Hopewind

Stock Code: 603063

Catalog SVG/STATCOM

Power Quality Product

en.hopewind.com

>> About Hopewind

Shenzhen Hopewind Electric Co., Ltd. (Stock Code: 603063) focuses on the research, manufacture, sale and service of renewable energy & electric drive products and the main products are wind power converter, photovoltaic generation inverter, power quality product as well as the industry drive (variable frequency drive). Furthermore, Hopewind owns independent development & testing platforms of integrated high-power electric equipment and monitoring system.Through innovation in technology and service, Hopewind continuously creates value for customers, and it has become one of the most competitive enterprises in renewable energy field.

[Honors]

National Science and Technology Progress Award

Laboratory Qualification Approved by CNAS

National High-tech Enterprises

[Quality System]

ISO9001: 2015

ISO14001: 2004

OHSAS 18001: 2007

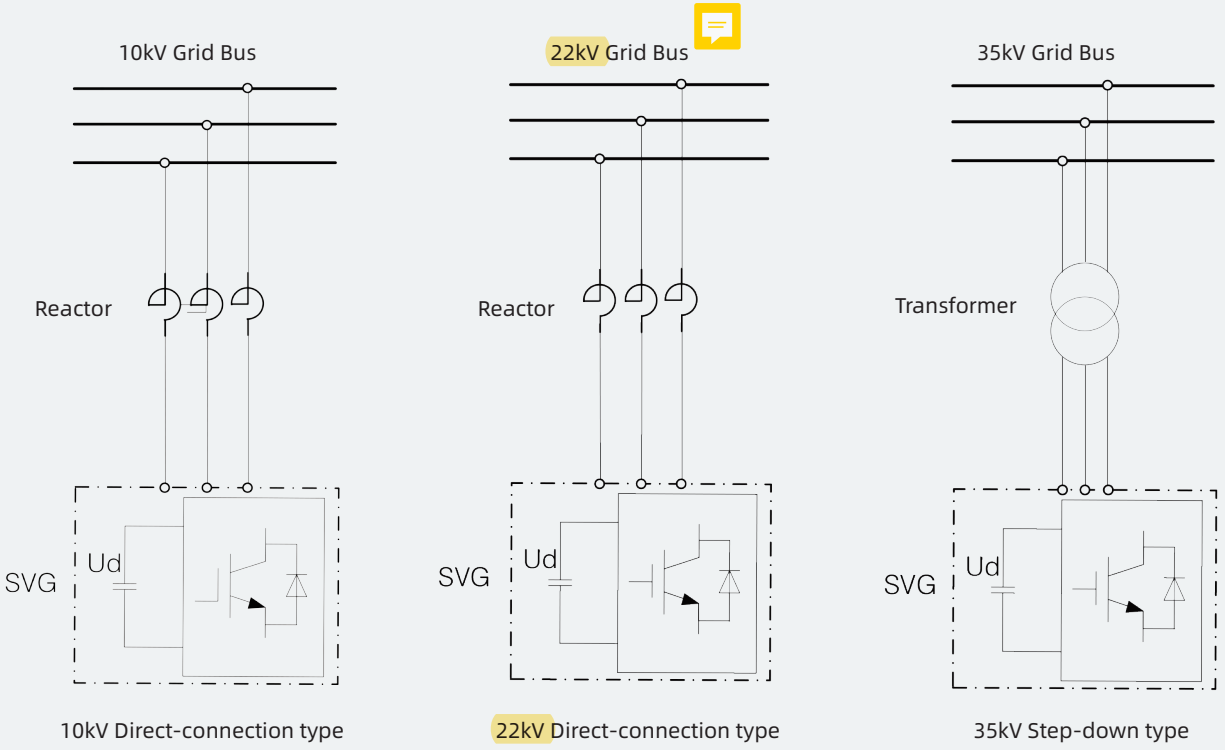
Headquarter and R&D Base: Shenzhen

Manufacturing Base: Shenzhen, Suzhou, Dongguan, Yancheng

Services Partner: Russia, Vietnam, Brazil, Korea, Turkey, Ukraine, Pakistan, Malaysia

A new generation of high-voltage static var generator independently developed by hopewind(HSVG,Hopewind Static Var Generator), based on the actual needs of reactive power compensation and harmonic control, helps enterprises and institutions such as power generation, transmission, and power consumption to eliminate grid disturbance, stabilize grid voltage, and improve power quality and transmission capacity. The product has completely independent intellectual property rights, including 3kV, 6kV, 10kV, 27.5kV and 35kV series, with air-cooling, liquid-cooling and air-conditioning cooling methods. The single-unit power covers 1.0Mvar~100.0Mvar, and it supports multiple parallel expansion.

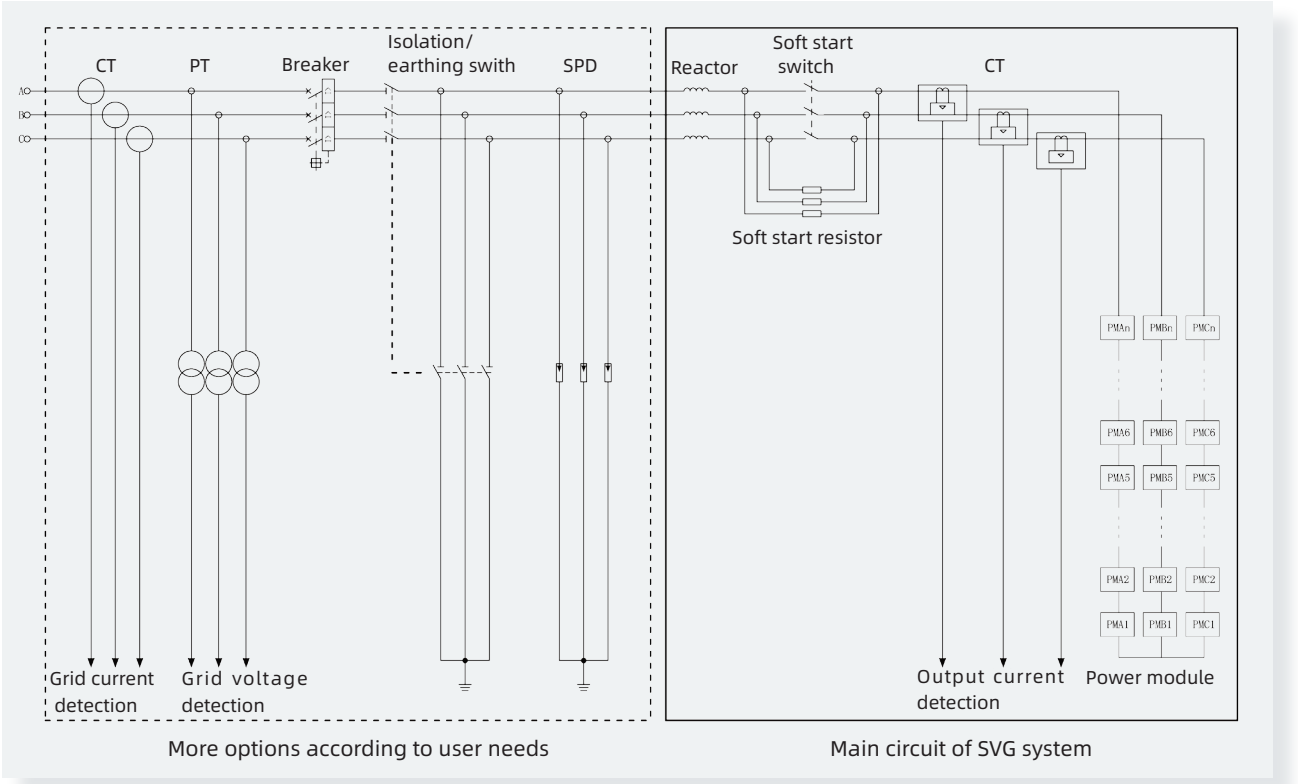
HSVG uses IGBT power module to form a self-commutated bridge circuit, which is connected in parallel to the grid through a transformer or reactor. HSVG uses PWM technology to automatically adjust the phase and amplitude of the AC side output voltage of the bridge circuit, or directly adjusts the AC side current, so that the bridge circuit absorbs or emits reactive current that meets the requirements to achieve the purpose of dynamic reactive power compensation. Its connection with the grid bus is as follows (take 10kV and 35kV as examples):



10kV Direct-connection type　22kV Direct-connection type　35kV Step-down type

HSVG is composed of a startup control part and a power part. The startup control part includes a pre-charging unit and a control unit. The pre-charging unit pre-charges the capacitor of power part before the SVG working. The control unit completes the detection of the grid voltage and the current it sends out control commands and accepts dispatching commands. The power part is the main part of reactive power modulation of HSVG, which is composed of multiple power units connected in series to complete the core functions of system reactive power modulation, harmonic suppression and unbalance compensation.

The HSVG main circuit adopts a chain topology structure. Products of different power levels are connected in series by different numbers of power units, which can be connected in a Y-shape or a △-shape. The connection diagram is as follows (take Y shape as an example).



Naming Rule

H SVG 1 - 22 - 4000

Company Name:
H-hopewind

Product Name:
SVG-Static Var Generator

Product Series Code: 0-low voltage 1-high voltage

On-grid Voltage: 66-66kV, 42-42kV, 35-35kV, 22-22kV, 10-10kV, 6-6kV, 3-3kV

Rated Capacity: 1000-1Mvar...4000-4Mvar...10000-10Mvar...100000-100Mvar

Configuration

Structure type	A - Direct-connection type, B - Step-down type
Installation method	C - Container, I - Indoor
Altitude environment	N - Standard, P - Plateau, U - Ultra Plateau
Temperature environment	N - Standard, L - Low temperature, U - Ultra low temperature
Salt fog environment	N - Standard, S - Salt fog, U - Ultra salt fog
Custom 1	W - air-cooling, A: air-conditioning cooling, L - Liquid-cooling, M - Mixed-cooling
Custom 2	I - Inner power supply power module, X - inner and outer power supply power module
Custom 3	U - with UPS, N - without UPS

>> Excellent Performance & Industry Leading

Supporting reactive power compensation, harmonic compensation, load imbalance compensation, low-voltage ride-through and high-voltage ride-through technology for new energy and grid requirements.

Multiple compensation modes

Supports multiple compensation modes such as reactive power setting, constant voltage, constant reactive power, constant power factor, and constant load compensation to meet the compensation needs in different scenarios.

Real-time tracking, quick response

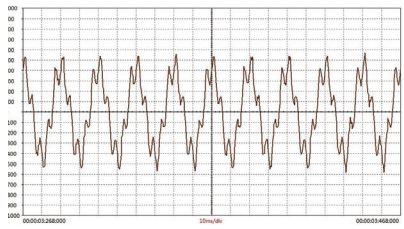
HSVG response speed <5ms.

Effectively suppress voltage flicker

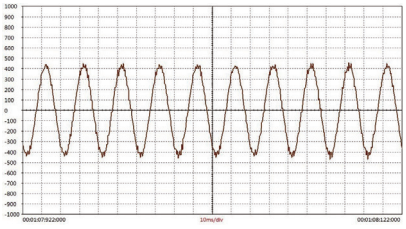
Power grid adaptability and equipment utilization have been greatly improved.

Dynamic harmonic compensation

It can effectively compensate the 2nd to 13th harmonics at the same time to achieve a good harmonic control effect.



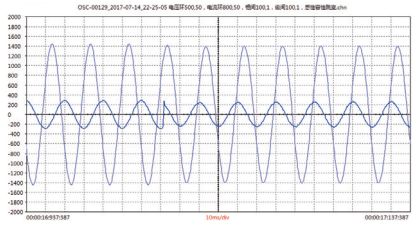
(Before compensation - larger harmonics)



(After compensation - smaller harmonics)

Two-way continuous dynamic reactive power compensation

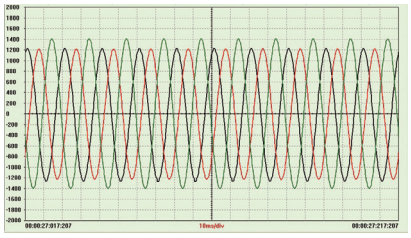
From inductive reactive power to capacitive reactive power can be automatically and smoothly adjusted.



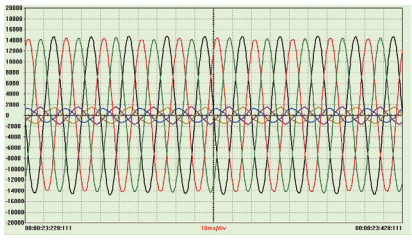
(From inductive reactive power to capacitive reactive power)

Phase compensation

Phase compensation technology can effectively correct the three-phase reactive power imbalance and stabilize the grid voltage.



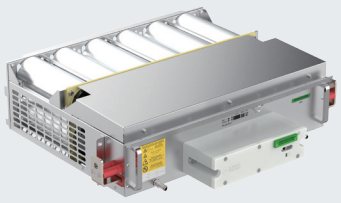
(Before compensation - grid voltage imbalance is serious)



(After compensation - grid voltage imbalance is small)

Automatic bypass redundancy function

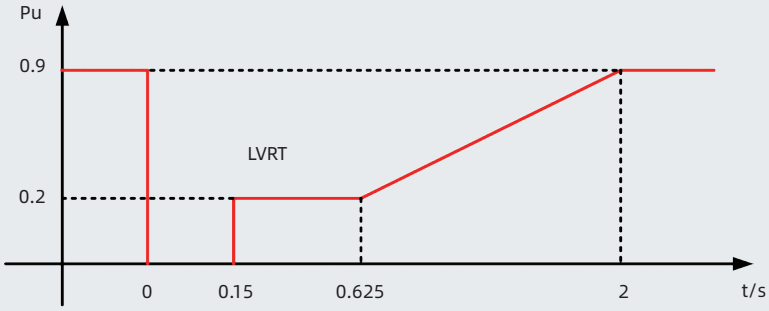
At least one redundant unit is installed in N+1 power valve groups. When at least one of the power valve groups fails or fails, it can ensure that the entire equipment meets the actual application requirements of "N-1" on site and increases The SVG automatic bypass switch can realize the automatic bypass function of the faulty power valve group without stopping the machine.



HSVG LVRT Function

Earlier, reactive power compensation equipment such as SVC and SVG in the market did not have the function of generating rated reactive current during LVRT. However, more and more applications require SVG to be able to keep on-grid and output rated reactive current to the grid during the grid voltage drop, especially for new energy wind farms and photovoltaic power plants. Hopewind SVG products have the function of generating rated reactive current during the LVRT period. HSVG treats the different working conditions of symmetrical and asymmetrical sag of the grid voltage differently. It calculates and outputs the ratio of the positive sequence component, negative sequence component and zero sequence component of the SVG to ensure the continuity of the SVG reactive current output under the stable operation of the SVG.

When the grid voltage drops abnormally, HSVG quickly emits rated reactive current, which moderated the drop rate and amplitude of the grid voltage at the SVG compensation point, and it avoids the repeated disconnection and connection of new energy stations. At the same time, during the grid voltage recovery period, it helps the grid voltage to quickly restore to the normal level of grid voltage.



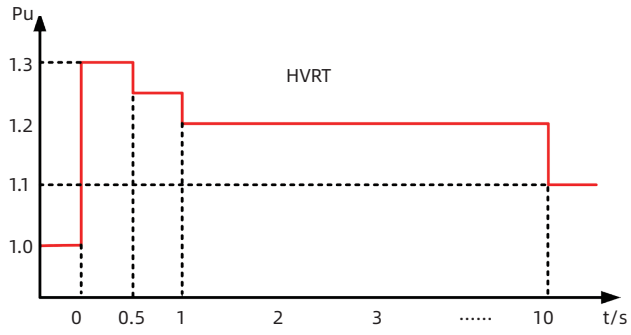
HSVG have zero voltage ride through ability

CEPRI LVRT certification report

HSVG HVRT Function

After the grid voltage drops, a large number of devices on the grid will go off the grid, which will cause the local grid voltage to rise. This phenomenon is particularly prominent in the new energy field. This requires SVG in the new energy field to have HVRT ability after the LVRT.

When the high voltage of the grid occurs after the LVRT is detected, HSVG quickly provides inductive reactive current to the grid, and at the same time it balances the active power of each phase of the SVG to keep the DC bus voltage of the SVG power module stable and the Loads to operate reliably, moderate the rate and amplitude of the grid voltage rise at the SVG compensation point, and avoid the frequent disconnection and connection of a large number of power equipment during the high-voltage period of the grid.



HSVG have strong HVRT ability

CEPRI HVRT certification report

Note: LVRT/HVRT is a continuous process, and there are clear requirements in the "two detailed rules" and "eighteen anti-accident measures" for high and low ride through.

LVRT/HVRT is not limited to new energy stations. In applications such as oil and gas fields, coal mines, steel mills, industrial grid terminals, etc., due to the weak power grid, when a large load (such as a motor) starts and stops, it will be accompanied by flicker fluctuations of the grid voltage, HSVG with LVRT/HVRT function can effectively stabilize the grid voltage and improve system utilization.

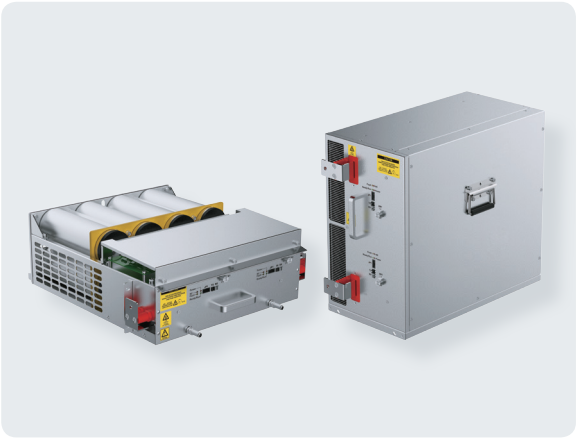
High power density and it can be deployed in small spaces

The power density is as high as 757kvar/m^3, saving space to the greatest extent for customers

Strict testing to ensure product reliability and stability

Before leaving the factory, the products have undergone reliability experiments and tests, and the electrical and mechanical properties are in full compliance with relevant national standards.

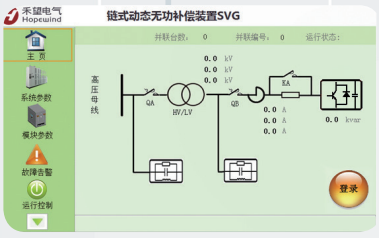
Modular design makes installation and maintenance more convenient



Rich human-machine interaction, easy operation and maintenance

Account hierarchical management, safe and reliable

Different levels of accounts have different permissions



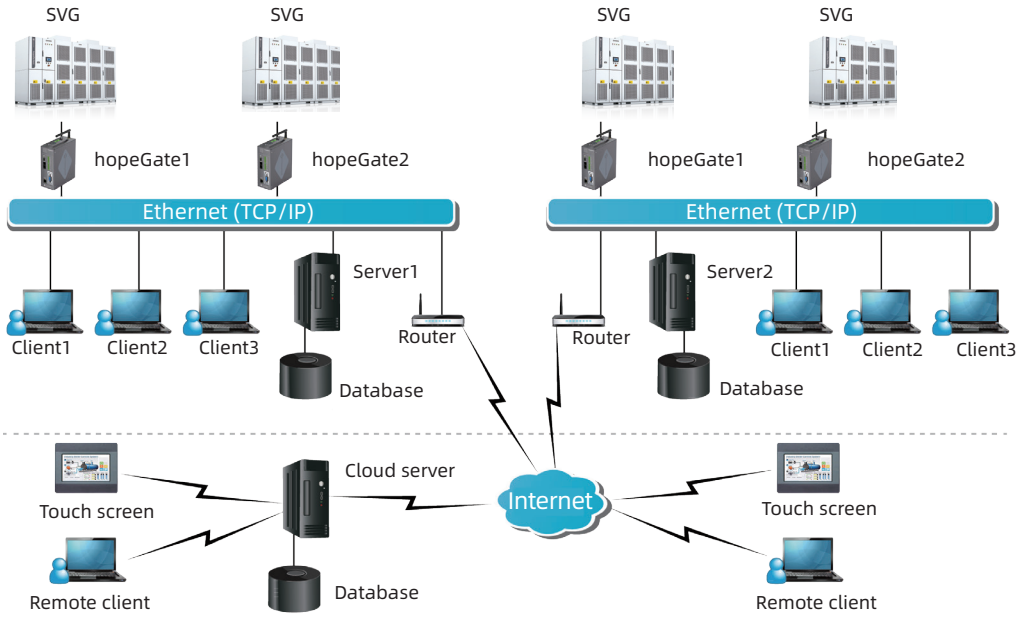
The touch screen supports parameter viewing, parameter setting, fault viewing, operation control and other operations

After deploying the hopeView network monitoring system, intelligent operation and maintenance can be carried out through mobile terminals such as mobile phones and PCs.

With the hopeInsight background software, the product can be operated and maintained on the PC

Hopewind remote intelligent operation and maintenance cloud service system uses big data to monitor, it gives the professional knowledge of Hopewind Electric, and it provides users with efficient and intelligent operation and maintenance services.

Through the display of HSVG's big data on the Hopewind operation and maintenance system, it is possible to understand the operating status of all HSVGs in real time, and obtain information such as HSVG operating data, event records, and fault recorders in time. And the system can collect HSVG data information at high speed, and perform intelligent diagnosis of common faults by expert system based on the acquired information; for complex faults, users can upload the data to Hopewind operation and maintenance system with the professional training.



(hopeView monitoring system network diagram)

Remote intelligent O&M system Special Functions

Remote Intelligent O&M

Remote Dispatch

No matter when and where, as long as there is Internet, HSVG can be dispatched through mobile terminals

Intelligent Diagnosis

With expert system and massive case library, it can automatically analyze and predict equipment failures

Collaborative O&M

Cooperate remotely with senior experts of Hopewind, which saves time and efficiency as if professionals are on-site

>> Product Specification

10kV SVG is directly connected to the 10kV power grid through a 10kV reactor, and the single unit power level is 1.0Mvar~15.0Mvar.

Technical Parameters

10kV series product (direct-connection type)																
Rated Capacity (Mvar)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rated Current (A)		58	115	173	231	289	346	404	462	520	577	635	693	751	808	866
Main Parameters	On-grid Point Voltage Range	(75%~115%) Un (long operation)														
	On-grid Point Frequency Range	45Hz~55Hz / 55Hz~65Hz (long operation)														
	On-grid Point Distortion Rate	THDu≤10% (grid adaptability)														
	On-grid Point Unbalance	ε≤8% (grid adaptability)														
	Reactive Power Output Range	Rated capacitive to rated inductive, continuous adjustment														
	Harmonic Compensation Capability	2~13 subharmonic														
	Power factor	≥0.99 (within the compensation capacity)														
	Overall Efficiency	≥99%														
	Reactive Power Response Time	≤5ms														
	Overload Capacity	110% continuous overload, 120% overload for 1min														
	Compensation Method	Reactive power compensation, harmonic compensation, load imbalance compensation, etc.														
	Human-machine Interaction	Remote intelligent monitoring / LCD touch screen (optional)														
Control Power Supply	Supply System	Three-phase four-wire system														
	Supply Voltage	380V (-20%~+15%)														
	Supply Frequency	47.5Hz~52.5Hz / 57.5Hz~62.5Hz														
	Voltage Harmonics THDu	≤8% (adaptability)														
	Voltage Unbalance	≤2% (adaptability)														
	Supply Current	≤30A														
Operation Control Feature	Operation and Control	Local control, remote control, dispatch system														
Communication	Interface	RJ45, RS485, etc.														
	Protocol	Modbus / 103 / 104 protocol, etc.														
Environmental Parameters	Altitude	≤2000m, higher than 2000m need to be customized														
	Operating Environment Temperature	- 40℃~ + 55℃ (>40℃, derating 2% every 1℃ rising)														
	Relative Humidity	≤95%, no condensation														
	Storage Temperature	-40℃ ~ +70℃														
	Installation Environment	Indoor or container														
	Ingress Protection	Indoor IP20, container IP54														
	Cooling Method	Air-cooling / liquid-cooling / air-conditioning														
Dimensions (W*D*H) (mm)	Air-cooling Type	≤4300*1200*2200								≤5400*1200*2200						
	Liquid-cooling Type	≤4000*1200*2300								≤4600*1200*2300						
Weight (kg)	Air-cooling Type	≤6755								≤9000						
	Liquid-cooling Type	≤3500								≤3900						

22kV SVG is directly connected to the 22kV power grid through a 22kV reactor, and the single unit power level is 8.0Mvar~25.0Mvar.

Technical Parameters

22kV series product (direct-connection type)																		
Rated Capacity (Mvar)		8	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Rated Current (A)		210	262	289	315	341	367	394	420	446	472	499	525	551	577	604	630	656
Main Parameters	On-grid Point Voltage Range	(75%~115%) Un (long operation)																
	On-grid Point Frequency Range	45Hz~55Hz / 55Hz~65Hz (long operation)																
	On-grid Point Distortion Rate	THDu≤10% (grid adaptability)																
	On-grid Point Unbalance	ε≤8% (grid adaptability)																
	Reactive Power Output Range	Rated capacitive to rated inductive, continuous adjustment																
	Harmonic Compensation Capability	2~13 subharmonic																
	Power factor	≥0.99 (within the compensation capacity)																
	Overall Efficiency	≥99%																
	Reactive Power Response Time	≤5ms																
	Overload Capacity	110% continuous overload, 120% overload for 1min																
	Compensation Method	Reactive power compensation, harmonic compensation, load imbalance compensation, etc.																
	Human-machine Interaction	Remote intelligent monitoring / LCD touch screen (optional)																
Control Power Supply	Supply System	Three-phase four-wire system																
	Supply Voltage	380V (-20%~+15%)																
	Supply Frequency	47.5Hz~52.5Hz / 57.5Hz~62.5Hz																
	Voltage Harmonics THDu	≤8% (adaptability)																
	Voltage Unbalance	≤2% (adaptability)																
	Supply Current	≤30A																
Operation Control Feature	Operation and Control	Local control, remote control, dispatch system																
Communication	Interface	RJ45, RS485, etc.																
	Protocol	Modbus / 103 / 104 protocol, etc.																
Environmental Parameters	Altitude	≤2000m, higher than 2000m need to be customized																
	Operating Environment Temperature	- 40℃~ + 55℃ (>40℃, derating 2% every 1℃ rising)																
	Relative Humidity	≤95%, no condensation																
	Storage Temperature	-40℃ ~ +70℃																
	Installation Environment	Indoor or container																
	Ingress Protection	Indoor IP20, container IP54																
	Cooling Method	Air-cooling / liquid-cooling / air-conditioning																
Dimensions (W*D*H) (mm)	Air-cooling Type	≤5400*1200*2200																
	Liquid-cooling Type	≤4600*1200*2300																
Weight (kg)	Air-cooling Type	≤9000																
	Liquid-cooling Type	≤3900																

>> Product Specification

The 22kV step-down SVG is connected to the 22kV grid through a 22kV/10kV step-down transformer, and the single unit power level is 1.0Mvar~15.0Mvar.

Technical Parameters

22kV series product (step-down type)																
Rated Capacity (Mvar)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rated Current (A)		26	52	79	105	131	157	184	210	236	262	289	315	214	231	247
Main Parameters	On-grid Point Voltage Range	(75%~115%) Un (long operation)														
	On-grid Point Frequency Range	45Hz~55Hz / 55Hz~65Hz (long operation)														
	On-grid Point Distortion Rate	THDu≤10% (grid adaptability)														
	On-grid Point Unbalance	ε≤8% (grid adaptability)														
	Reactive Power Output Range	Rated capacitive to rated inductive, continuous adjustment														
	Harmonic Compensation Capability	2~13 subharmonic														
	Power factor	≥0.99 (within the compensation capacity)														
	Overall Efficiency	≥99%														
	Reactive Power Response Time	≤5ms														
	Overload Capacity	110% continuous overload, 120% overload for 1min														
	Compensation Method	Reactive power compensation, harmonic compensation, load imbalance compensation, etc.														
	Human-machine Interaction	Remote intelligent monitoring / LCD touch screen (optional)														
Control Power Supply	Supply System	Three-phase four-wire system														
	Supply Voltage	380V (-20%~+15%)														
	Supply Frequency	47.5Hz~52.5Hz / 57.5Hz~62.5Hz														
	Voltage Harmonics THDu	≤8% (adaptability)														
	Voltage Unbalance	≤2% (adaptability)														
	Supply Current	≤30A														
Operation Control Feature	Operation and Control	Local control, remote control, dispatch system														
Communication	Interface	RJ45, RS485, etc.														
	Protocol	Modbus / 103 / 104 protocol, etc.														
Environmental Parameters	Altitude	≤2000m, higher than 2000m need to be customized														
	Operating Environment Temperature	- 40℃~+55℃ (>40℃, derating 2% every 1℃ rising)														
	Relative Humidity	≤95%, no condensation														
	Storage Temperature	-40℃~+70℃														
	Installation Environment	Indoor or container														
	Ingress Protection	Indoor IP20, container IP54														
	Cooling Method	Air-cooling / liquid-cooling / air-conditioning														
Dimensions (W*D*H) (mm)	Air-cooling Type	≤4300*1200*2200							≤5400*1200*2200							
	Liquid-cooling Type	≤4000*1200*2300							≤4600*1200*2300							
Weight (kg)	Air-cooling Type	≤6755							≤9000							
	Liquid-cooling Type	≤3500							≤3900							

The 35kV step-down SVG is connected to the 35kV grid through a 35kV/10kV step-down transformer, and the single unit power level is 1.0Mvar~15.0Mvar.

Technical Parameters

35kV series product (step-down type)																
Rated Capacity (Mvar)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rated Current (A)		17	33	50	66	83	99	116	132	149	165	182	198	214	231	247
Main Parameters	On-grid Point Voltage Range	(75%~115%) Un (long operation)														
	On-grid Point Frequency Range	45Hz~55Hz / 55Hz~65Hz (long operation)														
	On-grid Point Distortion Rate	THDu≤10% (grid adaptability)														
	On-grid Point Unbalance	ε≤8% (grid adaptability)														
	Reactive Power Output Range	Rated capacitive to rated inductive, continuous adjustment														
	Harmonic Compensation Capability	2~13 subharmonic														
	Power factor	≥0.99 (within the compensation capacity)														
	Overall Efficiency	≥99%														
	Reactive Power Response Time	≤5ms														
	Overload Capacity	110% continuous overload, 120% overload for 1min														
	Compensation Method	Reactive power compensation, harmonic compensation, load imbalance compensation, etc.														
	Human-machine Interaction	Remote intelligent monitoring / LCD touch screen (optional)														
Control Power Supply	Supply System	Three-phase four-wire system														
	Supply Voltage	380V (-20%~+15%)														
	Supply Frequency	47.5Hz~52.5Hz / 57.5Hz~62.5Hz														
	Voltage Harmonics THDu	≤8% (adaptability)														
	Voltage Unbalance	≤2% (adaptability)														
	Supply Current	≤30A														
Operation Control Feature	Operation and Control	Local control, remote control, dispatch system														
Communication	Interface	RJ45, RS485, etc.														
	Protocol	Modbus / 103 / 104 protocol, etc.														
Environmental Parameters	Altitude	≤2000m, higher than 2000m need to be customized														
	Operating Environment Temperature	- 40℃~+55℃ (>40℃, derating 2% every 1℃ rising)														
	Relative Humidity	≤95%, no condensation														
	Storage Temperature	-40℃~+70℃														
	Installation Environment	Indoor or container														
	Ingress Protection	Indoor IP20, container IP54														
	Cooling Method	Air-cooling / liquid-cooling / air-conditioning														
Dimensions (W*D*H) (mm)	Air-cooling Type	≤4300*1200*2200								≤5400*1200*2200						
	Liquid-cooling Type	≤4000*1200*2300								≤4600*1200*2300						
Weight (kg)	Air-cooling Type	≤6755								≤9000						
	Liquid-cooling Type	≤3500								≤3900						

35kV direct-connection type SVG is directly connected to the 35kV power grid through a 35kV reactor, and the single unit power level is 7.0Mvar~100.0Mvar.

Technical Parameters

35kV series product (direct-connection type)																							
Rated Capacity (Mvar)		7	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	.....	45	.....	60	.....	100
Rated Current (A)		116	132	165	198	231	264	297	330	363	396	429	462	495	528	561	594	.....	742	.....	990	.....	1650
Main Parameters	On-grid Point Voltage Range	(75%~115%) Un (long operation)																					
	On-grid Point Frequency Range	45Hz~55Hz / 55Hz~65Hz (long operation)																					
	On-grid Point Distortion Rate	THDu≤10% (grid adaptability)																					
	On-grid Point Unbalance	ε≤8% (grid adaptability)																					
	Reactive Power Output Range	Rated capacitive to rated inductive, continuous adjustment																					
	Harmonic Compensation Capability	2~13 subharmonic																					
	Power factor	≥0.99 (within the compensation capacity)																					
	Overall Efficiency	≥99%																					
	Reactive Power Response Time	≤5ms																					
	Overload Capacity	110% continuous overload, 120% overload for 1min																					
	Compensation Method	Reactive power compensation, harmonic compensation, load imbalance compensation, etc.																					
	Human-machine Interaction	Remote intelligent monitoring / LCD touch screen (optional)																					
Control Power Supply	Supply System	Three-phase four-wire system																					
	Supply Voltage	380V (-20%~+15%)																					
	Supply Frequency	47.5Hz~52.5Hz / 57.5Hz~62.5Hz																					
	Voltage Harmonics THDu	≤8% (adaptability)																					
	Voltage Unbalance	≤2% (adaptability)																					
	Supply Current	≤130A																					
Operation Control Feature	Operation and Control	Local control, remote control, dispatch system																					
Communication	Interface	RJ45, RS485, etc.																					
	Protocol	Modbus / 103 / 104 protocol, etc.																					
Environmental Parameters	Altitude	≤2000m, higher than 2000m need to be customized																					
	Operating Environment Temperature	- 40℃~ + 55℃ (>40℃, derating 2% every 1℃ rising)																					
	Relative Humidity	≤95%, no condensation																					
	Storage Temperature	-40℃ ~ +70℃																					
	Installation Environment	Indoor or container																					
	Ingress Protection	Indoor IP20, container IP54																					
	Cooling Method	Air-cooling / liquid-cooling / air-conditioning																					
Dimensions (W*D*H) (mm)	Air-cooling Type	≤10000*3000*3000																-					
	Liquid-cooling Type	≤8000*3000*3000																≤10800*3000*3000				≤10800*6000*3200	
Weight (kg)	Air-cooling Type	≤15000																-					
	Liquid-cooling Type	≤11000																≤17000				≤40000	

Case 1: Wind farm HVRT/LVRT application case

Time: June 2017; April 2020

Location: Gaoliban Wind Farm in Tongliao City, Inner Mongolia; Zhangbei National Wind Power Technology and Testing Research Center

In November 2017, Hopewind passed the HVRT/LVRT capability test at the Gaolibanwind farm, becoming the first China manufacturer of SVG devices with HVRT/LVRT functions to run on the grid.

In April 2020, Hopewind SVG passed the China fault voltage ride-through capability test of the wind power technology, which means that Hopewind is the first China SVG manufacturer to pass this test and obtain a report.

Case 2: SVG wind farm high-altitude weak power grid application case

Time: October 2019

Location: A wind farm in Qujing City, Yunnan Province

The site is located in a high-altitude site on the Yunnan-Guizhou Plateau. The temperature difference between day and night is large, humid and dew, and the on-site power grid is weak. A slight fluctuation may easily cause the equipment to disconnect from the grid. The good grid adaptability and environmental adaptability of Hopewind SVG have been well verified on site.

Case 3: Offshore wind power application case

Time: October 2019

Location: A wind farm in Nantong City, Jiangsu Province

Offshore wind power projects have heavy salt fog, high pollution levels, and humidity up to 90% or more. Hopewind SVG equipment follows the more stringent design requirements of offshore wind power converters, adopts C5 anti-corrosion measures, and has strong environmental adaptability. Currently equipment is stably operating without failure in the site environment.

Case 4: Application case at 4000 meters altitude

Time: June 2020

Location: A wind farm in Liangshan Prefecture, Sichuan Province

The altitude of this site is over 4000 meters, and the environment is low temperature and low air pressure, thin air, humid and foggy, strong ultraviolet radiation, which will became a great challenge for equipment operation. Hopewind SVG is designed based on hundreds of converter application experience in the high-altitude wind farms that correcting the parameters in strict accordance with the requirements of high altitude. The equipment works well on site and is praised by the owner.

Case 5: Application case at 3000 meters altitude

Time: May 2020

Location: A wind farm in Dali City, Yunnan Province

In a wind farm with an altitude of 3000 meters in Dali, Yunnan, the original equipment was old and unable to operate, has been replaced by Hopewind SVG. In the first round of grid-connected commissioning, Hopewind 35kV direct-connection liquid-cooling SVG was successfully connected to the grid at one time and operated at full load. The performance indicators under various compensation modes are excellent, breaking the industry legend of “never use after installation”.

Case 6: Application case at 5000m altitude

Time: September 2021

Location: A wind farm in Shannan City, Tibet Autonomous Region

The site has an average altitude of 5,000 meters, high altitude, low air density, easy condensation in rainy seasons, dry summer, strong thunderstorms strong ultraviolet rays, etc. Hopewind SVG is corrected in strict accordance with GB and IEC related standards and is perfectly applied to the site, is China's first 35kV large-capacity direct-mounted water-cooled SVG manufacturer for this altitude.

Case 7: Indoor liquid-cooling type renovation project application case

Time: October 2020

Location: A wind farm in Zhanjiang City, Guangdong Province

The original SVG of this wind farm was out of service for a long time due to faults, and did not meet the relevant requirements of frequency and voltage. Hopewind responds to the owner's need to use the old and save costs as much as possible, borrowing the original soft start device and indoor space to minimize the amount of renovation works. The entire renovation plan was recognized and praised by the owner.

Case 8: Agriculture photovoltaic application case

Time: December 2020

Location: A PV plant in Baoji City, Shaanxi Province

The reactive power ratio accounts for 30% of the station capacity in this site. Large-capacity SVG has high requirements for its control system. The main controller independently developed by Hopewind uses an advanced digital signal processor DSP as the control core, which is perfectly applied to the site to meet the needs of large-capacity load reactive power compensation and power quality management.

Case 9: SVG in the high altitude PV plant application case

Time: December 2020

Location: A PV plant in Anshun City, Guizhou Province

The site is located in the Yunnan-Guizhou Plateau, where the temperature difference between day and night is large, humid and dew. Hopewind SVG adopts a fully-sealed liquid-cooling method. Currently the equipment is perfectly suitable for the site environment.

Case 10: Desert environment application case

Time: November 2018

Location: A desert PV plant in Ordos, Inner Mongolia

The project is located in a desert area, with a large temperature difference between day and night, windy, sandy and dusty. Hopewind adapts measures to local conditions, abandoning the industry's common forward and backward ventilation method, and adopts a sinking downward air intake method, which greatly reduces the direct contact with sand and dust, making SVG perfect for on-site environment and stable operation.

Case 11: High temperature and dust environment application case

Time: March 2019

Location: A PV plant in Buon Ma Thuot, Vietnam

This site has high ambient temperature, high sand and dust, large fluctuations in the power grid, and often under-voltage, under-frequency, etc. during operation, which test the adaptability of SVG to the power grid. After Hopewind SVG was put into operation, the grid voltage was stabilized, which effectively guaranteed the normal operation of the power station.

Case 12: PV poverty alleviation end small grid project application case

Time: May 2019

Location: A PV plant in Jalaid Banner, Inner Mongolia

The site uses 13 Hopewind SVGs. At this site, voltage unbalance is large, frequency fluctuation is large, and some harmonics of specific frequency are mixed. Hopewind SVG has strong frequency adaptability, has harmonic suppression, unbalance adaptation and correction functions, and performs well in stable operation on site.

Case 13: Coal mine application case

Time: August 2014, November 2019, August 2021
Location: A coal mine in Hegang City, Heilongjiang Province; A coal mine in Jinzhong City, Shanxi Province
The coal mine's electricity load is complicated, the power factor is low, and the harmonic content is complicated. After the Hopewind SVG was put into use, the power factor was increased from 0.78 to 0.99, the mining area avoided fines due to low power factor, and significantly reduced the failure rate of electrical equipment, increased the service life.

Case 14: Petrochemical site application case

Time: January 2018
Location: An oil extraction plant in Puyang City, Henan Province
The start-up current of the high-voltage asynchronous motor with large capacity and direct start at this site is extremely large, which is easy to cause drastic changes in the grid voltage and affect the normal operation of other equipment in the same grid. After our SVG was put into operation, we tracked the grid voltage fluctuations in real time and performed dynamic compensation, so that the equipment can operate normally, which was well received by the owners.

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If there is any change in product size and parameters, they shall be subject to the latest actual product

Hopewind Website