

## RDV6-12

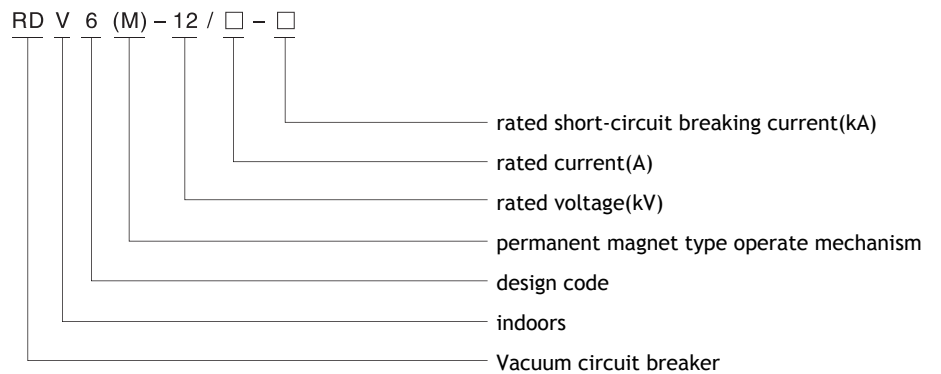
Indoor high-voltage  
AC vacuum circuit breaker



### Application

RDV6-12 series High voltage AC Vacuum Circuit Breaker, is 3-phase A C12kV indoor switch device, is usually install at Middle type cabinet KY28 series, Box type substation and Armored type cabinet, as protector for industry, mine enterprise electrical equipment and the making and breaking circuit from load current, overload current and short-circuit protect current. And Because using Vacuum breaker, this product is specially suitable for the location of frequently operating under rated operate current, or open and break short-circuit many times.

### Model No.



### Environment

- a) Temperature: Max +40°C, Min -10°C (30°C, storage and transportation)
- b) Altitude: Max 2000m. The special require shall consult with us.
- c) Relative humidity: day average shall no more 95%, month average shall no more 90%. And saturated vapor pressure day average shall no more than 2.2kPa, month average no more than 1.8kPa. And in the high humidity date, turns cold, the condensation is acceptable.
- d) Earthquake level: no more than 8 level
- e) Install location: without fire, explosion, dust, chemical corrosion, obvious vibration.

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**Basic function and characteristic**

1. Vacuum arc extinguishing chamber adopts Cu Cr contact material ,and Cup-shaped contact structure of longitudinal magnetic field which has small wear rate, Stable dielectric strength, rapid recovery after arc extinguishing,low closure level, strong make and break strength,long electrical life.
2. Between the insulation pole and the ceramic shell of the vacuum arc extinguishing chamber, Using fluid silicone rubber buffer ,increase the impact withstand performance, An umbrella skirt with a large climbing distance on the surface of the pole pillar, to improve the power frequency withstand voltage and lightning impulse withstand voltage, can meet the high-altitude area main technical requirement.
3. Operate mechanism is Spring energy storage mechanism of plane arrangement,has the manual storage and motor storage functions, to improve the stability of operation.
4. This circuit breaker operate mechanism, also adopted Permanent magnetic actuator mechanism,this mechanism reduces 60% components compares to the regular spring, reduces the fault rate because of components.

**Main technical parameter**

Table1

Name	Unit	value							
Rated voltage kV		12							
Rated insulation level	kV	1min power frequency voltage(effective) between phases,to earth/break port							
		42/48							
		Lighting impact withstand to ground/break port							
		75/85							
Rated frequency	Hz	50							
Rated current	A	630	1000	1250	1600	2000	2500	3150	4000
Rated short-circuit breaking current	kA	20	25	31.5	31.5	40	31.5	40	
Rated short-circuit making current(peak)		50	63	80	80	100	80	100	
Rated peak withstand current		50	63	80	80	100	80	100	
Rated short-time withstand current(effective)		20	25	31.5	31.5	40	31.5	40	
Rated short-circuit breaking current operate time	Time	50				30			
Rated short-circuit continuous time	s	4							
Rated switching single and back-to-back capacitor group	A	630/400							
Rated operate sequence	Auto reclosure	Break-0.3s-Close and break-180s-Close and break							
	Non auto reclosure	Break-180s-Close and break-180s-Close and break							
mechanical life	Time	20000							
Moving and fixed contact acceptable wear thickness	mm	3							

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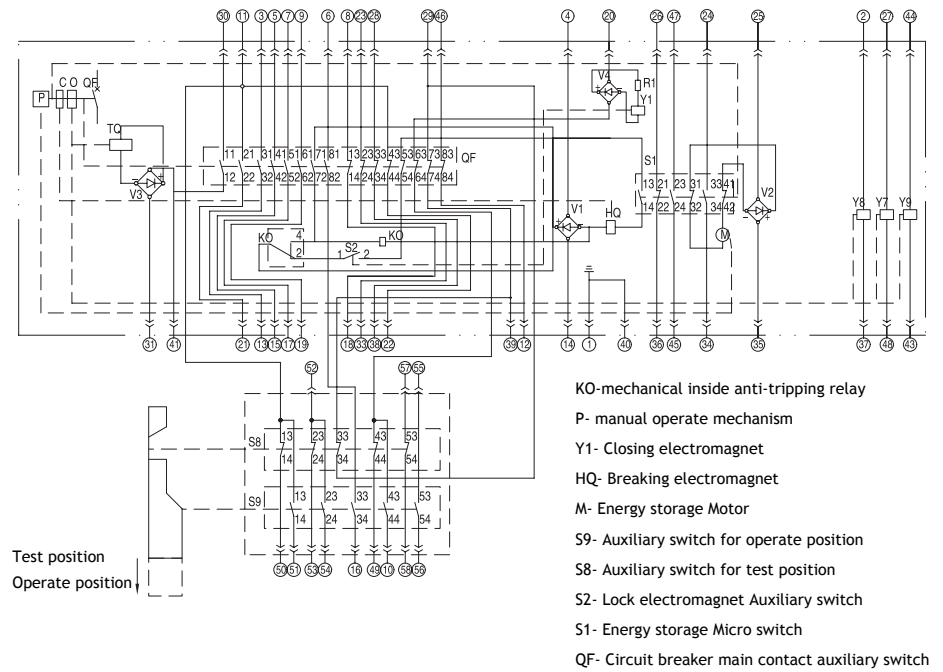


Fig1 drawer type circuit breaker inside electrical principle(anti-tripping,lock,overload)

Mechanical performance see Table2

Table2

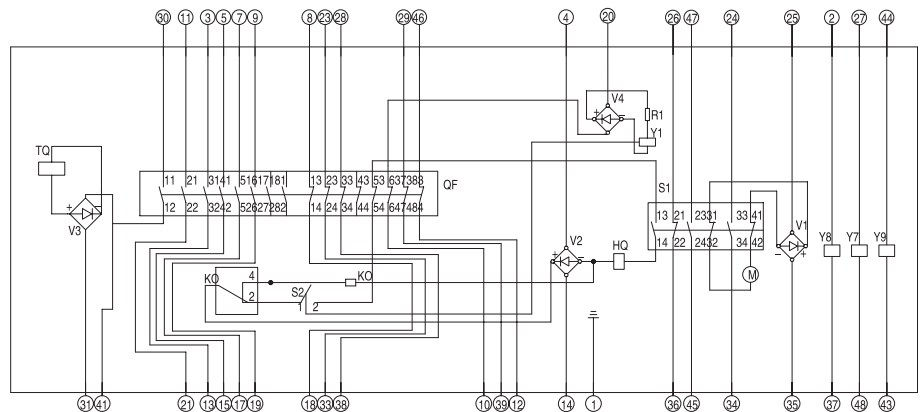
Item	Unit	Data			
Contact open distance	mm	11 ± 1			
Contact overtravel		3.5 ± 0.5			
3-phase break and close Synchronism	ms	≤ 2			
Contact closing bounce time		≤ 2			
Breaking time		≤ 50			
Closing time		≤ 100			
Average Breaking speed	m/s	0.9~1.3			
Average Closing speed		0.4~0.8			
Closing contact contact force	N	20kA	25kA	31.5kA	40kA
		2000 ± 200	2400 ± 200	3100 ± 200	4750 ± 250
Moving and fixed contact acceptable wear thickness	mm	3			

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Operate mechanism technical data see Table3.

Operate power supply		AC/DC	
Rated voltage		220V/110V	
Rated power	breaking release	264W	
	closing release	264W	
	Energy storage motor	20kA 25kA 31.5kA	40kA
		70W	100W
Normally operate voltage range	breaking release	65%~120% Rated Voltage	
	closing release	85%~110% Rated Voltage	
	Energy storage motor	85%~110% Rated Voltage	
Energy storage time		≤10s	



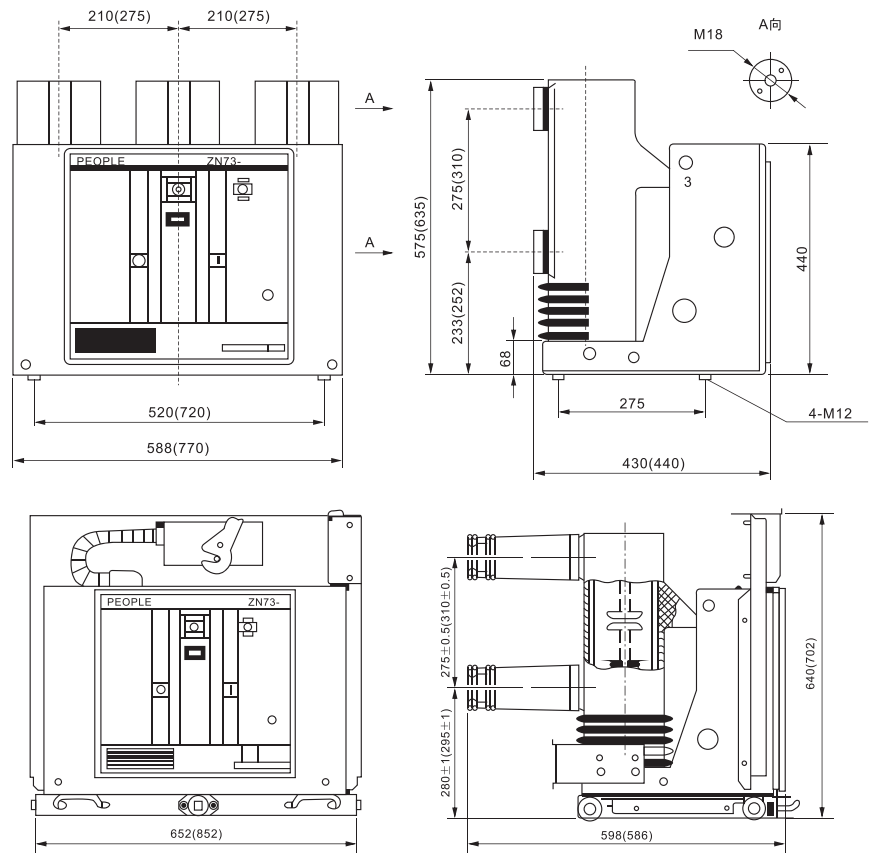
Y1: Locking electromagnet Y7-Y9: overload tripping electromagnet KD:Mechanical inside anti-tripping relay  
HQ:Closing electromagnet S2 Locking electromagnet travel switch M: energy storage switch S1: energy storage Micro switch  
QF:Circuit breaker main contact auxiliary switch TQ: Closing electromagnet

Fig2 Fixed type circuit breaker inside electrical diagram

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### Shape and Install dimension



### Order Note

Please note the following item in the order:

1. Model No. specification and quantity
2. Rated voltage, current and short-circuit breaking current.
3. Rated operate voltage, the accessory function
4. If any special require, it shall be consulted with us.

Note: 1. handcraft travel instance in the cabinet is 200mm.

2. Item in the bracket is the dimension of circuit breaker which rated current larger than 1600A

Fig3 Handcraft type circuit breaker dimension