

DONATONI[®] J5.42

Waterjet cutting centre with 5 axes

DONATONI[®]
Stone Tech Creators



**Efficient.
Accurate.
Versatile.**



Table of contents

4	.....	Key features & advantages
5	.....	Machining
6	.....	Production
7	.....	Various solutions
8	.....	Components
10	.....	Optional
13	.....	Software
14	.....	Technical data sheet
15	.....	Machine layout
16	.....	D-MES and D-PORTAL
17	.....	Donatoni Service
18	.....	Donatoni Group
19	.....	Donatoni Academy

Power, precision, and creative freedom at your service

The revolution in Waterjet cutting has a name:

DONATONI J5.42

Specifically designed for the needs of the stone industry, the J5.42 combines cutting-edge technology with **outstanding ease of use**, delivering **top-level performance**—even in the most complex applications.

Why choose the DONATONI J5.42?

- **Optimized for stone**
Delivers flawless cuts on all natural and engineered stone materials.
 - **Unlimited versatility**
Designed for precise cutting of all types of stone, while also achieving exceptional accuracy on a wide variety of other materials.
 - **Unleash your creativity**
Complex shapes, intricate geometries, and artistic details
- are no longer a challenge—they're an opportunity.
- **Zero waste, maximum efficiency**
Optimize every job with smart material use and minimal waste.
 - **Smart automation**
Automatic abrasive dosing simplifies the process and improves consistency.
 - **Precision down to the millimeter**
The ultra-high precision of the waterjet guarantees flawless results in every cut.

Key features

Strength, precision, and smooth motion – engineered for stone

Its high-thickness steel frame and mobile bridge ensure exceptional structural rigidity for consistently perfect cuts. The GANTRY system with dual servomotors provides smooth, controlled movements, even during the most demanding operations. The abrasive-enhanced waterjet reaches pressures of up to **4200 bar**, while the **infinite** C-axis rotation offers total freedom of movement.

Compact design, full accessibility

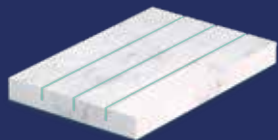
More than just power: the J5.42 is designed to be **intuitive** and **user-friendly**. Its compact footprint and easy front and rear access to the loading/unloading area put the operator experience at the forefront. **Maintenance is quick** and **simple** thanks to the **fast blade table removal system**.

TOOL+ – More freedom, more operations, more advantages

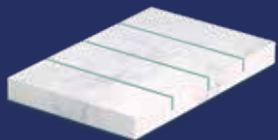
Looking to go beyond waterjet cutting? With TOOL+, the DONATONI J5.42 becomes a true multi-function workstation for the stone industry. This optional tool enables **drilling, pocketing, and incremental cutting** using high-precision diamond tools—greatly expanding your processing capabilities.

Machining

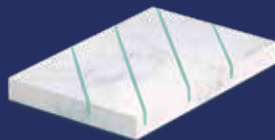
The **DONATONI J5.42** is ideal for a wide range of machining operations, including:



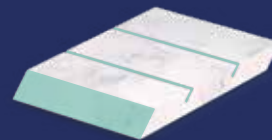
Longitudinal cuts



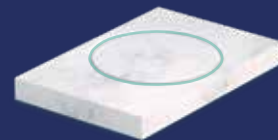
Transverse cuts



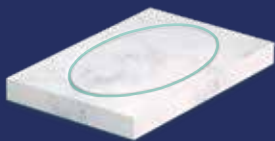
Oblique cuts



Inclined cuts 0-60°



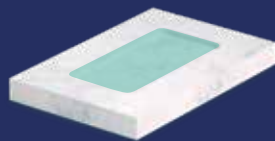
Curved cuts



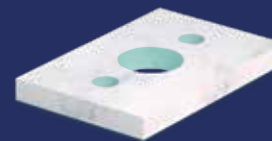
Elliptical cuts



Milling
(with TOOL+)



Lowering
(with TOOL+)



Through holes



Inlays

Production

DONATONI J5.42 can be used to make different types of product.



Various Solutions for Top Performance

Donatoni HydroX

Why choose the Donatoni HydroX pump? The **DONATONI HydroX** pump is engineered to deliver outstanding performance and tangible benefits at every stage of the waterjet cutting process.

With advanced technology and innovative systems, HydroX is the ideal solution for those seeking a significant boost in productivity and a **reduction in operational costs**.

HydroX is a **triplex direct-drive pump**, where water is pressurized through three pistons connected to a crankshaft. This configuration ensures high efficiency, reliability, and superior performance.



Advantages

Active Pressure Control

- Continuous monitoring of the output pressure via digital pressure switch.
- Automatic pressure adjustment to ensure **perfect cuts**.
- Instant intervention in case of leaks in the circuit to maintain cut quality.

Energy Savings

- **Inverter** control for motor rotation.
- **Energy savings** compared to traditional pumps, reducing **operating costs** and environmental impact.

Economic Benefits

- **Access to incentives** for adopting advanced technological solutions.
- **Innovation and savings** for your business.

Sustainability and water recovery

- Recovery of head cooling water and waste water.
- **Water savings** and more **sustainable practices**, helping reduce operational costs.



Hypertherm Dynamax350

To meet a variety of high-precision cutting needs, in addition to the DONATONI HydroX triplex direct-drive pump, a **high-performance alternative high-pressure system** is also available.

Equipped with a 37 kW pump capable of reaching pressures up to 4200 bar, this system ensures **constant and controlled pressure** throughout the process, delivering clean, precise, and consistent cuts.

The use of a **high-volume pressure accumulator** minimizes pressure fluctuations and reduces wear on internal components, improving reliability, operational efficiency, and service life.

Whatever your needs, **Donatoni offers the right solution** to maximize performance and optimize costs.

Components



Cutting head

The centrepiece of the DONATONI J5.42 is the cutting head, an innovative 5-axis, **compact and powerful** unit equipped with state-of-the-art technology. It has a C-axis with endless rotation and a nozzle tilt axis between $\pm 60^\circ$, with a built-in reduction unit that allows high-pressure piping to pass through.



Safety guards

The DONATONI J5.42 is available with two different versions of perimeter safety guards, **optical or physical barriers** (with TOOL+ physical barriers are mandatory), depending on the customer's needs. Both solutions offer maximum visibility, small dimensions and high safety. The version with sliding doors is equipped with a front closure with 2+2 wings.



Abrasive system

The powerful abrasive agent feeder facilitates the feeding of abrasive into the machine, allowing the operator to load new material into the first tank without interrupting any machine operation. It consists of two tanks, the first one with a large capacity of about 200 litres, while the second operates under pressure. The abrasive feeder is equipped with an **adjusting system** managed **automatically** by the machine control.



Control panel

Everything within reach. The control panel is the basic tool for using and programming the machine, so it must be as **simple and intuitive** as possible. This is a PC-monitor incorporated into the QE equipped with a large 21" touch-screen. Operators can either program operations in automatic or manage them in manual, as required.



Handheld terminal

The handheld terminal has various keys and a touch screen from which various operations can be carried out, among which **moving the machine axes manually**, saving the origin points, seeing the machine quotas, and other operations such as switching the laser on and off.



The cross-shaped laser

The cross-shaped laser is installed alongside the head unit. This tool is essential to **detect slab perimeters**, determine the origin points during processing by CAD/CAM programs, and support additional software for **the creation of profiles and shapes template models**.

Optional



Slab thickness probe

The slab thickness probe is the system that **automatically detects the slab thickness** using two different probing configurations: Before or during cutting. It is a very useful tool for all types of cutting, 45° cutting in particular.



Spent abrasive removal system

A system consisting of a series of galvanised sheet metal containers placed inside the tank, designed to collect sand and processing waste. When the maximum capacity is reached, they can be **easily removed** using traditional hooks.



TOOL+

It is a vertical electrospindle, fixed to the side of the sleeve, controlled by an inverter with 0-15,000 rpm, that allows the operator to use **small-diameter diamond** tools with ½" gas connections for incremental cutting / blind or through-hole drilling, and milling. Thanks to TOOL+ the range of possible machining operations increases staggeringly. TOOL+ requires the option of physical barriers as a protection system.



Camera + Photoslab

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



Tool probe

Among the various optional extras designed to customise the machine to the customer's specifications, the DONATONI J5.42 offers the **probe for calibrating the cutting nozzle**. Thanks to the automatic 5-axis centring control, the set-up time of the cutting head can be reduced by up to 90% after replacing the components. Result: **maximum precision** and **optimisation** of work processes.



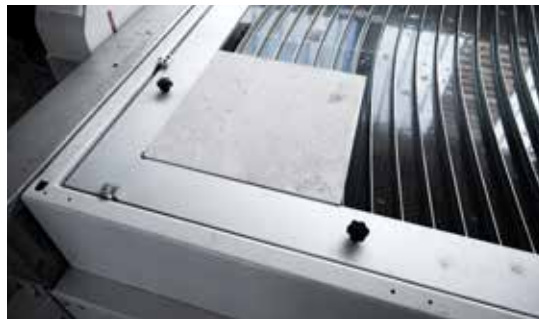
Tank

The tank is made entirely of hot-dip galvanized steel and features a worktable composed of galvanized slats, specifically designed for Waterjet cutting. The slat support table is **easily removable, simplifying cleaning operations**. Maintenance and cleaning are further streamlined by the fact that the entire slat table can be removed in a single operation. The tank is galvanized and externally painted to ensure **maximum corrosion resistance**. It is also equipped with adjustable feet and connections for the water drainage system.



Loading systems

The DONATONI J5.42 offers various solutions to make the loading of material easier, including **rollers on the edge of the tank** and a **tilting system with four hydraulically operated forks** to load the slab. The tilting workbench makes material loading even easier and safer.



Workpiece positioning L-shaped set square

Ground aluminium solution, specially designed to make the **mechanical stop of the workpiece easier**. Thanks to its practical and functional design, it is the ideal tool for dealing with repetitive machining operations, always guaranteeing excellent results.



Additional blade kit

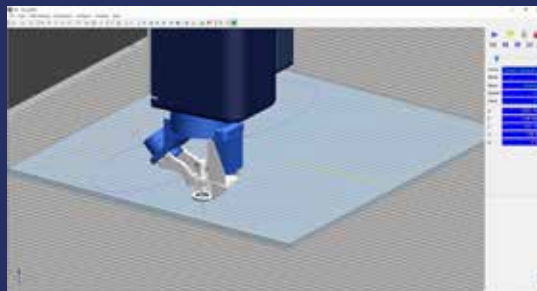
This special kit doubles the number of blades available in the basic version, **reducing the pitch from 60 to just 30 mm**. This closer spacing between the blades allows for a **greater contact surface supporting the material**.

Software

Donatoni Digital Suite

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

EasyJET



EasyJET is a CAD/CAM software **designed for CNC waterjet machining**. With a wide range of functions, it makes every aspect of waterjet machining easier and more efficient.

Its main features include the import of files in different formats such as DXF, IGES, STL, PNT and RHINO, allowing work with parametric models. It can perform 3-, 4- and 5-axis machining.

EasyJET also offers an automatic associative CAM module, pipe axis management, true shape nesting and 3D simulation. The software also includes functions such as virtual milling, collision detection, slab images acquisition by digital cameras, and estimation of processing times, lengths and costs. Finally, it allows the management of five interpolated axes and multiple machining centres.

EasyJET **manages every aspect of the Waterjet** machines, avoiding the purchase, maintenance and training costs of other software.

Nesting



One of the distinguishing features of EasyJET is its **ability to optimise nesting projects**, reducing material waste and processing time. The software optimises production schedules, determining the best processing path for the machining centre and managing material scraps so that they can be reused in the future. It also supports the import of CSV, DXF, STEP files and allows customisation of the workflow. With EasyJET it is possible to manage the material stock and workpiece remains, assign machining operations via automatic CAM and use the 'One Cut' machining functionality to optimise cuts. In addition, it offers 'Free Shape' optimisation for cutting freehand designed shapes.

Thanks to its new DDX nesting system, EasyJET offers an increase in optimisation up to 30 per cent, providing a significant advantage in terms of efficiency and reducing production costs.

Technical Data Sheet

Number of interpolated axes	N°	5
Carriage stroke (X-axis)	mm	4150
Max. carriage speed (X-axis)	m / min	0 - 30
Bridge stroke (Y-axis)	mm	2170
Max. bridge speed (Y-axis)	m / min	0 - 30
Head up/down stroke (Z-axis)	mm	240
Maximum head speed (Z-axis)	m / min	0 - 15
Head rotation (C-axis)	gradi	Infinito
Waterjet head tilting movement (A-axis)	gradi	±60
Maximum slab dimensions	mm	4100 x 2100
Work table load capacity	kg	3000
Intensifier weight	kg	925
Abrasive tank capacity	l	200
Water consumption (3 bar)	l / min	5
Air consumption	NI / min	100
Standard voltage	V/Hz	400±10% / 50

Total installed power (without optional)	kW	40
Total weight (approx.)	kg	7800

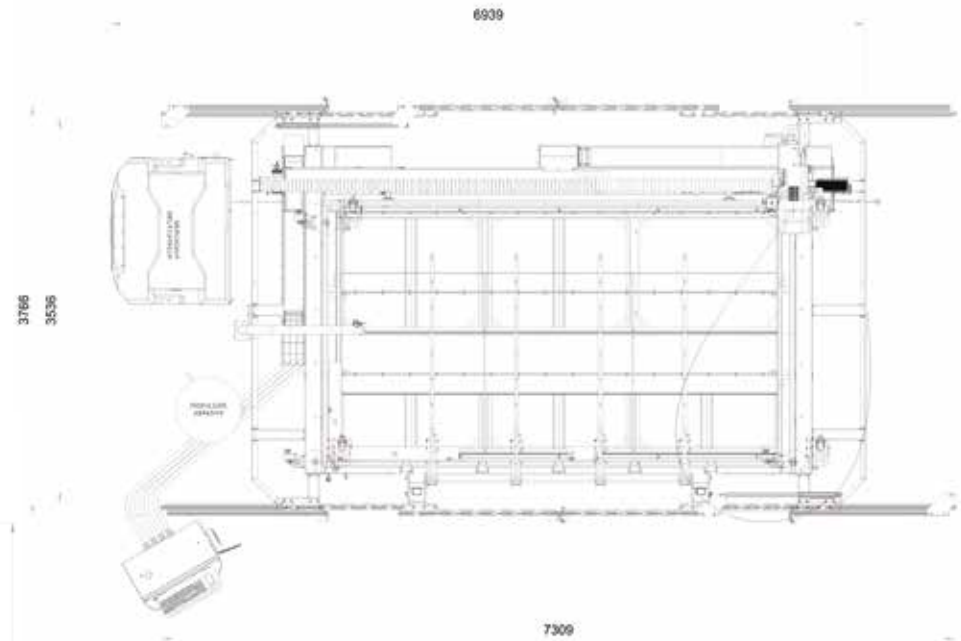
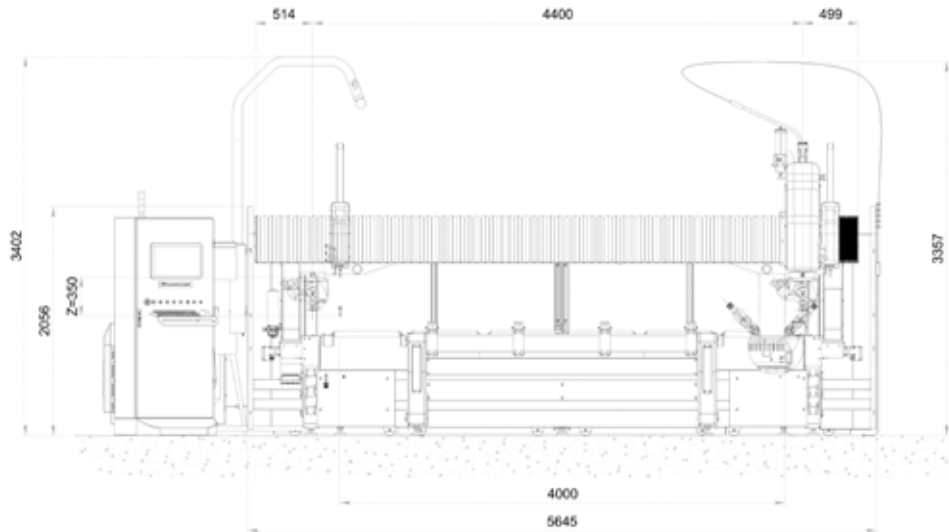
TOOL+ (OPTIONAL)

Potenza elettromandrino	kW	2.2 S1 / 2.5 S6
Velocità max. elettromandrino	Rpm	15000
Spessore lastra massimo lavorabile	mm	50
Consumo acqua (3 bar)	l / min	20

VARIOUS PUMP SOLUTIONS AVAILABLE

	Dynamax350	HydroX220	HydroX300
HP water intensifier max working pressure	4200	4000	4000
HP water intensifier max flow	3,8	3,11	4,1
HP water intensifier electr. power	37	22	30

Machine layout



D-MES

DONATONI MES is the first MES system on the market specifically designed for the stone industry.

More than just software, DONATONI MES is a **complete Manufacturing Execution System** capable of managing and scheduling the entire production workflow—from slab acquisition and cataloging in the warehouse to final processing, packaging, and shipping.

It includes instant reporting features for production statistics, consumption tracking, and detailed reports on each production cycle.

The D-MES system provides a comprehensive solution to streamline production management, improve process traceability, and integrate all business areas into a single, unified workflow.



What needs does D-MES address?

- Support for preparing quotes thanks to the ability to program the entire work cycle.
- Real-time and final production monitoring.
- Management of slab inventory with all properties, dimensions, and associated job orders.
- Optimization and reuse of scrap materials.
- Centralized management of all production files—from job order to cutting and processing programs—in a single database.

D-PORTAL

D-Portal is an exclusive, completely free platform designed for Donatoni customers. Through D-Portal, users can access all documentation related to their Donatoni machines, including manuals, electrical diagrams, CE declarations, and layout drawings. In the **Interactive Manuals** section, machine information is easily accessible and enriched with an **interactive spare parts catalogue**.

The platform also features a collection of short video tutorials covering maintenance and machine programming tasks, helping operators independently resolve common operational questions. Finally, **D-Portal allows users to open support tickets directly**, ensuring fast and efficient customer service.



Donatoni Service

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

After-Sales Service

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

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

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

Tel. +39 – 045 6862899

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

For assistance

assistenza@donatonimacchine.eu / service@donatonimacchine.eu

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

For spare parts

ricambi@donatonimacchine.eu / parts@donatonimacchine.eu

Maintenance

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

Consultancy service

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

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Venerdì: 8:00 - 14:00

Donatoni Group

The Donatoni Group was established after **long experience** in the natural stone industry, a process that began in the 50s and developed over the years. Today, **Donatoni Group** is recognised as one of the world's leading manufacturers of high-quality stone processing machines.

Constant research, technological innovation and client service are key values for the company, which follows them using highly qualified personal in order to guarantee the end customer a product that best reflects their expectations in terms of quality and performance.

To support its global development, **Donatoni Group** operates in international markets with its own agents and direct overseas branches.



Donatoni Academy



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

About us

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

To whom

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

Courses location

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



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

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