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YIFA®

Stock code: 870154

YIFA Group

High Voltage Electric Selection Guide




www.yifachina.com

China YIFA Holding Group Co., Ltd.

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China YIFA Holding Group Co., Ltd.

YIFA Large Modernized Production Base Building area: 180000㎡

Brief Of Introduction

China YIFA Holding Group Co., Ltd. is a national high-tech enterprise group specialized in industrial electrical technology and also engaged in finance, e-commerce and trade and investment. It is a China Top 500 company, a China Top 500 company in the machinery industry, a national spark program enterprise, a famous brand in Jiangxi Province and a famous trade mark in Jiangxi Province. It is the designated supplier for centralized procurement by State Grid, China Southern Power Grid and national hydrological system. Its subsidiary Jiangxi YIFA Power Technology Co., Ltd. was listed in 2016 with the stock code 870154. The Group mainly develops, produces and sells such low-carbon, energy-conserving and eco-friendly products as photovoltaic substations, wind power substations, eco-friendly gas insulation ring main units, complete sets of electrical equipment, HV and extra high voltage substation equipment, glass reinforced plastic electric meter boxes, stainless steel and transparent boxes, HV and LV elements, wires and cables, explosion-proof electric apparatuses, building appliances, instruments, etc. The maximum capacity of transformers reaches 63000KVA and the voltage class reaches 220KV.

The Group owns three specialized industrial bases: Shanghai, Wenzhou and Jiangxi, five wholly-owned subsidiaries: Jiangxi YIFA Power Technology Co., Ltd., Shanghai YIFA Electric Co., Ltd., Zhejiang YIFA Import & Export Co., Ltd., Jiangxi YIFA Wires and Cables Co., Ltd., Yueqing YIFA Import & Export Co., Ltd., over three hundred agents and direct sales companies and over five hundred dealers all over China and its production and sales scale is at a leading position in multiple industries.

The Group has been appointed as the vice-chairman unit by Zhejiang Province Circuit-breaker Association, vice-chairman unit by Wenzhou Salesman Association and vice-chairman unit by Yueqing Transmission and Distribution Association. It has been awarded AAA Credit Rating Unit by China Construction Bank, Jiangxi Province AAA Quality Credit Unit, National AAAA Creditable Unit, Jiangxi Province Famous-brand Products, Jiangxi Province Famous Trade Mark, Jiangxi Province Technology Center, Zhejiang Province Technology-based Enterprise, Wenzhou Technology Innovation Enterprise, Municipal High-integrity Privately-owned Enterprise, Municipal Famous Trade Mark and Advanced Enterprise with harmonious employment relationship. It is also a partner of Shenyang High Voltage Apparatus Research Institute.

The Group applies advanced techniques and relies on reliable quality. By following the mission of “safety first and orientation to services” and undertaking the corporate responsibility of “building excellent products”, it gradually establishes the quality management system meeting international advanced standards. It pioneers the certification by ISO Quality Management System and keeps it running well and effectively. All products are certified with “CCC” and authoritative test reports by competent agencies. The Group has spent a large amount of funds on the establishment of the technology development center where the most excellent domestic and foreign technical elites are centralized, endeavor great efforts to introduce domestic and foreign advanced techniques and equipment and establish the good partnership with multiple domestic and foreign scientific research organizations and colleges and universities to ensure that products meet the leading standards in the world. Additionally, the Group has obtained more than one hundred utility models for photovoltaic substations, wind power substations, eco-friendly gas insulation ring main unit, prepaid circuit breakers, intelligent re-closure circuit breakers, amorphous alloy transformers, box-type transformers, transparent anti-power theft electric meter boxes and transparent type circuit breakers and so on to fill the gap in China.

On the present day when optimized energy deployment and optimal energy utilization are proactively advocated, the Group follows the main policy of technology, environmental protection, energy conservation and low carbon and strives to develop sustainable power energies and Jiangxi Industrial Base follows the main research and development direction of photovoltaic and wind power.

The Group focuses on brand strategy, insists on marketing innovation and is listed among leading electrical industry players due to its rapid, healthy and continuous development trend. In the intense market competition, YIFA successively won the bids with State Grid Nationwide Power Corporation, successively won such international famous projects as Beijing Asian Games Village, Olympic Games supporting projects, etc., won extensive reputation and influences on the international stage and led “Made in China” towards “Created in China”. YIFA products are widely applied in State Grid, China Southern Power Grid, high-speed railway, urbanization construction, oilfields, thermal power generation, airports, iron and steel companies and gas supply and heat supply and are sold to multiple countries and regions such as Japan, America, Russia, Southeast Asia, Middle East and Africa. By following the philosophy of customer orientation, the Group won good market reputation both internationally and domestically.

Technology creates quality and practical and hard work makes the dream come true. Looking forward to the future, YIFA will insist on the development strategy of specialization, be realistic and pragmatic, implement exploration and innovation and follow the goal of “building the globally leading substation enterprise and making the global brand for YIFA that lasts one hundred years”. We hope that domestic and foreign peers and massive customers cooperate with and support us as always to contribute more to the “Chinese Dream”.

China YIFA Holding Group Co., Ltd.
A full industry chain electric integration provider

YIFA®
Listed company stock code: 870154

A smile makes us passionate, and an approval makes us brave to go forward.
Honor is our one road sign and one testimony of our efforts...

HONOR

Science and technology create quality, passion lead the future.

Look for more information from Yifa official website:www.yifachina.com

CB	TÜV	VDE	S	CE	KEMA KEUR	UL	CCC
	Germany	Germany	Sweden	EU	Netheland	USA	China

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The company positively implements the brand marketing and service marketing strategy, advocates honest operation, provides the sophisticated products of top quality and low price and value-added service, responds confidently to the economic globalization and positively participates ininternational competition.

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China YIFA Holding Group Co., Ltd.

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YFYBW 35KV Environmental Protection Combined Substation

General

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 transformer 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 adopt 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.

Product type and meaning

YF YB W □-□ 35 / □

- Rated voltage at LV side
- Rated voltage at HV side
- Capacity of transformer
- Design number
- Outdoor
- Transformer substation
- Enterprise code

Environmental condition

1. Altitude: ⩽1000m;
2. Ambient temperature: +40℃—-25℃;
3. Relative humidity: Daily average⩽95%, monthly average ⩽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.

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

Structure character

1. This transformer substation is made up of HV switch compartment, LV switch compartment, relay protection compartment and transformer compartment. Enclosed of HV switch compartment, LV switch compartment and relay protection compartment can be made of aluminum alloy plate, steel plate of composite plate. Aluminum alloy plate is anodic oxidation treated to strengthen its corrosion stability. Steel plate and steel structure parts are all phosphating treated, and the composite plate is featured with vivid appearance, heat insulation and fire retardation.

2. HV switch compartment can be mounted with JYNI-35, KYNI0-35 switchgear or 35KV load switch. Aerial cable type is available for mounting 35KV inlet and outlet wire.

3. LV switch compartment

a. 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.

b. 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 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.

YFYB Environmental protection intelligent pre-installed substation

General

YFYB environmental protection intelligent pre-installed substation, the newest product developed independently by Yifa Company, integrated 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 automatic 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 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, safe and reliable operation, beautiful outline, as well as convenient installation, little land occupation, little maintenance, low cost, quick effect and long service life. It can be used as power transformer 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.

Product type and meaning

YF Y B □ □ - 12/0.4-(□) / □ - □

- Enterprise code
- Prefabricated
- Transformer substation
- Structural feature
- Design No.
- Matched main switch sort for high voltage switch device
- Matched operation mechanism sort for high voltage switch device
- Rated capacity of transformer

Main technical parameters

Item	Unit	High voltage electrical equipment	Transformer	Low voltage electrical equipment
Rated voltage	kV	7.2,12	6/0.4, 10/0.4	0.4
Rated capacity	kvA		type:200-1250	
			type:50-400	
Rated current	A	200-630		100-3000
Rated breaking current	A	Load switch400-630A		15-63
	kA	Combined electrical equipment is dependent on fuse		
Rated short time withstand current	kA (xs)	20×(2)	200-400kvA	15×1
		(12.5×4)	400kvA	30×1

YFYB Environmental protection intelligent pre-installed substation

Brought forward

Item	Unit	High voltage electrical equipment	Transformer	Low voltage electrical equipment
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 similar32, 40	Oil immersion:35/5min	⩽300V ±2kV
		Isolated fracture34,48	Dry type:28/5min	300,600V ±2.5kV
Thunder stroke impact	kV	Phase to earth and phase similar60,75	75	
		Isolated fracture75, 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.		

Common outline dimension

No.	Box type	Outline dimension	Structure form	Operation mode
一	Flat top type	3000×1600×2000	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
二	Fastigium type	3200×2200×2500	目-shaped	Single-sided outdoor operation
		3200×2500×2500	目-shaped	Single-sided outdoor operation
		3600×2300×2500	品-shaped	Single-sided outdoor operation
		4300×2300×2500	目-shaped	Double-sided corridor operation
		4500×2300×2500	目-shaped	Double-sided corridor operation
三	Slanted-top type	3500×2000×2500	品-shaped	Single-sided outdoor operation
四	Half-open type	2800×1800×2500	品-shaped	Single-sided outdoor operation

YFYB6 Intelligent Integrated transformer substation

General

The intelligent integrated substation is a nationalized American box transformer launched by YIFA Company. As an important power supply unit in cable distribution network, this product is a set of pre-installed products which integrates high voltage control, protection, substation and distribution equipment. It is widely used in urban and rural distribution network. The product puts high-voltage load switch and high-voltage fuse in transformer oil, and has two structural forms of common box and sub-box with transformer body.Full-sealed structure is adopted in the tank, which is equipped with oil temperature gauge, oil level gauge, pressure gauge, pressure relief valve, oil discharge valve and other components to monitor the operation of the transformer.

The product is divided into ring network, terminal and power supply mode. In order to make this product more suitable for the actual requirements of China's power grid, Yifa company has introduced plug-in dry fuse, fuse breakage does not affect the performance of transformer oil. According to the complexity of low-voltage feeding requirements, this product can be divided into three types: standard type, reinforced type and comprehensive type, so that users and design units can be more flexible and economical in type selection.

Product type and meaning

YF YB 6 - □ / □ - □

- Rated capacity of transformer
- Low voltage side rated voltage
- High voltage side rated voltage
- Design Serial Number
- Integrated Substation
- Enterprise code

Environmental condition

1.Ambient temperature: maximum temperature + 40 C, minimum temperature - 30 C
2.Altitude: ⩽1000m
3.Wind speed: about 34m/s (⩽ 700 Pa)
4.Humidity: average daily relative humidity ⩽ 95%.
average monthly relative humidity ⩽ 90%.
5.Shake-roof : horizontal acceleration ⩽0.4m/s2, vertical acceleration ⩽ 0.15m/s^2
6.Inclination of installation site: ⩽3 degrees
7.Installation environment: The surrounding air is not obviously polluted by corrosive and flammable gases, and there is no severe vibration at the installation site.
8.When ordering this product beyond the above conditions, you may negotiate with our company.

Structure character

The framework structure of the box enclosure is made of channel steel and angle steel with higher mechanical strength. The enclosure is made of aluminum alloy plate with smooth surface, beautiful outline and better anticorrosion performance. The base of the box body is 300~600mm higher than the ground. All the doors of the box enclosure are open to outside, and the opening angle is larger than 90°and it set with location device, handle,secret door, as well as built-in locks which have the function of rain proof, anti-blockage and rust protection.

YFYB6 Intelligent Integrated transformer substation

The box bodies are of the full-sealed theft-proof structure. To assure the operation under the normal ambient air temperature, the temperature of all the electrical equipment can't exceed the maximum allowable temperature, and the box body has enough natural ventilation openings and heart insulation measures. The box body of the prefabricated substation is designed with special grounding conductor, on which there are more than 2 fixed connecting terminals connected to the grounding network and on which there are obvious grounding marks. The grounding terminal is the copper bolt, the diameter of which is not less than 12mm. The grounding conductor is made from copper strip, the current density of which is not higher than 200A/mm2 and the cross section of which is not less than 30mm2,and it is guaranteed that there that there is no overheat and there is no bad effect to the safety of the surrounding objects when the maximum short circuit current passes. The dynamic and thermal stability current that the special grounding conductor endures must be combined with the grounding mode of high voltage power distribution device.

Rated parameter of product

Rated voltage	10kV/0.4kV
Rated voltage of high-voltage side	10kV
Max voltage of high-voltage side	12kV
Rated voltage of low-voltage side	0.4kV
Rated frequency	50Hz
Thermal stability capacity of high-voltage switchgear	20kA/2s
Rated short-circuit breaking capacity of low-voltage main circuit switch	35kA
Rated short-circuit breaking capacity of low-voltage brain circuit switch	35kA
Transferred current of high-voltage load switch	＞1500A
Noise level	＜50dB
Protective class of case	Not less than IP3X

Performance parameter of transformer

For 10kv prefabricated substation performance level of S9,S10,S11 series oil-immersed transformer

No.	Rated capacity (kVA)	Rated voltage		Voltage tapping range(%)	Connection group mark	No-load current		loss (W)					Impedance voltage	Noise (dB)	Temperature-rise
		high-voltage (kV)	low-voltage (kV)			No-load		No-load			On-load				
						S9	S10/S11	S9/S10/S11							
1	30	6 6.3 10	0.4 (0.69)	±5 (±2×2.5)	Yyn0 Dyn11	2.2	2.0	130			600		4	55	Oil temperature of top layer 65°
2	50					2.0	1.8	170			870				
3	63					1.9	1.5	200			1040				
4	80					1.7	1.2	250			1250				
5	100					1.6	1.1	290			1500				
6	125					1.5	1.0	340	270		1800				
7	160					1.4	1.0	400	310		2200				
8	200					1.4	0.8	480	375		2600				
9	250					1.2	0.8	560	455	400	3050	3000			
10	315					1.1	0.7	670	540	475	3650	3600			
11	400					1.0	0.7	800	650	570	4300	4200			
12	500					1.0	0.6	960	775	680	5100	5000			
13	630					0.9	0.6	1200	920	800	6200	6000	4.5		
14	800					0.8	0.6	1400	1120	980	7500	7400			
15	1000					0.7	0.5	1700	1320	1150	10300	9860			
16	1250					0.6	0.5	1950	1560	1360	12800	12000			
17	1600					0.6	0.5	2400	1880	1640	14500	14000			

Notes: a. The high-voltage tapping range can be designed to ±2x2. 5% according to customer's requirement.
b. The low voltage of transformer can be designed to 0. 69kv according to customer's requirement.

YFYBF Wind power transformer substation

General

The wind power transformer substation is a special transformer equipment used to boost the voltage generated by wind-driven generating sets to 35KV or 10KV, and outputs by being connected to the power grid, it is developed by our company especially designed for wind power station by responding to the market demand of wind electric power generation, it is a supported product of wind generator system integrating reliability, safety and serviceability with economical efficiency.

Product type and meaning

YF YBF - □ / □ - □

- Transformer capacity
- Voltage of secondary side
- Voltage of primary side
- Wind power transformer substation
- Enterprise code

Structure character

1. The inner configurations are of high reliability, economical efficiency. HV side is equipped with load switch and fuse to protect the transformer reliability, and the LV side is equipped with imported SOCOMEC isolating switch and high breaking capacity fuse as well as one substation-used transformer of 2KVA; the main circuit scheme is simple and economical.

2. HV load switch and HV fuse are set in full-enclosed transformer oil tank, and making use of transformer oil as insulating medium. We adopt full-insulated silicon rubber cable joint for HV outlet end, so that to realize full operating condition, full insulated, full enclosed and free of maintenance, it can be operated in harsh environment for 20 years at least.

3. Adopt imported high burning point oil as insulating and cooling medium, it is unnecessary to filter to change the oil during service life. In addition, we adopt imported beads of high performance as sealing member, which has the same service life with that of equipment.

4. The outer door of box adopts particular labyrinth sealing mode, equipped with joint strip of high elasticity and long service life. There is dust-proof facilities arrange at ventilation holes, which can protect the wind power transformer substation from blow sand, rain or snow effectively, degree of protection is IP44.

YFYBG Landscape European type substation

General

Landscape European type substation is a combined type transformer substation integrating high-voltage electrical equipment and transformer with low-voltage electrical equipment, is featured with complete set, small volume, compact structure, safe and reliable running, convenient maintenance, mobility, appearance design of European building style,etc. The design and construction period are sharply shortened, the capital cost is greatly reduced. The products are widely applied to residential districts, industrial park, commercial centers, urban and rural buildings, mid and small-size factories, mine and oil fields, can also be used as movable type temporary power supplies for construction sites.

Main technical parameters

Item	HV electrical equipment	Transformer	LV electrical equipment
Rated voltage(kV)	7.2,12	6/0.4,10/0.4	0.4
Rated capacity(kVA)		50-1250	
Rated current(A)	200-6300		100-3000
Rated breaking current (kA)	Switch-fuse combination 0.4-0.63		15-63
Rated frequency(Hz)	50	50	50
Short-time withstand current(kA)	2s 12.5 4s		Is 30Is
Peak withstand current(kA)	31.5,50		30-63
Rated making current (kA)	31.5,50		
Power frequency withstand voltage(kV)	phase-to-ground and phase-to-phase 30,42 Isolating distance 34,48	Oil immersed:35(1min) Dry type:28(1min)	2kV when it is ⩽300V 2.5kV when it is 300,600V
Lighting impulse(kV)	phase-to-ground and phase-to-phase 60,75 Isolating distance 75,85		
Noise level(dB)		Oil immersed:＜55 Dry type:＜65	
Outline dimension(mm)	Determine the outline dimension according to the capacity and form of transformer		

YFYBT Solar box-type substation

General

The clean energy provided by the solar photo-voltaic power is the new energy that is concerned and extensively used by the mobile communication at the era of 3G and 4G. As the particularity of the power supply requirements of the mobile communication base station. Along with the continuous development and progress of science and technology, the solar photo-voltaic electric power industry has grown into the leading industry of new energy, and been extensively promoted an applied in the communication field.

The project is the third generation intelligent device system generated through the deepened research and development based on the high-tech achievement project in 2002 power-supply device system project for solar mobile communication unattended base station, which is developed, promoted and applied by ministry of information industry. The project has become the best solution for the third generation power supply device of mobile communication.

Function characteristics

Intelligent base station equipment system of the solar mobile communication box-type substation(hereinafter referred to as solar box-type substation) integrates such devices as solar photo-voltaic power generation equipment, internet transmission equipment,switch power supply electrical equipment of the substation of 12KV below,BTS transceiver equipment,optical cable transmission equipment,computer protection monitoring equipment,multimedia DC switch power supply equipment,lightning grounding equipment,fire fighting security inspection equipment,lighting and air conditioning devices,etc, in the totally enclosed metal box of thermal insulation, radiation protection,waterproof and moisture proof, so as to combine into an intelligent mobile communication special base station room.The solar-cell panel square matrix with area of 30m2 is installed on the top of the box and iron tower of the base station,the power generation efficiency of the solar-cell panel is 6KWh. A mobile communication photo-voltaic power station is made up of the above devices,and the box bodies of the box-type substations are combined into a complete mobile communication base station room. Wind power generation equipments of more than 6KW are installed in the mountain pass region,river shoal and gorge region and famous mountain tourist attractions with the wind resources,to form a wind-solar hybrid new energy power grid. Therefore,the solar box-type substation is not only a photo-voltaic power generation station with 6KWh-10KWh power generating capacity and a wind-solar hybrid new energy power station,but also a mobile communication base station with the capacity of more than 8 carrier frequency,it is a new generation intelligent mobile communication equipment system with the wholly integrated system and photo-voltaic telecommunication integration,energy saving and environmental protection.

Solar box-type substation is featured with unique design, attractive appearance, compact structure, energy saving and environmental protection,convenient installation and maintenance,strong box,security and guard against theft.Product can be integrated, pre-assembled and produced in the factory,it is the best equipment for the construction engineering of the mobile communication base station,with strong practicability,extensive promotion and application,it is the best implementation program for the mobile communication industry to accomplish the national energy saving and emission reduction targets.

Intelligent outdoor inflatable ring main unit

Overview

The intelligent outdoor inflatable ring main unit uses the vacuum switch as the switchgear, SF6 gas box-type insulation, compact structure, small occupied space, beautiful appearance, and coordinating and cooperating with the surrounding. As RVAC ring main unit uses the concept of fully sealing and insulation, all switch parts in it as well as the high-voltage electrified body and structure part are sealed in the main cabinet fully, they will not be affected by the frost and dew, external polluted environment; the protection level of main cabinet can reach IP67, and it is equipped with Cooper waterproof cable head which can be touched to defend against the accidental flood in the rainy area efficiently.

Structure features

Use vacuum breaking for arc extinction with long electrical life
Use the load switch, load switch + fuse and circuit breaker for protection
Fully insulated and sealed structure, safe and reliable, anti-flooding, anti-pollution, free of maintenance
Small size, compact structure, simple installation, and convenient operation
The box uses the anti-corrosion design and special painting treatment, and is applied to a variety of harsh environments, such as storm and area with high pollution.
The fully sealed operation mechanism is not affected by the external environment, and can be operating reliably for a long time.
It can be equipped with the electric and remote control equipment to realize power distribution automation.

Technical parameters table

Nominal voltage kV 12 12 Rated current A 630 630
Power frequency withstand voltage within 1 minute kV 42 42
Lightning impulse withstand voltage (BIL) kV 95 95
Direct current withstand voltage within 15 minutes kV 53 53
Power frequency withstand voltage within 1 minute under zero voltage kV 38 38
Power frequency withstand voltage of the second circuit (within 1 minute) V 2000 2000 Power supply voltage for electric operating V DC24 Dc24
Breaking current under rated load A 630
Charging breaking current under rated cable A 10 25
Breaking current under rated short circuit kA 20
Making current under rated short circuit kA 50 50
Withstand current for 3 seconds under rated short circuit kA 20 20
Withstand current under rated peak kA 50 50 Mechanical life/time 10,000 10,000
SF6 gas rated pressure (20℃) Mpa 0.035 0.035
Annual leakage rate of SF6 gas % <0.1 <0.1

Operating conditions

1.Ambient temperature: upper limit +55℃, lower limit -30℃;
2. Elevation less than 3000 m;
3. Seismic intensity less than 8 degrees;
4. Relative humidity: daily average humidity less than 95%, and monthly average humidity less than 90%;
5.There are no fire and explosion hazards, and there are no areas which are polluted seriously, corroded with chemicals and shake violently.

Product model of landscape-type buried box-type

Overview

The landscape-type buried box-type transformer with high protection level is composed of the underground transformer/tunnel transformer/underground integrated pipeline gallery transformer with low loss, low temperature increase, low noise, low radiation, compact size, high anti-corrosion which are sealed and running in the water developed and manufactured based on outdoor all-weather running conditions and maintenance-free design system; completed high and low voltage control system as well as thin outdoor anti-corrosion landscape-type enclosure with customized appearance which can be equipped with multimedia.

It is a kind of landscape-type underground box-type transformer assembled and composed of the “underground part” composed of the underground transformer with high protection level and buried transformer room with high protection and the “part on the ground” composed of the outdoor high and low voltage switch cabinet and landscape-type enclosure. The series of products have been formed, and the capacity of underground transformer with high protection level is 30kVA-1600kVA.

Product model of landscape-type buried box-type transformer

YF □ □ - □ - □ / □ □

- Special use code
- Nominal voltage (kV)
- Rated capacity (kVA)
- High voltage wiring method: z: terminal, H: ring main unit
- Performance level code (13 or H15)
- Product model (S: three-phase, D: single phase)
- Preassembly underground box-type transformer

Product features

1. All-weather, vast territory, small occupied space, small and thin appearance size;
2. Landscaping appearance design and customized; beautiful and harmonious environment;
3. Long-term, safe, stable and reliable running;
4. High anti-corrosion, designed system on ground free of maintenance for 15 years;
5. With natural, ventilated and cooling system; patent system in independent anti-flooding system;
6. Close to the load center in maximum, reduce cable losses, and save low-voltage cable.
7. Light box appearance equipped with advertising poster, LED screen or LCD screen with added value;
8. With double automatic drainage system;
9. With intelligent monitoring system of wireless communication;
10. Underground transformer with high protection level with low noise, low temperature rise, running in water, Protection Grade IP68 and high performance.
11. Unique anti-theft and wind-resistant design;
12. Soft illumination free of light pollution.

China YIFA Holding Group Co., Ltd.

HV/LV complete set

European and American box transformer substation

Cabinet frame

Box body

Electrical Fire EPS UPS

General

The clean energy provided by the solar photo-voltaic power is the new energy that is concKYN61-40.5 Armoured movable AC metal enclosed switchgear (hereinafter referred to as switch cabinet) is applicable to 3-phase AC50Hz and 40.5Hz single bus and single bus staged power system. It is mainly used as the reception and distribution of electrical energy transformation and distribution in the power transformation and distribution power plant, substation and mining establishment as well as high-rise. It controls and protects as well as monitors the circuit. It meets the requirement of IEC60298, GB3906 and DL404 standards and so on. It has the perfect "5 protections" function.

Features

The thermal shrinkage insulating process is used. The electrode shape is optimized. The structure of cabinet body is compact and the floor area is reduce.

For the switch cabinet body, the high-grade cold rolled steel plate is formed by the NC sheet-metal processing and the it is connected by the high-strength bolt and nut as well as riveting nut. For the surface of structural member, the plastic-spraying or galvanizing process is adopted.

It can be equipped with the homemade ZN85-40.5 (3AV3) vacuum circuit breaker and French Schneider SF1 and SF2 model as well as Alston FP series of sulfur hexafluoride circuit breaker to meet the demands of different clients.

The metal partition is used to separate among every function chamber in the switch cabinet. The individual pressure relief channel is installed.

Operations of circuit breaker and grounding switch and so on can be performed under the situation that the door of switch cabinet is closed. The door-close operation can be realized.

The structure adaptability of switch cabinet is strong. The main wiring scheme can be up to above 198 types. Therefore, demands from different clients can be met.

The mechanical interlocking device preventing misoperation is installed among trolley, circuit breaker, grounding switch and rear cabinet door, "5 protections" function is complete and safe as well as reliable.

Main technical parameters

No.	Item		Unit	Parameter	
1	Rated voltage		kV	40.5	
2	Rated frequency		Hz	50	
3	Rated current of main bus-bar		A	1250,1600,2000,2500	
4	Rated current of branch bus-bar		A	630,1250,1600	
5	Rated insulating level	1 min power-frequency withstand voltage (valid value)	kV	Interphase& phase to ground	Primary separation fracture
		Rated lightening impulse withstand voltage (peak value)		95	115
				185	215
		1 min power-frequency withstand voltage in the auxiliary control circuit	V	2000	
6	Rated short circuit breaking current		kA	25,31.5	
7	Rated short-circuit making current (peak value)		kA	63,80	
8	Rated short-time withstand Current(4s)		kA	25,31.5	
9	Rated impulse Withstand Current		kA	63,80	
10	Rated voltage of auxiliary control circuit		V	-110,-220,-220	
11	Protection degree			Among compartments and when the door of circuit breaker room is opened: IP2X	
12	Physical dimension (W*D*H)		mm	1400×2800（3000）×2800*	
13	Weight		kg	Bout 2300	

KYN61-40.5 Armoured movable AC metal enclosed switchgear

Environmental condition

1. Altitude: No higher than 1000M;
2. Ambient temperature: the upper limit is +40℃and the lower limit is-15℃;
3. Relative humidity: Daily average≤95%, monthly average ≤90%;
4. Earthquake intensity: Not more than 8 degrees.

The location without severe dirtiness such as fire explosion hazard and strenuous vibration as well as chemical corrosion and on.

Structural

KYN61-40.5 metal enclosed switchgear mainly consists of two parts, namely. cabinet body and trolley The cabinet body is divided into 4 individual compartments, namely, circuit breaker compartment (it is also called trolley compartment), bus-bar compartment, cable compartment and relay instrument compartment The protection degree of casing is IP4X the protection degree is IP2X when the door of circuit breaker is opened. The trolley of circuit breaker consists of two part, namely, circuit breaker and cassis trolley It has leading in and outlet of cable leading-in and outlet of rack chamber, contact, counting and isolation and other function schemes.

Cabinet body

The cabinet body is made from the high-strength cold-cooled steel plate or aluminized zinc plane. It is assembled through the high-strength boit and nut (grade 8.8)of riveted nut after the plate is machined and bent as well as formed by the NC sheet metal equipment For every structural member of cabinet body, the plastic-spaying or surface galvanizing process is used. Therefore, the cabinet body not only has the very high height but also it can have such features as lightweight and high mechanical strength as well as beautiful appearance comparing with the similar equipment. At same time, there are such features as strong versatility, siort machining period, small floor area for production of component because the assembly-type structure is adopted. The production can be organized conveniently depending on the ordering condition.

Trolley

1. The framework of trolley is bent and welded by the high-grade sheet steel. The troller can be divided into the trolley of circuit breaker, separation trolley, trolley of voltage transformer and trolley of lightning arrester and so on according to the purpose. Trolley of same specification can be interchangeable.

2. The pushing device of trolley consists of leading screw nut pushing mechanism, overrunning clutch and interlocking mechanism and so on. The leading screw nut pushing mechanism can operate easily to make the trolley move between the testing position and working position. The self-locking property of leading screw nut can be utilized to lock the trolley at the working position reliably and prevent the accident from play of trolley due to action of electrical force. The overrunning clutch will enable the operating shaft to separate from the lead screw automatically and the operating shaft runs idly when the trolley moves back to the testing positing and advances to the working position, and thus avoid damage to the construction.

Compartment

The individual compartment, namely, compartment of circuit breaker, bus compartment, cable compartment and compartment of relay instrument, is installed in the KYN61-40.5 metal enclosed switchgear. The pressure-relief channel is installed in the compartment of circuit breaker and bus compartment as well as cable compartment.

KYN28A-12(GZS1)Armoured movable AC metal enclosed switchgear

General

This equipment is indoor metal armoring with drawable switchgear(hereafter refer to as switchgear. 3.6-12 kilovolt three phase AC 5OHz single bus bar and the single bus bar subsection system's complete electricity distribution equipment is used in the power plant, small and medium-sized generator power transmission, industry and mining business power distribution as well as electrical industry system's second transformer substation's electric take-over, power transmission and large-scale high pressure motor starting and so on.

The purpose is to control, protect and monitor. This switch equipment is up to the standard of IEC298, GB3906 and can prevent the charge from pushing and pulling the breaker, from opening and closing the breaker, from insulation with electricity by mistaken, from earthed switch closing the breaker, from opening the switch's interlock when it with electricity mistakenly. It can not only use with VSI vacuum circuit-breaker, but with ABB Corporation's VD4 vacuum circuit-breaker. It is indeed a kind of power distribution equipment with superior performance.

Environmental condition

1.Normal condition
a. Surrounding air temperature:-10C~ +40C
b. Altitude:1000M
c. Relative environment humidity: The daily relative humidity average is not higher than 95%,te monthly
relative humidity average is not than higher 90%
d. Earthquake: The intensity does not exceed 8 degree.
e. The surrounding air without corrosive or flammable gas or water vapour.
f. Without a lot of dirtiness and regular fierce vibration, under the severe condition, the intensity meets the first kind requirement.
2.special working conditions * When it is used beyond the normal environmental condition stipulated in theGB3906,the user should consult with the manufacture.

Main technical parameters

Item	Unit	Data	
		Equipped with breaker	
		ZN63A-12(VSI)	Vd4
Rated voltage	kV	12	12
1 min working frequency endurable voltage	kV	42	42
Shock endurable rated voltage	kV	75	75
Rated frequency	Hz	50	50
Rated current	A	630,1250,1600,2000,2500,3150,4000,5000	
Branch bus bar rated current	A	630,1250,1600,2000,2500,3150,4000,5000	
Rated short time endurable current(virtual value)	kA	16,20,25,31.5,40,50	16,20,25,31.5,40,50
Rated peak endurable voltage	kA	40,50,63,80,100,125	40,50,63,80,100,125
Rated short-circuit duration	s	4	
Protection degree		The case is IP4X, the compartment door, and the handcart door is IP2X when it opens.	
Quality	kg	700-1200	700-1200

XGN2-12 Box fixed type metal-enclosed switchgear

General

XGN2-12 box fixed type metal-enclosed switchgear (switch cabinet for short) is used to receive and distribute electrical energy in 3.6, 7.2, 12KV three phase AC 50Hz system, especially in the frequent operation occasion. Its bus bar system is single bus bar and it can derive single bus bar with branch and double bus bar structure. This switch cabinet conforms to the requirement of national standard GB3906-91 "3-35KV AC Metal Seal Switch equipment" and the international standard IEC298, and has the function of "five prevention". This switch cabinet's main switch is composed of ZN28A-12 or the ZN22-12 series vacuum circuit-breaker, the CD17A spring operating mechanism and the CT19B Spring operating mechanism, the GN30-12 rotary isolator and the GN22-10 big electric current isolator series product.

Environmental condition

1. Ambient temperature: -25℃-+40℃;
2. Altitude: ≤1000m;
3. Relative humidity: Daily average≤95%, monthly average ≤90%;
4. The earthquake's intensity does not exceed 8 degree;
5. Without fire, the danger of explosion, chemical corrosion and fierce vibration place and the pollution grade not beyond 3 level.

Product type and meaning

XGN2-12□□□/□-□

- Rated short circuit opening and breaking current (kV)
- Rated current (A)
- Operating machine type (D electromagnetism, T spring)
- Main loop plan code name
- Breaker type(Z vacuum breaker, breaker with little oil and without code name)
- Rated voltage (kV)
- Design serial number
- Indoor
- Fixed type
- Box structure

Main technical parameters

Item	Unit	VSI
Rated voltage	kV	3.6,7.2,12
Rated current	A	630,1250,1600,2000,3150
Rated short circuit opening current	kA	16,20,31.5,40
Rated short circuit breaking current (peak value)	kA	40,50,80,100
Rated short circuit stable moving current (peak value)	kA	40,50,80,100
Rated heat stable heating current	kA	16,20,31.5,40
Rated heat stable heating time	s	4
Protection grade		IP2X
Structure type		Single bus bar disjunction and single bus bar with branches
Operation mode		Electromagnetic, spring and energy storage type
The external dimension width*depth*height	mm	1100×1200×2650(common type)
Weight	kg	1000

HXGN □-12(SF_6) Unit type AC metal-enclosed ring main unit

General

HXGN □-12(SF_6)Unit type AC metal-enclosed ring main unit(hereafter refer to as ring net cabinet)is a new generation of high-pressure electric appliance product designed and developed independently by our own company according to the requirement of the domestic agricultural electricity and the city net transformation after introduction of overseas advanced technology. Each technical performance index completely reaches the IEC298 and GB3906 standard.

The loop-net cabinet's main switch,the operating mechanism and the components is made of the ABB Corporation original piece or the SFL-12/24 switch equipment imported overseas and assembled at home. We can also install the ABB Corporation original piece of HAD/US type SF according to the request of users.The circuit breaker or the VD4-Svacuum circuit-breaker divide into two kinds:be operated manually and electrically according to the operating mode.

The cabinet body is riveted after processed by numerical control machine tool with reliable mechanical interlocking and the misoperating-prevention function.The protection grade reaches IP3X.This product has the remarkable characteristics such as the small volume,light weight,artistic appearance,simple operation,long life,high parameter with no pollution and little maintenance.

Product type and meaning

H X G N □ - 12 (SF_6)

- The cabinet's main switch is SF_6
- Voltage grade(KV)
- Design number
- Indoor
- Fixed type
- Box type
- Ring main unit

Environmental condition

1. The altitude should not exceed 2000m
2. Surrounding air temperature: -25℃~+40℃
3. Relative temperature: the daily average value is not higher than 95%, the secondary average value is not higher than 90%
4. Surrounding air without caustic gas or ignitable gas,steam and other obvious pollution.
5. Without fierce vibration

Application

HXGN-12(SF_6) UNIT type exchange metal ring-net switching equipment, is suitable to exchange 50Hz ,12K, serving as device of receiving and distribution of electrical energy.

HXGN □-12(SF_6) Unit type AC metal-enclosed ring main unit

Main technical parameters

Item	Unit	Parameters
Rated voltage	kV	12
Rated frequency	Hz	50
Main bus bar rated current fuse breaker maximum rated current	A	630/125
Main loop, earthed loop short time endurable rated current	kA/s	20/3
Main loop, earthed loop maximum endurable rated current	kA	50
Main loop, earthed loop short circuit on-and off rated current	kA	50
The opening number of the load switch with full capacity	Order	100
The fused breaker opening the current	kA	31.5,40
Rated closed loop opening current	A	630
Rated shift current	A	1600
Mechanical life	Order	2000
1 min line frequency resistance (peak value) recurrence, to the earth/isolation fracture	kV	42/48
The lighting shock resistance (peak value) recurrence, to the earth/isolation fracture	kV	75/85
1 min,,secondary loop 1 min line frequency voltage resistance	kV	2
Protection grade	IP3X	

Structure character and operating principle

The outline structure of the product is referred to as diagram 1 and diagram 2;the installation dimension is referred to as diagram3. This ring network type cabinet makes air as the insulating medium,mainly assembled with ZFN -10/630 type vacuum load switch. And there are two cabinet schemes-incoming cabinet and outgoing cabinet.

1.Incoming cabinet scheme

There is a ZFN-10/630 type vacuum load switch on the main circuit inside the cabinet with isolating knife,and grounding knife conditionally. The three of them are all installed in one machine stand and there are interlocks among them, so that it is realized to connect the operation of three working stations of bus, isolation and grounding. Inside the cabinet the components such as CT, PY are available.

2.Outgoing cabinet scheme

ZFN-10/630 type vacuum load switch,fuse with striker(used as isolating switch)and grounding knife on the main circuit inside the cabinet, and the three working stations operation can be realized. Inside the cabinet the components such as CT/PT and ZNO arrester are available,so the metering cabinet can he omitted. Inside the incoming cabinet and outgoing cabinet,there is insulating protecting baffle interlocked with grounding switch. And inside the cabinets, the mechanical interlocks are adopted between each switch and baffle as well as the cabinet door with the requirement of "five-prevention" and IP2X of the protection degree of the cabinet enclosure.

Storage

Ring network cabinet should be stored in the dry and ventilated warehouse with temperature of -30℃~+40℃

Appending files

1. Certificate of quality
2. Installation and operation instruction
3. Packing list
4. Appending accessories list
5. Secondary connection diagram

GG-1A(FZ)-12Z Intelligent HV switchgear cabinet

General

GG-1A(FZ)-12Z intelligent and fixed type high-voltage switch cabinet is suitable for inputting and outputting electricity and control and protection of the large-scale electrical network transformer substation, mining business, the wharf, the oil field, the railway station,the residential district and other high pressure transformer substation where adopting the single bus bar and the single bus bar subsection as the main wiring way on the 3.6~12KV voltage degree as the company has made transformation of "Five-prevention", "Oil-free " and " Intelligent" on the switch cabinet on the basis of the original GG-1A switch cabinet, making it possible to transform and promote the old style transformer substation.

Main technical parameters

Item	Unit	Parameters
Rated voltage	kV	3.6,7.2,12
Rated current	A	630,1000,1250
Rated short circuit opening current	kA/4s	20,25,31.5
Rate short circuit breaking current (peak value)	kA	50,63,80
Line frequency endurable voltage (same, to the earth/fracture)	kV/1min	42/48
Light shocking endurable voltage (same, to the earth/fracture)	kV	75/85
Twice line frequency endurable voltage	kV/1min	2
Rated operation order		0-0.3S-C0-180S-C0

Structural feature

GG-1A(FZ) the-12Z intellective fixed type high-voltage switch cabinet is open-type structure, the basic skeleton is curved and welded by the angle steel and the steel plate. In general, the switch cabinet is composed of the main cabinet and fence cabinet. The main cabinet is partially divided by the bus bar's partition board into two sections. The upside is the bus bar and the isolating switch, the earthed switch, the middle is the circuit breaker, the mutual inductor, the bottom is electric cable outing room. The frontage on the left is the relay room, lower part is the terminal room. This cabinet has the perfect function of "Five-prevention".

YFGZ2 Power supply cabinet

General

YFGZ2 series DC power supply cabinets (microcomputer controlled) are widely applied to large/middle and small scale power plants and transformer substations,used as DC power supply for HV switch making/breaking, relaying,automatic control, emergency lighting and light/sound signal in normal condition or emergency state. It also can be applied to fields like metallurgy, railway, mine, petrochemical, posts and telecommunications,medial health, bank, hotel, tall buildings, computer network and so on, The microcomputer controlled DC power supply cabinet are useful for power plants, transformer substations and other industries that require unmanned control and remote centralized monitoring, The product is in accordance with JB/T5777.4-2000 General specification and safety requirements for DC power supply equipment of power projects.

Product type and meaning

G Z 2 - □ - □ / □

- Voltage class
- Battery capacity
- Scheme No.
- Design No.
- DC power supply
- Enclosed type cabinet

Model	Description	Spec.	Range of application
YFGZ2-30-□/□	single battery, single-bus bar section, two pieces of double -line output charging floating charger, no voltage reducing circuit.	10	power plant or large-scale transformer substation
YFGZ2-31-□/□	single battery, single-bus bar , two pieces of double -line output charging floating charger, no voltage reducing circuit.	10	power plant or large-scale transformer substation
YFGZ2-32-□/□	single battery, single-bus bar section, two pieces of double -line output charging floating charger	20	transformer substation and middle/small-scale power plant
YFGZ2-33-□/□	single battery, single-bus bar , two pieces of double -line output charging floating charger	20	transformer substation and middle/small-scale power plant
YFGZ2-34-□/□	single battery, double-bus bar section, two pieces of three -line output charging floating charger	20	transformer substation and middle/small-scale power plant
YFGZ2-35-□/□	single battery, single-bus bar , two pieces of three -line output charging floating charger	20	transformer substation and middle/small-scale power plant
YFGZ2-40-□/□	double battery, single-bus bar section, two pieces of double -line output charging floating charger, no voltage reducing circuit.	10	key power plant or large-scale transformer substation
YFGZ2-41-□/□	double battery, double-bus bar section, two pieces of double -line output charging floating charger	12	transformer substation and middle/small-scale power plant
YFGZ2-42-□/□	single battery, double-bus bar section, three pieces of double -line output charging floating charger	10	key power plant or large-scale transformer substation
YFGZ2-43-□/□	double battery, double-bus bar section, two pieces of three -line output charging floating charger	12	transformer substation and middle/small-scale power plant

YFGZ2 Power supply cabinet

Environmental condition

1. Altitude:2000m and below (if exceed 2000m,please contact us)
2. Ambient temperature:-5℃~+ 40℃
3. Relative humidity: not over 90%.(20±5℃)

Note:Please contact us for special condition

Main technical parameter

1. Input mains voltage ,three-phase AC 380V ±10%,50Hz±5%
2. Output DC voltage rated value: 48V;110V;220V
3. Output DC current rated value:5A,8A,10A,15A,20A,30A,40A,50A
4. Rated capacity of storage battery:10Ah,20Ah,38Ah,40Ah,50Ah
5. Voltage regulating range (see the chart below)
6. Output DC current regulating range:0~100% of rated value
7. Voltage stabilizing accuracy: ＜±1%
8. current stabilizing accuracy: ＜±1%
9. Ripple ratio: ＜1%
10. Noise of complete machine: ＜55dB
11. Temperature rise of main transformer: ＜70℃
12. Working mode：Continuous work
13. Efficiency ＞90%
14. Degree of protection：IP20-IP30

Item			
Rated value of output DC voltage	48V	110V	220V
Regulating range of float charge voltage	43-57	99-130	198-260
Regulating range of average charge voltage	54-62	125-140	198-286
Regulating range of main charge voltage	43-70	99-162	187-310

Main functions

1.Complete specifications: This series of products possesses more than ten models with hundreds of specifications,for satisfying DC power supply demand of large/middle/small scale power plants,transformer substation and other industries.

2.Reliable operation:AC double-circuit input automatic switching. The product is equipped with two float charging devices that are reserved for each other,with convenient system switching.

3.Stable operation:The product has fine anti-interference ability, high current/voltage stabilizing accuracy,low ripple ratio.

4.Long service life of battery: The product is able to charge and float charge the storage battery according to the charging curve of storage battery strictly, free from over-charging or under-charging. The microcomputer controlled type also has battery cyclic detection function.

5.Multiple protections: The product is able to track and detect every working point,with combined software and hardware protection.The insulation monitoring device will monitor the insulation condition of bus bar at all hours.

6.Motion communication: The microcomputer controlled DC power supply cabinet is able to communicate with upper supervising computer,and realize centralized monitoring and unmanned control.

YFGZ3 Power supply cabinet

General

YFGZ3(GZG) series DC power supply cabinets(intelligent high frequency switch type) are suitable for the DC power supply systems of electric equipment and relay protection device in power plants and transformer substations, used as power supply device for controlling, signal, communication, protection as well as DC emergency lighting and power sets.

The product adopts high frequency switch type rectifying device, is featured with small volume, light quality, superior technical index, modular design, N+1 warm back-up mode, convenient "four remote", etc. The product proceeds intelligent management to the charging condition of storage battery and working state of DC power supply cabinet, so that to guarantee service life of storage battery. It is equipped with central controller.with remote control function, improves reliability and automation level of DC system.

The product is in accordance with JB/T5777.4-2000 General specification and safety requirements for DC power supply equipment of power projects.

Product type and meaning

G Z 3 - □ / □

- Voltage class
- Battery capacity
- Design No.
- DC power supply
- Enclosed type cabinet

Environmental conditions

1. Ambient temperature:-5℃~+ 40℃, monthly temperature not higher than 35 ℃
2. Altitude:2000m and below
3. Relative humidity: not exceed 90%.(25℃), the equipment should be free from condensation during running;
4. The installation site should be free of severe shock or impact, the surrounding medium should be free of explosion hazard or gas or conductive dust that would erode metal and destroy insulation, also should be free from strong magnetic field interference.

Main technical parameters

Item	Unit	Parameters
AC rated input voltage,three-phrase four-wire system.	V	380±15%（50Hz±2Hz）
DC rated output voltage	V	48,110,220
DC rated output current	A	1-200
Rated capacity of storage battery	Ah	20-1000
Voltage stabilizing accuracy		≤±0.5%
Current stabilizing accuracy		≤±0.5%
Ripple ratio		±0.1%
Efficiency		≥90%
Noise	dB	≤55
Degree of protection		IP 30
Outline size	mm	2260×800×600,2260×800×600,2360×800×550

YFMNS LV withdrawable switchgear

General

YFMNS LV withdrawable switchgear (hereinafter referred to as device) is manufactured by standard module through consulting MNS series low voltage switch cabinet of Switzerland ABB Company, 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-I and national standard GB7251.1.

Characteristics

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 antiflaming 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.

Main technical parameters

Rated working voltage	Rated insulation voltage	Rated working current		Virtual value (IS)/peak value (KA) of rated short time withstand current		Ip30 IP40 protection grade of shell
		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	60/130-150	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.

Conditions for normal operating environment

1. Ambient air temperature: -5℃~+40℃ and the average temperature should not exceed +35℃in 24h.

2. Air condition: With clean air. Relative humidity should not exceed 50% at +40℃. Higher relative humidity is allowed at lower temperature. For example, 90% at+20℃. 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, between -25℃ +55℃, in short time(within 24h) it can reach +70℃. 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.

YFGCS LV withdeawable switchgear

General

YFGCS LV withdrawable 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 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-I and GB7251.1.

Characteristics

1. Main framework adopts 8MF bar steel. Both sides of bar steel is installed with ϕ92mm 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's 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.

Main technical parameters

Rated voltage of main circuit(V)			
AC	380(400),(660)	Rated short time withstand current of bus bar	50,80
Rated voltage of auxiliary circuit (V)		Rated peak withstand current of bus bar	105,176
AC	220,380(400)	line frequency test voltage	
DC	110,220	Main circuit	2500
Rated frequency Hz	50(60)	Aain circuit	1760
Rated insulation voltage (V)	660(1000)	Bain circuit	
Rated current (A)		Three-phase four-wire system	A.B.C.N
Horizontal bus bar	≤4000	Three-phase fiver-wire system	A.B.C.PE.N
Vertical bus bar	1000	Protection grade	IP30,IP40

Conditions for normal operating environment

1.Ambient air temperature: -5℃~+40℃ and the average temperature should not exceed +35℃ in 24h.

2.Relative humidity should not exceed 50% at max temperature. Higher relative humidity is allowed at lower temperature, For example, 90% at +20℃. 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.

YFGCK(L) LV withdrawable switchgear cabinet

General

YFGCK(L) LV withdrawable switchgear cabinets applicable to the low voltage distribution system with AC50Hz, rated working voltage 380V. It contains power center(PC) and motor control center (MCC) functions. Each technical parameter all reaches national standards. With characteristics of advanced structure, beautiful appearance,high electric performance, high protection grade, reliable and safe and easy to maintain. It is the ideal distribution device for low voltage power supply system in metallurgy, petroleum, chemical, power, machiney and light weaving industries etc.

The product accords with standard IEC-439, GB7251.1.

Characteristics

1. YFGCK(L)1 and YFGCJ1 are assemble type combined structure. The basic skeleton is assemble by adopting special bar steel.

2. Cabinet skeleton, component dimension and started size change according to basic modulus E=25mm.

3. In MCC project, parts in cabinet are divided into five zones (compartment): horizontal bus bar zone, vertical bus bar zone, function unit zone, cable compartment, and neutral earthing bus bar zone. Each zone is separated mutually for circuit's normal running and effectively preventing fault expansion.

4. As all structure of framework are connected and firmed by bolts, so it avoids the welding distortion and stress, and upgrades the precision.

5. Strong general performance, well applicability and high standardization degree for components.

6. Draw-out and insert of function unit (drawer) is lever operation, which is easy and reliable with rolling bearing.

Main technical parameter

Protection grade		IP40,IP30
Rated working voltage		AC 380(V)
Frequency		50Hz
Rated insulation voltage		660V
Working conditions		
Environment		Indoors
Altitude		≤2000m
Ambient temperature		-5℃-±40℃
The min temperature under store and transportation		-30℃
Relative humidity		≤90%
Capacity of control motor (kW)		0.4-155

Rated current (A)		
Horizontal bus bar		1600,2000,3150
Vertical bus bar		630,800
Contact connector of main circuit		200,400
Supply circuit		1600
Max current	PC cabinet	630
Power receiving circuit	MCC cabinet	1000,1600,2000,2500,3150
Rated short time withstand current (kA)		
Virtual value		50,80
Peak value		105,176
Line frequency withstand voltage (V/1 min)		2500

YFGGD AC LV fixed type switchgear

General

YFGGD 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 enterprise 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 "

Characteristics

1. The body of YFGGD 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 outside 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 rabbet 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.

Main technical parameter

Type	Rated voltage (V)	Rated current (A)	Rated short circuit breaking current (kA)	Rated short time withstand current (kA)	Rated peak withstand current (kA)
YFGGD1	380	1000 600(630) 400	15	15(IS)	30
YFGGD2	380	1500 1600 1000	30	30(IS)	63
YFGGD3	380	3150(2500) 2000	50	50(IS)	105

XL-21 type power distribution cabinet

General

XL-21 Type low voltage power distribution cabinet is applicable to power station and industrial and mining enterprise, used for power distribution in three-phase four-wire or three-phase five-wire system with AC 500V and below. It is installed indoors and near the wall. Repair before shield. Shell is bent with steel plate. Knife switch operation handle is installed to the upside of right column of cabinet front, can be used for switching power. Choose different types and circuit breakers with different current grades according to user's specific requirements.

Product type and meaning

X L - 21 - □

- Scheme No.
- Design No.
- Power
- Control box

Main technical parameters

Item	Unit	Parameters
Rated working voltage	V	AC380,AC660
Rated frequency	Hz	50/60
Rated short time withstand current (1s)	kA	50
Rated peak withstand current	kA	105
Dielectric strength	V/1min	2500
Rated insulation voltage	V	660
Protection grade		IP30/IP40
Outline dimension (W*D*H)	mm	600(800,1000)×350(400, 600)×1600(1800)

YFMGB Soft start cabinet for motor

General

YFMGB digital soft starter is the high and new technology product designed and manufactured by our company for users. It has features of simple structure, easy operation, secure and reliable, complete functions, small starting current, small, energy-saving and long-life. It overcomes the defects brought by traditional Y- start, self-coupling transformer start and resistance step-down start, such as high impulse current and impulse from torque. It is the ideal changing generation product for traditional starter by overcoming the defects of big, complex circuits, high power consumption and high maintenance rate etc.

Product type and meaning

YF M G B - 0.4 / □

- Motor power
- Voltage grade
- Design No.
- Cabinet structure
- Soft starter
- Enterprise code

Main technical parameters

Type	Power (kW)	Rated current (A)	Outline dimension (mm)						Weight (Kg)
			A	B	C	D	E	F	
YFMGB-15-30	15,17,22,30	32,37,54,75	1000	500	350	35	250	440	
YFMGB-37-75	37,45,55,75	86,97,130,155	1400	600	430	35	345	390	
YFMGB-90	90	180	1600	660	530	35	440	500	90
YFMGB-110	110	220	1600	660	530	35	440	500	90
YFMGB-132	132	260	1600	660	530	35	440	500	120
YFMGB-160	160	318	1600	660	530	35	440	500	120
YFMGB-225	225	460	1600	660	530	35	440	500	145
YFMGB-250	250	490	1800	660	530	35	500	450	145
YFMGB-320	320	630	1800	660	530	35	500	450	170
YFMGB-400	400	790	2000	800	600	35	400	610	200
YFMGB-500	500	980	2000	800	600	35	400	610	200
YFMGB-600	600	1100	2000	800	600	35	400	610	200
YFMGB-810	810	1400	2000	800	600	35	400	610	200

Bus ways

General

The bus lines absorb the advantages of air type and dense type bus ways, and design new type bus ways. The bus lines adopt new technology of fluidized membrane innovation which will be blocked off for each other by insulating bracket and then form clearance air medium insulation. The bus lines are characterized on the advantages of duplex insulation, compact structure, small bulk, heavy transfer current, good insulating performance, strong crossing-over performance, safe and reliable power supply, convenient construction and installation etc. They are mainly applied to power supply and distribution equipment transporting rated voltage below 660V for high-level buildings, industrial and mining enterprise.

Code	Name	Code	Name
A	Straight line segment bus ways	LC	Model L upright connector
S	Terminal busways	TS	Model T level connector
Z	Terminal cover	TC	Model T upright connector
SS	Cross level connector	ZC	Model Z upright connector
SC	Cross upright connector	P	Expansion knob connector
ZS	Model Z level connector	BY	Variable capacitance connector
LS	Model L level connector	SH	Inlet box

Sketch map of bus ways structure

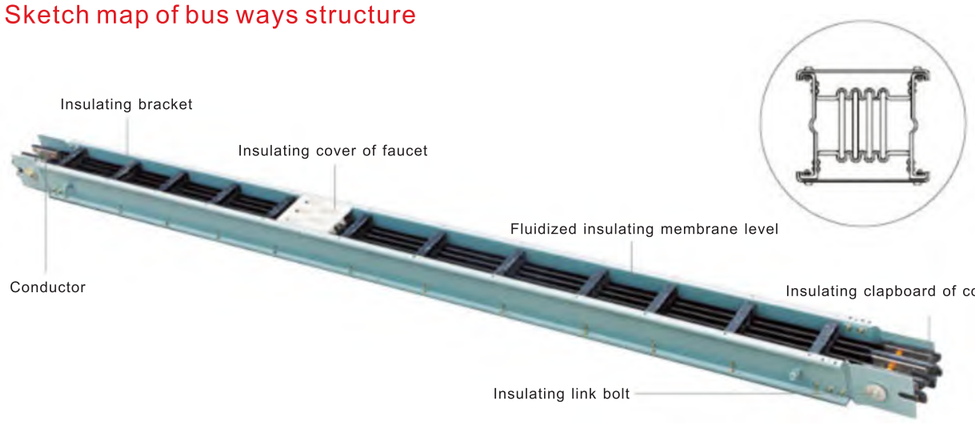


Table of bus structure & specification

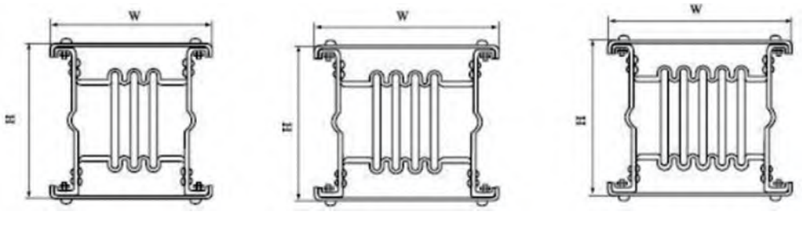


Table-wire system | Four-wire system | Five-wire system

Bus ways

Main performance

Electric clearance	Electric climbing distance	Fence grade	Dielectric strength	Insulation resistance
⩾13	⩾21	IP 41	5000V	⩾500MΩ

Technical parameters

Rated current(A)	Resistance Rx10^{-4}Ω/m	Impedance Zx10^{-4}Ω/m	Voltage drop V/m	Short strength t=is KA(peak value)
250	94.4	105.5	0.023	35
400	70.8	83.2	0.036	50
630	73.0	72.4	0.076	70
800	61.4	69.8	0.085	75
1000	46.9	53.8	0.081	85
1250	35.2	40.6	0.073	100
1600	26.9	31.0	0.075	115
2000	21.0	24.1	0.073	125
2500	17.2	19.7	0.074	135
3150	12.1	16.5	0.074	150
4000	10.5	12.1	0.073	150

Initial bus lines
The connecting dimensions of initial bus lines are fit for various switch cubicle and transformer.

Variable capacitance knob

Model T upright

Model L Initial level connector

Model L upright connector

Model L upright connector

Installation and connection means of bus ways

Bus ways adopt the means of bolts connection, so everyone can easily connect them. But screwing connecting bolts is the guarantee of bus lines connection, bus moment with current 630A below must reach 8kg, current 800A above reach 12kg, and the checking tool after fastening should be clearance gauge of 0.01mm.

XQJ Series cable tray

Application

XQJ series cable tray is suitable for the layout of power cables, control cables and lighting wires of 10kV below indoors, overhead and in the channel.

Features

This series of cable trays is featured with complete variety, wide range of applicable, light and firm structure, low construction cost, simple construction, flexible wiring, standard and nice installation; This series of cable trays is suitable for installation of any construction structure, is available in overhead layout with engineering pipeline, floor and beam hoisting, side installation of indoors and outdoors wall, column, channel, tunnel and installation of open pillar. This series of cable trays can also be adjusted in different corners, height and diameter in horizontal and vertical directions, meanwhile, branch layout in any direction can be conducted with various branch joint like the L-shaped, T-shaped, cross-shaped,etc.

Product type and meaning

XJL □□□

- Expression of specification or its number (Arabic numerals)
- Expression of classification, variety and number (Arabic numerals with English letters)
- Expression of structure form(Capital of the first Pinyin of Chinese character), that is, T:Step type, C: Slot type, P: Salver type, ZH: Combined type, D: Large span, H:Pillar, TB: Arm
- Expression of cable tray series

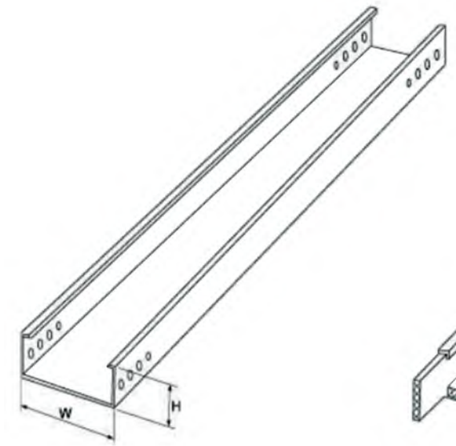
XQJ-C-01, ANXQJ-C-01A Slot type fireproof tray

Applicable range

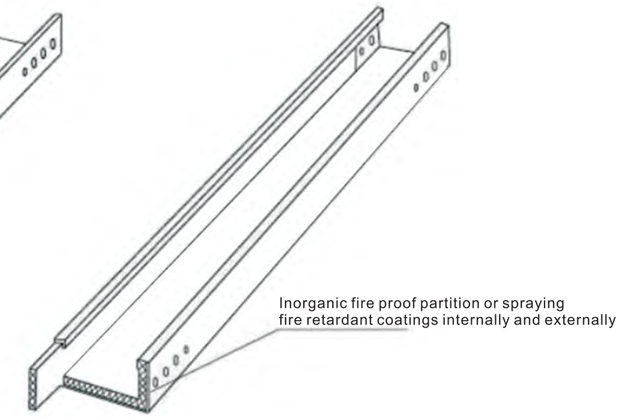
Slot type fireproof tray is the one with the perfect seal. It is suitable for the layout of computer cable, communicating cable and other high-effectively system control cables. Besides the strong general purpose, it can take great effect on withstanding the shielding interference of control cables and protecting the cables in the corrosive environment.

The surface of tray is handled by plastic spraying, galvanizing, galvanizing with plastic spraying, hot dip galvanizing, etc.

Outline of size



XQJ-C-01A



NXQJ-C-01A

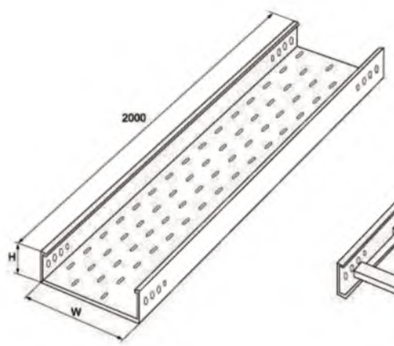
Model	Width	Height	Remark
XQJ(NXQJ)-C-01A-1	50	25	1. NXQJ-C-01A type tray covers the specification from 200x100 (W*H) 2. If user needs the specification that is not listed in the table, please provide the drawing or the detailed information.
XQJ(NXQJ)-C-01A-2	100	50	
XQJ(NXQJ)-C-01A-3	150	75	
XQJ(NXQJ)-C-01A-4	200	100	
XQJ(NXQJ)-C-01A-5	250	125	
XQJ(NXQJ)-C-01A-6	300	100 150 200	
XQJ(NXQJ)-C-01A-7	400	100 150 200	
XQJ(NXQJ)-C-01A-8	500	100 150 200	
XQJ(NXQJ)-C-01A-9	600	100 150 200	
XQJ(NXQJ)-C-01A-10	800	100 150 200	

XQJ-P-01, XQJ-T-10 Tray type and ladder type trays

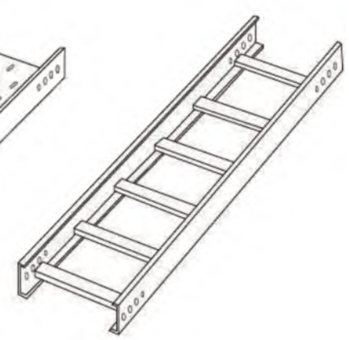
Applicable range

Tray type and ladder type trays have features like large capacity of cable and perfect heat emission. The surface of tray is handled by plastic spraying, galvanizing with plastic spraying, hot dip galvanizing, etc.

Outline of size



XQJ-P-01



XQJ-T-01

Model	Width	Height	Remark
XQJ-P(T)-01-6-2	200	60	1. If need the shield, please indicate while placing an order 2. If user needs the specification that is not listed in the table, please provide the drawing or the detailed information.
XQJ-P(T)-01-10-2	200	100	
XQJ-P(T)-01-15-2	200	150	
XQJ-P(T)-01-6-3	300	60	
XQJ-P(T)-01-10-3	300	100	
XQJ-P(T)-01-15-3	300	150	
XQJ-P(T)-01-6-4	400	60	
XQJ-P(T)-01-10-4	400	100	
XQJ-P(T)-01-6-5	400	150	
XQJ-P(T)-01-10-5	500	60	
XQJ-P(T)-01-10-5	500	100	
XQJ-P(T)-01-15-5	500	150	
XQJ-P(T)-01-6-6	600	60	
XQJ-P(T)-01-10-6	600	100	
XQJ-P(T)-01-15-6	600	150	
XQJ-P(T)-01-6-8	800	60	
XQJ-P(T)-01-10-8	800	100	
XQJ-P(T)-01-15-8	800	150	

YFJP Series product of low-voltage distribution cabinet

Scope of application

Our company researched and developed the YFJP series product of low-voltage distributing cabinet with powerless automatic compensation depending on the development direction facing the low-voltage distribution are a of rural electrical power according to the related spirit and several documents about the powerless compensation of country electrical net issued by the national power ministry.

YEJP low-voltage distribution cabinet with powerless automatic compensation is applicable to the transmission and distribution system which is AC 50Hz and the rated current is below 0.4kV. This series of product is a new indoor and outdoor lower-voltage distributing cabinet integrating the automatic compensation and distribution as well as integrating multiple functions such as the leakage protection, calculation of electrical energy, overcurrent, overvoltage and open-phase protection and so on. This product has the features such as small volume, easy installation, electric larceny protection, low cost, high adaptation, weathering proof accurate operation and no compensation error area and so on. It has the advantages such as high degree of protection, perfect protection performance and high automation degree and so on. It is a ideal product available for reconstruction of electrical network.

Product type and meaning

Y F J P - □ - □

- Capacity
- Output Loop Number
- W means outdoor, without w means indoor
- Local compensation
- Box-type metering and distribution device
- Yifa group

Operating principle

The metering of device is by means of the DD862 3-phase/4 wires watt hour meter and class 0.5 current transformer. The CJ20 AC contactor is used as the total control for power supply. For the shunt distribution the RDM1 plastic housing circuit breaker is used. The new RDJD2 phase demodulation amplitude discrimination leakage relay with no noise operation controls the CJ20 AC contactor for effective leakage and electric shock protection. JKL5C powerless power controller monitors and switches on and off BSMJ self-recovery low-voltage parallel capacitor for powerless compensation.

Environmental condition

1. Ambient air temperature: ≤+40 ℃ and the average temperature is not higher than +35℃and not less than-25℃
2. Altitude: 2000M
3. Installation inclination does not excess to ±5°.
4. there is no severe vibration and corrosive gas as well as the conductive dust around the switch cabinet.
5. Protection degree of housing: IP55

Performance of product

Rated voltage: AC400V 50HZ　　Rated capacity: 20-250KVA
Capacity of powerless compensation: 4-60KVAR　Leakage action current: ≤300mA
Electrical shock action current≤ 50mA　　Action time:≤0.2S

China YIFA Holding Group Co., Ltd.

S11-M.ZT series intelligent on-load capacity transformer

On-load capacity transformer

110kV,220kV EHV transformer

Amorphous metal transformer

Oil-immersion transformer

Resin insulation transformer

Environmental protection transformer

Reactors

Outline

Intelligent load size adjustable capacitive transformer having two gears capacity, the capacity can be automatically adjusted without operating the power load changes, when executed by a light load or a large-capacity transformer is adjusted close to the small-capacity load, That is to say, the no-load consumption is greatly reduced, and the trouble of manual operation of power-off is overcome, and the purpose of energy saving and intelligence is truly achieved. The product is particularly suitable for the change of seasonal load variation, and is also suitable for load change.

Large 35KV power transformer, the intelligent on-load capacity transformer developed by our company has a number of patents, mainly composed of transformers, on-load capacity adjustment switch and control box with on-load capacity adjustment controller. Remote communication, remote control, remote adjustment, telemetry, intelligent networking, reactive power compensation control, anti-theft and other functions are unmatched by traditional energy-saving products such as iron core and amorphous transformer.

Product type and meaning

S 11 - M - Z T - □ (□) / □

- Primary voltage (kV)
- Small capacity (kVA)
- Large capacity (kVA)
- Means “transfer capacity”
- Means “loaded”
- Means “full seal”
- Performance level code
- Means “three phase”

Performance parameter

Table 1 Technical parameters of 10kV S11-M-ZT series intelligent on-load capacity-adjusting transformer:

Model	Voltage combination(kV)	Connection	No-load loss (W)	Load loss (W)	Short-circuit impedance (%)	No-load current(%)
S11-M-ZT-160(50)	10/0.4 >	Dyn11 Yyn0	280(130)	2310(870)	4.0	0.8（1.6）
S11-M-ZT-200(63)			340(150)	2730(1040)	4.0	0.7（1.5）
S11-M-ZT-250(80)			400(180)	3200(1250)	4.0	0.7（1.4）
S11-M-ZT-315(100)			480(200)	3830(1500)	4.0	0.7（1.4）
S11-M-ZT-400(125)			570(240)	4520(1800)	4.0	0.6（1.3）
S11-M-ZT-500(160)			680(280)	5410(2200)	4.0	0.6（1.2）
S11-M-ZT-630(200)			810(340)	6200(2600)	4.5	0.5（1.1）

Performance parameter

Annual operating expenses and investment recovery years:

Cy=[8600x(P0+0.05 x IoxSN/100)+2200 x (Pk+0.05 xUK x SN/100)] x0.5in the above formula:

Cy is the annual operating cost of the transformer , yuan;

P0 is no-load loss , kW;

PK is the load loss , kW;

SN is rated capacity , KVA;

UK is the percentage of short circuit impedance,%;

Io is the percentage of no-load current,%;

0.5 is the electricity price , yuan / (kWh);

8600.2200 is the transformer's annual no-load , equivalent full load factor 0.5)hours.

S11-M.ZT series intelligent on-load capacity transformer

According to the above formula and related performance indicators. Calculate the annual operating cost of the S|-M-ZT series intelligent load-carrying distribution transformer and the S1 common three-phase oil-immersed distribution transformer. Assume that the load-carrying transformer has a three-month capacity operation in one year .9 months of small capacity operation, according to the corresponding technical parameters of the distribution transformer for calculation, the specific data is shown in Table 3.

The load-carrying transformer adapts to the development direction of energy-saving , intelligent , high-efficiency and stable power supply in the field of substation. It can automatically change the rated output capacity of the terminal distribution transformer by tracking the load change, and ensure the power supply in a timely manner .The ground reduces the no-load loss of the transformer by about 40%~50% , which can improve the power factor of the power grid , reduce the reactive component in the distribution network, reduce the network loss, and reduce the power capacitor capacity. This opens up a new way for the development of energy -saving distribution networks. To bring good economic benefits to the society.

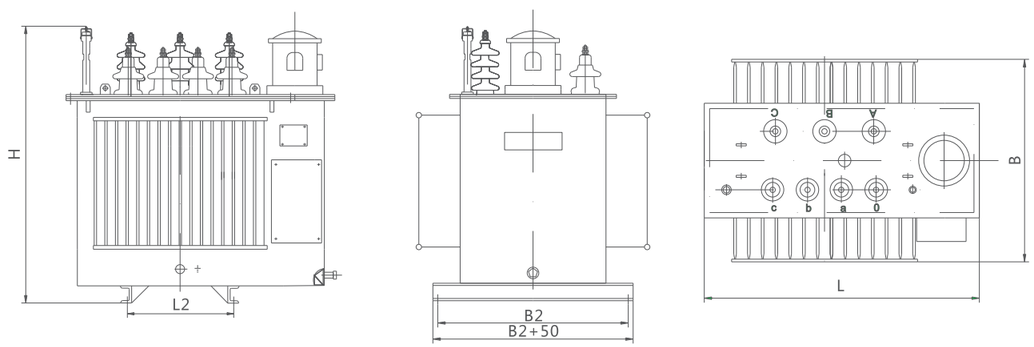
Table 2 S11-M-ZT series of intelligent load transfer capacity transformer and S11type distribution transformers in operation cost comparison

Capacity (kVA)	Load-to-load distribution transformer year Operating cost (yuan)	Ordinary distribution transformerAnnual operating cost (yuan)	Annual operating cost reduction amount (yuan)	Annual operating cost reduction (%)
160(50)	2289	4647	2358	51
200(63)	2710	5550	2840	51
250(80)	3227	6543	3316	51
315(100)	3816	7918	4102	52
400(125)	4588	9531	4943	52
500(160)	5497	11265	5768	51
630(200)	6608	13352	6744	51

Compared with a single S11 distribution transformer , the S11-M-ZT series intelligent capacity distribution transformers reduce the annual operating cost by an average of 51% , saving installation costs and sites compared with the sub-mother,S11-M-Compared with the S11-type distribution transformer, the ZT series intelligent capacity distribution transformer can be recovered in about 3 years.

Appearance dimensions

10KV intelligent load-carrying distribution transformer outline drawing



China YIFA Holding Group Co., Ltd.

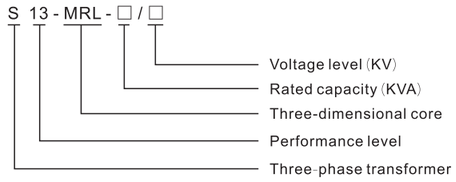
- Triangular 3D roll-core transformer
- 110kV,220kV EHV transformer
- Amorphous metal transformer
- Oil-immersion transformer
- Resin insulation transformer
- Environmental protection transformer
- Reactors

10kV Triangular 3D roll-core transformer

Outline

S13-MRL series three-dimensional triangular coil core transformer breaks through the traditional planar structure and adopts three-phase symmetrical three-dimensional structure. And it is used for the magnetic circuit without gaps, the winding is tighter, the high magnetic direction of the silicon steel strip is exactly the same as the magnetic circuit direction, the three core columns are arranged in an equilateral triangle, the three magnetic circuits are of the same length and the shortest It is a kind of high-efficiency and energy-saving transformer that uses traditional materials but has lower noise and more compact structure. It is in line with China's energy-saving policy in terms of reducing losses and saving material performance. Applicable to power supply network with voltage of 35KV and below, frequency of 50Hz,60Hz.Low-voltage output 400V,distribution transformer with a capacity of 10~1600KVA.

Product type and meaning



Product features

1.Energy saving, reducing noise

Compared with S7 same-capacity transformer,S13-MRL's new energy-saving three-dimensional triangular-core core transformer reduces the no-load loss by 55%,the load loss by 33%,the no-load current by more than 85%,and the noise drop by 8db(A)-13db(A);

Compared with the S9 transformer of the same capacity, the no-load loss is reduced by 50%,the no-load current is reduced by more than 80%,and

the noise is reduced by 8db(A)-11db(A);

Compared with the national standard S11 same capacity transformer, the no-load loss is reduced by more than 25%,the no-load current is reduced by70%,and the noise is reduced by 7db(A)-10db(A);

Compared with the S13 laminated structure with the same capacity transformer, the no-load current is reduced by more than 70%,and the noise is reduced by 5db(A)-8db(A).

2,three-phase balance

The three-dimensional triangular core is made up of three identical single frames. The three cores are arranged in an equilateral triangle. The magnetic lengths of the three cores are exactly the same, and they are the shortest, and the three cores have the same loss. Three-phase balance.

3,stable quality, improved production efficiency

The three-dimensional triangular core is the same as the flat core. The core is rolled on the production line. It does not require cross-cutting equipment, eliminating the quality fluctuation caused by manual lamination, stacking, and detaching of the iron yoke.

4,strong resistance to short circuit

The structure of the three-dimensional triangular core transformer determines that its short-circuit resistance is better than that of a planar

transformer. The reasons are as follows:

(1) The blocks are distributed around the body, and the central part is pressed against the block by the iron platen, and the three-phase force is evenly symmetrical.

(2)The area under which the coil is pressed is increased by 15.7%compared with the pressed area of the planar arrangement coil. The clamp member is a three-dimensional triangular frame structure and welded into one body. Due to the stability of the three-dimensional triangle, the overall strength is large, and the three-phase force is consistent.

5,theft

Stacked core transformers are prone to theft for technical reasons. Disassemble the solid parts of the body and knock down the silicon steel piece of the transformer. At this time, the three windings of the transformer and the silicon steel sheet are immediately separated, and the valuable materials such as silicon steel sheets and coils can be easily stolen and transported away. Since the core of the coil core transformer is a whole, the core cannot be knocked off, and the coil cannot be taken down. It is also quite difficult to remove the whole core and the coil, and it is not easy to separate the valuable objects such as silicon steel sheets and copper wires. Therefore, the wound core transformer has better anti-theft performance.

10kV Triangular 3D roll-core transformer

6,small footprint, beautiful appearance

The transformer tank adopts an approximately triangular structure, so the volume is smaller than that of the conventional rectangular tank, the structure is compact, the appearance is beautiful, and the floor space is small.

7,product economy is good, cost-effective

Compared with the laminated transformer of the same performance level, the three-dimensional triangular core transformer has lower loss value and lower cost, so that the investment cost can be reduced for the user, and the operation cost can be saved for the user.

Single-phase oil-immersed transformer

Rated capacity (kVA)	Voltage Combination and Tap range		Vector group Symbol	No-load loss (kW)	Load loss (kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV (kV)	LV (kV)					
160	10±5%	0.4±5%	Yyn0	200	2200	1.3	4.0
200				240	2600	1.2	4.0
250				290	3050	1.2	4.0
315				340	3650	1.1	4.0
400				410	4300	1.0	4.0
500				480	5100	1.0	4.0
630				570	6200	0.9	4.5
800				700	7500	0.8	4.5
1000				830	10300	0.7	4.5
1250				970	12000	0.6	4.5
1600				1170		0.6	4.5

Distribution transformer

- 110kV,220kV EHV transformer
- Amorphous metal transformer
- Oil-immersion transformer
- Resin insulation transformer
- Environmental protection transformer
- Reactors

Transformer product standard

GB 1094.1-1996	GB 1094.2-1996	
GB 1094.3-2003	GB 1094.5-2003	
GB/T 6451-2008	GB/T 6451-1987	
GB/T 10237-1988	GB/T 3837-1998	Transformer Standards

Transformer special service conditions

The height above sea level is above 1000m
Ambient temperature : highest air temperature + 40℃
Lowest air temperature -45℃
(defines in detail when placing an order)

Transformer normal service conditions

The height above sea level is above 1000m;
Ambient temperature: Highest air temperature +40℃;
Highest daily average air temperature +30℃;
Highest annual average air temperature +20℃;
Lowest outdoor air temperature -25℃.

Transformer model description

□□ □ - □□ - □ / □ □

- Special use environment (WZ - earthquake proof WFZ -anticorruption & earthquake proof GY -plateau)
- Voltage class(KV)
- Rated capacity(KVA)
- Symbol of special purpose or peculiar structure (R-winding iron core M -omniseal……)
- Functional level code （7 8 9 10 11）
- Product model (ZS - commutation SZ - on-load regulation K - mineral F air-cooling D- single phase……)

10kV series distribution transformer

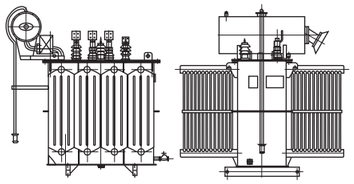
S10 series 10KV distribution transformer

30KVA~2500KVA Three-phase duplex winding non-excited tap-changing distribution transformer

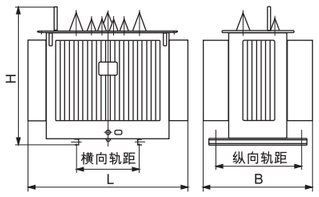
Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	Loss (kW)		No-load current (%)	Impedance voltage	Weight (T)			Boundary dimension (mm) LxWxH		Gauge vertical/ horizontal (mm)
	HV (kV)	HV Tap Range (%)	LV (kV)		No-load	Load			Body	Oil	Total	Omniseal	Un-omniseal	
30	6 6.3 10 10.5 11	±5 ±2×2.5	0.4	Dyn11 Yzn11 Yyn0	0.11	0.63/0.60	2.0	4.0	0.21	0.08	0.32	1000×550×1050	1065×550×1135	400/400
50					0.15	0.91/087	1.9		0.275	0.09	0.43	1050×580×1100	1105×670×1185	450/400
63					0.18	1.09/1.04	1.8		0.316	0.10	0.50	1080×600×1150	1135×685×1120	450/400
80					0.20	1.31/1.25	1.7		0.37	0.12	0.52	1100×635×1150	1100×630×1300	450/400
100					0.23	1.58/1.50	1.55		0.40	0.12	0.58	1150×675×1095	1150×670×1245	450/400
125					0.27	1.89/1.80	1.45		0.48	0.15	0.70	1170×710×1220	1170×710×1370	550/400
160					0.31	2.31/2.20	1.3		0.56	0.17	0.83	1230×740×1270	1230×740×1410	550/550
200					0.38	2.73/2.60	1.2		0.65	0.17	1.05	1320×760×1290	1320×760×1420	550/550
250					0.46	3.20/3.05	1.1		0.75	0.22	1.12	1330×760×1360	1330×760×1510	650/550
315					0.54	3.83/3.65	1.0		0.85	0.23	1.30	1380×780×1380	1380×760×1530	650/550
400					0.65	4.52/4.30	1.0		1.03	0.30	1.62	1500×860×1460	1500×830×1610	750/550
500					0.78	5.41/5.15	1.0		1.20	0.32	1.85	1550×890×1500	1550×890×1650	750/660
630				Dyn11 Yyn0	0.92	6.20	0.8	4.5	1.53	0.44	2.31	1680×960×1580	1680×960×1730	750/660
800					1.12	7.50	0.7		1.71	0.49	2.67	1700×960×1650	1700×960×1850	850/660
1000					1.32	10.30	0.6		2.01	0.56	3.05	1750×1080×1650	1750×1080×1950	850/820
1250					1.56	12.00	0.6		2.37	0.66	3.57	1840×1140×1770	1840×1140×1970	850/820
1600					1.88	14.50	0.6		2.70	0.79	3.95	1930×1300×1810	1930×1300×2020	900/820
2000					2.27	17.80	0.5		3.65	0.90	4.65	2100×1640×1930	2100×1640×2170	900/820
2500					2.67	20.70	0.4		3.72	0.98	5.76	2120×1750×1970	2120×1750×2190	1070/1070

Note 1: The load loss above the oblique line in the table applies to Dyn11 or Yzn11; the load loss below the oblique line applies to Yyn0.

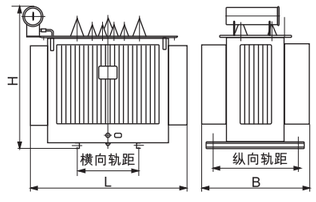
Outline dimension



Omniseal (encapsulate) sheet type transformer
Un-omniseal sheet type transformer



Omniseal corrugated type transformer



Un-omniseal corrugated type transformer

10kV series distribution transformer

S10,SZ10 series 10KV power transformer

630KVA~6300KVA 3-phase duplex winding non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	Loss (kW)		No-load current (%)	Impedance voltage	Weight (T)			Gauge vertical/ horizontal (mm)
	HV(kV)	HV Tap Range (%)	LV(kV)		No-load	Load			Body	Oil	Total	
630	6 6.3 10 10.5 11	±5 ±2×2.5	3 3.15 6.3	Yd11	0.82	6.93	1.1	5.5	1.65	0.45	2.61	750/660
800					1.01	8.46	1.0		1.90	0.52	3.11	850/660
1000					1.18	9.92	1.0		2.18	0.60	3.66	850/820
1250					1.40	11.80	0.9		2.48	0.70	4.07	850/820
1600					1.69	14.11	0.8		2.68	0.78	4.46	900/820
2000					2.02	16.93	0.8		3.10	0.89	5.27	900/820
2500					2.38	19.67	0.8		3.82	0.96	6.37	1070/1070
3150					2.81	23.09	0.7		4.44	1.18	7.80	1070/1070
4000	10 10.5 11		3.15 6.3		3.46	27.36	0.7		5.30	1.55	9.35	1070/1070
5000					4.10	31.38	0.7		6.25	1.76	11.08	1070/1070
6300					4.90	35.06	0.6		7.32	1.93	13.15	1070/1070

Note 1: According to requirements , the transformer can supply HV tap change ± 2 X 2.5%.

200KVA~2500KVA 3-phase duplex winding on-load tap-changing distribution transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	Loss (kW)		No-load current (%)	Impedance voltage	Weight (T)			Gauge vertical/ horizontal (mm)
	HV(kV)	HV Tap Range (%)	LV(kV)		No-load	Load			Body	Oil	Total	
200	6 6.3 10	±4×2.5	0.4	Dny11 Yyn0	0.38	2.91	1.5	4.0	0.88	0.26	1.43	550/550
250					0.45	3.42	1.4		0.97	0.31	1.64	650/550
315					0.54	4.10	1.4		1.12	0.35	1.78	650/550
400					0.64	4.96	1.3		1.28	0.43	2.07	750/550
500					0.77	5.90	1.2		1.45	0.45	2.30	750/660
630					0.96	7.27	1.1	4.5	1.70	0.53	2.72	750/660
800					1.12	8.89	1.0		1.95	0.60	3.12	850/660
1000					1.36	10.43	1.0		2.218	0.68	3.51	850/820
1250					1.56	12.40	0.9		2.42	0.77	4.00	850/820
1600					1.92	14.19	0.8		2.87	0.88	4.650	900/820
2000					2.268	18.69	0.6		3.87	0.99	5.51	900/820
2500					2.52	21.74	0.6		3.94	1.08	6.75	1070/1070

Note1 : According to requirements , the transformer can supply HV winding voltage 10.5KV and 11KV.
Note2 : According to requirements , the transformer can supply LV 0.69KV.

10kV series distribution transformer

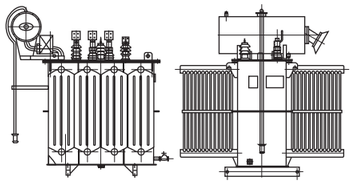
S11 series 10KV distribution transformer

30KVA~2500KVA Three-phase duplex winding non-excited tap-changing distribution transformer

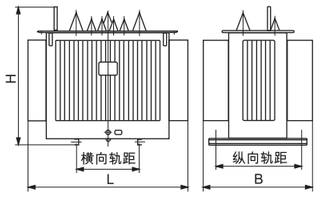
Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	Loss (kW)		No-load current (%)	Impedance voltage	Weight (T)			Boundary dimension (mm) LxWxH		Gauge vertical/ horizontal (mm)
	HV (kV)	HV Tap Range (%)	LV (kV)		No-load	Load			Body	Oil	Total	Omniseal	Un-omniseal	
30	6 6.3 10 10.5 11	±5 ±2×2.5	0.4	Dyn11 Yzn11 Yyn0	0.10	0.63/0.60	2.3	4.0	0.22	0.10	0.39	1050×570×1100	1105×570×1185	350/400
50					0.13	0.91/0.87	2.0		0.28	0.12	0.53	1080×600×1150	1080×600×1120	350/400
63					0.15	1.09/1.04	1.9		0.35	0.12	0.59	1100×635×1150	1100×635×1300	350/400
80					0.18	1.31/1.25	1.9		0.41	0.14	0.67	1150×675×1095	1150×675×1245	400/400
100					0.20	1.58/1.50	1.8		0.47	0.15	0.75	1170×710×1220	1170×715×1370	450/400
125					0.24	1.89/1.80	1.7		0.53	0.16	0.83	1230×740×1270	1230×740×1420	550/550
160					0.28	2.31/2.20	1.6		0.62	0.18	0.96	980×650×1230	1320×800×1410	550/550
200					0.34	2.73/2.60	1.5		0.69	0.20	1.09	1000×730×1280	1330×770×1510	550/550
250					0.40	3.20/3.05	1.4		0.84	0.23	1.28	1180×740×1230	1380×770×1530	550/550
315					0.48	3.83/3.65	1.4		0.98	0.24	1.47	1240×800×1330	1500×870×1610	550/550
400					0.57	4.52/4.30	1.3		1.03	0.30	1.62	1340×880×1260	1550×900×1650	550/550
500					0.68	5.41/5.15	1.2		1.37	0.31	2.04	1430×960×1310	1680×970×1730	660/660
630				Dyn11 Yyn0	0.81	6.20	1.1	4.5	1.53	0.45	2.33	1510×950×1420	1700×970×1850	660/660
800					0.98	7.50	1.0		1.710	0.49	2.67	1750×985×1650	1750×985×1980	820/820
1000					1.15	10.30	1.0		2.20	0.57	3.10	1840×1140×1770	1840×1040×1970	820/820
1250					1.36	12.00	0.9		2.47	0.67	3.70	1930×1200×1810	1930×1200×2020	820/820
1600					1.64	14.50	0.8		2.85	0.79	4.20	2100×1300×1930	2100×1300×2150	820/820
2000					1.96	17.80	0.5		3.75	0.98	4.84	2150×1640×1950	2150×1640×2170	1070/1070
2500					2.31	20.70	0.4		3.72	1.18	5.76	2160×1750×1970	2160×1750×2190	1070/1070

Note 1: The load loss above the oblique line in the table applies to Dyn11 or Yzn11; the load loss below the oblique line applies to Yyn0.

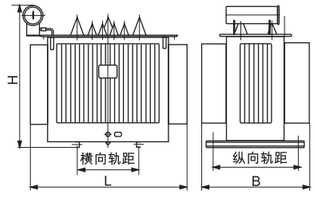
Outline dimension



Omniseal (encapsulate) sheet type transformer
Un-omniseal sheet type transformer



Omniseal corrugated type transformer



Un-omniseal corrugated type transformer

10kV series distribution transformer

S11,SZ11 series 10KV power transformer

630KVA~6300KVA 3-phase duplex winding non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	Loss (kW)		No-load current (%)	Impedance voltage	Weight (T)			Gauge vertical/ horizontal (mm)
	HV(kV)	HV Tap Range (%)	LV(kV)		No-load	Load			Body	Oil	Total	
630	6 6.3 10 10.5 11	±5 ±2×2.5	3 3.15 6.3	Yd11	0.84	6.93	1.1	5.5	1.78	0.45	2.71	750/660
800					1.02	8.46	1.0		2.10	0.52	3.31	850/660
1000					1.20	9.92	1.0		2.58	0.60	3.86	850/820
1250					1.42	11.80	0.9		2.88	0.70	4.37	850/820
1600					1.71	14.11	0.8		3.40	0.78	4.76	900/820
2000					2.04	16.93	0.8		3.80	0.89	5.57	900/820
2500					2.40	19.67	0.8		4.35	0.96	6.67	1070/1070
3150					2.84	23.09	0.7		4.94	1.18	8.50	1070/1070
4000	10 10.5 11		3.15 6.3		3.48	27.36	0.7		5.90	1.58	9.85	1070/1070
5000					4.16	31.38	0.7		6.85	1.76	11.58	1070/1070
6300					4.96	35.06	0.6		7.92	1.91	13.65	1070/1070

Note 1: According to requirements , the transformer can supply HV tap change ± 2 X 2.5%.

200KVA~2500KVA 3-phase duplex winding on-load tap-changing distribution transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	Loss (kW)		No-load current (%)	Impedance voltage	Weight (T)			Gauge vertical/ horizontal (mm)
	HV(kV)	HV Tap Range (%)	LV(kV)		No-load	Load			Body	Oil	Total	
200	6 6.3 10	±4×2.5	0.4	Dny11 Yyn0	0.39	2.91	1.5	4.0	0.98	0.26	1.53	550/550
250					0.45	3.42	1.4		1.07	0.31	1.74	650/550
315					0.54	4.10	1.4		1.32	0.35	1.98	650/550
400					0.65	4.96	1.3		1.58	0.43	2.27	750/550
500					0.77	5.90	1.2		1.75	0.45	2.50	750/660
630					0.97	7.27	1.1	4.5	1.90	0.53	2.92	750/660
800					1.13	8.89	1.0		2.15	0.60	3.32	850/660
1000					1.38	10.43	1.0		2.48	0.68	3.71	850/820
1250					1.58	12.40	0.9		2.62	0.77	4.20	850/820
1600					1.94	14.79	0.8		3.10	0.88	4.85	900/820
2000					2.27	18.69	0.6		3.98	1.08	5.88	900/820
2500					2.52	21.74	0.6		3.95	1.30	6.37	1070/1070

Note1 : According to requirements , the transformer can supply HV winding voltage 10.5KV and 11KV.
Note2 : According to requirements , the transformer can supply LV 0.69KV.

10kV series distribution transformer

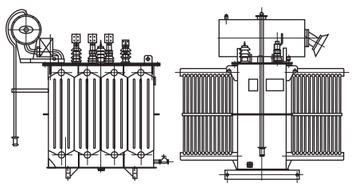
S13 series 10KV distribution transformer

30KVA~2500KVA Three-phase duplex winding non-excited tap-changing distribution transformer

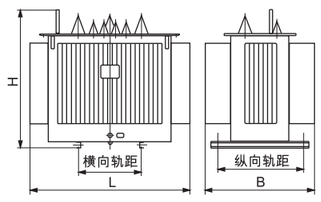
Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	Loss (kW)		No-load current (%)	Impedance voltage	Weight (T)			Boundary dimension (mm) LxWxH		Gauge vertical/ horizontal (mm)
	HV (kV)	HV Tap Range (%)	LV (kV)		No-load	Load			Body	Oil	Total	Omniseal	Un-omniseal	
30	6 6.3 10 10.5 11	±5 ±2×2.5	0.4	Dyn11 Yzn11 Yyn0		0.63/0.60	2.3	4.0	130	700	300	710×710×930	930×580×1000	400/400
50					0.10	0.91/0.87	2.0		200	800	400	730×710×1010	950×600×1080	400/400
63					0.11	1.09/1.04	1.9		240	900	450	750×730×1040	970×630×1100	400/400
80					0.13	1.31/1.25	1.9		280	100	520	760×740×1060	980×640×1120	400/400
100					0.15	1.58/1.50	1.8		310	100	550	770×750×1130	1000×650×1200	450/400
125					0.17	1.89/1.80	1.7		370	120	640	800×770×1150	1030×670×1220	550/550
160					0.20	2.31/2.20	1.6		440	130	740	820×780×1240	1050×680×1310	550/550
200					0.24	2.73/2.60	1.5		500	140	810	840×810×1260	1070×700×1330	550/550
250					0.29	3.20/3.05	1.4		610	160	970	870×850×1300	1100×750×1370	550/550
315					0.34	3.83/3.65	1.4		750	200	1200	1180×820×1390	1400×720×1460	550/550
400					0.41	4.52/4.30	1.3		900	240	1420	1260×840×1450	1480×760×1520	550/550
500					0.48	5.41/5.15	1.2		1050	250	1620	1300×860×1470	1560×800×1600	660/660
630				Dyn11 Yyn0	0.57	6.20	1.1	4.5	1240	280	1860	1370×890×1470	1630×890×1570	660/660
800					0.70	7.50	1.0		1510	340	2250	1430×930×1580	1690×930×1680	820/820
1000					0.83	10.30	1.0		1560	360	2410	1600×1100×1610	1860×1100×1720	820/820
1250					0.97	12.00	0.9		1.91	420	2930	1690×1140×1750	1950×1140×1860	820/820
1600					1.17	14.50	0.8		2320	520	3630	1820×1650×2060	1820×1650×2060	820/820
2000					1.26	17.80	0.6		2820	660	4550	1920×1750×2160	1920×1750×2160	820/820
2500					1.49	20.70	0.8		3550	760	5470	2020×1910×2260	2020×1910×2260	1070/1070

Note 1: The load loss above the oblique line in the table applies to Dyn11 or Yzn11; the load loss below the oblique line applies to Yyn0.

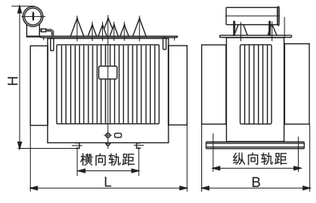
Outline dimension



Omniseal（encapsulate）sheet type transformer
Un-omniseal sheet type transformer



Omniseal corrugated type transformer



Un-omniseal corrugated type transformer

20kV series distribution transformer

S11 series 20KV oil-immersed distribution transformer

30KVA~2500KVA Three-phase duplex winding non-excited tap-changing distribution transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	No-load loss(kW)	Load loss (kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)					
30	20	±5	0.4	Dyn11 Yzn11 Yyn0	0.10	0.69/0.66	2.1	5.5
50					0.13	1.01/0.96	2.0	
63					0.15	1.20/1.15	1.9	
80					0.18	1.44/1.37	1.8	
100					0.20	1.73/1.65	1.6	
125					0.24	2.08/1.98	1.5	
160					0.29	2.54/2.42	1.4	
200					0.34	3.00/2.86	1.3	
250					0.40	3.52/3.35	1.2	
315					0.48	4.21/4.01	1.1	
400					0.57	4.97/4.73	1.0	
500					0.68	5.94/5.66	1.0	
630					0.81	6.82	0.9	6.0
800					0.98	8.25	0.8	
1000					1.15	11.33	0.7	
1250					1.38	13.20	0.7	
1600					1.66	15.95	0.6	
2000					1.95	19.14	0.6	
2500					2.34	22.22	0.5	

Note1: Rate capacity 500KV and below transformer , the load loss above the oblique line in the table applies to Dyn11 or Yzn11; the load loss below the oblique line applies to Yyn0.
Note2: According to requirements, the transformer can supply HV tap change ±2 X 2.5% or other change range.

Single-phase oil immersed transformer

Standard

ANSI C57.12.00 C57.12.20
IEC 76
Gb10138

Product characteristic

The single-phase oil-filled pole-mounted distribution transformers are specifically designed for the decentralization distribution network of servicing residential overhead distribution loads of town and countryside . They are also suitable for light and diversified power applications These transformers are designed for the application conditions normally encountered on electric utility power distribution systems.

fers 2 basic transformer types:
Conventional type and Complete Self Protecting type, and for the transformer core, 2 types materials are available; C. R. G. O word core and amorphous metal Core.

Single-phase oil-immersed transformer

Rated capacity (kVA)	Voltage Combination and Tap range		Vector group Symbol	No-load loss(kW)	Load loss(kW)	No-load current (%)	Short-circuit Impedance voltage(%)	Gross weight(kg)
	HV(kV)	LV(kV)						
10	10 ± 5%	0.23	lio	0.50	0.24	2.0	3.5	210
20				0.70	0.38	1.8		270
30				0.85	0.49	1.7		300
50				0.14	0.66	1.6		350
63				0.16	0.79	1.5		400
80				0.18	0.93	1.4		460
100				0.21	1.10	1.3		520
125				0.24	1.30	1.2		580
160				0.27	1.50	1.0		650

Power transformer

110kV,220kV EHV transformer

Amorphous metal transformer

Oil-immersion transformer

Resin insulation transformer

Environmental protection transformer

Reactors

Transformer product standard

GB 1094.1-1996	GB 1094.2-1996	
GB 1094.3-2013	GB 1094.5-2003	
GB/T 6451-2008	GB/T 7595-1987	
GB/T 10237-1988	JB/T 3837-1998	Transformer Standards

Transformer special service conditions

The height above sea level is above 1000m
Ambient temperature : Highest air temperature + 40℃
Lowest air temperature -45℃
(defines in detail when placing an order)

Transformer normal service conditions

The height above sea level is above 1000m;
Ambient temperature: Highest air temperature +40℃;
Highest daily average air temperature +30℃;
Highest annual average air temperature +20℃;
Lowest outdoor air temperature -25℃.

Transformer model description

□□ □ - □□ - □ / □ □

- Special use environment (WZ - earthquake proof WFZ -anticorruption & earthquake proof GY -plateau)
- Voltage class(KV)
- Rated capacity(KVA)
- Symbol of special purpose or peculiar structure (R-winding iron core M -omniseal……)
- Functional level code (7 8 9 10 11)
- Product model (ZS-commutation SZ-on-load regulation SS-three-phase three coil Fair-cooling……)

SZ 10 series 35KV power transformer

2000kVA~20000kVA 3-phase duplex winding on-load tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	No-load loss(kW)	Load loss(kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)					
2000	35	±3×2.5	6.3	Yd11	2.88	20.25	0.80	6.5
2500			10.5		3.40	21.73	0.80	
3150	35~38.5	±3×2.5	6.3		4.04	26.01	0.72	7.0
4000			10.5		4.84	30.69	0.72	
5000					5.80	36.00	0.68	
6300					7.04	38.70	0.68	7.5
8000	35~38.5	±3×2.5	6.3	YNd11	9.84	42.75	0.60	
10000			6.6		11.60	50.58	0.60	
12500			10.5		13.68	59.85	0.56	8.0
16000			11		16.46	74.02	0.54	
20000					19.46	87.14	0.54	

Note 1: Outline dimension is designed according to requirements.

S10 series 35KV power transformer

50kVA~1600kVA 3-phase duplex winding non-excited tap-changing distribution transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	No-load loss(kW)	Load loss(kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)					
50	35	±5	0.4	Dny11 Yyn0		1.21/1.15	2.00	6.5
100					0.26	2.01/1.92	1.80	
125					0.31	2.38/2.26	1.70	
160					0.32	2.82/2.69	1.60	
200					0.39	3.33/3.16	1.50	
250					0.46	3.95/3.76	1.40	
315					0.55	4.76/4.53	1.40	
400					0.66	5.75/5.47	1.30	
500					0.77	6.92/6.58	1.20	
630					0.94	7.87	1.10	
800					1.11	9.41	1.00	
1000					1.30	11.54	1.00	
1250					1.58	13.94	0.90	
1600					1.91	16.67	0.80	

Note 1: Rate capacity 500kVA and below transformer, the load loss above the oblique line in the table applies to Dyn11 or Yzn11;
The load loss below the oblique line applies to Yyn0.
Note 2: According to requirements, the transformer can supply HV tap change±2x2.5%.
Note 3: Outline dimension is designed according to requirements.

35kV Series power transformer

S10 series 35kV power transformer

630kVA~31500kVA 3-phase duplex winding non-load tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	No-load loss(kW)	Load loss (kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)					
630	35	±5	3.15 6.3 10.5	Yd11	0.94	7.87	1.10	6.5
800					1.11	9.41	1.00	
1000					1.30	11.54	1.00	
1250					1.58	13.94	0.90	
1600					1.91	16.67	0.80	
2000					2.45	18.38	0.70	
2500					2.88	19.67	0.60	
3150	35~38.5	±5	3.15 6.3 10.5		3.42	23.09	0.56	7.0
4000					4.07	27.36	0.56	
5000					4.86	31.38	0.48	
6300					5.90	35.06	0.48	7.5
8000	35~38.5	±2×2.5	3.15 3.3 6.3 6.6 10.5 11	YNd11	8.10	38.48	0.42	
10000					9.79	45.32	0.42	
12500					11.34	53.87	0.40	8.0
16000					13.68	65.84	0.40	
20000					16.20	79.52	0.40	
25000					19.15	94.05	0.32	
31500					22.75	112.86	0.32	

Note 1: Outline dimension is designed according to requirements

SZ 10 series 35kV power transformer

2000kVA~20000kVA 3-phase duplex winding on-load tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	No-load loss(kW)	Load loss (kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)					
2000	35	±3×2.5	6.3 10.5	Yd11	2.59	19.24	0.80	6.5
2500					3.06	20.64	0.80	
3150	35~38.5	±3×2.5	6.3 10.5		3.64	24.71	0.72	7.0
4000					4.36	29.16	0.72	
5000					5.22	34.20	0.68	
6300					6.34	36.77	0.68	7.5
8000	35~38.5	±3×2.5	6.3 6.6 10.5 11	YNd11	8.86	40.61	0.60	
10000					10.44	48.05	0.60	
12500					12.31	56.86	0.56	8.0
16000					14.81	70.32	0.54	
20000					17.51	82.78	0.54	

Note 1: Outline dimension is designed according to requirements

SZ 11 series 35kV power transformer

2000kVA~20000kVA 3-phase duplex winding on-load tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	No-load loss(kW)	Load loss (kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)					
2000	35	±3×2.5	6.3 10.5	Yd11	2.30	19.24	0.80	6.5
2500					2.72	20.64	0.80	
3150	35~38.5	±3×2.5	6.3 10.5		3.23	24.71	0.72	7.0
4000					3.87	29.16	0.72	
5000					4.64	34.20	0.68	
6300					5.63	36.77	0.68	7.5
8000	35~38.5	±3×2.5	6.3 6.6 10.5 11	YNd11	7.87	40.61	0.60	
10000					9.28	48.05	0.60	
12500					10.94	56.86	0.56	8.0
16000					13.17	70.32	0.54	
20000					15.57	82.78	0.54	

35kV Series power transformer

S11 series 35kV power transformer

50kVA~1600kVA 3-phase duplex winding non-excited tap-changing distribution transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	No-load loss(kW)	Load loss (kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)					
50	35	±5	0.4	Dny11 Yyn0	0.17	1.21/1.15	2.00	6.5
100					0.23	2.01/1.92	1.80	
125					0.27	2.38/2.26	1.70	
160					0.29	2.82/2.69	1.60	
200					0.34	3.33/3.16	1.50	
250					0.41	3.95/3.76	1.40	
315					0.49	4.76/4.53	1.40	
400					0.58	5.75/5.47	1.30	
500					0.69	6.92/6.58	1.20	
630					0.83	7.87	1.10	
800					0.98	9.41	1.00	
1000					1.15	11.54	1.00	
1250					1.41	13.94	0.90	
1600					1.70	16.67	0.80	

Note 1: Rate capacity 500kV and below transformer, the load loss above the oblique line in the table applies to Dyn11 or Yzn11;
The load loss below the oblique line applies to Yyn0.
Note 2: According to requirements, the transformer can supply HV tap change±2x2.5%.

630kVA~31500kVA 3-phase duplex winding non-excited tap-changing distribution transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	No-load loss(kW)	Load loss (kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)					
630	35	±5	3.15 6.3 10.5	Yd11	0.83	7.87	1.10	6.5
800					0.98	9.41	1.00	
1000					1.15	11.54	1.00	
1250					1.41	13.94	0.90	
1600					1.70	16.67	0.80	
2000					2.18	18.38	0.70	
2500					2.56	19.67	0.60	
3150	35~38.5	±5	3.15 6.3 10.5		3.04	23.09	0.56	7.0
4000					3.62	27.36	0.56	
5000					4.32	31.38	0.48	
6300					5.25	35.06	0.48	7.5
8000	35~38.5	±2×2.5	3.15 3.3 6.3 6.6 10.5 11	YNd11	7.20	38.48	0.42	
10000					8.70	45.32	0.42	
12500					10.08	53.87	0.40	8.0
16000					12.16	65.84	0.40	
20000					14.40	79.52	0.40	
25000					17.02	94.05	0.32	
31500					20.22	112.86	0.32	

China YIFA Holding Group Co., Ltd.

110kV Series power transformer

110kV power transformer

110kV,220kV EHV transformer

Amorphous metal transformer

Oil-immersion transformer

Resin insulation transformer

Environmental protection transformer

Reactors

General description

The 110kv level Oil Immersed On-load Regulation Power Transformer has a series of big change in material, technical and construction with the characters of small size. light weight, high efficiency with low loss and low noise, stable operation which cutting down large number of loss from Energy GRID and operation charge, improving the industrial economic benefit It is used in power plant, transformer substation, big-sized and chemistry factory and etc.

This product is according to National Standard: GB1094.1-1996 "Power transformer General Principle Part 1", In GB1094.2-1996"Power TrabsformerPart2: Temperature Rise", GB1094.3-2003 "Power Transformer Part 3: Insulation Level, Insulation Test and exterior air gap clearance", GB1094.5-2003 "Power Transformer Part 5: Ability to withstand short circuit." GB/t6451-2008 "Three phase Oil Immersed Power Transformer Technical Data Requirement."

Environment conditions

Mounting Type: Outdoor

Ambient temperature: Highest air temperature +40℃; lowest air temperature -25℃; highest monthly average air temperature +30℃, highest annual average air temperature +20℃; water temperature at the water inlet of the water cooler is +25℃

Altitude: ≤1000m (altitude>1000m, the temperature rise will be different as normal)

Relative humidity: ≤90%(25℃)

Requirement of Mounting Place: where without corrosive gas and obvious dust etc.

When inquiring or ordering, additional details are required for special service conditions

Product type and meaning

□ □ □ □ □ □ □-□ / □ □

- Protection Number:(TH-muggy; TA-dry heat)
- HV Winding Rated Voltage Level (kV)A
- Rated Capacity(kVA)
- Design Number (9,10……)
- Regulation Method (Off-circuit Regulation-without marked, Z-on-load Regulation)
- Conductive Lead Material (Copper Wire-without marked, L-Aluminum Wire)
- Number of Windings: (Duplex Winding-without marked, S-Triple Windings, F-Double Split)
- Circulation Meteod(AN-without marked,P-FN)
- Circulation Method: (J-ONAN-without marked, F-ONAF,S-Water cooling)
- Phase (D-Single, S-Triple)

110kV Series power transformer

S10 series 110kV power transformer

6300kVA-180000kVA 3-phase duplex winding non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range		Vector group Symbol	S9		S10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		
6300	110±2×2.5% 121±2×2.5%	6.3 6.6 10.5 11	Ynd11	9.3	36	8.37	34.20	0.77	10.5
8000				11.2	45	10.08	42.75	0.77	
10000				13.2	53	11.88	50.35	0.72	
12500				15.6	63	14.04	59.85	0.72	
16000				18.8	77	16.92	73.15	0.67	
20000				22.0	93	19.80	88.35	0.67	
25000				26.0	110	23.40	104.50	0.62	
31500				30.8	133	27.72	126.35	0.60	
40000				36.8	156	33.12	148.20	0.56	
50000				44.0	194	39.60	184.30	0.52	
63000				52.0	234	46.80	222.30	0.48	
75000		13.8 15.75 18 20		59.0	278	53.10	264.10	0.42	12~14
90000				68.0	320	61.20	304.00	0.38	
120000				84.8	397	76.32	377.15	0.34	
150000				100.2	472	90.18	448.40	0.30	
180000				112.5	532	101.25	505.40	0.25	

Note 1: -5% tap position the maximum current tap.
Note 2: For step-up transformer, non-tap structure is suitable. According to requirements, taps can be set.

6300kVA-180000kVA 3-phase 3-winding non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	S9		S10		No-load current (%)	Short-circuit impedance voltage (%)	
	HV(kV)	MV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		Step up	Step down
6300	110±2×2.5% 121±2×2.5%	35 37 38.5	6.3 6.6 10.5 11	YNynodll	11.2	47	10.08	44.65	0.82	17.5~18.5 10.5 6.5	10.5 17.5~18.5 6.5
8000					13.3	56	11.97	53.20	0.78		
10000					15.8	66	14.22	62.70	0.74		
12500					18.4	78	16.56	74.10	0.70		
16000					22.4	95	20.16	90.25	0.66		
20000					26.4	112	23.76	106.40	0.65		
25000					30.8	133	27.72	126.35	0.60		
31500					36.8	157	33.12	149.15	0.60		
40000					43.6	189	39.24	179.55	0.55		
50000					52.0	225	46.80	213.75	0.55		
63000					61.6	270	55.44	256.50	0.50		

Note 1: High, medium and low voltage winding capacity distribution (100/100/100)%;
Note 2: According to requirements, the vector group can be Ynd11y10;
Note 3: According to requirements, medium voltage can choose different voltage from the value listed in the table or set taps;
Note 4: -5% tap position is the maximum current tap;
Note 5: For step-up transformers, non-tap structure is suitable. According to requirements, taps can be set.

110kV Series power transformer

SZ 10 series 110kV power transformer

6300kVA-63000kVA 3-phase duplex winding on-load tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range		Vector group Symbol	SZ 9		SZ 10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		
6300	110±8×1.25%	6.3 6.6 10.5 11	Ynd11	10.0	36	9.00	34.20	0.80	10.5
8000				12.0	45	10.80	42.75	0.80	
10000				14.2	53	12.78	50.35	0.74	
12500				16.8	63	15.12	59.85	0.74	
16000				20.2	77	18.18	73.15	0.69	
20000				24.0	93	21.60	88.35	0.69	
25000				28.4	110	25.56	104.50	0.64	
31500				33.8	133	30.42	126.35	0.64	
40000				40.4	156	36.36	148.20	0.58	
50000				47.8	194	43.02	184.30	0.58	
63000				56.8	234	51.12	222.30	0.52	

Note 1: For on-load tap- changing transformers, now only step-down structure products are provide.
Note 2: According to requirements, other voltage combination can be provided.
Note 3: -10% tap position is the maximum current tap.

6300kVA-63000kVA 3-phase 3-winding on-load tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	S9		S10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	MV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		
6300	110±8×1.25%	35 37 38.5	6.3 6.6 10.5 11	YNynodll	12.0	47	10.80	44.65	0.95	10.5 17.5~18.5 6.5
8000					14.4	56	12.96	53.20	0.95	
10000					17.1	66	15.39	62.70	0.89	
12500					20.2	78	18.18	74.10	0.89	
16000					24.2	95	21.78	90.25	0.84	
20000					28.6	112	25.74	106.40	0.84	
25000					33.8	133	30.42	126.35	0.78	
31500					40.2	157	36.18	149.15	0.78	
40000					48.2	189	43.38	179.55	0.73	
50000					56.9	225	51.21	213.75	0.73	
63000					67.7	270	60.93	256.50	0.67	

Note 1: For on-load tap- changing transformers, now only step-down structure products are provide.
Note 2: High, medium, and low voltage winding capacity distribution (100/100/100)%.
Note 3: According to requirements, the vector group can be Ynd11y10;
Note 4: -10% tap position is the maximum current tap.
Note 5: According to requirements, medium voltage can choose different voltage the value listed or set taps.

S10 series 110kV power transformer

6300kVA-63000kVA 3-phase duplex winding LV 35kV non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range		Vector group Symbol	S9		S10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		
6300	110±2×2.5% 121±2×2.5%	35 37 38.5	Ynd11	10	39	9.00	37.05	0.84	10.5
8000				12	47	10.80	44.65	0.84	
10000				14	55	12.60	52.25	0.78	
12500				16.4	66	14.76	62.70	0.78	
16000				19.6	81	17.64	76.95	0.72	
20000				23.2	99	20.88	94.05	0.72	
25000				27.4	116	24.66	110.20	0.67	
31500				32.4	140	29.16	133.00	0.67	
40000				38.6	164	34.74	155.80	0.61	
50000				46.2	204	41.58	193.80	0.61	
63000				54.6	245	49.14	232.75	0.56	

Note: 1. Products with capacity not included in this form will be also available based on the user, and their performance data will rely on specific requirement.
2. We can provide products with special design according to different operation environment.
3. Customers can suggest their requirement of MV and tap range besides the value in the form and the unsymmetrical tap range are available for HV tap regulation choice.
4. Different Impedance Voltage Value are available for customers choice besides the value in the form.
5. The final dimension will be subject to the drawing which designed after the contract signs.

220kV Power transformer

110kV,220kV EHV transformer

Amorphous metal transformer

Oil-immersion transformer

Resin insulation transformer

Environmental protection transformer

Reactors

220kV Series power transformer

General description

The 220kV level Oil Immersed On-load Regulation Power Transformer has a series of big change in material, technical and construction with the characters of small size light weight, high efficiency with low loss and low noise, stable operation which cutting down large number of loss from Energy GRID and operation charge, improving the industrial economic benefit. It is used in power plant, transformer substation, big-sized and chemistry factory and etc.

This product is according to National Standard: GB1094.1-1996 "Power transformer General Principle Part 1", GB1094.2-1996 "Power Transformer Part2: Temperature Rise", GB 1094.3-2003 "Power Transformer Part3: Insulation Level, Insulation Test and exterior air gap clearance", GB1094.5-2003 "Power Transformer Part 5: Ability to withstand short circuit." GB/t6451-2008 "Three phase Oil Immersed Power Transformer Technical Data Requirement."

Environment conditions

Mounting Type: Outdoor

Ambient temperature: Highest air temperature +40℃; lowest air temperature -25℃; highest monthly average air temperature +30℃, highest annual average air temperature +20℃; water temperature at the water inlet of the water cooler is +25℃

Altitude: ≤1000m (altitude>1000m, the temperature rise will be different as normal)

Relative humidity: ≤90%(25℃)

Requirement of Mounting Place: where without corrosive gas and obvious dust etc.

When inquiring or ordering, additional details are required for special service conditions

Product type and meaning

□□□□□□□□-□/□□

- Protection Number:(TH-muggy; TA-dry heat)
- HV Winding Rated Voltage Level (kV)A
- Rated Capacity(kVA)
- Design Number (9,10.....)
- Regulation Method (Off-circuit Regulation-without marked, Z-on-load Regulation)
- Conductive Lead Material (Copper Wire-without marked, L-Aluminum Wire)
- Number of Windings: (Duplex Winding-without marked, S-Triple Windings, F-Double Split)
- Circulation Meteod(AN-without marked,P-FN)
- Circulation Method: (J-ONAN-without marked, F-ONAF,S-Water cooling)
- Phase (D-Single, S-Triple)

220kV Series power transformer

S10 series 220kV power transformer

31500kVA-420000kVA 3-phase duplex winding non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range		Vector group Symbol	S9		S10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		
31500	220±2×2.5% 242±2×2.5%	6.3	Ynd11	35	135	31.50	128.25	0.70	12~14
40000		6.6		41	157	36.90	149.15	0.70	
50000		10.5		49	189	44.10	179.55	0.65	
63000		11		58	220	52.20	209.00	0.65	
75000		10.5		67	250	60.30	237.50	0.60	
90000		11		77	288	69.30	273.60	0.55	
120000		13.8		94	345	84.60	327.75	0.55	
150000		11		112	405	100.80	384.75	0.50	
160000		13.8		117	425	105.30	403.75	0.49	
180000		15.75		128	459	115.20	436.05	0.46	
240000		18		160	567	144.00	538.65	0.42	
300000		20		189	675	170.10	641.25	0.38	
360000		15.75		217	774	195.30	735.30	0.38	
370000		18		221	790	198.90	750.50	0.38	
400000		20		234	837	210.60	795.15	0.35	
420000				242	868	217.80	824.60	0.35	

31500kVA-300000kVA 3-phase 3-winding non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	S9		S10		No-load current (%)	Short-circuit impedance voltage (%)	
	HV(kV)	MV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		Step up	Step down
31500	220±2×2.5%,242±2×2.5%	69 115 121	6.3, 6.6, 10.5, 11, 35, 37 38.5	YNynodll	40	162	36.00	153.90	0.70	22~24	12~14
40000					48	189	43.20	179.55	0.63		
50000					56	225	50.40	213.75	0.56		
63000					66	261	59.40	247.95	0.56		
90000			10.5, 11 13.8, 35		86	351	77.40	333.45	0.49		
120000			37, 38.5		106	432	95.40	410.40	0.49	12~14	22~24
150000			10.5, 11		125	513	112.50	487.35	0.42	7~9	7~9
180000			13.8, 35		142	585	127.80	555.75	0.42		
240000			37, 38.5		176	720	158.40	684.00	0.35		
300000					208	850	187.20	807.50	0.30		

Note 1: For on-load tap- changing transformers, now only step-down structure products are provide.
Note 2: High, medium, and low voltage winding capacity distribution (100/100/100)%.
Note 3: According to requirements, the vector group can be Yn11y10;
Note 4: -10% tap position is the maximum current tap.
Note 5: According to requirements, medium voltage can choose different voltage the value listed or set taps.

220kV Series power transformer

S10 series 220kV power transformer

31500kVA-240000kVA LV66kV-3 phase duplex winding non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range		Vector group Symbol	S9		S10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		
31500	220±2×2.5 %	6.3 6.6 69	Ynd11	38	151	34.20	143.45	0.89	12~14
40000				45	176	4050	167.20	0.89	
50000				53	211	47.70	200.45	0.82	
63000				63	247	56.70	234.65	0.82	
90000				83	323	7470	306.85	0.75	
120000				102	387	91.80	367.65	0.75	
150000				122	453	109.80	430.35	0.68	
180000				138	513	124.20	487.35	0.68	
240000				171	635	153.90	603.25	0.61	

31500kVA-180000kVA 3-phase duplex winding non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range		Vector group Symbol	S9		S10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		
31500	220±8×1.25 %	6.3, 6.6, 10.5, 11, 35, 37, 38.5	Ynd11	38	135	34.20	128.25	0.70	12~14
40000				45	157	40.50	149.15	0.63	
50000				54	189	48.60	179.55	0.56	
63000				63	220	56.70	209.00	0.56	
90000				80	288	72.00	273.60	0.49	
120000		10.5, 11, 35, 37, 38.5		99	346	89.10	328.70	0.49	
150000				116	405	104.40	384.75	0.42	
180000				135	468	121.50	444.60	0.42	
120000		66, 69		103	355	91.80	337.25	0.49	
150000				120	415	108.00	394.25	0.42	
180000				140	475	126.00	451.25	0.42	

31500kVA-240000kVA 3-phase 3-winding on-load tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	S9		S10		No-load current (%)	Capacity allocation	Short-circuit impedance voltage (%)
	HV(kV)	MV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)			
31500	220±8× 1.25%	69 115 121	6.3, 6.6, 10.5, 11, 35, 37, 38.5	YNynodll	44	162	39.60	154	0.77	100/100/100 100/50/100 100/100/50	12~14 22~24 7~9
40000					52	189	46.80	150	0.70		
50000					60	225	54.00	214	0.63		
63000					70	261	63.00	248	0.63		
90000					92	351	82.80	333	0.56		
120000			6.3, 6.6, 10.5, 11, 35, 37, 38.5		115	432	103.50	410	0.56		
150000					135	513	121.50	487	0.49		
180000					156	630	140.40	596	0.49		
240000					193	780	173.70	741	0.45		

220kV Series power transformer

S10 series 220kV power transformer

31500kVA-240000kVA 3-phase 3-winding non-excited tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	S9		S10		No-load current (%)	S9		S10		No-load current (%)	Short-circuit impedance voltage (%)	
	HV(kV)	MV (kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)		Step up	Step down
31500	220± 2×2.5%, 242± 2×2.5%,	115 121	6.6,10.5, 11, 13.8 35, 37 38.5	YNynodll	25	117	22.50	111.15	0.57	22	99	19.80	94.05	0.50	12~14 8~12 14~18	8~10 28~34 18~24
40000					29	144	26.10	136.80	0.57	26	121	23.40	114.95	0.50		
50000					34	170	30.60	161.50	0.50	30	144	27.00	136.8	0.43		
63000					40	201	36.00	190.95	0.50	36	171	32.40	162.45	0.43		
90000					50	276	45.00	262.20	0.43	46	234	41.40	222.3	0.36		
120000			10.5, 11 13.8, 15.75 18.35, 37, 38.5		62	340	55.80	323.00	0.43	56	288	50.40	273.6	0.36		
150000					73	405	65.70	384.75	0.36	66	342	59.40	324.9	0.33		
180000					84	463	75.60	439.85	0.36	76	387	68.40	367.65	0.33		
240000					99	595	89.10	565.25	0.33	89	504	80.10	478.8	0.25		

Note: 1. Products with capacity not include in this form will be also available based on the user, and their performance data will rely on specific requirement.
2. We can provide products with special design according to different operation environment.
3. Customers can suggest their requirement of MV and tap range besides the value in the form and the unsymmetry tap range are available for HV tap regulation choice.
4. Different impedance voltage value are available for customers choice besides the value in the form.
5. The final dimension will be subject to the drawing which designed after the contract signs.

315000kVA-240000kVA 3-phase 3-winding on load tap-changing power transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	S9		S10		No-load current (%)	Capacity allocation	Short-circuit impedance voltage (%)
	HV(kV)	MV(kV)	LV(kV)		No-load loss(kW)	Load loss(kW)	No-load loss(kW)	Load loss(kW)			
31500	220±8× 1.25%	115 121	6.3, 6.6, 10.5, 11, 35, 37, 38.5	YNynodll	25	108	22.5	102.60	0.56	100/100/50	高-中 8~10 高-低 28~34 中-低 18~24
40000					30	132	27.00	125.40	0.56		
50000					36	157	32.40	149.15	0.49		
63000					42	189	37.80	179.55	0.49		
90000					51	247	45.90	234.65	0.42		
120000			10.5, 11, 35, 37, 38.5		64	308	57.60	292.60	0.42		
150000					76	365	68.40	346.75	0.35		
180000					85	419	76.50	398.05	0.35		
240000					104	540	93.60	513.00	0.30		

Amorphous metal distribution transformer

110kV,220kV EHV transformer

Amorphous metal transformer

Oil-immersion transformer

Resin insulation transformer

Environmental protection transformer

Reactors

Production introduction

Transformers can transform the voltage of a network into the voltage matching the system or load and fulfill power transferring and distributing. Taking the place of transformers with silicon steel core, AMDT can be widely applied in outdoor power distraction network systems, which is magnificently energy saving and can lessen air pollution. It is especially applicable for areas with insufficient power supply or fluctuating load and where daily maintain is hard.

The hermetically sealed construction of AMDT prevents the oil and insulation material from being polluted, so the unit can serve in s humid environment. AMDTs are the ideal equipment supplying power for distribution network in urban and rural areas.

Features

The core is would with amorphous alloy ribbons, which possesses a no-load loss as low as about 20% that of a $9 type transformer (with silicon steel core); The LV coils are would with copper foil, which reinforces the ability to withstand short circuit for the transformer, ADMT with connection Dyn11 can lighten harmonics impact on the network and improve the quality of the power supplied; The tank and cover are welded together, forming a hermetically sealed construction witch lengthens the service life of AMDT and makes it repair free, The vacuum oil filling eliminates all bubbles in the coils to ensure stable characteristics of insulation; Each transformer passes a full-wave lighting impulse test before delivery to ensure its safety operation A peak voltage 25% higher than the value required by state standard is applied during the test.

Product type and meaning

S (B) H 15 - □ / □

- Rated voltage (high voltage kV)
- Rated capacity (kVA)
- Characteristic code
- Core-amorphous metal
- Low-voltage foil coil
- Three-phase

Main technical parameters of 10kV S(B)H15-M series amorphous metal distribution transformer

Rated capacity (kVA)	Voltage Combination		Connection method	Loss (kW)		No-load current (%)	Impedance voltage	Weight (T)			Boundary dimension (mm) LxWxH	Gauge vertical/ horizontal (mm)
	HV(kV)	LV(kV)		No-load	Load			Body	Oil	Total		
30	11	0.4	Dyn11	0.033	0.600	1.7	4	240	80	410	920×600×980	400/550
50	10.5			0.043	0.870	1.3		310	110	510	950×620×1040	400/550
63	10			0.050	1.040	1.2		350	125	570	990×670×1040	400/550
80	6.3			0.060	1.250	1.1		410	135	630	1030×720×1040	400/660
100	6			0.075	1.500	1.0		47	150	720	1060×770×1070	400/660
125				0.085	1.800	0.9		550	170	830	1060×700×1070	400/660
160				0.100	2.200	0.7		630	190	960	1060×930×1150	400/660
200				0.120	2.600	0.7		670	210	1040	1110×930×1170	550/820
250				0.140	3.050	0.7		750	240	1160	180×1010×1180	550/820
315				0.170	0.650	0.5		810	265	1240	1180×1010×1180	550/820
400				0.200	4.300	0.5		860	290	1330	1200×1010×1180	550/820
500				0.240	5.150	0.5		950	320	1460	1270×1160×1200	660/1070
630				0.320	6.200	0.3	4.5	1120	380	1860	1450×1240×1330	820/1070
800				0.380	7.500	0.3		1340	410	2230	1520×1380×1460	820/1070
1000				0.450	10.30	0.3		1620	540	2700	1720×1460×1510	820/1070
1250				0.30	12.00	0.2		1900	640	3180	1780×1500×1690	820/1070
1600				0.630	14.50	0.2		2560	680	4240	1880×1540×1970	820/1070
2000				0.750	17.40	0.2	5	2900	960	4920	2080×1580×1970	820/1070
2500				0.900	20.20	0.2		3940	1160	6560	2350×1580×2020	820/1070

Note: Tapping range of high-voltage: ±5%or±2x2.5%; Frequency: 50Hz; Insulating level: L175A35/L 10AC5

China YIFA Holding Group Co., Ltd.

DRY transformer

110kV,220kV EHV transformer

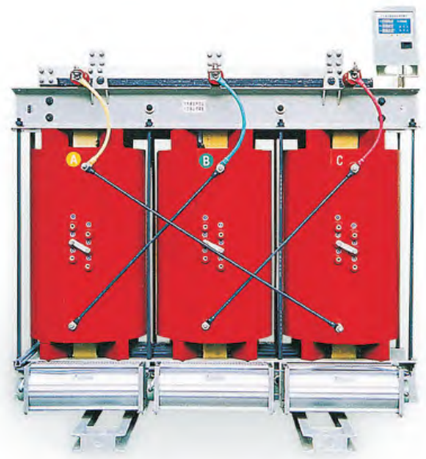
Amorphous metal transformer

Oil-immersion transformer

Resin insulation transformer

Environmental protection transformer

Reactors



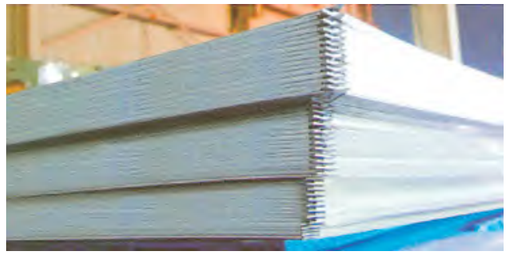
Iron core

The iron core is made of high quality cold silicon steel with 45℃ sloping seam, its barrel is strapped with insulated, and it is sealed resin to be safeguarded against corruption and moisture, the clamping parts and fastener are corruption-proof followed by superficial treatment.

In addition, Yifa have exploited multi-stepping laminated core technology, the core is self-stacked by shearing line, the iron molding adopts non-laminated upper yoke to reduce the no-load loss, no-load current and iron noise.

Characteristics

It is safe, non-pollute, and flame proof. which can be installed directly on the load center with merits of free maintenance, easy installation, low combined operation cost, low loss and excellent humidity resistance. The transformer can be operated formally under 100% humidity and put into motion without dry in advance when out of use it shares the properties of low partial electricity local discharge, low noise and large heat dispel capability, it can be operated with the rated load of 150% under the forced air cooling conditions. With perfect temperature protect control system to ensure safe operation of the transformer Referring to the operation research of 10 thousand transformers have been put to use, their reliability norm have reached advanced international standard.



Step-lap iron core lamination

Stepping sloping seam

HV Casted winding

Main material and Characteristics: Yifa adopt class F copper wire as the winding's conductor, glass fiber and epoxy resin composite as insulation, whose coefficient is close to the copper conductor with the merits of excellent shock resistance, high temperature adaptive faculty and nice shattering resistance. The compositions of glass fiber and epoxy have the best properties of high fire resistance, which will never outcome poisonous pollution.

Vacuum casting equipment

HV winding casted part

Manufacturing process

The windings wound on the high-accuracy winding machine. When winding pave cast grass fiber around the external and internal of the windings, there be armed air passage for transformer of large capacity. Then dry it in vacuum. The whole casting and solidifying process is performed according to the process curve of casting control terminal, which transferred through computer network by process department, every process can be monitored momentarily and adjusted for the various surroundings. There precise process ensures free bubble and free hole of winding.

(Protective case) Dry-type transformer

Sc9, SC10 type resin dry-type distribution transformer special designed for KYN (Centered type switch cabinet)

35kV Dry-type transformer

LV Foiled winding

For LV and heavy current winding, its short-current stress is very large and low voltage turn is small at the same time, the heavier the low voltage current is the more prominent the problem of non-stability on ampere-turn which adopting wire-wound will be, and moreover, the heat dispersion should be considered, but the above problem can be better solved by adopting foil winding, at first there has been no axial turns and axial winding helix angle for foil products, the ampere-turn of high/low voltage winding is equal and the axial short current stress multi-level air passage as per its technology, so is the problem of heat diversion Oil foil winding auto would on the auto foil winding machine, which supplied by France STOLLBERG Corporation, adopts protective of high accuracy, low welding resistance and non-external welding process. The interlayer of winding insulate DMD, the extreme end is sealed and solidified by resin.

Foil winding machine

LV foil winding

Lending-out way

Routine lead, standard closed busbar lead type and standard side lead for the distribution transformer, with special lead way produced to meet the customer's demand.

S10 series 220kV power transformer

Production introduction

SC Z (B) 10 - XXXX / ..

- Rated HV (filling with the rated value)
- Rated capacity (kVA)
- Functional level code
- LV foil winding
- On-load tap changing
- Triple phase soil molding (epoxy casting)

Product standards

GB/T 10228 GB 1094.11-2007

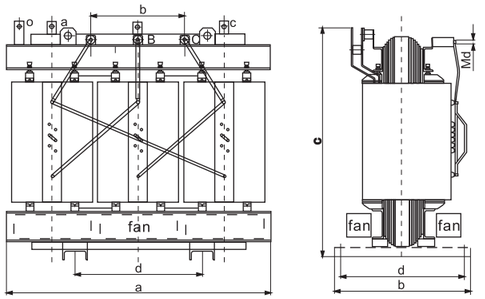
Rated HV:10(10.5,11,6,6.3,6.6)kV
Rated LV:0.4kV
Tap connection range: Non-exciting regulation(±5%, ±2×2.5%)
On-load regulation(±4×2.5%)
Vector group:Dyn 11 or Dyn0
Insulation level:LI175AC35/AC5

Rated capacity (kVA)	No-load loss (W)	Load loss (W)	LPA (db) Sound's level	Weight (kg)	Dimension(mm)				LV Terminal	No-load current (%)	Impedance voltage (%)
					a	b	c	d			
30	200	620	38	290	600	400	650	350	25×3	1.9	4.0
50	280	880	40	360	600	400	705	350	25×3	1.4	
80	380	1210	42	590	730	500	740	450	25×3	1.0	
100	400	1390	44	640	760	500	775	450	30×3	1.0	
125	480	1630	44	670	760	500	840	450	30×3	0.9	
160	550	1870	46	870	1060	600	1000	550	40×3	0.8	
200	630	2220	46	1040	1070	600	1050	550	40×3	0.8	
250	730	2420	46	1220	1120	750	1080	550	40×4	0.8	
315	890	3050	47	1470	1120	750	1135	660	50×4	0.7	
400	990	3500	47	1760	1210	750	1225	660	50×5	0.7	
500	1180	4290	49	2050	1260	750	1185	660	60×5	0.6	
630	1310	5240	49	2450	1440	750	1180	660	60×6	0.5	6.0
800	1540	6110	49	2360	1470	750	1285	660	80×6	0.4	
1000	1790	7140	51	2730	1520	900	1325	820	80×8	0.4	
1250	2110	8510	51	3270	1640	900	1355	820	100×8	0.3	
1600	2480	10290	51	3840	1710	900	1510	820	100×10	0.3	
2000	3060	12690	51	4920	1820	1200	1565	1070	100×12	0.25	
2500	3600	15080	51	5780	1920	1200	1680	1070	120×12	0.25	
1600	2480	11370	51	3950	1800	900	1480	820	100×10	0.3	8.0
2000	3060	14020	53	5080	1900	1200	1540	1070	100×12	0.25	
2500	3600	16590	53	5850	2010	1200	1650	1070	120×12	0.25	

Note: On-load regulation series transformer regulates the two data items as follows: 1. Weight increase 100kg;
2. Transformer flank a increse 650mm or face b increase 750mm assigned by on-load switch.

10kV Dry transformer

Outline dimension drawing



Note:
1. For HV lead terminal Md, while capacity SN＜2000kVA, Md=M12; while SN≥2000k, Md=M16.
2. LV terminal is unsymmetrical structure, parameters k1, k2 showed in the drawing.
3. The transformer has no trolley, if needed, the height should be raised 100mm.
4. The size of forced air cooling system(blower) should not exceed machine (axb).

Protective Shell

The attractive and durable stainless shell is to protect the transformer, the protective level reaches IP20 and Ip23.

Ip20 case prevents transformer form xenembole whose diameter larger than 12mm, offering the safety guarantee for the live parts.

Ip23 case prevents the dripping from inflowing whose vertical line formed an angle within 60°, which make sure be operated outdoors.

Note: IP23 casing will enable the cooling capacity of transformer degressive, the low transformer will descend 5% and large one 10%.

Equipped Hv Lv cable inlet/outlet braclet, give convenience to wiring.

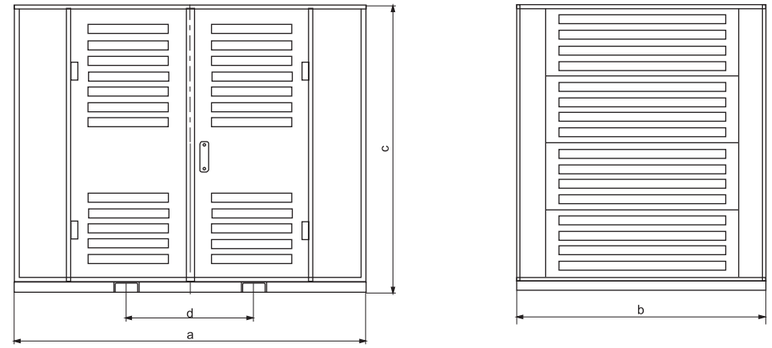
We can supply protective case of other protection level or material.

Rated HV:10(10.5,11,6,6.3,6.6)kV　　Vector group:Dyn 11 or Yyn 0
Rated LV:0.4kV　　Insulation level:L175AC35/AC5

Rated capacity (kVA)	Impedance voltage (%)					
30	4	1000	900	1300	350	380
50		1000	900	1300	350	440
80		1050	950	1500	450	670
100		1050	950	1500	450	730
125		1050	950	1500	450	780
160		1400	1150	1400	550	1030
200		1400	1150	1400	550	1210
250		1400	1200	1500	550	1430
315		1400	1200	1500	660	1700
400		1500	1250	1600	660	2000
500		1550	1250	1600	660	2300
630	6	1750	1300	1600	660	2630
800		1800	1350	1700	660	3000
1000		1800	1350	1800	820	3520
1250		1950	1400	1800	820	4130
1600		2000	1450	2000	820	4990
2000		2150	1550	2100	1070	5880
2500		2250	1550	2100	1070	6680
1600	8	2100	1500	2000	820	5090
2000		2250	1600	2100	1070	5980
2500		2350	1600	2100	1070	6800

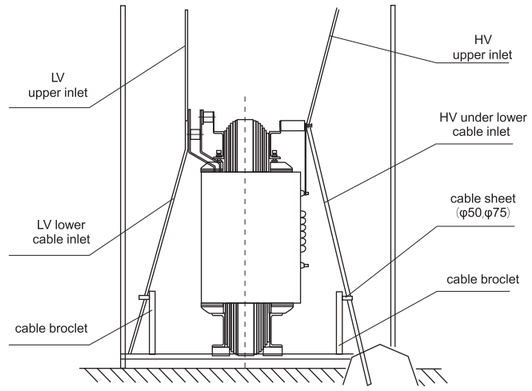
10kV Dry transformer

10kV dry transformer IP20 shell dimension drawing



Note: 1.For HV lead terminal Md, while its capacity SN＜2000kVA, Md=M12; while SN≥2000kVA, Md=M16
2. LV is an unsymmetrical structure, parameters k1, k2 showed in the drawing.

Leading in drawing



Dry transformer

SC(ZB) 10 series 20kV Dry transformer

Model description

SC Z (B) 10 - XXXX / ..

- Rated HV (filling with the rated value)
- Rated capacity (kVA)
- Functional level code
- LV foil winding
- On-load tap changing
- Triple phase soil molding (epoxy casting)

Product standards

GB/T 10228 GB 1094.11-2007

Rated HV:10(10.5,11,6,6.3,6.6)kV
Rated LV:0.4kV
Tap connection range: Non-exciting regulation(±5%, ±2×2.5%)
On-load regulation(±4×2.5%)
Vector group:Dyn 11 or Dyn0
Insulation level:LI175AC35/AC5

20kV Non-excited tap-changing transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	No-load loss (kW)	Load loss (kW)	No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)					
50	20 22 24	±5 ±2×2.5	0.4	Dyn 11 Yyn0	340	1140	2.2	6.0
100					540	1830	2.0	
160					680	2270	1.6	
200					740	2710	1.6	
250					850	3140	1.4	
315					970	3760	1.4	
400					1150	4450	1.3	
500					1350	5330	1.3	
630					1530	6290	1.1	
800					1760	7600	1.1	
1000					2070	9000	0.9	
1250					2390	10610	0.9	
1600					2790	12750	0.9	
2000					3240	15070	0.7	
2500					3870	17820	0.7	
2000					3240	16420	0.7	8.0
2500					3870	19560	0.7	

Dry transformer

SC(ZB) 10 series 35kV Dry transformer

Model description

SC Z (B) 10 - XXXX / ..

- Rated HV (filling with the rated value)
- Rated capacity (kVA)
- Functional level code
- LV foil winding
- On-load tap changing
- Triple phase soil molding (epoxy casting)

Product standards

GB/T 10228 GB 1094.11-2007

Rated HV:10(10.5,11,6,6.3,6.6)kV
Rated LV:0.4kV
Tap connection range: Non-exciting regulation(±5%, ±2×2.5%)
On-load regulation(±4×2.5%)
Vector group:Dyn 11 or Dyn0
Insulation level:LI175AC35/AC5

35kV Non-excited tap-changing transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	SC(ZB)9		SC(ZB)10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)		No-load loss (kW)	Load loss (kW)	No-load loss (kW)	Load loss (kW)		
50	35~38.5	±5 ±2×2.5	0.4	Dyn 11 Yyn0	500	1310	450	1250	2.5	6.0
100					700	1920	630	1830	2.2	
160					880	2560	790	2460	1.6	
200					980	3060	880	2900	1.6	
250					1100	3490	990	3320	1.4	
315					1310	4150	1180	3940	1.4	
400					1530	4980	1380	4730	1.3	
500					1800	6110	1620	5810	1.3	
630					2070	7070	1860	6720	1.1	
800					2400	8380	2160	7970	1.1	
1000					2700	9610	2430	9130	0.9	
1250					3150	11700	2830	11120	0.8	
1600					3600	14240	3240	13520	0.8	
2000					4250	16770	3820	15930	0.8	
2500					4950	20090	4450	19080	0.8	

Dry transformer

SC(ZB) 10 series 35kV Dry transformer

35kV Non-excited tap-changing transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	SC(ZB)9		SC(ZB)10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)		No-load loss (kW)	Load loss (kW)	No-load loss (kW)	Load loss (kW)		
800	35~38.5	±5 ±2×2.5	3.15 6 6.3 10 10.5 11	Yyn11 Yd11 Yyn0	2500	8650	2250	8210	1.0	6.0
1000					2970	10040	2670	9540	1.0	
1250					3480	11880	3130	11280	0.9	
1600					4100	14240	3690	13520	0.9	
2000					4700	16770	4230	15930	0.8	7.0
2500					5400	20090	4860	19080	0.8	
3150					6700	22530	6030	21410	0.7	8.0
4000					7800	27070	7020	25720	0.7	
5000					9300	32140	8370	30530	0.6	
6300					11000	37550	9900	35680	0.6	
8000				Dyn 11 Yd11 Yyn11	12600	42360	11340	40240	0.5	9.0
10000					14400	51090	12960	48540	0.5	
12500			6 6.3 10 10.5 11		17500	59390	15750	56420	0.5	
16000					21500	69870	19350	66380	0.5	
20000					25500	78600	22950	74670	0.4	10.0

35kV Non-excited tap-changing transformer

Rated capacity (kVA)	Voltage Combination and Tap range			Vector group Symbol	SC(ZB)9		SC(ZB)10		No-load current (%)	Short-circuit impedance voltage (%)
	HV(kV)	HV Tap Range (%)	LV(kV)		No-load loss (kW)	Load loss (kW)	No-load loss (kW)	Load loss (kW)		
2000	35~38.5	±4×2.5	6 6.3 10 10.5 11	Dyn 11 Yd11	5000	17470	4500	16590	0.8	7.0
2500					5800	20790	5220	19750	0.8	
3150					7000	23410	6300	22240	0.7	
4000					8200	28030	7380	26630	0.7	
5000					9700	33190	8730	31530	0.6	8.0
6300					11500	38430	10350	36510	0.6	
8000					13200	43670	11880	41480	0.5	9.0
10000					15100	52580	13590	49950	0.5	
12500					19300	61130	16470	58080	0.5	
16000					22500	71960	20250	68370	0.5	
20000					26500	80960	23850	76910	0.4	10.0

Dry transformer

SC(B)11 series resin insulated dry power transformer

Technical Parameters

Rated capacity (kVA)	Loss		Short-circuit impedance voltage (%)	No-load current (%)	Vector group Symbol	Outline dimension (mm) LxWxH	Installation size (mm)
	Vacuum loss	Loss F					
30	170	710	4	2.3	YynD/Dyn11	880×660×800	400×400
50	240	1000	4	2.2		910×660×860	400×400
80	330	1380	4	1.7		970×660×950	550×550
100	360	1570	4	1.7		980×660×975	550×550
125	420	1850	4	1.5		1030×660×1015	550×550
160	480	2130	4	1.5		1070×660×1030	550×550
200	550	2530	4	1.3		1130×660×1085	550×550
250	640	2760	4	1.3		1150×660×1090	550×550
315	790	3470	4	1.1		1150×660×1100	660×660
400	880	3990	4	1.1		1200×770×1110	820×820
500	1040	4880	4	1.1		1320×860×1130	820×820
630	1200	5880	4	0.9		1420×960×1100	820×820
630	1170	5960	6	0.9		1420×960×1150	820×820
800	1360	6960	6	0.9		1500×960×1190	820×820
1000	1590	8130	6	0.9		1500×960×1220	820×820
1250	1880	9690	6	0.9		1620×1050×1250	1070×1070
1600	2200	11730	6	0.9		1690×1255×1360	1070×1070
2000	2740	14450	6	0.7		1700×1255×1460	1070×1070
2500	3240	17170	6	0.7		1920×1255×1480	1070×1070

SC(B) 11/13 series 10 kV Cast resin dry-type distribution transformers

Characteristics

The no-load loss of SC(B)11 series is reduced more than 20% and SC(B)13 reduced more than 45% compared with transformer of same capacity in group A of table I of GB/T10228-2008 The on-load loss of both SC(B)1l and SC(B)13 is reduced 5%.

With the oblique four-ladder stepping structure, the iron core improves efficiently the flux distribution at the seam and reduces the no-load loss and noise.

Rectangular core, which greatly reduces the core size, decreases the no load loss and noise of the transformer as well the dimensions of the unit.

Rectangular winding structure is adopted. The inner and outer surfaces of the windings are wound with glass fiber grid and glass braid which are integrated closely with resin to prevent crack and withstand sudden short circuit.

According to the design requirement, one layer or multilayer of gas channels are required to be installed in the heating center, so that heat dissipation can be optimized, in the meantime, the brace rods formed in the gas channel effectively reinforces the mechanical strength of the winding.

Both high and low voltage windings are resin cast Adopting new technique of thin coating and low filler, windings are cast with resin in the latest HEDRICH vacuum casting equipment of which vacuum film degassing device, dosing pump and static mixer ensure the best molding quality and the partial discharge less than 5pC.

10kV Cast resin dry-type distribution transformers

Rated power	Loss(W)		Load loss	No-load current (%)	UK %	Lpa dB	Overall dimension									Weight (kg)
	11	13					A	B	H	E	M	D	I	L	H	
30	170	120	620	1.6	4	38	735	525	880	400	245	125	100	185	390	370
50	240	170	870	1.4		38	765	675	980	550	255	125	100	195	420	470
80	320	230	1200	1.3		40	825	675	1000	550	275	125	100	210	430	600
100	350	250	1370	1.2		40	825	675	1050	550	275	125	100	210	440	640
125	415	295	1610	1.1		40	855	675	1110	550	285	125	100	215	440	710
160	480	340	1860			42	900	675	1140	550	300	125	100	225	470	880
200	550	390	2200	1.0		42	945	675	1200	550	315	125	100	240	490	1020
250	630	450	2410			42	960	675	1220	550	320	125	100	240	510	1130
315	770	550	3030	0.8		44	1080	785	1290	660	360	125	100	270	560	1460
400	855	610	3480			44	1110	785	1360	660	370	125	95	280	580	1760
500	1015	725	4260			44	1140	785	1400	660	380	125	95	285	600	1960
630	1180	840	5130	0.7		44	1170	785	1490	660	390	125	95	295	620	2260
630	1135	810	5200		6	44	1200	785	1400	660	400	125	95	300	640	2120
800	1330	950	6070			46	1250	980	1550	820	415	160	130	315	650	2550
1000	1550	1110	7100	0.6		46	1320	980	1650	820	440	160	120	330	690	3160
1250	1830	1310	8460			46	1400	980	1780	820	455	160	120	345	740	3800
1600	2140	1530	10250			48	1530	980	1900	820	520	160	120	385	780	4420
2000	2650	1890	12620	0.5		48	1650	1270	1990	1070	550	200	150	415	820	5580
2500	3110	2220	15000			48	1830	1270	2080	1070	610	200	150	460	900	6850

Application standards:GB/T 1094.11-2007;GB/T10228-2008;IEC60076-11;2004;DIN42523-1992.

The values of load losses in the table are tested at 75℃ and the values at 120℃ should be increased by 14.5%.

10KV insulators for three phase will be installed on the HV side of the top yoke clamp according to the customer's request.

Dimensions above are for reference and the installation should be in accordance with the final assembling drawings provided when ordering.

SC(B) 11/13 series 10 kV Cast resin dry-type distribution transformers

10 kV Cast resin dry-type distribution transformers

Item		Description
Rated Power	kVA	
Rated H.V. voltare	kV	☐10 ☐35 ☐ Qther
Tapping voltare	%	☐ ± 2 × 2.5 ☐ Qther
Rated L.V. voltare	kV	☐0.4 ☐ Qther
NO.of phases		☐ Singke-Phase ☐ Three-Phase
Frequency	Hz	☐50 ☐60
Connection symbol		☐Yyn0 ☐Dyn11 ☐Qther
Impedance	%	☐4 ☐6 ☐8 ☐Qther
Insulation level		☐F ☐ Qther
Cooling method		☐AN ☐AN/AF ☐ Qther
Protection level		☐IP00 ☐IP20 ☐IP25 ☐ Qther
Input & output of cable		☐(HSl) ☐(HS2) ☐(HS3) ☐ top in-top out bottom in-top out bottom in-bottom out side out
Service condition		☐ Height≤1000mv ☐ Ambient temperature ℃
Install temperature controller system		
Order quantity		
Date of delivery		
Other requirements		

Routine tests

1. Measurement of voltage ratio and check of voltage vector relationship
2. Measurement of winding resistance
3. Measurement of insulation resistance
4. Separate source voltage withstand test
5. Induced over voltage withstand test
6. Measurement of no-load loss and current
7. Measurement of impedance voltage and load loss
8. Measurement of partial discharge

China YIFA Holding Group Co., Ltd.

SCBH15 Series 10 kV amorphous alloy dry transformer

Amorphous alloy dry transformer

110kV,220kV EHV transformer

Amorphous metal transformer

Oil-immersion transformer

Resin insulation transformer

Environmental protection transformer

Reactors

Product introduction

The No-load loss of SCBH 16 amorphous Dry type transformer is 75% less than GB/T10228 table 4 group I, Load loss is 15% less than GB/T10228 table 4,which is the most advanced energy conservation Dry-Type transformer.

Product characteristics

Service condition
Ambient temperature: Highest air temperature +40℃
Lowest air temperature -5℃
Lowest monthly average temperature +30℃
Hottest yearly average temperature +20℃
The height above the sea level is below 1000m;

The power supply voltage's cave is similar to sine wave
Three-phase power supply voltage is approximately symmetrical
Installation without evidence fifth.
Service indoor.

Model description

S C B H 15 - □ / □

- The classification of voltage (kV)
- Rated capacity (kVA)
- Loss Level Code
- Amorphous Iron-core
- Foil LV winding
- Soil molding Coated Type
- Three phase

Purpose

This product has the merit of low no-load loss, no oil, self bum out if prohibition is encountered, humidity endurance, antic rack, no maintenance. It may take replace etc. It may take replace any normal Dry Type Transformer at high building, business centre, subway, airport, bus station, industrial enterprise and power-plant, extremely suit for those site with high flammable& explosive needs.

Characteristics of the structure

The product adopt LV winding copper foil winding, HV winding rolled by paint coated thread, with glass fiber added insulation resin, which is good for humidity-bearing and anti-crack, the iron-core is made of Amorphous strip material, with rectangular section, four flame five column or three flame three column structure.

SCBH15 Series 10 kV amorphous alloy dry transformer

Functional data

Phase: 3 phase
Frequency: 50Hz
Partial charging: No more than 10pC
Insulation level: F
Average Winding arising: No more than 100K
Noise level: Sound level confirms to JB/T 10088-2004

Table 1 Insulation level

The classification of voltage	Maximum voltage of equipment (effective value)	Rated Short-Time Power Frequency (effective value)	Rated Full-waved Lightning Impulse Bearing Voltage (max)
≤ 1	≤ 1.1	3	3
6	7.2	25	25
10	12	35	35

Table 2 Insulation level

Capacity (kVA)	Voltage combination	HV tap Change	LV (kV)	Vector group	No-load Loss (W)	No-load current (%)	Load loss (W)	Impedance voltage (%)
100					130	1.0	1570	
160					170	0.9	2125	
200					200	0.8	2525	
250	6				230	0.8	2755	4
315	6.3				280	0.7	3470	
400	6.6	±2×2.5	0.4	Dyn 11	300	0.7	3985	
500	10	$^{+3}_{-1}$ ×2.5		Yyn 0*	360	0.6	4880	
630	10.5				420	0.6	5875	
800	11				480	0.5	6955	
1000					550	0.4	8125	6
1250					660	0.4	9690	
1600					750	0.4	11730	

Note: With the "*"ector group Yyn0 is suit for the transformer capacity is no more than 400kVA
The client should consult with supplier about the technical data when special model or non-standard product is needed.

Effect of energy conservation

Amorphous Dry Type Transformer's No-load Loss is 3/4 less than the required data in GB/T10228-1997 Table 4 Group I, Compare SCBH15-630/10min SC10 Dry Type transformer, the No-load Loss deducted 925W.

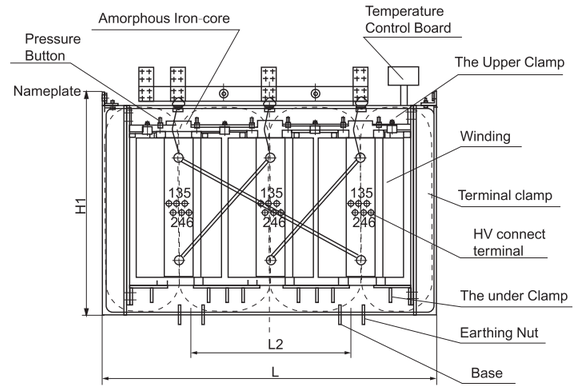
Suppose when k1=0.1Kw/kVar; working hour/year T=8760h payment of electricity charge=RMB 0.6yuan/kWh, yearly onload modules is 0.8, a SCBH 10 Amorphous Dry Type Transformer with the capacity is 630kVA can reduce loss P as following.

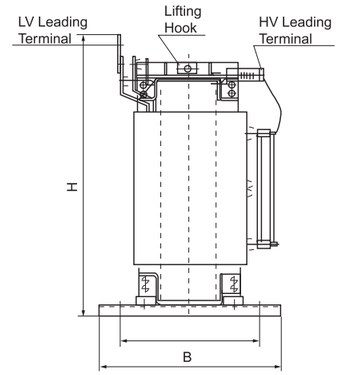
A year running economical and social benefit is:

save electricity energy 14174(kWh) Discharge less CO2 11.7T Save payment of electricity charge RMB 8504 Yuan, Save Coal 5.8T. It is to say this increased 31200m 2 forest area.

SCBH15 Series 10 kV amorphous alloy dry transformer

Outline dimension





Model	Dimension (mm)					Total (kg)
	L	B	H	H1	L_2xL_1/4-Φ26	
SCBH15-315/10	1430	970	1210	1095	660×660/4-φ26	1800
SCBH15-400/10	1430	970	1380	1265	660×660/4-φ26	2150
SCBH15-500/10	1650	970	1275	1130	820×660/4-φ26	2530
SCBH15-630/10	1730	970	1430	1240	820×660/4-φ26	3000
SCBH15-800/10	1925	970	1490	1215	820×660/4-φ26	3400
SCBH15-1000/10	1925	970	1520	1335	820×660/4-φ26	4020
SCBH15-1250/10	1955	1070	1605	1365	820×660/4-φ26	4790
SCBH15-1600/10	2050	1070	1780	1455	1070×660/4-φ26	5780

Note: Dimensions are just for reference. The actual installation and design are provided by the contract CBH15.

Environmental protection dry-type transformer

- 110kV,220kV EHV transformer
- Amorphous metal transformer
- Oil-immersion transformer
- Resin insulation transformer
- Environmental protection transformer
- Reactors

Features of products

SG(B) 10 type-this series Dry-type Distributing Transformer has strong withstanding of thermal shock, overload capability. Beside, it has many good points such as flame-retardant, low-loss, and low partial discharge capacity, low noise, no harmful gas and no pollution. It is insensitive of humidity and dust, compacted, no crack and so it is easy to be maintained. Therefore, it is suitable for the using in the adverse circumstances of high requirement for fire protection, high degree of load fluctuation and dirty, moist, such as airport, power plant, metallurgy, hospital, skyscraper, shopping center, and residential areas and other special environments like oil, chemical industry, nuclear power plant, nuke, etc.

High-voltage winding

The iron core applies imported high-performance cold-rolled grain-oriented silicon-steel plate and it applies 45°, fully-inclined joint form. Between the layers of winding, it applies flexible fastening device and makes no-load loss and noise low.

The iron core surface is dealt with special craft which makes the noise low and the iron core rustless during running.

The iron core is clamped by tensile rod and no punched hole. The upper and lower clamps are connected by drawplate an fixed with the base. By fixed with flexible pad and cushion structure, it makes the winding of lower vibration and noise.

HV,LV coil materials

The high-voltage and low-voltage coils are made up of Nomex insulating material and dipped in solvent-free immersion paint many times by VPI vacuum pressure device and is solidified by high temperature baking. The high-voltage coil applies continuous mode structure of high mechanical strength and good heat dispersion, avoiding step-shaped multilayered drum type structure which makes high voltage, low heat dispersion, easy to be thermal runaway and low mechanical strength. It is therefore that the reliability of the product is ensured. The low-voltage coil applies foil or strong current helix structure of longitudinal air flue. After dipping, the coil has a good moisture proof, impacting resistance and no chapping, no partial discharge. It can be decomposed and recycled.

Shield cover

We could provide the shell of protective grade IP20 and IP23, if it is required by the users.

Ip20 configuration of transformer prevent foreign matter whose diameter is bigger than 12mm from entering into the casing, and IP 23 configuration can also prevent water whole angle to vertical line is less than 60°, from drenching into casing. To ensure the ventilation of cold air, the base plate and the top of the shell are made up of mesh plates.

Over-thermal protection

Take thermal safeguard for coil. SG(B)10 dry-type transformer of 315KVA or above employs a set of protecting device-temperature displayer. This device uses the temperature sensor which stays deep in the low-voltage wingding as signal source for displayer. When the temperature of low-voltage wingding varies, the temperature displayer will show the new value. According this temperature, it will control and alarm to protect the transformer.

Over-load ability

SG(B) 10 series dry-type transformer adopts new structure, material and new craftwork. It has good points of good heat dispersion, long thermal endurance and extensive strong overload capability. It can work under 120% overload or work over a long time safely an reliably. Under the situation of IP23, it can run over-load over a lone time without fan to cool.

Safety

SG(B)10 type-this new kind of product is now the dry-type transformer of highest security performance. All the insulating material is flame-retardant, self-extinguishing and non-poisonous. Its combustible material only takes less than 10% of the epoxy resin product. NO poisonous gas is produced when it is burning over a long time under high temperature of 800 E. And with this feature, it overcomes the shortage that epoxy resin would produce poisonous gas when it is burning. It reveals the superiority when the new type product is used in electric power, subway, shipping, chemical industry and metallurgy where is hot, damp, of bad ventilation and require high security.

Reliability

With special coil design, craftwork and material, SG(B)10 type product has good feature of moisture proofing, mold proofing and salt mist proofing. And it has good thermal impact resistance, no chap and no partial discharge. The insulating system based on Nomex can always keep the best state of electricity performance and mechanical characteristic during the entire period of usage of transformer. Nomex material is not easily aging, of good flexibility and of contraction withstand as well as resistance. Therefore, it can ensure the transformer keeping the coils of compacted structure and able to withstand the voltage of short-circuit after many years of usage.

Excellent dampproof

Nomex insulating system OVDT dry-type transformer can sufficiently prevent the invasion of moisture.
It applies the advanced VIP equipment and vacuum dipping technology.
With high-quality impregnating varnish that approved by UL, it can keep running over a long period under 180C or higher temperature.
Nomex paper is entirely penetrant dipped by immersion paint.

Volume smaller, weight more light

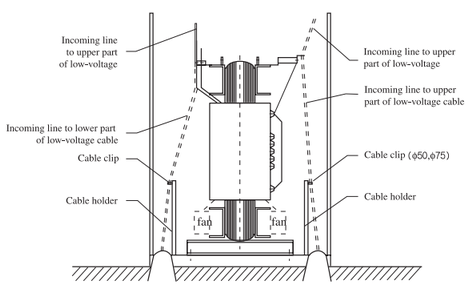
SG(B) 10 type product applies Nomex paper of Du Pont for main insulating material and takes it as the mixed insulating system in the hottest place of transformer. These make the product more compacted and lower weight when comparing with the epoxy resin cast transformer of the same capacity.

Environmental protection

SG(B) 10 type product can be decomposed and recycled, Epoxy resin cast transformer is made of dry resin and glass fiber which can not be decomposed after is useful period and pollutes the environment. However, this product is made to meet the need of market and solve the problem.

Lead type of transformer

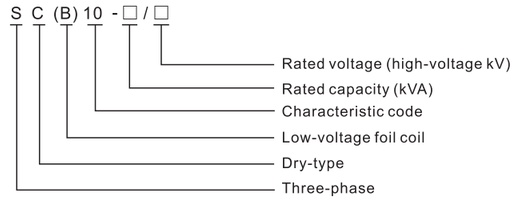
The outgoing terminal of the high voltage coil in fixed in the top of the winding, and its tapping head is connect with the middle of the winding. As power off, it will adjust the output voltage by changing connation head.
The out going terminal of the low voltage coil is bord conducting electricity line which is welded by cold pressure and connected with outgoing line by bolt.



Sketch map of method of ingoing and outgoing line

Environmental protection dry-type transformer

Product type and meaning



Using condition

Bass 1.2 item of GB6450-1986, Dry Power Transformer. When environmental the tallest temperature＞40℃, the altitude＞1000m, carry on correction according to the country relevant standard. Put forward while requesting customer indent.

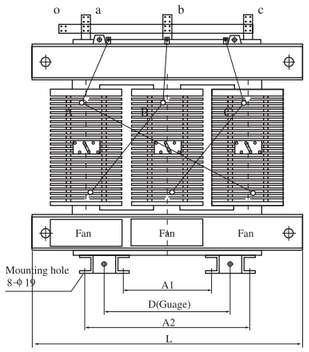
Product standard

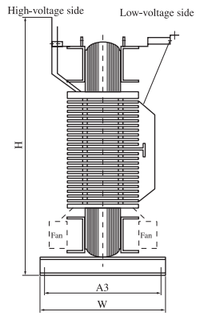
GB6450-1986 Dry transformer
GB/T10228-1997 the technical parameter and requirement for dry power transformer
GB/T17211-1998 load guideline for dry power transformer
JB/T10088-2004 6-220kV grade power transformer sound level
GB4208-1993 case shell protection grade(IP code)

Main Technical Parameters of 10kV SG(B)10H Series Environmental Protection Dry Transformer

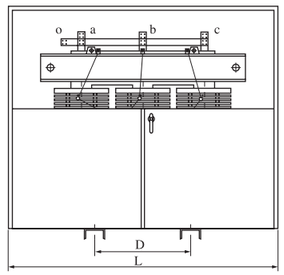
Rated capacity (kVA)	Voltage Combination		Connection method	Loss(kW)		No-Load current (%)	Impedance voltage (%)	Insulating level	Weight (kg)
	HV(kV)	LV(kV)		No-load	Load				
80	11	0.4	Dyn11	0.39	1.75	2.8	4	H/H	490
100	10.5		或	0.40	1.88	2.4	4		520
125	10		Yyno	0.48	2.13	2.0	4		650
160	6.3			0.56	2.55	1.8	4		740
200	6			0.62	3.10	1.8	4		850
250				0.72	3.60	1.8	4		1005
315				0.88	4.60	1.8	4		1270
400				0.97	5.40	1.8	4		1470
500				1.16	6.60	1.8	4		1750
630				1.3	7.90	1.6	6		1970
800				1.52	9.50	1.6	6		2350
1000				1.76	11.40	1.3	6		2620
1250				2.08	12.50	1.3	6		3180
1600				2.44	13.90	1.3	6		4100
2000				3.32	17.50	1.2	6		4500
2500				4.00	20.30	1.2	6		5340

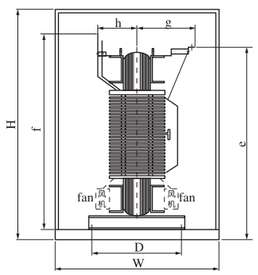
Outline dimension





Outline dimension of SG(B)10-□-□/10-0.4





Outline dimension of SG(B)10-□-□/10-0.4 with protective casing

Rated capacity	Outline dimension (mm)							Outline dimension with protective casing (mm)							
	L	W	H	D	A1	A2	A3	L	W	H	D	e	f	g	h
80	950	550	910	550	550	550	500	1250	900	1330	550	1070	1080	270	225
100	950	600	910	600	600	600	550	1280	900	1330	600	1070	1075	285	245
125	970	600	920	600	600	600	550	1300	900	1350	600	1075	1080	290	245
160	1000	710	965	660	660	660	660	1330	900	1350	660	1120	1125	295	245
200	1040	710	990	660	660	660	660	1360	900	1400	660	1145	1150	300	260
250	1090	710	1045	660	660	6600	660	1400	900	1450	660	1200	1210	305	265
315	1120	710	1120	660	660	660	660	1450	950	1500	660	1260	1280	315	270
400	1240	850	1185	820	820	820	800	1600	1100	1650	820	1280	1345	355	310
500	1290	850	1220	820	820	820	800	1650	1200	1650	820	1315	1380	355	310
630	1410	850	1230	820	657	983	800	1850	1300	1650	820	1350	1390	355	330
800	1460	850	1350	820	657	983	800	1850	1300	1750	820	1385	1510	365	340
1000	1480	870	1455	820	657	983	820	1950	1300	1950	820	1500	1615	345	340
1250	1550	960	1550	1070	907	1233	910	2000	1400	1950	1070	1500	1710	395	375
1600	1660	1150	1620	1070	907	1233	1100	2000	1400	2000	1070	1625	1780	405	385
200	1710	1150	1720	1070	859	1281	1100	2150	1500	2150	1070	1715	1890	410	385
2500	1760	1150	2030	1070	859	1281	1100	2200	1500	2450	1070	1890	2190	440	410

Product type and meaning

S G Z (B) 10 - □ / □

- Rated voltage (high-voltage kV)
- Rated capacity (kVA)
- Characteristic code
- Low-voltage foil coil
- On-load tap changing
- Dry-type
- Three-phase

Product standard

Product standard: GB/T10228-1997 GB6450-1986 JB/T10088-2004 GB4208-1993
Rated high-voltage: 10(11,10.5,6.6,6.3,6)kV
Rated low-voltage: 0.4kV
Tapping range of high-voltage: ±4x2.5% or ±3x2.5%

Main Technical Parameters of 10kV SG(B)10H Series Environmental Protection Dry Transformer

Rated capacity (kVA)	Voltage Combination		Connection method	Loss(kW)		No-Load current (%)	Impedance voltage (%)	Insulating level	Weight (kg)
	HV(kV)	LV(kV)		No-load	Load				
200	11	0.4	Dyn11	0.65	3.10	1.8	4	H/H	1370
250	10.5		或	0.75	3.60	1.8	4		1520
315	10		Yyno	0.92	4.60	1.8	4		1790
400	6.3			1.00	5.40	1.8	4		2000
500	6			1.20	6.60	1.8	4		2270
630				1.40	7.90	1.6	6		2530
800				1.55	9.50	1.6	6		2930
1000				1.82	11.40	1.3	6		3200
1250				2.12	12.50	1.3	6		3770
1600				2.50	13.90	1.3	6		4720
2000				3.40	17.50	1.2	6		5170
2500				4.10	20.30	1.2	6		5860

Outline dimension

Rated capacity (kVA)	Outline dimension (mm)								
	L	L1	W	H	D	e	f	g	h
200	1900	365	1600	2100	660	1145	1150	305	215
250	1900	375	1600	2100	660	1200	1205	305	220
315	1900	385	1600	2100	660	1225	1205	315	225
400	1900	420	1600	2100	820	1330	1350	325	285
500	2000	435	1700	2100	820	1360	1380	325	285
630	2000	480	1700	2100	820	1360	1380	325	285
800	2100	485	1700	2100	820	1455	1500	340	295
1000	2100	500	1700	2100	820	1500	1570	345	295
1250	2200	545	1800	2300	1070	1540	1655	370	325
1600	2200	580	1800	2300	1070	1585	1695	400	355
2000	2300	600	1800	2300	1070	1730	1885	375	365
2500	2300	620	1800	2300	1070	1830	1980	395	370

China YIFA Holding Group Co., Ltd.

Indoor HV vacuum circuit breaker

HV vacuum load switch

HV isolating switch

Operating mechanism

Lightning arrestor

Fuse

General

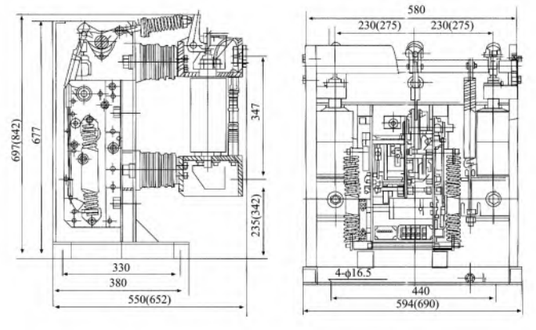
ZN28(A)-12 series indoor AC high-voltage circuit breaker is an indoor three-phase AC high voltage electric appliance of 50Hz and rated voltage 12kV, mainly mounted in the metal-clad enclosed cabinet, to protect and control the electric facilities in industrial and mining enterprise, power plant, transformer substation and so on, it also serves the location that needs the frequent operation.

This vacuum circuit breaker conforms to GB2003 High-voltage Alternating Current Circuit Breaker, JB/T20083.6-40.5 Indoor Alternating Current High-voltage Vacuum Circuit-breaker for Rated Voltages 3.6kV-40.5kV and DL/T403 Technical Specifications of Indoor High Voltage Vacuum Circuit Breaker for Rated Voltages 12-40.5kV for Order.

Main technical parameters

Item	unit	parameter			
Rated voltage	kV	12	12	12	12
Rated current	A	630,1000,1250	630,1000,1250	1250,1600,2000	2000,2500,3150
Rated short circuit dropout current	kA	20	25	31.5	40
Rated short circuit close current	kA	50	63	80	100
Rated peak withstand current	kA	50	63	80	100
Rated short-time withstand current	kA	20	25	31.5	40
Rated thermal stability time	s	4	4	4	4
Open circuit times of rated short circuit dropout current		50	50	50	50
Rated operating sequence	times	O-0.3s- CO-180s- CO			
Line frequency withstand voltage (effective value)	kV	42	42	42	42
Thunder impulse withstand voltage	kV	75	75	75	75
Mechanical life	times	10000	10000	10000	10000

Outline and installation dimension



VS1-12 Indoor Solid-encapsulated HV Vacuum Circuit Breaker

General

VS1-12 indoor solid-encapsulated HV vacuum circuit breaker (hereinafter referred to as circuit breaker)is an indoor three-phase AC high-voltage switchgear of 50Hz and rated voltage 7. 2-12KV. This circuit breaker accords with our national standards like GB/T1984 Alternating Current High-voltage Circuit Breaker,JB3855 3.6-40.5kV Indoor Alternating Current High-voltage Vacuum Circuit Breaker as well as relevant IEC standards, it has the reliable interlocking function. Designed into fore and rear separate structure, it is used as the unit for fixed installation, in addition, it can be assembled with the chassis, as the individual handcart.

Function features

1.Employing the mature APG technique and advanced epoxy-resin solid encapsulation technology, the vacuum arc-extinguishing chamber, main conductive circuit, insulating support, etc. are combined organically to form a integrated solid-encapsulated pole, the surface of vacuum arc-extinguishing chamber is not affected with the environment, so as to really realize the maintenance free.

2.Ultra-low-resistance type vacuum interruption meets the requirements of temperature rise of large current type, and lowers the energy loss.

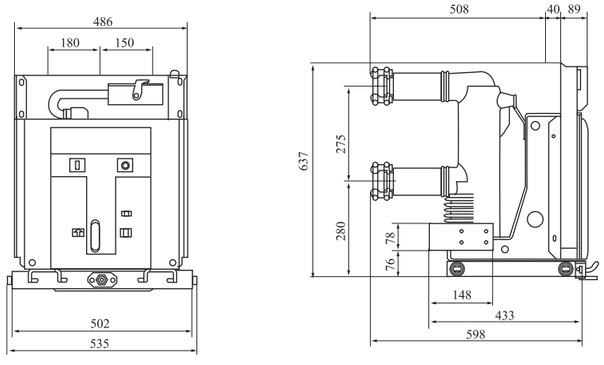
3.Owning to the modular spring operating mechanism, it presents the simple structure and stable performance.

4. Miniature design, the phase-to-phase distance is shorten by 30-60mm.

Main technical parameters

Item	unit	parameter	
Rated voltage	kV	12	
Rated frequency	Hz	50	
Rated lighting impulse withstand voltage (peak)	kV	75	
Rated (1 min) line frequency withstand voltage (effective value)	kV	42	
Rated operating sequence	A	O-0.3s- CO-180s- CO	
Rated current	kA	630	1250
Rated short circuit dropout current	kA	20 25	25 31.5
Rated shot circuit close current (peak)	s	60 63	63 80
Rated short circuit duration		4	
Open circuit times of rated short circuit dropout current	times	30	
Mechanical life	times	10000	

Outline and installation dimension



VS1-12 Type Side-Mounted (Vbm7) Vacuum Circuit Breaker

General

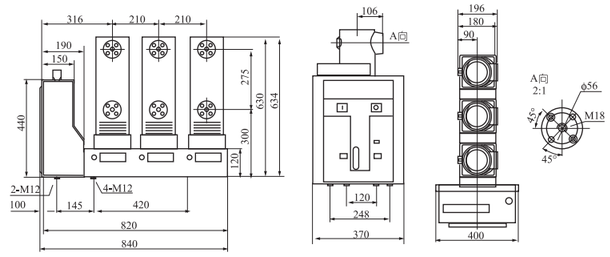
VS1-12 type side-mounted(VBM7) vacuum circuit breaker is an indoor high voltage switchgear, suitable for the three-phase power system of rated voltage 12kV and 50Hz, to protect and control the appliances, due to the special advantages, it is quite suitable for the occasion when the frequent operation at the rated current or breaking the short-circuit current is needed.

VS1-12 type side-mounted(VBM7)vacuum circuit breaker adopts the fixed type installation, mainly used for the fixed type switchgear, it can be used separately, it also can be used for the ring net power supply, box type transformer substation or kinds of non-standard power systems.

Main technical parameters

Item		unit	parameter		
Rated voltage		kV	12		
Max working voltage		kV	630	630	630
Rated current		A	1250	1250	1250
Rated short circuit breaking current		kA	20	25	31.5
Rated short circuit closing current		kA	50	63	80
Rated peak withstand current		kA	50	63	80
4S rated short circuit withstand current		kA	20	25	31.5
Rated insulation level	Power frequency withstand voltage (Before and after rated interruption)	kV	42(48)		
	Impulse withstand voltage (Before and after rated interruption)	times	75(84)		
Rated operating sequence			O-0.3s- CO-180s- CO		
Mechanical life		times	10000		
Rated short-circuit breaking current breaking times		times	50		
Rated closing voltage of operating mechanism (DC)		V	110,220		
Rated opening voltage of operating mechanism (DC)		V	110,220		
Clearance between open contacts		mm	11 1		
Over stroke(compression length of contact spring)		mm	3.5 0.5		
Three-phase opening and closing		ms	⩽2		
Closing bouncing time of contacts		ms	⩽2		
Average opening speed		m/s	0.9-0.12		
Average closing speed		m/s	0.4-0.8		
Opening time	At max operating voltage	s	⩽0.05		
	At min operating voltage		⩽0.08		
Closing time		s	0.1		
Main circuit resistance of each phase		μΩ	60	50	
Total thickness of permissible wear of moving and static contacts		mm	3		

Outline and installation dimension



VS1(ZN63) H.V Vacuum Circuit Breaker

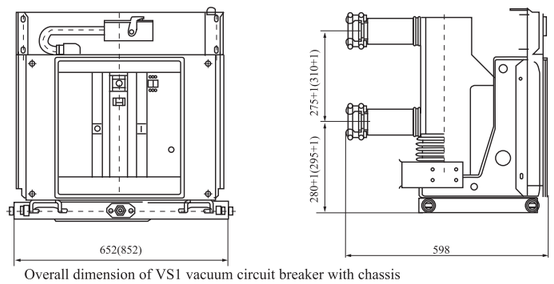
General

VS1(ZN63) series vacuum circuit breaker is an indoor three-phase AC high-voltage switchgear of 50 Hz and rated voltage 12KV, made by introducing the technology of Swiss ABB Company and according to domestic industrial development and production capacity. The entire structure of this product presents the integrated installation of switch body and operating mechanism. It adopts the composite insulation structure, with high insulation level, no pollution or explosion danger. Its operating mechanism is of spring energy-storage type, which be operated with alternating current or by manual.

Main technical parameters

Item		unit	parameter
Rated voltage		kV	12
Rated insulation level	1 min line frequency withstand voltage	kV	42
	Rated thunder impulse withstand voltage	kV	75
Rated current		A	630,1250,1600,2000
Rated short circuit breaking current		kA	20,25,31.5,40
Rated short circuit closing current		kA	50,63,80,100
Rated peak withstand current		kA	50,63,80,100
Rated short circuit withstand current (effective value)		kA	20,25,31.5,40
Rated current breaking times		times	50
Rated short-circuit duration		s	4
Rated operating sequence		times	O-0.3s- CO-180s- CO
Mechanical life		times	2000
Rated single capacitor bank breaking current		A	630
Rated back-to-back capacitor bank breaking current		A	400
Contactor torque		mm	11 1
Contact stroke		mm	3 0.5
Three-phase opening synchronization		ms	≤2
Closing bounce time		ms	≤2
Phase-to-phase distance		mm	210 1.5(275 1.5)
Contact pressure of closing contact		N	3200 100
Average break brake speed		m/s	0.9-1.2
Average close brake speed		m/s	0.55-0.8
Breaking time		ms	20-50
Closing time		ms	35-70
Accumulative Allowable Wear Thickness of Dynamic and Static Contacts		mm	3

Outline and installation dimension



Overall dimension of VS1 vacuum circuit breaker with chassis

VSM1-12 Indoor HV Permanent-Magnetic Vacuum Circuit Breaker

General

VSm1-12 indoor permanent magnetic vacuum circuit breaker is a new generation of circuit breaker adopting CDM series permanent-magnetic mechanism, it is an indoor three-phase AC high-voltage vacuum switchgear of 50Hz and rated voltage 12kV, suitable for the control and protection of power transmission and distribution system in the such fields as the power plant, transformer substation, industrial and mining enterprise, etc., especially, it is applicable for location that needs to break the important load and perform the frequent operation.

VSm1-12 indoor vacuum circuit breaker complies with the national standard GB1984-89 Alternating Current High-voltage Circuit Breaker, JB3855-85 Technical Specifications of Indoor Vacuum Circuit Breaker for Rated Voltages 10kV for Order as well as relevant IEC standards, with the reliable interlocking function. It has long-life vacuum arc-extinguishing chamber and maintenance-free epoxy-resin casting solid-encapsulated pole.The drive control units of both high-reliability CDM series permanent-magnetic mechanism and intelligent PMD series permanent magnetic mechanism ensure the maintenance free of mechanism.

VSm1-12 indoor AC HV vacuum circuit breaker is designed into the integrated structure, it is used as the unit for fixed installation, and it also can be assembled with the chassis, as the individual handcart.

Main technical parameters

Technical parameters of permanent-magnetic mechanism

Name	Data		
Working voltage of auxiliary power supply of driver	AC	DC	220V
Closing control voltage	AC	DC	220V
Opening control voltage	AC	DC	220V
Temperature rise of mechanism coil	≤60k		

Rated technical parameter

Name	unit	parameter		
Rated voltage	kV	12kV		
Rated frequency	Hz	50Hz		
Rated current	A	630	1250	2000
Rated short time withstand current	kA	25	31.5	31.5
Rated thermal stable current (effective value)	kA	25	31.5	31.5
Rated short circuit dropout current	kA	25	31.5	31.5
Rated short circuit close current (peak)	kA	63	80	80
Rated dynamic stable current (peak)	kA	63	80	80
1 min power frequency withstand voltage of secondary circuit	kV	2		
Thermal stability time	s	4		
Rated lighting impulse withstand voltage (peak) phase-to-phase, to-ground/fracture	kV	75/85		
1 min power frequency withstand voltage(effective value), phase-to-phase, to-ground/fracture	kV	42/48		
Mechanical life		30000		
Rated operating sequence	times	O-0.3s- CO-180s- CO		
Open circuit times of rated short circuit dropout current	times	50		
Breaking times of rated current	times	30000		

General

ZN85-40.5 indoor HV vacuum circuit breaker is an indoor three-phase AC device of 50Hz and rated voltage 450kV, with the special 3AV3 spring mechanism, the circuit breaker may be mounted in JYNI-40(Z) movable metal-enclosed switchgear or KYN61-40.5(Z) assembled metal-enclosed switchgear, it is the most ideal circuit breaker in 40.5kV device.

This series of product is featured with high technical parameters, strong breaking capacity, reliable operation, stable performance, long service life, simple maintenance, no explosion or pollution, it is used for protecting and controlling the electrical facilities of single-bus system in the industrial and mining enterprise, power plant, transformer substation, etc, it is also suitable for the location that needs switching the capacitor bank or performing the frequent operation.

Adopting the integrated and modular design, the circuit breaker is designed into superstructure and infrastructure, with the reasonable configuration, the arc extinguishing chamber is on the top, and the interlocking mechanism and operating mechanism are positioned at below. It employs 3AV3 spring operating mechanism, can run reliably without adjustment. The vacuum arc-extinguishing chamber is laid in the closed insulation barrel, so as to improve the insulation performance and shorten the entire size.

Type and its meaning

Z N 85 - 40.5(Z) / □ □

- Rated short-circuit breaking current
- Rated current
- Rated voltage
- Design No.
- Indoor
- Vacuum circuit breaker

Service conditions

Ambient temp:-10℃(-25℃ in high and cold area)~+40 ℃

Altitude: 1000m.

Relative humidity: daily average value is not more than 95%, and the monthly average is not more than 90% at +25℃.

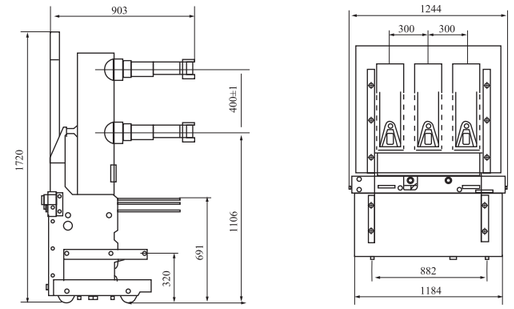
The saturated vapor pressure: daily average value is not more than 2.2 10-3MPa, and the monthly average value is not more than 1.8 10-3MPa.

Earthquake intensity: not exceed M8.0

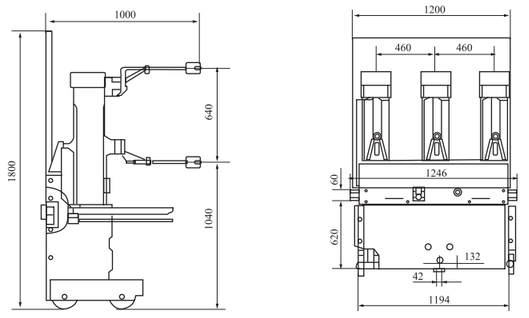
Not applicable for the location with fire, explosion, chemical corrosion or sharp shock.

ZN85-40.5 Indoor HV Vacuum Circuit breaker

Outline and installation dimension

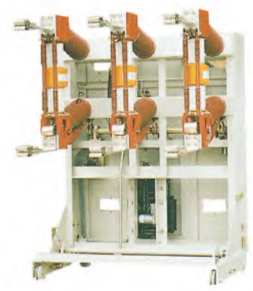


Outline drawing of circuit breaker that is equipped with KYN61-40.5(Z)



Outline drawing of circuit breaker that is equipped with KYN1-40.5(Z)

ZN30-40.5C/1600-25 Indoor Handcart Type Vacuum Circuit Breaker



General

ZN-40.5 vacuum circuit breaker of ultra-long life is an indoor three-phase AC high-voltage electric equipment of rated voltage 40.5kV and 50Hz. It is suitable for controlling and protecting the power transmission and distribution system in industrial and mining enterprise and transformer substation, etc; especially, it is applicable for the industries like metallurgy, arc steelmaking that needs the frequent operation , serving as a control and protection device. This vacuum circuit breaker is of handcart type, with reasonable structure, simple maintenance and safe and reliable operation. It can be modified as required, such as PT handcart, PT with lightning arrester, handcart transformer, handcart, isolation handcart, etc.

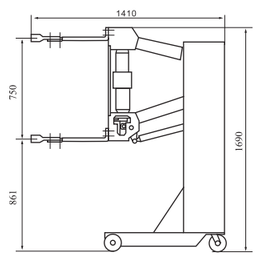
This product conforms to the standard of GB1984-89 Alternating Current High-voltage Circuit Breaker.

Main technical parameters

Item	unit	parameter
Rated voltage	kV	40.5
Rated lightning impulse withstand voltage	kV	185
1 min line frequency withstand voltage	kV	95
Rated frequency	Hz	50
Rated current	A	1250,1600,2000
Rated short circuit dropout current	kA	25 31.5
Rated short time withstand current	kA	25 31.5
Rated peak withstand current	kA	63 80
Rated short circuit duration	s	4
Rated short circuit dropout time	ms	=90
Rated short circuit close time	kA	80
Rated operating sequence		O-0.3s- CO-180s- CO
Close time	ms	50-85
Break time	ms	40-85
Open circuit times of rated short circuit dropout current	times	20
Mechanical life	times	12000
Rated breaking current of capacitor bank	A	630
Rated power of energy storage	W	275
Rated voltage of energy storage	V	AC/DC220.110
Energy storage time	S	15
Rated voltage of closing and opening electromagnet	V	AC/DC220.110
Rated current of over current release	A	5
Rated current of auxiliary switch	A	10

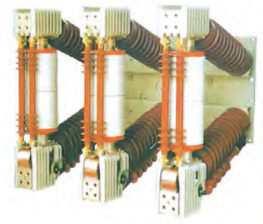
Outline and installation dimension

Technical specification: the overall width of handcart is 1180, and the central distance among wheels is 1130 (front)



Outline diagram of ZN23-40.5C/1600-25 series indoor handcart type vacuum circuit breaker

ZN12-40.5 Type Indoor AC HV Vacuum Circuit Breaker



General

ZN12-12 series vacuum circuit breaker is an indoor three-phase AC high voltage switchgear of rated voltage12KV and 50Hz, made with technology of Germany Siemens Corporation.

Featured with simple structure, strong breaking capability, long service life, complete operation function,simple maintenance and no explosion danger, it Is used for controlling and protecting the power transmission and distribution system in power plant, transformer substation, etc, especially, it is suitable for the location that needs to break the important load and frequent operation.

The product is compliance with the standard of GB1984-2003 Alternating Current High-voltage Circuit Breaker.

Main technical parameters

Item	Unit	Type				
		I	II	III	I	II
Rated voltage	kV	40.5	40.5	40.5	40.5	40.5
Rated current	A	1250	1600	1600	2000	2000
Rated short circuit dropout current	kA	31.5	31.5	31.5	25	31.5
Peak withstand current	kA	100	100	100	25	25
4S short-time withstand current (3S for 50KA)	kA	31.5	31.5	31.5	80	80
Rated short circuit close current (peak)	kA	100	100	100		
Rated short circuit current breaking times	times	50			20	
Rated operating sequence		O-0.3s- CO-180s- CO				
Rated lighting impulse withstand current (full-wave)	kV	185			185	
Rated short time line frequency withstand voltage (1 min)	kV	95			95	
Close time	ms	≤75			50-85	
Break time	ms	≤60(50)			40-85	
Mechanical life	times	2000(1-1V)1000(V-X)			120000	
Rated current breaking times	times	2000(1-1V)1000(V-X)			20	
Power of Energy Storage Motor	W	275			≦275	
Rated voltage of energy storage motor	V	110 220			≦110 220	
Energy storage time	s	≤15			≤15	
Rated voltage of of closing electromagnet	V	≦110 220			≦110 220	
Rated voltage of opening electromagnet	V	≦110 220			≦110 220	
Rated voltage of energy storage shunt release	V	110 220			≦110 220	
Rated voltage of closing inter locker	V	110 220			≦110 220	
Rated voltage of no-voltage release	V	110 220			≦110 220	
Rated current of over current release	A	5			5	
Rated current of auxiliary switch	A	AC10 DC5			DC10	
Contact stroke	mm	23 3		23 3	23 3	
Over travel of contacts	mm	5 1		5 1	5 1	
Close speed	m/s	0.6-0.9			0.8-1.4	
Break speed	m/s	1.8-2.2			1.8-2.2	
Closing bouncing time of contacts	ms	≤2			≤3	
Phase-to-phase distance	mm	210 1.5(280 1.5)			350 1.15	
Three-phase contact closing and operating synchronization	ms	≤3			≤3	
Main loop resistance of each phase	μΩ	≤35			≤45	

General

ZN28G-12/T indoor AC HV vacuum circuit breaker is an indoor three-phase AC device of rated voltage 12kV and 50Hz, mainly mounted in the fixed type HV switchgear, to protect and control the electrical facilities in industrial and mining enterprise, power plant, transformer substation, etc, especially, it is suitable for the location that needs the frequent operation.

The circuit breaker conforms to the standards of GB1984-2003 Alternating Current High-voltage Circuit Breaker, JB/T3855-2008 Indoor Alternating Current High-voltage Vacuum Circuit Breaker for Rated Voltages 3.6-40.5kV as well as the relevant requirements specified as the standard of IEC56.

Product type and meaning

Z N 28G - 12 / T □ □

- □ — Rated breaking short circuit current
- □ — Rated current
- T — Spring operating mechanism
- 12 — Rated voltage
- 28G — Design No.
- N — Indoor
- Z — Vacuum

Service conditions

1. Ambient temp:-10℃ (storage& transportation is permissible at -30℃)~ +40℃
2. Altitude: not higher than 1, 000m;
3. Daily average value of air relative humidity is not more than 95%, and the monthly average of that is not more than 90%. The daily average value of saturated vapor pressure is not more than 2.2 10-3 MPa, and the monthly average value of that is not more than 1.8 10-3 MPa;
4. Earthquake intensity: not exceed M8.0;
5. Not applicable for the location with fire, explosion, serious pollution, chemical corrosion or sharp shock, etc.

Main technical parameters

1. The technical parameters of circuit breaker are shown as table 1.
2. The mechanical property parameters of circuit breaker are shown as table 2.
3. ct-19 spring mechanism is applicable for the circuit breaker, its technical parameters are shown as table 3.

Technical parameters of operating mechanism

Item		Unit	Parameter
Rated voltage		kV	12
Maximum voltage		kV	12
Rated insulation level	1 min line frequency withstand voltage	kV	42
	thunder impulse withstand voltage	kV	75
Rated current		A	630,1250,1600,2000,2500,3150
Rated short circuit dropout current		kA	20,25,31.5,40
Rated operating sequence			O-0.3s- CO-180s- CO
Rated short circuit close current (peak)		kA	50,63,80,100
Rated peak withstand close current (peak)		kA	50,63,80,100
Rated short time withstand current		kA	20,25,31.5,40
Rated thermal stability time		s	4
Rated short circuit breaking times		times	30
Mechanical life		times	10000
Vacuum Degree in Vacuum Interrupters		Pa	Not higher than 1.33×10^{3}
Single capacitor bank interruption capability		A	630
Back-to-back capacitor bank interruption capability		A	400

ZN28G-12/T Type Indoor AC HV Vacuum Circuit Breaker

Mechanical property parameters of circuit breaker

Item	Unit	Parameter
Contactor torque	mm	11 1
Contact stroke	mm	4 1
Three-phase opening synchronization	Ms	⩽2
Bouncing time of closing contact	Ms	⩽2,⩽3(40kA)
Cushioning stroke of oil buffer	mm	10
Phase-to-phase distance	mm	230 1.5,250 1.5(>1250A)
Contact pressure of closing contact	N	2000-2500(20kA,25kA) 3000-3500(31.5kA) 4500-5000(40kA)
Average opening speed (before contacting the oil buffer)	m/s	1.1 0.2
Average closing speed	m/s	0.6 0.2
Resistance of conductive circuit of each phase	μΩ	⩽40(630-1250A) ⩽35(1600-2000A) ⩽40(2500-3150A)
Allowable abrasion total thickness of active and static contactor	mm	3

Technical parameters of operating mechanism

Item	Unit	Parameter				
Closing power	J	CT19-1 100	CT19-11 140	CT19-111 180		
Rated output power of motor	W	-90(-70)	-90(-70)	-90(-70)		
Rated working voltage of motor	V	AC110 and 220,DC110 and 220				
Normal working voltage of motor	V	85-110% of rated working voltage				
Electric energy-storage time	S	⩽12				
Rated working voltage of closing and opening electromagnet	V	~110~220		~380~48		~110~220
Rated working current of closing electromagnet	A	3.5	1.7		2.5	1.0
Rated working current of opening electromagnet	A	3.5	1.7		2.5	1.0
Normal working voltage of closing electromagnet	V	85-110% of rated working voltage				
Normal working voltage of opening electromagnet	V	65-120% of rated working voltage				

Product structure

The circuit breaker consists of ZN28A-12/T separate vacuum circuit breaker and special spring mechanism, using the integrated structure of mechanism and body, the main conductive circuit and operating mechanism are mounted in the front and rear, it is installed easily, little maintenance and adjustment free; due to the great simplification of driving part between the switch and mechanism, it not only improves the driving efficiency, but also the reliability.

China YIFA Holding Group Co., Ltd.

Outdoor HV vacuum circuit breaker

HV vacuum load switch

HV isolating switch

Operating mechanism

Lightning arrestor

Fuse

ZW6-12 Outdoor HV Pole-mounted Vacuum Circuit Breaker

General

ZW6-12 series outdoor HV pole-mounted vacuum circuit breaker is an AC high voltage outdoor switchgear of rated voltage 12KV and 50Hz, mainly used to break and make the load current, overload current and short circuit current of urban and rural power grid and miniature power system.

The product is designed into three-phase common box type structure, the arc-extinguishing chamber is positioned in the epoxy-resin casting body and enclosure metallic box, this structure not only solves the condensation problem, but also takes convenience for phase-to-phase/to-earth insulation.

This product may be used as the recloser through being equipped with the closing controller, and it also can serve as a breaker by being equipped with segmented controller, therefore, it is the ideal automatic switch of distribution network.

Main technical parameters

Item	Unit	Parameter	
		16kA	20kA
Rated voltage	kV	12	
Rated current	A	630	
1min line frequency withstand voltage	kV	42	
Thunder impulse withstand voltage	kV	75	
Rated short circuit dropout current	kA	16	20
Rated short circuit close current (peak)	kA	40	50
Rated peak withstand current	kA	40	50
4s rated short time withstand current	kA	16	20
Rated operating sequence	times	O-0.3s- CO-180s- CO	
Open circuit times of rated short circuit dropout current	times	30	
Mechanical life	mm	1000	
Allowable abrasion total thickness of active and static contactor	mm	3	
Contactor torque	mm	9 1	
Contact travel	m/s	3 1	
Average close brake speed	m/s	0.6 0.2	
Average break brake speed	ms	1.0 0.2	
Closing bounce time	ms	≤2	
Three-phase opening asynchrony	s	≤2	
Open brake time	s	≤20.6	≤0.06
Break brake time	μΩ	≤0.1	
DC resistance of each phase circuit	μΩ	≤120	
Phase-to-phase spac	mm	193	

Outline and installation dimension

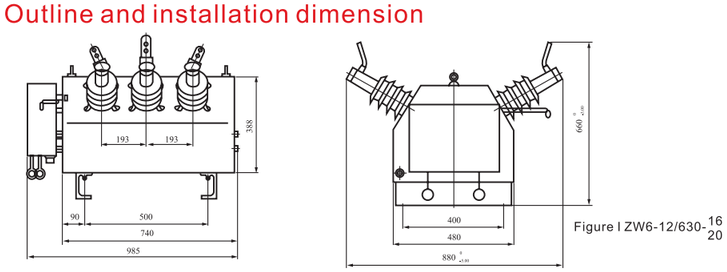


Figure I ZW6-12/630-16/20

ZW8-12,ZW8-12G HV Vacuum Circuit Breaker

General

ZW8-12G series vacuum circuit breaker is the outdoor three-phase AC high voltage switchgear of rated voltage 12KV and 50Hz, to make and break the load current, overload current , short current of urban and rural power grid and miniature power system.

The product is designed into three-phase common box type, with the three-phase vacuum arc-extinguishing chamber in the metallic box,employs SMC insulation material to get strong phase-to-phase/to-phase insulation, with the reliable performance and high insulation strength.

ZW8-12G circuit breaker is combined with ZW8-12 circuit breaker and isolating switch, called combined circuit breaker, served as segment switch. Its operating mechanism is CT23 type spring energy-storage operating mechanism that is divided into electric type and manual type.

Main technical parameters

Item		Unit	Parameter		
			6.3kA	12.5kA	20kA
Rated voltage		kV	12		
Rated current		A	630		
Rated short-circuit breaking current		kA	6.3	12.5	20
Rated short-circuit making current (peak)		kA	16	31.5	50
Rated peak withstand current		kA	16	31.5	50
Rated short-time withstand current		kA	6.3	12.5	20
Rated insulation leve	1min line frequency withstand voltag(dry type)	kV	42		
	Thunder impulse withstand voltage(peak)		75		
Rated operating sequence			O-0.3s- CO-180s- CO		
Mechanical life		times	10000		
Rated short-circuit breaking current breaking times		times	30		
Rated closing voltage of operating mechanism		V	110,220		
Rated opening voltage of operating mechanism		V	110,220		
Clearance between open contacts		mm	11 1		
Over stroke (compression length of contact spring)		mm	3+1.0 +0.3		
Three-phase opening and closing asynchrony		ms	⩽2		
Closing bouncing time of contacts		ms	⩽2		
Average opening speed		m/s	1.0 0.2		
Average closing speed		m/s	0.7 0.15		
Opening time	At max operating voltage	s	0.015-0.15		
	At min operating voltage		0.03-0.06		
Closing time		s	0.025-0.05		
Main circuit resistance of each phase		μΩ	⩽120		
Total thickness of permissible wear of moving and static contacts		mm	3		

ZN28G-12/T Type Indoor AC HV Vacuum Circuit Breaker

Outline and installation dimension

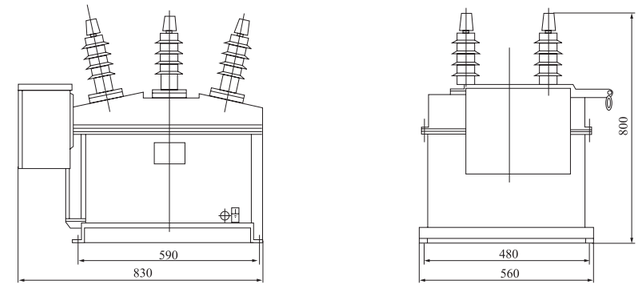


Fig. 1 Overall dimension drawing of ZW8-12

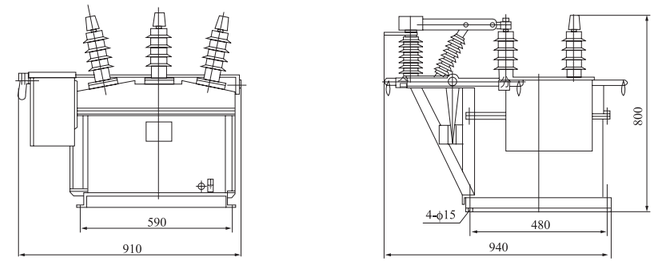
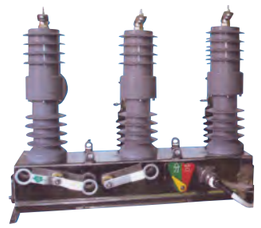


Fig. 1 Overall dimension drawing of ZW8-12G

ZW32-12 Outdoor HV Vacuum Circuit Breaker



General

ZW32-12 type outdoor high voltage circuit breaker is used for three-phase power system of AC 50Hz and voltage 10-12KV, to make and break the load current, it has the overload and short-circuit protection, meeting the requirements of control and measurement, it also can realize the remoter control and monitor. It is suitable for the control and protection of distribution system in the transformer substation and industrial and mining enterprise or in the location which needs the frequent operation at rural power grid.

Main technical parameters

Item			Unit	Parameter
Rated voltage			kV	12
Thunder impulse withstand voltage(peak)			kV	12
Rated insulation level	Power frequency withstand voltage	Dry test	kV	42
		Wet test	kV	34
	Power frequency withstand voltage(peak)		kV	75
Rated current			A	630;400;200
Rated short circuit dropout current			kA	20;16;12.5
Rated operating sequence				O-0.3s- CO-180s- CO
Open circuit times of rated short circuit dropout current			times	30
Rated short circuit close current(park)			kA	50
Rated peak withstand current			kA	50
Rated short current withstand current			kA	20
Rated short-circuit duration			s	4
Opening time	At max operating voltage		ms	15-50
	Rated operating voltage		ms	15-50
	At min operating voltage		ms	30-60
Closing time			ms	25-50
Full-breaking time			ms	⩽100
Arcing time			ms	⩽20
Mechanical life			times	10000
Rated input power of energy-storage motor			W	40
Rated operating voltage and auxiliary circuit			V	DC220,110,24
Rated voltage			V	AC220,110,24
Energy-storage time at rated voltage			S	⩽10
Over-current release	Rated current		A	5
	Accuracy of tripping current		%	10

ZW32-12 Outdoor HV Vacuum Circuit Breaker

Outline and installation dimension

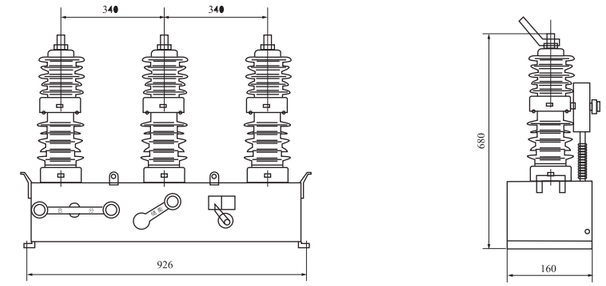


Fig.1 Circuit breaker and installation dimension

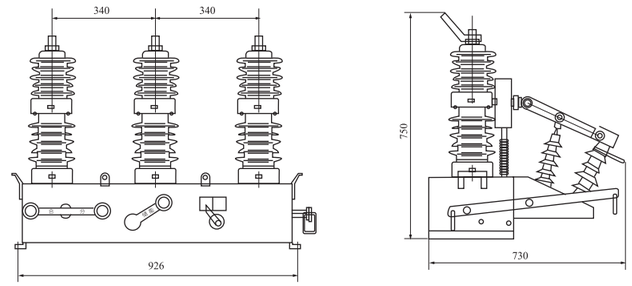


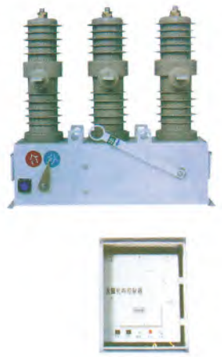
Fig.2 Structure, outline and installation dimensions of combined circuit break

ZW32-12/M Outdoor Pole-mounted Permanent-magnetic Vacuum Circuit Breaker

General

ZW32-12/M series high-voltage pole-mounted permanent-magnetic vacuum circuit breaker for outdoor is an outdoor power distribution equipment suitable for systems of AC50Hz and rated voltage of 12kV. It is mainly used for making and breaking the load current, overload current and short-circuit current in power systems,application for protection and control of distribution systems in transformer substation and industrial and mining enterprises, especially suitable for rural power grids and other frequently operated locations.

This circuit breaker is in accordance with GB1984-2003 High-voltage Alternating-current Circuit Breaker.JB3855-2008 Indoor High-voltage Alternating-current Vacuum Circuit breaker of 3.6-40.5kV and DL403-91Specification for Indoor High-voltage Alternating-current Circuit Breaker of 10-35kV, also is in conformity with relevant requirements of IEC56.



Structure and features

Full-enclosed structure has favorable sealing performance, helps to improve moisture proof and anti condensation performance, is applicable for high-temperature humid areas, effectively protect the switch from mechanical rust in outdoor for long time.

Vacuum arc-extinguishing chamber has stable and reliable breaking performance, little contact wear, free of flammable or explosive danger, free of maintenance, safe and reliable.

Special alicyclic epoxy resin strengthens insulating stability in humid condition, protects against erosion caused by ultraviolet radiation, is suitable for environment where has high weatherproof requirements and severe running conditions.

The circuit breaker adopts permanent-magnetic operating mechanism, has advantages of less parts,maintenance free. more than 30,000 times of mechanical life, high reliability.

Features

Small volume, light weight, maintenance free, long service life;

It can be equipped with disconnection switch, with obvious breaking point;

It can be equipped with controller to realize automatic reclosing, reclosing times and reclosing time can be selected randomly, with quick-break protection, and the fixed value can be set randomly;

Under-pole remote control, many operating modes such as electric and manual;

Remote control closes, and automatic locks after opening due to faults;

It is able to real-time monitor the running current of circuitries

ZW10-12 Outdoor HV Vacuum Circuit Breaker

General

ZW10-12 series outdoor high-voltage alternating-current vacuum circuit breaker is a three-phase high-voltage switchgear of AC50Hz for outdoor, suitable for making and breaking the load current, over-load current and short-circuit current in urban and rural power grid systems of 10kV, also can be used for other similar occasions.

This circuit breaker can be formed into a combined circuit breaker with a disconnecting switch, formed into a recloser with a reclosing controller, and formed into automatic distribution switch with FTU, RTU, which can clear and isolatethe faults automatically, and transfer and recover the power supply automatically. It is able to communicate with DMS system of distribution management center through a remote-control device, to realize four-remote function.

When being equipped with prepaid distribution box of intelligent IC card, it is able to realize automatic power cut-off without fee, and automatic power supply recovery after purchasing electricity, to meet the needs of power supply department in reforming the electricity manageme.

Structure and features

Adopt special condensation resistant measures inside, to ensure the inner insulation of box;

The driving way adopts the patented technology, with advantages of convenient installation and reliable operation, guarantees fine performance of circuit breaker, protects it from being affected by the mechanical fault;

No oil charge, no gas charge, small volume,light weight, CT protection;

Heavy breaking current, no pollution, maintenance free;

Both manual operation and electric operation are available.

Main technical parameters

Item		Unit	Parameter
Rated voltage		kV	12
Rated current		A	630/1250
Rated frequency		Hz	50
Line frequency withstand voltage			42/48
Thunder impulse withstand voltage(peak)		kV	75/85
Rated short circuit dropout current		kA	12.5,16,20
Rated short circuit close current(peak)		kA	31.5,40,50
Rated short time withstand current		kA	12.5,16,20
Rated peak withstand current		kA	31.5,40,50
Rated operating sequence			O-0.3s- CO-180s- CO
Rated short-circuit current breaking times		times	30
Mechanical life		times	10000
Allowable abrasion total thickness of active and static contactor		mm	3
Rated operating voltage (be equipped with CT type spring operating mechanism)	Close brake current	V	220🖂
	Opening brake current	V	220🖂
Rated working current of over-current tripping coil		A	5
Primary and secondary current ratio of current transformer			50-1000/5
Energy-storage motor	Rated voltage	V	220
	Rated frequency	W	≤200
Weight		kg	150

ZW10-12 Outdoor HV Vacuum Circuit Breaker

Outline and installation dimension

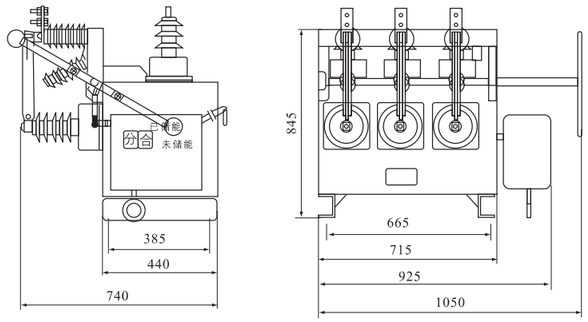


Fig. 1 Overall dimension of ZW 10-12 series

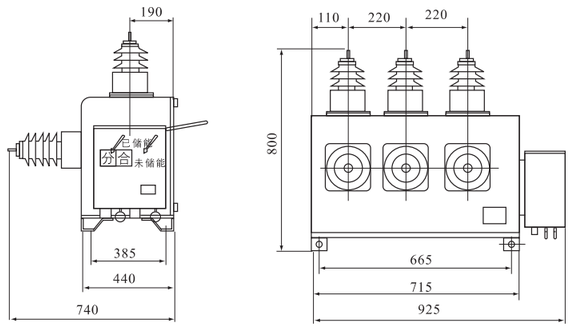
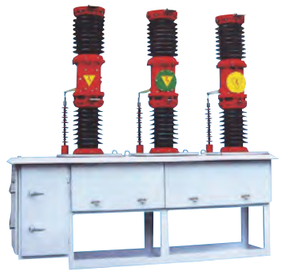


Fig. 2 Overall dimension of ZW 10-12 series

ZW7(A)-40.5 Outdoor HV Vacuum Circuit Breaker



General

ZW7(A)-40.5 type outdoor high-voltage vacuum circuit breaker (hereinafter referred to as circuit breaker) is suitable for making and breaking the load current in the three-phase system of AC50Hz and 40.5kv. It can be used to control and protect the power device and power circuitry in power plant, transformer substation and other power systems of 40.5kv, each phase is equipped a LZZBJ4 type current transformer inside, and each CT has 4 windings, which is applicable for metering, measurement and protection. This circuit breaker is featured with strong shock resistance, perfect pollution prevention, small volume, simple structure, convenient use, nice breaking performance and high reliability, etc.

Main functions

A. Adoption of vacuum arc-extinguish, strong breaking capacity, long electric life, 10000 times of mechanical life.

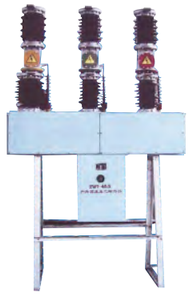
B. Simple structure, maintenance free, long non-overhaul period

C. Fine insulation performance, strong antifouling capacity

D. It can be equipped with spring or eletromagnetic operating mechanism, reliable mechanical performance, it is able to operate frequently; no hidden danger of fire or explosion

E. Built-in current transformer, accuracy reach reaches class 0.2, it is able to realize three-phase interactive protection

F. With condensation controller inside, which guarantees reliable running of circuit breaker at certain temperature and humidity.



Service conditions

A. Ambient air temperature:-30℃~+40℃

B. Altitude: ⩽2000m（if it is necessary to increase the altitude, then the rated insulation level should be increased correspondingly）

C. Wind pressure: not exceed 700Pa (corresponding to wind speed of 34m/s)

D. Amplitude of vibration: seismic intensity of Ms8

E. Class of pollution: class

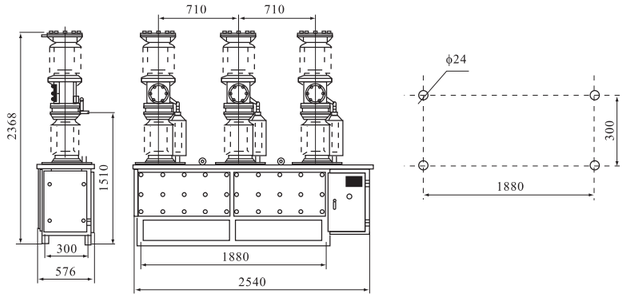
F. Max daily temperature difference: not exceed 25℃

ZW7(A)-40.5 Outdoor HV Vacuum Circuit Breaker

Main technical parameters

Item			Unit	Parameter
Rated voltage			kV	40.5
Rated insulation leve	Power frequency withstand voltage	dry type	kV	80
		wet type	kV	185
	Thunder impulse withstand voltage (peak)		kV	95
Rated current			A	1250,1600,2000
Rated short circuit dropout current			kA	20,25,31.5,40
Rated operating sequence				O-0.3s- CO-180s- CO
Open circuit times of rated short circuit dropout current			times	20
Rated short circuit close current (peak)			kA	50,63,80,100
Rated peak withstand current			kA	
Rated short time withstand current			kA	20,25,31.5,40
Rated short-circuit withstand time			S	4
Average break speed			m/s	1.5 0.2
Average close speed			m/s	0.7 0.2
Bouncing timeliness of contract closing			ms	⩽5
Poor synchronization of three-phase closing(opening)			ms	⩽3
Close time			ms	⩽150
Break time			ms	⩽60
Mechanical life			times	10000
Rated operating voltage and rated voltage of auxiliary circuit			V	DC220,110,24 AC220,110,24
DC resistance of each phase circuit (exclude transformer)			μΩ	⩽120
Allowable abrasion total thickness of active and static contactor			mm	3
Weight			kg	800

Outline and installation dimension



CNCE-601H Outdoor Pole-Mounted SF6 Load Switch

General

This load switch condenses the technical crystallization of high-voltage electrical distribution technologies, exerts the strong suits of high-voltage power technology, the product is featured with small volume, light weight.

The products are in accordance with the following standards: high performance, and high reliability.

National standard GB/3804-2004 High-voltage alternating-current switches for rated voltage above 3kV and less than 36kV.

National standard GB/T 11022-1999 Common specifications for high-voltage switchgear and controlgear standards.

National power industrial standard DL/T844-203 General specification for 12kv minimum maintenance outdoor distribution switchgears

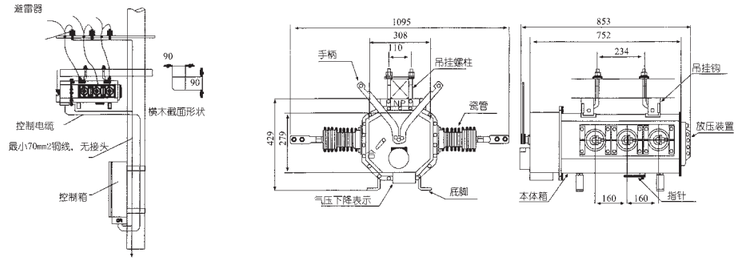
IEC60265: 1998 issued by International Electricity Commission

IEC60694: 1996 issued by International Electricity Commission

Main technical parameters

Item		Unit	Parameter
Rated voltage		kV	12
Rated current		A	630
Frequency		Hz	50
Main circuit breaking capacity		A	630
Cable charging breaking capacity		A	10
Rated short-time withstand current and its duration		kA/S	20/2
Rated short-time peak withstand current		kA	50
Rated short circuit close current		kA	50
Phase /phase, phase/ground impulse withstand voltage		kV	75
Impulse voltage at fracture		kV	85
Phase-to-phase,phase-to-ground	Rated short time 1 min line frequency withstand voltage (Dry type)	kV	42
Fracture		kV	49
Phase-to-phase,phase-to-ground	Rated short time 1 min line frequency withstand voltage (Wet type)	kV	36
Fracture		kV	36

Outline and installation dimension



China YIFA Holding Group Co., Ltd.

Outdoor SF6 circuit breaker

– HV vacuum load switch

– HV isolating switch

– Operating mechanism

– Lightning arrestor

– Fuse

General

LW8-40.5(G)-CJ overhead type knob insulation mode outdoor high-voltage alternating-current SF6 circuit breaker (hereinafter referred as circuit breaker) is an outdoor installed control and protection equipment for three-phase high-voltage transmission and transformation system of AC40.5KV that takes SF6 gas as the five-extinguishing and insulating medium. It can be used to make and break rated current and fault current, throw in and cut off capacitor bank, change over lines,especially suitable for frequent operation, it also can be used as interconnecting circuit breaker.

This circuit breaker is in accordance with IEC high-voltage alternating-current circuit breaker and GB1984 high-voltage alternating-current circuit breaker.

Product type and meaning

L W 8 - 40.5(G) / T 31.5 - 3150 C J

- J — Overhead type
- C — Knob insulator mode
- 3150 — Rated breaking short-circuit current
- 31.5 — Rated current
- T — Spring operating mechanism
- G — For highland area
- 40.5 — Rated voltage
- 8 — Design No.
- W — Outdoor type
- LW — SF6 circuit breaker

Service conditions

1. Ambient temperature:-30℃~+40℃

2. Relative humidity:daily average value should not exceed 90%, and the monthly average value should not be higher than 95%

3. Altitude: altitude for normal operation should not exceed 1000m,(plain type); altitude for special operation should not exceed 3000m,(plateau type)

4. Wind speed should not exceed 34m/s(correspond to 700Pa on surface of circuit cylinder.

5. Seismic intensity should not exceed Ms8 (horizontal acceleration 0.25g,vertical acceleration 0.125g)

6. Air pollution degree: class IV, min normal creepage distance:31 mm/KV.

Main technical parameters

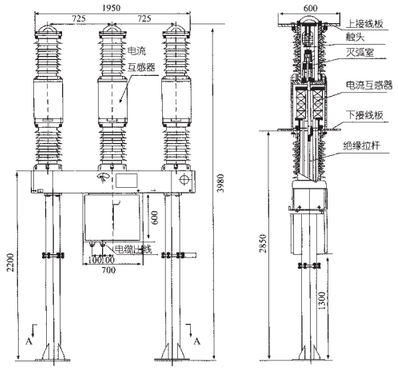
Item		Unit	Parameter	
Rated voltage		kV	40.5	
Rated insulation level	Lightning impulse withstand voltage (peak)	kV	185/215*	
	1 min line frequency withstand voltage (effective value)	kV	95/119*	
Rated current		A	1600	3150
Rated breaking current of capacitor bank		A	400	
Rated frequency			500	

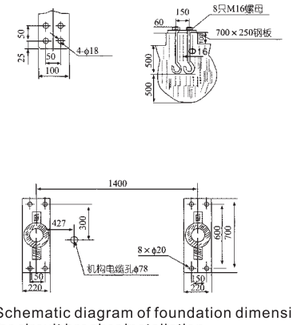
LW8-40.5 Type Outdoor SF6 Circuit Breaker

Continued

Item			Unit	Parameter	
Rated short circuit dropout current			kV	25	31.5
Rated peak withstand current			kV	63	80
Rated short time withstand current			kV	25	31.5
Open circuit times of rated short circuit dropout current			kV	6.3	7.9
Rated short circuit close current				63	80
Open circuit times of rated short circuit dropout current			times	25	20
Mechanical life			times	5000	
Rated operating sequence				O-0.3s CO-180s CO	
Opening time (at rated operating voltage)			s	≤0.06	
Closing time (at rated operating voltage)			s	≤0.1	
Rated short-circuit duration			s	4	
Metal short-connected time			s	≥0.12	
Full-breaking time			s	≤0.078	
Rated pressure of SF6 gas (20℃ gauge pressure)			mpa	0.45	
Supply pressure of SF6 gas (20℃ gauge pressure)			mpa	0.42	
Locking pressure of SF6 gas (20℃ gauge pressure)			mpa	0.40	
Gas leakage rate			%year	≤1	
Water content of SF6 gas (20℃ gauge pressure)			ppm(V/V)	Transition value≤150 Runnong value≤300	
Weight	Body of circuit breaker	With CT	kg	1000	
		Without CT	kg	800	
	SF6 gas		kg	5	

Outline and installation dimension

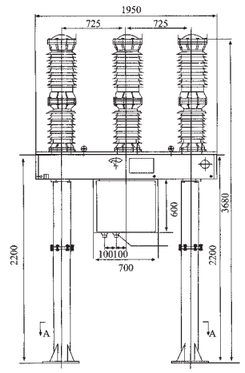


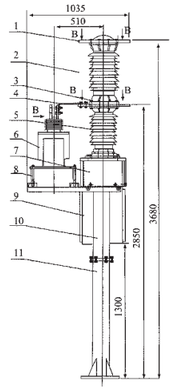


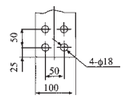
Schematic diagram of foundation dimension for circuit breaker installation

Note:
1. Data in the parentheses ( ) is of plateau type
2.Outline mechanism of built-in CT and dimensional drawing of each part

LW8-40.5 Type Outdoor SF6 Circuit Breaker

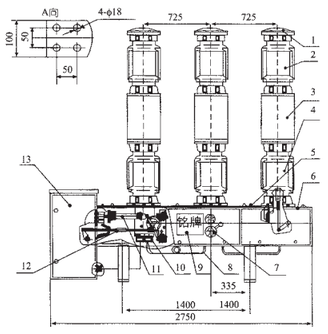


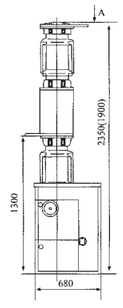




1. Upper outgoing wire
2. Arc-extinguishing chamber
3. Lower outgoing wire
4. Flexible joint
5. Porcelain bushing for post
6. Current transformer (CT)
7. Underframe
8. CT support
9. CT38 mechanism
10. Post
11. Transition post

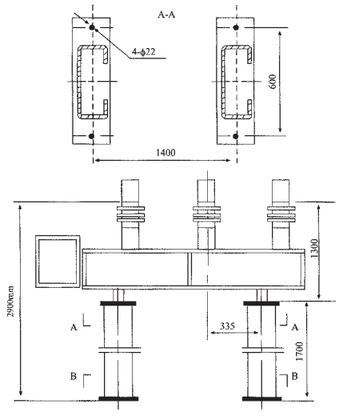
Note:
1. Data in the parentheses ( ) is of plateau type
2.Outline mechanism of built-in CT and dimensional drawing of each part

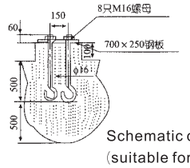




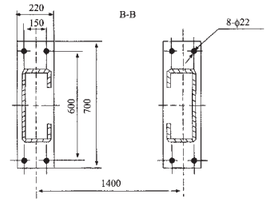
1. Terminal block
2. Arc-extinguishing chamber
3. Current transformer
4. Post
5. Lifting post
6. Underframe
7. ON/OFF indication
8. Gas pipeline
9. Nameplate
10. Gear case
11. Opening spring
12. Turnbuckle
13. Spring operating mechanism

Dimensions in the parentheses are that of products without current transformer
Please give clear indication for dimensions in the parentheses when placing an order





Schematic diagram of transition support of circuit breaker
(suitable for new-built base, height can be determined by users themselves)



LW8-40.5 Type Outdoor SF6 Circuit Breaker

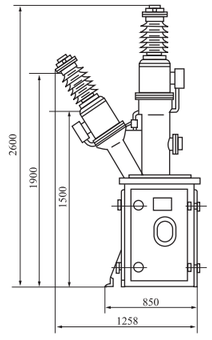
General

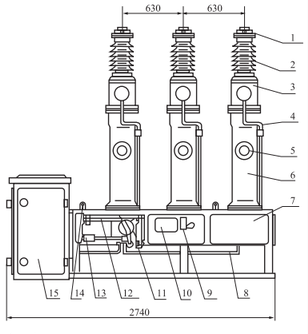
LW8-40.5 series SF6 circuit breaker is an outdoor high-voltage electrical equipment of three-phase AC50Hz, it is suitable for control and protection of transmission and distribution system of 405kV, also applicable for interconnecting circuit breaker and switching capacitor bank. The product has fine breaking performance, it adopts putter type arc-extinguishing chamber, with long electric life. it is able to break short-circuit current of 40kV for 21 times without overhaul; each set can be equipped with 12 current transformers for selection. This product adopts the latest MKZ type SF6 pointer type densimeter, reading of pressure gauge would be unaffected by the temperature change, it is convenient to operate.

The product is equipped with CT14 type spring mechanism.

The circuit breakers can be divided into dead tank and knob insulator two structure types. The knob insulator type also contains parallel and overhead T-shaped(mid-set) two arrangement modes.

Outline and installation dimension:





1 outgoing wire cap
2 Porcelain bushing
3 Current transformer
4 Connecting sheath of transformer
5 Absorber
6 Enclosure
7 Underframe
8 Gas pipeline
9 ON/OFF indication
10 Nameplate
11 Gear case
12 Opening spring
13 Turnbuckle
14 Lifting ring
15 Spring operating mechanism

Service conditions

1. Altitude :≤1000m,2000m,3000m
2. Ambient temperature:-30℃~+40℃
3. Class of pollution:II,III,IV

Main technical parameters

Item		Unit	Parameter	
Rated voltage		kV	40.5	
Rated insulation level	Lightning impulses withstand voltage (full-wave peak)	kV	185	
	Line frequency withstand voltage	kV	95	
Rated current		A	1600 2000	
Mechanical life		times	3000	
Rated air pressure of SF6 gas (20℃ gauge pressure)		Map	0.50	
Alarm pressure/min functional pressure (20℃ gauge pressure)		Map	0.47/0.45	
Rated short circuit dropout current		kA	25	31.5
Rated short circuit close current (peak)		kA	63	80
Rated short-time withstand current (thermal stability current)		kA	25	31.5
Rated out-of synchronism breaking current		kA	63	80
Accumulated breaking times at rated short-circuit breaking current		times	15	10
Rated short-circuit duration		s	4	
Closing timeliness (at rated operating voltage)		s	≤0.1	
Opening timeliness(at rated operating voltage)		s	≤0.06	
Rated operating sequence			C-0.3s -CO-180s-CO	
Rated making and breaking current of single capacitor bank		A	400	
Annual gas leakage rate		%year	≤1	
Water content of SF6 gas(V/V)			150 10^{-6}	
Rated operating voltage of the breaker equipped with CT14 type spring operating mechanism				
Voltage of closing and opening coils		V	AC:220 380 DC:48 110 220	
Voltage of energy-storage motor		V	AC:220 380 DC:110 220	
Weight of SF6 gas		kg	8	
Weight of circuit breaker (including operation mechanism)		kg	1400	

LW3-12(D)II III IV Outdoor High-Voltage SF6 Circuit Breaker

General

The latest design of conductor pole, protecting insulator from cracking;

Perfect protection functions against over-current time delay, short-circuit quick-breaking or no-voltage;

Increase of transformer type, single-protection transformer and secondary transformer not only have function of measurement, but also have protection functions, it saves the investment cost for power stations;

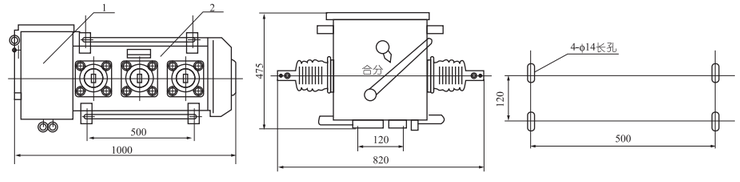
Increase of obvious gaps, with anti-misoperation interlocking operation;

Adoption of pressure-sensitive elements, it is able to read the air pressure digits remotely.

Main technical parameters

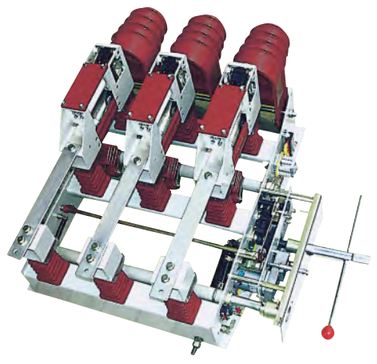
Item		Unit	Parameter		
Rated voltage		kV	12		
Max operation voltage		kV	12		
Related insulation level (when pressure of SF6 gas in circuit breaker is 0.25Mpa, at 20℃)	Thunder impulse withstand voltage (full-wave)	kV	75		
	Line frequency withstand voltage	kV	42		
	Rainfall withstand voltage test	kV	34		
Insulation level at zero gauge pressure (max phase voltage 5 min)		kV	9		
Rated current		A	400		630
Rated short circuit dropout current		kV	12.5	16	31.5
Breaking current at zero gauge pressure		A	630		1250
Breaking times at rated short-circuit current		times	20		
Rated operating sequence	type I		O-180s-CO-180s-CO		
	type II		O-0.5s-CO-180s-CO		
Rated close current (peak)		kA	16	20	31.5
Rated peak withstand current		kA	16	20	31.5
Rated thermal stability time		s		4	
Rated short-time withstand current		kA	12.5	20	31.5
Inherent closing time (type II)		s	≤0.06		
Inherent closing time (type II)	type I	s	≤0.06		
	type II	s	≤0.04		
Rated working pressure		Mpa	0.35		
Min working pressure		Mpa	0.25		
Annual gas leakage rate		%	≤1		
Mechanical life		times	2000		
Weight	type I	kg	122		
	type II	kg	130		

Outline and installation dimension



Indoor HV vacuum load switch

- HV vacuum load switch
- HV isolating switch
- Operating mechanism
- Lightning arrestor
- Fuse



General

FNI2-12D/630-20 type indoor high-voltage alternating-current load switch (hereinafter referred to as FN1212D load switch) is a three-phase high-voltage switchgear of rated voltage 12kV and rated frequency 50Hz, used for making and breaking load current, closed loop current, no-load transformer and cable charging current, and making short-circuit current. It is able to withstand short-circuit current after being equipped with load switch of earthing switch.

FN12-12D. R/100-315 type indoor high-voltage alternating-current switch-fuse combination (hereinafter referred to as FN12-12D R combination unit) is an indoor high-voltage switchgear made up of FN12-12D load switch and S LAJ-12(XRNT-12) high-voltage current-limiting fuse. It is able to break any short-circuit current reliably: break working current by load switch, break short-circuit current by fuse, break any over-current between working current and full short-circuit current by combination unit, meanwhile, the load switch can be opened by fuse through striker.

Product type and meaning

F N 12 - 12 D / 360 - 20 - □

- Mechanism model: D motor
- Rated peak withstand current
- Rated current
- Earthing switch
- Rated voltage
- Design No.
- Indoor
- High-voltage alternating-current load switch

F N 12 - 12 D . R / 100 - 31.5 - □

- Mechanism model: D motor
- Mechanism form: S means manual, D means electrical
- Rated short-circuit breaking current
- Rated current
- Earthing switch
- Rated voltage
- Design No.
- Indoor
- High-voltage switch-fuse combination

Service conditions

1. Ambient air temperature: -25℃~+40℃.
2. Altitude:≤1000m.
3. Relative humidity: monthly average value should not be higher than 90%, and the daily average value should not exceed 95%.
4. The ambient air should be free of obvious pollution of corrosive gas or combustible gas or water vapor .
5. Free of regular intensive vibration.
6. Class of pollution: class .

If beyond the above conditions,users should negotiate with manufacturer.

FN12-12 Indoor High-Voltage Switch-Fuse Combination

Technical performance parameters

Item	Unit	FN12-12D/630-20	FN12-12D.R/100-31.5
Rated voltage	kV	12	12
Rated frequency	Hz	50	50
Rated current	A	630	630
Thunder impulse withstand voltage	kV	to-ground/phase-to-phase 75,isolating distance 85	
1 min line frequency withstand voltage	kV	to-ground/phase-to-phase 42,isolating distance 48	
Rated short-time withstand current	kA	20(4s)	
Rated peak withstand current	kA	50	
Rated short circuit close current (peak)	kA	50	
Rated short circuit dropout current	kA		31.5
Rated transfer current	kA		1.5
Max breaking current (reference value)	kA	1.8	
Breaking capacitor of no-load transformer	KVA	1250	
Rated cable charging current	A	10	
Breaking times of rated active load current	times	＞100	
Opening time of load switch triggered by impinger trigger	s		＞0.06
Short-time withstand current of earthing switch	kA	20(2s)	20(2s)
Short-time withstand current of earthing switch (peak)	kA	50	50
Operating supply voltage of motor	V	AC220,DC48	

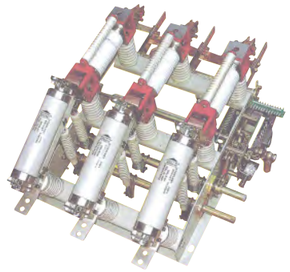
Mechanical feature parameters

Item	Unit	FN12-12D/630-20	FN12-12D.R/100-31.5
Clearance between auxiliary contacts	mm	＞155	
Three-phase opening and closing synchronism	ms	＜3	
Instantaneous opening speed	m/s	＞2.8	$2.8^{+0.4}$
Instantaneous closing speed	m/s	＞3.8	
Fracture distance of earthing switch	mm	145 5	
Resistance of main circuit	μΩ	＜120	＜300
Max operating torque	N.m	＜160	＜180

Main technical parameters

Type		rated current of fuse-element	capacity pf applicable transformer
UK model	UK model		
SDLAJ-12	XRNT□-12	16	100,125,160
		20	200
		25	250
		31.5	315
		40	400
SFLAJ-12		50	500
		63	630,800
		80	1000
SSLAJ-12		100	1250
SKLAJ-12		125	1600

FZN21-12,FZRN21-12 Indoor High-Voltage Switch-Fuse Combination



General

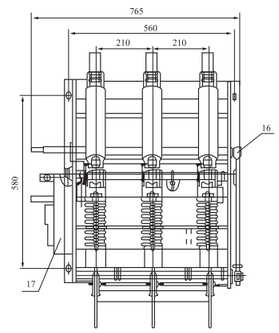
FZN21-12(D)/T630-20 type indoor high-voltage alternating-current vacuum load switch is suitable for three-phase power system of AC50Hz and rated voltage 12kV, used to break the load current, especially suitable for locations that require oil free, maintenance free and frequent operation.

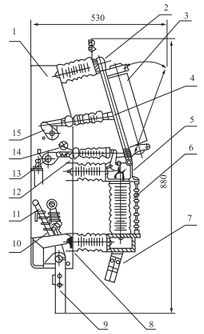
FZRN21-12(D)/T12.5-31.5 type indoor alternating-current vacuum load switch-fuse combination is suitable for power valve system of AC50Hz and rated voltage 12kV, used to break the load current, overload current or short-circuit current, especially suitable for locations that require oil free, maintenance free and frequent operation, as well as ring main unit power supply and transformer control and protection of terminal power supply.

Main technical parameters

Item	Unit	Parameter
Rated voltage	kV	12
Rated frequency	Hz	50
Rated current	A	630
Rated active load breaking current	A	630
Rated closed-loop breaking current 5%	A	630
5% rated active load breaking current	kA	31.5
Rated cable charging breaking current	A	10
Breaking current of rated no-load transformer	A	No-load current of 1250kVA transformer
1 min power frequency withstand voltage; fracture,phase-to-ground/isolating distance	kV	42
Lightning impulse withstand voltage; fracture, phase-to-ground/isolating distance	kV	75
Rated short time withstand current/time	kA/s	20/4
Rated peak withstand current	kA	50
Rated short circuit close current (peak)	kA	50
Mechanical life	order	1000
Allowable abrasion total thickness of active and static contactor	mm	2
Pening and closing operation torque	N-mm	≤200

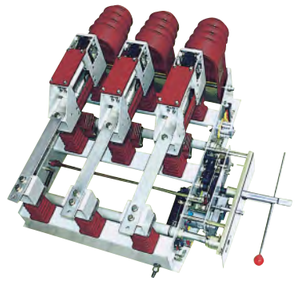
Outline and installation dimension





Load switch without fuse (item 3) or tripping mechanism (item 14)

FZN25-12,FZRN25-12 Indoor High-Voltage Switch-Fuse Combination



General

FZN25-12D/T630-20 type indoor AC HV load switch is an indoor device of three-phase AC 50Hz and rated voltage 12kV. It is applied to the sites of distribution substation of industrial and mining enterprises and substation etc, used for protecting and controlling electric facilities, on and off load current, closed loop current, zero load transformer and cable charging current.

Equipped with manual and electromotive actuating mechanism, it is easy to realize the three remote control requirements for electric system.

FZRN25-12D/T125-315 type indoor AC HV vacuum load switch--Fuse combined electrical equipment is an indoor device of three-phase AC 50Hz and rated voltage 12kV. It is applied to the sites of distribution substation of industrial and mining enterprises and substation etc, used for load control and short circuit protection. The equipped ground switch can bear short circuit current. The manual and electromotive actuating mechanism is easy to realize the three remote control requirements for electric system.

FZN25-12D and FZRN25-12D type load switch and combined electrical equipment are applied to the urban areas distribution substation of three-phase ring net or terminal supply and industrial electric devices,used for load control and short circuit protection. As the combined electrical equipments bring more reliable and economic protection functions to transformer etc electrical devices, so it is especially applied to ring net,double radiation supply unit and box type substation.

Main technical parameters

Item		Unit	Parameter	
			FZN25-12D/T630-20	FZN25-12D/T630-31.5
Rated voltage		kV	12	
Rated frequency		Hz	50	
Rated current		A	630	125
Rated insulation level	1 min frequency withstand voltage	kV	arc-extinguishing chamber fracture 30, to-ground/phase 42; isolating distance 48	
	Thunder impulse withstand voltage	kV	To-ground/phase-to-phase 75;isolating distance 85	
Rated peak withstand current (peak)		kA	50	-
4S short-time withstand current		A	20	-
Rated active load breaking current		A	630	-
Rated closed-loop breaking current		A	630	-
Rated cable charging breaking current		KVA	10	-
Breaking capacity of no-load capacity		kA	1250	-
Rated short circuit dropout current		A	-	31.5
Rated transfer current and rated take-over current			-	2000
Model of fuse			-	
Output energy of impinger		J	-	2-5
Rated short-circuit making current		kA	50	
Rated peak withstand current of earthing switch		kA	50	
Short-time withstand current of earthing switch		kA	20	
Rated voltage of auxiliary circuit		V	≦220:110	
Mechanical life		times	10000	

FZW-32/T630-20 Type Outdoor High-Voltage Disconnecting Vacuum Load Switch

General

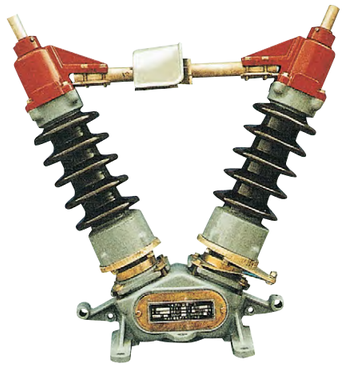
FZW32-12/T630-20 type outdoor high-voltage disconnecting vacuum switch is designed for the construction and reform of urban and rural power network, suitable for three-phase power supply network of AC50Hz and rated voltage of 12kV. Underframe of this product adopts stainless steel materials or hot-dip galvanized carbon-steel with ultraviolet-proof coating, guaranteeing normal running of the machine in outdoor, the parts adopt stainless steel materials, ensures durability, stability, watertight and anti-salt mist performance of load switch, this product is featured with small volume, light weight, elegant appearance, simple operation, high breaking capacity, safety, reliability, long service life, frequent operation, less maintenance, obvious gap, etc. It adopts single-rod manual operation, also electrical and remote-control operation modes are available.

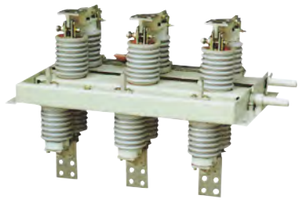
Main technical parameters

Item	Unit	Parameter
Rated voltage	kV	12
Rated frequency	Hz	50
Rated current	A	630
Rated active load breaking current	A	630
Rated closed-loop breaking current	A	630
5% rated active load breaking current	A	31.5
Rated cable charging breaking current	A	10
1 min power frequency withstand voltage; vacuum distance, phase-to-phase, phase-to-ground/isolating distance	kV	42/48
Lighting impulse withstand voltage; phase-to-phase, phase-to-ground/isolating distance	kV	75/85
Rated peak withstand current (thermal stability)	s	20
Rated short-circuit duration	s	4
Rated short-time withstand current (dynamic stability)	kA	50
Rated short-circuit making current	kA	50
Mechanical life	times	10000
Permissible abrasion thickness of vacuum arc-extinguishing chamber contact	mm	0.5
Manual operating torque	NA	≤200
Rated breaking capacity of no-load transformer	kVA	1600
Rated breaking current of capacitor	A	100

Outdoor HV isolating switch

- HV vacuum load switch
- HV isolating switch
- Operating mechanism
- Lightning arrestor
- Fuse





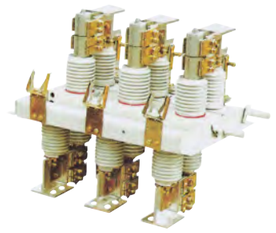
General

GN30-12(D) rotating type indoor HV isolating switch is a new pattern rotating knife type. The structure is on the upper and lower plane of three-phase common-base support, to fix insulators and contacts of two groups, to realize the open and close brake for the switch through rotating the knife. GN30-12(D) type switch is added with ground knife on the basis of GN30-12 type switch, which can meet the demands in different electric system. The product is compact designed, small, with strong insulating ability and easy to install and adjust. The performances conform to the requirements of GB1985-89 AC HV isolating switch and ground switch. It is applied to the indoor electric systems with rated voltage 12kV, AC 50Hz and below, used for opening and closing circuit under the condition with voltage and without load, and also used with HV switch cabinet or used singly.

Product type and meaning

G N 30 - 12 D / □ - □

- Thermal stability current
- Rated current
- Device with ground
- Rated voltage
- Design No.
- Indoor type
- Isolating switch



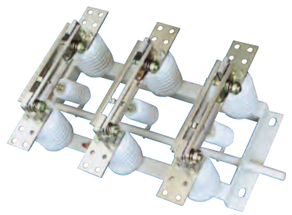
Service condition

A. Altitude: not more than 1000m
B. Ambient air temperature: upper limit +40℃, lower limit -10℃
C. Relative humidity: daily average is not more than 95%, monthly average is not more than 90%
D. Earthquake intensity is not more than 8
E. In the places without serious dust, chemical, corrosive and explosive materials
F. Places without frequent fierce shake

Main technical parameters

Product type	Rated voltage	Rated current	Thermal stability current	Thermal stability time	Dynamic stability current	Rated insulation level	
						Thunder impulse voltage	line frequency withstand voltage
GN30-12/400-12.5	12	400	12.5	4	31.5	Pole to pole, pole to ground 42 fracture 49	Pole to pole, pole to ground 75 fracture 85
GN30-12D/400-12.5							
GN30-12/600-20		630	20		50		
GN30-12D/630-20							
GN30-12/1000-31.5		1000	31.5		80		
GN30-12D/1000-31.5							
GN30-12/1250-31.5		1250	31.5		80		
GN30-12D/1250-31.5							
GN30-12/1600-3150		1600-3150	40		100		
GN30-12D/1600-3150							

GN19-12© Indoor HV Isolating Switch

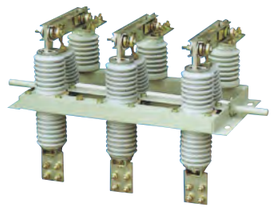


General

GN19-12(C) series indoor HV isolating switch device is used in the electric system with rated voltage 12 KV, AC voltage 50Hz and below, equipped with CS6-1 type manpower actuating mechanism, used for breaking and closing circuit under the condition with voltage and without load, and also derived into production goods antifouling type, plateau type and additionally equipped with electric display device etc.

Main technical parameters

Product type	Rated voltage	Rated current	Rated short time withstand current	Rated peak withstand current
GN19-12(C)400-12.5	12	400	12.5	31.5
GN19-12(C)630-20	12	630	20	50
GN19-12(C)1000-31.5	12	1000	31.5	80
GN19-12(C)1250-31.5	12	1250	31.5	80



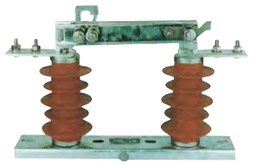
GW9-12 Outdoor HV Isolating Switch

General

GW9-12(W) series outdoor HV isolating switch is a kind of single-pole structured HV switchgear, used to make or break the charged lines of 12kV in no-load condition. There are fixed draw hook and autolocking device, it is flexible and reliable to use insulated hook stick to operate. Meanwhile, the antipollution type outdoor HV isolating switch really is an ideal selection for users for severe polluted areas, it solves the pollution flashover problem that isolating switch may come across during operation.

Product type and meaning

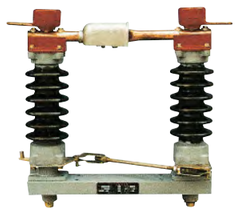
Model	Rated voltage (KV)	Rated current (A)	Rated peak withstand current (kA/S)	Rated withstand current (kA)	Rated lightning impulse withstand electric shock (KV)		Rated one min power frequency withstand electric shock (effective value)(KV)	
					To ground, phase to phase	Between fractures	To ground, phase to phase	Between fractures
GW9-12/400-12.5	12	400	12.5/4	31.5	75	85	42	48
GW9-12W/400-12.5								
GW9-12/630-20	12	630	20/4	50	75	85	42	48
GW9-12W/630-20								



GW4-40.5 Outdoor HV Isolating Switch

Working conditions

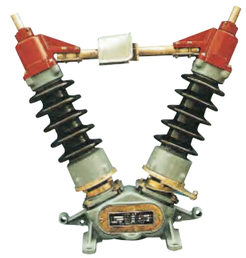
◇ Altitude: 1000-3000m.
◇ Ambient temperature: ⩽+40℃,(alpine region ⩾-40℃).
◇ Wind pressure not higher than 700p (equal to wind speed 34m/s).
◇ Earthquake intensity not exceed 8.
◇ Thickness of rice coating not exceed 10mm.
◇ The installation site should be free of flammable, explosive dangerous articles, chemical corrosion, or excessive vibration.
◇ Pollution class of post insulator: common type is class 0, antipollution is class
◇ This series of isolating switch should be in accordance with the requirements stipulated by GB1985-89 AC High-voltage Isolating Switch, IEC129(1984)AC Isolating Switch And Earth Switch and IEC694 (1980)Common Specification for High-Voltage Switchgear And Control Equipment.



Main technical parameters

Sort	Model	Rated voltage (KV)	Rated current (A)	Isolating switch		Earth switch				Earth switch
				rated peak withstand current (KA)	rated short -time withstand current (KA)	rated peak withstand current (KA)		rated short -time withstand current (KA)		
General type	GW4	40.5	400-1250	50 80	31.5(4s) 31.5(4s)	50	80	20 (4s)	31.5 (4s)	No earth Single earth Double earth
Antipollution type										

GW5-40.5 Outdoor HV Isolating Switch



Working conditions

◇ Altitude: 1000-3000m.
◇ Ambient temperature: ⩽+40℃,(alpine region ⩾-40℃).
◇ Wind pressure not higher than 700p (equal to wind speed 34m/s).
◇ Earthquake intensity not exceed 8.
◇ Thickness of rice coating not exceed 10mm.
◇ The installation site should be free of flammable, explosive dangerous articles, chemical corrosion, or excessive vibration.
◇ Pollution class of post insulator: common type is class 0, antipollution is class
◇ This series of isolating switch should be in accordance with the requirements stipulated by GB1985-89 AC High-voltage Isolating Switch, IEC129(1984)AC Isolating Switch And Earth Switch and IEC694 (1980)Common Specification for High-Voltage Switchgear And Control Equipment.

Main technical parameters

Sort	Model	Rated voltage (KV)	Rated current (A)	Isolating switch		Earth switch				Earth switch
				rated peak withstand current (KA)	rated short -time withstand current (KA)	rated peak withstand current (KA)		rated short -time withstand current (KA)		
General type	GW5	40.5	630-1000	50	20(4s) 31.5(4s)	50	80	20 (4s)	31.5 (4s)	No earth Single earth Double earth
Antipollution type			1250 1600 2000	60	31.5(4s)					

China YIFA Holding Group Co., Ltd.

CKJ5 Type AC LV Vacuum Contactor

– AC LV vacuum contactor

– HV vacuum load switch

– HV isolating switch

– Operating mechanism

– Lightning arrestor

– Fuse

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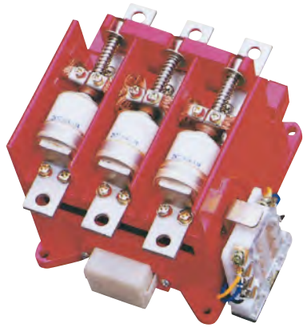
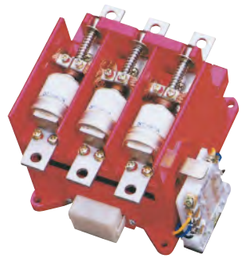


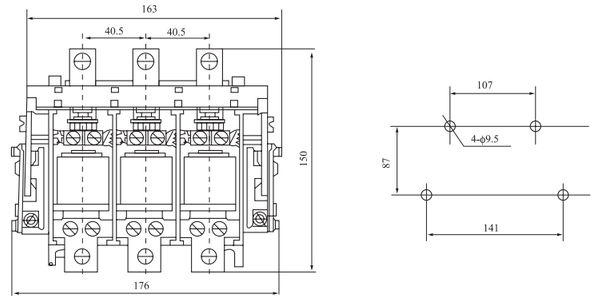


Main technical parameters

Product type		CKJ5-125	CKJ5-250	CKJ5-400	CKJ5-630
Rated voltage (V)	Main circuit	1140	1140	1140	1140
	Control circuit	36,110,220,380	36,110,220,380	36,110,220,380	36,110,220,380
Rated current (Main circuit) (A)		125	250	400	630
Rated voltage (V)	Torque (mm)	1.8 0.2	2 0.2	2 0.2	2 0.2
	Over stroke (mm)	1 0.2	1 0.2	1 0.2	1 0.2
	Final pressure (N)	30 3	78 7.8	117.6 11.8	196 19.6
Line frequency withstand voltage (virtual value)	Main circuit	4200	4200	4200	4200
	Auxiliary circuit	2500	2500	2500	2500
	Control circuit	2000	2000	2000	2000

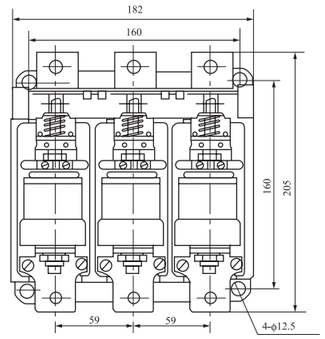
Product type		CKJ5-125	CKJ5-250	CKJ5-400	CKJ5-630
Making capacity		10Ie,100 times	10Ie,100 times	10Ie,100 times	10Ie,100 times
Breaking capacity		8Ie,25 times	8Ie,25 times	8Ie,25 times	8Ie,25 times
Limit breaking current (A)		2000,3 times	4500,3 times	4500,3 times	6300,3 times
Electric life (Times)	AC-3	60 10^4	60 10^4	60 10^4	60 10^4
	AC-4	60 10^4	60 10^4	2 10^4	0.5 10^4
Mechanical life (times)		300 10^4	300 10^4	300 10^4	300 10^4
Weight		4kg	8kg	12kg	20kg

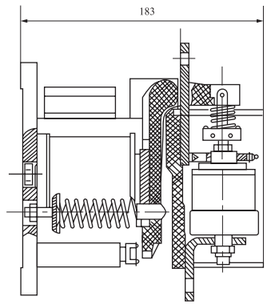
Outline and installation dimension



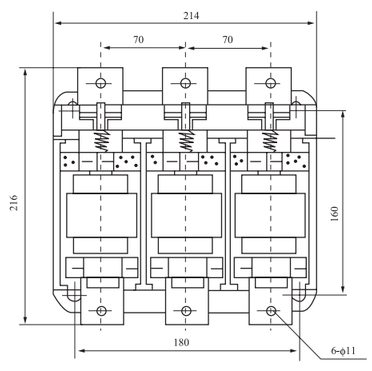
CKJ5 Type AC LV Vacuum Contactor

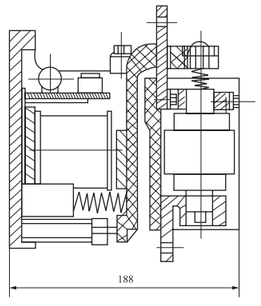
Outline and installation dimension



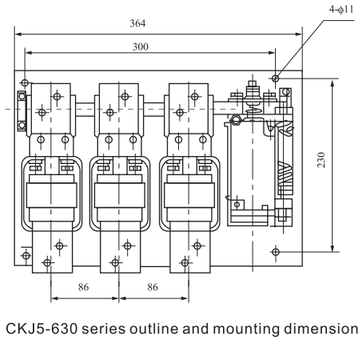


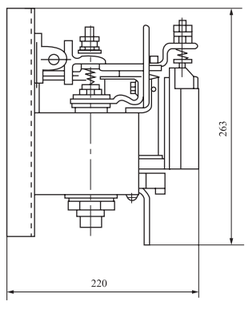
CKJ5-125 series outline and mounting dimension





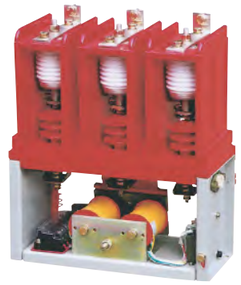
CKJ5-250 series outline and mounting dimension





CKJ5-630 series outline and mounting dimension

CKG Type AC LV Vacuum Contactor

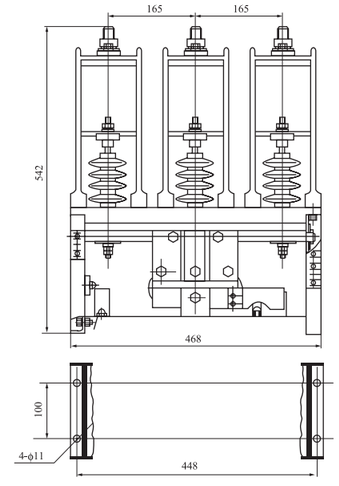


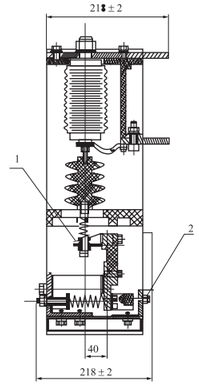
Main technical parameters

Product type		CKG12/160	CKG12/250	CKG12/400	CKG12/630
Rated voltage (V)	Main circuit	12000	12000	12000	12000
	Control circuit	110,220,380	110,220,380	110,220,380	110,220,380
Rated current (Main circuit) (A)		160	250	400	630
Rated voltage (V)	Torque (mm)	5 0.5	5 0.5	5 0.5	5 0.5
	Over stroke (mm)	2 0.2	2 0.2	2 0.2	2 0.2
	Final pressure (N)	>85	>85	>85	>85
Line frequency withstand voltage (virtual value)	Main circuit	4200	4200	4200	4200
	Auxiliary circuit	2500	2500	2500	2500
	Control circuit	2000	2000	2000	2000

Product type	CKG12/160	CKG12/250	CKG12/400	CKG12/630
Making capacity	10Ie,100 times	10Ie,100 times	10Ie,100 times	10Ie,100 times
Breaking capacity	8Ie,25 times	8Ie,25 times	8Ie,25 times	8Ie,25 times
Limit breaking current (A)	10Ie	10Ie	10Ie	10Ie
Mechanical life (times)	300 10^4	300 10^4	300 10^4	300 10^4
Weight	30	30	30	30

Outline and installation dimension





China YIFA Holding Group Co., Ltd.

CT19B Type Spring Operating Mechanism

Operating mechanism

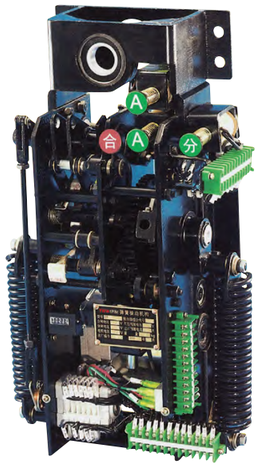
HV vacuum load switch

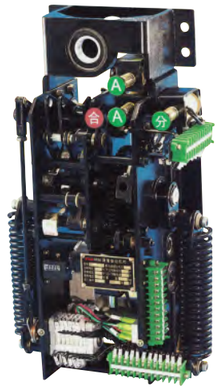
HV isolating switch

Operating mechanism

Lightning arrestor

Fuse





General

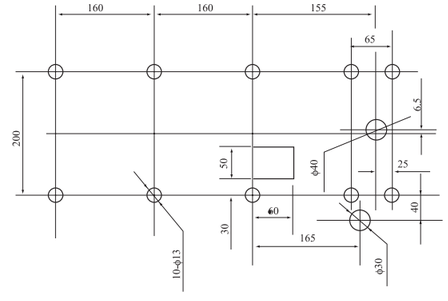
The operating mechanism is specially used for operating ZN28A indoor h. v. vacuum breaker and various appropriate breaker with close brake function in 10kv fixing cabinet with operating panel width of 350. It is mainly designed for non-oil reformation, and especially for GG-1A, XGN2 switch cabinets. The way of storing energy for the mechanism close brake spring has two kinds: close brake electromagnet and manual button operation. Break brake operation has three kinds: break brake electromagnet, over-current trip electromagnet and manual button operation.

Product type and meaning

Technical parameter of break-close brake electromagnet as following

Product type	Parameter						
Rated working voltage (V)	-110	-220	-380	-110O	-110C	-220O	-220C
Rated working current (A)	4.3	3.8		2.3	4	1.16	2
Rated electric power (W)	＜437	＜836		＜253	＜440	＜255	＜440
Loop resistance at 20℃	8.5 0.5	19.2 3		47 2.8	27.5 1.7	190 11	106 6
Working voltage range under normal close brake	Rated working voltage %85-100%						
Working voltage range under normal break brake	65%~120% rated working voltage, don't break when it less than rated working voltage						

Outline and installation dimension



CD17,CD17B Type DC Electromagnetic Operating Mechanism

General

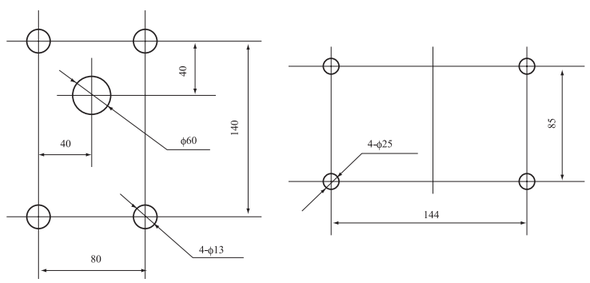
Cd17, CD17B type DC electromagnetic operating mechanism special for operating ZN28A type h.v vacuum breaker and other h.v vacuum breaker with frequent operation. CD17 and CD17B type electromagnetic operating mechanism is used to operate indoor h v vacuum break on each kind of cart cabinet.

Main technical parameters

Specification		Closing coil		Closing coil	
		Current (A)	Resistance (Ω)	Current (A)	Resistance (Ω)
CD17-I	-220V	90	2.44 0.15	1.9	116 8
	-110V	180	0.61 0.04	3.8	29 2
CD17-II	-220V	128	1.72 0.1	1.9	116 8
	-110V	256	0.43 0.03	3.8	29 2
CD17-III	-220V	145	1.52 0.1	1.9	116 8
	-110V	290	0.38 0.03	3.8	29 2
CD17B-I	-220V	128	1.72 0.1	1.9	116 8
	-110V	256	0.43 0.03	3.8	29 2
CD17B-II	-220V	145	1.52 0.1	1.9	116 8
	-110V	290	0.38 0.03	3.8	29 2
CD17B-III	-220V	120	1.83 0.11	1.9	116 8
	-110V	240	0.46 0.03	3.8	29 2

Specification	Match species	Dropout current of matchable vacuum breaker (kA)	Weight (kg)
CD17-I	Kinds of cart cabinet	20	34
CD17-II	Kinds of cart cabinet	31.5	34
CD17-III	Kinds of cart cabinet	40	34
CD17B-I	Kinds of cart cabinet	20	45
CD17B-II	Kinds of cart cabinet	31.5	45
CD17B-III	Kinds of cart cabinet	40	45

Outline and installation dimension



CD10 type DC Electromagnetic Operating Mechanism

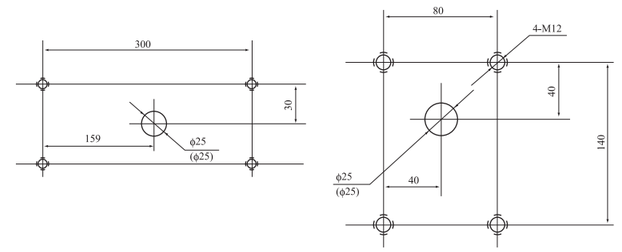
General

The product is used for operating SN 10-10 series oil-minimum breaker and various kinds of appropriate breaker with close brake function in various cart cabinet and fixing cabinet. The output corner is less than 90°.

Product type and meaning

Name			CD10-I SN10-10I 630/16kA	CD10-II SN10-10II 1000/31.5kA SN10-10III 1250/40kA	CD10-III SN10-10III 2000 3000/40kA
Closing coil	-220V	Current (A)	99	120	147
		Resistance (Ω)	2.22 0.18	1.82 0.15	1.50 0.12
	-110V	Current (A)	196	240	294
		Resistance (Ω)	0.56 0.05	0.46 0.04	0.38 0.04
Breaking coil	-48V	Current (A)		18.5	
		Resistance (Ω)		2.60 0.13	
	-220V	Current (A)		5	
		Resistance (Ω)		22 1.1	
	-110V	Current (A)		25	
		Resistance (Ω)		88 4.4	
Normal working voltage	Closing: 80%~110% rated working voltage				
	Breaking: 65%~120% rated working voltage, don't break when it less than rated working voltage				

Outline and installation dimension



China YIFA Holding Group Co., Ltd.

10-35kV Polymeric Housed Metal Oxide Arrester With Release

Lightning arrester

HV vacuum load switch

HV isolating switch

Operating mechanism

Lightning arrestor

Fuse

General

Polymeric housed metal oxide arrester of 10-35kv with release is equipped with special insulated backing plate and mounting support, upper bolt of release is connected with the bottom of arrester directly, and the lower bolt is connected with the earth wire.

Release of arrester is aimed at automatic tripping when the arrester comes across failure, power frequency short-circuit current drives the release to operate, and earth terminal of release will trip automatically, so as to disconnect the failed arrester from the system, operator should change it. In order to accomplish this object, the release must be featured with quick-acting characteristic and capability of withstanding prospective current impulse and operating duty.

Structure feature

The release must be able to operate at fault current, and the operating characteristics are in accordance with requirements stipulated by standard Gb11032, we have carried out the operating ampere-second characteristic test at power frequency current 800A, 200A, 20A and 5A (effective value) in High Power Test Station of Xi'an Electro ceramic Research Institute, test results as shown in the table.

Main technical parameters

Current	800A					200A				
Sample No.	1	2	3	4	5	6	7	8	9	10
Operating time (s)	0.016	0.012	0.018	0.012	0.019	0.026	0.076	0.018	0.068	0.066

Current	20A					50A*				
Sample No.	11	12	13	14	15	16	17	18	19	20
Operating time (s)	50	35	2	1.5	24	46	529	595	98	316

Note*: In order to meet the operating demand, operating ampere-second characteristic test should be added to step 5A.

35-110kV Polymeric Housed Metal Oxide Arrester

General

Shed of polymeric housed metal oxide arrester of 35-1 10KV adopts advanced room temperature vulcanized silicone rubber and integral injection molding technology, with features of nonlinear current-voltage characteristics of zinc oxide varistor, the product also has advantages of:

Compact volume, light weight, self-supporting installation or suspension installation, it saves floor space effectively.

Favorable sealing performance, damp proof, explosion-proof, free of detonation hazard.

High mechanical strength, durable, convenient for transportation and installation.

Favorable hydrophobic behavior, strong durability against pollution.

Main technical parameters

Model	System voltage	Latch voltage	Continuous operating voltage	DC reference voltage not smaller than	1/5us steep residual voltage not exceed	8/2us lightning residual voltage not exceed
HY10W-96/250	110	96	75	140	280	250
HY10W-100/260	110	100	78	145	291	260
HY10W-102/266	110	102	79.6	148	297	266
HY10W-108/281	110	108	84	157	315	281
HY10W-192/500	220	192	150	280	560	500

Model	30/60us operating residual voltage not exceed	2ms square wave discharge capacity	4/10us impulse discharge capacity	Resistive current at continuous operating voltage not exceed
HY10W-96/250	213	400-600	100	200
HY10W-100/260	221	400-600	100	200
HY10W-102/266	226	400-600	100	200
HY10W-108/281	239	400-600	100	200
HY10W-192/500	426	600	100	200

Oxide Arrester With Release

Product type and meaning

H Y 5 W □ - □ □

- Max residual voltage at nominal discharge current (kV)
- Rated voltage of arrester (kV)
- S represents power distribution, Z represents power station, D represents motor type, R represents capacitance type
- W represents gapless, C represents series gap
- Nominal discharge current (kA)
- Metal oxide arrester
- Organic polymeric housing

Working conditions

◇ Ambient temperature-40℃~+40°℃

◇ Altitude≤2000m(please give clear indication for plateau section when placing the order)

◇ Power frequency 48~62Hz

◇ Max wind speed not exceed 35m/s

◇ Earthquake intensity not exceed degree 7

◇ Thickness of ice coating not exceed 10mm

◇ Power frequency voltage applied on the lightning arrester for long-term should not exceed its continuous operating voltage.

The product adopts high performance zinc oxide varistor and synthetic silicon rubber insulation material and integral molding technology, with advantages of compact volume, light weight, suspensibility, favorable flame resistance, fine hydrophobic behavior, strong durability against pollution, excellent aging resistance, favorable damp proof and tightness, the dense structure improves heat emission, guarantees long-term stable operation of arrester, and unease to be damaged during transportation or installation. Besides, the arresters produced by the factory also improve the electric field distribution and advance heavy current withstanding capability, these enable the products to be more stable and reliable.

Main technical parameters

Product model	Rated voltage of system kV (rms)	Rated voltage of arrester kV (rms)	Continuous operating voltage kV (rms)	DC 1MA reference voltage kV not smaller than	Residual voltage kV (crest) at nominal discharge current not exceed	Steep impulse residual voltage kV (crest) not exceed	2ms square wave discharge capacity	Application place
HY5WS-3.8/17	3	3.8	2.0	7.5	17.0	19.6	100	Distribution type, used to protect the distribution equipment such as switchgear cabinet, transformer, box type substation cable head pole-mounted oil switch of corresponding voltage class from damage of atmospheric over voltage or over-voltage operation
HY5WS-7.6/30	6	7.6	4.0	15.0	30.0	34.5	100	
HY5WS-12.7/50	10	12.7	6.6	26.0	50.0	57.5	150	
HY5WS-17/50	10	17	13.6	26.5	50.0	57.5	150	
HY5W-7.6/217	6	7.6	4.0	14.5	27.0	31.0	200	Power station type, used to protect the AC electric equipment in power plant and transfor mer station from damage of atmospheric over voltage or over-voltage operation
HY5WZ-12.7/45	10	12.7	6.6	24.0	45.0	51.8	200	
HY5WZ-17/45	10	17	12.7	24.0	45.0	51.8	200	
HY5WZ-52/134	35	52	40.8	48.0	134	154	400	
HY2.5WD-7.6/19	6.3	7.6	4.8	11.5	19.0	21.9	200,400	Motor type, used to limit the over-voltage caused by vacuum switch or oil minimum breaker by switching and rotating the more, it protects the rotating motor from damage of over-voltage operation
HY2.5WD-12.7/31	10.5	12.7	6.6	19.0	31.0	35.7	200,400	
HY2.5WD-16.7/40	13.8	16.7	9.0	25.0	40.0	46.0	400	
HY2.5WD-19/45	15.75	19	10.0	28.5	45.0	51.8	400	
HY5WR-7.6/27	6	7.6	4.8	13.8	27.0	20.8	400	Capacitor type, used to suppress the over-voltage caused by vacuum switch or oil minimum breaker by operating capacitor bank, it protects the capacitor bank from damage of overvoltage operation
HY5WR-12.7/45	10	12.7	6.6	23.0	45.0	35.0	400	
HY5WR-52/134	35	52	23.4	73.0	134	105	400	

Drop-out fuse cutout

HV vacuum load switch

HV isolating switch

Operating mechanism

Lightning arrestor

Fuse

12kV-15kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
RH-33	15	100	10000	100	40	250	7.8	40X34.5X11
RH-33	15	200	12000	110	40	250	7.8	

15kV-27kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
RW10	15	100	10000	100	40	250	7.5	48X34.5X11
RW10	15	200	12000	110	40	250	7.5	

15kV-27kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
RD-24	24	100	8000	150	65	530	12	48X34.5X11
RD-24	24	200	10000	150	65	530	12	

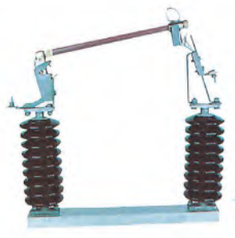
12kV-15kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
RH-C	11	100	10000	110	40	250	7.5	40X34.5X11
RH-C	11	200	12000	110	40	250	7.5	

Drop-out fuse cutout

12kV-15kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
PD	11	100	6000	110	42	340	7.5	49X27X11.5
PD	11	200	8000	110	42	340	7.5	



12kV-15kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
FSC-23	33	100	8000	170	70	820	27.5	68X17X15
FSC-23	33	200	10000	170	70	820	27.5	

10kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
RW11	12	100	6300	100	42	230	7.8	48X12X31
RW11	12	200	8000	110	42	230	7.8	

10kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
RW10	15	100	10000	100	40	250	7.5	48X34.5X11
RW10	15	200	12000	110	40	250	7.5	

Drop-out fuse cutout

10kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
RW10-10F	12	100	6300	110	42	260	7.5	53X32X12
RW10-10F	12	200	8000	110	42	260	7.5	

10kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
RW3	10	100	6300	100	42	230	6.2	48X27X12
RW3	10	200	8000	110	42	230	6.2	

15kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
HRW3	12	100	6300	100	42	380	8.8	61X13X42
HRW3	12	200	8000	110	42	380	8.8	

15kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
HPRWG2	12	100	6300	170	70	870	16	61X13X42
HPRWG2	12	200	8000	170	70	870	16	

Drop-out fuse cutout

10kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
HRW11	12	100	6300	100	42	350	3.8	42X35X11
HRW11	12	200	8000	110	42	350	3.8	

10kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
SHY5WS	3	100	6300	100	42	350	3.8	42X35X11
SHY5WS	6	100	8000	110	42	350	3.8	
SHY5WS	10	150	6300	100	42	350	3.8	
SHY5WS	10	250	8000	110	42	350	3.8	

10kV

Model	Rated voltage (kV)	Rated current (kA)	Breaking current (A)	Impulse voltage (BIL)	Power frequency withstand voltage (V)	Creepage distance (mm)	Weight (kg)	Outline size (cm)
RW7	10	100	6300	110	42	230	6.2	48X27X12
RW7	10	200	8000	110	42	230	6.2	

COMMITMENT TO QUALITY AND SERVICE

"Orientation to customers and rapid response" is the service tenet of YIFA's employees. Based on the great sense of responsibility for the users, the Group is oriented to the users, ensures that quality and service come first and will implement services well. All products of the Group are certified with CCC and 12KV and 35KV box type substations and high-voltage cabinets and ring main units have the type test report by National High Voltage Test Center. Moreover, the Group has a complete quality assurance system for product quality assurance and such system includes technical consultation and technical training for pre-sale, sale and after-sale services and customers. We fully agree to and are satisfied with your service requirements for the equipment bidding and we make the following commitments to the customers:

Pre-sale services

To enable you to further understand the performance of our products, we are willing to provide you free of charge the brief description of product performance and knowledge for use and answer your questions about the products.

Sale services

Upon signing of the contract, we are obliged to provide you free of charge a systematic design scheme or design the products in cooperation with you. During production, we will proactively cooperate with you on the equipment manufacture supervision.

After-sale services

After the equipment arrives at the delivery site, we will dispatch personnel to the site on schedule, examine the goods in cooperation with you and examine the quantity, specification and model and appearance and quality of the equipment. Acceptance standards are relevant national standards and those issued by the ministry and Technical Agreement signed by and between both parties. Upon completion of acceptance, both parties shall sign the unpacking record.We will periodically implement quality tracking service of the outgoing products, obtain knowledge about the operating status of the equipment at any time and provide spare parts for the equipment at any time. We will dispatch personnel for follow-up and technical support according to needs.If you raise any question about products we provide due to the quality problem, upon receipt of your notice we will dispatch technicians to the site to handle the situation within 24 hours.Our product warranty period is 12 months. During the warranty period, the "three guarantees" (repair or replacement or compensation of faulty products) will be implemented. If conditions required in Technical Agreement fail to be met due to equipment defects, we will provide free of charge to you needed replacement parts and take necessary improvement measures until conditions required in Technical Agreement are met.

China YIFA Holding Group Co., Ltd.