THE FACTORY AUTOMATION COMPANY

FANUC

ROBOCUT α -CiB series

High-Precision CNC Wire Electrical Discharge Machining





Extremely versatile wire EDM, plus an 800 mm table

Enter the efficiency zone!

FANUC designs efficiency for your production processes in the form of CNC systems, drives, robots and production machines. All produced in one of the most highly automated factories in the world. Ready to integrate and backed by unrivalled support and service. It's how we give you a competitive edge. Manufactured Efficiency for productivity to go.

Efficient products

All FANUC products involve manufactured efficiency. Fewer parts and lean technology make them reliable, predictable and easy to repair. They are made to run and provide you with the highest uptime on the market.

Efficient innovations

Manufactured efficiency is also at the heart of every FANUC innovation. Based on proven FANUC technologies, this is designed to increase the efficiency of your production facilities.

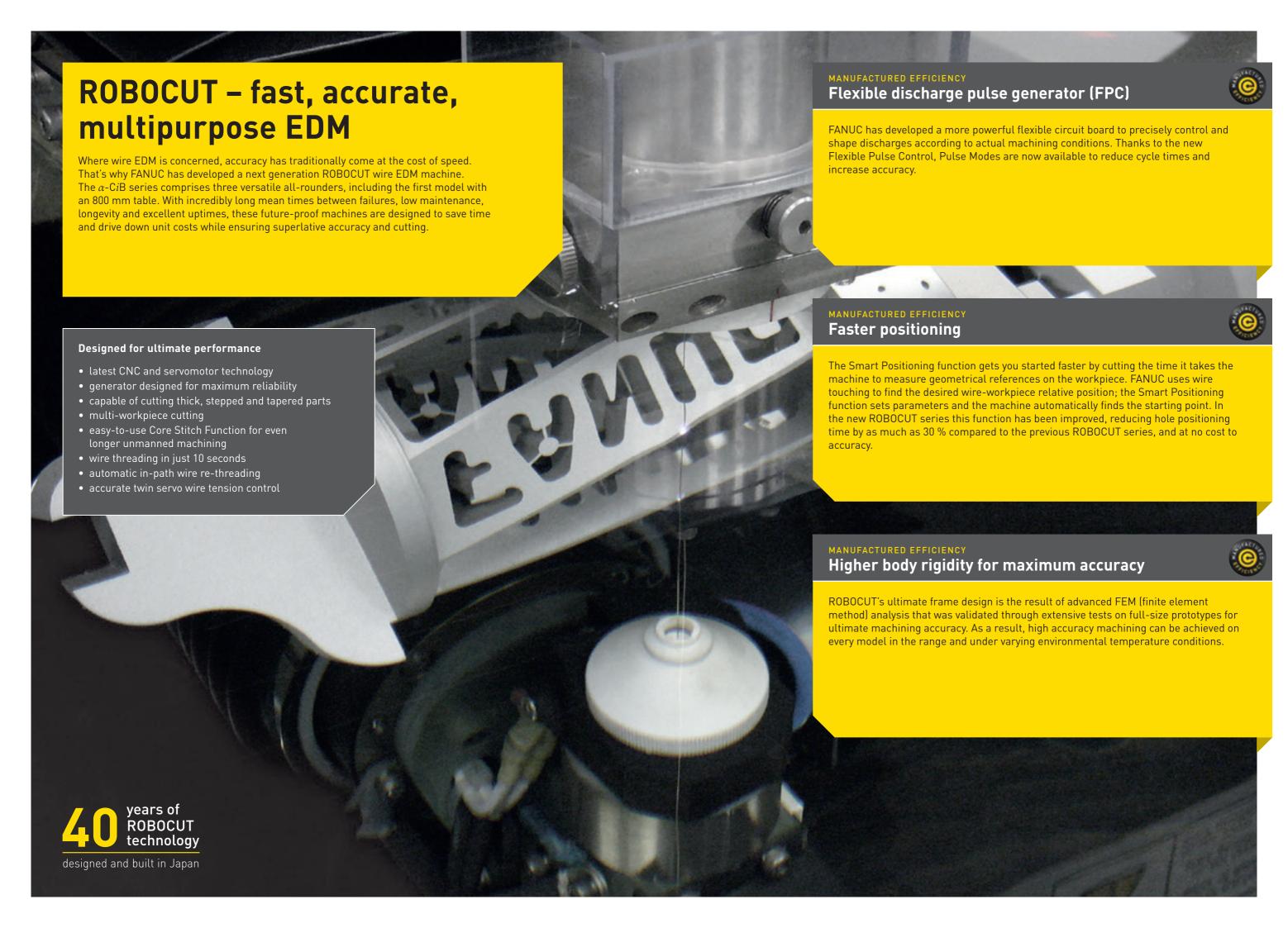
Efficient support and service

FANUC support and service is about manufactured efficiency too. We listen carefully to your needs and deliver on our promises. We also take care of our products as long as they are in service. Personal and responsive, we help you achieve maximum efficiency.

FANUC is the factory automation specialist

We've been automation experts for almost 60 years. With more than 20 million FANUC products operating worldwide – including 420,000 FANUC robots, 3.5 million FANUC CNCs and 16 million FANUC servomotors – we think our track record speaks for itself.*





Unbeatable wire EDM versatility

A versatile all-rounder, the FANUC ROBOCUT will do 80 % of your everyday cutting tasks without you ever needing to change the set up. When you do though, you will find that ROBOCUT's extensive range of options make adapting it extremely straightforward.



Faster set up

FANUC's Set up Guidance function ensures ultra fast set ups and reduces downtime by flagging potential operator errors. Other timesaving features include an automatic front door and a partial drain workpan that reduces turn around times by allowing you to remove parts without completely draining the tank.



Easy maintenance

Maintenance is easy thanks to an automatic front door and a work table that allows access to the table from below. A clear and precise maintenance guide ensures correct maintenance can be carried out in just a few steps.

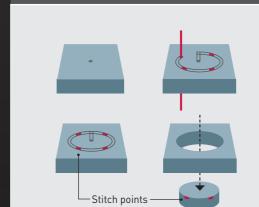


Fully automatic filling level control

ROBOCUT measures the water pressure at the bottom of the tank and regulates it according to the Z-axis position using a servomotor. As a result, you benefit from fewer parts, less maintenance, more reliability and an accurate water level within the workpan.



MANUFACTURED EFFICIENCY Easy-to-set Core Stitch function



ROBOCUT α -CiB series allows you to extend unmanned machining hours by better planning cutting jobs. Stitch points are set directly on the machine's CNC without any pre-programming. Used in combination with the re-threading in the wire path function, it is the ideal solution for long lasting unmanned machining and multi-workpiece cutting processes. When the job is done you simply knock out the cores manually without any risk of damage to the machine.

ANUFACTURED EFFICIENCY

New model with rigid 800 mm table for even more versatility



Able to machine parts of up to $1250 \times 975 \times 300$ mm, the ROBOCUT α -C800iB is a future-proof answer to an unpredictable market: should workpiece design change suddenly, this machine can keep up.

Efficient space saving

Big but compact, the ROBOCUT α -C800iB has the smallest footprint and lowest height in its class – it's your perfect space saving solution.

Versatile unmanned machining

The α -C800*i*B model allows you to mount multiple pieces with just one set up and also offers the most advanced Core Stitch function on the market, saving you time and driving down your unit costs.

Unique pre-seal self-cleaning

Reducing cleaning times to less than an hour a week and helping to maintain accuracy, this separable unit comes with a patented pre-seal system that prevents sludge from adhering.



Accurate machining despite temperature fluctuations

Thanks to its Thermal Displacement Compensation feature, ROBOCUT consistently machines to the same exacting standards despite room temperature fluctuations. FANUC offers a 3-sensors solution for environments with high temperature fluctuations and a 7-sensors solution specifically designed for fine displacement adjustment on machines installed in temperature-controlled rooms.



Optimal workspace utilisation

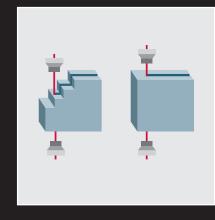
Depending on the model, ROBOCUT's U and V axes can be traversed 90 mm beyond the table, leaving 10 mm between the wire midpoint and the inner edge of the table.

This enables smaller workpieces to be machined without the need for expensive clamping devices.



Al Pulse Control

Minimises the risk of wire breakages at high machining speeds, even under difficult conditions such as those involving wide nozzle distances or changing cutting heights.



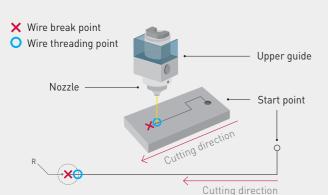
Automatic threading in just 10 seconds

FANUC's unique AWF2 Automatic Wire Feed threading technology provides fast, reliable automatic threading in just 10 seconds. To ensure reliable threading and re-threading, wires are cut electrically leaving a pointed end that is absolutely straight and burr-free, even on soft wire. Aided by a jet of water, threading the wire is both simple and very fast.

With 60 hours of wire as standard, the 30 kg spool option and wire cutter more than double the period of continuous operation.

MANUFACTURED EFFICIENCY

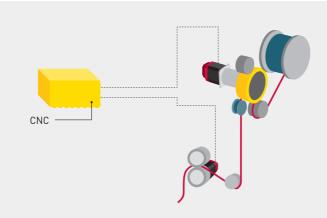
Reliable re-threading in the wire path



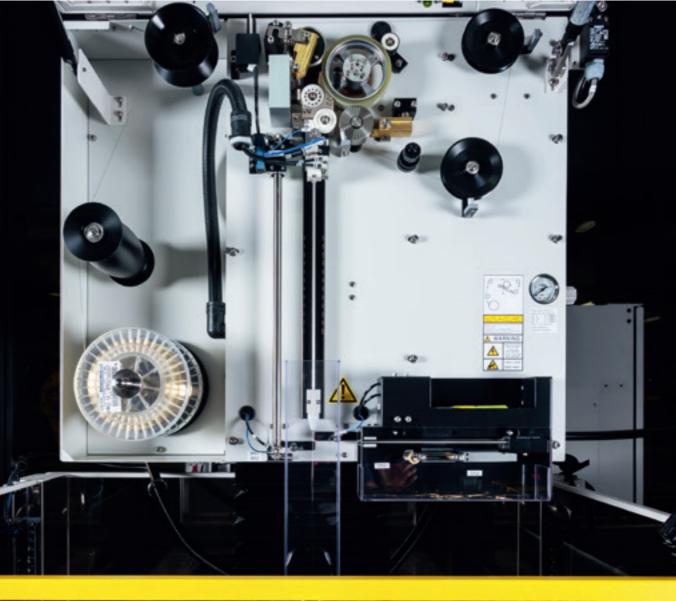
Unlike other machines, ROBOCUT does not need to return to the starting point after a wire break. This radically reduces machining times by re-threading automatically in the wire path on workpieces up to 150 mm thick – even on challenging micromachining orders.

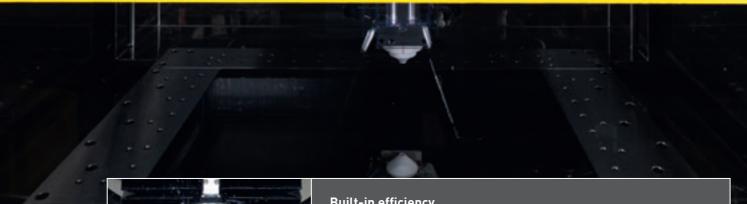
MANUFACTURED EFFICIENCY

Consistent wire tension improved overall reliability



Two servomotors maintain the wire tension of your ROBOCUT to +/- 15 q of accuracy. Made possible by FANUC's digital servo technology, FANUC's unique twin servo wire tension control ensures consistent cutting by compensating for wire errors. Additional benefits are fewer wire breaks and reduced parts wear.





Built-in efficiency

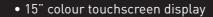
- supremely reliable submerged threading and re-threading even on thick workpieces up to 200 mm
- accurate taper-cut threading up to a height of 50 mm and taper angle of 5 degrees
- soft wire AWF option to achieve straight burr-free cut ends on soft wire
- AWF mechanism easy to dismantle, clean and reassemble

Cutting-edge CNC

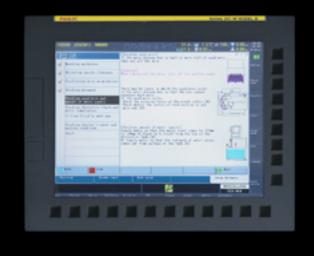
The centrepiece of every FANUC ROBOCUT is the most reliable CNC in the world. Designed for maximum precision, FANUC CNCs are extremely easy-to-use and program and offer unrivalled functionality. To date over 3.5 million units have been installed worldwide. To achieve exacting results on more demanding cutting operations, the FANUC 31*i*-WB High-Performance Control supports up to 7 simultaneously controlled axes and, by monitoring them constantly, ensures continuous protection against collisions. Programming the 31*i*-WB is simple, with the control's power save mode and energy recovery features making ROBOCUT especially cheap to run.

easy-to-use, lightweight pendant control

- fast auto diagnosis
- accurate auto correction
- precise predictive maintenance
- easy auto programming
- easy-to-use control screen
- supports multiple languages
 - easy-to-clean membrane keyboard
 - fibre optic cable for maximum reliability
 - energy saving switching electronics
 - mouse and keyboard interface
 - predefined shortcuts
 - keyboard and touchscreen



- intuitive *i*HMI home screen
- quick and easy data input
- improved interface to robot operation screen



No more downtime: simple maintenance – early detection

The intuitive visual maintenance interface on FANUC's 31*i*-WB CNC facilitates faster recoveries after servicing. The integrated early warning system identifies errors before they occur, ensuring maximum precision and consistent quality standards.

- Ethernet interface
- USB interfaces
- CF card slot
- RS232C interface

ROBOCUT efficiency highlights



Remote monitoring with ROBOCUT-LINKi

Equipped with a new graphic interface, ROBOCUT-LINK*i* is an updated production and quality information management tool that allows you to monitor the status of up to 32 ROBOCUT machines in real time from remote PCs or smart devices. Specific information is available for each cutting job, and event driven push notifications can be sent to different devices. The extremely user-friendly and intuitive interface gives you access to preventive maintenance functions as well as consumable and repair services. It also allows you to transfer NC programs and run quality checks by comparing standard data to current cutting statuses.

Status monitor

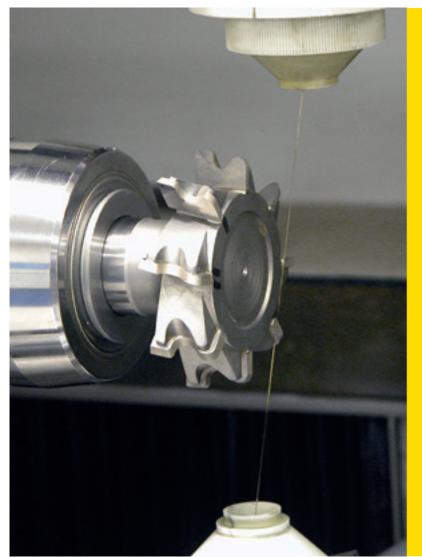
- layout monitoring
- device detail monitoring

Operation results

- group operation results
- device operation results
- machining results

Diagnosis

- alarm history
- program history



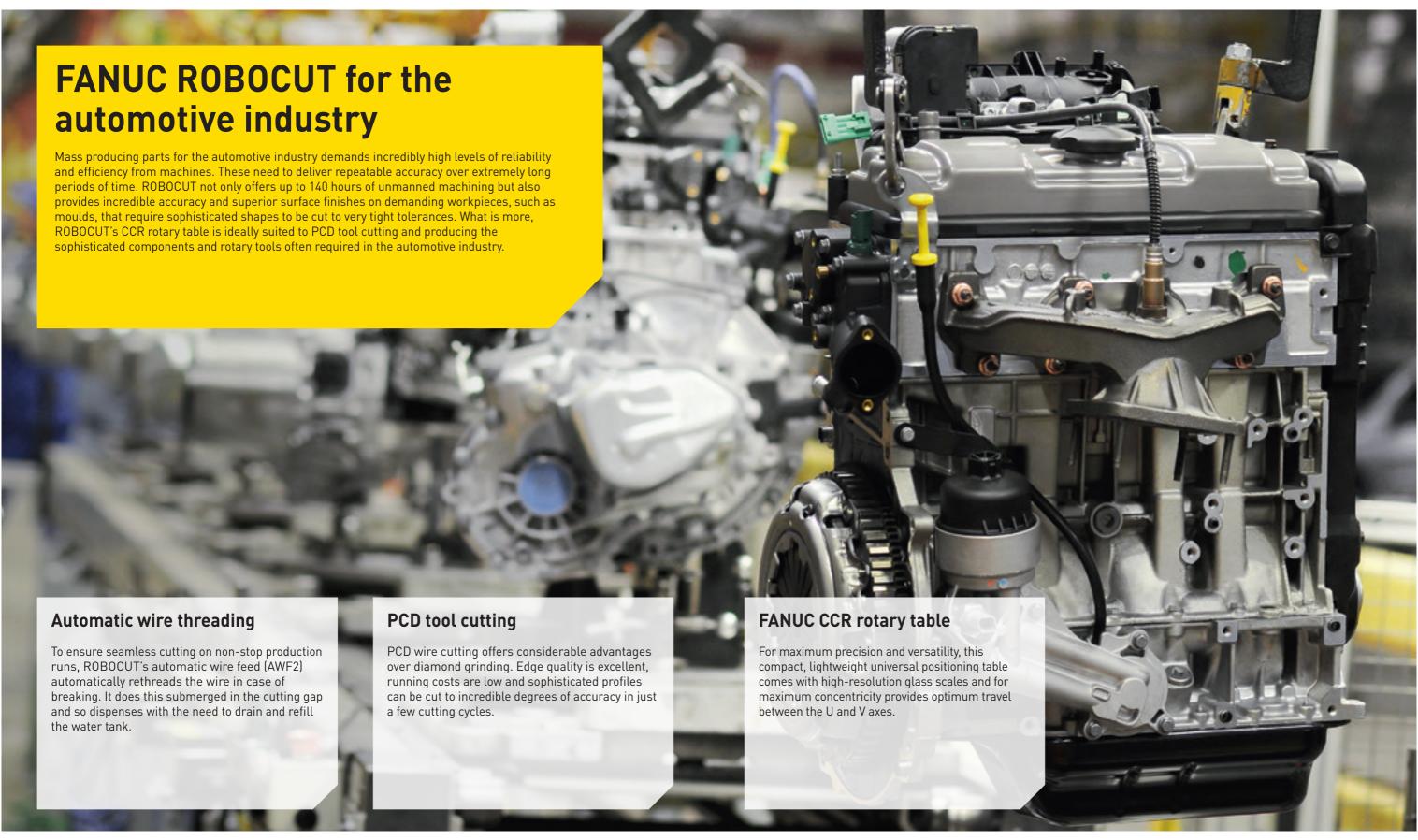
The perfect package for PCD tool making

ROBOCUT α -CiB series machines are perfect all-rounders when it comes to Polycrystalline Diamond (PCD) tool making. The ROBOCUT PCD Generator ensures the crystals are not damaged during cutting and provides high-speed precision machining for PCD tool sharpening. FANUC CCR rotary table makes cutting complex PCD tools easy. Capable of cutting at a variety of different angles, ROBOCUT is ideal for sharpening bonded PCD blanks. Your all-in-one machine for PCD tool making!



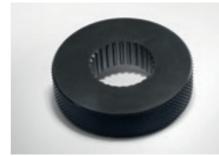
Designed for easy automation

The FANUC Quick & Simple Startup Package (QSSP) enables you to install tending robots in just a few steps. Convenient side and front doors offer good accessibility. Easy robot access for loading heavier workpieces as well as an ergonomically designed work area ensure trouble-free machine tending. For more demanding automation scenarios, FANUC's comprehensive network of dedicated European partners possess the know how and technical expertise you need to create the ideal solution for your production facility. Another plus: all FANUC products speak the same language and share a common servo and control platform – something that makes learning and operation extremely easy.





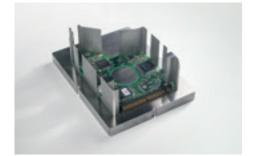








FANUC ROBOCUT for the electrical and IT parts industry Extremely high accuracy on tooling, such as moulds, is needed to make high precision and micro parts such as electrical connectors. Incredible levels of repeatability also ensure the same high standards are obtained time and time again. Thin wire cutting MF2 micro finish function Ideally suited to cutting minute parts, ROBOCUT's FANUC's MF2 micro finish generator not only thin wire functionality makes it possible to cut with enables you to achieve extremely fine surfaces wire down to 0.05 mm in diameter. This makes it and mirror finishes but also ensures maximum accuracy and efficient cutting. This is ideally possible to produce the very small and thin parts, such as connectors and semi-conductors, required suited to producing the moulds used in electrical in the electrical and IT industries. injection moulding to make high quality electrical components such as connectors.













FANUC ROBOCUT for the medical industry

When equipped with a FANUC rotary table, ROBOCUT offers the flexibility to machine the extremely sophisticated shapes required in the manufacture of medical and surgical equipment. ROBOCUT also delivers the high levels of reliability and repeatability required to mass-produce equipment for the medical industry.

FANUC CCR rotary table

For maximum precision and versatility, this compact, lightweight universal rotary table comes with high-resolution glass scales and for maximum concentricity provides optimum travel between the U and V axes. Saving time on machining processes by dispensing with the need to manually rotate the workpiece, FANUC CCR rotary table is ideally suited to the production of medical products. It is perfectly insulated to avoid water entering and comes with flood detection as standard.

Quick quality check

Designed to ensure consistent output, ROBOCUT-LINK*i* software detects faults in finished items to incredible degrees of accuracy, no matter how many items there are in a batch. Thanks to this software, if one of them is faulty, this tool will find it.

Automatic wire threading / re-threading

Enabling up to 140 hours of unmanned production, this feature is a real advantage on medical sector applications, saving labour costs and fully automating the seamless mass production of components.





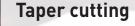






FANUC ROBOCUT for job shoppers and mould makers ROBOCUT is a versatile all-rounder that does just about everything. Its low running costs and ability to machine sophisticated parts to incredible degrees of accuracy make it perfect for general machining work. Available with an 800 mm table, it provides future-proof design and multipart

ROBOCUT is a versatile all-rounder that does just about everything. Its low running costs and ability to machine sophisticated parts to incredible degrees of accuracy make it perfect for general machining work. Available with an 800 mm table, it provides future-proof design and multipart machine capabilities that are ideally suited to producing prototypes or high-value parts of up to $1250 \times 975 \times 300$ mm. Additionally, its unrivalled Core Stitch function can be programmed easily on the shop floor without a PC and ensures ultimate reliability for jobs that require long unmanned processing times.



ROBOCUT comes with a range of features designed to reduce cycle times on taper cutting processes and guarantee continuous unmanned machining. These include advanced taper cutting compensation, FANUC's soft wire AWF2 and twin servo wire tension control.

Keyway cutting function

Input the data, push the button and create the program. Cutting keyways is that easy. Once the cycle has started, positioning and cutting are automatic, making this the convenient way to cut keyways.

Automatic soft wire function

Dispensing with the need for an operator to monitor the machine, soft wire AWF2 allows continuous unmanned machining on extended production runs thanks to extended electrode life.

3D rotation function

To ensure faster error-free set up, FANUC Auto 3D software measures inclination and rotation on the workpiece with touch probe to perform automatic compensation of the program plane and each axis movement – without the need for an additional 3D measuring machine and server (PC).













Customise your ROBOCUT

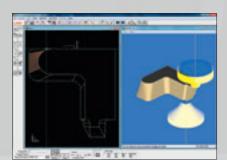
Designed to enhance the productivity of your ROBOCUT across an enormous range of applications, FANUC's range of dedicated software and hardware accessories give you the freedom to tailor your machining processes to your needs precisely. Like all FANUC products, FANUC accessories exhibit world-beating reliability, are simple to use and have been designed to help you get the most out of your ROBOCUT. Using them will allow you to increase output and maintain exacting quality standards regardless of how challenging your machining processes might be.



Programming made easy with ROBOCUT-CAMi

The FANUC ROBOCUT-CAMi system makes programming cylindrical, conical and 4-axis machining routines easy. You can mirror ROBOCUT-CAMi software directly to the CNC screen by using the remote desktop function. ROBOCUT-CAMi also offers multiple languages and a number of 2D or 3D data import options such as DXF, IGES and STEP files.

Your advantages with ROBOCUT-CAMi



- ROBOCUT-CAMi software can be mirrored to the CNC screen
- huge range of post-processing options
- simple program transfer via Ethernet interface
- automatic default settings reduce set up times
- simple programming of involute gearing, top and bottom shapes, coreless cutting



FANUC CCR table

For the best PCD tool making results, ROBOCUT is available with a CCR rotary table. This lightweight universal rotary table comes with high-resolution glass scales and, for maximum concentricity, provides optimum travel between the U and V.



Thermal displacement compensation with 7 sensors

Thermal displacement compensation is also available with 7 sensors for ultimate thermal stability.

Renishaw touch

probe

For precise automatic positio-

ning and workpiece alignment.

Auto grease

Lubricates according to

(factory option).

specification, reducing the

need for manual maintenance

lubrication system



MF2 function

FANUC's MF2 micro finish generator not only enables you to achieve extremely fine surfaces and mirror finishes but also ensures maximum accuracy and efficient cutting.



Wire cutter

For long hours of unmanned cutting.



0.05 mm and 0.07 mm thin wire option

Finer than standard 0.1 mm wire, this is available as an option on C400iB only to produce very small and thin



tools.

Automatic front door

Automatic

To ensure faster error-

free set up, FANUC Auto

inclination and rotation on

for the program plane and

the workpiece compensating

each axis movement - without the need for an additional 3D measuring machine and

ProfDia GTR

For rotary and fixed cutting

programming software

3D software measures

server (PC).

3D rotation function

Time saving option that dispenses with the need to completely drain the water.



Z 400

Available with the RC C600iB, this option allows you to machine larger and thicker workpieces.



6- or 7-axis retrofit kits

Include servo amplifier, axis card, cables and a connection



30 kg wire auto loader

Retrofittable for up to 140 hours of extended unmanned operation.



Option warning light



Linear encoder

Designed to save energy

ROBOCUT's FANUC-made CNCs, motors, amplifiers, generators and pumps are engineered to deliver the lowest possible energy consumption through the use of intelligent energy management. Every component has been chosen to provide the highest possible performance for the least possible energy. Additional smart features to reduce energy consumption further include power monitoring, sleep mode, LED lighting, inverter pumps and cooling and power regeneration.



Lower energy costs

Energy saving function



The energy saving function makes it possible to track precisely the amount of energy being consumed during machining or on standby. Power saving interventions such as switching off flushing or filter pumps can also be set, with features such as screen savers, sleep mode, auto start-up by timer and auto power off, all contributing to additional savings.

- lower energy consumption and costs
- reduce machine running costs
- increase the lifetime of the machine

energy costs

Lower

FANUC

Others

Sleep mode

This feature saves energy by automatically putting the machine into sleep mode during periods of inactivity.

FANUC

Power monitor

Others

This energy saving feature provides an overview of how much energy is being consumed and shows where savings can be made.

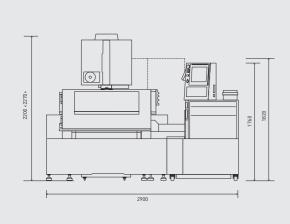
NEW α-C800iB Technical Data

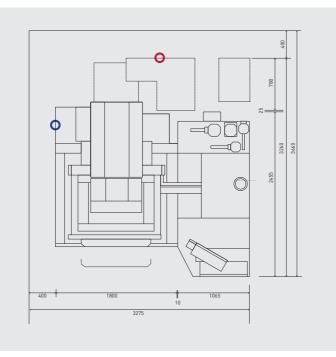


Standard	
Maximum workpiece dimensions [mm]	1250 × 975 × 300
Maximum workpiece weight [kg]	3000
XY axis table travel [mm]	800 × 600
Z axis travel [mm]	310
UV axis travel [mm]	200 × 200
Maximum taper angle [°/mm]	±30°/150
Minimum step increment of the drives [mm]	0.0001
Wire diameter [mm]	Ø 0.10 ~ Ø 0.30
Maximum wire weight [kg]	16
Footprint (W/D) [mm]	2900 × 3260
Machine weight (approx.) [kg]	4200
Controller	FANUC 31 <i>i</i> -WB
Part program storage size [MB]	4
Acoustic noise level	
LPA [dB]	64
LPCpeak [dB]	81
Optional	
45° die guide	
Maximum taper angle [°/mm]	±45°/40
30 kg wire feed unit	
Maximum wire weight [kg]	30

Outer dimensions | Floor plan

- O Power input position (200V AC,3-phase)
- O Compressed air input position
 * The values in parentheses < > are when the safety cover is open.





α-C600iB Technical Data

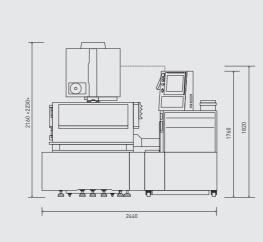


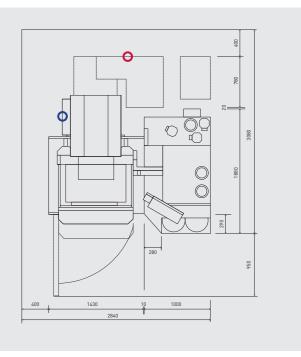
Standard	
Maximum workpiece dimensions [mm]	1050 × 820 × 300
Maximum workpiece weight [kg]	1000
XY axis table travel [mm]	600 × 400
Z axis travel [mm]	310
UV axis travel [mm]	200 × 200
Maximum taper angle [°/mm]	±30°/150
Minimum step increment of the drives [mm]	0.0001
Wire diameter [mm]	Ø 0.10 ~ Ø 0.30
Maximum wire weight [kg]	16
Footprint (W/D) [mm]	2440 × 2680
Machine weight (approx.) [kg]	3000
Controller	FANUC 31 <i>i</i> -WB
Part program storage size [MB]	4
Acoustic noise level	
LPA [dB]	64
LPCpeak [dB]	81
Optional	
Z axis 400	
Z axis travel [mm]	410
Maximum workpiece dimensions without automatic door, option Z axis travel [mm]	1050 × 820 × 400
Footprint [mm]	2790 × 2680
Automatic front door (Standard machine only (Z axis travel = 310mm))	
Maximum workpiece dimensions [mm]	1050 × 775 × 300
45° die guide	
Maximum taper angle [°/mm]	±45°/70
30 kg wire feed unit	
Maximum wire weight [kg]	30

Outer dimensions | Floor plan

- O Power input position (200V AC,3-phase)
- O Compressed air input position

 * The values in parentheses < > are when the safety cover is open.





^{*)} The above floor plan is that of a standard type machine. Contact FANUC if you wish to order options such as 30 kg wire feed unit.

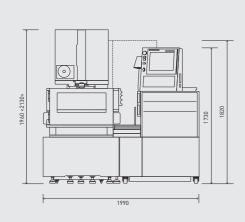
α-C400iB Technical Data

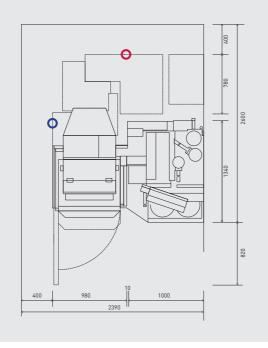


Standard	
Maximum workpiece dimensions [mm]	730 × 630 × 250
Maximum workpiece weight [kg]	500
XY axis table travel [mm]	400 × 300
Z axis travel [mm]	255
UV axis travel [mm]	120 × 120
Maximum taper angle [°/mm]	±30°/80
Minimum step increment of the drives [mm]	0.0001
Wire diameter [mm]	Ø 0.10 ~ Ø 0.30
Maximum wire weight [kg]	16
Footprint (W/D) [mm]	1990 × 2200
Machine weight (approx.) [kg]	1800
Controller	FANUC 31i-WB
Part program storage size [MB]	4
Acoustic noise level	
LPA [dB]	64
LPCpeak [dB]	81
Optional	
Thin wire	
Wire diameter [mm]	Ø 0.05 ~ Ø 0.07
Automatic front door	
Maximum workpiece dimensions with automatic door, Z axis travel [mm]	730 x 585 x 250
45° die guide	
Maximum taper angle [°/mm]	± 45°/40
30 kg wire feed unit	
Maximum wire weight [kg]	30

Outer dimensions | Floor plan

- O Power input position (200V AC,3-phase)
- Compressed air input position
 * The values in parentheses < > are when the safety cover is open.







Efficient FANUC service worldwide

Wherever you need us, our comprehensive FANUC network provides sales, support and customer service all around the world. That way, you can be sure you have always got a local contact that speaks your language.



Efficient long time productivity: FANUC Maintenance Services

To minimise impact on production and get the most out of your machine, we offer maintenance services designed to lower your machine's TCO. Whatever your production scenario, FANUC solutions keep your machine running via dedicated preventive, predictive and reactive maintenance procedures that maximise uptime and keep downtime to a bare minimum.

Efficient training: FANUC Academy

The FANUC Academy offers everything you need to upskill your teams and increase productivity – from introductory programs for beginners through to courses tailored to the needs of expert users and specific applications. Fast and effective learning, on-site training or cross machine training, make up the extensive educational offering.



Efficient supply: Lifetime OEM spare parts

As long as your machine is in service we will provide you with original spare parts – for a minimum of 25 years. With more than 20 parts centres all over Europe, dedicated service engineers and direct online access to FANUC stores, availability checks and ordering, we keep you running whatever happens.

24/7 support



CNC SYSTEMS Controls, Drive systems, Laser systems

ROBOTS



ROBODRILL CNC machining centre



ROBOCUT Fully CNC controlled wire EDM machine



ROBOSHOT Electric CNC injection moulding machine



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