



VS1-12 Series

Indoor High Voltage Vacuum Circuit Breaker

VS1-12 indoor HV vacuum circuit breaker is a 3-phase AC 50Hz 12kV indoor switch equipment.

- ◆ Installation way: withdrawable type, fixed type, side mounted type;
- ◆ Operating mechanism: spring operating mechanism, permanent magnetic operating mechanism;
- ◆ Pole type: assembled pole, embedded pole;
- ◆ Application: switchgear KYN28-12, XGN-12.
- ◆ Secondary plug: 58pins, 64pins.



※ Product Standards

- ◆ IEC62271-100 High Voltage Switchgear and Controlgear Part 100: AC Circuit-breakers
- ◆ GB1984 High Voltage AC Circuit-breakers
- ◆ GB/T11022 Common Specifications for High-voltage Switchgear and Controlgear Standards
- ◆ JB/T 3855 High Voltage AC Vacuum Circuit-breakers
- ◆ DL/T402 Specification of High-voltage AC Circuit-breakers

※ Environmental Conditions

- ◆ Ambient temperature: $-15^{\circ}\text{C}\sim+40^{\circ}\text{C}$;
- ◆ Altitude: $\leq 1000\text{m}$;
- ◆ Relative humidity: daily average $\leq 95\%$, monthly average $\leq 90\%$;
- ◆ Earthquake intensity: ≤ 8 level;
- ◆ Places without fire, explosion hazard, serious filthy, chemical corrosion, as well as intense vibration.

※ Main Technical Parameters

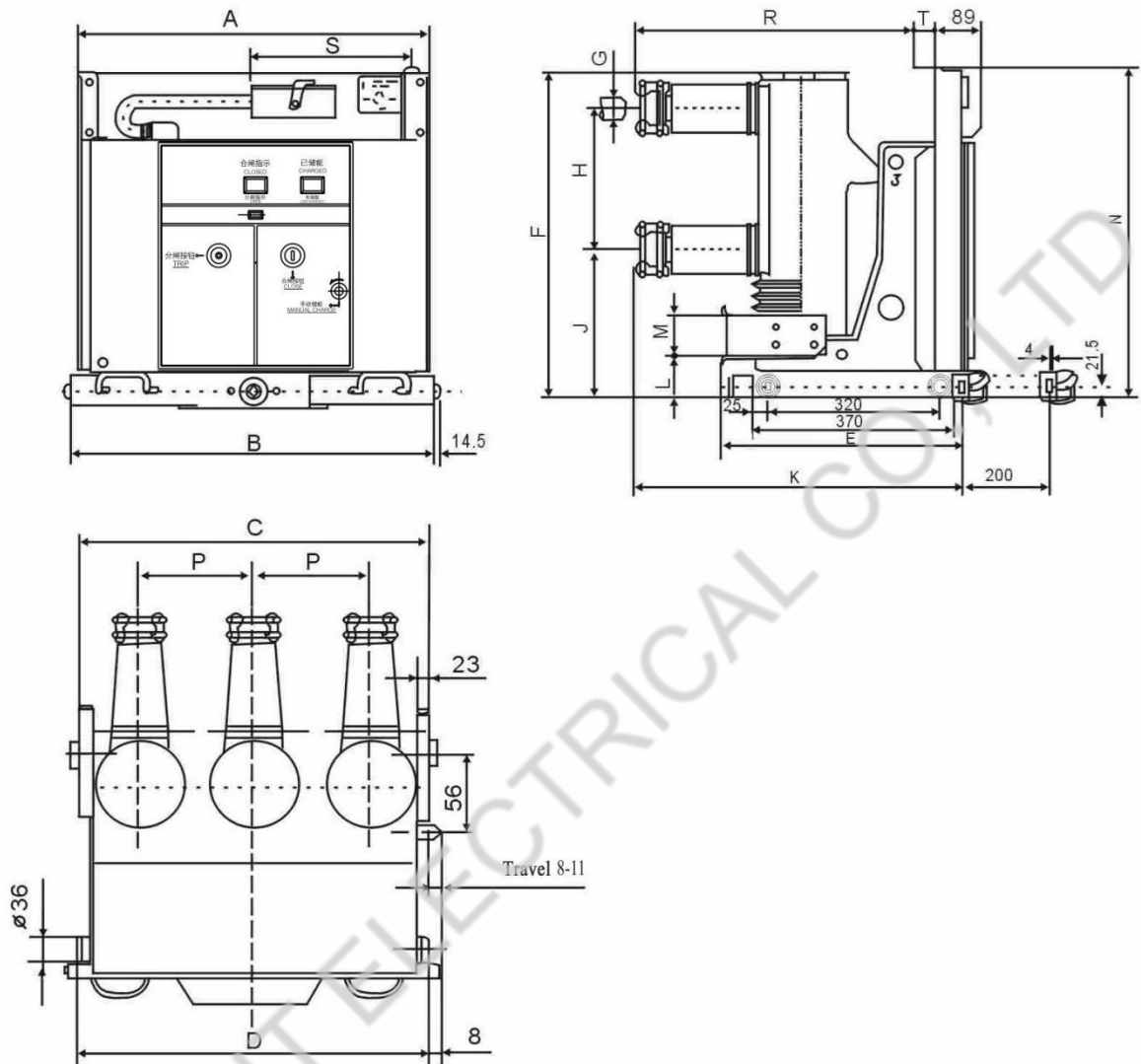
No	Item	Unit	Value
1	Rated voltage	kV	12
2	1 min power frequency withstand voltage		42
3	Rated lightning impulse withstand voltage		75
4	Rated frequency	Hz	50
5	Rated current	A	630, 1250, 1600, 2000, 2500, 3150, 4000
6	Rated short circuit breaking current	kA	20, 25, 31.5, 40
7	Rated short time withstand current		20, 25, 31.5, 40
8	Rated short circuit duration	S	4
9	Rated peak value withstand current	kA	50, 63, 80, 100
10	Rated short circuit making current		50, 63, 80, 100
11	Secondary circuit power frequency withstand voltage (1min)	V	2000
12	Rated single / back-to-back capacitor bank breaking current	A	630/400 (800/400 for 40kA and 50kA)

No	Item	Unit	Value
13	Rated capacitor bank closing inrush current	A	12.5
14	Opening time (rated voltage)	ms	20-50
15	Closing time (rated voltage)	ms	35-70
16	Mechanical life	Times	10000
17	Rated current breaking number	Times	10000
18	Rated short circuit current breaking number	Times	50 (30 for 40kA, 20 for 50kA)
19	Moving and fixed contacts cumulative allowed wear thickness	mm	3
20	Rated closing operating voltage	V	AC/DC110/220
21	Rated opening operating voltage		
22	Rated voltage of energy storage motor	W	70 (80 for 40kA and 50kA)
23	Rated power of energy storage motor		
24	Energy storage time	s	≤10
25	Clearance between open contacts	mm	11±1
26	Over travel	mm	3.5±0.5
27	Contact closing bounce time	ms	≤2 (≤3 for 40kA and 50kA)
28	Three phase opening and closing asynchronism	ms	≤2
29	Average opening speed	m/s	0.9~1.2
30	Average closing speed	m/s	0.5~0.8
31	Main conductive circuit resistance	uΩ	≤60 (630A) ≤50(1250A) ≤35(1600~2000A) ≤25(above 2500A)
32	Closing contact pressure of the contacts	N	2000±200 (20kA) 2400±200 (25kA) 3100±200 (31.5kA) 4250±250 (40kA) 6500±500 (50kA)
33	Rated operating sequence		O-0.3s-CO-180s-CO O-180s-CO-180s-CO (50kA)

Note: when current is 4000A or 5000A, need forced air cooling.

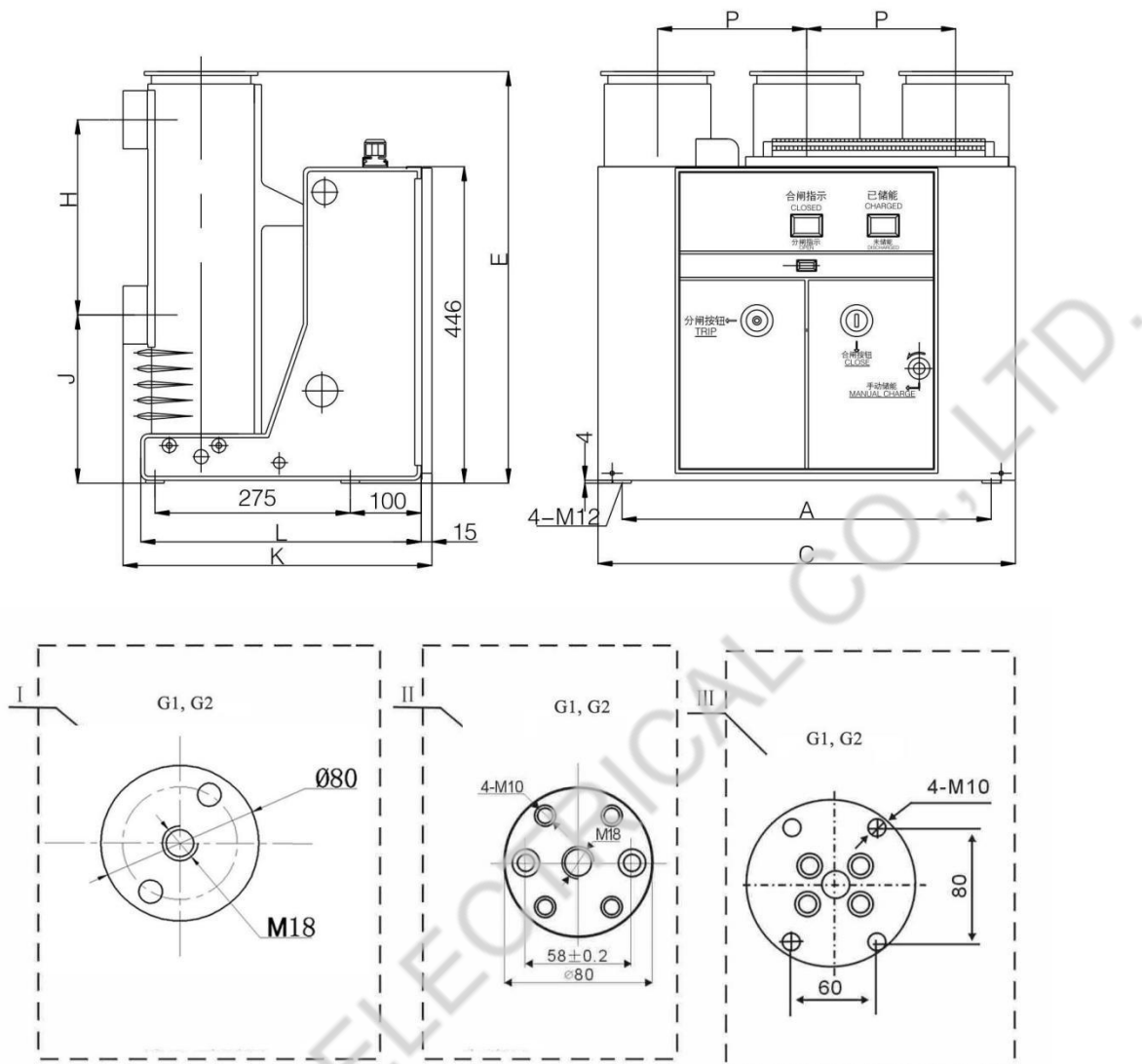
※ General Structure Drawing and Installation Size (unit: mm)

◆ Draw out type



Cabinet width	Rated current (A)	Rated short circuit breaking current (kA)	P	H	A	B	C	D	E	F	G	J	K	L	M	N	R	S	T
650	630	20~31.5	150	275	490	502	492	500	433	626	Φ35	280	598	76	78	637	508	202	40
650	1250	20~31.5	150	275	490	502	492	500	433	626	Φ49	280	598	76	78	637	508	202	40
800	630	20~31.5	210	275	638	652	640	650	433	626	Φ35	280	598	76	78	637	508	277	40
800	1250	20~40	210	275	638	652	640	650	433	626	Φ49	280	598	76	78	637	508	277	40
800	1600	31.5~40	210	275	638	652	640	650	433	626	Φ55	280	598	76	78	637	508	277	40
1000	630	20~31.5	275	275	838	852	838	850	433	626	Φ35	280	598	76	78	637	508	377	40
1000	1250	20~40	275	275	838	852	838	850	433	626	Φ49	280	598	76	78	637	508	377	40
1000	1600	31.5~40	275	275	838	852	838	850	433	626	Φ55	280	598	76	78	637	508	377	40
1000	1600~200	31.5~40	275	310	838	852	838	850	361	680	Φ79	295	586	77	88	698	536	377	0
1000	2500~200	31.5~40	275	310	838	852	838	850	361	680	Φ109	295	586	77	88	698	536	377	0

◆ Fixed type



Cabinet width	Rated current (A)	P	H	A	C	E	G1 G2	J	K	L
650	630-1600	150	275	385	440	580	I	237	455	395
800	630~1600	210	275	520	588	580	II	237	455	410
1000	630~1600	275	275	720	770	580	II	237	455	410
1000	1600~5000	275	310	720	770	632	III	252	465	440

◆ Side mounted type

