MV Circuit Breaker

ZN63(VS1)-24 Indoor Vacuum Circuit Breaker

- ZN63(VS1)-24 series indoor AC MV vacuum circuit breaker is an indoor switchgear for three-phase AC 50Hz, rated voltage 4KV power system. The market combines years of professional production experience to develop and design a new generation of vacuum circuit breakers.
- Standard: IEC 62271-100

General

ZN63(VS1)-24 Indoor Vacuum Circuit Breaker

Selection

ZN63	-	24	P	/	T	630	-	25	HT	P210
Name	-	Rated voltage(KV)	Pole type	/	Operating mechanism	Rated current(A)	-	Rated short-circuit breaking current(KA)	Installation	Main circuit wiring direction
Indoor vacuum circuit breaker	-	24:24KV	No mark: Insulating cylinder type P: Solid-sealing type	/	T: Spring type	630 1250 1600 2000 2500 3150 4000	-	20 25 31.5 40	HT:Handcart type FT:Fixed type	P210 P275

Note:
Zn63 (S) adopts a double spring integral mechanism by default. If a single spring modular mechanism is required, a single spring needs to be added to the model backup;

Operating conditions

1. Altitude: 1000m and below;
2. Environmental temperature: upper limit+40 ℃, lower limit -25 ℃;
3. Relative humidity: daily average relative humidity not exceeding 95%, monthly average relative humidity not exceeding 90%, saturated vapor pressure: daily average not exceeding 2.2 × 10 MPa, monthly average not greater than 1.8 × 10 Mpa.
4. Seismic intensity not exceeding 8 degrees;
5. A place free from flammable, explosive, or chemically corrosive substances and intense vibrations.

Features

1. The adoption of a new generation modular spring operating mechanism, which features a compact, simple, well-designed structure, reliable transmission, and easy installation.
2. Integration of the operating mechanism and circuit breaker body: it can be used as a fixed installation unit or combined with a dedicated propulsion mechanism to form a handcart unit.
3. The main power circuit primarily utilizes a solid-sealed pole, and an insulation simplification method can also be selected.
4. The main circuit incorporates a solid insulation structure with an integrated solid-sealed pole, achieving maintenance-free, high reliability, and compact size.
5. The circuit breaker is an E2 grade breaker.
6. The cabinet is equipped with comprehensive five-protection interlocking functions.

MV Circuit Breaker

ZN63(VS1)-24 Indoor Vacuum Circuit Breaker

Technical data

Technical datas are shown in Table 1

Item			Unit	Value		
Rated voltage			kv	24		
Rated frequency			Hz	50		
Rated current			A	630 1250	1250 1600 2000 2500 3150	
Rated insulation level	1min p.f Wuthstand voltage	between pole to earth	kv	65		
		Separation point		79		
	Rated lightning impulse resistance voltage	between pole to earth		125		
		Separation point		145		
4s rated short time withstand current			kA	20	25	31.5
Rated short circuit breaking current				20	25	31.5
Rated peak thstand current				50	63	80
Rated short circuit maing curren				50	63	80
Rated short-circuit duration			S	4		
Rated breaking current at the fsult of different pbasesearthed			kA	17.4	21.7	27.4
Rated operation sequence				O-0.3s-CO-18os-CO		
Rated operation voltage			V	DC(AC)220/110		
Electrical endurannce				E2 (grade)*		
Endurannce endurannce			Time	20000		

Note:
1. When the rated current is 3150A, forced air cooling is required
2. The GB1984-2003 electrical life B2 standard is implemented, and the number of short-circuit current interruptions is 274 times.

The mechanical characteristic parameters of the circuit breaker are shown in Table 2

Item		Unit	Value					
Opening distance of contact		mm	13±1					
Over-travel distance of contact			4±1					
Cental distance between poles			210,275					
Permaissible abrasiom thickness of the comtact			3					
Average opening speed (6nm just opening)		m/s	1.3±0.3					
Average closing speed			0.6±0.2					
Jumping time after contact closed.		ms	≤2					
Asynchrony of throo phase closing, opening			≤2					
Main circuit resistance	Rated current	A	630	1250	1600	2000	2500	3150
	Fixed type breaker	μΩ	≤50	≤45	≤35	≤35	≤30	≤25
	Truck type breaker		≤55	≤50	≤50	≤40	≤35	≤30
Opening time		ms	≤50					
Closing time			≤75					
Operating performances ofoperating mechanise		85%~110%(rated voltage)	Reliably close					
		85%~110%(rated voltage)	Reliably open					
		≤30%(rated voltage)	Not open					

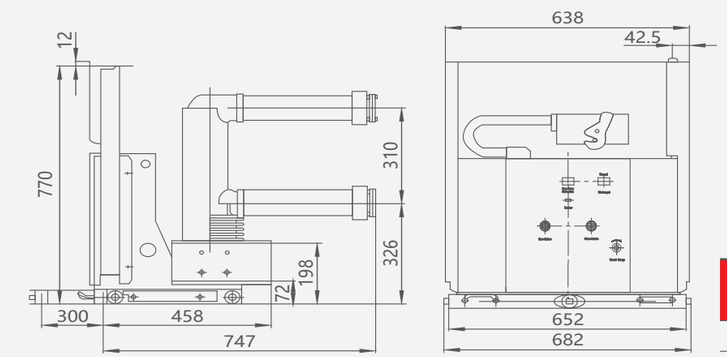
Main technical data of operating mechanism as sheet 3

Item	Unit	Value
Rated opcrating voltage for opening	V	AC/DC220V、AC/DC11oV
Rated operating voltage for closing		AC/DC220V、AC/DC110V
Rated instantaneous over-current tripping curent	A	5/3.5
Rated voltage for charging mnotor	V	AC/DC220V、AC/DC11oV
Rated output power of charging motor	W	70
Charging time	S	≤10
1min p.f withstland voltage on secondary circnit	V	2000

MV Circuit Breaker
ZN63(VS1)-24 Indoor Vacuum Circuit Breaker

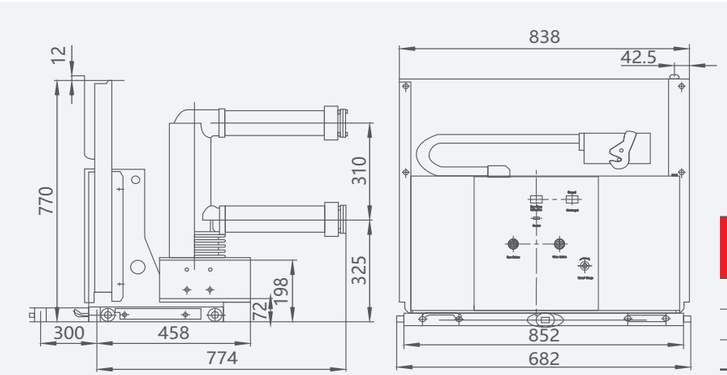
Overall and mounting dimensions(mm)

ZN63(VS1)-24 hand car phase distance 210 outline dimensions (small solid sealed pole type)



Rated current (A)	Rated short-circuit breaking current (kA)	Equipped static contact size (mm)
630	25	Φ35
1250	25	Φ49

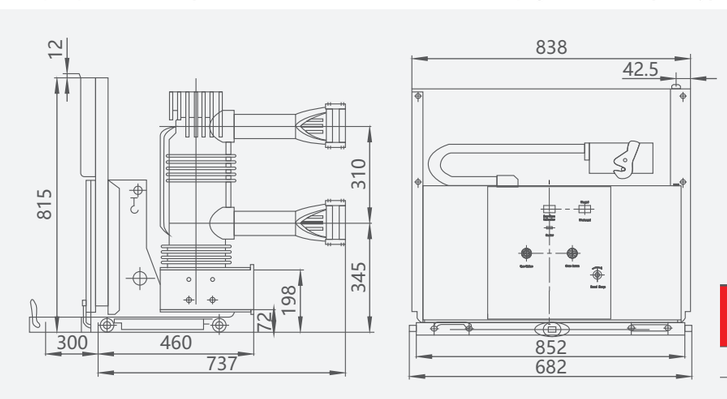
ZN63(VS1)-24 hand car phase distance 275 outline dimensions (small solid sealed pole type)



Rated current (A)	Rated short-circuit breaking current (kA)	Equipped static contact size (mm)
630	25	Φ35
1250	25	Φ49
1600	31.5	Φ45

1600

ZN63(VS1)-24 hand car phase distance 275 outline dimensions (big solid sealed pole type)



Rated current (A)	Rated short-circuit breaking current (kA)	Equipped static contact size (mm)
1600-2000	31.5	Φ79
2500-3150	31.5	Φ109