



## **VS1-40.5kv Indoor Vacuum Circuit Breaker**

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VS1-40.5 indoor AC HV vacuum circuit breaker is applicable for power system with three-phase AC 50Hz 40.5kV, used for industrial and mining enterprises, power plants and transformer substations to protect and control equipments, also, it can be used in the location where with frequent operations.

### ➤ Structure Features

- Reliable modular spring operating mechanism: the layout of spring operating mechanism is up-down style, which has the function of manual storing energy and electric storing energy; Small size , good overall stiffness and performance.
- Sleeve structure(VS1-40.5): The vacuum extinguishing chamber of main circuit is inside the closed insulating drum ;The material of insulating drum is epoxy resin which have reliable mechanical and electrical properties. Using advanced APG process molding, the insulating drum have the role of support and interphase and relative insulation effect.
- Encapsulated pole structure(VS1-40.5E):The conductive circuit adopts solid encapsulation pole; Using advanced APG process molding, put the vacuum interrupter and other parts (for primary circuit ) solid encapsulated with epoxy material, make a main circuit module. With inside and outside double skirt design, the pole has features such as large creepage distance, high mechanical strength, high part accuracy, fewer parts, no secondary adjustments, and a small lapped surface.
- Standard on-off function module: Modular design spring mechanism, which includes two functional modules: closing and opening; It has the characteristics of convenient maintenance, quick replacement and short maintenance time; No readjustment for the entire circuit breaker's operating mechanism after replace the closing and breaking module, which can reduce maintenance work;
- Better handcart interchangeability and adaptability, installation size and ZN85, VD4 and other products; Strong breaking ability, long service life

### ➤ Normal service condition

Altitude		$\leq 1000\text{m}$
Ambient temperature	Max	$+40^{\circ}\text{C}$
	Min	$-15^{\circ}\text{C}$
Ambient humidity:		24 hour $\leq 95\%$
Maximum average humidity		1 month $\leq 90\%$
Maximum water vapor pressure		24 hours $\leq 2.2\text{kpa}$
		1 month $\leq 1.8\text{kpa}$

The ambient air has no obvious pollution of dust smoke, corrosive or combustible gases, steams or smog

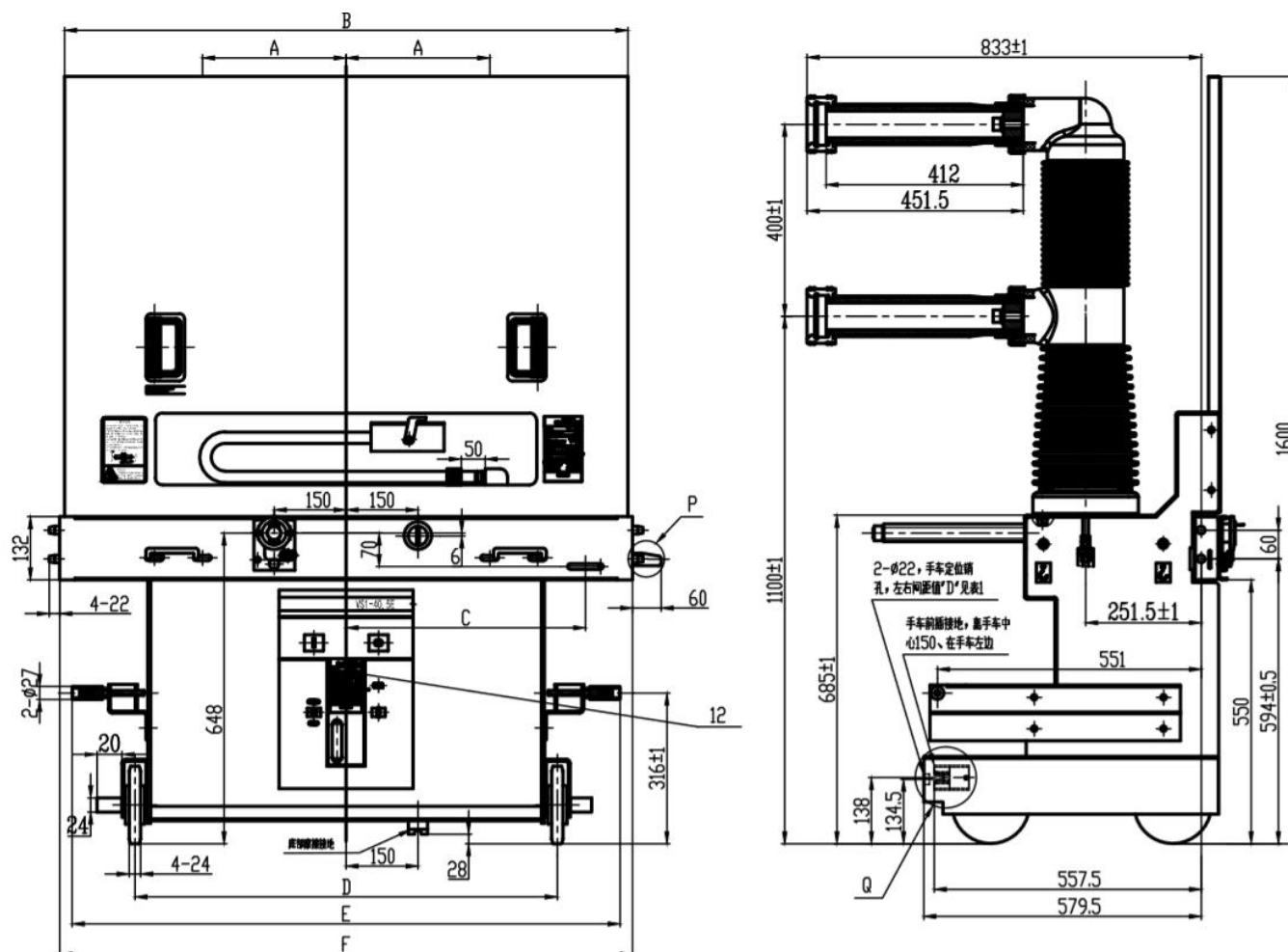
## ➤ VS1-40.5 Technical Parameters

No.	Item	Unit	Parameter
1	Rated voltage	KV	40.5
2	Rated frequency	Hz	50
3	Rated power frequency withstand voltage/1 min	KV	95
4	Rated lightning impulse withstand voltage	KV	185
5	Rated current	A	630 1250 1600 2000 2500
6	Rated short-circuit breaking current	KA	20 25 31.5
7	Rated short-time withstand current	KA	20 25 31.5
8	Rated short-circuit marking current	KA	50 63 80
9	Rated peak value of withstand current	KA	50 63 80
10	Rated duration of short-circuit	s	4
11	Rated operating sequence		O-0.3s-CO-180s-CO
12	Breaking time	ms	≤80
13	Mechanical endurance	times	10000
14	Rated single capacitor bank breaking current	A	400/630
15	Rated short circuit breaking current breaking times	times	30
16	Size (length*width*high)	mm	1246*1700*905
17	Rated voltage of energy storage motor	V	AC110/220,DC110/220
18	Weight	Kg	466

## ➤ Mechanical Properties Parameters

No.	Item	Unit	Parameter
1	Clearance between open contacts	mm	18±2
2	Over stroke		3.5~4
3	Rated power of energy storage motor	W	230
4	Energy storage time	s	≤15
5	Bounce duration of contact closing	ms	≤3
6	Non-simultaneity of 3-phase opening and closing		≤2
7	Breaking time		≤70
8	Making time		≤90
9	Break-brake bounce	m	≤3
10	Average breaking speed	m/s	1.7±0.3
11	Average making speed		0.7±0.3

➤ Overall and Mounting Dimension



Structure code	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)	Cabinet width(mm)
VCZ-33P-X30-G12	300±1	976	430	762±1	964±1	996±1	1200
VCZ-33P-X30-G14	300±1	1186	500	882±1	1144±1	1196±1	1400
VCZ-33P-X35-G14	350±1	1186	500	982±1	1144±1	1196±1	1400
VCZ-33P-X44-G16	440±1	1456	500	1162±1	1452±1	1476±1	1680

Rated current(A)	630	1250	1600	2000	2500
Fixed Contact(mm)	φ 49	φ 49	φ 55	φ 79	φ 109

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