



Expertise at your fingertips



CNC Electric Discharge Machine



## 'No Flush - No Arc'

XPERT series incorporates several advanced features to meet international demands. This latest-technology CNC EDM is designed keeping in mind the speed, precision and automation requirements of various industries.

With enriched experience of installing more than 6500 EDMs and 1200 CNC Wirecut EDMs all across the world, Electronica is setting new standards in performance and reliability.

### Features

- Integral design with compact footprint
- Moving head, fixed table
- High speed jump (up to 2.5 m/min.)
- Built-in GURU
- Definable erosion axis
- Adaptive anti-arc & flushing control
- SAFE machining circuit
- Canned orbiting cycles
- Integrated 'C' axis (optional)
- Automatic Tool changer (optional)
- Linear optical scales of 0.0005 mm resolution on all 3 axes (optional)
- Drop door tank (for xpert 2 )





## General User's Recommended Utility

Simple 4-step programme



### Step No. 1

Enter basic information such as electrode & workpiece material, machining area, machining depth, & type of machining.  
( low wear / optimum / efficient )



### Step No. 2

Select the cavity pattern viz.  
Single cavity, Multi-cavity array,  
PCD, Assorted.



### Step No. 3

Select START & END machining set up from the recipe generated by GURU based on undersizing of the electrode & the surface finish required.



### Step No. 4

Select orbiting pattern suitable for the profile.

And GURU will generate the programme automatically.

## High speed jump

High speed jump creates a pumping action of dielectric resulting in good flushing conditions & always ensuring clean gap conditions.

## Adaptive anti-arc and Flushing control

Gap discharges are monitored & instant pulse-to-pulse corrective actions are taken.

- 'Machining difficulty index' signal is generated and based on which pulse parameters are suitably corrected
- Adaptive jump cycle control based on the concentration of debris in the machining gap

## Advantages of new SAFE machining circuit

- Safe and stable, no-arc machining
- Ultra low electrode wear even on sharp corners and edges resulting in
  - Longer electrode life
  - Sharper machining details
- High-efficiency rib machining

## CNC Pulse Generator - e Pulse 50 CNC

### CNC Controller

- 32-bit Pentium-based computer for human-machine interface
- 56-bit Digital Signal Processor (DSP)
- Multi-axes precise motion control
- Rugged flash hard disk for EXE programme storage
- Dual processor architecture
- Automatic repositioning after cycle interruption
- Independent programming for X, Y, Z and 'C' co-ordinates
- Integrated programme logic control
- RS 274-based programme code
- Background programming & simulation
- Part programme edit
- Single block execution
- Built-in programme error indication
- Programmable multi-cavity operation
- XY, XZ, YZ axes vector and orbiting



- Auto edge find and center find (internal and external)
- Selectable auto shut-off after sparking cycle or in case of any faults for unattended operation
- Auto power recovery
- Programmable auto-flushing to enhance machining stability
- Programmable process control
- Automatic frontal wear compensation cycle (for Z-axis)
- Mirror image on X or Y axis
- Display of electrode path during machining
- Pitch error & backlash compensation
- Menu-driven dialogue box
- Hand-held, full function remote control unit
- Built-in EDM technology data for various materials to set erosion conditions efficiently (auto and user definable)
- Built-in recipe in GURU
- Self-diagnostics

### ATC and integrated 'C' axis (optional)



### Safety and Protections

- For CPU, Measuring circuit, Servo overload, Over traverse limits and Mains over and under voltage.
- Dielectric over-temperature,
- Low level, Overflow and Fire detection.

### Data Input and Output

- Keyboard - ASCII with 10 software keys
- Isolated RS 232 C serial interface
- 1.44 MB, 3.5" floppy disk
- 15" LCD monitor

### Machine Tool

- Moving head fixed table
- LM guideways for all 3 axes
- Precision ball screws & closed loop DC Servo system for 3 axes (xpert 1) AC Servo (optional)
- AC Servo system for 3 axes (xpert 2)
- Drop door tank (xpert 2)

### Job Samples

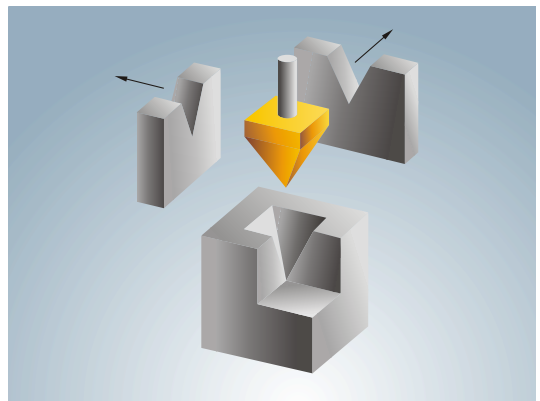
Erosion using 'C' axis



Horizontal sparking



### Electrode Discharge Dressing



\*Possible with optional 'C' Axis







## Businesses we are in

- Electronica Machine Tools Ltd.
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EDMs, CNC EDMs & CNC Wirecut EDMs
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Plastic Injection Moulding Machines
  - Machine Tool Trading Division  
CNC machining centers, CNC lathes, Tapping centers, Surface grinders, Vertical Turret lathes, Turret punch presses, Laser cutting machines, Die-casting machines, Vertical turret & CNC milling machines
  - Tough Carb Division  
& Hard Materials Division (100 % EOU)  
Tungsten carbide products for mining, Petroleum, wear, metal forming & cutting applications
  - Metal Cutting Division  
Lamina Indexable Inserts, Tool holders, Milling cutters for Metal cutting industry
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Motion control systems & integrated automation solutions through PMAC, UMAC, PLCs, drives, motors, MMIs & HMIs
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  - Electronica Mechatronic Systems (I) Pvt. Ltd.  
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  - EMS Technologies Pvt. Ltd.  
Manufacturing and sourcing of machines for electronics production and assembly
  - Electronica Finance Ltd.  
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In keeping with our constant endeavour to meet ever-changing market needs, we reserve the right to alter or change the specifications mentioned without prior notice.

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