G&RX [CNC Wire Cut EDM Series]

Input power

AC220V ± 5V 3 Phase 50/60Hz ± 1Hz (15KVA)

Environment conditions

1. Optimun room. temperature : 23 ± 0.5°C Humidity: below 75% RH.
2. Minimum floor vibration.
3. Avoid being located against sunshine.
4. Systems or set in a place that received directly sunshine.
5. Clean and low dust environment.

Space

Take notice of the space for machine stroke to move during normal operation and daily maintenance.

Grounding

1. It is recommended to have a grounding resistance of 10Ω or less.
2. An independent ground is recommended.
3. The grounding cable should be 14mm^2.

Demand of air pressure

Air pressure of 6kg/cm^2 for options of AWT and submerged machine is needed.

POWER SUPPLY UNIT	
Circuit system	Power MOS Transistor
Max. outpot current	25A
IP select	10
Off time select	50

CNC UNIT	
Data Input	keyboard, RS-232C, usb port
Display	15-Inch Color
Control system	32bit, 1-CPU, Semi Closed Loop Software Servo System
Control axis	X, Y, U, V, Z (5 Axis)
Measurement resolution	0.001mm
Max. command value	± 9999.999mm
Movement measuring system	Linear / Circuler
Command System	Abs / INC
Machining feed control	Servo / Const. Feed
Scaling	0.001-9999.999
Machining EDM Condition Memory	1000-9999
Total AC Power Input	3 Phase 220 10% / 11kva 12.5kva is for RX1283 and larger models

CHMER
CHING HUNG MACHINERY & ELECTRIC INDUSTRIAL CO., LTD.
http://www.chmer.com

CHMER

G&RX [CNC Wire Cut EDM Series]

New Generation AWT (OPT.)

Nearly 100% Reliable Threading, open air and in the kerf.

G32S

NEW GENERATION G SERIES WIRE CUT EDM

Revolutionary and Innovated design to meet mostly demanding of precision mold makers. Integrated technology and visual appearance upgrade the users a better cutting experience and create high C/P value on this Universal Wire Cut EDM .

HP-AVR

Power and Servo stabilizer.
Less wire breaks and high efficiency repeat cutting.

New G7 Energy Saving Power Supply

Longer durability of electronic components: Latest G7 features lower temperature inside the power supply by utilizing advanced Cool MOSFET transistor to reduce circuit impedance by 40%(compared with G6) .

Newest W5F Control

CHMER writes their own software allowing for customer upgrade at a later date.

G32F
(Optional For AWT System)

G43S
(Optional For AWT System)

G43F

G53S

G53F
(Optional For AWT System)

G64S

G64F

G96F

RX [Large Wire Cut EDM]

Against the diversity processing on Automobile & Household appliances Industries demands. Based on expertise the mechanism design of developing a commercial value large travel EDM wire cut in apply.

RX853F

RX853S
(Optional For AWT System)

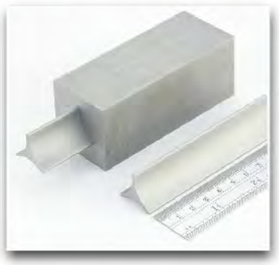
The Best Solution for Molds of the Automobile and Household Appliances Industries

RX1063F

RX1063S
(Optional For AWT System)

RX1065S
(Optional For AWT System)

SAMPLE ILLUSTRATION



Great Thickness Combined Cutting

Cutting times: 3
Workpiece material: SKD-11
Workpiece thickness: 100mm
Wire diameter: 0.25mm

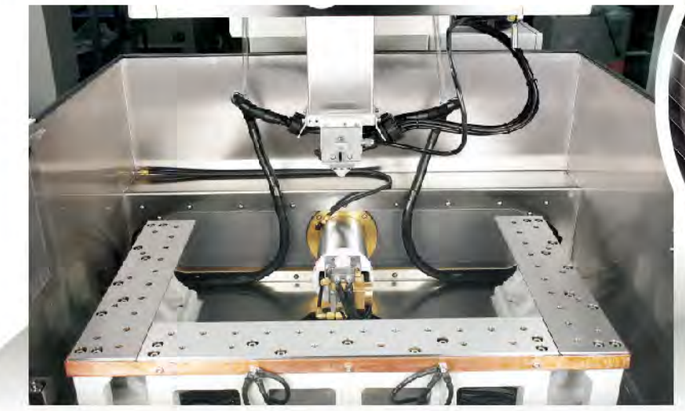
RX1283S
(Optional For AWT System)

High Rigidity and Thermal Balanced Structure

G Series – FEM Analysis & Optimize Mechanism Design

To meet all oriented cutting demands, the machine has been optimized design by 3D simulation and FEM analysis to obtain the stability and extend the machine life.
Center-Of-Gravity position on leveling pads, maintain an enormous machine accuracy without deformation.

Mechanical Features



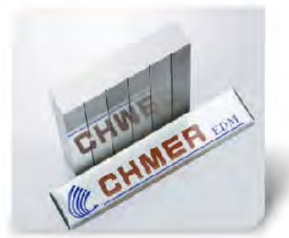
- Excellent thermal balance and rigid cast construction to ensure the best machining accuracy and durability. U-V axes , with linear guide way for accurate taper cutting.
- Using direct drive AC servo motors , high precision ball screws on linear guide ways with optional. 005mm resolution glass scale, assures precise positioning and fast response to cutting conditions.
- Stainless steel 3-sided worktable and brushed stainless work tank for long endurance and least maintenance.
- U-V axes with up to ±50mm travel for wide taper angles (± 21 degree). (Reach Condition: 100mm Z-axis height and DA+DB=15mm at least ; a set of wide-angle diamond guides and nozzles are required.)

『G7』 Generator Power Control System

AC Electrolysis-Free Power

AC & DC switchable power supply. AC used for minimum cobalt depletion and best surface roughness in Carbides, also best cutting speed in PCD and PCBN materials. Also extend the life-Span of molds.

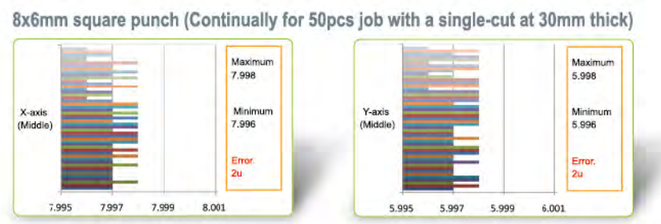
AC-μ Super Fine Finish (N/A on model GX530L/GX640L)



Cut Pass		5thCut	4thCut	3rdCut	2ndCut	1st Cut
Surface Roughness	Ra	0.25	0.32	0.62	2.0	2.4
	Ry	2.1	3.0	5.0	13.3	14.3

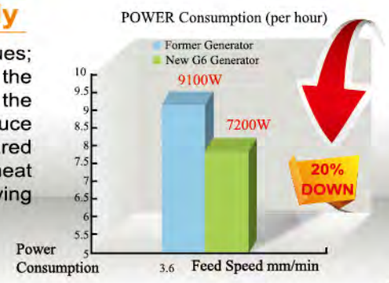
HP-AVR Cutting Voltage Stabilizer

Automatic/Smart voltage-stabilizing power supply.
By using the cutting-edge technology, the new power control system can effective transform the unstable energy into pure stabilized electricity. Through it, the smart logic of the power control can effectively to transform and supply the discharge power for a fast cutting feed.



ESL -Energy Saving Power Supply

With exclusively developed power saving techniques; the New Power Control system can transform the power applied in discharge process and recharge the electricity of the generator. This process can reduce the power consumption up to over 20% (compared with the previous models). Also, it reduces the heat emission problem. It fits the idea of energy saving and carbon emission reduction.

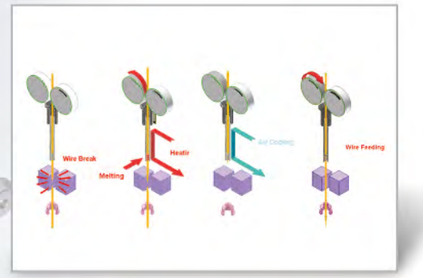


Professional Industrial High Speed Processor & Discharge Erosion control

Embedded DOS OS system，reduce burden on processor，more stability of control system and better speed. The superior ASIC Chip, increases the response speed and feedback of cutting servo / current / voltage by real-time. DOS greatly improves CPU reliability while virtually eliminating CPU virus.
DOS also is instantly on; no booting time required. (Windows OS is available as an option)

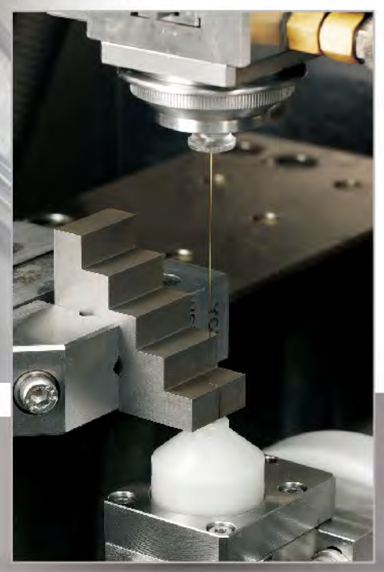
CHMER The Newest Generation AWT

Unattended over night and over weekend Auto Threading



Reliable automatic wire threading system control

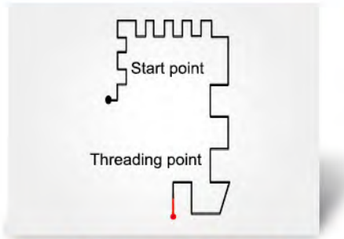
- Capable of threading wire under water and on location. No need to return back to start point, drain the work-tank and then dry-run to wire break point.
- Simply design to make maintenance easy and cost less.
- Can thread wire at stepped work-piece, when the upper head cannot reach the work-piece.



The Newest Generation AWT

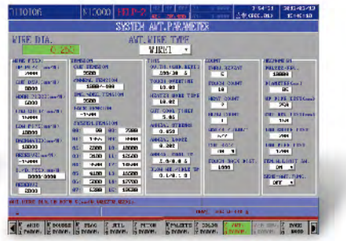
「EC」Tension Control Technology, ensures a constant tension to obtain superb threading rate, less than 10 seconds. Patented in-house Auto Wire Threading(AWT) can thread 0.07mm Dia. wire. Beside more simple and concise AWT mechanism can effectively reduce the building cost, failure rate so as to the frequency of maitenance.

All new servo system feedback module of AWT



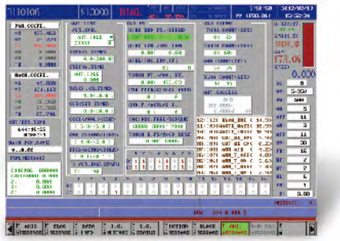
Wire Rethread at break points:

Immediately perform rethreading when wire breaks.



Visual parameter setting:

Parameters can be set for different wire diameters and types.



Monitoring Screen:

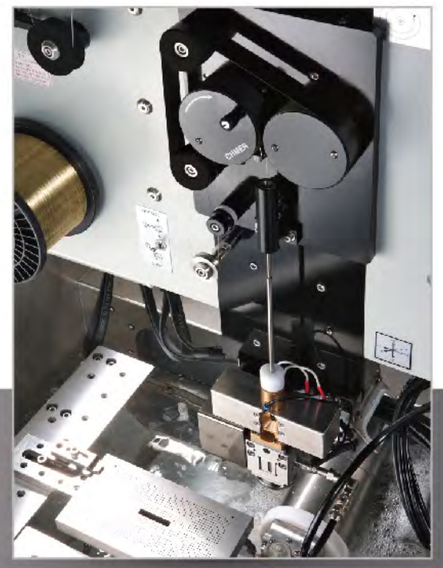
Record every step of AWT process, monitors and adjusts to enhance the stability.

3999 Sets Memory Holes:

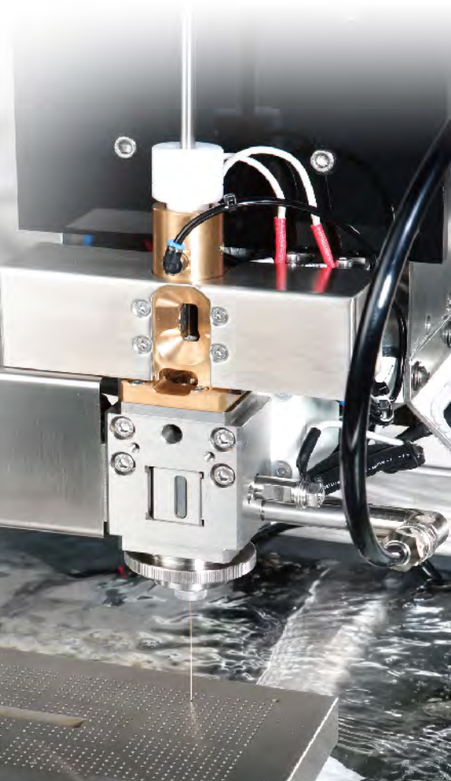
Record the latest 3999 sets if processing holes, allow user to check the failure and then restart.

100 sets NC Program Memory:

Record the latest 100 sets NC programs, let the operator knows the processing whether be finished based on the board information.



▪ AWT Device

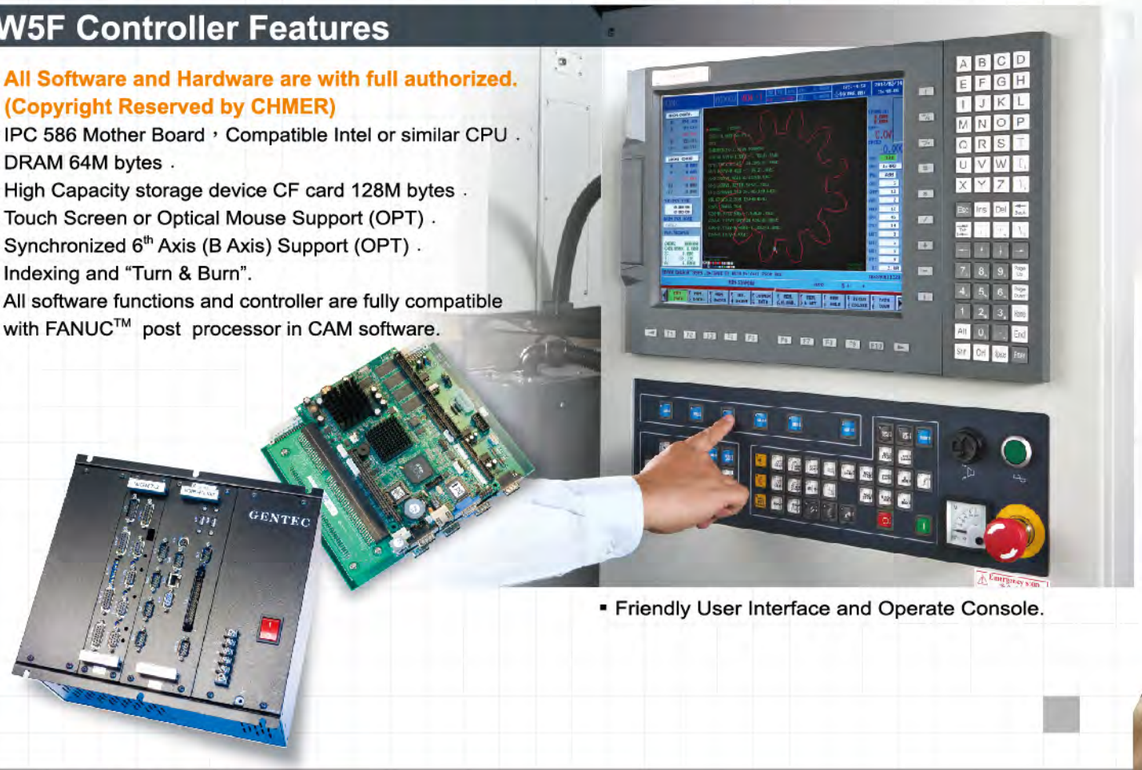


▪ Multi-cavity threading

CHMER BUILT CNC CONTROLLER

W5F Controller Features

- **All Software and Hardware are with full authorized. (Copyright Reserved by CHMER)**
- IPC 586 Mother Board，Compatible Intel or similar CPU .
- DRAM 64M bytes .
- High Capacity storage device CF card 128M bytes .
- Touch Screen or Optical Mouse Support (OPT) .
- Synchronized 6th Axis (B Axis) Support (OPT) . Indexing and “Turn & Burn”.
- All software functions and controller are fully compatible with FANUC™ post processor in CAM software.



▪ Friendly User Interface and Operate Console.

Remote Monitoring

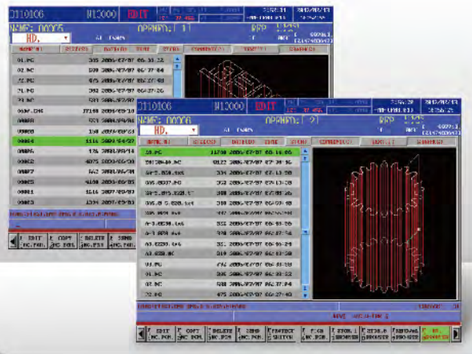
▪ WEB page to monitor Functions (PC)

▪ Team-Viewer™ (A Pay Software, not included)

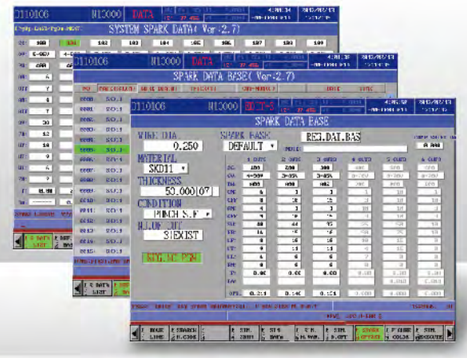
▪ Remote Control (Through illegal purchase software “Team-viewer”) for real-time monitoring & operate machine.

Software Functions

User-Friendly File Management



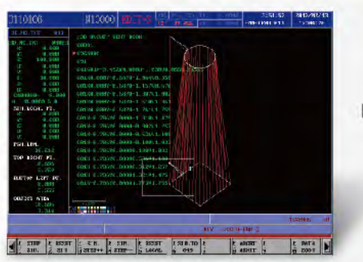
EDM Technology Database



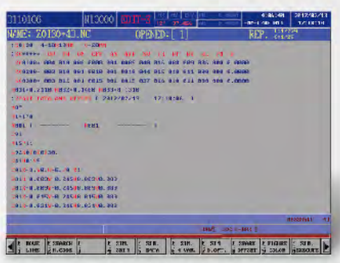
Graphic Manual Function

System Device Management+ Optimum system parameter

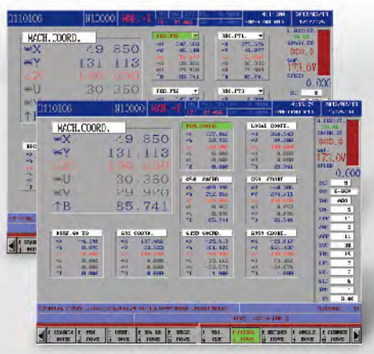
3D Graphic Simulation + NC path Info.



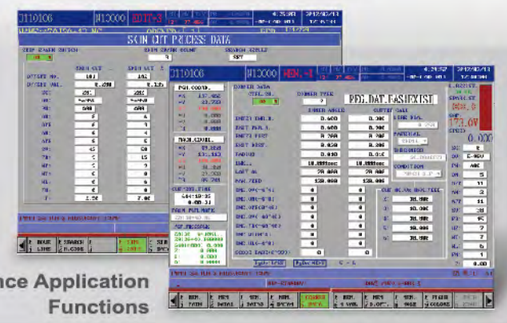
NC Register



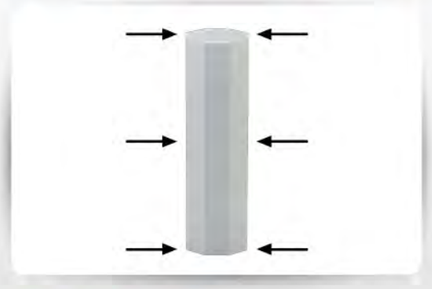
Power Record pointand CoordinateSystems

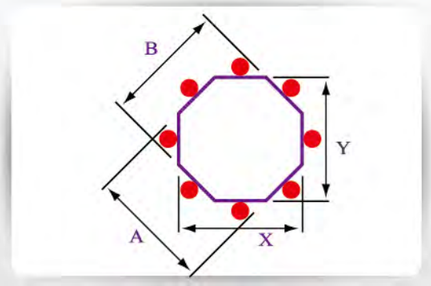


Advance Application Functions



Straightness Accuracy





Straightness

Workpiece: SKD-11 Thickness: 30 mm
Wire diameter: Ø0.2mm No. of cut: 3 cuts
Accuracy: 2 μm

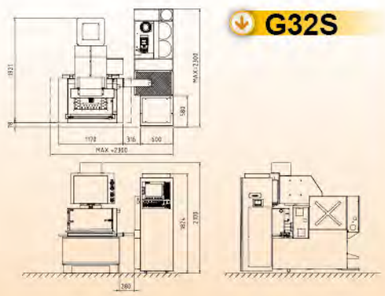
Measurement figure

Marked red color means the measured points.

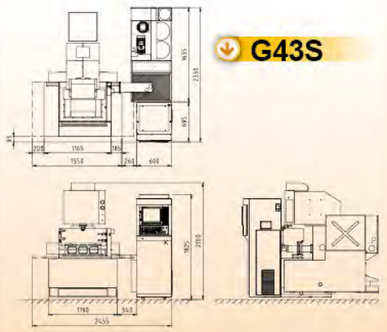
Accuracy	X	A	Y	B	Error
Up	9.999	9.999	9.999	9.999	0μ
Mid.	9.997	9.999	9.999	9.999	2μ
Dn.	9.999	9.999	9.999	9.999	0μ
Error	0.002	0	0	0	

G Series Floor Layout

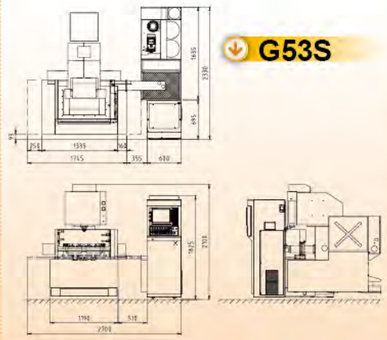
G32S



G43S

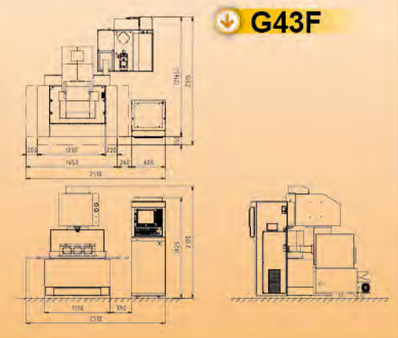


G53S

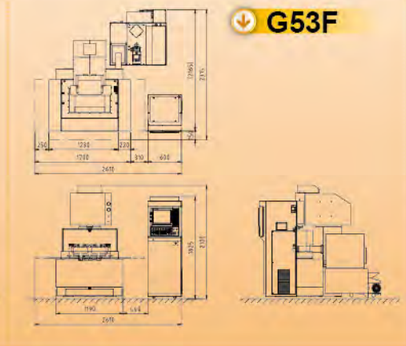


G32F

G43F



G53F



Sample Illustration

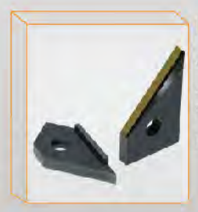
Job Material: SKD-11
Job Thickness: 30 mm
Wire diameter: Ø0.20 mm
Number Of Cut: 1+ 2 Skims
Work Hour: 1 Hour 10 Mins
Accuracy: 3μm
Surface Roughness: Ra 0.55~0.58μm

Job Material: SKD-11
Job Thickness [Punch]: 50 mm
Job Thickness [Die]: 30 mm
Wire diameter: Ø0.20 mm
Number Of Cut: 1+ 2 Skims
Work Hour: 4 Hours 00 Mins
Accuracy: 3μm
Surface Roughness: Ra 0.58~0.63μm

Job Material: SKD-11
Job Thickness: 25 mm
Wire diameter: Ø0.20 mm
Number Of Cut: 1+ 2 Skims
Work Hour: 1 Hour 50 Mins
Accuracy: ±3μm
Surface Roughness: Ra 0.55~0.58μm

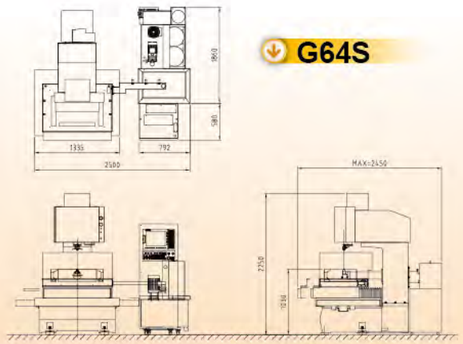
Job Material: SKD-11
Job Thickness[Punch]: 50mm
Job Thickness[Die]: 20mm
Number Of Cut: 1+2 Skims
Surface Roughness: Ra 0.58~0.63μm

Job Material: SKD-11
Job Thickness: 17 mm
Wire diameter: Ø0.15 mm
Number Of Cut: 1+ 2 Skims
Work Hour: 1 Hour 50 Mins
Accuracy: ±3μm
Surface Roughness: Ra 0.55~0.58μm

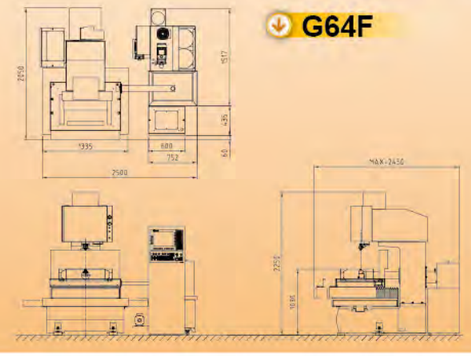


PCD formed milling cutters
Job Material: PCD
Job Thickness: 2.5 mm
Wire diameter: Ø0.20 mm
Feed rate: 2.0 mm/min

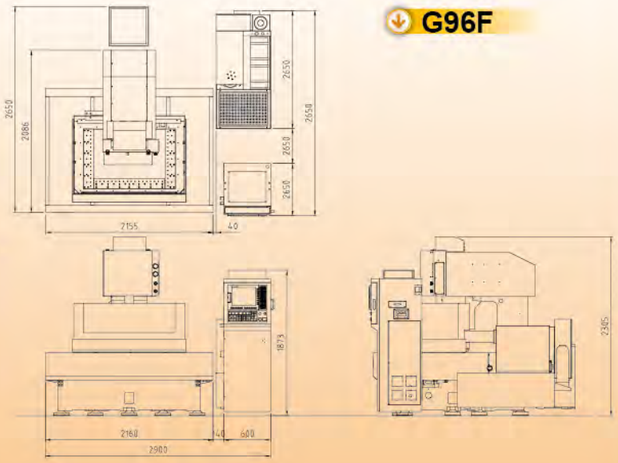
G64S



G64F



G96F



MACHINE SPECIFICATIONS

Machine Body \ Model	G32F/S	G43F/S	G53F/S	G64F/S	G96F
X , Y axis travel (mm)	360x250	400x300	500x300	600x400	900x600
U,V,Z axis travel (mm)	60x60x220	60x60x220	60x60x220	100x100x300	100x100x300
Max.size of working piece (WxDxH mm)	725x560x215	725x600x215	825x600x215	910x700x295	1300x950x295
Max. weight of working piece (kgw)	300	500 / 350	550 / 400	600 / 450	1500
XY feed rate (mm/min)	Max. 800	Max. 800	Max. 800	Max. 800	Max. 800
Motor system (axis)	AC Servo Motor	AC Servo Motor	AC Servo Motor	AC Servo Motor	AC Servo Motor
Wire diameter range (mm)	⌀0.15~0.3 (⌀0.25)	⌀0.15~0.3 (⌀0.25)	⌀0.15~0.3 (⌀0.25)	⌀0.15~0.3 (⌀0.25)	⌀0.15~0.3 (⌀0.25)
Max.wire feed rate (mm/sec)	300	300	300	300	300
Wire tension (gf)	300~2500	300~2500	300~2500	300~2500	300~2500
Max. taper angle (°) workpiece thickness(mm)	±14.5°/80 (wide-angled nozzle, DA+DB=15mm)	±14.5°/80 (wide-angled nozzle, DA+DB=15mm)	±14.5°/80 (wide-angled nozzle, DA+DB=15mm)	±21°/100 (wide-angled nozzle, DA+DB=15mm)	±21°/100 (wide-angled nozzle, DA+DB=15mm)
Outside dimension (WxDxH mm)	2200x2100x2100 / 2300x2300x2100	2200x2130x2130 / 2200x2265x2130	2290x2130x2130 / 2290x2270x2130	2500x2450x2250 / 2500x2450x2250	2900x2650x2305
N.W (including power and coolant system) (kgw)	2300 / 2375	2575 / 2800	2800 / 3195	3200 / 3595	6300
Coolant tank system (L)	300/590	340 / 650	340 / 650	340 / 760	650

Machine Body \ Model	RX853F/S	RX1063F/S	RX1065F/S	RX1283F/S
X , Y axis travel (mm)	800x500	1000x600	1000x600	1200x800
U,V,Z axis travel (mm)	150x150x300	150x150x300	160x160x500	120x120x300
Max.size of working piece (WxDxH mm)	1210x800x295	1430x900x295	1240x900x495	1600x1100x295
Max. weight of working piece (kgw)	2000/1000	3000/1500	5000/3000	6000/4000
XY feed rate (mm/min)	Max.800	Max.800	Max.800	Max.800
Motor system (axis)	AC Servo Motor	AC Servo Motor	AC Servo Motor	AC Servo Motor
Wire diameter range (mm)	⌀0.15~0.3(⌀0.25)	⌀0.15~0.3(⌀0.25)	⌀0.15~0.3(⌀0.25)	⌀0.15~0.3(⌀0.25)
Max.wire feed rate (mm/sec)	300	300	300	300
Wire tension (gf)	300-2500	300-2500	300-2500	300-2500
Max. taper angle (°) workpiece thickness(mm)	±21°/140 (wide-angled nozzle, DA+DB=15mm)	±21°/140 (wide-angled nozzle, DA+DB=15mm)	±21°/180 (wide-angled nozzle, DA+DB=15mm)	±21°/130 (wide-angled nozzle, DA+DB=15mm)
Outside dimension (WxDxH mm)	2400x2800x2350 / 3150x3500x2350	2700x3000x2200 / 4000x4000x2200	3200x3600x2800 / 4000x3600x2800	4250x4100x2300 / 4350x4100x2300
N.W (including power and coolant system) (kgw)	5460/5535	6500/7100	7500/7600	14500/15000
Coolant tank system (L)	340/1370	650/2000	650/2400	760/3000

- Spefications subject to change bsaed on R&D results without prior notice.
- Remark: In submerged condition, maximum height of work-piece recommended is Z stroke minus 45mm.

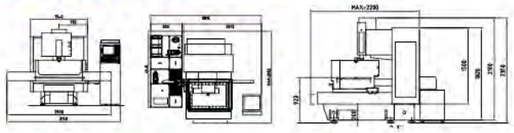
STANDARD / OPTIONAL ACCESSORIES

Standard ● Optional ○ None —

ITEMS	SPECIFICATION	AMOUNT	G32	G43	G53	G64	G96F	RX853 F/S	RX1063	RX1065	RX1283
Paper Filter		2 pcs	●	●	●	●	●	● /S-3 pcs	—	—	—
		4 pcs	—	—	—	—	—	—	●	●	—
		6 pcs	—	—	—	—	—	—	—	—	●
UPPER / LOWER Diamond Guides	0.26mm	2 pcs	●	●	●	●	●	●	●	●	●
UPPER / LOWER Flushing Nozzles		2 pcs	●	●	●	●	●	●	●	●	●
Energizing Carbides		2 pcs	●	●	●	●	●	●	●	●	●
Diamond Guide Remove Jig		1 pc	●	●	●	●	●	●	●	●	●
Brass Wire	f0.25mmx5kgs	1 roll	●	●	●	●	●	●	●	●	●
Tools		1 set	●	●	●	●	●	●	●	●	●
AC power			●	●	●	●	●	●	●	●	●
Alignment Jig		1 pc	●	●	●	●	●	●	●	●	●
Ion Exchange Resins	Flushing	3L	●	●	●	●	●	●	●	●	●
	Submerged	6L	●	●	●	●	—	●	●	—	—
		12L	—	—	—	—	—	—	—	●	●
Swinging panel			○	○	○	○	○	●	●	●	●
2-in-1 Transformer +AVR			○	○	○	○	○	○	○	○	○
Auto Data Recovery after Blackout			●	●	●	●	●	●	●	●	●
Auto Wire Threading (AWT)			○	○	○	○	○	○	○	○	○
30KGS Wire feeder			○	○	○	○	○	○	○	○	○
Wire chopper	30KGS		○	○	○	○	○	○	○	○	○
Z axis travel 400MM			—	—	—	—	—	○	○	—	○
Water chiller	Flushing	1T	1 set	●	●	●	—	—	—	—	—	—
		2T	1 set	—	—	—	●	●	●	●	●	●
	Submerged	1T	1 set	●	●	—	—	—	—	—	—	—
		2T	1 set	—	—	●	●	●	●	●	—	—
		3T	1 set	—	—	—	—	—	—	—	●	●
DC Invert Chiller		2T	1 set	○	○	○	○	○	○	○	○	○

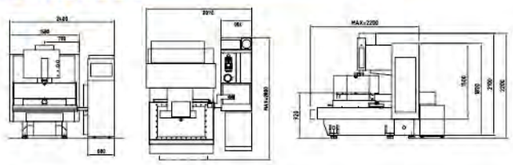
RX Series Floor Layout

RX853S

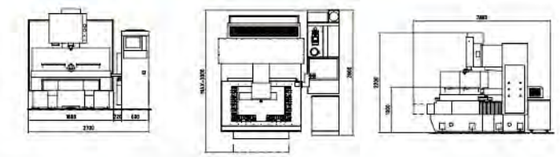


RX1063S

RX853F



RX1063F



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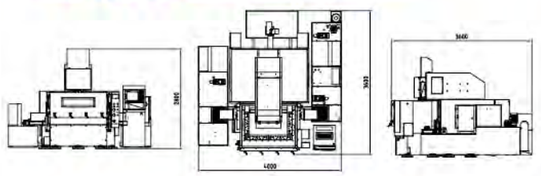

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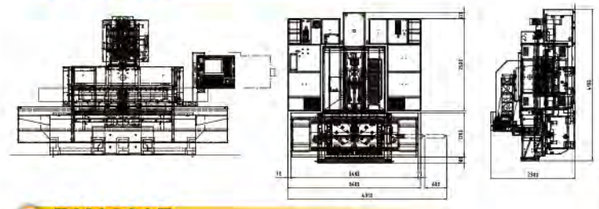

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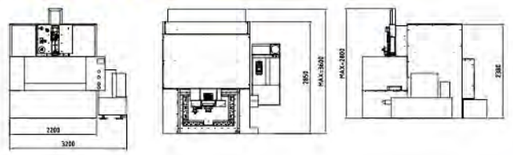

RX1283F