Susol

Super Solution

Vacuum Circuit Breakers

LS IS

Susol

Contents

15 kV VCB (WAPDA/NTDC)

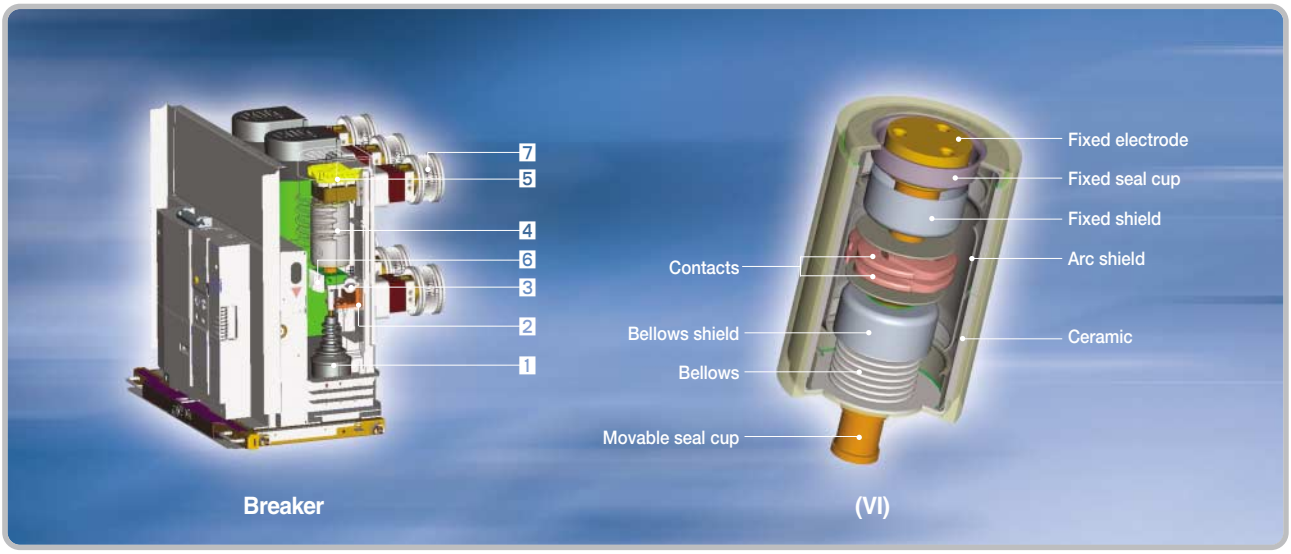
- **Rating: 15kV 25kA 630/2500A**
- **Rated breaking time: 3 cycle**
- **Rated short-circuit withstand characteristics: 3sec/4sec**
- **Rated operating sequence: O-0.3s-CO-3min-CO**
- **CB Compartment available for MCSG**
- **Control voltage**
  - DC 24~30V, DC 48~60V, DC110V, DC125V, DC220V
  - AC 48V, AC100~130V, AC220~250V
- **Various accessories**
  - VCB part: Charge switch, UVT, Coil, CTC, Locking Magnet, Plug Interlock, Lead wire, Low Energy Trip Device Keylock, Button Cover, Button Padlock, Padlock (H type Door interlock)
  - Cradle part: Temperature Sensor, Earthing s/w & Accessary, Door, Door Interlock, Door Emergency Button
  - Others: Draw-in/out handle, UVT Time Delay Controller, CTD(Condensor Trip Device), TM
- **TEST/SERVICE Automatic Position Indicator**
- **Standard**
  - CESI Approval [IEC 62271-100/WAPDA/NTDC Standard]

Rating

Type			VL-15□ 25□06,25	
Rated voltage		Ur (kV)	15	
Rated normal current		Ir (A)	630	2500
Rated frequency		fr (Hz)	50	
Rated short-circuit current		Isc(kA)	25	
Rated short-time withstand current		Ik/tk(kA/s)	25/3(4)*	
Rated short-circuit breaking capacity		(MVA)	650	
Rated short-circuit making current		Ip (kA)	63	
Rated breaking time		(cycle)	3	
Rated withstand voltage	Power frequency	Ud (kV)	36	
	Impulse (1.2×50μs)	Up (kV)	95	
Rated operating sequence			O-0.3s-CO-3min-CO	
Control voltage	Closing coil	(V)	DC 24~30V, DC 48~60V, DC 110V, DC 125V, DC 220V, AC 48V, AC 100~130V, AC 220~250V	
	Trip coil	(V)	DC 24~30V, DC 48~60V, DC 110V, DC 125V, DC 220V, AC 48V, AC 100~130V, AC 220~250V	
Auxiliary contact			4a4b, 10a10b	
Rated opening time		(sec)	≤ 0.04	
No-load closing time		(sec)	≤ 0.06	
Type test	Mechanical		M2	
	Electrical		E2, short circuit life cycle (WAPDA Standard)	
	Capacitive current switching		C2 (including Single Capacitor)	
Installation	Fixed		-	
	Draw-out		H type (for MCSG)	
Phase distance		(mm)	210	230
Weight	Breaker	(kg)	125	210
	Cradle	(kg)	215	255
Standards			IEC 62271-100/WAPDA/NTDC Standard	

* 4 sec in rated short-time withstand current is possible.

Structure



Breaker

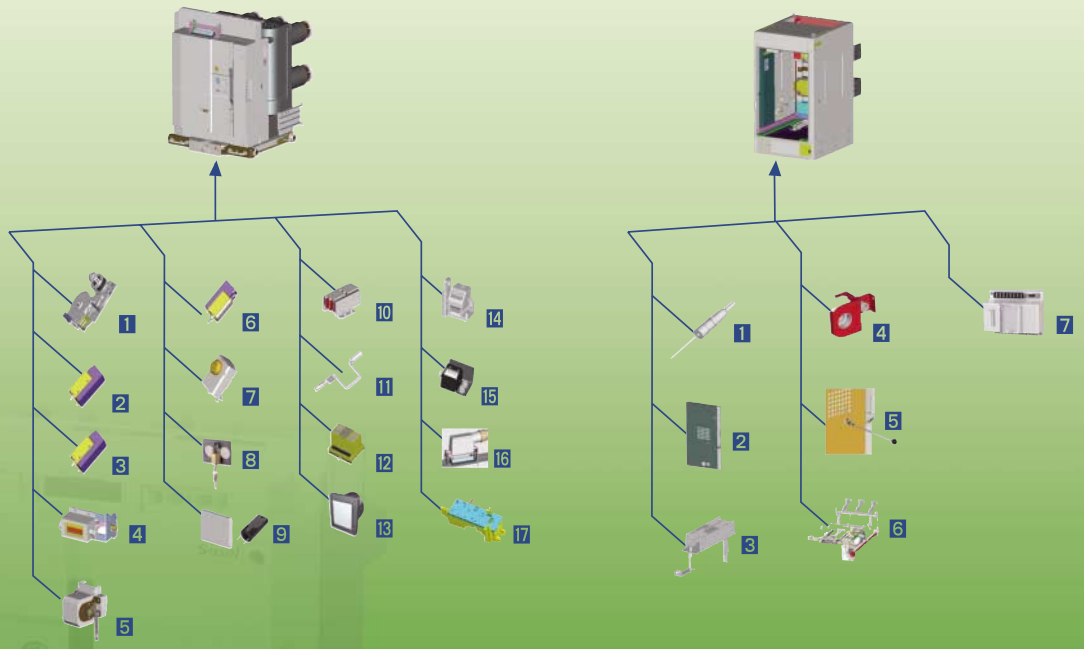
1 Insulation rod
2 Lower terminal
3 Shunt
4 Vacuum interrupter
5 Upper terminal
6 Heat sink
7 Tulip contactor

Vacuum Interrupter, VI

The internal components of a typical Vacuum Interrupter are shown in the Fig.
LS Vacuum Interrupter consists of a ceramic insulator, two end plates, arc shield, bellows, a movable and fixed electrode, and contact set.
The ambient gas pressure within the evacuated tube is approximately $5x10^{-5}$ torr.

Accessories

Susol series offer various accessories which are providing simple installation.



VCB Part

1 Motor (M), Charge Switch
2 Closing coil (CC)
3 Trip coil (TC/TC1)
4 Counter (C)
5 Auxiliary conatct (SA)
6 Under voltage trip (UVT)
7 Key lock
8 Button Padlock
9 Button Cover
10 Position Switch
11 Handle for draw-in and out
12 UVT time delay controller
13 Condenser Trip device (CTD)
14 Padlock(H type Door Interlock)
15 Locking Magnet
16 Plug Interlock
17 Low Energy Trip Device

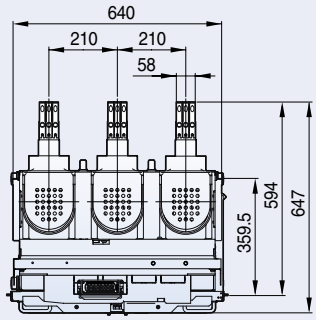
CB Compartment Part

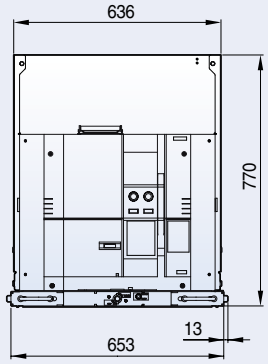
1 Temperature sensor
2 Door
3 Door Interlock
4 Shutter Padlock
5 Emergency ON/OFF Button
6 Earthing s/w & Accessary
61 Key lock - Earthing s/w
62 Locking Magnet - Earthing s/w
63 Position s/w - Earthing s/w
7 TM(Temperature Monitoring Unit)

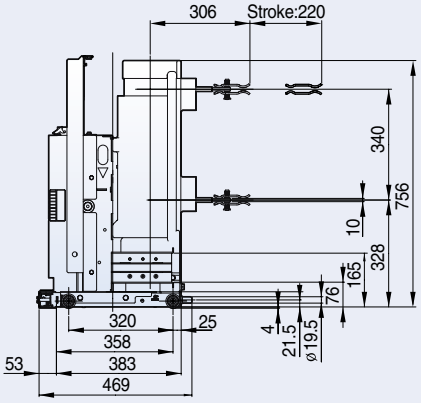
Dimensions

• 15kV, 25kA, 630A, WAPDA

Withdrawable (H type unit, phase distance 210mm)

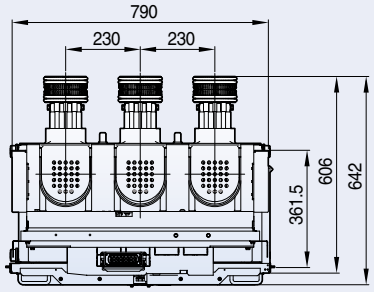


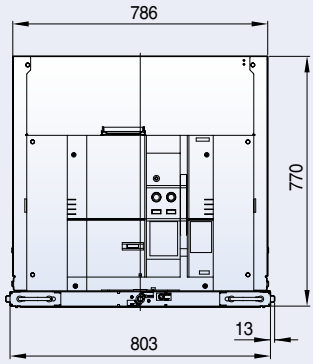


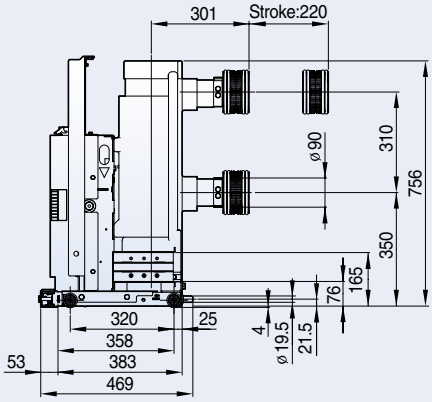


• 15kV, 25kA, 2500A, WAPDA

Withdrawable (H type unit, phase distance 230mm)

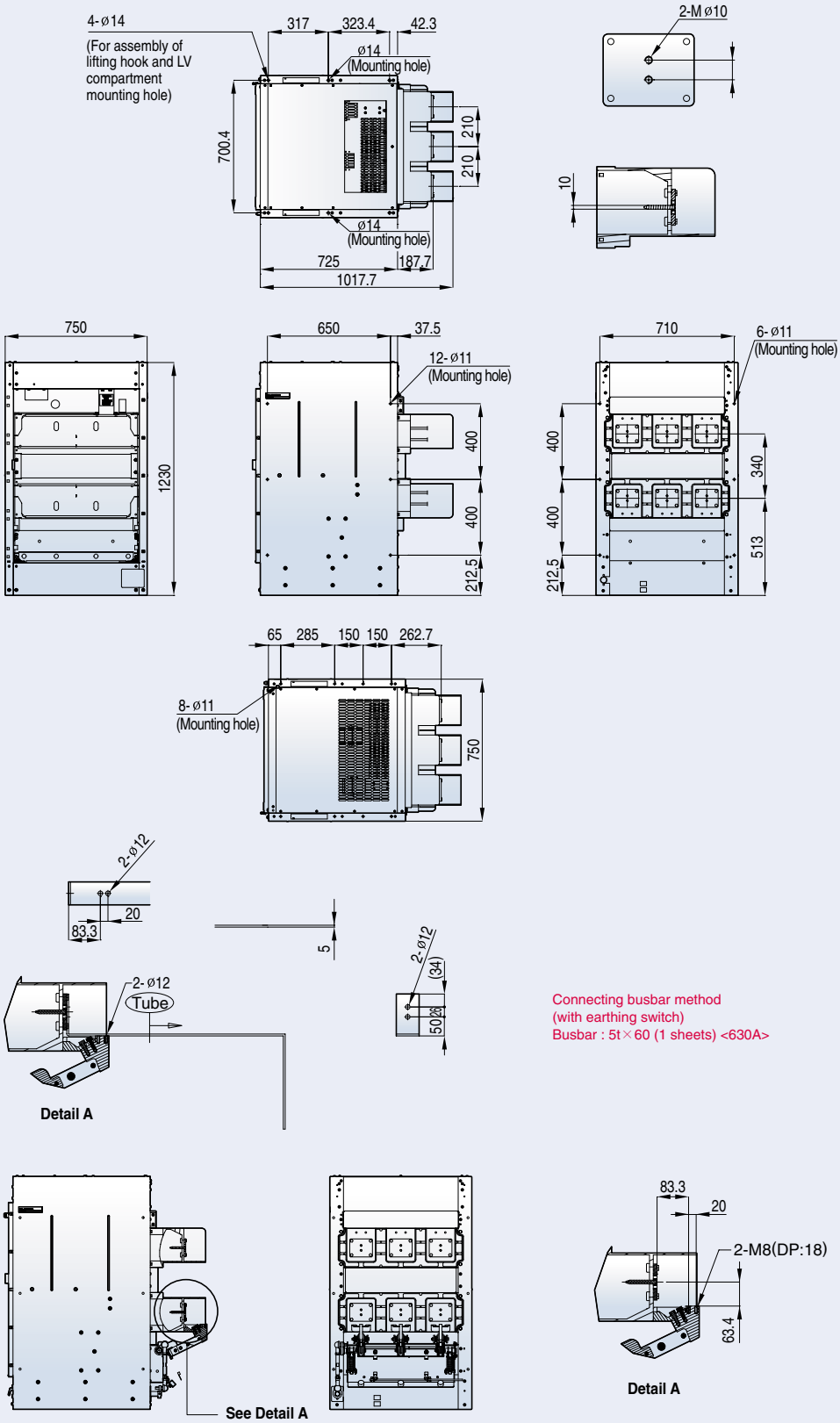






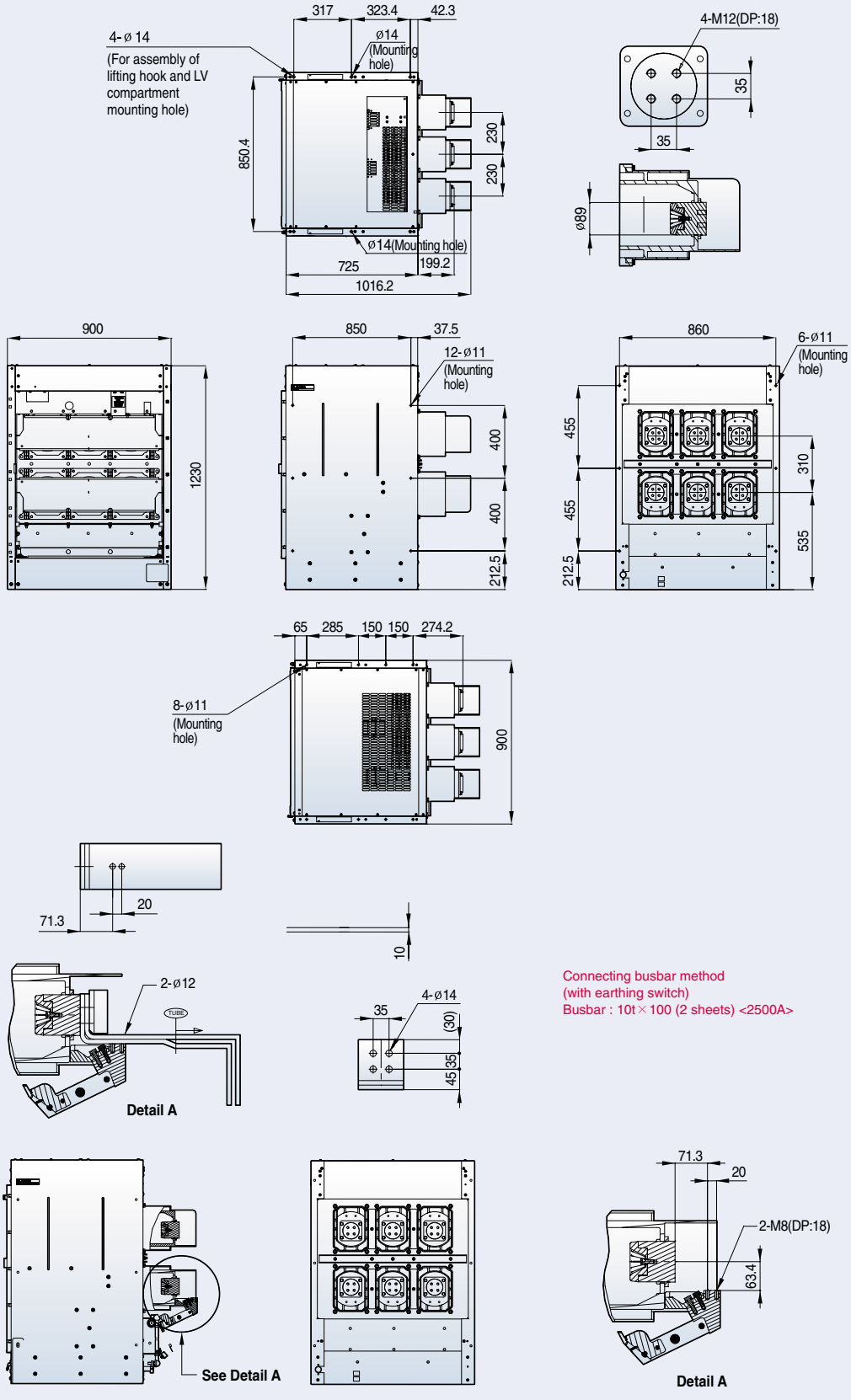
Dimensions

• **15kV, 25kA, 630A, WAPDA**
Withdrawable (H cradle, phase distance 210mm)

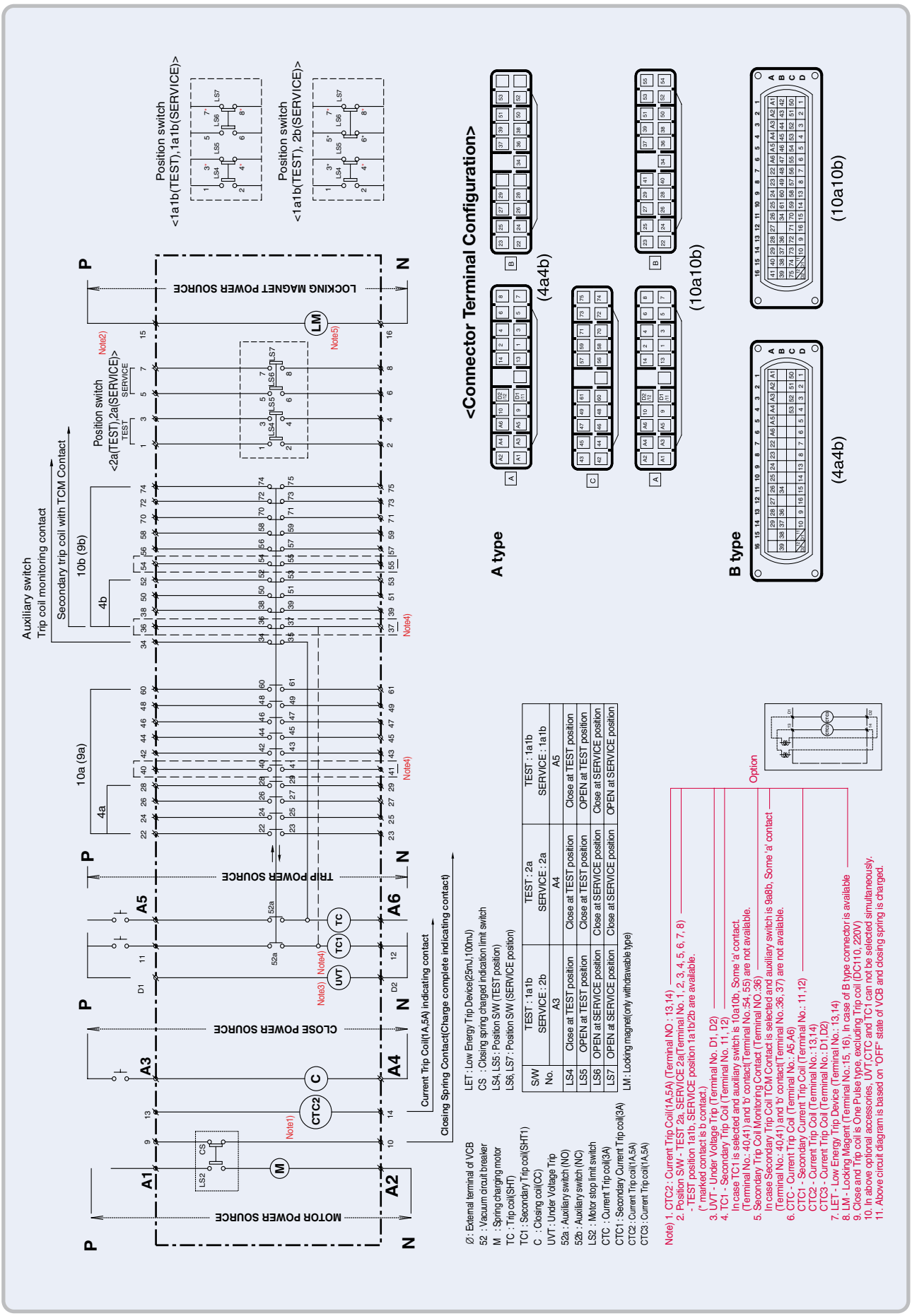


• **15kV, 25kA, 2500A, WAPDA**

Withdrawable (H cradle, phase distance 230mm)



Control circuit diagram



Ø: External terminal of VCB
52 : Vacuum circuit breaker
M : Spring charging motor
TC : Trip coil(SHT)
TC1 : Secondary Trip coil(SHT1)
C : Closing coil(CC)
UVT : Under Voltage Trip
52a : Auxiliary switch (NO)
52b : Auxiliary switch (NC)
LS2 : Motor stop limit switch
CTC : Current Trip coil(3A)
CTC1 : Secondary Current Trip coil(3A)
CTC2 : Current Trip coil(1A,5A)
CTC3 : Current Trip coil(1A,5A)

LET : Low Energy Trip Device(25mJ,100mJ)
CS : Closing spring charged indication limit switch
LS4, LS5 : Position S/W (TEST position)
LS6, LS7 : Position S/W (SERVICE position)

S/W No.	TEST : 1a1b SERVICE : 2b	TEST : 2a SERVICE : 2a	TEST : 1a1b SERVICE : 1a1b
	A3	A4	A5
LS4	Close at TEST position	Close at TEST position	Close at TEST position
LS5	OPEN at TEST position	Close at TEST position	OPEN at TEST position
LS6	OPEN at SERVICE position	Close at SERVICE position	Close at SERVICE position
LS7	OPEN at SERVICE position	Close at SERVICE position	OPEN at SERVICE position

LM: Locking magnet(only withdrawable type)

Note) 1. CTC2 : Current Trip Coil(1A,5A) (Terminal NO : 13,14)
2. Position S/W - TEST 2a, SERVICE 2a(Terminal No.1, 2, 3, 4, 5, 6, 7, 8)
- TEST position 1a1b, SERVICE position 1a1b/2b are available.
(* marked contact is b contact.)
3. UVT - Under Voltage Trip (Terminal No. D1, D2)
4. TC1 - Secondary Trip Coil (Terminal No. 11, 12)
In case TC1 is selected and auxiliary switch is 10a10b, Some 'a' contact.
(Terminal No.: 40,41) and 'b' contact(Terminal No.:54, 55) are not available.
5. Secondary Trip Coil Monitoring Contact (Terminal NO.:36)
In case Secondary Trip Coil TCM Contact is selected and auxiliary switch is 9a8b, Some 'a' contact
(Terminal No.: 40,41) and 'b' contact(Terminal No.:36, 37) are not available.
6. CTC - Current Trip Coil (Terminal No. : A5,A6)
CTC1 - Secondary Current Trip Coil (Terminal No.: 11,12)
CTC2 - Current Trip Coil (Terminal No.: 13,14)
CTC3 - Current Trip Coil (Terminal No.: D1,D2)
7. LET - Low Energy Trip Device (Terminal No.: 13, 14)
8. LM - Locking Magent (Terminal No.:15, 16), In case of B type connector is available
9. Close and Trip coil is One Pulse type, excluding Trip coil (DC110, 220V)
10. In above optional accessories, UVT,CTC and TC1 can not be selected simultaneously.
11. Above circuit diagram is based on "OFF" state of VCB and closing spring is charged.

Option

17.5kV VCB

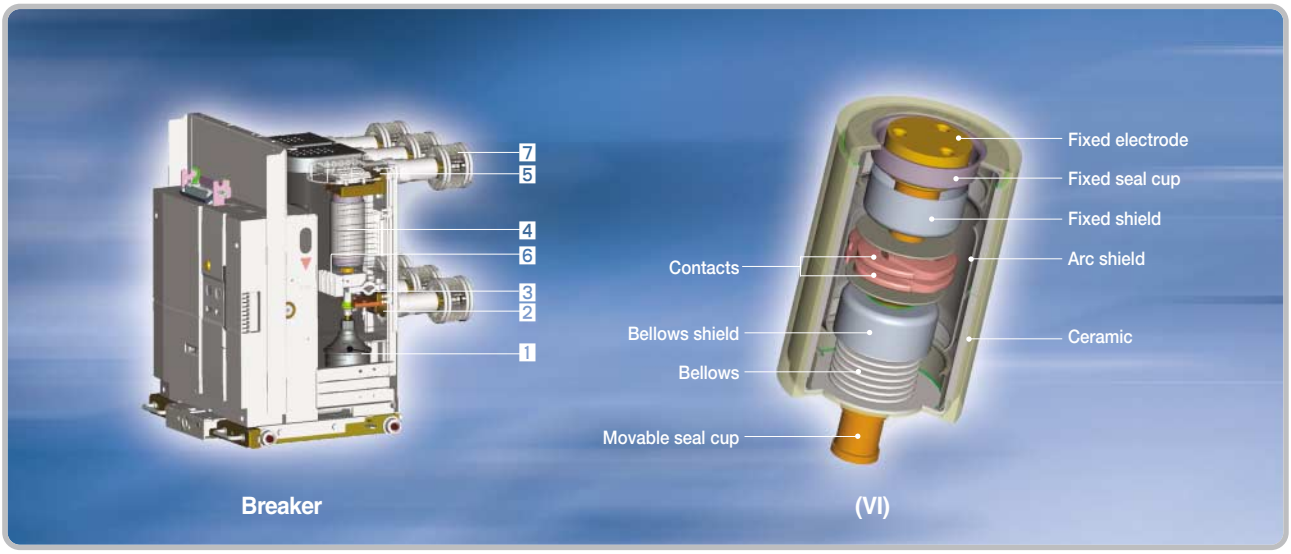
- **Rating: 17.5kV 20/25kA 630/1250/2000A**
- **Rated breaking time: 3 cycle**
- **Rated short-circuit withstand characteristics: 3sec/4sec**
- **Rated operating sequence: O-0.3s-CO-15s-CO**
- **Type test level: M2, E2(List3), C2**
- **Various cradle type: E, F and H type**
- **CB Compartment available (Box type cradle) for MCSG**
- **Control voltage**
  - DC 24~30V, DC 48~60V, DC 110V, DC 125V, DC 220V
  - AC 48V, AC 100~130V, AC 220~250V
- **Various accessories**
  - VCB part: Charge switch, UVT, Second Latch Checking switch, Position switch, Locking magnet, Plug interlock, Key lock, Button cover, Button padlock, Padlock(H type Door interlock), MOC
  - Cradle part: MOC(Mechanical Operating Cell switch), TOC(Truck Operating Cell switch), Temperature sensor, Earthing switch & accessaries, Door, Door interlock, Door emergency button
  - Others: Draw-in/out handle, UVT Time delay controller, CTD(Condensor Trip Device), Temperature module
- **Draw-in/out indication**
- **Standard and certification**
  - IEC 62271-100 [M2, C2, E2(List3)]
  - KEMA & KERI certified

Rating

Type			VL-17□ 20/25□06/13/20		
Rated voltage		Ur (kV)	17.5		
Rated normal current		Ir (A)	630	1250	2000
Rated frequency		fr (Hz)	50/60		
Rated short-circuit current		Isc(kA)	20/25		
Rated short-time withstand current		Ik/tk(kA/s)	20/3, 25/3		
Rated short-circuit breaking capacity		(MVA)	600/750		
Rated short-circuit making current		Ip (kA)	2.5*Isc(50Hz)/2.6*Isc(60Hz)		
Rated breaking time		(cycle)	3		
Rated withstand voltage	Power frequency	Ud (kV)	38		
	Impulse (1.2×50㎲)	Up (kV)	95		
Rated operating sequence			O-0.3s-CO-15s-CO		
Control voltage	Closing coil	(V)	DC 24~30V, DC 48~60V, DC 110V, DC 125V, DC 220V, AC 48V, AC 100~130V, AC 220~250V		
	Trip coil	(V)	DC 24~30V, DC 48~60V, DC 110V, DC 125V, DC 220V, AC 48V, AC 100~130V, AC 220~250V		
Auxiliary contact			4a4b, 10a10b		
Rated opening time		(sec)	≤ 0.04		
No-load closing time		(sec)	≤ 0.06		
Type test	Mechanical		M2		
	Electrical		E2 (List3)		
	Capacitive current switching		C2 (including Single Capacitor)		
Installation	Fixed		P type		
	Draw-out		E, F type (for MESG), H type (for MCSG)		
Phase distance *		(mm)	150 (210)		
Weight	Breaker	(kg)	115 (120)	115 (120)	130 (140)
	Cradle	(kg)	170 (200)	170 (200)	180 (200)
Standards			IEC 62271-100		

* ( ) displays option of phase distance.

Structure



Breaker

1 Insulation rod
2 Lower terminal
3 Shunt
4 Vacuum interrupter
5 Upper terminal
6 Heat sink (over 2000A)
7 Tulip contactor

Vacuum Interrupter, VI

The internal components of a typical Vacuum Interrupter are shown in the Fig.
LS Vacuum Interrupter consists of a ceramic insulator, two end plates, arc shield, bellows, a movable and fixed electrode, and contact set.
The ambient gas pressure within the evacuated tube is approximately $5x10^{-5}$ torr.

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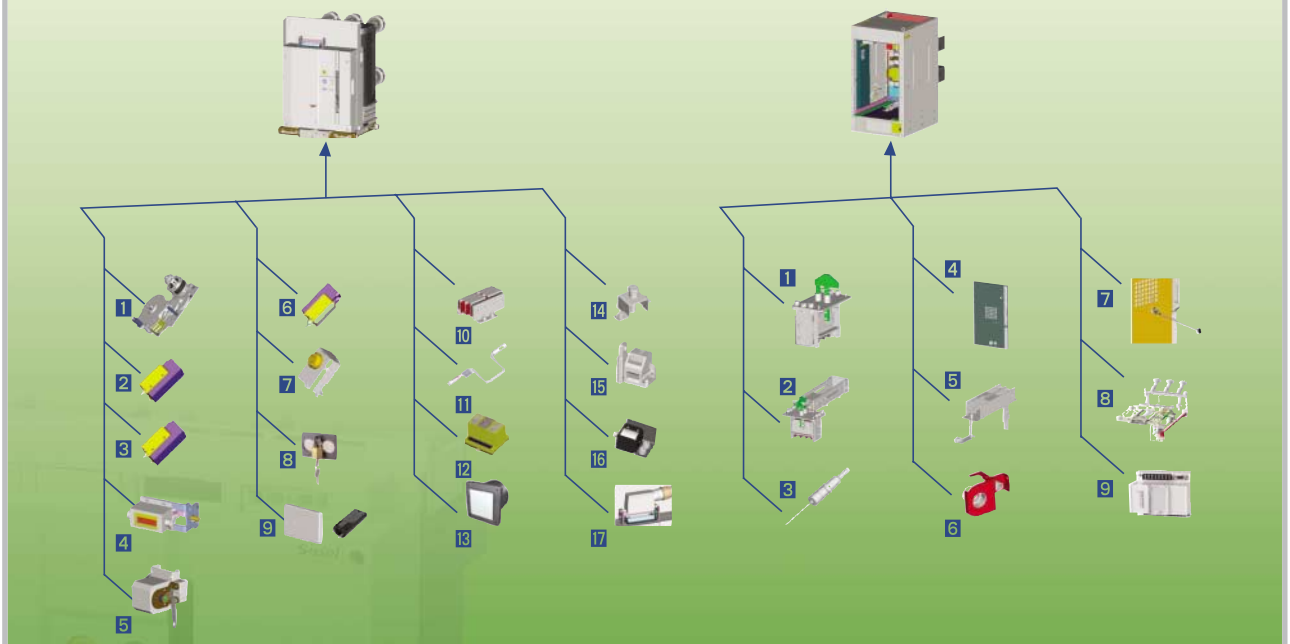


VCB Part

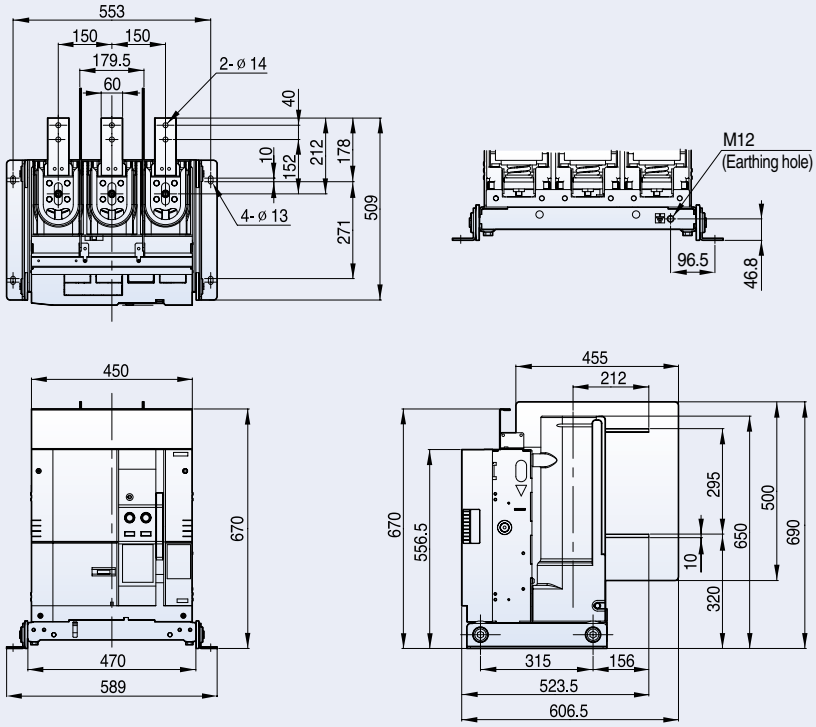
1 Motor (M), Charge Switch
2 Closing coil (CC)
3 Trip coil (TC/TC1)
4 Counter (C)
5 Auxiliary conatct (SA)
6 Under voltage trip (UVT)
7 Key lock
8 Button Padlock
9 Button Cover
10 Position Switch
11 Handle for draw-in and out
12 UVT time delay controller
13 Condenser Trip device (CTD)
14 MOC
15 Padlock(H type Door Interlock)
16 Locking Magnet
17 Plug Interlock

CB Compartment Part

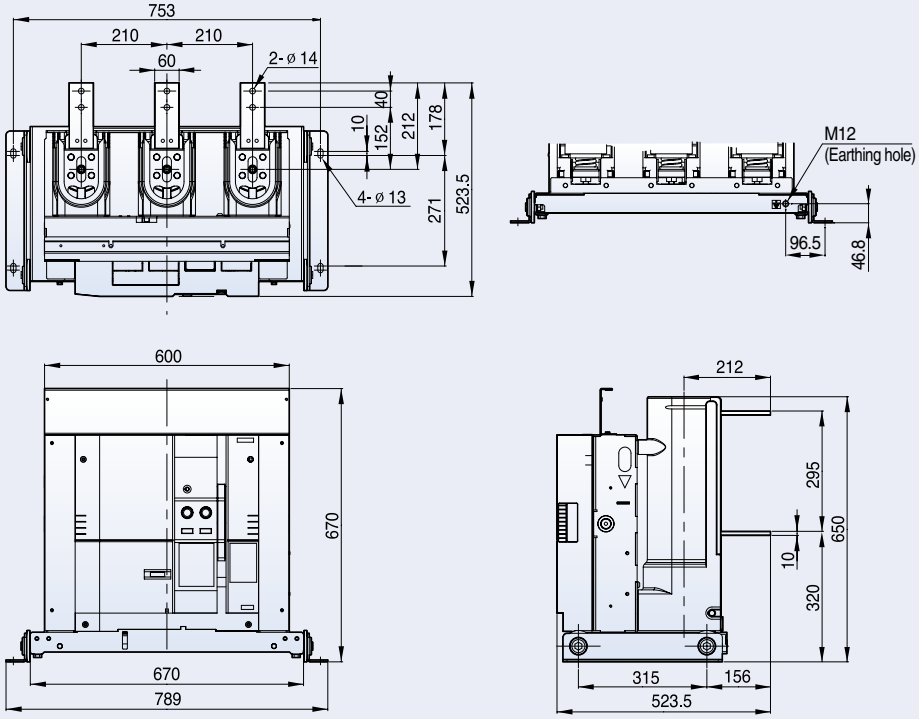
1 TOC (Truck Operating Cell s/w)
2 MOC (Mechanical Operating Cell s/w)
3 Temperature sensor
4 Door
5 Door Interlock
6 Shutter Padlock
7 Emergency ON/OFF Button
8 Earthing s/w & Accessary
8-1 Key lock - Earthing s/w
8-2 Locking Magnet - Earthing s/w
8-3 Position s/w - Earthing s/w
9 TM(Temperature Monitoring Unit)

Dimensions

• **17.5kV, 20/25kA, 630/1250A**
Fixed (P type, phase distance 150mm)

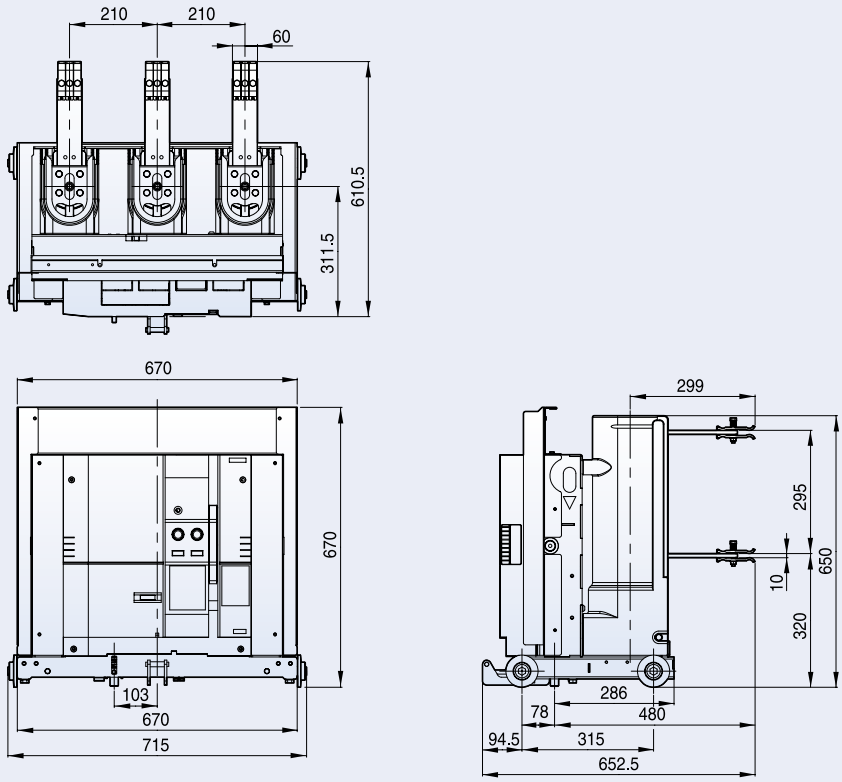


• **17.5kV, 20/25kA, 630/1250A**
Fixed (P type, phase distance 210mm)

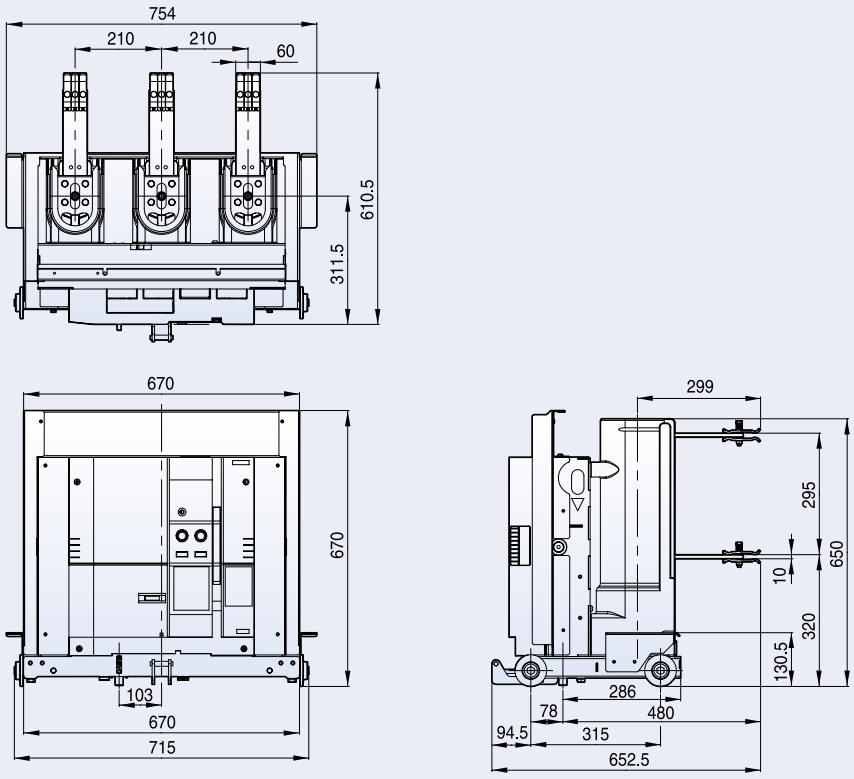


Dimensions

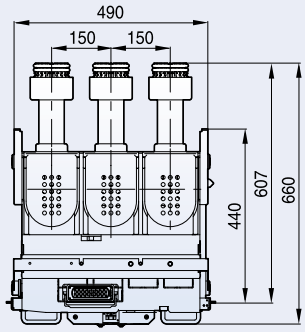
• **17.5kV, 20/25kA, 630/1250A**
Withdrawable (E type unit, phase distance 210mm)

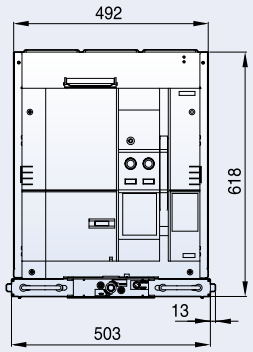


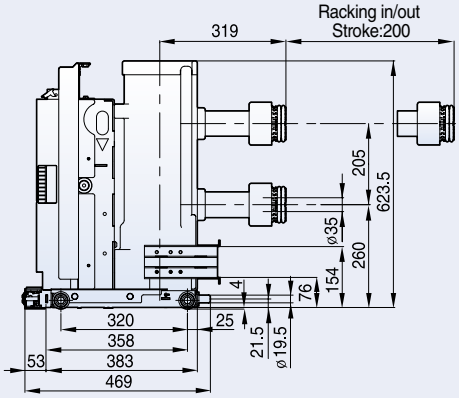
• **17.5kV, 20/25kA, 630/1250A**
Withdrawable (F type unit, phase distance 210mm)



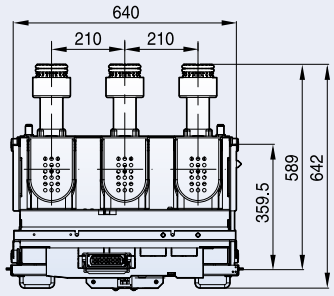
• **17.5kV, 20/25kA, 630/1250A**
Withdrawable (H type unit, phase distance 150mm)

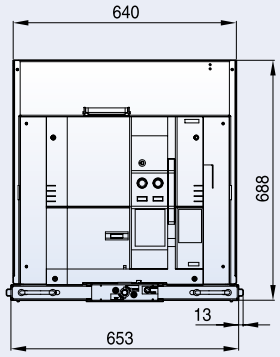


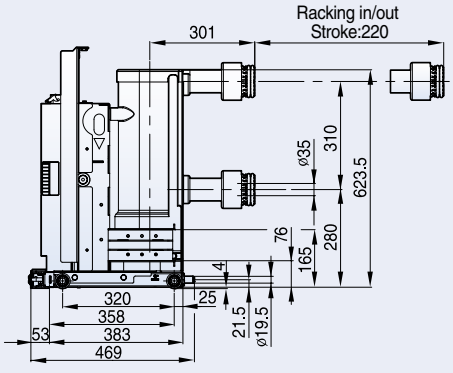




• **17.5kV, 20/25kA, 630/1250A**
Withdrawable (H type unit, phase distance 210mm)

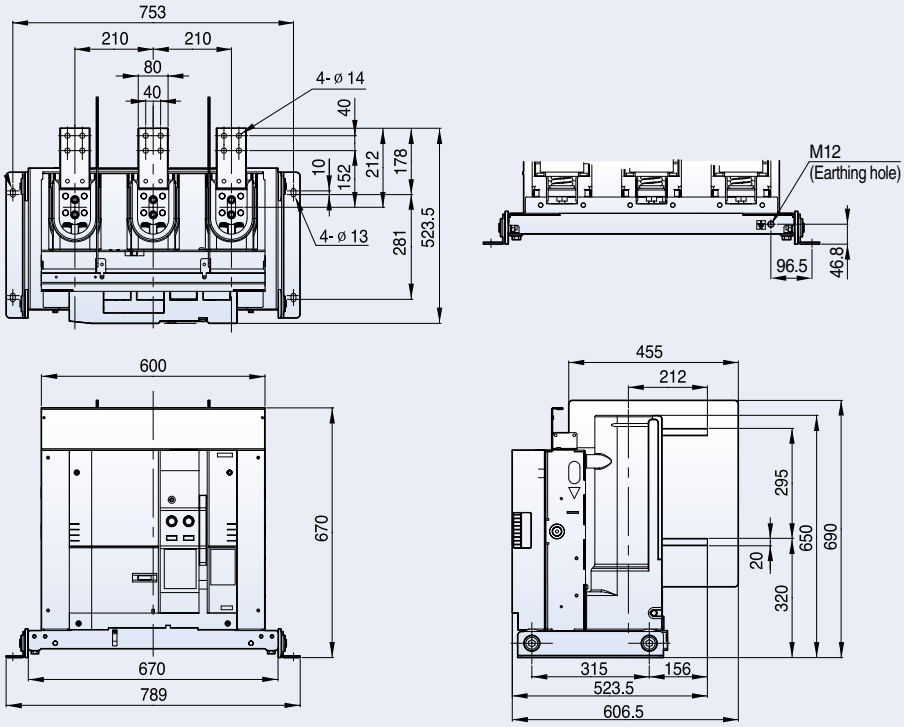




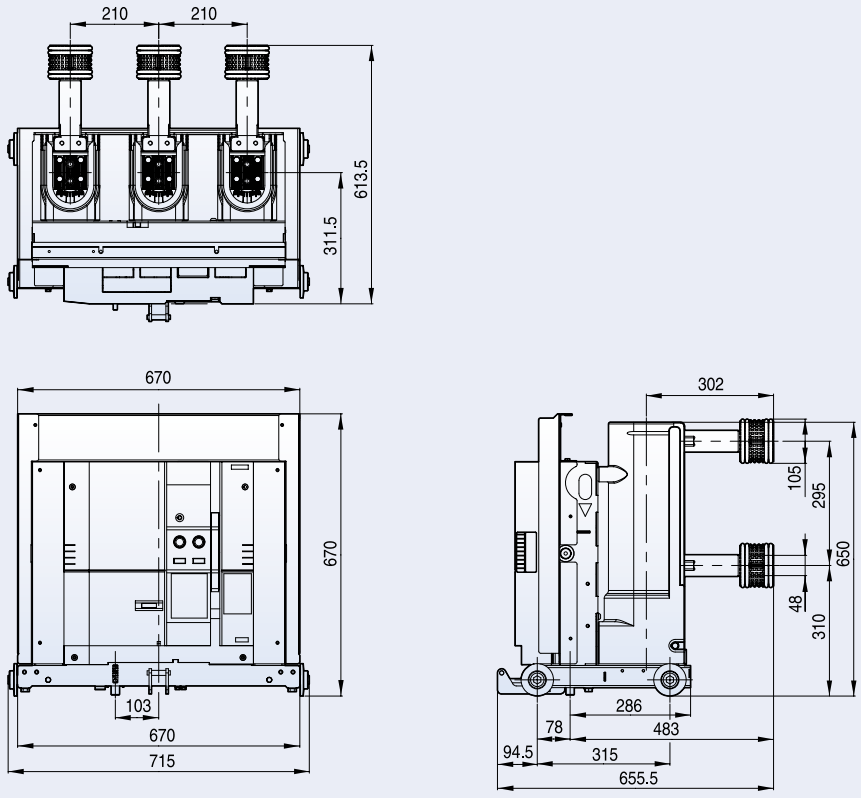


Dimensions

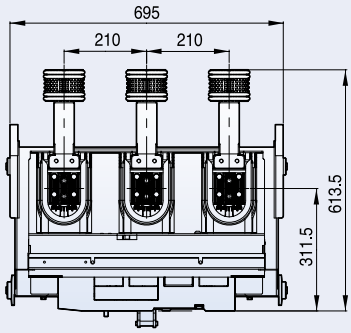
• **17.5kV, 20/25kA, 2000A**
Fixed (P type, phase distance 210mm)

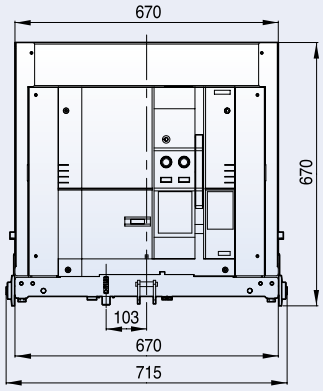


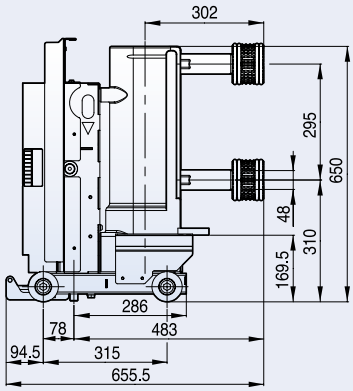
• **17.5kV, 20/25kA, 2000A**
Withdrawable (E type unit, phase distance 210mm)



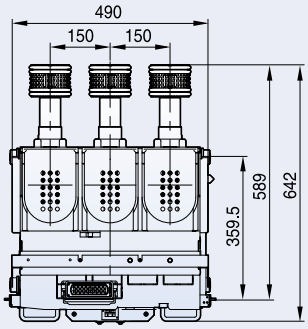
• **17.5kV, 20/25kA, 2000A**
Withdrawable (E type unit, phase distance 210mm)

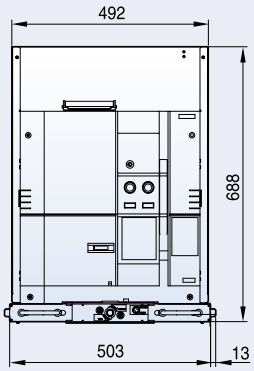


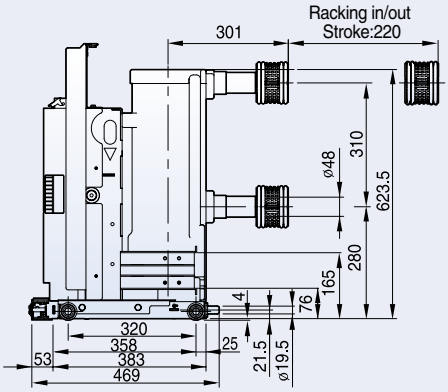




• **17.5kV, 20/25kA, 2000A**
Withdrawable (H type unit, phase distance 150mm)

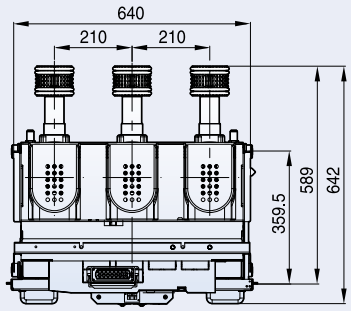


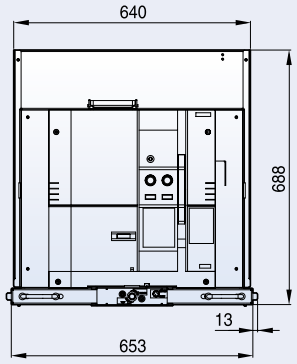


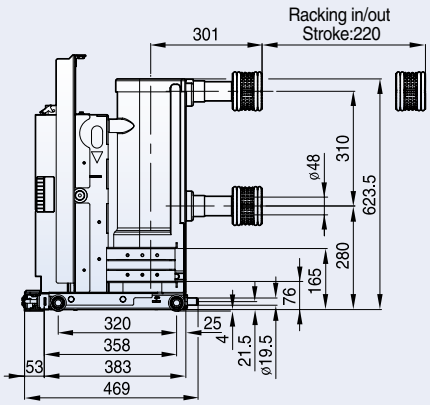


Dimensions

- **17.5kV, 20/25kA, 2000A**
  Withdrawable (H type unit, phase distance 210mm)

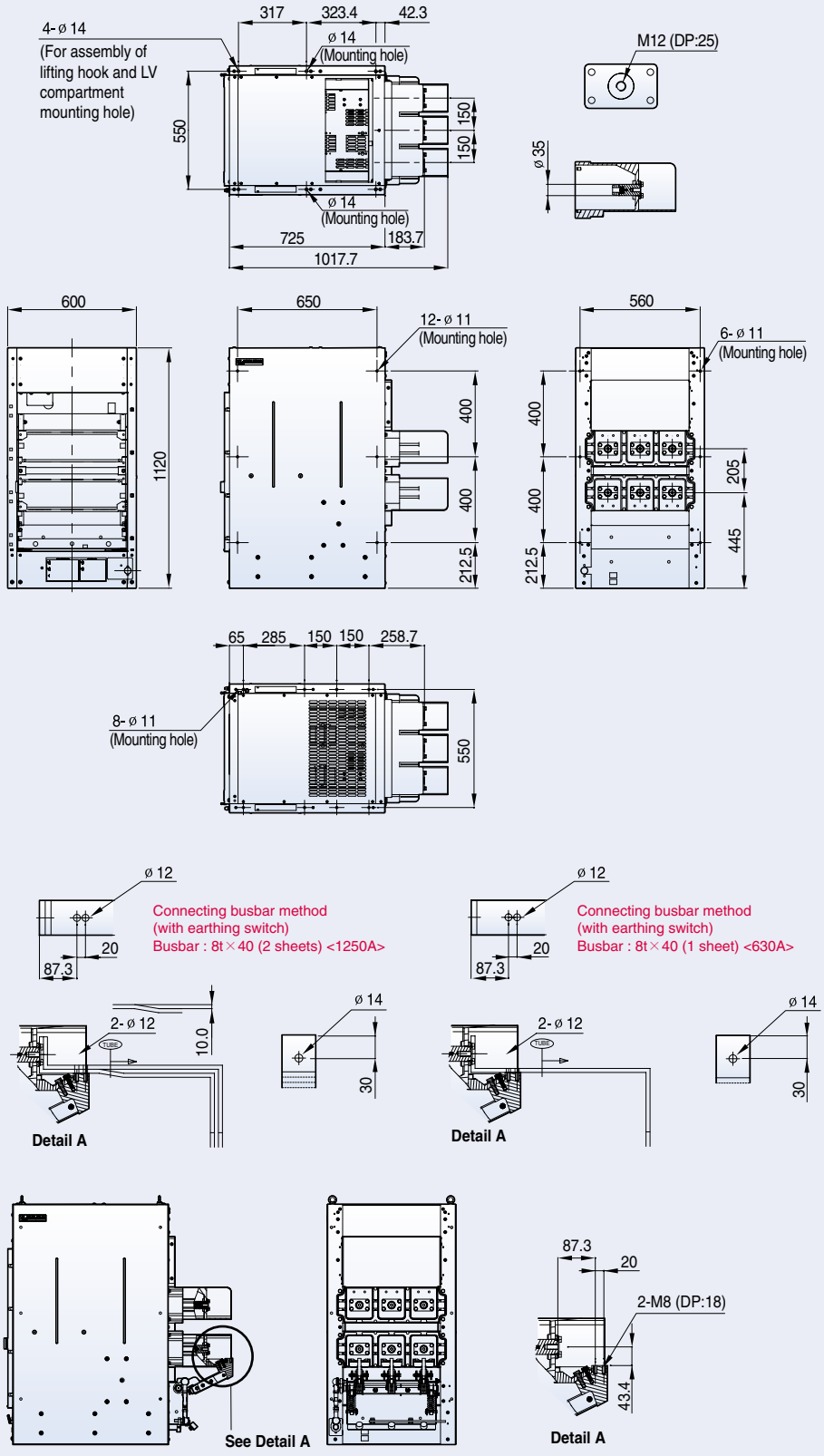






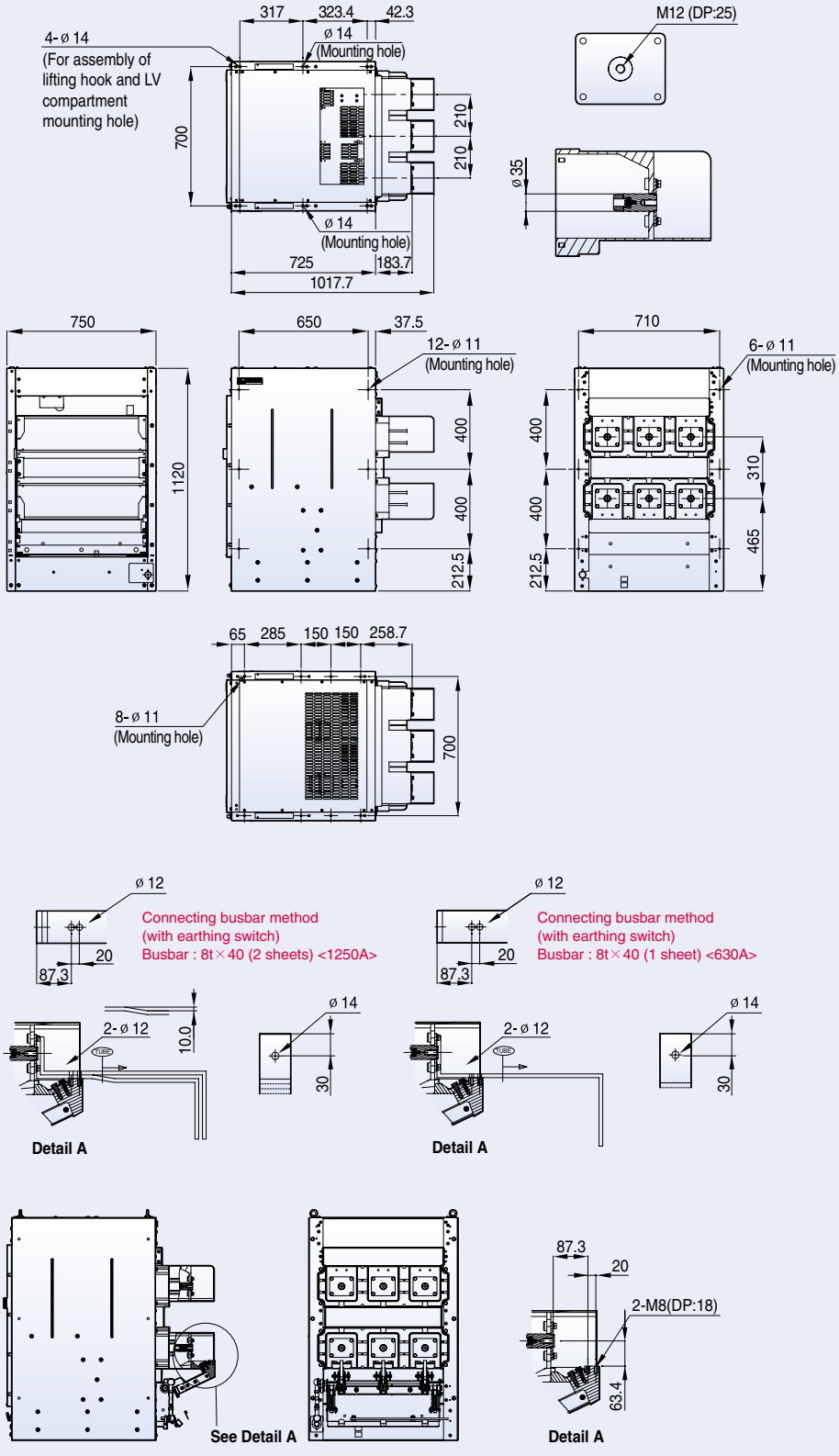
• **17.5kV, 20/25kA, 630/1250A**

Withdrawable (H cradle, phase distance 150mm)

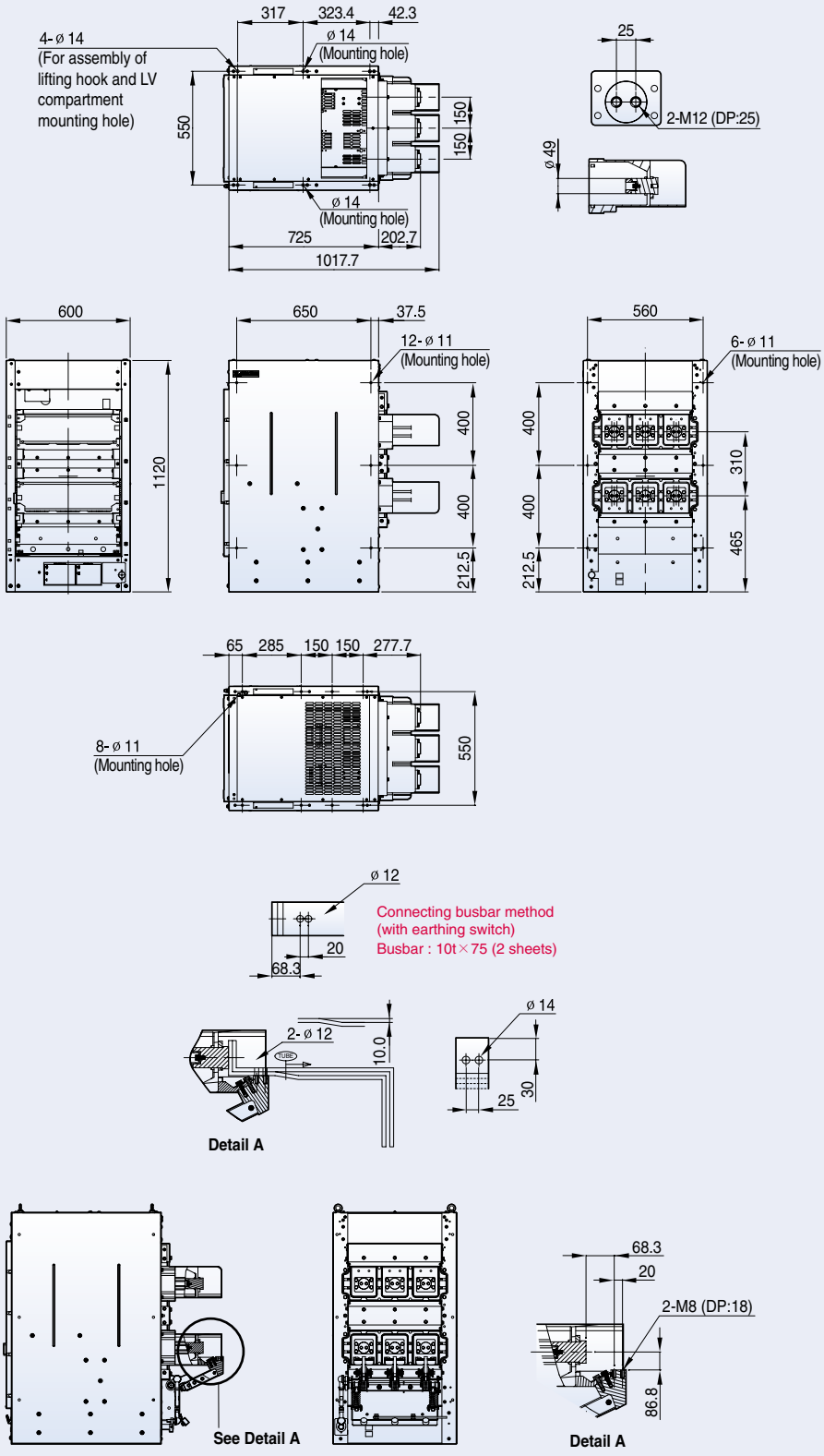


Dimensions

• **17.5kV, 20/25kA, 1250A**
Withdrawable (H cradle, phase distance 210mm)

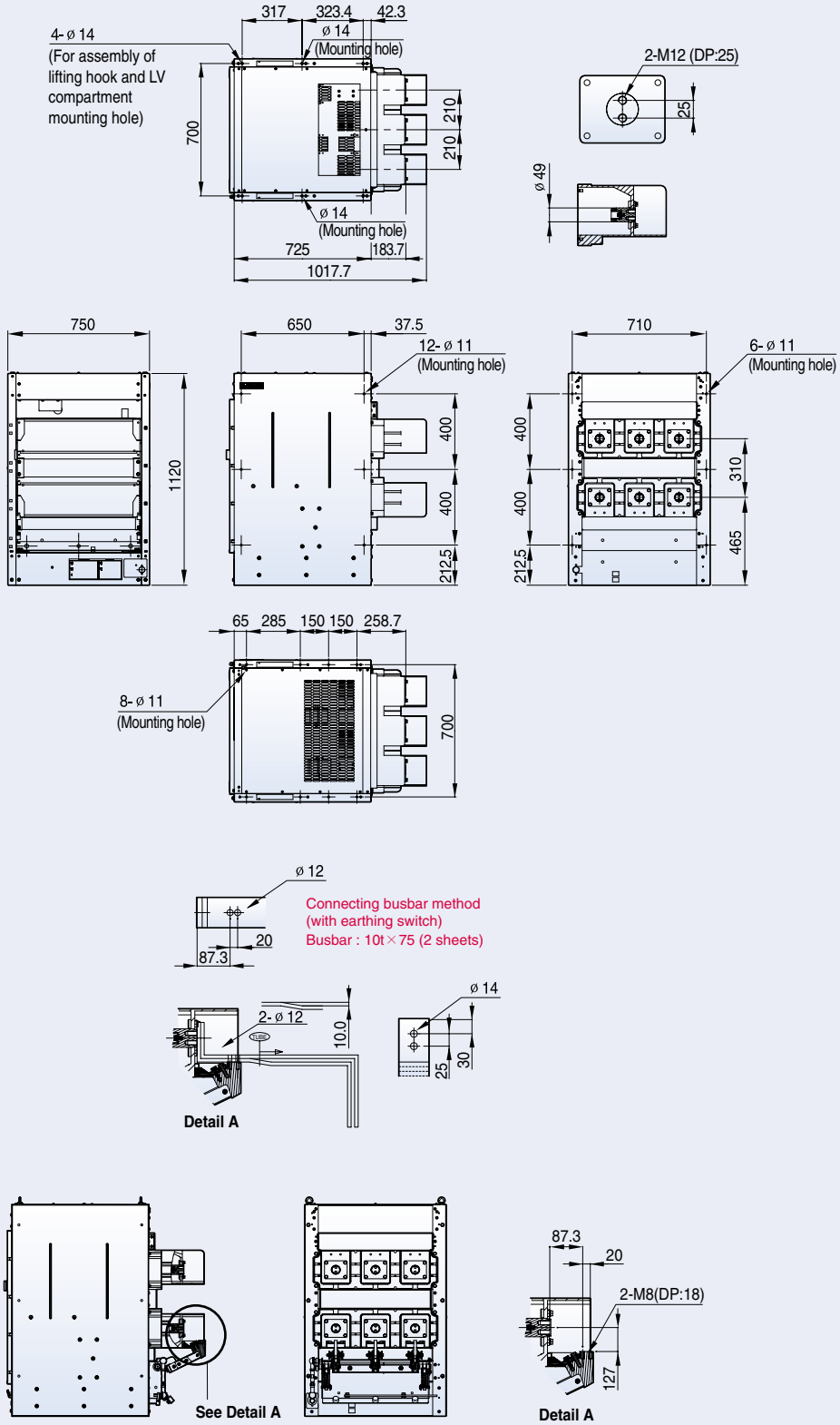


• **17.5kV, 20/25kA, 2000A**
Withdrawable (H cradle, phase distance 150mm)

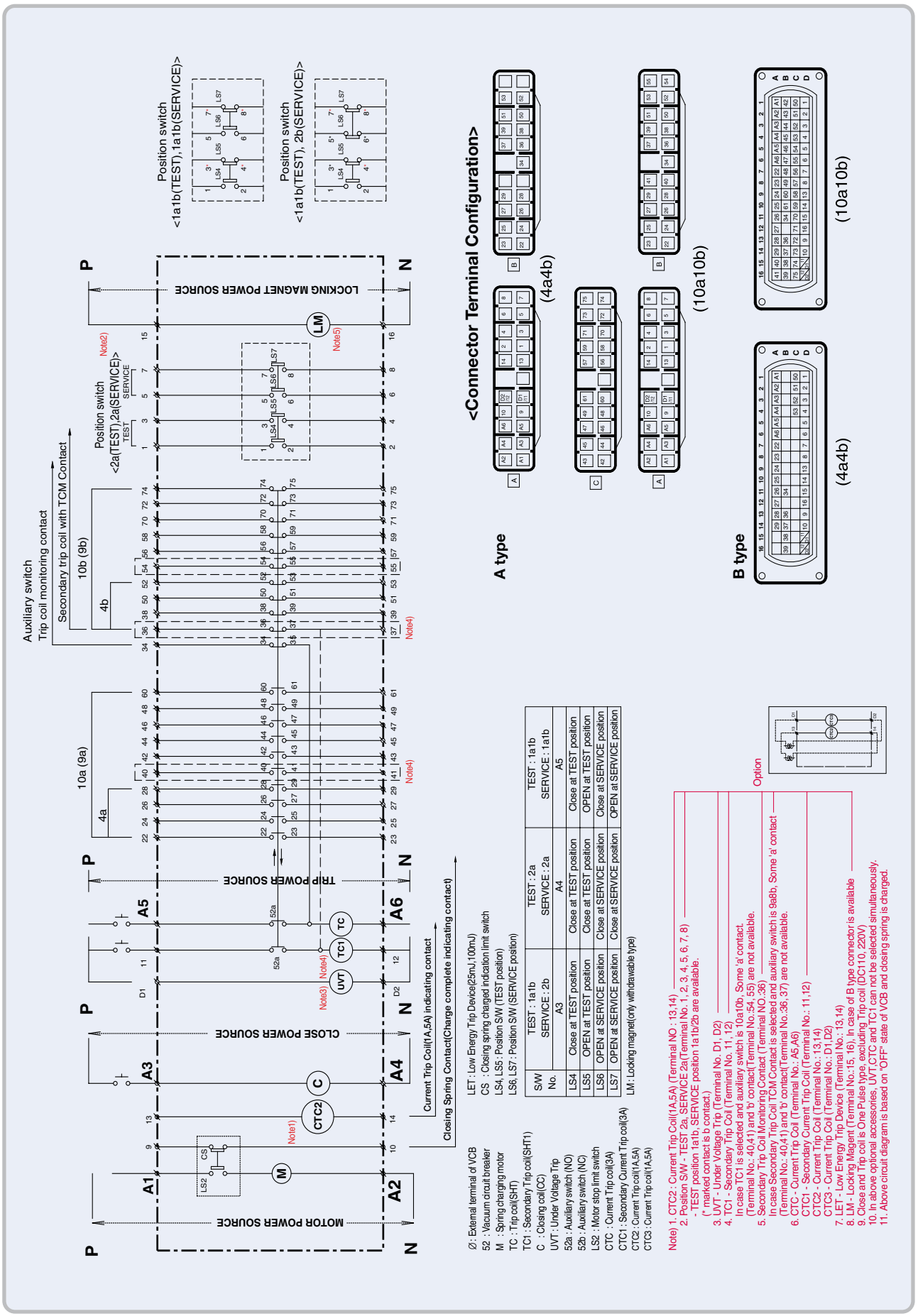


Dimensions

• **17.5kV, 20/25kA, 2000A**
Withdrawable (H cradle, phase distance 210mm)



Control circuit diagram



Ø: External terminal of VCB
52 : Vacuum circuit breaker
M : Spring charging motor
TC : Trip coil(Shunt)
TC1 : Secondary Trip coil(Shunt)
C : Closing coil(CC)
UVT : Under Voltage Trip
52a : Auxiliary switch (NO)
52b : Auxiliary switch (NC)
LS2 : Motor stop limit switch
CTC : Current Trip coil(3A)
CTC1 : Secondary Current Trip coil(3A)
CTC2 : Current Trip coil(1A,5A)
CTC3 : Current Trip coil(1A,5A)

LET : Low Energy Trip Device(25mJ,100mJ)
CS : Closing spring charged indication limit switch
LS4, LS5 : Position S/W (TEST position)
LS6, LS7 : Position S/W (SERVICE position)
LM : Locking magnet(only withdrawable type)

S/W No.	TEST : 1a1b SERVICE : 2b A3	TEST : 2a SERVICE : 2a A4	TEST : 1a1b SERVICE : 1a1b A5
LS4	Close at TEST position	Close at TEST position	Close at TEST position
LS5	OPEN at TEST position	Close at TEST position	OPEN at TEST position
LS6	OPEN at SERVICE position	Close at SERVICE position	Close at SERVICE position
LS7	OPEN at SERVICE position	Close at SERVICE position	OPEN at SERVICE position

Note) 1. CTC2 : Current Trip Coil(1A,5A) (Terminal NO : 13,14)
2. Position S/W - TEST 2a, SERVICE 2a(Terminal No. 1 , 2, 3, 4, 5, 6, 7, 8)
- TEST position 1a1b, SERVICE position 1a1b/2b are available.
(* marked contact is b contact.)
3. UVT - Under Voltage Trip (Terminal No. D1, D2)
4. TC1 - Secondary Trip Coil (Terminal No. 11, 12)
In case TC1 is selected and auxiliary switch is 10a10b. Some 'a' contact.
(Terminal No.: 40,41) and 'b' contact(Terminal No.:54, 55) are not available.
5. Secondary Trip Coil Monitoring Contact (Terminal NO.:36)
In case Secondary Trip Coil TCM Contact is selected and auxiliary switch is 9a8b. Some 'a' contact
(Terminal No.: 40,41) and 'b' contact(Terminal No.:36, 37) are not available.
6. CTC - Current Trip Coil (Terminal No.: A5,A6)
CTC1 - Secondary Current Trip Coil (Terminal No.: 11,12)
CTC2 - Current Trip Coil (Terminal No.: 13,14)
CTC3 - Current Trip Coil (Terminal No.: D1,D2)
7. LET - Low Energy Trip Device (Terminal No.: 13,14)
8. LM - Locking Megent (Terminal No.:15, 16), In case of B type connector is available
9. Close and Trip coil is One Pulse type, excluding Trip coil (DC110, 220V)
10. In above optional accessories, UVT,CTC and TC1 can not be selected simultaneously.
11. Above circuit diagram is based on "OFF" state of VCB and closing spring is charged.

Option

Ordering information

■ Breaker

VL – 15 H 20 B 06

Type	
VL	Susol VCB

Rated voltage (kV)	
15	15
17	17.5

Installation type	
H	Draw-out type (for MCSG)

Breaking current (kA)	
20	20
25	25

Compatibility	
A	150 mm
B	210 mm
H	230 mm

Note) Types of phase distance
1. In case of 15kV VCB
 - 210mm for 630A of H type
 - 230mm for 2500A of H type
2. In case of 17.5kV VCB
 - 150 and 210mm for H type
 - 150 and 210mm for 630/1250A of P type
 - 210mm available for E and F type

Rated current (A)	
06	630
13	1250
20	2000
25	2500

Note)
15kV: 630A, 2500A
17.5 kV: 630A, 1250A, 2000A

VL-15H25A06 – M1 C1 T1 SB2 U1 A 1 4 7

Motor control voltage	
M0	N.A. (manual)
M1	DC 110V
M2	DC 220V
M3	DC 125V
M4	DC 24V~30V
M5	DC 48V~60V
M6	AC 48V
M7	AC 100V~130V
M8	AC 200V~250V

Trip coil voltage	
T0	N.A. (without Coil)
T1	DC 110V
T2	DC 220V
T3	DC 125V
T4	DC 24V~30V
T5	DC 48V~60V
T6	AC 48V
T7	AC 100V~130V
T8	AC 200V~250V
T9	Current trip coil

UVT	
U0	N.A. (without UVT)
U1	DC 110V
U2	DC 220V
U3	DC 125V
U4	DC 24V~30V
U5	DC 48V~60V
U6	AC 48V
U7	AC 100V~130V
U8	AC 200V~250V

Accessories [Note 1]	
1	Secondary Trip coil
2 [Note 2]	Secondary Trip Coil with TCM Contact
3	Position S/W (Test: 1a1b, Service: 2b)
4	Position S/W (Test: 2a, Service: 2a)
5	Position S/W (Test: 1a1b, Service: 1a1b)
7	Key lock
8	Button Padlock
9	Button Cover
A	Lead Wire
B	User Plug (Part)
C	Plug Interlock
D	Padlock (H type Door Interlock)
E [Note 2]	MOC (Mechanical Operating Cell S/W)
F	Locking Magnet
O [Note 2]	Lead Wire special color (Blue)
V [Note 2]	CT operated coil 1A
W [Note 2]	CT operated coil 5A
U [Note 3]	Low Energy Trip Device 100mJ

Note) 1. A is written only once in case of more than one.
2. 17.5kV be applicable
3. Low Energy Trip Device in case apply to 2500A

Closing coil voltage	
C0	N.A. (without Coil)
C1	DC 110V
C2	DC 220V
C3	DC 125V
C4	DC 24V~30V
C5	DC 48V~60V
C6	AC 48V
C7	AC 100V~130V
C8	AC 200V~250V

Connector and wire		
SA2	Standard	A type connector, 4a4b
SA4		A type connector, 10a10b
SB2		B type connector, 4a4b
SB4		B type connector, 10a10b
SA6	Flame retardant	A type connector, 4a4b
SA8		A type connector, 10a10b
SB6		B type connector, 4a4b

Note) 15kV: SB2, SB4, SB6 be applicable

Other options	
CTD1	Condenser Trip Device(AC 110V)
CTD2	Condenser Trip Device(AC 220V)
UDC1	UVT Time Delay Controller(ADC 110V)
UDC2	UVT Time Delay Controller(ADC 220V)
UDC3	UVT Time Delay Controller(ADC 48V)
CTU	Coil Test Unit
VC	Vacuum Checker

Note)
1. If A2 (UVT), A4 (Position S/W 2a2b) and A7 (Keylock) are selected, A147 is the type name in the ordering.
2. Unable to select A1(Secondary trip coil), U1~U8(UVT) simultaneously.
3. A3(Position S/W 1a3b), A4(Position S/W 2a2a), A5(Position S/W 2a2b)can not be selected simultaneously.
4. A8 (Button Padlock) and A9 (Button Cover) can not be selected simultaneously.
5. When A1 (Secondary Trip coil) is selected the maximum available auxiliary contacts are 9a9b.
6. When A2(Secondary trip coil with TCS Contact) is selected the maximum available auxiliary contacts are 4a3b, 9a8b.
7. AC (Plug interlock), AD (H type Door interlock), AE (MOC) and AF (Locking magnet) are available only for H type.
8. In case of B-type connector the flame retardant wire is applicable to auxiliary contacts 4a4b, not to 10a10b.
9. A-type connector is applicable to P/E/F type and B-type connector to H type.
10. Lead wire special color (blue) is applicable to A-type connector.
11. Locking magnet can be applied only to H type VCB - breaker and cradle.
12. Locking magnet of H type breaker use the same control power supply as motor.
13. Flame retardant type blue wire is not available.
14. M0, C0 and T0 are selectable only for ordering Dummy VCB. Please contact us before ordering.
15. When current Trip Coil AV(CTC 1A) or AW(CTC 5A) is selected, A1(Secondary Trip Coil), U1~U8(UVT) cannot be selected simultaneously and the maximum auxiliary contact is 4a4b.

■ Cradle

VCL – 12 H 20 C 06 A 1 4 7

Type	
VC	Susol VCB cradle

Rated voltage (kV)	
12	12
17	17.5

Installation type	
H	Draw-out type (for MCSG)

Breaking current (kA)	
20	20
25	25

Compatibility	
A	150 mm
B	210 mm
H	230 mm

Note) Types of phase distance
1. In case of 15kV VCB
 - 210mm for 630A of H type
 - 230mm for 2500A of H type
2. In case of 17.5kV VCB
 - 150 and 210mm for H type
 - 210mm available for E and F type

Rated current (A)	
06	630
13	1250
20	2000
25	2500

Accessories	
1	ES(Earthing Switch) without option
2	ES(Earthing Switch) with position S/W (2a2b)
4	ES(Earthing Switch) with position S/W (6a6b)
5	ES(Earthing Switch) with Keylock
6	ES with Locking magnet: DC110V
7	ES with Locking magnet: DC220V
8	ES with Locking magnet: DC125V
9	ES with Locking magnet: DC24V
A	ES with Locking magnet: DC48V
B	ES with Locking magnet: AC48V
C	ES with Locking magnet: AC110V
D	ES with Locking magnet: AC220V
E	Shutter padlock
F	TOC (Truck Operating Cell S/W)
G	MOC (Mechanical Operating Cell S/W)
H	Door
J	Door Interlock
K	Door Emergency Push Button
L	Temperature Sensor
M	H type Lead Wire 4a4b (Flame retardant wire)
N	H type Lead Wire 10a10b (Flame retardant wire)
O	H type Lead Wire 4a4b (Rated short time current)
P	ES(Earthing Switch) with making

Note) 17.5kV: F(TOC), G (MOC) be applicable

Accessories	
TM	Temperature Monitoring

Note) A is written only once in case of more than one.

Note)
1.These accessories for cradle and TM can be applied only to H type.
2.AJ and AK can not be selected without door (AH).
3.TM (Temperature Monitoring) should be used with AL (Temperature Sensor).
4.H type lead wire - one of AM, AN or AO is required for cradle in case of H type breaker.
5.Unable to select AK at the cradle in the case of selecting A8(Button Padlock), A9(Button Cover) for body of breakere.
6.When Earthing Switch(A1) is selected, Keylock(A5) is included as standard.

Green Innovators of Innovation

Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact a qualified service technician when you need maintenance.
  Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

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Specifications in this catalog are subject to change without notice due to continuous product development and improvement.

Global Network

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