



Ho Chen Machinery & Electric IND. Co., LTD.



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1. Company Profile

HCM mainly manufactures professional CNC EDM and CNC Drilling EDM and are made up of a group of RD professionals with the experience of over a decade in EDM manufacturing and research. Both software and hardware are developed by our RD team so the machines are easily directed by us. The pursuit of service, quality, trust and innovation has been always our fundamental value.

HCM manufactures from C Type machines as small as 300X250X150mm (X/Y/Z axes travel) to RAM Type machines as large as 3115X1000X600 (oil tank can be expanded). It will be customer's best choice with the complete specification. The base of our machine is made of high strength Meehanite cast iron and most machine components are imported. Besides, with high-precision linear guideway combined with high-precision ballscrew, our machines reach absolute accuracy in the movement of all axes. In terms of controller, we have CNC/ZNC EDM type and CNC/DZNC Drilling EDM type. ATC can be installed on both CNC EDM and CNC Drilling EDM and C-axis also can be installed on CNC EDM. HCM uses industrial computer that makes our machine stable, reliable and control the position accurate. As for the software, we adopt windows CE. It is user-friendly and offers a dialog window with illustration. Specially designed MOSFET machining circuit, speedy cutting, and mirror finish reaching 0.2 μm make the work piece more smooth.

HCM provides complete pre-sale information, abundant HR, material parts and post-sale service. We are also looking for the agents around the world. We have our cooperative companies in Korea, USA, Poland, Turkey, Hungary, Brazil, Holland, Egypt, Thailand, China...etc (around 30 countries).

2. Organization and Certificates



3. Painting



1. Painting room and water wall.

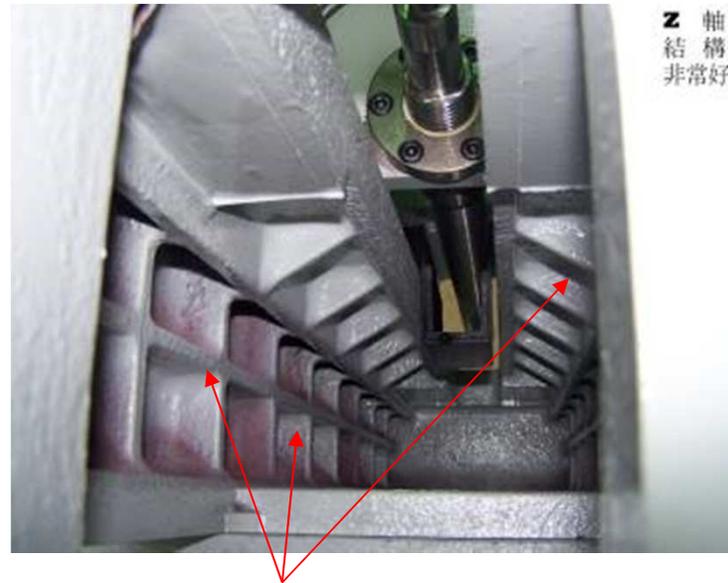


2. Every casting is polished by hand. Surface repair and a base layer of red paint are done and applied before outer painting.



4. Casting

Machines from H50 to H308 are designed with strong casting with high precision.



With the function of anti-pull and design of CAD, anti-deformation and high precision are achievable.

1. Machine structures are designed by advanced CAD to ensure deformation free machine body and high accuracy under an extra-heavy load.

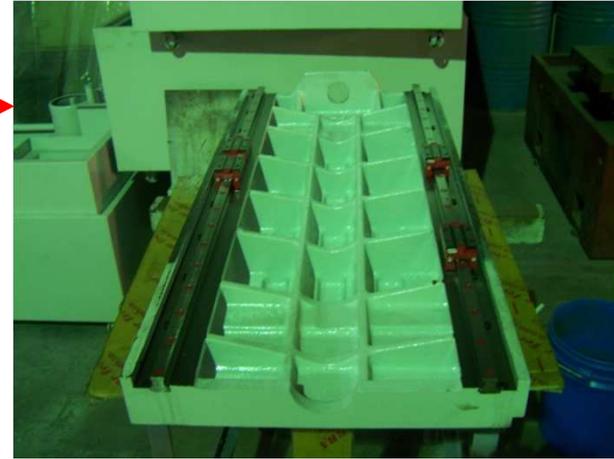
2. Machine structures are made of high quality Meehanite cast iron that is solution heat-treated and stress relieved by stretching. This assures high rigidity, deformation free structure and highly dependable machining accuracy.



Strong Combination Base, Extra wide Machine Base, Enhance of Machinery Precision



Anti-pull function, design of CAD, anti-deformation and high precision



Rugged cast iron is the foundation stone of precision



A stationary worktable on a casting maintains high precision against deformation.

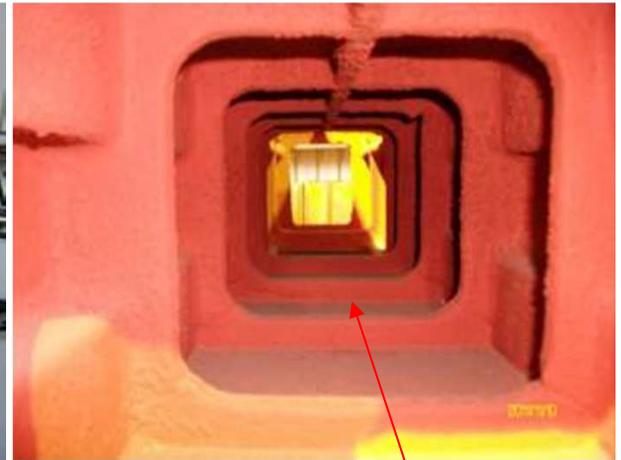
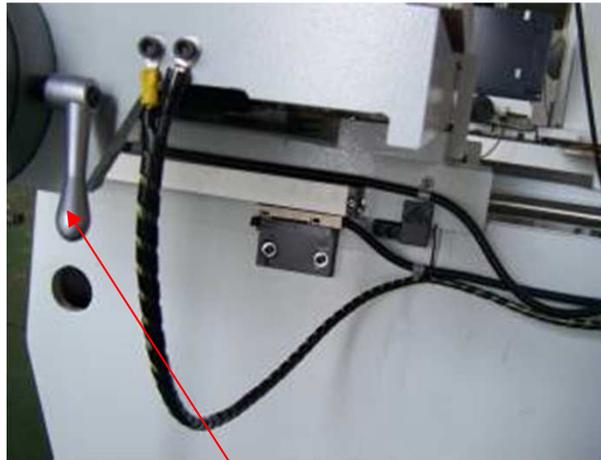


5. C Type Structure

3 in 1 Cantilever style (Machine Body, Controller and Oil Tank)
saves space and has high precision

Cantilever Controller
for Easy Operation





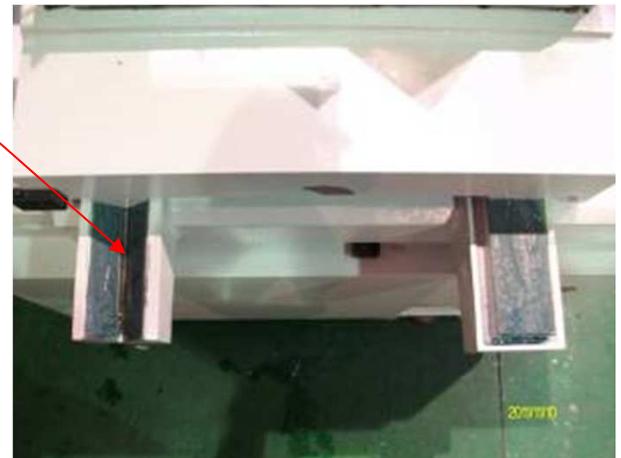
X/Y-axes equipped with brake for maintain the accuracy

Fine column structure. Casting with anti-pull. Against deformation. High Precision.

Fine design of double axes (Z-axis)

Base with oil route against oil leaking.

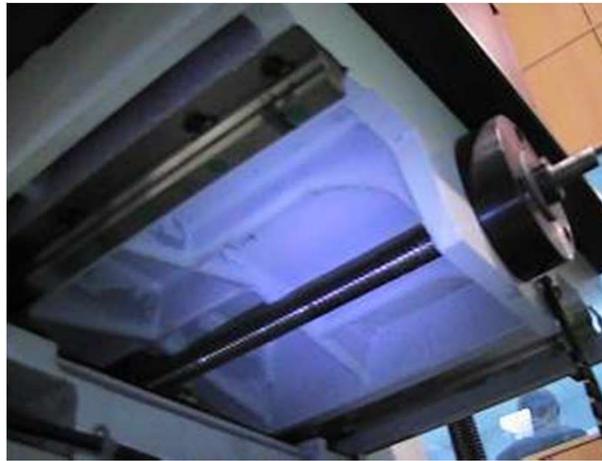
TURCITE-B slice applied to resist rub, allowing the high accuracy



C TYPE Y-axis Linear
Guideway

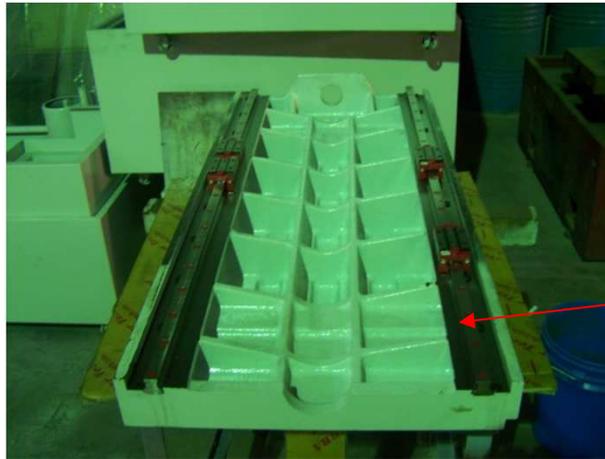


C TYPE X-axis
Linear Guideway



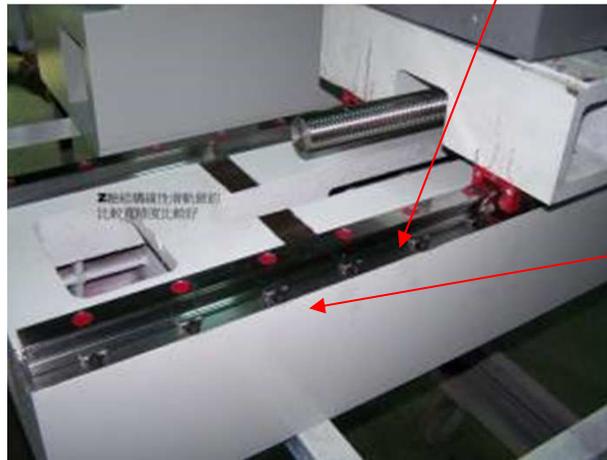
C TYPE Z-axis Linear
Guideway, Ballscrew



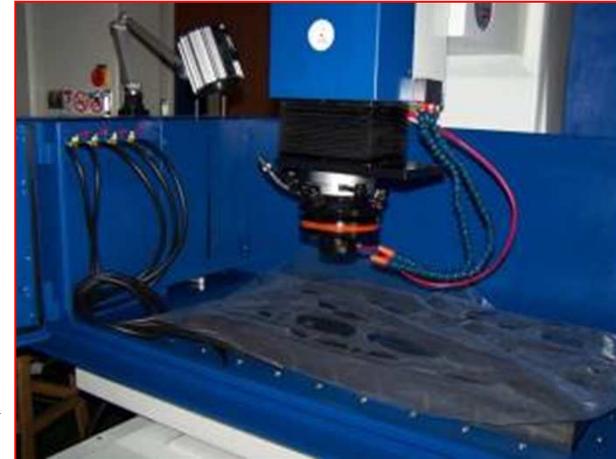


X-axis

Z-axis



Linear guideway with high rigidity and precision, allowing precise positioning.



Easy for adjusting Z-axis and nozzle of U-axis and flush during cutting

Z-axis single travel structure with linear guideway, ballscrew and AC servomotor make highly precise Z-axis cutting and positioning accuracy.



6.RAM TYPE Column Structure



Cantilever Style and user-friendly

Sheet metal with a hole and linear scale. Easy for maintenance and brake. No need to remove the whole sheet metal.

White Z-axis cover against catching fire

Excellent arc shaped sheet metal.

U-shaped oil tank saves space.



Work Table
Gets Heat
Treatment so
not easy to be
eroded.

Enlarged
structure and
intensive hole
make high
precision and
accurate
position.



Machine from
H140 to H308
with adding
extra weight to
Z-axis and the
chain is
resistant to
break.



X-axis with cable chain



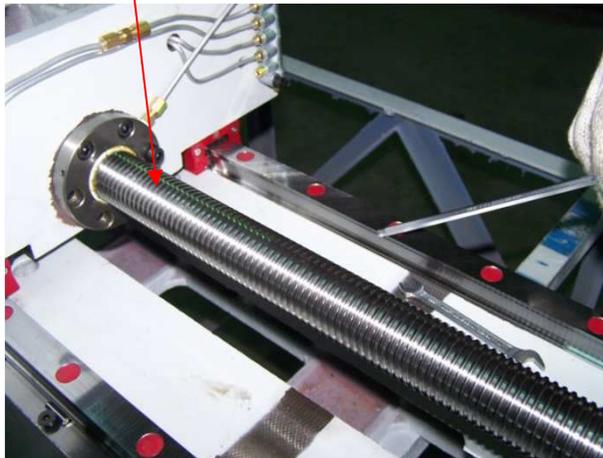
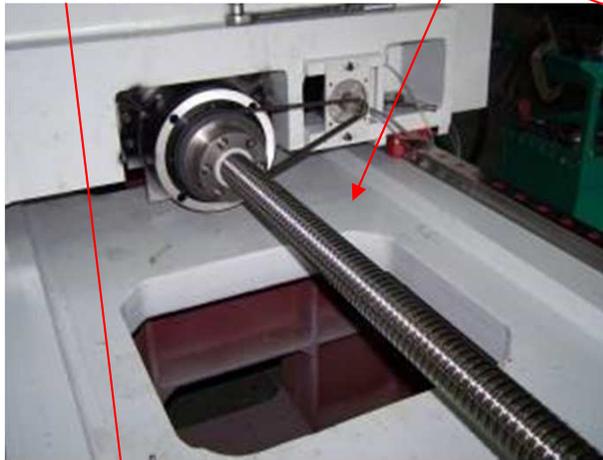
H308 Double Head
(Z-axes)

Make high X/Y
highly precise with
enlarged bases.

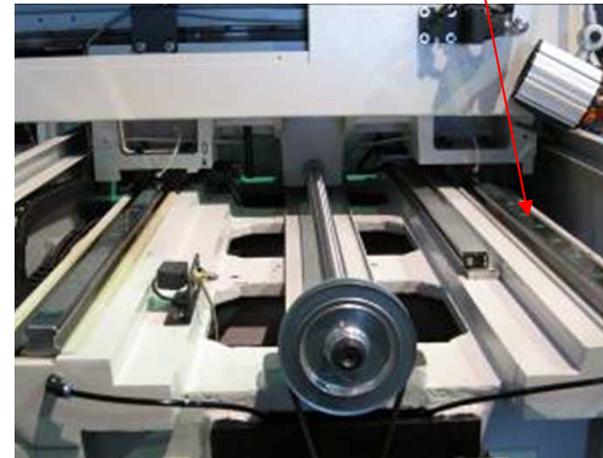
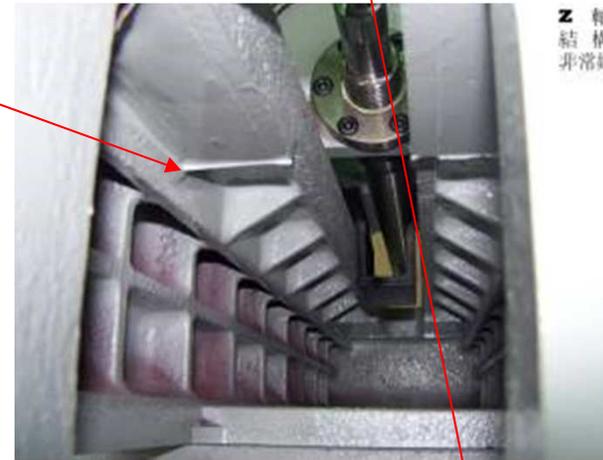


7. Ballscrew and Linear Guideway

Ultra-precision ballscrew with excellent transmission and high accuracy.



Linear guideway with high rigidity and precision, allowing precise positioning



8. Oil Route

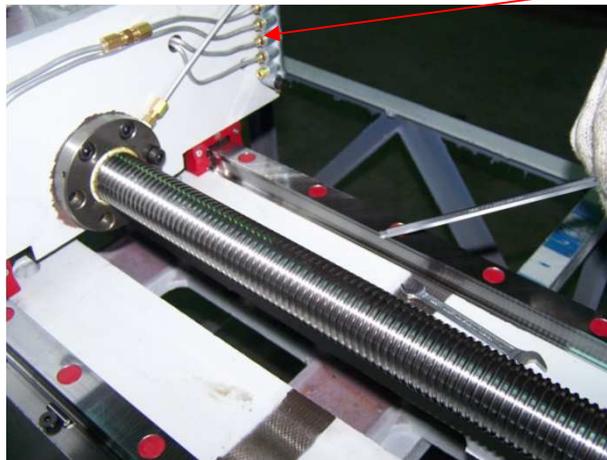
Each machine has the design of oil route for collecting oil to keep the machine clean.



Upward filter bucket with screw locked on for change of the paper filter with ease.



Excellent design of the oil route enables the guideway and ballscrew to reach the best lubrication for longer precision



9. Linear Scale

Adopting Imported Linear Scale with the close-loop design of digital feedback on three axes from Europe.



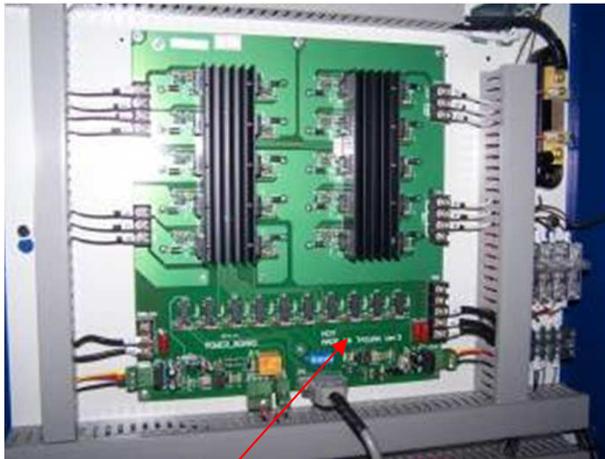
10. Controller and Remote Control

1. Simple interface with all functions. No need to be in front of controller during operation
2. MPG is very user-friendly with minimum unit – 0.001



Simple dialog interface make it stable and easy to learn and operate. HCM Only!

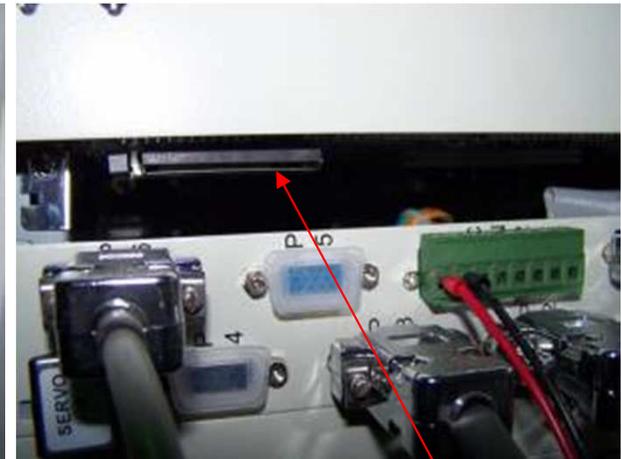




Wiring with CE European Standard
Excellent Board Developed by HCM

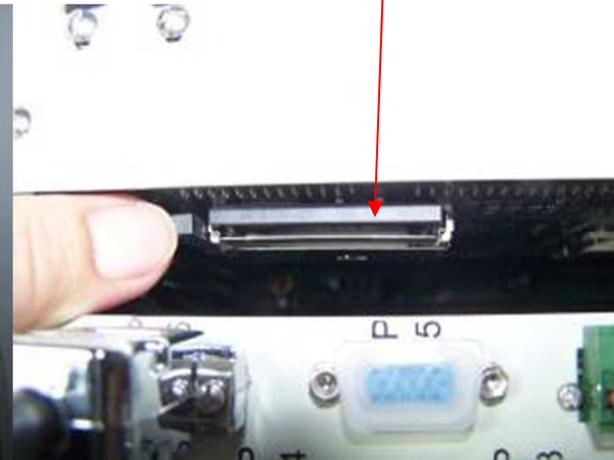
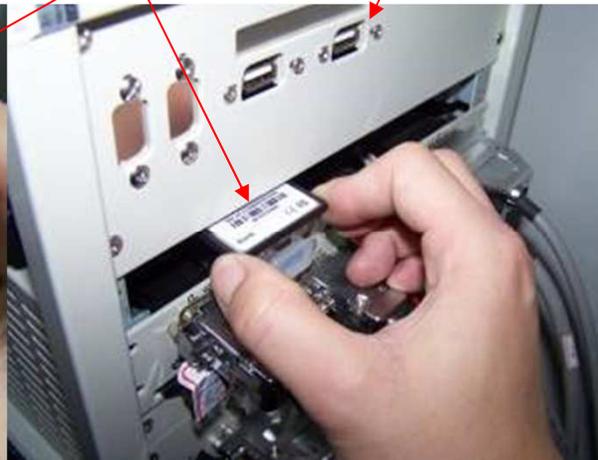


Controller with CNC Windows CE Meeting European Standard (HCM is the only one in Taiwan)



Software of CNC Stored with CF cards

Software stored by CF card and read and stored by USB



Alarm	SaIt_Pos	21.000	HOCHEN EDM	F%	10	
88	Operation	4	2007/1/19 下午 04:29:45	Operation	4	User registry data loss, check before machining
89	Operation	4	2007/1/18 下午 06:22:23	Operation	4	User registry data loss, check before machining
90	Operation	4	2007/1/16 下午 05:03:53	Operation	4	User registry data loss, check before machining
91	Operation	4	2007/1/16 下午 02:57:52	Operation	4	User registry data loss, check before machining
92	Operation	4	2007/1/15 下午 10:10:28	Operation	4	User registry data loss, check before machining
93	Operation	4	2006/1/17 上午 11:52:29	Operation	4	User registry data loss, check before machining
94	Operation	4	2006/1/12 上午 05:22:28	Operation	4	User registry data loss, check before machining
95	Operation	4	2006/1/12 下午 05:11:45	Operation	4	User registry data loss, check before machining
96	Motion	21	2006/8/26 上午 09:18:54	Motion	21	XAxis Must re-homing
97	Motion	20	2006/8/26 上午 09:18:54	Motion	20	XAxis Can not back control mode when move
98	Motion	21	2006/8/26 上午 09:16:23	Motion	21	XAxis Must re-homing
99	Motion	20	2006/8/26 上午 09:16:23	Motion	20	XAxis Can not back control mode when move
100	Motion	21	2006/8/26 上午 09:08:01	Motion	21	XAxis Must re-homing
101	Motion	20	2006/8/26 上午 09:08:01	Motion	20	XAxis Can not back control mode when move
102	Operation	4	2006/8/10 下午 04:47:41	Operation	4	User registry data loss, check before machining
103	Operation	4	2006/8/8 下午 04:54:07	Operation	4	User registry data loss, check before machining
104	Operation	4	2006/7/19 下午 02:37:34	Operation	4	User registry data loss, check before machining
105	Operation	4	2006/7/8 上午 11:23:35	Operation	4	User registry data loss, check before machining
106	Operation	4	2006/3/17 下午 05:43:05	Operation	4	User registry data loss, check before machining
107	Operation	4	2006/3/16 下午 12:59:25	Operation	4	User registry data loss, check before machining
108	Operation	4	2006/3/6 下午 01:46:53	Operation	4	User registry data loss, check before machining
109	Operation	4	2006/12/30 下午 05:10:37	Operation	4	User registry data loss, check before machining

Alarm display shows the happening time and problems of all alarms. All information in this page can be stored in USB.

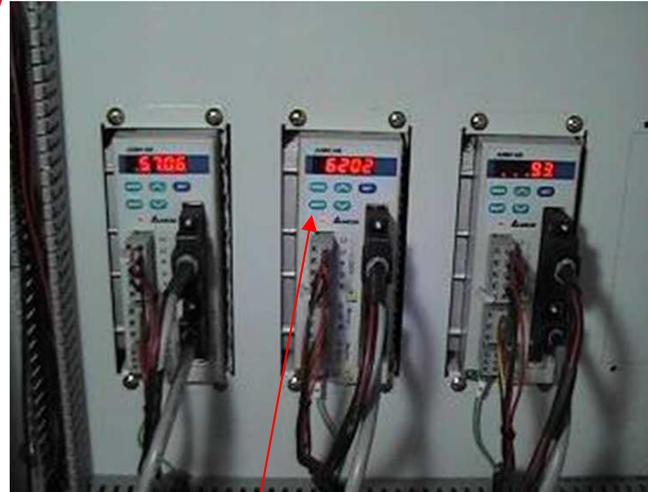
總數設定	頂點高度	21.000	HOCHEN CNC H36ZAC	F%	10
編號	說明	設定時間	數值(非登入)		
3401	慢下剎車距離(單位1u:mm)R81		0		
3402	尋邊預留距離(單位1u:mm)R82		0		
3403	擋動預留尺寸(單位1u:mm)R83		50		
3404	加工完畢移至安全高度(不啓動)R84		1		
3405	手動放電脈寬(0~999)R85		0		
3406	手動放電休止(0~999)R86		0		
3407	手動放電量限(0~3)R87		0		
3408	手動放電量限(0~99)R88		0		
3409	尋邊第一段速度(0~999)R89		0		
3410	尋邊第二段速度(0~999)R90		0		
3411	尋邊第三段速度(0~999)R91		0		
3412	手動放電電壓(0~100)R92		0		
3413	手動放電電壓(0~100)R93		0		
3414	手動放電電壓(0~100)R94		0		
3415	安全高度設定(0~99999999)R95		0		
3416	擋動剎車功能(不啓動)R96		0		
3417	擋動高度設定(單位1u:mm)R97		0		
3418	擋動擋液效率設定(1~100)R98		0		
3419	慢上數率(1~100)R99		0		
3420	擋動速度設定(1~10)R100		0		
3421	放電條件最高密度設定(1~9999)R801		4000		

The feature provides compensation and backlash, keeping the machine in the best condition

Diagnostic	SaIt_Pos	21.000	HOCHEN EDM	F%	10
I Bits					
0	0	0	0	0	0
20	0	0	0	0	0
40	0	0	0	0	0
60	0	0	0	0	0
80	0	0	0	0	0
100	0	0	0	0	0
120	0	0	0	0	0
140	0	0	0	0	0
160	0	0	0	0	0
180	0	0	0	0	0
200	0	0	0	0	0
220	0	0	0	0	0
240	0	0	0	0	0

With the best modulated electronic circuit system and LED signal for modulated I/O interface, system error diagnostics and servicing are easy and efficient.

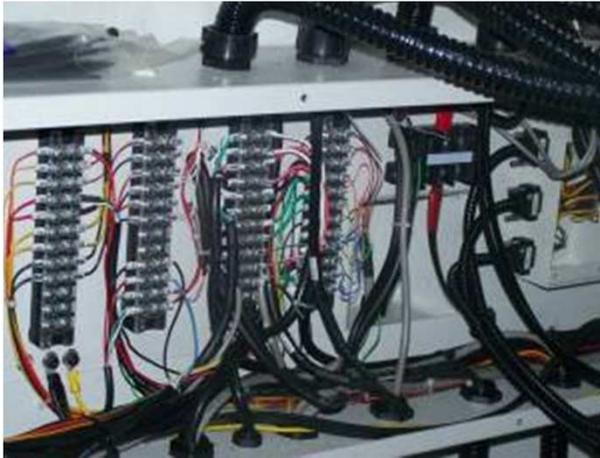
Emergency Stop Button with CE European Standard



1. Organized Wiring by HCM and Easy for Servicing
2. Boards With Fuse for Preventing Fire.

X/Y/Z AC servo drive go with high resolution AC servomotor are employed. These outstanding features boost accuracy of micro step motion up to 1 μ m.

11. Wiring of CNC EDM and Drilling EDM

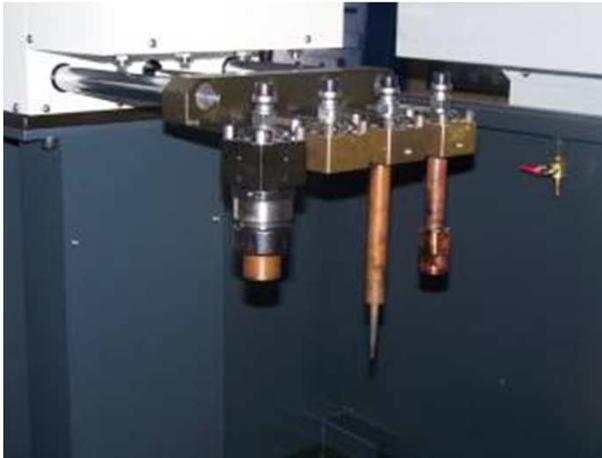


1. Each wire with number for easy maintenance.
2. Organized Wiring
3. Wiring Against mouse and accumulating dust

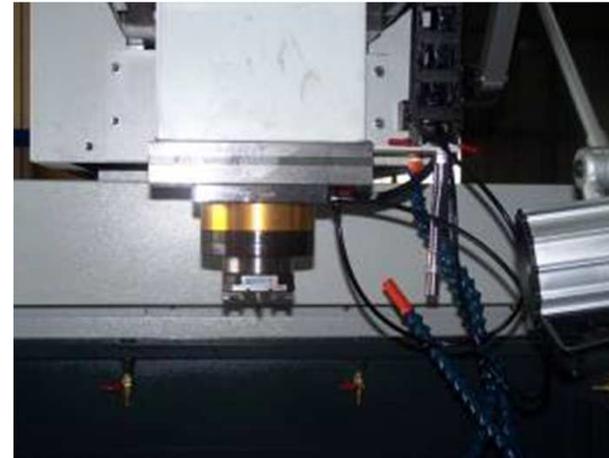


12. ATC and C-axis

Cutting with ATC that can go with W1~W12



Spiral Machining at any angle with C-axis



13.CNC Drilling EDM - Structure

Can be equipped with
CNC Drilling EDM ATC
x16/20

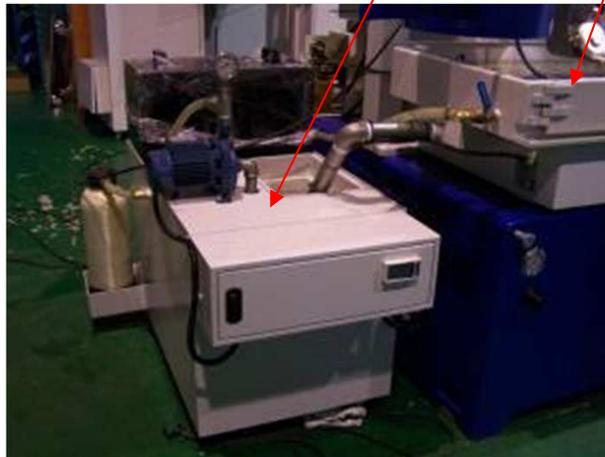
Submerged Tank

Tank with the Filter
Tank of Same Level of
Wire Cut EDM

CNC Drilling EDM RAM
TYPE (Column Structure)

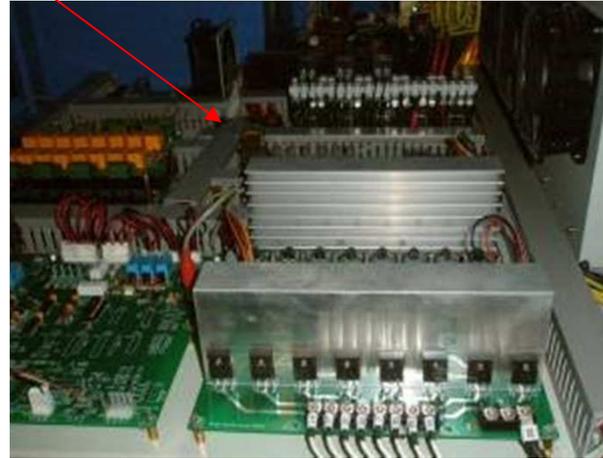


A DZNC machine can tilt
45 degrees left and right
for cutting



14. Wiring of Drilling EDM

1. Wiring by European Standard.
2. Organized and Easy for Servicing



Drilling EDM Exported to Europe



15. Main Machine Parts

1. Casting(Taiwan)
2. Linear Guideway→Hiwin(Taiwan)
3. Ballscrew→Hiwin(Taiwan)
4. Linear Scale→FAGOR(Spain)
5. AC Servo Motor→Delta (Taiwan)
6. Oil Pump →Pedrollo (Italy)
7. Controller→HCM(Taiwan)
8. Transformer→(Taiwan)
9. Oil Injector→(Taiwan)
10. Power Boards and Controller→HCM(Taiwan)

16. Workpiece Samples

Workpiece Samples by EDM

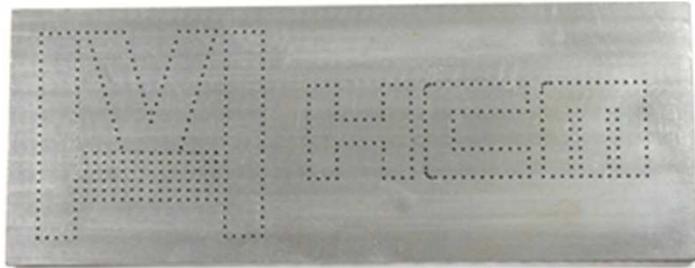
Large-area Workpiece
Sample by EDM



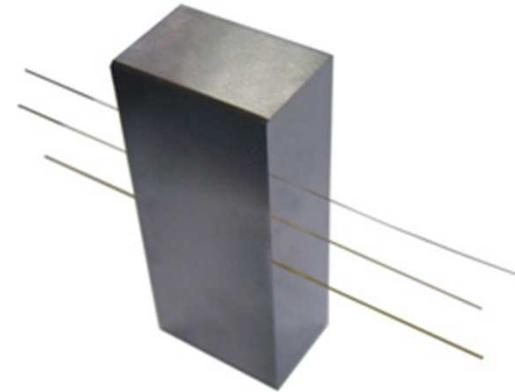
Mirror Finish by EDM at $Ra\ 0.2\mu m$ ◦



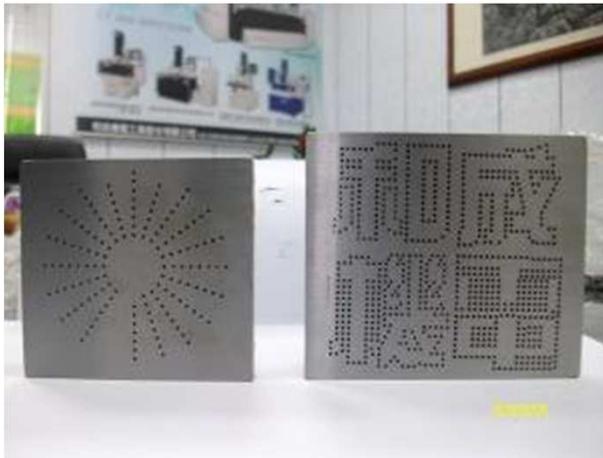
Workpiece Samples by Drilling EDM



Cutting with ATC and Electrode Guide x 4



Cutting with $\Phi 0.2\Phi 0.5\Phi 1.0$
Thickness 30mm on SKD11



Cutting with ATC



Cutting with EDM equipped with C-axis