



Company profile:

WenZhou ENBOLI Electric co., Ltd was established in 1998. The company's existing industrial park is 30 acres and the factory area is 70,000 square meters. Its subsidiaries are engaged in power transformers below 110KV, high-voltage components below 110KV, complete sets of electrical appliances below 35KV, power fittings, wires and cables, fuses, distribution boxes and other power transmission and distribution products.



The company has 1,200 employees, including 50 managers and 12 technicians. The annual production amount reaches 380 million. The key processes of the products use automatic monitoring instruments and equipment, and advanced SAP management software is introduced to digitally manage the production and operation process.

The company has KEMA international certification, ISO9001 quality management system certification, IOS14001 environmental management system certification, OHSAS18001 occupational health and safety management and other system certifications, and has passed the International Electrotechnical Association (IEC) CE, American TUL and other international system certifications.





恩波利
ENBOLI

Production workshop

The first-class talent, first-class technology, first-class facilities and a first-class management system forward a first-class production line. In order to ensure a highly efficient operation of the first production line, the company adopts multimodes and multi-means of management to enhance the working efficiency. We train the technical personnel to perfect equipment operation and advance automatic technology skills. We also actively implement the "6S" policy to energize logistics management and the effectiveness of each post, forming a common awareness of efficient and high-quality production, so as to promote the development of economic system of our company.



Assembly workshop



Core Workshop



Winding Workshop



H.V Testing Hall

GCS Overview

GCS LV with drawable switchgear (hereinafter referred to as device) is developed according to the requirements from industry competent department, numerous electric users and design unit by original state mechanical department, united design group of power department. It conforms to national conditions and with higher technical performance index, and adapts the demands for power market development and able to compete with available imported products. The device passed the authentication jointly presided by two departments in July 1996 in Shanghai. It obtains the recognition and affirmation from manufacturing unit and power consumer construction.

The device is applicable to the distribution system of power station, petroleum, chemical engineering, metallurgy, weaving and tall building industries etc. in the places with high automaticity and need computer to joint, such as large-scale power station and petrochemical industry system etc, it is the low voltage complete distribution device used in the generating and power supply



Low Voltage Switchgear Series

system with three-phase AC50(60)Hz, rated working voltage 380V, rated current 4000A and below for distribution, motor central control and reactive power compensation.

The device accords with standards IEC439-1 and GB7251.1.

GCS Main feature

1. Main framework adopts 8MF bar steel. Both sides of bar steel is installed with $\phi 9.2$ mm mounting hole with modulus 20mm and 100mm. Inner installation is flexible and easy.
2. Two types of assembly form design for main framework, full assembly structure and partial (side frame and cross rail) welding structure for user selection.
3. Each function compartment of device is separated mutually. The compartments are divided into function unit compartment, bus bar compartment and cable compartment. Each one has relative independent function.
4. Horizontal bus bar adopts cabinet back level placed array pattern for enhancing the capacity of resisting electrodynamic force for bus bar. It is the basic measure for obtaining high short circuit strength capacity for main circuit.
5. Cable compartment design makes cable outlet and inlet up and down convenient.

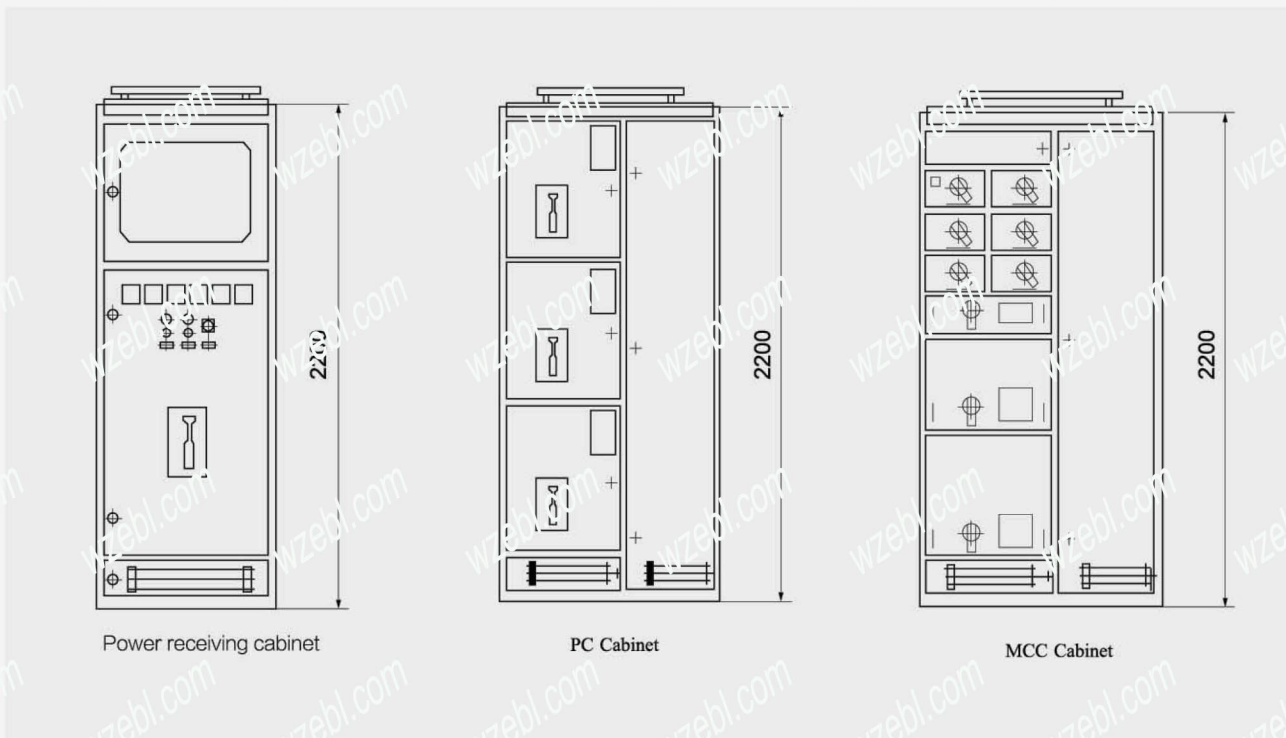
GCS The main technical parameters

Rated voltage of main circuit (V)		Rated short time withstand current of bus bar (kA/1s) 50、80	
AC 380(400)、(660)			
Rated voltage of auxiliary circuit(V)		Rated peak withstand current of bus bar (kA/0.1s) 105、176	
AC 220、380(400)			
DC 110、220		Line frequency test voltage (V/1min)	
Rated frequency(Hz) 50(50)		Main circuit	2500
		Auxiliary circuit	1760
Rated insulation voltage(V) 660(1000)		Bus bar	
Rated current(A)		Three-phase four-wire system A.B.C.N	
Horizontal bus bar ≤ 4000		Three-phase ve-wire system A.B.C.PE.N	
(MCC) Vertical bus bar 1000		Protection grade IP30、IP40	

GCS Use environmental conditions

1. Ambient air temperature: -5°C ~+40°C, and the average temperature should not exceed +35°C in 24h.
2. Relative humidity should not exceed 50% at max temperature. Higher relative humidity is allowed at lower temperature. Ex. 90% at +20°C. But in view of the temperature change, it is possible that moderate dews will produce casually.
3. Altitude above sea level should not exceed 2000M.
4. Installation gradient not exceed 5°.
5. Indoor without dust, corrosive gas and rain water attack.

GCS Internal structure



High (H)	2200									
Wide (W)	400		600		800			1000		
Deep (D)	800	1000	800	1000	600	800	1000	600	800	1000

MNS Overview

MNS LV withdrawable switchgear (hereinafter referred to as device) is manufactured by standard module through consulting MNS series low voltage switch cabinet of Switzerland ABB Co-mpany, and synthetically improved. The device is applicable to the system with AC 50Hz, rated working voltage 660V and below, used as control device for various power generation, transmission, distribution, power transfer and power consumption device. It is widely used in low voltage distribution system of various mining enterprise, tall building and hotel, municipal construction etc. Besides the general land use, after special disposal, it also can be used for marine petrol drill taken platform and nuclear power station.

The device accords with international standard IEC439-1 and national standard GB7251.1.



Low Voltage Switchgear Series

MNS Main feature

1. Compact design: Contain more function units with less space.
2. Strong versatility for structure, flexible assembly. C type bar section of 25mm modulus can meet the demands of various structure and type, protection grade and operating environment.
3. Adopt standard module design, can be combined into protection, operation, transfer, control, regulation, measurement, indication etc such standard units. User can choose assembly according to requirement at will. Cabinet structure and drawer unit can be formed with more than 200 components.
4. Fine security: Adopt high strength antflaming type engineering plastic pack in large quantity to effectively enhance the protective safety performance.
5. High technical performance: Main parameters reach the advanced level at home.

MNS The main technical parameters

Rated working voltage(V)	Rated insulation voltage(V)	Rated working current(A)		Rated short-time withstand current RMS (IS) / peak (kA)		Protection grade on shell IP30、IP40
		Horizontal bus bar	Vertical bus bar	Horizontal bus bar	Vertical bus bar	Outline dimension H×W×D
380、660	660、1000	630-5000	800-2000	50-100/105-250	50/130-150	2200×600(800、1000) ×800(1000)

Rated working current of vertical bus bar:

Draw-out type MCC with single side or double sides operation: 800A. MCC with 1000mm depth and single operation: 800~2000A.

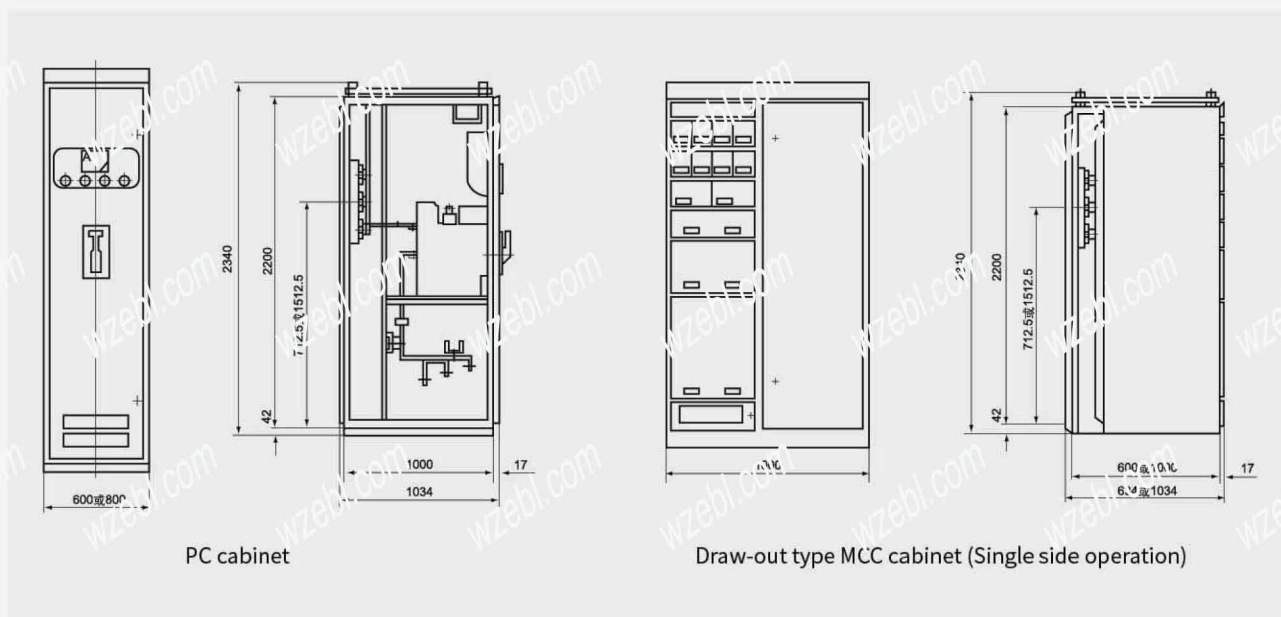
MNS Use environmental conditions

1. Ambient air temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ and the average temperature should not exceed $+35^{\circ}\text{C}$ in 24h.
2. Air condition: With clean air. Relative humidity should not exceed 50% at $+40^{\circ}\text{C}$. Higher relative humidity is allowed at lower temperature. Ex. 90% at $+20^{\circ}\text{C}$. But in view of the temperature change, it is possible that moderate dews will produce casually.
3. Altitude above sea level should not exceed 2000M.
4. The device is suitable to the transportation and store with following temperature: $-25^{\circ}\text{C} \sim +55^{\circ}\text{C}$, in short time (within 24h) it reaches $+70^{\circ}\text{C}$. Under the limiting temperature, device should not suffer damage that can't recover, and it can works normally under normal conditions.
5. If the above operating conditions not meet user's demand. Consult with manufactory.
6. Technical agreement should be signed additionally if the device is used for marine petrol drill taken platform and nuclear power station.

MNS Structural features

The basic cabinet of device is combined assembly structure. Basic structural pieces of cabinet is zinc plated, connected and firmed into basic bracket through self tapping locking screw or 8.8 grade square corner screw. According to the change demand of project, additionally add corresponding gate, closing board, baffle plate, installationsupport and the components of bus bar, function units, to assemble a complete set of device. Perform modulus to interior component and compartment size (Modulus unite=25mm).

MNS Internal structure



GGD Overview

GGD AC LV fixed type switchgear is applicable to the distribution system with AC 50Hz, rated working voltage 380V, rated current to 3150A below in power station, substation, plant enter-prise etc., used for power transfer, distribution and control for power, lighting and distribution devices.

The product has characteristics of high breaking capacity, fine dynamic and thermal stability, flexible electric project, convenient combination, better serial practicability, novel structure and high protection grade etc.

It accords with the standards IEC439 “Low voltage complete switch device and control device” and GB7251.1 “Low voltage complete switch device” etc.



Low Voltage Switchgear Series

GGD Main feature

1. The body of GGD AC LV fixed type switchgear adopts universal cabinet type. Framework is assembled with 8MF cold bending bar steel through part welding. Framework components and special mating elements are matched by bar steel pointed manufactory for ensuring the precision and quality of cabinet. Components of universal cabinet is designed according to module principle, and with 20 modulus mounting hole and high universal coefficient.
2. Completely in view of the heat rejection during cabinet running. Heat rejection slots of different quantities are installed in upper and underside both ends of cabinet.
3. According to the requirements on mold design for modern industry products, adopting the method of golden mean ratio to design cabinet outline and parting dimensions of each part, to make the whole cabinet beautiful and decent.
4. Cabinet gate is connected with framework with rotation axis type movable hinge. With convenient installation and disassembly. One mount type rubber strip is set in edge fold of gate. Filler rod between gate and framework has certain compression stroke when closing the gate. It can prevent gate from impacting cabinet directly and also advance the protection grade for gate.
5. Connect the meter gate set with electrical components with framework by multistrand soft copper wire. Connect the mounting pieces inside the cabinet with framework by knurled screws. The whole cabinet constructs complete earthing protective circuit.
6. Top cover of cabinet can be disassembled if necessary for convenience to the assembly and adjustment for main bus bar at site. Four squares of cabinet are set with slinger for hoisting and shipping.
7. Protection grade of cabinet: IP30. User can choose within IP20~IP40 according to environmental requirements.

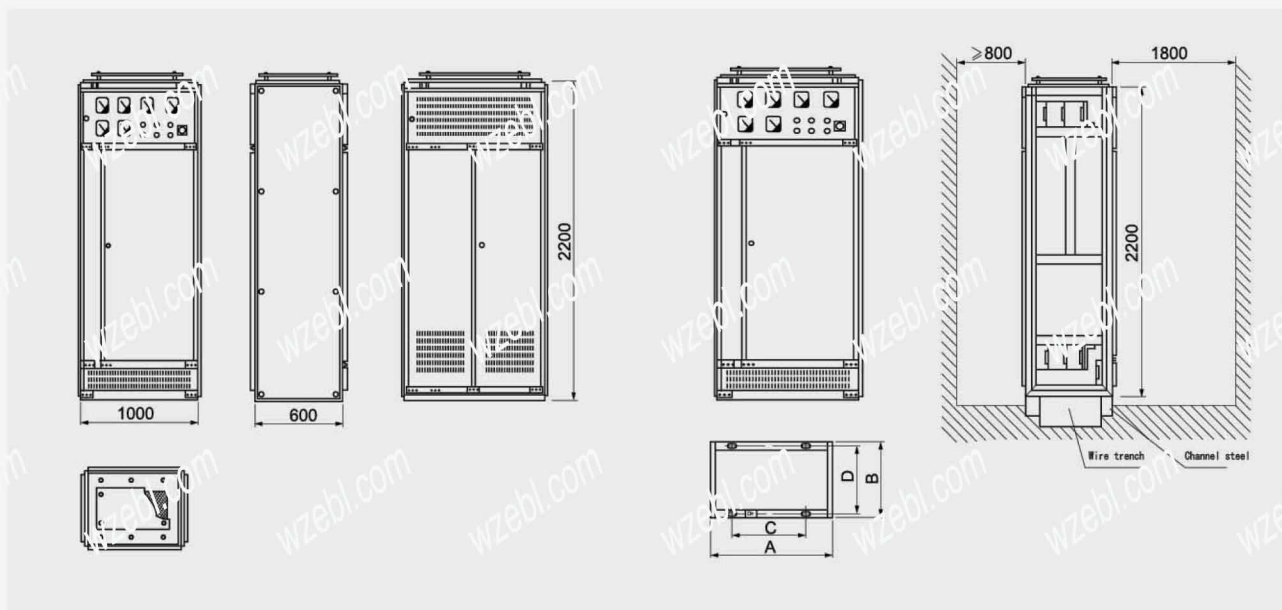
GGD The main technical parameters

Type	Rated voltage(V)	Rated current(A)	Rated short circuit breaking current(kA)	Rated short time withstand current(kA)	Rated peak withstand current(kA)
GGD1	380	1000 600(630) 400	15	15(1S)	30
GGD2	380	1500 1600 1800	30	30(1S)	63
GGD3	380	3150 (2500) 2000	50	50(1S)	105

GGD Use environmental conditions

1. Ambient air temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ and the average temperature should not exceed $+35^{\circ}\text{C}$ in 24h.
2. Install and use indoors. Altitude above sea level for operation site should not exceed 2000M.
3. Relative humidity should not exceed 50% at max temperature $+40^{\circ}\text{C}$. Higher relative humidity is allowed at lower temperature. Ex. 90% at $+20^{\circ}\text{C}$. But in view of the temperature change, it is possible that moderate dews will produce casually.
4. Installation gradient not exceed 5° .
5. Install in the places without fierce vibration and shock and the sites insufficient to erode the electrical components.
6. Any specific requirement, consult with manufactory.

GGD Internal structure



Product code	A	B	C	D
GGD05	600	600	450	556
GGD06A	600	800	450	756
GGD08	800	600	650	556
GGD08A	800	800	650	756
GGD10	1000	600	850	556
GGD10A	1000	800	850	756
GGD12	1200	800	1050	756

DFW Structural features

1. Full insulation, fully sealed structure, full protection, full working conditions;
2. Flexible entry and exit, the actual application of the most branches and exports of eight branches;
3. Anti frost, anti condensation;
4. With semi conductive shielding layer of silicone rubber cable connector, to ensure personal safety;
5. The realization of district multi-channel transmission.
6. The cable head is touch type.







Cable branch box series

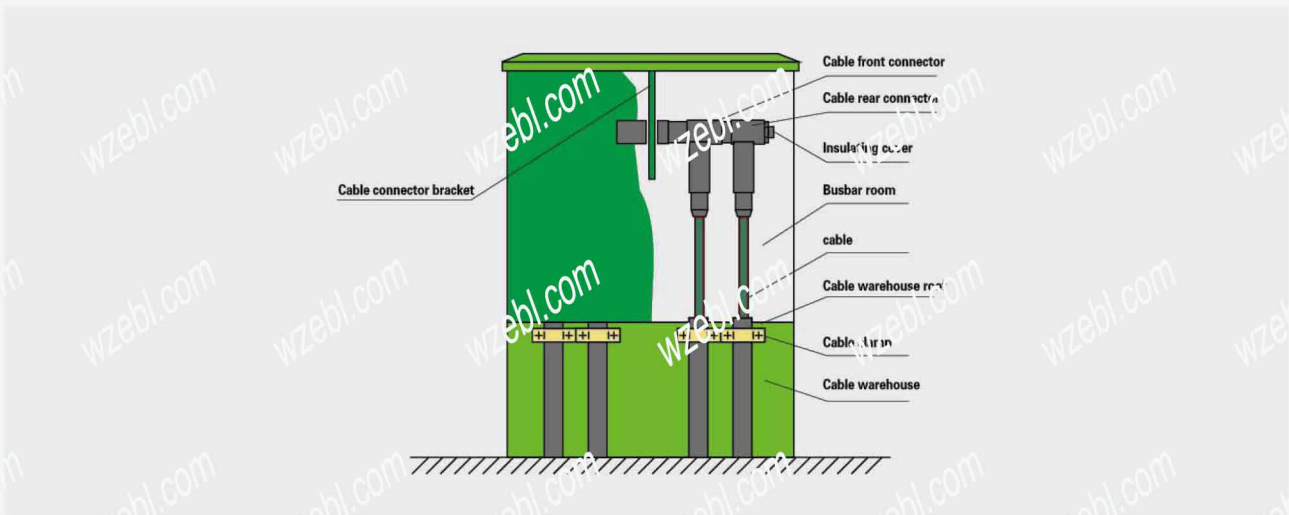
DFW The main technical parameters

Technical indicators	parameter
Rated voltage	11kV
Maximum operating voltage	12kV
Rated current	630A
Power frequency withstand voltage (phase to ground)	45kV/1min
Partial Discharge	<3PC
Impulse voltage	105kV
DC withstand voltage	52kV/15min

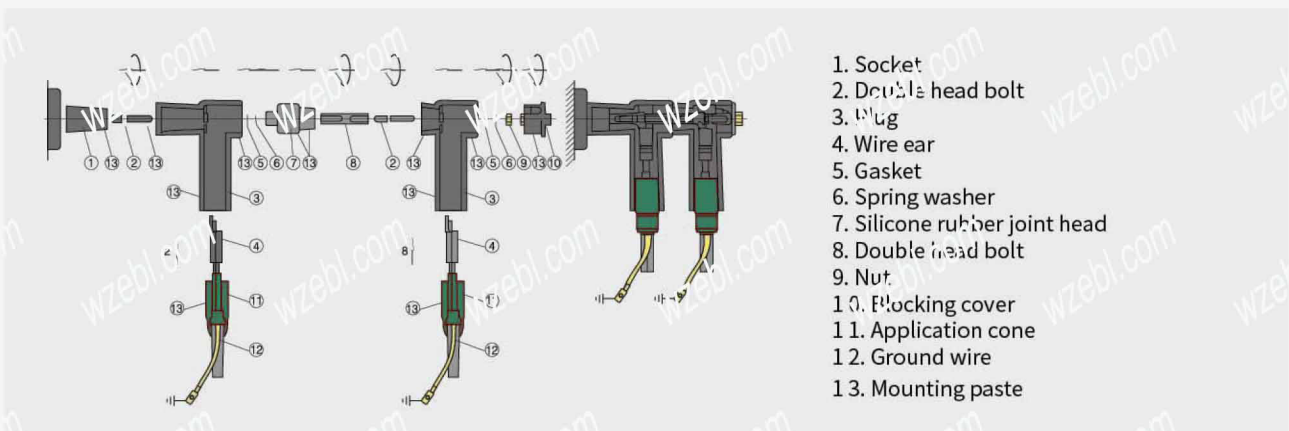
DFW Typical solution wiring

Model	A plan	Size (W × D × H)
DFW11-12-3		890 × 720 × 980
DFW11-12-4		890 × 720 × 980
DFW11-12-5		1170 × 720 × 980
DFW11-12-6		1170 × 720 × 980

DFW Ordinary four branch cable branch box structure diagram



DFW Installation diagram



Stress cone number	Cable size	Core insulation diameter
5002	25-35	14.8-19.2
5003	50-95	17.0-24.3
5005	120-240	22.4-33.6
5410	300-400	30.9-36.1



DFW10-12 Overview

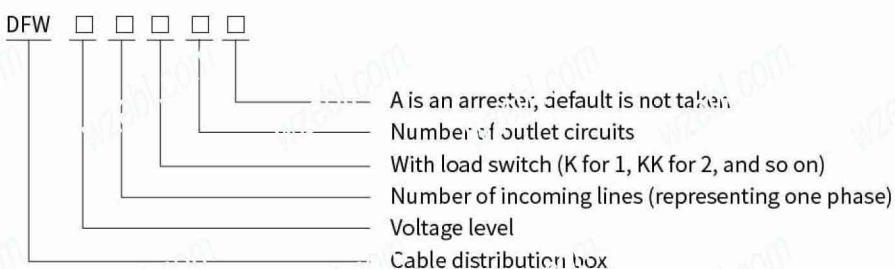
Using three-station SF6 load switch assembly, clever left and right, out of the line, the smallest structural design, the strongest cable configuration function, access to up to 8 Road. The splitter box retains the advantages of the traditional splitter box Point, but also has some advantages of ring network cabinet, is the ideal city network transformation equipment. Small size, maintenance-free, technical economy is good, high reliability, easy to install easy to use. Cable with SF6 load switch The distribution box is characterized in that there are three compartments in the box, one of which is enclosed in a compartment, and the enclosed compartment is filled with microcharged sulfur hexafluoride gas, in which a group of load switches and load switches are operated. The mechanism is located in the operation-driven compartment, the cable compartment has cable pile and cable terminal, cable terminal and load switch connection. The load switch in the compartmentally sealed load switch compartment is the movable



Cable branch box series

contact of the turntable Type load switch, each load switch fixed on the axis of the symmetrical fan around the axis has three layers. The cable in the cable compartment is a three-phase cable, and each of the three cable ends is arranged in parallel with each other in parallel. The cable ends are directly connected to the cable pile lines, and the three cable stacks are parallel to each other. The enclosed compartment has a relief pipe.

DFW10-12 Model and meaning



DFW10-12 The main technical parameters

Rated voltage	12kV
Rated current	630A
Rated thermal stability current (2S)	20kA
Rated short-circuit closing current (peak)	50kA
Rated transfer current	2000A
Lightning impulse voltage	85kV
Power frequency withstand voltage	48kV
Mechanical life	2000 次
SF6 gas rated pressure	0.03MPa
SF6 gas annual leakage rate	≤ 0.5%



YBW33KV Overview

YBW 35KV Combined type transformer substation is a kind of complete set product integrating voltage switch equipment and transformer with LV distribution equipment. It is usually applied to civic architectures,

Residential districts, mid-size and small-size factories, mine and oil fields, used as transformation and distribution equipment, with characteristics of strong completeness, compact structure, high

Reliability, low on-site workload, short installation period, movability, etc. In addition, its color and exterior can be changed appropriately to adapt to the surroundings and beautify the environment.

It really is the ideal successor of current urban and rural civil engineering transformer substation, and also is a new type complete set equipment for urban network construction and reformation.



Substation series

YBW33KV Model and meaning

YB W □ - □ 33 / □

- Rated voltage at LV side (kV)
- Rated voltage at HV side (kV)
- Capacity of transformer (kva)
- Design number
- Outdoor
- Transformer substation

YBW33KV Technical data

Model	Rated voltage (kV)	Rated capacity (kva)	Change (KV/KV)
SZ7	33	400-20000	33/11, 33/6.3, 33/0.4
SZ9	33	400-20000	33/11, 33/6.3, 33/0.4

YBW33KV Use environmental conditions

1. Altitude: $\leq 1000\text{m}$;
2. Ambient temperature: $+40^{\circ}\text{C} - 25^{\circ}\text{C}$;
3. Relative humidity: Daily average $\leq 95\%$, monthly average $\leq 90\%$;
4. Abnormal severe vibration or impact;
5. Environment for installation: Indoors, no fire or explosion danger, no corrosive gas or dust, no sharp impact.

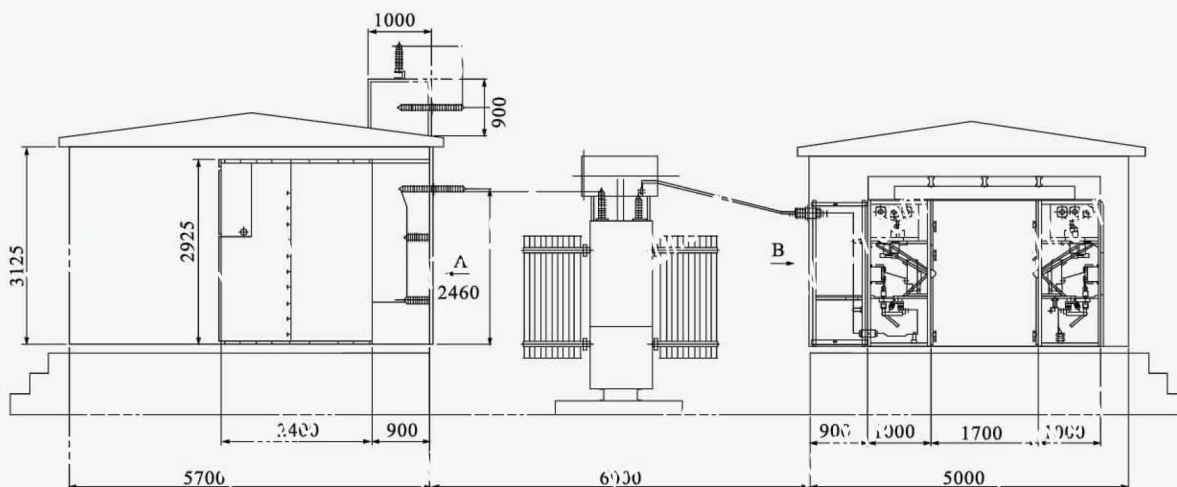
Note: Please negotiate with us if your product is used beyond the range of above conditions.

YBW33KV Structural features

1. This transformer substation is made up of HV switch compartment, LV switch compartment, relay protection compartment and transformer compartment. Enclosures of HV switch compartment, LV switch compartment and relay protection compartment can be made of aluminum alloy plate, steel plate or composite plate. Aluminum alloy plate is anodic oxidation treated to strengthen its corrosion stability. Steel plate and steel structured parts are all phosphating treated, and the composite plate is featured with vivid appearance, heat insulation and fire retardation. The transformer compartment is arranged with safeguard protecting net but not enclosed enclosure, which not only guarantees better thermal diffusivity, but also is able to insure person and equipment against accident.
2. HV switch compartment The HV switch compartment can be mounted with JYNI-35, KYNI0-35 switchgear or 35KV load switch. Aerial cable type is available for mounting 35KV in-stand outlet wire.
3. LV switch compartment
 - ◆ When it is 10KV at LV side, the LV switch compartment can be mounted with XGN2-10, KZNI-12 and KYNI-12 switchgear, HXGNII-10F, HXGN26-10(F) Ring main unit
 - ◆ When it is 0.4KV at LV side, the LV switch compartment (no preparation of LV switchgear in consideration of space saving) can be mounted with DW15T series, ME series, M series and F series frame type circuit breaker as well as DZ20 series, CM series, H series and S series molded case air circuit breaker.
4. Power-off protection compartment The power-off protection compartment is mounted with AC panel, DC panel, signal panel, protection panel, motion control panel(RTU), carrier wave machine panel or optical fiber termination set.

Note: This transformer substation can adopt general relay protection, also microcomputer-based integrated automatic control system is available on request.
5. Refer to the diagram for plan layout and vertical plane layout of transformer substation of 35KV.

YBW33KV Internal structure



YB Overview

Intelligent box substation of series YB, the newest product developed independently by EBL ELECTRIC Company integrates the advantages of American box substation, European box substation and home box substation which adopts environment protection and new material, new technology and advanced components as well as high-low voltage automation technology, and among them, the high voltage side (12KV) can meet the demand of power department for power distribution automation, and the low voltage side (0.4KV) can meet the demand of intelligent community property management, and the upper monitor which is located in the central station or the property management department can be used for four-remote (remote measurement, remote communication, remote adjustment, remote control) system management. When several intelligent box substations connect into "hand-in-hand" ring network and supply power, they, combined with autonomous software, can accomplish the functions of automatic location, fault clearance, load shifting and network reconfiguration at the fault section, so that the recovery of power transmission is guaranteed in one minute. This series of intelligent box substation is one optimized combination of complete intelligent power supply and distribution integrated device consisting of high voltage unit, power transformer, low voltage unit, metering unit and intelligent system etc. It has the characteristics of multi-functions, wide application,

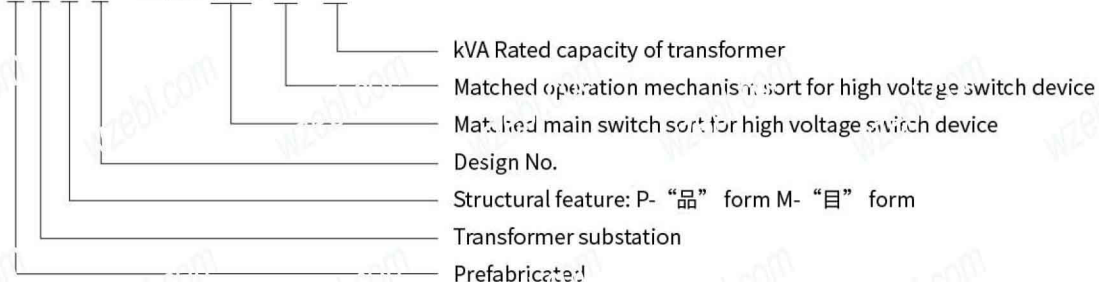


Substation series

safe and reliable operation, beautiful out line, as well as convenient installation, little land occupation, little maintenance, low cost, quick effect and long service life. It can be used as power transformation and distribution equipment in the following departments and places, such as urban architecture, residential areas, municipal facilities, factories, mines, roads, wharves and oil fields, as well as construction in need of temporary power supply.

YB Model and meaning

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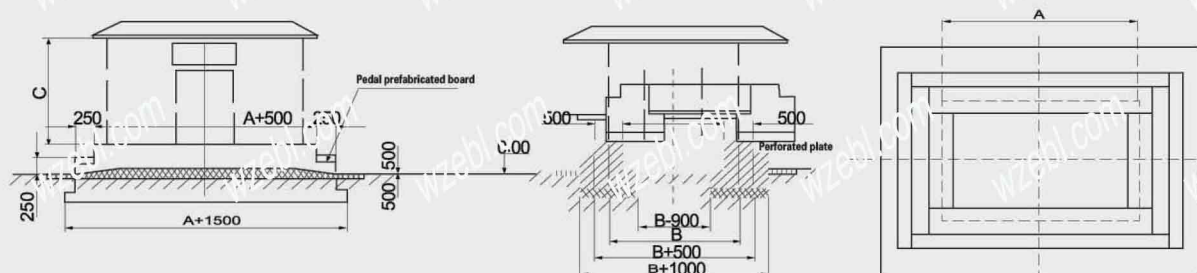
YB The main technical parameters

Item	Unit	High voltage electrical equipment	Transformer	Low voltage electrical equipment
Rated voltage	kV	7.2、12	6/0.4、11/0.4	0.4
Rated capacity	kvA		“目” type: 200~1250 “品” type: 50~400	
Rated current	A	200~630		100~3000
Rated breaking current	A	Load switch 400~630A		
	kA	Combined electrical equipment is dependent on fuse		15~63
Rated short time withstand current (s)	kA(xs)	20×(2)	200~400kvA	15×1
		(12.5×4)	400kvA	30×1
Rated peak withstand current	kA	31.5、50	200~400kvA	30
			400kvA	63
Rated closing current	kA	31.5、50		
Line frequency withstand voltage	kV	Phase to earth and phase similar 32、40	Oil immersion: 35/5min	≤ 300V 2kV
		Isolated fracture 34、48	Dry type: 28/5min	300,600V 2.5kV
Thunderstroke impact	kV	Phase to earth and phase similar 60、75	75	
		Isolated fracture 75、85	75	
Noise level	dB		Oil immersion: <55	
			Dry type: <65	
Protection grade			IP23D	
Outline dimension		Choose different outline dimension according to the capacity and mode of selected transformer.		

YB Common dimensions

No.	Cabinet type	Outline dimension (mm)	Structure form	Operation mode
1	Flat top type	3000×1600×2200	目-shaped	Single-sided outdoor operation
		3200×2200×2500	目-shaped	Single-sided outdoor operation
		3700×2300×2500	目-shaped	Single-sided outdoor operation
		4000×2500×2500	目-shaped	Single-sided outdoor operation
		4300×2500×2500	目-shaped	Double-sided corridor operation
		4700×2500×2500	目-shaped	Double-sided corridor operation
		5300×2500×2500	目-shaped	Double-sided corridor operation
		6300×2500×2700	目-shaped	Double-sided corridor operation
		8000×2500×2700	目-shaped	Double-sided corridor operation
		2	Fastigium typ	3200×2200×2500
3200×2500×2500	目-shaped			Single-sided outdoor operation
3600×2300×2500	品-shaped			Single-sided outdoor operation
4300×2300×2500	品-shaped			Double-sided corridor operation
4500×2300×2500	目-shaped			Double-sided corridor operation
3	Slanted-top type	3500×2000×2500	品-shaped	Single-sided outdoor operation
4	Half-open type	2800×1800×2500	品-shaped	Single-sided outdoor operation

YB Outline & Mounting Dimensions



other series



Charging pile



Photovoltaic power



DC power supply



XL21 lv panel



JP cabinet



Diesel generator

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