

ZN85-40.5 Indoor AC High Voltage Vacuum Circuit Breaker

Summary

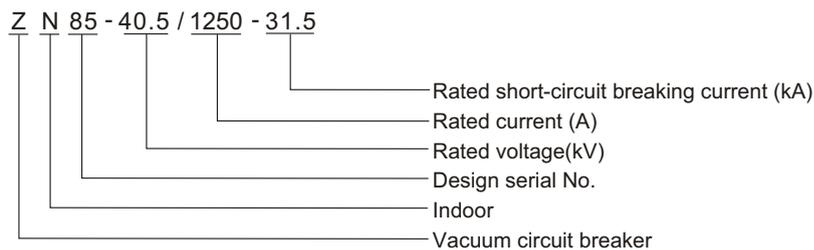
ZN85-40.5(3AV3) indoor vacuum circuit breaker is designed and produced by HEAG and Xi'an High-voltage Electric Apparatus Institute. It is three-phase and AC 50/60Hz with rated voltage of 40.5kV. This product is a kind of protecting and controlling electric apparatus, which applies to mining firms, power houses and substations, as well as occasions ask for frequent operation. It meets related stipulations of IEC 62271-100.



Ambient condition

1. Altitude: $\leq 1000\text{m}$;
2. Ambient temperature: $-25^{\circ}\text{C}\sim+40^{\circ}\text{C}$;
3. Relative humidity: daily average $\leq 95\%$, monthly average $\leq 90\%$;
4. Earthquake intensity: ≤ 8 degree;
5. Applicable occasions should free from inflammables, explosives, corrosives and severe vibration.

Model



Structure feature

1. The arc-extinguish chamber is on the upper part and the mechanism is on the lower part. This structure is convenient for debug.
2. Complex insulating structure using air and organic material; Compactable dimension and small weight.
3. Domestic ZMD series Vacuum arc-extinguish chamber is applicable for the VCB. This kind of chambers extinguish arc by vertical magnetic field and featuring with low cut-off and good on-off capability with asymmetry.
4. Simple spring operation mechanism is free from maintenance within 10,000 times of operations.
5. Lead-screw propeller, easy and stable operation and good self-locking capability.

Technical specification

No.	Item	Unit	Data
1	Rated voltage	kV	40.5
2	1min. PF withstand voltage		95
3	Lightning impulse withstand voltage(peak)		185
4	Rated current	A	630,1250,1600,2000,2500
5	Rated short-circuit breaking current	kA	25,31.5
6	Rated short-circuit making current(peak)		63,80
7	4s rated short-time withstand current		25,31.5
8	Rated peak withstand current		63,80
9	Rated operation sequence		O-0.3s-CO -180s-CO
10	Breaking times of rated short circuit breaking current	Times	20
11	Mechanical life		10,000
12	Rated frequency	Hz	50/60
13	Rated breaking current of capacitor bank	A	630

Technical specification of storage motor of operating mechanism

No.	Rated voltage		Rated output power	Normal operate voltage
HDZ-22301B	AC/DC110V	AC/DC220V	≤230W	85%-110% rated voltage

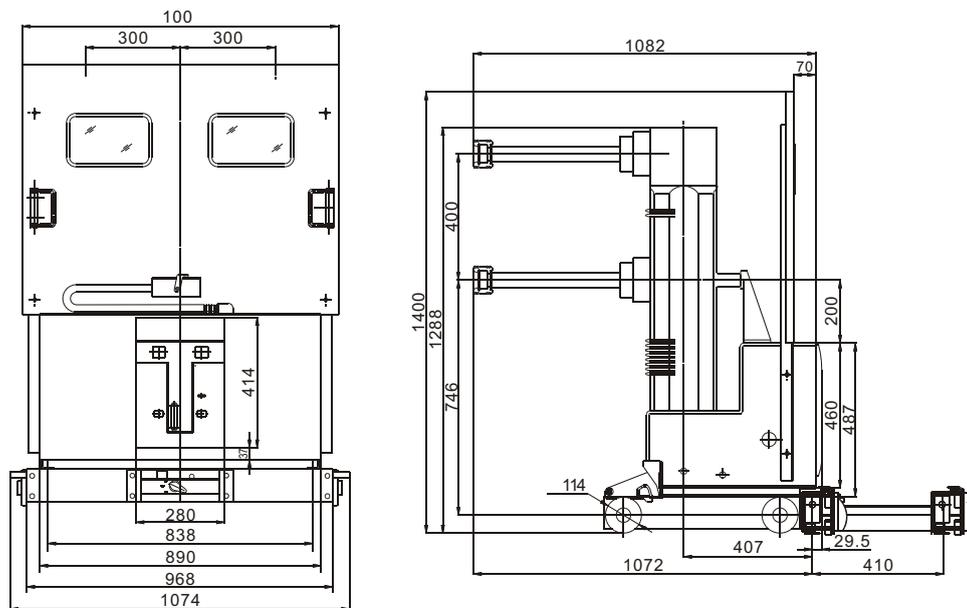
Mechanical parameters

No.	Item	Unit	Data
1	Contact clearance	mm	22 ± 2
2	Over-travel	mm	7.5 ± 1.5
3	Permissible abrasion of contact	mm	3
4	Average closing speed	m/s	0.65 ± 0.15
5	Average opening speed(contact open at 12mm)	m/s	1.8 ± 0.2
6	Contact closing trip time	ms	≤2
7	Closing simultaneity of three pole	ms	≤2
8	Opening simultaneity of three pole	ms	≤2
9	Buffer travel	mm	13 ± 1
10	Rebound of opening contact	mm	≤2
11	Loop resistance		≤50(630A)
			≤65(1250A,1600A,2000A)

Technical specification of C/O coils

Rated operating voltage(V)	DC110	DC220
Rated operating current(A)	<115	<210
Rated power (W)	1.05	0.96
Coil resistance at 200C(Ω)	105 ± 3	230 ± 5
Normal operating voltage	Opening on 65%-120% of rated operating voltage, can not opening when less than 30% of rated voltage	

Outline and dimension of installation



ZN85-40.5/2000-31.5 Miniaturization vacuum circuit breaker