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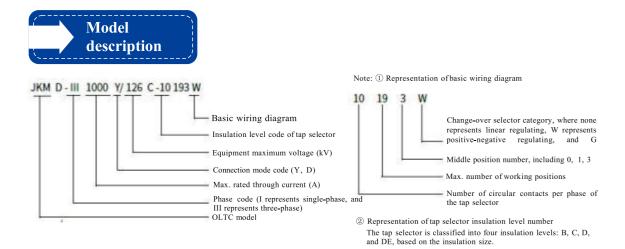




Introduction to Changer Products

The main product series of the company are oil-immersed OLTCs, vacuum OLTCs, and thyristor-assisted mechanical hybrid OLTCs, and as the company keeps up with the national policy guidelines and industry trends, and continuously improves its technology, its product series are improving day by day. With advanced large-scale processing equipment and a high-voltage variable frequency test station, the company ensures reliable production of high-quality products through skilled craftsmanship and rigorous management practices.

The company has established a strict management system based on the *Quality Management Systems - Requirements* (ISO 9001), *Environmental Management Systems - Requirements with Guidancefor Use* (ISO 14001) and *Occupational Health and Safety Management Systems - Requirements* (GB/T28001). Adhering to the quality service philosophy of "Providing sincere service to customers with excellent products", we continuously strive for the enhancement of product quality and service excellence, and spare no effort in building exceptional tap changer projects, aiming to become a leading player in the national tap changer industry.





JKM(D) Thyristor-Assisted Mechanical Hybrid OLTC



JKM(D) thyristor-assisted mechanical hybrid OLTC, with its innovative design concept, is a combination switch that is composed of a toggle switch and a tap selector. In addition to the high reliability and safety features of an oil switch and the maintenance-free and pollution-free benefits of a vacuum switch, it also has unique advantages such as long life, low energy consumption, and minimal voltage impact, which are not found in either oil or vacuum switch.

This OLTC is applicable to power transformers or industrial transformers with a voltage of 40.5-252kV, a maximum three-phase current of 1000A, a maximum single-phase current of 2400A, a rated frequency of 50-60Hz, and a maximum step voltage of 4000V to regulate the output voltage with load.





Table 1: Technical Data of JKM(D) Thyristor-Assisted Mechanical Hybrid OLTC

S/N	Item		JKM(D) III500	JKM(D) III600	JKM(D) I501	JKM(D) 1802	JKM(D) 11203	JKM(D) 11503	JKMD III1000	
1	Max. rated t	through current/A	500	600	500	800	1200	1500	1000	
2	Rated f	requency/Hz				50 or 60				
3	Number conne	of phases and ection mode			Three-p	hase Y con	nection;			
4	Max. st	ep voltage/V				4000				
5	Rated step	p capacity/kVA	1400	1500	1500	2000	3100	3500	2500	
6	Short-circuit withstand	Thermal stability/3S valid value	8	8	8	16	24	24	12	
	capacity/kA	Dynamic stability/peak	20	20	20	40	60	60	30	
7	Number of	Stand	Standard design: linear regulating up to 17 steps; positive-negative regulating or coarse-fine regulating up to 35 steps							
		Max. equipment voltage	72.5		126		170		252	
8	Main insulation	Power frequency voltage (50Hz1min)	140		230		325		460	
	level/kV	Impulse withstand voltage (1.2/50us)	350		550		750		1050	
9	Tap	selector	Classified into four insulation levels: B, C, D, and DE.							
10	Mechanical	life/10,000 times	150							
11	Electrical I	Life/10,000 times				150				
		Working pressure	0.03MPa							
	Toggle	Sealing property		No	leakage un	der 0.1 MI	Pa for 24 ho	ours		
12	switch oil chamber	Overpressure protection	Expl	osion-proo	f cover bur	sts at an ov	erpressure	of300±20%	%kPa	
		Gas relay	Set oil speed 1m/s±10%							
13	With electric mechanism		KDJ-IV-A							
14	Tap change	er oil discharge/L	225-300							
15	Tap changer oil injection quantity/L		155-220							



VKM(D) Oil-Immersed Vacuum OLTC



VKM(D) oil-immersed vacuum OLTC is a vacuum combination switch that incorporates an improved design of the switching core section based on the KM(D) oil-immersed switch. It consists of a toggle switch and a tap selector. During switching, the OLTC generates an arc to interrupt the current inside the vacuum pipe, which neither pollutes the transformer oil nor requires an oil filter, greatly reducing maintenance costs during transformer operation.

The VKM and VKMD oil-immersed vacuum on-load tap changers are suitable for power transformers or ind ustrial transformers with a rated voltage of 40.5 kV to 252 kV. The VKM model has a maximum rated through cu rrent of 800A (three-phase) and 1500A (single-phase), while the VKMD model supports up to 1300A (three-phase) and 3000A (single-phase). Both operate at frequencies of 50 Hz to 60 Hz and a maximum step voltage of 4000V, enabling voltage adjustment under load conditions.





Table 1: Technical Data of JKM(D) Thyristor-Assisted Mechanical Hybrid OLTC

S/N	Item		JKM(D) III500	JKM(D) III600	JKM(D) I501	JKM(D) 1802	JKM(D) I1203	JKM(D) I1503	JKMD III1000		
1	Max. rated	hrough current/A	500	600	500	800	1200	1500	1000		
2	Rated f	requency/Hz				50 or 60					
3		of phases and ection mode			Three-p	hase Y con	nection;				
4	Max. st	ep voltage/V				4000					
5	Rated ste	o capacity/kVA	1400	1500	1500	2000	3100	3500	2500		
6	Short-circuit withstand	Thermal stability/3S valid value	8	8	8	16	24	24	12		
	capacity/kA	Dynamic stability/peak	20	20	20	40	60	60	30		
7	7 Number of working positions			Standard design: linear regulating up to 17 steps; positive-negative regulating or coarse-fine regulating up to 35 steps							
		Max. equipment voltage	72.5		126		170		252		
8	Main insulation	Power frequency voltage (50Hz1min)	140		230		325		460		
	level/kV	Impulse withstand voltage (1.2/50us)	350		550		750		1050		
9		selector	Classified into four insulation levels: B, C, D, and DE.								
10	Mechanical	life/10,000 times	150								
11	Electrical I	Life/10,000 times				150					
		Working pressure				0.03MPa					
	Toggle	Sealing property		No	leakage un	der 0. 1 MI	Pa for 24 ho	ours			
12	switch oil chamber	Overpressure protection	Expl	osion-proo				of 300±20%	6kPa		
		Gas relay	Set oil speed 1m/s±10%								
13		tric mechanism	KDJ-IV-A								
14	Tap change	er oil discharge/L	225-300								
15		ger oil injection antity/L	155-220								



VKM(D) Oil-Immersed Vacuum OLT



VKM(D) oil-immersed vacuum OLTC is a vacuum combination switch that incorporates an improved design of the switching core section based on the KM(D) oil-immersed switch. It consists of a toggle switch and a tap selector. During switching, the OLTC generates an arc to interrupt the current inside the vacuum pipe, which neither pollutes the transformer oil nor requires an oil filter, greatly reducing maintenance costs during transformer operation.

The VKM and VKMD oil-immersed vacuum on-load tap changers are suitable for power transformers or ind ustrial transformers with a rated voltage of 40.5~kV to 252~kV. The VKM model has a maximum rated through cu rrent of 800A (three-phase) and 1500A (single-phase), while the VKMD model supports up to 1300A (three-phase) and 3000A (single-phase). Both operate at frequencies of 50~Hz to 60~Hz and a maximum step voltage of 4000V, enabling voltage adjustment under load conditions.





Table 1: Technical Data of VKV OLTC

S/N		Item	VKVIII25	50Y/250D	VKVIII4	VKVIII400Y/400D		VKVIII600Y/600D		
1	Max. rated thro	ugh current/A	250	250	400	400	600	600		
2	Rated frequency	/Hz			50)-60				
3	Number of pharmode	ses and connection	Three-phase: Y connection; single-phase: arbitrary connection							
4	Max. step voltag	ge/V			1	700				
5	Rated step capa	city/kVA	42	25	6	00	6	80		
6	Short-circuit withstand	Thermal stability/3S valid value	4		4 5		5			6
0	capacity/kA	Dynamic stability/peak	10 12.5		2.5		15			
7	7 Number of working positions		Without change-over selector: up to 12; with change-over selector to 23					selector: up		
		Max. equipment voltage	40. 5	7	72.5	2. 5		145		
8	Main insulation level/kV	Power frequency voltage (50Hz1min)	95		140	230		275		
		Impulse withstand voltage (1.2/50us)	250		350	550 550		650		
9	Mechanical	ife/10,000 times	150							
10	Electrical L	ife/10,000 times	30							
		Working pressure			0.03	BMPa				
	Toggle switch	Sealing property		No leak	age under 0	. 1 MPa for 2	24 hours			
11	oil chamber	Overpressure protection	Explosion-proof cover bursts at an overpressure of 300±20%kPa							
	Gas relay		Set oil speed 1m/s±10%							
12	With electric mechanism		KDJ-IV-A							
13	Tap changer	oil discharge/L	170-180							
14		er oil injection intity/L	130-190							



KMD OLTC



KMD OLTC is an optimized and improved version of the KM changer, consisting of a toggle switch and a tap selector. The toggle switch adopts an external shaft layout and a central drive mechanism, which enhances the insulation of the spindle; with a cylindrical structure, the tap selector has a better changer rigidity, and it employs a semi-enclosed design of the Geneva mechanism to reduce the impact of debris on the transformer.

Suitable for power transformers or industrial transformers with a rated voltage of 40.5~kV to 252~kV, a maximum rated through current of 1300A (three-phase) and 3000A (single-phase), a frequency of 50–60~Hz, and a maximum step voltage of 4000V, enabling on-load voltage adjustment of the output.





Table 1: Technical Data of KMD Series OLTC

S/N	Item		KMDIII500	KMDIII600	KMDIII800	KMDIII1300	KMDI 501	KMDI 601	KMDI 802	KMDI 1203	KMDI 1503		
1	Max. rated through current/A		500	600	800	1300	500	600	800	1200	1500		
2	Rated frequer	ncy/Hz					50-60		•				
3	Number of pl	nases and connection		Three-phase: Y connection; single-phase: arbitrary connection									
4	Max. step vol	ltage/V					4000V						
5	Rated step ca	pacity/kVA	1400	1500	2000	3300	1400	1500	2000	3100	3500		
	Short-circuit	Thermal stability/3S valid value	8	8	9	16	8	8	16	24	24		
6	withstand capacity/kA	Dynamic stability/peak	20	20	22.5	40	20	20	40	60	60		
7	Number of	working positions	Standard	Standard design: linear regulating up to 17 steps; positive-negative regulating or coarse-fine regulating up to 35 steps									
	Main insulation level/kV	Max. equipment voltage	72.5			126		170		252			
8		Power frequency voltage (50 Hz1 min)	140			230		325		460			
		Impulse withstand voltage (1.2/50us)	350			550 750				1050			
9	Та	np selector	Classified into four insulation levels: B, C, D, and DE.										
10	Mechanical	life/10,000 times	150										
11	Electrical 1	Life/10,000 times					20						
		Working pressure	0.03MPa										
	Toggle	Sealing property				No leakage un	der 0.1 MPa	for 24 hours					
12	switch oil chamber	Overpressure protection			Explosion-p	roof cover bur	sts at an over	pressure of 30	00±20%kPa				
		Gas relay	Set oil speed 1m/s±10%										
13	With ele	ctric mechanism	KDJ-IV-A										
14	Tap changer oil discharge/L				195-265								
15		nger oil injection uantity/L	130-190										

Note: Suffixes 1, 2, and 3 of specifications KMDI 501, KMDI 802, KMDI 1203/1503, and KMDI 1803 in the table indicate that the 1-phase, 2-phase, or 3-phase contacts are directly connected in parallel to increase capacity.



KM OLTC



It is a KM combination OLTC designed with capacity expansion and optimization based on the domestic M-type combination OLTC. It consists of a toggle switch and a change-over selector. When it is not equipped with a change-over selector (linear regulating), the maximum number of tap positions is 18; when equipped with a change-over selector (positive-negative regulating or coarse-fine regulating), the number of tap positions can reach 35.

This OLTC is applicable to power transformers or industrial transformers with a rated voltage of 40.5-252kV, a maximum through current of 800A for three phases and 1500A for single phase, a frequency of 50-60Hz, and a maximum step voltage of 4000V to regulate the output voltage with load.



(1) A scope of application wider than that of domestic M-type tap changers

The maximum rated through current is expanded from three-phase 600A to 800A, which can meet the requirements of large power transformers. The maximum step voltage is increased from 3300V to 4000V, which can meet the voltage regulation requirements of AC 500kV ultra-high voltage transformers. With the thermal stability improved from 8 kA (3s valid value) to 9 kA (3s valid value) and dynamic stability from 20 kA (peak) to 22.5 kA (peak), the OLTC has an enhanced ability to withstand short circuit. The tap selector is available in four different insulation sizes, with significantly improved internal insulation margins, which allows it to meet the requirements of various voltages.

(2) A compact structure, good reliability in operation and a long service life

The tap changer adopts a "top introduction" drive mode and an embedded structure, which makes it unnecessary to disassemble for transportation after transformer assembly. The head transmission shaft is designed with a weak point, which can effectively prevent the misalignment and shaft breakage during installation and facilitate maintenance.





Table 1: Technical Data of KM Series OLTC

S/N	Item		KMIII 500	KMIII 600	KMIII 800	KMI 501	KMI 601	KMI 802	KMI 1203	KMI 1503		
1	Max. rated through current/A		500	600	800	500	600	800	1200	1500		
2	Rate	ed frequency/Hz		50-60								
3	Number of	phases and connection mode		Three-phase: Y connection; single-phase: arbitrary connection								
4	Max	. step voltage/V				4000	V					
5	Rated	step capacity/kVA	1400	1500	2000	1400	1500	2000	3100	3500		
6	Short-circuit	Thermal stability/3S valid value	8	8	9	8	8	16	24	24		
6	withstand capacity/kA	Dynamic stability/peak	20	20	22.5	20	20	40	60	60		
7	Number of working positions Standard design: linear regulating up to 17 steps; positive-negative regulating or coarse-fine regulating steps						ating up to 35					
		Max. equipment voltage	72.5		126		1'	70	25	52		
8	Main insulation	Power frequency voltage (50Hz1min)	140		230		32	25	460			
	level/kV	Impulse withstand voltage (1.2/50us)	35	50	550 750			50	1050			
9		Tap selector	Classified into four insulation levels: B, C, D, and DE.									
10	Mechanic	cal life/10,000 times	150									
11	Electrica	al Life/10,000 times	20									
		Working pressure				0.03N	ſPa					
	Toggle	Sealing property			No leaka	ge under 0. 1	MPa for 24	hours				
12	switch oil chamber	Overpressure protection		Explo	sion-proof cove	er bursts at a	n overpressu	e of 300±20%	%kPa			
		Gas relay	Set oil speed 1m/s±10%									
13	With e	electric mechanism	KDJ-IV-A									
14	Tap cha	nger oil discharge/L	195-265									
15	Tap changer	oil injection quantity/L				130-1	90					



KV OLTC



KV on-load tap changer (hereinafter referred to as tap changer) is a typical compound tap changer, combining the functions of a toggle switch and a tap selector during the operation of the selector switch. It is installed on the transformer tank cover with the switch head flange.

A change-over selector can also be added to the tap changer. When the on-load tap changer does not have a change-over selector, the maximum number of tap positions is 14. When equipped with a change-over selector, the maximum number of tap positions is 27.

This KV OLTC is applicable to power or industrial transformers with a maximum rated voltage of 40.5-126kV, a maximum rated through current of 500A and a frequency of 50Hz - 60Hz, which adopt Y or D connection for three-phase connection with neutral point voltage regulation. It is used to change transformer taps under loaded conditions to alter the output voltage of the transformer, in order to keep the output voltage stable within the specified range. It can also increase or decrease the output voltage according to load requirements, to achieve the desired voltage adjustment on the line.

Three-phase on-load tap changer for neutral point voltage regulation: KVIII350Y, KVIII500Y.

Three-phase on-load tap changer for any connection: KVIII350D, KVIII500D.

Single-phase on-load tap changer: KVI350, KVI700.





Table 1 Technical Data of KV OLTC

S/N		Item			KV350	D/500D	KVI350	KVI700	
1	Max. rated the	350	500	350	500	350	700		
2	Rated frequen	cy/Hz	50-60						
3	Number of ph	ases and connection mode	Three-pl			ohase D ection	Single-phase arbitrary connection		
		10 contacts				1650			
4	Max. step voltage/V	12 contacts				1400			
	J	14 contacts				1000			
		10 contacts	52:	5	52	25	525	660	
5	Rated step capacity/kVA	12 contacts	420	0	42	20	420	520	
	1 2	14 contacts	350	0	3:	50	350	450	
	Short-circuit Thermal stability/3S valid value		5		7		5	10	
6	withstand capacity/kA	Dynamic stability/peak	12.5		17.5		12.5	25	
7	Number	of working positions	Linear regulating up to 13 steps; positive-negative regulating or coarse-fine regulating up to 17 steps						
		Max. equipment voltage	40.5		72.5		1	26	
8	Main insulation	Power frequency voltage (50Hz1min)	85	i	1-	40	2:	30	
	level/kV	Impulse withstand voltage (1.2/50us)	200	200 350		50	550		
10	Mechan	ical life/10,000 times	80						
11	Electric	cal Life/10,000 times	20						
		Working pressure	0.03MPa						
12	Toggle	Sealing property	No leakage under 0. 1 MPa for 24 hours						
12	switch oil chamber	Overpressure protection	Explosion-proof cover bursts at an overpressure of 300±20%kPa						
		Set oil speed 1m/s±10%							
13	With electric	mechanism/oil filter device			KDJ	I-IV-A/KJ.	IY-I		
14	Tap cha	anger oil discharge/L	135~	165	185-	~220	85~90	120~150	
15	Tap change	er oil injection quantity/L	105~	130	165	~180	60~85	85~108	



KDJ-IV-A



The KDJ-IV-A is mainly used for various forms of tap changers. It can be manually operated or intelligently electrically adjusted. It can communicate through control lines such as RS485 or optical fiber, or achieve interoperability with the controller. Moreover, it can realize parallel operation of multiple mechanisms. All electronic components in the electric mechanism are higher than or equal to automotive-grade, ensuring normal operation under various working conditions.





Technical Data of KDJ-III Electric Mechanism

S/N	Classification	Features	Data			
		Rated voltage, V	380 (thre	e-phase)		
		Speed, r.p.m	1400			
1	Motor parameters	Rated frequency, Hz	50-60			
		Rated power, W	370	750 **		
		Rated current, A	1.5	2.2 **		
2	Output shaft drive	torque, N.m	18	26 **		
3	Number of turns of the outpostap-change of	out shaft for each step operation	3.	3		
4	Number of turns of the har tap-change op		33			
5	Tap-change operation	time per step, S	5.1			
6	Working power supply thre		AC380V/6A			
7	Control circuit p	ower A, N	≤ 100W			
8	Auxiliary heating	circuit L1, N	AC220V/10A			
9	Heater pow	er, W	100	100W		
10	Condenser po	ower**	120)W		
11	Power frequency withstar circuit, kV/	nd voltage of control	2			
12	Protection level of operat	ing mechanism box	IP66			
13	Service life of mechanism		500,000 times			
14	With intelligent controller	Model	KYC-3H/I	СҮЈК-3Н		
14	With intelligent controller	Working power supply	AC 85 \sim 265V.	DC100~ 300V		



KJJY Series Online Oil Filter Device



The KJJY series of online oil filtration devices are available in two specifications: KJJY-I/II, and the precision of the impurity removal filter elements is $3/1\mu m$ respectively. It adopts two-stage filter elements. The front stage filters out carbon and impurities, and the rear stage removes moisture. After oil filtration, the particle size in the oil meets the NAS1638 grade ≤ 6 standard, the insulation strength of the oil is $\geq 45 kV$, and the water content in the oil is $\leq 25 \mu L/L$ (the filter element can absorb 110g of micro-water).

It is applicable to the circulating filtration of on-load switch insulating oil in transformers, effectively removing free carbon and metal particles in the insulating oil of the tap changer oil chamber, reducing trace moisture, ensuring the insulating strength of the oil, thereby improving the operational reliability of the tap changer and extending the maintenance cycle.

Rated pressure	0.5Mpa	Rated flow rate	9.6 L/min
Motor power	0.37kW	Power supply	three-phase380V/50Hz/5A
Precision of impurity-removing filter element	Type I: 3μm	Filter out the moisture content of the filter element	300ml
	Type II: 1μm		
Oil inlet/Oil outlet	φ15	Ambient temperature	-40°C ~ 70°C
Protection grade	IP66	Overall weight	Type I +: 80kg Type II: 90kg

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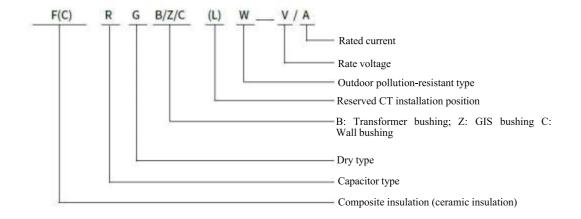


Introduction to Bushing Products

The company produces various types of FRP dry-type bushings, including transformer bushings, GIS bushings, oil/SF₆ bushings, wall bushings, etc.

FRP bushings are made of flame-retardant insulation materials, and do not decompose, ensuring consistent electrical performance. They are free from combustion and explosion hazards, and can withstand a temperature range of -50°C to 200°C. The fiberglass is impregnated with epoxy resin and cross-wound, and the mechanical layering design is optimized, which enables a high bending strength and excellent mechanical properties. With a compact structure, the bushings are small, light and easy to transport, and can be installed at any angle. Employing an oil-free and completely solid main insulation structure, these bushings are stable and reliable and do not require maintenance.







Transformer Bushing



A transformer bushing is used to bring the internal high and low voltage leads of a transformer to the outside of the oil tank. It serves as both an insulation for the leads to the ground and as a means of securing the leads. It is also one of the current-carrying elements of the transformer. When a transformer runs, it allows the flow of load current for a long time, and in the event of a short circuit external to the transformer, it withstands and allows the pass of the short-circuit current.



Altitude Normal service conditions: ≤ 2000 m.

Altitude correction and insulation level adjustment can be made according to user

requirements.

Pollution Pollution resistance level: it is applicable to heavily polluted areas with a pollution grade of III or above; the pollution grade can be determined based on the actual

environmental conditions and user requirements;

Environment Environmental temperature: -50°C to +50°C. If the temperature exceeds this range, the

temperature technical conditions will be determined by both parties through discussion.

Mounting angle Max. mounting angle: any angle



Rated voltage and rated current of transformer bushing:
Rated voltage: 12kV-252kV Rated current: 400A-20000A (can be customized according to special requirements)





Oil - SF₆ Bushing



 $Oil\text{-}SF_6$ bushing is applicable to the direct connection between oil-filled transformer and SF_6 gas-insulated switchgear (GIS). The bushing can be installed horizontally, vertically or at any angle. The design and dimensions of the bushing flange and wiring terminal can be customized according to user requirements to meet the requirements for connection between transformer and GIS.



- 1. Environmental temperature: -50°C to +50°C. If the temperature exceeds this range, the technical conditions will be determined by both parties through discussion.
- 2. Max. mounting angle: any angle



Rated voltage: 40.5kV-252kVRated current: 630A-4000A (can be customized according to special requirements)



GIS Bushing



The GIS composite outer jacket bushing is suitable for the GIS outlet bushing in GIS substations. It features a capacitor voltage-sharing structure and a solid insulation made of wound FRP impregnated with epoxy resin. The bushing does not contain SF₆ gas in the outdoor part, eliminating the risk of gas leakage. It does not require inspection or maintenance during operation and is not susceptible to insulation failure due to temperature and pressure variations. The bushing exhibits excellent mechanical performance, meeting the requirements for seismic resistance.



Altitude Normal service conditions: ≤ 2000m. Altitude correction and insulation level adjustment

can be made according to user requirements.

Pollution Pollution resistance level: it is applicable to heavily polluted areas with a pollution grade grade of III or above; the pollution grade can be determined based on the actual environmental

conditions and user requirements;

Environmental temperature: -50°C to +50°C. If the temperature exceeds this range, the technical conditions will be determined by both parties through discussion.

Mounting angle Max. mounting angle: any angle.



Rated voltage: 40.5kV-252kVRated current: 630A-4000A (can be customized according to special requirements)

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Wall Bushing



The wall bushing is suitable for distribution devices and high/low voltage electrical equipment in power plants and substations. It serves as an insulation and support for conducting parts that pass through walls or other grounding objects, and has dry, oil-free, and maintenance-free advantages.



Altitude Normal service conditions:

2000m. Altitude correction and insulation level adjustment

can be made according to user requirements.

conditions and user requirements;

Pollution Pollution resistance level: it is applicable to heavily polluted areas with a pollution grade grade of III or above; the pollution grade can be determined based on the actual environmental

Environmental temperature: -50°C to +50°C. If the temperature exceeds this range, the

temperature technical conditions will be determined by both parties through discussion.

Mounting angle Max. mounting angle: any angle



Rated voltage: 12kV-252kV Rated current: 630A-4000A (can be customized according to special requirements)



Neutral Point Protection Device (in Complete Set)

The DNGC-110/220 neutral point protection device (in complete set) mainly consists of the following related equipment: neutral point disconnector, discharge gap, zinc oxide arrester, current transformer for measuring discharge current, etc. To achieve a visually appealing and convenient equipment layout, a separate T-shaped bracket can be custom-made for the user based on their equipment selection, where the neutral point accessories such as neutral point disconnector, discharge gap and lightning arrester are designed together, forming a set of transformer neutral point accessory combination equipment that is conducive to on-site construction and installation. It protects the transformer from lightning overvoltage, operating overvoltage, and transient overvoltage at the neutral point.

The lightning arrester serves as the lightning overvoltage protection, and in case of a single-phase grounding fault or in a single-phase switch closing process, the horizontal rod gap shall not discharge. Only in case of a ground fault and open-phase operation or a resonance fault, the horizontal rod gap reliably acts to protect the insulation of the transformer at the neutral point and the insulation of line-end equipment. This helps prevent the lightning arrester from exploding due to insufficient current-carrying capacity, which could damage the main transformer and nearby equipment. The matching characteristics of complex gap: when the lightning overvoltage occurs, the arrester acts, while the gap does not act; when the internal overvoltage occurs, the arrester does not act, while the gap acts, and the division of labor between the two is clear.



The DNGC-110/220 neutral point protection device (in complete set) is a new type of equipment developed by our company based on earlier products, and this new disconnector has the following features:

The protective device (in complete set) is integrated into one piece, which is convenient for site assembly;

The rod gap is an independent part, and stainless material is adopted to facilitate adjustment;

Mounting holes are reserved accurately after users designate the model of disconnectors and arresters;

The bracket is of a hot galvanized steel bracket structure, which is firm and resistant to corrosion;

The matching mechanism is CJTKB electric mechanism or CS17A manual mechanism, with a stainless steel casing or anodized aluminum alloy casing. It has a beautiful appearance, strong anti-corrosion ability, excellent sealing performance, and a waterproof and dust-proof level of IP56. Secondary components all are domestic well-known brands or joint-venture brands, and can be equipped with locking units to meet various interlocking requirements on site.