

# AF1100/2100/3300/4300

## PRECISE CNC DIE-SINKING EDM AF SERIES



# ADSPARK

**Technology leads to enterprise development  
Service creates client profit**

**NOVICK GROUP**  
Beijing Novick Digital Equipment Co., Ltd.

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Novick

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AF SERIES

# INTRODUCTION & HISTORY



## ADSPARK



As a subsidiary company of Novick Group, Beijing Novick Digital Equipment Co., Ltd is a high-tech joint venture, which focuses on providing market with reliable and excellent performance metal cutting and EDM equipments. Until now, **ADSPARK** brand covers five series, fourteen products: precise CNC die-sinking EDM AF series, precise CNC reciprocal wire-cut EDM AR series, precise CNC diamond tools EDM AT series, precise CNC brass wire-cut EDM AW series and precise CNC drilling EDM AD series.



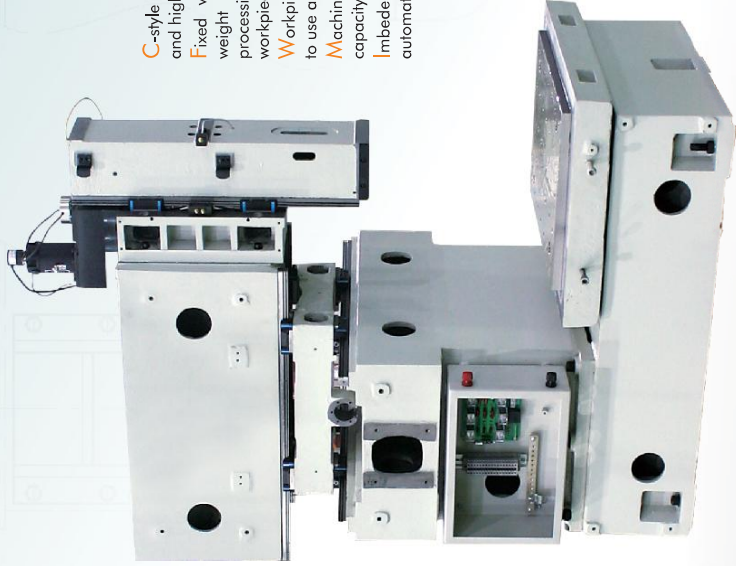
The ISO-9001 quality system with effective process control and advanced monitoring measurements ensures products delivered in the condition of good quality and high reliability. Professional sales and services network offers effective and quick technical consulting, training and service support both on theories and applications.

### ISO-9001 QUALITY SYSTEM



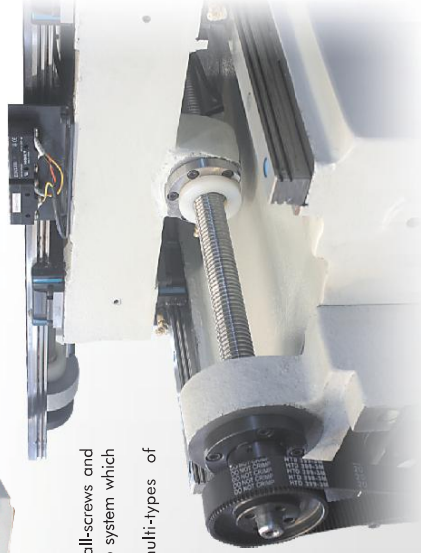
The ISO-9001 quality system ensures products delivered absolutely under control.

## THE COMPACT, RIGID AND PRECISE MECHANICAL BODY

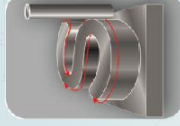


**C**-style cast iron structure makes machine keep stability and high precision.  
**F**ixed worktable ensures the stability of erosion, the weight of workpiece and dielectric have no effect on processing. The closer distance between operator and workpiece ensures easily alignment and observe.  
**W**orkpiece can be mounted by crane, which is convenient to use and reduce the striking to machine.  
**M**achine provides good rigidity and strong bearing capacity.  
**I**mbedded C-axis and AEC ensures the completely automatic discharging.

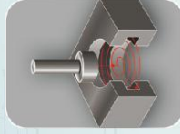
**X/Y/Z** axes adopt precise linear guide-ways, ball-screws and DC (AF1100,AF2100)/AC(AF3300,AF4300)servo system which ensure smooth movement and high accuracy.  
**Z**-axis platen can be connected with multi-types of chucks(manual, 3R, EROWA).



## CNC CONTROL SYSTEM



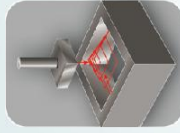
Contour machining



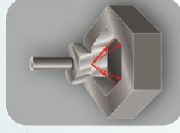
Circle orbiting



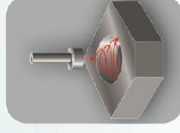
Helical machining



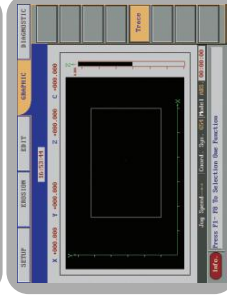
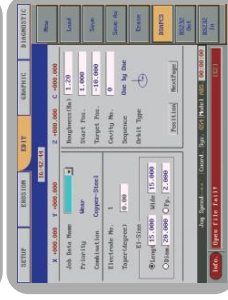
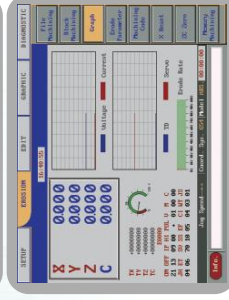
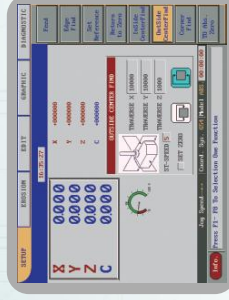
Square orbiting



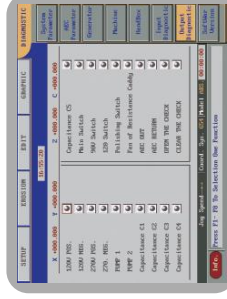
3D machining



Free orbiting



**5** pages of functional screens consisted of Setup, Erosion, Edit, Graphic, Diagnostic provide very friendly man-machine interface.  
**R**eal-time multi-tasking control software makes it possible to do preparations for next jobs during erosion.  
**T**he flexible NC programming system can meet the needs both for beginners and experienced operators.  
**W**ith orbit function, machine can finish various kinds of EDM machining conveniently.  
**W**ith powerful CNC function, machine can conveniently finish EDM erosion in linear and arc.  
**W**ith RS-232 communication interface and USB interface, the machine can exchange datum with programming computer or control center conveniently.  
**W**ith the small hand-box, operators can operate the machine within short distance.

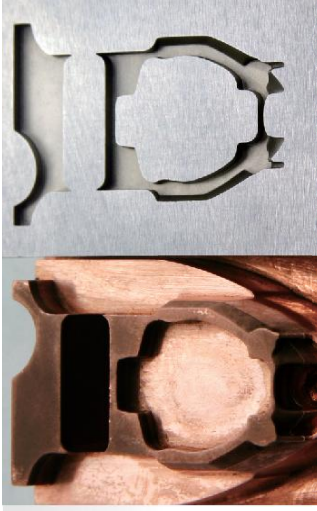


Super large-scale integrated circuit makes electrical discharge circuit powerful and reliable.

With fuzzy algorithms the discharging status and gaps are optimized adaptively which result in high removal efficiency and low electrode wear.

The complete set of EDM machining technology parameters database makes it easy and convenient to realize various kinds of machining: copper-steel; copper-aluminum; copper-carbide; graphite-steel; copper tungsten-carbide, etc.

A group of machining parameters can be called by one code. The parameters can be modified real-timely during erosion. And the modified parameters can also be stored for special use hereinafter.



Mirror machining: Ra0.15 μm



Mirror machining



Rib machining



Big surface machining



Mesh machining (big area)

Items	Unit	AF1100	AF2100	AF3300	AF4300
<b>Main machine</b>					
Size of machine	mm	1650×1500×1975	2050×2460×2380	3400×3260×3290	6260×4600×3500
Weight of machine	kg	1800	3500	7000	18000
Size of worktable	mm	600×400	800×550	1400×900	2500×1200
Travels(X×Y×Z)	mm	380×250×250	600×400×350	1300×700×500	2100 / 1450-2×900×500
The distance between Z-platen to worktable	mm	250-500	320-670	650-1150	650-1150
Resolution(XYZ)	mm		0.001		
Size of work tank	mm	1050×620×380	1430×800×500	2250×1300×650	3500×1800×650
<b>Electrodes and workpiece</b>					
Max. electrode weight	kg	70	100	200	200
Max. workpiece weight	kg	1000	2000	6000	8000
Max. workpiece size	mm	800×500×320	1100×600×450	2000×1100×600	3200×1600×600
<b>Dielectric unit</b>					
Capacity	L	450	800	2800	5000
Paper filler	pc	2	4	4	4
<b>Power supply system</b>					
Standard configuration			380V±10% 50 or 60HZ		
Power input	KW	10	17	17	17
<b>Generator and machining technology</b>					
Max. machining current	A	64	128	128	128
Max. removal rate	mm <sup>3</sup> /min	380 (copper-steel 64A)	550 (copper-steel 128A)	550 (copper-steel 128A)	550 (copper-steel 128A)
Best roughness(Ra)	μm	0.15	0.15	0.3	0.3
Min. electrode wear		0.03%	0.03%	0.1%	0.1%
Standard technology parameters				copper/graphite-steel, copper/ tungsten carbide	
<b>CNC control system</b>					
Display			15" Color LCD		
Keyboard			stainless steel and waterproof keyboard		
Programmable axes			XYZC 4-axes(4-axes controlled simultaneously)		
Program mode			automatic programming/ISO G.M code		
Unit			metric/inch		
Interpolation			linear/arc		
Orbit type			circle/square/vector/polygon		
Orbit mode			free orbit/servo orbit		
CNC function			setup/erosion/edit/graphic/diagnostic		
Input type			USB/RS-232		
<b>Options</b>					
Extended current module		100A			
Imbedded axis				max. electrode weight 1.5kg	
Tool changer				electrode weight 5kg	
Various kinds of electrode chucks				5Positions	manual/3R/EROWA