

# DONATONI DJ 6.6

COMBINED BLADE & WATERJET  
CUTTING CENTRE

A close-up photograph of the Donatoni DJ 6.6 machine in operation. The machine is a large industrial unit with a blue and white color scheme. It features a large circular blade on the left and a waterjet cutting head on the right. The waterjet head is currently cutting a piece of light-colored stone, creating a fine mist of water and stone particles. The machine is mounted on a sturdy metal frame. The background is a dark, industrial setting.

**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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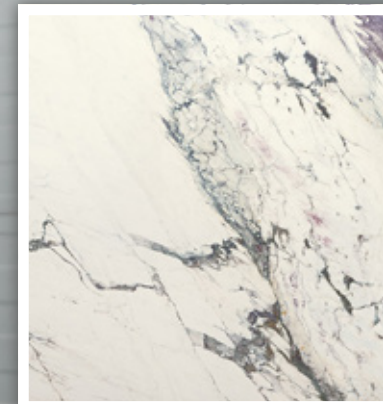
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# THE PERFECT COMBINATION OF 2 TECHNOLOGIES

IDEAL FOR CUTTING  
ANY TYPE OF MATERIAL



## **BLADE + WATERJET IN LINE WITH DONATONI PHILOSOPHY**

The DONATONI DJ 6.6 is a cutting centre with combined technology (blade & waterjet) and 5 interpolated axes, which is extremely versatile and suitable for manufacturing a wide range of items made of marble, stone, agglomerate, and ceramic.

This machine allows performing cutting operations thanks to the combined use of blade and waterjet,

and milling operations thanks to the tool installed on the shaft of the main motor.

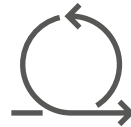
The DONATONI DJ 6.6 is suitable for small or large companies that mainly manufacture kitchen and bathroom countertops, thresholds, staircase claddings, cladding panels, or for those companies wanting a multi-purpose machine to perform all cutting operations with one machine.



**2 MACHINES IN 1**



**EXTREMELY  
VERSATILE**



**AUTOMATIC WORK  
PROCESS**



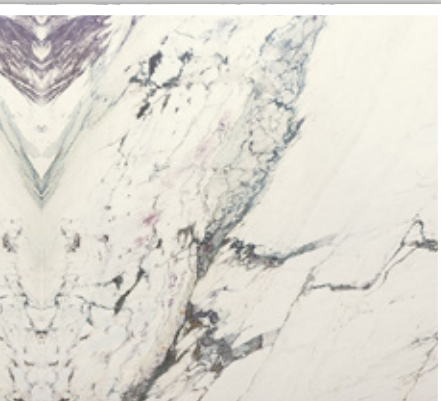
**OPTIMISATION OF  
THE SLAB USE**



**SIMPLE AND QUICK  
TO PROGRAM**



**A WIDE RANGE OF  
WORK PROCESSES  
AVAILABLE**





# WHY YOU SHOULD CHOOSE A DONATONI DJ 6.6 COMBINED MACHINE

The DONATONI DJ 6.6 cutting centres are intended for those companies that mainly perform cutting operations of any type, that want to reduce processing times, or that need to optimise the space available inside the company.



## **WATERJET TECHNOLOGY: WHAT IS IT ABOUT?**

It is a cold cutting technology using a mixture of water and abrasive. Cutting is performed by means of a focusing nozzle which concentrates the water jet in a specific point creating an extremely high pressure (above 4000 bar).



## **2 MACHINES IN 1**

A combined cutting centre is a versatile and effective solution, which is equipped both with a cutting blade and a waterjet cutting system.



## **EXTREMELY VERSATILE**

Having 2 cutting technologies available allows you to choose from time to time the most suitable and performing technology for the material chosen and the process to be carried out.





#### **AUTOMATIC WORK PROCESS**

You do not need to move the item from a bridge saw to a waterjet cutting centre to finish it.



#### **OPTIMISATION OF THE SLAB USE**

The combination of 2 technologies allows the optimisation of the slab use and the reduction of waste.



# PERFECT FINISHING ON MARBLE, STONE, AGGLOMERATE, AND CERAMIC



## **Waterjet cutting**

The inclination of the waterjet head is independent from the blade head and allows making 60° cuts, small, curved and circular cuts with narrow radii and cuts with 90° internal angles.



## **Blade cutting**

The cutting blade allows performing straight cuts, circular cuts with large radii, inclined cuts and shaping.



## **Diamond tool**

The diamond tool or drill installed on the motor shaft allows making holes, through holes, blind holes, milling and lowering.





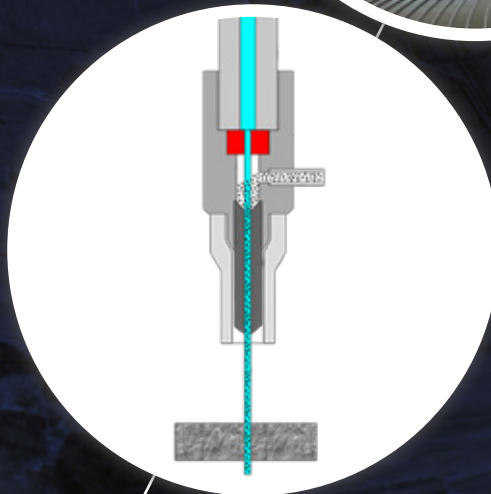
### **Complete programming for all work processes**

The software can control the different work phases by combining the blade, the waterjet, the tool, and the Move System.



### **Processing without the operator's intervention**

the Move system allows the automatic movement of pieces.



### **Optimisation of the cutting process**

The machine automatically sets the necessary quantity of abrasive according to the parameters entered during programming, thus ensuring that the correct quantity is used in each work phase.



# PERFECT FLEXIBILITY AND HIGH PERFORMANCE

MAIN CHARACTERISTICS





- / 5 INTERPOLATED AXES
- / Z AXIS STROKE: 450 MM
- / BLADE MIN. DIAMETER: 300 MM
- / BLADE MAX. DIAMETER IN COMBINED MODE (WITH WATERJET): 525 MM
- / BLADE MAX. DIAMETER IN "BRIDGE SAW ONLY" MODE: 625 MM
- / MAX. CUTTING THICKNESS – BLADE 525 MM: 140 MM
- / MAX. CUTTING THICKNESS – BLADE 625 MM: 200 MM
- / MAXIMUM PRESSURE WITH WATERJET: 4000 BAR
- / WATERJET HEAD INCLINATION: 0-60°
- / A-AXIS INCLINATION (BLADE): 0 – 90°
- / MOVE-SYSTEM - HANDLING SYSTEM WITH SUCTION CUPS
- / MAXIMUM WEIGHT THAT CAN BE LIFTED WITH SUCTION CUPS: 500 KG
- / AUTOMATIC GREASING SYSTEM OF BALL RECIRCULATING GUIDES
- / BRUSHLESS MOTORS AND HIGH-PRECISION GEARBOXES CONTROLLED BY INVERTER FOR X-Y-Z AXIS SLIDING

## TYPES OF WORK PROCESSES



LONGITUDINAL CUTS



INCLINED CUTS



ELLIPTICAL CUTS



CROSS CUTS



THROUGH AND BLIND HOLES



90° INTERNAL CUTS



OBLIQUE CUTS



CIRCULAR CUTS



FLARING

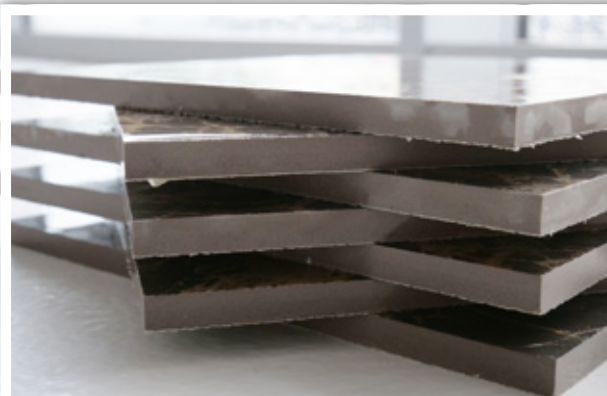
**A CONCENTRATION  
OF TECHNOLOGIES  
TO MAKE YOUR  
JOB EASIER**





# WORK PROCESSES

Kitchen and bathroom countertops, floors, claddings, panels for external and internal cladding, steps, window frames, products for the building industry.



# MAIN COMPONENTS AND OPTIONAL EXTRAS

## HIGH-PRESSURE PUMP

DONATONI DJ 6.6 is fitted with a high-pressure pump having a power of 37 kW which allows a maximum working pressure up to 4000 bar.



### The right pressure for all work processes

The pressure is generated by means of an axial piston pump, precisely regulated by a standard proportional valve that varies the intensity of pressure according to the material to be processed and the type of cut to be made.



### Constant pressure in all conditions

The continuous adjustment system keeps the pressure constant ensuring a clean, even cut. The large-volume pressure accumulator (2.49 l) minimizes pressure fluctuations and component wear which are typical of pumps.



### Flexibility even during processing

The abrasive feeder (which manages the abrasive feeding to the machine) allows the operator to load new abrasive into the first tank without having to stop the machine. It is fitted with one tank with an abrasive loading capacity of approximately 200 l and one pressurised tank.



# WORK BENCH

Donatoni DJ 6.6 can be supplied in two different versions: with fixed bench or with fixed bench + integrated tilting system. The tilting version (optional) can easily be integrated with the catch tank; in this version the work bench can be tilted 80° to facilitate the operations for slab loading and positioning using a jib crane or other loading systems.



The catch tank is completely made of stainless steel and fitted with a work table having galvanised steel blades for waterjet cutting, on which the material for the blade cutting and milling will be positioned.



Connections to discharge water for tank cleaning and connections for tank filling with water are present on the sides.

**The special profile bridge** with a normalised steel structure has an oversized-section made of steel that has been sandblasted and painted with three coats, hardened and ground pinions and racks, a brushless motor, a high-precision gearbox, and X-axis sliding guides.



**Electrospindle + waterjet system unit:** High-quality electrospindle controlled by an inverter allowing the continuous adjustment of revolutions between 0 and 5500 rpm, and the use of blade and diamond tools (core bit and milling cutter).



**Waterjet system** fastened to the spindle holder head and fitted with an independent tilting system of the waterjet nozzle.



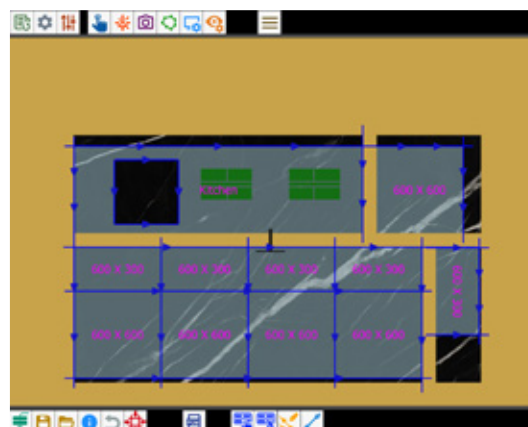
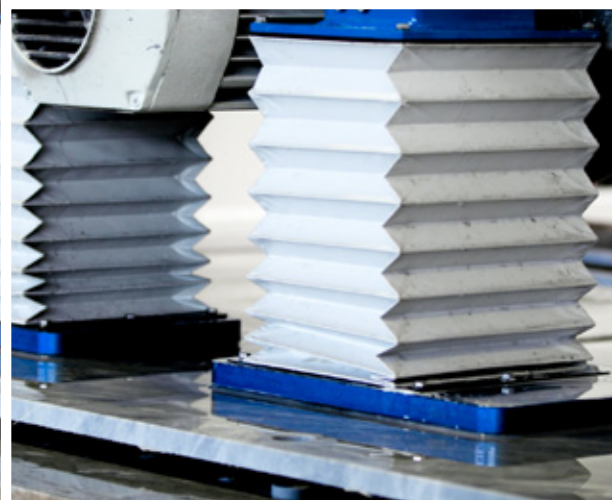
**Control console:** consisting of a double joint bearing arm, manual controls, 21" colour touch screen, keypad and USB port to import DXF files.





# MOVE-SYSTEM

Move-System: suction cups system for the automatic lifting and positioning of cut pieces which ensures reduced processing times with minimum waste. The 2 aluminium plates are fitted with sections of different sizes to work with small and large pieces, up to a maximum weight of 500 kg. It can be used with a blade having a diameter up to 525 mm in combination with the waterjet system (up to 625 mm without using the waterjet system).



The Move-System allows working simultaneously in automatic mode both with tool, blade and waterjet, by moving pieces on the bench using the suction cups, without having to stop the machine.

- > it is easy to use even for inexperienced operators
- > it makes the machine totally automatic
- > piece handling is without operator's intervention
- > it makes full use of the slab's surface
- > it increases efficiency
- > it reduces downtimes



## TOOL

BLADE

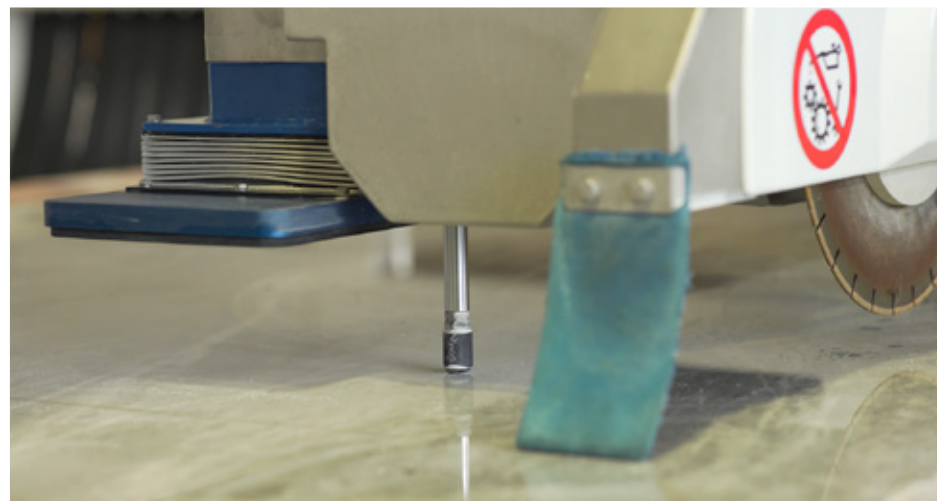
## MOVE-SYSTEM

## WATERJET NOZZLE

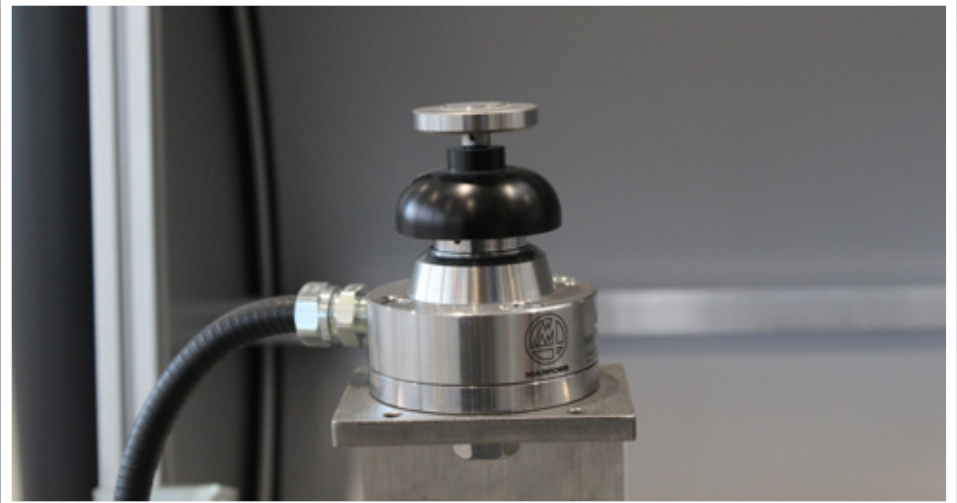
**Ball recirculating sliding beams** and racks for Y axis sliding, fitted with grease automatic lubrication system and protected by special bellows.



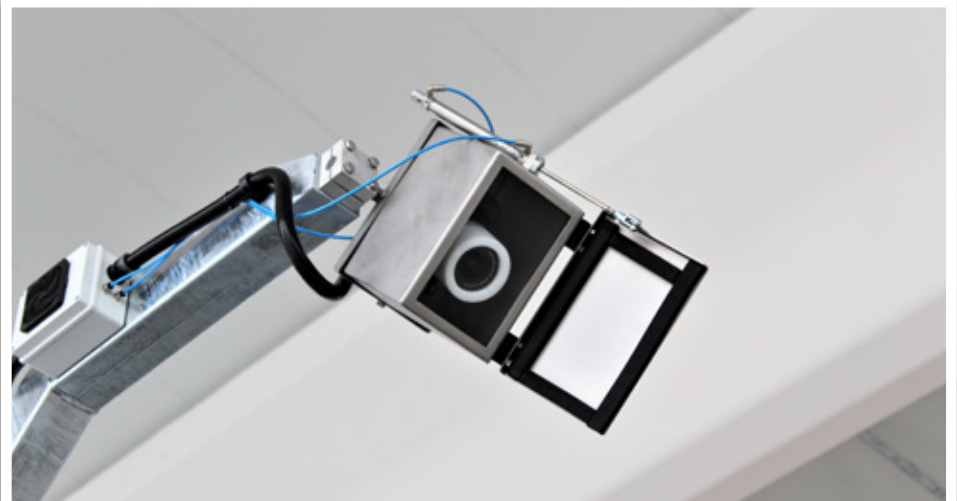
**Slab thickness detector:** system for automatic detection of slab thickness.



**Blade presetting unit:** measurement system of blade diameter.



**Slab camera:** slab detection system, with camera positioned above the workbench and image acquisition software. This application speeds up the machine programming phase, allows the pieces to be positioned and the slab defects to be detected.





**Electrical panel** fitted with air conditioner to keep the temperature constant during warm periods of the year, or in areas where temperatures are high.



**Linear laser** showing the blade cutting direction.



**Support walls** made of steel that has been normalized, sandblasted, and painted with three coats (optional).



**Water treatment system (optional):** water purifier at pump infeed to filter out all impurities and to minimise scaling along the waterjet system.



# 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

## USER-FRIENDLY ICONS AND SIMPLE PROGRAMMING



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

Its use is limited to applications with the machine in "bridge saw only" mode and therefore for the use of the blade and milling cutter installed on the drive shaft of the electrospindle.

It is a software which allows you to manage cutting processes using a blade and milling cutter in automatic mode, it allows the user to input both rectilinear and curvilinear shapes (steps, kitchen worktops, rectangles, covers) using pre-defined shapes in the program or shapes imported from DXF files.

Depending on the surface available, it is possible to set the position of the pieces and the sequence of the cuts, optimising the times and reducing the material waste.

The software includes the following functions: for preventing the collision of pieces, and for manual and automatic piece nesting, bookmatching process, managing production and order statistics, rendering of pieces and drilling operations.

Furthermore, it is possible to control in manual mode:

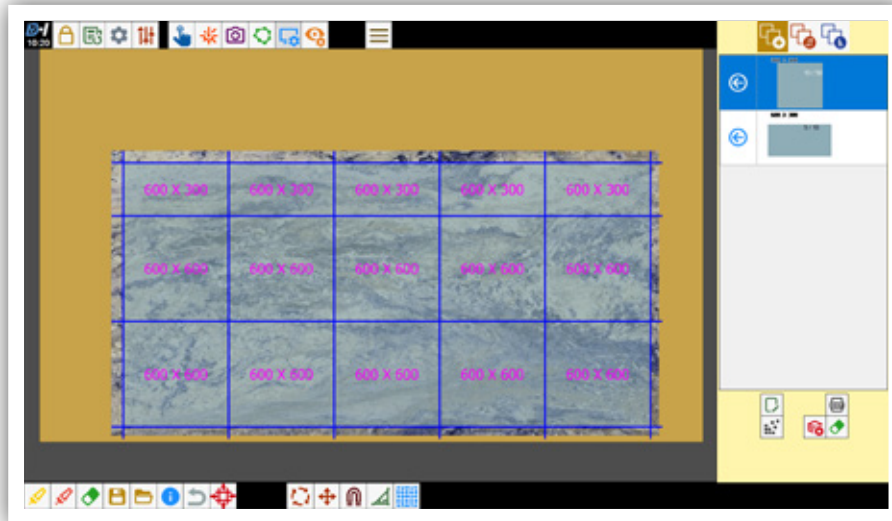
- the machine interaction commands for X, Y, Z, C, A, B axes (WJ tilting)
- the parameters of the pump, abrasive, and anything related to waterjet cutting
- cuts in semi-automatic mode with blade

Parametrix can be used together with Photoslab and Move-System, which allow the slab to be detected automatically and the cut pieces to be moved, thereby reducing operator intervention to a minimum.



## Automatic nesting (included)

Automatically inserts the square or rectangular pieces into the work area, optimizing the use of the slab and automatically avoiding any 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 work process with the blade, such as "L-shaped" internal corners, or to make the lowering for built-in parts. The change from blade to drill during the work process is automatically managed by the program.  
(Only for tools, top, mtc, atc machines).

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

With the manual nesting function, it is possible to preview any collisions between the parts, thereby making it easier to position the pieces in the best possible way. The "magnet" function helps the operator align the pieces one next to the other, in order to reduce the number of cuts. It is possible to save the partial layout and then complete the required positioning layout later.

## Managing and changing of cuts (included)

After having positioned the pieces, the cuts can be modified: it is possible to lengthen them, to change their order, to disable them, to add pauses, as well as other types of modifications, before pressing the start button to start the cutting phase.

## Bookmatching (optional)

Starting from a project in DXF format, it supplies the user with a 2D image of the parts to be cut and, therefore, allows the user to see the aesthetic result obtained by combining the pieces and to fully evaluate the "bookmatching"-type process.



# DDX Easystone

INCLUDED

DDX Easystone is the powerful, simple, and user-friendly CAD-CAM software for managing all the functions and work processes of the machine related to the waterjet cutting system and the combined cutting with waterjet, blade, milling cutter.

Multiple work processes can be set: longitudinal, cross, oblique, inclined, 90° internal, circular, and elliptical cuts, milling, chamfer milling, flaring, and through and blind holes.

It allows importing a CSV file with the list of the pieces to be processed, and designing and executing DXF and STEP files. After such importation, the software optimises the processing paths to reduce processing times.

With EasySTONE it is possible to see a simulation of the process using waterjet cutting, blade and milling cutter, as well as all movements (including those performed by Move System); it is also possible to edit the program according to your needs.

Once the design phase has been completed, EasySTONE generates the programs and sends them directly to the machine. Finally, it calculates the processing times and costs, supplying an accurate report of the work performed.



## Manual nesting module

It allows working with the shapes of pieces by placing them on the slabs so as to speed up the creation of machining operations. Each piece brings with it the previously set processing kit, allowing fast management of cuts and possible modifications.

## Slab management

Slabs can be imported from the library, or you can use the slab picture that was taken on the machine with the Photoslab software. It is possible to load more slabs for the arrangement of pieces.

## Manual piece arrangement

The pieces can be selected from the imported CSV list and then placed individually on the slab to be processed.

## Move System module

The management of the Move System suction cup system takes place thanks to the special module that, through an automatic or manual solution, allows dividing the slab into parts in order to avoid cuts that may ruin pieces.

## WJ5 management module

Waterjet cutting can be used alone (also with a specific drawing module) or in combination with blade cutting thanks to the creation of dedicated multi-tool kits. In this case, blade cutting will be used where possible, while internal angles will be processed using waterjet cutting.

## Automatic nesting option

The software automatically places the rectangular pieces inside the selected slabs. The arrangement of pieces and work processes can be changed later.

## Advance automatic nesting option

It recognizes all types of shapes and can position them in the best way to optimize the slab use, especially in case of complex work processes.

# WITH DONATONI YOU ARE NEVER ALONE

SERVICES AND  
AFTER-SALES SERVICE

The relationship with our Customer does not end with the supply of the product, but continues and is strengthened through a reciprocal collaboration, which is of value for both our Customer and us





# **DIRECTLY CONNECTED WITH OUR TECHNICIANS**

## **WORLDWIDE 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 Intermac branches of the Biesse group.

## **MACHINE INSTALLATION**

Our machines are installed by highly specialised technicians with long-standing experience, thanks to whom we can guarantee a high level of service. The Installation not only includes the careful installation of the machine, but also its commissioning and the training of operators, according to the machine model that has been installed.

## **ON-SITE ASSISTANCE**

We provide on-site technical assistance at the customer's premises if it is not possible to use Remote Assistance.

Donatoni Service is the company department that is totally dedicated to our customers and their needs; it provides a wide range of **services aimed to meet all of our customers' requirements**, before, during and after the delivery and installation of the machine and throughout its life cycle. Our highly qualified personnel have long-standing experience and are capable of responding to any question or request.

We use an open approach that pays careful attention to specific individual needs, because our objective

## **DIRECTLY CONNECTED - ON-LINE ASSISTANCE**

Each machine is supplied with a system that enables it to be connected by remote assistance to our after-sales service (this requires a connection to the network via cable). This service enables our technical staff to virtually access the customer's machine and to carry out checks and updates, but also to provide technical assistance just as if they were right there at the machine's location.

## **PARTS AND REPLACEMENTS SERVICE**

We handle requests for parts and replacements in any part of the world, promptly in order to minimise machine downtimes.

## **CAD-CAM TECHNICAL ADVICE**

We help our customers with the creation and design of complex projects and objects using their machines.

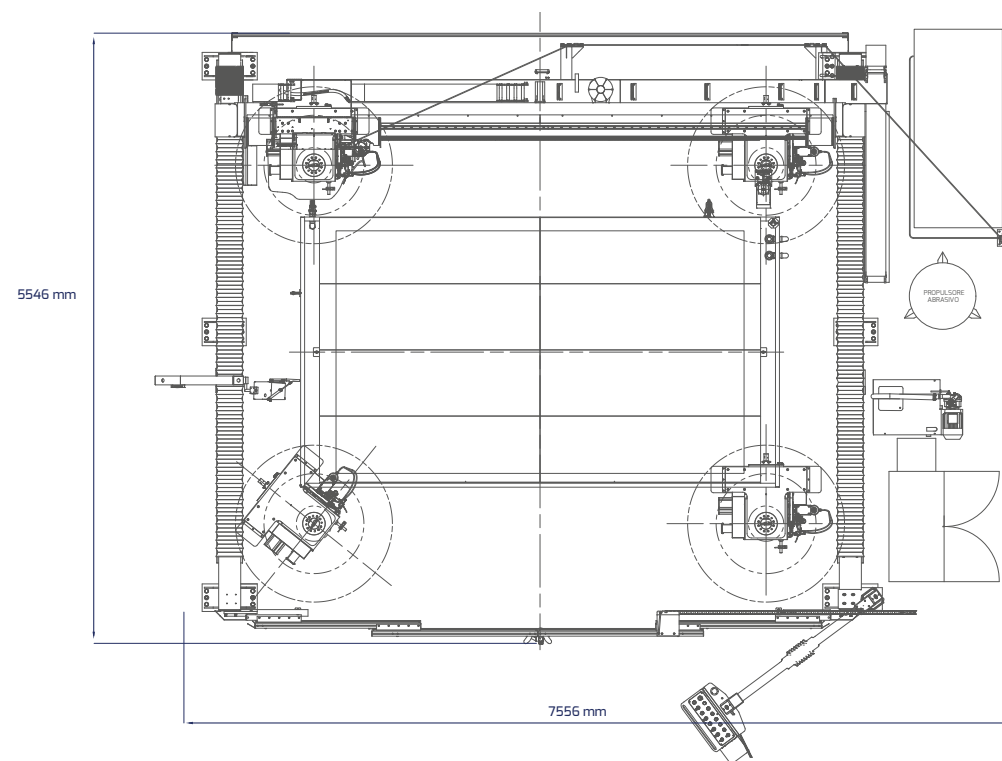
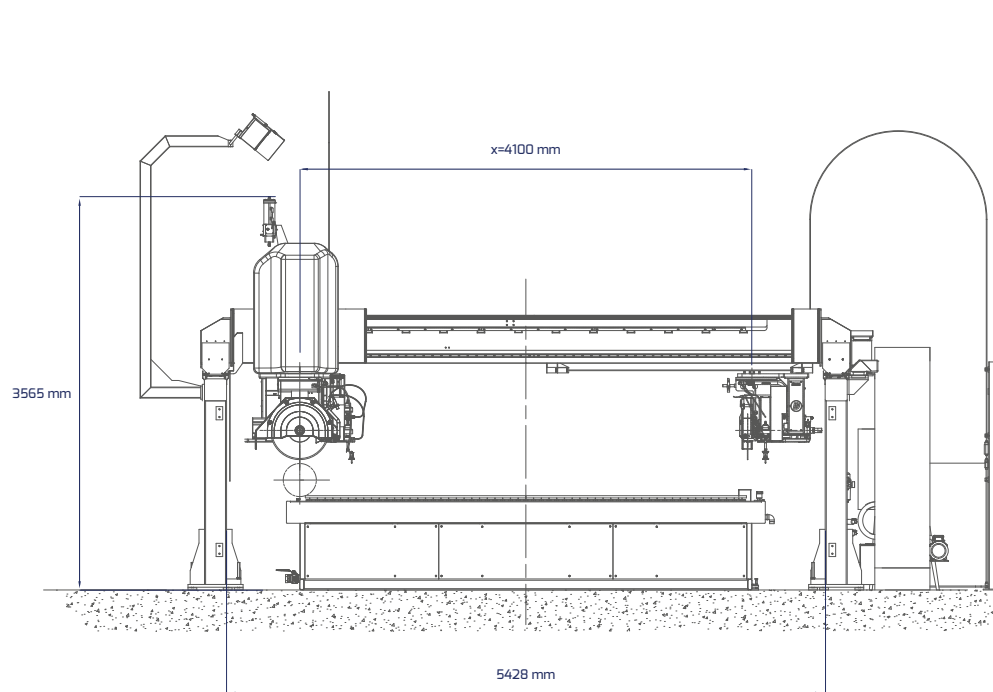
is to cooperate with and support our customers in their production activities, not only by offering them assistance but also by offering them **technical services and advice**, which allow the operators to improve their know-how and enhance their production. Speed, reliability and professionalism are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

## **THEORETICAL/PRACTICAL TRAINING**

Training courses and update courses regarding new applications and software are carried out at our offices or at our customers' 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 as well as the evaluation of the level of learning achieved by the participants.



# TECHNICAL DATA





# DONATONI DJ 6.6

Number of interpolated axes	N°	5+1
Carriage stroke axis X	mm in	4100 161
Max speed axis X	m/min ft/min	40 132,2
Bridge stroke axis Y	mm in	3500 137,8
Max speed axis Y	m/min ft/min	30 98
Vertical stroke of the head axis Z	mm in	450 17,7
Max speed axis Z	m/min ft/min	5 16
Blade head rotation (axis C)	gradi	-5° / 365°
Blade head tilting movement (axis A)	gradi	0 - 90°
Waterjet head tilting movement (axis B)	gradi	0 - 60°
Maximum slab dimensions	mm in	3700 x 2200 137,8 X 78,7
Work bench loadbearing capacity	kg lb	1200 2645
Max cutting thick. with waterjet and blade (max. Ø530)	mm in	140 5,5
Max cutting thick. with blade only (max. Ø625)	mm in	200 7,9
Blade diameter in case of combined cut, rated (max)	mm in	300 – 525 11,8 - 20,7

Blade diameter in case of blade only cut, rated (max)	mm in	300 – 625 11,8 - 24,6
Electrospindle motor power	kW	13 56
Electrospindle speed range	rpm	0 - 5500
Max. blade dimensions with suction cups	mm in	625 24,6
Maximum weight that can be lifted with both suction cups	kg lb	500 1102
Max. blade that can be used with slab thickness gauge	mm in	625 24,6
Water consumption, excluding waterjet consumption (3 bar)	l/min gal	35 9,2
Air consumption, excluding abrasive system consumption	l/min gal	20 5,2
HP water intensifier electric power	kW	37
HP water intensifier max working pressure	bar	4000
HP water intensifier max. flow	l/min gal	3,8 1
Abrasive tank capacity	l gal	200 52,8
Standard electric voltage	V/Hz	400±10% / 50
Total installed power, excluding the HP intensifier	kW	21
Total weight (approx.)	kg lb	7000 15652

The technical data and images in this catalogue are indicative and are not legally binding. The manufacturer reserves the right to make changes to the product, technical data and images without prior notice.

## NOTE

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## 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.

### **Donatoni Macchine Srl**

Via Napoleone 14, 37015 Domegliara - Sant'Ambrogio di Valpolicella / Italy

Tel. +39 045 6862548

Fax +39 045 688 43 47

info@donatonimacchine.eu

www.donatonimacchine.eu

[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.**