

## ZN28-12, ZN28A-12 Series Indoor High-Voltage Vacuum Circuit Breakers



### ► General

ZN28-12 series vacuum circuit breaker is the indoor high voltage switch-gear with rated voltage 12kV and three-phase AC 50Hz. This product accords with GB1984 standard; the overall structure of this product has two types: one is switch body and operating device installed at a body and the other is switch body and operating device installed separately. The whole type is ZN28-12 basic type; divided body type structure is ZN28A-12, which applies to various fixed type switch cabinet, such as GG-1A ( Z ), XGN2-12 (Z) and so on. This product can match to use CD17, CD10A model DC magnetic operating device or CT17 and CT19 model spring energy store operating device

### ► Main Technical Parameter

Item		Unit	Data			
			20kA	25kA	31.5kA	40kA
Rated voltage		kV	12			
Rated current		A	630,1000 1250	1250,1600	1250,1600 2000,2500	1600,2500 3150
Rated short circuit breaking current		kA	20	25	31.5	40
Rated short circuit breaking current (peak value)		kA	50	63	80	100
Rated peak withstand current		kA	50	63	80	100
4S rated short time withstand current		kA	20	25	31.5	40
Rated insulation level	Power frequency withstand voltage	kV	42(fracture 48)			
	Impulse withstand voltage		75(fracture 85)			
Rated sequence of operations			O-0.3s-CO-180s-CO			
Mechanical life		Time	10000			
Breaking times for rated short circuit breaking current		Time	30			
Operating device rated closing voltage (DC)		V	110,220		220	
Operating device rated closing current (DC,electromagnetic operation device)		A	71		128	
Operating device rated closing voltage (DC)		V	110.220			
Operating device rated closing current (DC)		A	3.0,1.5			
Clearance between open contacts		mm	11 ± 1			
Overtravel (contact spring reduction length)		mm	4 ± 1			
Three-phase, switch-on differ synchronicity		ms	≤ 2			
Contact switch-on bounce time		ms	≤ 2			

# Vacuum Switch Series

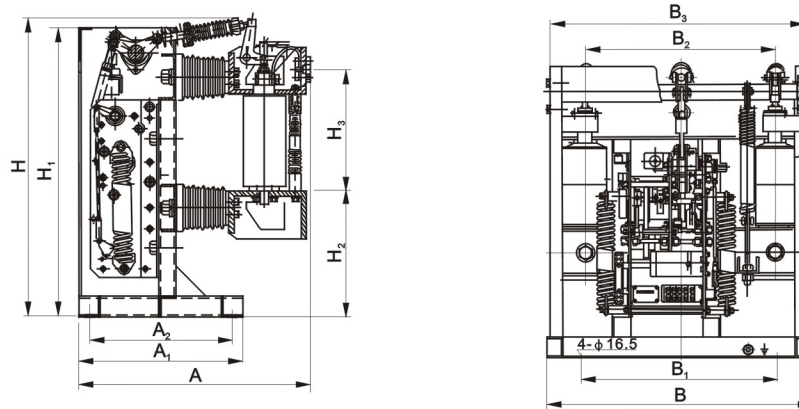
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Following above table

Item	Unit	Data	
Average opening speed (6mm height)	m/s	$1.2 \pm 0.3$	
Average closing speed	m/s	$0.6 \pm 0.2$	
Opening time	Under max. Operation voltage	s	$\leq 0.06$
	Under min. Operation voltage	s	$\leq 0.08$
Closeing time	s	$\leq 0.1$	
Each phase main loop resistance	$\mu \Omega$	$\leq 50$	$\leq 35$
Moving and fixed contact allowance wearing cumlation thickness	mm	3	
Oil damper cushioning stroke	mm	10	

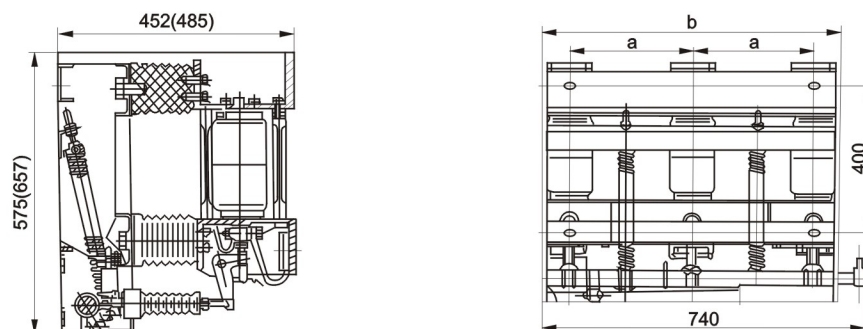
### ► Overall and installation dimensions

ZN28-12 Vacuum circuit breaker outside dimension (basic type)



Product model	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	A	A <sub>1</sub>	A <sub>2</sub>	B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>
ZN28-12/T <sup>2500</sup> <sub>3150</sub> -40	780	700	268	371	581	450	390	700	560	275	690
ZN28-12/T2000-31.5	697	677	235	347	550	380	330	634	480	250	620
ZN28-12/T <sup>630</sup> <sub>1250</sub> 20 31.5	697	677	235	347	550	380	330	594	440	230	580

ZN28A-12 Vacuum circuit breaker outside dimension



Rated current	20kA	25kA	31.5kA	40kA
Code	a	b	a	b
Data	250	610	275	690