

# KRONOS 600 KRONOS 800

CNC MILLING-WORK CENTER



**DONATONI**  
HIGH INNOVATION STONE MACHINES

Highest quality For your skill

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







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# THE HIGHLY FLEXIBLE SOLUTION

MILLING CUTTER-CONTOURING  
MACHINE





**KRONOS** is a **5/6 axis interpolated milling/work center machine** with automatic tool change. It is available in the version with a **Z axis stroke of 600 mm** or with a **Z axis stroke of 800 mm**.

It is one of a kind machine as it combines the typical features of a milling cutter and those of a work center/contouring machine. The **Parametrix software** and the **wooden overbench**, allow to perform cutting operations as a traditional milling cutter; the **KRONOS** range, compared to the traditional working centers, is the sole solution offering specific software for simple and intuitive cutting. Without the overbench, the machine can be set up as a work center to process the piece directly on the aluminum bench or as a contouring machine, fixing the

piece to the bench with the suction cups kit supplied with the machine.

The machine allows to produce items with extremely precise finishing, thanks to the sliding system of X and Y axes on linear guides and racks both in oil bath lubrication. The motion is given by brushless motors coupled to high precision gearboxes. It is equipped with a series of electro-spindles controlled by inverter and it can be fitted with ISO 40 type connection diamond tools, such as end mill, milling wheel and a horizontal blade.

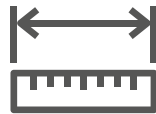
**KRONOS** is featured as a milling cutter and a work / contouring center, it is particularly suitable for all laboratories that want to increase their technological level in limited spaces.



**POWERFUL AND  
FLEXIBLE**



**IDEAL FOR SHAPING  
AND CONTOURING**



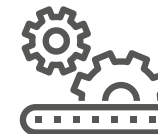
**PRECISE FOR A  
PERFECT RESULT**



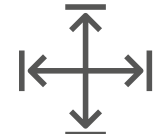
**SIMPLE AND QUICK  
TO PROGRAM**



**WIDE RANGE OF  
SOLUTIONS**



**WIDE RANGE OF  
PROCESSES**



**REDUCED  
DIMENSIONS**



# **MAXIMIZE PRODUCTION, REDUCE SIZE**

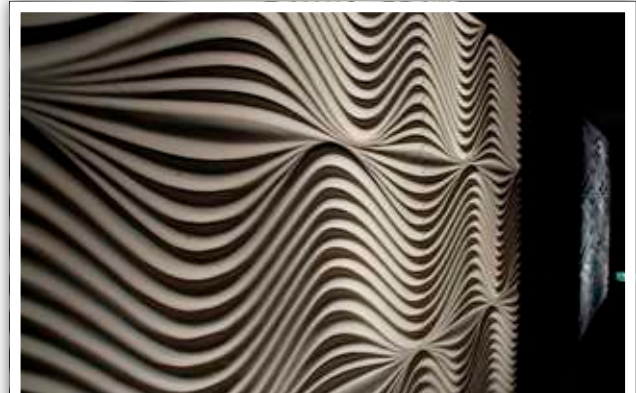
EFFICIENCY AND FLEXIBILITY





# PROCESSING

Columns, sinks, kitchen tops, top sinks, floors, panels for exterior and interior claddings, stair steps, window frames, shower trays, tables, fountains, capitals, sculptures, building products, products for funerary art.





# PERFECT BALANCE BETWEEN POWER AND FLEXIBILITY

MAIN FEATURES





- / 5/6 INTERPOLATED AXES
- / Z-AXIS TRAVEL: 600 -800 MM
- / DIAMETER MIN / MAX DISKS  
KRONOS 600: 350-625 MM
- / DIAMETER MIN / MAX DISKS  
KRONOS 800: 350-825 MM.
- / MAXIMUM CUTTING DEPTH  
KRONOS 600: 200 MM
- / MAXIMUM CUTTING DEPTH  
KRONOS 800: 250 MM
- / ISO-40 TOOL CONNECTION
- / SHAPING AND COUNTORING MACHINE
- / SLIDING GUIDES LUBRICATION IN OIL BATH
- / NORMALIZED, SANDBLASTED  
AND PAINTED STEEL STRUCTURE
- / BRUSHLESS MOTORS AND HIGH-PRECISION GEARBOXES  
CONTROLLED BY INVERTER FOR X-Y-Z AXIS SLIDING

## TYPES OF WORKING



STRAIGHT, CONCAVE,  
CONVEX, ARCHED,  
ELLIPTICAL SHAPES



EXCAVATION OF TWO-  
DIMENSIONAL AND  
THREE-DIMENSIONAL  
SECTION BLOCKS



CONTOURING



POLISHING



ENGRAVINGS



DRILLINGS



LONGITUDINAL  
CUTS



CROSS  
CUTS



OBLIQUE  
CUTS



INCLINED CUTS  
0-90°



ORTHOGONAL CUTS  
UP TO 250MM



ELLIPTICAL AND  
CIRCULAR CUTS

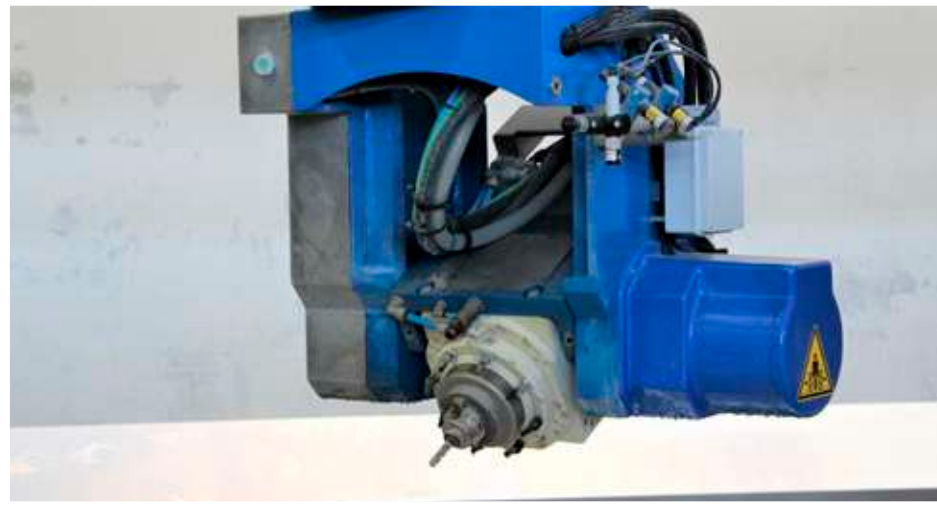
# INNOVATION IS STANDARD

MAIN COMPONENTS





**Electro-spindles** with liquid cooling system, from kW 22 / 56, with adjustment of the nr. of revolutions, ISO 40 spindle connection, with automatic tool change, head rotating  $-5^{\circ} + 365^{\circ}$  and inclinable from  $0^{\circ}$  to  $90^{\circ}$ , mounted on steel carriage.



**Control console** on double-jointed on swing arm, manual controls, video 15 "color touch-screen, keyboard and usb port for importing files.



**Ball recirculating sliding crosspieces** and helical toothed racks for sliding the Y axis, with oil bath lubrication and protected by bellows with labyrinth closure.



**Electric panel** cooled by air conditioner to keep the temperature.



**Fixed workbench with aluminium top** of 3500 x 2000 mm for the mechanical fixing of the suction cups.  
Overbench: essential for cutting and shaping operations.



**Overbench** with wooden top allows cutting and shaping operations.



**Linear tool storage** at 10 positions for ISO 40 cones with max. length 600 mm, complete with pneumatic- lifting stainless steel cover (only for ATC or MTB electrospindle).



**Handheld terminal** which is connected to the control board.





**Suction Cups Kit** system for fixing the pieces by means of suction cups and vacuum pump (to be combined with fixed or tilting aluminum bench).



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



**Tool presetting:** tool thickness detector, essential for precise processing.



# ACCESSORIES AND MECHANICAL COMPONENTS

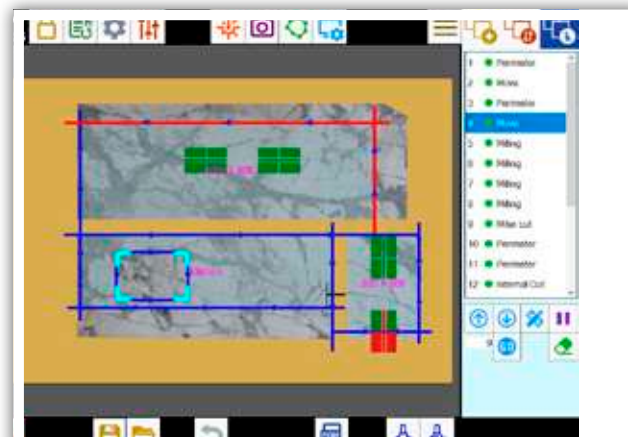
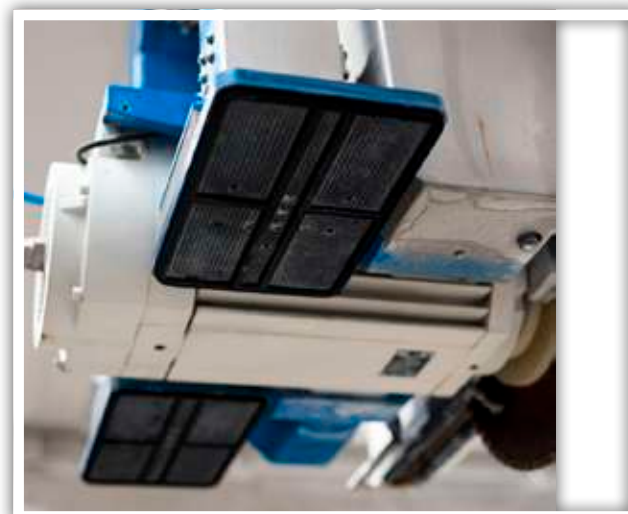
OPTIONALS





# MOVE-SYSTEM

Suction cups system for the automatic lifting and positioning of cut-to-size pieces granting processing times with minimum waste. The 2 aluminum suction cups are equipped with sectors of various sizes allowing lifting operation of large and small pieces, up to a maximum of 600 kg. it can be used with blade up to 625 or 725 mm diameter.



**Tilting workbench with aluminium top:** of 3500 x 2000 mm for the mechanical fixing of the suction cups.



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





**Lathe:** (fixed and mobile) allowing to perform columns with circular section or with complex shapes.



**Retaining walls:** in sandblasted steel and painted with triple layer.



**Automatic blade change:** to be combined with the ATC or MTB electrospindle



# AN INTELLIGENT SYSTEM TO MAKE YOUR WORK EASIER

LET US DRIVE YOU TOWARDS  
AN INTELLIGENT CHOICE OF  
MACHINE





# D-INSIDE:

EQUIP YOURSELVES WITH  
A SUPERIOR FORM OF  
INTELLIGENCE



OPERATOR INTERFACE WITH PC AND 15" VIDEO

COLOUR TOUCH-SCREEN

PRECISION OF MOVEMENTS WHICH ENABLES  
COMPLEX AND INTRICATE PROCESSING

USB PORT FOR TRANSFERRING FILES

CONTROLS FOR MANUAL MOVEMENT OF AXES



Perfection in the machining is achieved through multiple movements that need perfect coordination between them. While in the human body all movements are managed through brain impulses, similarly in our machines the management of movements takes place through the **integration of the machine with the programming software.**

Every Donatoni machine is born with an intelligent work management system, integrated with all the parts that manages its movements; we call this system **D-Inside**, the real brain of the machine; it is an advanced but simple interface in terms of its usability, even for inexperienced operators, which enables the machine software system to be coordinated.

**The D-Inside system** offers many programming options and can be interfaced with the different kinds of Donatoni software, such as Parametrix and all additional modules, or the CAD-CAM DDX EasySTONE, in such a way as to make it possible to adapt the machine in the best way to suit the requirements of the customer.

# PARAMETRIX

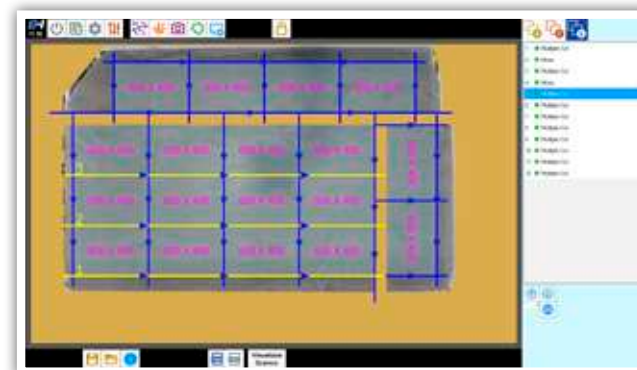
## USER-FRIENDLY ICONS AND SIMPLE PROGRAMMING

Parametrix is the **simple and user-friendly software** developed by Donatoni Macchine and conceived to **optimise the management of cutting different shaped pieces from slabs**.

It is a programme which allows you to manage cutting processes with disks, **it enables input of rectilinear shapes as well as curvilinear shapes** (steps, kitchen work-tops, rectangles, covers) using pre-defined shapes in the programme or imported from DXF files. Depending on the surface available it is possible to automatically set the position of the pieces and the sequence of cuts, optimising the times and reducing material waste.

Included in the software are functions **for anti-collision of pieces, manual and automatic piece nesting, book matching, managing statistics, production and orders, rendering pieces and holes**.

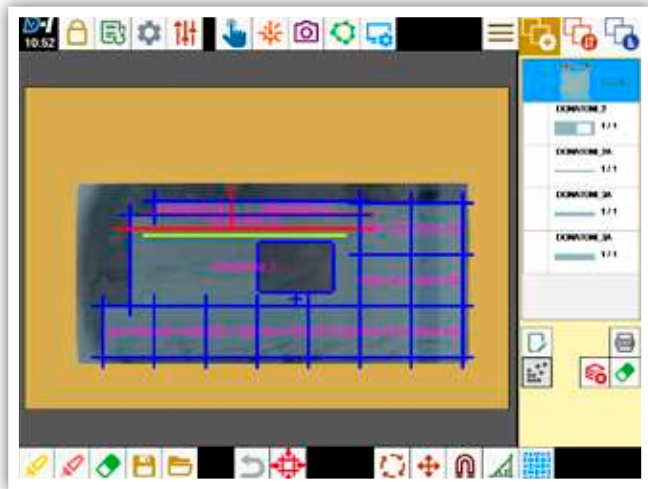
Parametrix can be combined with Photoslab and Move-System, which allow automatic detection of the slab and movement, via a suction cups system, of the cut pieces **reducing operator intervention to a minimum**.





## Nesting (included)

Automatically inserts squared or rectangular pieces in the working area optimizing the exploitation of the slab and automatically avoiding highlighted defects.



## Drilling and processing with milling cutter (included)

It allows you to manage the use of tools, drills and milling cutters, with which it is possible to cut pieces or parts of the slab, to complete the initial processing with blade, such as "L-shaped" internal corners, or to make reductions for recesses. The change from disc to core during processing is automatically managed by the program.

(only for machines version tools, top, mtc, atc, and with tool+ accessory).

## Positioning of the pieces on the slab (included)

With the manual nesting program it is possible to preview any collisions between parts so making easier the piece best positioning. The "magnet" function helps the operator to align the pieces one next to the other in order to reduce the number of cuts.

## Managing and changing of cuts (included)

After positioning the pieces, cuts can be modified: it is possible lengthen it, to change order of cuts, to disable it, to add pauses; other types of modification before pressing the start button to process the cuts can be made.

## Book matching (optional)

Starting from a project in DXF format, it allows to have a 2D image of the parts to be cut and therefore to appreciate before the cut the aesthetic result obtained by the combination of the pieces, evaluating overall and in full the "bookmatching" type processing.

## Piece unloading Module (optional)

The program allows to unload the piece in a predefined area; the operator can select on the screen the cut pieces to be unloaded with the Move System of the machine (the software needs the increase of Y axis stroke length).

## DM\_TL (optional)

Program for slabs smoothing / polishing / brushing by means of plate carrying FRANKFURT abrasives

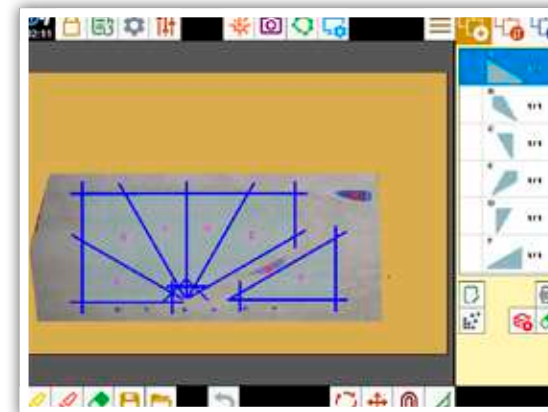
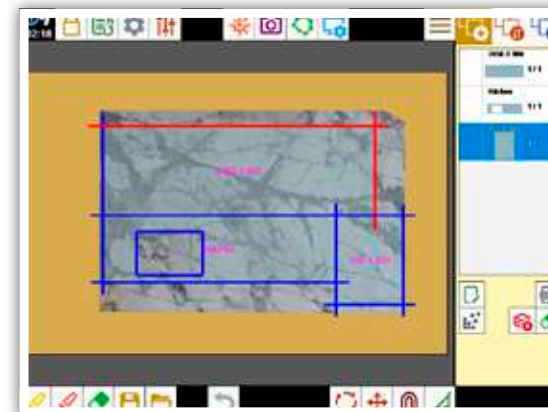
# PHOTOSLAB

SUPPLIED WITH CAMERA  
FOR SLAB

By means of a camera placed above the machine and the related record software, the slab being cut is automatically detected.

The system allows the optimization and the exploitation of the slab dimensions, the speeding of pieces positioning, avoiding possible defects or enabling to perform cuts by following the veins of the material.

The software is automatically enabled with installation of "camera for slabs".





# SCAN-CNC

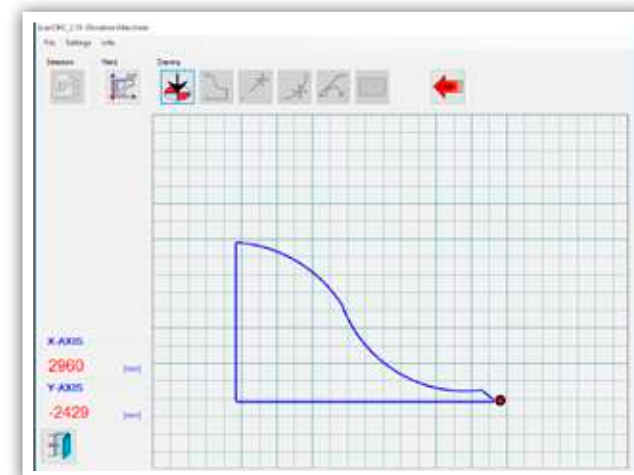
OPTIONAL



Detection system composed of a laser pointer mounted on the machine head, allowing to detect two-dimensional profiles with linear or curvilinear shape. In real time the software creates the drawing (file dxf) on the machine monitor.

Once the detection operation has been completed, the operator can:

- Process the template on the touch screen of the machine using the optional Parametrix or Easycut, Easystone Basic or Premium.
- Store the template file in the machine's PC archive.
- Store the file on an external PC, using a USB key, to create possible processing and association with other files by using external CAD CAM software.



# DDX EasySTONE

OPTIONAL

DDX Easystone is powerful, simple and intuitive CAD / CAM software for machines Donatoni.

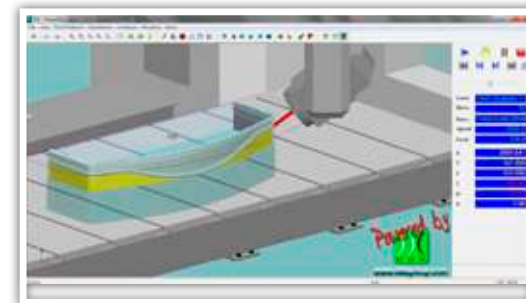
The software allows to design, import and execute 2D and 3D files in DXF, IGES, STL, PNT, STEP and RHINO formats and to define surfaces and shapes through laser scanning.

Multiple processes can be set: roughing, drilling, profiling, emptying and polishing, which can be carried out by optimizing the execution process.

After the import, the software optimizes processing paths, performs roughing / finishing taking into account the raw material resulting after processing.

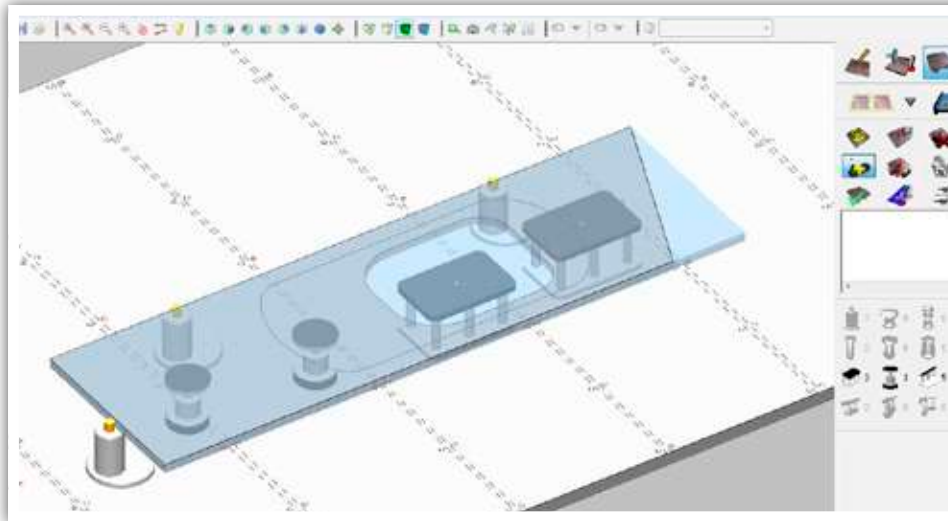
With EasySTONE it is possible to display the processing 3D image with virtual milling and to modify it if required. The 3D simulation of the processing, including free displacements, is realistic as it is based on the Customer's machine model and shows the three-dimensional model of the working center, of the bench, of the motors, the tools, the sub-pieces and the pieces . Once the design phase is completed, EasySTONE generates the piece-programs and sends it directly to the Customer's working center.

Finally, it calculates times, lengths and processing costs, allowing accurate reporting of the work performed.

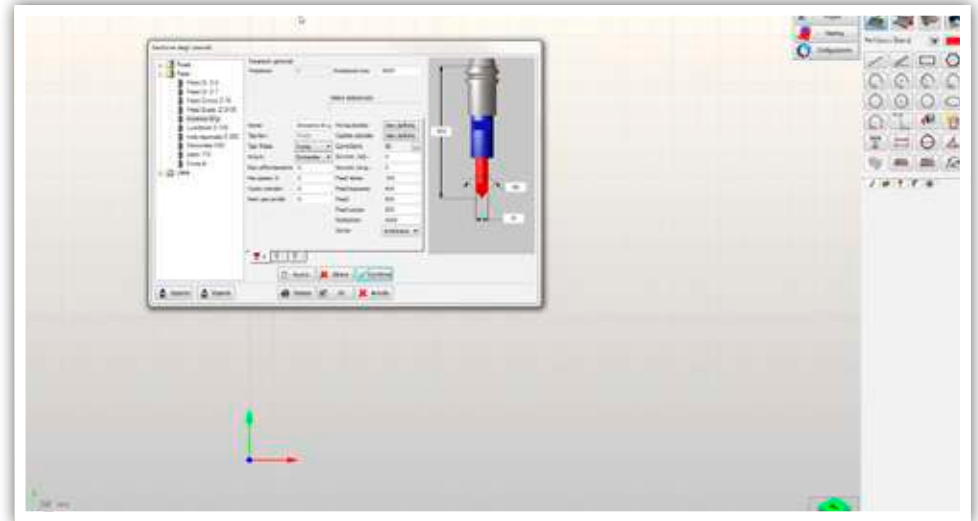




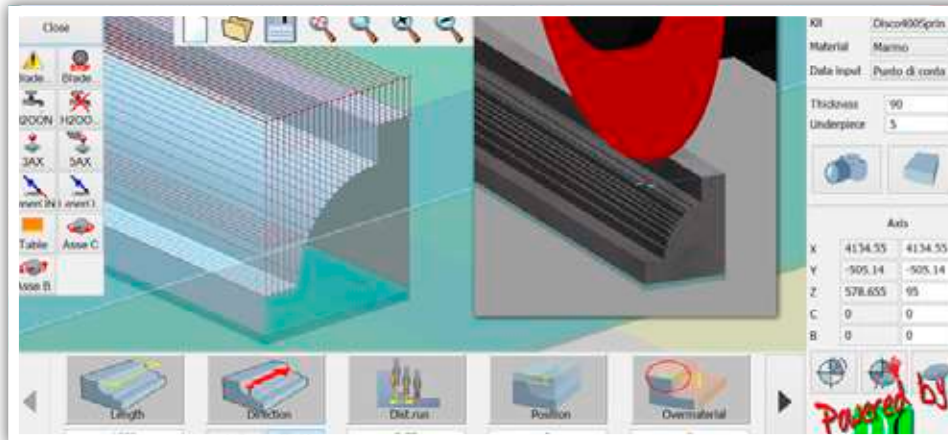
**Drawing:** the software provides drawing tools allowing to easily create 2D shapes and even complex 3D surfaces. It is also possible to import surfaces produced with other modeling software or coming from the scanning of real objects.



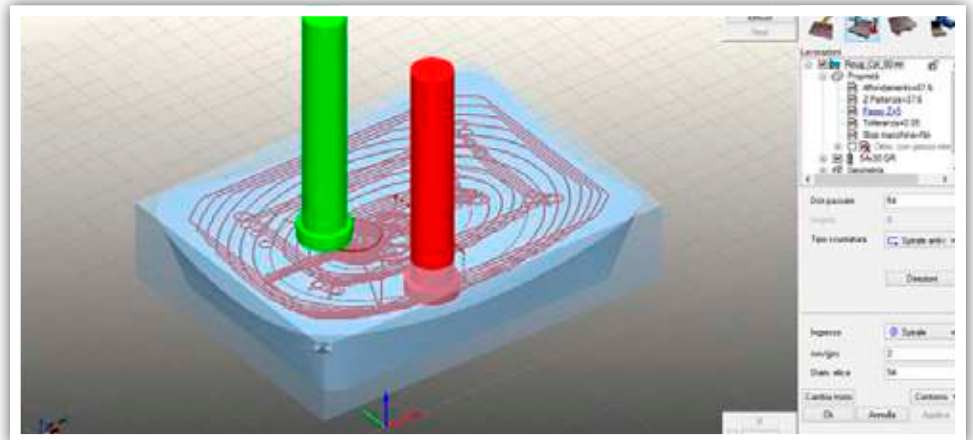
**Tool storage management:** the software manage tool magazine and creates working kits. This allows to create a database by type of processing, containing all the necessary tool parameters already set, saving time for programming.



**Working management:** the project that has to be realized out often requires the use different processes (finishing, roughing ...), which have to be carried out using different tools. The application of these processes is done directly on 3D model and the operator immediately has feedback on the tool paths and uptake so allowing you to deal with the process in the most congenial way.



**Simulation:** the program allows to simulate the operations that will be actually performed by providing a model of the machine, tools and the material processed. In the simulator, during the movement of the tool on the material, it will be possible to display the actual material removal and to have a preview vision of the final result.



# 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**

The commitment to our Customers continues even after delivery of the machine, offering a service of support and aftersales service of utmost quality. For Donatoni Macchine the best service is to supply **efficient and long-lasting machines which require little maintenance and aftersales assistance.**

We believe that **the added value that we can offer customers is a series of services including technical advice and support and training activities** for operators regarding technical aspects or the software.

## **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.

## **CAD-CAM TECHNICAL ADVICE**

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

## **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.

## **EXTENSIVE SALES AND ASSISTANCE STRUCTURE**

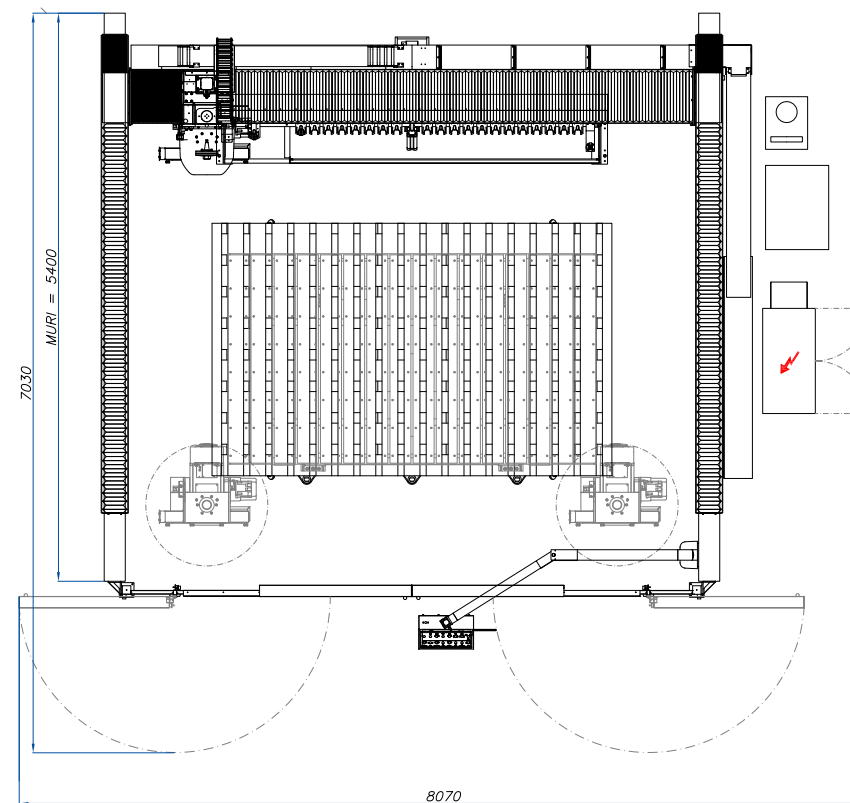
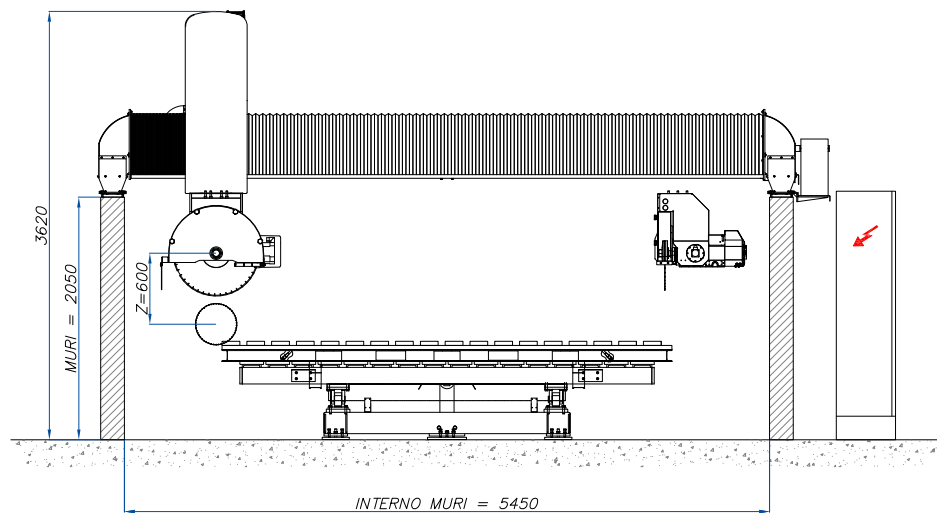
Donatoni is present in many countries worldwide thanks to a structure of reliable and competent partners and agents, among which the Biesse group Intermac branches.

## **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





# KRONOS 600 / KRONOS 800

		KRONOS 600	KRONOS 800			KRONOS 600	KRONOS 800
Max number of interpolated axes	N°	5/6	5/6	Disc motor power	kW hp	22 / 56 29,9 / 56	22 / 56 29,9 / 56
Carriage stroke axis X	mm in	3900 153,5	3800 149,6	Tools rotation	RPM	0 / 10000	0 / 10000
Bridge stroke axis Y	mm in	3450 135,8	3450 135,8	Max speed axis X	m / min ft / min	0 – 45 0 – 14,6	0 – 45 0 – 14,6
Vertical stroke of the head axis Z	mm in	600 23,6	800 31,5	Max speed axis Y	m / min ft / min	0 – 45 0 – 14,6	0 – 45 0 – 14,6
Disc head rotation (axis C)	degrees	-5° / +545°	-5° / +545°	Max speed axis Z	m / min ft / min	0 – 6 0 – 19,68	0 – 6 0 – 19,68
Disc head tilting movement (axis A)	degrees	0° / 90°	0° / 90°	Max speed of axes X Y	m / min ft / min	0 – 45 0 – 14,6	0 – 45 0 – 14,6
Working table dimensions	mm in	2000 x 3500 78.7 x 137,8	2000 x 3500 78.7 x 137,8	Water consumption	l / min gal / min	50 13,2	50 13,2
Minimum disc diameter	mm in	350 13,8	350 13,8	Air consumption	l / min gal / min	20 5,2	20 5,2
Maximum disc diameter	mm in	625 24,6	725 28,5	Standard voltage	Volt / Hz	400 / 50	400 / 50
Max cutting depth	mm in	200 7,87	250 9,84	Approx total weight of the machine	Kg lb	5500 12125	5700 12566

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.

## NOTE

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.



# ALL IN ONE



THREE EXCELLENCES,  
ONE PARTNER.



Three leaders in the stone machining sector, combine skill, technology and a widespread distribution network to support customers in the creation of the intelligent factory, elevating the service provided in order to ensure 360° customer care.



[INTERMAC.COM](http://INTERMAC.COM)  
[DONATONIMACCHINE.EU](http://DONATONIMACCHINE.EU)  
[MONTRESOR.NET](http://MONTRESOR.NET)

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**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**.

