CYBERSTONE CR01 / CR02

NUMERICAL CONTROL
ANTROPOMORPHOUS
ROBOTIC SYSTEM

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

INDEX

INNOVATION HAS A NEW FORM

ANTROPOMORPHOUS
ROBOTIC SYSTEM

THE ROBOTS ARE NOT ALL THE SAME

CYBERSTONE is the new generation robotized production system with **6/7/8 interpolated axes**, designed to be a highly flexible tool for the performance of elements and objects of any size and material with **heights up to 3300 mm**.
It is particularly suitable for sculptures, rectilinear, concave, convex, arched, elliptic shapes, single or incremental pass and excavations of two-dimensional and three-dimensional section blocks; it is also suitable for the execution of oblique, circular, elliptical cuts, inclined up to a thickness of 260 mm.
Thanks to the rotating platform, it is possible to work the piece at 360 ° without moving or repositioning it for the working shots. Its mobile arm with 6 interpolated axes allows to perform 180 ° undercuts; the ISO 50 connection allows the use of diamond tools of different types, such as drills, grinding wheels, wheels for rebates, finger bits, shaping tips and cutting discs with diameter 650 or 850 mm.
This robot allows to make extremely precise finishing and to create sinks, tubs, tables, chairs, shower trays, vases, statues, columns and other architectural elements in general.
CYBERSTONE meets the most demanding requirements, maximizes productivity, and, thanks to the numerous accessories, can be set up as a working center for single pieces of any size or for mass production.

EXTREMELY POWERFUL

IDEAL FOR MOLDINGS AND SCULPTURES

SIMPLE TO PROGRAM

DEDICATED AND OPTIMIZED SOFTWARE INTERFACE

FREELY COMBINABLE MODULAR SYSTEM

WIDE RANGE OF PROCESSES

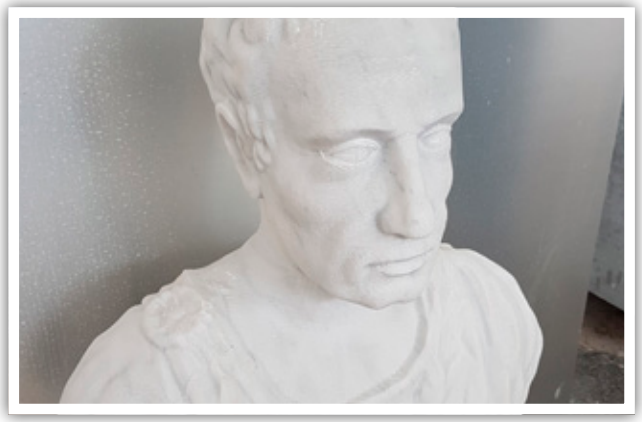
REDUCED DIMENSIONS

CYBERSTONE, YOUR ROBOTIC ARM

MAXIMIZE PRODUCTIVITY
24 / 24H

PROCESSING

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



PERFECT BALANCE BETWEEN POWER AND FLEXIBILITY

MAIN FEATURES

- 6/7/8 INTERPOLATED AXES
- TOOL CONNECTION: ISO 50
- DISK MIN. / MAX. DIAMETER: 350/825 MM
- MAXIMUM CUTTING DEPTH: 260 MM
- UNDERCUT PROCESSING UP TO 180°
- 20KW ELECTROSPINDLE POWER
- ANTROPOMORPHOUS ROBOTIC SYSTEM
- BRUSHLESS MOTORS AND HIGH-PRECISION GEARBOXES CONTROLLED BY INVERTER FOR X-Y-Z AXIS SLIDING

TYPES OF PROCESSING

STRAIGHT, CONCAVE, CONVEX, ARCHED, ELLIPTICAL SHAPES

EXCAVATION OF TWO-DIMENSIONAL AND THREE-DIMENSIONAL SECTION BLOCKS

LONGITUDINAL AND CROSS CUTS

STATUE

OBLIQUE CUTS

0-90° INCLINED CUTS

ORTHOGONAL CUTS UP TO 250MM

CIRCULAR AND ELLIPTICAL CUTS

BLIND AND THROUGH HOLES

CR01

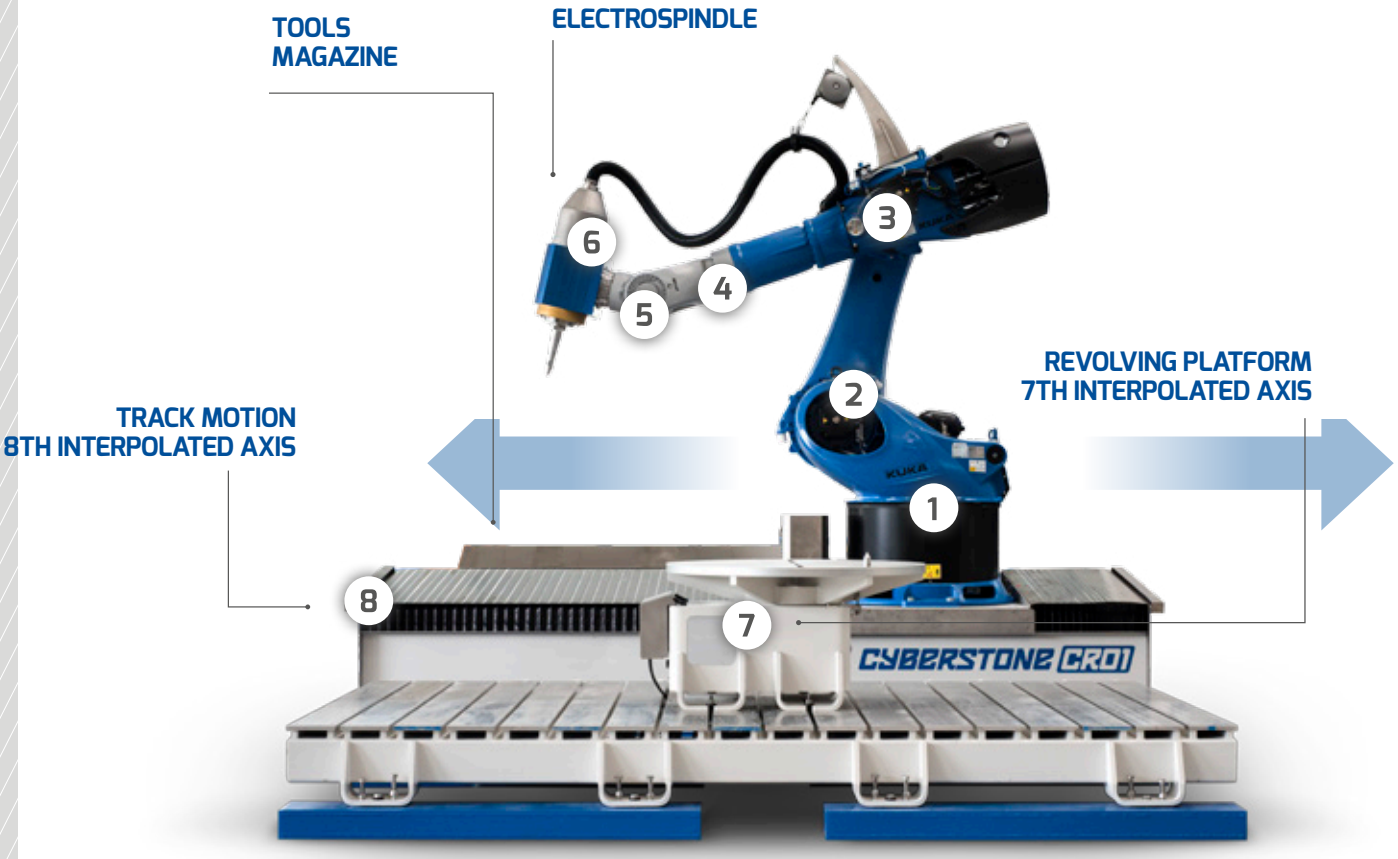
Cyberstone CR01 is the optimal version to carry out complex large operations. The track motion allows to manage multiple work stations so making the machine extremely flexible. It can be combined with the fixed aluminum platform or the new Multiplate Revolver platform.

Technical data:
- 6 interpolated axes + 2
- Maximum range of action: 3300 mm
- Working angle: + - 185°
- Positioning repeatability + - 0.08 mm

Endowment:
- Cyberstone Robot (6 interpolated axes)
- Track Motion system (7th axis interpolated) - dimensions: 4350 x 2090 mm
- Interpolated rotating table (8 axis interpolated) - dimensions: diameter 1200 x h 715 mm
- Tool storage 10 positions – ISO 50
- SmartPad

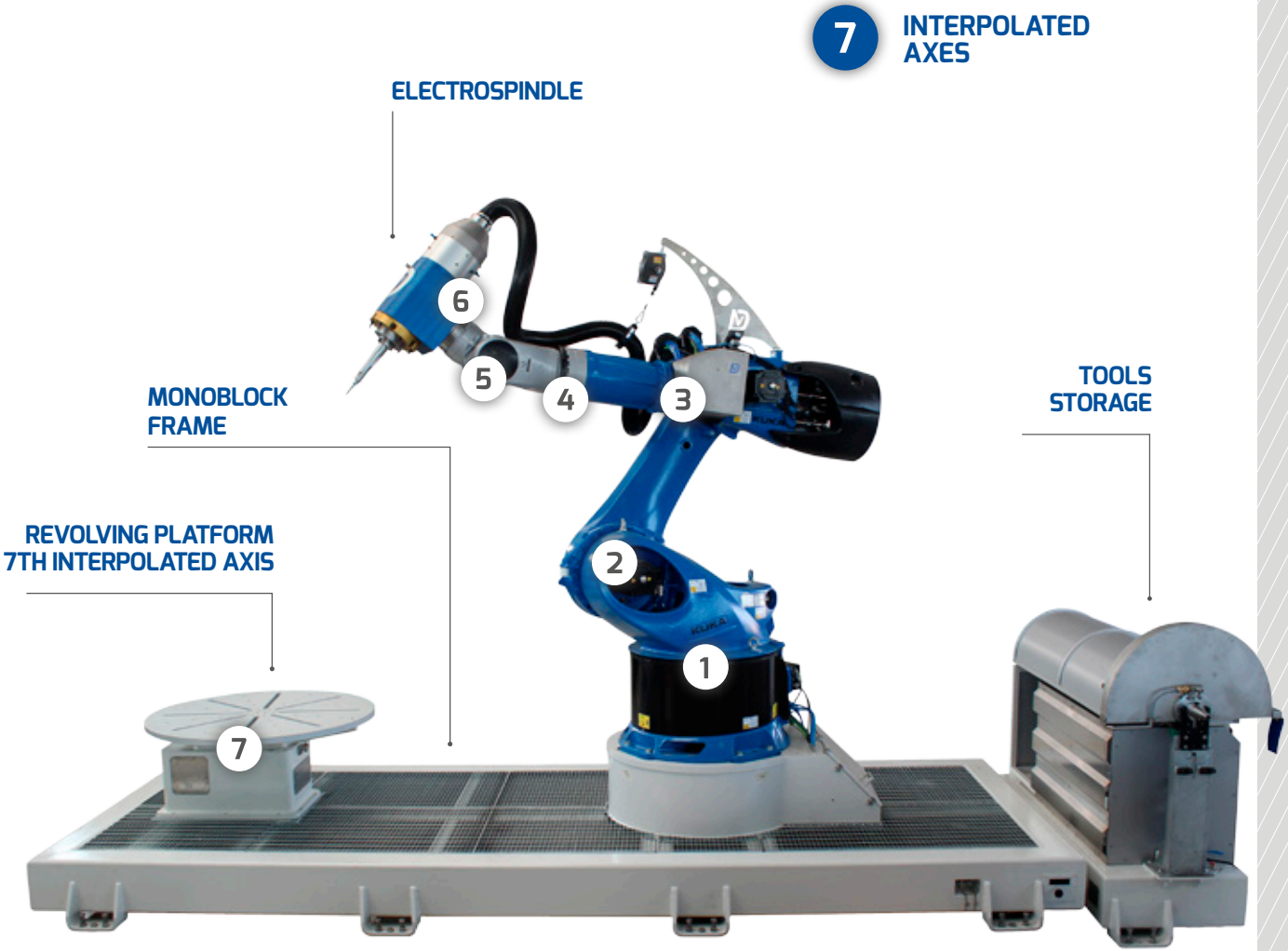
CYBERSTONE

8 INTERPOLATED AXES



The Cyberstone robot is a 6-axis anthropomorphic kinematic system. The structural components of the robot, central arm, arm, counterweight, cradle, carousel, base, weight compensation device, are in light metal and cast iron.

The motion is given by AC brushless servomotors and high precision gearboxes.
The load moments aroiund axis 2, are balanced through a hydropneumatic weight compensation device.



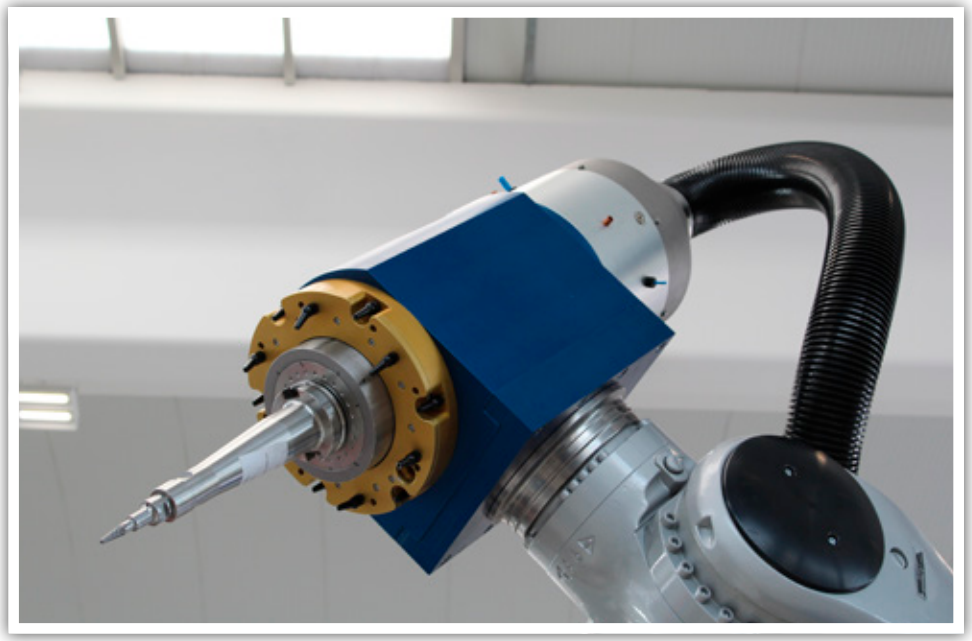
CR02

Cyberstone CR02 is the most compact configuration of the Cyberstone range; equipped with monoblock with rotating platform, it allows to work pieces of various sizes. Installation and transport are fast and do not require foundations. It can be combined with the fixed aluminum platform or the new Multiplate Revolver platform.

Technical data:
- 6 interpolated axes + 1
- Maximum range of action: 3300 mm
- Working angle: + - 185°
- Positioning repeatability + - 0.08 mm

Endowment:
- Cyberstone Robot (6 interpolated axes)
- Monoblock frame
  dimensions: 6740mm x 2250 mm
- Interpolated rotating table (7 axis interpolated)
  dimensions: diameter 1400 x h 715 mm
- Tool storage 10 positions – ISO 50
- SmartPad

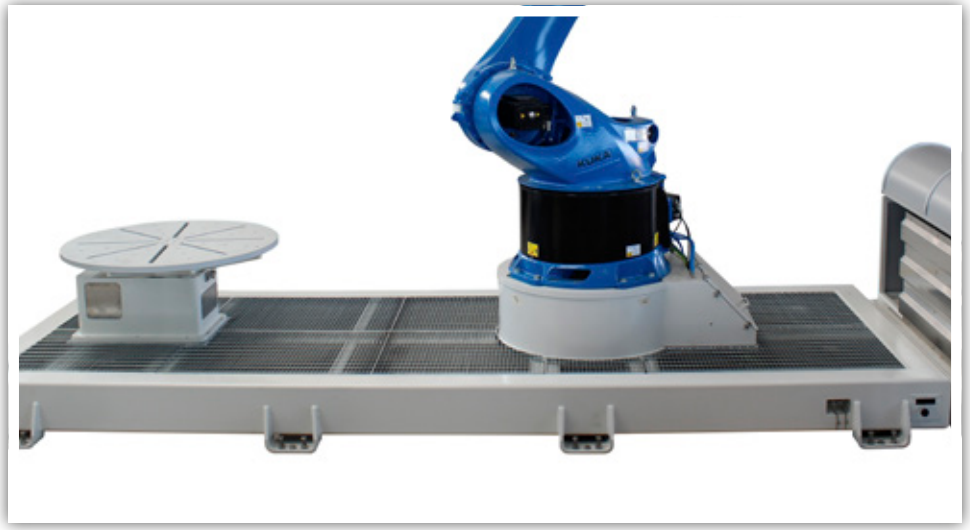
Electrospindle with liquid cooling system 20 KW/s6 - RPM adjustment from 0 to 6000 rpm with inverter - ISO 50 tool connection - Automatic tool change - Tool cooling system through internal water passage.



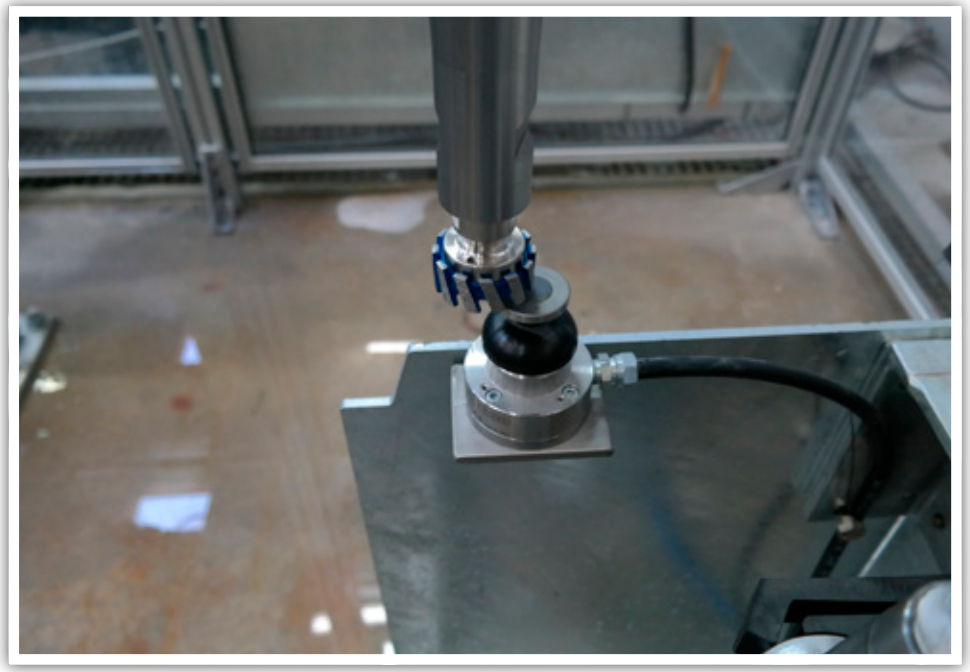
STRUCTURE (CHOICE)

TRACK MOTION: linear interpolated motion system allowing the robot to move linearly by 2500 mm, thus increasing the work area and granting a better working position to the machine. Built in metal structural work using linear recirculating ball guides and precision racks for handling, all covered by bellows.

MONOBLOCK FRAME: normalized structure in galvanized steel, sandblasted and painted with 3 coats of paint, equipped with rotating table of 1400 mm diameter with aluminum top. It does not require concrete foundation under the floor level. Dimensions 5770 x 2266 mm.



TOOL PRESETTING: the system allows the determination of the tool dimensions by automatically updating the library contained in the machine control unit



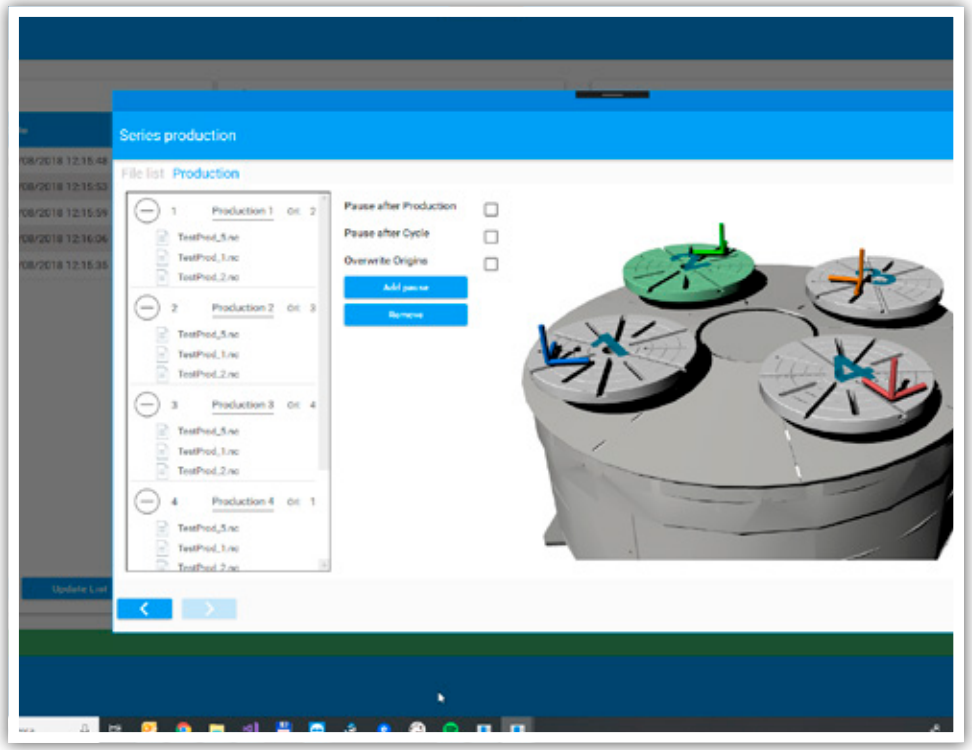
LINEAR TOOL STORAGE: 10 positions, for ISO 50 cones with extensions of max. 600 mm, complete with pneumatic-lifting stainless steel cover.

Smart-PAD (included)

Cyberstone is equipped with an 8.4 "anti-reflective touch-screen smart-Pad allowing to move outside and inside the working area. A simple and intuitive device to check all the processes and to manually control the robot. It is equipped with a key and a start button, preventing it from being switched on accidentally, thus granting maximum safety for the operator. On the side a 6D mouse is integrated, to manage the machine and its setting. The operator can display the most frequently used information and check the status of production in real time.

ACCESSORIES AND MECHANICAL COMPONENTS

OPTIONALS

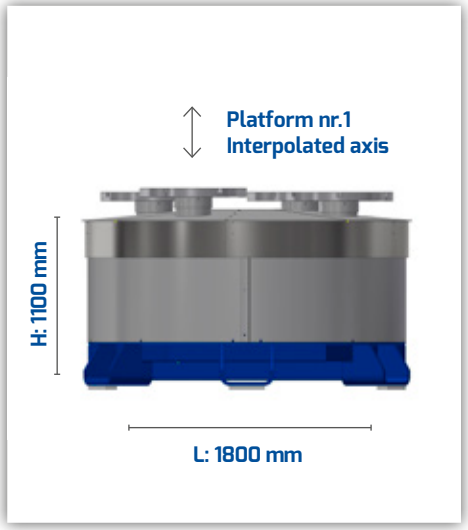


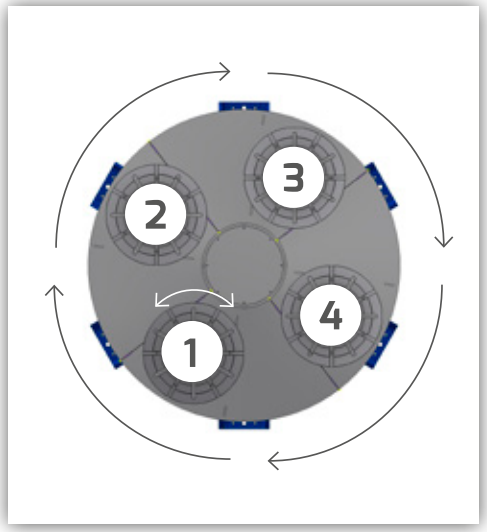
MULTIPLATE REVOLVING PLATFORM:

Revolving table with 4 worktops for mass production of small or medium-sized pieces.
The main table rotates and places the plate in the predefined working area. Once in position, the plate is interpolated to the Cyberstone CNC in order to manage the processing as a normal turntable.

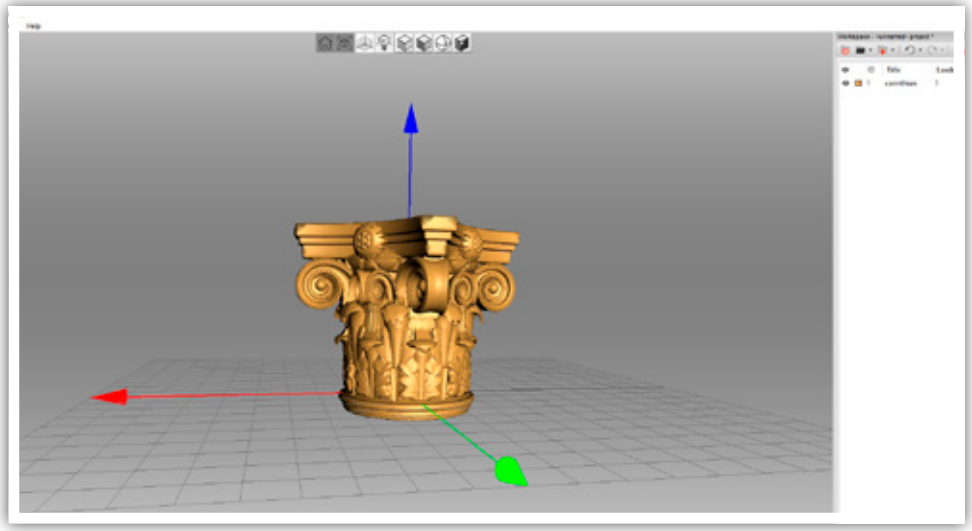
Features and technical data:
- 4 plates : diam. 600 mm
- Plates with aluminum surface
- Fixing pieces: with dowels or threaded pins.
- Slot capacity: 600 kg
- Max diameter piece: 600 mm

Advantages:
- Specific for mass working
- Reduction of programming times, loading / unloading
- Increased productivity.

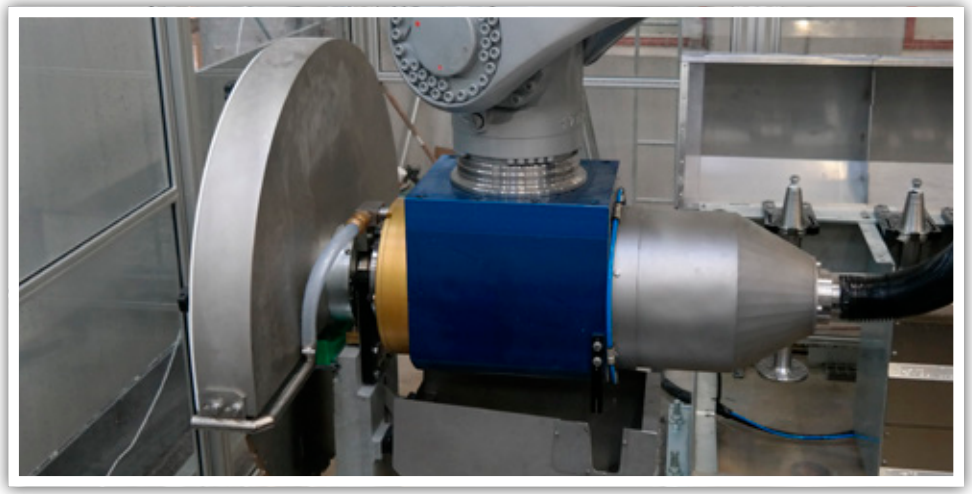




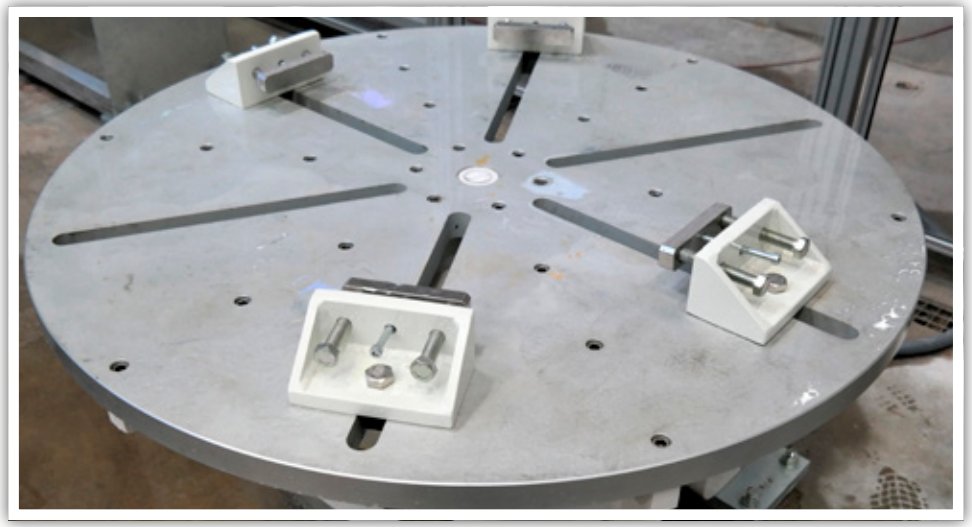
3D SCANNER (optional): The 3D Artec scanner is a professional tool for scanning objects of various sizes, such as statues, capitals, design produducts and items in general of any shape and size commonly produced by the stone industry, and for creating files in different formats OBJ, PLY, WRL, STL, AOP, ASCII. It is a quick and easy to use solution able to satisfy all needs. Thanks to advanced acquisition technology, easy-to-use and to carry, the Artec 3D scanner can scan the most difficult surfaces, making easy any job.



AUTOMATIC DISC CHANGE WITH 1 or 2 POSITION 1: available for discs with a maximum diameter of 825 mm and ISO 50 cone connection, with provision for fixing to the ground.



REVOLVING PLATFORM: Turntable with interpolated axis, made of steel with aluminum surface, capacity up to 15000kg. Table diameter 1200 mm - Max load diameter 2000 mm.



PLATFORM in steel 4000x2000 mm, with aluminum worktop, fixed to the ground and prepared for the use of over benches.

LATHE: available in different sizes with a diagonal passage from 850 to 1400 mm, built in steel structural work, with axis rotation controlled by NC, brushless motor and high precision gearbox, to be installed on the ground or on the platform; specifically conceived for the performance of circular section columns, with simple and complex shapes.

SOFTWARE AND PROGRAMMING PROCESS

PROGRAMMING PROCESS

Donatoni Macchine enhanced the new CDI interface (Cyberstone Donatoni Interface) to grant both to companies and operators a simply and easy work with the robot. The programming process has been simplified and optimized while the various software have been totally integrated, so making intuitive the programming experience; this allows those who already have experience with CNC work centers, to easily develop their skills in a short time.

1 - AUTOCAD OR SCANNER 3D
3D model development: use of CAD software or a 3D scanner to scan existing models for 3D file creation.

2 - CAD-CAM DDX EASYSTONE AND ALPHACAM
CAD-CAM programming: imports and processes the 3D file created, generating the machining process through the interpolated 6/7/8 axes of the Cyberstone.

3 - EUREKA SIMULATION SOFTWARE
Process simulation: using the EUREKA software, the machining file is generated by simulating the path and highlighting any collisions and singularity points.

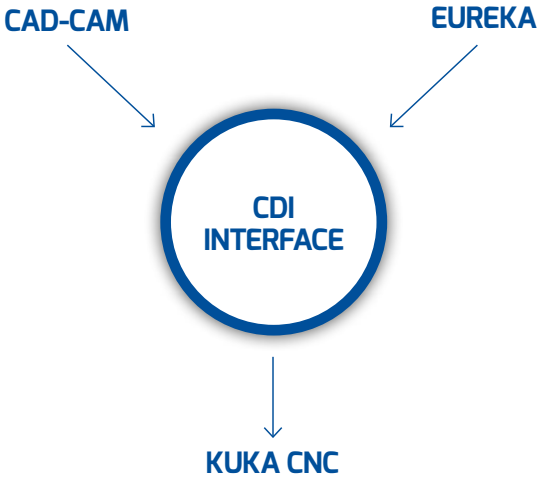
4 - CDI INTERFACE - Cyberstone Donatoni Interface
Socket of the origins and synchronization of tool table with interface and smartPAD.

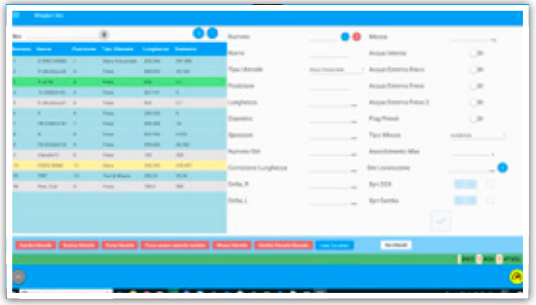
5 - CDI Interface - Cyberstone Dnonatoni Interface
Data import: importing the file in the on-board interface and connection between the different software used in the process and send the data from the CAD-CAM to the CNC.

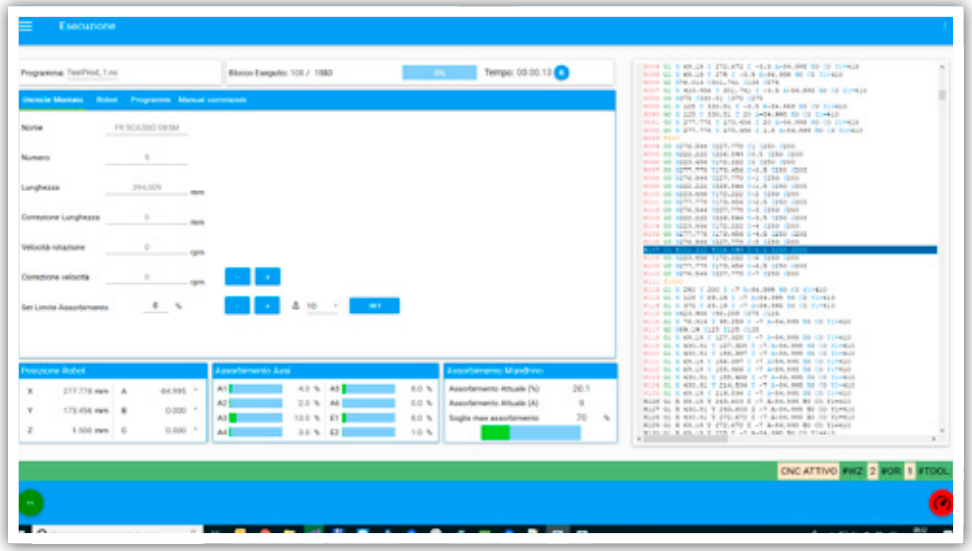
6 - KUKA CNC
Processing: the Kuka CNC turn data received into real operations useful for the realization of work.

DONATONI INTERFACE (included) - CDI Cyberstone Optimized Donatoni Interface

The CDIinterface has been totally designed and developed by Donatoni with the support of KUKA for the needs of the Cyberstone in order to make programming operations as simple and fast as possible.
The interface, installed on board, automatically connects and integrates cad-cam and eureka to kuka.cnc without the need to convert the file int KRL (Kuka robot language) and the tools database so further reducing programming times; it also makes easier access to the services and functionalities that the smartPAD provides.
All these functions allows those who have already gained experience on traditional work centers, to be able to learn the functions of the machine in a short time.



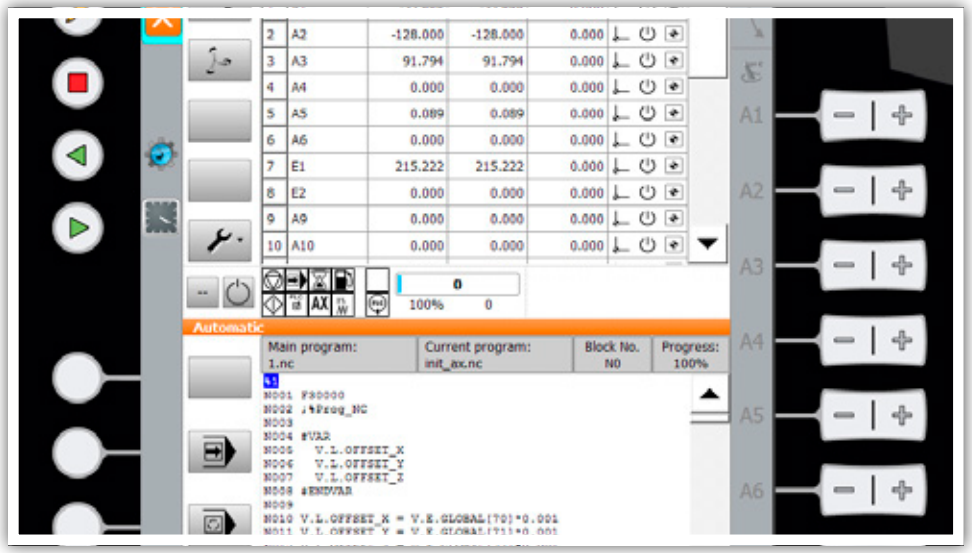




KUKA.CNC (included)

KUKA.CNC is a CNC management software perfectly integrated with the cyberstone allowing to execute NC programs compiled offline with a CAD-CAM system without being necessary to convert it into KRL (Kuka Robot Language) programs thanks to the integration with the CDI Interface.

KUKA.CNC is able to transform ISO files into KRL language and create consistent programs, also formed by a million trajectory points.
The difference between a normal CNC of a robot and KUKA CNC lies in the fact that it manages minimum distances of individual CNC trajectory points associated with a trajectory planning based on a 150-point perspective, greatly improving precision, trajectory behavior and the speed of the Cyberstone.



FLUSSO DEI FILE

CAD-CAM
EUREKA

ISO Language

→

INTERFACCIA

ISO Language

→

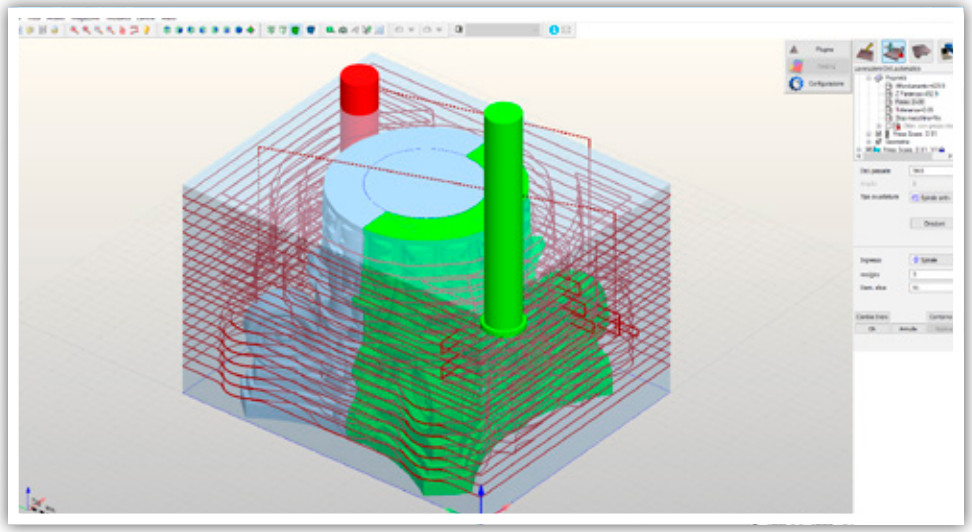
KUKA.CNC

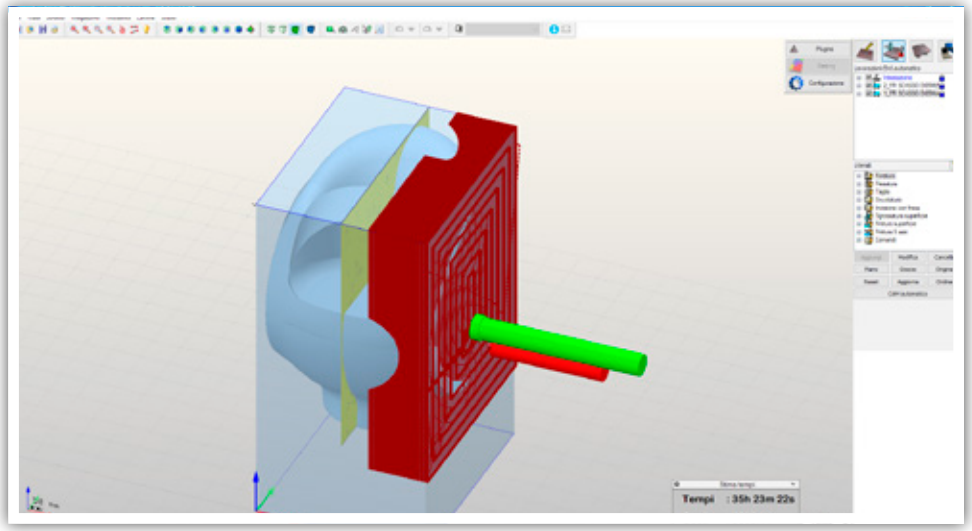
Turn the ISO language into KRL

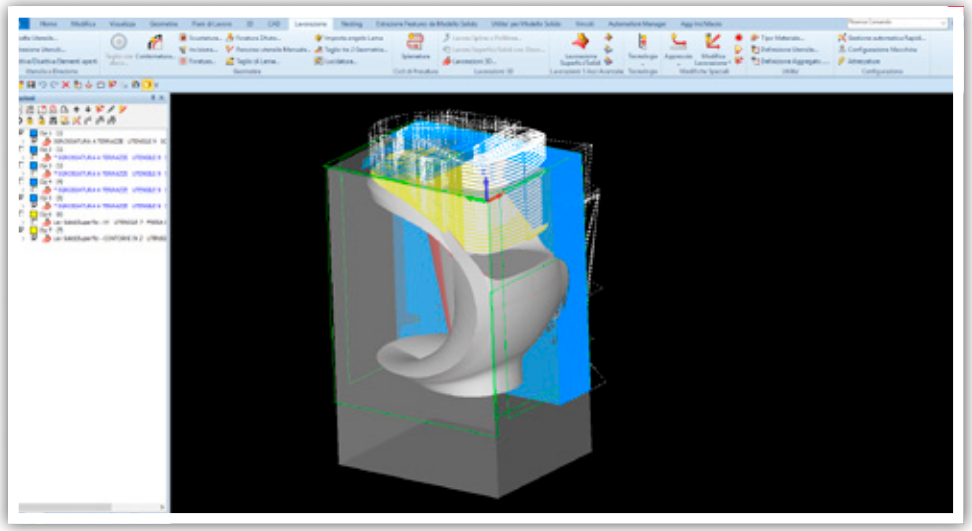
CAD-CAM (optional)

Donatoni offers 2 CAD-CAM solutions: DDX Easystone and ALPHACAM. Both software were integrated and made 100% compatible with the CDIinterface and the Kuka CNC in order to improve and reduce programming times. It is possible to use other CAD-CAM according to customer requests.

General features DDX Easystone Alphacam:
- Design, import and execution of 2D and 3D files in DXF, IGES, STL, PNT, STEP and RHINO formats definition of surfaces and shapes through laser scanning.
- Possible operations: roughing, drilling, profiling, emptying, polishing, cutting.
- Management of tools and diamond disks
- Optimization of machining paths and roughing operations taking into account the crude resulting from the previous machining.
- Display of the 3D image of the processing and possible modification
- 3D simulation of the processing
- Generation of part programs and sending directly to the CN of the machine.
- Calculation of times, lengths and processing costs, allowing accurate reporting of the work performed.

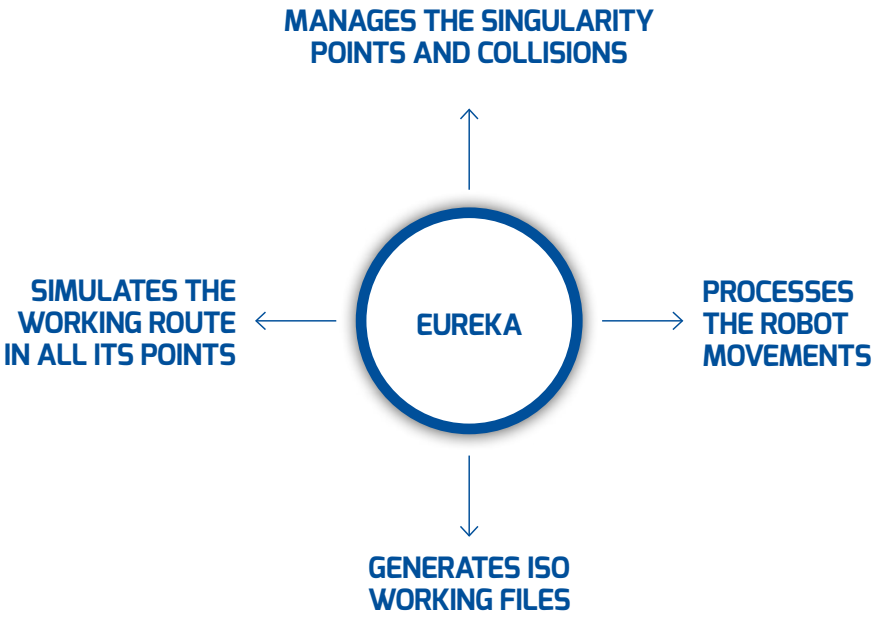


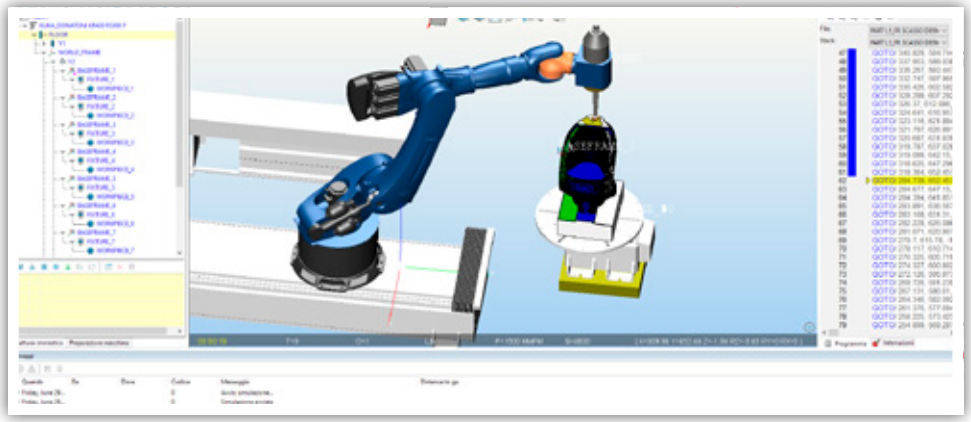


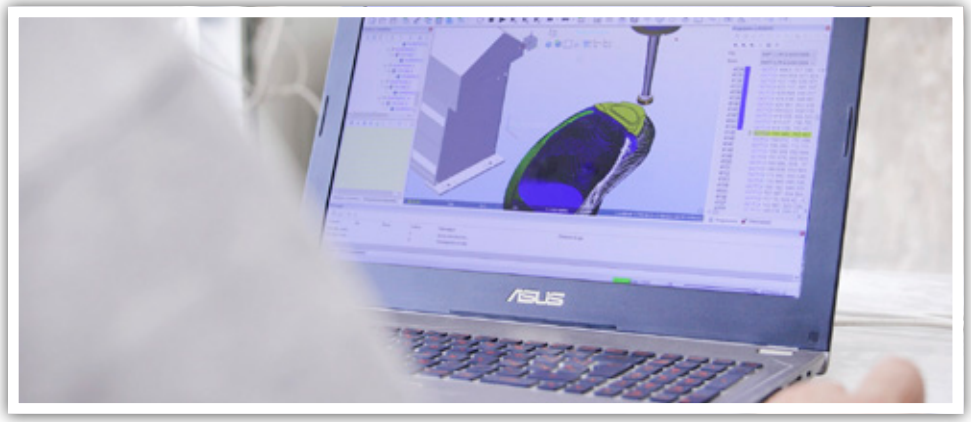


EUREKA (optional)

Eureka is the post-processor simulator, indispensable for the proper functioning of the Cyberstone. It allows to process the motions of the robot, simulate the processing path in all its points, highlighting any collisions and points of singularity, and generate the ISO file that will then be imported on the interface and on the KUKA.CNC.
With Eureka it is possible to combine the versatility of an industrial robot, with the consolidated technology of numerical control working centers for milling models and artistic objects.
Through a special postprocessor for anthropomorphous robots, Eureka is able to transform the APT code generated by any CAM system into a robot program with 6 or more axes. It is compatible with the most popular 3D CAD-CAM models on the market.







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

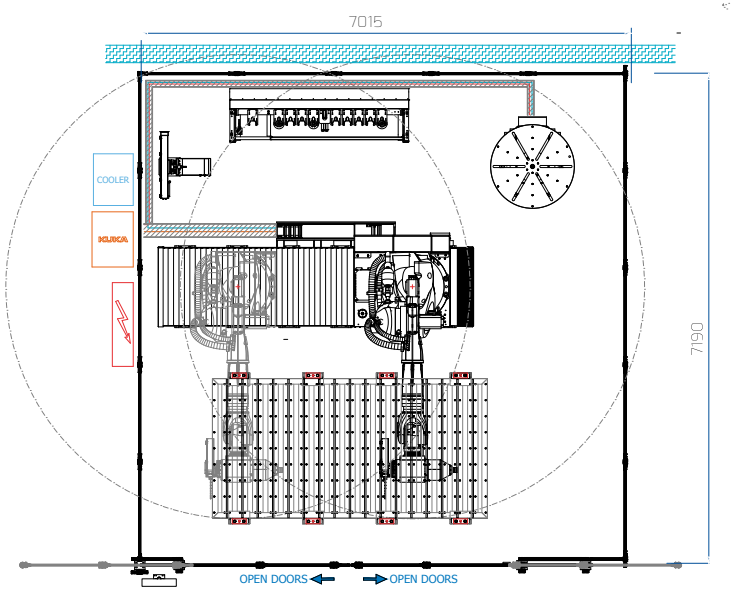
Donatoni is present in many countries worldwide thanks to a structure of reliable and competent partners and agents, among which the Biesse group Intermac branches.

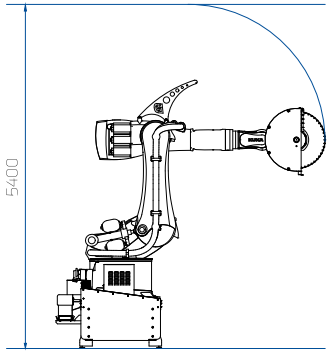
THEORETICAL/PRACTICAL TRAINING

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.

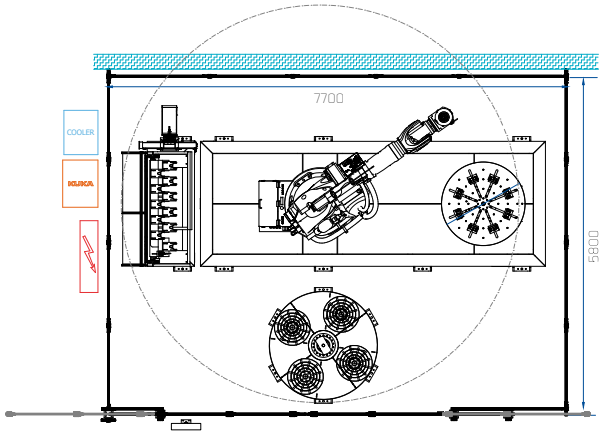
TECHNICAL DATA

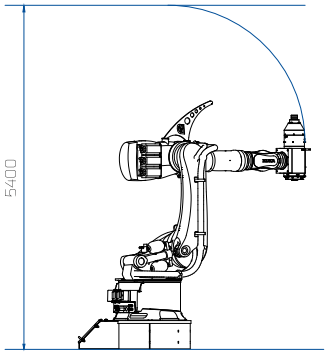
CR01





CR02





CYBERSTONE CR01 / CR02

TECHNICAL DATA

Number of interpolated axes	N°	6/7/8
Weight capacity on the wirst	kg / lb	420 / 925
Max. Range of action	mm / in	3326 / 130,9
Repeatability of positioning	mm / in	±0,008 mm / 0,003
Weight (robots only)	kg / lb	2686 / 5921
Control system		KR C4
Protection class		IP 65
Class of protection of the central wrist		IP 67
Installed power	kW / hp	30 / 40,8
Nominal tension	Hz	400V 50Hz 4p+N
Air connection	bar	6 - 20L/min.
Water connection	bar	3 - 50L/min.

SPINDLE

Tool holder type		ISO 50
Nominal power	kW / hp	20 / 27,2
Disk max diameter	mm / in	825 / 32,5
Disk max diameter	mm / in	350 / 13,8
Maximum cutting depth	mm / in	260 / 10,2
Speed rotation max	rpm	6000 rpm
Cooling down		Liquid

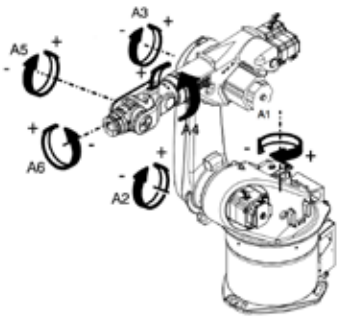
The technical data and images in this catalog are indicative and do not constitute a constraint. The manufacturer reserves the right to make changes to the product, technical data and images without prior notice.

INTERPOLATED AXES

A1	degree	±185°
A2	degree	-130° / 20°
A3	degree	-100° / 144°
A4	degree	±350°
A5	degree	±120°
A6	degree	±350°

SPEED WITH NOMINAL PAYLOAD

A1	degree/s	80° /s
A2	degree/s	75°/s
A3	degree/s	70°/s
A4	degree/s	70°/s
A5	degree/s	70°/s
A6	degree/s	110°/s

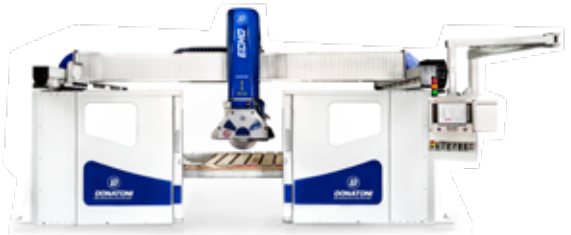


RANGE OF PRODUCTS

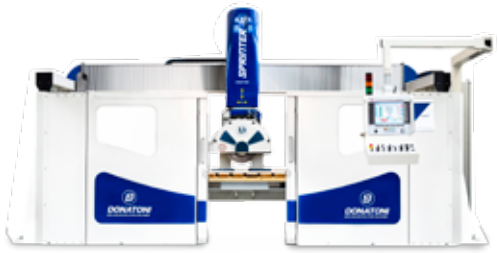
BRIDGE SAWS

Spin 625 cnc

Jet 625 cnc



Echo 725 cnc



Sprinter 825 cnc

Quadrix DV 1100

Quadrix XL 1600

MULTI-FUNCTIONAL CUTTING CENTRE

Quadrix DG
1000/1300/1600/2000

ROBOT

Cyberstone CR01

POLISHING AND CALIBRATION SYSTEMS

Zenit

UNIVERSAL CUTTING CENTRE

Kronos 600 /800

CUTTING LINES

SX3/SX-5

SLAB LOADING / UNLOADING

Geko Loader

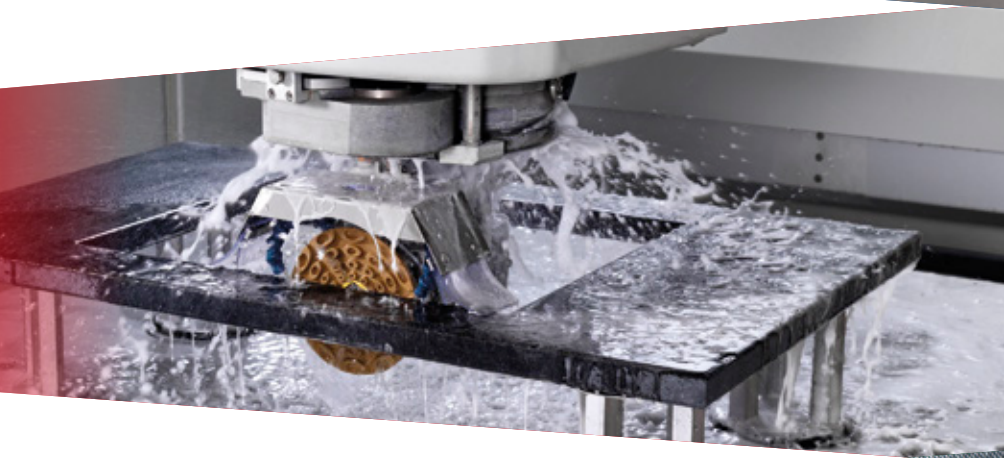
NOTE

ALL IN ONE

DONATONI
HIGH INNOVATION STONE MACHINES

THREE EXCELLENCES, ONE PARTNER.

INTERMAC



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.

MONTRESOR
EDGE POLISHERS - SINCE 1958

INTERMAC.COM
DONATONIMACCHINE.EU
MONTRESOR.NET

Member of:

CONFINDUSTRIA MARMOMACCHINE

ASSOMARMOMACCHINE

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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.**

www.donatonimacchine.eu