

# SX-3 SX-5

CNC CUTTING CENTRE  
MULTI-SPINDLE  
WITH ROTATING SPINDLES



**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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# COMPACT DIMENSIONS INFINITE PERFORMANCE CAPABILITIES

MULTI-SPINDLE CNC CUTTING  
CENTRE





# QUALITY AND FINISH WITHOUT PREDECESSORS

**SX-3 and SX-5** are innovative numerical control multi-spindle cutting centres with **three or five cutting units with interpolated axes**, designed and patented by Donatoni Machine to satisfy those needing a **compact system for large-scale production line of marble, granite and agglomerate flooring and wall coverings of various types with different sizes and thickness.**

Donatoni Machine were the first to introduce a multi-spindle machine with patented rotating bridge to the market and, rich in the experience they have built up over the years, they can guarantee their customers a **very high level of productivity and at the same time complete optimisation of the slabs.**



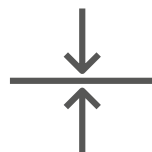
**EXTREMELY HIGH  
PRODUCTIVITY**



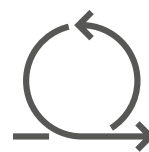
**FLEXIBILITY IN  
PRODUCTION**



**OPTIMISATION  
OF CUTTING**



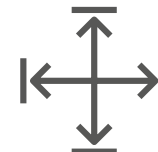
**EXTREMELY PRECISE  
CUTTING FOR A  
PERFECT RESULT**



**AUTOMATED CUTTING  
LINE**



**SIMPLE AND FAST  
TO PROGRAMME**



**COMPACT  
INSTALLATION  
SIZE**





# **SX-3 / SX-5 GUARANTEED RESULTS**

MAXIMUM VERSATILITY  
IN PRODUCT REALISATION





## LARGE-SCALE PRODUCTION IN SMALL SPACES

## PROCESSING

Customised cutting (cut to size) to create flooring, interior and exterior wall coverings, including large format, and in general all products used in construction.

## APPLICATIONS



CUTTING  
LONGITUDINAL



CROSS  
CUTTING



CUTTING  
OBLIQUE



INCLINED CUTTING  
+/- 47°

Only for SX-3  
with central spindle





# WHEN INNOVATION BECOMES PERFORMANCE

MAIN  
FEATURES  
SX-3 / SX-5





- / 3 - 5 SPINDLES ON STEEL  
ROTATING BRIDGE
- / 14 CONTROLLED AXES  
8 INTERPOLATED AXES - for SX-5
- / 12 CONTROLLED AXES  
6 INTERPOLATED AXES - for SX-3
- / MINIMUM DIAMETER  
OF DISKS: 350 MM
- / MAXIMUM DIAMETER  
OF DISKS: 525 MM
- / MAXIMUM DEPTH  
OF CUT: 150 MM
- / ROTATION OF  
HEAD SUPPORT BRIDGE:  $-182^{\circ}$  /  $+182^{\circ}$
- / AXES X AND Y LUBRICATION  
IN OIL BATH
- / STEEL STRUCTURE, SANDBLASTED  
AND PAINTED WITH THREE COATS
- / BRUSHLESS MOTORS AND GEARS  
WITH HIGH PRECISION CONTROLLED BY INVERTER
- / HANDLING BY MEANS OF OUR VACUUM  
MOVE-SYSTEM





# INNOVATION IS STANDARD

MAIN COMPONENTS  
SX-3 / SX-5

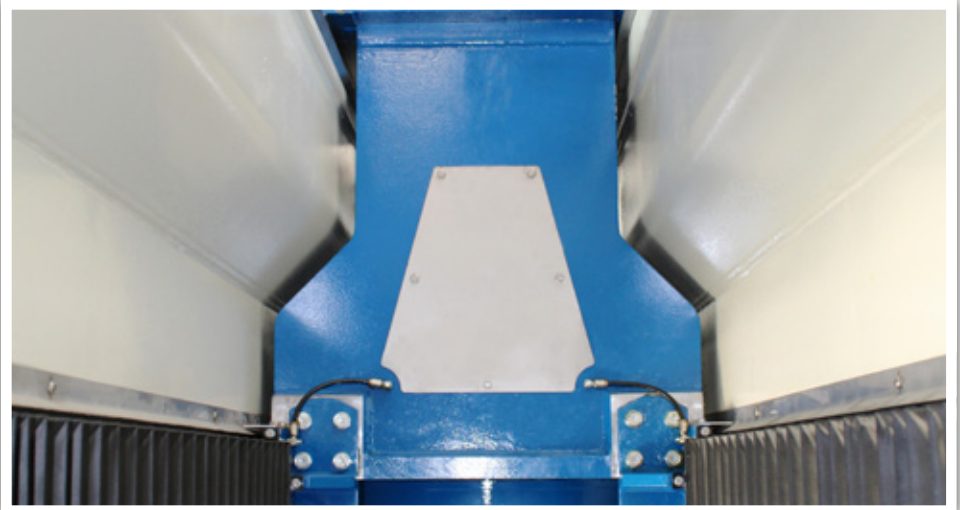




**Spindle support bridge with 3 or 5 spindles** connected to the beam with a large slewing ring which enables rotation of the 3/5 spindle units.



**Carriage bridge** in fabricated steel structure with double beam that ensures even distribution of the weights and the head support bridge and perfect balancing.



**Motorised belts:** the machine is equipped with motorised belts for moving the slabs during cutting/offloading.

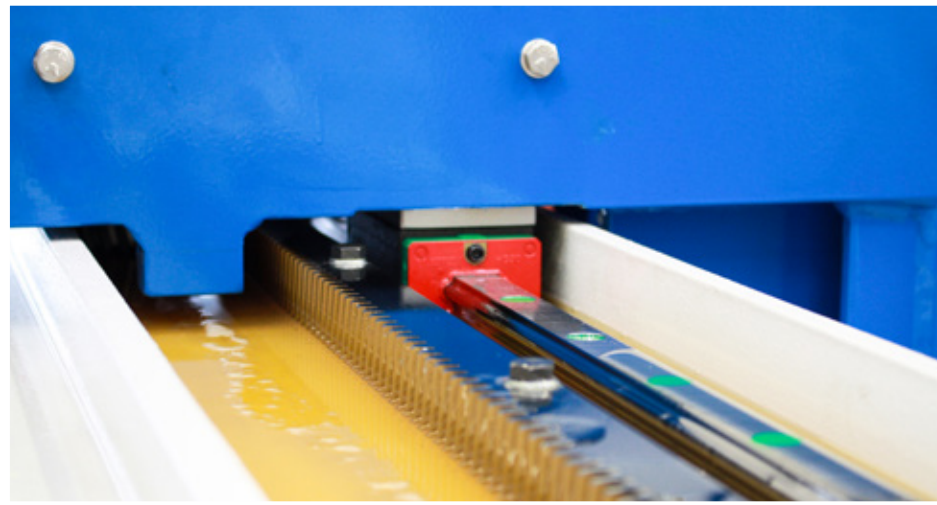


**Move-System:** suction cups for lifting and positioning the cut pieces in order to exploit the slabs as much as possible.





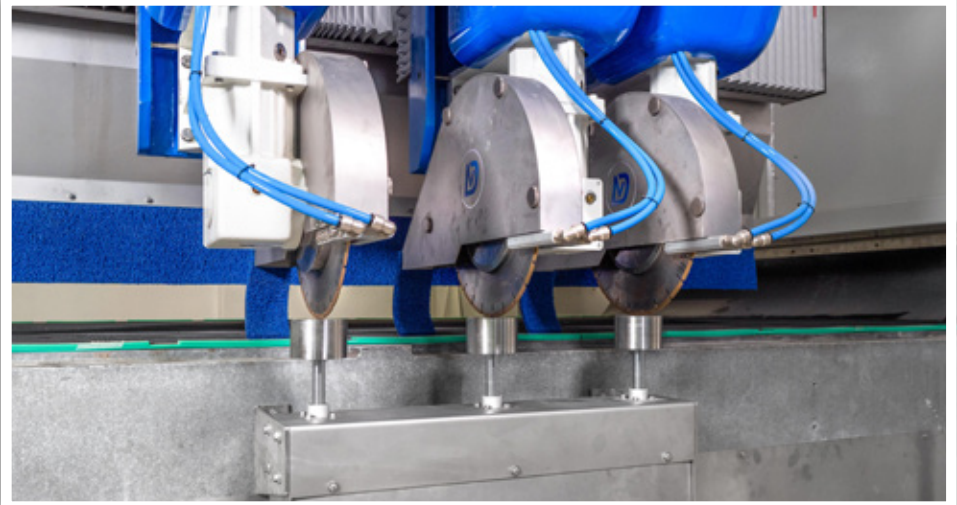
**Sliding crossbeams** with recirculating ball and helical toothed rack guides for movement of Y axis, with lubrication in oil bath and protected by bellows with interlocking closure.



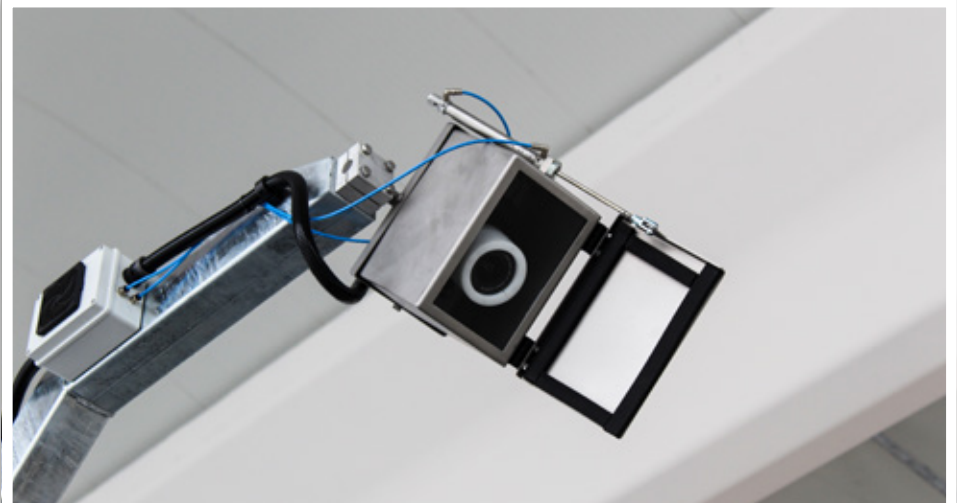
**Slab thickness detector:** system to automatically detect the thickness of the slab.



**Disk presetting unit** composed of 3 or 5 measuring units that detect the actual diameter of the disks before starting the cutting process.



**Photo slab system:** system to detect slab, with camera positioned above the machine and image acquisition software. The application enables the slab dimensions to be exploited in the best way possible and allows the cutting to be carried out avoiding any defects or any veins in the material.



**Washing unit:** allows the upper and lower surface of the cut pieces to be cleaned before they are packed.



**Front access guards** with sliding doors. Safety system in compliance with safety norms in force regarding safety at work.



**Control console:** made of double jointed supporting arm, manual controls, 21" colour touch-screen video, keypad and usb port to import DXF files.



**Foundation walls** made of steel which has been sandblasted and then given 3 coats of paint.



**Stop&go offload system:** system for manual stopping of belt during offloading





# GEKO

AUTOMATIC SLABS LOADING  
SYSTEM

OPTIONAL



## **SIMPLE AND FAST AUTOMATION FOR HIGH PRODUCTIONS**

**GEKO is an automatic loader** perfect for the automation of marble and granite processing lines. GEKO loads the slabs directly from the storage and places it on the motorized roller conveyor that feeds the processing line, allowing the “Book Match” processing.

GEKO is operated by a CNC system and the motion is generated by brushless motors; the suction cups panel is able to perform rotations over 180 degrees. GEKO is equipped with a motorized roller conveyor.

This machine adopt some particular mechanical solutions, like linear roller guides and 49 anodized aluminum suction cups divided in 5 groups, and its functioning can be programmed with the integrated touch screen through a simple interface. All these features place GEKO amongst the best automatic slab loaders, for speed, precision and safety, also suitable for moving particularly fractured slabs. Optional, a rotating slab holder platform to allow slab load/unload even when the machine is working.

/ **49 SUCTION CUPS**

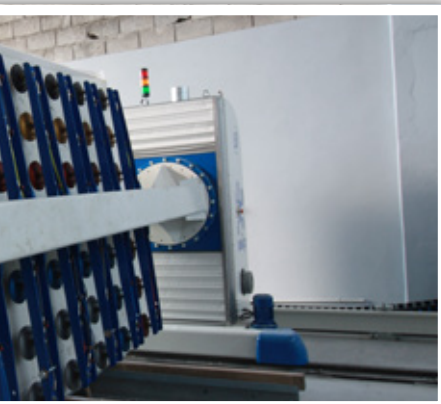
/ **MAXIMUM SLAB SIZE  
3500 X 2100 MM**

/ **MAXIMUM CAPACITY 1500 KG**

/ **ELECTRICAL CAPACITANCE  
TOT. 9,7 KW**

/ **VACUUM PUMP CAPACITY 100 M<sup>3</sup>/H**

/ **APPROX. TOTAL WEIGHT OF  
THE MACHINE 2300 KG**





# ACCESSORIES AND SYSTEMS FOR LOADING / OFFLOADING

OPTIONALS





**Super-View System:** system that allows the operator to identify the cut pieces during offloading by the name of the order or with the sizes of the pieces, making it easier for packing operations of the cut material.



**Automatic unloading device:** system composed of bridge and supporting structure made from steel on which an arm with suction cups which transports the pieces from the cutting belt to the offloading belt (included in the accessories).



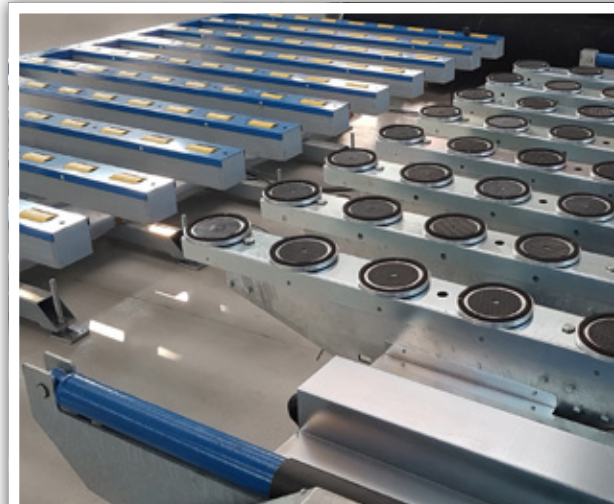
**Rotating A frame platform:** slab loading system to be combined with the GEKO system.



**Inclined cutting:** (only for SX-3) central head inclined to carry out cuts with an angle of up to 45°.



**Automatic system for slabs loading:** a suction cups-equipped trolley with motorized base on wheels and a motorized – rollers bench fixed to the ground. Thanks to the vacuum of 40 suction cups, the trolley collect the slab and moving on rails, places it on the motorized roller conveyor.





# 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





# PARAMETRIX

INCLUDED

Parametrix is the **simple and user-friendly software** developed by Donatoni Machine 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.

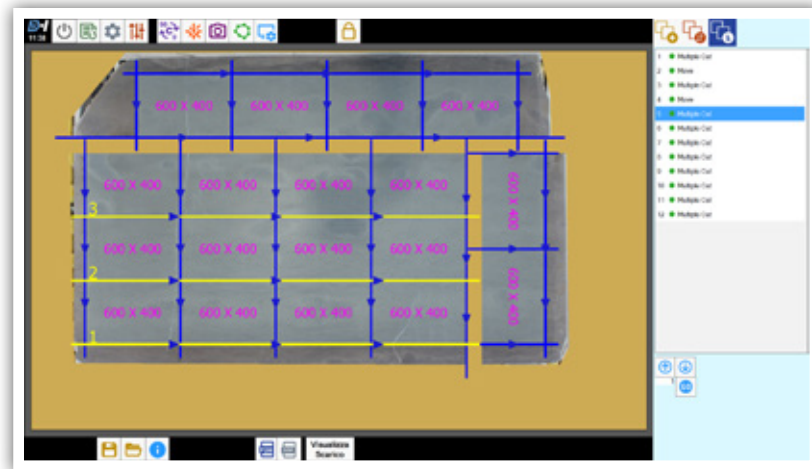
Included in the software are functions **for anti-collision of pieces, manual and automatic piece nesting, book matching, managing statistics, production and orders, rendering pieces and holes**.

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**.

## PARAMETRIX – for SX-3 and SX-5

This function enables strip or rectangle cuts by setting the dimensions of the pieces which you want to obtain in a tabular form.

- It is possible to update the position of the cuts in order to align them with that of the machine
- Possibility of any rotation
- Symbols + and - to decide the direction of movement
- Need to set the perimeter of the slab before selecting the cutting to be carried out
- Possibility of managing individual cuts as described above

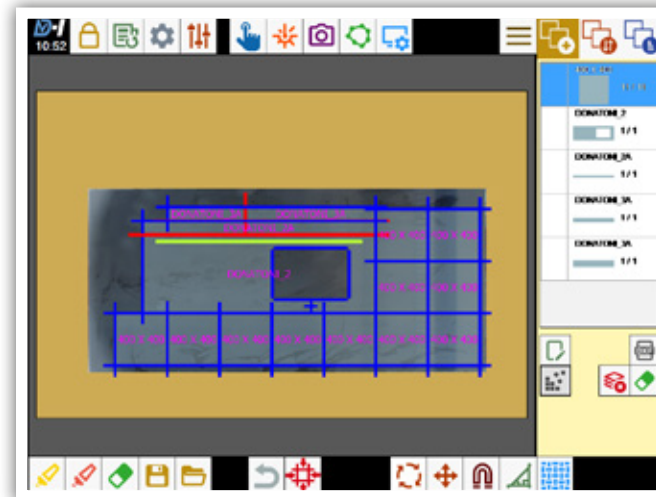


## Managing and changing cuts (included)

After positioning the pieces, modifications can be made to cuts; they can be lengthened, order of cuts can be changed, certain cuts can be disabled, pauses can be added and other types of modification can be made before pressing the start button to process the cuts.

## Nesting (included)

Automatically inserts square or rectangular pieces in the work area optimising the exploitation of the slab and automatically avoiding highlighted defects.



## Book matching software (optional)

Starting from the actual project drawn in DXF, which allows you to have a 2D image of the parts which are to be cut and therefore check the result before final process, evaluating the process of bookmatching.

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

With the manual nesting program we can foresee any collisions between parts helping us to optimize positioning of the same. The "magnet" function helps the operator to align the pieces one next to the other in order to reduce the number of cuts.



# 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

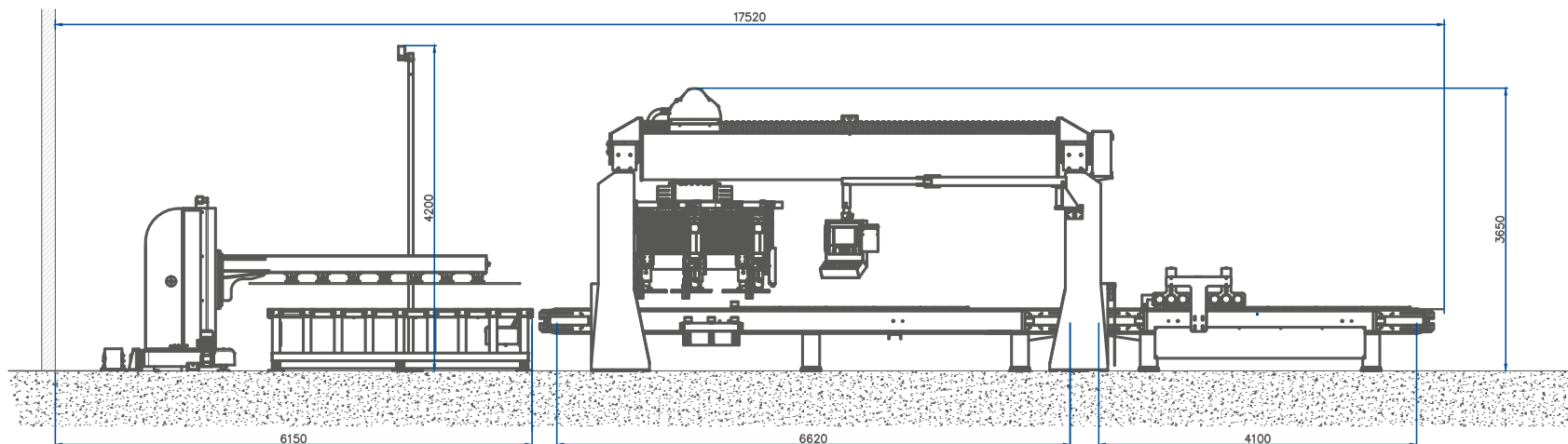
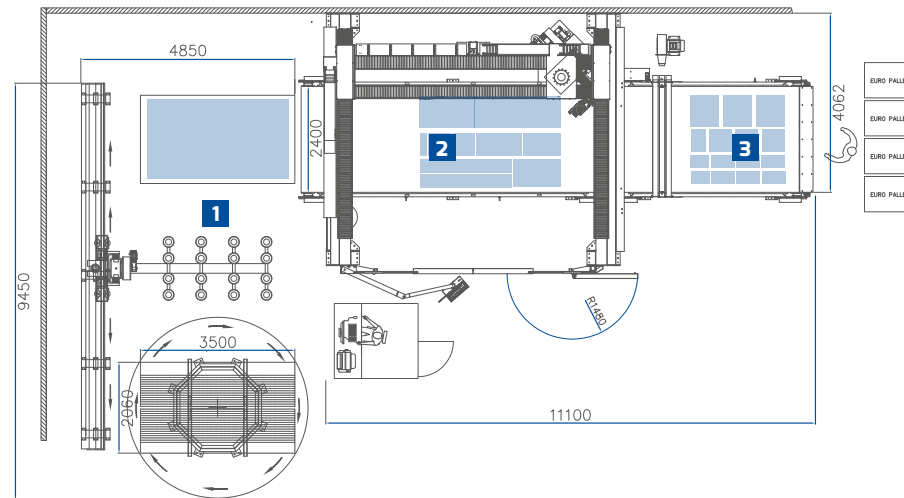
Training courses and update courses regarding new applications and software at our offices or at customer premises. Our offices are equipped to host courses for technicians and operators. The rooms are next to the machines on display in our show room and therefore this allows tests and checks to be carried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





# TECHNICAL DATA

- 1** LOADING AREA
- 2** CUTTING BELT
- 3** OFFLOADING BELT



# SX-3 / SX-5

		SX-3	SX-5			SX-3	SX-5
Number of axes controlled	N°	12	14	Electro-spindle power	kW	17 / 56	17 / 56
Number of interpolated axes	N°	6	8	Shaft diameter of spindle motor	mm in	40 1,6	40 1,6
Bridge crane stroke - X axis	mm in	3800 149,6	3800 149,6	Max. speed - X Axis	m / min ft / min	40 131,2	40 131,2
Bridge stroke - Y axis	mm in	2800 110,2	2800 110,2	Max. speed - Y Axis	m / min ft / min	35 114,8	35 114,8
Stroke - Z axis	mm in	300 11,8	300 11,8	Max. speed - Z Axis	m / min ft / min	8 26,2	8 26,2
Rotation of head support bridge - C Axis	degrees	-182° / +182°	-182° / +182°	Max. Speed - X/Y Axis	m / min ft / min	35 114,8	35 114,8
Distance between disks min/max	mm in	80 / 1820 3,1 / 71,6	290 / 2050 11,4 / 80,7	Maximum conveyor belt speed	m / min ft / min	20 65,6	20 65,6
Move-System lifting capacity	kg lb	600 1322	600 1322	Water consumption	l / min gal / min	200 52,8	230 60,7
Cutting belt dimensions	mm in	2400 x 7620 94,5 x 300	2400 x 7620 94,5 x 300	Air consumption	l / min gal / min	20 5,3	20 5,3
Dimensions of offloading belt	mm in	2400 x 4000 94,5 x 157,5	2400 x 4000 94,5 x 157,5	Voltage	Volt / Hz	400 / 50	400 / 50
Disk diameter min/max	mm in	350 / 525 13,8 / 20,7	350 / 525 13,8 / 20,7	Total installed power (S1)	kW Hp	90 120,7	120 160,9
Maximum depth of cutting	mm in	150 / 65 5,9 / 2,5	150 / 65 5,9 / 2,5	Total weight approximation	Kg lb	19.500 42990,1	20.000 44092,4

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.



# RANGE OF PRODUCTS

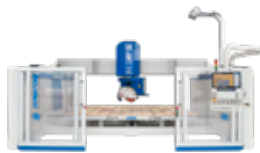


**DONATONI**  
HIGH INNOVATION STONE MACHINES

## BRIDGE SAWS



Spin



Jet



Echo

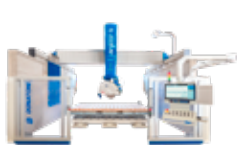


Sprinter

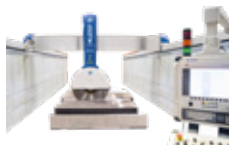


Twin

## BRIDGE SAWS



Quadrix DV 1100



Quadrix XL

## MULTI-FUNCTIONAL CUTTING CENTRE



Z 1000 / 1400 / 1600 / 2000

## UNIVERSAL CUTTING CENTRE



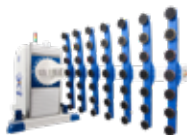
Kronos

## POLISHING AND CALIBRATION SYSTEMS



Zenit

## SLAB LOADING / UNLOADING



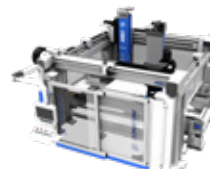
Geko

## ROBOT



Cyberstone CR01 / CR02

## DRILLING MACHINE

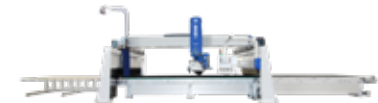


KROSS

## CUTTING LINES



SX-3 / SX-5



Belt

# RANGE OF PRODUCTS

## INTERMAC

### CNC WORKING CENTRES



Master 23



Master One



Master 33.3-38.3-45.3



Master 33.3 Plus  
38.3 Plus - 45.3 Plus



Master 33.5 Plus  
38.5 Plus - 45.5 Plus

### DOUBLE-EDGER FOR SINTERED MATERIALS



Busetti F series

### WATERJET CUTTING SYSTEMS



Primus 184



Primus series



Master 850-1200

### UNIVERSAL CNC WORKING CENTRES



Mastersaw 625 Double Table

### AUTOMATIC UNIVERSAL CNC WORKING CENTRES



Genius RS-A

### CUTTING TABLES FOR SINTERED MATERIALS

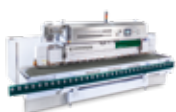
### STORAGE AND HANDLING SYSTEMS FOR SINTERED MATERIALS



Navetta Lite

## MONTRESOR EDGE POLISHERS - SINCE 1958

### HORIZONTAL EDGE POLISHER STRAIGHT EDGE



Lola 6.4



Lola 8.6



Lola 10.8

### HORIZONTAL EDGE POLISHER STRAIGHT EDGE AND BULLNOSE EDGE



Luna 7.4



Luna 8.6

### VERTICAL EDGE POLISHER STRAIGHT EDGE



Vela 7.2

### V-GROOVE



Viva 3.2



# 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 or other markings on the paper.

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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**.

