

VGP series includes **164/184/224/274/314/354/404/454** total **8 frames**, from 5kW(6.25kVA) to 2240kw(2800kVA). The technical performance and mounting dimension of VGP series alternators are international IEC 34-1 and national GB755 standards compliant, the quality of product can reach current international standard.



DIY Power produces 8KVA-3250KVA diesel generator sets and low-voltage switchgear assemblies and full range of services including the unit installation, full-automatic distribution, generator room environmental engineering, unit maintenance, spare parts supply, etc.

The units produced by DIY Power all use international brand engines and generators with excellent quality. Through ten years of product development and technology accumulation, DIY Power's products gradually become more mature. In order to meet the different needs of customers worldwide, we will renovate continuously technologies and improve products.



## INTRODUCTION:

VGP Series three-phase (or single-phase) brushless synchronous, by introducing and developing on foreign advanced technology of well-known generators, are our newly developed products, all data updated synchronously with international well-known generators. VGP series generators can be manufactured in both double and single bearing versions with a range of easy coupling to internal and international engines. Its body is constructed by steel shell, stator core is made of whole disc and rotor core is made as whole salient pole type with full-damping, with brushless self-exciting method and AVR automatic control. It has following features: small-size, light-weight, good appearance, perfect performance, and easy access for installation and maintenance.

VGP series alternators meet the quality standard of international well-known generators, we guarantee the quality by strictly-controlled production design, manufacturing technology, tooling, selection of raw materials, production, testing equipment and quality control. Selection of raw materials includes cold rolled silicon sheet and magnet wire, which are purchased from the best of internal supplier, producing and test equipment such as coil winder can effectively control the magnet wire's pulling force while winding, tooling such as stator laminated tooling is very advanced and it can ensure the stator core's quality, manufacturing technology such as VPI and wet-winding technology can ensure that the windings have the high level of protection. All of quality control including field control is carried out according to ISO9001 standard.

## FEATURES:

1. Excellent compatibility with drive systems: standard mounting dimensions can be coupled to any diesel engines from would wide, many S.A.E flanges and S.A.E drive can be easily interchangeable.
2. Good environmentally-friendly protection system: the standard enclosure protection is IP23, insulation class is H, and VGP alternators made with advanced manufacturing technologies are suitable for harsh environments.
3. Reliable and powerful automatic voltage regulators can provide consistent excitation on all occasions, so the alternators can run reliably, and have high performance of magnet on exciter stator which can rapidly build voltage while starting; all AVR's have numerous features for voltage adjustment, stability adjustment, low frequency protection and exterior voltage adjustment.

Standard AVR: SX460;

Option AVR: AX440/SX440/KR440... (can be suitable for operation in parallel), MX341 is suited for auxiliary windings, thus providing the alternator with the best design for nonlinear load, performance on start and short-circuit.

4. VGP alternators are provide with a 2/3 winding pitch as standard, therefore are perfectly suitable for installations with distorting loads, and easy to be operated with other alternators in parallel; several types of windings are available in 50Hz and 60Hz versions to optimize performance according to voltage required on site and the demands of application (max. voltages available range up to 690V).
5. VGP alternators are provide with three phase as standard, it's easy to alter the voltage by reconnection for 12-leads on terminal plate, also the units can be run as single phase by changing the output connecting (except for VGP354/404/454 series), but single-phase's power is about 58% of the three-phase's; for single phase generator, it can be designed for special winding.
6. The damp winding on rotor and the surge suppressor on rectifier can provide the alternator with stability and reliability.
7. For balanced rotor with two sealed and quality ball bearing, VGP alternator have the features of little vibration and low noise.
8. Easy access for installation and maintenance, including: coupling to engines, connecting for lead wire, adjustment for AVR, connecting for rectifier, integrating with current transformers

## OPTION FEATURES:

1. Interchangeable S.A.E flanges and S.A.E drive discs
2. Convenient filters on air inlets and outlets

3. Protection for windings in harsh environments
4. Different AVR type
5. Different windings
6. Exterior potentiometer
7. Space heaters
8. Stator thermal protection
9. PMG or auxiliary windings
10. Droop current transformers (C.T.)

### ENVIRONMENT CONDITIONS:

In the following environments, the alternator could run continuously:

1. Altitude: do not exceed 1000m.
2. Cooling air temperature: 250~313K (-15°C~40°C).
3. Relative air humidity: do not exceed 90%.

Note: If environment conditions exceed the scope mentioned-above, please feel free to contact us.

### MAIN PERFORMANCE DATA:

1. The standard protection for VGP series generators is IP23;
2. Winding are insulated to class H;
3. Full-damping whole salient construction guarantees generator to be operated stably in any conditions, and enable it to run under 150% rated speed(2250 r/min) for 2 minutes;
4. VGP alternator are provided with a 2/3 winding pitch as standard, can effectively eliminated the third harmonic (3rd, 9th, 15th ...etc.), and are therefore perfectly suited to installations with distorting loads, and easy to operate with the other alternator in parallel;
5. Adjusting rate of stable voltage  $\leq 1\%$ , adjusting rate of instant voltage:  $-15\% \sim +20\%$  ( $60\&In$ ,  $\text{COS } \Phi \leq 0.4$  lagging), instant voltage recovery time  $\leq 1.5\text{s}$ ;
6. Wave aberration rate of voltage THD  $\leq 3\%$ , telephone harmony wave factor THF  $\leq 2\%$ , telephone effective factor of TIF  $\leq 50$ .

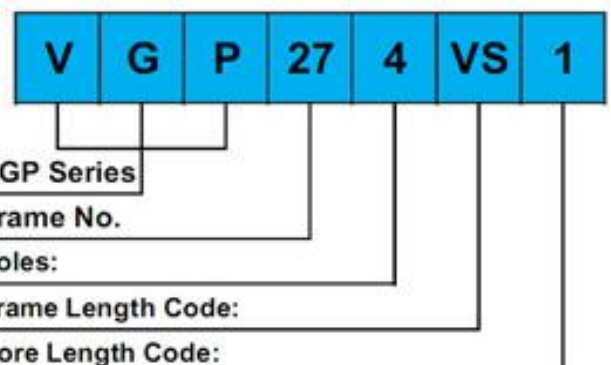
## DIYPOWER VGP ALTERNATOR

VGP~274 Series

100-350 KVA

Brushless Synchronous Alternator

THE DEFINITION PRODUCT MODEL





Rated Date		50Hz - 1500 RPM							
Rating		kVA/ kW cos Φ=0.8							
Duty/Ambient T °		Continuous/ 40°C				Stand by/27°C			
Ins. Class/ T ° Rise		H / 125 ° K				H/163° K			
Phase		3 Phase				3 Phase			
Voltage	Y	380V	400V	415V	440V	380V	400V	415V	440V
	Δ	220V	230V	240V		220V	230V	240V	
	YY				220V				220V
VGP274VS1	KVA	100	100	100	92.5	115	115	115	105
	kW	80	80	80	74	92	92	92	84
VGP274VS2	KVA	112.5	112.5	112.5	107.5	128.8	128.8	128.8	122.5
	kW	90	90	90	86	103	103	103	98
VGP274VS3	KVA	125	125	125	118.8	145	145	145	137.5
	kW	100	100	100	95	116	116	116	110
VGP274S4	KVA	140	140	140	130	160	160	160	150
	kW	112	112	112	104	128	128	128	120
VGP274S5	KVA	150	150	150	140	175	175	175	163.8
	kW	120	120	120	112	140	140	140	131
VGP274S6	KVA	165	165	165	152.5	192.5	192.5	192.5	180
	kW	132	132	132	122	154	154	154	144
VGP274M7	KVA	187.5	187.5	187.5	175	220	220	220	207.5
	kW	150	150	150	140	176	176	176	166
VGP274M8	KVA	200	200	200	190	240	240	240	225
	kW	160	160	160	152	192	192	192	180
VGP274L9	KVA	225	225	225	205	265	265	265	245
	kW	180	180	180	164	212	212	212	196
VGP274L10	KVA	250	250	250	230	275	275	275	255
	kW	200	200	200	184	220	220	220	204

Rated Date		60Hz - 1800 RPM							
Rating		kVA/ kW cos Φ=0.8							
Duty/Ambient T °		Continuous/ 40°C				Stand by/27°C			
Ins. Class/ T ° Rise		H / 125 ° K				H/163° K			
Phase		3 Phase				3 Phase			
Voltage	Y	380V	416V	440V	480V	380V	416V	440V	480V
	Δ	220V	240V			220V	240V	220V	
	YY		208v	220V	240V				240V
VGP274VS1	KVA	105	112.5	117.5	125	116.3	126.3	132.5	145
	kW	84	90	94	100	93	101	106	116
VGP274VS2	KVA	125	131.3	137.5	146.3	137.5	143.8	152.5	165
	kW	100	105	110	117	110	115	122	132
VGP274VS3	KVA	127.5	137.5	145	155	146.3	158.8	167.5	182.5
	kW	102	110	116	124	117	127	134	146
VGP274S4	KVA	150	160	167.5	178.8	165	177.5	187.5	205
	kW	120	128	134	143	132	142	150	164
VGP274S5	KVA	155	165	175	185	177.5	192.5	202.5	220
	kW	124	132	140	148	142	154	162	176
VGP274S6	KVA	170	182.5	192.5	205	195	210	225	240
	kW	136	146	154	164	156	168	180	192
VGP274M7	KVA	190	207	217	230	220	240	252.5	280
	kW	152	160	174	184	176	192	202	224
VGP274M8	KVA	205	222.5	232.5	250	240	260	275	300
	kW	164	178	186	200	192	208	220	240
VGP274L9	KVA	227.5	242.5	257.5	272.5	267.5	287.5	302.5	327.5
	kW	182	194	206	218	214	230	242	262
VGP274L10	KVA	250	265	280	295	290	310	322.5	350
	kW	200	212	224	236	232	248	258	280