

**DMNC-EDM**  
迪蒙数控

With core technology, to assist  
Chinese intelligent manufacturing



Headquarter In Beijing

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**HIGH ACCURACY**

**CNC DIE SINKING EDM**

Provide Complete Solution of EDM Technology

Pioneer and leader of EDM machining solution in China



# DEVELOPMENT COURSE



# ADV 400 ADV 600

## High Accuracy CNC EDM Machine



ADV400

1. Imported super precision linear guideway(SP grade)
2. Grinded ball screw(C2 grade).
3. More than 3 years aging treatment of casting
4. Geometric and dynamic accuracy within 5 μ m.



ADV600

<p>Job sample(01) Diameter: <math>\varnothing 40\text{mm}</math> Depth: 10/8mm Time: 9.5/9h Surface finish: VDI 9# Material: S130 hard steel</p>	<p>Job sample(02) Dimension: 20/30/40mm Depth: 6/6/4mm Time: 2/4/7h Surface finish: VDI 6# Material: S130 hard steel</p>	<p>Job sample(03) Dimension: 185 x 106mm Depth: 4mm Time: 15h Surface finish: VDI 24# Material: S130 hard steel</p>	<p>Job sample(04) Dimension: 140 x 70mm Depth: 5mm Time: 8h Surface finish: VDI 18# Material: S130 hard steel</p>
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## MECHANICAL PARAMETERS

Item	Unit	ADV400	ADV600
Overall dimension	mm	1550*2440*2330	3000*2550*3000
Working table dimension	mm	600*400	800*500
X × Y × Z travel	mm	400*300*272	600*400*400
Max distance from spindle to working table	mm	422	600
Inner dimension of working tank on table	mm	750*620*350	1050*750*450
Highest level of working liquid	mm	350	450
Max weight of electrode	kg	50	80
Max weight of workpiece	kg	400	1000
Weight of machine	kg	2900	3500
Capacity of oil reservoir	L	500	800
Working tank open type		Automatic lifting	Automatic lifting
Lubrication system		Automatic	Automatic

CNC power generator	for all ADV series	CNC power generator	for all ADV series
Max machining current	50A	Number of coordinates	60
Input power	380V	Compensation system	Step error compensation, torque compensation, gap compensation
OS	windows7	Edit function	NC file edit while machining
Language	Chinese/English	Graphic display function	XY/YZ/ZX plane, machining simulation, backstage simulation, orbital profile simulation, discharging simulation and etc.
Storage for user	Standard > 500MB, could be customized	Min command unit	1 μ m
Storage types	CF card, outsource memory	Min drive unit	1 μ m
Input method	Touch screen, USB, LAN	Max feed ratio	4m/min
Input	USB, LAN	Max jump speed	5m/min
Display	15 inch LCD	General power	9KW
Control axis	4 axis simultaneous control	Orbital types	Free shaking, quadrant shaking, lock shaking, 3D shaking
Max machining efficiency	$\geq 500\text{mm}^3/\text{min}$	Machining edit software	Expert system LN, auxiliary tool, procon
Min. wear of electrode	$\leq 0.05\%$		
Ra best surface finish	$\leq 0.08\mu\text{m}$		
Repeat positioning accuracy	0.003mm		

Due to continuous technical improvement, it may be subject to change without prior notice

# ADI 300 ADI 450

## High Accuracy CNC EDM Machine



ADI300

1. Imported super precision linear guideway(SP grade)
2. Grinded ball screw(C2 grade).
3. More than 3 years aging treatment of casting
4. Geometric and dynamic accuracy within 5 μ m.



ADI450

<p>Job sample(01) Diameter: Ø40mm Depth: 10/8mm Time: 9.5/9h Surface finish: VDI 9# Material: S130 hard steel</p>	<p>Job sample(02) Dimension: 20/30/40mm Depth: 6/6/4mm Time: 2/4/7h Surface finish: VDI 6# Material: S130 hard steel</p>	<p>Job sample(03) Dimension: 185 x 106mm Depth: 4mm Time: 15h Surface finish: VDI 24# Material: S130 hard steel</p>	<p>Job sample(04) Dimension: 140 x 70mm Depth: 5mm Time: 8h Surface finish: VDI 18# Material: S130 hard steel</p>
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## MECHANICAL PARAMETERS

Item	Unit	ADI300	ADI450
Overall dimension	mm	2024*2119*2240	1992*2590*2355
Working table dimension	mm	600*400	600*400
X × Y × Z travel	mm	300*212*272	452*300*272
Max distance from spindle to working table	mm	530	580
Inner dimension of working tank on table	mm	994*604*405	1090*630*360
Highest level of working liquid	mm	250	340
Max weight of electrode	kg	25	30
Max weight of workpiece	kg	400	500
Weight of machine	kg	2300	2800
Capacity of oil reservoir	L	400	600
Working tank open type		Manual lifting	Manual lifting
Lubrication system		Manual	Manual

CNC power generator	for all ADV series	CNC power generator	for all series
Max machining current	50A	Number of coordinates	60
Input power	380V	Compensation system	Step error compensation, torque compensation, gap compensation
OS	windows7	Edit function	NC file edit while machining
Language	Chinese/English	Graphic display function	XY/YZ/ZX plane, machining simulation, backstage simulation, orbital profile simulation, discharging simulation and etc.
Storage for user	Standard>500MB, could be customized	Min command unit	1 μ m
Storage types	CF card, outsource memory	Min drive unit	1 μ m
Input method	Touch screen、USB、LAN	Max feed ratio	4m/min
Input	USB、LAN	Max jump speed	5m/min
Display	15 inch LCD	General power	9KW
Control axis	4 axis simultaneous control	Orbital types	Free shaking, quadrant shaking, lock shaking, 3D shaking
Max machining efficiency	≥500mm <sup>3</sup> /min	Machining edit software	Expert system LN, auxiliary tool, procon
Min. wear of electrode	≤0.05%		
Ra best surface finish	≤0.08μm		
Repeat positioning accuracy	0.003mm		

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# ADI 800 ADI 1800

High Accuracy  
CNC EDM Machine



ADI800



ADI1800

<p>Job sample(01) Diameter: <math>\varnothing</math>40mm Depth: 10/8mm Time: 9.5/9h Surface finish: VDI 9# Material: S130 hard steel</p>	<p>Job sample(02) Dimension: 20/30/40mm Depth: 6/6/4mm Time: 2/4/7h Surface finish: VDI 6# Material: S130 hard steel</p>	<p>Job sample(03) Dimension: 185 x 106mm Depth: 4mm Time: 15h Surface finish: VDI 24# Material: S130 hard steel</p>	<p>Job sample(04) Dimension: 140 x 70mm Depth: 5mm Time: 8h Surface finish: VDI 18# Material: S130 hard steel</p>
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## MECHANICAL PARAMETERS

Item	Unit	ADI500	ADI600	ADI800	ADI1000
Overall dimension	mm	1640*2200*2250	2040*2320*2530	2280*2600*2690	2300*2850*3000
Working table dimension	mm	800*500	900*500	1050*600	1380*800
X × Y × Z travel	mm	500*400*300	600*400*350	800*500*400	1000*600*400
Max distance from electrode holder to working table	mm	600	700	900	950
Max weight of workpiece	kg	1800	1500	2500	4000
Max weight of electrode	kg	100	150	150	200
Inner dimension of working tank on table	mm	1300*920*450	1612*985*540	1800*1000*600	1800*1240*570
Highest level of working liquid	mm	290	330	460	350
Capacity of oil reservoir	L	800	1000	1500	1800
Weight of machine	kg	3200	3500	4800	5800
Max machining current	A	50	50	50	50
Max machining efficiency	mm <sup>3</sup> /min	≥500	≥500	≥500	≥500
Best surface finish	μm	≤0.2	≤0.2	≤0.2	≤0.2
Min. wear of electrode		≤0.1%	≤0.1%	≤0.1%	≤0.1%
General power	Kva	9	9	9	9

Item	Unit	ADI1200	ADI1800	ADI2100	ADI3500
Overall dimension	mm	2300*2850*3000	3700*3800*3850	3900*4500*4400	5200*4500*4400
Working table dimension	mm	1380*800	2000*1000	2500*1200	3500*1200
X × Y × Z travel	mm	1200*600*400	Single head1800*800*500 Dual-head1200*800*500	Single head2100*800*600 Dual-head1400*800*600	Dual-head 2600*900*600
Max distance from electrode holder to working table	mm	950	1100	1200	1250
Max weight of workpiece	kg	4000	7000	7000	20000
Max weight of electrode	kg	200	250	300	350
Inner dimension of working tank on table	mm	1800*1240*570	3000*1540*700	3200*1650*740	4500*1800*700
Highest level of working liquid	mm	350	600	550	560
Capacity of oil reservoir	L	900*2=1800	2000*2=4000	2500*2=5000	4485*2=8970
Weight of machine	kg	4500	Single head13000 Dual-head15000	Single head14000 Dual-head 17000	Dual-head 28000
Max machining current	A	50	50	50	50
Max machining efficiency	mm <sup>3</sup> /min	≥500	≥500	≥500	≥500
Best surface finish	μm	≤0.2	≤0.2	≤0.2	≤0.2
Min. wear of electrode		≤0.1%	≤0.1%	≤0.1%	≤0.1%
General power	Kva	9	9	9	9

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# A30 A45

## High Accuracy CNC EDM Machine



A30



A45

<p>Job sample(01) Diameter: <math>\phi 40</math>mm Depth: 10/8mm Time: 9.5/9h Surface finish: VDI 9# Material: S130 hard steel</p>	<p>Job sample(02) Dimension: 20/30/40mm Depth: 6/6/4mm Time: 2/4/7h Surface finish: VDI 6# Material: S130 hard steel</p>	<p>Job sample(03) Dimension: 185 x 106mm Depth: 4mm Time: 15h Surface finish: VDI 24# Material: S130 hard steel</p>	<p>Job sample(04) Dimension: 140 x 70mm Depth: 5mm Time: 8h Surface finish: VDI 18# Material: S130 hard steel</p>
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## MECHANICAL PARAMETERS

Item	Unit	A30
Overall dimension	mm	1380 × 1410 × 2250
Working table dimension	mm	600 × 400
X × Y × Z travel	mm	300 × 212 × 272
Max distance from electrode holder to working table	mm	536
Max weight of workpiece	kg	400
Max weight of electrode	kg	25
Inner dimension of working tank on table	mm	990 × 640 × 410
Highest level of working liquid	mm	250
Capacity of oil reservoir	L	500
Weight of machine	kg	2000
Max machining current	A	50
Max machining efficiency	mm <sup>3</sup> /min	≥ 500
Best surface finish	μm	≤ 0.08
Min. wear of electrode		≤ 0.05%
General power	KVa	9

Item	Unit	A45
Overall dimension	mm	1500 × 1680 × 2350
Working table dimension	mm	600 × 400
X × Y × Z travel	mm	452 × 300 × 272
Max distance from electrode holder to working table	mm	580
Max weight of workpiece	kg	400
Max weight of electrode	kg	25
Inner dimension of working tank on table	mm	1090 × 630 × 445
Highest level of working liquid	mm	290
Capacity of oil reservoir	L	600
Weight of machine	kg	3100
Max machining current	A	50
Max machining efficiency	mm <sup>3</sup> /min	≥ 500
Best surface finish	μm	≤ 0.08
Min. wear of electrode		≤ 0.05%
General power	KVa	9

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# A540 A1880

High Accuracy  
CNC EDM Machine



A540



A1880

<p>Job sample(01) Diameter: <math>\varnothing 40</math>mm Depth: 10/8mm Time: 9.5/9h Surface finish: VDI 9# Material: S130 hard steel</p>	<p>Job sample(02) Diameter: 20/30/40mm Depth: 6/6/4mm Time: 2/4/7h Surface finish: VDI 6# Material: S130 hard steel</p>	<p>Job sample(03) Diameter: 185 x 106mm Depth: 4mm Time: 15h Surface finish: VDI 24# Material: S130 hard steel</p>	<p>Job sample(04) Diameter: 140 x 70mm Depth: 5mm Time: 8h Surface finish: VDI 18# Material: S130 hard steel</p>
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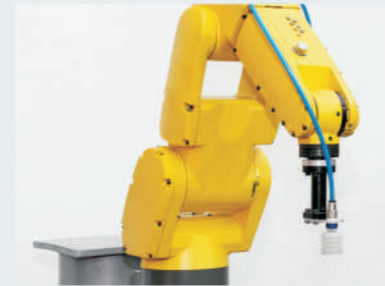
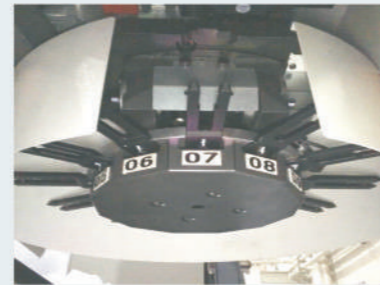
## MECHANICAL PARAMETERS

Item	Unit	A540	A640	A850	A1260
Overall dimension	mm	2525*2755*2526	2818*3014*2550	3087*3187*2800	4100*4000*3300
Working table dimension	mm	800*500	900*600	1050*600	1250*800
X × Y × Z travel	mm	500*400*300	600*500*350	800*500*400	1200*600*500
Max distance from electrode holder to working table	mm	700	750	900	950
Max weight of workpiece	kg	1500	2000	2500	3000
Max weight of electrode	kg	80	100	150	180
Inner dimension of working tank on table	mm	1400*900*500	1600*1000*500	1800*1000*600	2000*1300*700
Highest level of working liquid	mm	360	360	460	460
Capacity of oil reservoir	L	940	1100	1500	2000
Weight of machine	kg	3300	3800	4800	6300
Max machining current	A	50	50	50	50
Max machining efficiency	mm <sup>3</sup> /min	≥500	≥500	≥500	≥500
Best surface finish	μm	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2
Min. wear of electrode		≤ 0.1%	≤ 0.1%	≤ 0.1%	≤ 0.1%
General power	Kva	9	9	9	9

Item	Unit	A1470	A1880	A2180	A2510
Overall dimension	mm	4500*4620*3450	5200*5100*3900	5300*5000*3900	5700*5500*3900
Working table dimension	mm	1600*900	2000*1000	2500*1200	2800*1300
X × Y × Z travel	mm	Single head 1500*700*500 Dual-head 900*700*500	Single head 1800*800*500 Dual-head 1200*800*500	Single head 1950*800*600 Dual-head 1500*800*600	Dual-head 1800*1000*600
Max distance from electrode holder to working table	mm	1200	1350	1350	1350
Max weight of workpiece	kg	4500	5000	7000	9000
Max weight of electrode	kg	200	300	300	400
Inner dimension of working tank on table	mm	2250*1300*700	3500*1800*650	3500*1800*800	3800*1800*800
Highest level of working liquid	mm	460	460	550	550
Capacity of oil reservoir	L	2200	4900	4900	4900
Weight of machine	kg	9900	Single head 13000 Dual-head 13400	Single head 14000 Dual-head 16400	Dual-head 18400
Max machining current	A	50	50	50	50
Max machining efficiency	mm <sup>3</sup> /min	≥500	≥500	≥500	≥500
Best surface finish	μm	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2
Min. wear of electrode		≤ 0.1%	≤ 0.1%	≤ 0.1%	≤ 0.1%
General power	Kva	9	9	9	9

Due to continuous technical improvement, it may be subject to change without prior notice

# OPTIONAL ACCESSORIES



# APPLICATION EXAMPLES



High temperature nickel based alloy turbine  $Ra \leq 0.2 \mu m$



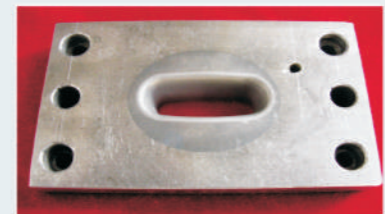
Big area machining  $Ra \leq 0.4 \mu m$



$\Phi 60mm$  mirror finish  $Ra \leq 0.18 \mu m$



Accurate aerospace bearing



Hard alloy battery mold  $Ra \leq 0.4 \mu m$



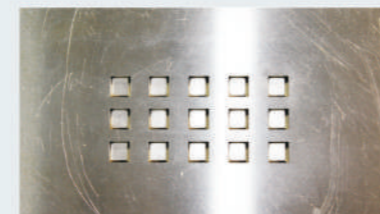
Hemisphere mold



Silicon carbide ceramic part



Tungsten titanium aluminum alloy part



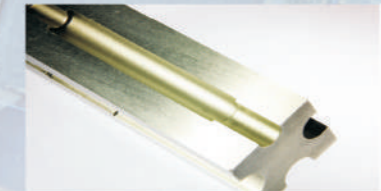
Cellphone keys mold



5-axis simultaneous job



Titanium turbine disc with double caps,  $Ra \leq 0.2 \mu m$



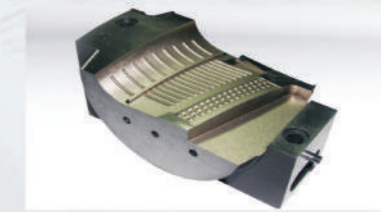
Pen mold



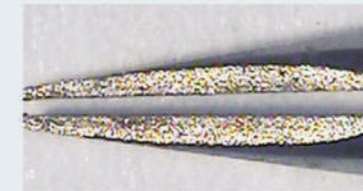
Zipper mold



Simultaneous 4-axis machining job



Engine blade mold



Spotting pin, gap size 0.15mm, accuracy  $4 \mu m$



Spinneret plate mold



Insert mold



Zirconium boride spare parts



Beryllium copper machining



Mobile mold



Deep hole machining



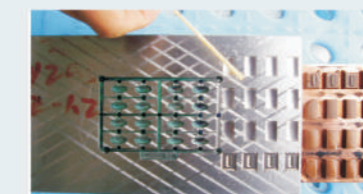
LED lights mold



Mouse cover mold



Toy mold machining



Key of telephone machining



Connecting rod of engine



Mold of eyeglasses



Mold of Piano key



Rectangular pyramid mold



# INTELLIGENT MANUFACTURING

## Function Introduction of Latest Control System

- 1 Brand-new CNC EDM control system embedded on Windows 7, multiple axis simultaneous control (up to 6 axis simultaneous control).
- 2 Export system with powerful machining technology database, automatic generate processing technology according to different profile and different material. Electrode and material combination: cooper/steel, graphite/steel, copper/aluminum alloy, graphite/aluminum alloy, silver tungsten/steel, copper tungsten/steel, silver tungsten/hard alloy, copper tungsten/ hard alloy, copper/zinc alloy, graphite/zinc alloy, copper/cooper alloy
- 3 Special sparking circuits: hard alloy circuit, high speed graphite circuit, mirror surface finish circuit, super high accuracy circuit, pear surface circuit (optional) and etc.
- 4 Orbital capacity: free shaking, quadrant, certain axis lock shaking, and etc.



Information

Automation

Expert 1



Edit interface

LAN

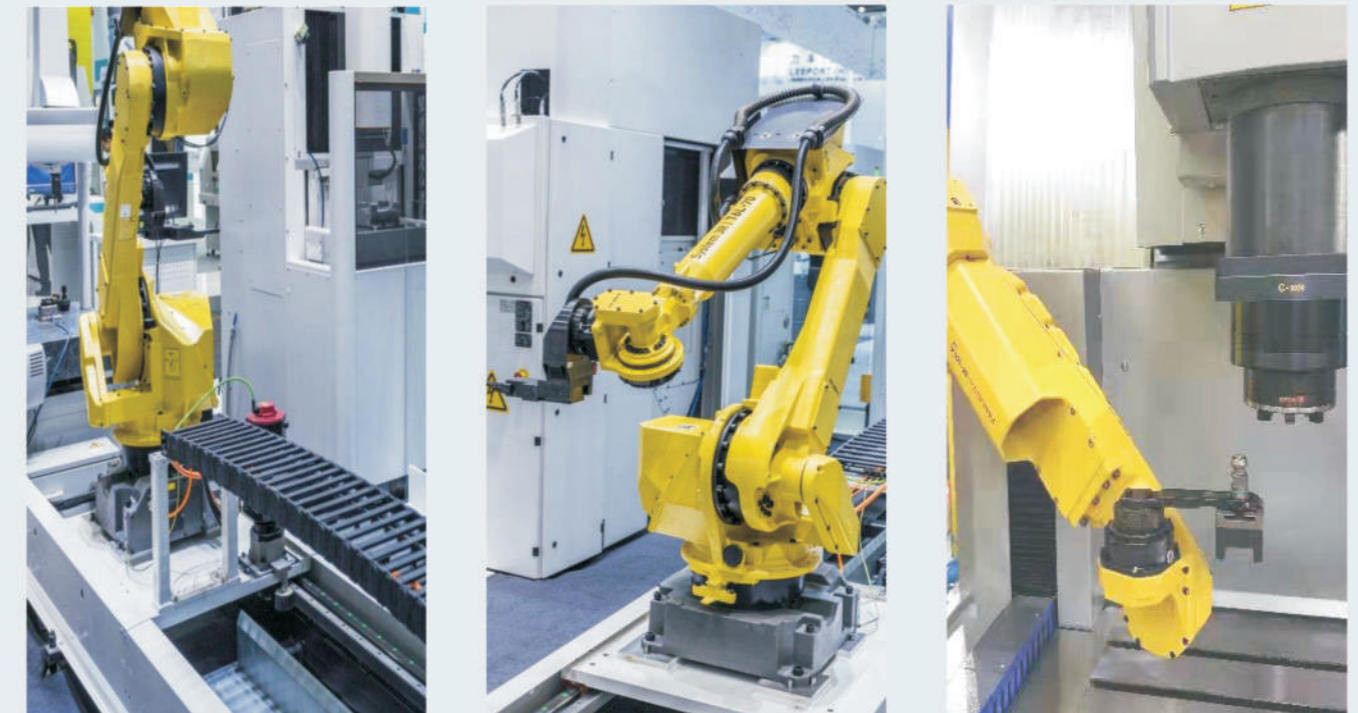
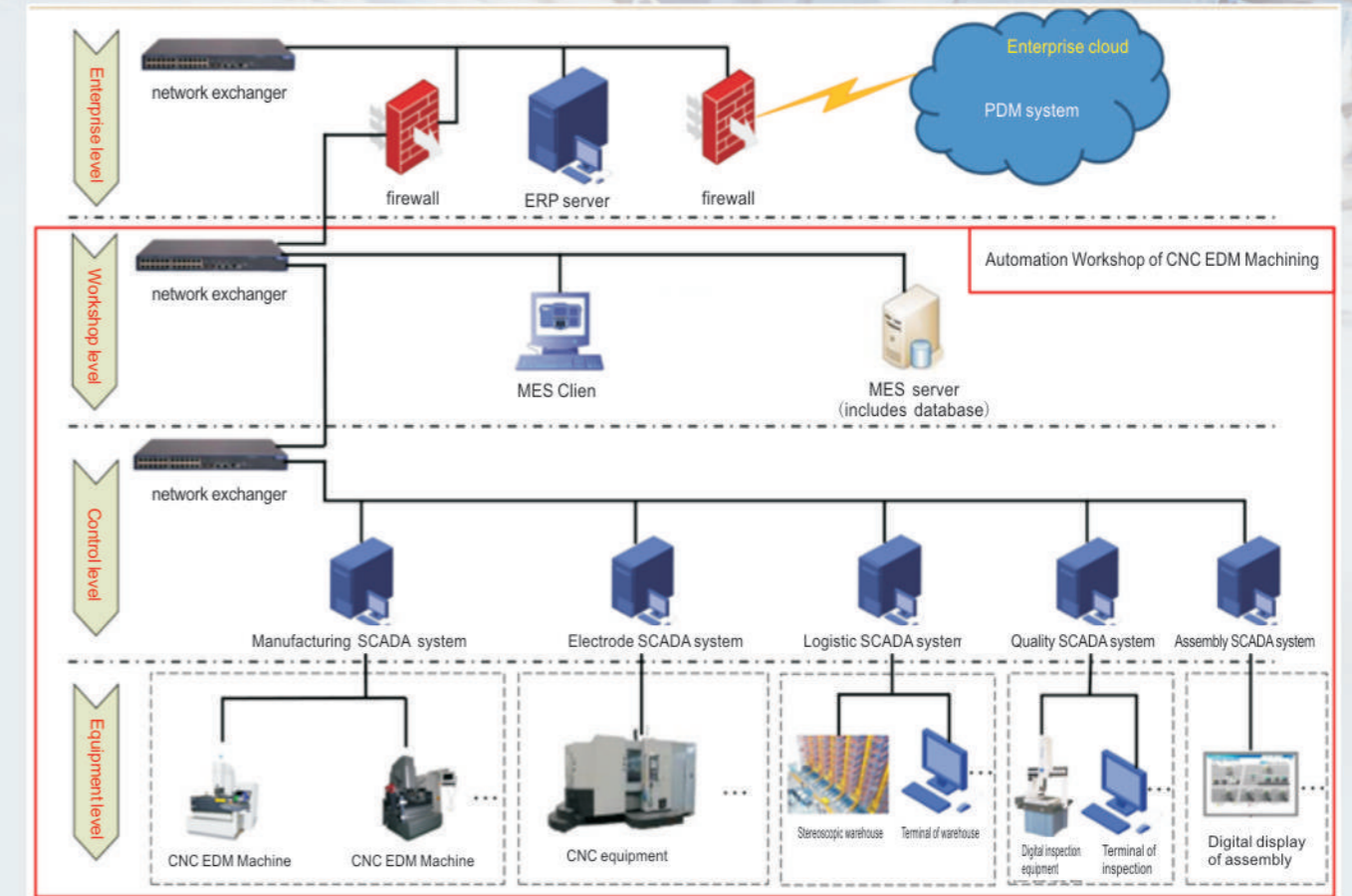
Data management



Machining interface

Initialization interface

Positioning interface



# QUALITY ASSURANCE



国军标认证

Quality is the partner of success ,implement is guaranty of quality

Passed national army certificate GJB 9001C-2007



Passed ISO9001-2016



Listed by All-China Federation of Industry and Commerce as high-tech enterprise for both military industry and civil industry.

Quality of products is decided by high-quality measuring equipment

We have best laboratory in EDM industry in China, investment more than USD2 million.

Name	Image	Description	Name	Image	Description
Logic analyzer Agilent		For tracking logical analysis of real-time running system, it measures timing sequence accurately	Bridge type CMM HEXAGON		Measure geometric accuracy of complex parts
EMC (electromagnetic compatibility compatibility Analyzer) Agilent		For describing the performance of a device or system to function in an electromagnetic environment	PCB measuring instrument		To check deflection of PCBs rapidly
Microscope Mitutoty		Check dimension and surface quality of small parts	Laser interferometer RENISHAW		To check mechanical accuracy of machine

# REQUIRMENTS FOR INSTALLATION/OPERATING ENVIRONMENT

## ★ Electric engineering

Before install the machine, please confirm general power consumption (KVA), load of main machine and control system together. For instance, when general power input is less than 11KVA, choose 50A air switch; when power consumption is 11-22KVA, use 100A air switch. Choose D type trip. Each machine should have its own leakage protection switch, leakage current  $\geq 30\text{mA}$ . Use 3 phase 5 wires,  $380\text{V} \pm 10\%/50\text{Hz}$ , when power supply is not stable, stabilizer is necessary. Earth resistance  $\leq 10\Omega$ , if it's too big, there will be interference.

## ★ Vibration

Vibration affects machining performance and life of machine, keep machine away from vibration source. Separated foundation is needed when it's necessary.

## ★ Foundation

In order to make sure accuracy and life of machine, please prepare foundation of drawing we provide. Machine should be kept in the area without corrosive gas, conductive powder and other unexpected harm.

## ★ Temperature

Best temperature for the machine is  $20 \pm 2^\circ\text{C}$ , using environment temperature  $10-35^\circ\text{C}$ , humidity  $\leq 80\%$ . Temperature in room would affect accuracy, so it's better to keep constant temperature. Attention: don't keep machine at position of direct sunshine, wind or warm air conditioning.

## ★ Discharging liquid

Discharging liquid has great effect on machining performance, please use EDM oil according to our recommendation

## ★ Attention:

If anything above against law or regulations, please follow the law and regulations.