

DONATONI ZENIT[®]

CNC Single-head Polishing/Calibrating Machine

DONATONI
Stone Tech Creators



**Flexible.
Accurate.
Multi-purpose.**



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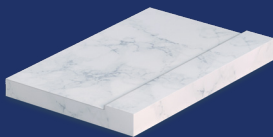
Main characteristics

Advantages

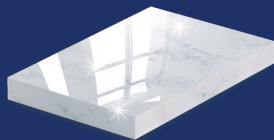
- Calibration and polishing **2 in 1**: all with a single machine
 - Maximum **precision and productivity**
 - Automatic system that can follow even **irregular** edges
 - **Easy and quick** to program
 - **Automatic tool changer** with nine stations
- Donatoni ZENIT is a single-head CNC polishing/calibrating machine with 3 interpolated axes and **automatic tool changer**. In addition to **calibration and polishing**, it offers a **wide range of machining possibilities**: smoothing, brushing, drilling, engraving, straight and curvilinear cutting with incremental passes by means of diamond milling tools.
 - Thanks to its flexibility, the DONATONI Zenit is a complete tool for processing surfaces, including **particularly delicate materials** such as mosaics and inlays. Its distinguishing feature is the **Dual-Control** system, which combines the best possible pneumatic and mechanical management of tool pressure to achieve the best possible results in polishing and calibrating. Thanks to this system, you can achieve a **high degree of precision** with excellent results on any type of material.
 - **Reliability, precision, and versatility**: DONATONI Zenit is the perfect choice for customers looking for flawless processing of marble, granite and agglomerate surfaces.

Machining

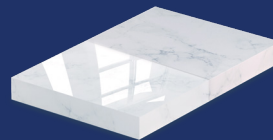
The **DONATONI ZENIT** can be used for a wide range of operations, for example:



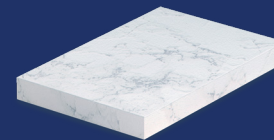
Calibrating



Polishing



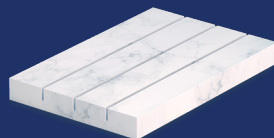
Smoothing



Brushing



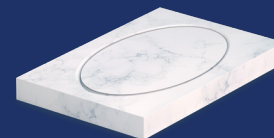
Drilling
(CAD-CAM software
required)



Straight cutting
(CAD-CAM software
required)



Engraving
(CAD-CAM software
required)



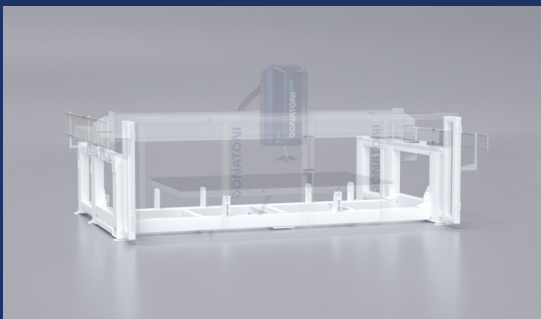
Curvilinear cutting
(CAD-CAM software
required)

Production

DONATONI ZENIT can be used to make different types of product.

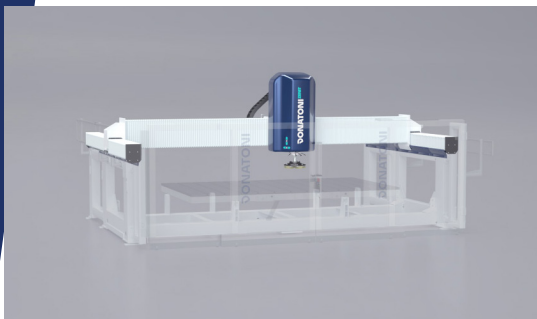


Components



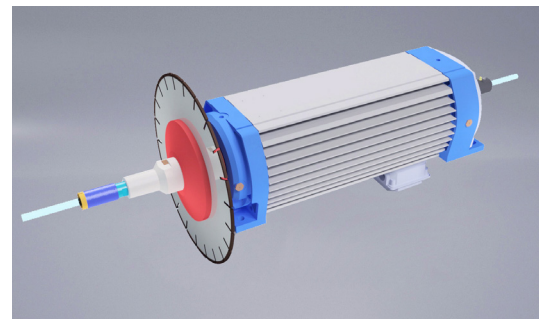
Structure

DONATONI Zenit can be configured with a monoblock solution consisting of a single, self-supporting structure, made of supporting walls and a base on which the bench is fixed. Instead of the monoblock structure (or the client having to build concrete walls), it is possible to install **steel walls** onto which the Y-axis sliding rails will be fixed. Once the structure (welded and hot-dip galvanised) is machined, it is then painted and sandblasted to improve its **strength and durability**.



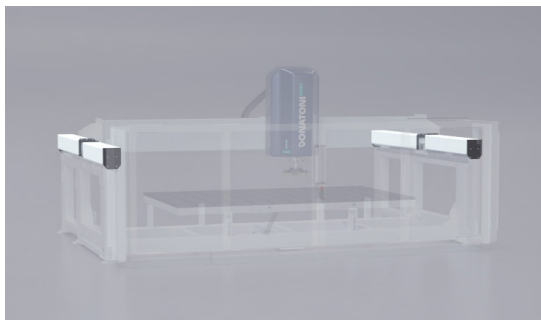
Bridge

The main BRIDGE is made of welded steel, heat-treated and painted with three coats to increase its **durability over time**. Recirculating ball sliding blocks are fitted on the ends of the bridge, allowing the bridge to move along the linear guides positioned on the side crossbeams (Y-axis). The movement of the bridge is generated by a digital-control brushless motor which is connected to a high-precision gearbox.



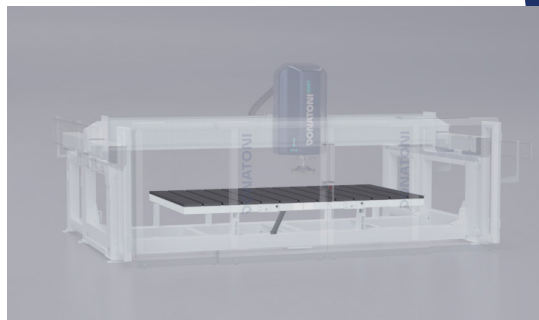
Electrospindle

The Head unit is equipped with a **powerful electrospindle** with a pneumatic ISO 40 tool connection, which allows automatic tool change. The unit is fitted on a cast iron carriage and steel sleeve, sandblasted, and painted with three coats. The **innovative up/down movement** system of the spindle (Z axis) is realised by smooth sliding of the sleeve on the carriage. This movement is provided by a recirculating ballscrew, a high-performance brushless motor and a precision gearbox, which ensure maximum control of movement.



Side crossbeams

Hot-dip galvanised steel crossbeams with integrated sliding guides, which are automatically lubricated and protected by bellows. A solution that ensures **longer life** and **optimal performance** over time.



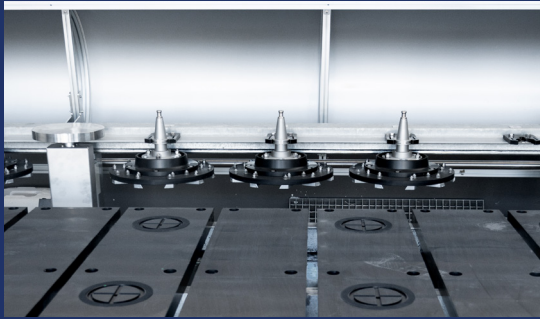
Work bench

Clients can purchase the work bench in various sizes and with different surfaces according to the accessories that are chosen and specific production requirements. The bench can be fixed or tilting, with the latter making slab **loading simpler and more functional**. The range of possibilities means you can choose the solution that best suits your requirements.



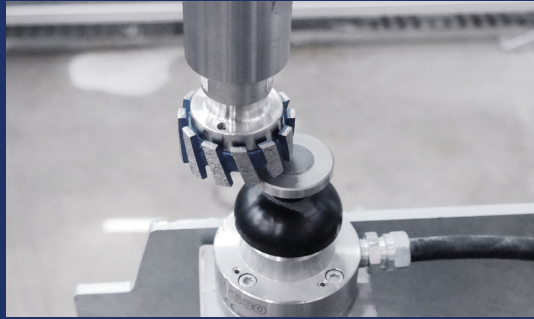
Sliding front guards

Frontal protective barriers with closing system; allow **maximum visibility of the work area** and **reduced bulk**, guaranteeing **elevated safety** standards. The front close is made of 2+2 wings. The ample access to the work area **given by the fully-open** doors makes material loading and unloading easier.



ISO 40 Tool holder

Made of sheet stainless steel and with **pneumatic opening/closing system**, the tool holder comes with 9 positions with ISO 40 tapered tool holders: 8 specific positions for 370 mm diameter abrasive holder plates (each with 5 Frankfurt-type connectors) and 1 position for grinding wheel, core bit or engraving bit type tools. Everything designed with a focus on optimization of the work process.



Tool presetting

Innovative measuring system that can **detect the actual length of the tool** precisely and reliably. This advanced system enables accurate and consistent measurements, eliminating margins of error and **increasing the overall efficiency of the production process**. The accurate tool measurement minimizes the waste production during machining, reducing costs and optimizing the use of resources.



Slab thickness probe

The slab thickness detection system measures the thickness of the material in a **fast and reliable way**. On the DONATONI Zenit, this probe is used to **optimize the process of calibrating slabs and workpieces**, avoiding idle passes, or to level workpieces the bare minimum by taking multiple measurements and noting minimum and maximum workpiece thickness. This feature helps to ensure accurate results at every stage of the machining process.



Laser for slab perimeter detection

The DONATONI slab perimeter detection system uses a laser pointer that reproduces the working area on the machine. Thanks to this feature, the **programming procedures are significantly faster and optimized**, improving the overall efficiency of the process.



Control panel

Everything within reach. The control panel is the basic tool for using and programming the machine, so it must be as **simple and intuitive** as possible. It is a control unit with an **innovative design** and a large 21" touch screen. Operators can either program operations in automatic or manage them in manual, as required. Thanks to its ergonomic structure, the operator can use the machine **easily and functionally**.

Optional extras



Camera + Photoslab

New high resolution industrial camera, with support studied to reduce bulk. Photoslab automatically detects the surfaces of the slabs on the work bench. The images are acquired thanks to integration with ZENITLUX software. The result turns into countless advantages, among which process programming speed, and the detection of possible defects in the slab.



Suction cup fastening

Two suction cup fastening systems are available. The first system consists of fastening workpieces by means of suction cups **integrated into the working table**. This system guarantees a quick and intuitive positioning of the workpieces, thanks to its suction cups that do not protrude from the table. The second system consists of a suction cup kit that locks workpieces in an elevated position in order to ensure maximum precision in machining. Both options include a liquid ring vacuum pump, complete with reservoir and a dosing distributor, with valves connected to the suction cups.



LED lighting (with monoblock only)

Two LED lighting devices positioned perpendicular to the working surface. The soft light gives even lighting, while the LED technology **reduces consumption** and avoids overheating; it also improves camera image acquisition if the area lighting is poor.



Handheld terminal

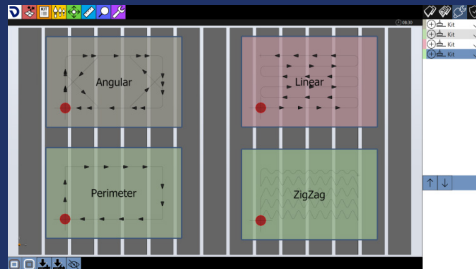
The handheld terminal has various keys and a 7" touch screen from which various operations can be carried out, among which **moving the machine axes manually, saving the origin points, seeing the machine quotas**, and many other operations related to the machining process.

Software

Donatoni Digital Suite

Over the years, DONATONI has developed a network of software and platforms capable of interacting with each other and supporting customers towards **complete automation and digitalisation of their production processes**. The intention is to harmonise the different digital tools produced over time so as to **make the daily life of those who use the machines simpler and less costly**.

ZENITLUX



It is the programming software **designed for the Zenit polishing/calibrating machine**. Developed by Donatoni, it can be used to polish, calibrate, smooth and brush slabs of marble, granite and stone in general.

PRECISE ON ALL TYPES OF SURFACES

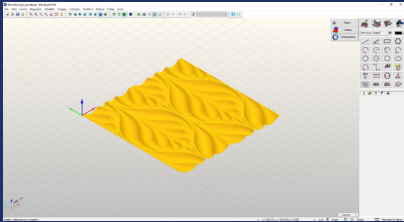
Thanks to the slab camera located on-board, the software **allows you to perfectly follow the edges of the slab** - even irregular ones - by managing the type of pass you want to make. During the work process, it is possible to preview the passes and the operator can adjust the pressure according to the type of abrasive and his own experience. Depending on the type of processing, it uses a different pressure system: mechanical for calibration, pneumatic during polishing and smoothing.

Zenitlux allows the processing of workpieces of different shapes and thicknesses, loaded onto the workbench at the same time. The operator **takes a photo of the work area, identifies the workpieces and applies the desired type of processing to each one**. Using Zenitlux, it is possible to create programs for specific finishes and materials, combining different tools and passes.

TYPE OF PASSES

- Perimeter (passes around the perimeter of the slab)
- Longitudinal
- Transverse
- Zig-zag
- Oblique
- Angular (repeatedly works on the corners of the workpiece for better performance)

Optional – Software



EASYSTONE

Easystone is the CAD/CAM software specifically for the marble processing sector. It is a **simple, intuitive** software program: all the functions are “click-friendly” and can be used even by people with no specific computer skills. The software can be used to design or import 2D and 3D files in different formats, or to **define surfaces and shapes through laser scanning**.

CONSTANT UPDATES AND NEW FEATURES

Being able to rely on a **software platform that is always up-to-date** is essential for managing your work. Equally important is being able to count on Donatoni’s internal technicians and on a constantly updated training and consultancy service that is in line with the demands of the market.

REASONS TO CHOOSE EASYSTONE:

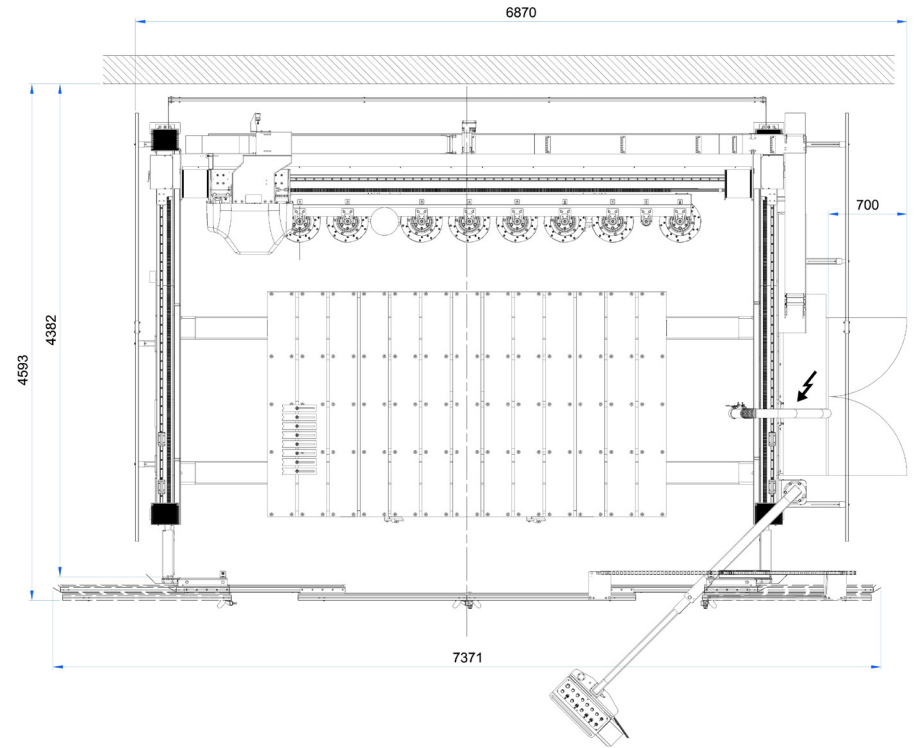
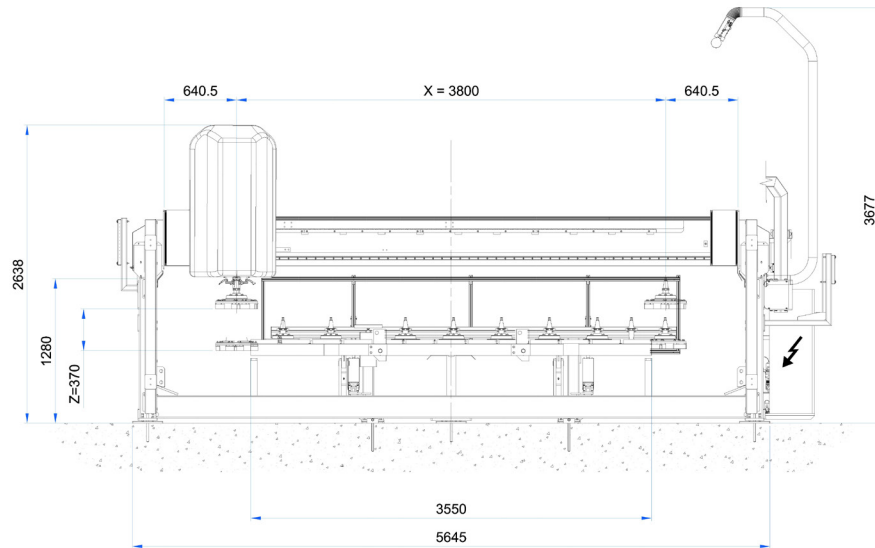
- Comprehensive programs for work process design, programming, and management
- Extensive library of functions covering all machining requirements
- Simplified design in 2D and 3D
- Specific software for the stone industry
- Dedicated training by our CAD-CAM experts
- Competent and fast assistance, even remotely

Technical Data Sheet

Interpolated axes	No	3
Carriage stroke (X-axis)	mm	3800
Bridge stroke (Y-axis)	mm	2780
Head up/down stroke (Z-axis)	mm	370
Material maximum thickness for polishing	mm	260
Dimensions of slab support bench	mm	2000 x 3500
Electrospindle motor power	kW	17.6/S6
Tool rotation with inverter	Rpm	7500

Tool connection	ISO	ISO 40
Tool holder	N° 9 (8+1) POSITIONS	
Maximum carriage speed (X-axis)	m / min	0 - 40
Maximum bridge speed (Y axis)	m / min	0 - 30
Maximum head speed (Z-axis)	m / min	0 - 5
External water consumption	l / min	35
Internal water consumption	l / min	15

Machine layout



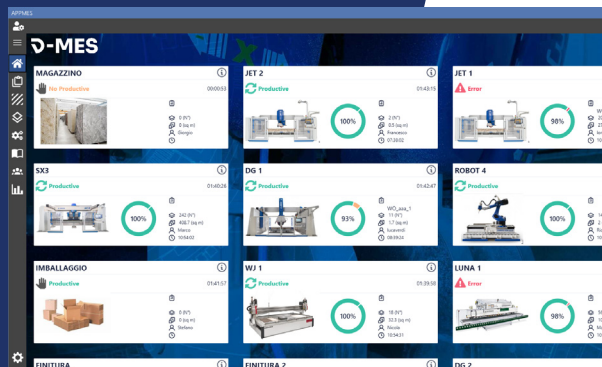
D-MES

DONATONI MES is the first MES system on the market designed and manufactured exclusively for the stone industry. DONATONI MES is not just a software: it is a complete MES (Manufacturing Execution System) system that can support with your company's growth.

The company of the future is digital and connected.

Advantages

- Production monitoring
- Real-time data
- Integration with working areas
- Improved efficiency and profits
- Waste reduction
- One single database for the whole company



Welcome to D-Portal

Selezionare una macchina per iniziare



D-PORTAL

The **D-Portal** platform can be considered as a **library** for all your Donatoni machine documents and has direct channels for contacting our After Sales service directly, which means that clients can do ordinary maintenance easily and precisely.

Donatoni Service

Donatoni service offers a wide range of consulting services to meet the different needs of customers, wherever they are.

After-Sales Service

You can contact our **after-sales service** for any requirement. In this manner, any type of problem can be identified and solved asap, finding the fastest, **most efficient solution**.

Our telephone assistance department is available to give support to clients on everything about machine functionality.

Telephone support is available from Monday to Friday, 7.30 a.m. to 6.30 p.m., and on Saturdays from 8 a.m. to 12 p.m. (UTC +1 CET - Central European Time).

Tel. +39 – 045 6862899

Donatoni support is also available by e-mail at the following addresses:

For assistance

assistenza@donatonimacchine.eu / service@donatonimacchine.eu

Whatsapp: + 39 0457740052 **Telegram:** @donatonimacchine_bot

For spare parts

ricambi@donatonimacchine.eu / parts@donatonimacchine.eu

Maintenance

Donatoni's routine and special maintenance service is entrusted to its own specialist technicians to guarantee the **reliability** and **efficiency of your machines** over time, no matter whether in Italy or the rest of the world. Our technicians are trained to recognise and fix faults promptly, helping you save as much time as possible and allowing your machines - and your systems - to last longer.

Consultancy service

To support and enable our customers to meet the demands of the market, we offer **consultancy services** that can widen and **deepen your knowledge and skills**. Offering a complete support service does not only mean solving mechanical or software problems, but also **providing tools and knowledge** to find solutions and manage all production needs independently.

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Friday: 8:00 - 14:00

Donatoni Group

The Donatoni Group was established after **long experience** in the natural stone industry, a process that began in the 50s and developed over the years. Today, **Donatoni Group** is recognised as one of the world's leading manufacturers of high-quality stone processing machines. **Constant research, technological innovation and client service** are key values for the company, which follows them using highly qualified personal in order to guarantee the end customer a product that best reflects their expectations in terms of quality and performance. To support its global development, **Donatoni Group** operates in international markets with its own agents and direct overseas branches.



Donatoni Academy



Donatoni Academy supports the marble industry through technical and practical training courses, conferences, events and activities aimed at developing skills and know-how for companies and operators in the sector.

About us

We rely on qualified teachers and speakers to develop technical courses with specific content and linked to the real needs of the industry.

To whom

Donatoni Academy provides services for companies in the stone industry that want to train, perfect or expand the skills of their operators. Our courses are also addressed to students and anyone wishing to update and expand their skills.

Courses location

Courses are held either face-to-face or remotely. We have 3 training rooms for theoretical classes and one showroom for hands-on sessions with 5 machines.



Donatoni Macchine Srl reserves the right to make any technical modification which, under its own incontestable opinion, improves its machines. As a result, all information, data or images in this catalogue are indicative and are not a contractual obligation of Donatoni Macchine Srl in any way.

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