



## Prefabricated Substation

# Prefabricated Substation (European style)

## 1 | Brief Introduction

YB11-12/0.4-30~2500 prefabricated substation is suitable for the outdoor three-phase AC 10kV distribution network with the high voltage side rated voltage of 12kV, low voltage side rated voltage of 0.4kV, transformer rated capacity of 2500kVA or lower and rated frequency of 50Hz, for distribution and acceptance of the power distribution system.

The product is used as the transformation and distribution equipment for urban residential areas, development areas, garden scenic areas, high-rise buildings, industrial and mining enterprises, etc., and also as the temporary transformation and distribution equipment for oil and gas fields, large construction sites, etc.

The product complies with GB/T 17467-2010 "HV/LV Prefabricated Substation".



## 2 | Model



## 3 | Characteristics

- YB11-12/0.4 prefabricated substation can be divided into three parts, i.e. HV chamber, transformer chamber and LV chamber. Generally, it is arranged in Chinese characters “目” and “品”, also can be arranged in other forms according to user’s design requirements.
- The top cover of prefabricated substation adopts a double-layer structure with air interlayer, to effectively prevent indoor temperature rise caused by heat radiation.
- The HV chamber is mainly equipped with gas-filled on-load switch, vacuum on-load switch, and fuse-combined electrical apparatus.
- The transformer chamber usually adopts natural air cooling mode, also adopts forced air cooling mode if necessary.
- The LV chamber cabinet is the assembled GGD, GCS, GCK cabinet with the screen-mounted panel.
- The power can be supplied through the terminal, ring network or dual power supply, etc.

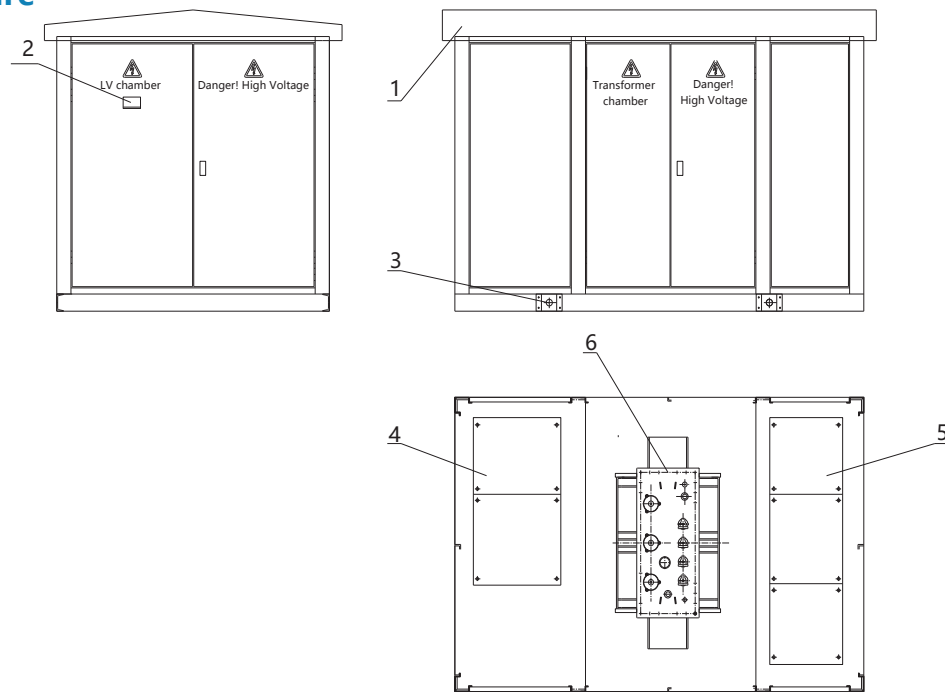
## 4 | Service Environment

- Ambient air temperature: -25° C~+40° C
  - Altitude: ≤ 1000m
  - Outdoor wind speed: ≤ 35m/s
  - Relative humidity: daily average ≤ 95%, and monthly average ≤ 90%
  - Earthquake intensity: ≤ VIII
  - Installation location: no fire, explosion hazard, serious pollution, chemical corrosion, or severe vibration.
- \*Please consult us in case of service conditions that do not comply with the above-mentioned requirements.

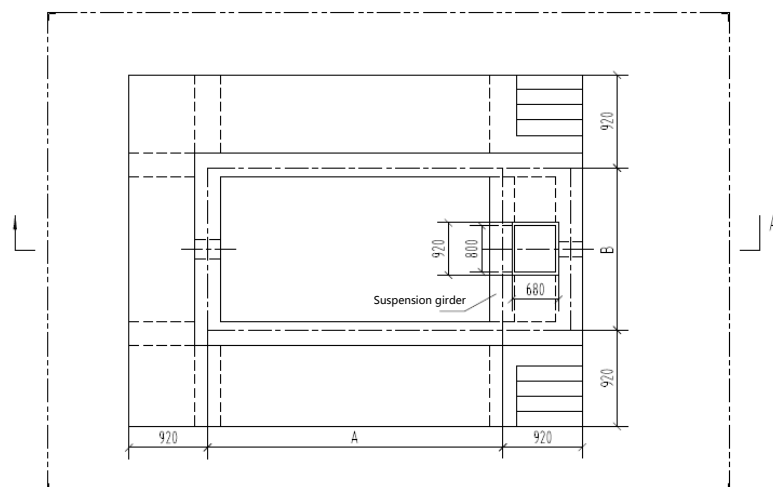
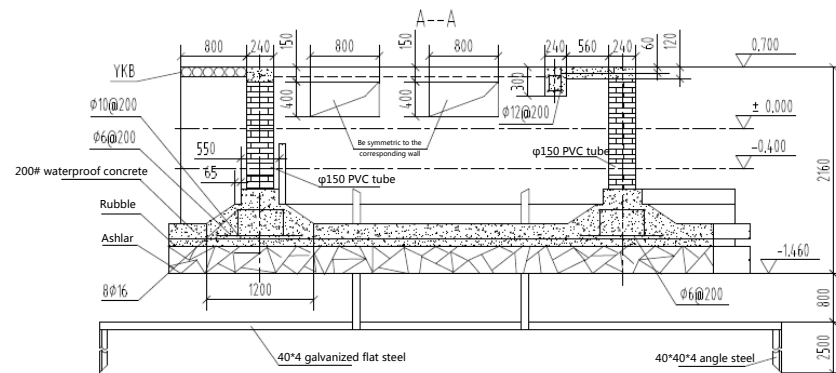
## 5 | Technical Parameters

Item	Unit	HV unit	Transformer	LV unit
Rated capacity	kVA	30~2500		
Rated voltage	kV	12	10/0.4	0.4
Rated frequency	Hz	50	50	50
Maximum rated current of compatible fuse	A	200		
1min power frequency withstand voltage (phase-to-phase and phase-to-ground)	kV	42/48		2.5
Lightning impulse withstand voltage (phase-to-phase and phase-to-ground)	kV	75/85		6
Rated short-circuit breaking current	kA	31.5		
Rated peak withstand current	kA	50		63
Rated short-time withstand current	kA	20		30
Rated short-time withstand current duration	s	3		1
Rated short-circuit making current (peak)	kA	50		
Noise level	dB		Oil immersion: ≤55 Dry type : ≤65	
Enclosure protection rating		IP33D	IP33D	IP33D
Outline dimensions	To be configured according to the capacity and HV/LV of the selected transformer			

## 6 | Outline and Structure



1. Top cover 2. Nameplate 3. Lifting plate 4. HV switchgear 5. LV switchgear 6. Transformer



## Prefabricated Substation (American style)

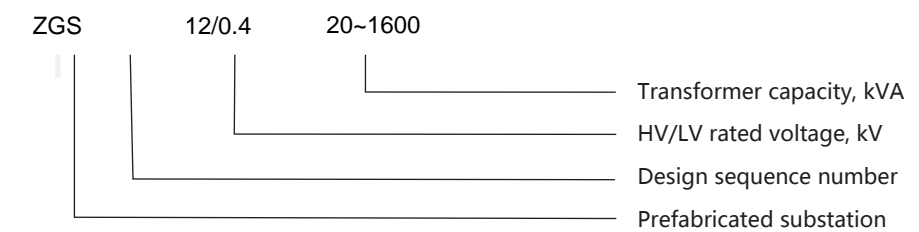
### 1 | Brief Introduction

The ZGS - 12/0.4 - 20~1600 prefabricated substation is a prefabricated transformation and distribution product that places high-voltage switchgear, transformer and protection fuse in the fuel tank. This product is a 10kV/0.4kV, three-phase AC 50Hz, independent set of transformation and distribution equipment with rated capacity of 20 ~ 1600kVA. It is widely used in various residential and commercial buildings, public facilities, industrial and mining enterprises, and urban and rural power grids.

The product complies with the national standard of GB/T 17467-2010 "High/Low Voltage Prefabricated Substation", JB/T 10217-2013 "Pad-mounted Transformer" and other standards.



### 2 | Model



### 3 | Characteristics

- ▶ The ZGS - 12/0.4 - 20~1600 prefabricated substation adopts American general structure mode. It is 1/3 volume and 1/2 weight of the European style prefabricated substation with the same function.
- ▶ The transformer oil serves as the insulation medium for 10kV (6kV) side HV components, thus greatly reducing safety distance.
- ▶ The transformer oil tank is a fully closed structure, which insulates oil from atmosphere, thus greatly reducing oxidation process and intervention of moisture, and improving the stability, reliability and safety of HV system equipment.
- ▶ The transformer is an energy-saving S13 series coil core transformer recommended by China Guodian Corporation.
- ▶ Low noise: 7~10dB lower than the normal American style prefabricated substation.
- ▶ The transformer can be used in terminal substations, also be suitable for ring network substations.
- ▶ Corrosion-proof and dust-proof treatment: The product is sprayed with powder and coated with anticorrosive paint, which can maintain bright appearance color even after a long period of service.
- ▶ The LV side is provided with an intelligent circuit breaker and molded case air switcher with high breaking capacity and sound protection performance.

### 4 | Service Environment

1. Ambient air temperature: -25° C~+40° C
  2. Altitude: ≤ 1000m
  3. Outdoor wind speed: ≤ 35m/s
  4. Relative humidity: daily average ≤ 95%, and monthly average ≤ 90%
  5. Earthquake intensity: ≤ VIII
  6. Installation location: no fire, explosion hazard, serious pollution, chemical corrosion, or severe vibration.
- \*Please consult us in case of service conditions that do not comply with the above-mentioned requirements.

### 5 | Technical Parameters

Item	Unit	HV unit	Transformer	LV unit
Rated capacity	kVA	20~1600		
Rated voltage	kV	12	10/0.4	0.4
Rated frequency	Hz	50	50	50
Maximum rated current of compatible fuse	A	160		
1min power frequency withstand voltage (phase-to-phase and phase-to-ground)	kV	42/48		2.5
Lightning impulse withstand voltage (phase-to-phase and phase-to-ground)	kV	75/85		6
Rated short-circuit breaking current	kA	31.5		
Rated peak withstand current	kA	50		63
Rated short-time withstand current	kA	20		30
Rated short-time withstand current duration	s	2		1
Rated short-circuit making current (peak)	kA	50		
Noise level	dB	≤55		
Enclosure protection rating		IP33D	IP33D	IP33D
Outline dimensions	To be configured according to the capacity and HV/LV of the selected transformer			

### 6 | Outline and Structure

