

调压器产品手册

Voltage Regulator Product Manual



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COOPERATIVE PARTNER

合作伙伴

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 北京理工大学 BEIJING INSTITUTE OF TECHNOLOGY	 江苏大学 Jiangsu University

*排名不分先后,因合作客户过多,以上只列举部分品牌
The ranking is not in any order. Because there are too many cooperative customers, only some brands are listed above



TDGC3 Single phase regulator series

TDGC3 单相调压器系列

调压器系列



产品概述 Product profile

- ▶ 调压器就是匝数比连续可调的自耦变压器,当调压器电刷借助于手轮主轴和刷架的作用,沿线圈的磨光表面滑动时,就可连续地改变匝数比,从而使输出电压平滑地从零调节到前高位。

The voltage regulator is a continuously adjustable autotransformer with a turns ratio. When the voltage regulator brush slides along the polished surface of the coil by means of the hand wheel main shaft and the brush holder, the turns ratio can be continuously changed. Thereby the output voltage is smoothly adjusted from zero to the previous high.

适应范围 Adaptation

- ▶ TDGC3系列调压器具有波形不失真、体积小、重量轻、效率高、使用方便、性能可靠、能长期运行等特点,达到调压、控温、调光、功率控制等目的,广泛应用于化工,冶金仪表,机电制造,轻工业,科学实验,公用设施,家用电器,控温调速,调光,及功率控制等目的,是一种理想的交流调压电源。

TDGC3 series regulators are characterized by non-distortion waveform, small size, light weight, high efficiency, convenient use, reliable performance and long-term operation. They are used for voltage regulation, temperature control, dimming, power control, etc. , metallurgical instrumentation, electromechanical manufacturing, light industry, scientific experiments, utilities, household appliances, temperature control, dimming, and power control, etc., is an ideal AC voltage regulator.

- 环境温度:最高气温+40℃,最低气温-15℃
- 海拔高度:调压器安装地点海拔高度不超过1000米
- 空气相对湿度:湿月的月平均相对湿度为90%,同时该月的平均气温为25℃
- 电源电压波形:电源电压波形为正弦波或近似于正弦波
- 安装场所无严重影响调压器绝缘的气体、蒸气、化学性沉积、粉尘、污垢及其它爆炸性和侵蚀性介质
- 安装场所应无严重的振动和颠簸
- 户内使用

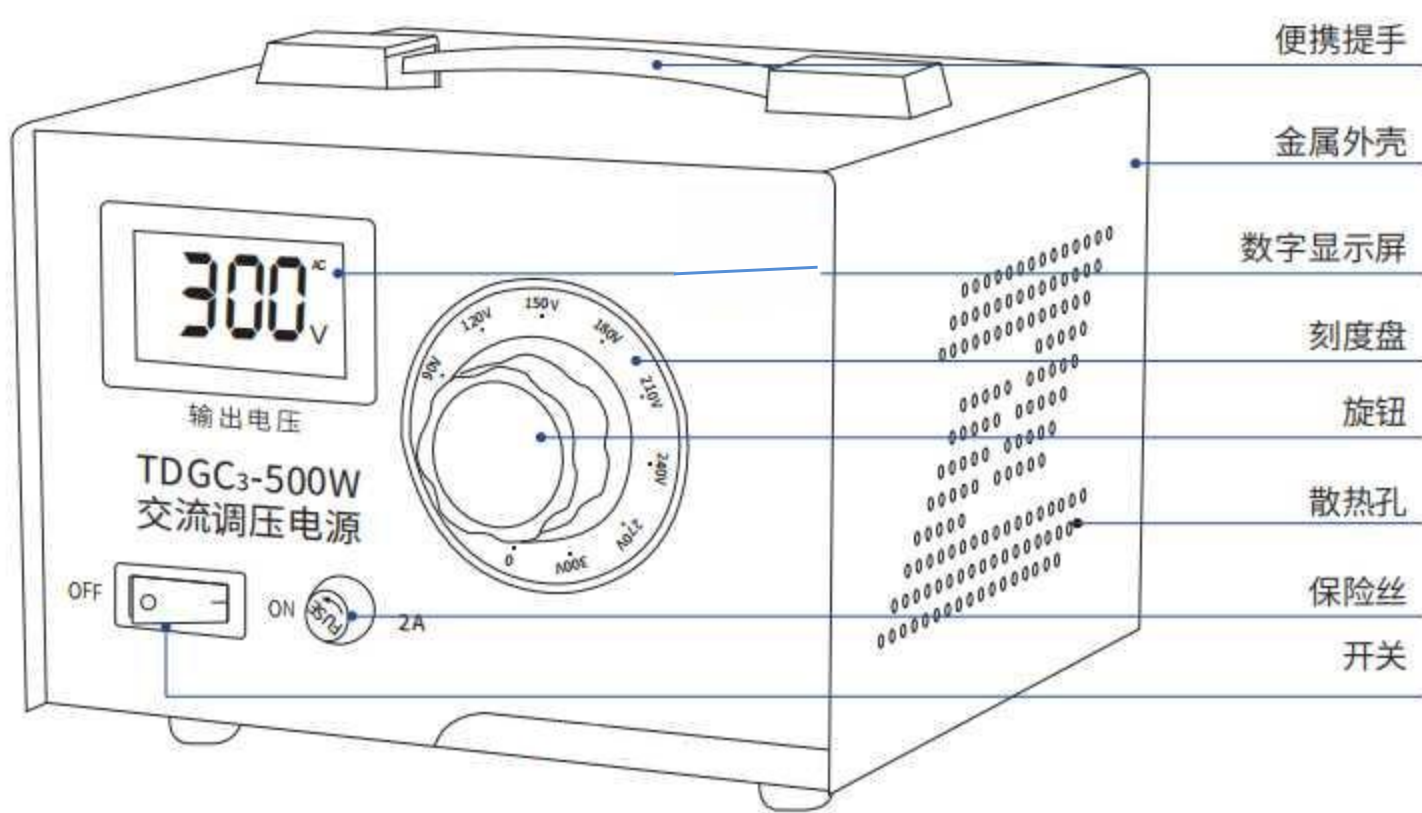
注意! -选型提示:本调压器产品不能多只并联使用

- Ambient temperature: maximum temperature + 40 °C, minimum temperature -15 °C
- Altitude: The altitude where the regulator is installed does not exceed 1000 meters
- Relative air humidity: The monthly average relative humidity of a wet month is 90%, and the average temperature of the month is 25 °C
- Power supply voltage waveform: The power supply voltage waveform is a sine wave or similar to a sine wave
- The installation site is free from gases, vapors, chemical deposits, dust, dirt and other explosive and aggressive media that seriously affect the insulation of the regulator
- The installation place should be free of severe vibrations and bumps
- Indoor use

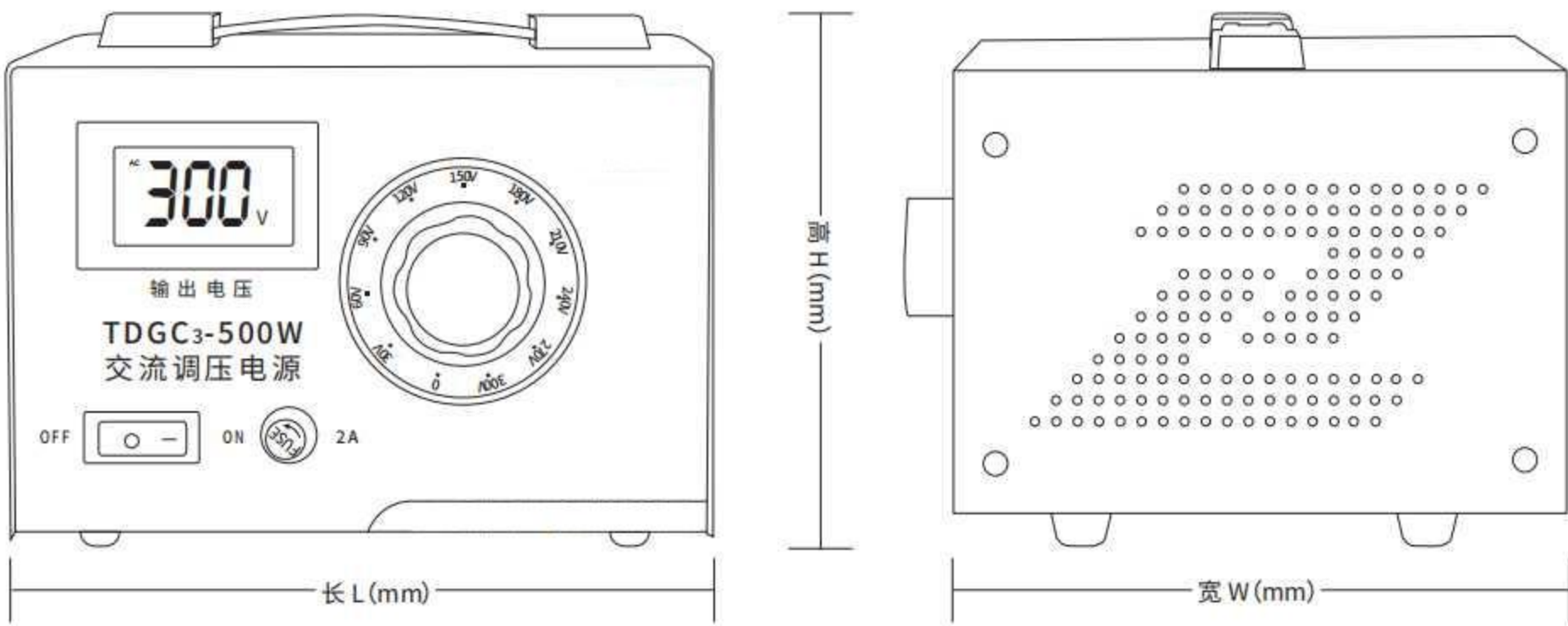
note! -Selection:Tips This regulator product cannot be used in parallel

调压器系列

产品解析 Product analysis



外观尺寸 Appearance of size



产品规格 Product specifications

产品型号 Product model	输入电压 Input voltage	输出电压 Output voltage	最大电流 (A) Maximum current	尺寸 (mm) 长x宽x高 L x W x H
TDGC3-500VA	220V	0-300V可调	1.6	190*215*150
TDGC3-1000VA			3.3	225*250*180
TDGC3-2000VA			6.6	224*205*179
TDGC3-3000VA			10	235*285*230
TDGC3-5000VA			16.6	230*318*270

计算对应电压值可负载的最大功率公式
 输出可负载功率 (W) = 输出所在电压值 (V) * 最大电流
 The formula for calculating the maximum power that can be loaded with the corresponding voltage value
 Output loadable power (W)=output voltage (V) * maximum current

*注:输出电压调节越低 输出功率就越小 负载功率就越小
 Note: The lower the output voltage regulation, the smaller the output power, the smaller the load power

技术参数 Main technical parameter

型 号	model	TDGC3系列 TDGC3 series
波形失真	Waveform distortion	无附加波形失真 No additional waveform distortion
工作频率	Working frequency	50/60HZ
绝缘电阻	Insulation resistance	单相>5MΩ 三相>2MΩ single phase >5MΩ three phase >2MΩ
耐 压	Withstand voltage	2000V/1min
温 升	Temperature rise	<60°C

单相交流调压器
我的电压您做主
0-300V可调

无需接线 即插即用



调压器系列

调压器系列

TDGC2/TDGC2J

Single phase regulator series

TDGC2/TDGC2J 单相调压器系列



产品概述 Product profile

▶ 调压器就是匝数比连续可调的自耦变压器,当调压器电刷借助于手轮主轴和刷架的作用,沿线圈的磨光表面滑动时,就可连续地改变匝数比,从而使输出电压平滑地从零调节到最高位。

The voltage regulator is an autotransformer with continuously adjustable turns ratio. When the voltage regulator brushes slide along the polished surface of the coil by means of the handwheel spindle and brush holder, the turns ratio can be continuously changed. Thereby, the output voltage is smoothly adjusted from zero to the highest position.

- 环境温度:最高气温+40℃,最低气温-15℃
- 海拔高度:调压器安装地点海拔高度不超过1000米
- 空气相对湿度:湿月的月平均相对湿度为90%,同时该月的平均气温为25℃
- 电源电压波形:电源电压波形为正弦波或近似于正弦波
- 安装场所无严重影响调压器绝缘的气体、蒸气、化学性沉积、粉尘、污垢及其它爆炸性和侵蚀性介质
- 安装场所应无严重的振动和颠簸
- 户内使用

注意!-选型提示:本调压器产品不能多只并联使用

- Ambient temperature: maximum temperature + 40 °C, minimum temperature -15 °C
- Altitude: The altitude where the regulator is installed does not exceed 1000 meters
- Relative air humidity: The monthly average relative humidity of a wet month is 90%, and the average temperature of the month is 25 °C
- Power supply voltage waveform: The power supply voltage waveform is a sine wave or similar to a sine wave
- The installation site is free from gases, vapors, chemical deposits, dust, dirt and other explosive and aggressive media that seriously affect the insulation of the regulator
- The installation place should be free of severe vibrations and bumps
- Indoor use

note! -Selection:Tips This regulator product cannot be used in parallel

主要结构 The main structure

- 单元结构:0.5KVA、10KVA调压器为调节器为调压单元结构,一个上端面具有宽度的磨光表面的线圈固定在工程的底座上,接触组的电刷在弹簧压力下与线圈的磨光表面紧密接触,转动手轮带动电刷在线圈磨光表面上滑动进行调压,单元调压器一般为台式,外面有防护通风罩。
- 单相组装结构:单相大容量调压器系由几个相同规格的单元组装而成,各单元的电刷接触组装在同一个主轴上,线圈输入端并联连接,输出端连接平衡电抗器,以平衡单元间电流分布并抑制环流。
- 10KVA以上由两个或者三个或三个以上相同规格的单元同轴组装而成。
- 电刷结构:3KVA及以下单元调压器,采用1~2块石墨电刷和散热良好的金属架,4KVA及以上的单元调压器,采用两块铜石墨复合电刷,电刷接触组的压板固定在线圈上端以限制其轴向位置,同时通过螺钉与主轴锁紧,当需要拆修,调换主要轴或需要从调压器底端伸出主轴时,只要松开螺钉,即可方便地进行。
- Unit structure: 0.5KVA, 10KVA regulator is the regulator is the voltage regulator unit structure, a coil with a polished surface on the upper end surface is fixed on the base of the project, and the brush of the contact group is under the spring pressure and the coil. The polished surface is in close contact, and the rotating hand wheel drives the brush to slide on the smooth surface of the coil for voltage regulation. The unit voltage regulator is generally a table top and has a protective hood on the outside.
- Single-phase assembly structure: Single-phase large-capacity voltage regulator is assembled from several units of the same specification. The brush contacts of each unit are assembled on the same main shaft, the input ends of the coils are connected in parallel, and the output terminals are connected to the balanced reactor. To balance the current distribution between cells and suppress the circulation.
- 10KVA or more is assembled by two or three or more units of the same specification.
- Brush structure: 3KVA and below unit voltage regulator, using 1~2 graphite brushes and metal frame with good heat dissipation, 4KVA and above unit voltage regulator, using two copper graphite composite brushes, brush contact group The pressure plate is fixed on the upper end of the coil to limit its axial position. At the same time, it is locked with the spindle by screws. When it is necessary to dismantle and replace the main shaft or need to extend the spindle from the bottom end of the regulator, it is convenient to loosen the screw. Conducted.

调压器系列



技术参数 Main technical parameter

产品型号 Product model	输入电压 Input voltage	输出电压 Output voltage	额定电流 (A) Rated current	尺寸 (mm) 长x宽x高 L x W x H
TDGC2-0.5KVA	220V±10%	0-250V可调	2	140*130*130
TDGC2-1KVA			4	200*180*180
TDGC2-2KVA			8	200*180*200
TDGC2-3KVA			12	220*200*200
TDGC2-5KVA			20	310*240*240
TDGC2-10KVA			40	310*240*410
TDGC2-15KVA			60	310*240*560
TDGC2-20KVA			80	310*240*770
TDGC2-30KVA			120	310*240*1100
TDGC2J-1KVA	220V±10%	0-250V可调	4	210*230
TDGC2J-2KVA			8	210*230
TDGC2J-3KVA			12	210*230
TDGC2J-5KVA			20	330*370
TDGC2J-7KVA			28	330*370
TDGC2J-10KVA			40	350*430
TDGC2J-15KVA			60	430*590
TDGC2J-20KVA			80	430*590
TDGC2J-30KVA			120	430*1100
TDGC2J-40KVA			160	430*1100
TDGC2J-50KVA			180	430*1100
TDGC2J-60KVA			200	430*1100

型 号	model	TDGC2系列 TDGC2 series
名 称	name	单相接触调压器 Single phase contact voltage regulator
整机升温	Temperature rise	≤60
标 准	standard	JB/T10091

调压器系列

TSGC2/TSGC2J Three-phase voltage regulator series

TSGC2/TSGC2J 三相调压器系列

调压器系列



产品概述 Product profile

- 该系列产品属可调式自耦变压器结构, 由环形变压器 (调压线圈) 和碳刷组成, 碳刷沿着调压线圈表面转动, 改变碳刷接触的位置, 即改变一次和二次线圈的匝数比达到改变和调节电压的目的。可在0-430V内自由调节。该产品具有外形美观, 结构合理, 波形不失真、体积小、重量轻、效率高、使用方便、运行可靠等特点, 其性能更为优越, 可长期使用, 其中TSGC2外形呈四角形, 美观大方, 属新形产品。TSGC2J外形呈六角形, 美观大方, 属老形产品。

This series of products is an adjustable autotransformer structure. It consists of a toroidal transformer (voltage regulating coil) and a carbon brush. The carbon brush rotates along the surface of the voltage regulating coil to change the position where the carbon brush contacts, that is, the turns of the primary and secondary coil The ratio achieves the purpose of changing and adjusting the voltage. Freely adjustable within 0-430V. This product has the characteristics of beautiful appearance, reasonable structure, undistorted waveform, small size, light weight, high efficiency, easy to use, reliable operation, etc. It has superior performance and can be used for a long time. The shape of TSGC2 is quadrangular, beautiful and generous New shape products. TSGC2J has a hexagonal shape, beautiful appearance and is an old product.

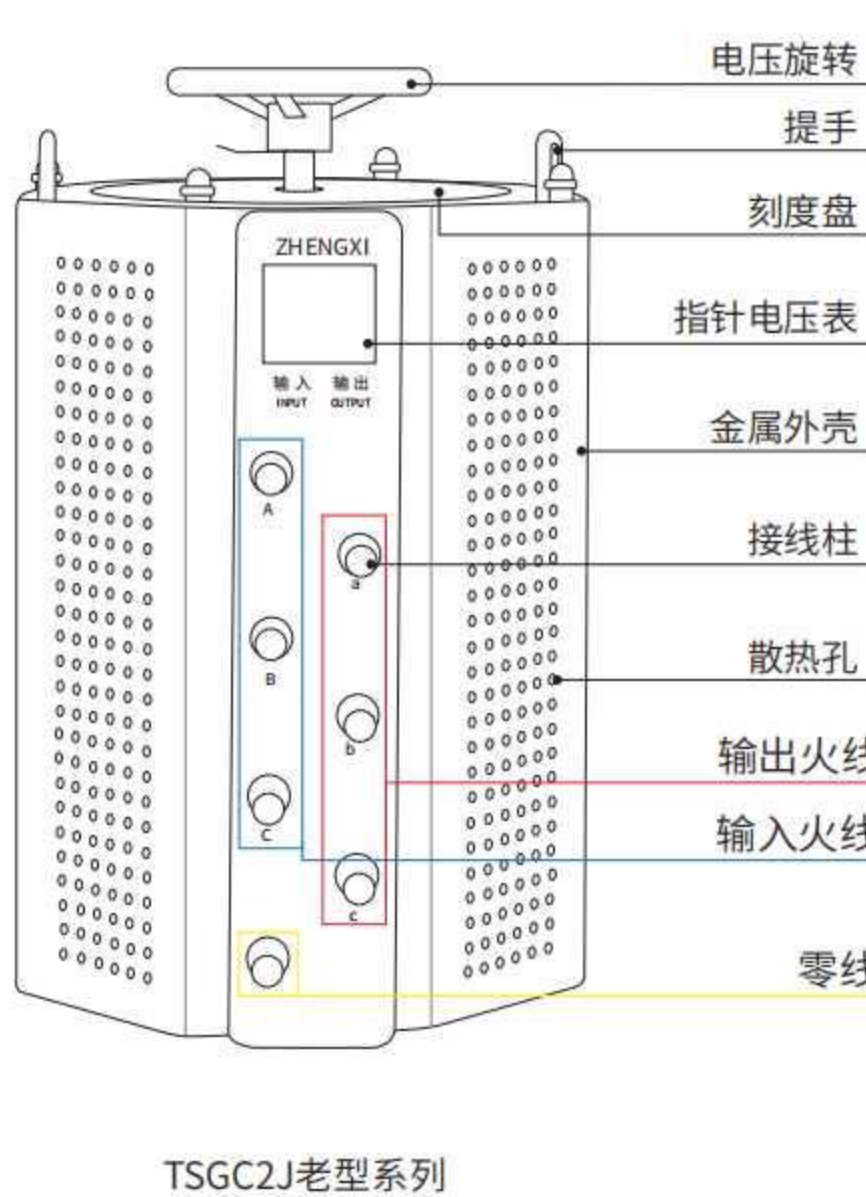
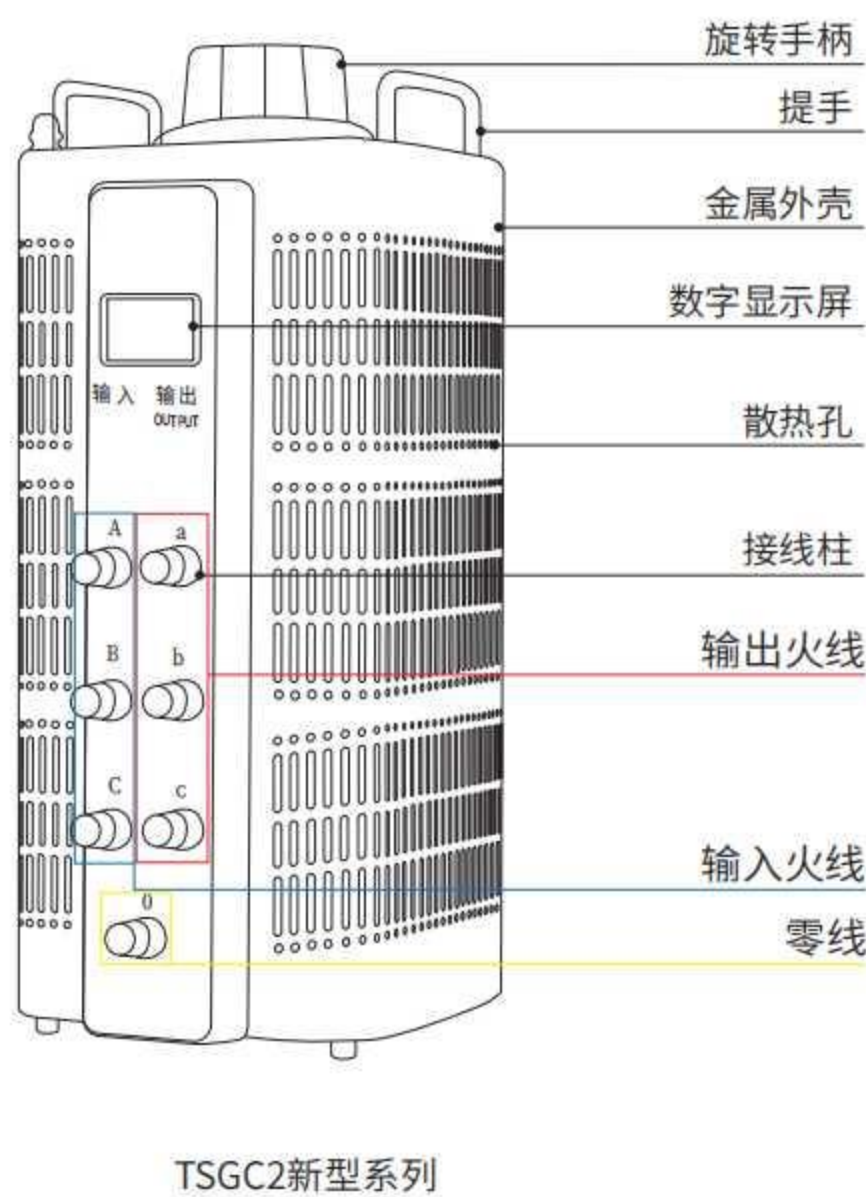
适应范围 Adaptation

- 化工、冶金、仪器仪表、机械制造、轻工工业、公用设备、家用电器。
Chemical, metallurgy, instrumentation, machinery manufacturing, light industry, public equipment, household appliances.

型号含义 Type designation

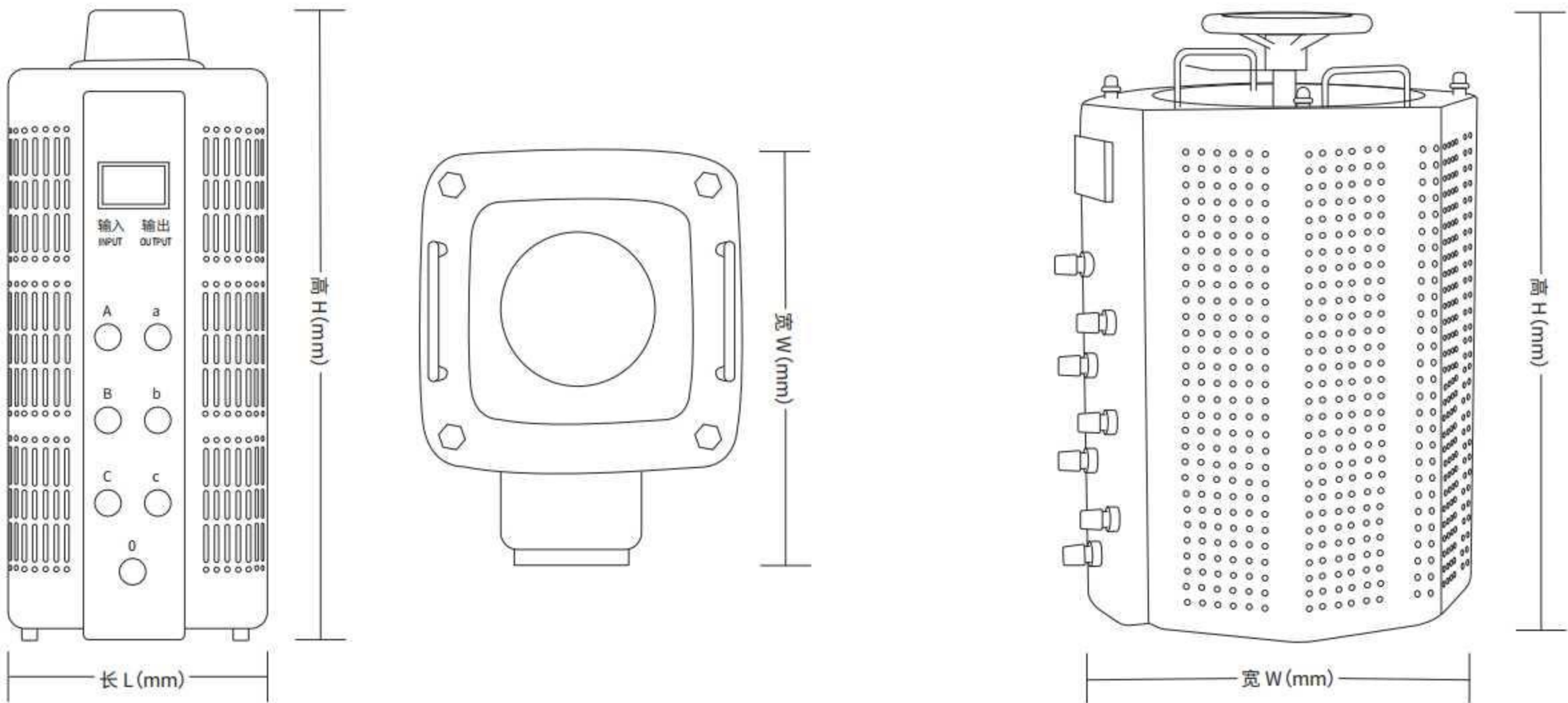


产品解析 Product analysis



调压器系列

外观尺寸 Appearance of size



技术参数 Main technical parameter

产品型号 Product model	输入电压 Input voltage	输出电压 Output voltage	额定电流 (A) Rated current	尺寸 (mm) 长x宽x高 L x W x H
TSGC2-1.5KVA	380V±10%	0-430V可调	2	135*180*340
TSGC2-3KVA			4	182*245*440
TSGC2-6KVA			8	182*245*480
TSGC2-10KVA			13	210*280*480
TSGC2-15KVA			20	245*335*590
TSGC2-20KVA			27	245*335*590
TSGC2J-3KVA	380V±10%	0-430V可调	4	186*220*520
TSGC2J-6KVA			8	230*260*520
TSGC2J-15KVA			20	350*430*585
TSGC2J-20KVA			27	390*440*615
TSGC2J-30KVA			40	362*460*1100
TSGC2J-40KVA			54	362*460*1140
TSGC2J-50KVA			67	560*500*1310
TSGC2J-60KVA			81	560*500*1310

技术参数 Main technical parameter

型 号 model	TSGC2系列 TSGC2 series
名 称 name	三相接触调压器 Three phase contact voltage regulator
频 率 frequency	50Hz/60Hz
效 率 efficiency	> 90%
绝缘电阻 Insulation resistance	three phase >2M
波形失真 Waveform distortion	无附加波形失真 No additional waveform distortion
调压方式 Regulating way	手动 Manual
整机升温 Temperature rise	≤60
标 准 standard	JB/T10091
产品特性 Product features	可连续调节输出电压0-430V, 具有无波形失真、体积小、效率高、使用方便、运行可靠等特点; 宽范围电压可以定制! It can continuously adjust the output voltage from 0 to 430V, and has the characteristics of no waveform distortion, small size, high efficiency, convenient use, reliable operation, etc; Wide range voltage can be customized!

Electric voltage regulator series

电动调压器系列

调压器系列



产品概述 Product profile

▶ 接触式调压器是采用进口矽钢片环铁芯绕成,其上绕一单压绕成,若干装在刷架上的碳刷在弹簧压力作用下与线圈的磨光表面紧密吻合,电机带动碳刷在线圈磨光上滑动而进行电压调整,如需自动调压,可预先设置一个电压(可在调整范围内任意设置一个固定点)值,有电位器调整到所需电压点,通过外置电压表观察设定电压值,电压值设定后,调压器会自动调节至所设定电压,如果外界电压有波动,它也可自动调节稳定电压,智能调压器极具人性化设计,配备电压表、电流表,实时监控运行状况,并设有手动调节的升、降压按钮,使用便利,而且损耗小、效率高、漏磁小、噪音低、瞬间过载能力强、无波形畸变,是科研、测试等设备的理想选择。

The contact type regulator is made of an imported silicon steel sheet ring iron core, which is wound around a single press, and a plurality of carbon brushes mounted on the brush holder closely match the polished surface of the coil under the action of spring pressure, the motor Drive the carbon brush to slide on the coil to adjust the voltage. If you need to adjust the voltage automatically, you can preset a voltage (can set a fixed point within the adjustment range), and adjust the potentiometer to the required voltage point. The external voltmeter observes the set voltage value. After the voltage value is set, the voltage regulator will automatically adjust to the set voltage. If the external voltage fluctuates, it can also automatically adjust the stable voltage. The intelligent voltage regulator is very user-friendly. Designed, equipped with voltmeter, ammeter, real-time monitoring of operating conditions, and manual adjustment of the step-up and step-down buttons, easy to use, and low loss, high efficiency, small magnetic leakage, low noise, strong transient overload, no waveform distortion It is an ideal choice for scientific research, testing and other equipment.

产品特点 Features

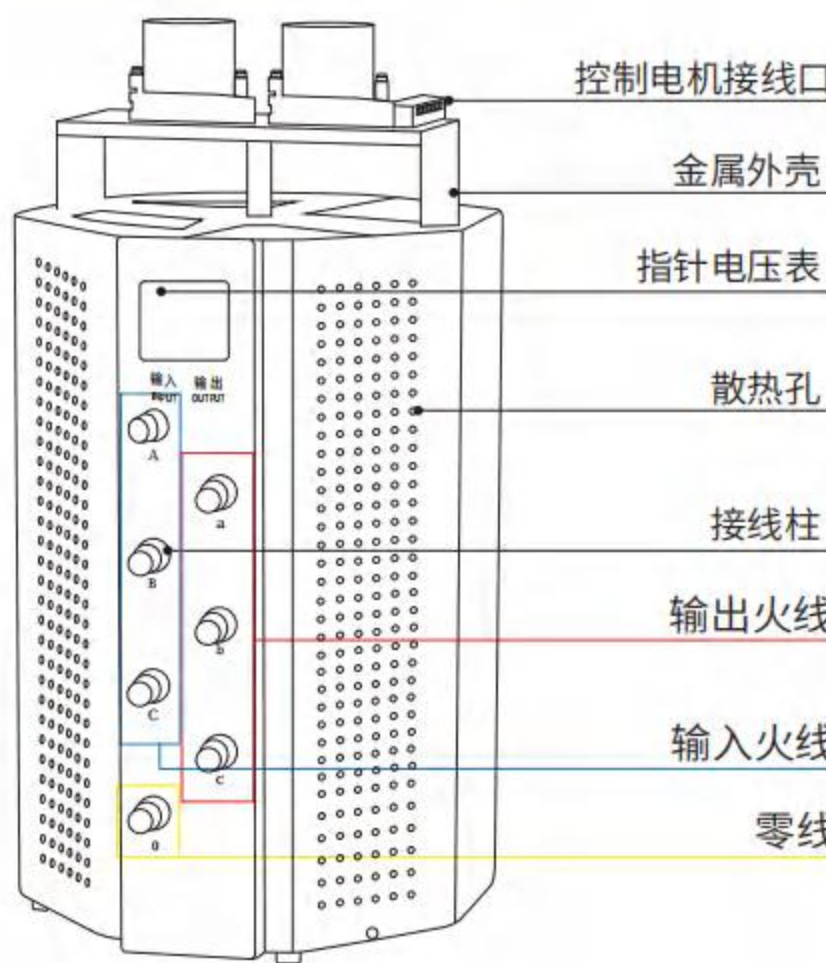
- 采用高导磁有取向直矽钢片,因此损耗小。
 - 采用机械自动绕线,匝于匝之间均匀,每一条线拉直与平行,因此接触面平整。
 - 采用耐热的树脂材料来寝漆、固化、使调压器更耐热。
 - 采用机械磨研,使接触表面平滑如镜。
 - 采用传统多碳刷设计,使电刷的接触面增大,减小每个碳刷承受的电流,降低温升。
 - 采用高性能的电刷,增加导电率,消灭火花。
 - 采用铜表面焊接,减少接触电阻,降低温升。
 - 采用耐热的弹性金属材料,使机械压力长期稳定,减少接触的温升。
- using high magnetic permeability oriented straight steel, so the loss is small.
 - using mechanical automatic winding, uniform between the 匝, each line straight and parallel, so the contact surface is flat.
 - using heat-resistant resin material to sleep paint, curing, make the regulator more heat-resistant.
 - using mechanical grinding to make the contact surface smooth as a mirror.
 - using the traditional multi-carbon brush design, the contact surface of the brush is increased, reducing the current of each carbon brush, reducing the temperature rise.
 - using high-performance brushes, increase conductivity, eliminate fireworks.
 - using copper surface welding, reduce contact resistance, reduce temperature rise.
 - the use of heat-resistant elastic metal material, so that the mechanical pressure is stable for a long time, reducing the temperature rise of contact.

适用范围 Scope of application

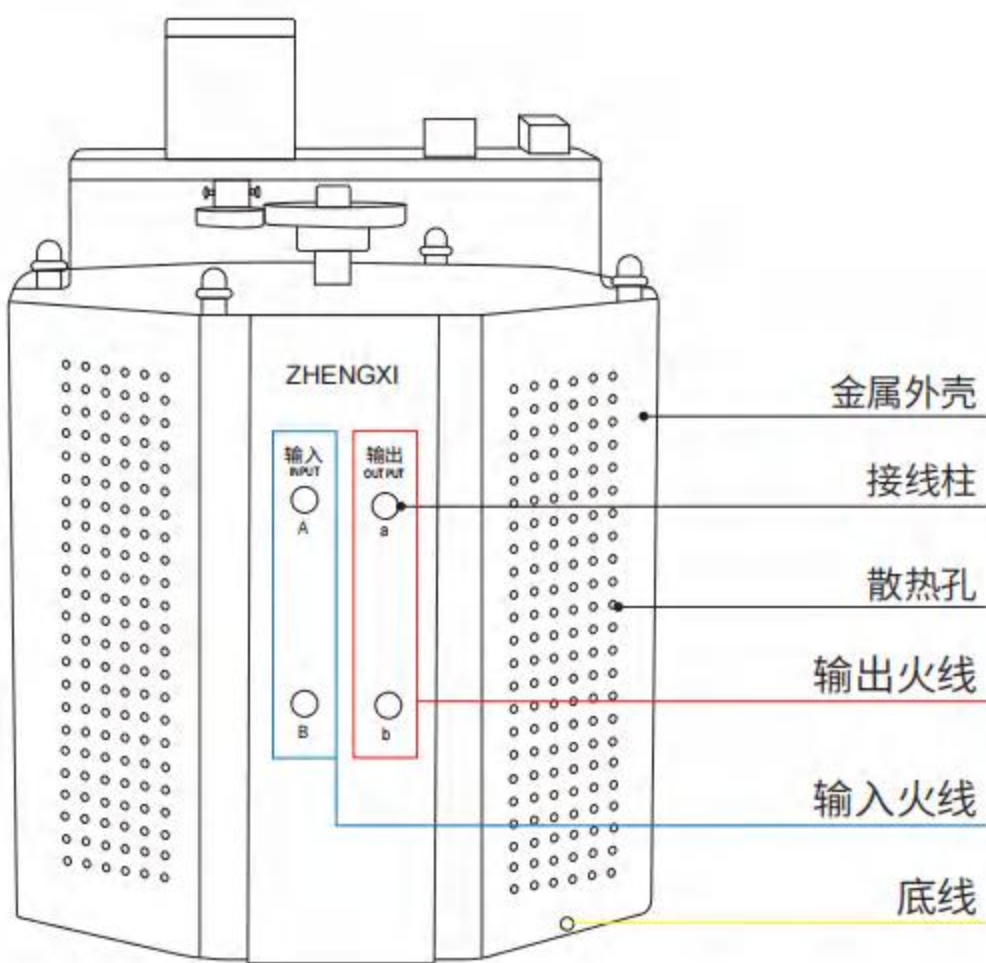
该系列产品广泛用于工业生产、科学实验及家用电器的测试等领域中的调压设备、检验和实验设备、整流设备、电器产品老化实验设备、功率控制设备、实现调压、控温、调速、调光和功率控制等目的。

This series of products are widely used in the fields of industrial production, scientific experiments and testing of household appliances, such as pressure regulating equipment, inspection and experimental equipment, rectifier equipment, electrical equipment aging experimental equipment, power control equipment, voltage regulation, temperature control, and adjustment.

产品解析 Product analysis



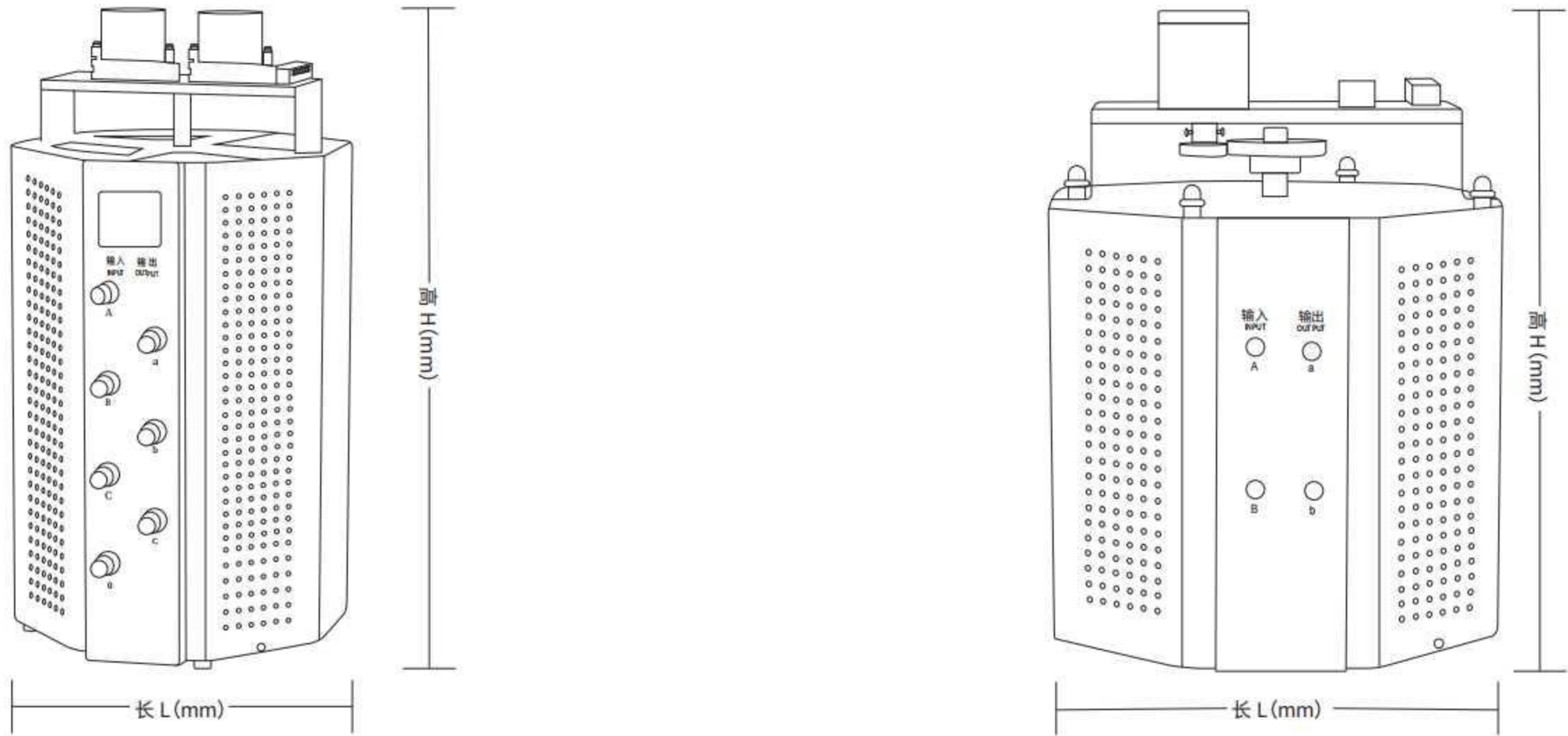
三相接触式电动调压器



单相电动交流调压器

调压器系列

外观尺寸 Appearance of size



产品型号 Product model	输入电压 Input voltage	输出电压 Output voltage	额定电流 (A) Rated current	尺寸 (mm) 长x宽x高 L x W x H
TDGC2J-5KVA	220V	0-250V (可定制宽范围)	20	330*370
TDGC2J-8KVA			32	330*370
TDGC2J-10KVA			40	330*370
TDGC2J-15KVA			60	430*1100
TDGC2J-30KVA			120	430*1100
TDGC2J-40KVA			160	430*1100
TDGC2J-50KVA			200	430*1100
TSGC2J-10KVA	380V	0-430V (可定制宽范围)	13	285*330*590
TSGC2J-15KVA			20	285*330*590
TSGC2J-20KVA			26	435*435*640
TSGC2J-30KVA			40	435*435*640
TSGC2J-40KVA			54	435*435*640
TSGC2J-50KVA			67	435*435*1165
TSGC2J-60KVA			80	450*460*1165
TSGC2J-80KVA			108	460*460*1164
TSGC2J-100KVA			134	470*460*1164
TSGC2J-120KVA			161	480*460*1164

技术参数 Main technical parameter

名 称 name	单相/三相电动调压器
频 率 frequency	50Hz/60Hz
工作效率 Work efficiency	≥95%
冷却形式 Cooling form	干式 Dry
电源相数 Power phase	三相/单相 Three phase / single phase
调压方式 Regulating way	电动 Electric
铁心形式 Iron form	环形 Ring
标 准 standard	JB/T10091
冷却方式 cooling method	自然冷式 Naturally cold
外形结构 external structure	立式 Vertical
防潮方式 Moisture proof method	开放式 Open
环境温度 Ambient temperature	-15°C~+45°C
适用场地 Applicable venue	化工冶金仪器仪表机械制造轻工工业家用电器等。 Chemical Metallurgy Instruments Instruments Machinery Manufacturing Light Industry Industrial Household Appliances, etc.

TSJA Oil immersed regulator

TSJA 油浸式调压器

调压器系列



产品概述 Product profile

油浸式感应调压器TSJA(功率50~1500KVA)、(电压范围0-180V,0-380V,0-420V,0-500V,0-650V,0-900V,0-1200V等等]特殊产品特殊设计。调压器主要用于电机试验,变压器试验,电炉控温等。感应调压器能在带负荷情况下,无级、平滑、连续地调节输出电压。主要用于电机电器试验、电炉控温、整流设备配套、发电机励磁等,在机械制造、化工、纺织、通讯、军工等行业得到广泛应用。

TSJA型油浸式调压器采用斜槽新工艺,波形好,达到IEC标准对电器试验电源的要求,该系列产品可平滑、无级地调节负载电压,输出电压波形畸变小,寿命长、运行可靠,使用、维护方便、损耗低、过载能力强,具有两种调压速度,是电机、变压器和其他电器 最理想的可调电源。

Oil-immersed induction regulator TSJA (power 50 ~ 1500KVA), (voltage range 0-180V, 0-380V, 0-420V, 0-500V, 0-650V, 0-900V, 0-1200V, etc.) special products Special design. Voltage regulator is mainly used for motor test, transformer test, electric furnace temperature control, etc. Inductive voltage regulator can steplessly, smoothly and continuously adjust output voltage under load. It is mainly used for motor electrical test and electric furnace. Temperature control, supporting rectifier equipment, generator excitation, etc., have been widely used in machinery manufacturing, chemical, textile, communications, military and other industries.

TSJA oil-immersed voltage regulator adopts the new technology of chute groove, which has good waveform and meets the requirements of the IEC standard for electrical test power. This series of products can smoothly and steplessly adjust the load voltage, the output voltage waveform has small distortion, long life, and operation Reliable, easy to use and maintain, low loss, strong overload capacity, with two voltage regulation speeds, it is the most ideal adjustable power supply for motors, transformers and other electrical appliances.

技术参数 Main technical parameter

名称	name	油浸式感应调压器	Oil-immersed induction voltage regulator
频率	frequency	50Hz/60Hz	
工作效率	Work efficiency	>96%	
绝缘电阻	Insulation resistance	> 20MΩ	
适用温度	Suitable temperature	-10°C~45°C	
负载电流	Load current	226.5A 346.5A 412.5A 456A 577A 693A	
瞬时过载	Instantaneous overload	<180%	

产品型号 Product model	输入电压 Input voltage	输出电压 Output voltage	额定输出电流 (A) Rated output current	外形尺寸 (mm) Dimensions
TSJA-30KVA	380V	0~380V、0~420V、0~500V、0~650V	46、42、35、27	128*176
TSJA-50KVA			76、69、58、44	128*176
TSJA-75KVA			114、103、87、67	128*176
TSJA-100KVA			152、138、116、89	105*166
TSJA-125KVA		0~420V、0~500V、0~650V	172、144、111	120*166
TSJA-140KVA			192、162、124	120*166
TSJA-160KVA		0~380V、0~420V、0~500V、0~650V	243、220、185、142	120*166
TSJA-180KVA		0~650V	160	120*166
TSJA-200KVA		0~380V、0~420V、0~500V、0~650V	304、275、231、178	142*171
TSJA-225KVA		0~650V	200	127*171
TSJA-250KVA		0~420V、0~500V、0~650V	344、289、222	152*209
TSJA-280KVA		0~650V	249	142*171
TSJA-315KVA		0~380V、0~420V、0~500V、0~650V	479、433、364、280	152*209
TSJA-350KVA		0~650V	311	152*209
TSJA-400KVA		0~420V、0~500V、0~650V	550、462、355	152*209
TSJA-450KVA		0~650V	400	152*209
TSJA-500KVA		0~380V、0~500V、0~650V	759、577、444	152*215
TSJA-630KVA		0~650V	560	158*258
TSJA-630/6KVA		0~6300V	57.5	158*258
TSJA-630/10KVA		0~10500V	34.6	158*258
TSJA-800KVA		0~650V	711	173*258
TSJA-800/6KVA		0~6300V	73.3	215*275
TSJA-800/10KVA		0~10500V	44	215*275
TSJA-1000KVA		0~650V	888	172*258
TSJA-1000/6KVA		0~6300V	91.6	215*275
TSJA-1000/10KVA		0~10500V	55	215*275
TSJA-1250KVA		0~650V	1110	215*275
TSJA-1250/6KVA		0~6300V	115	215*275
TSJA-1250/10KVA		0~10500V	68.7	215*275
TSJA-1600KVA		0~650V	1421	215*275

调压器系列