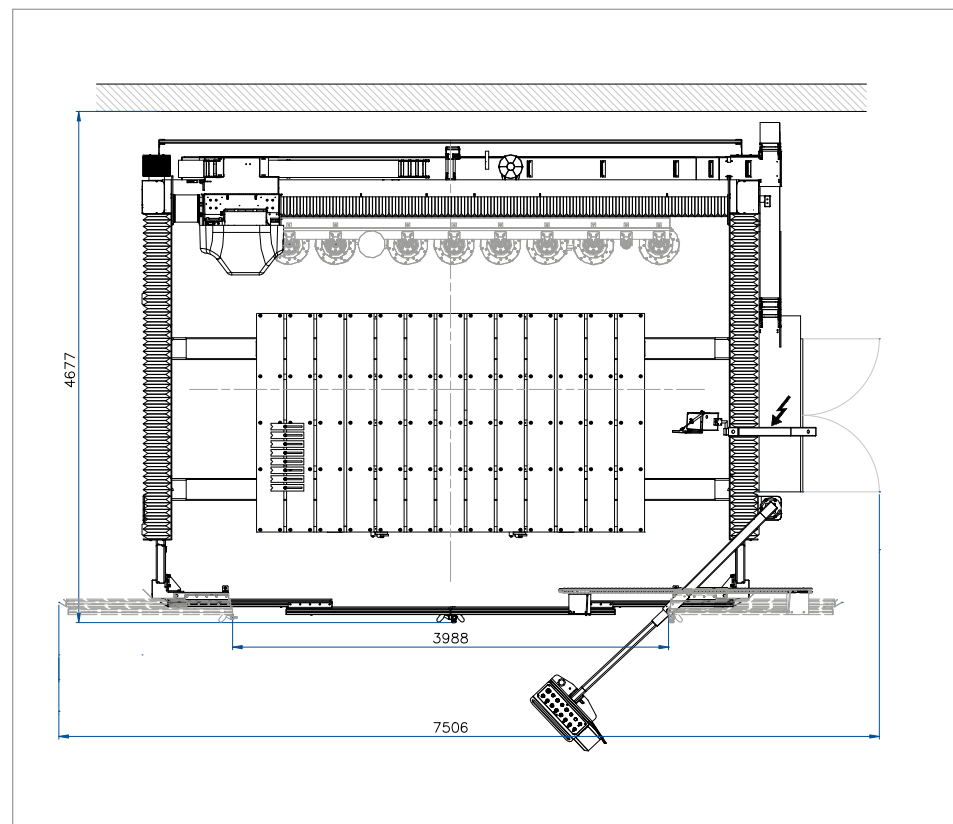
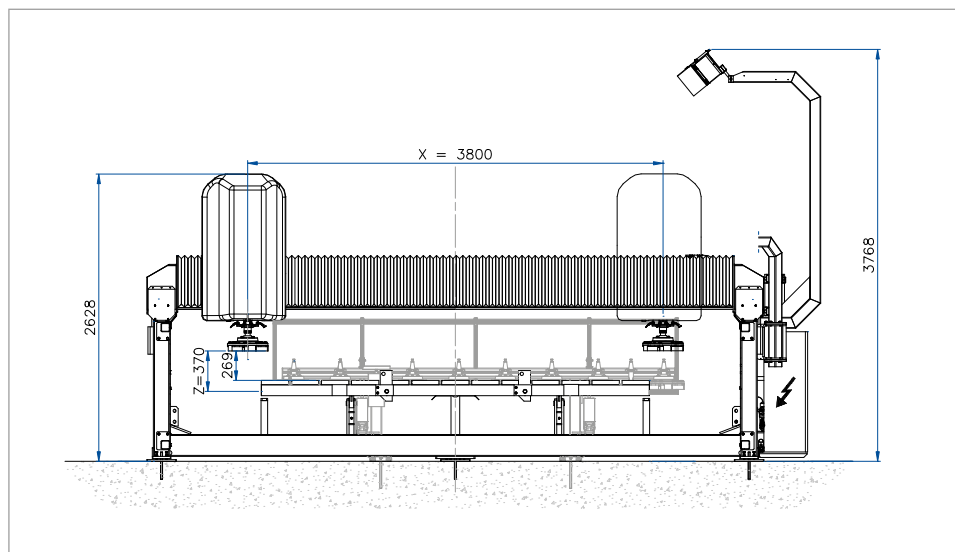
we help our customers in creating and designing projects and objects.

## **THEORETICAL/PRACTICAL TRAINING**

Training courses and update courses regarding new applications and software at our offices or at customer premises. Our offices are equipped to host courses for technicians and operators. The rooms are next to the machines on display in our show room and therefore this allows tests and checks to be carried out directly on the console of the machine and the level of learning can be evaluated.



# TECHNICAL DATA





# DONATONI ZENIT

Maximum number of interpolated axis	N°	3
X axis stroke	mm in	3800 149,6
Y axis stroke	mm in	2780 105
Z axis stroke (head high/low motion)	mm in	370 14,6
Max material thickness for polishing	mm in	260 10,2
Working bench dimensions	mm in	2000x3550 78,7 x 139,7
Electro spindle motor power	kW	17.6 / 56
Tool rotation with inverter	rpm	0 / 7500
Tool connection	ISO	40

Max speed axis X	m / min ft / min	0 – 40 0 – 131,2
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Max speed axis Y	m / min ft / min	0 – 30 0 – 98,4
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Max speed head axis Z	m / min ft / min	0 – 5 0 – 16,5
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External Water consumption (3 bar)	L / min gal / min	35 16,4
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Internal Water consumption (3 bar)	L / min gal / min	15 49,2
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Air consumption	L / min gal / min	100 26,4
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Standard voltage	Volt / Hz	400 / 50
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Approx total weight of the machine	Kg lb	5000 11023
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The technical data and images in this catalog are indicative and do not constitute a constraint. The manufacturer reserves the right to make changes to the product, technical data and images without prior notice.

# NOTES



**NOTES**

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

# NOTES



**NOTES**

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### **Donatoni Macchine Srl**

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[www.donatonimacchine.eu](http://www.donatonimacchine.eu)

**Donatoni Macchine**, founded by Vittorio Donatoni in 1959 in Domegliara, one of the main marble and granite processing districts, is recognised, thanks to their years of experience gained in the natural stone industry during this time, as one of the world leaders in manufacturing **cutting-edge machines of very high quality for working stone.**

**Constant research, technological innovation and customer service** are key concepts for the company and in order to pursue them the company employs highly qualified technical and commercial personnel, in order to guarantee the end customer a **product that reflects their expectations in terms of quality and performance.**