ONA WE ARE EDM

QX

QX RANGE CATALOGUE
DIE-SINKING

Power and control, the perfect combination.

We offer a wide range of QX machines, all of which offer a variety of characteristics. Our new ONA KORE die-sinking electrical discharge generators combine the power of erosion with meticulous control to ensure quality and exact precision in each piece.

A challenge met following thorough digital monitoring allowing total control of the entire process, together with Industry 4.0 standards, capable of offering our clients top quality results, professionalism and efficiency.

A new family of QX machines with a design based on an ECO philosophy in response to our commitment to a more sustainable world.

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ONA - WE ARE EDM

Knowledge and experience at the client's service.

At ONA, we are pioneers in EDM technology. Throughout our over **65 years of experience** we have always been closely linked to this technology which has made us the world's most specialized manufacturer.

With ONA, the client is guaranteed a highly qualified team of experts in the manufacture of EDM machines and precision assemblies. We are characterised by our proximity and accessibility, which is why we are present all over the world with a wide range of distributors. At our main production centre, with 11,000 m2, we design and create customised solutions for each client; we own a major infrastructure designed to provide efficient support for our clients and to cater for each individual project.

\ EUROPEAN TECHNOLOGY, GUARANTEEING MAXIMUM RELIABILITY.

Our machines are 100% manufactured in Europe using top-of-the-range components. We are leaders in technology and provide the best performance with maximum reliability.

\ CLIENT-ORIENTED CUSTOMISED SOLUTIONS.

Not only are we experts, we are also flexible. Our aim is to guarantee our clients' competitiveness, by creating long-term alliances, providing advisory services throughout the entire process in order to ensure the optimum performance of each machine installed. Each project is unique, and we are totally committed to the end result. We are world leaders in the manufacture of EDM machines for large pieces and we excel in special solutions. Each client has their own objectives and, at ONA, they will find the partner to help fulfil them.

\ INNOVATION AT THE SERVICE OF PROFITABILITY.

In our R&D center, we work on a daily basis to develop the technology necessary for increasing the profitability of our clients' projects. We collaborate with a range of technology research centres (ILT-Frauhofer and WZL-Aachen, in Germany, and Tekniker, Tecnalia, Ideko and the University College of Industrial Engineers of Bilbao, in Spain, among others) and we participate in European research and development projects, constantly seeking improvements to apply to the solutions required by each client. We innovate to create more productive, reliable and robust machines.

\ GUARANTEE AND SUSTAINABILITY.

We are committed to the environment. We do day-to-day research on new cleaner production processes which are respectful of people and their environment. All our machines are designed from the industrial eco-design point of view, with an aim to optimising performance and energy efficiency. Our clients place our general efficiency rating at 98%, one of the highest in the market. The machines manufactured in ONA's production centre are certified to ISO 9001 and ISO 14001 in accordance with EC electromagnetic safety and compatibility standards.

ISO 9001

INSPIRED BY TECHNOLOGY

Cutting-edge technology.

The QX range EDM die-sinking machines are certainly a safe bet. They come with **a state of the art digital generator** ensuring increased profitability, optimising times and guaranteeing perfect results. Their robust design facilitates greater precision in detail work. An intuitive and visual environment with improvements in programming strategies, helps the user obtain the best results. Top range machines incorporating one of the most innovative, efficient and highest performing technologies currently on the market.

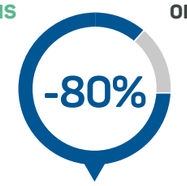
New generator.
100% digital.
100% configurable.
100% programmable.

\ INCREASED PROFITABILITY FROM SAVINGS IN ELECTRODES.

The new Expert System optimises the erosion process and adapts it to the load conditions of each moment. In addition, it catalogues each spark according to its quality and eliminates those that fail to contribute to quality machining. This results in great improvements in productivity:

PRODUCTIVITY IN **ROUGHING OPERATIONS**

PRODUCTIVITY IN **FINISHING OPERATIONS**



WEAR OF ELECTRODES

\ PERFECT PRECISION IN FINISHES, CORNERS AND EDGES.

Automatic monitoring and optimization of over 30 erosion parameters guarantees maximum quality and efficiency of the process. With the new special control points system, we achieve maximum precision, and minimise the wear of graphite electrodes, thus preventing build-up on the corners and edges of the electrodes.

Perfect results on corners and edges thanks to special control points system.

It raises the speed of rib machining by 40%.

The rapid movement and acceleration of the head optimises erosion in deep, narrow cavities, increasing machining speed by up to 40%. Thanks to this, productivity is raised from 25% to 50% and electrode wear is reduced from 80% to up to 500%.

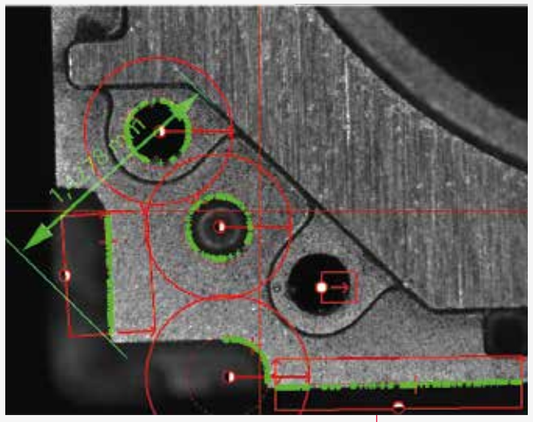
Maximum uniformity of surface finish.

We meticulously control each discharge in terms of time, with a resolution of 0.1 Amperes. We ensure top quality in surface integrity with the best end result with uniform and precise finishes. These excellent results can also be obtained on large surfaces thanks to an adaptive speed and acceleration system to obtain gentle movements, thus avoiding vibration in large surface area electrodes.

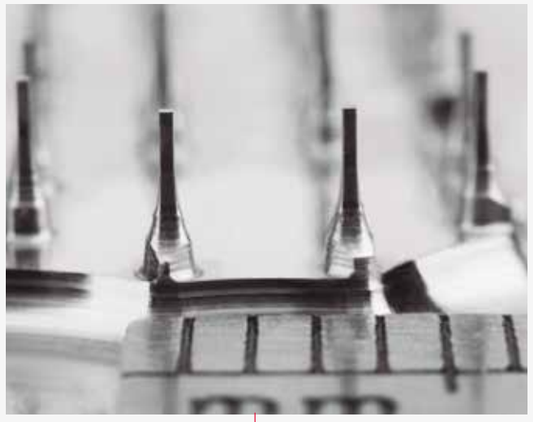
More precise micro machining. Improved precision of the internal radius of up to 5 microns.

The new digital generator is capable of regulating intensity with great resolution, and can handle technology for electrodes with extremely small undersize (0.030 – 0.015 mm) and machining of internal radio of up to 0.005mm.

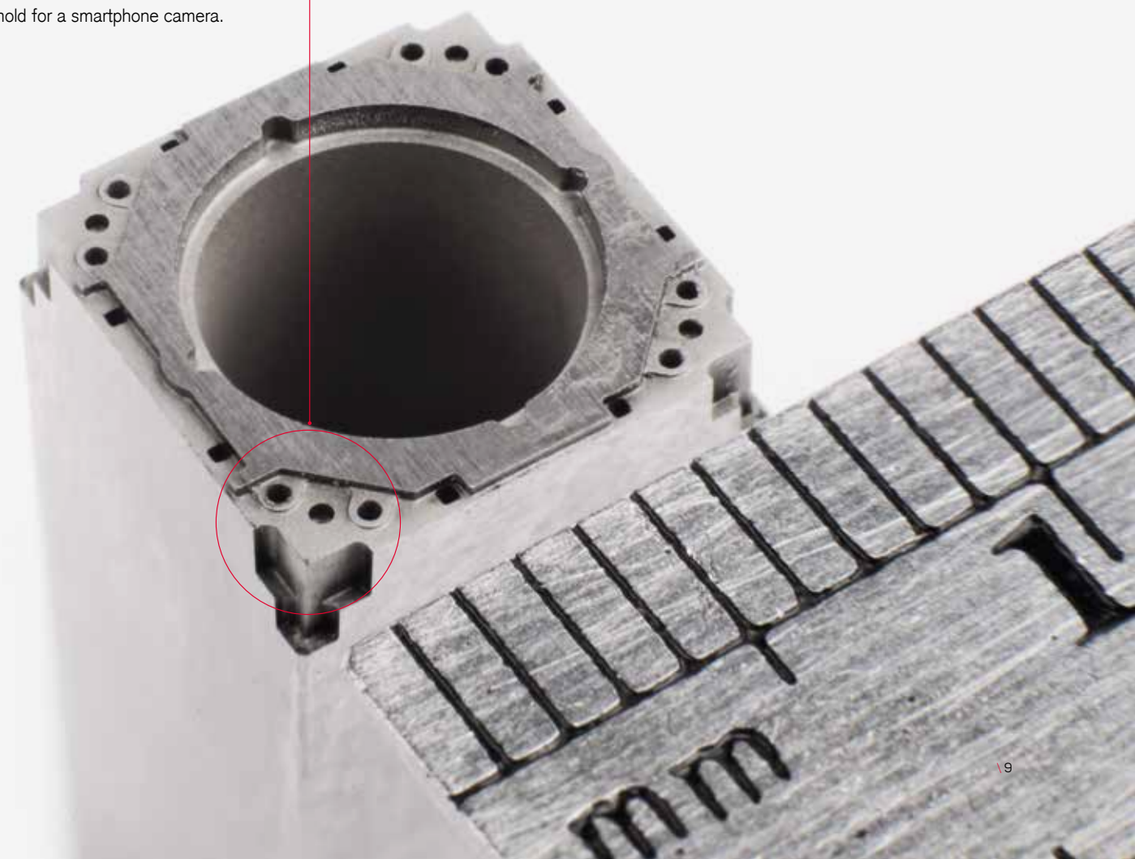
Erosion diameter measurement.



Electrodes used for making the application.

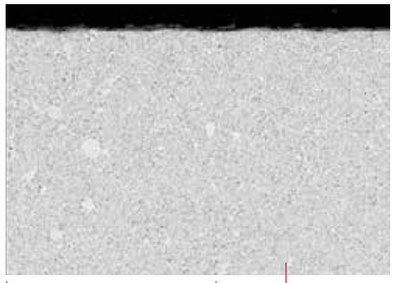


Die-mold for a smartphone camera.



\ CUSTOMISED TO SUIT EACH CLIENT. FULLY CONFIGURABLE AND PROGRAMMABLE.

The generator was designed to be fully configurable and programable. Its technology will effectively adapt to the different current and future applications, and will always be compatible with subsequent versions.



SPEED AND PROFITABILITY +50%

\ THE BEST SOLUTION OF THE MACHINING OF POOR CONDUCTIVE MATERIALS.

Thanks to the new design in intensity control, optimum energy density can be achieved for the characteristics of each material, thus avoiding possible damage caused by an excess of temperature. This affords improved erosion performance and guarantees a fault-free (cracks, surface alterations) surface finish. It is particularly suited to poor conductive materials like tungsten carbide, SiC, SiSiC, CBN, CMC ceramics, polycrystalline diamond, etc, facilitating the erosion of materials which are of particular interest in the energy, aeronautics and mould-making sectors. Moreover, Moldmax and Ampco materials can also be eroded with perfect results.

74	183,85	1,7
Ct		
TUNGSTEN CARBIDE		
3380		
5930		19,26

Tungsten carbide

29	63,54	1,9
Cs		
CERAMIC MATRIX COMPOSITES (CMC)		
1083		
2595		8,96

Ceramic Matrix Composites (CMC)

03	05,83	1,9
Si		
SISIC		
1983		
3417		9,11

SiSic

14	28.086	1,8
Cb		
CBN		
1410		
2680		2,33

CBN

95	98.478	1,3
Cm		
CMC		
1599		
2589		20,3

CMC

04	07,08	1,6
Mo		
MOLDMAX		
3306		
5069		2,58

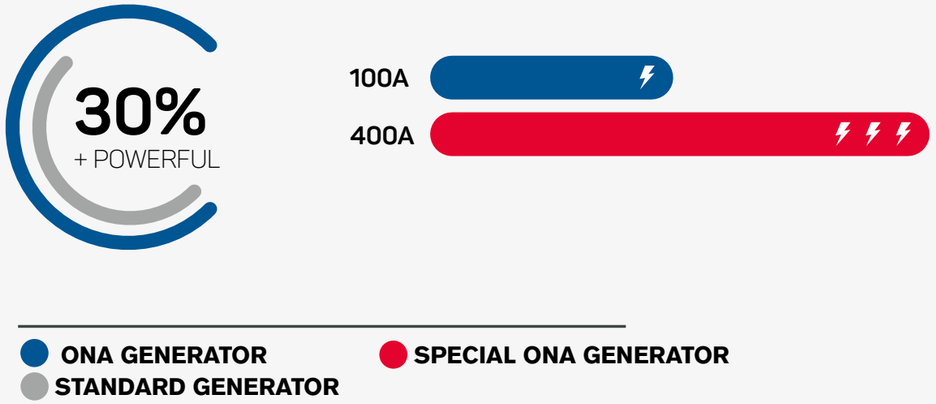
Moldmax

98	3.569	1,4
Dp		
POLYCRYSTALLINE DIAMOND		
4869		
2658		2,73

Polycrystalline diamond

\ UNIQUE TECHNOLOGICAL INNOVATION. GENERATOR 30% MORE POWERFUL THAN THE REST OF THE MARKET.

Work in innovation and development has allowed us to incorporate improvements guaranteeing a competitive edge. Our standard generator, which includes 100 A and 200 A configurations is 30% more powerful than other generators and is the most powerful on the market. It is capable of reaching up to 400 A in intensity. It is the perfect solution for applications requiring high material remova and great speed.



Innovation in design.
Robustness and precision.

\ MECHANICS DESIGNED TO ACHIEVE MAXIMUM PERFORMANCE WITH PIECES OF UP TO 25 TONS.

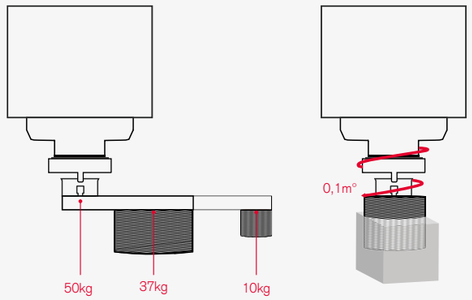
The machine's structure is manufactured in grey cast iron which is subsequently stabilised. Its structure is symmetrical in design to prevent thermal deformations. The work table is fixed, with a load capacity for pieces of up to 25 tons (QX10/TQX10).

\ FAILPROOF PRECISION OF POSITIONING.

Linear scales with direct measurement of positioning guarantee precision throughout the machine's useful life. Direct position measurement by means of linear scales with 0.1 µm resolution. Failproof verification of positioning in real time prevents precision errors. In addition, it eliminates the need for periodic maintenance and calibration operations.

\ MAXIMUM ROBUSTNESS OF THE C AXIS.

A reinforced C axis affording stability in erosion with electrodes that have high moments of inertia (aprox. 12,000 kg/cm2). Precision mechanics to within a thousandth of a degree. Dynamic correction of the electrode in C which allows for complex erosions to be carried out with synchronised interpolations combining, for example, linear and rotary axes in the machining of Impeler 3D-type pieces. Its robustness permits the use of large electrodes.



Greater control to enhance performance.

\ INTUITIVE PROCESSES THAT FAVOUR CONTROL AND PERFORMANCE.

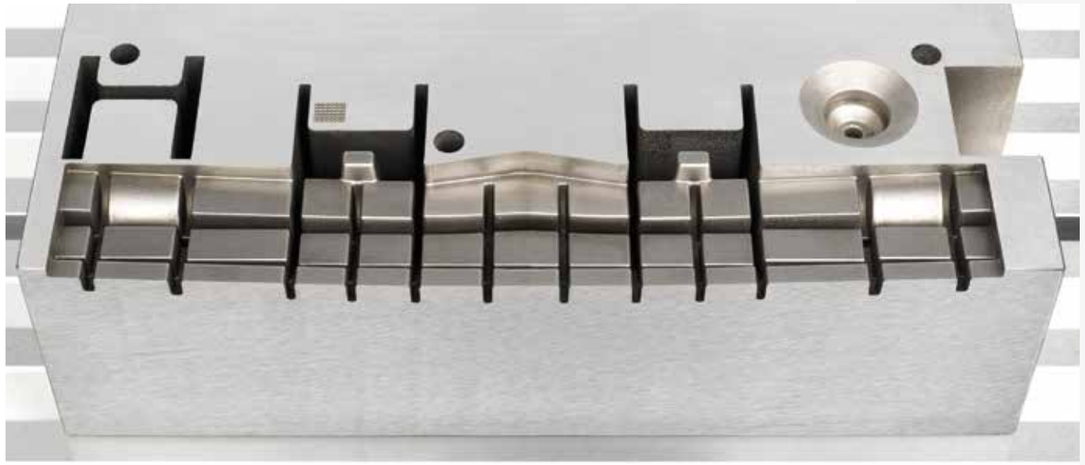
The control incorporated in QX models makes it easy to operate the machine thanks to a quick standarised process that gives master results. With a cutting-edge CNC technology that optimise its handling by the user and achives higher level of automation. EDM becomes a simple process where the machines take the most difficult decisions. As a result, the processes are more autonomous, effective and reliable. Perfect results with enhanced performance.

\ THE BEST RESULTS AT A CLICK.

All our work is aimed at obtaining a top quality part in the shortest time possible. This is why we developed an interactive assistance program for our machines, APPLICATION PATTERNS. These are a series of assistance templates for creating specific applications (such as ribs, large electrodes, drills, sub-gates, micro) that guarantee excellent results just by choosing a pattern that best fits the piece. This new aid included in the QX range also offers the user different strategies for a wide range of materials. Simple, quick and safe!

\ TIME SAVINGS WITH CONTROLLED ORBITAL EROSION.

Our innovation team has developed the JOS Advanced System (Jump Orbit System), an evolution of the JOS orbital algorithm. This new algorithm reduces the orbit time and guarantees a uniform, top quality finishing in less time.



\ ROBUST, RELIABLE, STATE-OF-THE-ART HARDWARE.

The fibre optic clock control ensures the perfect coordination of all the systems at the speed of light and with full noise immunity. The load distribution system in the new power modules ensure better use and enhanced performance of each component, resulting in a longer useful life.

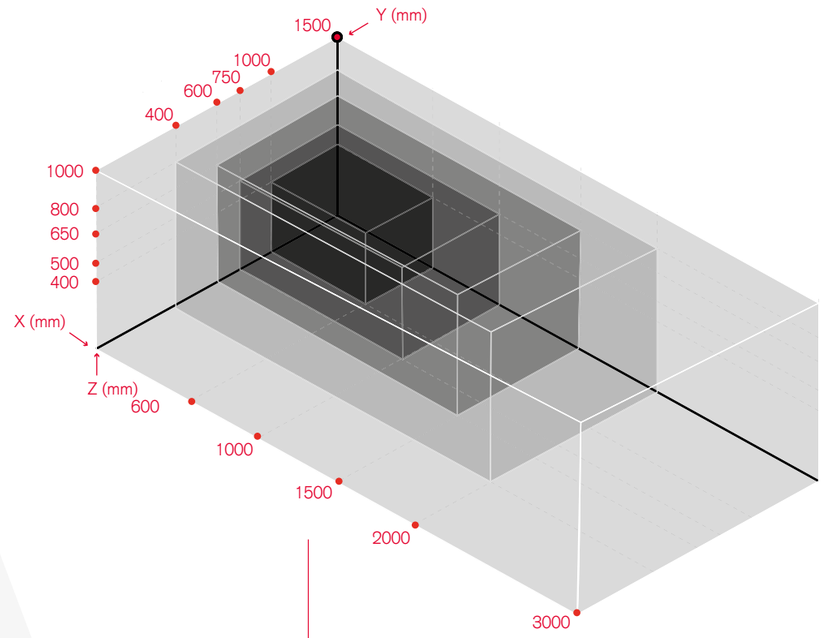
\ GREATER CONTROL, RAPIDITY AND EFFICIENCY. UP TO 8 AXES.

QX machines include a very powerful control with up to 8 simmultaeously interpolating axes and volumetric compensation in the entire work area. They are faster and more efficient, and capable of self-adjusting in order to obtain the best performance possible with minimum operating costs. In addition, they come with the A SPACE function (erosion axis in the SPACE), which implies that any erosion function programmable in the CNC (spheres, cones, orbitals, vectors, etc.) can be carried out in any direction of the space.

MULTIPLE SOLUTIONS FOR DIFFERENT IDEAS

Unprecedented flexibility.

The versatile modular design of our large machines allows **more than 40 combinations**. Each client can configure their own equipment depending on their needs, with machines allowing **up to 25,000 kg weights.**



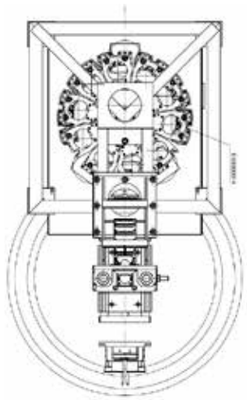
The data refer to the possible travel of the machine's axes.

\ AUTOMATIC TOOL CHANGERS.

Maximum number of hours without downtime thanks to process automation.

The widest range of automatic changers (including linear versions and the rotary one with 20 or 40 positions) which guarantee maximum performance to each client's specific needs. We also manufacture special changers for large or heavy electrodes.

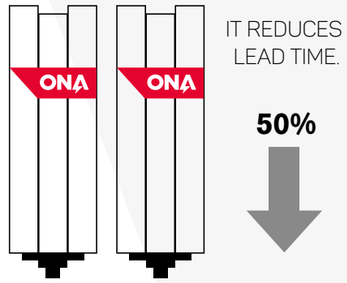
40-POSITION ELECTRODE CHANGER *DEVELOPED BY ONA.*



\ DOUBLE HEAD.

Erosion time savings of 50% and greater efficiency with up to 200% in productivity.

QX machines can have a second head, implying a reduction of erosion time of up to 50% and an increase in productivity of up to 200%. Half the time to get the same results.



IT REDUCES LEAD TIME.

50%

\ ALL KINDS OF CUSTOMISED PROJECTS FOR EACH CLIENT.

We analyse what the client needs and offer the perfect machine for them.

Our designs aim at achieving maximum process automation. Our machines can be delivered with a standard robot for one or two machines. They can also be easily integrated in multi-machine and multi-process manufacturing cells (erosion, milling, measurement…), with centralised control software and with integration with CAD/CAM for the automatic generation of programs.

We work together with our clients throughout the entire process, offering personalised monitoring of the functioning of each machine and adapting to each user's needs.

ECO DESIGN

Resource optimisation to raise productivity.

One of our objectives is to optimise resources while taking care of the environment. We work on the design of more efficient machines from the point of view of **Eco design** and with enhanced performance. Our R&D team has done research for many years on new, cleaner production processes which respect people and their environment. Two concepts are integrated under the term ECO: **Economics and Ecology**; offering the most profitable and environment-friendly solutions in the EDM field.

Logistics optimisation.

Compact machines designed for the greatest use of space in the plant. We are concerned about savings in transport and in packaging, with a smaller carbon footprint in their production and in the life cycle.

Greater productivity with greater energy savings.

A more efficient generator implying greater productivity. Energy efficiency to improve performance. Moreover, we are highly focused on the maximum optimisation of the tool changer or robot thanks to the savings in the number of necessary electrodes (ZERO WEAR).

Lasting, reliable machines.

The new generation of ONA QX machines have the traditional robustness and reliability that has always characterised ONA machines. Their robust design and the top quality of their manufacture ensures a machine useful life of over 30 years.

More economical ecological filter.

There are only advantages with the long-lasting filter. At ONA, we are committed to recycling and optimum waste separation:

- Waste separation.
- Superior quality filtering.
- Financial savings. Elimination of consumable filter cartridges.
- Reduction of storage space to zero, for new as well as used cartridges.
- Self-cleaning system permitting the continuous working of the machine, with no downtime, thus maximising its output.
- Guaranteed 10,000 working hours with no maintenance costs.

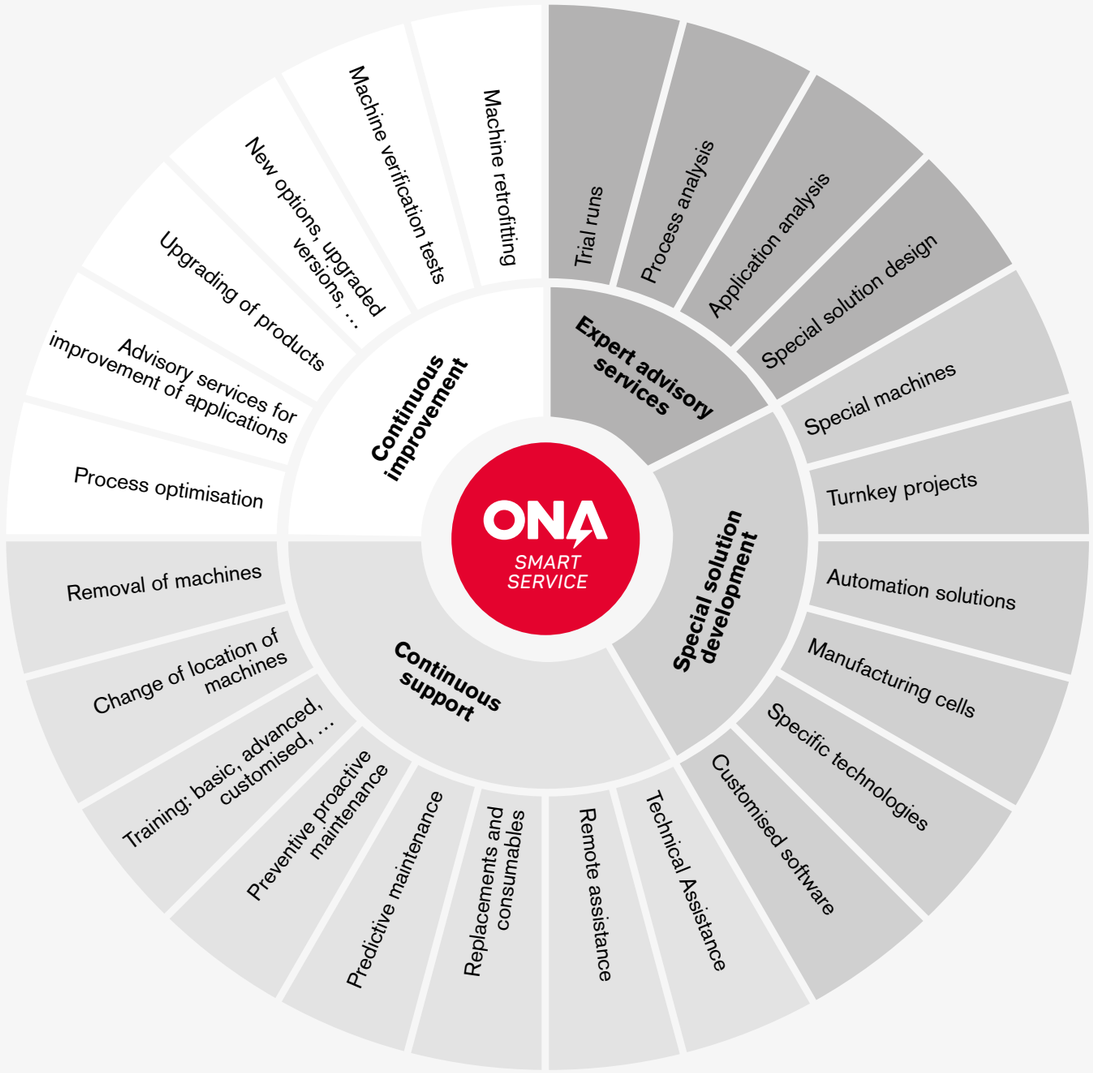
ONA SMART SERVICE

Much more than the best service.

We are defined by the quality of our service. Our work is always aimed at improving the production processes of each business, and ensuring the future of EDM. Our professional record with contrasted experience makes us a reference in the sector and a trusted partner on the road to digital transformation.

\ AN EXPERT TEAM AT YOUR DISPOSAL.

We accompany our clients throughout the useful life of the machine, providing advisory services during the different stages with an aim to guaranteeing maximum efficiency of the machine and a relationship of mutual trust down through the years. With ONA, the client is guaranteed a team of experts at their disposal during the entire process, from the beginning, with the offer of perfect solutions for each client, and during each machine's years of operation.



The QX range's connectivity.

Connectivity and network operation. Ethernet connector, standard TCP/IP communication.

Different M2M connection options.

IoT ready, possibility to connect to other devices or platforms complying with Industry 4.0 standards.

The CNC includes a control and monitoring server allowing data and services to be offered to external clients via XML.

Plant Monitor, ONA Cloud Monitor… possibility of monitoring and registering data securely in the cloud or locally.

File transmission via FTP or FTPS.

Customised systems: Security Pack.

We design customised solutions for the client's specific needs, such as our Security Pack: A protection system to guarantee the security of the company's sensitive information. A system for creating an administrator, configuring different profiles, limiting deletion or modification of files as well as external access blocking or recording the machine's On-hours and working hours. The most efficient way to protect our businesses by preventing data loss.

\ EXPERT ADVISORY SERVICES.

Greater efficiency of the machine.

From the very start of our relationship, we commit to the client to guarantee the success of the machine's installation process. Prior to the sale, our advisory team is in charge of finding the best option for each client. We analyse each client's needs, carry out a preliminary study and design a perfect customised solution for them. This preliminary analysis is essential in order to get to know each business, thus ensuring the greater productivity and enhanced efficiency of each machine.

Our goal is to guarantee that each machine is in the best working condition in the specific environment of each client.

\ CUSTOMISED DESIGN AND PROGRAMMING.

A competitive edge.

We accompany our clients throughout the entire deployment process. We carry out preliminary studies after which we can introduce improvements into the manufacturing process, thus optimising times and obtaining more precise finishes in workpieces. An integral customisation service adapted to each client for the purpose of improving their production processes and profitability. Within this philosophy of customisation and automation, we design customised machines, we work on projects to deliver turnkey solutions and we develop applications and software adapted to the needs of each client.

\ APPROVED CONSUMABLES.

ONA guarantee with each consumable.

We have always been in favour of using approved top-quality consumable products and original replacement parts. Their use guarantees optimum production and prolongs the useful life of each piece of equipment while optimising costs. In addition, it ensures maximum efficiency and the best results. Our catalogue has all the necessary consumables for the maintenance of the machine such as wires, filters, Ekoadd, resins, guideways, power taps, oils, blades and drilling electrodes.

\ ORIGINAL REPLACEMENT PARTS.

Immediate availability.

Our broad network of distributors around the world guarantee quick assistance in the face of any event. We can guarantee a stock of original parts in a period of 24 hours to almost anywhere in the world.

\ TRAINING.

Committed to the training of future experts in the sector.

We have developed a training programme, offering basic instruction and more advanced training, in order to bring EDM closer to each client and make the processes both intuitive and simple. These training sessions can take place at ONA premises or at the client's own premises in other parts of the world.

\ TECHNOLOGICAL UPGRADING.

Technology always at the ready.

At ONA, we work to maintain our machines in optimum condition to ensure maximum efficiency and optimum working of each machine. We analyse each case and lay down measures for optimising processes: software updates, data analysis, improvements in applications, quick replacement of damaged parts. All of the aforesaid together with the ONA guarantee and our experience as the manufacturer with the longest history in EDM sector in the world.

\ PERFECT MAINTENANCE OF THE MACHINERY.

Immediate availability of original replacement parts.

One of our most significant competitive edges is our customised preventive maintenance service for each client. We can anticipate the next change in parts, improving remote assistance and guaranteeing optimum working of the machine, thus avoiding unnecessary downtime which has a negative impact on production. We offer:

- Call centre.
- On-site assistance.
- Preventive and customised maintenance contracts.
- Network of technical service points in a variety of countries.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS		ONA QX4	ONA QX6
MACHINE			
X axis travel		600 mm	1.000 mm
Y axis travel		400 mm	600 mm
Z axis travel		400 mm	500 mm
C axis course		360 °	360 °
XYZ positioning resolution		0.0001 mm	0.0001 mm
C positioning resolution		0.001 °	0.001 °
X, Y maximum travel speed		6000 mm/min	
Z maximum travel speed		18.000 mm/min	
WORKING TANK			
Door		Drop tank	Drop door
Tank measurements		1.070 x 770 x 450 mm	1.700 x 1.000 x 600 mm
Table measurements		800 x 600 mm	1200 x 800 mm
Max. distance between head and table	Without C axis	690 mm	800 mm
	With C axis	600 mm	760 mm
Max. height of dielectric		420 mm	565 mm
Max. height of the workpiece		370 mm	515 mm
Permissible weight on the table		1.500 kg	4.000 kg
Max. weight of the electrode (**)		200 kg	200 kg
Max. weight of the electrode with C axis (***)		50/12 kg	50/12 kg
Permissible weight in electrode changer (****)		50/10 kg	50/10 kg

Linear 9- and 18-position electrode changer. (Except for QX4).
Rotating 20- and 40-position electrode changer.
Dielectric cooling system.
Input current stabilisers.

SPECIFICATIONS		ONA QX4	ONA QX6
GENERATOR			
Intensity		100 | 200 | 400 Amp	100 | 200 | 400 Amp
Programmable intensities		From 0 to 100 Amp, in amp decimals	
Ignition voltages		Between 40 N° and 250 N°	
Pulses		Between 1 and 6,500 programmable microseconds	
Pauses		Between 1 and 6,500 programmable microseconds	
Max. copper stock removal capacity		550 mm3 / min	550 mm3 / min
Max. graphite stock removal capacity		660 mm3 / min	660 mm3 / min
Volumetric wear of copper		<0,10%	<0,10%
Volumetric wear of graphite		<0,05%	<0,05%
Improved surface finish		0,08 - 0,1 Ra	0,08 - 0,1 Ra
CNC			
Display		15" TFT color	
Min programmable and controllable increase		0.0001 mm/0.001°	
Max. programmable dimension		±9999.999 mm	
Memory capacity		1Gb RAM	
Keyboard		Flat, anti-dirt	
Remote control		Standard	
FILTRATION UNIT			
Filtration system		Long-lasting environment-friendly filter	
Filtration quality		1 µm	1 µm
Replacement of filtration elements		>10.000 hours	>10.000 hours
Cleaning means		Automatic	Automatic
Cleaning	Head (pressure, intermittent)	Programmable from 1 to 31	
	Tank (pressure, suction, intermittent)	Programmable from 1 to 31	
GENERAL CHARACTERISTICS			
Total weight (*)		4.900 Kg	8.200 Kg
Maximum height (*)		2.850 mm	2.930 mm
Floor surface area (*)		2.270 x 2.800 mm	3.300 x 3.370 mm
Maximum power required (*****)		17.9 / 26 KVA	14.7 / 20.5 KVA

(**) On electrode holder plate.
(***) Static/dynamic, depending on the geometry.
(****) Total load/Unit maximum in linear changer.
(*****) 60/120 medium intensity amperes.

Due to its continuous review of technology and design, ONA ELECTROEROSIÓN reserves the right to modify the specifications of this catalogue without prior notice.

ONA QX7

ONA TQX7

ONA QX8

ONA TQX8

ONA QX10

ONA TQX10

SPECIFICATIONS		ONA QX7/TQX7	ONA QX8/TQX8	ONA QX10/TQX10
MACHINE				
Total X axis travel (individual TQX)		1.500 (830) mm	2.000 (1.200) mm	3.000 (2.000) mm
Y axis travel		750/1.000 mm	750/1.000 mm	1.000/1.500 mm
Z axis travel		650/800 mm	650/800 mm	800/1.000 mm
C axis course		360 °	360 °	360 °
XYZ positioning resolution		0.0001 mm	0.0001 mm	0.0001 mm
C positioning resolution		0.001 °	0.001 °	0.001 °
X, Y maximum travel speed		6000 mm/min		
Z maximum travel speed		18.000 mm/min		
WORKING TANK				
Door		Drop door	Drop door	Drop door
Tank measurements (*)		2.300x1.500x1.000mm	2.800x1.500x1.000mm	4.000x2.000x1.250mm
Table measurements (*)		1.700 x 1.000 mm	2.200 x 1.000 mm	3.200 x 1.600 mm
Max. distance between head and table	Without C axis	1.000 mm	1.200 mm	1.500 mm
	With C axis	970 mm	1.170 mm	1.470 mm
Max. height of dielectric (*)		950 mm	950 mm	1.180 mm
Max. height of the workpiece (*)		900 mm	900 mm	1.130 mm
Permissible weight on the table		15.000 kg	20.000 kg	25.000 kg
Max. weight of the electrode (**)		200 kg	200 kg	200 kg
Max. weight of the electrode with C axis (***)		50/12 kg	50/12 kg	50/12 kg
Permissible weight in electrode changer (****)		100/10 kg	70/10 kg	70/10 kg

Linear 9- and 18-position electrode changer. (Except for QX4).
Rotating 20- and 40-position electrode changer.
Changer for large electrodes up to 50 kg. of weight. Dielectric cooling system.
Input current stabilisers.

SPECIFICATIONS		ONA QX7/TQX7	ONA QX8/TQX8	ONA QX10/TQX10
GENERATOR				
Intensity		100/200/400 Amp	100/200/400 Amp	100/200/400 Amp
Programmable intensities		From 0 to 100 Amp, in amp decimals		
Ignition voltages		Between 40 and 250		
Pulses		Between 1 and 6,500 programmable microseconds		
Pauses		Between 1 and 6,500 programmable microseconds		
Max. copper stock removal capacity		550 mm3 / min	550 mm3 / min	550 mm3 / min
Max. graphite stock removal capacity		660 mm3 / min	660 mm3 / min	660 mm3 / min
Volumetric wear of copper		<0,10%	<0,10%	<0,10%
Volumetric wear of graphite		<0,05%	<0,05%	<0,05%
CNC				
Display		15" TFT color		
Min programmable and controllable increase		0.0001 mm/0.001°		
Max. programmable dimension		±9999.999 mm		
Memory capacity		1Gb RAM		
Keyboard		Flat, anti-dirt		
Remote control		Standard		
FILTRATION UNIT				
Filtration system		Long-lasting environment-friendly filter		
Filtration quality		1 µm	1 µm	1 µm
Replacement of filtration elements		>10.000 hours	>10.000 hours	>10.000 hours
Cleaning means		Automatic	Automatic	Automatic
Cleaning	Head (pressure, intermittent)	Programmable from 1 to 31		
	Tank (pressure, suction, intermittent)	Programmable from 1 to 31		
GENERAL CHARACTERISTICS				
Total weight (*)		13.800 Kg	16.000 Kg	22.500 Kg
Maximum height (*)		3.585 mm	3.585 mm	4.120 mm
Floor surface area (*)		3.860 x 4.525 mm	5.440 x 4.980 mm	6.640 x 5.800 mm
Maximum power required (*****)		16,8 / 22 KVA	13,5 /17 KVA	15,5 / 19,5 KVA

(*) Request the different configurations available. The data specified correspond to the largest machine in each of the models. (**) On an electrode holder plate.
(***) Static/dynamic, depending on the geometry.
(****) Total load/ Unit maximum in linear changer.
(*****) 60/120 medium intensity amperes.

Due to its continuous review of technology and design, ONA ELECTROEROSIÓN reserves the right to modify the specifications of this catalogue without prior notice..

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FOR THE FUTURE

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