



# HZHF

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# INTECH

产品样本

杭州华方 速度之王® 中走丝  
TIME IS COST , SPEED IS BENEFIT



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



杭州华方数控机床有限公司是国家级高新技术企业，从事电火花线切割机床的研发、制造已有近30年的历史，现为  
中国机床工具工业协会特种加工常务理事会员单位、中国机械工程学会特种加工分会理事会员单位、全国特种加工机床标  
准化技术委员会委员单位，为行业重点骨干企业。

2015年HF320MZQ-G15、HF400MZQ-G15两型号中走丝线切割机床经中国电火花加工设备唯一专业检测机构-机械  
工业电加工机床产品质量监督检测中心的检测，获得由国标委和中国特种加工协会联合颁发的达标认证等级优等的证书。

公司位于杭州市西湖区，厂房和科研办公楼面积17000平方米，各种加工、检测设备齐全，包括进口五面体龙门加工  
中心、英国雷尼绍激光干涉仪、万能工具显微镜、德国马尔粗糙度测试仪、德国张力测试仪等，线切割机床年生产能力  
2000台以上。

多年来与南京航空航天大学合作，在我公司内建立了产学研合作基地，设有研究生站和电火花加工技术联合实验室，  
进行电火花线切割技术基础理论的研究，并且不断地应用到新产品的开发之中。

**公司质量方针：科学务实创新，学习专业自律，品质服务并重，永远追求完美。**

**公司经营方针：客户需求为源，科研创新引领，严谨求实诚信，振兴民族品牌。**

Hangzhou Huafang NC Machine Tool Co., LTD, the high-tech enterprise in Hangzhou, who has been nearly 30 years in researching and manufacturing Wire cut  
Electrical Discharge Machining (WEDM), now is the member unit of China Machine Tool and Tool Builders' Association, China Mechanical Engineering Society of  
non-traditional machining sub Association and National Standardization Technical Committee of non-traditional machining tool, for the industry of key enterprises.

In 2015, HF320MZQ-G15 and HF400MZQ-G15, the two types of Medium-speed Wire cut Electrical Discharge Machining (MS-WEDM), that had been tested by  
the only professional testing organization of China EDM equipment, whose name is Product Quality Supervision and Inspection Center of Machine Tool for machine  
industry, obtained a certificate of excellence from Standardization Administration of the People's Republic of China (SAC) and Non-Traditional Machining of China  
issued a certificate of compliance certification.

Our company is located in xihu district of hangzhou. Factories and offices of scientific research's area is 170002 square meters. There have many kinds of process-  
ing and testing equipment, including the import of pentahedron gantry machining center, Renishaw laser interferometer, universal tool microscope, Germany  
Maldives roughness tester, Germany tension tester etc. And the annual output of WEDM is more than 2000 units.

For many years, we are in cooperation with Nanjing University of Aeronautics and Astronautics, and in our company established a production and research  
cooperation base. There have a graduate station and EDM Technology Laboratory, to research the basic theory of WEDM, and constantly apply to the development  
of new products.

Company quality policy: respecting science, practical and innovation; learning professionally and self-discipline; quality and service are equally important; always  
pursue the perfection.

Operating principles: scientific research and innovation are in the first place; servicing the customer first; rigorous, realistic and integrity; revitalization of national  
brands.

# 速度之王® 中走丝技术

## 大电流 低丝损 防断丝 长时间

### "速度之王"，能实际用的高效率加工技术

一般所称的线切割最高加工效率是指短时间的，不能几十个小时以上连续切割，因为高效率加工必须是大电流的，而大电流极易引起断丝，并且钼丝丝损非常大，所以不能用于实用。

我公司2009年推出的"速度之王"电火花中走丝线切割高速加工技术为国内首创，是我公司研发的核心技术，采用创新防断丝、控丝损控制策略，能有效地解决大电流持续加工时的断丝和丝损难题，真正实现了线切割大电流、高效率、长时间连续切割的加工。在第一刀高速加工时，表面粗糙度更好，为后续修刀提供了更好的条件。

### 每一台华方"速度之王"线切割的精度

华方每一台线切割机床的部件加工和机械装配全过程都按高于国标的企标实行品质控制和检验，保证了每一台机床的全程定位精度和重复定位精度，所以即使加工 $\varnothing 300\text{mm}$ 的圆,精度均可 $\leq 0.02\text{mm}$ 。

### "热泵"散热专利技术(专利号ZL201220694371.0)

我公司从2012年起，所生产的线切割数控电控柜均采用了华方"热泵"散热专利技术，极大地提高设备可靠性、稳定性，长期使用后维修率极低，加工效率不降低，同时可降低能耗，减少风扇噪声，节能环保。



## The technology of WEDM-MS with "The Champion Of Speed"

### Larger current, Less wire wear; Preventing wire breaking, Stable machining for a long time "The Champion Of Speed", Practical high efficiency machining technology

In general, the highest machining efficiency of WEDM is a short time processing, and it can not be cut continuously for more than dozens of hours, Because the higher efficient machining must be the larger current, and wire breaking caused by larger current is more easier, and molybdenum wire wear is more heavier, so it can not be used in practical.

In 2009, practical high efficiency machining technology with "The Champion Of Speed" launched by our company in WEDM-MS for for the domestic initiative, is the core technology of our company research and development, using innovative method to prevent wire breaking and to control wire wear control strategy, which can effectively solve the problem of wire breaking and wire wear with high current continued machining, It has truly realized the machining of high current, high efficiency and long time in WEDM. While ensuring high speed machining in rough cutting, the surface roughness is better, which provides better conditions for the subsequent trim cuts.

Accuracy of HZHF WEDM machine tool

The standard of quality control and inspection of the parts processing and mechanical assembly of every machine tool is higher than the national standard in enterprise, to ensure the full travel positioning accuracy and the repositioning precision, so even if cylinder of the thickness of 300mm is machined, roundness error can be less than 0.02mm.

"Thermal cycle pump" patent technology for heat dissipation (Patent number: ZL201220694371.0)

Since 2012, WEDM CNC control cabinet adopts "Thermal cycle pump" patent technology for heat dissipation, the reliability and stability of the equipment have been greatly improved, the maintenance rate is very low in the long term use and machining efficiency is not reduced. At the same time, it can reduce energy consumption, minimize the noise of the radiator, save energy and environmental protection.

例如:

### 用我们的技术实现了大电流不断丝高速切割

对60mm厚钢件，  
在加工电流7A时（1万 $\text{mm}^2/\text{h}$ 切割速度），  
连续不断丝切割50小时以上；  
在加工电流4A时（6500 $\text{mm}^2/\text{h}$ 切割速度），  
连续不断丝切割150小时以上。

### 用我们的技术实现了超低丝耗

对60mm厚钢件，  
在6500 $\text{mm}^2/\text{h}$ 切割速度时，连续切割70小时，丝耗 $\leq 0.01\text{mm}$ ；  
在1万 $\text{mm}^2/\text{h}$ 切割速度时，连续切割20小时，丝耗 $\leq 0.01\text{mm}$ 。

### 第二代"速度之王"实现了自动变频进给跟踪

加工时，只需输入工件高度值，特别对500mm以上厚度工件的加工，也可实现自动稳定不断丝切割。

对500mm厚钢件，切割速度可达7000 $\text{mm}^2/\text{h}$ 以上。

### 速度就是效益，时间更是成本

当今市场趋势，用工成本快速提升，也意味着时间成本在不断地提高，所以让线切割机床每分钟能创造加倍的效益是我们华方追求的目标，

### "速度之王"用高科技实现了效益倍增

For axample :

### The high speed cutting of high current without wire breaking is achieved with our technology

For 60mm thick steel,  
when the current is 7A (10000  $\text{mm}^2/\text{h}$  cutting speed),  
It can be continuously cut for more than 50 hours without wire breaking;  
When the current is 4A (6500 $\text{mm}^2/\text{h}$  cutting speed),  
It can be continuously cut for more than 150 hours without wire breaking.

### Extremely low wire wear is realized with our technology

For 60mm thick steel,  
At the cutting speed of 6500 $\text{mm}^2/\text{h}$ , continuous cutting of 70 hours, wire wear  $\leq 0.01\text{mm}$ ;  
At the cutting speed of 10000 $\text{mm}^2/\text{h}$ , continuous cutting of 20 hours, wire wear  $\leq 0.01\text{mm}$ .

### The second generation of "The Champion Of Speed" has realized automatic frequency conversion feed tracking

In processing, it is necessary to set the thickness of the workpiece, especially for the machining of more than 500mm of the workpiece thickness, automatic and stable machining can be realized without wire breaking.  
For 500mm thick steel, the cutting speed is more than 7000 $\text{mm}^2/\text{h}$ .

### Speed is benefit, Time is cost

In the current market trend, with the rapid increase in the cost of labor ,which means that the cost of time is increasing, So it is our goal to make machine tools to create higher benefits every minute in WEDM,  
"The Champion Of Speed" with high-tech achieved benefit multiplication



精心装配，严格测试  
Elaborately assembled, rigorously tested



五面体加工中心  
Pentahedron machining center

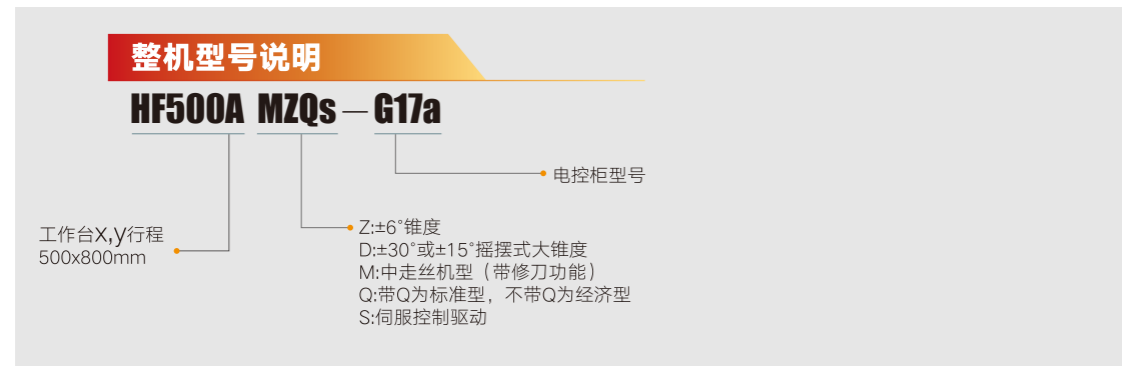


杭州华方电火花线切割机型号由两部分组成

**HF500A MZQs—G17a** 前一部分为机床主机部分

前一部分 后一部分 后一部分为所配的电控柜 (详细说明请见第15、16页)

同一机床主机与不同的电控柜组合可有各种整机型号

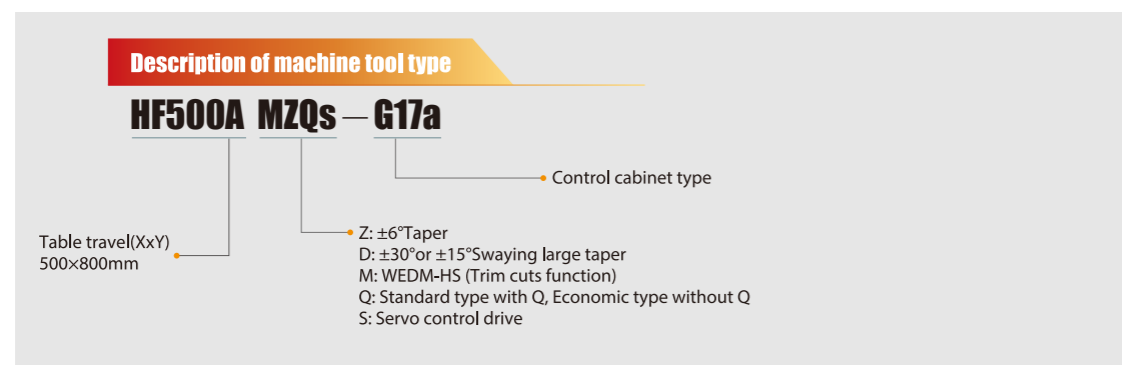


The Type Of Hzhf Wedm Machine Tool Consists Of Two Parts.

**HF500A MZQs—G17a** The previous part is the machine body

THE PREVIOUS PART THE LATTER PART The latter part is the electric control cabinet (Detailed in page15 and16)

The same machine body with different electric control cabinet can form varieties of types of machine tool



HF320MZQ-G17a



技术参数/HF320MZQ (中走丝)

工作台面尺寸: 690×458mm  
 工作台行程: 350×450mm  
 最大加工厚度: 300mm (特殊厚度可定制)  
 加工锥度: ±6° (在上下导轮中心距200mm时)  
 八方切割精度: ≤±0.005mm (直体)  
 最佳粗糙度(直体): 多次切割Ra≤1.0um 50mm<sup>2</sup>/min  
 采用华方专利“热泵”散热技术  
 实用最大切割效率:  
 ≥180mm<sup>2</sup>/min (连续切割50万mm<sup>2</sup>以上)  
 钼丝损耗:  
 110mm<sup>2</sup>/min速度时, 连续割40万mm<sup>2</sup>, 丝耗≤0.01mm  
 走丝速度: 可程序设定  
 最大钼丝直径: ≤0.25mm  
 净重: 1400kg  
 最大承载重量: 600kg  
 主机外形尺寸: 1400×1340×1600mm  
 电消耗功率: ≤0.8kw

Technical Parameters / HF320MZQ (WEDM-MS)

Worktable Size: 690×458mm  
 Worktable Stroke: 350×450mm  
 Maximum Cutting Thickness: 300mm (Special custom products)  
 Taper of Cutting Workpiece: ±6°(200mm from the center of the upper and lower guide wheels)  
 Accuracy of Cutting OctagonWorkpiece: ≤±0.005mm(prism)  
 Optimum Roughness(prism): multiple-cut Ra≤1.0um 50mm<sup>2</sup>/min  
 Using our company's "Thermal Cycle Pump" patented technology for heat dissipation  
 Actual Maximum Cutting Efficiency:  
 ≥180mm<sup>2</sup>/min (continuous cutting area over 500,000mm<sup>2</sup>)  
 Electrode Wire Loss:  
 ≤0.01mm (when the continuous cutting area is up to 400,000mm<sup>2</sup> at a speed of 110mm<sup>2</sup>/min)  
 Wire Speed: adjusted by program  
 Maximum Electrode Wire Diameter: ≤0.25mm  
 Net Weight: 1400kg  
 Maximum Load Weight: 600kg  
 Outer Diameter Size of Machine Tool: 1400×1340×1600mm  
 Power Consumption of Machine Tool: ≤0.8kw



Due to technical improvement, if any of the above data is changed, the product technical documents shall prevail.

因技术改进, 以上数据如有更改, 以产品技术文件为准。



HF400MZQ-G17a

### 技术参数/HF400MZQ (中走丝)

工作台面尺寸: 820×568mm  
 工作台行程: 450×550mm  
 最大加工厚度: 300mm (特殊厚度可定制)  
 加工锥度: ±6° (在上下导轮中心距200mm时)  
 八方切割精度: ≤±0.005mm (直体)  
 最佳粗糙度(直体): 多次切割Ra≤1.0um 50mm<sup>2</sup>/min  
 采用华方专利“热泵”散热技术  
 实用最大切割效率:  
 ≥180mm<sup>2</sup>/min (连续切割50万mm<sup>2</sup>以上)  
 钼丝损耗:  
 110mm<sup>2</sup>/min速度时, 连续割40万mm<sup>2</sup>, 丝耗≤0.01mm  
 走丝速度: 可程序设定  
 最大钼丝直径: ≤0.25mm  
 净重: 1800kg  
 最大承载重量: 1200kg  
 主机外形尺寸: 1530×1584×1700mm  
 电消耗功率: ≤0.8kw

### Technical Parameters / HF400MZQ (WEDM-MS)

Worktable Size: 820×568mm  
 Worktable Stroke: 450×550mm  
 Maximum Cutting Thickness: 300mm (Special custom products)  
 Taper of Cutting Workpiece: ±6°(200mm from the center of the upper and lower guide wheels)  
 Accuracy of Cutting Octagon Workpiece: ≤±0.005mm(prism)  
 Optimum Roughness(prism): multiple-cut Ra≤1.0um 50mm<sup>2</sup>/min  
**Using our company's "Thermal Cycle Pump" patented technology for heat dissipation**  
**Actual Maximum Cutting Efficiency:**  
 ≥180mm<sup>2</sup>/min (continuous cutting area over 500,000mm<sup>2</sup>)  
**Electrode Wire Loss:**  
 ≤0.01mm (when the continuous cutting area is up to 400,000mm<sup>2</sup> at a speed of 110mm<sup>2</sup>/min)  
 Wire Speed: adjusted by program  
 Maximum Electrode Wire Diameter: ≤0.25mm  
 Net Weight: 1800kg  
 Maximum Load Weight: 1200kg  
 Outer Diameter Size of Machine Tool: 1530×1584×1700mm  
 Power Consumption of Machine Tool: ≤0.8kw

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HF500MZQ-G17a

### 技术参数/HF500MZQ (中走丝)

工作台面尺寸: 910×588mm  
 工作台行程: 500×630mm (不用纵向夹具时)  
 最大加工厚度: 300mm (特殊厚度可定制)  
 加工锥度: ±6° (在上下导轮中心距200mm时)  
 八方切割精度: ≤±0.005mm (直体)  
 最佳粗糙度(直体): 多次切割Ra≤1.0um 50mm<sup>2</sup>/min  
 采用华方专利“热泵”散热技术  
 实用最大切割效率:  
 ≥180mm<sup>2</sup>/min (连续切割50万mm<sup>2</sup>以上)  
 钼丝损耗:  
 110mm<sup>2</sup>/min速度时, 连续割40万mm<sup>2</sup>, 丝耗≤0.01mm  
 走丝速度: 可程序设定  
 最大钼丝直径: ≤0.25mm  
 净重: 2000kg  
 最大承载重量: 1300kg  
 主机外形尺寸: 1580×1700×1800mm  
 电消耗功率: ≤0.8kw

### Technical Parameters / HF500MZQ (WEDM-MS)

Worktable Size: 910×588mm  
 Worktable Stroke: 500×630mm (without longitudinal fixture)  
 Maximum Cutting Thickness: 300mm (Special custom products)  
 Taper of Cutting Workpiece: ±6°(200mm from the center of the upper and lower guide wheels)  
 Accuracy of Cutting Octagon Workpiece: ≤±0.005mm(prism)  
 Optimum Roughness(prism): multiple-cut Ra≤1.0um 50mm<sup>2</sup>/min  
**Using our company's "Thermal Cycle Pump" patented technology for heat dissipation**  
**Actual Maximum Cutting Efficiency:**  
 ≥180mm<sup>2</sup>/min (continuous cutting area over 500,000mm<sup>2</sup>)  
**Electrode Wire Loss:**  
 ≤0.01mm (when the continuous cutting area is up to 400,000mm<sup>2</sup> at a speed of 110mm<sup>2</sup>/min)  
 Wire Speed: adjusted by program  
 Maximum Electrode Wire Diameter: ≤0.25mm  
 Net Weight: 2000kg  
 Maximum Load Weight: 1300kg  
 Outer Diameter Size of Machine Tool: 1580×1700×1800mm  
 Power Consumption of Machine Tool: ≤0.8kw

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HF500AMZQs-G17a

### 技术参数/HF500AMZQs (中走丝)

工作台面尺寸: 1054×630mm  
 工作台行程: 500×800mm (伺服控制驱动)  
 最大加工厚度: 600mm (特殊厚度可定制)  
 加工锥度: ±6° (在上下导轮中心距200mm时)  
 八方切割精度: ≤0.005mm (直体)  
 最佳粗糙度(直体): 多次切割Ra≤1.0um 50mm²/min  
 采用华方专利“热泵”散热技术  
 实用最大切割效率:  
 ≥180mm²/min (连续切割50万mm²以上)  
 钼丝损耗:  
 110mm²/min速度时, 连续割40万mm², 丝耗≤0.01mm  
 走丝速度: 可程序设定  
 最大钼丝直径: ≤0.25mm  
 净重: 2600kg  
 最大承载重量: 2000kg  
 主机外形尺寸: 2050×2174×2100mm  
 电消耗功率: ≤0.8kw

### Technical Parameters / HF500AMZQs (WEDM-MS)

Worktable Size: 1054×630mm  
 Worktable Stroke: 500×800mm (driven by servo control)  
 Maximum Cutting Thickness: 600mm (Special custom products)  
 Taper of Cutting Workpiece: ±6°(200mm from the center of the upper and lower guide wheels)  
 Accuracy of Cutting Octagon Workpiece: ≤0.005mm(prism)  
 Optimum Roughness(prism): multiple-cut Ra≤1.0um 50mm²/min  
 Using our company's "Thermal Cycle Pump" patented technology for heat dissipation  
 Actual Maximum Cutting Efficiency:  
 ≥180mm²/min (continuous cutting area over 500,000mm²)  
 Electrode Wire Loss:  
 ≤0.01mm (when the continuous cutting area is up to 400,000mm² at a speed of 110mm²/min)  
 Wire Speed: adjusted by program  
 Maximum Electrode Wire Diameter: ≤0.25mm  
 Net Weight: 2600kg  
 Maximum Load Weight: 2000kg  
 Outer Diameter Size of Machine Tool: 2050×2174×2100mm  
 Power Consumption of Machine Tool: ≤0.8kw



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HF630MZQs-G17a

### 技术参数/HF630MZQs (中走丝)

工作台面尺寸: 1254×770mm  
 工作台行程: 630×800mm (伺服控制驱动) 630×1000mm  
 最大加工厚度: 600mm (特殊厚度可定制)  
 加工锥度: ±6° (在上下导轮中心距200mm时)  
 八方切割精度: ≤0.010mm (直体)  
 最佳粗糙度(直体): 多次切割Ra≤1.0um 50mm²/min  
 采用华方专利“热泵”散热技术  
 实用最大切割效率:  
 ≥180mm²/min (连续切割50万mm²以上)  
 钼丝损耗:  
 110mm²/min速度时, 连续割40万mm², 丝耗≤0.01mm  
 走丝速度: 可程序设定  
 最大钼丝直径: ≤0.25mm  
 净重: 3200kg  
 最大承载重量: 2300kg  
 主机外形尺寸: 2450×2454×2100mm  
 电消耗功率: ≤0.8kw

### Technical Parameters / HF630MZQs (WEDM-MS)

Worktable Size: 1254×770mm  
 Worktable Stroke: 630×800mm (driven by servo control) 630×1000mm  
 Maximum Cutting Thickness: 600mm (Special custom products)  
 Taper of Cutting Workpiece: ±6°(200mm from the center of the upper and lower guide wheels)  
 Accuracy of Cutting Octagon Workpiece: ≤0.010mm (prism)  
 Optimum Roughness(prism): multiple-cut Ra≤1.0um 50mm²/min  
 Using our company's "Thermal Cycle Pump" patented technology for heat dissipation  
 Actual Maximum Cutting Efficiency:  
 ≥180mm²/min (continuous cutting area over 500,000mm²)  
 Electrode Wire Loss:  
 ≤0.01mm (when the continuous cutting area is up to 400,000mm² at a speed of 110mm²/min)  
 Wire Speed: adjusted by program  
 Maximum Electrode Wire Diameter: ≤0.25mm  
 Net Weight: 3200kg  
 Maximum Load Weight: 2300kg  
 Outer Diameter Size of Machine Tool: 2450×2454×2100mm  
 Power Consumption of Machine Tool: ≤0.8kw



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HF800MZQs-G17a

### 技术参数/HF800MZQs (中走丝)

工作台面尺寸: 1334×850mm  
 工作台行程: 800×1000mm (不用纵向夹具时) (伺服控制驱动)  
 最大加工厚度: 600mm (特殊厚度可定制)  
 加工锥度: ±6° (在上下导轮中心距200mm时)  
 八方切割精度: ≤0.010mm (直体)  
 最佳粗糙度(直体): 多次切割Ra≤1.0um 50mm<sup>2</sup>/min  
**采用华方专利“热泵”散热技术**  
**实用最大切割效率:**  
 ≥180mm<sup>2</sup>/min (连续切割50万mm<sup>2</sup>以上)  
**钼丝损耗:**  
**110mm<sup>2</sup>/min速度时, 连续割40万mm<sup>2</sup>, 丝耗≤0.01mm**  
 走丝速度: 可程序设定  
 最大钼丝直径: ≤0.25mm  
 净重: 3700kg  
 最大承载重量: 2800kg  
 主机外形尺寸: 2550×2954×2100mm  
 电消耗功率: ≤0.8kw

### Technical Parameters / HF800MZQs (WEDM-MS)

Worktable Size: 1334×850mm  
 Worktable Stroke: 800×1000mm (without longitudinal fixture) (driven by servo control)  
 Maximum Cutting Thickness: 600mm (Special custom products)  
 Taper of Cutting Workpiece: ±6°(200mm from the center of the upper and lower guide wheels)  
 Accuracy of Cutting Octagon Workpiece: ≤0.010mm (prism)  
 Optimum Roughness(prism): multiple-cut Ra≤1.0um 50mm<sup>2</sup>/min  
**Using our company's "Thermal Cycle Pump" patented technology for heat dissipation**  
**Actual Maximum Cutting Efficiency:**  
 ≥180mm<sup>2</sup>/min (continuous cutting area over 500,000mm<sup>2</sup>)  
**Electrode Wire Loss:**  
 ≤0.01mm (when the continuous cutting area is up to 400,000mm<sup>2</sup> at a speed of 110mm<sup>2</sup>/min)  
 Wire Speed: adjusted by program  
 Maximum Electrode Wire Diameter: ≤0.25mm  
 Net Weight: 3700kg  
 Maximum Load Weight: 2800kg  
 Outer Diameter Size of Machine Tool: 2550×2954×2100mm  
 Power Consumption of Machine Tool: ≤0.8kw

Due to technical improvement, if any of the above data is changed, the product technical documents shall prevail.



因技术改进, 以上数据如有更改, 以产品技术文件为准。



HF1000MZQs-G17a

### 技术参数/HF1000MZQs (中走丝)

工作台面尺寸: 1540×1140mm  
 工作台行程: 1000×1200mm (伺服控制驱动)  
 最大加工厚度: 600mm (特殊厚度可定制)  
 加工锥度: ±6° (在上下导轮中心距200mm时)  
 八方切割精度: ≤0.010mm (直体)  
 最佳粗糙度(直体): 多次切割Ra≤1.0um 50mm<sup>2</sup>/min  
**采用华方专利“热泵”散热技术**  
**实用最大切割效率:**  
 ≥180mm<sup>2</sup>/min (连续切割50万mm<sup>2</sup>以上)  
**钼丝损耗:**  
**110mm<sup>2</sup>/min速度时, 连续割40万mm<sup>2</sup>, 丝耗≤0.01mm**  
 走丝速度: 可程序设定  
 最大钼丝直径: ≤0.25mm  
 净重: 4500kg  
 最大承载重量: 5000kg  
 主机外形尺寸: 2700×2500×2300mm  
 电消耗功率: ≤0.8kw

### Technical Parameters / HF1000MZQs (WEDM-MS)

Worktable Size: 1540×1140mm  
 Worktable Stroke: 1000×1200mm (driven by servo control)  
 Maximum Cutting Thickness: 600mm (Special custom products)  
 Taper of Cutting Workpiece: ±6°(200mm from the center of the upper and lower guide wheels)  
 Accuracy of Cutting Octagon Workpiece: ≤0.010mm (prism)  
 Optimum Roughness(prism): multiple-cut Ra≤1.0um 50mm<sup>2</sup>/min  
**Using our company's "Thermal Cycle Pump" patented technology for heat dissipation**  
**Actual Maximum Cutting Efficiency:**  
 ≥180mm<sup>2</sup>/min (continuous cutting area over 500,000mm<sup>2</sup>)  
**Electrode Wire Loss:**  
 ≤0.01mm (when the continuous cutting area is up to 400,000mm<sup>2</sup> at a speed of 110mm<sup>2</sup>/min)  
 Wire Speed: adjusted by program  
 Maximum Electrode Wire Diameter: ≤0.25mm  
 Net Weight: 4500kg  
 Maximum Load Weight: 5000kg  
 Outer Diameter Size of Machine Tool: 2700×2500×2300mm  
 Power Consumption of Machine Tool: ≤0.8kw

Due to technical improvement, if any of the above data is changed, the product technical documents shall prevail.



因技术改进, 以上数据如有更改, 以产品技术文件为准。

摇摆大锥度系列  
Large taper series



HF1200MZQs-G17a

技术参数/HF1200AMZQs (中走丝)

工作台面尺寸: 1900×1320mm  
 工作台行程: 1200×1500mm (伺服控制驱动)  
 最大加工厚度: 1000mm (特殊厚度可定制)  
 加工锥度: ±6° (在上下导轮中心距200mm时)  
 八方切割精度: ≤0.015mm (直体)  
 最佳粗糙度(直体): 多次切割Ra≤1.6um 50mm²/min  
**采用华方专利“热泵”散热技术**  
**实用最大切割效率:**  
 ≥180mm²/min (连续切割50万mm²以上)  
**钼丝损耗:**  
**110mm²/min速度时, 连续割40万mm², 丝耗≤0.01mm**  
 走丝速度: 可程序设定  
 最大钼丝直径: ≤0.25mm  
 净重: 6500kg  
 最大承载重量: 5000kg  
 主机外形尺寸: 4200×3800×2500mm  
 电消耗功率: ≤1.2kw

Technical Parameters / HF1200AMZQs (WEDM-MS)

Worktable Size: 1900×1320mm  
 Worktable Stroke: 1200×1500mm (driven by servo control)  
 Maximum Cutting Thickness: 1000mm (Special custom products)  
 Taper of Cutting Workpiece: ±6°(200mm from the center of the upper and lower guide wheels)  
 Accuracy of Cutting Octagon Workpiece: ≤0.015mm(prism)  
 Optimum Roughness(prism): multiple-cut Ra≤1.6um 50mm²/min  
**Using our company's "Thermal Cycle Pump" patented technology for heat dissipation**  
**Actual Maximum Cutting Efficiency:**  
 ≥180mm²/min (continuous cutting area over 500,000mm²)  
**Electrode Wire Loss:**  
**≤0.01mm (when the continuous cutting area is up to 400,000mm² at a speed of 110mm²/min)**  
 Wire Speed: adjusted by program  
 Maximum Electrode Wire Diameter: ≤0.25mm  
 Net Weight: 6500kg  
 Maximum Load Weight: 5000kg  
 Outer Diameter Size of Machine Tool: 4200×3800×2500mm  
 Power Consumption of Machine Tool: ≤1.2kw



Due to technical improvement, if any of the above data is changed, the product technical documents shall prevail.

因技术改进, 以上数据如有更改, 以产品技术文件为准。



HF320D-G13

HF400MD-G17x2

参数(Parameter)	型号(model)	HF320D	HF400D	HF500D	HF630D	HF800D	HF1000D
工作台面尺寸(mm) Worktable Size		690×458	820×568	1054×630	1254×770	1334×850	1540×1140
工作台行程(mm) Worktable Stroke		350×400	450×550	500×800	630×800	800×1000	1000×1200
最大加工厚度(mm) Maximum Cutting Thickness		300	400	600	600	600	600
加工锥度(在上下导轮中心距200mm时) Taper of Cutting Workpiece		30°	60°	60°	60°	60°	60°
净重(kg) Net Weight		1500	1900	2600	3200	3700	4500
最大承载重量(kg) Maximum Load Weight		600	1200	2000	2300	2800	5000
主机外形尺寸(mm) Outer Diameter Size of Machine Tool		1400X1340X1700	1530X1584X1700	2050X2174X2100	2450X2454X2100	2550X2500X2100	2700X2500X2300
八方切割精度(mm) Cutting accuracy		≤0.015 (直体)	≤0.015 (prism)				
最佳粗糙度(直体) Optimum Roughness		一次切割Ra≤2.5um 20mm²/min	Main cutting Ra≤2.5um 20mm²/min				
实用最大切割效率 Maximum Cutting Efficiency		≥180mm²/min (连续切割50万mm²以上)		≥180mm²/min continuous cutting area over 500,000mm²			
钼丝寿命 Electrode wire life		≥100万mm² (120mm²/min连续切割时)		≥1 000 000 mm²(continuous cutting at a speed of 120mm²/min)			
钼丝损耗 Electrode Wire Loss		110mm²/min速度时, 连续割40万mm², 丝耗≤0.01mm Electrode Wire Loss≤0.01mm when the continuous cutting area is up to 400,000mm² at a speed of 110mm²/min					
走丝速度 Wire Speed		可程序设定 adjusted by program					
最大钼丝直径 Maximum Electrode Wire Diameter		≤0.25mm					
电消耗功率 Power Consumption of Machine Tool		≤0.8kw					

因技术改进, 以上数据如有更改, 以产品技术文件为准。

Due to technical improvement, if any of the above data is changed, the product technical documents shall prevail.



# 杭州华方 速度之王® 各型中走丝电控柜

## 型号说明 Model Description



WEDM-MS Electric control cabinet of HZHF

Servo control drive  
The year of determining this model  
G: Three-dimensional computer programming control cabinet



### G17X1 [G13T]

采用“热泵”散热技术 专利号：ZL201220694371.0  
Using our company's "Thermal Cycle Pump" patented technology for heat dissipation  
Patent: No: ZL201220694371.0

### G17 [G17a, G17as]

采用“热泵”散热技术 专利号：ZL201220694371.0  
Using our company's "Thermal Cycle Pump" patented technology for heat dissipation  
Patent: No: ZL201220694371.0

### G17x1 [G13T] 型电控柜 Type electric control cabinet

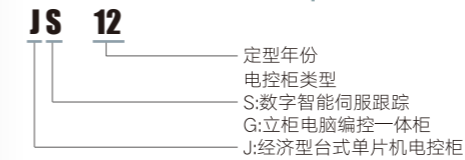
自动编程  
从图形直接进入加工，带修刀功能  
可兼容国际标准ISO代码方式控制，可接受其他CAD代码  
加工轨迹实时跟踪显示  
4轴联动，锥度、上下异形切割  
掉电、断丝自动保护功能  
加工结束停机，有白班停（有人停）机方式、夜班停（无人停）机方式  
变频器配置，可调速加工、低速上丝（替代手摇）  
采用先进的无电阻步进电机驱动电路，稳定节能  
结构简洁，集强弱电控制为一体（包括机床电器）  
“热泵”技术自动散热  
Automatic programming system  
• From the graphical interface directly into the processing interface,with multiple cutting functions  
• Control methods are compatible with international standard ISO codes and accept other CAD codes  
• Processing trajectory can be displayed in real time  
• Cut taper and top and bottom shaped workpiece with 4-axis linkage  
• Power interruption and broken wire protection measures  
• Stop the machine tool when machining ends, There are two modes of manual and automatic shutdown  
• Inverter configuration,processing at different wire speed ,install wire at a low wire speed (instead of manual operation)  
• Adopt advanced resistance-free stepper motor drive circuit, Stable and energy-saving  
• Simple structure,integrate strong and weak electricity(including machine tool appliances)  
• "Thermal Cycle Pump" technology for automatic cooling

### G17 型电控柜 Type electric control cabinet

放电波形实时控制/数字智能伺服跟踪  
Autocut自动编程  
从图形直接进入加工，带修刀功能  
可兼容国际标准ISO代码方式控制，可接受其他CAD代码  
加工轨迹实时跟踪显示  
4轴联动，锥度、上下异形切割  
掉电、断丝自动保护功能  
加工结束停机，有白班停（有人停）机方式、夜班停（无人停）机方式  
加工结束钼丝自动停边功能  
变频器配置，可调速加工、低速上丝（替代手摇）  
采用先进的无电阻步进电机驱动电路，稳定节能  
“热泵”技术自动散热  
可开通锁机功能  
型号中有“s”的为伺服控制驱动、带手提操控盒  
Control the discharge waveform in real time / Digital intelligent servo tracking  
• AUTOCUT automatic programming system  
• From the graphical interface directly into the processing interface,with multiple cutting functions  
• Control methods are compatible with international standard ISO codes and accept other CAD codes  
• Processing trajectory can be displayed in real time  
• Cut taper and top and bottom shaped workpiece with 4-axis linkage  
• Power interruption and broken wire protection measures  
• Stop the machine tool when machining ends, There are two modes of manual and automatic shutdown  
• Stop automatically on the side of the wire tube when machining ends  
• Inverter configuration,processing at different wire speed ,install wire at a low wire speed (instead of manual operation)  
• Adopt advanced resistance-free stepper motor drive circuit, Stable and energy-saving  
• "Thermal Cycle Pump" technology, automatic cooling  
• Configure lock function  
• Models with "s" for servo drive and handheld Box

# 杭州华方 速度之王® 各型中走丝电控柜

## 型号说明 Model Description



WEDM-MS Electric control cabinet of HZHF

The year of determining this model  
The types of the electric control cabinet  
S: Digital intelligent servo tracking  
G: Three-dimensional computer programming control cabinet  
J: Economical benchtop microcontroller electric control cabinet



### J12 [JS12]

采用“热泵”散热技术 专利号：ZL201220694371.0  
Using our company's "Thermal Cycle Pump" patented technology for heat dissipation  
Patent: No: ZL201220694371.0

### G13 [G13s]

采用“热泵”散热技术 专利号：ZL201220694371.0  
Using our company's "Thermal Cycle Pump" patented technology for heat dissipation  
Patent: No: ZL201220694371.0

### J12 [JS12] 型电控柜 Type electric control cabinet

放电波形实时控制/数字智能伺服跟踪  
可进行直体、锥度、简单异形切割  
可键入或接收2000条以上指令代码  
高速代码校对功能  
切割控制与输入指令可同时进行  
采用新型单片IC电路、适用工业环境长期工作  
控制半径达10M  
掉电、断丝自动保护功能  
加工结束停机，有白班停（有人停）机方式、夜班停（无人停）机方式  
集数控、放电电源、机床控制为一体  
独特的安装结构，维修方便  
采用先进的无电阻步进电机驱动电路，稳定节能  
“热泵”技术自动散热  
Control the discharge waveform in real time / Digital intelligent servo tracking  
• Can cut workpiece with prism、taper and simple top and bottom shape  
• Can input or receiveover 2000 codes  
• Fast code proofing function  
• Control cutting and input command simultaneously  
• Using a new monolithic IC circuit for long term operation in industrial environments  
• Control radius up to 10 meters  
• Power interruption and broken wire protection measures  
• Stop the machine tool when machining ends, There are two modes of manual and automatic shutdown  
• Integrated CNC, discharge power, machine control as a whole  
• Unique mounting structure for easy maintenance  
• Adopt advanced resistance-free stepper motor drive circuit, Stable and energy-saving  
• "Thermal Cycle Pump" technology, automatic cooling

### G13 型电控柜 Type electric control cabinet

放电波形实时控制/数字智能伺服跟踪  
HL自动编程  
可兼容国际标准ISO代码方式控制，可接受其他CAD代码  
加工轨迹实时跟踪显示  
4轴联动，锥度、上下异形切割  
掉电、断丝自动保护功能  
加工结束停机，有白班停（有人停）机方式、夜班停（无人停）机方式  
加工结束钼丝自动停边功能  
变频器配置，可调速加工、低速上丝（替代手摇）  
采用先进的无电阻步进电机驱动电路，稳定节能  
结构简洁，集强弱电控制为一体（包括机床电器）  
“热泵”技术自动散热  
型号中有“s”的为伺服控制驱动、带手提操控盒  
Control the discharge waveform in real time / Digital intelligent servo tracking  
• HL automatic programming system  
• Control methods are compatible with international standard ISO codes and accept other CAD codes  
• Processing trajectory can be displayed in real time  
• Cut taper and top and bottom shaped workpiece with 4-axis linkage  
• Power interruption and broken wire protection measures  
• Stop the machine tool when machining ends, There are two modes of manual and automatic shutdown  
• Stop automatically on the side of the wire tube when machining ends  
• Inverter configuration processing at different wire speed ,install wire at a low wire speed (instead of manual operation)  
• Adopt advanced resistance-free stepper motor drive circuit, stable and energy-saving  
• Simple structure,integrate strong and weak electricity(including machine tool appliances)  
• "Thermal Cycle Pump" technology, automatic cooling  
• Models with "s" for servo drive and handheld Box

## 快走丝系列

WEDM-HS series

## P型中丝系列

P type WEDM-MS series



参数(Parameter)	型号(model)	HF200	HF320Z	HF400Z	HF500Z	HF500AZ	HF630Z	HF800Z	HF1000Z	
工作台面尺寸(mm) Worktable Size		430×290	690×458	820×568	910×588	1054×630	1254×770	1334×850	1540×1140	
工作台行程(mm) Worktable Stroke		200×250	350×450	450×550	500×630	500×800	630×800	800×1000	1000×1200	
最大加工厚度(mm) Maximum Cutting Thickness		100	350	350	350	600	600	600	600	
加工锥度(在上下导 轮中心距200mm时) Taper of Cutting Workpiece		0°	±6°	±6°	±6°	±6°	±6°	±6°	±6°	
净重(kg) Net Weight		600	1400	1800	2000	2600	3200	3700	4500	
最大承载重量(kg) Maximum Load Weight		100	600	1200	1300	2000	2300	2800	5000	
主机外形尺寸(mm) Outer Diameter Size of Machine Tool		1000×700×850	1400×1340×1600	1530×1584×1700	1580×1700×1700	2050×2174×2100	2450×2454×2100	2550×2500×2100	2700×2500×2300	
八方切割精度(mm) Cutting accuracy		≤0.015 (直体)		≤0.015 (prism)						
最佳粗糙度(直体) Optimum Roughness		一次切割Ra≤2.5um 20mm <sup>2</sup> /min		Main cutting Ra≤2.5um 20mm <sup>2</sup> /min						
实用最大切割效率 Maximum Cutting Efficiency		≥180mm <sup>2</sup> /min (连续切割50万mm <sup>2</sup> 以上)			≥180mm <sup>2</sup> /min continuous cutting area over 500,000 mm <sup>2</sup>					
钼丝寿命 Electrode wire life		≥100万mm <sup>2</sup> (120mm <sup>2</sup> /min连续切割时)			≥1 000 000 mm <sup>2</sup> (continuous cutting at a speed of 120mm <sup>2</sup> /min)					
钼丝损耗 Electrode Wire Loss		110mm <sup>2</sup> /min速度时, 连续割40万mm <sup>2</sup> , 丝耗≤0.01mm Electrode Wire Loss≤0.01mm when the continuous cutting area is up to 400,000mm <sup>2</sup> at a speed of 110mm <sup>2</sup> /min								
走丝速度 Wire Speed		可程序设定或11.6m/s adjusted by program or 11.6m/s								
最大钼丝直径 Maximum Electrode Wire Diameter		≤0.25mm								
电消耗功率 Power Consumption of Machine Tool		≤0.8kw								

因技术改进, 以上数据如有更改, 以产品技术文件为准。

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参数(Parameter)	型号(model)	HF200M	HF320MZP	HF400MZP	HF500MZP	HF500AMZP	HF630MZP	HF800MZP	HF1000MZP	
工作台面尺寸(mm) Worktable Size		430×290	690×458	820×568	910×588	1054×630	1254×770	1334×850	1540×1140	
工作台行程(mm) Worktable Stroke		200×250	350×450	450×550	500×630	500×800	630×800	800×1000	1000×1200	
最大加工厚度(mm) Maximum Cutting Thickness		100	400	400	400	600	600	600	600	
加工锥度(在上下导 轮中心距200mm时) Taper of Cutting Workpiece		0°	±6°	±6°	±6°	±6°	±6°	±6°	±6°	
净重(kg) Net Weight		600	1400	1800	2000	2600	3200	3700	4500	
最大承载重量(kg) Maximum Load Weight		100	600	1200	1300	2000	2300	2800	5000	
主机外形尺寸(mm) Outer Diameter Size of Machine Tool		1000×700×850	1400×1340×1600	1530×1584×1700	1580×1700×1700	2050×2174×2100	2450×2454×2100	2550×2500×2100	2700×2500×2300	
八方切割精度(mm) Cutting accuracy		≤0.010 (直体)		≤0.010 (prism)						
最佳粗糙度(直体) Optimum Roughness		多次切割Ra≤1.5um 70mm <sup>2</sup> /min		Multiple cuts Ra≤1.5um 70mm <sup>2</sup> /min						
实用最大切割效率 Maximum Cutting Efficiency		≥180mm <sup>2</sup> /min								
走丝速度 Wire Speed		可程序设定 adjusted by program								
最大钼丝直径 Maximum Electrode Wire Diameter		≤0.25mm								
电消耗功率 Power Consumption of Machine Tool		≤0.8kw								

因技术改进, 以上数据如有更改, 以产品技术文件为准。

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