



CUT 20



Contents

Highlights	4
Mechanical structure	6
Generator and technology	10
CNC	12
Job preparation	12
About GF AgieCharmilles	14



CUT 20

Ease of use combined
with outstanding performances.

Highlights

The solution
for standard cutting tools
and general engineering



Outstanding price/performance ratio

The CUT 20, an EDM wire-cutting unit, is an outstanding machine offering very interesting features and high cutting performances. Equipped with joint technology from GF Agie-Charmilles it positions itself as the ultimate in price/performance WEDM machine in the market place. The CUT 20 handles wire diameters from 0.15 to 0.30 mm with ease and is flexible enough to satisfy the requirements of most of the demanding customer.

Highest level of generator performance

The IPG-V generator of the CUT 20 is based on state-of-the-art technology developed by GF AgieCharmilles. The generator's tried, tested and reliable electronics makes extremely fast removal rates possible with cheap brass wire adding a very low hourly running cost to its unique features.

Ready for EDM

The practical structural layout of the CUT 20 yields the shortest possible installation time, and the customer can be productive within a few hours after delivery.

By designing good accessibility of the maintenance points, such as the filter, the wire container, upper and lower machine heads, the CUT 20 shortens down time to the minimum and ensures safe, easy maintenance and operation. The work tank has also been designed to ensure the most ergonomic interface.

Simple to use graphics user interface

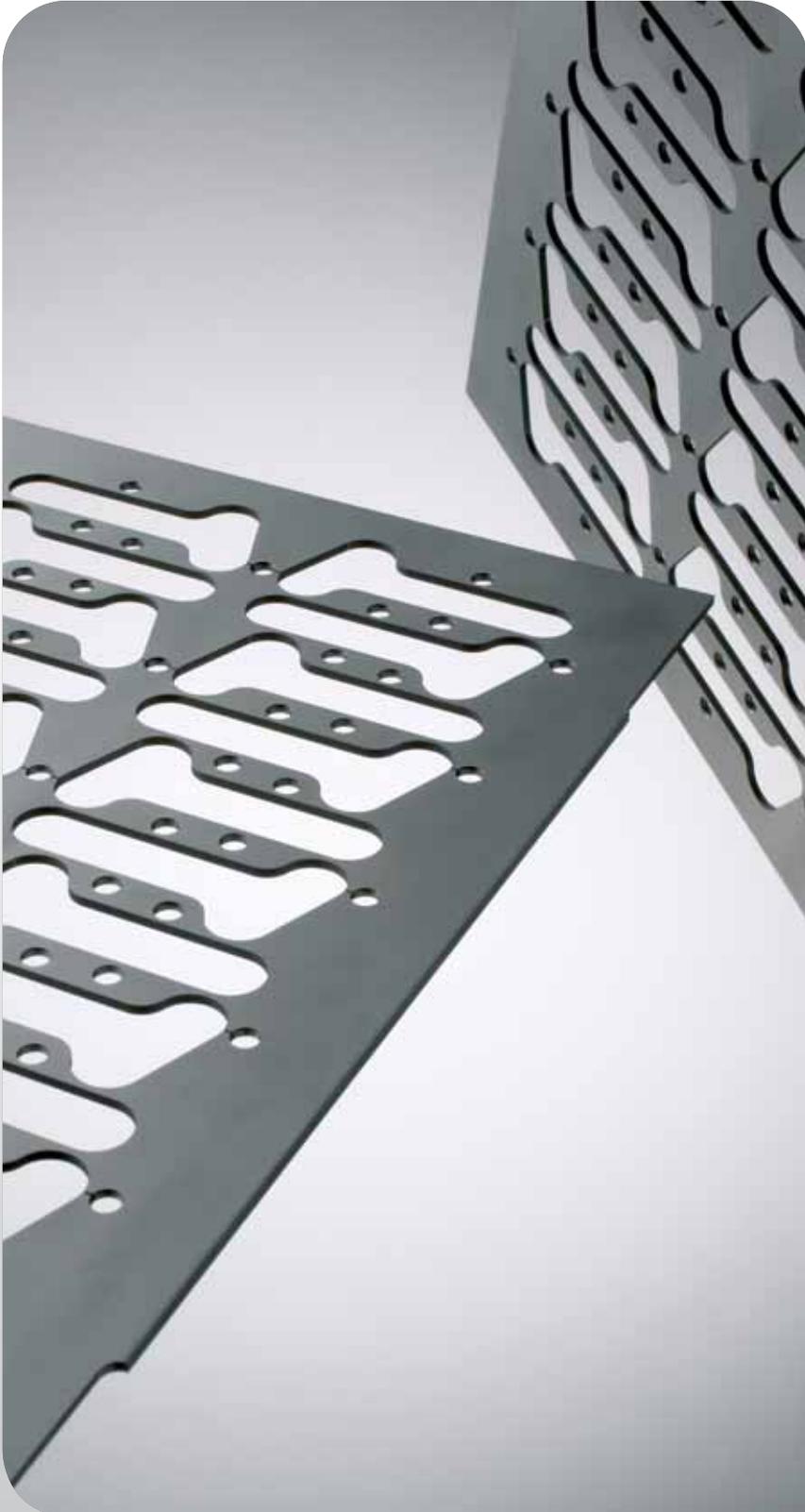
The simple and functional user interface facilitates direct and immediate dialogue. The input of data takes place in a structured manner with pictures and symbols guiding the even inexperienced operators to fast effective results. In addition, a USB port is provided allowing easy transfer of data. As the CUT 20 is Windows based it can easily be integrated into a data network via LAN. In order to eliminate expensive mistakes a graphically checking system is employed.

Low operating costs

The low energy consumption of its compact modern digital electronics and the long working life of the wear parts gives low operating costs and ensures profitability.

High cutting rates

The CUT 20 is equipped with an GF AgieCharmilles generator which with its outstanding performance gives results that are much more competitive compared to other machines based on older technology. Thanks to a new "Speed" technology package, the CUT 20 achieves outstanding results particularly when machining jobs with 1 to 3 cuts. Its operating costs are minimised thanks to its sophisticated technology when brass wires are employed.



Mechanical structure

Solid structure for reliable operation

Structure

The T-shaped base frame permits the loading of larger and heavy workpieces. The compact and rigid machine structure guarantees good positional accuracy and highly repeatable results.

Accessibility

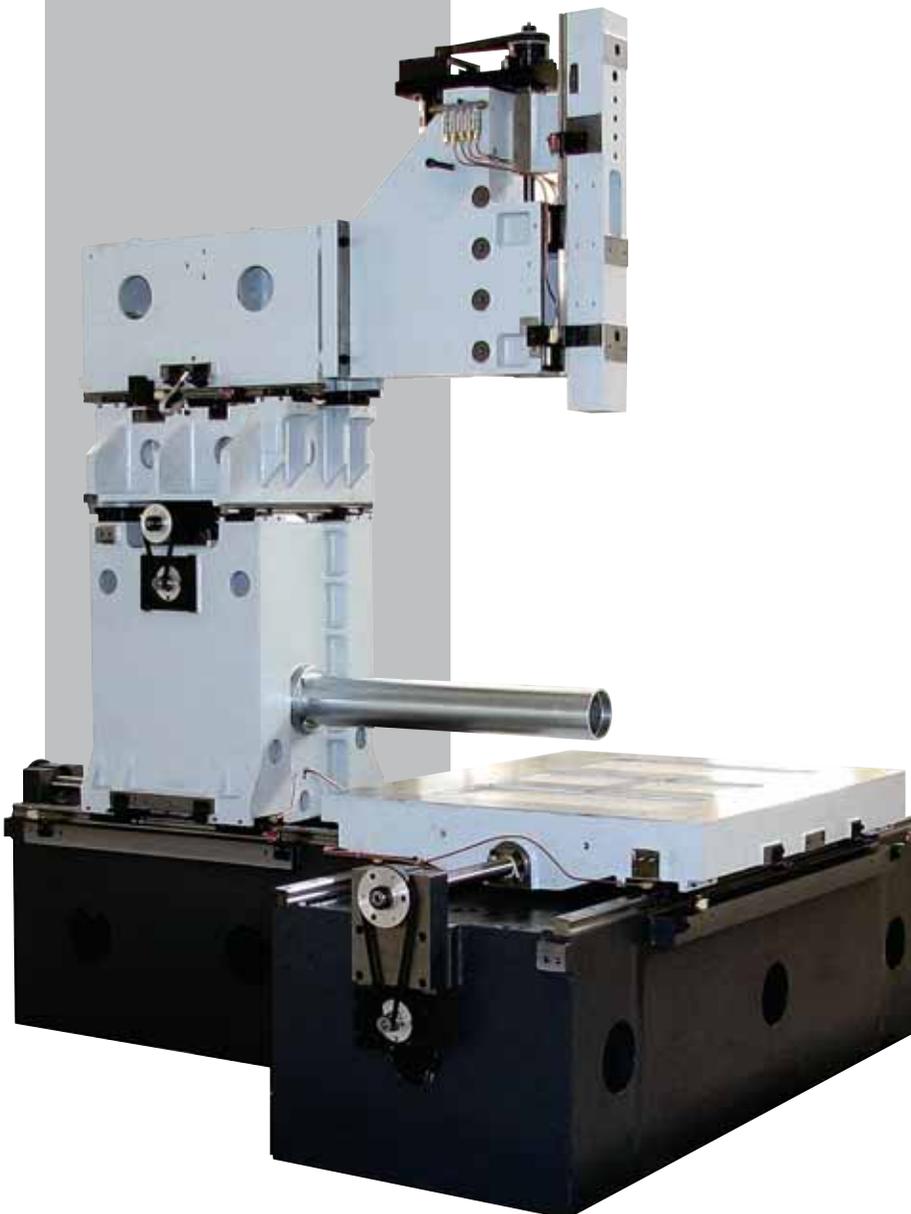
Easy accessibility to the working area and to the work clamping frame makes the mounting of workpieces a rapid operation. The clamping frame is manufactured out of special steel and with a thickness of 45 mm it is extremely rigid.

Glass Scales

The CUT 20 has been equipped with glass scale on the X and Y-axes giving extremely reliable, repeatable positioning accuracy.

Automatic Threading

As standard, the CUT 20 includes an automatic wire-threading system (AWT). This system's architecture simplifies the EDM process and ensures many hours of autonomous hours running.



Long running Cycles

The CUT 20 disposes of a deionizing bottle with a volume of 20 ltr and 2 filters of 450 mm height x 340 mm diameter each. They assure an optimum economy of this machine.



Lubricating system

Equipment down time is also minimised due to a unique design feature, its centralised lubricating system. This provides lubrication for guides and recirculating ball screws simplifying the maintenance tasks.

Wire system

The wire system has been designed by GF AgieCharmilles and is an optimized version from tried and tested solutions. The wire force is monitored by electromagnetic system, CNC programmable wire tension, providing class leading threading reliability. The wire spool storage has been designed to be easily accessible so that the operator can carry out a rapid change of spools. The CUT 20, handles standard wire diameters from 0.15 to 0.30 mm.



Achieve more...



CUT 20

Generator and technology

GF AgieCharmilles,
Swiss made generator and complete technology



Generator

The CUT 20's generator developed with GF AgieCharmilles technology guarantees a perfect performance, in fact, with the integrated SF Module (fine surfaces) surfaces roughness of less than $Ra\ 0.25\ \mu\text{m}$ can be achieved. Along with performance the up to date electronics used in manufacture ensure that the cost of ownership is the lowest possible

Technologies

Thanks to the FPGA technology (Field Programmable Gate Arrays – a logic device programmable instantaneously) and the completely digital process monitoring, servo response demonstrates a degree of flexibility that can only be achieved with a system designed specifically for EDM.

The CUT 20 has technology database package that covers all requirements in a workshop. It also has the flexibility to produce results from rapid cuts to precision finishing cuts.

These technologies work with a variety of wires and encompass material ranging from steel to hard metals.

Speed technologies

The CUT 20 has on board technology that allows a unique speed cut. This technologies optimises main, 1st and 2nd finishing cuts, which allows the most common roughness between $Ra\ 0.80\ \mu\text{m}$ and $Ra\ 0.60\ \mu\text{m}$ to be achieved in the minimum possible time.

This high speed technology, for the most requested roughness makes the CUT 20 a very powerful and productive machine.



File Preparation

Next Page	Page	X	0.000	U	0.000
		Y	0.000	V	0.000
		Z	0.000		

File Management | ISO Editor | TEC Editor | Graph Check

TEC Editor: ChannelFlowTEC/MSL/TEC

Wire Diameter: 0.25 | Workpiece Material: Ti | Workpiece Height: 70000

Flushing: p[bar] 12, K[μS] 5, B 1, O Q13

Geometry: Ofc 0.000, ZH 40.000, Taper =0

Wire: FW[N] 17, AW[mm/s] 195

Parameters: WTy Entry, SPL 14, Ppos 0, Pneg 1, Tmis Default, Teras Default, VS 0.01, SMode 0, ACCO



Control unit

The graphics user interface on the CUT 20 is based on the Windows XP operating system and controls the EDM process in real time. The system works with descriptive picture symbols and conversational screen pages following one after another logically. This allows even new users to understand the WEDM principle quickly and means time to production is very short. The unique programming system also gives to the users a large degree of flexibility in a production environment, allowing a simple and fast setup and many hours of labour free running of the machine.

Job preparation

Most CAD/CAM programs worldwide are compatible with the CUT 20 giving the operator a large level of integration. Automatic generation of machine settings is done by simply inputting the material, work piece height, wire type and the roughness to be achieved.

Measuring cycles

With the automatic measuring functions, using the wire as probe, available on the CUT 20, the work piece position in the work tank is determined.

EDM process

The EDM process is followed by the operator in real time; by means of the "EDM Process" windows he can monitor and optimise all the important technology parameters.

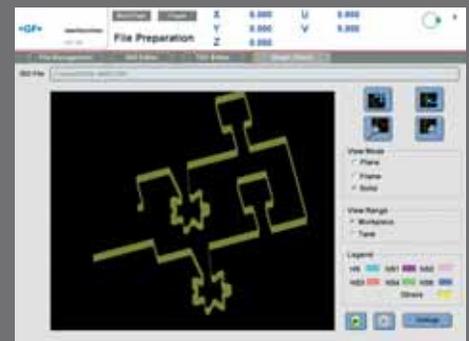
Easy job preparation



Automatic piece alignment functions



Job simulation with graphiccheck in 2D or 3D



Process control and optimizing





Outstanding performance
CUT 20 with the GF Agie-Charmilles generator and the new "Speed" technology package, achieves outstanding results particularly when machining jobs with 1 to 3 cuts.



About 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 (with the exception of 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.

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.

Spindle HSM Spindle Technology

Development, production and sale of the motor spindles that form the core components of modern HSM centers. The spindles rotate at speeds between 10 000 and 60 000 rpm.

Service Services and Consumables

Service, maintenance, spare parts and consumables for EDM, milling and HSM systems as well as for other machine tools; consumables include filters, wire, graphite, copper electrodes and special resin.

Contact

www.gfac.com

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