



Ningbo Macwey Industrial Technology Co., Ltd

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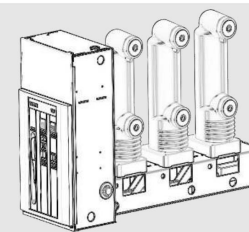
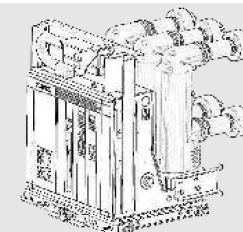
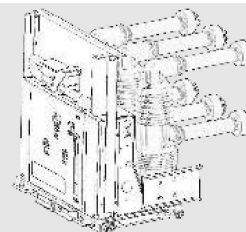
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2019 MACWEY CATALOGUE



 **MACWEY**



OVERVIEW

- A manufacturer specializes in MV circuit breakers, from 7.2kV to 40.5kV
- Production capacity of circuit breakers over 12000 pieces
- Products export to 46 countries around the world
- Products widely use in different fields
- A professional team over 20 years in power electrical industry
- Type Test in authoritative official testing lab
- Circuit breakers' highest mechanical life can be up to 60000 times
- Certification of ISO9001:2008



FACTORY MANUFACTURING



By now we have over 9000 sqm workshop and more than 40 sets advanced facilities of machining and testing. 7.2-40.5kV vacuum circuit breaker 12000 pcs / year, indoor&outdoor spring operating mechanisms 10000 sets/ year

Automatic Production Assembly Line

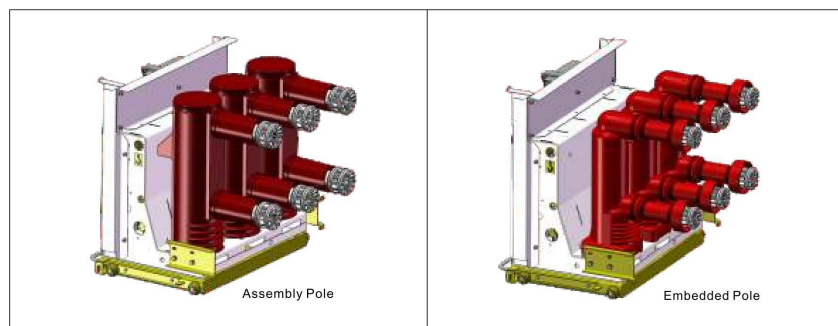
Our circuit breaker's assembly line is designed and produced by ourselves, according our actual production need and circuit breakers' technical features. Thanks to the automatic line,our production capacity is greatly increased , up to 12000 pieces VCB per year.

Excellent facility , skilled workes and strict quality control systems under ISO9001:2008, to ensure all the safe reliable products gain good reputation from customers.



VS1 Indoor Vacuum Circuit Breaker
7.2kV...12kV...17.5kV...24kV

VS1 circuit breakers get two type poles, assembled poles and embedded poles.

[illegible]

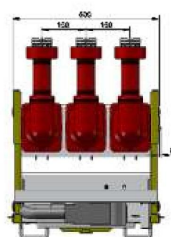
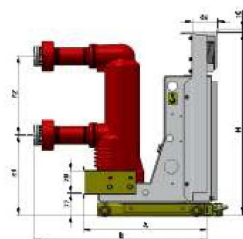
No.	Rated Voltage(kV)	Rated current (A)	Short breaking current (kA)	h1(mm)	h2(mm)	H(mm)	A(mm)	B(mm)
1	7.2、12、17.5	630-1250	20-31.5	260	205	622	438	609
2	7.2、12、17.5	630-1250	20-31.5	280	275	637	432	598

No.	Rated Voltage(kV)	Rated current (A)	Short breaking current (kA)	h1(mm)	h2(mm)	H(mm)	A(mm)	B(mm)
1	7.2、12、17.5	630-1250	20-31.5	260	205	622	438	609
2	7.2、12、17.5	630-1600	20-31.5	280	275	637	432	598
3	7.2、12	1250-1600	40	295	310	697	432	598
4	7.2、12	2000	31.5-40	295	310	697	432	598

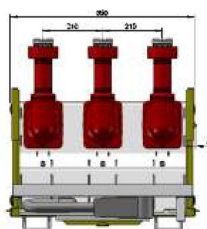
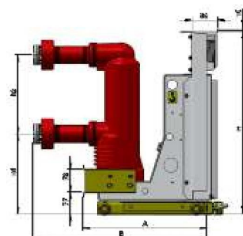
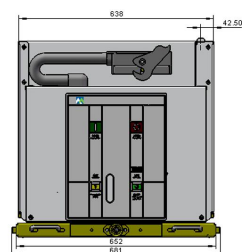
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2	7.2, 12	1250-1600	40	295	310	697	432	598
3	7.2, 12	1600-2500	25-40	295	310	697	432	586
4	7.2, 12	3150-4000	31.5-40	295	310	697	432	586
5	7.2, 12	3150-4000	31.5-40	295	310	733	432	586

MAC Indoor Vacuum Circuit Breaker
7.2kV...12kV...17.5kV...24kV...40.5kV

3. We improved MAC circuit breakers' driving system, replaced traditional chain wheel by gear driving system.
4. MAC series circuit breakers passed Type Test Report according GB and IEC standards.
5. MAC series circuit breakers export to 26 countries around the world.

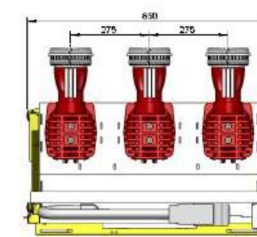
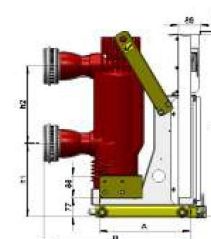


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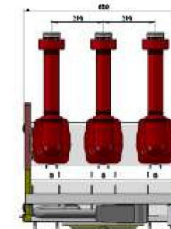
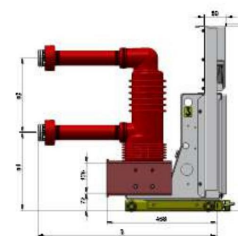
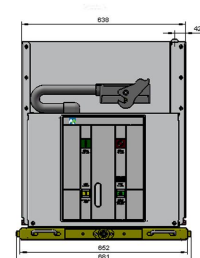


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2	7.2、12、17.5	630-1600	20-31.5	280	275	637	432	598
3	7.2、12	1250-1600	40	295	310	697	432	598
4	7.2、12	2000	31.5-40	295	310	697	432	598

Technical drawing of the 1000 Series Locking Cabinet showing dimensions: 838mm width, 425mm height, and 852mm base width.



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2	7.2、12	1250-1600	40	295	310	697	432	598
3	7.2、12	1600-2500	25-40	295	310	697	432	586
4	7.2、12	3150-4000	31.5-40	295	310	697	432	586
5	7.2、12	3150-4000	31.5-40	295	310	733	432	586



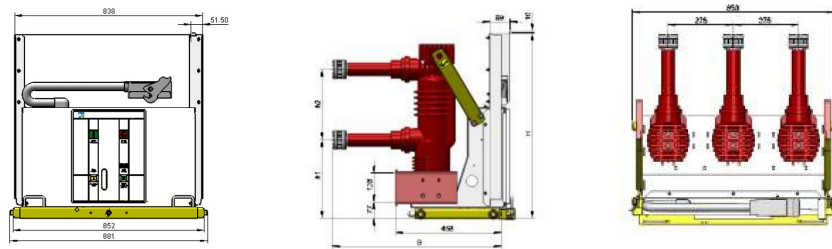
No.	Rated Voltage(kV)	Rated current (A)	Short breaking current (kA)	h1(mm)	h2(mm)	H(mm)	B(mm)
1	24	630	20-31.5	325	310	768	747
2	24	1250	20-31.5	325	310	768	747
3	24	1250	31.5-40	345	310	768	747
4	24	1600	20-40	345	310	768	747

PRODUCT SYSTEM

MAC Indoor Vacuum Circuit Breaker

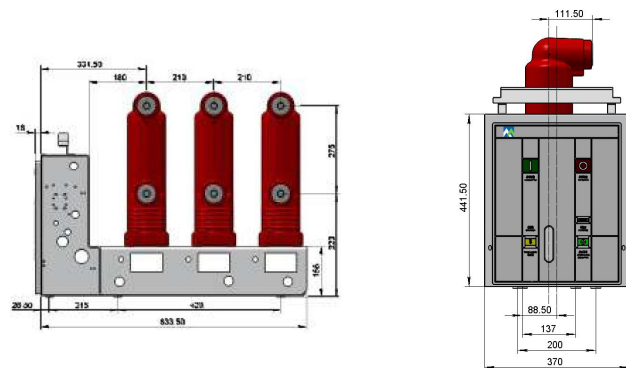
MAC Series

Overall Dimensions



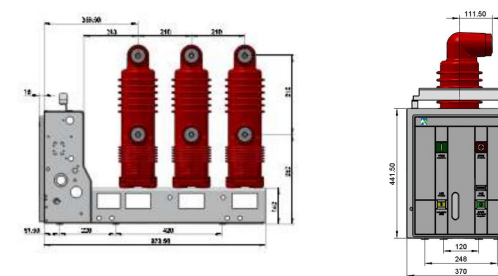
MAC4-24-275mm pole center

No.	Rated Voltage(kV)	Rated current (A)	Short breaking current (kA)	h1(mm)	h2(mm)	H(mm)	B(mm)
1	24	630	20-31.5	325	310	768	747
2	24	1250	20-31.5	325	310	768	747
3	24	1600	20-31.5	345	310	768	747
4	24	1600-2500	20-31.5	345	310	813	737

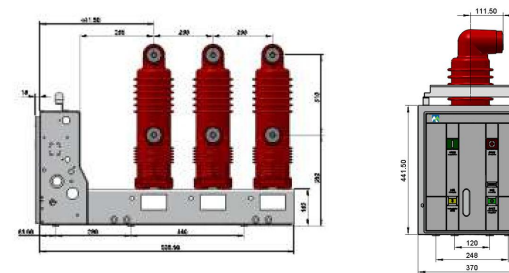


MAC3-12kV-210mm pole center

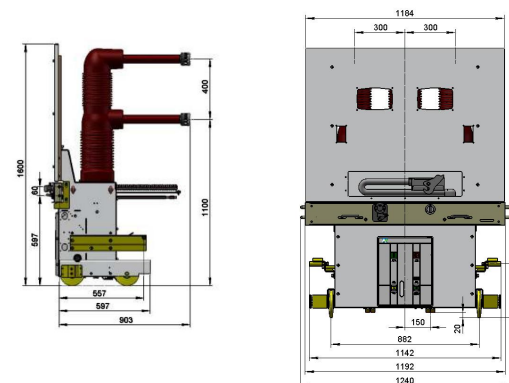
Overall Dimensions



MAC3-24kV-210mm pole center



MAC3-24kV-230mm pole center



MAC5-40.5kV-300mm pole center

PRODUCT SYSTEM

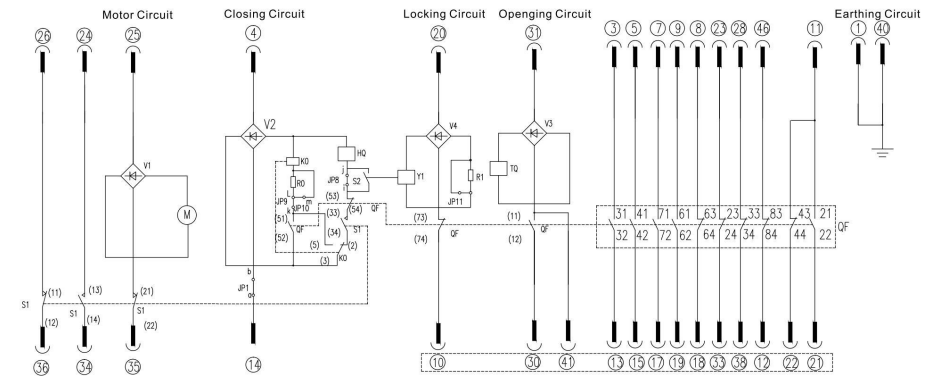
MAC Indoor Vacuum Circuit Breaker

WIRING DIAGRAM FIXED TYPE VCB

For VS1, MAC Series VCB

Main Specifications and Technical Parameters for MAC

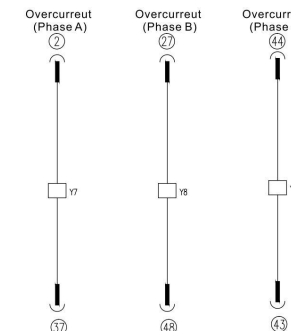
Item	Unit	Data			
Rated voltage	KV	7.2, 12	17.5	24	40.5
1 min power frequency withstand voltage	KV	42	50	65	95
Lightning impulse withstand voltage	KV	75	95	125	185
Rated frequency	Hz	50	50	50	50/60
Rated current	A	630, 1250, 1600, 2000, 2500, 3150, 4000	630, 1250, 1600	630, 1250, 1600, 2000, 2500	630, 1250, 1600, 2000, 2500
Rated short-time withstand current	KA	20, 25, 31.5, 40	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5
Rated withstand current(peak)	KA	50, 63, 80, 100	50, 63, 80	50, 63, 80	50, 63, 80
Rated short-circuit opening current	KA	20, 25, 31.5, 40	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5
Rated short-circuit closing current	KA	50, 63, 80, 100	50, 63, 80	50, 63, 80	50, 63, 80
Rated duration of short-circuit	S	4	4	4	4
Contact's clearance		3.5±0.5	3.5±0.5	3.5±0.5	4±0.5
Contact's travel		9±1/11±1	9±1/11±1	13±1	18±2/22±2
Average opening speed	m/s	1.1±0.2	1.1±0.2	1.3±0.3	1.6±0.2
Average closing speed	m/s	0.6±0.2	0.6±0.2	0.8±0.2	0.7±0.2
Opening time	ms	35-60	35-60	35-60	35-70
Closing time	ms	20-45	20-45	20-45	20-45
Rated operating sequence		O-0.3s-CO-180s-CO (<40kA) / O-180s-CO-180s-CO (≥40kA)			
Mechanical life	cycles	10000,30000	10000, 30000	10000,30000	10000,30000



This wiring diagram including latching electromagnet, anti-jumping device and three over-current coils.

Remark:

- 1.The drawing shows circuit break in uncharged, opening state.
2. When power supply is DC, the polarity in dotted frame should be same.



HQ: closing coil
TQ: opening coil
M: energy storing motor
S2: microswitch
S1: microswitch (switch when closing spring is charged)
QF: auxiliary switch (switch when in open/closing operation)

JP8-JP11: jumper
K0: anti-jumping reply (optional)
R0-R1: resistance
Y7-Y9: over current coil (optional)
Y1: latching coil (optional)
V2-V4: bridge rectifier

Optional wiring set: note: "-" means disconnect, "-" means connect

terminal board jumper	a b	g h	f e	d c	a f	f g	c b	l j	k i
with anti-jumping	JP1	JP2	JP3	JP4	JP5	JP6	JP7	JP8	JP9
without anti-jumping	✓	✓	✓	✓	✓	✓	✓	✓	✓
with latch	✓	✓	✓	✓	✓	✓	✓	✓	✓
without latch	✓	✓	✓	✓	✓	✓	✓	✓	✓

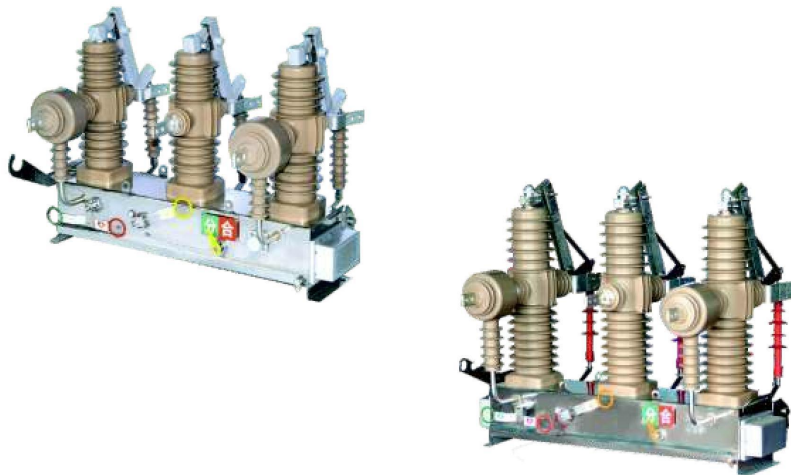
choosing power supply:	JP10	JP11
AC/DC 220V	✓	✓
AC/DC 110V	✓	✓

note: "-" means disconnect, "-" means connect.

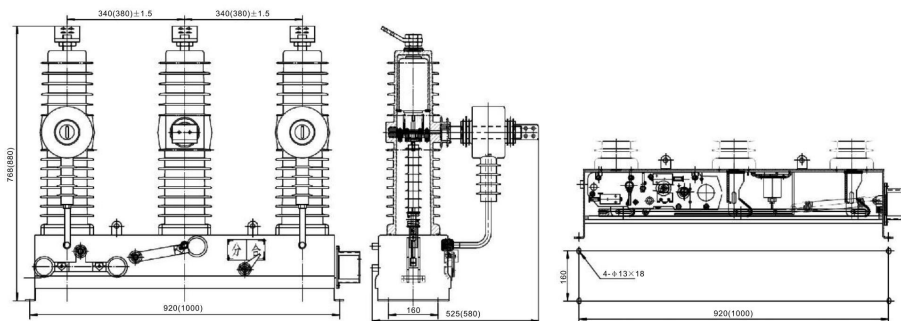
PRODUCT SYSTEM

ZW32 Outdoor Vacuum Circuit Breaker
12kV...24kV

ZW32



Overall Dimensions



(Below is installing dimension: sizes in bracket are for ZW32-24, sizes out bracket are for ZW32-12)

Main Specifications and Technical Parameters for ZW32

Table 1 Circuit Breaker's Main Technical Data

No .	Item		Unit	Data	
				12kv	24kv
1	Rated voltage		kV	12	24
2	Rated frequency		Hz	50	50
3	Rated current		A	630/1250	630/1250
4	Rated short circuit breaking current		kA	20/25	20/25
5	Rated peak withstand current		kA	50/63	50/63
6	Rated short time withstand current/ lasting time		kA/s	20/4 ,25/4	20/4 ,25/4
7	Rated short circuit closing current(peak)		kA	50/63	50/63
8	Rated operating sequence			O-0.3s-CO-180s-CO	
9	Mechanical life		times	10000	10000
10	Rated short circuit breaking current breaking times		times	50	20
11	1min power frequency withstand voltage	(Wet) between poles、to earth/ between open contacts	kV	34	50
		(Dry) between poles、to earth/ between open contacts	kV	42	65
12	Lightning impulse withstand voltage(peak)between poles、to earth/between open contacts		kV	75/85	125/145
13	Secondary circuit power frequency withstand voltage (1min)		V	2000	2000

Table2 Circuit Breaker's Main Mechanical Data

No .	Item	Unit	Data	
			12kv	24kv
1	Clearance between contacts	mm	9±1	12±1
2	Contact's over travel	mm	2.5±0.5	3.5±1
3	Open speed	m/s	1.4±0.2	1.4±0.2
4	Closing speed	m/s	0.7±0.2	0.7±0.2
5	Contact closing jumping time	ms	≤2	≤2
6	Pole center distance	mm	340±1.5	380±1.5
7	Three pole open/close non-simultaneity	ms	≤2	≤2
8	Each pole conducting circuit resistance	μΩ	≤70	≤70
9	Closing time	ms	25-60	25-60
10	Open time	ms	20-60	20-60
11	Motor's rated power	w	40	40