GF Machining Solutions

AgieCharmilles

CUT 200/300 mS
CUT 200/300/400 Sp

GF Machining Solutions: all about you

When all you need is everything, it's good to know that there is one company that you can count on to deliver complete solutions and services. From world-class Milling, electrical discharge machines (EDM) and Laser texturing machine tools through to first-class Automation, Tooling and software systems — all backed by unrivaled Customer service and support — we, through our Mikron, Liechti, AgieCharmilles and System 3R technologies help you raise your game and increase your competitive edge.

Swiss design and quality

Contents

Built for performance

Lasting performance is built into the CUT 200/300 mS and CUT 200/300/400 Sp. Thanks to a foundation of highest quality Swiss manufacturing, you benefit from their small footprint, superb ease of use, and linear glass scales guaranteeing high positioning precision.

Applications

Performance and versatility to meet all expectations

Parts production

Stamping die

Plastic injection mold

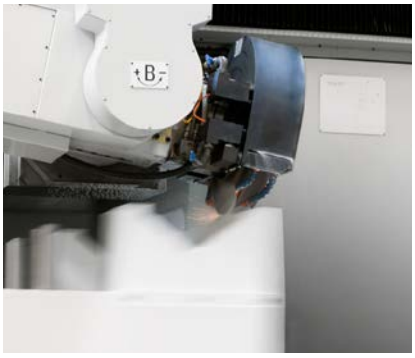
Watches industry

Medical industry

Large Taper machining

The foundation of performance

Swiss design and manufacturing



Quality Swiss manufacturing
Due in large part to quality Swiss manufacturing and the highest quality flat precision grinding of the guiding and assembly surfaces, the CUT mS/Sp series is built for long-lasting precision that remains unchanged after years of use.

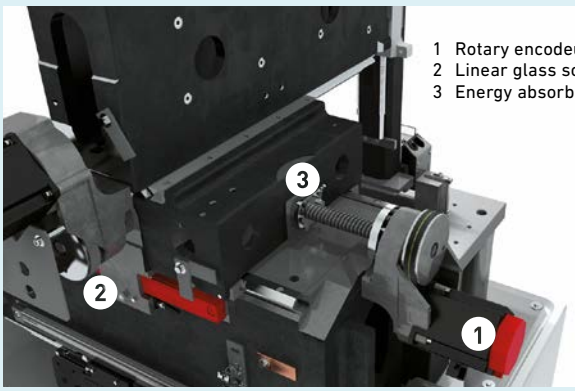
Small footprint and ease of use
Thanks to its frame-mounted work table mounted, the stationary work area is perfectly accessible to the operator. The large, vertical sliding door of the CUT 200 mS, CUT 300 mS and CUT 400 Sp requires less workshop space.

X, Y, U, V, Z linear glass scale is standard equipment
To obtain high positioning precision, the X, Y, U, V and Z axes are fitted with a linear glass scale with absolute coding, at a resolution of 50 nanometers.

Integrated Collision Protection (ICP)

Collisions may affect machine accuracy. Ensure long-lasting precision with this exclusive mechanical system that absorbs the energy of a collision. Protection is effective up to traveling speeds of three meters per minute.

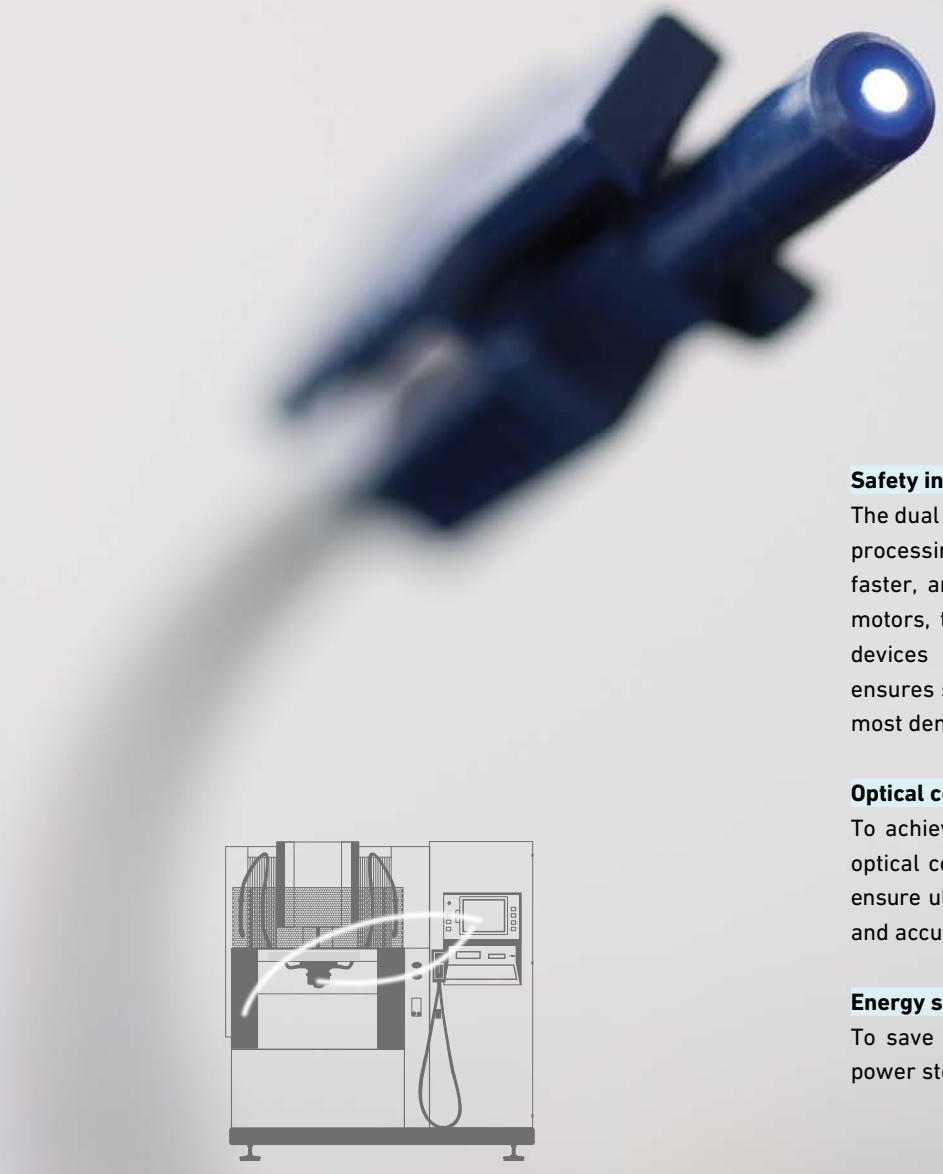
When the position given by the rotary encoder is different from the position given by the glass scale, the machine starts an emergency stop and the energy absorber avoids any damage.



1 Rotary encodeur
2 Linear glass scale
3 Energy absorber

Digital technology

State of the art numerical controls deliver high-speed data transmission



Faster data processing, safety in operation, self testing, reliability and energy savings are the main characteristics of the new electronic architecture of the CUT mS/Sp series.

Safety in use

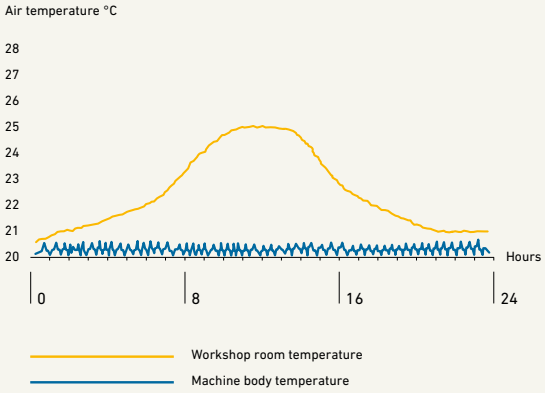
The dual check safety system is composed of two central processing units working in parallel to process data faster, and cross check information fed back from the motors, the digital servo drive and from all the safety devices of the machine. This multi-point monitoring ensures safer machine operation in accordance with the most demanding standards EN 954-1 and IEC 62061.

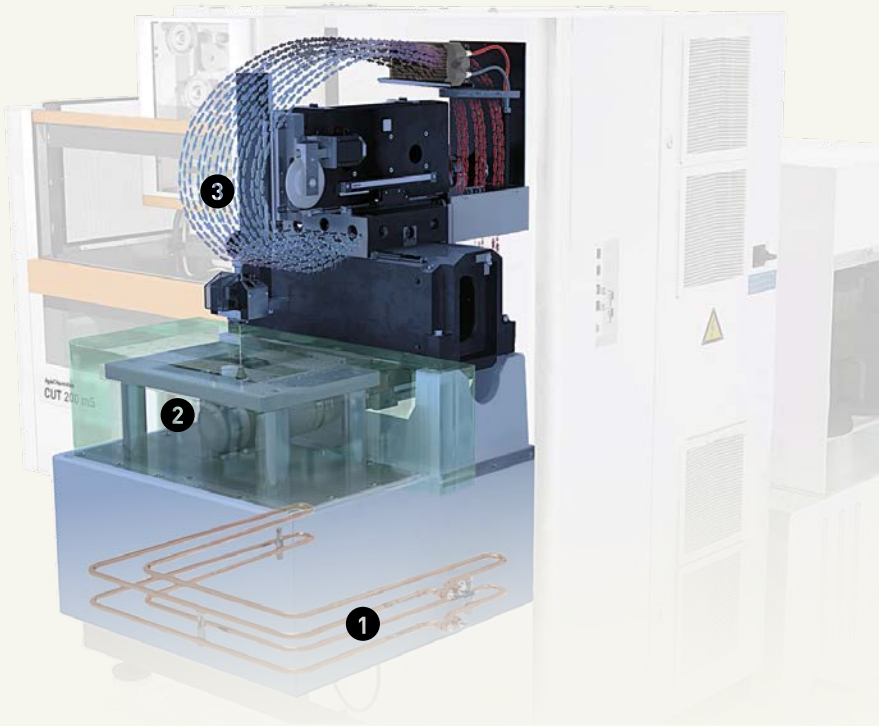
Optical communication lines improve accuracy

To achieve high accuracy and finest surface finish, the optical communication lines from the numerical control ensure ultra fast reaction time of the digital servo drive and accurately control the nanosecond sparking pulses.

Energy saving

To save energy, the smart motor amplifiers reuse the power stored during the axes' deceleration.





1 Water circulation in the Rhenocast machine base
2 Working area
3 Air conditioning in the cabin

Stable high accuracy

The active thermostabilization guarantees the highest precision in all situations

Positioning accuracy

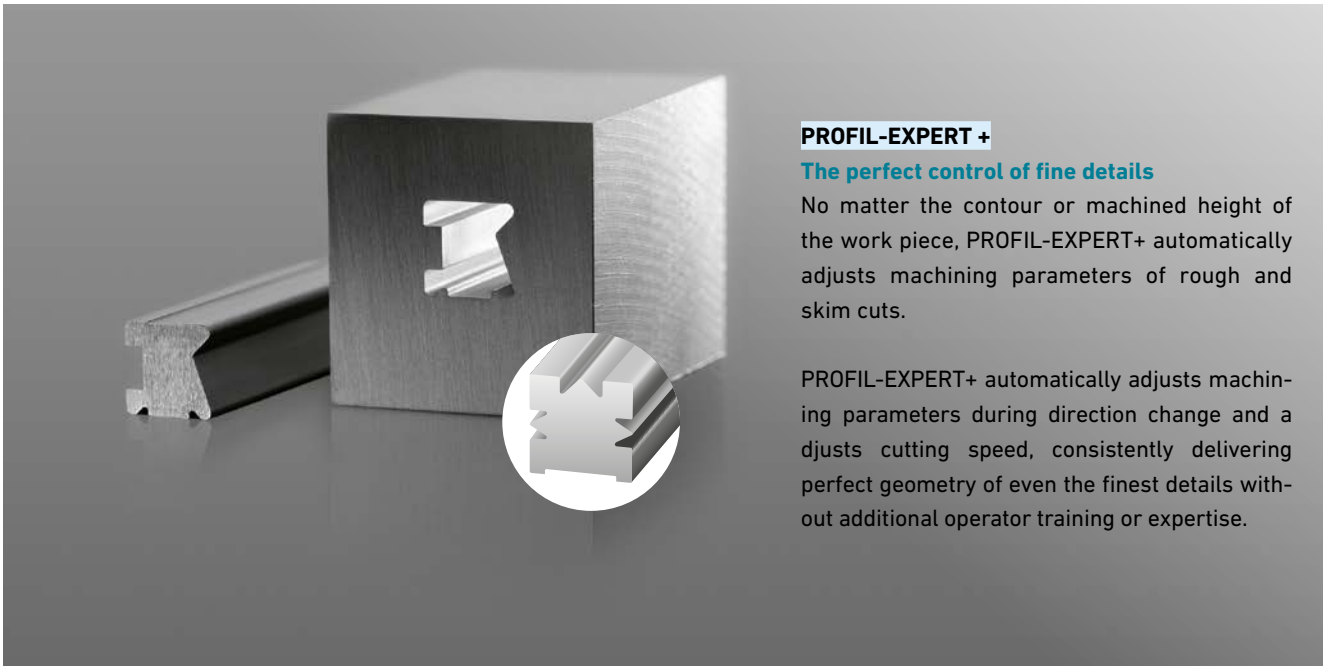
Temperature variation is the number one enemy when high accuracy is expected. To maintain temperature consistency during processing, thermal regulation is incorporated to regulate work tank water temperature within ±0.2 °C. The water at constant temperature flows inside the most sensitive components of the machine, stabilizing the temperature of the mineral casting base, Y axis and cools the cabin air conditioning system.

Even if the temperature varies in the workshop, mechanical components remain stable, guaranteeing high positioning accuracy.

The reference holes machined under these conditions of stable temperature can achieve a positional accuracy of ± 3 µm.

PROFIL-EXPERT

The smart module PROFIL-EXPERT provides excellent contour accuracy



PROFIL-EXPERT +

The perfect control of fine details

No matter the contour or machined height of the work piece, PROFIL-EXPERT+ automatically adjusts machining parameters of rough and skim cuts.

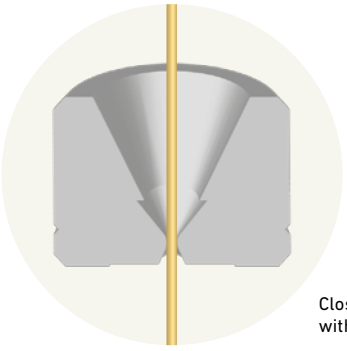
PROFIL-EXPERT+ automatically adjusts machining parameters during direction change and a djusts cutting speed, consistently delivering perfect geometry of even the finest details without additional operator training or expertise.

Precise contours for efficient tools

Very high-speed cutting tools for the electronics industry work with a very small gap between the punch and the guide or die. The precision of the contour is crucial to distribute the gap uniformly, and a fine surface finish is a necessity for supporting the speed of the cut. The CUT mS/Sp series provides as standard a surface quality as fine as Ra 0.1 µm (carbide tool), and the precision of the contour may achieve a tolerance of ± 2 µm.

Wire guide without clearance

The accuracy of the contour, especially in the change of direction, requires perfect guidance of the wire. That is why the CUT mS/Sp series is equipped with round wire guides in diamond without clearance in relation to different wire diameters. This exclusivity contributes to excellent results measured on parts having fine details.



Closed wire guide with no gap

POWER-EXPERT

The smart module POWER-EXPERT provides faultless machining on parts with variable heights

Machining parts with variable heights — common in mold making, aluminum extrusion, general engineering or parts production — typically require operator intervention and resetting to ensure flushing. POWER-EXPERT eliminates this need, increasing machining speed and productivity.

POWER-EXPERT

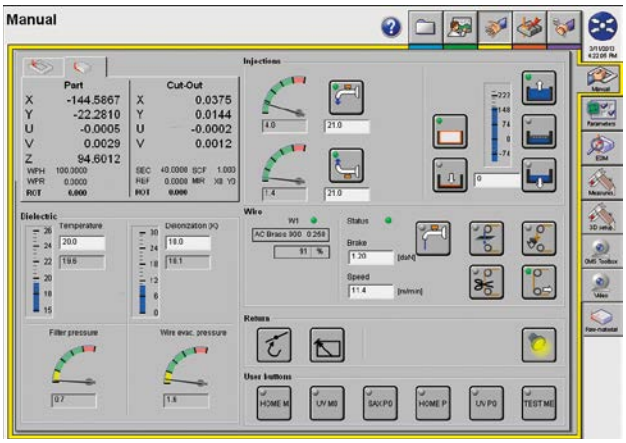
Wire breakage prevention on parts with variable heights

This smart module continually optimizes the speed for machining the rough cut. It reads the injection quality, calculates the height of the part and decides from this the optimum power to send in the wire. Critical situations such as when the part is approaching or crossing a blind hole, are fully automatically controlled by POWER-EXPERT.

SURFACE-EXPERT

Surface quality of parts with variable heights

SURFACE-EXPERT controls the sparking parameters during the finishing stage on parts that have abrupt changes in height. This intelligent functionality allows precise dimensions to be obtained, and a smooth surface finish on cylindrical or angled parts.



The digital control and monitoring of the injection improves the machine productivity

The CUT mS/Sp series smart machines eliminate any need for manual adjustment of the dielectric circuit. The digital injection pressure is monitored and any change detected leads to an immediate adaptation of the sparking power. This enables servo control of the machining power according to the real injection pressure, thus significantly improving the cutting speed on parts with different thicknesses.

TAPER-EXPERT

The smart module TAPER-EXPERT enables perfect accuracy and surface finish

QUADRAX®

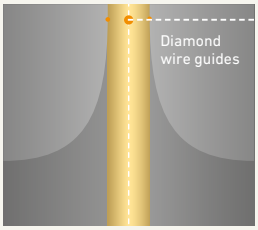
30° over 510 mm, a unique capacity for conical machining (45° as option)

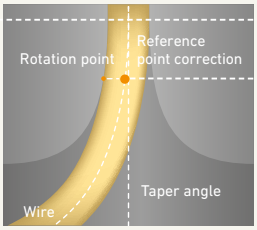
The CUT mS/Sp series is the most versatile machine range on the market, capable of cutting 30° tapers up to the maximum Z-travel — no matter the height of the part. The principle of crossed double guiding of the X, Y, U and V axes independently and of the same dimensions allows machining to be done with a large taper, widening the scope of possible applications for wire spark erosion.

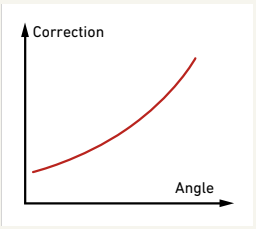
TAPER-EXPERT

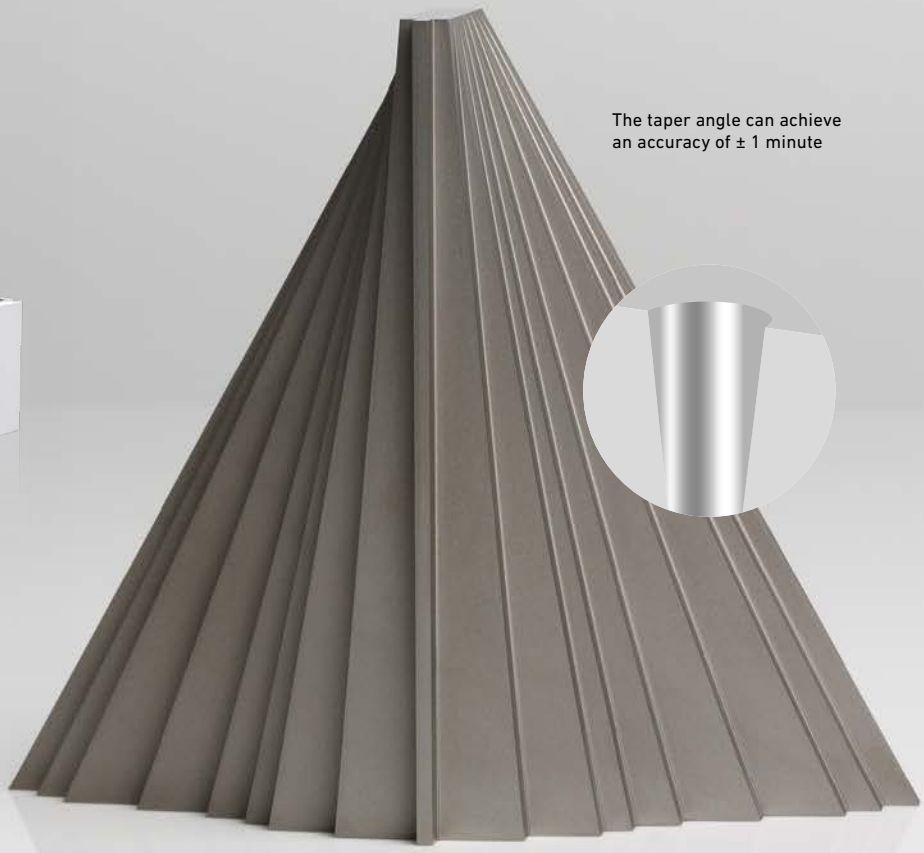
Mastering of large tapers

TAPER-EXPERT 2 takes advantage of the unique Quadrax® design to allow very precise machining of tapers with angles varying from 0 to 30°. It corrects in real time and during machining the position of the wire depending on the angle. The surface quality is the same as that in cylindrical machining.









The taper angle can achieve an accuracy of ± 1 minute

The CC digital generator

Giving priority to speed and quality of the machined surface

Without CC generator | With CC generator

Carbide

Machining do not cause any electrochemical reactions which could make the sensitive cobalt binding material dissolve. The quality of the cut edges and the service life of the tools are optimized. The CC generator allows a surface finish of Ra 0.1 µm to be attained.

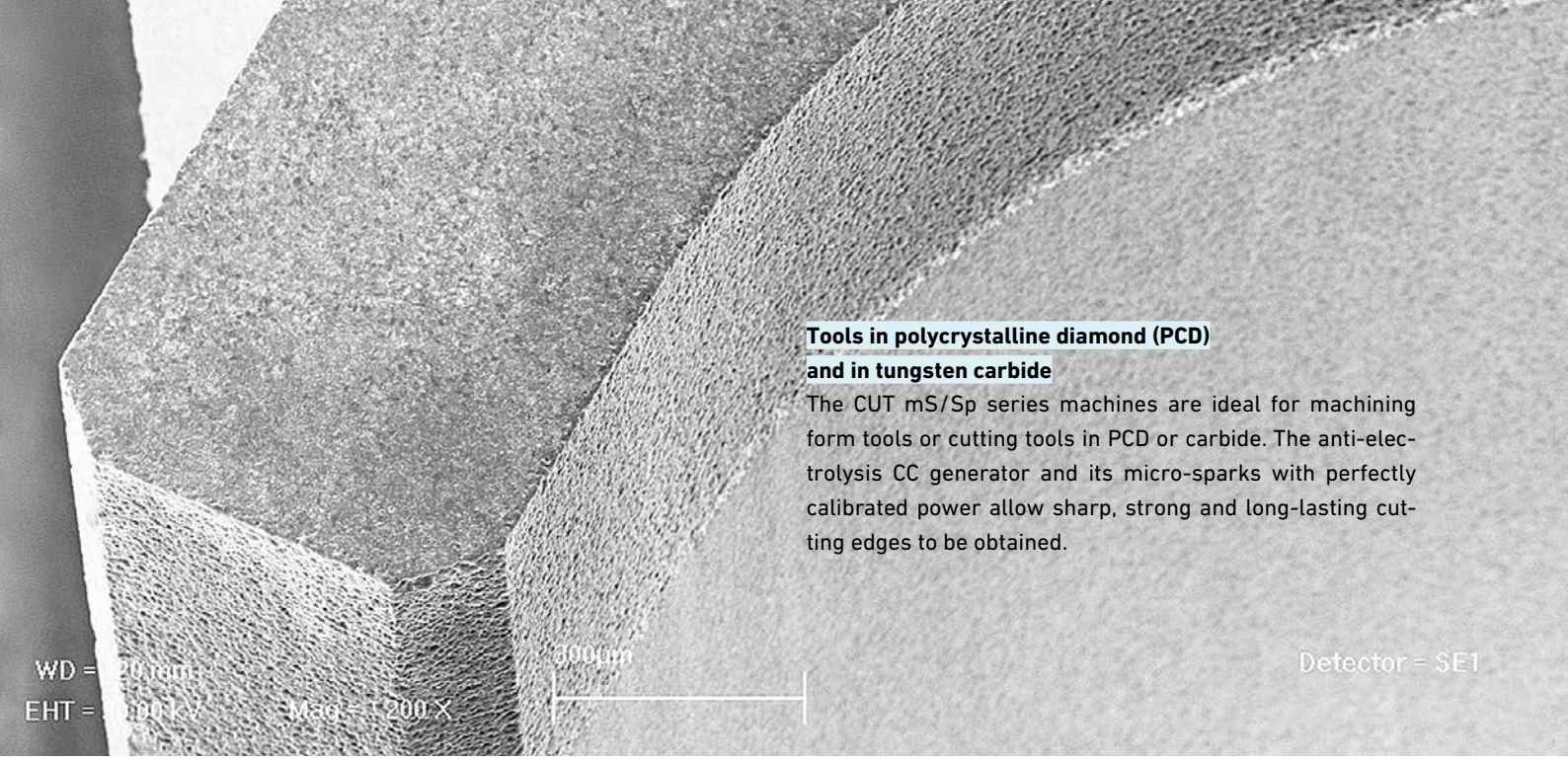
Titanium

Titanium – light, resistant and above all biocompatible – is used a lot in the medical field (manufacture of artificial implants), optics and watchmaking. The CC generator minimizes pollution of the titanium surface with copper or zinc particles from the spark erosion process. In addition, it does not oxidize the surface and so does not change its color to blue.

Super alloys

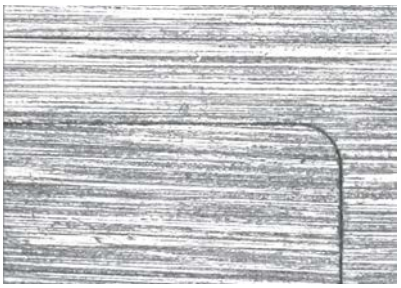
Studies on titanium or nickel alloys have shown that the layer affected by machining with the CC digital generator is very small. This affected surface layer becomes almost invisible after four finishing cuts, and so the mechanical characteristics of the machined part remain completely unchanged. The process is ideal for applications with strict safety requirements, such as aeronautics and the medical industry.

Machining parts for the aeronautics or medical industries



Tools in polycrystalline diamond (PCD) and in tungsten carbide

The CUT mS/Sp series machines are ideal for machining form tools or cutting tools in PCD or carbide. The anti-electrolysis CC generator and its micro-sparks with perfectly calibrated power allow sharp, strong and long-lasting cutting edges to be obtained.



Mold insert mating face
(enlarged 400 times)

Clean seals for faultless assemblies

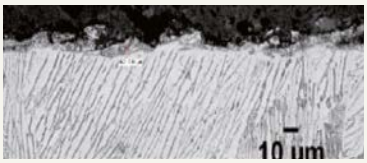
Mass production of injected plastic parts requires high-precision molds. The inserts must be assembled without any gaps and with perfect sealing quality. The result is the production of parts with clean edges, no plastic burr, and at a high rate of production.

A maximum speed of over 400 mm² per minute

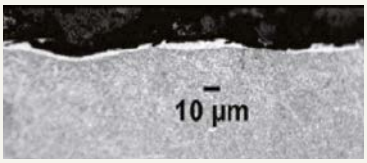
Wire-cutting EDM is sometimes a good alternative to conventional machining. To obtain high machining speed, the use of large stratified wire diameters is essential as well as more power from the EDM generator. The CUT mS/Sp series has both. The CUT mS/Sp series allows the threading of large stratified wires that are essential for obtaining high machining speeds and the resulting high productivity.

Metallographic examination showing the layer affected at the surface

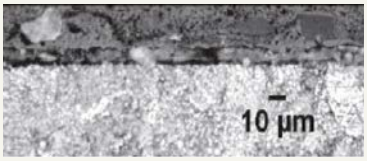
Ti-6Al-4V titanium alloy rough cut



IN 718 nickel alloy rough cut



Ti-6Al-4V titanium alloy 4th finishing



IN 718 nickel alloy 4th finishing

Intelligent threading

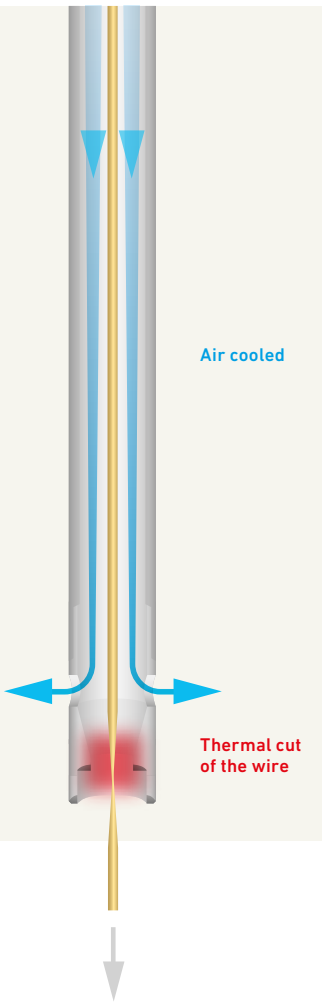
The right wire preparation guarantees successful threading

ThermoCut 2

The fully programmable ThermoCut 2 allows fast threading whatever the part configuration with all wires that are available on the market, in the closed wire guides, without any gaps, guaranteeing precision and a fine surface finish in any situation.

Annealing and stretching the wire: The key to success

Effective wire preparation is crucial to succeed the threading in all circumstances, regardless of the wire quality. The most effective solution is a cold stretching of the wire after the annealing. The wire becomes harder, straight and the diameter narrows to give the clearance in the wire guide. A perfect and unique solution.



Programmable water level saves time and improves threading reliability

The work-tank water level is programmable independent of the Z axis position. This enables significant improvement of the speed and reliability of the wire threading when parts of different heights are set up on the work table.

A wide choice of wire diameters

The use of different wire diameters can meet the multiple demands of the fast-moving market. The CUT mS/Sp series is versatile enough to meet all requirements. It can yield the fastest erosion speeds with a 0.33 mm wire then switch to 70 micron wire and machine microscale details.

smart functions

Performance through intelligence and productivity

Used with smart functions like missing hole detection, research of a shifted position of a starting hole or short circuit release after threading, the ThermoCut 2 drastically improves machine productivity.

Hole search during the threading operation

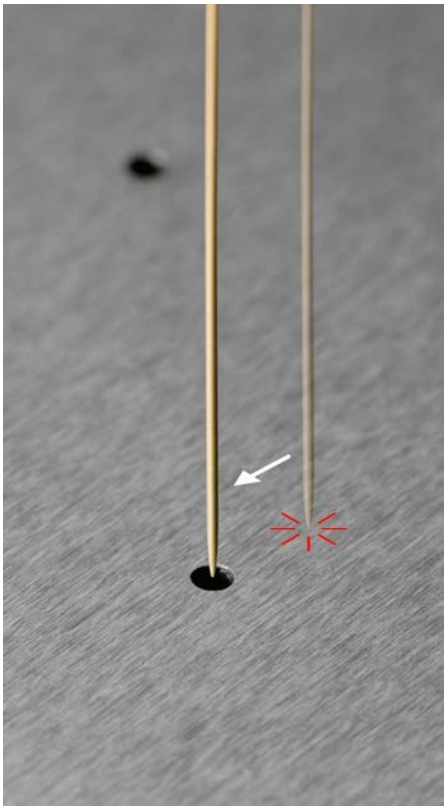
In addition, it is possible to program a hole search. Activation of this function is programmable by a specific code. The machine searches, where necessary, up to eight successive threadings on a circular trajectory around a predetermined point.

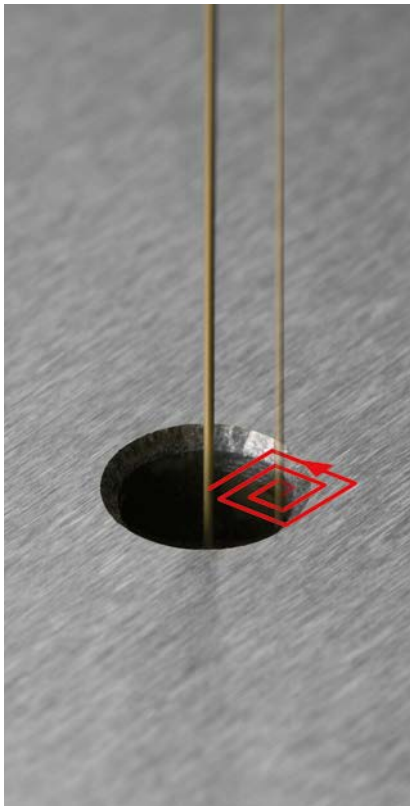
Search for non-contact before machining is started

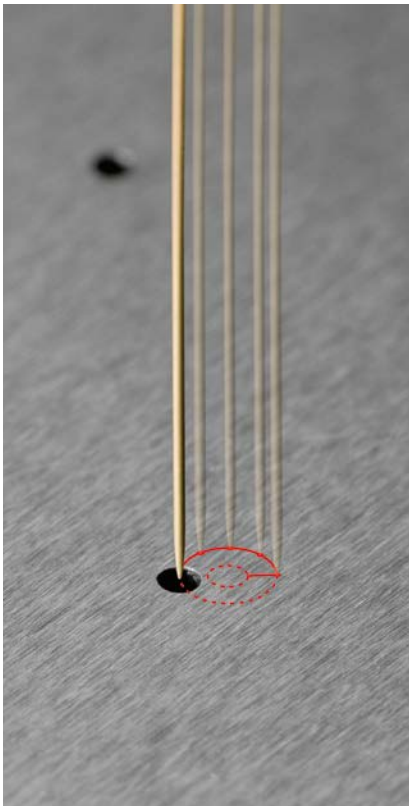
Before starting machining, the wire must not touch the part. If this happens, a short-circuit occurs and stops spark machining. Now, it is possible to distance the wire from the part in a helical trajectory until just before contact is made. Machining can then start.

Automatic detection of the absence of a threading hole

If the wire thread hole has been forgotten or cannot be found in the planned position, the machine automatically moves on to the next wire thread hole. This operation eliminates the need for the installation to stop during unattended operation, at night or during the weekend.

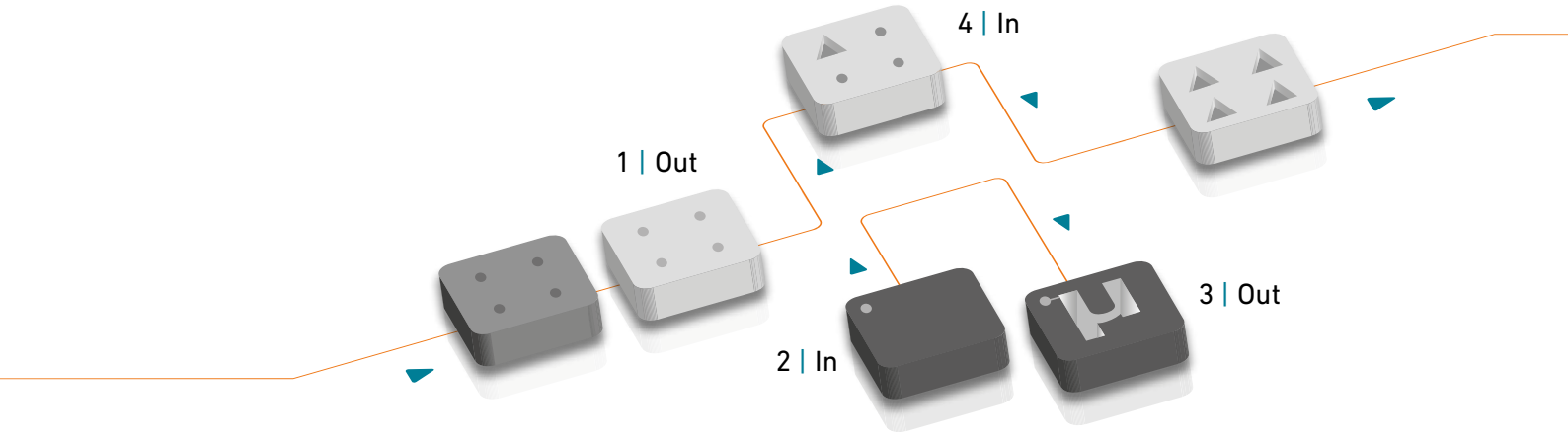




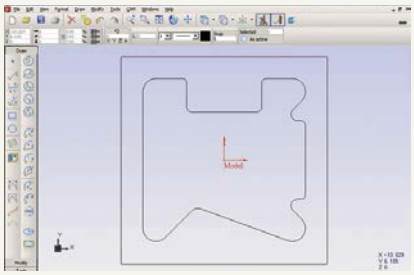


AC CUT HMI

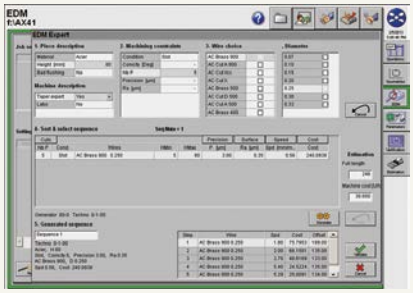
Accelerates your business



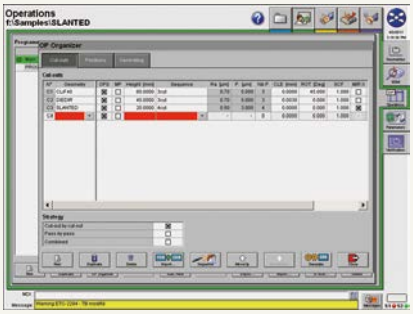
Secure and accelerate the work preparation



Onboard CAM



EDM-EXPERT guidance screen



Codeless OPERATIONS ORGANIZER

AC CAM EASY

The embedded CAM enables the programming of new contours during machining or the import of DXF files. Then the machining program is completed with the best machining sequence from EDM-EXPERT. Then the post processor generates a faultless machining program to be executed.

EDM-EXPERT

The productivity of the equipment is highly dependent of the machining sequence selected to reach the objective. Even a novice operator can quickly select the most efficient machining settings to match the objective. EDM-EXPERT proposes several sequences in term of accuracy, surface finish, speed, or running cost to best meet workshop needs.

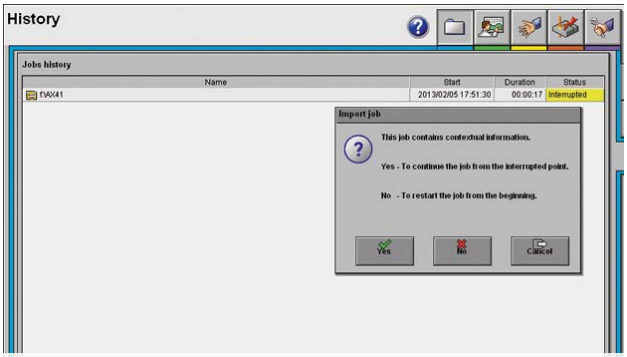
OPERATIONS ORGANIZER

The codeless OPERATIONS ORGANIZER links EDM technologies to ISO program and sets up the chronology of the cuts, the starting points, the clearance and other key machining parameters to produce the machining program with a few clicks.

Flexibility in machining organization

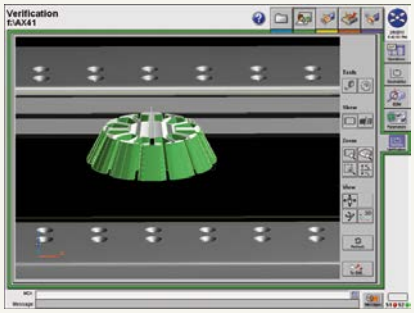
PART EXPRESS

Operators sometimes face unexpected situations. It is very common to be confronted with a change in priorities in the flow of production. With AC CUT HMI, the insertion of an urgent machining job can be done in a simple, rapid and reliable manner and easily resume the previous work exactly where it was interrupted.

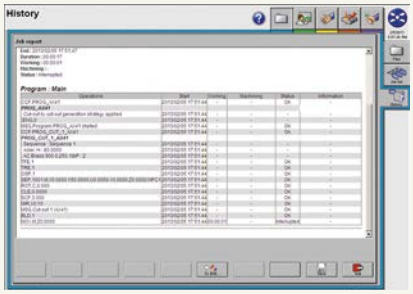


Screen to resume an aborted program

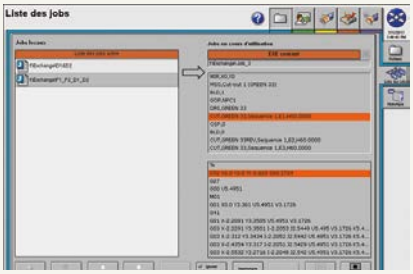
Monitoring and reporting



3D simulation with offset



Detailed list of executed operations



Screen to set the job priorities

3D simulation

The contour with offset, the cavity positions or taper can be easily controlled in 3D before starting the machining. This essential step of the work preparation is done in parallel to secure the next job.

Machining report

After each machining a complete and comprehensive report is issued.It includes the programs' names, dates, settings used, timing, events that occurred, etc.

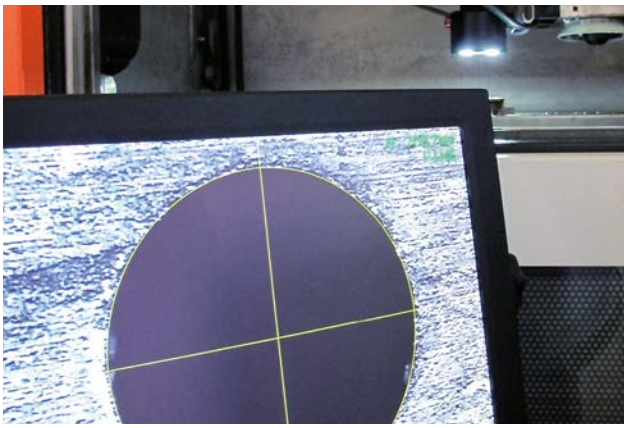
This file can be printed or recorded for later use by the invoicing department, for tracking the job, statistics or to redo the same part.

Job list

Job list makes it possible to prepare a list of work to be executed on the machine. The list of jobs can be easily modified in the machine in accordance with the workshop priorities.

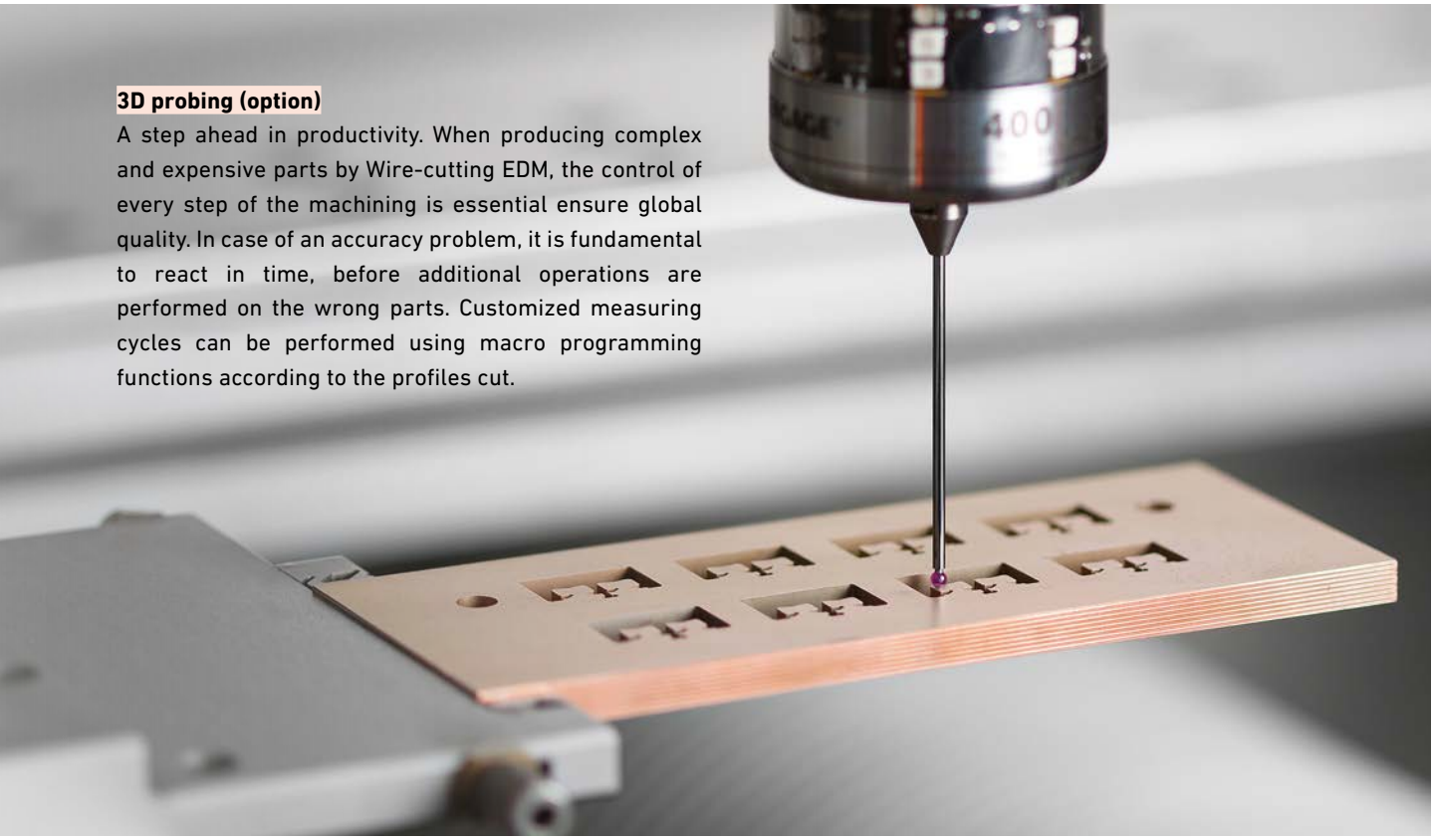
Advanced setup

Giving priority to productivity



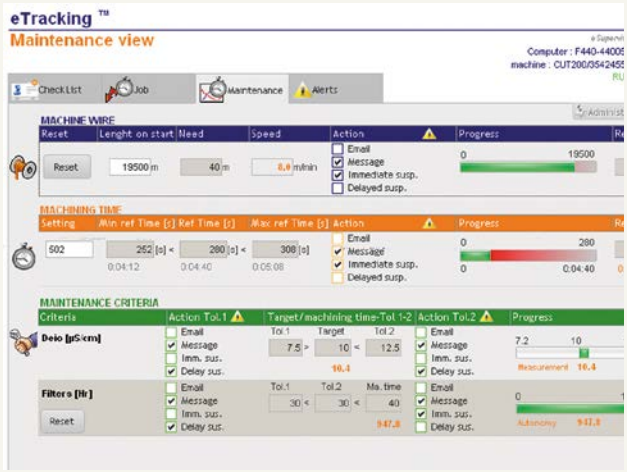
Optical Measuring System (option)

This exclusive in-process measuring system is ideal for dies with small details and tight tolerances. The positions of the very small starting holes are optically checked before machining to ensure full threading success. The final size of the part can then be checked before unclamping. If the size is not yet achieved, one trim cut can be added until the size becomes perfect.



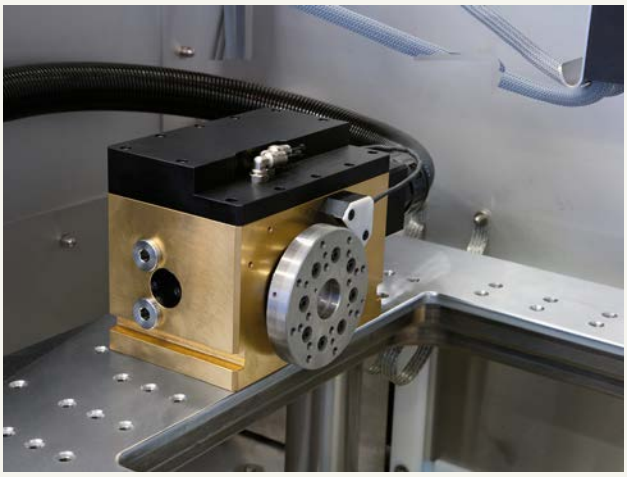
3D probing (option)

A step ahead in productivity. When producing complex and expensive parts by Wire-cutting EDM, the control of every step of the machining is essential ensure global quality. In case of an accuracy problem, it is fundamental to react in time, before additional operations are performed on the wrong parts. Customized measuring cycles can be performed using macro programming functions according to the profiles cut.



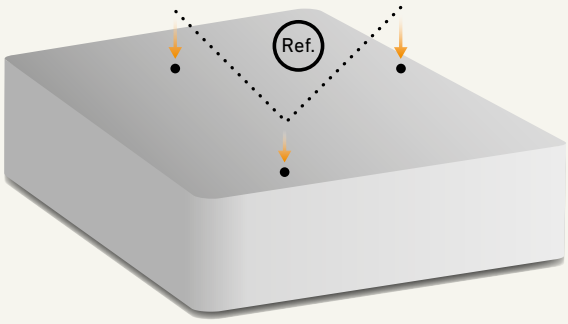
Get on the fast track to superior quality

GF Machining Solutions eTracking software platform, linked with the computer numerical control (CNC) of EDM machines, help trim costs by reducing the number of rejected parts and focusing on post-machining control of suspect parts. Our eTracking software helps you establish standard machining methodology from the start, lays a foundation for machining quality, and creates a data record for certification of quality production.



Rotating axes

GF Machining Solutions provides various types of rotating axes fully integrated with the digital control. They are particularly easy to install. Controlled rotation simultaneously with the movement of axes X, Y, U and V during machining is also possible. This function allows complex shapes to be created that were previously not possible.



3D SETUP (option)

Placement of the part is an important operation that determines the final quality of the work. 3D SETUP is a fast and reliable solution, automatically setting the wire perpendicular to the workpiece surface.

Technical data

CUT 200 mS

CUT 300 mS

		CUT 200 mS/Sp	CUT 300 mS/Sp	CUT 400 Sp
Machine				
Type of machining		Submerged wire-cutting	Submerged wire-cutting	Submerged wire-cutting
Dimensions of complete equipment (*)	mm in	2020 x 2201 x 2015 79.53 x 86.65 x 79.33	2600 x 2600 x 2340 102.36 x 102.36 x 92.13	2670 x 2870 x 2645 105.12 x 112.99 x 104.13
Total weight of equipment (without dielectric)	kg (lbs)	2450 (5401)	3300 (7275)	6300 (13860)
Machining area				
Vertical sliding door		Automatic (mS)	Automatic (mS)	—
Max. workpiece dimensions (*)	mm in	1000 x 550 x 220 39.37 x 21.65 x 8.66	1200 x 700 x 400 47.24 x 27.56 x 15.75	1450 x 900 x 510 57.09 x 35.43 x 20.07
Front door dimensions	mm (in)	820 (32.28)	1020 (40.16)	1350 (53.1)
Max. workpiece weight	kg (lbs)	750 (1653)	1500 (3307)	3000 (6600)
Dimensions of table (**)	mm in	680 x 450 26.77 x 17.72	900 x 600 35.43 x 23.62	1240 x 800 48.8 x 31.5
Floor-to-table distance	mm (in)	1000 (39.37)	1000 (39.37)	1100 (43.30)
Total volume of dielectric	l (gal)	760 (201)	1200 (317)	1700 (450)
X, Y, Z and U, V axes				
X, Y, Z travel (*)	mm in	350 x 220 x 220 13.77 x 8.66 x 8.66	550 x 350 x 400 21.65 x 13.77 x 15.75	800 x 550 x 510 31.5 x 21.65 x 20.07
U, V travel (**)	mm in	350 x 220 13.77 x 8.66	550 x 350 21.65 x 13.77	800 x 550 31.5 x 21.65
Rapid movement (X, Y and U, V axes)	m/min	3 (9.8 ft/min)	3 (9.8 ft/min)	3 (9.8 ft/min)
Integrated Collision Protection (ICP)		Standard on 5 axes	Standard on 5 axes	Standard on 5 axes
Taper machining				
Max. taper	°/mm °/in	±45/220 (±30/220 standard) ±45/8.66 (±30/8.66 standard)	±45/400 (±30/400 standard) ±45/15.75 (±30/15.75 standard)	±45/510 (±30/510 standard) ±45/20.07 (±30/20.07 standard)
Electricity supply (machine)				
Three-phase input voltage“	V	380/400	380/400	380/400
Maximum consumption	kVA	11	11	11
Dielectric				
Paper filters		2 cartridges (option 4 cartridges)		
Dielectric temperature variation	°C	±1 (±2 °F)		
Total volume of deionization resin (option)	l	20 (5.3 gal)		
Max. injection pressure	bar	20		

* Width x depth x height ** Width x depth

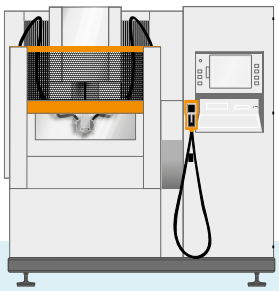
CUT 200 Sp

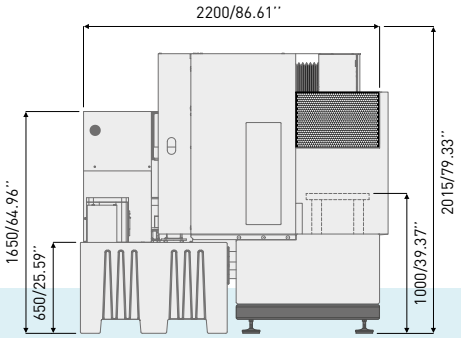
CUT 300 Sp

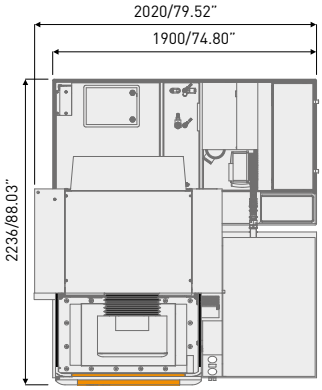
CUT 400 Sp

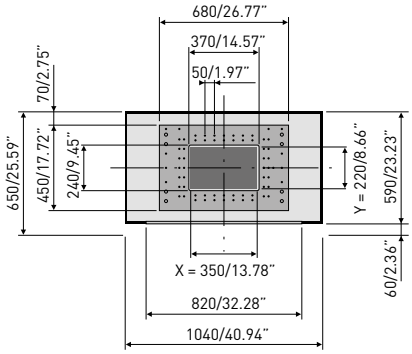
		CUT 200 mS/Sp, CUT 300 mS/Sp	CUT 400 Sp
Wire circuit			
Wire diameters available	mm in	0.33 to 0.070 (standard: 0.33 to 0.15) 0.013 to 0.003 (standard: 0.013 to 0.006)	0.30 to 0.20 0.012 to 0.008
Type of wire guides		Closed diamond type without clearance	
Permissible weights and types of spool (ISO standards)	kg lbs	1.6 (K100) to 8 (K160) 3.52 (K100) to 17.6 (K160)	25 (K250) 55 (K250)
Permissible weights and types of spool (JIS standards)	kg lbs	3 (P3) to 5 (P5) 6.6 (P3) to 11 (P5)	
Programmable wire tension	daN	0.3 to 3	
Automatic threading for wire	mm in	0.33 to 0.070 (0.33 to 0.15 standard) 0.013 to 0.004 (0.012 to 0.05 standard)	0.30 to 0.20 0.012 to 0.008
Automatic rethreading for wire	mm in	0.33 to 0.070 (0.33 to 0.15 standard) 0.013 to 0.004 (0.012 to 0.05 standard)	0.30 to 0.20 0.012 to 0.008
CC high speed generator			
Protection against electrolytic effects		From roughing through to finishing	
Max. cutting speed	mm^2/min	400 (37.7 in^2/hour)	
Min. finishing	µm Ra	0.1 (4 µ-inch RMS)	0.2 (8.2 µ-inch RMS)
Numerical control			
Position measurement system / Measurement resolution		Linear glass scales / 0.050 µm (0.000002 in.)	
Architecture		PC multiprocessors	
Operating system		Windows	
Screen		LCD 15" TFT	
Data input		Touch screen	
Keyboard		Standard alphanumeric, PC style	
Remote control		Standard	
Part program capacity		4 MB	
Ethernet, USB ports		Standard	
Dual check safety			
Digital dielectric management			
NC functions: file management, AC CAM EASY, EDM-EXPERT, OPERATIONS ORGANIZER, fast measuring cycles, 3D Graphic simulation, integrated documentation, PART EXPRESS, Job list, SURFACE-EXPERT, POWER-EXPERT, PROFIL-EXPERT			
Options			
Large spools	kg (lbs)	16 (35.2) K200, 25 (55) K250	Standard
TAPER-EXPERT		Option	Option
e-Connect, e-Supervision, e-Control		Option	Option
Extended taper cutting		from 30° to 45°	from 30° to 45°
Used wire processing		Wire chopper	Standard
Rotating axes		Index or servo-control	—
Automatic Part Leveling		3D SETUP	—
Optical measuring system		OMS	—
3D probing		Renishaw probe	Renishaw probe

CUT 200 mS

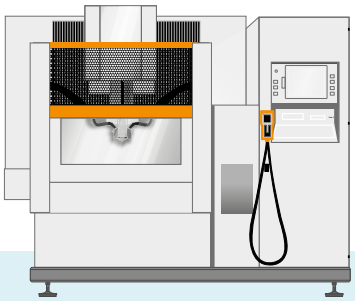


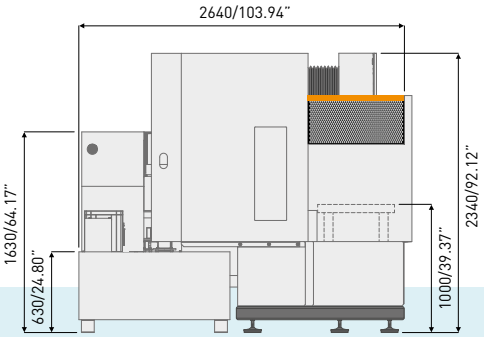


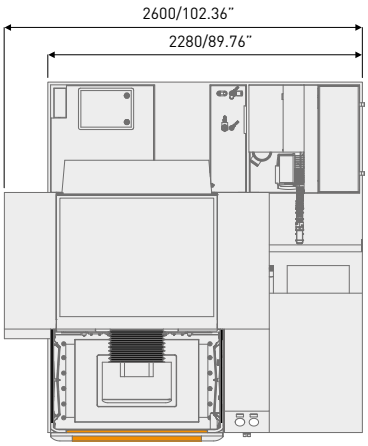


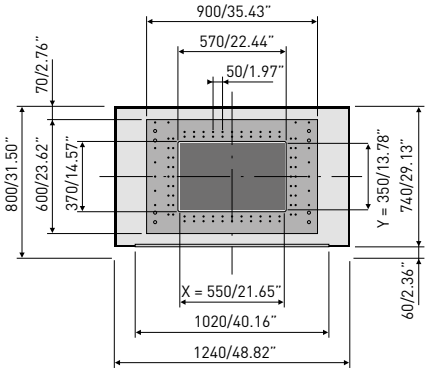


CUT 300 mS

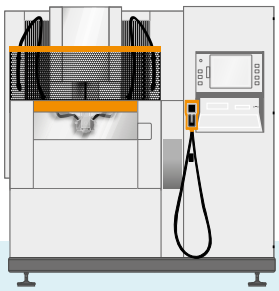


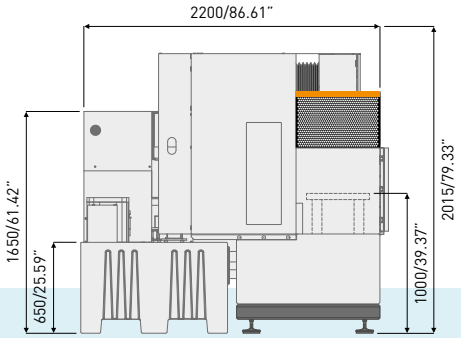


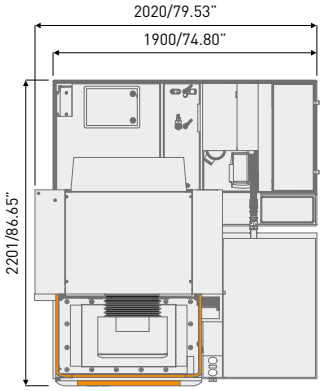


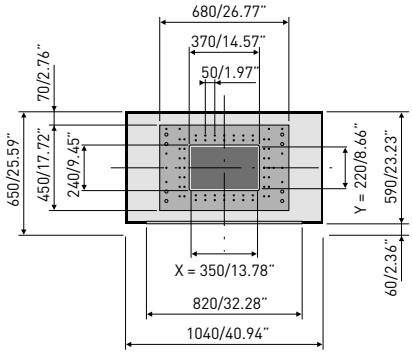


CUT 200 Sp

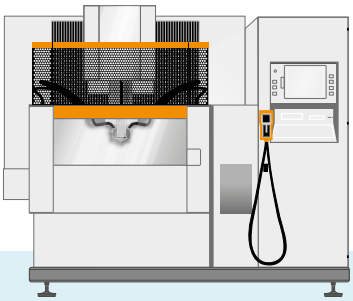


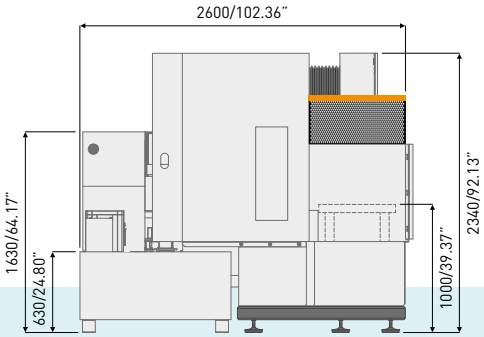


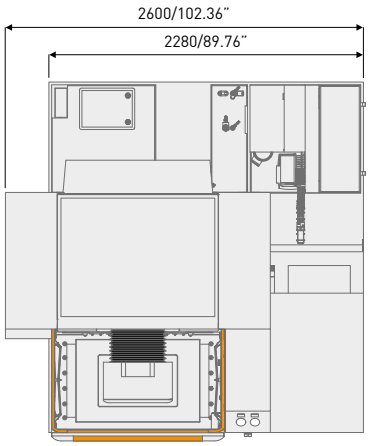


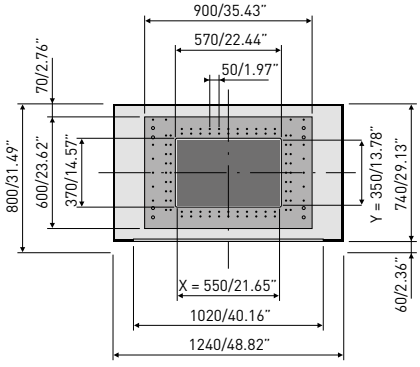


CUT 300 Sp

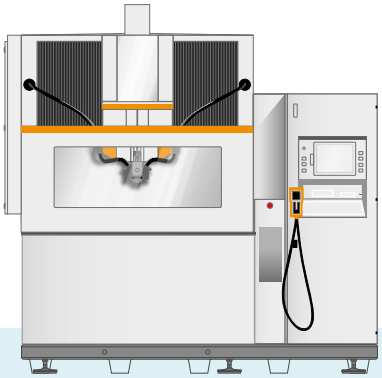


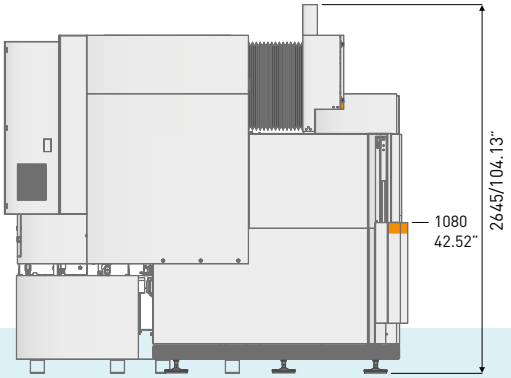


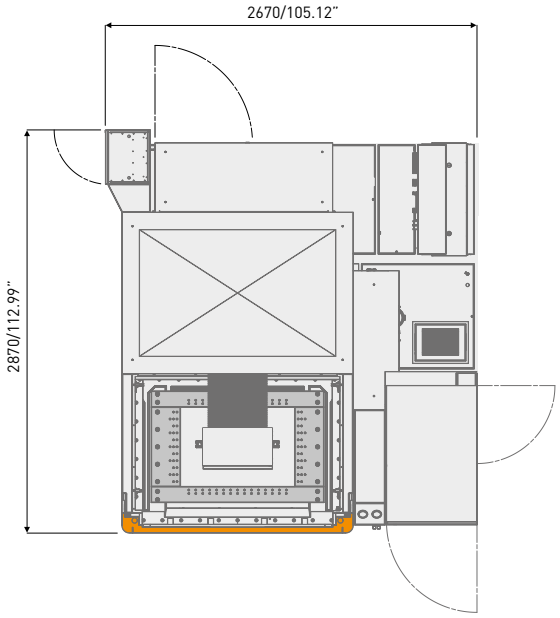


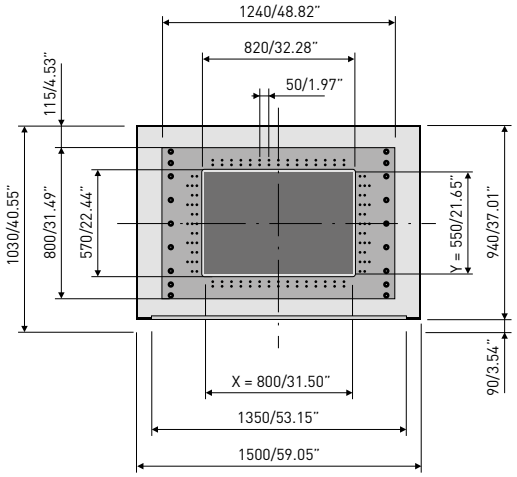


CUT 400 Sp




1080
42.52"
2645/104.13"


2670/105.12"
2870/112.99"


1240/48.82"
820/32.28"
50/1.97"
115/4.53"
1030/40.55"
800/31.49"
570/22.44"
Y = 550/21.65"
940/37.01"
90/3.54"
X = 800/31.50"
1350/53.15"
1500/59.05"

GF Machining Solutions

EDM (electrical discharge machining)

AgieCharmilles wire-cutting, die-sinking and hole-drilling machines.

For over 60 years we have been at the forefront of every EDM development: designing and refining the EDM process and building machine tools that deliver peerless part accuracies, surface finishes, cutting speeds and process reliability. Today, our AgieCharmilles wire-cutting, die-sinking and hole-drilling machines are recognized throughout the world as the best in the business. Our continuous research and development in digital generator technology, control systems and integrated Automation systems are evidence of our commitment to keeping your EDM operations on the leading edge of technology.

Laser

AgieCharmilles Laser texturing machines.

Laser texturing is a fully-digitized surface engineering process that has huge potential. The technology enables precise 2D and 3D textures or engravings to be machined accurately and directly onto complex parts or molds to improve and alter their aesthetic appeal, functionality and performance. The process is infinitely repeatable and offers many distinct environmental and economic advantages over conventional texturing processes.

Laser Additive Manufacturing (AM).

GF Machining Solutions has partnered with EOS, the global leader for high-end AM solutions, to integrate this innovative technology and further develop it into its current solutions to fully benefit the mold industry, by focusing on injection efficiency: optimized cooling design to reduce cycle time, lower energy consumption, higher quality of plastic parts.

Automation

System 3R Automation, Tooling and software.

Productivity is the key to manufacturing success, and automating a manufacturing process is a proven method of increasing its efficiency, effectiveness, quality and reliability. System 3R's integrated Automation, Tooling and software solutions — simple workpiece pallet and electrode changers and flexible manufacturing and robot handling systems — increase your competitive advantage.

Milling

Mikron high-speed (HSM), high-performance (HPM) and high-efficiency (HEM) Milling centers.

Customers operating in the mold, tool and die and precision component manufacturing sectors stake their reputations on being able to quickly and cost-competitively meet their customers' demands. That's why they invest in Mikron machines. Incorporating the latest and most advanced technologies and premium-performance components, Mikron HSM, HPM and HEM machines help you increase your production capabilities and improve your productivity. Designed and built for speed, accuracy and reliability, the machines, like you, are proven performers.

Liechti Dedicated Aerospace and Energy machining Centers.

Aerospace and power generation turbine manufacturers increasingly turn to Liechti dedicated five- and six-axis machining centers to machine complex, high-precision airfoils on blades, disks, blings, blisks/IBRs and impellers. It's easy to see why because these machines, with their specific profile machining technology, specialized CAD/CAM software and engineering competence for ultra-dynamic machining in titanium, Inconel, nimonic, titanium-aluminide and high-alloy steels, yield productivity gains as much as 30 percent, thanks to reduced machining times. In the globally competitive aerospace and power generation manufacturing sector, that's definitely worth shouting about.

Step-Tec Spindles.

At the heart of every Mikron machining center is high-performance Step-Tec Spindle. Step-Tec Spindles are essential core components of our machining centers. Highly accurate and thermally stable Step-Tec Spindles ensure that our machines can handle everything from heavy-duty roughing to fine-finishing operations.

Customer Services

Operations Support, Machine Support and Business Support.

To help you get the most and the best from your machine tools and equipment, we offer three levels of support. Operations Support covers our range of original wear parts and certified consumables (EDM wires, filters, resins, electrodes etc.) to ensure that your machines are performing at the highest levels. Machine Support maximizes, through our best-in-class technical support, preventive services and quality spare parts, your machine tool uptime. Business Support is designed to help you make a real step-change in your productivity and performance with solutions tailored to your specific needs.

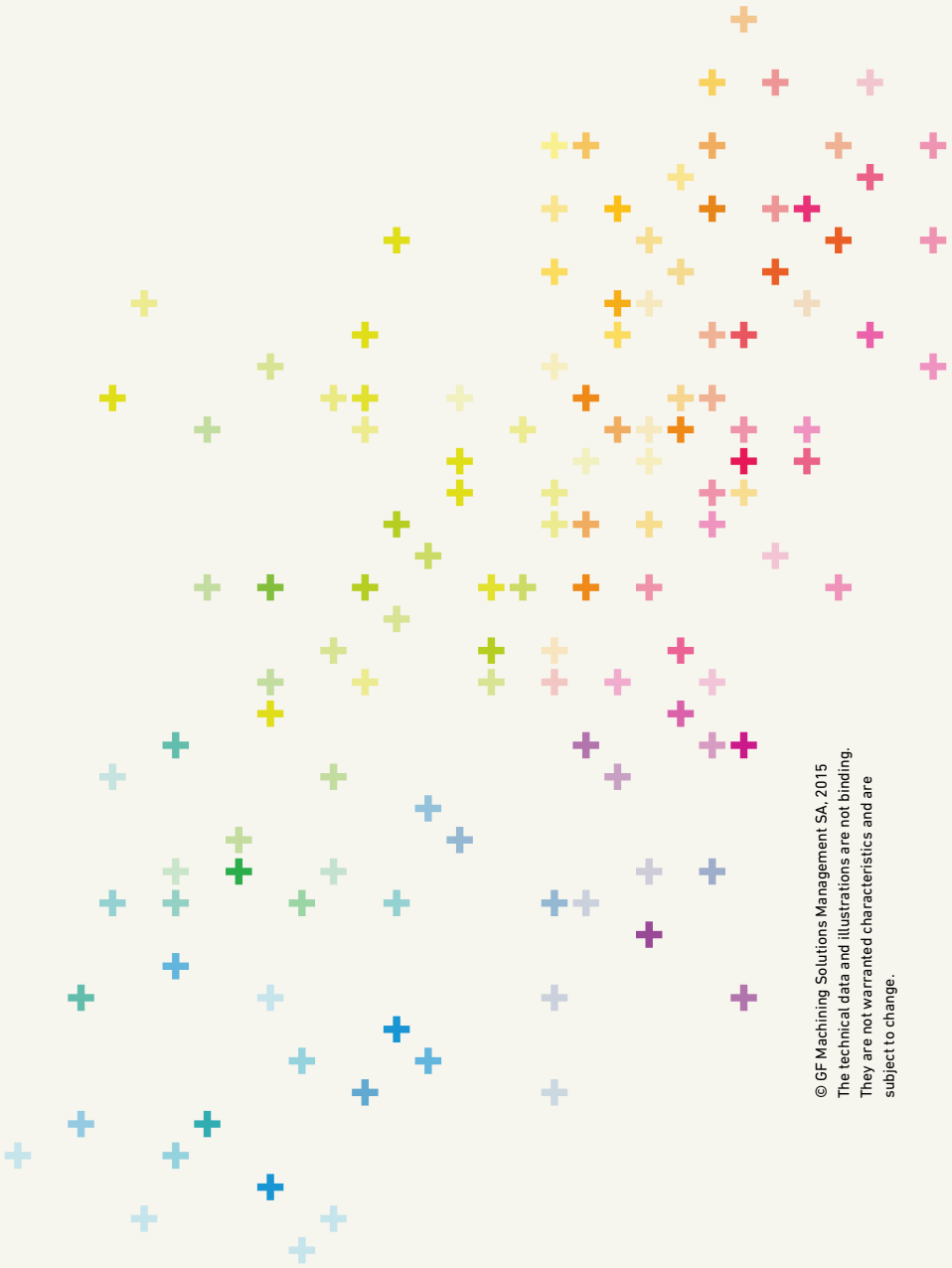
GF Machining Solutions

259.805.512–EN

At a glance

We enable our customers to run their businesses efficiently and effectively by offering innovative Milling, EDM, Laser, Spindle, Automation and Tooling solutions. A comprehensive package of Customer Services completes our proposition.

www.gfms.com



+GF+