



# CNC SINKER TYPE EDM

## KEB SERIES

KEB-433 | KEB-600L | KEB-700L | KEB-1000L

[www.kentcnc.com](http://www.kentcnc.com)

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## Mirror Processing Controller

The DSP (Digital Signal Processors) Servo Control System speed response time is up to 0.2ms in a location circuit control versus a traditional PC based control 1ms. The DSP provides stable sparking and smooth machine movement.

MOSFET transistors are coupled with POWER SINK circuitry to reach higher processing with a low wear and tear rate.

This Pulse Circuit adopts the IC of FPGA to ensure the fastest response and capability of the "UNI-PULSE" monitor. This UNI-PULSE monitor ensures a better burning efficiency by "avoiding" carbon built up.

A operator friendly interface with "AI" logic to assist in setup and operation. Once the basic material, depth, and shape data are entered, the CNC logic controller can set and adjust the optimum burning parameters. Included is a Industrial C.F Card (Compact Flash Card) that can be re-written and read over at least 100,000 times.



## Quick Overview

Capacity of Work Tank	35" x 20" x 15"
Fluid Tank Capacity	80 gal
Max. Electrode Weight	220 lbs
Max. Work Piece Weight	1100 lbs
Max. Machining Rate	0.024 (60A)   0.037 (90A)
	inch <sup>3</sup> /min
Work Table Size	24" x 14"
Machine Dimensions	67" x 63" x 92"



## Features

- Industrial PC System (IPC)
- Industrial C.F Card (Compact Flash card)
- Supports USB Copy / Read Data Function
- English & Chinese Display
- Metric & British System Display & Program Setting
- 1,000 Processing Program Stations
- Program Editing: One Block Command, Multi-Cavity Machining & Matrix Multi-Cavity Machining
- Store Processing Conditions: Automatically Edge Finding, Home Finding, Center/Inner Hole Finding
- Conversation Type Program: Loop & Call, Note & Pause, Mark/Copy/Delete Block and Skip Line Function
- 10 Files with 256 sets of Processing Parameter Memory in each file
- Side Loran Function X & Y-Axis
- Angle Vector Machining Function
- ARC Clockwise & ARC Counter Clockwise Function
- Single or 3-Axis Lateral Machining, Round Orbiting, Square Orbiting and Vector Machining
- Optional A.T.C. Accessory
- C-Axis Helical-Gear Machining
- C-X / C-Y-Axis Lateral Rock Machining

## Quick Overview

Capacity of Work Tank	43" x 24" x 16"
Fluid Tank Capacity	98 gal
Max. Electrode Weight	220 lbs
Max. Work Piece Weight	2205 lbs
Max. Machining Rate	0.024 (60A)   0.037 (90A)
	inch <sup>3</sup> /min
Work Table Size	28" x 16"
Machine Dimensions	75" x 69" x 92"





## Linear Guide Ways & Precision Ball Screw

The KEB Series EDMs are equipped with X & Y-Axes wide linear guide ways. Using wide linear guide ways and spans ensures smooth mechanical movement for long periods of time especially during Reaming and Vector Processing. The X-Axis linear guide way is installed on the middle of the machine and the Y-Axis linear guide way is installed on the upper seat of the machine. The X-Axis Ball screw has a diameter of 1.5" while the Y-Axis Ball screw had a 1.25" diameter.

## Safety Features

These machines have a Fluid Height Level Protection function that will automatically shut off when fluid level is lower than the pre-set height level. In case of a fire this machine will also shut off automatically. When the work head reaches the pre-set depth, it'll automatically retract to its original position and shut off the electricity. These machines will also shut off automatically when any short circuit occurs.

## Quick Overview

Capacity of Work Tank	60" x 37" x 20" 290
Fluid Tank Capacity	gal
Max. Electrode Weight	550 lbs
Max. Work Piece Weight	6615 lbs
Max. Machining Rate	0.024 (60A)   0.037 (90A) inch <sup>3</sup> /min
Work Table Size	39" x 24"
Machine Dimensions	112" x 106" x 102"



## 1. Light-Weight Moving Column

Installed on top of the machine, the Lightweight Moving Column increases machine processing travel and height. This design ensures that the machine can move forward and backward without tilting and won't affect the stability of the column.

## 2. Precision Spindle

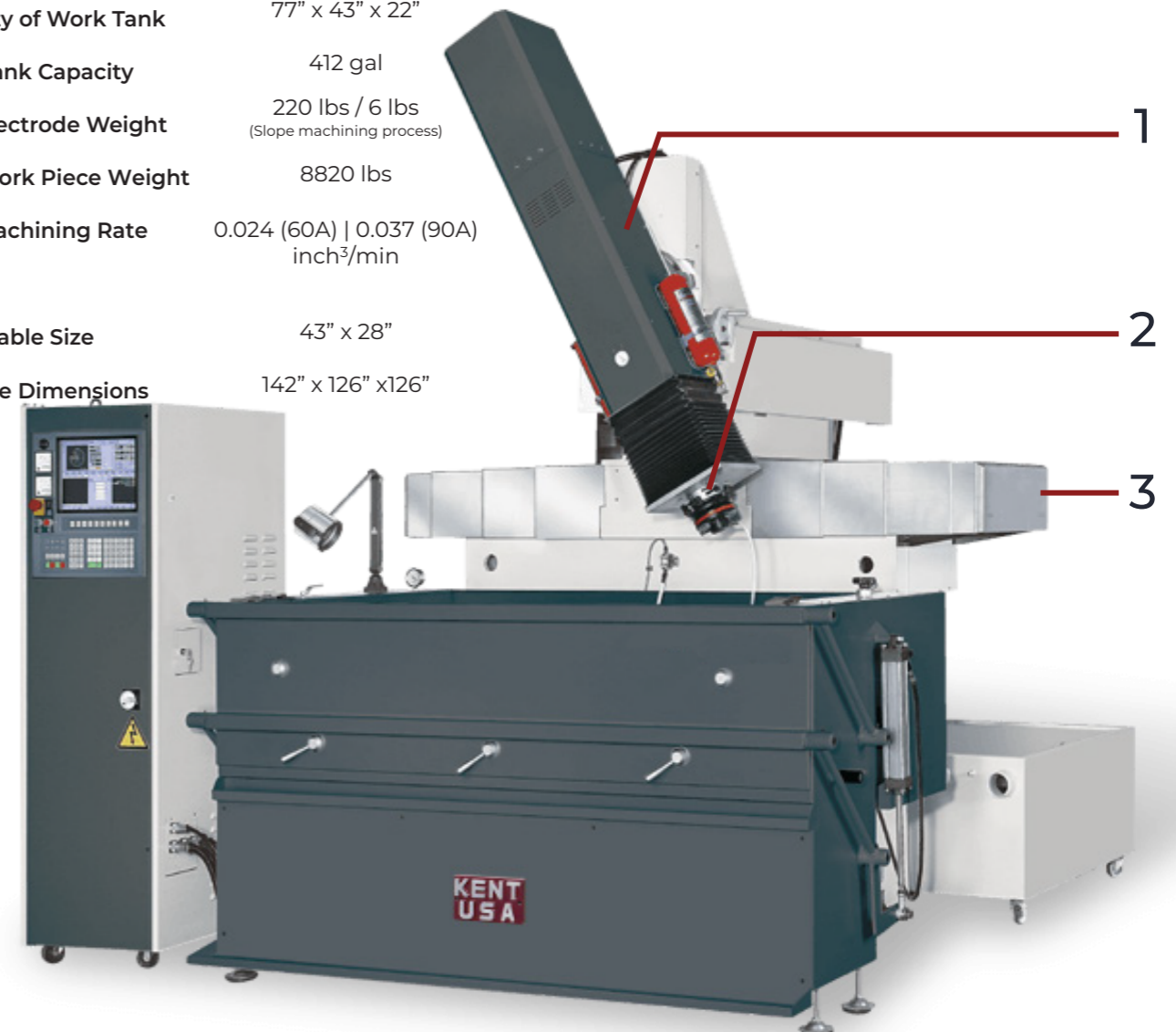
The Spindle is integrated into the casting and features a bigger electrode. These machines feature alloy steel guide ways with roller bearings to increase feed accuracy and dexterity during machine movement.

## 3. X-Axis Steel Cover

The X-Axis uses the same steel cover as the machine center which protects better than the traditional cloth or plastic type. The steel cover is more durable, fireproof, and not as easily broken.

## Quick Overview

Capacity of Work Tank	77" x 43" x 22"
Fluid Tank Capacity	412 gal
Max. Electrode Weight	220 lbs / 6 lbs (Slope machining process)
Max. Work Piece Weight	8820 lbs
Max. Machining Rate	0.024 (60A)   0.037 (90A) inch <sup>3</sup> /min
Work Table Size	43" x 28"
Machine Dimensions	142" x 126" x 126"



# Controller

## Controller Functions

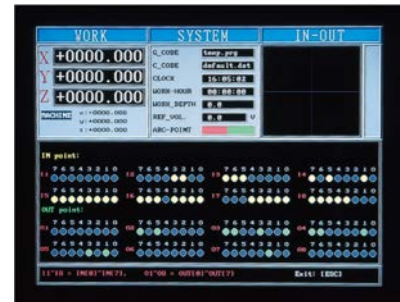
With the Center of Circle Function you can select three key points in Edge Finding and automatically find the center of the circle.

The Z-Axis with the Diversification Up Function (De-slugging effortlessly finds the Machining Depth, Corner Bigger Area, Thin Slice, and Tapper Type in machining process's.

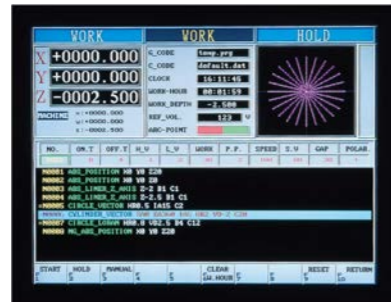
The Special Customize Function (Command) can feasibly analysis a customers special request for a machining process.



## Ease of System Operation



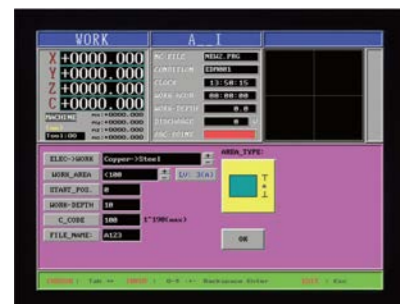
Quickly check the input or output conditions of the machine.



Preform a Vector Process and set a starting angle with different step angle.



Simultaneously process 3-Axes straight lines.



"AI" Function with built-in "AUTO INDEX" for optimum performance.



Amend 256 Processing Conditions when processing.



All alarm messages are recorded in a processing log.

# Machine Structure & Base

## Machine Structure

The machine frame is constructed with tempered FC-30 casting under. A sturdy and compact headstock is featured for precision operations. The main shaft adopts a alloy steel guide rail to coordinate with the ball bearing. Together they keep a low rate of friction during feeding.

A Auto Depth Position Stop Setting is featured that automatically stops the machine when the processing depth is met. The X & Y saddles feature linear guide ways & ball screws and with the C-Axis accessory, the electrode can turn at a arbitrary angle.

## High Ridity and Thick Base

The machine base is made of heat treated Meehanite cast iron and the structure of base is designed around even rigidity and symmetry. The work table is heat treated and precisely grounded to make it wear-resistant and maintain its certain flatness when it is weighted.

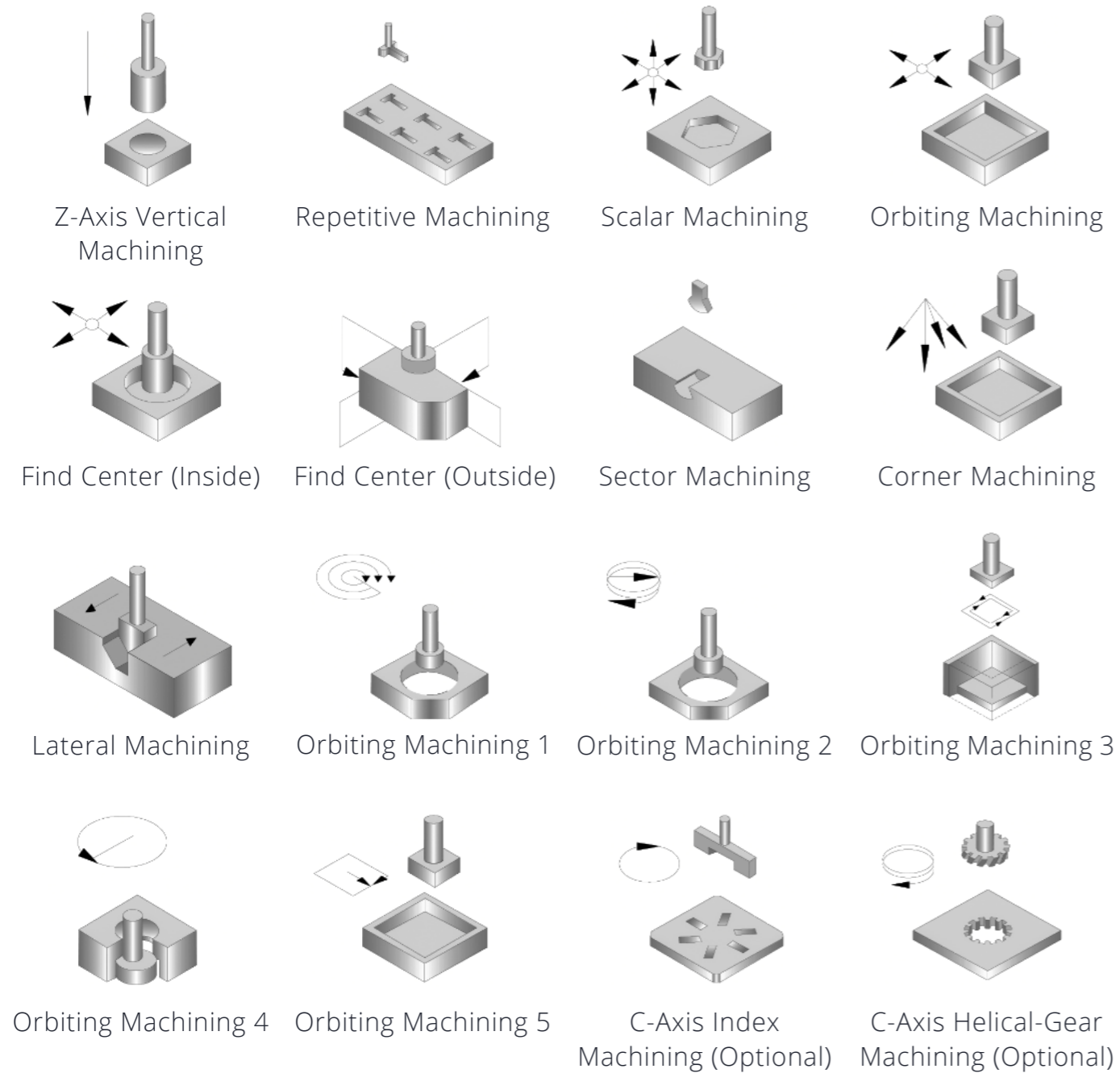
The base features a RAM type structure that can carry up to 8,820 lbs work pieces.





# Machining Capability

## Automatic Cycles



C-Axis



ATC System

# Specifications & Accessories

Model	KEB-433	KEB-600L	KEB-700L	KEB-1000R
Work Tank Capacity	35" x 20" x 15"	43" x 24" x 16"	60" x 37" x 20"	77" x 43" x 22"
Work Table Size	24" x 14"	28" x 16"	39" x 24"	43" x 28"
Longitudinal Travel (X-Axis)	16"	16"	24"	40"
Cross Travel (Y-Axis)	12"	12"	18"	24"
Z-Axis Travel	12"	12"	16"	20"
Distance between Platen to Table	12"~24"	11"~23"	14"~30"	20"~40"
Max. Electrode Weight	220 lbs	220 lbs	550 lbs	220 lbs / 6 lbs (Slope machining process)
Max. Work Piece Weight	1100 lbs	2205 lbs	6615 lbs	8820 lbs
Fluid Tank Capacity	80 gal	98 gal	290 gal	412 gal
Machine Dimensions	67" x 63" x 93"	75" x 69" x 92"	112" x 106" x 102"	142" x 126" x 126"
Machine Weight	3858 lbs	4960 lbs	7940 lbs	11025 lbs
Max. Machining Current	60A (Opt: 90A)	60A (Opt: 90A)	60A (Opt: 90A)	60A (Opt: 90A)
Max. Power Input	7KVA / 10 KVA	7KVA / 10 KVA	7KVA / 10 KVA	10KVA / 13 KVA
Max. Machining Rate (inch <sup>3</sup> /min)	0.024   0.037	0.024   0.037	0.024   0.037	0.024   0.037
Min. Electrode Wear Ratio	0.12%	0.12%	0.12%	0.12%
Best Surface / Ra	Ra 0.2µm	Ra 0.2µm	Ra 0.2µm	Ra 0.2µm
Min. D. R. O. Resolution (mm)	0.000039"	0.000039"	0.000039"	0.000039"
Generator Weight	-	-	705 lbs	770 lbs

The above specifications are for reference only, we reserve the right to alter them without further notice.

## Standard Accessories

1. Tool Box
2. Filter
3. Work Head
4. Automatic Fire Extinguisher
5. Work Lamp

## Optional Accessories

1. EROWA - ATC
2. C-Axis (System 3R / EROWA)
3. MPG
4. EROWA Clamping Tool
5. 3R Clamping Tool
6. Oil Cooler
7. Permanent Magnetic Chuck
8. ATC System 3R
9. Rotary Table ( CNC KEB-1000R Only)



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