

MV Circuit Breaker **ZN63 (VS1)-12C Vacuum Circuit Breaker (side-operated)**

- ❖ ZN63C-12 series indoor AC MV vacuum circuit breaker (hereinafter referred to as circuit breaker) is an indoor switchgear with three-phase AC 50Hz and rated voltage of 12kV, which can be used for the control and protection of electrical facilities in industrial and mining enterprises, power plants and substations. It is suitable for places with frequent operations.
- ❖ The circuit breaker adopts an integrated design of the operating mechanism and the circuit breaker body, and is used as a fixed installation unit.
- ❖ Standard: IEC 62271-100

General



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Selection

ZN63	C	-	12	P	/	T	630	-	25	FT	R	P210
Name	Structure	-	Rated voltage(KV)	Pole type	/	Operating mechanism	Rated current(A)	-	Rated short-circuit breaking current(KA)	Installation	Main circuit wiring direction	Phase distance
Indoor vacuum circuit breaker	Side operation	-	12:12KV	No mark: Insulating cylinder type P: Solid-sealing type	/	T: Spring type	630	-	20	FT: Fixed type	L : Left R: Right	P210
							1250					
							1600					
							2000					
							2500					
3150												
4000												

Note:

- order a ZN63 side-mounted main circuit with right wiring, rated voltage 12KV, rated current 630A, rated short-circuit breaking current 25KA.

Operating conditions

- The ambient temperature is not higher than +40°C and not lower than -15°C (storage and transportation at -30°C are allowed);
- The altitude is not higher than 1000m;
- Relative temperature: the daily average is not more than 95%, and the monthly average The value is not more than 90%, the daily average value of saturated vapor pressure is not more than 2.2×10⁻¹MPa, and the monthly average value is not more than 1.8×10MPa;
- The seismic intensity does not exceed 8 degrees;
- There is no fire, explosion hazard, serious pollution, Places subject to chemical corrosion and severe vibration.

Features

- The arc extinguishing chamber and operating mechanism of the circuit breaker are arranged in a front-to-back configuration and connected as a whole through a transmission mechanism.
- Depending on the design of the switchgear, the primary conductive output can be divided into right output and left output.
- The main conductive circuit is primarily designed with an insulating cylinder, but it can also be designed with a fixed-sealing pole method.
- The operating mechanism adopts a spring energy storage type and has both electric and manual energy storage functions.
- It features an advanced and rational buffering device, ensuring no rebound during circuit interruption and reducing the impact and vibration during circuit breaking.
- It requires minimal or no adjustments and requires very little maintenance or is maintenance-free.
- The mechanical lifespan can reach 20,000 cycles.

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Technical data

Technical datas are shown in Table 1

Item	Unit	Value	
Rated voltage		12	
Rated insulation level	KV	78 (Phase-to-phase) ,80 (Phase-to-phase)	
		42 (Phase-to-phase) ,48 (Phase-to-phase)	
Rated short-circuit breaking current(KA)	KA	25	31.5
Rated current	A	630,1250	630,1250,1600
Rated thermal stable current (effective value)	KV	25	31.5
Rated dynamic stable current (peak value)		63	80
Rated short-circuit making current (peak value)		63	80
Rated short-circuit breaking current breaking times	Times	50	
Secondary circuit power frequency withstand current	V/min	2000	
Rated operating sequence		"Opening -0.3s - closing and opening -180s - closing and opening "	
Rated thermal stability time	S	4	
Rated single/back to back capacitor bank breaking current	A	630/400	
Mechanical life		20000	

The mechanical characteristic parameters are shown in Table 2

Item	Unit	Value
Contact distance	mm	11±1,9±1 (Solid sealing type)
Contact travel		3.5±1
Average closing speed (6mm~contact closed)	m/s	0.4~0.8
Average opening speed (contact separation -6mm)		0.9~1.3
Opening time (rated voltage)	ms	20~50
Closing time (rated voltage)		35~70
Contact closing bounce time	ms	≤2
Three phase opening asynchrony		≤2
Allowable cumulative thickness of wear for moving and stationary contacts	mm	3
ain electrical circuit resistance	μΩ	≤ (630A) , ≤45 (1250A)
Contact pressure of closing contacts	N	2400±200 (KA) , 3100±200 (31.5KA)

Opening and closing coil parameters are shown in Table 3

Item	Closing coil	Opening coil	Value
Rated operating voltage	AC110/220 DC110/220	AC110/220 DC110/220	The opening coil shall not open when it is less than 30% of the rated operating voltage
Coil power	264	264	
Normal operating voltage range	85% -110% rated voltage	65% -120% rated voltage	

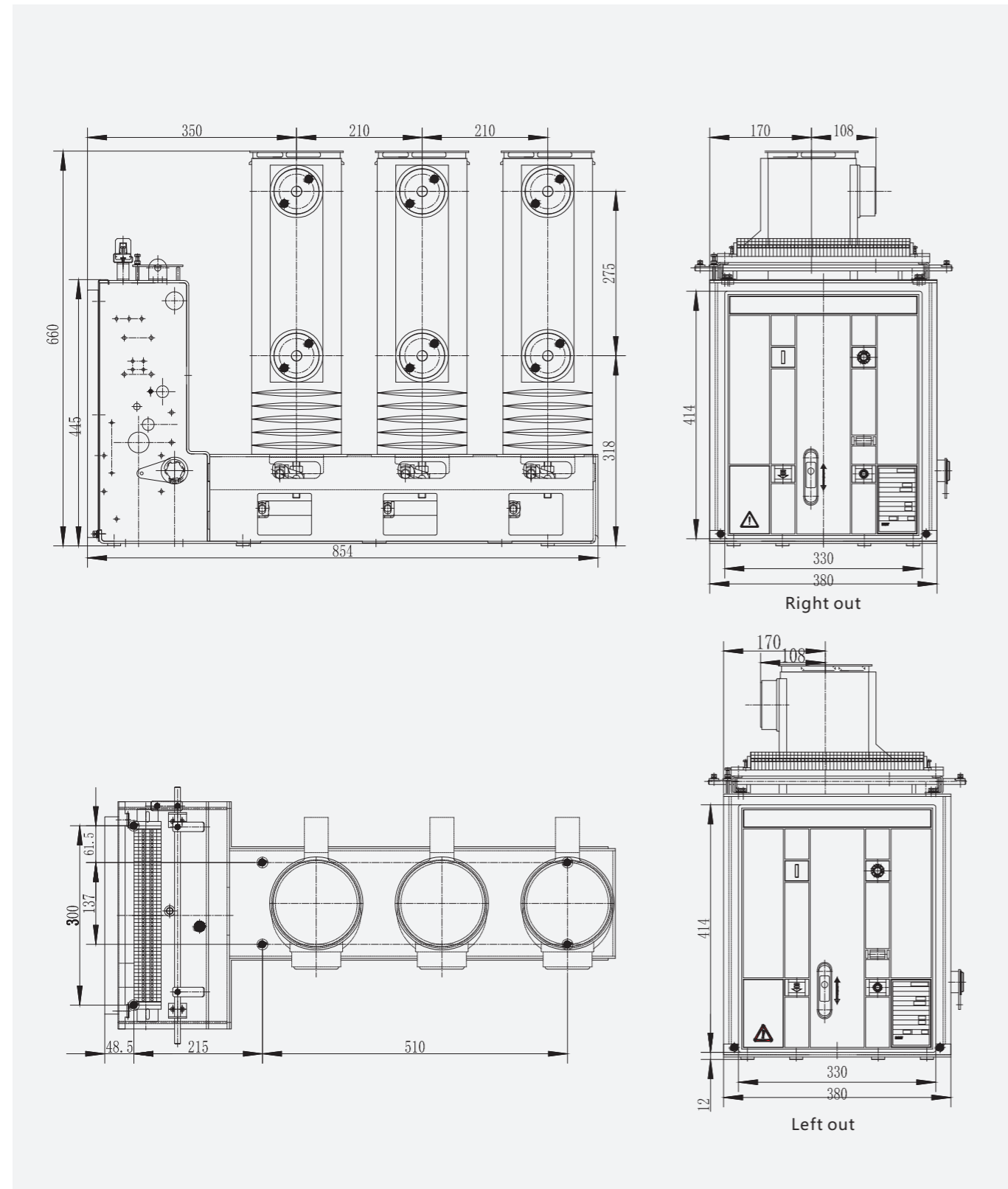
Energy storage motor parameters are shown in Table 4

Model	Rated voltage (V)	Rated input power (W)	Normal operating voltage (V)	Energy storage time at rated voltage (S)
ZYJ55-1	DC110 CD220	50~75	85% -110% rated voltage	≤15

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Overall and mounting dimensions(mm)

Fixed outline size drawing (insulation cylinder)



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Solid seal type outline dimension drawing (insulation cylinder)

