E2 Energy
On time with Confidence

LS

WITHDRAWABLE VACUUM CIRCUIT BREAKERS FOR SG_MILE® AIR-INSULATED SWITCHGEAR

MVL/VL/VH | 12...36(40,5) kV - 630...3150 A - 16...40 kA

High reliability

High-performing core materials are designed to operate under harsh industrial environments and provide excellent protection against mechanical shocks, dust and moisture.
- Switching capability up to 40 kA at 40,5 kV
- Class E2, M2, C2

Safety

Intelligent interlock system eliminates any risks associated with racking in/racking out a circuit breaker and optional motor-driven truck allows an operator to remotely put the circuit breaker into service without exposing himself in front of the switchgear.

Global leader

More than 30 years of experience. International certification and access to global markets:
- Type test certification acc. to IEC 62271-100
- North America UL certification
- Marine certification (KR, LR, BV, GL, DNV, ABS, NK)

Value for money

Affordable and flexible pricing, comprehensive turnkey solutions from the most experienced engineers.

Environmentally friendly

Environmentally sustainable circuit breakers with embedded vacuum interrupters.

LS Electric MVL / VL / VH series circuit breakers with embedded vacuum interrupters are premium products featuring sustainable technologies, compact size, high reliability and a variety of accessories for safe, stable and reliable power supply.

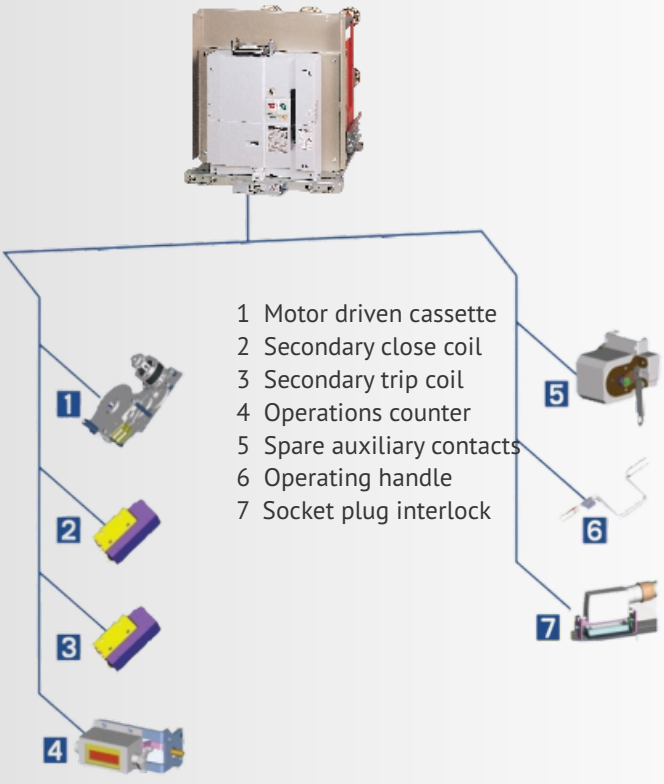
These circuit breakers are the best choice for a wide variety of indoor applications and are used in primary and secondary distribution substations to control and protect transformers, motors, generators, capacitor banks and cable lines.

ISO 9001:2015
ISO 14001:2015

DESIGN

1 Low-body vehicle
2 Locking/release handles
3 Rack-in/rack-out interface
4 Operations counter
5 VCB position indicator (Open/Close)
6 VCB open pushbutton
7 VCB close pushbutton
8 Manual spring charge interface
9 Spring indicator (Charged/Discharged)
10 Rack-in/rack-out handles
11 Secondary connector plug
12 Vacuum circuit breaker
13 Primary contacts (tulip type)

➢ VERSATILE ACCESSORIES



1 Motor driven cassette
2 Secondary close coil
3 Secondary trip coil
4 Operations counter
5 Spare auxiliary contacts
6 Operating handle
7 Socket plug interlock

➢ WITHDRAWABLE FLOOR TRUCK OPTION

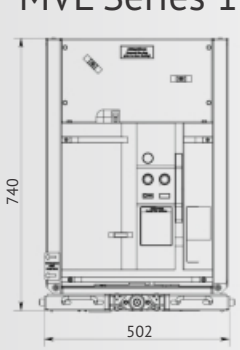
TECHNICAL PARAMETERS

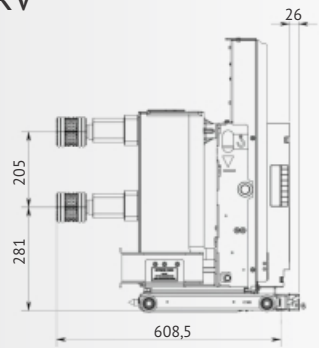
Type of vacuum circuit breaker	MVL-12(17)	VL-12(17)	VL-20	VH-36
Rated data				
Rated voltage (Ur)	⩽ 17.5 kV	⩽ 17.5 kV	24 kV	36 (40.5[1]) kV
Rated normal current (Ir)	⩽ 1250 A	⩽ 2500 A	⩽ 2000 A	⩽ 3150 A
Rated power frequency withstand voltage (Ud)	⩽ 38 kV	⩽ 38 kV	50 kV	70 (95[1]) kV
Rated lightning impulse withstand voltage (peak) (Up)	⩽ 95 kV	⩽ 95 kV	125 kV	170 (190[1]) kV
Rated short-circuit breaking current (Isc)	⩽ 31.5 kA	⩽ 31.5 kA	⩽ 25 kA	⩽ 40 kA
Rated peak withstand current (Ip)	⩽ 82 kA	⩽ 82 kA	⩽ 65 kA	⩽ 104 kA
Rated short-time withstand current (Ik)	⩽ 31.5 kA	⩽ 31.5 kA	⩽ 25 kA	⩽ 40 kA
Rated duration of short circuit (tk)	3 s			
Rated frequency (fr)	50/60 Hz			
Switching performance				
Mechanical life (CO-cycles)	10,000	10,000	10,000	10,000
Operating cycles, rated breaking current (CO-cycles)	65	65	20	80
Closing time	⩽ 60 ms	⩽ 60 ms	⩽ 70 ms	⩽ 60 ms
Opening time	⩽ 40 ms	⩽ 40 ms	⩽ 40 ms	⩽ 40 ms
Motor charging time	⩽ 5 s	⩽ 5 s	⩽ 5 s	⩽ 12 s
Rated breaking current operating sequence	O-0.3s-CO-15s-CO			O-0.3s-CO-3min-CO
Mechanical endurance class	M2			
Electrical endurance class	E2			
Capacitive current switching class	C2			
Type of driving mechanism	Spring charging motor			
Control circuits				
Control voltage	24...30V DC; 48V AC/DC; 110...220V AC/DC			
Number of available auxiliary contacts	4 NO + 4 NC; 10 NO + 10 NC			
General information				
Pole distance	150 mm	210/275 mm	210/275 mm	300 mm
Temperature range	-25°C ... +40°C			
Altitude above sea level	⩽ 3000 m[1]			
Applicable standard	IEC 62271-100			

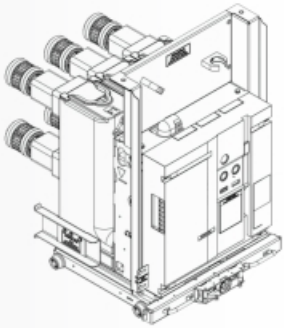
[1] Extended BIL version on request
[2] For installations above 1000 m, the external insulation is calculated as multiplication of rated insulation with Ka in accordance with IEC 62271-1

DIMENSIONAL DRAWINGS

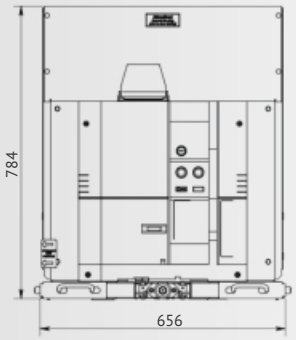
MVL Series 12kV

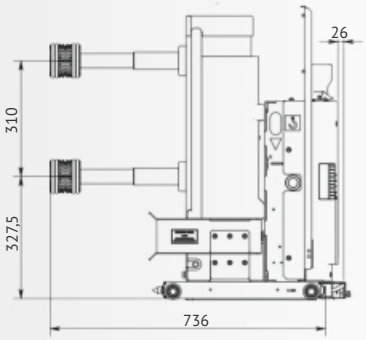


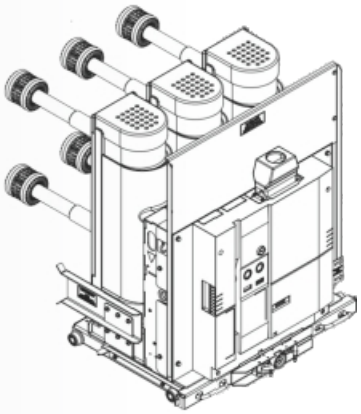




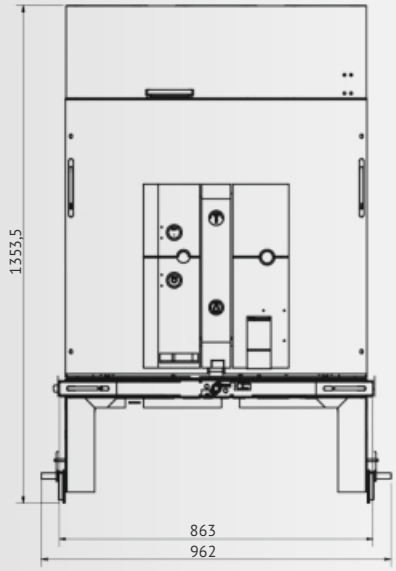
VL Series 24kV

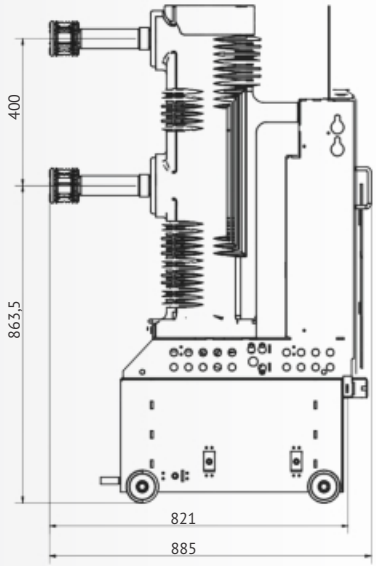


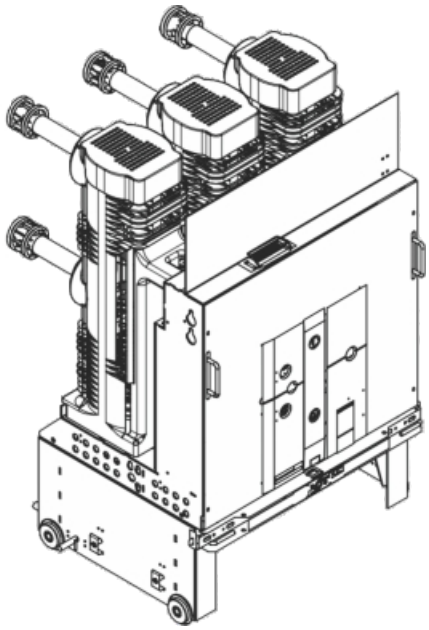




VH Series 36kV







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