

# DC High Voltage Stabilization Power Supply 直流高压安定化电源

## Thyristor control type 晶闸管控制型

### Application 用途

- For large-scale ion acceleration  
大型离子加速用
- For large-scale physicochemistry experiment  
大型理化实验用
- For large-scale particle acceleration  
大型粒子加速用
- For other large-scale DC high-voltage power supplies  
其他大型直流高压电源用



#### YHPS-1K-2AS

|                        |                                                             |
|------------------------|-------------------------------------------------------------|
| Output voltage<br>输出电压 | 0 ~ 1kV                                                     |
| Output current<br>输出电流 | 0 ~ 2A                                                      |
| Ripple<br>纹波           | 5% p-p                                                      |
| Input<br>输入电源          | Three phase 50/60Hz<br>※ V ± 10%<br>三相 50/60Hz<br>※ V ± 10% |



#### YHPS-1K-10AS

|                        |                                                             |
|------------------------|-------------------------------------------------------------|
| Output voltage<br>输出电压 | 0 ~ 1kV                                                     |
| Output current<br>输出电流 | 0 ~ 10A                                                     |
| Ripple<br>纹波           | 10% p-p                                                     |
| Input<br>输入电源          | Three phase 50/60Hz<br>※ V ± 10%<br>三相 50/60Hz<br>※ V ± 10% |
| Dimension<br>尺寸        | W600 × D700 × H1300 mm                                      |

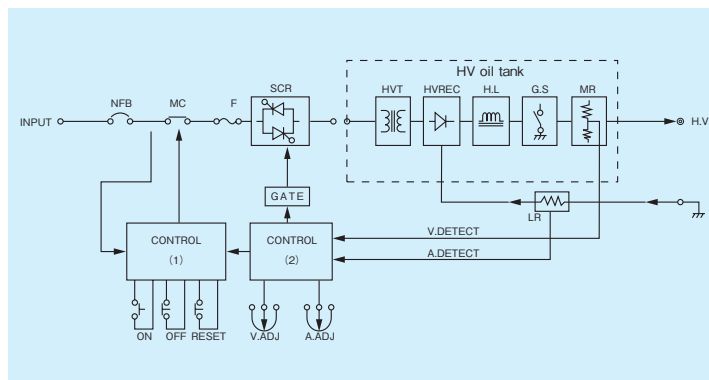


#### YHPS-10K-1.6ASR

|                         |                                                                                                                                                               |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output voltage<br>输出电压  | 0 ~ 10kV                                                                                                                                                      |
| Output current<br>输出电流  | 0 ~ 1.6A                                                                                                                                                      |
| Stable accuracy<br>稳定精度 | Less than ± 0.5% ( For voltage variation ± 10% )<br>Less than ± 0.5% ( For load variation 30 ~ 100% )<br>对电压变动 ± 10%, 小于 ± 0.5%<br>对负载变动 30 ~ 100%, 小于 ± 0.5% |
| Ripple<br>纹波            | 100Vp-p                                                                                                                                                       |
| Input<br>输入电源           | Three phase 50/60Hz ※ V ± 10%                                                                                                                                 |
| Dimension<br>尺寸         | W700 × D800 × H1600 mm                                                                                                                                        |

※ Rating Voltage 额定电压

### Block diagram 结构图



#### YHPS-15K-2ASRP

|                         |                                                                                                                            |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Output voltage<br>输出电压  | 0 ~ 15kV                                                                                                                   |
| Stable accuracy<br>稳定精度 | ± 0.5% ( For voltage variation ± 10% )<br>0.5% ( For load variation ± 10% )<br>对电压变动 ± 10%, 小于 ± 0.5%<br>对负载变动 ± 10%, 0.5% |
| Ripple<br>纹波            | 75Vp-p 以下 / 15kV2A 时                                                                                                       |
| Output current<br>输出电流  | 0 ~ 2A                                                                                                                     |
| Input<br>输入电源           | Three phase 50/60Hz ※ V ± 10%                                                                                              |
| Dimension<br>尺寸         | W800 × D750 × H1000 mm                                                                                                     |

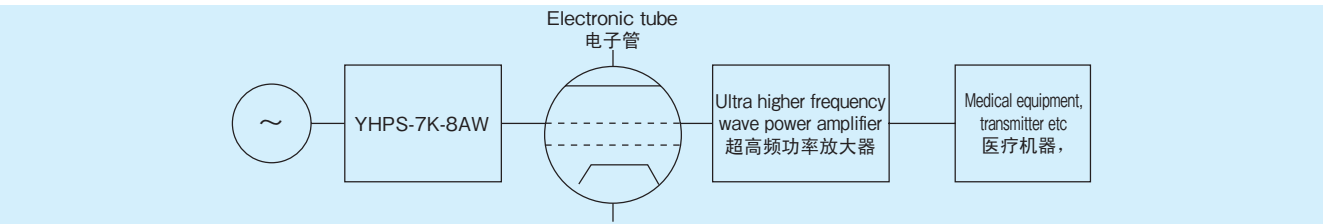
DC High Voltage Stabilization Power Supply 直流高压安定化电源

Radio tube power supply for ultra higher frequency wave power amplifier  
超高频功率放大器用电子管电源



- YHPS-7K-8AW**
- Plate power supply part  
屏极电源部  
Input 3 φ ※ V  
Output DC + 5kV, + 6kV, + 7kV (switch) 8A  
DC + 5kV, + 6kV, + 7kV (切换) 8A  
Load ripple Less than 0.4% (Vms)  
负载纹波 小于 0.4% (Vrms)
  - Screen grid power supply part  
屏栅电源部  
Input 3 φ ※ V  
Output DC + 0 ~ 1kV 0.7A (Built-in 0.4A dummy current at 750V)  
DC + 0 ~ 1kV 0.7A (750V 时有 0.4A 虚电流)  
Load ripple Less than 0.2% (Vms)  
负载纹波 小于 0.2% (Vrms)
  - Control grid supply part  
控制栅电源部  
Input 1 φ ※ V (MTS-1H)  
Output DC - 0 ~ 250V 10mA (Built-in 0.1A dummy current)  
DC - 0 ~ 250V 10mA (时有 0.1A 虚电流)  
Load ripple Less than 0.2% (Vms)  
负载纹波 小于 0.2% (Vrms)
  - Filament power supply part  
丝电源部  
Input 3 φ ※ V (MTS-5S)  
Output DC 14.5 ~ 16.5V 215A (With soft-start)  
DC 14.5 ~ 16.5V 215A (带软启动)  
Load ripple Less than 100m(Vms) (At 16V and 215A)  
负载纹波 小于 100m (Vrms) (16V 215A 时)
  - Dimension W2500 × D1500 × H2200 (mm)  
尺寸
- ※ Rating Voltage 额定电压

Configuration diagram 结构图



| Model 型号                                    | Application and Feature                                                                                                                                                                                                                                                                                                                                                                          | 用途和特长                                                                                                                                                             |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| YHLE-18K-180MTR                             | Power supply for CO <sub>2</sub> gas laser (for one light)<br>• 18kV, 180mA Constant current<br>• Higher frequency generation<br>• A pulse movement and continuous operation are both possible.                                                                                                                                                                                                  | CO <sub>2</sub> 气体激光用电源 (单灯用)<br>• 18kV, 180mA 额定电流<br>• 高频化<br>• 脉冲运动, 连续运行都可行                                                                                   |
| YHBS-100K-60MTRW                            | Power supply for electron beam<br>• Inverter and a high-voltage transformer are made to create higher frequency in order to make them low-price, small and light.<br>• Built-in bias filament circuit also for higher frequency creation (Output voltage 100kV, Output current 60mA)                                                                                                             | 电子束用电源<br>• 为了降低价格, 实现小型化和轻量化, 使变换器以及高压变压器高频化<br>• 内置同样高频化的偏压灯丝电路 (输出电压 100kV, 输出电流 60mA)                                                                         |
| YHPS-2K-6ASR                                | Power supply for products line and plasma processing machine (pulse processing)<br>• Dry method, low-price<br>(Output voltage 2kV, Output current 6A)                                                                                                                                                                                                                                            | 生产线・适合于等离子加工机 (脉冲加工) 用电源<br>• 干式, 低廉<br>(输出电压 2kV, 输出电流 6A)                                                                                                       |
| YHPS-20K-50MTR                              | A dry method is used for electronic acceleration power supply (for large-scale analysis), higher frequency generation and high voltage part to make the device lighter.<br>(Output voltage 20kV, Output current 50mA)                                                                                                                                                                            | 电子加速电源 (大型分析用) 高频化和高压部为干式, 进行了轻量化设计<br>(输出电压 20kV, 输出电流 50mA)                                                                                                     |
| YHLE-1K-10KJ2W                              | For products line and a laser welding device (pulse laser)<br>• Capacity 10kW Shift to larger capacity of two circuits<br>• Higher frequency<br>• Repetitive frequency, pulse width and digital setup method like setting a delay time etc                                                                                                                                                       | 生产线, 激光焊接机用 (脉冲激光)<br>• 容量 10kW 双电路的大容量化<br>• 高频率化<br>• 重复频率, 脉冲宽度, 延迟时间设定等数字设置方式                                                                                 |
| YHEP-50K-0.4ASR                             | Simple type electric collection machine<br>• With spark detection, short-circuit protection and automatic restoration functions<br>(Output voltage 50kV, Output current 0.4A)                                                                                                                                                                                                                    | 简易型电动吸尘器<br>• 带电火花检测, 短路保护和自动复位功能<br>(输出电压 50kV, 输出电流 0.4A)                                                                                                       |
| YHT-120K-4K<br>YHFT-26-0.8K<br>YHBT-125-0.8 | Used for ultra high voltage laser power supply<br>High-voltage transformer<br>• Voltage withstand 200kV<br>• Transformer for bias 250V/5A<br>High insulation high voltage withstand transformer 26V3A<br>• Transformer for filament high-voltage transformer 26V3A<br>High insulation high voltage withstand transformer<br>Above-mentioned transformers are insulated by the SF6 gas insulation | 用于超高压激光电源。<br>高压变压器<br>• 高压变压器 200kV (耐压 280kV)<br>• 偏压用变压器 250V/5A<br>高绝缘耐压变压器 (耐压 280kV)<br>• 灯丝用变压器 26V3A<br>高绝缘耐压变压器 (耐压 280kV)<br>利用 SF6 气体的绝缘性能, 对上述变压器进行绝缘 |

# DC High Voltage Generating Device 直流电压发生装置

## Power supply for plasma 等离子电源



### YHPS-1.5K-50ASRX

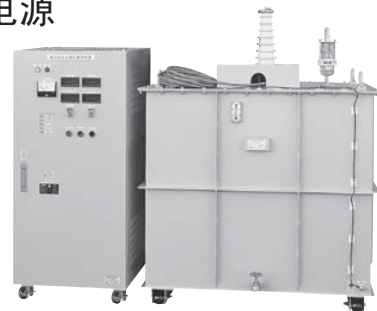
|                         |                                                                                                                                                                                                                     |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output voltage<br>输出电压  | 0 ~ 1.5kV                                                                                                                                                                                                           |
| Output current<br>输出电流  | 0 ~ 50A                                                                                                                                                                                                             |
| Stable accuracy<br>稳定精度 | Less than $2 \times 10^{-2}$ (For voltage variation $\pm 10\%$ )<br>Less than $2 \times 10^{-2}$ (For load variation 0 ~ 100%)<br>对电压变动 $\pm 10\%$ , 小于 $2 \times 10^{-2}$<br>对负载变动 0 ~ 100%, 小于 $2 \times 10^{-2}$ |
| Ripple<br>纹波            | 15Vp-p                                                                                                                                                                                                              |
| Polarity<br>极性          | Positive / negative change type<br>正 / 负切换方式                                                                                                                                                                        |
| Input<br>输入电源           | Three phase 50/60Hz $\pm 10\%$<br>三相 50/60Hz $\pm 10\%$                                                                                                                                                             |
| Dimension<br>尺寸         | W1300 × D1000 × H1800 mm                                                                                                                                                                                            |

## Power supply for dust extractor 吸尘器电源



### YHPS-50K-0.4ASRX

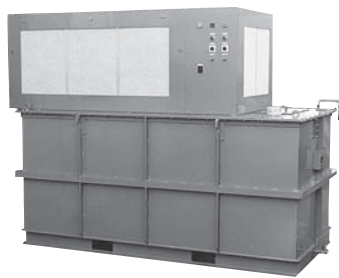
|                         |                                                                                                                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output voltage<br>输出电压  | 0 ~ 50kV                                                                                                                                                                                |
| Stable accuracy<br>稳定精度 | Less than $\pm 0.5\%$ (For voltage variation $\pm 10\%$ )<br>Less than $\pm 0.5\%$ (For load variation 0 ~ 100%)<br>对电压变动 $\pm 10\%$ , 小于 $\pm 0.5\%$<br>对负载变动 0 ~ 100%, 小于 $\pm 0.5\%$ |
| Output current<br>输出电流  | 0 ~ 400mA                                                                                                                                                                               |
| Input<br>输入电源           | Single phase 50/60Hz $\pm 10\%$<br>单相 50/60Hz $\pm 10\%$                                                                                                                                |



### YHPS-30K-1ASRX

|                         |                                                                                                                                                                                   |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output voltage<br>输出电压  | 0 ~ 30kV                                                                                                                                                                          |
| Stable accuracy<br>稳定精度 | Less than $\pm 1\%$ (For voltage variation $\pm 10\%$ )<br>Less than $\pm 1\%$ (For load variation 30 ~ 100%)<br>对电压变动 $\pm 10\%$ , 小于 $\pm 1\%$<br>对负载变动 30 ~ 100%, 小于 $\pm 1\%$ |
| Ripple<br>纹波            | 150Vp-p (At 30kV and 1A)<br>150Vp-p (30kV 1A 时)                                                                                                                                   |
| Input<br>输入电源           | Three phase 50/60Hz $\pm 10\%$<br>三相 50/60Hz $\pm 10\%$                                                                                                                           |

## Accelerator related power supply 加速器相关电源



### YHPS-150K-0.2ATRX

|                         |                                                                                                                                                                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output voltage<br>输出电压  | 0 ~ 150kV                                                                                                                                                                                                               |
| Stable accuracy<br>稳定精度 | Less than $\pm 1 \times 10^{-2}$ (For voltage variation $\pm 10\%$ )<br>Less than $1 \times 10^{-2}$ (For load variation 0 ~ 100%)<br>对电压变动 $\pm 10\%$ , 小于 $1 \times 10^{-2}$<br>对负载变动 0 ~ 100%, 小于 $1 \times 10^{-2}$ |
| Ripple<br>纹波            | Less than 1% p-p<br>小于 1%p-p                                                                                                                                                                                            |
| Output current<br>输出电流  | 0 ~ 0.2A                                                                                                                                                                                                                |
| Input<br>输入电源           | Three phase 50/60Hz $\pm 10\%$<br>三相 50/60Hz $\pm 10\%$                                                                                                                                                                 |
| Dimension<br>尺寸         | W2650 × D1300 × H2000 mm                                                                                                                                                                                                |



### YHPS-100K-60MSRX

|                         |                                                                                                                                                                                 |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output voltage<br>输出电压  | 0 ~ 100kV                                                                                                                                                                       |
| Stable accuracy<br>稳定精度 | Less than $\pm 1\%$ (For voltage variation $\pm 10\%$ )<br>Less than $\pm 1\%$ (For load variation 0 ~ 100%)<br>对电压变动 $\pm 10\%$ , 小于 $\pm 1\%$<br>对负载变动 0 ~ 100%, 小于 $\pm 1\%$ |
| Ripple<br>纹波            | Less than 1% rms<br>小于 1%rms                                                                                                                                                    |
| Output current<br>输出电流  | 60mA                                                                                                                                                                            |
| Input<br>输入电源           | Single phase 50/60Hz $\pm 10\%$<br>单相 50/60Hz $\pm 10\%$                                                                                                                        |
| Dimension<br>尺寸         | W1050 × D1230 × H2400 mm                                                                                                                                                        |

※ Rating Voltage 额定电压

## DC High Voltage Generating Device 直流电压发生装置

## Power supply for accelerator 加速器用电源装置

## Specifications 规格

● Incoming rated Three phase  $\sqrt{3}$  V  $\pm 10\%$  50/60Hz

## ● Rated (beam power supply) Constant voltage characteristic

|                                        |                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input voltage                          | 3 $\phi$ $\sqrt{3}$ V $\pm 10\%$ 50/60Hz                                                                                                                                                                                                                                                                                |
| Output voltage                         | -20kV ~ 27kV Positive pole grounded type                                                                                                                                                                                                                                                                                |
| Output current                         | 1.7A                                                                                                                                                                                                                                                                                                                    |
| Ripple                                 | At 27kV-1.7A Less than 135Vp-p                                                                                                                                                                                                                                                                                          |
| Stable accuracy                        | Stabilization range Rated output voltage At 30% or more<br>Input voltage variation Less than $\pm 1\%$<br>(For 10% change of rated voltage)<br>Output load variation Less than $\pm 1\%$<br>(For 30 ~ 100% change)<br>Drift Less than 6H/1%                                                                             |
| Indicating instrument                  | High voltage output voltmeter DPM 3 digits 1/2 F.S 99.9kV<br>High voltage output ampere meter DPM 3 digits 1/2 F.S 9.99kV                                                                                                                                                                                               |
| Emergency stop                         | For HV and FIL Intercept MC                                                                                                                                                                                                                                                                                             |
| Protection circuit                     | High voltage over voltage OVR<br>High voltage over current OLR<br>Input over current Intercept fuse<br>Blowout Discharging gap (Clover circuit) External input signal<br>(Clover motion less than 10 $\mu$ S) Open collector<br>External interlock (Outside door etc) Open collector<br>Insulation oil temperature rise |
| Remote function                        | High voltage ON High voltage OFF Reset                                                                                                                                                                                                                                                                                  |
| External monitor function              | Output voltage 0 ~ 30kV/0 ~ 3V<br>Output current 0 ~ 2A/0 ~ 2                                                                                                                                                                                                                                                           |
| External signal (output) contact point | High-voltage operation High voltage over voltage Malfunction in waveguide<br>High voltage over current Door open Ready<br>Input over current Remote operation<br>Abnormal oil temperature                                                                                                                               |

## ● Rated (Filament power supply) Fixed voltage characteristic

|                           |                                                                                                                                                                                                                                                             |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input voltage             | 1 $\phi$ $\sqrt{3}$ V $\pm 10\%$ 50/60Hz                                                                                                                                                                                                                    |
| Output voltage            | AC0 ~ 10V TVDC35kV For ten minutes                                                                                                                                                                                                                          |
| Output current            | 10A                                                                                                                                                                                                                                                         |
| Stable accuracy           | Stabilization range Rated output voltage At 30% or more<br>Input voltage variation Less than $\pm 5\%$<br>(For 10% change of rated voltage)<br>Output load variation Less than $\pm 5\%$<br>(For 0.1 $\Omega$ ~ 1 $\Omega$ change)<br>Drift Less than 6H/1% |
| Indicating instrument     | Output voltmeter DPM 3 digits 1/2 F.S 39.9kV<br>Output ampere meter DPM 3 digits 1/2 F.S 19.99kV<br>Elapsed time indicator 99999Hr No reset                                                                                                                 |
| Protection circuit        | Over current OLR                                                                                                                                                                                                                                            |
| Remote function           | Filament ON Filament OFF                                                                                                                                                                                                                                    |
| External monitor function | (Output) contact point<br>(Input) contact point<br>Filament Operation Filament Remote / Local<br>Filament Stop Adjust signal 4 ~ 20mA DC<br>Filament over current                                                                                           |

## ● Rated (DC power supply) Constant voltage characteristic

|                       |                                                                                                                                                                                                                    |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input voltage         | 1 $\phi$ $\sqrt{3}$ V $\pm 10\%$                                                                                                                                                                                   |
| Output voltage        | +0 ~ 10kV One side grounded type                                                                                                                                                                                   |
| Output current        | 100mA                                                                                                                                                                                                              |
| Ripple                | At 10kV-0.1A Less than 5% p-p 5% p-p 以下                                                                                                                                                                            |
| Stable accuracy       | Stabilization range Rated output voltage At 30% or more<br>Input voltage variation Less than $\pm 1\%$<br>(For 10% change of rated voltage)<br>Output load variation Less than $\pm 1\%$<br>(For 30 ~ 100% change) |
| Indicating instrument | High voltage output voltmeter DPM 3 digits 1/2 F.S 19.99kV<br>High voltage output ampere meter DPM 3 digits 1/2 F.S 199.9kV                                                                                        |
| Protection circuit    | High voltage over voltage OVR<br>High voltage over current OLR                                                                                                                                                     |
| Accessories           | High-voltage side code 5m $\times$ 2<br>Control BOX (for remote function)<br>Fuse lamp Same number with active ones<br>Ground rod 1<br>Munsell 7.5Y9/1                                                             |
| Outside               | Dimensions W1600 $\times$ D1800 $\times$ H2400(mm)<br>Outdoor cubicle type                                                                                                                                         |

※ Rating Voltage

## ● 受电额定

三相  $\sqrt{3}$  V  $\pm 10\%$  50/60Hz

## ● 额定 (束电源) 定电压特性

|              |                                                                                                                  |
|--------------|------------------------------------------------------------------------------------------------------------------|
| 输入电压         | 3 $\phi$ $\sqrt{3}$ V $\pm 10\%$ 50/60Hz                                                                         |
| 输出电压         | -20kV ~ 27kV 十端 接地式                                                                                              |
| 输出电流         | 1.7A                                                                                                             |
| 纹波           | 27kV-1.7A 时 小于 135Vp-p                                                                                           |
| 稳定精度         | 稳定范围 额定输出电压 30% 以上<br>输入电压变动 对额定电压 10% 的变化, 小于 $\pm 1\%$<br>输出负载变动 对 30% ~ 100% 的变化, 小于 $\pm 1\%$<br>偏流 6H/1% 以下 |
| 指示表          | 高压输出电压表 DPM 3 位 1/2 F.S 99.9kV<br>高压输出电流表 DPM 3 位 1/2 F.S 9.99kV                                                 |
| 紧急停止         | HV, FIL 用 截止 MC                                                                                                  |
| 保护电路         | 高压过电压 OVR 高压过电流 OLR<br>输入过电流 保险丝断<br>放电间隙 (短路开关电路) 外部输入信号<br>(短路开关动作 10 $\mu$ S 以内) 集电极开路<br>外部联锁装置 ( ) 集电极开路    |
| 遥控功能         | 高压 ON 高压 OFF 复位                                                                                                  |
| 外部监视器功能      | 输出电压 0 ~ 30kV/0 ~ 3V<br>输出电流 0 ~ 2A/0 ~ 2                                                                        |
| 外部信号 (输出) 触点 | 高压运行 高压过电压 导波管内异常 高压停止<br>高压过电流 门开 准备完毕 输入过电流 运行遥控<br>油温异常                                                       |

## ● 额定 (灯丝电源) 定电流特性

|      |                                                                                                                                          |
|------|------------------------------------------------------------------------------------------------------------------------------------------|
| 输入电压 | 1 $\phi$ $\sqrt{3}$ V $\pm 10\%$ 50/60Hz                                                                                                 |
| 输出电压 | AC0 ~ 10V TVDC35kV 10 分钟                                                                                                                 |
| 输出电流 | 10A                                                                                                                                      |
| 稳定精度 | 稳定化电压 额定输出电压 30% 以上<br>输入电压变动 对额定电压的变化 $\pm 10\%$ , 小于 $\pm 5\%$<br>输出负载变动 对 0.1 $\Omega$ ~ 1 $\Omega$ 的变化, 小于 $\pm 5\%$<br>计时器 6H/1% 以下 |
| 指示表  | 输出电压表 DPM 3 位 1/2 F.S 39.9V<br>输出电流表 DPM 3 位 1/2 F.S 19.99A<br>累计时间表 99999Hr 没有 RESET                                                    |
| 保护电路 | 过电流 OLR                                                                                                                                  |
| 遥控功能 | 灯丝 ON 灯丝 OFF                                                                                                                             |
| 外部信号 | 灯丝 运行 灯丝 遥控 / 本机<br>灯丝 停止 调节信号 4 ~ 20mA DC<br>灯丝 过电流                                                                                     |

## ● 额定 (直流电源) 定电压特性

|      |                                                                                                                                    |
|------|------------------------------------------------------------------------------------------------------------------------------------|
| 输入电压 | 1 $\phi$ $\sqrt{3}$ V $\pm 10\%$                                                                                                   |
| 输出电压 | +0 ~ 10kV 单边接地式                                                                                                                    |
| 输出电流 | 100mA                                                                                                                              |
| 纹波   | 10kV 0.1A 时 5%p-p 以下                                                                                                               |
| 稳定精度 | 稳定化范围 额定输出电压 30% 以上时<br>输入电压变动 对额定电压 $\pm 10\%$ 的变化, 小于 $\pm 1\%$<br>输出负载变动 对额定电压 30% ~ 100% 的变化, 小于 $\pm 1\%$                     |
| 计时器  | 高压输出电压表 DPM 3 位 1/2 F.S 19.99kV<br>高压输出电流表 DPM 3 桁 1/2 F.S 199.9kV                                                                 |
| 保护电路 | 高压过电压 OVR<br>高压过电压 OLR                                                                                                             |
| 附加品  | 高压端线 5m $\times$ 2<br>控制箱 (遥控功能用)<br>保险丝灯 现用相同数量<br>接地棒 1 根<br>芒塞尔 7.5Y9/1<br>尺寸 W1600 $\times$ D1800 $\times$ H2400 (mm)<br>室外机壳型 |

※ 额定电压

