FANUC

ROBOCUT α-C*i*B Series
Wire EDM

Exceptional Performance
Uncompromising Reliability

About FANUC

When you invest in a FANUC wire EDM machine, you get the best of two worlds.

First your machine is a FANUC - a name known the world over for innovation in EDM, CNC controls, robotics and automation.

Second your machine is supported by Methods Machine Tools - A company that since 1958 has been developing innovative solutions to customer production needs.

With eight technical centers throughout the Unites States, and a national network of knowledgeable dealers, Methods Machine Tools can provide the technical support, training, and service you need to maximize the productivity of your FANUC Wire EDM machines.

Fast, accurate, multipurpose wire EDM.

Where wire EDM is concerned, accuracy has traditionally come at the cost of speed. That's why FANUC has developed a next generation ROBOCUT wire EDM machine. The CiB series is comprised of three versatile models, including the first model with a 31.5 in X-Axis stroke. With incredibly long mean times between failures, low maintenance, longevity and excellent uptime, these FANUC ROBOCUT machines are designed to save time and drive down unit costs while ensuring superlative accuracy and cutting.

α-CiB Series

400 • 600 • 800

Standard Features

- Discharge Control *i*Pulse2
- Anti-recast Power Supply
- 3D Coordinate System Rotation
- Thermal Monitoring and Compensation
- "Core Stitch" Slug Retention
- Capable of Operating Single and Dual Axis Rotary Tables
- Auto Wire Feeding AWF3 System
- FANUC 31*i*-WB Controller with New *i*HMI User Interface
- Wire Size: 0.004" to 0.012" (0.002" Diameter Optional)
- Inverter Controlled Chiller
- ROBOCUT-LINK*i* Offline Cutting Monitor (STD)
- Power Savings Mode
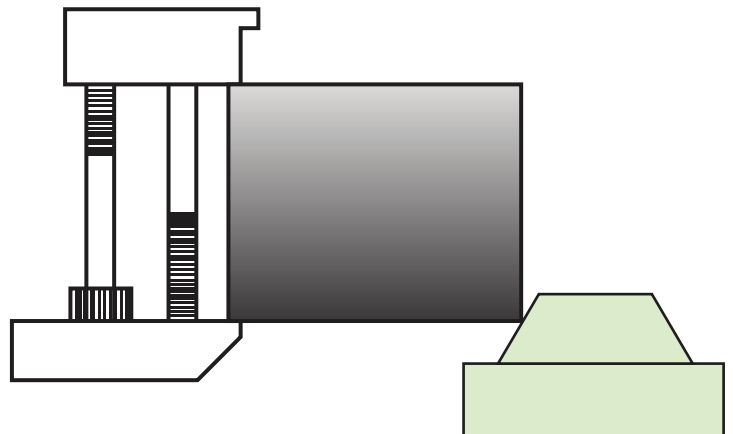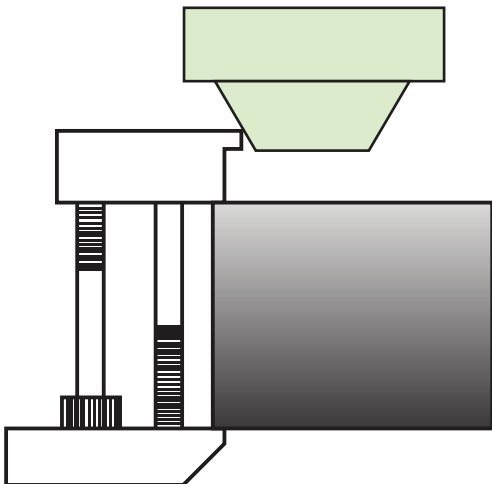- Positioning Accuracy: ± 0.0001"
- Heidenhein Glass Encoder (0.000002")

Crash Protection

Servo data is monitored at high-speed in real time. The machine immediately stops whenever a collision occurs. No additional parts required for detection of this function.
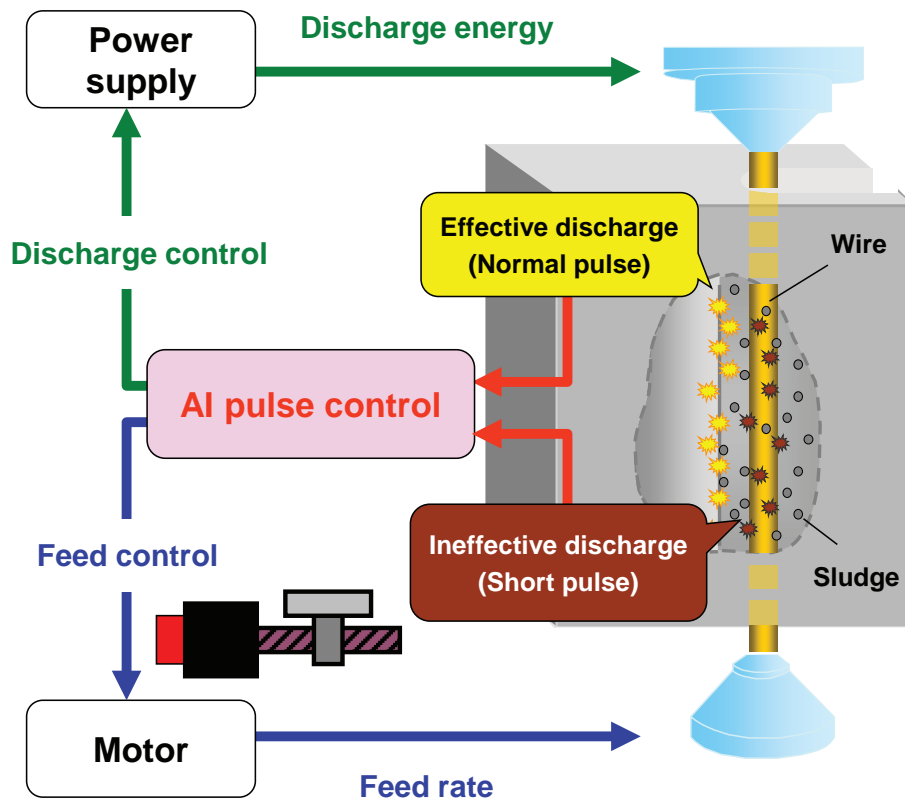
Function: OFF
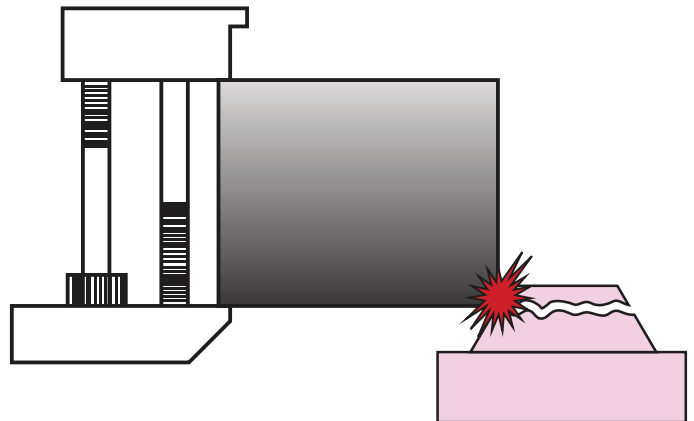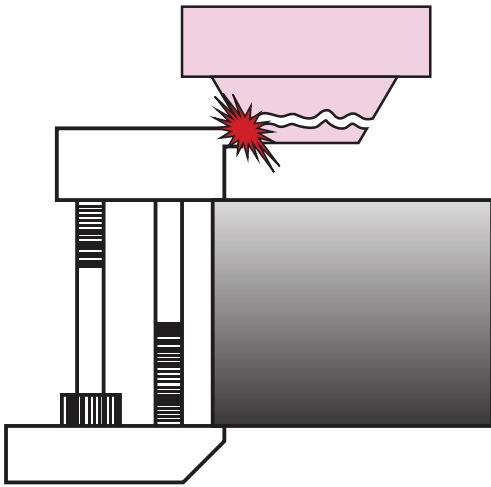
Function: ON

iPulse 2 Discharge Control

The $^{\alpha\text{-}}\mathrm{C}i\mathrm{B}$ Series machines' iPulse 2 Discharge control improves accuracy and surface finishes with a reduced number of passes. By accurately counting the number of effective discharges and monitoring the uniformity of energy density and the discharge gap, iPulse 2 enables high precision cutting at high speeds. The speed and precision of step shape cutting is enhanced with the iPulse 2 by detecting work thickness according to the number of discharge pulses. iPulse 2 optimizes cutting speeds in stepped, multi-level, and irregularly shaped work pieces.

With iPulse 2

Without iPulse 2

Diagram labels

- Power supply
- Discharge energy
- Discharge control
- AI pulse control
- Feed control
- Motor
- Feed rate
- Effective discharge (Normal pulse)
- Ineffective discharge (Short pulse)
- Wire
- Sludge

Auto Wire Feed - AWF3

FANUC's unique AWF3 Automatic Wire Feed threading technology provides fast, reliable automatic threading. To ensure reliable threading and re-threading, the EDM wire is cut electrically leaving a tapered end that is absolutely straight and burr free, even on soft wire. With the AWF3 Automatic Wire Feeding system it is now possible to Auto-Thread the wire through the maximum height of the work tank including 19.7" fully submerged tank on the C800*iB* eliminating the need to drain and fill the work tank greatly reducing Auto Wire Feed cycle times. Another advantage of the AWF3 is the ability to re-thread the wire at the break point through the EDM kerf eliminating the need to go back to the start point. Short release function is also standard with AWF3. Short release allows the machine to start machining in a short condition after the wire is connected.

Auto select between High Speed, Standard Speed, and multi-purpose.
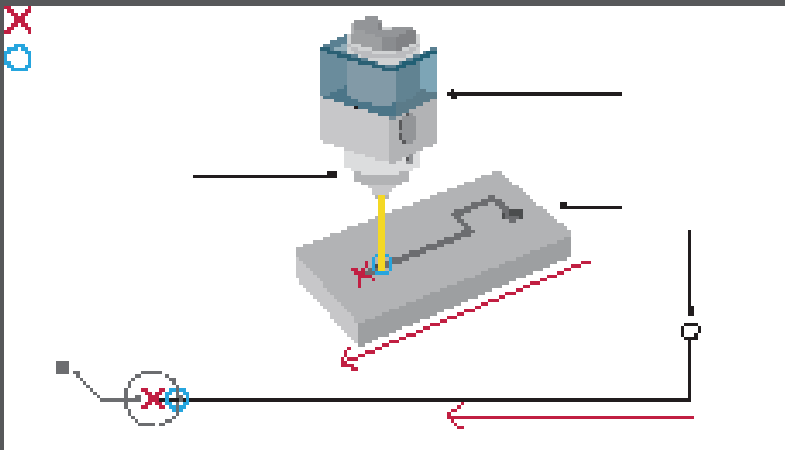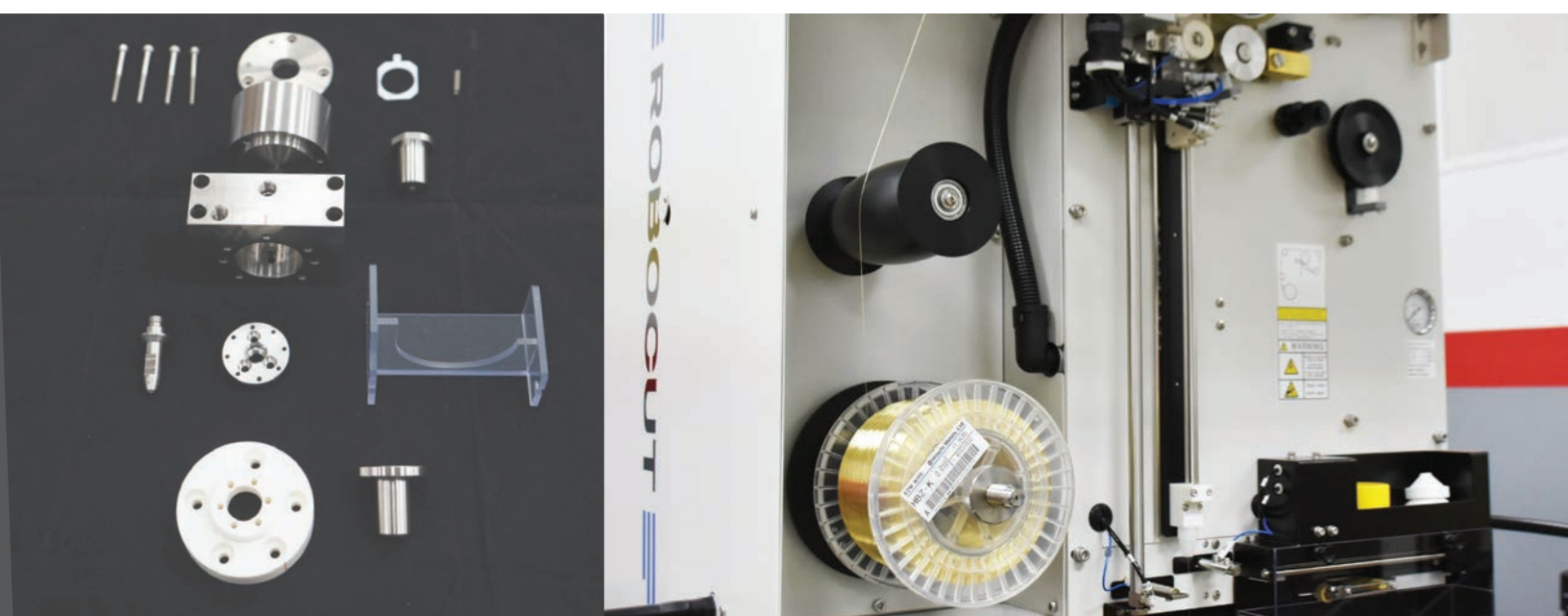
ROBOCUT does not need to return to the starting point after a wire break. This dramatically reduces machining times and by re-threading automatically in the wire path on workpieces.

Cutting-edge CNC Controller

The centerpiece of every FANUC ROBOCUT is the most reliable CNC in the world. 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 economic to run.

• 15" touchscreen display
• intuitive *i*HMI home screen
• quick and easy data input
• network access

• Full function pendant Control

• precise predictive maintenance
• easy auto programming
• easy-to-use control screen
• supports multiple languages

• easy-to-clean membrane keyboard
• fiber optic cable for super-fast communication
  between control and machine
• energy saving electronics
• mouse and keyboard support
• predefined shortcuts

• ethernet interface
• USB interface
• CF card slot
• RS232 interface

Remote monitoring with ROBOCUT LINK*i*

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.
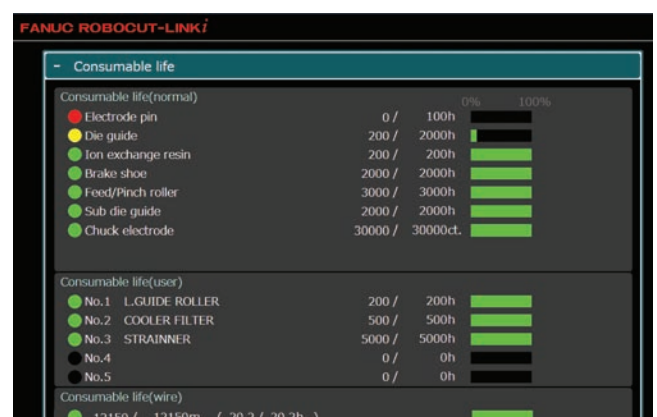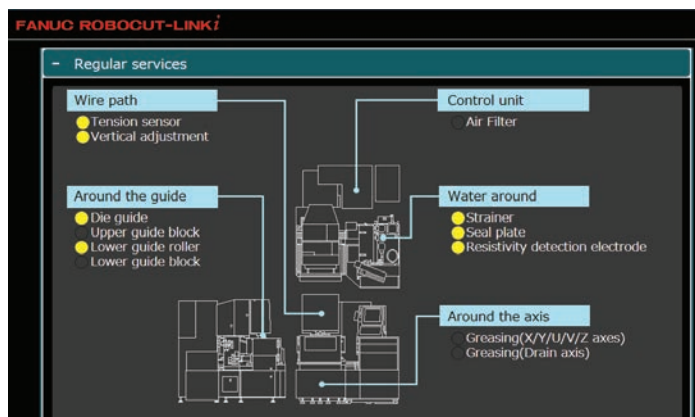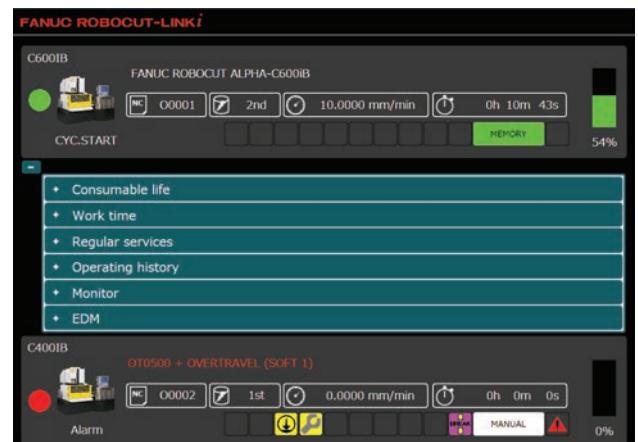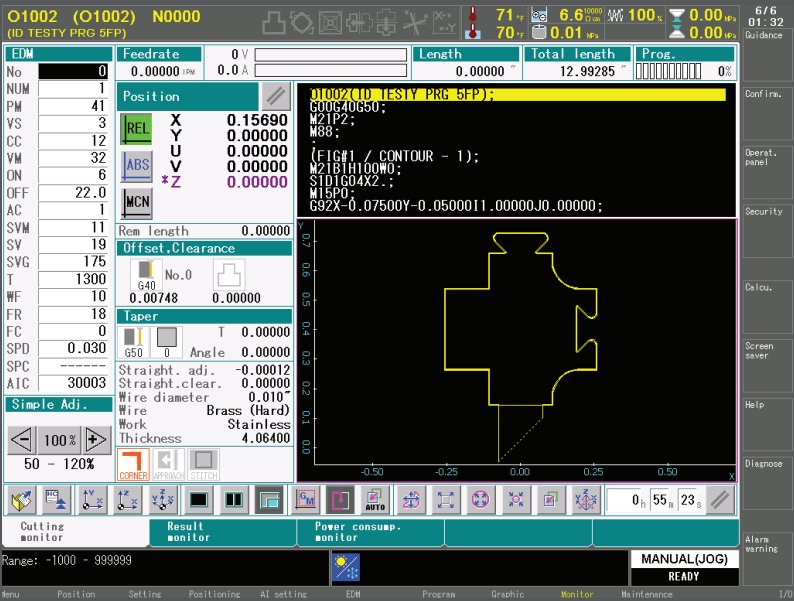
Control Screens
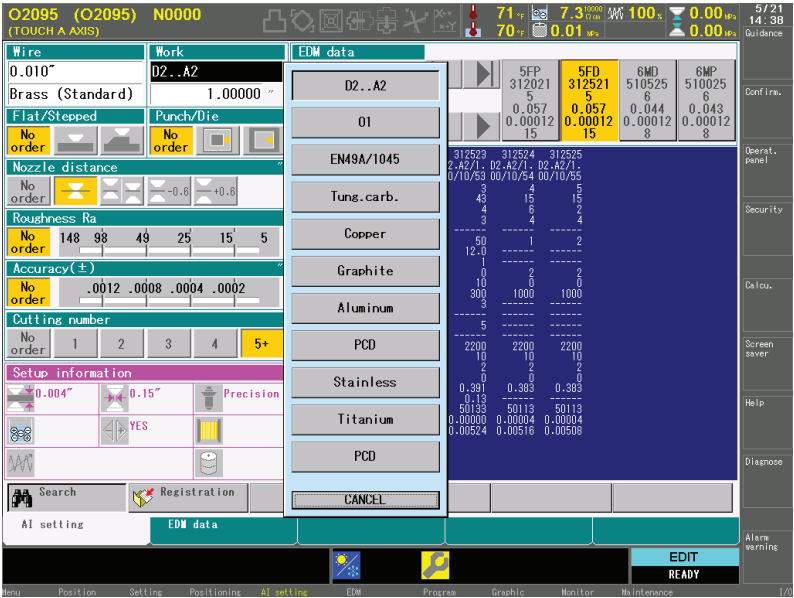
AI Setting Screen

FANUC's unique AI setting screen allows the operator to easily tell the machine wire diameter, material and thickness of the work piece. The machine's AI screen gives the operator cutting technology for single pass through multiple passes depending in the criteria of the job.


Cut Monitor Screen

FANUC Wire EDMs cut monitor screen gives the operator everything needed when cutting parts to confirm a variety of information is correct. From this screen real time adjustments can be made to the cutting technology by using the simple adjustment function.

Positioning Screens

FANUC Wire EDMs simple to use pick up modes allows operators to easily find the location of their work pieces with many different methods by either using the wire or the optional probe.
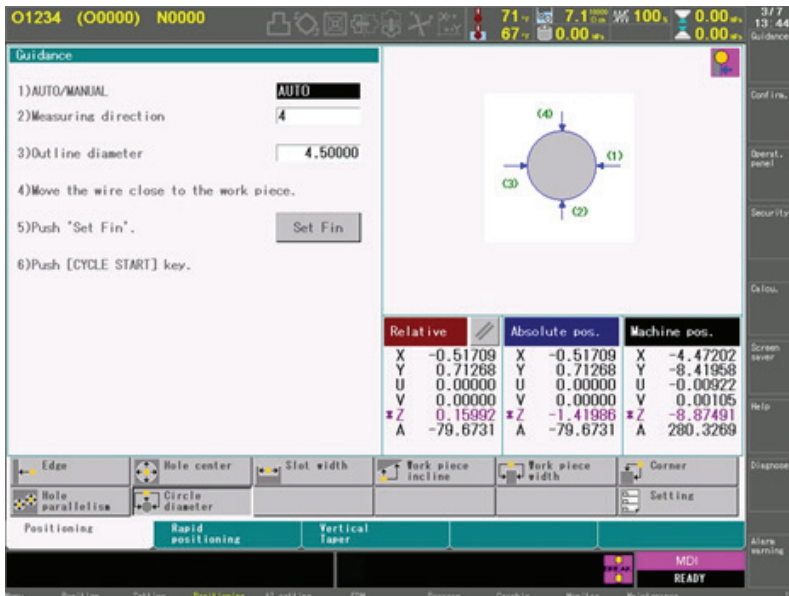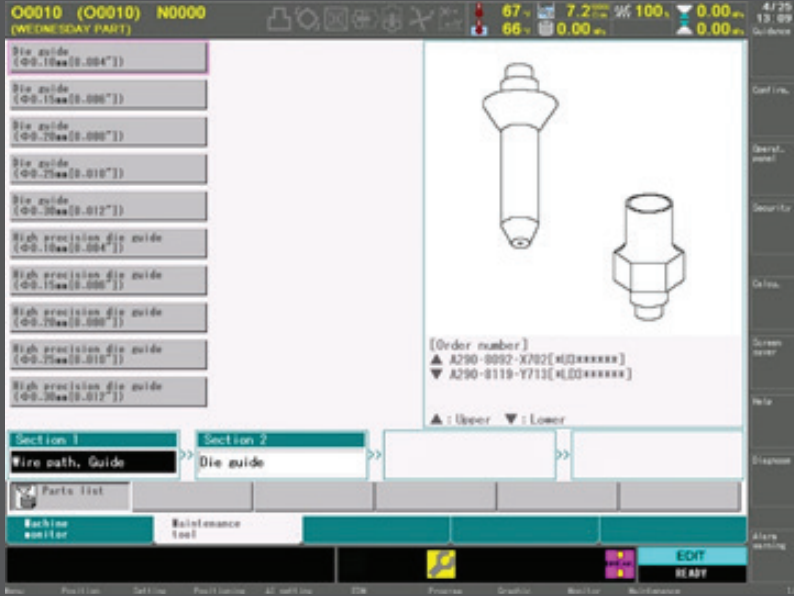

Auto Programming Screen

FANUC Wire EDMs Auto Programming function allows the operator to create geometry from scratch or to import a DXF file. Afterwards the NC program is generated automatically and is ready to use to cut the part.
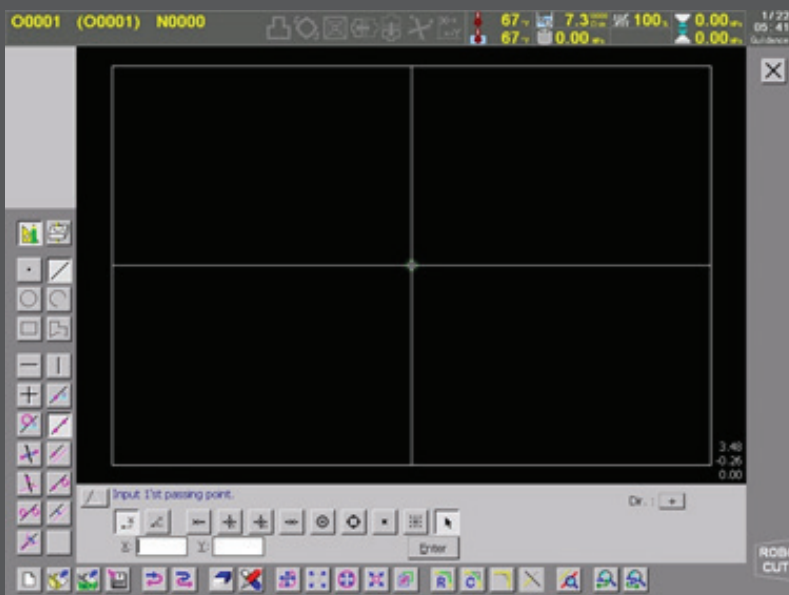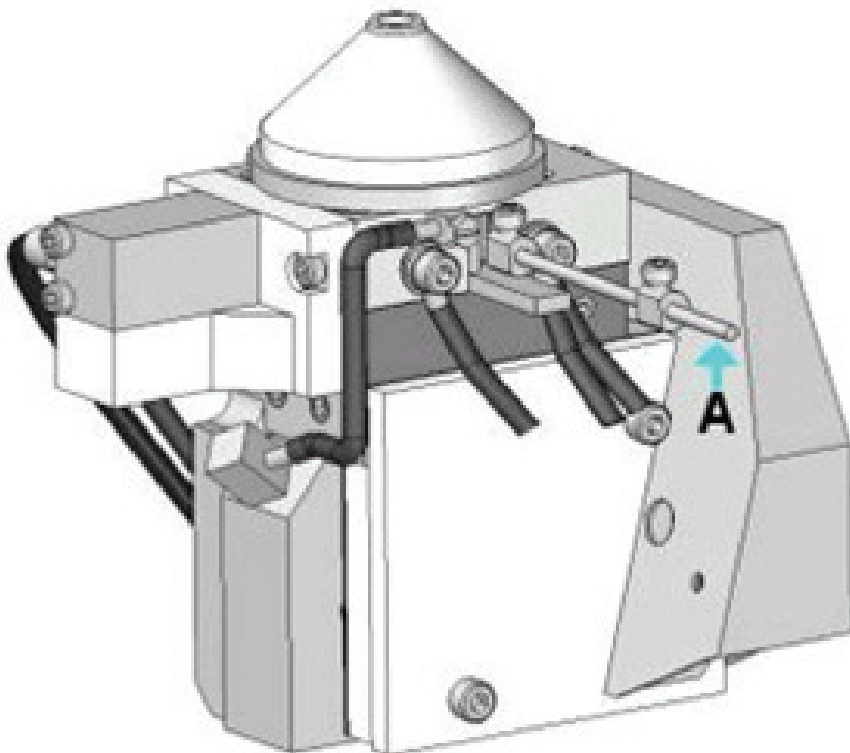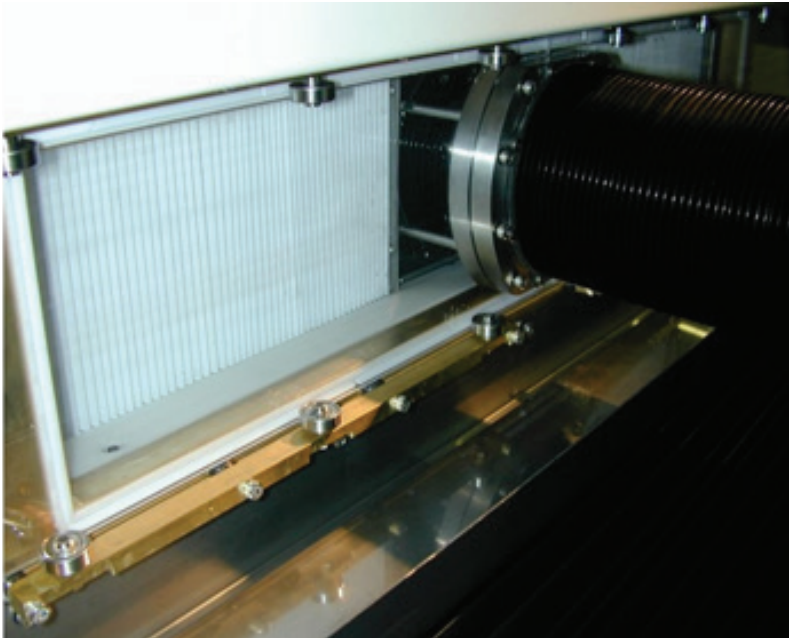
Control Screens

Maintenance Screens

FANUC Wire EDMs maintenance screens allows the operator to find part numbers in many different areas of the machine. This saves time of having to search through manuals.

FANUC Wire EDMs maintenance screens give the operator step by step instructions to perform regular maintenance duties simply and easily.

Seal Plate Design

FANUC Wire EDMs simple but extremely effective seal plate design continuously flushes clean water across the face to keep the dirty water from the cutting process to contaminate it. Also the simple 2 piece construction allows quick and easy removal for cleaning.

Ball Screw Design

FANUC Wire EDMs ball screws are made with the highest quality material, double anchored and pretensioned to ensure the accuracy and reliability. FANUC also covers their ball screws ensuring the shop atmosphere is kept away to protect the screw and its longevity.
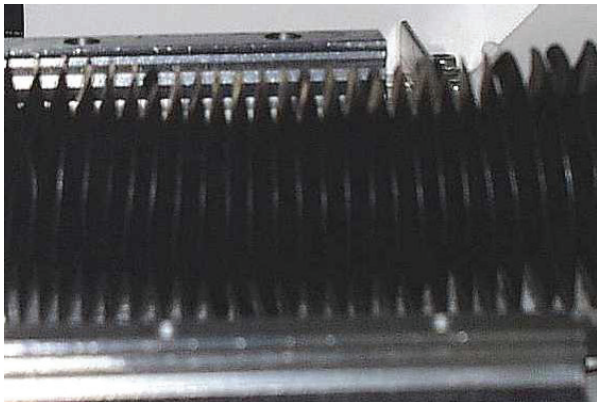
Core Stitch

FANUC's new ROBOCUT α-CiB Series comes standard with Core Stitch function, which allows you to better plan your jobs and extend unmanned machining hours. Stitch points are set by the operator without any pre-programming. This is the ideal solution for long, unmanned machining and multi-workpiece cutting processes. When the job is done you simply tap out the cores manually without any risk to the machine. No more glue tabs or magnets needed to hold slugs.

Stitch points
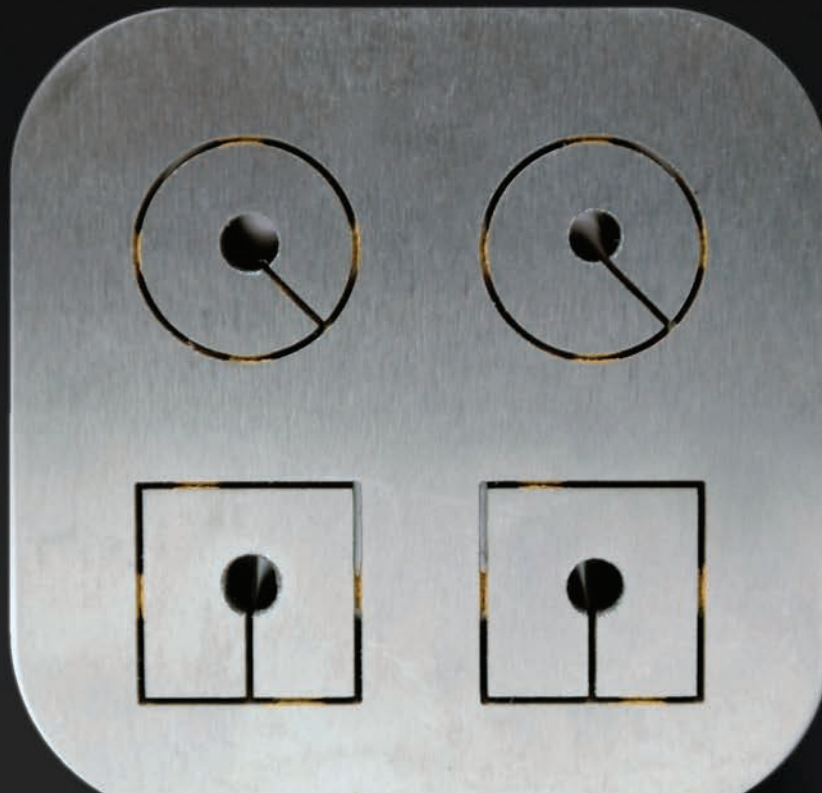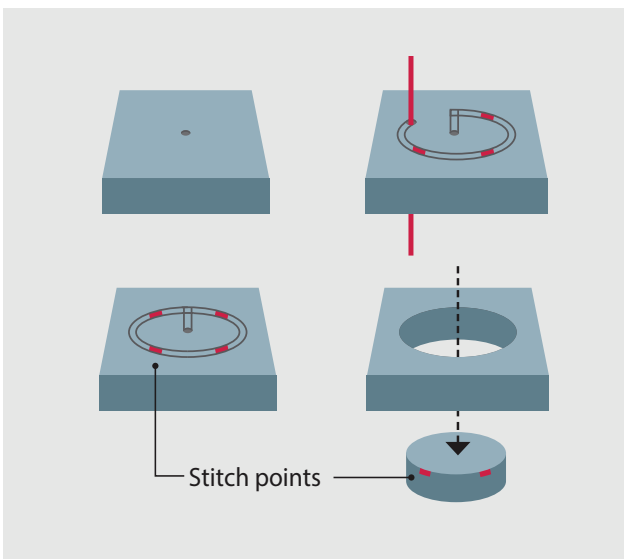
Designed to Save Energy

FANUC ROBOCUT 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.
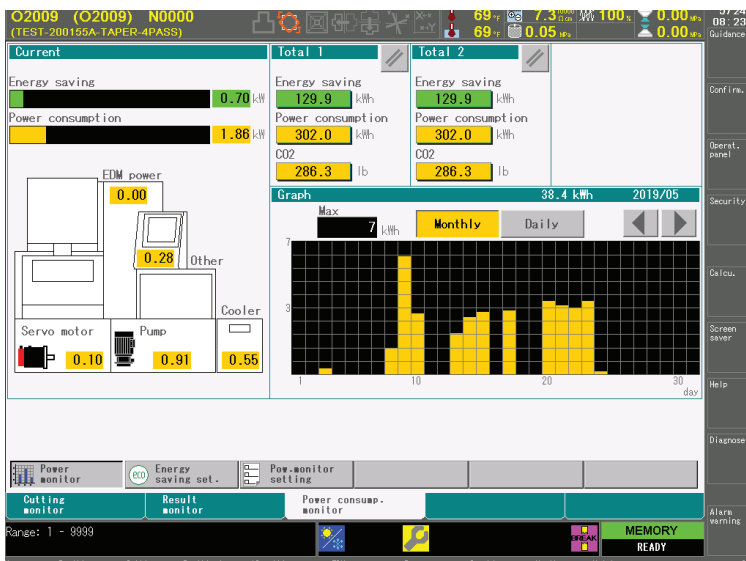
The Energy saving overview function makes possible the tracking of energy being consumed during machining or on standby. Power saving interventions such as auto start-up by timer, switching off flushing pumps, screen savers, sleep mode, and auto power off all contributing to additional savings.

Power monitor

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

Sleep mode

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

ENERGY EFFICIENT

Easy Automation

FANUC ROBOCUT and FANUC Robots combine to make the perfect unattended machining solution. All FANUC products speak the same language, and share common servo and control platforms - making learning your robotic cell extremely easy. Methods Automation will work closely with you to design and build an automated EDM solution, tailored specifically for your needs.

CAM*i*

ROBOCUT CAM*i* is programming software designed specifically for the FANUC Wire EDM. This powerful but user friendly software incorporates the AI technology cutting conditions allowing the operator to choose the number of passes, surface finish & accuracy from the software instead and include this in the NC programs. Core Stitch functions, coreless cutting, 4-Axis taper programs as well as many other standard FANUC Wire EDM functions are easily accomplished through CAM*i* software.
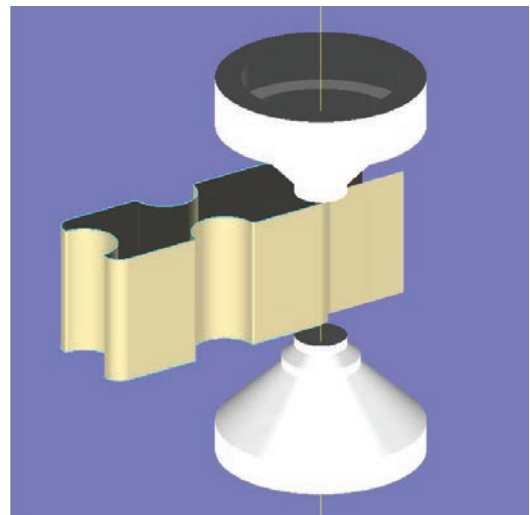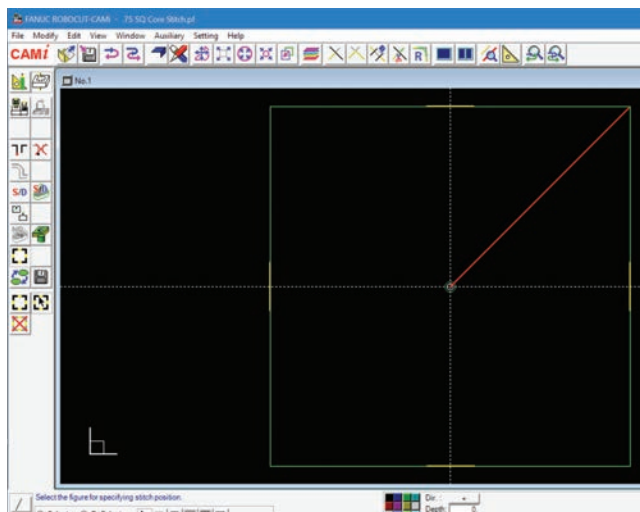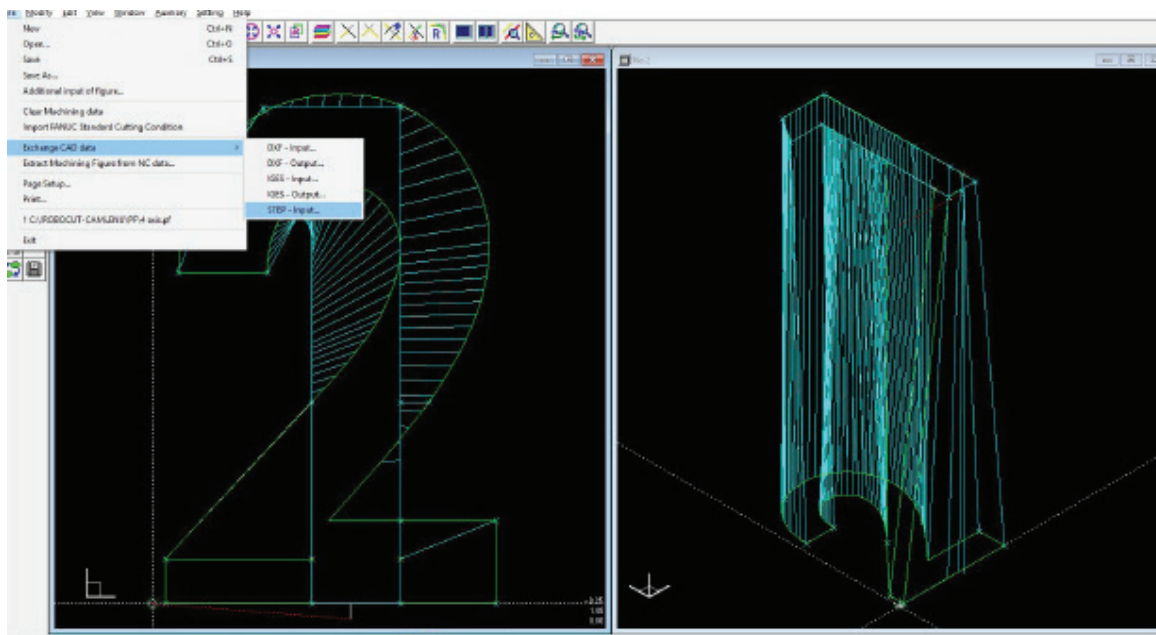
Options

Automatic Front Door

Time saving option that dispenses with the need to completely drain the water to remove the work piece.
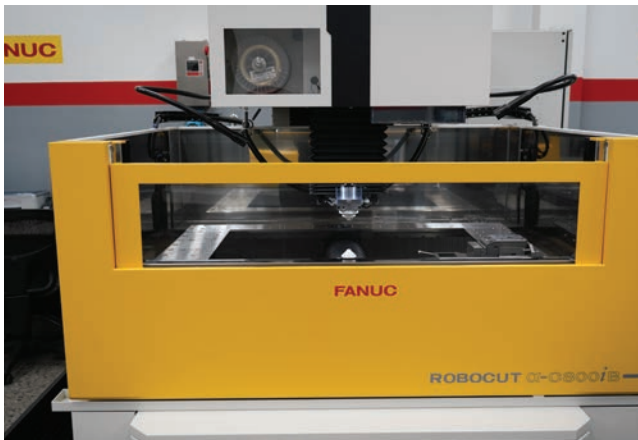
PCD Edge Programming Software

Powered by GTR ProfDia, this software is the industry's choice for programming cutter profiles on flat and / or rotary cutting tools.
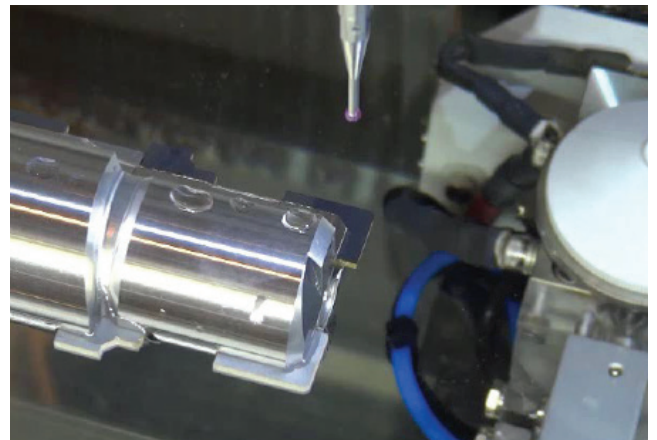
Renishaw Touch Probe

For precise automatic positioning and workpiece alignment.

66 lb Wire Auto Loader

Retrofittable for up to 140 hours of extended unmanned operation.

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.

Rotary Table

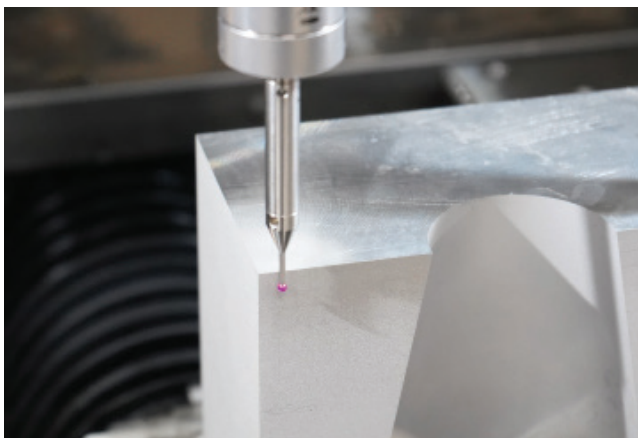Adding a single axis FANUC CCR or twin axis table is simple and will increase the productivity of your ROBOCUT α-CiB Series wire EDM.
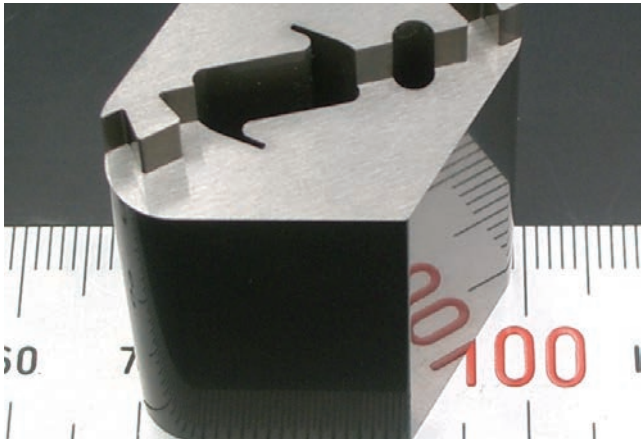
LED Triple Alarm Light

Red Yellow and Green column light indicating the operating status of the machine.

Wire Chopper

Designed and built to run long hours without maintenance. Essential to adding automation to your EDM operation.

C400*i*B

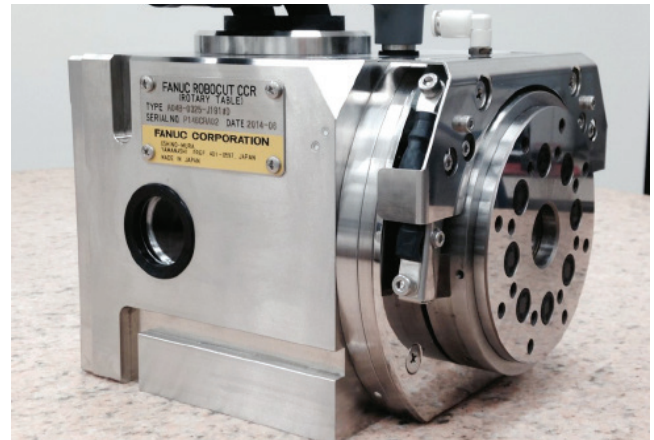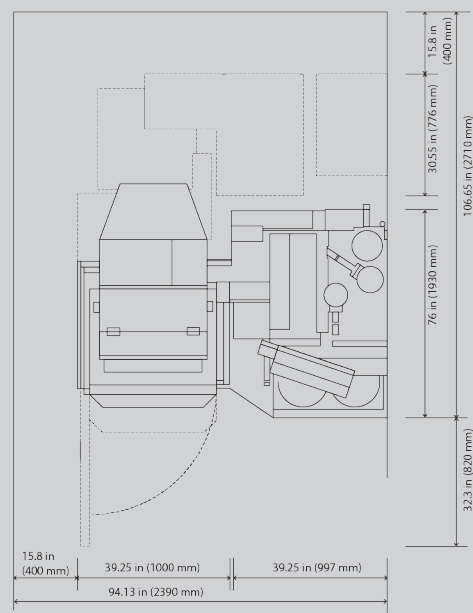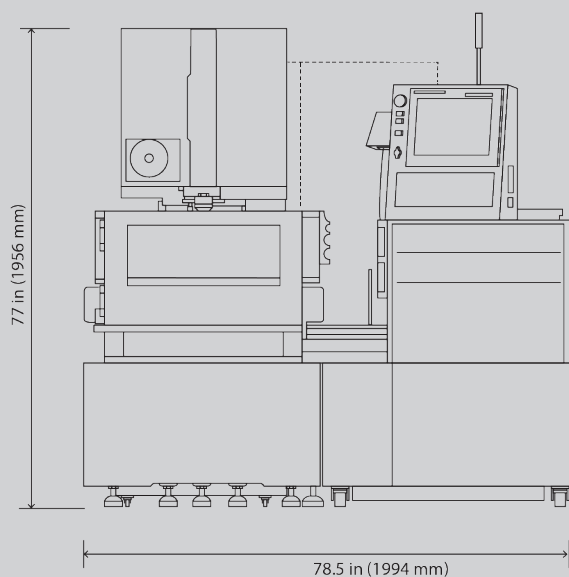| Features	Standard	Metric
Maximum workpiece dimensions	28.7" x 24.8" x 10.0"	730 mm x 630 mm x 255 mm
Maximum workpiece weight	1100 lbs	500 kg
X / Y Axis table travel	15.7" x 11.8"	400 mm x 300 mm
Z-Axis travel	10.0"	255 mm
U / V Axis travel	± 2.362"	± 60 mm
Maximum taper angle	± 30° / 3.15"	± 30° / 80 mm
Minimum step increment of the drives	0.000004"	0.0001 mm
Wire diameter	Ø 0.004" ~ 0.012"	Ø 0.10 mm ~ 0.30 mm
Maximum wire weight	35 lbs	16 kg
Machine weight (approx.)	4000 lbs	1800 kg
Controller	FANUC 31 *i*-WB	
Part program storage size (MB.)	4	
Acoustic noise level		
LPA (dB)	64	
LPC peak(dB)	81	
Optional Features		
Thin Wire		
Wire diameter	Ø 0.002" ~ Ø 0.012"	Ø 0.05 mm ~ Ø 0.3 mm
45° die guide		
Maximum taper angle	± 45° / 1.6"	± 45° / 40 mm
30 kg wire feed unit		
Maximum wire weight	66 lbs	30 kg

Features	Standard	Metric
Maximum workpiece Dimensions	41" x 32" x 12.2"	1041 mm x 813 mm x 310 mm
Maximum workpiece weight	2200 lbs	1000 kg
X / Y axis table travel	23.6" x 15.7"	600 mm x 400 mm
ZAxis travel	12.2"	310 mm
U / V axis travel	± 3.937"	± 100 mm
Maximum taper angle	± 30° / 6.4"	± 30° / 150 mm
Minimum step increment of the drives	0.000004"	0.0001 mm
Wire diameter	Ø 0.004" ~ Ø 0.012"	Ø 0.10 mm ~ Ø 0.30 mm
Maximum wire weight	35 lbs	16 kg
Machine weight (approx.)	6700 lbs	3000 kg
Controller	FANUC 31 *i*-WB	
Part program storage size (MB.)	4	
Acoustic noise level		
LPA (dB)	64	
LPC peak(dB)	81	
Optional Features		
Z axis 410		
z axis travel	16.1"	410 mm
Maximum workpiece dimensions	41" x 32" x 15.7"	1050 mm x 820 mm x 410 mm
45° die guide		
Maximum taper angle	± 45° / 3.75"	± 45° / 70 mm
30 kg wire feed unit		
Maximum wire weight	66 lbs	30 kg
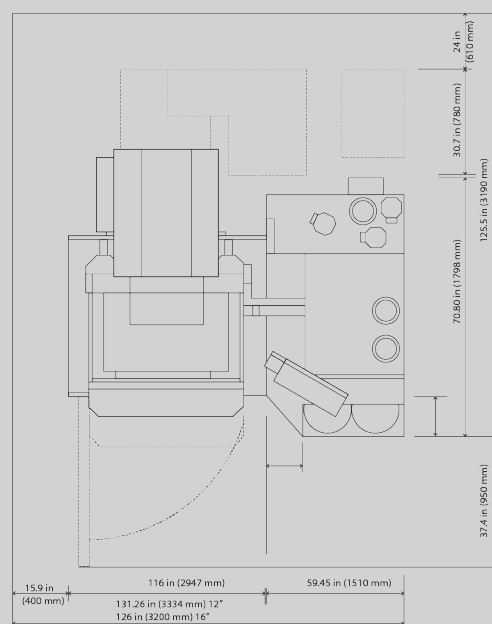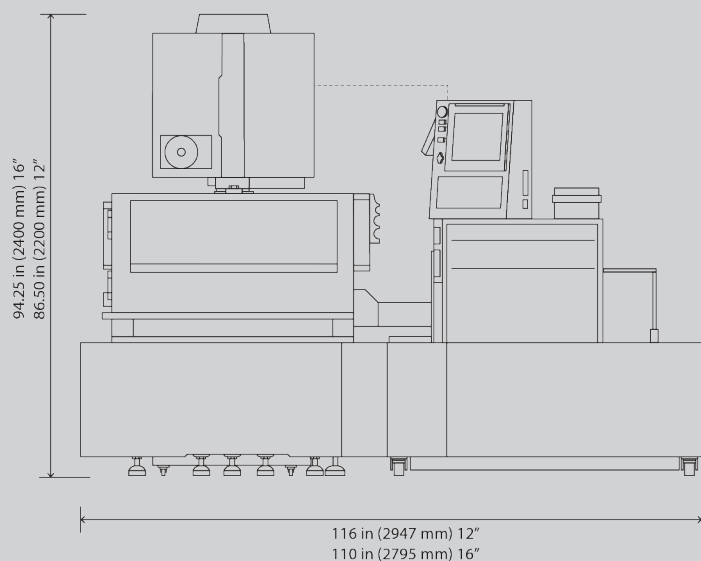
C800*i*B

Features	Standard	Metric
Maximum workpiece Dimensions	49.2" x 38.3" x 12.2"	1250 mm x 975 mm x 310 mm
Maximum workpiece weight	6600 lbs	3000 kg
X / Y axis table travel	31.5" x 23.6"	800 mm x 600 mm
Z axis travel	12.2"	310 mm
U / V axis travel	± 3.937"	± 100 mm
Maximum taper angle	± 30° / 6"	± 30° / 150 mm
Minimum step increment of the drives	0.000004"	0.0001 mm
Wire diameter	Ø 0.004" ~ Ø 0.012"	Ø 0.10 mm ~ Ø 0.30 mm
Maximum wire weight	35 lbs	16 kg
Machine weight (approx.)	9260 lbs	4200 kg
Controller	FANUC 31 *i*-WB	
Part program storage size (MB.)	4	
Acoustic noise level		
LPA (dB)	64	
LPC peak(dB)	81	
Optional Features		
Z axis 500		
z axis travel	20.1"	510 mm
Maximum workpiece dimensions	49.2" x 38.3" x 20.1"	1250 mm x 975 mm x 510 mm
45° die guide		
Maximum taper angle	± 45° / 1.6"	± 45° / 40 mm
30 kg wire feed unit		
Maximum wire weight	66 lbs	30 kg

102.25 in (2600 mm) 20"
87 in (2210 mm) 12"

112.75 in (2864 mm) 12"
128.94 in (3275 mm) 20"

15.8 in (400 mm)
30.7 in (780 mm)
128.4 in (3260)
144.50 in (3670)
98 in (2490)

15.8 in (400 mm)
71 in (1803 mm)
42 in (1067 mm)
128.75 in (3270 mm) 12"
144.70 in (3675 mm) 20"