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凯工电气(苏州)有限公司  
KAIGONG ELECTRIC (SUZHOU)CO.,LTD.



凯工电气  
KAIGONG ELECTRIC

■ Motor  
■ Alternator  
■ Machine Tool

请注意：本样本之数据仅供参考，因产品不断完善，技术数据可能随时更改，如有疑问，请与我司联系。

Please note: The technical data in this catalogue only for reference, continuous development of our product entitles us to change the specification without notice, if any doubt, please contact with us.

2015版  
2015 Version



ISO9001 CE CCC OCS

## 简介 Brief introduction

公司位于苏州市国家级高新技术产业开发区——珠江路，公司自创立以来，坚持高标准、高质量、高效率的企业发展方针，致力于发电机、机床装备相关产品的研发销售，是一家集电机和发电机制造、销售、科研为一体的创新型科技企业。拥有国家发明专利2项，“凯捷利”品牌的产品远销欧洲、南美、中东、南亚、东南亚等50多个国家和地区，并在国内外建立了稳固的销售渠道，设品牌代理50余家，年销售额逐年增长，成为行业内的领军企业。

KAIGONG ELECTRIC (SUZHOU) CO., LTD is located in Zhujiang Road, New District, Suzhou. We always adhere to the policy of high standard, high quality and high efficiency and devoted ourselves to the research and sales of the generators, machine tools and their spare parts. It is a creative technology company comprising the manufacture, sales and research of electric motors and generators. We have 2 national invention patents. Our products in "KAJIELI" brand are exported to more than 50 countries and districts in Europe, South America, Middle East, South Asia, Southeast Asia etc. We have steady sales channels and more than 50 agencies both at home and abroad. It is the leading company in the industry and the total annual sales is Keeping growing.

公司秉承“务实，创新，开拓”的企业精神，坚持“为客户提供优质可靠产品”的经营理念，引进优秀的技术专业人才、先进设备，拥有雄厚的技术力量和严谨高效的技术研发团队。先后生产的CDF、KE、KE3系列普通电动机、高效电动机和超高效电动机，符合欧盟最新的能效标准，走在了市场前列；ST、STC系列有刷发电机的生产和销售量，数年来一直稳居国内第一；TWGII系列无刷发电机采用自主研发的多项专利技术，成为了引领潮流的新一代发电机产品。

We adhere to the spirit of pragmatism, creation and pioneering, adhere to the operation philosophy of supplying high quality products to the customers and attach great importance to the talent introduction and advanced equipment. We have strong technical force, rigorous and efficient technology research team. The ordinary motors of CDF series, high efficiency motors of KE series and ultrahigh efficiency motors of KE3 series are in accordance with the latest EU standards and take the leading position in the market. The manufacture and sales of the ST STC series generators with brush ranked the first steadily in domestic market for years. TWGII series brushless generators became the new generation generators which set the trend thanks to several patented technology of our independent research.

凯工电气以打造“中国最佳”为努力方向，以“满足客户要求”为员工职责，以“战胜竞争”为团队荣耀，以“利益共赢”为最终目标。并与国内外知名企建立了战略合作关系，期冀与更多新老客户携手真诚合作。

Kaigong takes “creating the best in China” as the direction, “satisfying the customers” as the staff duty, “beating the competitors” as the glory and “getting win-win situation” as the ultimate goal. We have built strategic cooperation relationship with domestic and overseas well-known enterprises and sincerely hope to cooperate with more new and old customers.



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## 简介 INTRODUCTION:

TWG系列三相交流无刷同步发电机是我司引进、消化国外名牌发电机先进技术而自行开发的新型发电机。该系列发电机机座采用钢板壳结构，转子采用全阻尼的整体凸极结构，采用无刷自励磁方式，并带有AVR自动控制。整机体积小、重量轻、外观精致、性能优良。

TWG系列发电机的主要技术性能和安装尺寸符合国际IEC34-1标准和有关国内标准，产品达到当代国际水平。

TWG series three-phase brushless synchronous generators, by introducing and developing on foreign advanced technology of well-known generators, are our newly developed products. Its body is constructed by steel shell and rotor is made as whole salient pole type with full damping, with brushless self excitation and automatic controlling by AVR. It has following features: small-size, light-weight, good appearance and perfect performance.

The technical performance and mounting dimension of TWG generators are in conformity with international IEC34-1 and relevant national standard, the quality of the products can reach up-to-day international level.

## 主要性能参数 MAIN PERFORMANCE INDEX:

四极无刷可控式、防滴漏结构（IP22防护等级），H级绝缘；全阻尼的整体凸极结构，保证发电机在各种工况下稳定运行，并可在150%额定转速下超速运行2分钟；稳态电压调整率 $\leq \pm 1\%$ ，瞬态电压调整率： $-15\% \sim +20\%$ ；电压波形畸变率THD $\leq 3\%$ ，电话谐波系数THF $\leq 2\%$ ，电话影响系数TIF $\leq 50$ 。

Four-pole brushless controllable self-excitation, drip-leak-proof(protection class IP22), insulation class H; Full-damping whole salient structure makes the generator to be operated stably in any conditions and enable it to overspeed 2 minutes under 150% rated speed; Adjusting rate of stable voltage $\leq \pm 1\%$ , adjusting rate of instant voltage: $-15\% \sim +20\%$ . Wave aberration rate of voltage THD $\leq 3\%$ , telephone harmony wave factor of telephone THF $\leq 2\%$ , telephone influenced factor TIF $\leq 50$ .

## 使用环境 ENVIRONMENT CONDITIONS

在下列环境条件下，发电机能够额定运行。

- 1.海拔不超过1000米。
- 2.冷却空气温度258~313K (-15°C~40°C)。
- 3.相对湿度不超过90%。

Under the following environment, the generator could run continuously:

1. Altitude: not exceed 1000m.
2. Cooling air temperature: 258~313K(-15°C~40°C) .
3. Relative air humidity: not exceed 90%.

## 特征 FEATURES:

- 1.可靠的自动电压调节器励磁系统，在各种情况下可提供恒定励磁。
- 2.很容易与电网或其它发电机并联。
- 3.经动平衡的转子，带有密封的滚珠轴承，具有单轴承和双轴承两种结构。
- 4.安装简单，维护保养方便，具有极易操作的接线柱、旋转二极管和联轴器螺栓。
- 5.多规格的过渡接套和单轴承盘片式联轴器。
- 6.符合所有主导的陆用标准。
1. Providing invariable excitation on all occasions.
2. Easy to be connected with power network of other generators.
3. Balanced rotor with single or two sealed ball bearings.
4. Convenient installation and maintenance with easy access to terminals, rotating diodes and coupling bolts.
5. Wide range of flange adaptor and single bearing coupling disc.
6. In conformity with all leading standards.

**TWG**

## 系列三相无刷同步发电机 SERIES THREE-PHASE BRUSHLESS SYNCHRONOUS GENERATOR



### 电气特征 ELECTRICAL CHARACTER:

#### 励磁系统: EXCITATION SYSTEM:

自动电压调节器（AVR）共有3种以上型号，主要规格：EA05A, SX460及SX440。

主机定子通过AVR向励磁机定子提供电力。

励磁机转子的输出功率通过三相全波整流器输给主机转子。该整流器二端并有压敏电阻，抑制浪涌电压，以免由诸如短路或者并联时相位失步而引起的冲击。励磁机定子带有磁钢，可保证在任何情况下，顺利起动。

所有AVR的稳态电压调整率为 $\leq \pm 1\%$ ，其中SX440具有并联运行，低频保护，外部电压调节等多种功能。

Auto-voltage regulation(AVR) has morethan 3 series, including EA05A, SX460 and SX440 and others. The main stator provides the exciter stator with the power via AVR. Output power of exciter's rotor is input to that of mains through 3-phase full wave rectifier. Two ends of the rectifier are connected with piezoresistance for restraining surge voltage and avoiding the impact caused by short circuit or parallel synchroniz ation loss. Exciters stator is equipped with permanent magnetic steel. It can make generator starting smoothly in any occasions.

Whole stable voltage regulation is  $\pm 1\%$  , and SX440 has features of parallel connection, low frequency protection and exterior voltage adjustment,etc.

#### 电压调整率: VOLTAGE REGULATION:

电压调整率是指允许发动机转速在4%以内的波动下、功率因数在0.8滞后与1之间，从空载到满载的电压变化(包括冷态至热态的变化)，可用AVR上的一个微调来调整电压。

Voltage regulation refers to the change of voltage from no-load to full-load with power factor lagging from 0.8 to 1 and 4% s fluctuation of the speed of engine. Voltage is adjusted via potentiometer of AVR.

### 电气特性 ELECTRIC FEATURES:

#### 绝缘和漆: INSULATION:

绝缘等级是“H”级。

所有绕制的零部件都是用专门研制的材料并采用特殊的工艺浸漆的，为发电机在恶劣环境中运行提供保障。专门开发的树脂基材料为线圈和各旋转部件提供了高加速度强度和高机械强度。

Insulation class H

All regulatory components are made up with special materials and also immersed in lacquer by peculiar tech. Varnish and colophony materials are developed to strengthen the processing and machinery intensity of windings and revolving parts for protecting the generator work under corrosive environment.

#### 绕组和电气性能: WINDINGS AND ELECTRIC FEATURES:

所有发电机的定子采用高导磁性能冷轧硅钢板叠压而成，新型双层叠绕组、结构坚固，绝缘性能好。一个完全连续的阻尼绕组减少了并联时的振荡。这种新型绕组，且极和齿都经过仔细精选的线组抑制了输出电压的波形畸变。

All the generator stators adopt high magnetic conductivity energy cold rolling silicon steel plate to fold up, double winding, firm structure, good insulating. Continuous damp windings abate surges. The poles and teeth of the windings are carefully chosen, which helps checking the wave distortion of output voltage.

#### 电话干扰: PHONE INTERFERENCE:

THF (如BS EN 600 34-1所定义) 小于2%。TIF (如NEMA MG1-22所定义) 小于50。  
THF(as defined by BS EN 600 34-1)<2%. TIF (as defined by NEMA MG1-22)<50.

#### 无线电干扰: RADIO INTERFERENCE

无刷装置和高质量的AVR确保无线电传送时干扰很小。如果需要的话, 可另外提供RFI抑制装置。  
Brushless apparatus and high quality AVR ensure little radio interference in transmission. RFI noise filter is also available.

#### 机械特性 MECHANIC FEATURES:

##### 外壳: FRAME:

所有船用发电机的标准型为IP22 (NEMA1)。作为任选, 可提供IP23的防护等级, 但额定功率下降5%。船用发电机的标准型为IP23。作为任选件可在发电机上装备空气过滤器, 但额定值下降5%。

All industrial standard generators is IP22(NEMA1).IP23 is also available, but rated power will decrease 5%.Marine generator is IP23 as normal standard. Air filter is an option, but rated power will decrease 5% while it is installed.

##### 轴和键: AXIS AND KEY:

所有发电机转子都经动平衡校验, 校验振动比BS6861第1部分第2.5级中规定的最小值还要低。双轴承发电机带一个半键校准平衡。

All rotors should pass balance test, which vibration is lower than the minimum value of BS6861 P.1, G 2.5. Two-bearing generator has a half-key testing balance.

##### 接线端子和接线盒: TERMINAL AND TERMINAL BOX:

标准的发电机是三相, 并可对引至接线端子的12个接线头重接, 接线端子安装在发电机非驱动端的出线板上。在薄钢板制成的出线盒内有AVR, 具有足够的空间让用户布线。为易于操作, 面板为拆卸式面板。

The normal three-phase generators have 12 leads brought out to the terminals in the terminal box. The terminals are put on the board of the non-drive end. AVR is mounted in the terminal box made in steel sheet and enough space left inside for laying wires. The box is equipped with removable panels.

##### 过渡接套和联轴器: ENGINE ADAPTOR AND COUPLING

TWG系列发电机具有单轴承和双轴承两种结构。

TWG系列单轴承结构的过渡接套, 可选SAE#00, 0, 1/2, 1, 2, 3, 4, 5; 盘片式联轴器可选SAE#6.5, 7.5, 8, 10, 11.5, 16, 18, 21。

TWG系列双轴承结构的过渡接套, 可选SAE#00, 0, 1/2, 1, 2, 3, 4, 5。

TWG series generators have two kinds of structure, single bearing and double bearing.

Engine adapter for single-bearing could be SAE#00, 0, 1/2, 1, 2, 3, 4 and 5. Coupling disc for single-bearing could be SAE#6.5, 7.5, 8, 10, 11.5, 16, 18 and 21.

Engine adapter for double-bearing could be SAE#00, 0, 1/2, 1, 2, 3, 4, 5.

#### 可供选择的配置 OPTION FEATURES:

1.过渡联接套及可互换的盘式连轴器

2.单相

3.电压远程调整

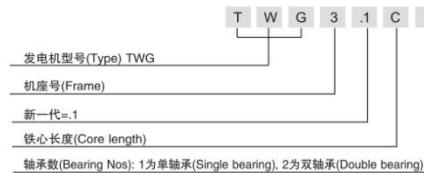
4.IP23防护等级

5.空间加热器

6.热敏电阻

- 1. Adapters and interchangeable drive disk
- 2. Single phase
- 3. Remote voltage adjust
- 4. IP23 protection class
- 5. Space heaters
- 6. Thermistors

#### 产品型号定义 THE DEFINITION OF THE PRODUCT MODEL:



#### 额定参数 RATED DATA

TWG														
电气参数 ELECTRICAL DATA		50Hz 1500rpm												
额定 RATING		KVA/KW cosj=0.8												
最大环境温度 Max.Ambient Temperature		40°C												
海拔 Altitude		≤ 1000m												
绝缘等级 Insulation Class		H												
引线接头数 Leads Number		12	激磁系统* Excitation System*			自励系统 Self-excitation								
			A.V.R. Model			EA05A SX460 SX440								
防护等级** Protection class		IP22	电压调整率 Voltage Regulation			± 1%								
超速 Over-Speed		2250rpm	瞬态电压恢复时间 Recovery time(s)			≤ 1.0								
电压谐波正弦畸变率THD*** Total Harmonic THD***		≤ 3%	电话谐波因数 THF Wave Form: IEC = THF***			≤ 2%								
波形: NEMA = TIF*** Waveform: NEMA = TIF***		≤ 50												
** IP23为按要求选项。 ** IP23 optional on request														
*** 空载或额定平衡负载时的线电压波形正弦畸变率。 *** Total harmonic content line to line, at no load or full rated linear and balanced load.														
工作制/环境温度 Duty / Ambient T°		连续 Continuous / 40°C			备用 Stand by / 40°C		备用 Stand by / 27°C							
绝缘等级 温升 ins. Class/ T° Rise		H / 1250K			H / 1500K		H / 1630K							
相数 Phase		3 Phase			3 Phase		3 Phase							
电压 Voltage		Y	380V	400V	415V	380V	400V	415V						
TWG2.1C	KVA		43.8			46.3		48.8						
	KW		35			37		39						
TWG2.1D	KVA		50			56		59						
	KW		40			45		47						
TWG2.1E	KVA		62.5			67.5		71						
	KW		50			54		57						
TWG2.1F	KVA		80			85		91.5						
	KW		64			69		73						
TWG2.1G	KVA		94			100		106.5						
	KW		75			80		85						
TWG3.1C	KVA		94			100		106.5						
	KW		75			80		85						
TWG3.1CB	KVA		100			106.3		112.5						
	KW		80			85		90						
TWG3.1D	KVA		112.5			117.5		125						
	KW		90			94		100						
TWG3.1E	KVA		125			130		137.5						
	KW		100			104		110						
TWG3.1F	KVA		150			160		170						
	KW		120			128		136						
TWG3.1G	KVA		187.5			200		212.5						
	KW		150			160		170						
TWG3.1GB	KVA		200			213.8		225						
	KW		160			171		180						
TWG4.1CB	KVA		225			237.5		250						
	KW		180			190		200						
TWG4.1C	KVA		250			260		275						
	KW		200			208		220						
TWG4.1CC	KVA		275			290		300						
	KW		220			232		240						

上面表内数据在任何情况下将随着新的技术发展而有所变动, 客户可以向我公司咨询。  
The above data will be changeable together with the development of the new technology. Our clients are welcome to consult with us at any time.

### 额定参数 RATED DATA

TWG										
电气参数 ELECTRICAL DATA 50Hz 1500rpm										
电压 Voltage	Y	380V	440V	480V	380V	440V	480V	380V	440V	480V
TWG4.1D	KVA		312.5		325		335			
	KW		250		260		268			
TWG4.1EB	KVA		350		368.8		385			
	KW		280		295		308			
TWG4.1E	KVA		375		387		400			
	KW		300		310		320			
TWG4.1FB	KVA		400		420		437.5			
	KW		320		336		350			
TWG4.1F	KVA		443.75		465		500			
	KW		355		372		400			
TWG4.1G	KVA		500		525		562.5			
	KW		400		420		450			
TWG5C	KVA		562.5		593.8		625			
	KW		450		475		500			
TWG5D	KVA		625		662.5		700			
	KW		500		530		560			
TWG5DB	KVA		700		737.5		762.5			
	KW		560		590		610			
TWGEB	KVA		750		775		800			
	KW		600		620		640			
TWG5E	KVA		787.5		812.5		850			
	KW		630		650		680			
TWG5F	KVA		900		937.5		987.5			
	KW		720		750		790			
TWG5G	KVA		1000		1050		1100			
	KW		800		840		880			

### 额定参数 RATED DATA

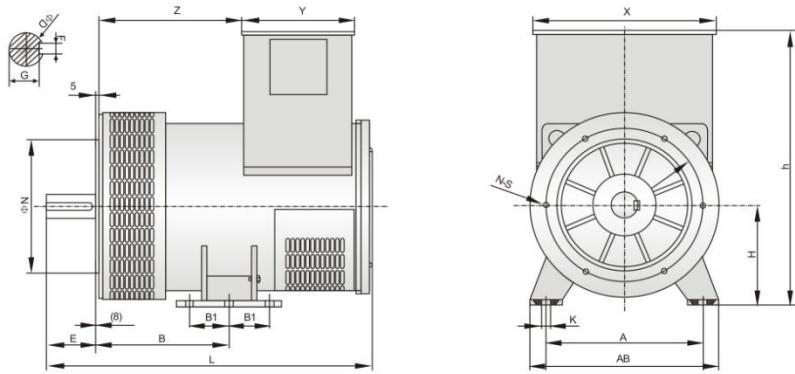
TWG																
电气参数 ELECTRICAL DATA 60Hz 1800rpm																
额定 RATING	KVA/KW cosj=0.8															
最大环境温度 Max.Ambient Temperature		40°C														
海拔 Altitude		≤ 1000m														
绝缘等级 Insulation Class		H														
引线接头数 Leads Number		12	激磁系统* Excitation System*				自励系统 Self-excitation									
			A.V.R. Model				EA05A-3, EA460或440-1									
防护等级** Drip Proof		IP22	电压调整率 Voltage Regulation				± 1%									
超速 Over-Speed		2250rpm	瞬态电压恢复时间 Recovery time(s)				≤ 1.0									
电压波形正弦性畸变率 THD*** Total Harmonic THD***		≤ 3%	电话谐波因数 THF Wave Form: IEC = THF***				≤ 2%									
波形: NEMA = TIF*** Waveform: NEMA = TIF***		≤ 50														
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工作制 / 环境温度 Duty / Ambient T°		连续 Continuous / 40°C		备用 Stand by / 40°C		备用 Stand by / 27°C										
绝缘等级 / 温升 ins. Class/ T° Rise		H / 1250K		H / 1500K		H / 1630K										
相数 Phase		3 Phase		3 Phase		3 Phase										
电压 Voltage	Y	380V	400V	415V	380V	400V	415V	380V	400V	415V						

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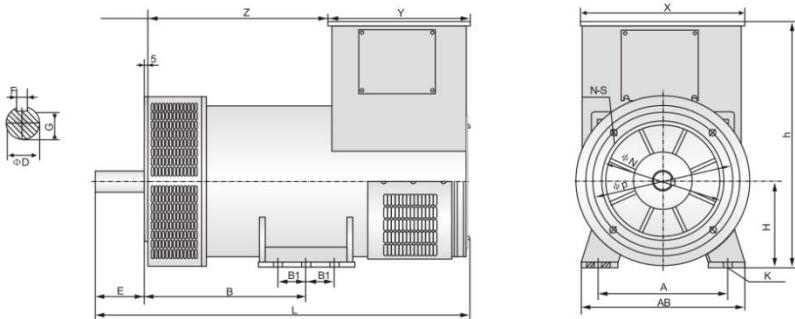
### 额定参数 RATED DATA

TWG										
电气参数 ELECTRICAL DATA 60Hz 1800rpm										
电压 Voltage	Y	380V	440V	480V	380V	440V	480V	380V	440V	480V
TWG2.1C	KVA	50	55	56	53	61	62.5	56	63	67.5
	KW	40	44	44.5	42.5	48.5	50	44.5	50.5	54
TWG2.1D	KVA	55	70	63.8	58.8	67.5	71.3	61.3	70	75
	KW	44	50	51	47	54	57	49	56	60
TWG2.1E	KVA	65	72.5	77.5	68.8	77.5	85	71.3	81.3	87.5
	KW	52	58	62	55	62	68	57	65	70
TWG2.1F	KVA	82.5	95	100	87.5	100	106.3	92.5	105	111.3
	KW	66	76	80	70	80	85	74	84	89
TWG2.1G	KVA	95	110	119	100	116	125	106	122.5	131.5
	KW	76	88	95	80	93	100	85	98	105
TWG3.1C	KVA	95	110	119	100	116	125	106	122.5	131.5
	KW	76	88	95	80	93	100	85	98	105
TWG4.1CB	KVA	102.5	112.5	118.8	106.3	118.8	122.5	112.5	125	130
	KW	82	90	95	85	95	98	90	100	104
TWG3.1D	KVA	115	130	140	121	140	150	129	147.5	157.5
	KW	92	104	112	97	112	120	103	118	126
TWG3.1E	KVA	125	145	156	130	150	162.5	137.5	157.5	170
	KW	100	116	125	104	120	130	110	126	136
TWG3.1F	KVA	156	181	194	164	188	206	174	197.5	216.5
	KW	125	145	155	131	150	165	139	158	173
TWG3.1G	KVA	192.5	217.5	235	205	231	257.5	217.5	244	270
	KW	154	174	188	164	185	206	174	195	216
TWG3.1GB	KVA	205	218.8	235	212.5	235	262.5	225	250	268.8
	KW	165	175	188	170	188	210	180	200	215
TWG4.1CB	KVA	232.2	250	262.5	243.8	252.5	272.5	250	262.5	275
	KW	186	200	210	195	202	218	200	210	220
TWG4.1C	KVA	257	289	300	276	308	324	285	317	337
	KW	206	231	240	221	246	259	228	254	270
TWG4.1CC	KVA	285	312.5	327.5	297.5	306.3	325	312.5	325	340
	KW	228	250	262	238	245	260	250	260	272
TWG4.1D	KVA	330	370	379	356	395	410	367	412	426
	KW	264	296	303	285	316	328	294	330	341
TWG4.1EB	KVA	362.5	400	418.8	375	387.5	406.3	390	400	425
	KW	290	320	335	300	310	325	312	320	340
TWG4.1E	KVA	412	450	469	437	476	492	450	490	510
	KW	330	360	375	350	381	394	360	392	408
TWG4.1FB	KVA	415	450	375	425	432.5	450	437.5	450	470
	KW	332	360	380	340	346	360	350	360	376
TWG4.1F	KVA	485	510	560	510	540	585	530	560	620
	KW	388	408	448	408	432	468	424	448	496
TWG4.1G	KVA	540	570	620	560	590	650	590	630	685
	KW	432	456	496	448	472	520	472	504	546
TWG5C	KVA	550	637.5	693.8	600	700	756.3	625	718.8	775
	KW	440	510	555	480	560	605	500	575	620
TWG5D	KVA	615	656.3	722.5	672.5	775	837.5	700	793.8	875
	KW	492	525	618	538	620	670	560	635	700
TWG5DB	KVA	687.5	775	837.5	700	725	750	715	737.5	765.3
	KW	550	620	970	560	580	600	572	590	605
TWG5EB	KVA	737.5	825	900	750	780	812.5	770	806.3	825
	KW	590	660	720	600	624	650	616	645	660
TWG5E	KVA	775	875	962.5	843.8	975	1056.3	875	1006.5	1090
	KW	620	700	770	675	780	845	700	805	872
TWG5F	KVA	887.5	1025	1112.5	937.5	1093.8	1200	987.5	1131.3	1250
	KW	710	8220	890	750	87.5	960	790	905	1000
TWG5G	KVA	987.5	1137.5	1237.5	1037.5	1193.8	1306.3	1062.5	1250	1350
	KW	790	910	990	830	955	1045	850	1000	1080

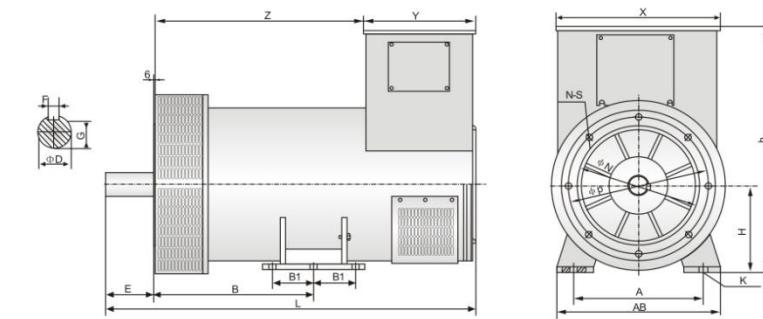
双轴承发电机外形及安装尺寸  
DOUBLE BEARING GENERATOR OVERALL & MOUNTING DIMENSIONS



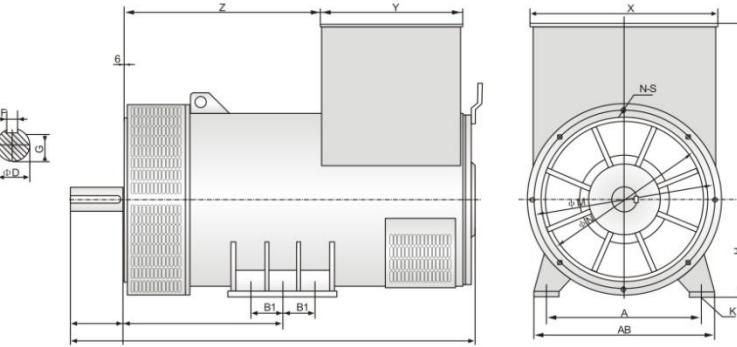
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	H	A	A/2	B	B1	D	E	F	G	6-fk	N	M	N-S	X	Y	Z	AB	h	L	
TWG2.1C2				305							300	350	6-M10	409	254	350		734	260	1079 760
TWG2.1D2	225	356	178	325	90	55	110	16	49	19	300	350	6-M10	409	254	405	426	622	789 292	471 810
TWG2.1E2				325							325					445	829	315	471 860	1079 940
TWG2.1F2				365							365					480		864	326	471 1080



型号 Type	安装尺寸 MOUNTING DIMENSIONS(mm)												外形尺寸 OVERALL DIMENSIONS(mm)						重量 Wt.(kg)	
	H	A	A/2	B	B1	D	E	F	G	6-fk	N	M	N-S	X	Y	Z	AB	h	L	
TWG3.1C2				350							375					876	380	478 1303	1760	
TWG3.1CB2				350							375					876	398	618 1443	1840	
TWG3.1D2				350							375					876	405	618 1443	1860	
TWG3.1E2	250	368	184	400	80	60	140	18	53	24	350	400	4-M16	464	358	455	468	713	956 430	1443 1890
TWG3.1F2				400							455					956	500	618 1443	1910	
TWG3.1G2				460							555					1056	605	808 1633	2020	
TWG3.1GB2				460							555					1056	620	808 1633	2150	



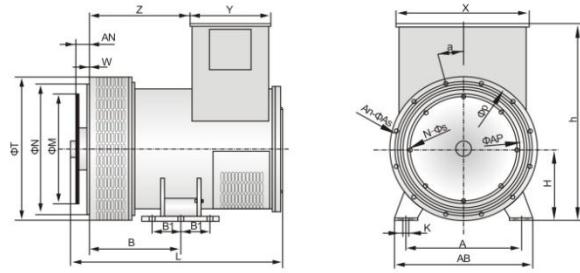
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	H	A	A/2	B	B1	D	E	F	G	6-fk	N	M	N-S	X	Y	Z	AB	h	L	
TWG4.1CB2				450							150	85	170	22	76	24	450	500	8-M16	471 1144
TWG4.1C2				450							480	85	170	22	76	24	536	608	428 887	1030 1144
TWG4.1CC2				450							550					706			1314 1080	
TWG4.1D2				450							550					706			1314 1145	
TWG4.1EB2	315	508	254	480							550					706			1314 1270	
TWG4.1E2				480							550					706				
TWG4.1FB2				550							550					706				
TWG4.1F2				550							550					706				
TWG4.1G2				550							550					706				



型号 Type	安装尺寸 MOUNTING DIMENSIONS(mm)												外形尺寸 OVERALL DIMENSIONS(mm)						重量 Wt.(kg)	
	H	A	A/2	B	B1	D	E	F	G	6-fk	N	M	N-S	X	Y	Z	AB	h	L	
TWG5C2				500							130	100	210	28	90	35	680	740	769	478 1303
TWG5D2				550							550					618			1443 1840	
TWG5DB2				550							550					618			1443 1860	
TWG5E2	400	630	315	550							550					618			1443 1890	
TWG5F2				550							640					618			1443 1910	
TWG5G2				640							640					808			1633 2020	

单轴承发电机外形及安装尺寸

SINGLE BEARING GENERATOR OVERALL & MOUNTING DIMENSIONS



盘片式联轴器尺寸SAE DRIVE DISC

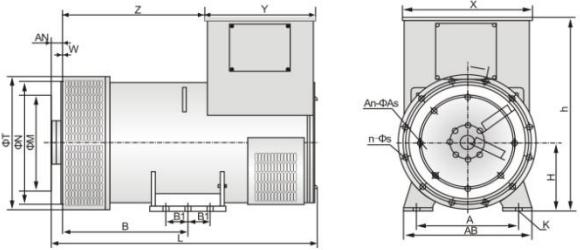
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8	F263.4	F244.4	6-F11	61.9
10	F314.3	F295.3	8-F11	53.8
11.5	F352.4	F333.4	8-F14	39.6

法兰过渡接套尺寸SAE ADAPTER

SAE Number	T	N	P	N-FS	A
2	494	F447.7	F466.7	12-F12	15°
3	452	F409.6	F428.6	12-F12	15°
4	452	F361.9	F381.0	12-F12	15°

型号 Type

型号 Type	安装尺寸 MOUNTING DIMENSIONS(mm)						外形尺寸 OVERALL DIMENSIONS(mm)						重量 Wt.(kg)	
	H	A	A/2	B	B1	W	6-fk	X	Y	Z	AB	h	L	
TWG2.1C1				296				350			673		250	
TWG2.1D1	225	356	178	316	90	5	19	409	254	405	426	622	282	
TWG2.1E1				316				445			768		305	
TWG2.1F1				356				480			803		316	



盘片式联轴器尺寸SAE DRIVE DISC

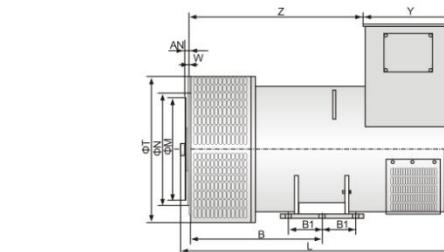
SAE Number	M	AP	An-FAs	AN
10	F314.3	F295.3	8-F11	53.8
11.5	F352.4	F333.4	8-F14	39.6

法兰过渡接套尺寸SAE ADAPTER

SAE Number	T	N	P	N-FS	A
1	560	F511.2	F530.2	12-F12	15°
2	494	F447.7	F466.7	12-F12	15°
3	494	F409.6	F428.6	12-F12	15°

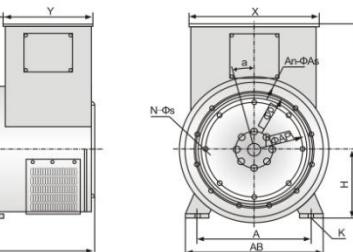
型号 Type

型号 Type	安装尺寸 MOUNTING DIMENSIONS(mm)						外形尺寸 OVERALL DIMENSIONS(mm)						重量 Wt.(kg)	
	H	A	A/2	B	B1	W	6-fk	AB	h	X	Y	Z	L	
TWG3.1C1				340				374	772	370				
TWG3.1CB1				340				374	772	388				
TWG3.1D1				340				374	772	395				
TWG3.1E1	225	368	184	390	80	6	24	468	713	464	358	454	852	420
TWG3.1FB1				390				454	852	490				
TWG3.1G1				390				554	952	595				
TWG3.1GB1				450				554	952	610				



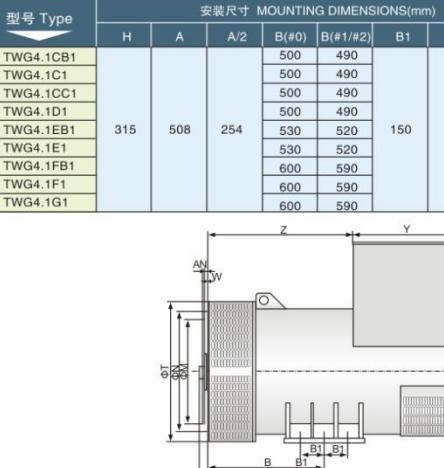
盘片式联轴器尺寸SAE DRIVE DISC

SAE Number	M	AP	An-FAs	AN
11.5	F352.4	F333.4	8-F14	39.6



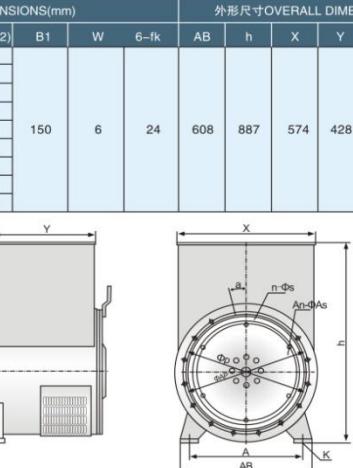
法兰过渡接套尺寸SAE ADAPTER

SAE Number	T	N	P	N-FS	A
0	713	Φ647.7	Φ679.4	16-Φ14	11.25°
1	669	Φ511.2	Φ530.2	16-Φ12	15°
2	669	Φ447.8	Φ466.7	16-Φ12	15°



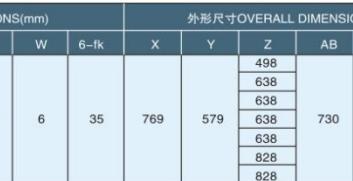
盘片式联轴器尺寸SAE DRIVE DISC

SAE Number	M	AP	An-FAs	AN
SAE14	466.7	438.2	8-Φ14	25.4
SAE18	571.5	542.9	6-Φ18	15.7



法兰过渡接套尺寸SAE ADAPTER

SAE Number	T	N	P	N-FS	W	a
SAE00	886	787.4	850.9	16-Φ14	6	11.25°
SAE0	793	647.7	679.5	16-Φ14	6	11.25°
SAE0.5	793	584.2	619.1	12-Φ14	6	15°



型号 Type	安装尺寸 MOUNTING DIMENSIONS(mm)						外形尺寸 OVERALL DIMENSIONS(mm)						重量 Wt.(kg)
H	A	A/2	B	B1	W	6-fk	X	Y	Z	AB	h	L	Vt.(kg)
TWG5C1				510						498		1146	1750
TWG5D1				560						638		1286	1830
TWG5DB1				560						638		1286	1850
TWG5EB1				560						638		1286	1880
TWG5E1				560						638		1286	1900
TWG5F1				650						828		1476	2010
TWG5G1				650						828		1476	2140

## 简介 INTRODUCTION:

TWG II 系列三相交流无刷同步发电机是我公司在原TWG系列的基础上，结合国内外先进无刷发电机系列的设计和制造技术而自行开发的新一代发电机。该系列发电机体积小、重量轻、外观精致、可靠性高，电气性能达到国际先进水平。

TWG II 系列三相交流无刷同步发电机符合IEC国际电工委员会和GB755等相关标准，适用于与柴油机配套组成柴油发电机组或移动电站，使用于陆地、舰船、列车、宾馆等需要工频电源的场合。

TWG II series three-phase brushless synchronous generators, by introducing and developing foreign and domestic advanced technology and design, are newly designed by our company on basis of our primary TWG series. It possesses following features: small-size, light-weight, delicate appearance, reliable operation, the electrical performance of our product can reach up to the international advanced level.

TWG II series three-phase brushless synchronous generators are in conformity with IEC, GB755 and relevant standard. It is suitable to match with the diesel engine to be genset and mobile power station used in land, boat, train, hotel and the occasion where industry power needed.

## 主要性能参数 MAIN PERFORMANCE INDEX:

- 01.防滴漏结构 (IP22防护等级)
- 02.H级绝缘
- 03.额定电压400V
- 04.三相四线制
- 05.静态电压调整率≤±1%
- 06.静态电压调整率≤-15%~+20%
- 07.电压波形畸变率THD≤3%
- 08.电话谐波系数THF≤2%
- 09.电话影响系数TIF≤50
- 10.其它电压范围的发电机要根据用户需要制造
  1. Drip-leak-proof structure: ( IP22 protection class )
  2. Insulation class H
  3. Rated voltage 400V
  4. Three phase four threads
  5. Adjusting rate of stable voltage≤±1%
  6. Transient state voltage≤-15%~+20%
  7. Wave aberration rate of voltage THD≤3%
  8. Telephone harmonic wave factor of telephone THF≤2%
  9. Telephone effective factor of telephone TIF≤50
  10. Voltage of other range depends on the customers request

## 使用环境 ENVIRONMENT CONDITIONS

在下列环境下，发电机能够额定运行。

- 1.海拔不超过1000米。
- 2.冷却空气温度258~313K (-15°C~40°C)。
- 3.相对湿度不超过90%。

Under the following environment, the generator could running continuously:

1. Altitude: not exceed 1000m.
2. Cooling air temperature: 258~313K(-15°C~40°C).
3. Relative air humidity: not exceed 90%.

## 特征 FEATURES:

- 1.可靠的自动电压调节器励磁系统和任选的永磁发电机系统，在各种情况下可提供恒定励磁。
- 2.很容易与电网或其他发电机并联。
- 3.经动平衡的转子，带有密封的滚珠轴承，具有单轴承和双轴承两种结构。
- 4.安装简单，维护保养方便；具有极易操作的接线柱、旋转整流器和联轴器螺栓。
- 5.多规格的过渡接套和单轴承盘片式联轴器。
- 6.符合所有主导的陆用标准。
- 1.Reliable AVR exciting system and optional permanent magnetic system always provide invariable excitation on all occasions.
- 2.Easy to be connected with power network of parallel other generators.
- 3.Balanced rotor, sealed single and double ball bearings.
- 4.Convenient installation and easy maintenance, easy access to terminal, rotating rectifier and coupling bolts.
- 5.Wide range of flange adapter and coupling disc for single bearing.
- 6.In conformity with all mainland standard.

# TWG II

## 系列三相无刷同步发电机 SERIES THREE-PHASE BRUSHLESS SYNCHRONOUS GENERATOR



### 电气特征 ELECTRICAL CHARACTER:

#### 励磁系统: EXCITATION SYSTEM:

标准配置自动电压调节器（AVR）为：EA05A、EA04C、SX440、SX460 或 MAX321 为任选的自动电压调节器（AVR）。主机定子通过AVR向励磁机定子提供电力。AVR中的高效率半导体器件确保输出电压从最初较低的剩磁电压逐渐增大至额定值。励磁机转子的输出功率通过三相全波桥式整流器输给主机转子。该整流器两端并有压敏电阻，抑制浪涌电压，以免由诸如短路或者并联时相位失步而引起的冲击。励磁机定子带有磁钢，可保证在任何情况下顺利起动。

所有AVR的静态电压调整率≤±1%，SX440 具有并联、低频保护，外部电压调节等多种功能。

MAX321 为带永磁发电机所用的AVR。

The standard AVR include EA05A, EA04C, SX440, SX460 OR MAX321 (optional AVR).

The main stator provides the exciter stator with the power via AVR. The high efficiency semiconductor inside AVR ensures the output voltage gradually up to the rated value from the initial lower remanence voltage. The power of the exciter's rotor is output to the host rotor through 3-phase full wave rectifier. Two ends of the rectifier are connected with piezoresistance for restraining surge voltage and avoiding the impact caused by short circuit of parallel synchronization loss. Exciters stator is equipped with permanent magnetic steel. It can make generator starting smoothly in any occasions. Whole stable voltage regulation is 1%, and SX440 has features of parallel connection, low frequency protection and exterior voltage adjustment,etc. MAX321 is the AVR for the permanent magnetic motors.

#### 电压调整率: VOLTAGE REGULATION:

电压调整率是指允许发动机转速在4%以内的波动下、功率因数在0.8滞后与1之间，从空载到满载的电压变化(包括冷态至热态的变化)，可用AVR上的一个微调来调整电压。

Voltage regulation refers to the change of voltage from no-load to full-load with power factor lagging from 0.8 to 1 and 4% fluctuation of the speed of engine. Voltage is adjusted viapotentiometer of AVR.

### 电气特性 ELECTRIC FEATURES:

#### 绝缘和浸漆: INSULATION:

绝缘等级是“H”级。

所有绕制的零部件都是用专门研制的材料并采用特殊的工艺浸漆的，为发电机在恶劣环境中运行提供保障。专门开发的树脂基材料为线圈和各旋转部件提供了高加工强度和高机械强度。

Insulation class H

All regulatory components are made up with special materials and also immersed in lacquer by peculiar tech. Varnish and colophony materials are developed to strengthen the processing and machinery intensity of windings and revolving parts for protecting the generator work under corrosive environment.

#### 绕组和电气性能: WINDINGS AND ELECTRICAL FEATURES:

所有发电机的定子采用高导磁性冷轧硅钢板叠压而成，新型双层叠绕组、结构坚固，绝缘性能好。一个完全连续的阻尼绕组减少了并联时的振荡。这种新型绕组，且极和齿都经过仔细精选的绕组抑制了输出电压的波形畸变。

All the generator stators adopt high magnetic conductivity energy cold rolling silicon steel plate to fold up, double winding, firm structure, good insulating. Continuous damp windings abate surges. The poles and teeth of the windings are carefully chosen, which helps checking the wave distortion of output voltage.

#### 电话干扰: PHONE INTERFERENCE:

THF (如BS EN 600 34-1所定义) 小于2%。TIF (如NEMA MG1-22所定义) 小于50。

THF(as defined by BS EN 600 34-1)<2%. TIF (as defined by NEMA MG1-22)<50.

#### 无线电干扰: RADIO INTERFERENCE

无刷装置和高质量的AVR确保无线电传送时干扰很小。如果需要的话, 可另外提供RFI抑制装置。  
Brushless apparatus and high quality AVR ensure little radio interference in transmission. RFI noise filter is also available.

#### 机械特性 MECHANIC FEATURES:

##### 外壳: FRAME:

所有陆用发电机的标准型为IP22(NEMA1)。作为任选, 可提供IP23的防护等级, 但额定功率下降5%。船用发电机的标准型为IP23。作为任选件, 可在发电机上装备空气过滤器, 但额定值下降5%。

All industrial standard generators is IP22(NEMA1). IP23 is also available, but rated power will decrease 5%. Marine generator is IP23 as normal standard. Air filter is an option, but rated power will decrease 5% while it is installed.

##### 轴和键: AXIS AND KEY:

所有发电机转子都经过平衡校验, 校验振动比BS6861第1部分第2.5级中规定的最小值还要低。双支点发电机带一个半键校验平衡。

All rotors should pass balance test, which vibration is lower than the minimum value of BS6861 P.1, G 2.5. Two-bearing generator has a half-key testing balance.

##### 接线端子和接线盒: TERMINAL AND TERMINAL BOX:

标准的发电机是三相, 并可对引至接线端子的12个接线头重接, 接线端子安装在发电机非驱动端的出线板上。在薄钢板制成的出线盒内有AVR, 具有足够的空间让用户布线。为易于操作, 面板为拆卸式面板。

The normal three-phase generators have 12 leads brought out to the terminals in the terminal box. The terminals are put on the board of the non-drive end. AVR is mounted in the terminal box made in steel sheet and enough space left inside for laying wires. The box is equipped with removable panels

##### 过渡接套和联轴器: ENGINE ADAPTOR AND COUPLING

TWG II 系列发电机都具有单轴承和双轴承两种结构。

TWG II 系列单轴承结构的过渡接套可选SAE#00、0、1/2、1、2、3、4、5; 盘片式联轴器可选SAE#6.5、7.5、8、10、11.5、14、16、18、21。

TWG II 系列双支点结构的过渡接套可选SAE#00、0、1/2、1、2、3、4、5。

TWG series generators have two kinds of structure, single bearing and double bearing.

Engine adapter for single-bearing could be SAE#00、0、1/2、1、2、3、4 and 5. Coupling disc for single-bearing could be SAE#6.5、7.5、8、10、11.5、14、16、18 and 21.

Engine adapter for double-bearing could be SAE#00, 0, 1/2, 1, 2, 3, 4 and 5.

#### 可供选择的配置 OPTION FEATURES:

##### 1.过渡联接套及可互换的盘式联轴器

2.单相

3.电压远程调整

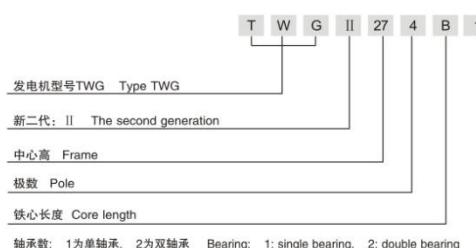
4.IP23防护等级

5.空间加热器

6.热敏电阻

- 1.Adapters and interchangeable drive disk
- 2.Single phase
- 3.Remote voltage adjust
- 4.IP23 protection class
- 5.Space heaters
- 6.Thermistors

#### 产品型号定义 THE DEFINITION OF THE PRODUCT MODEL:



#### 型号及容量 TYPE AND CAPACITY

型号 TYPE	额定功率 Rated Power (4P-1500rpm 2P-3000rpm 50Hz 400V)							重量 Weight (KG)	
	连续 Continuous/40°C			备用 Stand by/40°C		备用 Stand by/27°C			
	H级125K		H级150K		H级163K				
	KVA	KW	η (%)	KVA	KW	KVA	KW		
TWG II 162D	12.5	10	73.2	13.8	11	15	12	83 89	
TWG II 162E	15	12	76.8	17.5	14	20	16	94 100	
TWG II 162F	17.5	14	78.9	20	16	22.5	18	101 107	
TWG II 162G	25	20	81.2	27.5	22	30	24	117 123	
TWG II 182H	30	24	81.6	32.5	26	35	28	130 136	
TWG II 182J	35	28	82.5	37.5	30	40	32	143 149	
TWG II 182K	37.5	30	84.5	40	32	42.5	34	159 165	
TWG II 164A	7.5	6	78.5	8.3	6.6	9	7.2	82 88	
TWG II 164B	10	8	78.8	11	8.8	12	9.6	86 92	
TWG II 164C	12.5	10	80.6	13.8	11	15	12	92 98	
TWG II 164D	15	12	81.2	17.5	14	20	16	95 101	
TWG II 184E	20	16	84.5	22.5	18	25	20	116 122	
TWG II 184F	25	20	85.9	27.5	22	30	24	146 152	
TWG II 184FC	27.5	22	86	30	24	32.5	26	148 154	
TWG II 184G	30	24	86.3	32.5	26	35	28	150 156	
TWG II 184H	37.5	30	86.6	40	32	41.3	33	200 206	
TWG II 184J	42.5	34	86.8	45	36	47.5	38	211 217	
TWG II 224BC	37.5	30	86.7	40	32	41.3	33	230 236	
TWG II 224B	42.5	34	87	45	36	47.5	38	240 246	
TWG II 224C	50	40	88	52.5	42	55	44	255 261	
TWG II 224DC	56.3	45	88.4	60	48	62.5	50	268 274	
TWG II 224D	60	48	88.6	62.5	50	65	52	276 281	
TWG II 224E	72.5	58	90	77.5	62	80	64	300 306	
TWG II 224FC	80	64	90.1	85	68	87.5	70	330 336	
TWG II 224F	85	68	90.2	87.5	70	94	75	340 346	
TWG II 224G	94	75	90.3	100	80	106	85	350 356	
TWG II 274B	100	80	90.4	106	85	110	88	360 366	
TWG II 274C	117.5	94	90.8	127.5	102	131	105	385 391	
TWG II 274CC	125	100	91	132.5	106	137.5	110	420 425	
TWG II 274D	140	112	91.5	145	116	150	120	430 436	
TWG II 274EC	150	120	92.1	160	128	165	132	460 467	
TWG II 274E	160	128	92.3	170	136	175	140	475 481	
TWG II 274F	181	145	92.4	187.5	150	200	160	520 526	
TWG II 274FC	190	152	92.5	200	160	212.5	170	540 547	
TWG II 274G	200	160	93.3	212.5	170	220	176	570 576	
TWG II 274H	225	180	93.1	237.5	190	250	200	590 600	
TWG II 274HC	250	200	93	270	216	275	220	610 620	
TWG II 314BC	250	200	92.2	270	216	275	220	800 810	
TWG II 314B	275	220	92.4	287.5	230	305	244	812 820	
TWG II 314C	300	240	92.7	320	256	330	264	860 865	
TWG II 314DC	325	260	93.1	350	280	375	300	930 932	
TWG II 314D	350	280	93.3	370	296	400	320	940 942	
TWG II 314EC	375	300	93.4	400	320	425	340	1050 1055	
TWG II 314E	400	320	93.5	425	340	450	360	1065 1070	
TWG II 314F	450	360	94.1	477.5	382	495	396	1125 1130	
TWG II 354B	450	360	94.1	477.5	382	495	396	1160 1170	
TWG II 354C	500	400	94.4	525	420	550	440	1272 1280	
TWG II 354CC	562.5	450	94.5	587.5	470	625	500	1300 1310	
TWG II 354D	600	480	94.6	640	512	665	532	1412 1420	
TWG II 354DC	625	500	94.6	662.5	530	687.5	550	1430 1435	
TWG II 354E	700	560	94.8	737.5	590	762.5	610	1563 1570	
TWG II 354F	750	600	93.3	775	620	790	632	1683 1690	
TWG II 404B	750	600	93.3	775	620	790	632	1780 1780	
TWG II 404C	800	640	93.6	825	660	840	672	1790 1790	
TWG II 404D	900	720	93.8	937.5	750	957.5	766	1850 1850	
TWG II 404E	1000	800	94.3	1030	824	1050	840	2000 2000	
TWG II 404F	1125	900	94.7	1162.5	930	1187.5	950	2250 2250	
TWG II 404G	1250	1000	95	1287.5	1030	1312.5	1050	2540 2550	
TWG II 454B	1400	1120	95.2	1460	1168	1500	1200	2670 2670	
TWG II 454C	1550	1240	95.6	1615	1292	1660	1328	2710 2710	
TWG II 454D	1687.5	1350	95.9	1750	1400	1800	1440	2970 2970	
TWG II 454E	1875	1500	96.1	1950	1560	2000	1600	3180 3180	
TWG II 454F	2000	1600	96.2	2100	1680	2150	1720	3290 3290	
TWG II 454G	2250	1800	95.8	2330	1864	2400	1920	3480 3500	
TWG II 454H	2500	2000	95.7	2600	2080	2670	2136	3720 3740	

型号及容量 TYPE AND CAPACITY

型号 TYPE	额定功率 Rated Power (4P-1800rpm 2P-3600rpm 60Hz 480V)							
	连续 Continuous/40°C			备用 Stand by/40°C		备用 Stand by/27°C		
	H级125K	H级150K	H级163K	KVA	KW	η(%)	KVA	KW
TWG II 162D	15.6	12.5	71.9	16.9	13.5	17.5	14	
TWG II 162E	18.8	15	75.8	20	16	22.5	18	
TWG II 162F	21.9	17.5	78.1	25	20	30	24	
TWG II 162G	31.3	25	80.6	34.4	27.5	37.5	30	
TWG II 182H	37.5	30	80.9	37.5	30	40	32	
TWG II 182J	43.8	35	82.1	42.5	34	45	36	
TWG II 182K	46.9	37.5	84.0	50	40	52.5	42	
TWG II 164A	9.4	7.5	78.5	10	8	10.5	8.4	
TWG II 164B	12.5	10	79	13.75	11	15	12	
TWG II 164C	15.6	12.5	80.3	16.88	13.5	17.5	14	
TWG II 164D	18.8	15	81.2	20	16	21.25	17	
TWG II 184E	25	20	83.8	26.75	21.4	28.75	23	
TWG II 184F	31.3	25	85.5	33.5	26.8	36.5	29.2	
TWG II 184FC	32.5	26	85.6	35	28	38	30.4	
TWG II 184G	37.5	30	86.7	38.8	31	40	32	
TWG II 184H	47.5	38	85.6	50	40	50	40	
TWG II 184J	52.5	42	87	57.5	46	62.5	50	
TWG II 224BC	47.5	38	87.5	52.5	42	56.3	45	
TWG II 224B	52.5	42	87.7	58.1	48.5	62.5	50	
TWG II 224C	65	52	88.6	70	56	72.5	58	
TWG II 224DC	70	56	89.2	75	60	80	64	
TWG II 224D	75	60	89.3	80	64	85	68	
TWG II 224E	87.5	70	90.5	95	76	100	80	
TWG II 224FC	95	76	90.6	100	80	105	84	
TWG II 224F	102.5	82	90.8	110	88	112.5	90	
TWG II 224G	112.5	90	91	120	96	125	100	
TWG II 274B	125	100	91	132.5	106	137.5	110	
TWG II 274C	145	116	91.2	155	124	160	128	
TWG II 274CC	150	120	91.3	160	128	165	132	
TWG II 274D	170	136	91.5	177.5	142	187.5	150	
TWG II 274EC	180	144	92.1	190	152	200	160	
TWG II 274E	190	152	92.3	200	160	210	168	
TWG II 274E	220	176	92.6	230	184	245	196	
TWG II 274FC	225	180	92.7	237.5	190	250	200	
TWG II 274G	245	196	93.5	255	204	275	220	
TWG II 274H	275	220	93.6	287.5	230	300	240	
TWG II 274HC	300	240	92.5	315	252	330	264	
TWG II 314BC	300	240	92.5	315	252	330	264	
TWG II 314B	315	252	92.7	335	268	345	276	
TWG II 314C	375	300	93.3	400	320	415	332	
TWG II 314DC	390	315	93.4	415	332	430	344	
TWG II 314D	425	340	93.5	450	360	475	380	
TWG II 314EC	440	352	93.6	460	368	500	400	
TWG II 314E	475	380	93.6	500	400	525	420	
TWG II 314F	594	475	94.2	625	500	644	515	
TWG II 354B	594	475	94.2	625	500	644	515	
TWG II 354C	625	500	94.6	660	528	690	552	
TWG II 354CC	690	552	94.7	725	580	760	608	
TWG II 354D	745	596	94.8	800	640	825	660	
TWG II 354DC	775	620	94.8	825	660	850	680	
TWG II 354E	850	680	95	900	720	940	752	
TWG II 354F	895	716	93.6	928.8	743	938.8	751	
TWG II 404B	895	716	93.6	928.8	743	938.8	751	
TWG II 404C	957.5	766	93.8	992.5	794	1000	800	
TWG II 404D	1087.5	870	94.5	1126	900	1137.5	910	
TWG II 404E	1200	960	94.8	1235	988	1250	1000	
TWG II 404F	1325	1060	95.1	1350	1080	1387.5	1110	
TWG II 404G	1450	1160	95.5	1500	1200	1575	1260	
TWG II 454B	1690	1352	95.5	1760	1408	1810	1448	
TWG II 454C	1890	1512	95.7	1970	1576	2025	1620	
TWG II 454D	2050	1640	96.1	2140	1712	2200	1760	
TWG II 454E	2250	1800	96.1	2350	1880	2425	1940	
TWG II 454F	2500	2000	96.3	2625	2100	2700	2160	
TWG II 454G	2800	2240	96.1	2900	2320	3000	2400	
TWG II 454H	3100	2480	96.0	3200	2560	3300	2640	

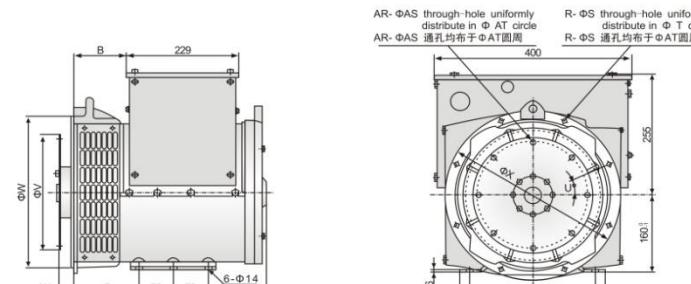
注:

- \*所有额定值是基于环境温度最高40℃，海拔1000米以内。
- \*不同环境温度下提供的备用功率不同。有关备用功率的定义参见ISO528-3标准。
- 电机出风口的防滴盖板是船用机标准型配置，若用户需要，也可为非船用机提供。
- \*其它极数的发电机请与制造商联系。
- \*其它功率、电压的发电机要根据用户需要制造。
- \*所有扩展型号的发电机外形安装尺寸以铁心长度代号第一个字母为准。例如：TWG II 274EC的外形安装尺寸与TWG II 274E相同。

REMARK:

- \*All the rated are on basis of environment temperature 40°C, altitude not exceeding 1000m.
- \*Different temperature offers different standby power, the define of the standby power is related to the standard of ISO528-3.
- \*The dripproof shutter plate on air outlet of motor is standard configuration for marine type. And non-marine use on request.
- \*Other pole generator, please contact the Manufacture.
- \*Other power and voltage generator are on user request.
- \*All extended models of generator installation dimensions in order to shape the first letter of core length of the code shall prevail. Eg. TWG II 274EC dimensions are same to TWG II 274E.

OUTLINE FOR TWG II 164A-D & TWG II 164D-G (SINGLE BEARING)



尺寸DIMENSION

型号MODEL	A	B
TWG II 164A	365	94
TWG II 164B	365	94
TWG II 164C	392	107
TWG II 164D	392	107

尺寸DIMENSION

型号MODEL	A	B
TWG II 162D	365	94
TWG II 162E	365	94
TWG II 162F	417	132
TWG II 162G	417	132

法兰式过渡接套FLANGE

S.AE.No.	R	S	T	U	W	X	C
2	12	11	466.7	15	447.6	489	172
3	8	11	428.6	15	409.5	451	145
4	8	11	381.0	15	361.9	402	133
5	8	11	333.3	22.5	314.3	356	133
6	8	11	285.8	22.5	266.7	308	164.7

Remark: In the table, A refers to the length of SAE4 & SAE5

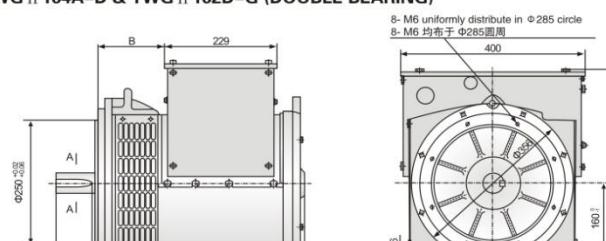
The length of SAE2(A) should add 39;

The length of SAE3(A) should add 12;

The length of SAE6(A) should add 31.7;

The 8 holes of SAE3 & SAE4 are distributed in the 12 equal parts of circumference.

OUTLINE FOR TWG II 164A-D & TWG II 162D-G (DOUBLE BEARING)



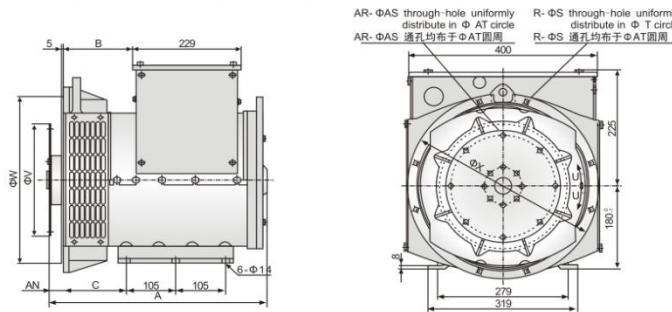
尺寸DIMENSION

型号MODEL	A	B
TWG II 164A	486	124
TWG II 164B	486	124
TWG II 164C	513	137
TWG II 164D	513	137

尺寸DIMENSION

型号MODEL	A	B
TWG II 162D	486	124
TWG II 162E	486	124
TWG II 162F	538	162
TWG II 162G	538	162

### OUTLINE FOR TWG II 184E-G & TWG II 182H-K (SINGLE BEARING)



#### 尺寸DIMENSION

型号MODEL	A	B
TWG II 184E	432	147
TWG II 184F	522	237
TWG II 184G	522	237

#### 尺寸DIMENSION

型号MODEL	A	B
TWG II 182H	482	197
TWG II 182J	482	197
TWG II 182K	522	237

注：表中A和B为SAE4 & SAE5时的长度尺寸

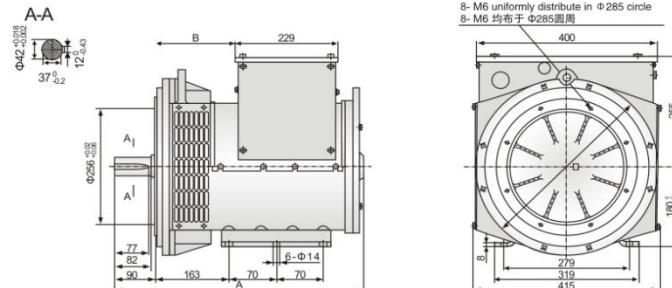
SAE2 尺寸A和B需增加39;

SAE3 尺寸A和B需增加12;

SAE6 尺寸A和B需增加31.7。

SAE3 & SAE4 的8个孔分布于12等分圆周上。

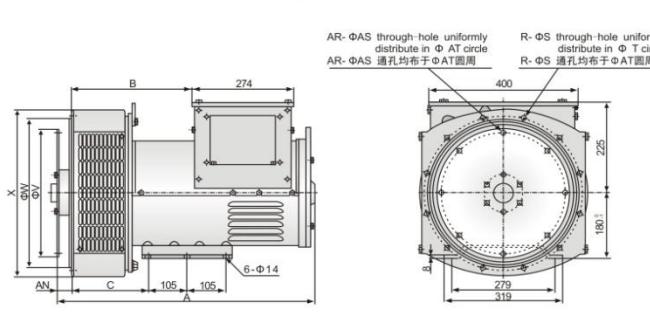
### OUTLINE FOR TWG II 184E-G & TWG II 182H-K (DOUBLE BEARING)



#### 尺寸DIMENSION

型号MODEL	A	B
TWG II 184E	553	177
TWG II 184F	643	267
TWG II 184G	643	267

### OUTLINE FOR TWG II 184H-J (SINGLE BEARING)



#### 尺寸DIMENSION

型号MODEL	A	B
TWG II 184H	643	313
TWG II 184J	643	313

#### 法兰式过渡接套FLANGE

SAE.No.	C	R	S	T	W	X
1	220.3	12	12.7	530.2	511.1	553
2	206	12	12	466.7	447.6	490
3	206	12	12	428.6	409.5	460
4	206	12	12	381	361.9	460

#### 盘片式联轴器 DISC COUPLING

SAE.No.	AN	AR	AS	AT	V
8	61.9	6	11	244.5	263.4
10	53.98	8	11	295.3	314.2
11.5	39.68	8	11	333.4	352.3
14	25.4	8	13.5	438.2	466.5

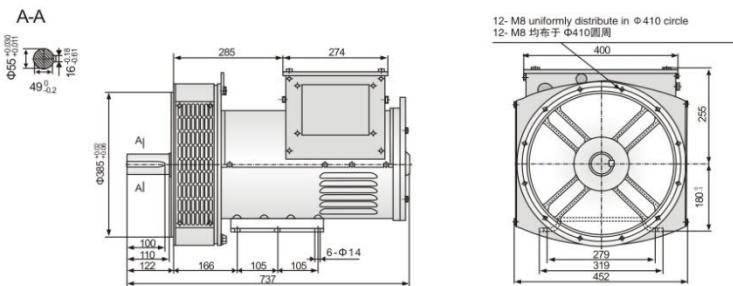
注：表中A和B为SAE2, SAE3 & SAE4时的长度尺寸

SAE1 尺寸A和B需增加14.3。

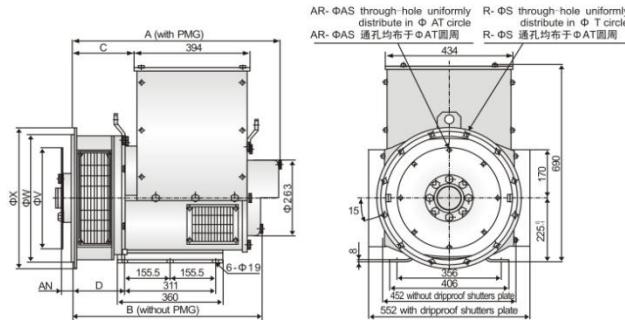
Remark: In the table, A and B refer to the length of SAE2, SAE3&SAE4

The length of SAE1(A and B) should add 14.3.

### OUTLINE FOR TWG II 184H-J (DOUBLE BEARING)



### OUTLINE FOR TWG II 224B-F (SINGLE BEARING)



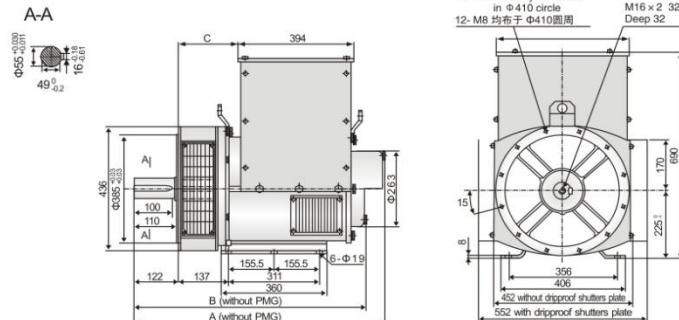
#### 尺寸DIMENSION

	型号MODEL	A	B	C
SAE No.1	TWG II 224B	763	661	267
	TWG II 224C	763	661	267
	TWG II 224D	853	751	357
	TWG II 224E	853	751	357
	TWG II 224F	898	796	402
	TWG II 224G	898	796	402

#### 尺寸DIMENSION

	型号MODEL	A	B	C
SAE No.2	TWG II 224B	749	686	253
	TWG II 224C	749	686	253
	TWG II 224D	839	776	343
SAE No.3	TWG II 224E	839	776	343
	TWG II 224F	884	821	388
	TWG II 224G	884	821	388

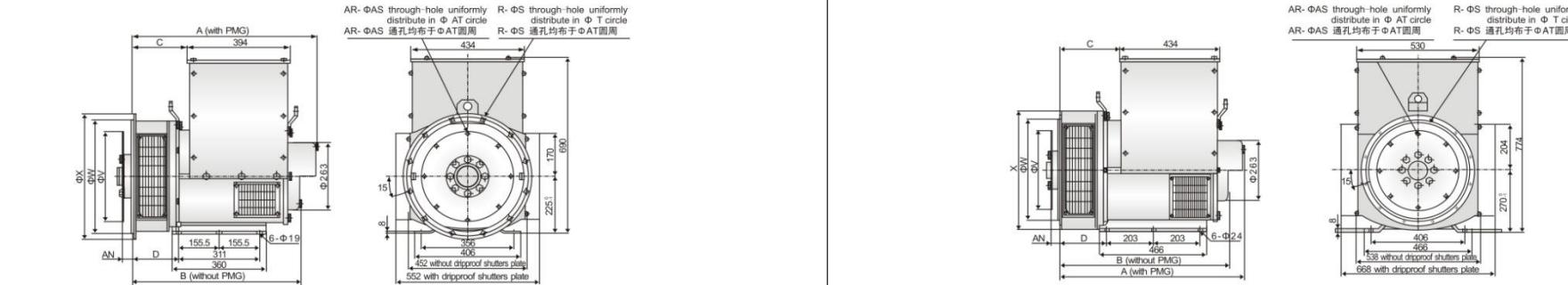
### OUTLINE FOR TWG II 224B-F (DOUBLE BEARING)



#### 尺寸DIMENSION

	型号MODEL	A	B	C
	TWG II 224B	831	768	218
	TWG II 224C	831	768	218
	TWG II 224D	921	858	308
	TWG II 224E	921	858	308
	TWG II 224F	1011	903	388
	TWG II 224G	1011	903	388

### OUTLINE FOR TWG II 274B-G (SINGLE BEARING)



#### 尺寸DIMENSION

	型号MODEL	A	B	C	D
SAE No.1	TWG II 274B	814	751	274	216
	TWG II 274C	814	751	274	216
	TWG II 274D	929	866	389	216
	TWG II 274E	929	866	389	216
	TWG II 274F	979	916	439	216
	TWG II 274G	1018	956	479	216
	TWG II 274H	1018	956	479	216

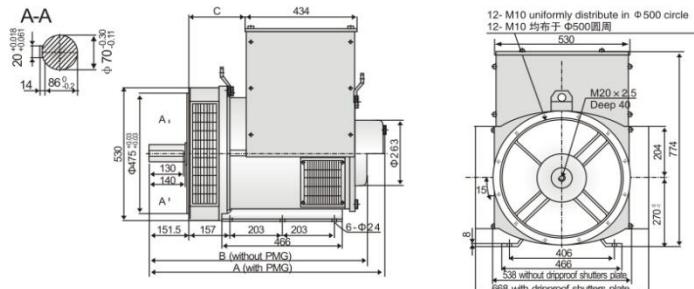
#### 法兰式过渡接套FLANGE

	SAE.No.	R	S	T	W	X	U
1	12	12	530.2	511.1	580	15	
2	12	11	466.7	447.6	530	15	
3	12	11	428.6	409.5	530	15	

#### 盘片式联轴器 DISC COUPLING

	SAE.No.	AN	AR	AS	AT	V
10	53.98	8	11	295.3	314.2	
11.5	39.68	8	11.5	333.4	352.3	
14	25.4	8	13.5	438.2	466.5	

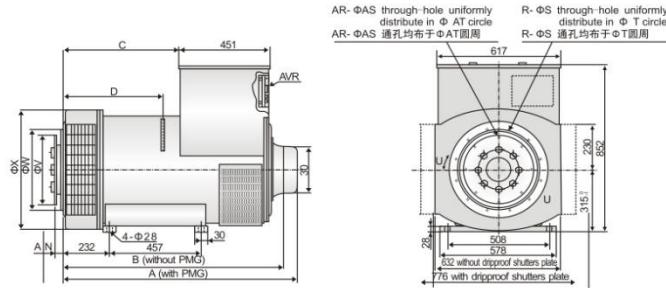
### OUTLINE FOR TWG II 274B-G (DOUBLE BEARING)



#### 尺寸DIMENSION

	型号MODEL	A	B	C
	TWG II 274B	905	842	215
	TWG II 274C	905	842	215
	TWG II 274D	1020	957	330
	TWG II 274E	1020	957	330
	TWG II 274F	1070	1007	380
	TWG II 274G	1110	1047	420
	TWG II 274H	1110	1047	420

## **OUTLINE FOR TWG II 314B-E (SINGLE BEARING)**



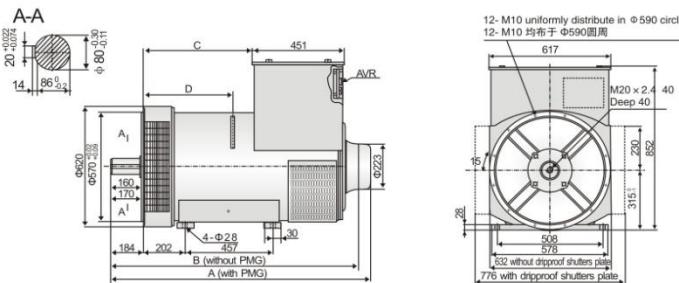
## 尺寸DIMENSION

型号MODEL	A	B	C	D
TWG I 314B	1172	1101	584	493
TWG I 314C	1172	1101	584	493
TWG II 314D	1262	1191	674	583
TWG II 314E	1262	1191	674	583
TWG II 314F	1262	1191	674	583

## 盘片式联轴器 DISC COUPLING

SAE.No.	AN	AR	AS	AT	V
11.5	39.68	8	11	333.4	352.3
14	25.4	8	13.5	438.2	466.5
18	15.87	6	16.7	543.0	571.1

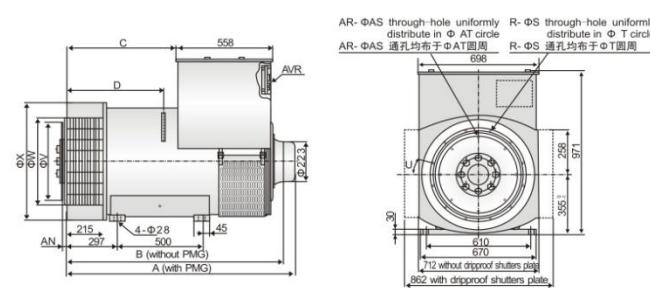
## **OUTLINE FOR TWG II 314B-E (DOUBLE BEARING)**



## 尺寸DIMENSION

型号MODEL	A	B	C	D
TWG I 314B	1326	1255	554	463
TWG II 314C	1326	1255	554	463
TWG III 314D	1416	1345	654	553
TWG I 314E	1416	1345	654	553
TWG II 314F	1416	1345	654	553

## **OUTLINE FOR TWG II 354B-E (SINGLE BEARING)**



尺寸DIMENSION

型号MODEL	A	B	C	D
TWGⅠ354B	1337	1266	642	568
TWGⅡ354C	1337	1266	642	568
TWGⅡ354D	1337	1266	642	568
TWGⅢ354E	1412	1341	717	643
TWGⅢ354F	1412	1341	717	643

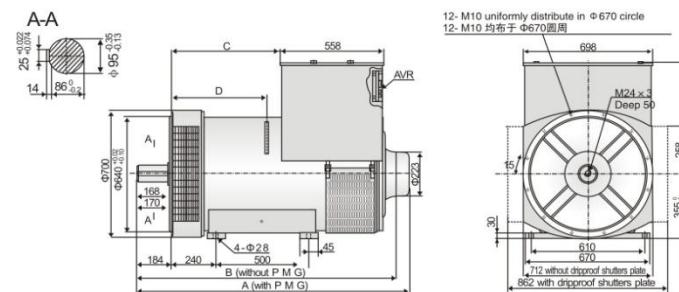
法兰式过渡接套FLANGI

SAE.No.	R	S	T	W	X	U
00	12	14	850.9	787.3	882	11.25
0	12	14	679.5	647.6	711	11.25
1/2	12	14	619.1	584.1	700	15
1	12	12.7	530.2	511.1	710	15
2	12	11	466.7	447.6	710	15

## 盘片式联轴器 DISC COUPLING

SAE.No.	AN	AR	AS	AT	V
14	25.4	8	13.5	438.2	466.5
18	15.87	6	16.7	543.0	571.1
21	0	12	16.7	641.3	673.0

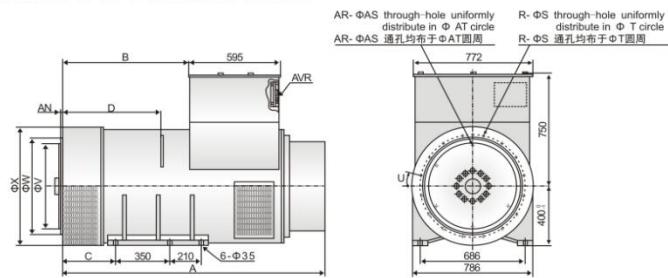
OUTLINE FOR TWC II 254B-5 (DOUBLE BEARING)



## 尺寸DIMENSION

型号MODEL	A	B	C	D
TWG I 354B	1464	1393	585	511
TWG I 354C	1464	1393	585	511
TWG II 354D	1464	1393	585	511
TWG I 354E	1539	1468	660	586
TWG I 354F	1539	1468	660	586

### OUTLINE FOR TWG II 404B-G (SINGLE BEARING)



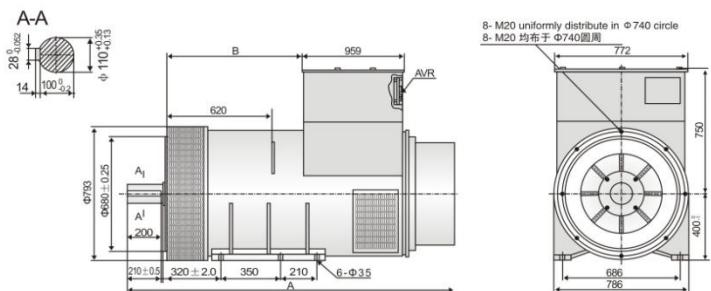
### 尺寸DIMENSION

型号MODEL	A	B
TWG II 404B	1615	727
TWG II 404C	1615	727
TWG II 404D	1615	727
TWG II 404E	1615	727
TWG II 404F	1615	727
TWG II 404G	1716	828

### 盘片式联轴器 DISC COUPLING

SAE.No.	AN	AR	AS	AT	V
14	25.4	8	14	438.2	466.6
18	15.7	6	18	542.9	571.5
21	0	12	18	641.3	673.1
24	0	12	20.7	692.0	733.3

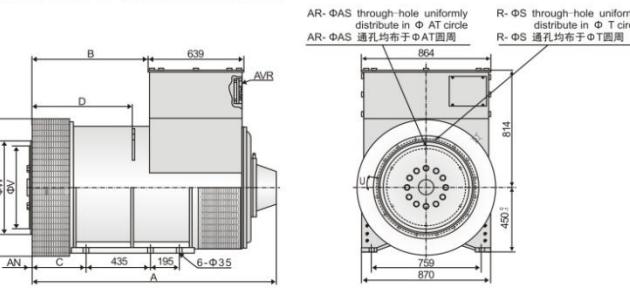
### OUTLINE FOR TWG II 404B-G (DOUBLE BEARING)



### 尺寸DIMENSION

型号MODEL	A	B
TWG II 404B	1810	698
TWG II 404C	1810	698
TWG II 404D	1810	698
TWG II 404E	1810	698
TWG II 404F	1810	698
TWG II 404G	1910	799

### OUTLINE FOR TWG II 454B-H (SINGLE BEARING)



### 尺寸DIMENSION

型号MODEL	A	B	C
TWG II 454B	1650	787	675
TWG II 454C	1650	787	675
TWG II 454D	1650	787	675
TWG II 454E	1800	937	725
TWG II 454F	1800	937	725
TWG II 454G	1885	937	835
TWG II 454H	1885	937	835

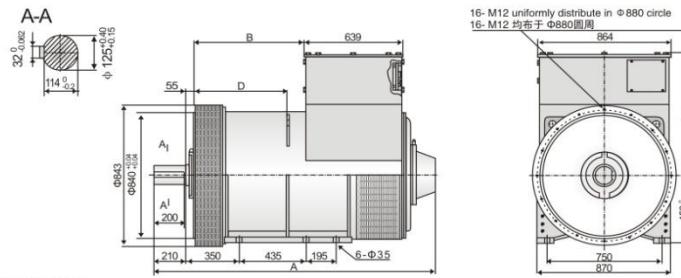
### 法兰式过渡接套FLANGE

SAE.No.	R	S	T	W	X	U
00	16	14	851.0	787.3	943	11.25
0	16	14	679.5	647.6	943	11.25
1/2	12	14	619.1	584.1	943	15

### 盘片式联轴器 DISC COUPLING

SAE.No.	AN	AR	AS	AT	V
14	25.4	8	14	438.2	466.6
18	15.87	6	18	543.0	571.5
21	0	12	18	641.3	673.1
24	0	12	20.7	692.0	733.3

### OUTLINE FOR TWG II 454B-H (DOUBLE BEARING)



### 尺寸DIMENSION

型号MODEL	A	B	C	D	E	F	G
TWG II 454B	1845	717	308	125	605	32	114
TWG II 454C	1845	717	308	125	605	32	114
TWG II 454D	1845	717	308	125	605	32	114
TWG II 454E	1995	867	308	125	655	32	114
TWG II 454F	1995	867	308	125	655	32	114
TWG II 454G	2080	867	347	150	765	36	138
TWG II 454H	2080	867	347	150	765	36	138

### 简介 INTRODUCTION:

ST系列发电机主要是为城镇、乡村、家庭及小型船舶的照明和日用电器的电源。发电机为防滴式结构，防护等级IP21，凸极旋转磁场自激恒压型式，内部采用优质电磁材料和电工材料制成，定子转子绝缘等级为B级或F级。发电机采用JB/T3320.2-2000标准制造，同时也符合IEC34-1标准。整机外观精致，结构紧凑，易于维修。  
ST series generators are designed to serve mainly as the power of household appliances and the lighting in towns, villages, houses or minitype ships.  
The structure of generator is drip-proof type, protection class IP21, salient-pole rotating field self excitation and constant voltage type. The generator interior is made of high quality magnetic and electrical materials. The insulation for stator and rotor is class B or F. The generators are made as per standard JB/T3320.2-2000, also in conformity to IEC34-1 standard.  
The generators are elegant in appearance, tight in structure and easy maintenance.

### 使用环境 ENVIRONMENT CONDITIONS

在下列环境条件下，发电机能够额定运行。

- 1.海拔不超过1000米。
- 2.冷却空气温度258~313K(-15°C~40°C)。
- 3.相对湿度不超过90%。

Under the following environment, the generator could run continuously:

1. Altitude: not exceed 1000m.
2. Cooling air temperature: 258~313K(-15°C~40°C).
3. Relative air humidity: not exceed 90%.



**ST**

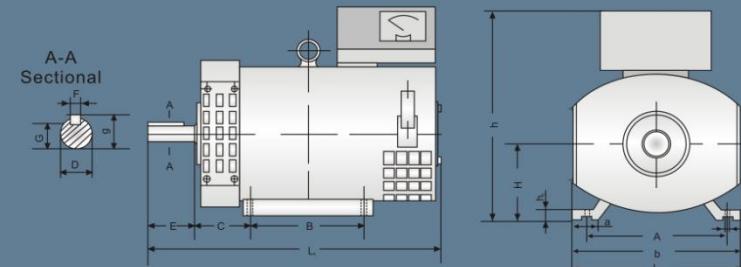
### 系列单相交流同步发电机

SERIES SINGLE-PHASE A.C.SYNCHRONOUS GENERATOR

#### 技术参数 TECHNICAL DATA

型号 Type	功率 Output (kW)	电流 Current(A)		电压 Voltage(V)		功率因数 Power Factor (cos φ)	极数 Pole number	转速 Speed (r.p.m)	频率 Freq. (Hz)
		串联Series Connection	并联Parallel Connection	串联Series Connection	并联Parallel Connection				
ST-1	1	4.35	8.7						
ST-2	2	8.7	17.4						
ST-3	3	12	26						
ST-5	5	21.8	43.5						
ST-7.5	7.5	32.6	65.2						
ST-10	10	43.5	87						
ST-12	12	52.2	104						
ST-15	15	65.3	130						
ST-20	20	87	174						
ST-24	24	104	208						

#### 外形及安装尺寸 OVERALL AND MOUNTING DIMENSIONS



型号 Type	功率 Output (kW)	安装尺寸 Installing dimensions(mm)									外形尺寸 Overall dimensions(mm)						
		H	A	B	C	D	E	F	G	g	K	a	b	h1	h	L1	L2
ST-1	1	132	216	178	89	32	80	10	27	34.8	12	34	250	18	384	480	270
ST-2	2	132	216	178	89	32	80	10	27	34.8	12	34	250	18	384	480	270
ST-3	3	132	216	178	89	32	80	10	27	34.8	12	34	250	18	384	480	270
ST-5	5	160	254	254	108	38	80	10	33	40.8	15	50	310	25	440	580	325
ST-7.5	7.5	160	254	254	108	38	80	10	33	40.8	15	50	310	25	440	580	325
ST-10	10	180	279	203	121	42	110	12	37	44.8	15	60	339	25	480	610	365
ST-12	12	180	279	203	121	42	110	12	37	44.8	15	60	339	25	480	610	365
ST-15	15	200	318	228	133	48	110	14	42.5	51.2	19	60	378	30	540	660	400
ST-20	20	200	318	228	133	48	110	14	42.5	51.2	19	60	378	30	540	660	400
ST-24	24	200	318	228	133	48	110	14	42.5	51.2	19	60	378	30	540	660	400

## 简介 INTRODUCTION:

STC系列发电机适用于乡村、城镇、工地、山区及牧区等照明及动力的三相交流电源，也可作为应急备用电源。

发电机为防滴转场式结构，防护等级IP21，绝缘等级B级或F级。采用谐波励磁系统，使用安全可靠，维护简单方便。

发电机为三相四线制，采用带有中性点的星形接法，额定线电压400V，相电压230V，频率50Hz，功率因数0.8（滞后）。根据需要，也可提供60Hz及其它电压值的发电机。

发电机可以直接或通过三角皮带连接原动力在额定速度下做正反连续运转，当原动力的旋转速度发生3%变化，负载在0~100%，功率因数在0.8~1.0范围内时，发电机提供恒定电压。当负载突然发生变化（增或减）时，发电机将立即回到正常工作状态，同时，不需要任何启动装置，发电机能够直接启动空载的鼠笼式感应电机。

本系列发电机采用JB/T8981-1999标准制造，同时也符合IEC34-1标准。

STC Series generators are used in town, countryside, worksites, villages and pastures as electric STC series generators are used as lighting in countryside, town, worksites, mountain and pasturing areas ,the three phase A.C. power supply, as well as to be reserved emergency power source.

The generator is adopted drip-proof with rotary field type, protection class IP23, insulation class B or F and harmonic excitation system. It is safe and reliable, easy operation and maintenance.

The generator is three-phase, four-wire type, adopting star connection with neutral point. The rated line voltage is 400V, phase voltage 230V, frequency 50Hz, power factor 0.8(lag). We can provide 60Hz and the other voltage's value according to the customer's request.

The generator can be coupled with a prime mover directly or through v-belt making right or reverse continuous rotation at the rated speed. When the rotation speed of prime mover changes 3% or so and load varies in the range of 0~100% and 0.8~1.0, the generators offer constant voltage. When sudden change (increase or decrease) of load, the generator will soon return to their normal working state, at the same time, without any starting device the generator can directly start an unloaded squirrel cage induction motor.

The generators are made as per standard JB/T8981-1999, as well as in conformity to IEC34-1.

## 使用环境 ENVIRONMENT CONDITIONS

在下列环境条件下，发电机能够额定运行。

1.海拔不超过1000米。

2.冷却空气温度258~313K(-15°C~40°C)。

3.相对湿度不超过90%。

Under the following environment, the generator could run continuously:

1. Altitude: not exceed 1000m.

2. Cooling air temperature: 258~313K(-15°C~40°C).

3. Relative humidity: not exceed 90%.



**STC**

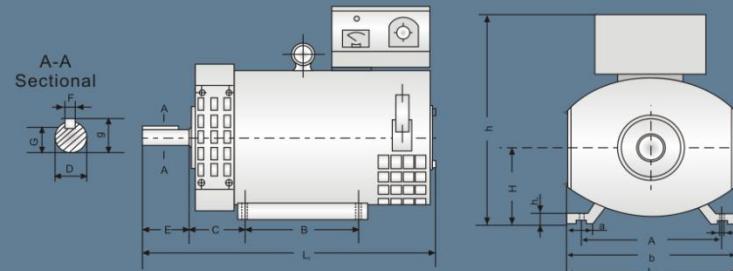
## 系列三相交流同步发电机

SERIES THREE-PHASE A.C.SYNCHRONOUS GENERATOR

### 技术参数 TECHNICAL DATA

型号 Type	功率 Output		电压 Voltage (V)	电流 Current (A)	功率因数 Power Factor (cos φ)	转速 Speed (r.p.m.)	频率 Freq. (Hz)	极数 Pole number
	kVA	kW						
STC-3	3.8	3	400/230	5.4	0.8	1500	50	4
STC-5	6.3	5		9				
STC-7.5	9.4	7.5		13.5				
STC-8	10	8		14.4				
STC-10	12.5	10		18.1				
STC-12	15	12		21.7				
STC-15	18.5	15		27.1				
STC-20	25	20		36.1				
STC-24	30	24		43.3				
STC-30	37.5	30		54.1				
STC-40	50	40		72.2				
STC-50	62.5	50		90.2				

### 外形及安装尺寸 OVERALL AND MOUNTING DIMENSIONS



型号 Type	功率 Output		安装尺寸 Installing dimensions(mm)								外形尺寸 Overall dimensions(mm)							
	kVA	kW	H	A	B	C	D	E	F	G	I	K	a	b	h1	h	L1	L2
STC-3	3.8	3	132	216	178	89	32	80	10	27	34.8	12	34	250	18	400	480	270
STC-5	6.3	5	160	254	254	108	38	80	10	33	40.8	15	50	310	25	455	580	325
STC-7.5	9.4	7.5	160	254	254	108	38	80	10	33	40.8	15	50	310	25	455	580	325
STC-8	10	8	160	254	254	108	38	80	10	33	40.8	15	50	310	25	455	580	325
STC-10	12.5	10	180	279	203	121	42	110	12	37	44.8	15	60	339	25	495	610	365
STC-12	15	12	180	279	203	121	42	110	12	37	44.8	15	60	339	25	495	610	365
STC-15	18.8	15	200	318	228	133	48	110	14	42.5	51.5	19	60	378	30	540	660	400
STC-20	25	20	200	318	228	133	48	110	14	42.5	51.5	19	60	378	30	540	660	400
STC-24	30	24	200	318	228	133	48	110	14	42.5	51.5	19	60	378	30	540	660	400
STC-30	37.5	30	225	356	286	149	60	140	18	53	64	19	65	421	32	610	770	452
STC-40	50	40	225	356	286	149	60	140	18	53	64	19	65	421	32	610	770	452
STC-50	62.5	50	225	356	311	149	60	140	18	53	64	19	65	421	32	610	810	452

### 简介 INTRODUCTION:

FHW系列永磁式弧焊发电机，具有体积小，重量轻，容量大，效率高，使用方便，质量可靠之特点，采用不低于12PS柴、汽油机或7.5KW电动机做动力，并可配装于三、四轮车及其它机动车辆上，组成移动或固定式电焊、发电两用机组。适用于油田、矿产开发、道路工程、桥梁建筑工程、管道工程、城镇、农村、林区、牧区、渔港、工业、作坊、边防哨所、小型船舶、家庭及公共场所的电焊、照明（不可用日光灯）或电钻、电锤等交流两用电器的电源。

本机电焊部分采用负极对地两输出结构，电焊和发电可分别使用或同时使用。其总负载以达本说明书中所规定容量。其特点是采用永磁方式，（使用稀土永磁材料）从而废除了传统的励磁结构。电焊时，焊接电流调节范围广，引弧容易，燃烧稳定，焊接性能可达到国家AX系列弧焊机的技术标准。

FHW Series of Permanent-magnet DC Arc-Welding Generator has such characteristics as small size, light weight, convenient in operation, high in efficiency and reliable in quality, etc. It adopts 12ps diesel or gasoline engine or 7.5KW electric motor as its dynamic force. And it can also be assembled on tricycle, quadricycle or other motor vehicles to make up movable or stationary welding and generating double duty equipment. It has been widely used as power supply for lighting and such A C-DC electrical appliances as electric drill and electric hammer in oil field, mineral exploitation, highway and bridge engineering, pipe work, cities and towns rural area forest region, pastoral area, fishing port, industries workshops, frontier sentry, small ship, house hold and public places,etc.

The welding section of this equipment adopts the structure of cathode to ground and bipole output. The welding and generation can be used separately or simultaneously. The total load can reach the specified capacity in the instruction manual. Furthermore, since it adopts the permanent-magnet structure, the traditional excitation unit has been abolished. During welding, it has such characteristic as wide adjusting range of welding current, easy generating of arc, and stable flameholding, etc. The welding performance has met the national technical standard for AX series arc-welding machine.

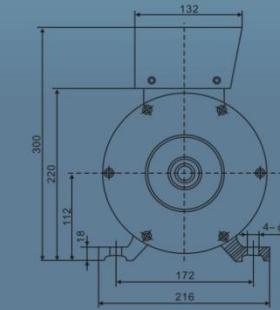
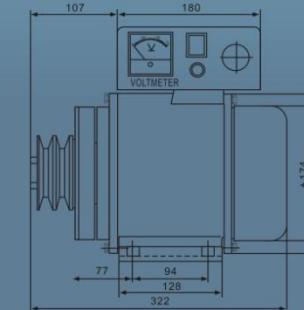


**FHW**

### 系列永磁直流弧焊发电机

SERIES PERMANENT-MAGNET DC ARC-WELDING GENERATOR

#### 外形及安装尺寸 OVERALL AND MOUNTING DIMENSIONS



#### 技术参数 TECHNICAL DATA

	数据名称	计量单位	FHW-160	FHW-180	FHW-200	FHW-250
电焊部分	直流空载电压 DC Idle Voltage	V	60	60	65	70
	额定电流 Rated Current	A	160	180	200	200
	电流调节范围 Adjustable Current Range	A	80~180	85~200	90~220	95~250
	直流电焊电压 DC Welding Voltage	V	22~32	22~32	22~32	25~32
	额定功率持续率 Rated Duty Cycle	%	60	60	60	60
	温升 Temperature Rise	°C	70	70	70	70
发电部分	额定电压 Rated Voltage	V	220	220	220	220
	额定功率 Rated Output	W	1500	1600	1800	1800
	工作周期 Work Cycle		连续	连续	连续	连续
共性数据	额定转速 Rated Speed	r/min	3000	3000	3000	3000
	组合动力匹配内燃机 Combined Power-Matching Internal Combustion Engine	PS	=10	=12	=14	=14
	组合动力匹配电动机 Combined Power-Matching Electromotor	kW	=6.5	=7.5	=9.5	=9.5
	三角带轮 Wheel For V-veit	直径 Φ 95mm	槽型S10t-typeB	槽型S10r-typeB	槽型S10t-typeB	槽型S10t-typeB
	绝缘等级 Class Of Insulation	级	B	B	B	B
	体积 Size	mm	322 × 216 × 300	322 × 216 × 300	322 × 216 × 300	322 × 216 × 300
	重量 Weight	kg	27	28.5	30.5	31

### 简介 INTRODUCTION:

FHWS系列交流发电直流电焊两用机，是本公司最新研制可以同时提供交流发电，直流电焊两种功能的两用机，本机可用汽油机或柴油机组成移动固定式电源，在3000转/分这个转速下实现工频交流发电，直流电焊两种功能。作为直流电焊，它能焊接各种高低碳合金钢铁部件，可使用Φ2.0~Φ6.0。由于采用高性能永磁材料（钕铁硼），实现了无碳刷设计，也增强了焊接性能，所以本机的可靠性及耐用性得到了极大的提高。同时该机还可同时输出交流电，电压为220V，频率为50HZ，适合照明，电风扇，小功率家用电器以及野外施工时需要交流电的场合。

FHWS Series A, C&D electrical machine is our new product that can provide A.C generating and D.C welding function simultaneously. Either gasoline engine or diesel can act as a movable/fixed power, and to realize its double-function, a speed of 3000 circles per minute is also needed.

As a D.C welding machine, it can weld all kinds of alloy parts with the welding rod of Φ2.0~Φ6.0. Thanks to the high quality permanent magnetic material(Nd,Fe, and Boron) the non-carbon brushes are reached, and welding properties are strengthened, so the machine's reliability and ease of use improve a lot. Also the machine can generate an A.C voltage of 220V and frequency 50HZ, which can be used as a illumination, electric fan, and small power house hold appliances, as well as the work in the field where the A.C is needed.

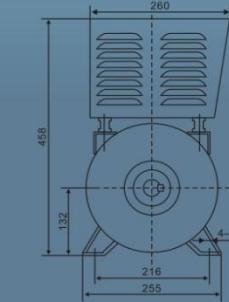
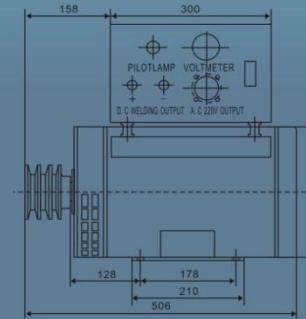


# FHWS

### 系列交流发电直流电焊两用机

SERIES PERMANENT-MULTIFUNCTIONAL ARC-WELDING GENERATOR

#### 外形及安装尺寸 OVERALL AND MOUNTING DIMENSIONS



#### 技术参数 TECHNICAL DATA

	数据名称	计量单位	FHWS-250	FHWS-300	FHWS-350
电焊部分	直流空载电压 DC Idle Voltage	V	70	70	75
	额定电流 Rated Current	A	250	300	350
	电流调节范围 Adjustable Current Range	A	95~250	120~300	150~350
	直流电焊电压 DC Welding Voltage	V	30~35	30~35	30~35
	额定负荷持续率 Rated Duty Cycle	%	60	60	60
	温升 Temperature Rise	℃	70	70	70
	额定电压 Rated Voltage	V	230	230	230
发电部分	额定功率 Rated Output	W	1500	1800	1800
	额定频率 Rated Frequency	Hz	50	50	50
	工作周期 Work Cycle		连续	连续	连续
	额定转速 Rated Speed	r/min	3000	3000	3000
共性数据	组合动力匹配内燃机 Combined Power-Matching Internal Combustion Engine	PS	=14	=18	=22
	组合动力匹配电动机 Combined Power-Matching Electromotor	kW	=10	=12	=14
	三槽滑轮 Wheel for V-slot	直径Φ104mm	槽型S10t-typeB	槽型S10t-typeB	槽型S10t-typeB
	绝缘等级 Class Of Insulation	级	B	B	B
	体积 Size	mm	506×265×458	506×265×458	506×265×458
	重量 Weight	kg	56	62	68

### 简介 INTRODUCTION:

SD/SDC系列发电、电焊两用机，适用于内燃机拖动组成移动或固定电源。适用于城镇、乡村、林区、建筑工地、小型船舶等作为照明、日用电器、电动工具以及电焊的电源。本产品可发电、电焊单独使用，也可以少量照明和电焊同时使用。防护等级IP21，绝缘等级为B级。

SD/SDC series generating and welding dual-use alternators are suitable to be mobile or fixed power supply driven by an internal combustion engine. They can be used as power sources for lighting, household appliances, power tools and welding purpose in town, countryside, woodland, worksite and minitype ships. The alternators can generate electricity and weld separately, as well as simultaneously. The protection class is IP21 and insulation class is B.

### 使用环境 ENVIRONMENT CONDITIONS

在下列环境条件下，发电机能够额定运行。

1. 海拔不超过1000米。
2. 冷却空气温度258~313K(-15°C~40°C)。
3. 相对湿度不超过90%。

Under the following environment, the generator could run continuously:

1. Altitude: not exceed 1000m.
2. Cooling air temperature: 258~313K(-15°C~40°C).
3. Relative humidity: not exceed 90%.

**SD/SDC**



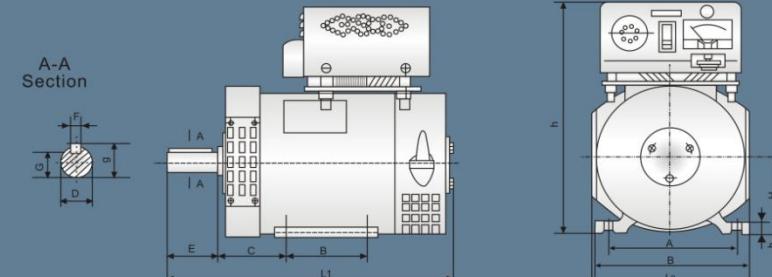
## 系列发电/电焊两用交流发电机

### SERIES GENERATING & WELDING DUAL-USE ALTERNATOR

#### 技术参数 TECHNICAL DATA

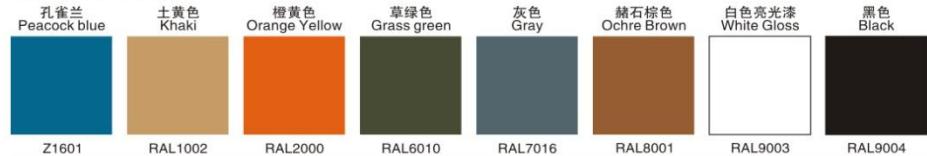
型号 Type	额定功率 Rated output		额定电压 Rated voltage (V)	额定电流 Rated Current (A)	电焊空载电压 Welding voltage under no load (V)	电焊空载电流 Welding Current (A)	暂载率 Continuous rate under load (%)	电焊电流调节范围 Current adjustment range for welding(A)
	kW	KVA						
SD-5	5	5	230	21.7	<80	160	40	70-200
SD-7.5	7.5	7.5	230	32.6	<80	200	40	80-240
SD-10	10	10	230	43.6	<80	230	40	100-300
SD-12	12	12	230	52.2	<80	300	40	140-320
Model								
三相 Three-Phase 400V 50Hz/1500r/min COS φ =0.8								
SDC-5	5	6.3	400	9	<80	140	40	60-160
SDC-7.5	7.5	9.4	400	13.5	<80	180	40	70-200
SDC-10	10	12.5	400	18.1	<80	225	40	80-280
SDC-12	12	15	400	21.7	<80	280	40	100-300

#### 外形及安装尺寸 OVERALL AND MOUNTING DIMENSIONS

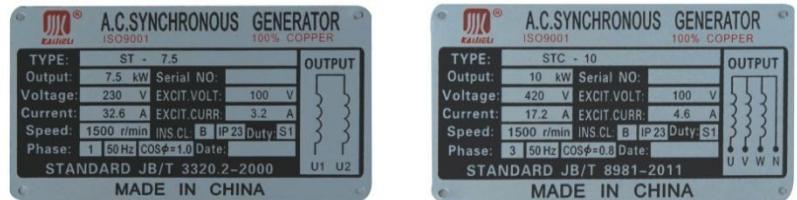


型号 Type	功率 POWER (kW)	安装尺寸 MOUNTING DIMENSIONS(mm)								外形尺寸 OVERALL DIMENSIONS(mm)							
		H	A	B	C	D	E	F	G	g	K	a	b	H1	h	L1	L2
SD-5	5	160	254	254	108	38	80	10	33	40.8	15	50	310	25	440	580	325
SD-7.5	7.5	180	254	254	108	38	80	10	33	40.8	15	50	310	25	440	580	325
SDC-5	5	180	279	203	121	42	110	12	37	44.8	15	60	339	25	480	610	365
SD-10	10	180	279	203	121	42	110	12	37	44.8	15	60	339	25	480	610	365
SDC-7.5	7.5	180	279	203	121	42	110	12	37	44.8	15	60	339	25	480	610	365
SD-12	12	180	279	203	121	42	110	12	37	44.8	15	60	378	30	540	660	400
SDC-10	10	200	318	228	133	48	110	14	42.5	51.2	19	60	378	30	540	660	400
SDC-12	12	200	318	228	133	48	110	14	42.5	51.2	19	60	378	30	540	660	400

## 发电机色版 The color series



## 发电机铭牌 Name Plate



## 发电机配件 Spare Parts of Generator



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■ 欧洲区域 Europe

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■ 南亚区域 South Asia

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