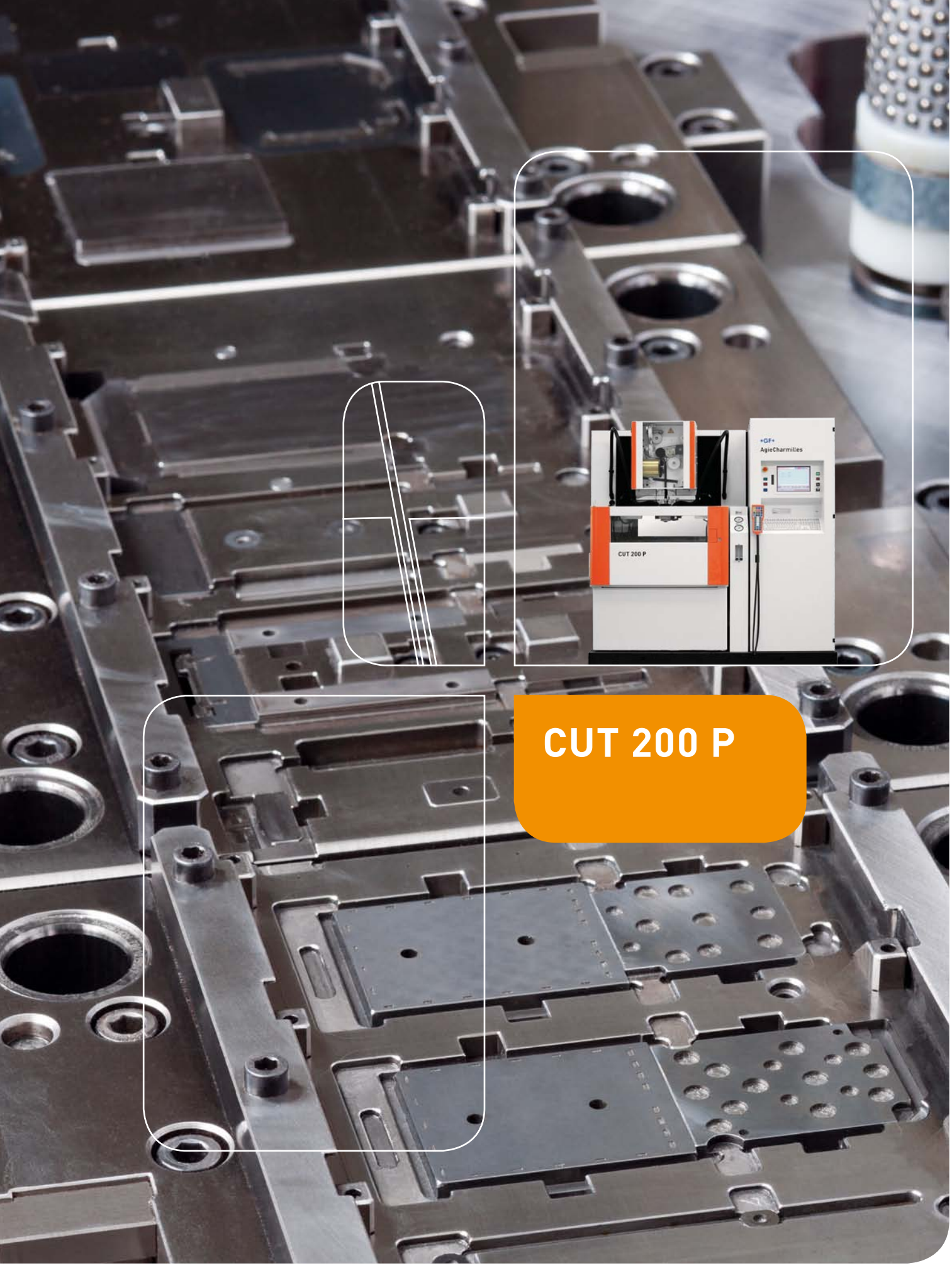


CUT 200 P

+GF+ AgieCharmilles

Contents

CUT 200 P

The CUT 200 P combines quality, productivity and control over production costs.

Ease and safety of use

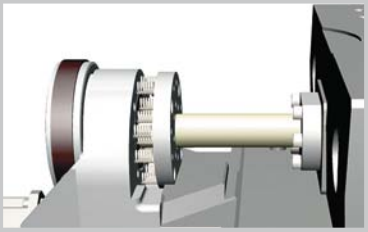
ICP : anti-collision protection effective up to three meters per minute for fast and worry-free work

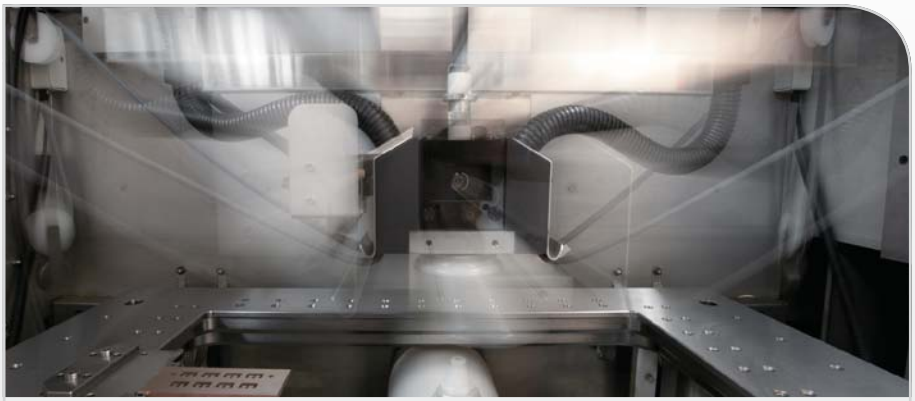
While featuring a compact and space-saving design, the CUT 200 P easily supports heavy work pieces without losing accuracy.
Fitted with a digital generator, it offers unbeatable speed and accuracy in the automatic rough and finish machining of precision molds and dies.
The powerful numerical control provides easy and worry-free use of the machine, thanks to Integrated Collision Protection (ICP).

Ease of use

Thanks to its worktable that is fitted directly to its frame, the stationary work area is perfectly accessible to the operator.
A large front door allows large parts to be loaded. Whatever the size of the machine, heavy parts can be loaded with a hoist.

Integrated Collision Protection (ICP) is an exclusive mechanical system that absorbs the energy of the collision and is effective up to three meters per minute.



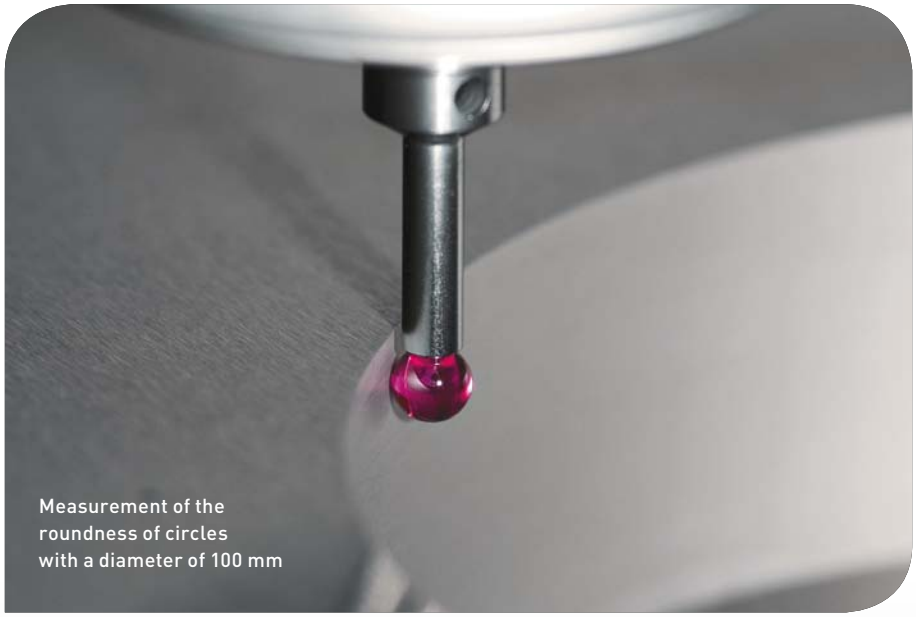


Fast and safe

The fast movement of the axes at three meters per minute allows a significant amount of time to be saved during setup operations before machining. Movements during measurement cycles can be done much faster. This high-speed movement of the axes is made possible by the effective protection against collisions on the five axes of the CUT 200 P. The operator can work in complete confidence because no movement error means no negative effect on the machine's components.

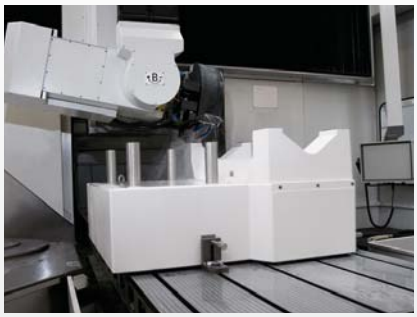
The performance basis

Controlling the roundness and the accuracy of distance in order to confirm precision
The mechanical design of the CUT 200 P guarantees great precision for the distance and roundness. This is measured and checked in accordance with the ISO 230-4 standard.



Measurement of the roundness of circles with a diameter of 100 mm

Precision guaranteed for life
A surface quality as fine as Ra 0.1 µm requires very high precision in positioning. To obtain this precision, each X, Y, U, V, Z axis is fitted with a linear glass scale with absolute coding, at a resolution of 50 nanometers.



High precision grinding
The performance of the CUT 200 P remains unchanged after years of use. This longevity is due in large part to the quality of its manufacture. Also, the very high quality flat precision grinding of the guiding and assembly surfaces contribute to this long-lasting precision.

Movement precision guarantee
Before delivery, each machine is subject to a laser testing which allows the verification, in accordance with the VDI 3441 standard, that the precision of the positioning is within the specified tolerances.

Versatility and high precision

An exclusive design guaranteeing the highest precision in all situations

The mechanical design is that of a fixed bench combining strength and precision

The part to be machined rests directly on the worktable that is solidly fixed to the machine's frame. This design has the advantage of retaining the high precision of the positioning whatever the weight of the part to be machined.
The precision components of the machine are used only to move the wire guides. Since less motor power is required, better thermal stability and energy savings are achieved.

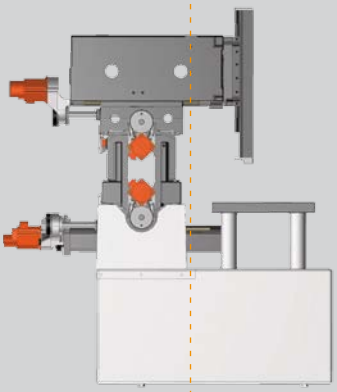
Greater thermal stability

The machine's frame is in Rhenocast. This composite material possesses a thermal inertia 25 times higher than that of cast iron. Combined with the thermostabilization of the water in the tank, this characteristic is used to ameliorate the effects of temperature variations in the workshop on the precision of the machine. This rustproof material also provides excellent electrical insulation that protects the whole machine from corrosion.

The fixed worktable allows the same machining precisions for parts weighing 1 kg to 750 kg

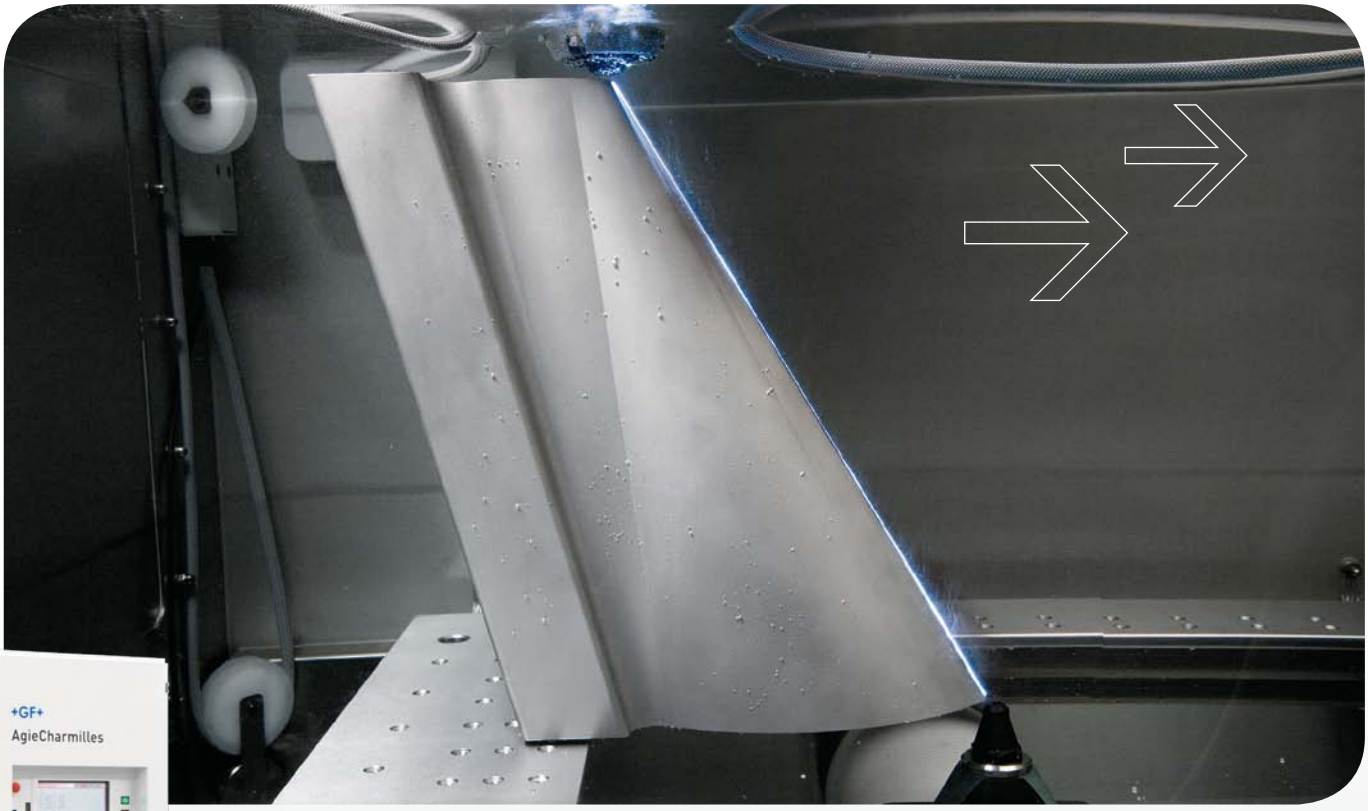
Guaranteed precision from 1 to 750 kg

Safe area	Exposed area
Linear glass scale	Machining
Guide rails	Dirt
Ball screws	Risk of shocks



Unique characteristics

Quadrax concept facilitates exceptional performance



QUADRAX® 45° over 220 mm,
a unique capacity for conical machining

The CUT 200 P is the most versatile machine on the market, capable of cutting 45° cones, and can do this whatever 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, thus widening the scope of possible applications for wire spark erosion.

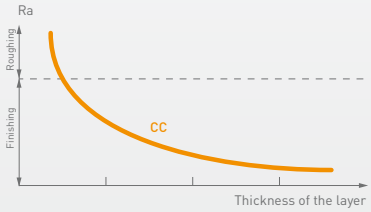
The CC digital generator

Cutting speed and respect for the integrity of the machined surface

The CUT 200 P machine is fitted with the latest generation spark generator. Its unique design uses powerful, modern components which allow it to generate sparks in new shapes.

Steel

Thanks to the CC generator and its perfectly calibrated sparks, patented exclusively by GF AgieCharmilles, the recast layer (white layer) is very thin from the rough cut and practically disappears after two finishes. The hardness of the surface is unchanged. Because of this, the cutting tools machined with the CC generator have a clearly extended service life.



Thickness of the recast layer in K107 steel depending on the Ra reached

A maximum speed of over 400 mm² per minute (optional)

Thanks to the power of the generator, it is possible to reach cutting speeds higher than 400 mm² per minute in industrial use conditions.
The CUT 200 P allows the threading and re-threading of large stratified wires that are essential for obtaining high machining speeds and the resulting high productivity.

The spark is adapted to each material

Carbide

The CC generator allows a surface finish of Ra 0.1 µm to be attained with a remarkable lift rate. Machining speeds 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.

Titanium

Titanium – light, resistant and above all biocompatible – is used a lot in the medical field (manufacture of artificial implants), optics and clock making. 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.

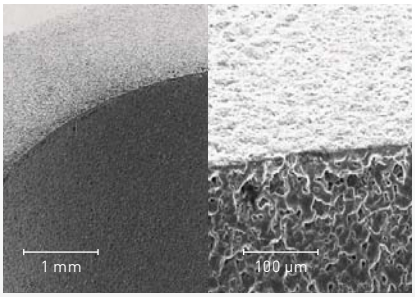
Tools in PCD (polychrystalline diamond) and in tungsten carbide

The CUT 200 P machine is ideal for machining gouging chisels 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.

H40S CF Carbide
Ra 0.10 µm
Rt 0.88 µm
Rz 0.71 µm

Surface machined with a conventional generator: deposits and pollution

Surface machined with the CC: minimal deposits, smooth surface



Stamping die in PCD (10 mm = 1 mm)

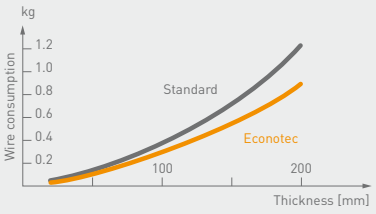
Gouging chisel in PCD (10 mm = 100 µm)

Priority to the quality of the machined surface

Tools subject to intense stresses need faultless surface quality. By programming the sparks for which the energy is precisely controlled, the digital generator of the CUT 200 P allows high-precision parts to be produced with perfect quality, with a surface finish of Ra 0.1 µm.

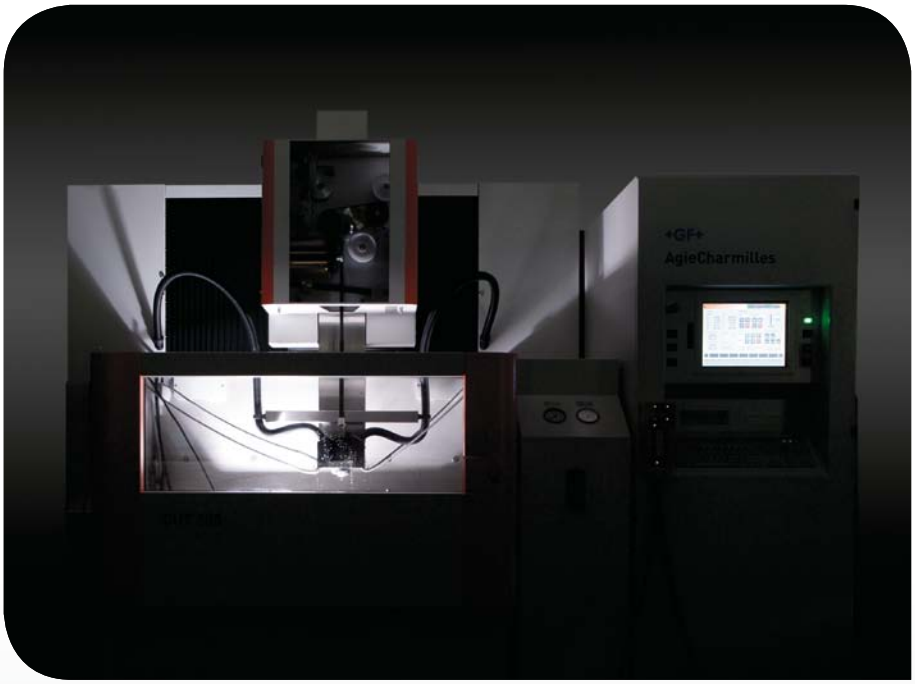
Econotec technology, high speed at the lowest cost

Production requirements mean that savings have to be made at all levels, especially on the cost of consumables. Thanks to complete control of the EDM wire process, Econotec technology allows 30 percent faster machining with a 0.3 mm diameter wire, while reducing its operating speed and therefore its final cost by 20 %.



The Millennium control unit

Powerful and user friendly



→ Internet
→ SMS
→ Email
→ Ethernet
→ USB
→ CD-ROM

e-connect, e-control and e-supervision (optional)

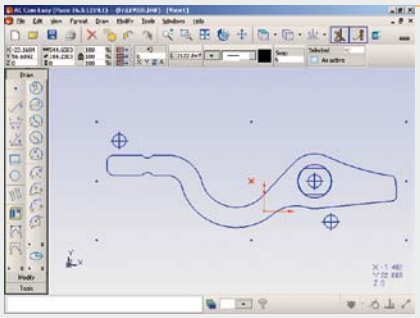
When the machine is working unattended, remote notification allows messages and alerts to be sent by e-mail or SMS. Thanks to this information received in real time, the operator knows how the work is progressing.
Integrated within a production workshop, the machine can be controlled remotely thanks to the e-control and e-supervision modules.

The touchscreen provides efficiency and is user friendly

With a touchscreen and based on the Windows operating system, the Millennium digital control offers power and ease of use.
Simple to learn with powerful help functions, the Millenium control can be integrated in any workshop.
The CUT 200 P offers a wide choice of peripherals to receive programs or to send out surveillance information.

AC CAM Easy (optional)

The operator can easily prepare an ISO file during the machining with an onboard CAM system. This powerful feature is standard and renders this product as a complete solution from the contour creation to the part production.



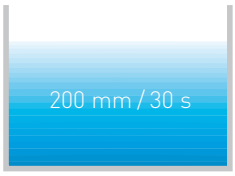
Data transfer:
- DXF import & export
- ISO export for CUT 200 P

Less down time

The fast threading system for improving profitability : 20 seconds from spark to spark

The exclusive wire setup operation by the ThermoCut 2 system allows fast, automatic threading of 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.

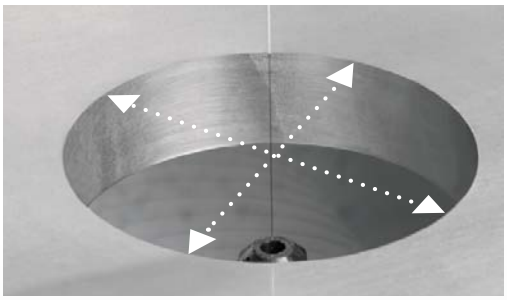
The key to success resides in the annealing of the wire, the stretch and the fully programmable thermal cut.



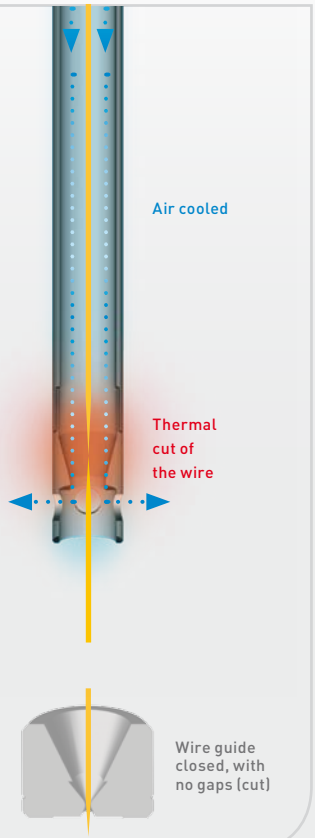
Fill in 30 seconds


Empty in 30 seconds

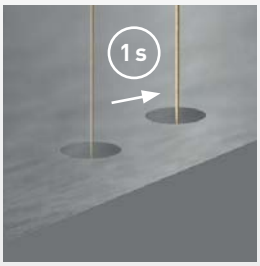
It takes less than 30 seconds to carry out emptying or filling operations on the tank.

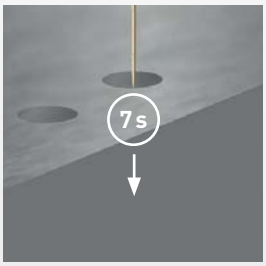


35 seconds
Time taken to position at the centre of a 100 mm diameter cavity.



15-second cycle time





The adjustment parameters for the automatic threading are fully digital. The operating speed of the threading cycle has been optimized, to allow for the type of wire used, and the work being carried out.
This results in a total cycle time of less than 20 seconds spark to spark between immersion machining on 80 mm high parts, while retaining precision due to the use of closed guides.
The resulting gain in productivity is especially noticeable when machining multi-cavities at short sparking times.

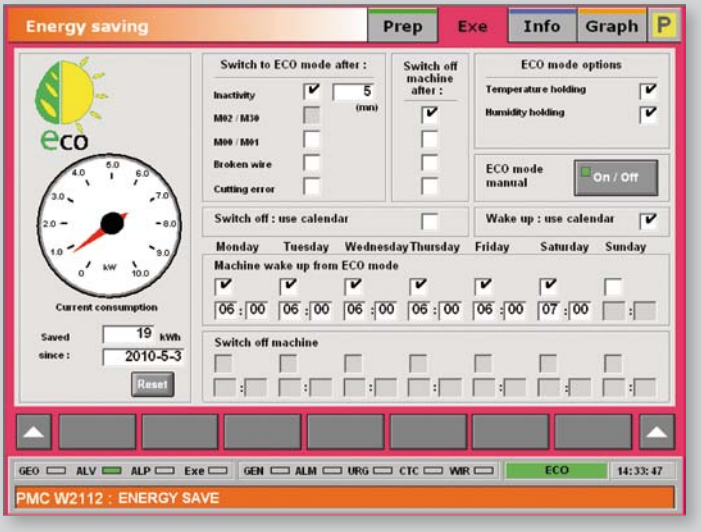
Profitable and ecological

Controlled operational costs

The excellence of the CUT 200 P also resides in the control of operational costs. The potential for using less expensive wires and reduced filtration cost, added to a lower consumption of electricity, make the CUT 200 P a particularly economical machine to run.

Saving energy – an economic and ecological necessity

In order to control production costs, saving energy has become a priority in many workshops.
The Econowatt modules manage the electrical power of the machine so as to never waste energy while the machine is running unattended.
When machining is finished or interrupted, the power supply is reduced to the minimum, lower than 1kW, or completely disconnected depending on the parameters of the machine. Automatic restart is programmed according to a daily schedule corresponding to the operating hours of the workshop.
The machine is switched on in sufficient time to be thermostabilized when the workshop opens.
The power consumed is continuously displayed on a screen page.



EDM Expertise

A leadership expertise at your service

TAPER-EXPERT, the control of large tapers

The TAPER-EXPERT software allows very precise machining of tapers whose angle varies 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.

CT-EXPERT, the expertise of GF AgieCharmilles in your hands

Designed so that you can attain the maximum amount of profit from your machine, CT-EXPERT chooses the best machining speeds, suggests the best wire, automatically calculates all the offsets and creates a control program that links all the machining phases together.

PROFIL-EXPERT, the control of fine details

On the rough cut and on finishing, PROFIL-EXPERT automatically adjusts the machining parameters during changes of direction. It adjusts speed in advance and with precision to guarantee perfect geometry for fine details. These modifications are automatic and do not require any setting or calibration, whatever the programmed height or contour.

POWER-EXPERT, easy machining of parts with variable heights

The POWER-EXPERT 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, a decisive stage for wire EDM

SURFACE-EXPERT independently controls sparking 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 to be achieved where machining conditions change abruptly on cylindrical or angled parts (reduction in polishing time).

GF AgieCharmilles

Milling

High-Speed and High-Performance Milling Centers

In terms of cutting speed, HSM centers are 10 times faster than conventional milling machines. Greater accuracy and a better surface finish are also achieved. This means that even tempered materials can be machined to a condition where they are largely ready to use. One essential advantage of HSM is that with systematic integration, the process chain can be significantly shortened. HSM has developed alongside EDM into one of the key technologies in mold and tool making.

EDM

Electric Discharge Machines

EDM can be used to machine conductive materials of any hardness (for example steel or titanium) to an accuracy of up to one-thousandth of a millimeter with no mechanical action. By virtue of these properties, EDM is one of the key technologies in mold and tool making. There are two distinct processes – wire-cutting EDM and die-sinking EDM.

Laser

Laser texturing

Laser texturing supplements and extends the technologies offered by GF AgieCharmilles. With our laser technology we enable you to produce texturizing, engraving, microstructuring, marking and labeling of 2D geometries right through to complex 3D geometries. Laser texturing, compared to conventional surface treatment using manual etching processes, offers economic, ecological and design advantages.

Customer Services

Operations, Machine and Business Support

Customer Services provides with three levels of support all kind of services for GF AgieCharmilles machines.
Operations Support offers the complete range of original wear parts and certified consumables including wires, filters, electrodes, resin and many other materials.
Machine Support contains all services connected with spare parts, technical support and preventive services.
Business Support offers business solutions tailored to the customer's specific needs.

Automation

Tooling, Automation, Software

Tooling for fixing workpieces and tools; automation systems and system software for configuring machine tools and recording and exchanging data with the various system components.

259.805.312

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