

VHY1-40.5 Indoor High Voltage Circuit Breaker

Summary

VHY1-40.5 indoor high voltage circuit breaker is developed by HEAG, it is used in 50/60HZ 40.5kV network for the purpose of control and protection in Mining industries and substation. It is made as per IEC62271-100 and GB1984 high voltage apparatus circuit breaker.

This type of circuit breaker can be installed in the middle with drawing switchgear or fixed switchgear. It is long in life, simple in maintenance, no pollution, no explosion, and low noise. Moreover, it can be used in rigorous work place where operate frequently.



Ambient condition

1. Main circuit adopts special sealing design
2. Adopted integrated block of spring operating mechanism
3. Flexible in installation
4. Handcart adopt middle with drawable type design
5. With perfect five protection when installed into switchgear
6. Supply closing lockout, inner anti-pumping, and over current protection as per requirements of user.

Technical specification

Technical parameters for circuit breaker 1

No.	Name		Unit	Data	
1	Rated voltage		kV	40.5	
2	Rated current		A	630, 1250, 1600, 2000, 2500, 3150	
3	Rated Insulation Level	Rated 1min P.F withstand Voltage	Between phases and phase to earth	kV	95
			Between gaps		95
	Rated lightning withstand voltage	Between phases and phase to earth	185		
		Between gaps	185		
4	Rated frequency		Hz	50	
5	Rated short time withstand voltage 4s		kA	25	31.5
6	Rated breaking current			25	31.5
7	Rated peak withstand current			63	80
8	Rated short time making voltage			63	80
9	Rated short circuit durance		s	4	
10	Rated operation consequence			O-0.3s-CO-180s-CO	
11	Mechanical life		Time	10,000	
12	Rated out of phase earthing fault breaking current		kA	21.7	27.4
13	Rated cable charging breaking current		A	50	
14	Electric life			E2 class	

Note: If the rated current is 3150A, switchgear shall be equipped with forced air cooling device.

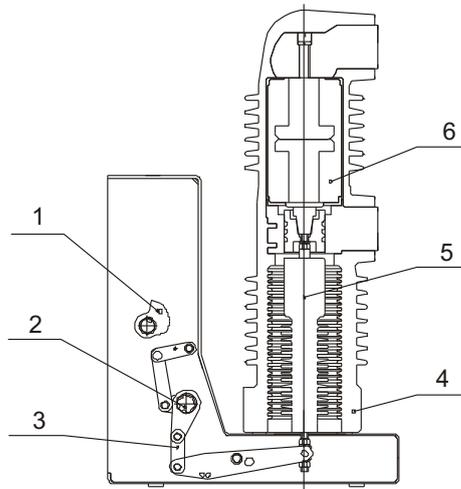
Mechanical characters of circuit breaker 2

No.	Name	Unit	Data			
1	Open distance between contacts	mm	19 ± 1			
2	Over-travel of contacts		5 ± 0.5			
3	Central pole distance		280 ± 1.5			
4	Permissible wear for contacts		3			
5	Average opening speed	m/s	1.7 ± 0.3			
6	Average closing speed		0.6 ± 0.2			
7	Closing spring time of contacts	ms	≤ 5			
8	Time spread between poles at closing/opening		≤ 2			
9	Resistance of main circuit	μ Ω	Fixed type	Handcart	≤ 35	≤ 45
					≤ 35	≤ 40
					≤ 25	≤ 30
					≤ 20	≤ 25
10	Opening time	ms	15~50			
11	Closing time		40~75			
12	Characters of operating mechanism	65%~120% rated voltage		Open reliably		
		≤ 30% rated voltage		No open		

Technical parameters of operating mechanism

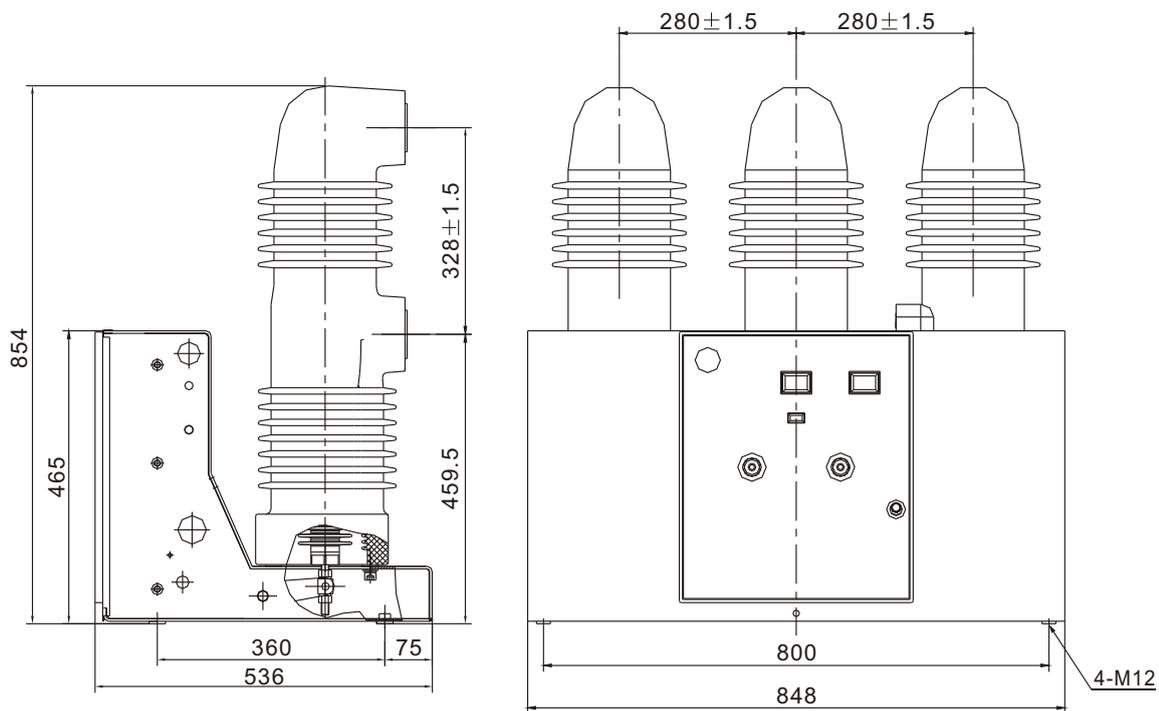
No.	Name	Unit	Data
1	Rated opening voltage/current	V/A	DC(AC)220/1.5, DC(AC)110/3
2	Rated closing voltage /current		DC(AC)220/1.5, DC(AC)110/3
3	Rated short time over current tripping current	A	5
4	Rated voltage of second wiring	V	DC(AC)220/DC(AC)110
5	Rated voltage of charging motor		DC(AC)220/DC(AC)110
6	Rated output power of charging motor	W	70
7	Charging time	s	≤ 12
8	Rated 1 min P.F frequency of second wiring	V	2000

Outline dimension

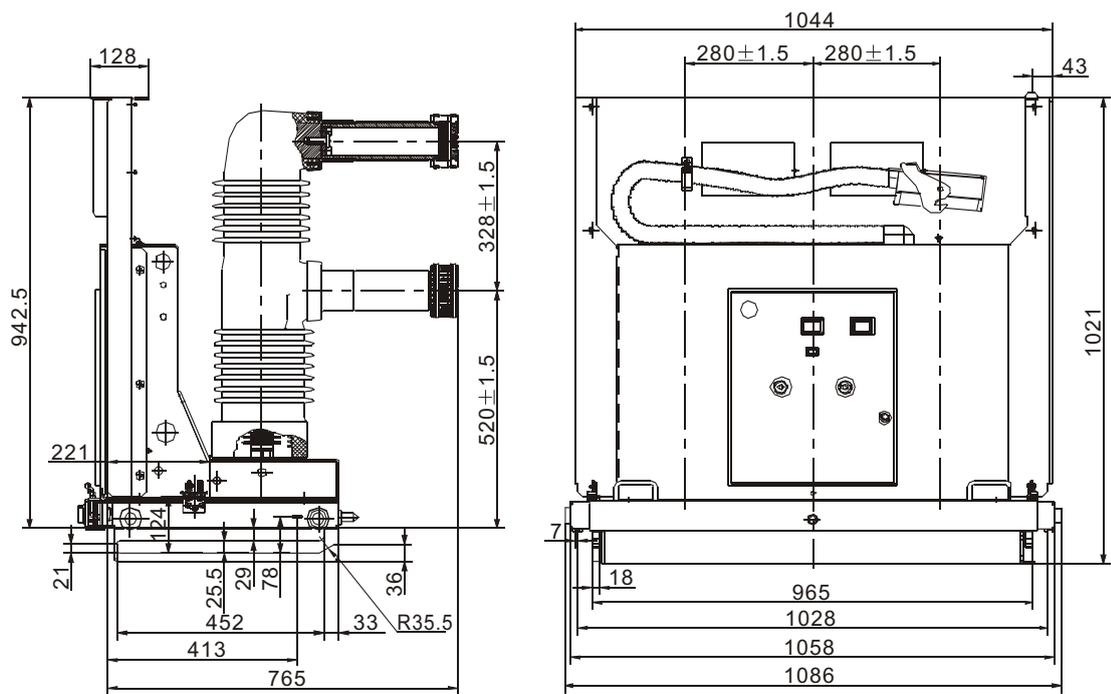


- 1.Closing cam 2.Principle axis 3.Transmission linkage group
4.Sealed pole 5.Insulation bar 6.Vacuum chamber

VHY1-40.5 Structure drawing



VHY1-40.5 Outline dimension drawing of fixed



VHY1-40.5 Outline dimension drawing of trolley