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# RECTIFIER DC POWER SUPPLY

**PROFESSIONAL SOLUTION PROVIDER  
FOR INDUSTRIAL POWER**

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GUANGDONG QEEHUA INDUSTRY EQUIPMENT CO., LTD.



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2025.10.12

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# 40+

Countries and Regions Covered

# 10,000+

Number of Customers

# 90+

Number of Patents

# 100+

Number of Employees

# 30+

Number of Self-Developed Products

**STABLE**

**EFFICIENT**

**HIGH CURRENT**

**ULTRA-LOW RIPPLE**

## ABOUT US

GUANGDONG QEEHUA INDUSTRY EQUIPMENT CO., LTD. is a leading manufacturer and national high-tech enterprise dedicated to the R&D, design, and manufacturing of corrosion-resistant chemical pumps, filters, and rectifiers (DC power supplies).

QEEHUA's rectifier product line includes high-frequency switching power supplies, synchronous rectifier power supplies, pulse power supplies and specialty industrial power supplies, which are widely used in such fields as electrolytic copper foil production, new energy storage, PCB, electroplating, electrolysis, electrochemistry, smelting, etc.

QEEHUA focuses on technological innovation and energy-saving development. It has provided new energy-saving products and systematic energy-saving solutions for multiple industries, winning wide recognition.

QEEHUA also provides a one-stop solution of "rectifiers + chemical pumps + filters" to help customers cut comprehensive costs.





# HISTORY

## OUR HISTORY

2010

### First-Generation Thyristor Rectifier (One-to-Many)

50Hz Industrial Frequency Transformer  
Large Volume, High Loss, Low Power Factor



2012

### Second-Generation High-Frequency Switching Rectifier

Integrated Design  
Schottky Rectification  
Power Factor Significantly Higher Than Thyristor Type



2014

### Third-Generation Synchronous Rectifier

MOSFET Rectification  
Efficiency: 88-90%  
Modular Design  
Online Hot Maintenance, Significantly Reduced Downtime



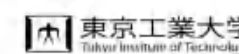
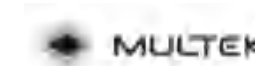
2018

### Multi-Unit Modular Parallel Rectifier

Full Soft-Switching Technology, Automatic Compensation  
Patented Cabinet Structure and Rectifier Module Design  
Adopts MOSFET Synchronous Rectification  
Efficiency Approaching 95%,  
Optional APFC Configuration to Solve Harmonic Issues



## COOPERATION BRAND





# MARKETING AREAS



**Our market covers over 40 countries**

# OUR CERTIFICATES



The recognition of professional institutions explains the continuous investment of Qeehua in products and technologies. After ten years of hard work, Qeehua Pump is accelerating to stand out in the subdivision of acid and alkali resistant chemical pumps.

Through nearly ten years' efforts, Qeehua Pump has won honors evaluated by many platforms and institutions, obtained the copyright registration certificate of the domestic copyright administration, government procurement access, domestic manufacturing network certification suppliers and other qualifications, and won the domestic recognition of high-tech companies.





# APPLILCATION FIELD

Printed Circuit Boards



Surface Treatment Industry



Electrolytic Copper Foil



Hydrogen Production by  
Electrolysis



Petroleum Refining



Environmentally Friendly Water  
Treatment



Photovoltaic Industry



Rare Earth Smelting



## Main applications of the company's products

● New Energy

● Surface Treatment

● Electrolysis

● Electrochemistry

● Smelting

● Communication

## PROJECTS CASE



New energy-copper foil  
Synchronous Rectifier-50ka



New energy-lithium copper foil  
Synchronous rectifier-60KA



Hydrogen production field  
Synchronous Rectifier -3000A/12V



PCB plating -tin, copper  
Dua water cooled Synchronous  
Rectifier



Photovoltaic field-continuous plating  
Carborundum plating Rectifier



Metal Plating Synchronous power  
supply 300A/12V



# PROJECTS CASE



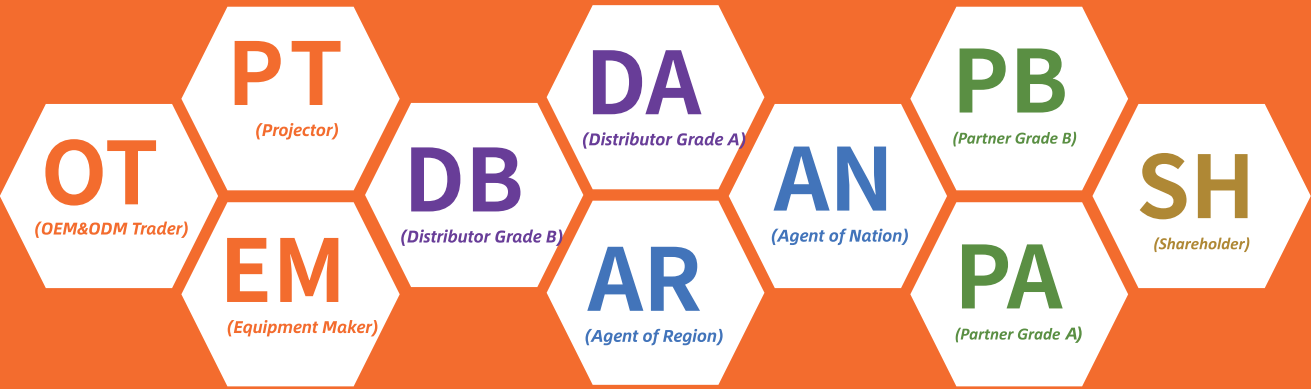
ABS plating (automotive parts)  
Synchronous Rectifier



PCB plating  
Dual water-cooled  
synchronous Rectifier

# PARTNERSHIP MODELS

Partnership models-Ten different choices



Hope to find win-win and long-term cooperation way with you

# PRODUCT CONTENTS

Smart Rectifier Solutions for Modern Industry.





Model Naming Rules

XX	X	X	-	0	*	0000A/00V	-	0	X	-	X	X	-	XXX
①	②	③		④		⑤		⑥	⑦		⑧	⑨		⑩
①	Category		SY - synchronization				SC - schottky							
②	Frequency		H - high Frequency											
③	Output		S - single				M - Dual(multiple) Outputs							
④	Output Group		1, 2, 4											
⑤	Power		Current A/Voltage V											
⑥	Transformer Banks		1, 2, 3											
⑦	Transformers		P-ring Type				U - skeleton							
⑧	Cooling		W - Water Cooled				A - air- cooled							
⑨	Chassis		A, B, C											
⑩	Special Instructions		Industry, Type											



QE - SYHM - A Series Air Cooled  
Modular Rectifier



QE - SYHM - W Series Water Cooled  
Modular Rectifier



QE-SYHS-W Series Water Cooled  
Synchronous Rectifier



QE - SYHM - W Series Dual Water Cooled  
Synchronous Rectifier



QE - SYHS - A Series Air Cooled  
Synchronous Rectifier



QE - SCHA - A Series Air Cooled  
High - Frequency Rectifier

# QE-SYHM-W Series

## Water Cooled Modular Rectifier

### Applications:

- Electrolysis
- Electrolytic Copper Foil
- Electrolytic Aluminum Foil
- Plating
- Metal Plating
- Chrome Plating
- Anodizing
- Any requiring large currents



FI (Fully Insured) Control System

### Product Characteristics



#### Fully sealed protection, flexible placement

Compared to traditional air-cooled models, the product is completely enclosed internally, with strict protection levels ensuring that MST can adapt to various harsh application environments. It can be directly installed near the plating tank, significantly reducing the cost of connecting copper busbars and cables, and minimizing power loss. The internal circuit board is fully coated with acid-fog-proof "three-proof" adhesive, making electronic components less susceptible to environmental corrosion and enhancing product stability.



#### Cutting-edge synchronous rectification technology, with energy saving as the top priority

The full synchronous rectification technology uses high-performance, low on-resistance MOSFETs as rectifying devices, with a conversion efficiency that can reach up to 93%, showing excellent performance in energy saving and electricity conservation. An integrated electricity meter can also be optionally installed to accurately calculate the energy-saving effect.

The patented synchronous module components, intelligent driving and protection circuit boards are electrically connected with MOSFET chip arrays, achieving real-time feedback and dynamic balance, effectively reducing circuit losses and improving overall efficiency. Compared to traditional high-frequency switching power supplies and SCR rectifiers, the efficiency can be increased by 12%-20%.



#### No-delay hot backup technology

With no reaction delay time hot backup technology, multiple machines work in parallel at the same frequency and phase. When a unit within the system fails, the remaining units can quickly bring the total output current to the set level and stabilize it (time < 30ms).



#### Hot maintenance without downtime

Using an N+X redundancy backup system, when a module fails, the system automatically removes the faulty unit, and other modules share the current of the failed unit, keeping the total output voltage and current unchanged. At the same time, the faulty module can be removed for maintenance, greatly enhancing the reliability of the power supply.



#### High-precision integrated control motherboard

A high-density main control board design with comprehensive protection functions ensures that the main components of the switching power supply operate stably within a safe range. Fully digital networked control ensures highly stable output current.

### Technical Parameter

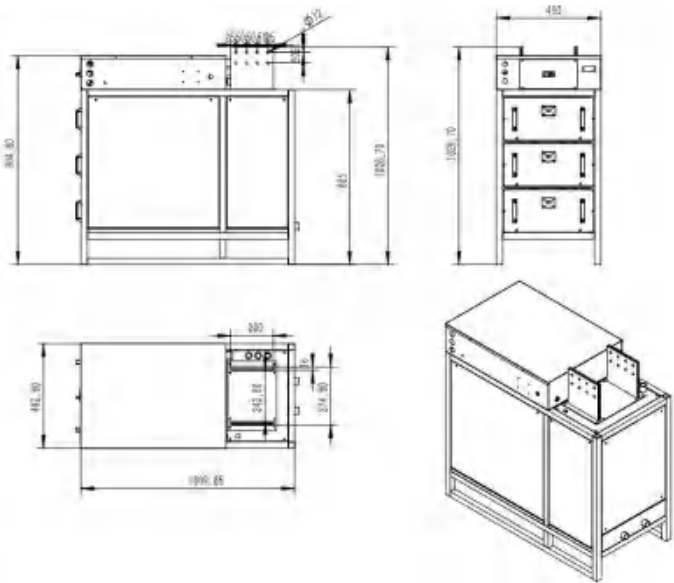
Parameter Information	Technical Requirements	Parameter Information	Technical Requirements
Input Voltage	3-Phase 380VAC $\pm$ 10%	Place of Use	Indoor, No Direct Sunlight
Voltage Regulation Accuracy	1% or Less	Altitude	Below 3000m
Steady Flow Accuracy	1% or Less	Output Voltage	0-12V Adjustable Linear
Power Factor	PF $\geq$ 0.95(Under Rated Working Conditions)	Output Current	0-20000A Adjustable Linear
Regulation Mode	RS485 Communication, Remote Controller	Temperature Environment	-20 $^{\circ}$ C - 45 $^{\circ}$ C
Protection Mode	Over Temperature, Over Current, Lack Of Phase	Control Mode	CC & CV
Conversion Efficiency	93%(Under Rated Conditions)	Current Ripple	1% or Less

\* Specifications can be customized according to the needs of the service

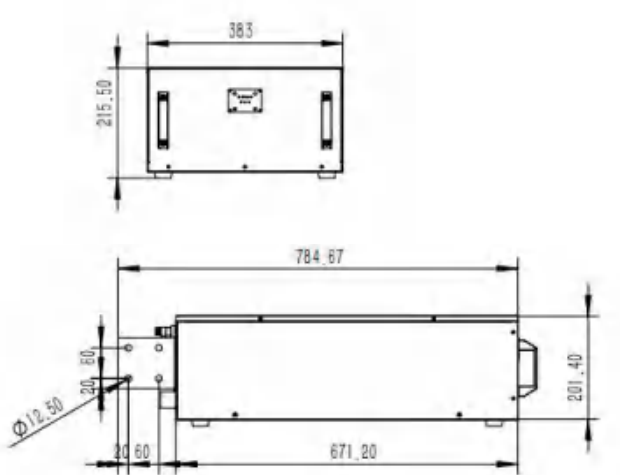
### Size Specification

Specification and Model	W(mm)	D(mm)	H(mm)
4000A-6000A/0V-12V	473	676	729.2
6000A-9000A/0V-12V	493	1009.85	984.8
9000A-12000A/0V-12V	493	1009.85	1307.8

#### ● Three - Layer Module Body Size (6000A - 9000A)



#### ● Single Module Size(3000A)





# QE - SYHS - W Series

## Water Cooled Synchronous Rectifier

### Applications:

It is relatively versatile and applicable to various industries, such as electroplating, electrolysis, and anodizing etc.



### Product Characteristics



Chimeric strict closed structure to cope with acid and alkali gas and liquid intrusion, electronic control system coated with anti-acid anti-fog three anti-adhesive, to ensure that the equipment can cope with a variety of industrial environments.



Using a new type of rectifier device, the voltage drop is only 0.1 - 0.2V, which greatly improves the rectification efficiency and has excellent energy saving effect.



Full digital communication system, support RS485 & 232, Modbus, remote controller and other communication methods.



Power redundancy design allows full saturation operation and overclocking (exceeding rated current) operation in certain cases.



The unique cooling system of Jiutian power makes the power supply small, lightweight, and greatly reduces the front size to improve the space utilization rate.



Double return flow heat dissipation structure, patented design, greatly reduce the body and copper heat, reduce heat loss, and further improve the rectification efficiency.

### Technical Parameter

Parameter Information	Technical Requirements	Parameter Information	Technical Requirements
Input Voltage	3-Phase 380VAC ± 10%	Place of Use	Indoor, No Direct Sunlight
Voltage Regulation Accuracy	1% or Less	Altitude	Below 2500 m
Steady Flow Accuracy	1% or Less	Output Voltage	0-12V/0-24V Adjustable Linear
Power Factor	PF≥0.95(Under Rated Working Conditions)	Output Current	0-2000A Adjustable Linear
Regulation Mode	RS485 Communication, Remote Controller	Temperature Environment	-20 °C - 45 °C
Protection Mode	Over Temperature, Over Current, Lack Of Phase	Control Mode	CC & CV
Conversion Efficiency	≥93% (Maximum Efficiency 95%)	Current Ripple	1% or Less
Health Status	Long - term Full Load Continuous Operation	Class of Protection	Maximum IP54

\* Specifications can be customized according to the needs of the service

### Size Specification

Specification and Model	W(mm)	D(mm)	H(mm)
0-400A/0V-12V	234	330	203
400-600A/0V-12V	222.9	370	254.5
600A-1200A/0V-12V	263	426.2	232.3
1500A-2000A/0V-12V	383	587.7	202
2500A-3000A/0V-12V	383	667.7	202
3000A-4000A/0V-12V	383	817.7	202

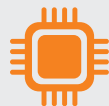
# QE - SYHM - A Series

## Air Cooled Modular Rectifier

Applications:  
Electrolysis  
Electrolytic Copper Foil  
Electrolytic Aluminum Foil  
Plating  
Metal Plating  
Chrome Plating  
Anodizing  
Any requiring large currents



### Product Characteristics



Adopt new four-channel IGBT technology structure.



Improve the reliability of plating production operation: the rectifier is designed with the mode of N+1, all modules are involved in the work under normal conditions, if the equipment fails, the power supply will not stop, the system will automatically reduce the current operation and exit the faulty unit, without affecting the production.



Easy to maintain all module units in general, only need to back up a small number of module units can freely replace the faulty module, so that the maintenance is relatively easy and fast.



Network digital control system, each module unit are microprocessor as the control core, the main use of software programs to achieve automatic equalization control scheme, flexible control, high precision, fast current response, high reliability.



The main control circuit board adopts advanced Japanese imported sealing and potting glue sealing design method to resist acid and alkali, and can be placed directly next to the plating tank.



The whole power supply system adopts intelligent total line structure to realize module hot-swapping, equal-current control \fault detection \fault information display function, and the user control interface is simple and convenient to operate.

### Technical Parameter

Parameter Information	Technical Requirements	Parameter Information	Technical Requirements
Input Voltage	3-Phase 380VAC $\pm$ 10%	Place of Use	Indoor, No Direct Sunlight
Voltage Regulation Accuracy	< 1%	Altitude	Below 2500 m
Steady Flow Accuracy	< 1%	Output Voltage	0-12V/0-24V Adjustable Linear
Power Factor	PF $\geq$ 0.95(Under Rated Working Conditions)	Output Current	0-10000A Adjustable Linear
Regulation Mode	RS485 Communication, Remote Controller	Temperature Environment	-20 $^{\circ}$ C - 45 $^{\circ}$ C
Protection Mode	Over Temperature, Over Current, Lack Of Phase	Control Mode	CC & CV
Conversion Efficiency	$\geq$ 93% (Rated Output $\geq$ 50%)	Current Ripple	1% or Less

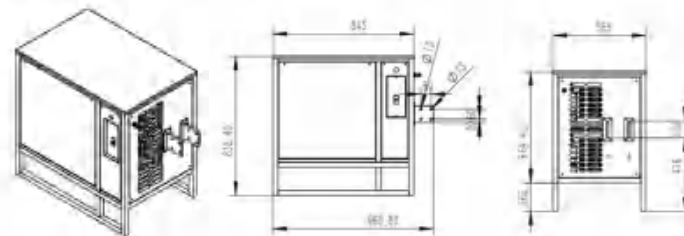
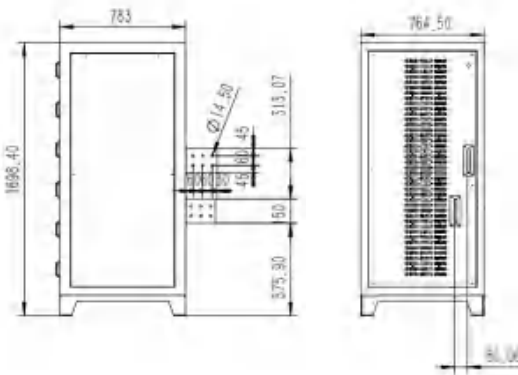
\* Specifications can be customized according to the needs of the service

### Size Specification

Specification and Model	W(mm)	D(mm)	H(mm)
0-600A/0V-12V	343	413	219.2
600A-1000A/0V-12V	386	515	223
1000A-1500A/0V-12V	453	631.5	286
3000A/12V	555	843	832.4
5000A/12V	764.5	783	1450.4
6000A/12V	764.5	783	1698.4

● (6000A/12V)

● (3000A/12V)





# QE - SYHS - A Series

Air Cooled Synchronous Rectifier

Applications:

- Continuous plating
- Precision plating
- Wafer plating
- Precious metal plating
- Electronic component plating
- Any requiring small currents



## Product Characteristics



Patented heat dissipation structure design, significantly reducing the impact of heat loss.



Internal circuit boards coated with acid and fog - proof "three - proof" adhesive, protecting the equipment for stable operation.



Compact, lightweight, and flexible placement.



Adoption of new rectification devices, with a voltage drop of only 0.1-0.2V, greatly improving rectification efficiency and offering excellent energy - saving effects.



Fully digital communication system, supporting various communication methods including RS485 & 232, Modbus, and remote controllers.

We are offering the world's leading power solutions - all to build more enduring value

Stable · Efficient · Cost-Friendly · Energy-Saving

## Technical Parameter

Parameter Information	Technical Requirements	Parameter Information	Technical Requirements
Input Voltage	3-Phase 380VAC ± 10%	Place of Use	Indoor, No Direct Sunlight
Voltage Regulation Accuracy	1% or Less	Altitude	Below 2500 m
Steady Flow Accuracy	1% or Less	Output Voltage	0-12V/0-36V Adjustable Linear
Power Factor	PF≥0.95(Under Rated Working Conditions)	Output Current	0-500A Adjustable Linear
Regulation Mode	RS485 Communication, Remote Controller	Temperature Environment	-20 °C - 45 °C
Protection Mode	Over Temperature, Over Current, Lack Of Phase	Control Mode	CC & CV
Conversion Efficiency	≥90% or Higher	Current Ripple	3% or Less
Health Status	Long - term Full Load Continuous Operation	Class of Protection	Forced Air Cooling, Self-Cooling

\* Specifications can be customized according to the needs of the service

## Size Specification

W(mm)	D(mm)	H(mm)	Weight(KG)
428	430	155	13

# QE - SCHS - A Series

## Air Cooled High - Frequency Rectifier

### Applications:

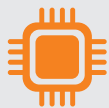
- Other PCB processes
- PCB etching
- Copper deposition
- PCB desmearing



### Product Characteristics



Ultra-low ripple coefficient, high current accuracy and high uniformity of plating.



Adopting new four-channel IGBT technology structure modularized parallel technology output current.



High power factor, high efficiency, energy-saving and environmental protection products.



The main control circuit board adopts advanced Japanese imported sealing and potting glue sealing design method to resist acid and alkali, and can be placed directly in each corner of the plating tank.



Built-in soft-start, over-temperature, over-voltage, overload, short-circuit and current-limit protection functions.



The control system adopts international RS485 network control, Profibus-DP, network control and Device Net, AD/DA control, standard 4 - 20MA control function.

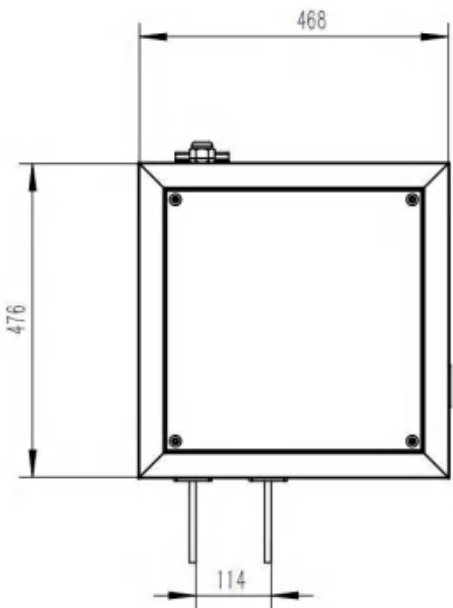
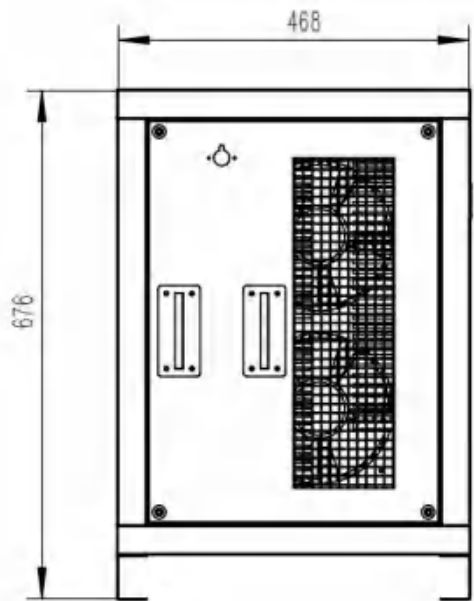
### Technical Parameter

Parameter Information	Technical Requirements	Parameter Information	Technical Requirements
Input Voltage	3-Phase 380VAC $\pm$ 10%	Place of Use	Indoor, No Direct Sunlight
Voltage Regulation Accuracy	1.5% or Less	Altitude	Below 2500 m
Steady Flow Accuracy	1.5% or Less	Output Voltage	0-12V, 0-24V Adjustable Linear
Power Factor	PF $\geq$ 0.9(Under Rated Working Conditions)	Output Current	0-2000A Adjustable Linear
Regulation Mode	RS485 Communication, Remote Controller	Temperature Environment	-20 $^{\circ}$ C - 45 $^{\circ}$ C
Protection Mode	Over Temperature, Over Current, Lack Of Phase	Control Mode	CC & CV
Conversion Efficiency	88% (Id $\geq$ 50%)	Current Ripple	3% or Less

\* Specifications can be customized according to the needs of the service

### Size Specification

W(mm)	D(mm)	H(mm)	Weight(KG)
468	476	676	72





# QE - SYHM - W Series

## Dual Water Cooled Synchronous Rectifier

### Applications:

- PCB industry
- Copper plating
- Vertical continuous plating
- Pattern plating
- Panel plating



### Product Characteristics



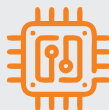
Ultra - low ripple coefficient, high current accuracy and high uniformity of plating.



High frequency 85KHZ, small volume, light weight, beautiful shape.



High power factor, high efficiency, energy - saving and environment - friendly products.



The power module adopts advanced Japanese imported sealing and potting glue sealing design method to resist acid and alkali, and can be placed directly in every corner of the plating tank.



Built - in soft - start, over - temperature, over - voltage, overload, short - circuit and current - limit protection functions.



The control system adopts international RS485 network control, Profibus - DP, network control as well as Device Net, AD/DA control, and standard 4 - 20MA control function.



Synchronous rectifier output current technology uses electric power (MOSFET) with very low pass - state resistance to replace rectifier diodes, which can greatly reduce the voltage drop loss of rectifier circuit (0.1V - 0.2V) and improve the efficiency of DC/DC converter by more than 94%.



Ultra - low ripple and high frequency design solutions effectively improve the UHF switching power supply required for vertical continuous plating (VCP) line configuration, and the uniformity of plating can reach more than 96%.



Rectifier control output current using dual output distribution, promote VCP plating tank A/B two sides of the same current, current distribution is very uniform, solve the traditional A/B side of the current error problem (the original current distribution is dependent on the cable or copper conductive resistance to determine the size of the current distribution, the error range of more than 10% or more), double output rectifier row of electricity distribution is independent control, A side 400A B Side 400A, dual output rectifier current distribution error range of 1% or less).

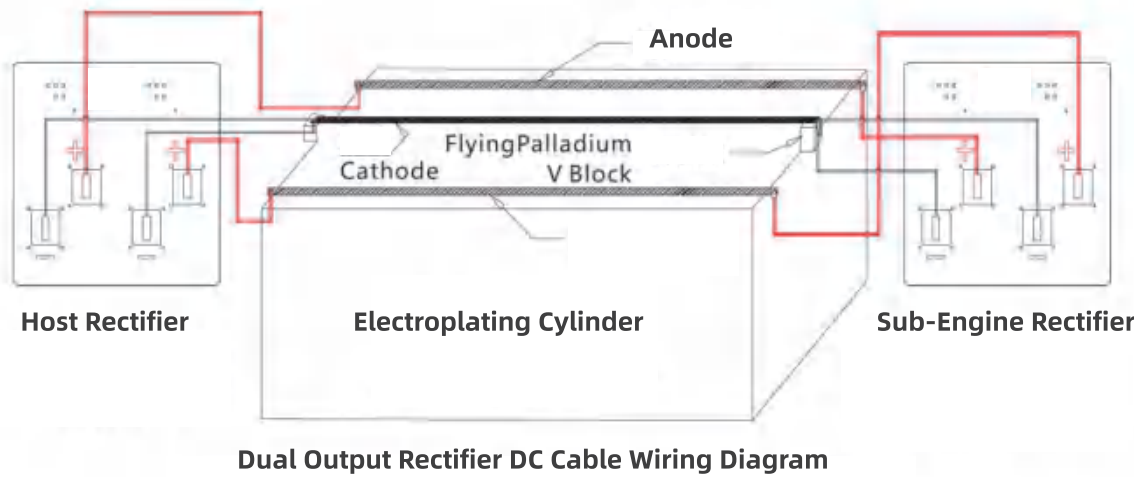
### Technical Parameter

Parameter Information	Technical Requirements	Parameter Information	Technical Requirements
Input Voltage	3-Phase 380VAC $\pm$ 10%	Place of Use	Indoor, No Direct Sunlight
Voltage Regulation Accuracy	1% or Less	Altitude	Below 2500 m
Steady Flow Accuracy	1% or Less	Output Voltage	0-12V Adjustable Linear
Power Factor	PF $\geq$ 0.95(Under Rated Working Conditions)	Output Current	0-1000A Adjustable Linear
Regulation Mode	RS485 Communication, Remote Controller	Temperature Environment	-20 $^{\circ}$ C - 45 $^{\circ}$ C
Protection Mode	Over Temperature, Over Current, Lack Of Phase	Control Mode	CC & CV
Conversion Efficiency	$\geq$ 93% (Maximum Efficiency 95%)	Current Ripple	1% or Less
Health Status	Long - term Full Load Continuous Operation	Class of Protection	Maximum Ip54

\* Specifications can be customized according to the needs of the service

### Size Specification

Specification and Model	W(mm)	D(mm)	H(mm)
0-400A/0V-12V	247	506.2	200
400-600A/0V-12V	247.7	463	253





# RECTIFIER DC POWER SUPPLY

PROFESSIONAL SOLUTION PROVIDER  
FOR INDUSTRIAL POWER

